NPS Form 10-900
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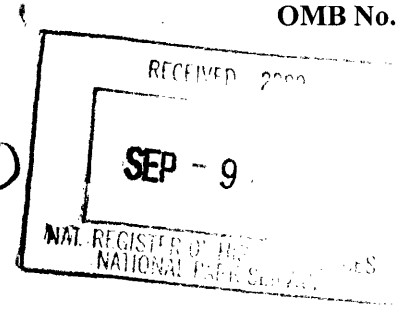
OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM



1208

1. Name of Property

Historic name: Central Aguirre Historic District

Other names/Site number: Aguirre; Central Aguirre

2. Location

Street & Number: State Road PR-705 (south), at PR-3, km. 151.3 **__ Not for Publication**

City or town: Salinas **_X_ Vicinity**

State: Puerto Rico **Code:** PR **County:** Salinas **Code:** 123 **Zip code:** 00704

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this _X_ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property _X_ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant ___ nationally _X_ statewide _X_ locally. (___ See continuation sheet for additional comments.)

Enid Torregrosa de la Rosa, MSHP — September 4, 2002
Signature of certifying official — **Date**

Puerto Rico State Historic Preservation Office
State or Federal agency and bureau

In my opinion, the property ___ meets ___ does not meet the National Register criteria. (___ See continuation sheet for additional comments.)

Signature of commenting or other official — **Date**

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that this property is:

Daniel J. Vivian 10/23/02

_✓_ entered in the National Register
____ See continuation sheet.

____ determined eligible for the National Register
____ See continuation sheet.

____ determined not eligible for the National Register

____ removed from the National Register

____ other (explain): _____

for **Signature of Keeper** **Date of Action**

5. Classification

Ownership of Property

__X__ private
_____ public-local
__X__ public-State
_____ public-Federal

Category of Property:

_____ building(s)
__X__ district
_____ site
_____ structure
_____ object

Number of Resources within Property:

Contributing	Noncontributing	
317	65	buildings
7	14	sites
17	6	structures
0	0	objects
341	**85**	**Total**

Number of contributing resources previously listed in the National Register: 0 .

Name of related multiple property listing: N/A .

6. Function or Use

Historic Functions

Category:	**Sub-Category:**
Industry/Processing/Extraction	manufacturing & energy facilities, processing site, industrial storage
Transportation	rail-related, road-related, water-related
Domestic	single & multiple dwelling, secondary structure, hotel, institutional housing
Commerce & Trade	business, warehouse, hotel

Current Functions

Category:	**Sub-Category:**
Domestic	single dwelling, secondary structure
Transportation	road-related
Commerce & Trade	warehouse
Industry/Processing/Extraction	industrial storage
Vacant/Not in use	Domestic (hotel), Commerce (business, restaurant, warehouse), Industry (manufacturing & energy facilities, processing site, industrial storage), Transportation (rail and water-related)

7. Description

Architectural Classification: Late 19th and Early 20th C. American Movements, Other: Traditional Industrial

Materials:

Foundation	Brick, Wood, Concrete
Roof	Metal/Steel, Iron Sheet, Concrete
Walls	Brick, Wood, Weatherboard, Metal/Steel, Concrete
Other	Wood, Concrete, Structural frame: Steel

Narrative Description (See Continuation Sheets)

8. Statement of Significance

Applicable National Register Criteria:

_X_ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

___ **B.** Property is associated with the lives of persons significant in our past.

_X_ **C.** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

___ **D.** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations:

____	A	owned by a religious institution or used for religious purposes.
____	B	removed from its original location.
____	C	a birthplace or a grave.
____	D	a cemetery.
____	E	a reconstructed building, object, or structure.
____	F	a commemorative property.
____	G	less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance:

Engineering
Industry
Community Planning & Development
Transportation

Period of Significance: 1899 – 1952

Significant Dates: 1899, 1900, 1903, 1920-30, 1934, 1948-52

Significant Person: N/A

Cultural Affiliation: N/A

Architect/Builder: Unknown

Narrative Statement of Significance (See Continuation Sheets)

9. Major Bibliographical References

BIBLIOGRAPHY **(SEE CONTINUATION SHEETS)**

Previous documentation on file (NPS):

___ preliminary determination of individual listing (36 CFR 67) has been requested
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # _____
___ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

X	State Historic Preservation Office
X	Other State agency
____	Federal agency
____	Local government
X	University
____	Other

10. Geographical Data

Acreage of Property: 326 acres

UTM References

	Zone	Easting	Northing
A.	19	793627	1989135
B.	19	794040	1988329
C.	19	794340	1987520
D.	19	794140	1986835
E.	19	793755	1987105
F.	19	792880	1987315
G.	19	792790	1987785
H.	19	793420	1988615

Verbal Boundary Description (See Continuation Sheets)
Verbal Boundary Justification (See Continuation Sheets)

11. Form Prepared By

Name/Title: Hugh C. Tosteson García (Historic Property Specialist)
José M. Marull (Principal Historic Property Specialist)

Organization: Puerto Rico State Historic Preservation Office **Date:** October 27, 2000

Street & Number: Norzagaray and Morovis Streets, 3rd Floor **Telephone:** (809) 721-3737

City or town: San Juan **State:** PR **Zip Code:** 00902

NARRATIVE DESCRIPTION

Introduction

The **Central Aguirre Historic District** is located in the Central Aguirre Ward of the Municipality of Salinas, on the dry southern coastal plain of Puerto Rico, some 125 kilometers to the southeast of the capital city of San Juan on the north coast. The nominated district is on the southwestern slopes of a promontory that rises to heights between 50 and 90 meters in elevation over the surrounding southern coastal plain, overlooking the Caribbean Sea and Jobos Bay, the largest natural bay on the south coast. The coastline east and west of Jobos Bay is characterized by a rich coastal mangrove environment, and has been designated and managed as a protected natural reserve by the Puerto Rico Department of Natural and Environmental Resources (PRDNER) for the last several decades, which has facilitated the conservation of sectors of the original surroundings of the nominated district, although industrial development throughout the 1960's and 1970's impacted the mangrove environment (Seguinot Barbosa 1986:37). The dry alluvial coastal plain, stretching to the east and west of the nominated district, is very flat and comprises most of the original sugar cane fields used by Central Aguirre and its subsidiaries, Central Machete and Central Cortada, at the height of their production, ca. 1920-30. Most of these lands are still in agricultural production or lying fallow since Central Aguirre was finally closed down in 1990.

Aguirre's modern sugar mill (*Central* in Spanish) was established beginning in 1899 by a group of 4 adventurous investors from Boston who arrived shortly after the cessation of hostilities in the Spanish-American War, and had acquired a Spanish sugar hacienda with a partly mechanized mill (known as a *factoría central*) and over 2,000 acres of land. Construction of the new mill, and what would become its company town, began at a location a few kilometers to the south of the old hacienda mill complex, on the shores of Jobos Bay. The remote location of the site, about 12 kilometers west of the town of Guayama and 7.5 kilometers east of the town of Salinas, prompted the development of a self-sustaining community with many of the facilities and appearance of an independent town, an identity of place still maintained in the appearance of the town and in the spirit of its occupants to this day. This has been reinforced throughout the history of the town that, like any other, has grown and evolved through time as the needs of the mill, its workers and exterior circumstances demanded.

Though the **Central Aguirre Historic District** was initially established on open agricultural land at the beginning of the 20th C, the distribution and organization of its buildings and structures within a predetermined town plan retain the characteristics of the community's unique development over time. It is likely that this was intended by the original founders, who hailed from Boston and were most probably influenced by the social reform issues popularized in that city towards the end of the 19th C, which saw expression in the Garden City and Garden Suburb movements.[1]

The entrance to the nominated district is located at km. 151.3 of State Road PR-3, from where the palm-lined entrance road (now State Road PR-705, ID#469) dating from the original 19th C sugar hacienda that existed before the modern 20th C sugar central, runs about one kilometer south through open fields until it reaches a grade railroad crossing with arms that have been up for several years. This is where Central Aguirre's own P&G Railroad's westbound line to Ponce crosses the entrance road. Just south of the old railroad crossing there is a fork in the road: the right fork leads south directly into the nominated district's residential areas, while the left fork leads directly to the entrance to the industrial sugar mill. From the fork one can see the first structures of the nominated district, such as the old Hacienda Aguirre brick sugar mill building (ca. 1850) to the right, a gasoline station just south of the fork (ca. 1940), and a few of the earlier Luce & Co. buildings associated with the continued use of the old hacienda facilities, from the beginnings of the modern central, either along the road or off to the right.

From the fork, the views reflect a strong sense of place and setting: to the south, the ground rises towards a wooded ridgeline; to the east, the view of the coastal plain reveals wide open agricultural fields extending into the distance; to the southeast, the left fork road runs towards the main entrance to the industrial mill, flanked by the railroad tracks headed in that direction, mostly covered with vegetation; to the immediate west and southwest the view is dominated by the higher elevations of the promontory on which the district is located; and to the north, the palm lined entrance road centers a panoramic view of the coastal plain stretching uninterrupted to the north, until it meets the lower foothills and upper ranges of the island's central mountain chain, the *Cordillera Central*, in the background The area around the nominated district has undergone very little modern development, besides the satellite communities along

[1] Hopkins 1991: Section 7, pp. 1-2

State Road PR-3, most of which were established by the Central Aguirre Sugar Company for workers during the 20th C, and are therefore historically associated with the development of the nominated district.

In general terms, the terrain to the south of the fork rises gently into a treed ridgeline, through which houses and structures can be seen. Following the right fork directly south, it is clear that the sector to the right of the road, known as Montesoria II, has been built up with modern housing, mostly post-1980. The overwhelming density of development in this area has subsumed the character of the few (8) scattered eligible and/or contributing residential buildings [2] This panorama changes abruptly as the road reaches the top of the ridge, from where the sugar mill complex and company town can be seen almost in their entirety. Immediately to the left of the road, now named Central Avenue, the recently restored sugar mill Administrator's plantation house (*Casa Grande*, ID#016) lies on a rise which dominates the view to the south towards Jobos Bay, and the entire area of the nominated district.

From this commanding height, the only element affecting the visual setting of the district as it existed in the period of significance (1899-1950) is the oil-fired thermoelectric Aguirre Power Plant (ca. 1970), built behind a low ridge of rolling hills to the southwest of the nominated historic district. From this point on, the ground gently slopes down, and the southeast curving Central Avenue leads through an orderly and well-kept community with large trees. This main street serves as the central axis of the historic district, and all of the different sectors either converge on, or are united by it. The **Aguirre** sector, which comprises the sugar Central's managerial and technical personnel residences lining both sides of the avenue and extending east and north, also includes the most important institutional, commercial and service buildings and areas of the district. As one follows Central Avenue into the district, one can see the hospital and nurse's residence, and the golf course and clubhouse, to the right, while to the left are some of the larger residences in the sector, with their wooden construction and wide, screened verandas facing the street. As the road curves to the left (southeast), one can see the Methodist church to the right of the avenue, located at the boundary between the Aguirre sector extending to the north, and the Montesoria factory worker's residential sector's orthogonal street grid extending to the south. Central Avenue comes to an end at its intersection with "A" Avenue. To the left of this intersection, "A" Avenue

[2] Architectural Survey and Draft Nomination, Rodríguez y del Toro, 1993b.

runs north and then northwest, returning to the fork at the entrance to the district, while to the right lies the entrance gate to the now-abandoned industrial sugar mill complex.

Industrial Sugar Mill Sector (developed 1899-1968) [3]

The industrial sector occupies the southeast quarter of the nominated historic district, and includes not only the large sugar mill complex comprised of administrative, factory and warehouse buildings, railyard and machine shops and associated machinery, but also a segment of the rail transportation system developed together with the sugar mill, including the wharf facilities to the south of the factory building, where the processed sugar was once loaded and shipped out directly to the world. Construction of the 20th C Central Aguirre sugar mill's first structures began late in 1899 and culminated in 1901, at a site 1.3 kilometers to the south of the original (19th C) Hacienda Aguirre sugar mill acquired by DeFord and Co. earlier in the year, next to the deep, protected Bay of Jobos. This resulted in a general mill configuration with the main production buildings in the center, with supporting buildings and facilities to either side. Today the gigantic, abandoned sugar factory with its two tall, landmark chimneys stands a few meters from shore and the abandoned sugar wharf (ca. 1930) jutting southwards into Jobos Bay. North of the factory, just inside the industrial sector's main entrance gate, are the main administrative buildings: a two-story office building, garages, the train dispatching center, and smaller administrative units. To the west on the bay front, linked by 10-meter high bulk sugar conveyors, are the long sugar warehouses. Adjacent to these are the warehouses built for Aguirre's general store. A tire-recycling firm now rents all of the buildings west of the factory for use as tire storage and office space. This company utilizes the original Sugar Warehouses 1&2 structure to store tires to be recycled, ordinarily a relatively harmless use. However, a fire in March 2000 severely damaged the structure, destroying the roof and parts of the walls of one of the earliest surviving buildings of the sugar mill complex. To the northeast of this structure are the ancillary buildings that served the mill's railroad, agricultural and maintenance operations. Some traces remain of the rail spurs that served all of these installations. Farther west, beyond the industrial area's remaining peripheral tanks, there are boating and other recreational facilities. Both walls and roofs of the Aguirre industrial buildings are covered with sheets of corrugated galvanized steel, supported by

[3] Except for some minor corrections and editing, this section is completely excerpted from the Industrial Sector draft nomination by Pumarada & Plá, 1999b, on file at PRSHPO.

steel or wooden frames, have concrete floors and two-way sloped roofing. The exceptions are the administrative buildings, which have wooden or concrete walls and four-way corrugated steel roofing.

Approaching the sugar mill entrance along "A" Avenue, one can see the abandoned Truck and Rail Car Sampling and Scale Station (ID#422) across a chain-link fence to the left of the road, only partly visible due to the vines which climb up almost to its full height. Next comes the yellow, wooden two-story train Dispatch Office, abandoned, but still in good condition (ca. 1950, ID#421). Both "A" and Central Avenues meet just before the main entrance gate to the industrial area. Just inside the gates, the first two structures of this area face each other. On the left and just behind a small guardhouse that is still in use, is the wooden, deteriorated Mill Foreman & Pay Office (1935, ID#419). On the right is the still impressive Central Aguirre Main Office building (ID#358), which also served as the administrative center of the company town. This sober two-story concrete building was built in 1924 with a copper sheet shed roof. Renovated in 1967, it remains in good condition, but unkempt in spite of the fact that a part of the first story is still in use, partly occupied by the administrator of the abandoned mill. To its left, partly hidden by vegetation, is the small, partly triangular, wooden Payee's Office (ID#461), abandoned and in disrepair. Just south of the Main Office building stands the Garage and Fire Station building (ID#424), a long concrete structure built in 1950.

The center of the large open cane yard between the main entrance gate and the abandoned steel factory building, about 100 meters to the south of the gate, is occupied by a sizable Cane Washing Station (ca. 1965), which was installed when the process of cutting cane became increasingly mechanized. Around this well-preserved steel facility of wide, inclined conveyors and water pipes there remains a Truck Dumper and a Truck Chain-pull Unloader, as well as the pit which once lay beneath the disappeared Railroad Car Tipper, all used for unloading the sugar cane brought from the fields directly from vehicles into the washing station conveyors.

The Factory Building's main area comprises the earliest structures of the mill (Mill House, Boiler House, Clarifier House, Bagazo Storage, and Electric Power Room), as well as a few intermediate spaces such as the Boiler Feed Station, the Old Crystallizer House and the Juice Pit. The building was built in stages as

the different function areas were expanded, moved or rebuilt by sections between 1900 and 1948. It is a roughly rectangular structure measuring approximately 100 x 60 meters, and is up to 12.8 meters high, roofed and walled with corrugated galvanized steel sheets, and supported by a steel frame. The complex roof, a series of parallel gabled panels oriented north to south at different levels and with different types of ridge ventilators or skylights, reflects its hodge-podge construction. A few older parts still have lumber structural elements. The grade floors are mostly concrete, and include many pits, different levels and machine pads. Some areas have independent steel mezzanine levels serving its machines. In addition it has peripheral sheds for pumps, shops and offices. The Boiling House, a 1940 four-story wing of the Factory Building in its northwest corner, was built to hold the centrifuges, juice heaters, evaporators, vacuum pans, crystallizers, and many types of pumps. It measures 24.38 by 45.54 meters in plan and 21.34 meters high. To a limited extent, small alterations must have been made as recently as the 1980s to accommodate equipment turnover. Subsequently, deterioration and the opening of wall sections to allow the removal of some large machines and equipment have taken their toll. The factory building with its ancillary structures, including the *Bagazo* Storage building (1938, ID#430), the sugar warehouses and the large double chimney, are deteriorated but have changed little. The only parts that show significant deterioration are the Electric Power Plant (1900, ID#436) and the Old Crystallizer House (ca. 1901, ID#442). The four-story high New Boiling House (1940, ID#441) is in good shape, except for the openings made to remove some of its equipment. Most of the milling, electric, and centrifuge equipment are missing, as are the smoke filters installed in the 1970's. However, the essential boiling, steam generating, crystallizing and clarifying equipment are still in place. A few mill-crushing rollers lie abandoned inside the factory building, witnessing the scale of the disappeared five-mill tandems. Most parts of one of the Corliss steam engines serving the older tandem are still in place or nearby, showing the way that steam was used to move the large mills in the early part of the century. However, it still conserves most of its historic integrity and important machinery.

Just east of the factory are the abandoned two-story concrete structures of the Research Laboratory (1953, ID#428) and the Engineering Office (1951, ID#432). These structures don't appear to be significantly deteriorated.

Just west of the Boiling House, a fence occupies the space of the demolished group of molasses and water storage tanks and sets off the warehouse complex, which is presently rented to a tire recycling company. The access road to this area passes just south of the long abandoned concrete Car Garage building (1921, ID#425). The abandoned Caustic and Soda Lime Station (ca. 1901, ID#443) is now fenced in within the tire recycler's area. The recycling company uses the old Caribe Stores Warehouse & Office building (1948, ID#426) as office space, as well as the Caribe Stores Dry Goods Warehouse building (1946, ID#468) and Sugar Warehouse Nos. 1&2 (1948, ID#445) structure.[4] The sugar-loading basement of the long and tall concrete Sugar Warehouse No. 2 (1948, ID#444) lies unused beneath tons of different-sized, discarded tires. All these buildings are relatively well maintained, and most of them have not been subject to significant remodeling.

In general, the sugar warehouses are large one-story rectangular buildings with concrete floors at grade, concrete or concrete block walls, and corrugated galvanized corrugated steel roofing supported by gabled steel trusses. Their original versions were built between 1901 and 1938, with extensive reconstruction between 1938 and 1948. The existing Sugar Warehouses #1&2 and #2 were built as part of the conversion from bagged to bulk sugar. No. 1&2 is contiguous with two sections of the factory, the first story of the factory's Boiling House and with the Old Crystallizer House. No. 2, which is 53.65 meters long, has a basement which is just wide enough for two parallel contiguous railways and features pneumatic chutes to let the sugar flow from the sloping concrete floor above down into rail containers. The adjacent Sugar Warehouses Nos. 3 (1918, ID#447) and 6 (1939, ID#457) were connected into one continuous space in 1957. No. 3 was expanded in 1931. No. 4 (1920, ID#446) and No. 5 (1935, ID#456) were connected together in 1942, and remodeled and expanded in 1956. Warehouses No's. 1&2 began as a single wooden Warehouse No. 1 in 1901, which was later expanded (1907), and eventually reconstructed and connected with an adjacent building (No. 2) in 1938. Today, the buildings are in good conditions. They are being used to store used tires, but do not appear to have been significantly altered.

[4] A recent fire (March, 2000) damaged the Sugar Warehouse Nos. 1 and 2 structure (ca. 1930, ID#445-28MB).

The sugar warehouses are still connected, many meters above ground, by the abandoned bulk sugar conveyors (ca. 1948). These extend as far as the top story of the tall steel transfer tower near the dock. The long Sugar Dock (1930, ID#462) is now in ruins, devoid of its platform and rails.

The Locomotive Roundhouse with its still-operational locomotive turntable and small, concrete Diesel Shop (ca. 1950) are still used occasionally. These buildings show little deterioration. Some abandoned locomotives are still inside the roundhouse. Most of the spurs, rolling stock, and railroad shop equipment has been dismantled and sold. This well-kept, singular, all-steel, frame-supported building (ca.1903, reconstructed ca. 1950, ID#423) features a quarter-circle plan. With a shed roof approximately 5 meters high, its outer circumference measures about 40 meters, and its higher, inner circumference measures about 30. About 12 meters deep, the building is divided into 8 bays, 7 of them with service pits, near the open inner face, plus open and closed work spaces along the back. In addition to the turntable in the geometric center of the building's layout, which connected the bays to its rail spur access, the roundhouse has two corrugated steel sheds behind, the small concrete diesel shop to the north and the sand bin tower to the south. The northern end of the roundhouse has slightly different structural details and appears to be an addition to the original, but it follows the pattern and does not significantly affect its high historic integrity.

The Truck and Rail Car Sampling and Scale Station (ca.1950, ID#422) still remains in good condition, but some machines are missing. The General Warehouse (1912, ID#420), originally built in 1912, is still in use and in fairly good condition. This all-steel, frame-supported building is roughly rectangular, 30 meters long and 15 meters wide. A concrete loading dock along the front separates it from the Truck and Rail Car Sampling and Scale Station. The eastern part of the existing building dates from 1928, with a basement and a mezzanine level in its north end. Its two-slope roof has a series of roughly cylindrical sheet metal natural draft ventilators along the ridge. Its first level houses the cane sample laboratory, which still has some equipment in place. The western part, added in 1933, consists of a single story with a shed roof. The building is in good condition and retains a high degree of historic integrity.

The Lumber and Iron Pipe Warehouses (1911, ID#414, 415,) are abandoned and beginning to decay. These two rectangular, parallel buildings are about 50 meters long and 4 meters high. The western building is approximately 15 meters wide, and the eastern one, recently used to store pipes and iron bars as well as some lumber, 10 meters wide. The second has a tall adjacent section at right angles to its southern end, and its northern half is adjacent to the first floor of the two-story Carpentry Shop. Both have wooden structures and two-way roofs covered with corrugated steel. The existing Carpentry Shop (orig. 1928, ID#416), just east, dates from 1948. It is a rectangular, all-steel building with a two-way roof. There are a number of historic machines in the first story. These buildings retain a high degree of historic integrity and are in good condition.

The Vulcanizing Plant (1950, ID#413), a metal frame structure covered with galvanized iron sheets and originally used for recycling cane cart tires, was one of the first built in the island. It is located north of the sugar mill, and stands with a projecting, cable-hung cantilever roof to the west of the Lumber Warehouse.

To the east and north of the General Warehouse there lie important abandoned ancillary buildings: the Main Machine Shop (ca. 1921, ID#417), Carpentry Shop (orig. 1928, rebuilt 1948, ID#416), Main Blacksmith Shop (ca. 1910, ID#418), and Truck Repair Shop (1949, ID#409). Among them lie specialized warehouses and smaller shops and sheds. A few of the sheds are in ruins after being deprived of their sheet walls and roofs and even their steel frames. However, most of these buildings can barely withstand the vegetation that climbs up their walls and are in different states of disrepair and deterioration. Some significant machines have been removed from the Main Machine Shop. This large one-story building features a two-level sloping corrugated steel roof with skylights between the two-way sloping roof sections and a large glazed area just below its front-end gable. Supported on a steel frame, it is approximately 15 meters high and its plan is nearly 28 meters square. Its layout is organized following the belt transmission shafts, located just below the roof skylights. These shafts were turned by electric motors, and all appear to be still operational. The original building had one shed-like steel expansion added in 1936, and a small concrete annex in 1968. These expansions did not significantly affect its high historic integrity. It is in good condition and still houses some original machine tools from the first

decades of the 20th Century. The simple, rectangular, one-story, two-way roof Main Blacksmith Shop building consists of corrugated steel roof and wall sheathing supported on a wood frame. Contrary to most other Aguirre buildings, its roof ridge runs parallel to its facade, which is also atypical in its iron grille-protected openings. It is about 9x15 meters in plan and 6 meters high. Its forges and ancillary equipment are still in place, but the anvils are gone. The building is still in good condition and appears to have no significant alterations, except for a small concrete annex for a blower and its electric motor. It conserves a high degree of historic integrity.

The Luce & Co. Main Office building (1924, ID#358) and the nearby Tractor Repair Shop & Warehouse (1948, ID#410) have been remodeled and were being used as an educational facility for vocational re-training purposes in the 1990's.

The tall, one-story Foundry and Mold Shop building (orig. 1921, ID#412) consists of two adjacent steel structures, the foundry, built in 1948, and a mold shop, from 1932. Their two-slope roofs are at right angles to each other. Just below the back gable of the foundry there is an opening through which a crane lifted scrap iron to feed the adjacent furnace, whose smokestack projects above the roof. The existing foundry, which replaced the original 1921 building, has a furnace room that is 11x15 meters in plan and up to 6.5 m high, with a shed wing that is 6.4 x 12.5m and 5.2m high. The mold shop was used to manufacture wooden or sand molds for casting with the iron produced in the foundry. This shop, expanded in 1942, measures 9 x15m in plan and up to 6 meters high. There are scattered molds and equipment in both buildings, which are in fair condition and keep a high degree of historic integrity.

Although a few have been dismantled and sold away, a few large steel tanks still dot the area near the bay front east of the factory (Aqua Ammonia Tanks #4 & #5, ID#458 & ID#459; Molasses Tanks #6 & #7, ID#453 & ID#454). The definitive 1943 construction date for Aqua Ammonia Tank #4 allows for the possibility that all these tanks, of similar or identical steel construction, were built in the 1940's (see Property ID Table).

The railroad, an Aguirre subsidiary under the name of Ponce and Guayama Railroad (P&G RR), was the company's main transportation system until trucks eventually surpassed (c.1970) the tonnage of sugar cane hauled into the factory yard. Central Aguirre's rail system was begun in 1902, when DeFord & Co. installed 20 km of light rail. In 1903 the P&G RR was established, to be used primarily for three tasks: hauling in sugar cane from fields up to 32 kilometers away; transporting sugar bags (and later bulk sugar) from Aguirre warehouses or from other company-owned mills to the end of the dock; and moving heavy machines and parts, such as tractors or mill rollers, for installation or for repair in one of the company's shops. About 300 meters from the Aguirre Railroad Station (1922, ID#343), at the junction of the main P&G RR rail lines running west to Ponce and east to Guayama, the tracks also branch out to the south and southeast. Four parallel tracks heading south along the western fringe of the nominated district lead to the following areas: (1) an eight-track rail yard on the west side of the district, east of the *Hotel Americano* and north of the Cane Sampling and Scale Station, where the cane cars waited until the cane they carried was weighted, sampled and unloaded; (2) a loop passing between the Vulcanizing Plant and the Lumber Warehouse and connecting 20 meters north of the Cane Washing Station, from where double exit tracks lead to the rail yard (3) a spur crossing a wing of the Tractor Repair Shop & Warehouse (1948, ID#410) and extending south to end between the lumber warehouse structures; (4) the spur leading to the turntable and the Locomotive Roundhouse; and (5) a double spur entering the Main Machine Shop's northern end. Of the two tracks coming out south of the rail yard, one crossed over the scale and under the car sampling station tower to continue to the rail car unloader on the cane yard and then looping east into the eastern branch; the other bordered the cane yard to loop directly into the eastern branch. The four parallel tracks which branched southeast beyond the Railroad Station followed the eastern border of the district for about 500 meters to pass just east of the Rail Car Repair Yard and branch out southwest: (1) into the loop coming directly from the rail yard; (2) into the loop coming from the cane yard; (3) a spur entering the factory in the back of the Mill House, ending in a space beneath the sliding beam cranes serving the mill tandems; and (4) a spur serving the sugar dock.

Today most of the rails have been removed. Many rails, rail car wheels and other such steel objects are stacked on the cane yard. Presumably, many have been sold, as has occurred with most of the operational rolling stock. The only track and spur that remains operational leads to the turntable and the roundhouse,

which is still used for providing maintenance to a small system operated in the small town of Arroyo (east of Guayama) for tourists. The only other rails still visible are those embedded in concrete in such places as the cane yard.

A small, separate rail system on the southwestern quarter of the district connected the warehouses to the 280-meter long Sugar Dock (1930, ID#462). Spurs fanning out northwest of the dock ended parallel to the loading docks of the sugar warehouses. These served the loading of sugar bags, which were transferred into ship holds by cargo hoists near the end of the dock. A double spur entering the basement of Sugar Warehouse No. 2, dating from c.1948, served to load into container rail cars the bulk sugar arriving at that warehouse by a conveyor system. This bulk rail system was short-lived, since in 1960 another conveyor system was installed to take the sugar from this basement up to a loading spout at the end of the dock. Today the dock still stands, though partly in ruins. Some anchor screws, wood ties and parts of the conveyor are still in place above the concrete piles and pile caps, but not so the rails. The conveyor spout and its tower remain, though in poor condition, at the end of the dock. The tracks under Sugar Warehouse No. 2 are still in good condition. At least by 1937, port facilities had been expanded, specifically by the construction of a navigation channel, approximately 2 miles long and 25 feet deep, for ships approaching Aguirre's dock (Seguinot Barbosa 1986:37).

In 1948 the Central Aguirre Sugar Company invested about one million dollars ($1,000,000) in properties and equipment. Of this total, $600,000 was divided, amongst other things, between a pioneering station for handling bulk sugar, new tractors and trucks to replace oxen and cattle as draught animals, and additional buildings, including two "hurricane-proof" warehouses (Nos. 1&2 and No. 2), a new Foundry building and two new repair shops replacing older structures (a Tractor Repair Shop and a Carpentry Shop).

The 1948 reconstruction phase comprises the final additions to the Central Aguirre sugar mill building infrastructure – additions after this date consisted mainly of machinery and equipment in order to maintain technological currency, and some additional support buildings. For this reason, the following description of the Aguirre industrial sector in 1950 not only captures the district at its productive,

technological and historical apex, but also serves as an excellent basis for comparison with the remains that can be observed today. Thus, all structures identified with an inventory number (ID#XXX) in the following account have survived to the present.

The Aguirre Industrial sector in 1950 [5]

The unpaved palm-lined access road crossed Aguirre's cane fields as it headed south towards the factory. These fields were crisscrossed by railroad tracks and dotted with small steel cane hoists. Between December and May, long lines of large, overloaded cane trucks crawled along the road, waiting to have their cane stalk load weighted and unloaded after trips of up to 32 km. Trains of 10 to 15 cars, hauling cane from even farther away, frequently crossed the road on grade, helped by pivoting arms. About 700 tons of cane were hauled that year by truck and rail into the factory's cane yard.

As the road turned east, the railroad tracks ran parallel to the north. The two-story Railroad Station (ID#343) stood about 30 meters north of the point where the road again began to turn south. It was used by a passenger train run by the American Railroad of Porto Rico (A.R.R.), which rented the use of Aguirre's Ponce and Guayama Railroad (P&G RR) from Ponce to Guayama, and Arroyo beyond. Beyond the extensive grassy yard of the station, the cane cars would veer south to enter the Aguirre industrial sector on one of its many rail spurs and peripheral course.

After passing alongside the elegant company hotel (Hotel Americano, ID#365) and the well-kept grounds of the Aguirre sector, dotted with comfortable wooden residences housing the company's managerial class, the industrial area came into view. First was the towering Cane Sampling and Scale Station (ID#422-000), followed by the slender, two-story, wooden train Dispatch Office (ID#421).

The main entrance gate to this sector was flanked on the right by an entrance to the company town (where Central Avenue ends). This entrance featured the Post Office (ID#359) and the company's well-stocked General Store, now run as a separate company (Caribe Stores, ID#362), since the approval, in 1941-42, of a law prohibiting companies from selling merchandise to its own employees.

The mill's administrators occupied a large, elegant, two-story concrete office building just inside the gate to the right (Main Office Building, ID#358). Long lines formed on paydays in front of the small, wooden Payee's Office (ID#461), located just south of this building.

Cane trucks passing the gate were registered as they stopped by the wooden Listmaker's Office (Mill Foreman and Pay Office, ID#419) with its 4-way steel roof, just left inside the gate. Before unloading on the cane yard ahead, directly in front of the Factory Building, the trucks turned left and then around to enter the Cane Sampling and Scale Station (ID#422). From there they proceeded to the cane yard, where an overhead crane unloaded their chain-packed cane bunches. The same procedure was followed with the line of railroad cars on the east side of the yard.

[5] Except for some minor corrections and editing, this section is completely excerpted from the draft Industrial Sector nomination by Pumarada & Plá, 1999b, on file at PRSHPO.

The Factory Building's main area, which mainly includes the Mill House, the Boiler House (ID#438, ID#439, ID#435), the Clarifier House (ID#437), the Electric Power Plant (ID#436) and the Electric Room (ID#431), is a one-story structure roofed and walled with corrugated galvanized steel sheets held by a steel frame. A few older parts still had lumber structural elements. The floors were concrete and, in some areas, dirt. Some areas had intermediate levels serving the machines. The other industrial Aguirre buildings had a similar character. Only a few structures outside of the office buildings were made of concrete or had more than one level.

Unchained by hand, the cane was pushed by tractors into one of two conveyors that fed the two parallel mill tandems (ID#427, ID#429), located in the northeast corner of the factory building. The mill tandems, one powered by steam and the other by electric motors using steam-generated electricity, crushed the incoming cane, separating the cane juice from the fibrous stalks. The wet leftover cane stalks, or *bagazo*, was taken by conveyors to be burned in boiler furnaces to produce the steam which produced all the energy used, during the harvest season, by both the industrial district and the company town. The excess *bagazo* was stored in a brick-enclosed wing of the factory prior to its eventual burning (*Bagazo* Storage Warehouse, ID#430). The two tall chimneys dissipated a mixture of steam and smoke as they drew the air needed to burn the wet *bagazo* in the furnaces of the Boiler House section of the factory.

The main Factory Building housed in its many sections the clarifiers (ID#437), juice scales, mill tandems, electric power equipment, juice pumps, boilers, and *bagazo* warehouse, in addition to shops and office and storage areas. The Boiling House (ID#441), a four-story wing of the Factory Building, contained the centrifuges, juice heaters, evaporators (ID#440), vacuum pans, crystallizers (ID#442), and many types of pumps. These were used in processes that profited from the gravity flows provided by the several levels. Just north of the Boiling House was the Caustic and Soda Lime Station (ID#443), where lime was mixed and pumped to the clarifiers.

A storage area (Warehouse No. 1&2, ID#445) adjacent to the centrifuge section received the raw sugar. Until a few years before 1949, the sugar was bagged in this area and moved by truck or train to the other sugar warehouses (ID#444, ID#446, ID#447, ID#456, ID#457). But by 1949, a conveyor system distributed the sugar in bulk to the other warehouses.

The main warehouse area lay west of the factory, behind a group of water and molasses tanks (ID#448, ID#449, ID#452, ID#453, ID#454). Along its access road were two long concrete garage buildings. The first and longest housed a fire station (Garage and Fire Station, ID#424) at its eastern end, closest to the gate and the factory building, while the smaller was a simple Car Garage (ID#425).

The buildings next to the garages corresponded to the storage and office buildings serving the Caribe General Store (ID#426-029, ID#468). Behind them were two large, compound steel buildings with concrete walls, Sugar Warehouses Nos. 3 and 4, plus No. 5 and 6 (see ID# above). Raw sugar was transported to the sugar dock in bulk by means of rail cars that were loaded by gravity dumps under the newly built Sugar Warehouse No. 2, a long and narrow concrete building parallel and about 10 meters north of the Caribbean shoreline. The bulk sugar was conveyed from the other sugar warehouses to the silo-like Warehouse No. 2 for loading (ID#444).

The 280-meter long concrete and wood dock (ID#462) jutted into Jobos Bay just behind (south) the main factory building. Rails traveled its full length; finally reaching a cargo crane that emptied the railcar bulk containers into waiting ship holds.

These operations required significant support and maintenance. Railroad technicians swarmed around and inside the pits of the Locomotive Roundhouse & Diesel Shop (ID#423), east of the cane yard, repairing and oiling the new diesel and the old steam locomotives. Engines went to and from the Roundhouse by rolling onto a circular manual turntable at the center of the building. The turntable was then rotated until the locomotives were lined up and rolled into their respective bays, where they would be repaired. South of the turntable stood the trussed tower which supported the sand bin for loading the locomotives' sand containers. About 60 meters northeast of the roundhouse, reached by a different rail spur, was a fenced yard that held several sheds housing repair machinery for repairing rail cars.

Between the roundhouse and the truck sampling tower stood the General Warehouse (ID#420). Immediately to its north were the old, wooden frame pipe and lumber warehouses (ID#414, 415). Adjacent to the lumber warehouse stood the two-story Carpentry Shop (ID#416).

The other shops and their specialized warehouses and ancillary buildings spread north and east of this building group. These well-kept steel buildings, featuring the Foundry and Welding Shop (ID#412), the Main Machine & Pattern Shop (ID#417), the Main Blacksmith Shop (ID#418), and the Tractor Repair Shop & Warehose (ID#410), were set on clean grounds and served by rail spurs and well-maintained access roads. The offices of Aguirre's agricultural subsidiary, Luce & Co. (former *Club Americano*, ID#356), stood next to the Tractor Repair Shop & Warehouse. Their satellite buildings and sheds marked the northern border of the industrial sector's built-up area.

Only a few of the Central Aguirre sugar mill (**Central** sector) buildings, structures, and facilities have been demolished after the period of significance; only a few have been remodeled (most of them lightly) after the closing of the mill, and none of the buildings remodeled have been of major importance. Most of the existing, non-remodeled buildings are in fair to good condition. Individually and as a sector of the **Central Aguirre Historic District** these buildings, facilities and structures are historically significant in the area of industry and posses integrity of location, design, setting, materials, workmanship, feeling, and association. The district, including the contributing buildings that are less than 50 years old, conveys a sense of historic and architectural cohesiveness through its design, setting, materials, workmanship, and association. The buildings, structures, facilities and equipment erected or installed after the period of significance, but before the mill ceased to operate in 1990, must be considered as contributing to historical significance because they are part of the district; have historic integrity and worked together with the contributing structures from the period of significance. Perhaps the only non-contributing structure that does not add to the district is the existing Guard House at the gate. The industrial sector's contributing buildings can be considered representative of corresponding Puerto Rican sugar mill buildings of the same period. The design, materials, workmanship and styles are essentially similar. Some differences with some other remaining mill sites exist in size, floor plan layout details, combined

function buildings, building/land use layout, etc. The machinery and equipment are even more similar. The main differences between Aguirre and similar sugar mills in Puerto Rico are in terms of transportation. Only a very few mills had docks next to their factories, and only a few had so many and important railroad facilities.

At the time of its closing in 1990, Aguirre was not, as before, on the edge of sugar technology, but it was still a modern sugar factory. As such, its modern equipment had commercial value and much of it was dismantled and sold to other factories, mainly from Central America. Mill tandem No. 4 with its steam turbines (1952), all the centrifuges (1963), the two 2500 kW GE turbine-generator sets (dates unknown but the older one is prior to 1940, the other is newer) and the pollution control equipment (c.1975) for the chimneys, were all sold. Other missing equipment and facilities include: mud vacuum filters; machine shop equipment; tanks; anvils; railroad rolling stock, rails and switches; the railroad car tipper; and cane conveyors.

The remaining main sugar producing equipment is of historical significance in the area of engineering and possesses integrity of location, design, setting, materials, workmanship, feeling, and association. The quadruple effect evaporator was installed, along with three of the vacuum pans, around 1940, when the existing Boiling House was constructed. Another pan is older, from 1930; and the other one, also from 1939, was made by Ponce's Porto Rico Iron Works. The triple effect evaporator was installed in 1960. The steam boilers and their furnaces are between 40 and 70 years old. The oldest surviving one is from 1928, the newest one is the Riley Stoker, installed around 1958. The crystallizers have been installed during the course of many years, but appear to be essentially all made by Aguirre personnel and only the capacity differs amount them. There are two crystallizers, however, which are from 1956, made in Philadelphia. The clarification equipment is definitely more than 50 years old. Aguirre still has much of its important machinery and facilities in good condition, such as two vacuum filters; one generator set; all four clarifiers; all of its juice heaters, evaporator bodies, crystallizers, barometric condensers, and vacuum pans; and all of its boilers and ovens. A partly disassembled Corliss steam engine still exists in place.

There are several shops in this sector, most of them containing equipment. The more modern equipment that had commercial value has been removed. What is left is technologically obsolete, although of historic value, or broken down equipment. There are some lathes, punchers, power hacksaws, hydraulic presses, furnaces, etc., which are more than 50 years old and in relatively good condition. Most of the equipment in the shops possesses historic integrity and is significant in the area of engineering.

The dock, conveyors, railroad facilities and rolling stock are among Aguirre's most interesting remains. However, most diesel locomotives have been sold and the remaining ones are in a state of disrepair. There are many railroad cars, rails and other railroad equipment laying around the periphery of the factory in different stages of rust and disrepair. Most of the rails have been removed, both in the fields and in the industrial area. The railroad spurs, buildings and shops left are significant in the area of transportation, as are the dock and the conveyor system.

The reuse of the sugar mill, its service and storage buildings, and railroad facilities has also been studied and schematic development plans have been proposed. The most recent of these is the ***Tren del Sur*** project, which began in the late 1980's. It proposed using the existing railroad facilities of the Ponce and Guayama (P&G) Railroad, both in Central Aguirre and on the plains between the cities of Ponce and Guayama, as a recreational and tourist attraction. This project started by rehabilitating the railroad maintenance facilities in the Central Aguirre yard and refurbishing a series of locomotives.

Aguirre's remains include, in good to fair condition, almost all of the industrial district buildings and facilities existing in 1949 and the few added during the mill's last years of operation, with only a few of lesser importance having been remodeled for other uses. Its main building has suffered alterations, but most of these respond mostly to the introduction of environment-related technology while the mill was still in use. Many important pieces of equipment are still in place, mostly in good condition. These include process and power machines, equipment and facilities, as well as railroad and shop equipment such as the locomotive turntable, lathes and blacksmith furnaces. Architecturally, its simple, functional steel, two-way slope roof industrial district is typical for sugar mills of the period of significance.

HACIENDA VIEJA (ca. 1850-ca. 1950)

This area is characterized by the largest open space and least dense concentration of historic properties within the district. Nonetheless, it is a critical element of the district's setting and historic background. As one leaves the heavily trafficked State Road #3 (PR-3) and enters the long, palm-lined entrance road (PR-705, ID#469) and heads south towards the nominated district, the open fields on either side of the road immediately place you in an rural, agricultural setting. The railroad crossing immediately suggests the recent past, when a previous generation knew trains as a part of their daily lives. Just south of the railroad crossing there is a fork in the road, with a gasoline station (ca. 1940, ID#375) between both forks.

From the fork, the views reflect a strong sense of place and setting: to the south, the ground rises towards a wooded ridgeline; to the east, the view of the coastal plain reveals wide open agricultural fields extending into the distance; to the southeast, the left fork road runs towards the main entrance to the industrial mill, flanked by the railroad tracks headed in that direction, mostly covered with vegetation; to the immediate west and southwest the view is dominated by the higher elevations of the promontory on which the district is located; and to the north, the palm lined entrance road centers a panoramic view of the coastal plain stretching uninterrupted to the north, until it meets the lower foothills and upper ranges of the island's central mountain chain, the *Cordillera Central*, in the background The area north of the nominated district has undergone very little modern development, besides the satellite communities along State Road PR-3, most of which were established by the Central Aguirre Sugar Company for workers during the 20th C, and are therefore historically associated with the development of the nominated district.

The left fork road follows the train tracks from the railroad crossing as they head southwest towards the sugar mill's rail yard, and then passes the junction of the east-west lines with the rail lines emerging from the Aguirre sugar mill. The Hacienda Vieja sector ends at this point, bordering the road and the northernmost property boundaries of the Aguirre residential sector towards the west (see district map). Following the right fork (now Central Avenue) from the railroad crossing, and just south of the gasoline station, one can see the old Luce & Co. office and long warehouse building (ca. 1920, ID#374) to the east, a structure similar to the early 20th C *barracones* built in the district, converted to office and warehouse

space in 1958. Almost directly across the road from it, to the west, one can see the old wooden Luce & Co. Store (1916, ID#371), near which are four, single-story, wooden worker residences (ca. 1929, ID#326, ID#328, ID#330 and ID#327) in relatively good condition. A fifth wooden worker's residence existed in this area (ca. 1929, ID#329), but was demolished and replaced by a concrete residence ca. 1990. These structures are probably the same as those identified in a sketch plan (ca. 1930) identifying the structures used, including the old mill, by Luce and Co. in this section of the district. The sketch plan identifies the location of dozens of what appear to be additional worker housing units, now disappeared, to the west and southwest of the old mill, mostly along a road identified as the "Reservoir Hill Road". This road appears to be the same as the dirt road that runs south of the old Luce & Co. Store, also identified in the sketch map.[6] The old Luce & Co. Store building represents a typical Company store, such as those located at the various *colonias* outside the district that were administered by Aguirre's *Caribe Stores, Inc.* They sold most of their goods on credit to the field workers, and when pay time came the total debt was deducted from their salaries.[7]

Following the small dirt road running south from the old Luce & Co. Store. One next reaches a loose grouping of four single-story worker residential buildings, three made of wood (c. 1904, ID#323; 1913, ID#325; and no date, ID#322) and one made of reinforced concrete (1941, ID#324). These buildings are all in fair to good condition. Following the road further, where it straightens out, there are four managerial residential structures, three in reinforced concrete (1949 ID#320; 1950, ID#321; 1953, ID#319) and one made out of wood (1928, ID#318). The relatively late dates of these last four structures suggest that, just as with the northernmost properties of the Aguirre managerial residential sector to the west of PR-705 (see below), these are relatively late constructions in lands that were originally dedicated to agricultural uses. However, these 8 structures have been subsumed into an intensive housing development in this area since 1980, known as Montesoria II, and have been excluded from the nominated district due to the loss of their historic setting and relationship to the district (See Boundary Map).

[6] Map supplied by Enrique Vivoni Farage, PhD, AACUPR. See Bibliography and graphic documentation.
[7] Description from Company Town draft nomination by Rodríguez and del Toro, 1993b, on file at PRSHPO.

The last structures identified for the Hacienda Vieja sector are further south on Central Avenue where, on the east side of the road, there is a single-story wooden worker's residence (ca. 1920's, ID#331) in a regular condition, followed by an old dilapidated wooden structure, formerly a Horse Coach Shed (1917, ID#373). Behind these is the site of the former Loma Stable and Feed Cutter (no date, ID#372), now demolished. As far as it has been possible to reconstruct, the grassy and sparsely treed lands between the divergent road forks were subject to various overlapping uses: as part of the old Hacienda Aguirre landholdings (ca. 1850-1898); for Central Aguirre's dairy farm in the early 20th C (associated structures including grain silos (ca. 1910, ID#341) are still found just south of the latest and northernmost properties of the Aguirre sector); for Central Aguirre's prize-winning cattle in the 1930's and 1940's [8]; and also as the grounds for the Loma Stable in the 1950's and 1960's [9]. This area is defined as a contributing site within the nominated district, for the reasons state above.

The integrity of this very low-density sector, comprised of 19 contributing properties (18 buildings and 1 site) and 2 non-contributing properties (1 structure and 1 demolished), lies in its relatively unspoiled condition. It includes the oldest surviving remains (structural and possibly archeological) of the old Hacienda Aguirre sugar mill, in addition to scattered structures probably related to the operation of the old sugar mill facilities and associated buildings by Luce & Co. from the early 20th C. Establishing a strong sense of place and setting, it recalls the feeling and appearance of the approaches surrounding the nominated district since the earliest stages of its formation -- from the more strictly agricultural functions and limited residential use of the land when it belonged to a relatively large, late 19th C sugar hacienda, through the use of the old Hacienda Aguirre facilities to begin establishing the new sugar mill, and into a period of renewed agricultural use (as a dairy, cattle raising and stable area) on the fringes of the more intensive development which created the highly organized residential-industrial complex represented by the residential and industrial sectors of the district to the south. Through all of these changes, this sector has remained relatively unchanged.

[8] Iván Méndez Bonilla, personal communication and historic photographs, October 2, 2000.
[9] Enrique Vivoni Farage, PhD, personal comunication, October 4, 2000.

The Company Town[10]

Introduction

The nominated district, the only surviving example in Puerto Rico of an autonomous and self-sustaining planned community encompassing both the workplace and home, was designed, developed and constructed by the Central Aguirre Sugar Company between 1899 and 1964. The high degree of integrity and conservation that characterizes the townscape and most of the residential buildings have maintained its early 20th century historic appearance. The only visible differences are to be found in some current uses and the delimitation of the grounds around the institutional, commercial, and residential properties, in addition to the closing and abandonment of the sugar mill in 1990. Originally, the residential properties within the company town sectors (Aguirre and Montesoria) were not legally defined, since they all belonged to the company. Nevertheless, hedges or other landscaping generally identified the lots. This practice has been maintained in the Aguirre sector, although a lack of maintenance and interest have seen a substantial deterioration of what were once beautifully landscaped areas around the institutional and commercial buildings.

The urban layout of the company town is unique because it combines elements of early 20th C American and international urban design and oriented these elements towards the creation of a company town in the Puerto Rican cultural milieu. The nominated district, including the factory, is organized around two adjacent areas, the town square or plaza and the factory's cane yard or mill plaza, known in Spanish as *plaza del batey*. The first was the focus of urban civic life in the company town, while the second was the focus of its agro-industrial production. The residential area was divided into two sectors, each with its distinctive urban layout, and sharing a connection through the town plaza. To the north, the development of the Aguirre managerial community generally followed the principles of the Garden Suburb and City Beautiful movements of the late 19th and early 20th C, with curved road plan and landscaping. To the southwest, Montesoria, the factory workers community, followed the orthogonal grid espoused in the growth of many industrial towns and cities at the end of the 19th Century and the beginning of the 20th.

[10] Except for some minor corrections and editing, this section is completely excerpted from the draft Company Town architectural nomination by Rodríguez and del Toro, 1993b, on file at PRSHPO.

At present both the sugar mill and the company town are in good condition. The town still functions as such, though some of the community facilities, such as the Hotel and the Theater, which were planned, built, managed and operated under the Central Aguirre Sugar Company during its ownership of the district (1900-1968) are closed or have changed use. Ownership of the managerial residential sector, Aguirre, is still in hands of the local government, though various attempts have been made to sell the residential properties to their tenants. Beginning ca. 1970, the construction of the Aguirre Thermoelectric Plant impacted approximately 4 acres of the Montesoria worker's residential sector, demolishing houses and altering the street layout in the sector. In addition, parts of Montesoria were subdivided and sold to their current tenants, propitiating the demolition of the original housing, and its replacement with concrete residential structures, dated mostly between 1985 and 1993. These impacts have caused the exclusion of the entire area south of 6th Street and west of Avenue E, also including the block and a half of residences south of 4th Street and west of the fenceline separating Montesoria from the industrial warehouse sector (See Boundary and Property Maps, Boundary Description and Boundary Justification). Despite this impact, the remaining area of the sector retains significant historical and physical integrity.

Due to the periodic town maintenance policy followed by the Central Aguirre Sugar Company management, conservation by the current tenants, and a strong sense of community pride, most of the contributing resources within the nominated district maintain a significant level of integrity, while those that are deteriorated can probably be repaired and/or recovered. Nonetheless, the expropriation of the former Central Aguirre Sugar Company's assets in 1970, including the entire historic district, has signified the cessation of this maintenance policy and allowed serious impacts to the historic integrity of some sectors of the area, notably by the construction of the Aguirre Thermoelectric Plant (ca. 1970) on the western margin of the original Montesoria worker's residential area, and a housing development known as Montesoria II (ca. 1980), located to the north of the Aguirre Golf Course and west of Central Avenue, which lies outside the nominated district's boundaries (see Boundary Map).

Within the **Central Aguirre Historic District**, housing was the responsibility of the company and was provided to their tenants free of rent, as part of their salaries. Different types of houses were adopted according to the status of those who occupied them, and their maintenance was the responsibility of the

company, which maintained a permanent staff for this purpose. In the Aguirre managerial residential sector, bathrooms originally were simple latrines located at the back of the house, and some were used collectively. In the Montesoria worker residential sector, common places for washing and bathing were provided. Wood was the most common building material used for all housing, together with corrugated zinc sheet roofing. From the beginning of the nominated district's development, building materials were imported, the wood usually being southern yellow pine from the U.S. Northeast coast, but large sized redwood beams have also been observed. In order to easily distinguish them, worker's houses, in Montesoria or located elsewhere, were painted gray, while the managerial and technical staff houses were painted white.

Although the historic district's sectors are clearly defined by differences in design, plan and function, the residential areas of the district (i.e., the company town) possess a remarkable degree of continuity in terms of construction materials and landscaping. The buildings in the industrial sugar mill sector also relate to the company town, contributing to this sense of unity and continuation characteristic of this place. Though the construction in the residential areas spans more than sixty years, this continuity exists even between buildings built at different times, since subsequent designers and builders related to the pre-existing constructions. Most of the existing urban layout of the two residential sectors of the district exists as it was originally constructed. The only exception is a small area south of 6th Street, the oldest developed area of the Montesoria sector, where most of the existing single dwelling houses and *barracones* (worker's quarters) were demolished or relocated; the urban layout here was altered and housing constructed by the Puerto Rico Housing Authority after 1984. Except for this one area, the company town of the **Central Aguirre Historic District** has maintained a high degree of historical integrity, and comprise the only surviving example of a 20th C sugar mill company town in Puerto Rico, representative of company towns built by U.S. investors in the Caribbean early in the 20th Century.

The Central Aguirre Sugar Company built the Central Aguirre company town, creating a self-sustaining community containing all its component facilities. The town plan that was adopted was in accord with the American origins of their capital investors, all from the Northeast coast of the United States. However, documentary research has not revealed any single architect or planner who was responsible for

the town plan and most of the residential and community buildings (the engineers, architects, and builders of company towns have remained largely anonymous. The town plan was defined by a system of major and minor streets easements. The main avenues follow a contoured curvilinear pattern, connecting the managerial dwellings, community buildings, and the sugar mill. The secondary streets, orthogonal pattern, defined the worker's residential area. The main axis formed by Central Avenue and the town square or plaza not only organized the principal community buildings in the nominated district, but also acted as a the transition or border line between the two main residential sectors and the sugar mill, thus preserving the physical and social segregation between the components of the company town.

The sugar mill generated the electricity for the town. In 1924 a major water distribution and sewage system was built in the district, discharging into Jobos Bay. Nearly 3,363 linear feet of water lines where installed. Two new water wells where drilled and four existing ones where cleaned. Since the original establishment of the district to the present, water has been available to the community from the company's water wells. Later, nearly 3,180 linear feet of vitri sewage pipe was installed. Also at this time, community baths and toilets where built throughout the town to replace existing latrines.

All roads in the company town were originally dirt roads, which were eventually compacted and later paved. They were, and still are, usually bordered by grass-covered rights of way that were used for culverts, pedestrian circulation and for infrastructure such as electrical posts. Their overall width, including the right way, ranges from 4.5 to 6.5 meters in most areas, while the roadways themselves are 3.5 to 4 meters in width, serving for both vehicular and pedestrian circulation. There were no sidewalks in the town initially, and though there are some areas (e.g., close to the clubhouse) with sidewalks today, the town generally retains this characteristic.

The lot area allotted to each residential structure corresponds to the period in which they were built, the type of the housing developed in it, and the standing of the person or family within the corporate structure of Central Aguirre. In the period between 1900 and 1938, most lots, like the houses constructed on them, were large, ranging from 1,500 to 2,700 square meters in area. After 1940 and until 1964, when the last houses built by the Central's management were constructed, the lots were smaller, ranging from 690 to

1,800 square meters. The only exception to this were the lots developed in Montesoria, on which smaller, massed-plan houses were constructed. These lots averaged 970 square meters in area.

The location of the houses on the lots in the Aguirre sector varied during the first 48 years of its development, after which regular front, back and side setbacks were established. In areas developed after 1948, the front, side and back setbacks were usually the same for each house and relatively close to the streets, thus emulating the homogeneous, nondescript look of then-current suburban developments.

The first dwellings built in the Aguirre sector, as well as the original wooden worker's barracks (***barracones***) in the Montesoria sector, were designed and shipped pre-cut from the U.S. via sailing schooners that arrived directly to Central Aguirre. Once they arrived in Aguirre local workers assembled them. At a later, still unspecified date, dwellings were designed and built locally by the company's engineering department. Model house plans or types used from 1904 to 1964 were repeated and constructed in consecutive years or different time periods. Until 1938, houses in the Aguirre sector were built of resin pinewood, tolerant to termites and decomposition common to humid tropical areas, and were roofed with corrugated galvanized iron sheets available in the Caribbean since the 19th Century. Windows were made of wood and glass, and double hung (a style not used in Puerto Rico, although common in the French, Dutch, and British Antilles). From 1940 on, houses in the Aguirre sector were built entirely of reinforced concrete. Most houses in Montesoria were built prior to 1940, with wooden structures being built until 1938, although concrete buildings were built as early as 1927.

In 1899, the existing vegetation in the area of the town consisted mainly of a combination of cultivated sugar cane, together with grasses and shrubs that were natural to this sector of the island. Once the design and construction of the town was started and the roads outlined, the forestation and landscaping of the area was begun. Indigenous trees, shrubs and grasses were introduced with the purpose of creating a garden environment attuned to the urbanization ideas followed in its development, particularly in the Aguirre sector. The entrance to the company town, beginning about 1 kilometer south of km 151.3 of State Road PR-3, is lined with 60-foot high coconut palms (*Cocas Lucifer*), a typical landscaped entrance for sugar mills and haciendas in Puerto Rico. Although it is possible to speculate that these palm trees do

perhaps date from the time of the original 19th C Hacienda Aguirre, no related documentary evidence has been found. Among the dominant large trees within the company town are the gregre (*Bucida buceres*), the West Indies mahogany (*Swietenia mahogani*), the mango *(Mangifera indica*), and the royal poinciana (*Pegonix regia*). The smaller trees include the caesalpina (*Caesalpinia pulcherina*), the lead tree (*Leucaena glauca*), and the fustic tree (*Pictetia aculeata*). There are also examples of rare vegetation, such as frangipani (*Plumeria rubra*), and a Baobab tree (*Adansonia digitata*) that is unique in Puerto Rico. Hedges are mainly comprised of hibiscus (*Hibiscus rosa-sinensis*), crotons (*Codiaeum varigatum*), red ginger (*Alpinia purpurata*), orange-jessamine (*Murraya paniculata*), and ixoras (*Ixora coccinea*). These hedges replaced the original wooden white-washed-picket fences that divided the properties. Other existing palms, besides the coconut one, are the royal palm (*Roystonea borinquena*), the tyre-palm (*Cocotrinax alta*), and the madagascar-palm (*Chrysalidocarpus lutescens*). The main type of grass planted around the houses, mainly in the Aguirre sector, is the centipede type (*Eremonchloa ophiuroides*). The beautiful and well-kept tropical gardens preserved in the Aguirre sector highlight the character of the existing dwellings.

Aguirre (developed 1900-1964)[11]

The early urban design of the Aguirre sector followed many of the ideas originally laid out in the early 20th Century Garden Suburb Movement in the United States, as well as in other company towns built in the western hemisphere. These included low densities, large irregular lots, curvilinear streets following the fall of the land, the use of cul-de-sacs and setting all buildings and open spaces in a picturesque rural setting. As the century progressed and the area was developed, these concepts changed or were transformed. Lots and houses became smaller and more regimented. By 1964, when Central Aguirre built the last houses in the Aguirre sector, the subdivision and the housing typology reflected the typical modern suburban housing developments sprouting all over the United States, as well as in Puerto Rico.

There are no established legal boundaries the Aguirre sector's perimeter, although the previous owner of the land and properties, the now-defunct Puerto Rico Sugar Corporation (*Corporación Azucarera de*

[11] Except for some minor corrections and editing, this section is completely excerpted from the draft Company Town architectural nomination by Rodríguez y del Toro, 1993b, on file at PRSHPO.

Puerto Rico), proposed and effected individual boundary delimitations for the residential lots, based on existing natural boundaries, land use, circulation, infrastructure, roads and historical fencing patterns, as part of a program to transfer the properties to private hands in 1985.

The recently restored (1990's) Administrator's plantation-style house (*Casa Grande*, ID#016) was built in 1900 and is located on "A" Avenue, with a double-pitched roof covered with asphalt shingles, double hung windows and fanlight doors. The two-story house has a "U"-shaped configuration, with the base of the "U" facing east towards the slope and a view of the sugar central. Its entrance is to the west, where a vehicular drop-off area is located. Various outbuildings related to the house are also located in this area, such as servant quarters, storage facilities and garages. There is evidence of other houses built in this style and with similar materials, but none have survived.

Within the nominated district boundaries, the Aguirre sector included most of the institutional, cultural and recreational facilities of the company town. At one time, it had the main residential plaza of the town, a park with playground facilities, the Aguirre golf course and its clubhouse, a hospital with an annex, nurses' residence, a Methodist church, a private school system consisting of three buildings, a public school, a hotel with a restaurant and pool facilities for its visitors and administrators, a residential hotel for transient workers, two clubs, a theater, a central store an ice and ice cream plant, two detached restaurants, a market place, a police station, a post office, and two office buildings. With the exception of the residential hotel and the restaurant building, all the areas or buildings that housed these uses exist or are still standing and are in generally good condition.

The Town Square or Plaza (ca.1900, ID#338) lies south of the intersection of Central and "A" avenues. To the north of the Plaza are the Ice and Ice Cream Plants (1911, ID#347; & 1942, ID#363) and the Caribe General Store (1925, ID#362); to the south is a Montesoria residence (ca.1923, ID#109); to the southeast and east is the open ground separating it from the IBM Machine Building (1957, ID#360), the Main Office Building (1924, ID#358) and the Post Office (1941, ID#359); and to the west is a Montesoria worker's residence (1937, ID#107). Simple concrete paths along the perimeter and across its center delineate the Plaza. It is important to recognize the strategic location of the Main Office Building

between both the Town Plaza and the Mill Plaza, since it acted as the administrative center of both areas. Although the Town Plaza was clearly designed as a central public space, it was hardly used by the residents except on major festivities like the Fourth of July or market day. The Aguirre Park (ca. 1906, ID#339) lies north of Park Street and is bracketed to the east by the YMCA / UTIER building (1966, ID#346); to the west by a recently constructed covered Basketball Court (ca. 1990, ID#340); and to the north by the back of Aguirre's residential properties. Although the original wooden grandstand and tennis courts are gone, it is still being used as a park, a commons, baseball field, and for recreational purposes. The Aguirre Golf Course (ID#344), a 40-acre, 9-hole course built in 1931, is still being used and maintained by the Aguirre Golf Club, which was established in 1934. The club had about 100 members in 1970 – 85% were Central Aguirre employees, while the rest were executives from neighboring industries. The golf course, lying to the west of the town just off an unnamed access road which is also the entrance to the hospital, was the first golf course built in Puerto Rico, and for a long time the only one on the south coast of the island. The accompanying Aguirre Golf Clubhouse (ID#349), built in 1934, is a single story, wood structure with exposed trusses that, though underutilized, is in good condition.

The Aguirre Hospital (ID#366), originally built of wood in 1931 and remodeled in 1936, 1948, 1967 and 1968, is a two-story reinforced concrete structure. It replaced the earlier Clinic on the south side of the Town Plaza, and was the first private hospital in the region. In time it was regarded as one of the best on the island, staffing two full-time doctors and facilities that included 9 private rooms, a 15-bed ward and a 5-bed maternity ward. The Aguirre Hospital attended people outside Aguirre and, until it closed, attended all childbirths in Salinas and neighboring towns. The adjacent Nurses' Residence (ID#369) were constructed between 1931 and 1939, on the west side of the company town, adjacent to the loop road Central Avenue (State Road PR-705). The Nurses' building is two-story, reinforced concrete building. Both the Hospital and the Nurses Residence are in good condition, but are currently being used by the Puerto Rico Police Department for training facilities.

The Methodist Church (*Iglesia Metodista*, ID#337) was built c.1920 and is attributed to Antonín Nechodoma, a Czechoslovakian architect who established a prominent practice in Puerto Rico. Occupying a lot on 9th Street and Central Avenue, it is a rectangular masonry structure with a corrugated

iron panel roof and wooden arch-shaped windows and openings, and a bell tower in its northeast corner. It replaced an earlier wooden structure located further to the south.

There are three (3) buildings still standing which were used for the Aguirre Private School facilities, mainly for the managerial and technical staff children. All three are on "A" Avenue opposite the large Administrator's house (*Casa Grande*, ID#016). The first and second of these structures (ID#354 & ID#353), built next to each other in 1918 and 1928, respectively, are single-story, rectangular wooden structures. The third (ID#352), constructed in 1961, is a one story reinforced-concrete structure to the south of the previous wooden structures. All are in good condition but being used as dwellings. The Woodrow Wilson Elementary Public School (ID#335), was originally constructed in wood sometime in 1914-1915, but was later (c.1920) reconstructed in concrete, following architect Adrian Finlayson's design. Built by Central Aguirre, it was later transferred to the local Education Department for its administration and for the use of the children of the sugar mill factory workers living in Montesoria. It is located on the north side of Central Avenue, close to the town's plaza. It is a one story, reinforced concrete building which is in good condition and is still being used as a public school.

There were, until the early 1990's, two hotels in Aguirre. Both hotels were constructed to the East of the main road to the sugar mill, on a low promontory overlooking the industrial sugar mill sector, the residential sectors and Jobos Bay. The oldest one, the *Hotel Puertorriqueño* (ID#348), was originally built out of wood in 1907 and housed transient workers of the Central. The original had no kitchen facilities, so a kitchen was constructed in 1910. Burned down by a fire in 1990, today only its ruins remain. The second hotel, the *Hotel Americano*, was built out of wood sometime before 1924, when it burned down in a fire. Rebuilt in concrete between 1927 and 1928, the hotel expanded its facilities at that time, consisting of a main building (ID#365), a 13-table detached Dining Room and Kitchen (1927-28, ID#364), and various cabanas (1948, ID#474; 1953, ID#473). Both the *Hotel Americano* and its dining room were constructed in reinforced concrete. The *Hotel Americano* is a two-story structure, raised from the ground and with continuous open verandahs all around it. The dining room is a one-story building with a verandah in front. Originally it had a wood gabled roof, which burned down in 1992. Both buildings are now empty but salvageable. The Aguirre Swimming Pool (ID#345) was added to the hotel

facilities ca.1933, and the use of the pool was based on club membership, limited to managerial and technical staff.

Adjacent to, and south of the *Hotel Americano*, is a building that at one time housed a private club, the *Club Americano* (ID#356), which later housed the offices for Luce & Co., the division of Central Aguirre Sugar Company that controlled its landholdings. This building is a single-story, wood and concrete structure with a continuous front porch, built in 1915 following architect Adrian Finlayson's design. The Puerto Rico Department of Natural and Environmental Resources (PRDNER) restored it in the 1990's for use as its regional offices. The only other buildings that housed private clubs were the *Club Panamericano* (ID#334), and the *Club Puertorriqueño* (ID#350). While the *Club Panamericano*, a one-story wooden building in good condition built ca. 1935 for an employees club, mostly from Montesoria, can still be seen at its original location on "A" Avenue on the northern boundary of the Aguirre sector, the *Club Puertorriqueño* building, built in 1936 for Puerto Rican employees, was later disassembled and sold.

Lying between the town plaza and the industrial sugar mill sector, at the southern end of "A" Avenue, is the Main Office building (ID#358), constructed in 1924. It is a reinforced concrete and wood, two story building, with a continuous porch in front. Various additions have been constructed to the sides and back. At one time it served as an office building for the now-defunct Puerto Rico Sugar Corporation ("*Corporación Azucarera de Puerto Rico*"). Attached to it by a skywalk, to the north, is the Post Office building (ID#359), built in 1941. This is a reinforced concrete two-story building in good condition, and the first floor continues to be used as a General Delivery Post Office. Adjacent to, and west of, the Main Office building is the IBM Machine Building, a single-story reinforced concrete building constructed in 1957 (ID#360). It is in good condition but abandoned.

Built in 1925, the Caribe General Store (ID#362) is located in the northwest corner of Central and "A" Avenues. It is a high, one-story reinforced-concrete building, slightly raised from the ground. A gasoline station was added to it in 1931. It is in good condition and is being used as a store, a bank and a bar. The Ice and Ice Cream Plants (ID#363 & ID#347) are attached, and were built in 1911 and 1942, respectively. They are both rectangular-shaped, one-story structures with reinforced-concrete walls and simple details.

However, while the Ice Cream plant has a concrete roof, the Ice Plant has a wood and corrugated metal sheet roof. The Ice Cream Plant was being used as an upholstery shop in 1993, and is now abandoned. To the west of these two buildings, in the northwest corner of Central and "B" avenues, and adjacent to the Town Plaza, are located the Old Marketplace, the Police Headquarters and the Theater (cinema). The Aguirre Vegetable Market (ID#361), constructed in 1924, was originally an open rectangular one-story structure with masonry piers and a roof covered with corrugated iron sheets. The structure was successively used for the Aguirre Pharmacy, the Telegraph Office and as the Aguirre Federal Credit Union office (1951). As time passed it was altered and, in its present state, is being used as an enclosed video store. The Police Station (ID#357), constructed in 1923, is a wooden one-story building, similar in style to many of the houses of Montesoria community. While the original building is currently being used as a house (residence #B77), the police headquarters were moved to another building in Montesoria in 1970 (ID#108). The Theater (ID#367), which fronts "D" Avenue, was constructed in 1934. It is a reinforced concrete, two-story rectangular-shaped structure (with mezzanine) with a flat roof. The building is in good condition. The theater is no longer being used, while two areas in the ground floor were successively used as a barbershop, a beauty shop and the telegraph office.

To the north of the Theater, on the west side of "B" Avenue, is a one story, reinforced concrete building (ID#368) built in 1950, which formerly housed "Pedro's Restaurant", is in good condition and still serves as a restaurant. North of this building, on the northwest corner of Park and "B" avenues is a one story, rectangular-shaped, reinforced-concrete building (ID#346) built in 1966 for the Y.M.C.A. -- it is in good condition and is being used as a meeting hall for the local electrical workers union, UTIER.

A large number of cottage-style houses were constructed in Aguirre from 1904 to 1938. Many of these houses differed widely in terms of size, distribution, roof shape and details, but share some of the same general characteristics: they were one-story wooden raised houses with hipped or gabled roofs and open or engaged porches or verandahs. The interiors of the houses had high ceilings, and usually had dividers known as *medio punto* separating the living and dining rooms. This kind of housing was well matched to the philosophy of the Garden Suburb Movement, as well as that of the Central Aguirre Sugar Company.

In 1938, the last cottage-style managerial dwelling (ID#015) was built by the company in the Aguirre sector. After 1938 all managerial dwellings were built of concrete. Viola Obén, daughter of well-remembered former Aguirre General Manager Marcelo J. Obén, and her husband Malcolm Whitney, an ex-employee of the Central Aguirre Sugar Company, have occupied this house since its construction.

The first two-story reinforced concrete house in Aguirre was built in 1940, located on "A" Avenue. By 1948, ten years after the last cottage-style and massed-plan houses were built, the Central Aguirre Sugar Company began constructing new houses again in earnest for its managerial and technical staff in the Aguirre sector. From 1961 to 1964 the Central owners built the last houses in the Aguirre sector for its managerial and technical class. Including a carport, these houses reflected the suburban developments sprouting in the United States at the end of the 1940's and in Puerto Rico towards the end of the 1950's.

From 1950 to 1964, seventeen (17) reinforced concrete residential buildings were constructed in the Aguirre sector, one 2-apartment suite structure behind the *Hotel Americano* (1953), 15 residential structures (1953-1964) and one school structure (1961. These were the last ones built in the district while the Central Aguirre Sugar Company was its owner, ending a tradition that began with its establishment in 1899.

Montesoria (developed 1900-1953)[12]

Historically, Montesoria was the sugar mill factory workers' residential sector. Located in the southwest corner of the district, it is bounded to the west by the Aguirre Thermoelectric Plant (Puerto Rico's main electric generation plant, built ca. 1965), to the east by the sugar warehouses of the industrial **Central** sector, to the south by Jobos Bay, and to the north by Central Avenue and the Aguirre. Of its built area, 25.3 acres form part of the nominated District. The sector lies on a gentle slope with a southeast orientation, rising from the shoreline to 15 meters above sea level. A water runoff channel roughly bisects the area. Unlike the Aguirre sector, it was developed using an orthogonal grid. The size of the blocks varied, and in most areas is reflected in the housing typology. The northern section of the western grid, and the entire eastern grid, incorporate the larger blocks, while the southern section of the western grid includes the smaller blocks. Originally, house lot boundaries were not established or formally delineated. These boundaries were legally established in the early 1980's, when the lots were segregated and sold to its tenants, former Central Aguirre workers, by the Puerto Rico Housing Authority.

Just as in the Aguirre residential area, the streets in Montesoria were originally dirt roads that were eventually paved. The width of the streets varied between 6 and 12 meters, including a 4-meter wide right-of-way for pedestrian and vehicular traffic, in addition to drainage and infrastructure rights of way. All roadways running north to south in Montesoria are labeled as avenues, although they do not have the characteristics or use of avenues except as collectors (avenue and street designations in both sectors were probably given after the Second World War, whereas originally they had local common names, i.e. Río Piedras Street). There are five avenues, "B", "C", "D", "E", and "F" (from the east) connected by eight streets, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th and 9th, from east to west. The house numbering is based on these elements, thus 729 is on 7th street, while E65 is on "E" Avenue. Before the current letter and number designation of the streets in Montesoria, the houses were numbered depending of when they were built or what house they replaced. Street numbers run from east to west, while avenue letter numbers run from south to north. The only exception to this is the area south of 6th Street, east of the water culvert where the grid was redone, to the west of "F" Avenue, between 3rd and 6th streets, and three blocks became

[12] Except for some minor corrections and editing, this section is completely excerpted from the draft Company Town architectural nomination by Rodríguez and del Toro, 1993b, on file at PRSHPO.

two. In this area there is no established property numbering other than the one allotted in the 1980's subdivision plan.

Lying to the south and west of the managerial residences of the Aguirre sector that line both sides of Central Avenue, Montesoria is organized on an orthogonal street pattern that reaches the shoreline of the Caribbean Sea. A brief tour throughout this sector quickly reveals the characteristics that differentiate this sector from Aguirre: the smaller lots and smaller houses, their more rigid rectilinear disposition and higher density. While both Aguirre and Montesoria share many of the same stylistic elements, their expression in both sectors varies. Due to the regularity imposed by the grid layout, the Montesoria sector had regular identified setbacks in the front. Thus the rectilinear character of the streets was reinforced by the rectilinear quality of the houses which, unlike in the Aguirre sector, walled the streets they faced. At present, all these houses have front yard fences made of various permanent materials. However the urban layout in the southeastern section of the community was altered by the construction of the Aguirre Thermoelectric Plant (ca. 1965), which resulted in the loss of about 4 acres of the community along its eastern boundary.

Unlike the Aguirre sector, around or within which most of the institutional, cultural and recreational facilities of the town are located, Montesoria houses the Catholic church, a fisherman's wharf, a restaurant and a modern plaza developed as part of the early 1980's subdivision. The Catholic Church, built ca. 1920, is dedicated to Our Lady of the Sacred Heart of Jesus ("*Nuestra Señora del Sagrado Corazón de Jesús*"), and occupies a lot on 7th Street (ca. 1920, ID#336). This church and its rectory house are one-story structures. The nave of the church has concrete walls and floor and galvanized iron sheet roofing. The rectory at the back of the church is constructed, like most of Montesoria's houses, of wood with a galvanized iron sheet roof, and was built some years after the church.

The alterations to the urban layout in Montesoria, including those caused by the loss of over 4 acres of the sector due to the construction of the Aguirre Thermoelectric Power Plant ca. 1970 make it the most impacted sector of the entire nominated district, containing the highest relative number of non-contributing buildings. Regardless of this, the sector generally retains its character and setting as

originally constructed. This has been reflected in the urban layouts and in the later lot subdivision. Lots in the nominated district range from approximately 200 to 250 square meters for the small lots, 400 to 450 square meters for the medium size lots, and over 500 square meters for the larger or peripheral lots.

The simplest and earliest houses built in Montesoria, the *barracones*, belong to a tradition going back to the Spanish sugar haciendas of the 19th century. They where originally single or multiple rooms barrack type dwellings that housed the slaves or servants of the hacienda. They were originally built of wood and galvanized iron sheets roof, do not have bathrooms or kitchens, and were used to house single men or childless couples. All the original wooden *barracones* have disappeared at this date. However, two existing multi-family *barracones* (ID#308 & ID#309) were built by the Company between 1924 and 1929. One-story factory worker multi-family dwellings built of concrete, galvanized iron sheets roof, and concrete floor, these 20-room *barracones* were used by single factory workers, and did not have kitchen or bathroom facilities. Originally, many were built around Montesoria sector, none of which have survived. Three other existing concrete *barracones* are located throughout the district. In addition to these, single-family wood and thatch dwellings (*bohíos*) were built in Montesoria following a rectilinear pattern, early on – existing historic photos from 1911 show a street lined with these dwellings, which were replaced by all-wood construction at a later date. All wooden dwellings built by the Company early on in the district use similar elements that give the company town an urban continuity and clear boundaries. Houses in Montesoria were also assigned according to the employee's position in the sugar mill and his marriage status.

Since the initial establishment of the district, water had been available to the community from the company's wells, while latrines had been excavated for the growing population. However, community bathroom facilities were constructed in 1924, to be shared by the residents of the *barracones* or the other individual houses, replacing the existing latrines. Four of these community bathrooms still exist in Montesoria, single story structures with individual stalls arranged and accessed horizontally, built of reinforced concrete with galvanized iron sheet roofing. The construction of these facilities was part of the construction of a major water distribution and sewage system in the district that year. Nearly 3,363 linear feet of water lines and 3,180 linear feet of vitri sewage pipe were installed. Two new water wells where

drilled and four existing ones where cleaned.

As in the Aguirre sector, some of the original dwellings, including the first wooden *barracones*, were designed and precut in the U.S. and shipped directly to Central Aguirre, but none have survived. Although construction in wood predominated throughout the area's period of development, construction of reinforced concrete housing with corrugated iron sheet roofing began as early as 1927. From 1939 on, all additional housing constructed in Montesoria was built out of reinforced concrete, with the last of these built in 1955.

Conclusion

The urban layout of the nominated district is unique in Puerto Rico because it combines elements of early twentieth century urban design and orients the elements towards the creation of a company town. Two types of residential community layouts were developed within the district. The first was Aguirre, the managerial residential sector to the north of the nominated district, followed the principles of the Garden Movement, characterized by curving lines and a picturesque setting on the higher elevations.. The second was Montesoria, the factory workers community located on flatter terrain to the southwest of the district, followed the orthogonal grid espoused in the growth of many industrial towns and cities at the end of the 19th Century and the beginning of the 20th. As such, the company's interpretation of the geography incorporated the segregation of the managerial, mostly American, and working, predominantly Puerto Rican, classes. This was also expressed in the differing urban layouts of both the Aguirre and Montesoria sectors and, within the different residential sectors, by the assignment of housing based on the position, duties and status of the employees.

At present both the sugar mill and the company town are in good condition. The town still functions as such, though some of the community facilities that were managed and operated under the Central's owners, such as the Hotel and the Theater, are closed or have been given other uses. Ownership of the managerial residential sector, Aguirre, is still in hands of the local government, though various attempts have been made to sell the residential properties to their current tenants. Montesoria, the factory workers' residential sector, was subdivided in the early 1980's and sold to their current tenants. South of 6th Street

in the Montesoria sector, changes were done in the late 1980's, changing both the urban layout and the architecture. Besides this sector, the rest of Montesoria still maintains significant historical and physical integrity.

Due to the periodic maintenance policy by the company town management, conservation by the tenants, and a strong sense of community pride, most of the contributing resources within the nominated district maintain a significant level of integrity, while those that are deteriorated can be repaired. Of the non-contributing resources within the nominated district, most of those that are ineligible due to the 50-year National Register rule will become eligible within the next 15 years. These resources form an integral part of the nominated District and are part of the construction evolution of the company town. After 1943, over 30 dwellings in the residential sectors have been either demolished or relocated to other locations. Between 1943 and 1970, 33 new buildings where built, while after 1970, 39 new buildings where built, all of them dwellings in the Montesoria community.

Though some of the public buildings and recreational facilities are not being utilized, such as the Hotel and the Theater, others, such as the Town Square, the Main Office building, the Post Office, the Caribe Store building, the Park, the YMCA building, the Hospital and the Golf Course are still being utilized though sometimes, as in the case of the Hospital, not for their original purpose. There are also examples of inspired historical rehabilitation and reuse as witnessed by the restoration of the Luce & Co. office building as Regional Headquarters for the Puerto Rico Department of Natural and Environmental Resources' Park Rangers, as well as the restoration of the Administrator's house as a private dwelling.

The buildings identified in **Aguirre** date from as early as 1900 to as late as 1992, for a combined total of 151 residential, institutional and commercial buildings. Of these, the existing contributing properties in the area total 121, with 25 built by 1910, an additional 10 by 1920, 31 by 1930, 29 by 1940, and 26 by 1950. From this perspective, it appears that the Aguirre residential sector underwent relatively uniform growth throughout the period of significance (1899-1950), with the exception of the 1910-20 decade.

After 1943, over 30 dwellings in the residential sectors have been either demolished or relocated.

Between 1943 and 1970, 33 new buildings were built; while after 1970, 39 new buildings were built, all of them dwellings in the Montesoria community. The buildings identified in Montesoria date from as early as 1904 to as late as 1993, a total of 259 buildings. Of these, the existing contributing properties in the area total 165, and 149 of these were built between 1920 and 1940.

STATEMENT OF INTEGRITY

Contributing and Non-contributing resources

A total of **496** resources (385 (77.6%) contributing and 111 (22.4%) non-contributing) were identified in the 1993 and 1998 HPF-funded building surveys, the 1999 HPF-funded Industrial sector update after Hurricane Georges, and site visits throughout 1999 and early 2000, for the potential district. District boundaries were then drawn so as to exclude areas which had lost integrity from the nominated district (see Boundary Justification, Section 10, pp. 133-134). This resulted in the exclusion of 60 non-contributing and 10 contributing properties, leaving a total of **426** resources within the nominated district, distributed into 341 (80%) contributing and 85 (20%) non-contributing properties.

Conclusion

The **Central Aguirre Historic District** includes the only surviving twentieth century company town in Puerto Rico. As such it is an invaluable resource of the urban history, not only of Puerto Rico, but also of the United States. Interest in the revitalization of Central Aguirre and its company town, since the government took over in 1970 and the factory closed in 1990, has come from various sources, both public and private. The transferal of all residential properties to private hands has been a government priority since the early 1980's. It has been achieved, with mixed results, only in Montesoria. Though public policy, through Joint Resolution No. 51 of 1987 and Joint Resolution No. 1922 of 1991 of the Commonwealth Legislature, has been directed towards the transferal of the residential properties, this has not been achieved in the Aguirre sector, and the residents continue renting their houses from the insular government.

Though some of the public buildings and recreational facilities are not being utilized, such as the Hotel and the Theater, others, such as the Town Square, the Main Office building, the Post Office, the Caribe Store building, the Park, the YMCA building, the Hospital and the Golf Course are still being utilized though sometimes, as in the case of the Hospital, not for their original purpose. There is also a trend towards inspired historical rehabilitation and reuse as witnessed by the restoration of the Luce & Co. office building as Regional Headquarters for the Puerto Rico Department of Natural and Environmental

Resources' Park Rangers.

The study of Central Aguirre has not only been an effort to identify contributing elements and nominate them as a historic district to the National Register of Historic Places, but also an effort to identify the iconography of a very special, even unique, social, urban and industrial development, in an effort to promote its preservation, restoration, and reuse by making people, both inside and outside of the community living in the nominated district, aware of its historic meaning and significance.

In addition, the nomination of the **Central Aguirre Historic District** to the National Register of Historic Places will propel its nomination to the State Register (overseen by the Puerto Rico Planning Board) by the Institute of Puerto Rican Culture (ICP), as a historic district, and assist in its management as part of a special ecotourism/conservation zone which will include the surrounding Jobos Bay Nature Reserve. The inclusion of such a unique historic district within this exemplary planning effort would promote the establishment of conservation policies of the first order under local laws, which would guarantee its preservation as an important part of our cultural, urban and architectural heritage and a vivid reminder of an important chapter in the history of both the U.S. and Puerto Rico.

NARRATIVE STATEMENT OF SIGNIFICANCE

The **Central Aguirre Historic District** has significance at the State and local level. At State level the district is significant under Criteria A and C in the area of Industry and Engineering. This district (under Criterion A), as an industrial sector, starts in 1899 and ends in 1950, using the required National Register 50 year cut-off date. Also, the property is significant under engineering (Criterion C) for its machinery used in the sugar cane processing and refining, most of remnants date from the 1949-50 technological upgrade. At local level **Central Aguirre Historic District** is also significant under the Criterion A in the areas of Community Planning & Development, and Transportation. This property was a planned community with industrial, commercial and residential facilities whose purpose was to facilitate the production of sugar for exportation. Also the district served as transportation hub, in the southeast of the island, for its products and passengers.

The Puerto Rican raw sugar industry has been very important in the island's economy since the 16th C, but the fundamental changes occurring in the early 20th C led it to control agricultural land ownership and dominate the economy in the years after the Spanish-American War (1898). Between 1899 and 1970, Central Aguirre was the second largest raw sugar producer in the island, and it accounted for 1% of all the supply imported for refining into the continental United States. In addition, Central Aguirre was the principal industrial enterprise and largest employer in the entire southeast region of Puerto Rico, responsible for most of its economic, urban, and population growth. The Central Aguirre Syndicate (1899-1905) and its successors, the Central Aguirre Sugar Company (1905-1919), the Central Aguirre Sugar Companies (1919-1928), the Central Aguirre Associates (1928-1947) and the Central Aguirre Sugar Company (1947-1983), embodied a model of the large capital investment concern, with offices in Boston and New York. The fully mechanized mill, which began working in 1900-1901, was the first modern 20th C. mill established in Puerto Rico. One of the most successful such enterprises in the history of the American sugar industry, Central Aguirre served as an example that was imitated, not only by other American-financed mills, but also by locally financed and operated sugar mills in Puerto Rico. In addition, its milling and agricultural practices were often imitated elsewhere in Puerto Rico, enhancing

the overall productivity of the sugar industry. Its original American owners and their successors kept its mechanical and agricultural technologies abreast of the state-of-the-art, even developing new products and techniques in the process. Aguirre, for many years up to the 1960s, produced about 10% of the entire Puerto Rican sugar output and 1% of the total US consumption. Its annual production ranked 2nd or 3rd in the island during most of those years. During its first fifty years, the average investment capital in the company was $3,059,412. In that period, the company earned an aggregate of $60,472,793, an average of $1,209,456 annually. This average annual net income equals 39.5% of the capital invested. Such a success of the Central Aguirre enterprise, according to its administrators, depended, on the one hand, upon sound and conservative financial management and, on the other, upon progressive production management. Of utmost importance to the Puerto Rican sugar industry in general and to the Central Aguirre Sugar Company in particular was the continued development and application of new production and distribution techniques. Only through advances of a scientific and technical nature, indeed, was it possible for Central Aguirre to maintain its earning capacity (until 1967) in the face or rising production costs, particularly since the end of World War II. Until a corporate take-over in 1967, the Central Aguirre Sugar Company turned a profit every year and remained an industry leader. The nominated district is the best and only remaining example of this development in the history of the sugar industry in Puerto Rico.

Community Planning & Development

The **Central Aguirre Historic District** is representative of an urban phenomenon that started in the U.S. and other industrial countries and their colonies around the 1830's. This phenomenon was to continue until the 1930's, when social concerns and increasing mobility would hasten its demise. It was a direct result of the first stages of the industrial revolution and was a reflection of the relationship desired by a company between its management, its employees, and the factory. This desire produced, at best, order and harmony and, at worst, exploitation and total control. These company towns' development reflected the hand of enlightened planners who followed ideas derived from urban movements such as the Garden City, Garden Suburb and City Beautiful movements. Some of the best examples of these in the U.S. are Manchester, N.H.; Pullman, Ill.; Hershey, Vandergrift and Kistler, Pa.; Gary, In.; and Kohler, Wis. In the Caribbean, apart from those in Central Aguirre and Central Guánica, company towns were developed in

sugar *centrales* in Cuba, Central America, and later in the Dominican Republic (Rodríguez y del Toro 1993b:22). The fact that one of the intellectual centers for these movements was Boston make it highly probable that the development of the nominated district was influenced by the ideas promoted by these movements, since the original founders of Central Aguirre were also from that city (Hopkins 1991: section #8, p. 6).

The nominated district is significant because of its unique evolution, the condition of its buildings and its urban layout. The actual company town is a combination of various civic as well as residential buildings, whose unique development reflects the lifestyle that the company owners envisioned for its employees during the town's history. Many original buildings were imported from the United States, in some cases literally, since many of the wooden houses built prior to the 1930's were prefabricated and shipped directly from the Northeast coast of the United States. Most of the buildings identified as contributing are in good condition, and maintain a high degree of historic integrity. This occurred through a combination of tenure restrictions and a desire of the owners (corporate from 1899-1970 and government from 1970-Present), and individual tenants to maintain the qualities that made the district such an agreeable place to live in. The creation of the company towns of Central Aguirre and Central Guánica changed this. Like in most of the company towns of the United States, the owners of the factory wanted to exert total control over the town, as well as its employees. This implied constructing, not only dwellings for the factory workers and management but the entire infrastructure that would, theoretically, make it a self-sustaining independent town. To achieve this, the Company would manage and control the development and maintenance of the town and mill until it was expropriated in 1970. The result of this philosophy was the creation of a community that enjoyed all the amenities of a small town such a town square or plaza, a park, open recreational facilities, a private and public school system, a hospital, two churches, various private clubs, two hotels, various office buildings, a theater or cinema, and several general stores.

The nominated district is the best example of a community in Puerto Rico whose lifestyle, both past and present, where influenced by the company town created beginning in 1899. Before Aguirre, there were no privately developed independent towns serving any industrial factory in the island. Though there were

small residential communities (*bateyes residenciales*) around many of the existing Centrals and old sugar *haciendas*, none were organized as a township and were considered dependent semi-rural communities (*barrios*) of the municipality in which the mill was sited, or as communities specifically belonging to the existing mills.

The development of the company town surrounding the sugar mill also had an impact on the establishment, organization and development of satellite communities in the surrounding region (Coquí, San Felipe, Eugene F. Rice), some of which the Central Aguirre Sugar Company even donated lands and housing to, and which were founded mostly for housing sugar mill factory workers and cane-cutting workers beginning in the 1940's. These communities also reflected the demographic impact of the nominated district, since it attracted workers to the area, geometrically increasing the population in the region of Salinas and Guayama. The enormous prosperity of the sugar mill operations and business is contrasted by the rise, during the period of significance, of an active labor movement in Puerto Rico, closely identified with that of the United States after the Spanish-American War. The paternalistic overtones of the company management are reflected in rent control (the company owned all the buildings) and maintenance (the company maintained the grounds, picked up the garbage, painted and fumigated residential housing periodically), price controls and subsidies (the company owned or controlled the stores), credit (the company owned the credit company), and the construction of schools and churches, amongst other things. Nonetheless, class and ethnic segregation were apparent within the district: worker's houses were painted gray, while managerial class housing was painted white; working class children attended the Woodrow Wilson Elementary Public School, while managerial and technical class children attended the Aguirre Private School (in English); the Catholic church predominantly served the mostly Puerto Rican working class in Montesoria, while the Methodist church predominantly served the mostly American managerial and technical classes in Aguirre; different hotels existed for Puerto Rican transient workers (*Hotel Puertorriqueño*) and for American visitors (*Hotel Americano*); different clubs existed for Puerto Rican workers (*Club Puertorriqueño*, *Club Panamericano*) and American managers (*Club Americano*); and the Theater featured managerial class cushioned seating on the upper mezzanine level, while worker class seating on the ground floor consisted of hardwood chairs.

Transportation

Finally, the nominated district is significant in the area of transportation, since the founding of the Ponce and Guayama (P&G) Railroad in 1902 contributed to local and regional transportation facilities, completing the extension of the island-wide railroad network in works since the 1880's by connecting Ponce, Salinas, Guayama and Arroyo, in addition to the nominated district. An outgrowth of the initial installation of a light rail system for transporting sugar cane from the fields to the sugar mill, its tracks were rented for passenger service, which connected with the railroad reaching San Juan, the island's capital city on the north coast. Aguirre's transportation network was further expanded by the construction of a sugar dock in 1930, together with extending the rail system to the end of the dock in order to facilitate loading sugar directly onto waiting ships. The 1949 conversion to a bulk handling conveyor system (the first in the Caribbean) allowed for transporting sugar from the mill to the warehouses, and then to the dock, where a cargo spout was used to load sugar onto the cargo ships. Aguirre's Ponce & Guayama Railroad operated until the demise of the island-wide railroad network and company in 1952, though the local rail network was still used for transporting sugar cane in later years. In the last part of the 1990s a small portion of the railway was opened as a tourist ride (called *Tren del Sur*) to east of the district and within the Municipality of Arroyo.

HISTORIC BACKGROUND

The Sugar Industry in Puerto Rico (1493-1800)

The history of sugar cane begins in the South Pacific, from where it made its way to the East Indies, Indochina, India and China. It was originally used only as a source of cane stalks to chew and of juice for sweetening. It was in the Orient that sugar itself was first produced, and it was there that Marco Polo gained knowledge of it and brought it back to Europe. Sugar cane and its processing techniques thus passed to Persia, Arabia and then to the Mediterranean. It was the Moors who introduced it to Spain. The year 1493 saw the introduction of sugar cane to the island of Hispaniola (today divided between the Dominican Republic and Haiti), by Christopher Columbus on his second voyage, and the discovery of Puerto Rico. While the active exploration and settlement of Puerto Rico did not begin until 1508, sugar cane was not introduced on the island until sometime between 1515 and 1523; the date the first sugar mill in Puerto Rico was founded. The nascent industry was fostered by the immigration of Spaniards from the Canary Islands, who imported their expertise and techniques for processing sugar[14]. The sugar cane that was introduced to the New World was the variety known as *Puri*, later known as *criollo*, and would be planted, grown, cut and processed on Puerto Rican soil until the 19th C (Colación 1990:9).

Information on this first sugar mill is not abundant, but the one source indicates that

> "...The first sugar mill which actually produced sugar in Puerto Rico was 'San Juan de las Palmas", established in San Germán (then in the vicinity of present day Añasco and Rincón on the west coast of the island) by Tomás de Castellón with a grant from the Spanish crown at a cost of approximately 2,000 *pesos*..." (López 1946:149)

Hostos (1976:137) also informs us that the mill was operated by waterpower, using water from the Calvache River to turn the wooden wheel. Picó (1986:59) adds that the location of Castellón's mill probably had to do with the availability of native labor, which this western portion of the island could supply. The mill was not economically successful, probably because of the premature death of its owner in 1527. (Colación 1990:10)

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[14] Picó (1986:58) tells us that "...it was the Genoese who introduced cane cultivation to Sicily and the Canary Islands, and the Portuguese who perfected the technology involved and who spread its use."

After the gold-mining industry declined in the 1530's, the sugar industry assumed the lead as the most important economic endeavor on the island. The growing demand for sugar in the European market, with a resultant high price, the abundance of land and the availability of Indian and African slave labor, added to measures promulgated by the Spanish Crown such as the minting of money for initial investment and the prohibition of the dissolution of mills through seizure, gave initial impetus to the industry (Baralt 1989).

During the 1540's other mills were established on the banks of the navigable rivers near San Juan (e.g., the Toa river, today Río La Plata, and the Río Grande de Loíza). The first sugar mill in the Loíza valley was established in 1540, and was one of three that operated in that region throughout the 16th C. In 1548 Gregorio de Santolaya established a horse-powered mill called Santa Ana in Bayamón and a water-driven mill called *Nuestra Señora del Valle Hermoso* in 1549 in the Toa valley. Alonso Pérez Martel also built a water-powered mill in the Toa valley, which used the labor of 74 African slaves (López 1946:149; Baralt 1989). According to Spanish chronicler Melgarejo, there were 11 sugar mills on the island in 1589, located at Bayamón, Toa, Loíza and San Juan (in Puerto Nuevo), producing a total of 190 tons of sugar (Fernández Méndez 1976:118-130). Melgarejo also indicates that there had been other mills, which were abandoned as a result of attacks by Indians and pirates. The majority of the plantations of the era was built of masonry and had living quarters for the laborers and/or slaves, commonly known as *barracones* (Colación 1990:10).

The sugar technology used in 16th C. Puerto Rico comprised an edge roller stone mill and copper kettles for the extraction and evaporation of the juice respectively, and earthenware vats for the crystallization of the sugar. The crystallized sugar thus produced, called *massecuite* by the French sugar growers in Haiti (*mazacote* in Spanish), was cut up and distributed into open-ended conical vases. For weeks these were kept covered with a clay matrix that was kept saturated with water. The water that oozed out of the clay filtered down the molasses-covered sugar and dripped out the bottom of the inverted cone, carrying dissolved molasses. The remaining sugar cone was cut up into three pieces of different quality and colored sugar, which was then dried and packed separately into wooden boxes for export (Pumarada &

Plá 1998:1). This was known as *clayed sugar*, distinct to the later muscovado sugar (*azúcar moscabada* or *moscabado* in Spanish).

Other mills founded during that century in the island used teams of horses to turn the edge-roller mills. These mills were very inefficient, and the flattened pieces of cut-up cane stems that were left behind the circling stone still had enough juice in them to merit a second extraction effort. This was done using a wooden press, similar to the ones used around the Mediterranean to extract olive oil. The need for two mills, the requirement of cutting up the cane stems into pieces, and the need to place and then pick up these pieces from the circle traveled by the roller demanded a lot of labor. In the 16th Century Caribbean, this meant forced labor by Indians or by imported African slaves. The labor requirement was reduced by the introduction of a wooden mill with three vertical rollers in-line, developed in South America around 1660. This mill allowed the cane stems to be introduced between an outside and the center roller, and allowed a second pass between the other outside roller and the centerpiece (Pumarada & Plá 1998:1). The cane juice, known in Spanish as *guarapo*, was then heated in open pans until part of the water content evaporated, producing molasses (Spanish, *melao*).

In spite of available credit and the fertility and abundance of lands, few sugar mills were established. In the second half of the 16th C the few that existed began to decay, and the majority of the free inhabitants who had not left for Mexico or Perú devoted themselves to raising marginal subsistence crops (referred to as *Cimarron Subsistence Economy*) (Colación 1990:11). Key elements in this decline were the lack of European interest in Puerto Rican sugar (using sugar from the Canary Islands or Andalusia), the growing scarcity of ships and the depopulation of the island throughout the century, in addition to the commercial restrictions imposed by the Spanish monopoly, the reduction in the price of sugar due to the development of sugar production in Brazil, Haiti and the Lesser Antilles. The steady decline can be observed in the number of productive operations: 11 in 1582, 8 in 1602, and 7 in 1646 and 1694 (Colación 1990:11). In addition to the sugar mills there were also operations for obtaining molasses (*melao*), known as *trapiches melaeros*, in San Germán and Coamo (in the southwest and south of the island, respectively). Molasses was the sweetener of the poor and was also fermented to obtain a fermented spirit (*aguardiente*) and rum

(Colación 1990:11). This more efficient and cheaper machine must have been introduced into Puerto Rico around 1700. By that time, Puerto Rico's sugar industry had declined markedly. Only a few sugar cane plantations existed around San Juan, plus small patches in San German and Coamo. Two or three plantations produced clayed sugar for export, and the rest mostly molasses for the local market (Pumarada & Plá 1998:2).

Sugar Exports to Seville, 16th & 17th C.[15]

Year	Quantity*
1568	22,200
1569	11,370
1570	8,010
1571	8,520
1583	2,370
1584	5,580
1589	1,170
1593	5,640
1594	9,105
1650	333
1651	534
1652	230
1654	308
1660	1,100
1663	216
1670	132

* (In *arrobas*, a Spanish measurement equal to 25 lbs.)

The extended and gradual decline that characterized the sugar industry in Puerto Rico from the 16th to 18th centuries would change markedly towards the last quarter of the 18th C., when a series of reforms changed the economic and agricultural landscape of Puerto Rico. At the time, Puerto Rico was becoming a successful tobacco and coffee exporter. In 1765, the King's envoy to Puerto Rico, Field Marshall Alejandro O'Reilly, made recommendations for improving the colony's agricultural and commercial ventures. Among these were: attracting men of means to establish sugar mills; establishing a customs system; making efforts to attract new artisans and farmers to the colony; requiring obligatory cultivation of those crops which were most important to Spanish commerce; stimulating the immigration of merchants; increasing the number of slaves used for manual labor, proportional to the lands held by a

[15] Picó (1986:60, 63) indicates that Seville was the sole legal destination for colonial products at this time – table taken from Colación 1990:11-12.

landowner and the size of his family; confiscating untilled lands and redistributing them to those who would cultivate them; and establishing, by royal decree, a modern sugar mill to serve as an example and stimulus to others (Fernández Méndez 1976:274-48; Bagué 1968:12). The Bourbon Agrarian Reforms of 1776 resulted from these suggestions, and the *Real Cédula* or Royal Decree of 1788, which gave legal titles to uncultivated land to those who claimed it, had an immediate effect on coffee production, although no significant impact on the sugar industry until the following century (Pumarada & Plá 1990:11-16 and Albino Plúguez 1979:6).

It must be kept in mind that the independence of the United States in 1776 had been accompanied by an increase in the trade between the new state and the Caribbean, including Puerto Rico (Colación 1990:12). This trade had existed since before the former British North American colonies' independence, when "The Middle Colonies came to supply cattle and wheat to feed the West Indies; South Carolina and Georgia, rice. The lumbering colonies, especially New Hampshire, North Carolina and what is now Maine, offered barrel staves and marine supplies to carry island products." (Kennedy 1958:26-27, as cited in Vivoni Farage ca.1992:3). The new republic acquired cane syrups and sugar from Cuba and Puerto Rico in exchange for flour, provisions, slaves and manufactured goods (Colación 1990:12). By the end of the 18th C., local sugar mills had been partially modernized, and produced muscovado sugar (*azúcar moscabada*), a highly impure sugar saturated with molasses that was exported mainly to refineries in the East coast of the United States. These *haciendas* used mostly slave labor, complemented by a few free laborers, who lived near the mill in barracks-type housing (*barracones*) (Rodríguez y del Toro 1993a:1 and 1993b:19)

By 1780, a number of Irish Catholic immigrants had established sugar plantations in Puerto Rico, producing muscovado sugar and using mixed slave and free labor. One of these was Thomas O'Daly, a military engineer involved in the improved fortifications of the walled city of San Juan, and who founded one of the most important operations of the time, *Hacienda San Patricio*, on the banks of the Puerto Nuevo River (Rodríguez y del Toro 1993a:1, Colación 1990:12). This seems to be one and the same as the "state-of-the-art" plantation described by Abbad in 1776 as having been recently founded by Irish

immigrants near Caparra[16]. They used more efficient metal-clad vertical mill rollers, and evaporated using a set of copper pans set in line between a single fire and a chimney. This technology was called "Jamaican train", a term that was translated literally as *Tren Jamaiquino* in Puerto Rico. It saved a lot of labor and trees by allowing the use of *bagazo* (the leftover cane stalk after pressing) instead of firewood as fuel for the evaporation process (Pumarada & Plá 1998:2). Thomas O'Daly's brother James, who established the Royal Company, an import-export firm on the island, also established *Hacienda Los Mameyes* in Loíza. These plantations not only initiated the rebirth of the sugar industry, but also seem to have introduced important technological innovations to the island, such as the grinder and the Jamaican Method ("Jamaican train") of sugar processing. It could be said that the Irish contributed to the development of the Puerto Rican sugar industry as the French did to the coffee industry in Haiti. By the end of the 18th C. there was motivation for the export of crops, especially coffee, thanks to the increase in prices and the immigration of French plantation owners fleeing the Haitian Revolution. Accompanying these changes was an increase in the number of African slaves introduced on the island. (Colación 1990:12). The crash of the competing Haitian sugar industry contributed to a rise in sugar prices, setting the stage for the development of sugar *haciendas* and industry in Puerto Rico in the 19th C.

At that time, sugar cane again began to attract investments in areas near San Juan, which was the only port allowed to export. The sugar industry, stimulated by rising world prices after revolution affected main producer Haiti, began to take off after 1804, when ports around the island were also allowed to carry on export shipping, and grew rapidly after an 1815 decree stimulated the immigration of entrepreneurs with machines and slaves promising free land and tax exemptions. Following that date, sugar cane surpassed coffee as the island's main crop (Pumarada & Plá 1998:2 and 1999b:18).

[16] First Spanish settlement in Puerto Rico, ca. 1508, NRHP and NHL designated.

Sugar, society and change in 19th C Puerto Rico (1800-1898)

The 19th C began with excellent indicators for the sugar industry, resulting especially from the opening of new ports all along the coast, the immigration of new plantation owners, and an unquenchable world demand for sugar which both inflated prices and stimulated international commerce to finance the establishment of new plantations. Since sugar is a low cost per pound commodity, the economic viability of its manufacture is very sensitive to the cost of its transportation to the marketplace. While it was not feasible to raise sugar cane in the coastal valleys for transshipment from San Juan, it was feasible to do so with coffee because of its stable price. The opening of new ports was, therefore, much more beneficial to the sugar industry than it was to the coffee industry, resulting in the displacement of the coffee plantations by sugar plantations on the flat coastal lands near the new ports. The coffee ranches and plantations in the vicinity of Ponce, Mayaguez and Guayama, many of which had been established on grazing lands left vacant at the end of the 18th C, were converted to sugar plantations. The more capably administered and capitalized of these new plantations grew by absorbing smaller and medium-sized neighboring parcels of land as well as the farmlands on their peripheries to which there was no title. (Colación 1990:13)

In 19th C Puerto Rico the term *hacienda*, or plantation, was used to refer to those relatively self-sufficient complexes which grew and processed a major crop destined for the world market, while in the 16th C the term referred to any agricultural enterprise, including cattle ranches and manioc (*yuca*) farms in addition to cane cultivation. The sugar plantations were located largely on the coastal plains, with access to the shipping ports to which they brought their raw sugar. From the beginning of the 19th C., the bulk of the sugar harvest was exported to American refineries. Most plantations used slave labor complemented by a number of free laborers. These plantations varied in size from a few acres with a molasses mill powered by one or two teams of oxen, and perhaps a few slaves, to larger concerns with hundreds or even thousand of acres of land under cultivation, dozens of slaves and large water, wind or steam-driven processing mills. However, at this level of technological development, a mill run by 6 to 8 teams of oxen could be as effective or more, than a water or wind-driven mill, but of course required feed, care and drivers for the oxen. The sugar *hacienda* tended to be larger than its counterpart in the coffee industry, since cane cultivation and sugar processing demanded much larger scale operations (Colación 1990:13)

The sugar industry benefited from a series of government actions which took place during the preceding century: the reapportionment of vacant lands, the freeing of sufficient capital to permit the minting of private coinage (referred to in Puerto Rico as *ril*), the availability of manual labor as a result of the issuance of additional licenses for the importation of slaves. Later the 1815 royal decree (*Real Cédula*) stimulated the immigration of both businessmen and capital as well as the growth of the plantations, an increase in the number of slaves, and the acquisition of new machinery. As a result of these measures and the availability of credit through sugar commerce of Saint Thomas, more and larger operations were built, with greater acreage for cane and pasturage, large numbers of slaves, large-capacity mills, and a large number of oxen and carts for transport (Colación 1990:14).

The industry, now focused on muscovado (*azúcar moscabada* or *moscabado*) instead of clayed sugar, grew rapidly until hit by successive droughts in the 1840s. Muscovado sugar was produced by pressing pieces of crystallized *mazacote* into large barrels with perforated bottoms, through which the molasses would drip out. The sticky, dark lumps left behind, muscovado sugar, was shipped inside the same barrels, now sealed with solid bottoms. This type of sugar was the raw material preferred by refineries in Europe and the United States (Pumarada & Plá 1999b:18).

Although dozens of plantations installed steam equipment between 1820 and 1840, the majority of operations at the middle of the century still used late 18th C technology (Colación 1990:14). The island's first steam-powered mill was installed in 1822, at a Ponce plantation owned by Irish brothers. This event, followed by a dozen other such mills imported and installed in the next few years, marks the entrance of Puerto Rico into the Industrial Revolution (Pumarada & Plá 1998:2). This process began with the partial mechanization of existing production units. Modern steam-powered mills were acquired, substituting the animals that powered the older *trapiches*. The steam mills were able to extract up to 90% of the cane juice and mill more cane in less time. (Rodríguez y del Toro 1993a: 2) However, while some mills had acquired steam mills, centrifuges and vacuum pans for final evaporation since ca. 1850, it was only later that the Jamaican train was fully substituted by multiple effect vacuum evaporators (Pumarada & Plá 1999b:18).

The expensive steam engines, mills, boilers and ancillary equipment were imported mostly from Great Britain, United States and France, in that order. Their financing, at very high interest rates, required expanded cane fields and the use of 24-hour factory shifts to be profitable. Medium plantations with improved animal-powered mills, known as *trapiches*, were able to compete with them throughout the 19th C because of their low financing costs (Pumarada & Plá 1999b:18).

In the second half of the 19th C some of the oxen-powered mills adopted the triangular horizontal milling system, which increased the output from the ground cane and allowed such plantations to compete successfully with steam-powered operations. This mill configuration, with three horizontal rollers arranged in a triangular fashion, is the same type used in the modern sugar mills or *centrales*. It was during this period that the number of plantations that installed improved kinds of steam-powered machinery increased. The rate of milling output of such machinery, however, was greater than the usual Jamaican Method evaporation equipment could keep pace with. To take advantage of the economic potential of such large-capacity steam mills (40 to 60 horsepower), it was necessary to install additional Jamaican equipment and to enlarge the draining houses (Colación 1990:14-15). Some plantations with steam-powered machinery installed vacuum pan systems (*tachos al vacío*) to improve the crystallization process. These were substituted for the vats called *tachos* in which the molasses was placed when it was on the point of becoming sugar, and were called by the same name. Another innovation adopted by the plantations was the use of extraction centrifuges (*centrífugas*) and clarifiers (*clarificadoras*). These could extract the juices in a matter of minutes compared to the slower natural sedimentation method, and they gave much higher yields of syrup (Scarano 1982:41-42; López 1946:152-53; Rodríguez y del Toro 1993a:2-3). The most capable and innovative plantations were acquiring steam systems and pumps and dryers as well as rails and railroad cars in which to move the cane from the fields to the processing plant (Ramos Mattei 1986:66-88). Those factories that produced sugar with the vacuum *tacho* and centrifuges, but still used the Jamaican Method equipment for evaporation, were called *mixed-method* operations. Some facilities with oxen, Jamaican equipment and drip-houses survived back in the mountains and in the regions between the mountains and the coast, as did some molasses operations, until the first decades of the 20th C (Colación 1990:16). When the sugar mill owner installed a vacuum evaporator in addition to a

vacuum *tacho* and centrifuges, his operation was said to be a *factoría central*, or centralized factory.[17] The new machines were purchased from large manufacturers in England (e.g., *Mirlees, Tait & Watson Ltd.* and *Duncan Steward*), France (e.g., *Cail and Cie.* and *Decauville*) or the United States (e.g., *West Point Foundry Co.*) (Ferreras Pagán 1902:113-125; Ramos Mattei 1986:67, 77; and Ramos Mattei 1988:45, 48).

By 1870, there were about 550 muscovado-producing haciendas (*haciendas de moscabado*) in Puerto Rico. That year they produced nearly 100,000 tons of muscovado sugar for exportation, the highest local production up to that date. Despite this level of production, the following 30 years would be a period of decline for the local industry. The traditional European markets closed to muscovado sugar in favor of beet sugar, which was of superior refining quality. Beet sugar was made with a completely mechanized process, which placed local production at a disadvantage, since they produced muscovado through relatively primitive and inefficient methods. The establishment of mechanized mills (*factorías centrales*) on the island was encouraged as a measure to overcome this crisis, eliminating the primitive production units and introducing machinery that was capable of better yields and sugar of a superior quality to the muscovado, in order to make it more competitive with beet sugar. The first *factorías centrales* appeared on the island beginning in 1873, when the first one, called Central San Vicente, was established in the municipality of Vega Baja, on the north coast of the island (Rodríguez y del Toro 1993a:2). Although small by 20th C standards, this *central* used vacuum equipment for evaporation and centrifuges for separating granulated sugar from molasses (Pumarada & Plá 1999b:18).

In order to keep such large-scale industries profitable and reduce costs to maintain profits, the larger plantations combined technological improvements with the intensive use of both slave labor and contract workers from the Lesser Antilles. To effectively utilize the potential of the new machinery, cane acreage was increased and the system of internal transportation from field to mill was improved (Colación

[17] This was the name given to the first centrales on the island, begun towards the end of the 19th C. This type of operation is the same as that which Moreno Fraginals (1978:170) called an *hacienda mecanizada*, or mechanized plantation: a relatively small factory with steam equipment and evaporation and cooking by vacuum and centrifuge. (Colación 1990:90)

1990:15). This change required large capital investments or access to foreign sources of capital, and the extension of cultivation areas, which affected small farmers and promoting the formation of large sugar land *latifundia* on the island, whether owned or leased. As a consequence, total mechanization would destroy the traditional manufacturing scheme for muscovado sugar in the hacienda system, causing many, if not the majority, to close or to stop producing sugar for export (Rodríguez y del Toro 1993a:2; Colación 1990:15). In addition, beginning from the mid-19th C there had been serious and conscientious intentions to establish common, centralized milling operations for most, if not all, the sugar plantations on the island. However, many plantation owners had reservations about the recommendations and projects discussed between 1846 and 1880 by Ormaechea (1846), Borda (1873), McCormick (1880) and others (López 1946:151; Fernández Méndez 1976:121-27; Ramos Mattei 1986:21-28).

By 1880, close to 325 haciendas had partially mechanized mills. The initiation of the construction of the island-wide railroad network along the north coast in the 1890's stimulated the establishment of new *centrales* in that region, which took advantage of this transportation mode to carry sugar cane to their mills and to transport the sugar they produced to the port of San Juan for export. This was complemented by the installation of close to 7,400 kilometers of portable light rail lines, used to haul cane to the mills on ox-pulled carts. By 1898 there were more than 10 sugar *centrales* on the island, located mostly on the north coast. (Rodríguez y del Toro 1993a: 2-3)

While it is true that the sugar industry had periods of growth, such as the experimentations from around 1780 to 1840, and an understanding of what was needed between 1850 and 1879 -- the latter also motivated by the wars in the United States, the Dominican Republic and Cuba -- there were also periods of crisis, such as those from 1840 to 1850, and from 1880 to 1898. These perilous periods for the industry occurred on a worldwide level, with a fall in sugar prices resulting from the over-production of beet sugar in Europe. The Puerto Rican sugar industry kept itself alive in this last period of crisis largely through the operation of large-scale production facilities, such as the mixed method plants at Mercedita and Monserrate (in the municipalities of Ponce and Manatí, respectively), and the centralized facilities created between 1873 and 1898, such as Carmen, Canóvanas and Coloso (in the municipalities of Vega

Alta, Canóvanas and Añasco, respectively). Many of the first centralized facilities failed during this period. Others survived and grew under the more favorable conditions of the 20th C. Some of the latter then grew into large-scale industries, though others didn't last through the first crisis of the new century. (Colación 1990:16)

The factors that led to the decline of the sugar industry at the end of the 19th C. were diverse and largely external to the industry itself. Of the 550 operations in production in 1870, 444 were operating by 1886, and only 150 to 200 of them were functional by 1898 (Quintero 1982:30; Baralt 1989; Ramos Mattei 1986:37). The crisis that destroyed one facility stimulated its absorption by another, which was looking for an escape hatch from the price predicament by increasing its production and lowering production costs through the acquisition of greater cane acreage and investment in better machinery. (Colación 1990:17)

When the crisis of the 1880's reached the calamity stage and it became evident that centralization was not an infallible solution, there were urgent attempts by certain sectors – the plantation owners, merchants and professionals – to find a way out. Once it took hold, the economic crisis set the stage for a series of revolutionary conspiracies, such as those of 1887 and 1897 (Colación 1990:17). These conspiracies, in the same manner as the earlier Lares revolt (*Grito de Lares*, 1868), reflected the growing frustration and burgeoning social and class-consciousness felt in the various social, political and economic sectors of the population. While it is true that slave rebellions played a part in the civil unrest, the planters also conspired to preserve their land holdings, and their openly annexationist (that is, by the United States) beliefs fed the growing movement towards Puerto Rican autonomy (Colación 1990:17; Giusti Cordero, in Naranjo, Puig-Samper & García 1995:211-222).

Another important factor confronting the sugar industry was the instability of the market, for the main buyer for Puerto Rican sugar, the United States, maintained strained relations with Spain. In spite of the frailty of such relations and the obstacles they placed on commerce, there are those who maintain that the North American market accounted for 49% of Puerto Rican exports in 1830, and that by 1860 that figure had grown to more than 51%. Sugar exports to Spain during the same period did not even reach 7% of

the total (Otero and Villamil 1983:15). The integration of the Puerto Rican sugar economy with that of the United States had already begun. That country imported raw sugar and cane syrup from the island in exchange primarily for wheat flour, tools and fabrics. That commerce was hampered by onerous tariffs on the part of Spain and tariff reprisals by the United States during the middle of the 19th C. Nevertheless, during the five-year period from 1879-1884, Puerto Rican exports to the United States were triple what they were to Spain (Mejías 1978:59-61). Confronted with a situation that threatened all business, colonial officials and sugar plantation owners presented petitions to open the Spanish market to the United States and thus salvage the suffering Antillean sugar industry. The landowners pressed for a commercial treaty between the two countries that would permit the entrance of raw Antillean sugar to the United States' market under advantageous conditions (Ramos Mattei 1986:37). However, the tariff wars continued, and the sugar industry suffered the consequences. (Colación 1990:19)

The crisis in the sugar industry at the end of the 19th C was aggravated by cane diseases and plagues, drought, tariffs, and the diversion of credit to coffee, whose growing demand and profitability enabled it to supplant sugar as the island's premier crop in the last decades of the 19th C. (Colación 1990:19). Beginning around 1870, when international demand for coffee rose abruptly, prices rose worldwide, especially in the period after 1886. The growing demand outstripped supply at a rapid pace, and so the Puerto Rican coffee industry received a strong stimulus for growth, becoming the fourth largest coffee producer in Latin America, after Brazil, Venezuela and the Dominican Republic, during the 1880's. This growth continued to the end of the 19th C. -- coffee exportations from Puerto Rico, equaling 4.7 million *pesos* in 1886, would increase to 14 million *pesos* in 1896, while sugar exportations averaged around 4 million *pesos* throughout that decade (Scarano 1993:466-467). This economic phenomenon, which lasted roughly 20 years, inverted the historic pattern of greater economic, demographic and agricultural development on the coastal plains, versus less in the mountainous interior of the island, where coffee was grown. Thus, workers in large numbers migrated to the interior looking for work, some temporarily and others permanently, while landowning patterns favored the formation of ever-larger coffee *haciendas*. At the same time, repressive regulations governing workers and labor, known as the *agrego* and *régimen de la libreta*, served to disrupt the traditional ties between laborers and the land they worked, owned, or lived

on. Given the historically marginalized condition of workers in Puerto Rico, this caused an unprecedented degree of misery and hardship, and served to exacerbate the social tensions heightened by the increasing wealth of the coffee plantation owners and the equally increasing hardship of the working class. Thus, it was during this industry's apogee that the beginnings of a working class consciousness, or proletarization, have been seen to emerge (Scarano 1993:474-477).

The abolition of slavery in 1873, and the claims by some recently freed laborers for higher salaries and working conditions, also helped to establish grounds for increasing combativeness on the part of laborers seeking a better standard of living. However it wasn't until the 1890's that the first signs of true labor organization manifested themselves, influenced by European socialist and anarchist thinkers like Marx, Engels and Bakunin. By 1895 the first sporadic worker strikes occurred in Puerto Rico, beginning in different sugar concerns throughout the island, and even spreading to other areas like the gas industry, typographers, longshoremen, carpenters, masons, coachmen, etc. The impression it caused was so great that a local newspaper warned it could become a "general strike". One year later (1896), a Spanish carpenter named Santiago Iglesias Pantín arrived in Puerto Rico from Cuba, fleeing government persecution for his anarchist ideals, and who would be influential in the formation of the Puerto Rican labor movement in the 20th C. (Scarano 193:477-481).

The technological evolution in the cane sugar industry coincided with the 1873 abolition of slavery, the labor mainstay of the sugar industry in Spain and its possessions, including Puerto Rico, for centuries. While the increasing economic pressures for improving production in the mid-19th C led landowners to extract more production from their slave labor force, the period is marked by droughts, a dearth of free hired labor and the ever-present instability of the international sugar market. With abolition a consummated fact, the idea was proposed to finance the technological evolution of the sugar industry with the credits to be paid to hacienda owners for the loss of their slaves. Unfortunately for the hacienda owners, the Spanish empire's commercial policies frustrated this possibility, since they did not agree with the access of foreign companies to these credits. Due to this, the growth of the sugar industry in Puerto Rico in the latter half of the 19th C would be hampered by lack of support from Spain. In turn, this would

tend to push the hacienda owners of the period, second and third generation descendants of immigrants from the first part of the 19th C, to favor the movement towards political autonomy from Spain and eventually annexation to the United States. The lack of studies concerning this group, and the fortunes of the freed slaves after 1880, are matters that seriously hamper efforts to place them in a context relative to other events of the period. (Picó, in Ramos Mattei 1982:1-4) Even so, scattered data indicates there are significant demographic aspects of slavery that somewhat quantify its importance in relation to sugar production. Between 1812 and 1828, the slave population in three main population centers increased 4 times faster than the free population: 288% in Mayaguez, 202% in Ponce, and 623% in Guayama, compared to 67%, 34% and 156% for the free population (Ramos Mattei 1982:20). The work force on which the sugar industry had primarily depended, slave labor, had also decreased from 1846 to 1873, when slavery was abolished, while the price per slave had grown incrementally since 1820. The great availability of free labor, a product of both population growth and the *Libreta* system, was not enough to escape the fact that an increasingly greater amount of work had to be done by a smaller and smaller number of slaves. For precisely this reason slave uprisings and assassinations of plantation overseers increased during the second half of the 19th C. (Colación 1990:19). The implications, in terms of the available labor pool for the labor-intensive aspects of the sugar industry such as planting and harvesting, would be far-reaching even after the abolition of slavery, affecting the evolution of labor laws and labor relations from the beginnings of the modern 20th C sugar industry. However, the halting evolution and prosperity of the sugar industry in Puerto Rico was to be changed by coming events. The outbreak of the Spanish-American War in April of 1898 would lead to a series of events which would soon transform or affect global geopolitics, the United States, Puerto Rico, and even the sugar industry (see Barnes 1999).

Prehistory of Salinas

Of the various sources consulted on the prehistory of Salinas (Meléndez & Mithoug 1981; Rodríguez 1985; Vega 1990; Rivera Fontán 1994; Méndez Bonilla 1995), Rivera Fontán's summary provides a concise overview of the previous archeological discoveries and work in the municipality, as follows:

> The municipality of Salinas is a territory rich in [pre-Columbian] archeological sites, associated with most of the indigenous cultural developments that have been established for the island of Puerto Rico. Rouse, referring to the archeological importance of the territory, says, "...on the whole the south-coast area was probably capable of supporting a large Indian population. Many sites have, in fact, been located in the area, particularly in the region around Santa Isabel and Salinas..." (Rouse 1952:513, as cited in Rivera Fontán 1994:23). For archeologist Miguel Rodríguez, "...[Salinas is one of the most important regions in Puerto Rico and the Caribbean. Within the limits of the *municipio* there are sites representative of each cultural component indicated for the country's prehistory]..." (Rodríguez 1986:3, as cited in Rivera Fontán 1994:23). At present, Salinas is the municipality with the third largest amount of reported archaeological (62), surpassed only by Cabo Rojo (75) and Utuado (68). The existence of such a large number of reported sites is due to the fact that this municipality has received the attention of investigators since the end of the last century (Rivera Fontán 1994:23).
>
> The first references to archeological sites in this municipality is provided us by Fewkes: "The existance of shell heaps along the coast of Puerto Rico has been mentioned by several authors of Puerto Rico and excavations have been made in some of these heaps situated near Salinas..." (Fewkes 1907:85-86). This author also refers us to a series of archeological material found in Salinas, "...among the important objects obtained this year (1904) are a fine effigy vase, three-pointed idols presented by Señor Zoller, of the Aguirre Central..." (Idem:18). Amongst the photographs of materials which accompany this report we can find various artifacts from Salinas." (Rivera Fontán 1994:23)

Concerning the richness of the archeological remains in Salinas, Méndez Bonilla (1995) adds that "...The diversity of sites present cultural materials from the Saladoid, Ostioniod, Santa Elena and Taíno groups. This cultural chronological and spatial diversity is what makes this area so important since, the material remains and their distribution throughout the entire territory shows the exploitation of the different ecological and geological resources that the area offered throughout different periods of occupation..." (Ibid:17).

Most of these sources coincide on the fundamental importance of the work done by Lothrop (1935) and Rouse (1936-38) in the area of Salinas. In field visits carried out between 1915 and 1917, Lothrop identified some 16 sites in Salinas and included information published earlier by archaeologists and collectors such as: Coll y Toste, Stahl, Dumont, Pinart, Prescott, Aitken and Mason (Rodríguez 1985:15;

Rivera Fontán 1994:23). Lothrop was perhaps the first to excavate the Esperanza site (S-2) on lands leased by Central Aguirre beginning in 1899, providing the following description:

> "The most important shell heap in this district, if not Porto Rico [sic], lies on the western edge of La Esperanza property (137) running over into the Salich property. The heap is irregularly shaped and has two depressions in the deposit of shells which were once apparently courts surrounded by houses...Several stones similar to those found in dance grounds may still be seen near by. The writer excavated this heap in several places, finding skeletons, pottery, etc. In the past fourteen years almost every type of object known to Porto Rican archeology has been plowed out..." (Lothrop 1915:12, #105, as cited on Rivera Fontán 1994:23)

During the period Lothrop was working in Salinas, Herbert Spinden excavated the Carmen site (S-10), and although the results were not published, the materials excavated by level are deposited at the Museum of American Natural History in New York, while Lothrop's field notes and materials remain at the Harvard Peabody Museum (Meléndez & Mithoug 1981:6; Rodríguez 1986:15; Rivera Fontán 1994:23-24). Meléndez & Mithoug (1981) offer us the following regarding Lothrop's work at La Esperanza (S-2):

> "The site of La Esperanza, excavated by Lothrop (1915), then consisted of one large shell midden and several smaller ones in the cane fields. He believed that houses and plazas had once existed at the site. Ceramic finds consisted mainly of Ostiones, Santa Elena, Esperanza and Boca Chica styles. Numerous other artifacts included a large number of stone and shell tools and the puzzling stone "collars", "elbows", and three-pointed stones." (Ibid:7)

According to Vega (1990), Lothrop also excavated the site known as SA-6 just north and west of the nominated district, adding that Montalvo Guenard also excavated there and Hostos collected materials from this site (Ibid:14, see p. 66). In relation to the next decade, Rivera Fontán (1994) informs us that:

> "During the 1920's, various Puerto Rican investigators and collectors obtained materials from this municipality. According to Morales Cabrera, "...[All of these pots have been found in the shell heaps of Cabo Rojo, in Salinas and Coamo, and figure in Mr. [Adolfo de] Hostos' collection]" (Morales Cabrera 1932:177). In his work Montalvo Guenard attests to having visited and obtained materials from various shell heaps in Salinas (Guenard 1933:387). He also shows us the photograph of a Taíno *cemí* (stone idol) from this municipality. It was precisely Guenard who, during the 1930's, showed the New York Academy of Sciences archeologists the sites he knew. Concerning this, Britton says, "...we also visited villages: three sites, along or near the southern coast have been mapped in detail by Dr. Montalvo..." (Ibid:24)

The next significant contribution in the area was the work done by Irving Rouse between 1936 and 1938 in Puerto Rico. During that time, Rouse studied the materials previously excavated by Lothrop and Spinden, excavated the Carmen (S-10), Jobos (GA-5) and Pitahaya (AY-1) sites along the south and

southeast region of Puerto Rico, and established a chronological-cultural sequence for the area (Meléndez & Mithoug 1981:6; Rodríguez 1986:15 and Rivera Fontán 1994:24). Rodríguez (1986) says the following regarding Rouse's site inventory:

> "Rouse incorporated in his inventory other sites known to local archeologists Montalvo Guenard and Adolfo de Hostos. These are classified by geographic zone, municipality, and general types of sites, such as shell heaps, ballcourts and petroglyphs. Rouse identified 25 prehistoric sites in the Salinas area, 16 of which were taken from Lothrop's list (1935)...Rouse's inventory is still the most extensive and complete list of prehistoric sites of the south-central coast..." (Ibid:15-16)

Rouse excavated the Carmen site (S-10) after having requested, and been denied, permission to excavate the Esperanza site (S-2) on Central Aguirre lands. The details of this excavation of this site, which Rouse identified as "one of the largest and most important in Puerto Rico" (Vega 1990:4) and other observations are found in the New York Academy of Sciences Scientific Survey report, published in 1952, while his field notes and collections are at Yale University (Meléndez & Mithoug 1981:6, Rodríguez 1986:15-16). Meléndez & Mithoug (1981) offer us a summary of the work done at the Carmen and Jobos sites:

> "The site of Carmen on the east bank of the Salinas River consisted of a single shell heap in the cane fields when Rouse excavated in 1936. Fewkes in 1904 had purchased Ostiones pottery from the area and in 1915-16 Lothrop had obtained a collection of Ostiones ands Santa Elena pottery there. Spinden (1916) dug at Carmen, finding Ostiones and Santa Elena styles in the upper levels and only Ostiones in the lower part. Rouse excavated four sections two meters square through seven 25cm levels. In the fourth and subsequent levels there was a change in soil from dark brown loam to light brown sandy soil with fewer shells and more crab remains. A variety of bone and shell artifacts were also found as well as bone remains of bird, fish, hutía, manatee and turtle. The only stone implement recovered was a hammer stone. Rouse purchased pottery lugs and a number of stone implements that had been found in the area (Rouse 1952:528-530).
>
> At Jobos, Rouse excavated a 50cm deep shell midden. Charcoal and shell, particularly small clamshells, were found in abundance. No pottery was encountered." [Meléndez & Mithoug 1981:7]

All sources consulted coincide that there is no record of further archeological investigation in Salinas until the 1970's and 1980's when, beginning in 1973, excavations were carried out at the Cayo Cofresí site (S-1) by Marcio Veloz Maggiolo, sponsored by the Guaynía Archeological Society of Ponce (*Sociedad Arqueológica Guaynía de Ponce*) (Meléndez & Mithoug 1981:8; Rivera Fontán 1994:24). This was an "...aceramic shell midden.... Among the artifacts unearthed were stone, shell, and flint implements as well as food remains of various shellfish, crab, birds and turtle". However,

methodological inadequacies restrict the proper understanding of the site (Meléndez & Mithoug 1981:8). Unfortunately the results of the excavations sponsored by the Guaynía archeological society at Carmen (S-10) and La Plena (S-4) during this period have not been published. By 1975, Diana López had excavated the Salich site (S-2), while the Abey Archeological Society began to locate and carry out excavations at new sites, although there are no publications or reports for these excavations. In 1976 Jesús Figueroa Lugo excavated a number of archaic period sites in the Las Mareas sector of the Aguirre Ward, continuing in 1981 and 1988, when he presented his thesis at the Center for Advanced Studies of Puerto Rico and the Caribbean (*Centro de Estudios Avanzados de Puerto Rico y el Caribe*). By the end of the decade (1979), archeologist Juan González presented the Institute of Puerto Rican Culture (*Instituto de Cultura Puertorriqueña*) with his archeological site inventory for Puerto Rico. González' inventory registered 12 indigenous sites for the municipality of Salinas (Rivera Fontán 1994:24-25). Rivera Fontán (1994) adds that:

> "During the first half of the 1980's, archeologist Miguel Rodríguez carried out various contract projects in the municipality, which added a total of 29 indigenous sites. The documentation of these sites provided valuable information for understanding the development of the prehistory of Salinas and its archeological importance (M. Rodríguez 1981, 1985, 1986). The report on the work and findings at the El Bronce site in Ponce was published in 1985. In Appendix L, Emily R. Lundberg presents a summary on indigenous settlement patterns for the south-central region of Puerto Rico. This includes the area of Salinas and expounds on how settlement patterns developed during the different periods of the ceramic cultures.
>
> During the latter part of the 1980's and beginning of the 1990's, more work has been carried out in the region. In 1988, archeologists Diana López and Luis Curet excavated the Salich site (S-2) as part of the archeology course sponsored by the University of Puerto Rico. The Sociedad Abey, and archeological society, presented the SHPO with 18 new reported archeological sites (In-House Archeological Inventory, 1987-88). During 1990 and 1992 various Mitigations and Stage II's [contract archeology projects] were carried out in various sites within the municipality by archeologists Pedro Alvarado (P-11) and Osvaldo García Goyco" (Ibid:25).

Of the known sites in the Aguirre ward, SA-6 is the only one located next to the nominated district. According to the site form in the PRSHPO archeological site inventory, this site is located to the west of the entrance road to the district (PR-705), and lies in the cane fields to the west of the point where it crosses the old P&G Railroad line. Characterized as a relatively large open site containing moderate amounts of shell artifacts and ceramic fragments associated with the "Pre-Taíno / Taíno (ostionoid / chicoid)" cultures. This was one of the sites identified originally identified by the Guaynía Archeological

Society, and first registered in Juan González' 1979 inventory (PRSHPO Archeological Site Inventory Form, 1979). Rivera Fontán's (1994) summary concludes as follows:

> "A general exam of the list of known sites demonstrates that the municipality of Salinas has been the stage on which the intense population and socio-economic activity of the different indigenous cultures defined for Puerto Rico developed. An analysis of the descriptions by different investigators of the materials recovered at different sites indicates the following: a strong presence of archaic groups in the littoral zone, especially the Las Mareas sector in Aguirre Ward; a weak presence of the Saladoid culture, particularly its later components (Cuevas style) on the coastal plain; an impressive proliferation of Pre-Taíno sites, both of the Ostiones style as well as a more predominant presence of the Santa Elena style; and a strong presence of Taíno sites, fundamentally associated with the Esperanza style and a significant presence, in some sites, of the Boca Chica style from the Dominican Republic.
>
> [Puerto Rican historian] Cayetano Coll y Toste associated this region with the domain of the *Cacique* [Chief] Abey. Archeologist Miguel Rodríguez has postulated the possibility that the Salich-Esperanza site (S-2) was the location of the village of Abey: "In Puerto Rico, it is difficult to make an archeological correlation between a prehistoric site and a particular cacique or Taíno village. Nevertheless, the Abey case could be an exception...This seems to have an archeological correspondence with the Esperanza-Salich site" (Rodríguez 1985:35) [Rivera Fontán 1994:28].

Early History of Salinas (1514-1782)

The names *Abeyno* and *Abey* are associated with Salinas early on, since the area was purportedly included in the chiefdom (*cacicazgo*) of *Abey*, indigenous ruler of the sector when the Spanish colonists first arrived, and who was identified as one of the eleven rebellious leaders who led the Indian rebellion of 1511, only to be captured and later exiled to Santo Domingo – this Indian leader first appears in the historic documentation of the period as early as 1509, when he is mentioned as being part of a group of Indians working at a location on the Toa river, today known as the La Plata River (Rivera Fontán 1994:31). It seems clear that the general area of Salinas was of some importance due to the exploitation of the salt flats in the area between Salinas and Jobos Bay known as the *Salinas de Abey*, which are reported in 1514, 1516, 1517 (Tanodi 1971:44, 48, 78). In 1518, Andrés de Haro, the island treasurer, explains the following about the salt works: "The salt flats [*salinas*] on this island yielded in the past years 500 *pesos* each year, and 40 Indians were given with them; later the Catholic King of glorious memory ordered, that no Indians be given with said salt works in lease, and there has been no one to lease them, they yield very little..." (Brau 1981:518). This reference, as well as the earlier ones, alludes to the practice of the *repartimiento*, a mechanism whereby the Spanish colonizers subjected the Indian

population to forced labor (Meléndez & Mithoug 1981:6). In 1535, Oviedo mentions the existence of the salt flats at the midpoint of the southern coast, but offers no more information. Melgarejo reported the salt flats as existing but unused in 1582, close by the *Abeyno* River, today the Salinas River. The sector is described as unpopulated because of hostile indigenous attacks, and the bay of *Abey* is described as large and a well-sheltered port, rounded to the east by many smaller islands, probably mangrove and coral cays, known as "Hell's mouths" (*bocas de los Infiernos*) because of the treacherous shallows. This description seems to correspond to the modern Jobos Bay (Oviedo and Melgarejo, in Fernández Méndez 1981:38, 122, 127, 133; Tió 1961:37-38, as cited in Rivera Fontán 1994:31).

No references from the 17th C to Salinas or Aguirre have been found, although these areas must have been included in the development of the district or territory of Coamo, which was founded in 1616 and distinguished itself for its large cattle ranches (Rivera Fontán 1994:32). However, there are clear indications of development in trade, cattle-raising and agricultural *haciendas* in the area of Guayama through the late 16th C, while the port of Guayama was purportedly the finest on the south coast of Puerto Rico in the early to mid-17th C (Sued Badillo 1983:1-41). This reference to the port of Guayama arguably refers to Jobos Bay, since it is the largest and most accommodating natural bay in the area.

While *Aguirre* is a known Spanish surname, it is unclear when it was first used to designate this sector of Salinas. The first recorded usage of the name for this area dates from 1705, when there is mention of the place name *Aguirres* in "...an area on the coast known as Guayama" (Sued Badillo 1983:41-43). During the 18th C the limits of the Guayama and Coamo districts were the so-called Aguirre salt-flats (*Salitral de Aguirre*) (Méndez Bonilla 2000:1). In 1775, the Spanish chronicler Miyares acknowledges the existence of a population nucleus in Salinas, when he describes Coamo, which "...also comprises those established in Laybonito, Coamo Abajo and Salinas, whose separation prevented the formation of a disciplined militia there..." and ending his description with "...of the seven leagues between Coamo to Guayama, the first is uneven, and the rest level; everything is covered with trees, excepting the league and a quarter of a sand flat, called *el* Salitra [the salt flats]l" (Miyares, in Fernández Méndez 1981:297). A map dated 1775 does identify the *Salitral de Aguirre* in the jurisdiction of Guayama, as well as indicating there was an

ingenio of an unknown nature in that location – the possible relation of this early *ingenio* to the later Hacienda Aguirre has not been established. However, its displacement to the east of *Boca de Ynfierno* (Jobos Bay), instead of just north of the bay, leaves some doubt as to the specificity of the location (Sepúlveda 1986:96-97). This displacement is repeated in the map accompanying Abbad y Lasierra's 1782 description of the island, where he also mentions the district of Coamo as including Salinas, and when describing the lands to the west of Guayama, he says they "...are covered with eminent palm trees, forming a beautiful forest, whose fruits maintain a lot of pigs; past this palm-stand starts the beach of the Aguirre salt-flats [*salitral de Aguirre*], and three leagues further away is the village they call Las Salinas..." (Abbad 1979:xiii, 114, 116).

Salinas & Hacienda Aguirre – Growth, Decline and the Spanish American War (1831-1898)

It is not until 1831 that there is definite information about Aguirre as a sector of Salinas, when land distribution grants occur in the area until 1875, and over 16,000 *cuerdas* of land are distributed in this area to different people. In fact, Aguirre is highlighted in this activity as the area where lands were most solicited, and obtained, by a relatively small group of wealthier families, some from the area of Guayama. This resulted in the beginnings of a concentration of landholdings in the area of Aguirre, which would eventually become an important commercial area. (Méndez Bonilla 2000:2). In 1838, Pedro Tomás de Córdova identified Salinas as one of the 13 "barrios" or wards that make up the municipality of Coamo. Around 1842 there was an effort by the local residents to establish Salinas as a separate municipality. This attempt to found a town either was never completed or lasted only a short time since, by 1847, the territory of Salinas was annexed to the municipality of Guayama (Rivera Fontán 1994:33).

By mid 19th C (ca. 1850), José Antonio Vázquez (married to Enriqueta Aguilar), a wealthy resident and member of a prominent family in the nearby town of Guayama, was granted lands he had solicited in the Aguirre ward, and established the muscovado sugar-producing *Hacienda Aguirre* (Rodríguez y del Toro 1993a:1; Vázquez Bernard 2000:71, 82). The official founding of the town of Salinas took place in 1851, when the municipality was constituted by the Pueblo, Quebrada Yeguas, Lapa, Quebrada Honda, Collado, Río Jueyes, Palmas and Aguirre wards.

In 1856, sources show that 20 slaves of the Vázquez Aguilar *hacienda* died within 15 days, victim of the cholera epidemic on the island (Vázquez Bernard 2000:100; Méndez Bonilla 2000:5). By 1859, the Vázquez Aguilar family was the largest landowner in the area of Aguirre, and reportedly owned an *hacienda* with a sugar mill (Vázquez Bernard 2000:196). By 1860, the Vázquez Aguilar family landholdings in the Aguirre ward were registered at 193 *cuerdas* of land (Vázquez Bernard 2000:123). By 1873, the year slavery was abolished in Spain and its possessions, Hacienda Aguirre had between 75 to 80 slaves working at cane-cutting and processing – these slaves were housed in barracks (*barracones*) on the hacienda, while free laborers which were only hired during the harvest, or *zafra*, season, were only quartered there during the season (Rodríguez y del Toro 1993a:3; Vázquez Bernard 2000:103). Other sources add that the mechanized mill in Aguirre "...ground the cane with a 14 English horsepower mechanized steam mill..." which also had "...a mechanized conveyor [*conductor*] installed, to facilitate the introduction of cane to the mill grinders. Its heating system and cane juice evaporation was carried out in open vats, and in the traditional Jamaican trains..." Finally they indicate that the operational capacity of the Hacienda Aguirre mill was above average, since the equipment included three clarifying vats (*pailas clarificadoras*) and three vacuum pans (*tachos eliminadores*), possibly steam heated, where the final evaporation and crystallization of the cane juice (*guarapo*) took place (Ramos Mattei:89, as cited in Méndez Bonilla 2000:4).

By 1878, there were three sugar cane *haciendas* in Salinas, "with steam machinery" and one with an oxen-powered *trapiche*. One of these was Aguirre, which at this time had 20 houses, 97 thatch huts (*bohíos*), 242 families and 6 small shops (*ventorrillos*), forming a small town around the mill (Méndez Bonilla 2000:4-5). In 1880, Hacienda Aguirre partially mechanized its mill, improving its production capacity to 6,000 tons of sugar per year, in addition to producing better quality sugar, and was comprised of 1,509 *cuerdas* of land, since various other parcels had been added to the original (Rodríguez y del Toro 1993b:19; Vázquez Bernard 2000:196). In 1894, there were only two (2) reported sugar haciendas in the Aguirre ward of Salinas, with a total of 425 *cuerdas* in cane, 400 of which were owned by Hacienda Aguirre (Rodríguez y del Toro 1993a:3). Following the death of the founder of the hacienda, José Antonio Vázquez, his daughter Antonia, and her husband Ignacio Rodríguez Lafuente, inherited the

hacienda, registering it in their name as "Nueva Hacienda Aguirre" sometime between 1879 and 1895 (see Vázquez Bernard 2000), with 709 *cuerdas* of land (Vázquez Bernard 2000:196: Méndez Bonilla 2000:5). By 1898, the hacienda covered 2,250 *cuerdas* of land. The port of Jobos (Jobos Bay) was its southern limit, and it still had its sugar mill, around which there was a number of houses, including the owner's main house, two houses for the mill foremen and one barracks (*cuartel* or *barracón*) for the workers, in addition to smaller houses for the workers (Vázquez Bernard 2000:196). By the end of the 19th Century, Hacienda Aguirre had established a novel portable rail system to bring harvested sugar cane from the fields to the mill (Rodríguez y del Toro 1993b:19).

On April 21, 1898, the United States declared war on Spain. On July 25, 1898 American troops under the command of General Nelson A. Miles first disembarked in Guánica Bay, on the southwest coast of Puerto Rico, about 73 kilometers west of Hacienda Aguirre. Three days later, American naval transports arrived at the port of Ponce, 43 miles west of Hacienda Aguirre. On July 31, troops disembarked in the town of Arroyo, 17 kilometers east of Hacienda Aguirre (Rodríguez y del Toro 1993a:3 and 1993b:19). There are maps of Puerto Rico, obtained or generated by the U.S. military forces ca. 1898 for use during the campaign, which identify Aguirre as a small town (Vázquez Bernard 2000:148). The signing of the Peace Protocol ended the military campaign on August 13th, confirming the American victory. The departure of the remaining Spanish forces on October 18th signaled the end of Spanish sovereignty over Puerto Rico, which was formally confirmed on December 10th, when the peace treaty ending the war was signed between the United States and Spain, at Versailles, outside of Paris, France. The military government established at this time would rule the island throughout the transition period, until the installation of a civilian government in 1900 (Rodríguez y del Toro 1993a:3-4 and 1993b:19; Barnes 1999).

From Hacienda to Central Aguirre

Overview

The parallels between the economic growth of the company and the physical development of an industrialized sugar mill provide the basis for the company town which was conceived and gradually developed at the same time, adding to the distinct character of what would become the historic district that is presented in this nomination. For this reason, the historic narrative concerning the nominated district will attempt to follow the same structure, in order to provide an adequate overview of the wealth of information available concerning the subject, as well as an understanding of the vital and complex relationships between all these elements, of themselves of great value for Puerto Rico's history and culture.

The last decades of the 19th C had stirred in the people of the United States a desire for expansion beyond its natural borders. This desire found its expression in the ideas of Alfred Thayer Mahan, who inspired Senator Albert J. Beveridge to express the following:

> "American factories are making more than the American people can use; American soil is producing more than they can consume. Fate has written our policy for us; the trade of the world must and shall be ours. We will establish trading posts throughout the world as distributing points for American products. We will cover the ocean with our merchant marine. We will build a navy to the measure of our greatness. Great colonies governing themselves, flying our flag and trading with us, will grow about our posts of trade..." (Vivoni Farage ca. 1992:1)

The Spanish-American War served as the vehicle that guaranteed the establishment of such posts in the Caribbean (see Barnes 1999). The market, economic, and political changes brought about by the U.S. invasion and take-over of 1898 propitiated the establishment of larger, very profitable and well-capitalized sugar *centrales*. This trend also included the acquisition or leasing of the surrounding plantations and closing down their smaller, inefficient mills, and eventually expanded sugar cane cultivation into hills and mountain valleys. Although a number of Puerto Rican residents took advantage of the investment opportunities created by Puerto Rico's inclusion into the U.S. tariff barriers and the increased credit availability around 1900 to invest in similar ventures, the largest and most profitable sugar mills were founded by American investors shortly after the Spanish-American War. Three of these

centrales were Aguirre (1900) and Guánica (1903) on the island's south coast, and Fajardo (1905) on the east coast.[18] These not only used state-of-the-art technology and agricultural practices, but they were among the largest in the world at the time of their foundation, and required the simultaneous installation of railroads to haul in the cane from remote fields (Pumarada & Plá 1998:3). Without question, the three American *centrales* built at the start of the century by far surpassed the capacity of the 19th C centralized facilities (*factorías centrales*), and comprised a second generation of centralized sugar manufacturing. Yet the two systems differed only in size. While the centralized facilities of the 19th C. might have two mills and from 4 to 8 centrifuges, the North American *centrales* would have many mills and up to 18 centrifuges, as there were at that time at the Guánica *central*. The resurgence of sugar as the prime agricultural product in the Puerto Rican economy would bring change with it -- in less than three years sugar displaced coffee as the basis of the economy, while the emphasis on the manufacture of raw sugar turned Puerto Rico into a virtual one crop/one-product country (Ramos Mattei 1988:18).

This difference between the two systems – size – is of extreme importance when it comes to profitability in the sugar industry, as we have already emphasized. The three great American *centrales* were established by corporations with huge amounts of capital. Such capitalization allowed them to build a large-capacity installation and the railroads without which the cane could not have been moved the distances required in an optimal period of time. The huge tracts of land required for this type of operation could be put together because of the low price of cane-growing lands as a result of the crisis in the industry which had been growing since 1880 and by the conditions created by the American invasion and military occupation. According to Quintero Rivera (1981:33), the invasion produced a transition from colonial mercantilism to imperialistic colonialism. The sugar planters, who at the end of the 19th C were confronted by a weak Spain, which followed a policy of defending its mercantile interests, now found themselves before quite a different situation – as part of the most powerful capitalist nation of the world, with an expanding economy which needed to export capital, with which it not only controlled the commerce but also the production of its colonies (Quintero Rivera 1981:33 and Dietz 1989:96-103, 150-152, as cited in Colación 1990:22). The invasion took place in an open environment of overseas

[18] The dates associated with the *centrales* are the dates of their first milling season.

expansion in search of sources of raw materials and captive markets (Otero and Villamil 1983:13).

The government of the United States and its administration in Puerto Rico left the road open for American sugar interests to expand their *centrales* and their products. The legal machinery of corporate law was bent in favor of domestic North American and foreign interests, and laws were passed favoring this process. Between 1899 and 1902 property taxes were imposed, the Hollander Law taxing the production of alcoholic beverages was passed, and import duties were established -- as a disadvantageous foreign monetary exchange rate was enacted, credit was tightened at the very time it was most needed to rebuild from the destruction of Hurricane San Ciriaco in 1899, and labor laws favoring the expansion of the sugar industry were also passed. Corporate law legitimized the formation of corporations which were open monopolies, while at the same time the law limiting corporate landholdings to 500 acres, approved by Congress in 1900, was set aside. The press of the time objected because the sales stamps on rum required by the Hollander bill had annihilated the processing plants, and many sugar mills "*found themselves in the situation of having to throw out the syrups normally used for distillation, since the lack of sales of rum prohibited its distillation*" (Ferreras Pagán, 1902: vol.1, 14). This author (Ferreras Pagán) adds that selling the syrup for rum distillation was of major concern to the raw sugar producers, since the revenues from these sales covered the basic needs of the plantations, and so, no matter how depressed the sugar prices were, they could count on the plantations continuing their operations without difficulty (Colación 1990:91). Another author lets us know that many smaller proprietors were not able to pay the outrageous taxes on their businesses, and their lands were confiscated by the government and sold at auction. There were close to 600 such seizures between 1901 and 1903 (Del Valle 1907:196). Previous to this, the effect of the devaluation of the Puerto Rican peso to 60 cents to the U.S. dollar by government decree exacerbated the situation. It led to an overall rise in prices and a concomitant lowering of the standard of living of the rural population and ordinary laborers, while it also reduced the value of land and the liquidity of local businessmen (Otero and Villamil 1983:14). All of these factors markedly assisted the growth and expansion of American firms, while making it very difficult for local businessmen to expand and take advantage of favorable credit and market conditions (Colación 1990:23-24). However, the displacement of these earlier *centrales* by American capital in the early 20th C was neither immediate

nor absolute, and the continuity and significant social, political and economic influence of their mostly Spanish owners is arguably documented into the mid 1920's and later (Giusti Cordero, in Naranjo, Puig-Samper & García 1995):

> "Up to the "Dance of the Millions" of 1920-21, the Spanish and Puerto Rican sugar owners [who stayed after the change of sovereignty] enjoyed great prosperity and corresponding social and political power. In those years the Puerto Rican sugar owners produced 65-75% of the total amount of sugar on the island, controlling 75% of the cane-growing lands. Even in terms of lands belonging to *corporations* (American or Puerto Rican) the American ones did not own 45% of the total land in the 1930's. Even in the 1930's, after a series of acquisitions by American corporations, 62% of the 162,000 hectares in the hands of sugar corporations belonged to "local" interests [*...intereses "criollos"...*], while American corporations leased 42% of their cane-growing lands from local landowners.
>
> Therefore, despite (or due to?) the colonial regime imposed on Puerto Rico, the island sugar industry remained fundamentally in non-American hands throughout the *entire* sugar period in the first half of the century, with a hiatus from 1926 to 1931,...the brief period on which many critical analyses focus on. From 1925 to 1926, due to a direct acquisition of *centrales* owned by the "Spanish group" (and not due to the expansion proper of the American ones) the percentage produced by American corporations increased from 36% to 51%, remaining around 50% for five years. But, by 1932, the American proportion had decreased to 47%, and by 1939 was at 42.5%. Some regions of Puerto Rico, particularly the north and west coasts – just as a large part of western Cuba -- remained almost completely aloof from American investment. In fact, American capital *did not penetrate* the majority of areas where *centrales* existed prior to 1898. In contrast, in Cuba the American *centrales* produced half the sugar in the country and were owners of most of the cane-growing lands by 1920, although a large number of Cuban and Spanish-Cuban owned *centrales* existed.
>
> During the first two decades of the century, the Puerto Rican sugar industry was a complex space of *collaboration*, *conflict*, and *subordination* between Spanish and Puerto Rican capital on one hand, and American capital on the other. In light of what has been indicated about Cuba (regarding annexation after the Spanish-American War), in Puerto Rico in 1898 – where there was hardly any fighting – annexation to the U.S. was a solution providing more *continuity* for the Spanish and Spanish-Puerto Ricans. In Puerto Rican historiography, the Spanish and Puerto Rican *central* owners – whom the working class press called the "sugar barons" – are as much, or even more, *terra incognita*, as the farm worker proletarian complexes involved in cane-related agricultural work. In a footnote to his seminal work *Lucha obrera en Puerto Rico*, Angel Quintero Rivera wrote: "...In the Puerto Rican bourgeoisie there also is a 'history of the history-less', that has been forgotten. We do not have in hand a true history of our national bourgeoisie; rather, what we are presented with is the mythology of this class." Dietz (1986) indicates the need to study the "Puerto Rican" *centrales* of the first decades of the 20th C, including those owned by "creolized" Spaniards.
>
> In the first two decades of the century, the "Spanish group" controlled at least 19 of the 44 sugar *centrales* in the country, including most of the principal "local" *centrales* [*...centrales "criollas"...*]. In 1913, the "Spanish group" produced one third of the sugar in Puerto Rico, almost half of the total produced by the "locals" [*criollos*]. Up to the 1920's the differences between the "Spanish group" and the three large American sugar corporations were not qualitative. The principal *centrales* of the "group" were comparable to the American ones in terms of landholdings, technology and production volume. Amongst the American ones, only Guánica – with 18.6% of total production in Puerto Rico in 1911 – was truly gigantic. The other

two American corporations produced around 7-8% of the total, and the two largest of the "Spanish group" around 5-6% each. That is, the lead "Spanish group" *centrales* produced 80% of what the lesser two American ones produced. Therefore, in 1911 Fajardo produced 7.8% of the total, and Aguirre 6.9%. But the "flagship" *centrales* of the "Spanish group" were on their heels: Cambalache with 5.3% of total production, Plazuela with 4.7% and Canóvanas with 4.0%. By 1920, the picture changed: the lesser of the American "big three" produced 8.9% of the total, while 4 of the "Spanish group" *centrales* followed at a distance, with only 3.5% of production each. Just before the First World War, the total production of the "Spanish group" *centrales* was 140% of the American ones (Giusti Cordero, in Naranjo, Puig-Samper & García 1995:213-214, 217) [Free translation by H. Tosteson, PRSHPO, December 2000]

During the first half of the 20th C, the expansion of sugar cane cultivation and the increased productivity which resulted from the use of irrigation, and the latest processing, handling and agricultural technologies in most of its sugar estates, vaulted Puerto Rico into the top sugar producing countries in the world. The small Caribbean island supplied about 10% of the U.S. demand for sugar (the world's largest) at an extremely profitable rate of return. But this figure occurred at a high social cost, resulting from an extreme concentration of wealth and the merciless exploitation of the workers, the economic costs of a one-crop, seasonal economy, and the environmental costs of deforestation, soil exhaustion, and pollution caused by fertilizers, herbicides, erosion and sedimentation (Pumarada & Plá 1999b:19).

Vivoni (ca.1992) quotes anthropologist Sidney Mintz' influential book, Worker in the Cane (1974:25), regarding this "colonization" process, as follows:

"When the American Occupation took place, sugar was no longer Puerto Rico's main crop. But the American capital flowed heavily into the sugar industry and transformed it completely. This process was especially marked in the south coast region. Great grinding mills – *centrales* – were built, and the lands of scores of small haciendas were bought up to form the "farms" of such mills. These new centrales were very modern in economic and industrial organization, enormous in scale, and a symbol of the kinds of changes in Puerto Rican life wrought by the Americans. The *hacendado* classes of the south coast, as elsewhere in the island, sold out its holdings to the Americans and moved away. The towns and the countryside thus lost most of their educated middle- and upper-class citizens, and the hacienda shells became pure worker villages.

This transformation was accomplished at a high human cost. Though the United States government introduced many beneficial measures in Puerto Rican life, the private sugar interests did at least as much harm as good. Political activity was sternly suppressed on the plantations by coercion, blacklisting, and economic control of workers through company stores and company housing. The traditional standards of work were replaced by piecework and labor recruiting, and some of the related practices were unpardonably harsh. Puerto Rico thus became one of the few examples of clear-cut American colonialism, unhidden by nominal political sovereignty for the colony." (Mintz, as cited in Vivoni Farage ca. 1992:1-2)

Mintz amplifies this in another work (Sweetness and Power), where he summarizes the effects of the changes mentioned earlier:

> "These people were not farmers, for whom the production of agricultural commodities was a business, nor were they peasants, tillers of the soil they owned or could treat as their own, as part of a distinctive way of life. They were agricultural laborers who owned neither land nor any productive property, and who had to sell their labor to eat. They were wage earners who lived like factory workers, who worked in factories in the field, and just about everything they needed and used they brought from the stores. Nearly all of it came from somewhere else: cloth and clothing, shoes, writing pads, rice, olive oil, building materials, medicine. Almost without exception, what they consumed someone else had produced." (Mintz 1985: xxiii, as cited in Vivoni Farage ca. 1992:6)

Sugar production in Puerto Rico had its profit peak c.1920, fueled by the high prices that followed the devastation of Europe during the First World War. The Depression did not affect the sugar barons, whose profits soared while others suffered. The first signs of danger were a series of strikes and the U.S. sugar quota of 1934, which treated Puerto Rico worse than the foreign countries such as Cuba, where Americans had even higher investments. Labor scarcity was first felt during the Second World War, with many Puerto Ricans joining the Armed Forces or migrating to war jobs in the U.S. mainland. After the end of the war, stimulated by increased expectations and an expanding manufacturing sector, migration to Puerto Rican cities and to the U.S. mainland increased (Pumarada & Plá 1999b:19).

These contradictions would come to the fore in the period of 1920 through 1950, which saw the confrontation of the social forces surrounding labor, politics and society in Puerto Rico in this period and afterwards, and which took the form of major **labor strikes** during this period. Thus, the nominated district is strongly associated with the significant role that the sugar industry played, and still plays, in Puerto Rico's modern and contemporary social history.

This created a cycle of dependency which was to grow until the early 1950's when rising mobility, the desire of fiscal and physical independence, the beginning of the fall of the local sugar industry and the Company's willingness to loose partial control over its captive community would start a process of decentralization which would culminate in 1970 with the sale of Central Aguirre to the Puerto Rican government.

The following description of Aguirre by Ligia Vázquez Bernard, author of a recent book on the history of Salinas, also reflects the complex social issues and perspectives of the first half of the 20th C:

"...Aguirre was really a town within the town of Salinas, or as someone once said, "a colony within another". Its architecture was typical of New England towns. Its houses, of different sizes, were all white, made of wood, roofed with zinc, with balconies and front doors, and metal screens on doors and windows to avoid mosquitoes. The fences around the houses were made of pointed stakes. Besides the fact that the lands are comprised of small hills, the houses and buildings were at different levels, which gave the town a beautiful appearance, like a dovecote....

The executives, white-collar workers and some higher echelon workers lived in town, whose lands and houses belonged to the Corporation. Of these, close to 30 families were American, who depended mostly on the "crop men" (*"hombres de cosecha"*), or the boiler handlers, or were experts in other tasks; they lived there from January to June. During this time, the mill operated ceaselessly, except for brief periods on the weekends for cleaning and adjustments.

The town of Aguirre was a self-sufficient entity. It has a port, built in 1930, and buildings according to the needs. It had a post office, telephone office and telegraph office, a building for administrative offices; a well-equipped hardware and grocery store and a theater, both made of concrete, as well as a restaurant and a barbershop. It also had two elementary schools, one private and another public one and two churches: one Catholic and another Evangelical, an athletic field and tennis courts and golf, as well as an excellent hospital. The services that Aguirre offered were so complete that many families from the town of Salinas enjoyed some of these and shopped there....

The town had its own police force, a small group of hired guards. The entire territory was kept clean because the trash collection and the cleaning were very efficient. Families were expected to maintain the houses in good conditions, despite the fact that it was the company who painted and offered maintenance for them.

Central Aguirre had two clubs, one for Americans and another for Puerto Ricans. In fact, life in Aguirre always had a double standard between both groups. Of the facilities of the one group, only a limited number of higher stature employees had access to them. This double standard was reflected in everything: housing, salaries, it was said that the Americans earned more money because they had to relocate. There was an obvious segregation between both groups, which used many of the facilities in separate ways.

The truth is that the Central gave life to thousands of workers, but most earned little and spent their lives as cane-cutters or workers, and never improved their status. On the other hand, others advanced and climbed up the positions scale within the administration. Despite the fact that the corporation professed a great responsibility towards their employees and contributed to their well being, it is no less true that the same worker exploitation system that existed in the 19th C still existed....

The concept of the company store (*tienda de despacho*) was similar to those existing in the large haciendas of the previous century. Employees didn't have any alternative to buying from his employers, and where they could take anything on credit at whatever the price was, and pay later. During the *tiempo muerto*, this facility was indispensable for the survival of the worker and his family. Thus, the worker was always in debt. The company used tokens (*fichas*) instead of money for many years, until the government prohibited

them.

The sugar industry brought as a consequence a new socio-economic configuration known as the *colonia*. There were various of these *colonias* in the rural areas of Salinas – La González, Godreau, Fortuna, la Carmen, and others. These were nuclei of families or neighborhoods of people who lived around the main sugar cane *colono*, or close to a majordomo of foreman who represented the sugar *hacienda* owner. Generally, some type of activity related to some aspect of the (sugar) industry was usually carried out in these colonies, whether planting, cutting, transporting or weighing the cane. The places where the cane was weighed were known as *chuchos*.

Many of the *centrales* took advantage of the poverty and dependence of the *jornaleros* (day workers) and the salaried workers (*asalariados*) to keep a submissive labor force. It was a dual economy, imposed on the one already existing on the island. The *tiendas de colonia* or stores would advance all the basic necessity articles to the family, including foodstuffs, clothes and even money. The worker would be in debt throughout the *tiempo muerto*, when he wouldn't be working or worked very little, and would be obliged to participate in the harvest (*zafra*). During his unemployed period, the store was his salvation, because his family's subsistence was assured. It was a vicious cycle that defined a special relationship between the workers and the bosses. In this transaction there was no need for money, because many times the store's owner would deduct from the worker's salary before the worker received it.

This type of store existed in many of the *colonias*, some larger like in Aguirre and "La Jagua", and other smaller ones that arose around the towns to satisfy the needs of the workers and the bosses. La Jagua, a store located on the road to Guayama, in what used to be Jagua ward before Aguirre, it was a big, two-story building that still stands. Its business was a combination grocery and hardware store (*pulpería-mercería*), and served various surrounding *colonias*. It belonged to "Sobrinos de González", owned by Don Manuel González.

In addition to the big store that the Aguirre Syndicate owned in town, the company had eight more: in the Machete, Pozo Hondo and Jobos wards of Guayama; in the Descalabrado, Boca Velázquez, Felicia Primera, Felicia Segunda and Jauca Primera wards of Santa Isabel; and in Central Potala in Juana Díaz. Thus, it had absolute control over the commercial transactions of the workers. The Central Caribe store in Salinas completed the store system, reinforced by the smaller stores in the *colonias*.

Within this economic system, there also was the store ledger (*libreta de la tienda*), managed by the owner and where everything the worker took on credit was written down. In general, the worker didn't have a copy of anything, and completely trusted in what was written down, at whatever price. Therefore, the store's clientele was captive, and there was no variety in the products they acquired. In this way, the diet of the workers and their families was determined by the store, according to the supplies they had available: rice and beans, salted cod (*bacalao*), flours, *tinapas* (dried smoked fish), lard and others.

The *colono* assumed all the risk of the season – the cost of production, the payment of 12% interest on the loan he had to take in order to produce, the cost of the planting and harvesting of the crop -- and finally received less for his cane than it would cost to produce the sugar." (Bernard Vázquez 2000:204-208) [Free translation by H. Tosteson, PRSHPO, December 2000].

Curtis Campbell, a former officer of the Central Aguirre Sugar Company, authored an unpublished, undated manuscript titled Central Aguirre Sugar Co. – a brief history. Campbell, who began working as an accountant for the company's Boston office in 1941, became Treasurer in 1944, and retired in 1968, after occupying the position of Secretary. Paraphrasing his description,

> "...Aguirre essentially is a mill town. Life in Aguirre, as may be imagined, must have been very pleasant, since it included a variety of places for amusement (theater, golf club, playing fields, etc.). The golf club had a spacious room where dances, parties, plays and graduations were held. Along the streets of the community would be seen a few bull carts, boys selling flowers, workmen coming and going with 3-tiered white food containers. There were annual elections and festival parades. The air would have a pleasantly fragrant molasses odor. Railroad and factory whistles would blow at proper intervals crossings and shift changes. During the crop the mill operated without stop except for some time on the weekend for cleaning and adjustments. Keeping the mill supplied with fresh cane required careful timing of the arrivals of cane cars. All the men involved had to face occasional emergencies, due to accidents, breakdowns of machinery or cane fires in the fields. It was a lively life - lots to be talked about then and long afterward. They were dedicated men devoted to their company. Even to this day, the "Aguirre Family" has kept in touch over lifetimes, talking about these things and the people." (Rodríguez y del Toro 1993a:36-37 and 1993b:39)

DeFord & Co. and the Central Aguirre Syndicate (1898-1905)

As a result of the Spanish-American War, the island of Puerto Rico became a United States possession, after nearly four centuries of Spanish regime, and a military government was established. New opportunities opened for U.S. investors in the new colony, hundreds with ample funds to invest came to Puerto Rico. Future Central Aguirre co-founder John D. H. Luce, together with William S.H. Lothrop, had received training in the banking business through their association with the well-known Boston banking house of Kidder, Peabody & Co. around 1873. By 1883, together with Henry DeFord and Francis Dumaresq, they had established the firm Henry DeFord & Company in Boston, dedicated primarily to importing raw sugar to the United States to be refined, mainly in the state of New York. Their interest seems to have been piqued by the possibilities inherent in the potential of the Caribbean territories that were an object of the Spanish-American war since, on July 15, 1898, Luce had written his brother-in-law, the powerful Senator for Massachusetts, Henry Cabot Lodge, "As an imperialist, you may not be surprised that I wish to be in the front row of colonial expansion! In short, I am very anxious to go to Porto Rico [sic]" (Rodríguez y del Toro 1993b:19).

The four associates of Henry DeFord & Company sailed for Puerto Rico in August of 1898, with the purpose in mind of establishing a private local banking firm that could serve the financial necessities of the military government in Puerto Rico. After arriving to the port and city of Ponce, by September they had established a general banking business under the name of DeFord & Co., based in Boston. The U.S. military government officially recognized the DeFord Bank (*Banco DeFord*) as the depository of the military payroll and customs tariffs collected locally, as well as sole agents for the monetary change of Spanish *pesos* for American dollars. On October 1898 the bank opened a branch in San Juan, the capital city of Puerto Rico and its main business center. That month they also acquired the rights to build and operate the urban trolley in the city of Ponce; one of the first constructed the island after the one connecting the town of Río Piedras and the city of San Juan. Following this, they acquired a two thirds interest of a local telephone company (*Sociedad Anónima del Teléfono*) founded in 1896, which owned the franchises for building the telephone network in the cities of Mayagüez, Ponce, San Juan, and bordering towns (Rodríguez y del Toro 1993b:19).

As bankers, the group was fairly successful. Almost from the first, however, the foursome found itself far more interested in the potential of the Puerto Rican sugar business than in commercial banking. Available for purchase at the time was an estate in the Aguirre Ward of the municipality of Salinas, known as Hacienda Aguirre, a large part of whose lands at that time were devoted to pasture and raising cattle. The estate owned and operated a small, mechanized sugar mill, located not far from a magnificent harbor at the plantation's southern border (Pumarada & Plá 1999b:20). At the time DeFord & Co. began making inquiries about the hacienda, it was almost completely abandoned and in the midst of a succession struggle amongst the grandchildren of José Antonio Vázquez, founder of Hacienda Aguirre (Rodríguez y del Toro 1993b:20). The property was auctioned on October 31, 1898, to General Roy Stone, a member of General Nelson A. Miles' staff, for the amount of $100,000. In light of his inability to raise the minimum amount required as a deposit to acquire the property, DeFord and Co. started the legal procedures to acquire the property for the amount that was bid. On February 1899, DeFord and Co. finally bought the property for $100,000 in gold (Rodríguez y del Toro 1993a:4 and 1993b:19).

While descriptions vary according to the sources, at the time it was auctioned to General Stone, Hacienda Aguirre had somewhere between 1,465 and 2,009 acres of land (or 1,509 to 2,889 *cuerdas*, according to other sources). Only 285 acres (or 400 *cuerdas*, according to other sources) of land were under active cultivation, mostly dedicated to sugar cane of the *Cristalina* variety typical of the time, while the rest was dedicated to pasture and raising cattle. The hacienda lands extended to the Bay of Jobos, one of the best natural bays and ports on the south coast. The old Hacienda was semi-mechanized, typical of the time; with a steam mill with an automatically moving cane conveyor that was capable of producing 6,000 tons of muscovado sugar a year. Heating and evaporation of the cane juice (*guarapo*) was done in the open pans of the traditional Jamaican train. A small complex (*batey*) had formed around the mill which, in addition to worker's housing, included the owner's residence, 2 foreman (*capataces*) residences, the workers quarters (*barracones*, formerly the slave's quarters), and various houses, which were usually rented to the sugar mill workers or other employees. At the time of auction, Hacienda Aguirre stock included 70 oxen, 4 horses, 2 ponies, 1 mule, 4 mares, 6 cows, 4 donkeys (1 female, 3 males), 40 carts with tools and instruments, 10 hoes (6 large and 4 small), 3 vats (*tachos eliminadores*), 1 warehouse,

hammocks, all the constructions and instruments belonging to the hacienda, and all the sugar and molasses recently produced (Rodríguez y del Toro 1993a: 4-5 and 1993b:19-20; Pumarada & Plá 1998:6-7; Vázquez Bernard 2000:196; Méndez Bonilla 2000).

In 1899, Puerto Rico's annual sugar production amounted to approximately 66,000 tons, much lower than its full potential. It was the fertility, the topography, and the underutilization of the coastal plain between the cities of Ponce and Guayama (respectively, the larger cities west and east of Salinas) together with its location on the magnificent Jobos Bay, what had motivated DeFord and Co. to purchase Hacienda Aguirre. The investors' plans were to establish a modern, industrialized sugar mill, which would grind the sugar cane produced in the surrounding lands, including a rail system to bring the sugar cane to the mill, and to ship the raw sugar directly to the United States. No real attempt was made to plant a sugar crop during the 1899-1900 season. However, lands under cultivation were harvested. A tugboat and barges were purchased for transporting the season's sugar production to a nearby port (Rodríguez y del Toro 1993a:8; Pumarada & Plá 1998:6-7 and 1999b:2, 20).

The financial requirements of the venture rapidly outgrew the capacity of DeFord & Co. Additional land had to be cleared and put under cultivation. Agricultural machinery had to be purchased. Irrigation facilities had to be expanded. A modern sugar mill had to be built next to the bay. Thus, on July 1, 1899, a partnership known as the Central Aguirre Syndicate was formed with an initial capital of $525,000. Most of the new stockholders were Bostonians. Henry DeFord controlled the majority of the stocks. Among the stockholders was George Cabot Lodge, father of Senator Cabot Lodge, and Amory H. Lawrence, of the textile family that founded and developed the company town of Lawrence, Massachusetts. Only one stockholder, a sugar mill owner from Santa Isabel (west of Aguirre) called Carlos Cabrera, was from Puerto Rico. On August 8, 1899 the San Ciriaco hurricane struck the island, practically destroying the entire coffee crop and plantations. As a result, DeFord & Co. terminated all interests acquired in the local coffee industry. The capital invested in the Central Aguirre Syndicate was increased to $900,000 in 1900, to $1,500,000 in 1901, and to $2,000,000 in 1903 (Rodríguez y del Toro 1993a:6-7, 10, 12 and 1993b:20; Pumarada & Plá 1998:7 and 1999b:20).

Construction of the new Central Aguirre sugar mill began late in 1899, at a site 1.3 kilometers to the south of the original Hacienda Aguirre mill, located next to the deep, protected Bay of Jobos. The first structures built were a Boiler House, a Mill House, an Electric Power Plant, and a Clarification House. They were all made of steel frame covered either with asbestos or steel sheets. Construction culminated in 1901 with the Boiling House and a Crystallizer House. The same year saw the construction of: a Caustic Soda and Lime Station, a Granulator Building, and a Sugar Warehouse. The latter used a wood frame. Most of the new machinery was acquired from the Fulton Iron Works of St. Louis, Missouri. At the same time, construction of the new company town was begun. According to 1899 census, the total population of Barrio Aguirre in Salinas at that time was 1,291 (Rodríguez y del Toro 1993a:4 and 1993b:20; Pumarada & Plá 1998:7 and 1999b:20-21).

As a means of guaranteeing sufficient sugar cane for operations, DeFord and Co. began a major land acquisition program, which involved buying, leasing, and/or contracting for sugar cane produced on neighboring lands. Immediately after the acquisition of Hacienda Aguirre, three other adjacent estates were optioned for purchase. Hacienda Carmen, 6 km west of Aguirre, consisted of 937 acres of which 315 were under cultivation (of these, 285 acres grew sugarcane). Hacienda Josefa, 8 km east of Aguirre, contained 1,300 acres of which 350 were under cultivation. Hacienda Amadeo, a small property of 231 acres lying next to Carmen, was likewise leased. At the same time, contracts were made with three neighboring estates, Esperanza, Margarita and Caños, for the grinding of all the sugar cane that they produced. In April of 1902, Central Aguirre bought the 1,709-acre Hacienda Potala in Juana Díaz. Located West of Aguirre, this hacienda elaborated muscovado sugar and was the best of the southern coast of the island. With the acquisition of this and other haciendas or *colonias* in the region the Syndicate initiated the build-up of its eventually enormous landholdings. The hacienda lands were irrigated by a 19-kilometer (12 mile) long canal originating at the Majada River, while the other properties acquired were irrigated by means of wells and pumping stations. DeFord & Company also installed 20 km of light, narrow-gage railroad, consisting of spur tracks connecting the various estates and a loop to the mill over which sugar cane could be transported for grinding. It remains unclear whether this included, or how, the existing light rail system established by the hacienda's former owners. The

original rolling stock included 2 small steam locomotives and 50 cane wagons (Rodríguez y del Toro 1993a:6 and 1993b:20; Pumarada & Plá 1998:7 and 1999b:20).

According to the first official report of Central Aguirre, by April, 1900 the Central Aguirre Syndicate owned 2,183 acres and leased an additional 2,468 acres. The leased lands were mainly old neighboring haciendas or *colonias* that contracted their land to Central Aguirre. Other landowners of the area closed their sugar mills to send their harvest to Central Aguirre's mill. Over the years, this process would eventually lead the Central Aguirre to control holdings in excess of 42,000 acres of land on the southeast coast of Puerto Rico (Rodríguez y del Toro 1993b:20).

LANDS LEASED BY THE CENTRAL AGUIRRE SUGAR CO. (1899-1905)*

Year	Name	Area (*cuerdas*)	Owners
1899	Est. Providencia	260	Teresa Amadeo
1899	Est. Potosí	447	Manuel González
1899	Hcda. Gregoria	808	J.M. Texidor
1899	Hcda. Josefa	454	Texidor and Pou Succession
1899	Hcda. Esperanza	363	Carolina Benvenutti
1900	Hcda. Carmen	901	Antonetti Bros.
1900	Hcda. Melanía	819	Carlos Blondet
1901	Unnamed	734	Semidei Bros.
1903	Unnamed	156	Lanausse Bros.
1904	Est. Rosada	116	Antonetti Bros.

*(From Rodríguez y del Toro 1993a: 13-14)

COLONOS* UNDER CONTRACT TO THE CENTRAL AGUIRRE SUGAR CO. (1899-1905)

Year	Name	Location (ward)	Owners
1901	Hcda. Reunión	Jobos	Amorós Bros.
1901	Hcda. Tuna	Caimital	Edgardo Vázquez
1902	Hcda. Florida	Felicia	Carlos Cabrera Paz
1903	Hcda. Magdalena	Aguirre	Elías Godreau
1903	Hcda. Margarita	Pueblo	Benvenutti Bros.
1903	Hcda. Destino	Jauca	Pedro Juan Capó Succession
1903	Farm	Jauca	Vicente Usera Seda
1903	Est. Melanía	Aguirre	Porrata Doria Bros.
1903	Est. Descalabrado	Descalabrado	Juan Cortada Tirado

*(From Rodríguez y del Toro 1993a: 13-14)

The approval of the Foraker Act by the U.S. Congress on April 12, 1900, gave Puerto Rico an appointed civilian government and official status as a territory of the U.S. The Act guaranteed free trade with the United States, opening the market for Puerto Rico's sugar production, now considered domestic and free of tariff duties. This gave local sugar producers a large competitive advantage over other producers subject to the tariff (Rodríguez y del Toro 1993a:7 and 1993b:20).

In May 1, 1900 Congress approved the Land Act of Puerto Rico, which limited ownership of land by corporations in the agriculture business to no more than 500 acres. This Act, which would have affected the *latifundia* being created on the island, was ignored or side stepped until 1941, when the reforms of the New Deal and the rise of Puerto Rican self-rule brought it out again as an issue. The Central Aguirre Syndicate may have originally organized as a partnership rather than as a corporation in anticipation of the Act, and after its non-implementation, reorganized years later as a corporation (see 1918-1919) (Rodríguez y del Toro 1993a:7 and 1993b:20).

In November 1900 the South Porto Rico Sugar Company was organized in the State of New Jersey. This company established Central Guánica, the largest sugar mill (second largest in the world) and company town in Puerto Rico. Central Guánica was to become one of the three major competitors of Central Aguirre, although they controlled different geographical regions of the island. As part of their overall planning, South Porto Rico Sugar Co. originally proposed another sugar mill at Santa Isabel, East of Central Aguirre. However, the mill never materialized, and Central Aguirre was spared possible competition within its region. The Central Guánica sugar mill started operations in 1902-03. (Rodríguez y del Toro 1993a:7-8 and 1993b:20)

By the end of 1900 the new Central Aguirre sugar mill was almost completed. It had a capacity to elaborate between 7,000 and 10,000 tons of high quality centrifugate granular raw sugar per year. That year there where 22 *centrales* and 249 muscovado-producing plantations (*haciendas de moscabado*) operating on the island. From the standpoint of sugar production, the first season of real operations was in 1900-1901. During that season, the Syndicate cut cane on 1,315 acres of its own land and on 646 acres

of land harvested under contract. Total cane production was 66,100 tons, and the net result of the harvest was approximately 6,100 tons of raw sugar. In December 17, 1900 the Company started its first milling, and the sale of that first season's sugar production yielded net earnings of $123,122.00, and a net profit of $14,280.17. In no year since then until 1968 did the company fail to make a profit (Rodríguez y del Toro 1993b:21; Pumarada & Plá 1998:6-8 and 1999b:20-21).

In 1901 DeFord and Co. was granted a franchise to build a railroad between the Central Aguirre mill and Barrio Descalabrado in Santa Isabel. A year later another franchise was granted to join the towns of Santa Isabel and Salinas. By 1903, the Syndicate purchased the French-owned Puerto Rico Railroad Company's (*Compañía Ferrocarrilera de Puerto Rico*) franchise for a passenger railroad service between the cities of Guayama and Ponce, a distance of about 65 kilometers along which the Aguirre property lies. In accordance with the terms of this franchise, it was necessary to incorporate a separate railroad company. Thus, the new Ponce and Guayama (P&G) Railroad Co. was incorporated in the state of New Jersey on October 30, 1903, which became a wholly owned subsidiary of the Aguirre Syndicate. Eventually, the P&G Railroad operated more than 76 kilometers of railway between Ponce and Guayama and connected the major sugar cane fields in the region with the three mills operated by the Syndicate. That same year, the partners of DeFord & Co. closed the DeFord Bank, since they were totally dedicated to the administration of Central Aguirre, a business they considered more profitable. In May of that year the *Sindicato Agrícola de Colonos de la Central Aguirre* was organized by a group of landowners who leased their sugar cane fields or ground their harvest at Central Aguirre's mill (Rodríguez y del Toro 1993a:10-12 and 1993b:22-23; Pumarada & Plá 1998:8 and 1999b:21).

Ferreras Pagán indicates that in 1902 there were 39 producers on the island who called themselves *centrales*, including centralized operations and mixed-method operations in addition to two giants, Aguirre and Guánica. Of these, 17 were in the north, 7 in the south, 4 in the west, and 1 in the interior (Caguas). The north had had a railroad since 1892, which favored milling centralization, and for that reason the greatest number of centralized facilities were located there. In the west – especially Mayaguez, Cabo Rojo, and San Germán – and in the south – especially Ponce, Guayama, Guánica and Yauco – the

sugar plantation had reached its maximum size, for arable land had been subdivided into many parcels, leaving no uncultivated lands. Land prices were accordingly high, and the investment in steam-powered machinery and *mixed method* equipment was great. Those conditions reduced the advantages of the *centrales*, for it raised the necessary investment for their establishment. For those reasons there were few *centrales* in these regions. In the east – Humacao, Fajardo, Maunabo, Yabucoa – there had been less development, and the plantations there were vast in size, including their vacant lands, and had machinery of little value. It was therefore a very viable concept to establish centralized plants at the processing locale within a plantation in the eastern parts of the island. The mountainous interior was not suited to efficient cane cultivation and generally did not permit exploitation for sugar production purposes, a situation aggravated by the deficient means of transportation in the 19th C. (Colación 1990:16-17)

Around 1902, Aguirre used the port of Jobos for all those activities related to the planting and harvesting of sugar cane, and the production of sugar. Central Aguirre paid a $50 dollar annual fee for the rights to use the port. About 50 to 60 ships entered the port of Jobos annually, without counting smaller vessels (Vázquez Bernard 2000:201).

The Central Aguirre Sugar Companies Corporation (1905-1919)

Between 1899 and 1905 the growth of the Syndicate was extraordinary. On August 14, 1905 the stockholders voted in favor of selling all the assets of the Central Aguirre Syndicate to a trusteeship to be created. As a result, on August 19, 1905, the Central Aguirre Sugar Companies Corporation was organized in the state of Massachusetts, and capitalized at $2,000,000. The eleven-member Board of Trustees elected John D. H. Luce as President. Notable among the other ten Trustees were Charles Francis Adams, descendant of the 2nd and 6th Presidents of the United States; John Farr of New York of Farr & Co., sugar dealers and publishers of the Farr Manuals (annual publication of statistics and general information of all the sugar mills in the Caribbean and Hawaii); and Robert F. Herrick, Senior Partner of Boston's largest law firm. That same day, the Central Aguirre Company was organized in the state of Maine. With a capital of $600,000, its eleven Directors were Charles M. Drummond of Portland, Maine, President and Treasurer; Wilford G. Chapman of Portland, Oregon; H. M. Tilton of South Portland, Maine; William M. Ingraham of Portland, Maine; Frederick L. Jerris of Portland, Maine; Robert F. Herrick of Milton, Mass.; John Farr of Short Hills, New York; Robert T. Paine, 2nd of Brookline, Mass.; Charles L. Crehore of Boston, Mass; and John D. H. Luce of Boston, Mass. That year, the 1904-1905 crop produced 22,272 tons of sugar and a profit of $558,536 for the new trusteeship. By 1905 the Company owned 3,730 acres, leased 5,274 and had milling contracts with *colonos* for 4,820 acres (Rodríguez y del Toro 1993a:13-14 and 1993b:23).

In May 1905, the Fajardo Sugar Company of Puerto Rico, organized in the state of New Jersey, established Central Fajardo on the Northeast coast of the island, and the new mill started operations in 1906. With this last central, what would turn out to be the three major sugar mills of the island during the 20th C., Central Aguirre, Central Guánica, and Central Fajardo, were now established, all with U.S. capital, and which would control up to 50% of the local raw sugar production between 1925 and 1931. The year after Central Fajardo came online, 1906, both Francis Dumaresq and Sturgis Lothrop died, while Henry DeFord retired, leaving John D.H. Luce as the only surviving partner of the original four founders of Central Aguirre (Rodríguez y del Toro 1993a:14 and 1993b:24; Giusti Cordero, in Naranjo, Puig-Samper & García 1995:211-222).

Between 1908 and 1914 the government of Puerto Rico established an irrigation system to serve the south coast of the island. This system covered a total of 34,000 *cuerdas* of land along its 60-kilometer long route, from the Jacaguas River in Juana Díaz (west) to the Patillas River (east), and was comprised of 3 main canals: the Juana Díaz, Guamaní and Patillas canals. Mainly as a result of this, sugar production in Central Aguirre rose from 27,100 tons to 47,117 tons between 1914 and 1918. The 1918 report stated: "This excellent report is a further demonstration of the great value of the Government irrigation system, without which we should have been unable either to have this large crop or to maintain our fields in their present satisfactory condition." (Rodríguez y del Toro 1993a:18; Pumarada & Plá 1998:9 and 1999b:21)

On February 20, 1909, the Puerto Rico Sugar Producer's Association (*Asociación de Productores de Azúcar de Puerto Rico*) was incorporated, made up of sugar cane growers and sugar producers, with the purpose in mind of promoting, protecting and improving the local sugar industry. Almost all of the sugar centrales on the island were members, including Central Aguirre. In 1910, the association founded the first Agricultural Experimental Station (*Estación Experimental Agrícola*) in Puerto Rico, on lands in Río Piedras, and which was transferred to the island's government on March 28, 1914 (Rodríguez y del Toro 1993a:15).

According to the 1910 Census, the total population of the Aguirre Ward (*Barrio Aguirre*) was 3,996, and most worked for Central Aguirre. The population growth registered in the municipalities of Guánica and Salinas, where the two centrales had been established in the previous decade, was the highest in the entire island of Puerto Rico. In Guánica, population growth was registered at 121.4%, while in Salinas it was 98.1%. In comparison, the average for the rest of Puerto Rico was 17.3%. Both the municipalities adjacent to Salinas, Guayama and Santa Isabel, also registered high population growth rates, directly related to the establishment of the sugar centrals, and originating a number of both formal and informal population settlements in the region (Rodríguez y del Toro 1993a:15-16).

At this point in time (1910), the sugar mill had two or three Mill Tandems, a new Boiler House replacing the original one, a Clarification House, Electric Power Plant, a Crystallizer building, a Caustic Soda and

Lime Station, Granulator building, an Evaporator House, 2 sugar warehouses, a railway system with rolling stock and repair shops and a General Store. The initial residential buildings of what would become the Aguirre sector of the company town were also constructed at this time: the large Administrator's House, at least 17 managerial residences and 7 servants quarters, the plaza, the park, the *Hotel Puertorriqueño*, and the Aguirre Dairy. The first structures in the Montesoria sector were also built, although less of them remain today: at least three wooden worker residences and an undefined number of worker barracks (*barracones*). A description of the district around 1920 reads as follows "...one would observe old but commodious structures for the hotel, office building, etc.; a harbor alive with ships, barges and lighters; many people of all descriptions; horses autos, trucks, bull carts; and on some days, a farmer's market on the plaza near the mill. The grand house (*Casa Grande*), which had a schoolroom on the third floor and overlooked great stretches of the Caribbean Sea, was occupied by Patrick McLane, General Manager, employed in 1906" (Pumarada & Plá 1998:8-9). The continued use of the worker's residences in the area of the old Hacienda Aguirre mill is somewhat documented, since they are seen as existing in a ca. 1930's sketch of the Luce & Co. facilities.[19] At least one worker's residence was built in this sector during this period (Rodríguez y del Toro 1993c; Pumarada & Plá 1998 and 1999a; Vivoni 2000).

There is not much information on Central Aguirre for the decade of 1910-19. However, the continued development of the mill and company town are evidence of a continued expansion, if moderated by the effects of World War I. During this decade, 2 additional sugar warehouses, the Lumber and Iron Pipe warehouses; a tractor and agricultural machinery shop and the General Warehouse were built in the sugar mill complex. In addition, 5 managerial residences, 2 servants quarters, the Ice Plant, the Woodrow Wilson Elementary Public School and Aguirre's first private school house were built in the Aguirre sector, while 13 worker residential structures were built in Montesoria. During this decade, at least one worker's residence was built in the Hacienda Vieja sector, in addition to the Luce & Co. Store and a horse coach shed (Rodríguez y del Toro 1993c; Pumarada & Plá 1998 and 1999a).

[19] See Section 7, page 17.

In an interview carried out during the 1993 architectural survey of the nominated district, Rubén Martínez described his memories of the district during this time, as follows:

"Ruben Martínez was born in the Central Aguirre Historic District in 1915. He worked 41 years for the Central Aguirre Sugar Co., first as a dependent in the General Store and later as an accounting officer in the General Offices. His father, Eligio E. Martínez, worked for the Company for 58 years, becoming minor surgeon in Aguirre's old Clinic located South of the town square. Established since the beginnings of Central Aguirre, the old clinic was a single-story structure with wooden floor and walls, roofed in wood and corrugated zinc that was very similar to the "bungaloid" style houses built during the first decade of company operations. Like everybody who worked in Central Aguirre, Martínez remembers his years working for the company and living in the community with great nostalgia. The company assigned him and his family a totally furnished house. His salary included the rent for the house. The company carried out periodic maintenance of the dwellings within the company town, which he and his family occupied. His salary included the payment of rental for the assigned housing, and if he wanted another he would pay the difference. The *barracones* in Montesoria, originally built in wood, were for the unmarried factory workers. The residences were occupied almost year-round by the employees and their families, despite the ending of harvest (*zafra*) time, a period known as *invernazo*. During this season of the year the factory workers were employed in repairs. Housing maintenance and repair was undertaken by the company through its Construction and Maintenance Department, free of charge. The houses of the mostly American administrative employees in the Aguirre sector were painted white, while the workers houses in Montesoria were painted gray. *Don Rubén* recalls that, until he was six or seven years old, the houses did not have electric refrigerators, and used iceboxes; the ice was distributed from the ice plant (ca.1911) located north of the plaza to the residences on a cart. Trash was collected, and the streets cleaned, every day. The gardens in the residences and the public areas were carefully maintained by company personnel. As an office employee, he worked a regular time schedule, although the sugar mill operated 24 hours a day, six days a week during the milling season, closing on Sundays for repairs. Just as other office employees, he was paid on Saturdays. Thursdays and Fridays were payday for the factory employees, while on Saturday Company officers would head out to the different *colonias* to pay the field personnel. Payment was in cash, after deducting each employee's expenses at the company store, since all the company stores in town and in the *colonias* gave credit to the employees. Taking advantage of the paydays, on Fridays and Saturdays one side of the plaza would fill up with miscellaneous salespeople (*quincalleros*) and merchants from other towns, selling all kinds of merchandise, including shoes, dresses, tools and others. The town plaza was used mostly by Montesoria residents, who would meet there to socialize and celebrate activities and dances. The main activity or holiday in Aguirre was the Fourth of July celebration. Usually there was a parade, while games and competitions were held at the Park or *Bandstand* – the rope pull, the greased pole climb, sack races, etc. – between the town residents and nearby rural neighbors. At night there was a fireworks display while the traditional *Bomba y Plena* dances, typical to the region, were held in the plaza. On some occasions these dances were celebrated in the sugar warehouses, and people would sit on the stacked sugar sacks. Originally there were wooden stands (*bandstand*) at the park. The park was used by the baseball team organized in Aguirre, the Aguirre Lions, who played on Sundays against teams from other towns in the region. Besides the baseball field, there were tennis and volleyball courts. *Don Rubén* studied the primary and secondary grades at the Woodrow Wilson Public School in Aguirre, after which he studied high school in Ponce, where he would travel once a week by train and stay with relatives. At present, *don Rubén* lives in one of the houses owned by the now-defunct Puerto Rico Sugar Corporation, a living witness to the growth and decline of *Central Aguirre* which he remembers" (Rodríguez y del Toro 1993a:18-20).

Between 1915 and 1918, there were a series of strikes in cane fields throughout Puerto Rico (*huelgas cañeras*), although none was registered in the Guánica or Aguirre *centrales*. By 1916, sugar field workers earned 60 cents daily and paid nearly 40 cents for housing weekly. The workweek was six days long, from sunrise to sunset, since there were no limitations on working hours. The *centrales* differentiated between factory and field workers, where factory workers received better salaries and were provided better housing than to field workers. Thus, living close to the factory would become a status symbol for the workers (Rodríguez y del Toro 1993a:20).

Most of the community and service buildings where located around or near the town square, as were the General Office, General Store, old Clinic, Telephone and Telegraph, old Farmer's Marketplace, Ice Plant, Ice Cream Plant, Post Office, Theater, Butcher's Shop, and the Police Station. The segregation [between the Aguirre and Montesoria communities] was evident and present in the Batey, but nobody really paid much attention to it, since the working and living environment for both groups was very good and acceptable, especially in comparison with conditions outside Aguirre (Rodríguez y del Toro 1993b:24).

Vivoni (ca. 1992) offers an appreciation of the architectural elements of the nominated district, and its implications in Aguirre:

> "...The study of the residential communities in Central Aguirre reflects the richness of this [architectural] heritage. These two communities were designed following two different approaches: *Aguirre* was modeled on the picturesque, with tree-lined, winding streets on the hilly section of the area, while *Montesoria* was orthogonally subdivided in a grid system with its streets running north-south, east-west on the flatlands near the waterfront. These two contrasting urban approaches established a clear social hierarchy which was fundamental in the development of the Aguirre Sugar Company (Vivoni Farage ca.1992:4).
>
> In Aguirre, the houses built for the English-speaking employees were designed as cottages. These houses, devoid of any applied ornamentation, were adapted to the rigors of tropical life. The floor plans follow very closely the typology of the American cottage (Scully 1955, as cited in Vivoni Farage ca.1992:4), with the great hall dominating the organization of the house. From this space, all other rooms were reached. The verandah not only served as a shade making device, but also as the most important exterior /interior living space. In most cases, it was screened to protect the interior of the house from the ever-present mosquito and seasonal "black snow" (mill ashes spewed during harvest season from January to June) which emanated from the mill's chimneys during the *zafra*. The screened verandah formed an integral part of the total massing of the house and contrasted with the traditional Spanish custom of having a balcony added on as a separate element to the main volume of the house (Vivoni Farage ca.1992:4-5)....

The design of these cottages also introduced to the Puerto Rican culture a different way of understanding "dwelling". The verandah became the ante-room of the house rather than the ornament of the street or the living room, changing completely the understanding of the sequence of the parts of the house and their interrelationship. The location of the bathroom between adjoining bedrooms substituted the traditional location at the end of the house apart from the living/sleeping quarters. Introduced to the house was also the closet and walk-in closets which substituted the wardrobe (Vivoni Farage ca.1992:5)....

It is important to understand that there was a hierarchy imposed on the workers: from peon to majordomo, and as such, it found its equivalent in the design of the dwellings supplied by the Central Aguirre. The *cuartelones* or barracks were long buildings made up of eight or more rooms that were rented to the single peon. These were located near the warehouses and storage tanks and were built on ground level out of poured-in-place, chicken-wire reinforced concrete walls with a wood and zinc pitched roof. The rooms, in most cases 8' x 8', were entered from a galleria. They had one door and one window. The latrines were separate communal buildings that also had showers and laundry facilities (Vivoni Farage ca.1992:6).

The family houses varied in size and in comfort. The smallest one included, within a 10'x 20' layout, a bedroom and a common room. Added to this main wood structure was a 7'x 7' zinc constructed kitchen. The house was raised 18"to 24" from the ground and had no verandah or porch. The construction is simple, a wood frame left exposed on the inside of the house, with a two-pitched zinc roof. In the early years, these houses were painted caterpillar yellow or gray, unlike the other houses in Aguirre, which were always painted white (Vivoni Farage ca.1992:6).

As the level of the worker moved up in the company's hierarchical organization, the house began to acquire the looks of the larger cottages, and in plan also had a main living space through which the rest of the rooms were reached and a porch. These houses were located nearer the perimeter of Montesoria and Aguirre. Two major points of contact between these two communities were the commercial area with the plaza and the Methodist Church (Vivoni Farage ca.1992:6).

These houses contrasted with the existing worker's dwellings in Puerto Rico and the impact of their architecture infiltrated the so-called vernacular architecture of 20th C Puerto Rico. From the slave quarters of the mid-19th C, which were fortified dormitories and the *bohios* (reed and thatch huts) that lined the outskirts of the towns, these dwellings became models to what was to become a popular way of construction throughout the towns and rural areas of the island. Whole *barrios* of workers in Santurce [in the capital city of San Juan] were constructed following the forms of the sugar cane worker's house, even architect-designed middle class urban dwellings reflected the raised and open look of these houses (Vivoni Farage ca.1992:6-7).

Vivoni's reference to the worker *barrios* in San Juan, the major city on the island, also reflects the increasing migration from rural to urban areas and from Puerto Rico to the United States, which begins to be noted during this period. Scarano (1993) comments on the causes for this phenomenon: better jobs, higher wages and social advancement. This would continue until the disastrous economic consequences of the Great Depression in the 1930's (Scarano 1993:600, 614-616, 675-676).

The contrasts presented by the increased migration, also motivated by ever-increasing unemployment, which would reach an alarming 30% by 1926, and the changes in the economic structure of Puerto Rico during this period, served to promote a transformation in the working class during the first two decades of the 20th C. In simplistic terms, the increased foreign capitalization of previously exclusively "local" industries such as tobacco, sugar and coffee fundamentally distanced the worker from his labor and its production, depersonalizing whatever human aspect it had. Worker's reactions to this were reinforced by the creation of the worker communities, such as Montesoria in Central Aguirre' company town, where, while being segregated as a separate class, common feeling and shared hardships served to foment a distinct class consciousness of its own. However, there were strong contradictions entwined within the very fabric of worker communities provided by the companies. Workers who otherwise would be facing much worse living condition might feel that occupying housing provided by the company was a benefit or privilege, especially when they were better constructed and had amenities than any they could obtain on their own. On the other hand, "...The workers who lived in these houses were constantly threatened by eviction... particularly if they did not follow the orders of the bosses or if they participated in strikes or political movements in their own class" (Scarano 1993: 612-613). These tensions and contradictions would have a fundamental effect on labor relations in the following decades.

The Central Aguirre Sugar Company (1919-1928)

Beginning in December 1918, and into 1919, the Central Aguirre Sugar Company was incorporated in Puerto Rico for the purpose of reincorporating the Central Aguirre Sugar Companies and the Central Aguirre Company. At the same time, Luce & Company, a limited partnership, was created to take possession of all the lands formerly owned by Central Aguirre Sugar Companies. All Luce & Co. partners were directors in the newly created Central Aguirre Sugar Co. Under a deed of trust executed by Luce partners, all of its net earnings would be for the benefit of Central Aguirre Sugar Co. This move was meant to evade the existing, though unenforced, federal Puerto Rico Land Act of May 1, 1900, forbidding corporations to own more than 500 acres in Puerto Rico (Rodríguez y del Toro 1993a:21-22 and 1993b:25; Pumarada & Plá 1998:9 and 1999b:25).

In 1919, Marcelo J. Obén became the first Puerto Rican General Manager of Luce & Co., the subsidiary that controlled all the lands held by the Central Aguirre Sugar Company. He had begun working for the company as an office boy in 1902, and by 1932 was also named General Manager of Central Aguirre's local operations. He was the first and only Puerto Rican to occupy such a high position in the Central Aguirre corporate structure, which up to that time had traditionally been occupied by Americans from the continental United States, mostly contracted by the Boston office. He held both positions until his death in 1946, when he was killed by a factory worker. His reputation had been well established throughout the Caribbean and Central America, and his loss was lamented not only by residents and company employees, but also all over the island (Rodríguez y del Toro 1993a:11, 31, 40 and 1993b:22, 29, 32).

In 1920, the price of raw sugar, duty-paid at New York, reached an all time high of 23.57 cents per pound, a figure never even approximated at any other period during the past fifty years. This was due to the World War I loss of beet sugar production in Europe and wartime shipping losses. In 1920, Aguirre's profits rose to more than $5,000,000. This contrasted greatly to the pre-war period, when Central Aguirre's greatest profit had been a little over $2,000,000 in 1917, and had declined to just over $700,000 in 1919. The increase in profits was also aided by the acquisition, in that year, of lands and a 72.5% interest in the Machete sugar mill in nearby Guayama from A. Hartman & Co. With the acquisition of

this mill, located 11.5 kilometers east of Central Aguirre, the company increased both its land ownership and sugar production. In 1921 Central Machete produced 11,231 tons of raw sugar. The sugar produced by this mill was moved to Aguirre for exportation. Luce and Company, S. en C., acquired the lands, and a new Puerto Rican corporation was formed to take over the mill property (Rodríguez y del Toro 1993a: 22 and 1993b:25; Pumarada & Plá 1998:9-10 and 1999b:24).

The period beginning in 1920 was known in Puerto Rico as the "Dance of the Millions" (*Danza de los Millones*), in obvious reference to the enormous profits that owners of the sugar *centrales* amassed from the sale of their product (Vivoni Farage, date unknown:1). According to that year's census, the total population of Barrio Aguirre of Salinas at that time was 5,807, mostly employees of Central Aguirre (Rodríguez y del Toro 1993a:22 and 1993b:24-26).

In 1924 a major water distribution and sewage system was built in the district. Nearly 3,363 linear feet of water lines where installed. Two new water wells where drilled and four existing ones where cleaned. Since the original establishment of the district to the present, water has been available to the community from the company's water wells. Later, nearly 3,180 linear feet of vitri sewage pipe was installed. Also at this time, community baths and toilets where built throughout the town to replace existing latrines (Rodríguez y del Toro 1993a:25 and 1993b:27).

In 1924 the United Porto Rican Sugar Co. was established in Puerto Rico, operating five (5) sugar mills in the eastern central region of the island: Central Cayey in Cayey; Central Defensa and Central Santa Juana in Caguas; Central Juncos in Juncos; and Central Pasto Viejo in Humacao. Eastern Sugar Associates acquired the company in 1934. The sugar mills belonging the Eastern Sugar, Central Aguirre, Central Guánica, and Central Fajardo companies were the island major sugar producers, all with U.S. capital investment (Rodríguez y del Toro 1993a:25 and 1993b:27).

The Central Aguirre Associates (1928-1947)

In July 31, 1928, the Aguirre Corporation of New York was incorporated in that state. A subsidiary of Central Aguirre Sugar Co., it was established to act as buying and selling agent for the sugar mills operated by the company in Puerto Rico. In August 11, 1928 the Central Aguirre Associates trusteeship was organized in Massachusetts for the purpose of acquiring all the outstanding stock of the Central Aguirre Sugar Company, which was to continue as an operating company. The new company controlled the Central Aguirre Sugar Company, the Central Machete Company (72%), the Luce & Co. limited partnership, the Ponce & Guayama Railroad Company, and the Aguirre Corporation of New York. In December 8, 1928 the Declaration of Trust was amended providing that the company should exist until January 1, 1970 (Rodríguez y del Toro 1993a:27-28 and 1993b:28).[20]

On September 13, 1928 San Felipe hurricane struck the island. San Felipe was the worst in the island's history, and sugar cane damages where enormous. The 1929 crop, at first estimated to be 120,000 tons proved to be only 77,669 tons. Many buildings were demolished and bridges destroyed, although, as the result of excellent construction techniques, damages to the residential and industrial buildings in the nominated district where minimal (Rodríguez y del Toro 1993a:28 and 1993b:28). This disaster was further compounded by the 1929 stock market crash, which initiated the Great Depression, and the most profound crisis in the modern history of Puerto Rico. The worldwide economic crisis affected every sector and class on the island, and precipitated social problems of agricultural countries that, like Puerto Rico, depended on trade in order to subsist. Briefly, the effects of the Great Depression would, in its economic aspects, express themselves in two ways: first, it would drastically reduce the island government's capacity to supply income and employment, and second, it greatly decreased the relative importance of agriculture, which had been Puerto Rico's main economic activity throughout its history. In turn, these effects would be profoundly felt during the following three decades (Scarano 1993:670-672).

However, these effects would take some time to affect the sugar industry and Aguirre. By 1930, the

[20] A curious coincidence, since on that year the company's property and holdings were expropriated by the Puerto Rican government

Santa Isabel Sugar Co., original owner of Central Cortada, was liquidated and all its assets were consolidated with those of Central Aguirre Sugar Co. The company's subsidiary, Luce & Co., now owned 22,000 acres of land and leased another 17,000 acres in the southeast region of Puerto Rico. That year, the combined production of the Company's sugar mills was 125,644 tons, the highest in the entire history of the company except for 1934 (130,240 tons), 1950 (133,290 tons) and 1964 (134,281 tons). The new dock built at Aguirre, constructed for $100,000, allowed the direct hoisting of sugar bags from railroad cars into waiting ships, facilitating the export of an increased production (Rodríguez y del Toro 1993a:29-30 and 1993b:29). In 1931 the Aguirre Hospital (ID#366) was built. Remodeled in 1936, 1948, 1967 and 1968, this hospital replaced the previously existing clinic on the south side of the town plaza, which had attended minor cases while referring the major ones to the Presbyterian Hospital in San Juan (today the Ashford Hospital). Services in the old clinic were free for factory workers; afterwards, the labor unions achieved making the hospital services free for both factory and field workers. The new hospital was built on the initiative of Dr. Frank Navas, the first Puerto Rican to direct the Aguirre medical facilities. This hospital became one of the best in the south of the island, and practically the only one in the region. It had 9 private rooms, a 15-bed hall for men and another 5-bed hall for women and babies. The hospital had an office, a clinic, a records room, a director's office, doctor's offices, laboratory, kitchen, hospital offices and waiting room, an emergency room, an X-ray room, a maternity room, a surgery room and laundry. By 1962 the hospital had two doctors and 45 beds for adults, and later had 5 doctors. They attended not only company personnel but also others at very low prices. Central Aguirre offered its own health plan to all of its employees and the Triple S plan to its executives. Finally, by 1932, Luce & Co. owned 22,911 acres of land and leased another 18,023 acres (Rodríguez y del Toro 1993a:31 and 1993b:29)

The continued affluence of the sugar industry companies contrasted greatly with the difficult times for field workers and laborers, as can be seen from the following description by Juan Sáez Corales, a labor leader:

> "In the years between 1928 and 1932, the economic crisis made its devastating force be felt. Work was scarce. It wasn't possible to find work or sustenance anywhere. In my town, the workers were in bad straits, economically. Most (of the families) resorted to the needle industry [sewing] in order to subsist.... My mother, my father, all my brothers and I, would spend all day, and part of the night, embroidering

handkerchiefs and blouses. It was then that I learned, more graphically, how hard the exploitation we poor people are subjected to really is. All my family worked day and night, but we couldn't eat three times a day. Sometimes we couldn't even afford that luxury. Black coffee and old bread were the only recourse we had left. In this situation, it was natural the disease would join the misery. The thousand illnesses that hunger and misery produce overcame the poor. In my family the balance was disastrous. My entire family became sick. My youngest sister, barely three years old, died. I have always believed that her death was caused by the physical weakness caused by hunger" (Scarano 1993:674)

The situation only went from bad to worse when, in 1932, Hurricane San Ciprián devastated the island. Only four years after the terrible San Felipe hurricane, this storm caused 225 deaths, injured close to 3,000 and left close to 100,000 homeless. Damages were estimated at approximately $30 million, equivalent to many hundreds of millions by current standards (Scarano 1993:674-675).

The terrible conditions in the first years of the 1930's also fed the migration from rural areas to the cities on the island, where the slums offered sub-human living conditions. Migration to the U.S., a feature since the first decade of the 20th C., was halted, since working and living conditions in New York, Philadelphia or Chicago were very bad. Instead, many who had left Puerto Rico during the 1920's to try their luck, decided to return during the crisis. This phenomenon was the first sign of what would be a characteristic of 20th C Puerto Rican migration: when conditions in the U.S. would worsen, *return migration* increases (Scarano 1993:675-676).

The election of Franklin Delano Roosevelt as President of the United States in 1932 would signal the end of the *laissez affaire* policies that were blamed for the economic crisis, heralded by the establishment of the New Deal reforms program in 1933. The establishment of institutions such as the Social Security Administration, the Federal Deposit Insurance Corporation and the Federal Reserve Bank date from this period, while in Puerto Rico the New Deal fostered the creation of the Puerto Rico Emergency Relief Administration (PRERA) in 1933 and the Puerto Rico Reconstruction Administration (PRRA) in 1935. These agencies, and their activities, would symbolize the New Deal in Puerto Rico, and the increasing degree of social experimentation and development that characterized their efforts. This would lead to the emergence of an intellectual, social and cultural debate concerning the nature of Puerto Rican society in this context, which would revive historical trends and ideas as well as introduce new ones, and involving

most, if not all, layers and sectors of society. This debate would find particular expression in the areas of labor relations and politics (Scarano 1993:676-692).

In 1933 a labor strike originated in the *Central Coloso* [in the municipality of Añasco], which later spread to other *centrals* (Rodríguez y del Toro 1993a:31). Influenced by strikes in the textile and tobacco industries, the spread of these strikes provoked serious clashes between strikers and police, whom were called in by employers "to protect their properties". Strikers at Central Guánica, and later throughout the southwest of the island demanded better salaries, more uniform pay scales, the elimination of piecework, and the elimination of the company stores, amongst others. The intervention of labor leaders like Santiago Iglesias Pantín, head of the Free Worker's Federation (*Federación Libre de Trabajadores*, or FLT), and which was associated with Samuel Gompers' American Federation of Labor (AFL), led to negotiations for a collective agreements for the sugar industry in Puerto Rico. Faced with the radicalization of the strike, labor leaders opted to hurry the negotiations, reaching an agreement that satisfied the central owners and signing it in January of 1934. The rejection by the workers was immediate, and a general strike paralyzed the island. While the FLT succeeded in convincing strikers in Guánica and nearby *centrales* to return to work, they were not successful in other sectors of the island. Workers in the *centrals* located in the north, east and southeast of the island persisted in their principal demands, which were, amongst others, a one dollar ($1) daily wage and an eight-hour work day. The generalized disappointment with the labor leadership would lead to fundamental changes in the history of the labor movement in Puerto Rico, including the need for new leadership. This explains the call by the strikers to Pedro Albizu Campos, leader of the Nationalist Party, to address them in Guayama. While this temporary association did not last, it would help define the parallel, though separate, paths that Puerto Rican nationalism, which reached its height of popularity and notoriety in the 1950's, and the labor movement would lead thereafter (Scarano 1993:690-692). The strikes would end by late February of 1934. However, as a result of these labor conflicts, beginning the next year the salary rates for the sugar industry workers on the island were determined on a yearly basis through collective bargains between workers and owners (Rodríguez y del Toro 1993a:31).

Meantime, the Central Aguirre Associates continued developing and diversifying its holdings. In 1933, Central Aguirre Sugar Co. and Merrimac Chemical Co., a subsidiary of Monsanto Chemical Co., agreed to organize the New England Alcohol Company to produce industrial alcohol from molasses at a new plant in Everett, Massachusetts. By acquiring a 45% interest in the new company, Central Aguirre guaranteed a good price stable market for the molasses produced by its three sugar mills, which, in 1933 totaled 4.5 million gallons. Eventually, together with Monsanto, Aguirre's engineers would develop herbicides used worldwide in agricultural crops (Rodríguez y del Toro 1993a:31 and 1993b:29).

In 1934, Congress approved the Costigan-Jones Sugar Control Act, which established controls over the production and marketing of sugar and sugar exportation quotas. As a result of this measure, which treated Puerto Rico worse than foreign countries such as Cuba, sugar production dropped nearly 20% in 1935. Income loss to local sugar producers was expected to be largely offset by compensation payments in return for complying with wage and other regulations, while quotas were locally determined according to the sugar mill buildings appraisal. The United States Sugar Act of 1948 not only imposed quotas, but also the price of sugar was controlled by the Federal Government through the insular government, and factory workers' salaries were subject to federal and local regulations (Rodríguez y del Toro 1993a:31 and 1993b:29).

By 1935 the Puerto Rico operations employed nearly 1,500 full time and 5,000 part-time employees during the sugar harvest and milling season. The local office attended production, construction, labor relations, local shipping, acquisitions, and public relations, assisted by a large San Juan law firm. That year, Central Aguirre produced 111,451 tons of sugar, while in 1934, one of the highest production years in the history of the Central, it had been 130,240 tons (Rodríguez y del Toro 1993a:32-33 and 1993b:30). Four years later, Luce & Co., the company's subsidiary landholding partnership, owned 25,144 acres of land, and leased an additional 17,407 acres (Rodríguez y del Toro 1993a:34).

In 1940, sugar exportations represented 60% of all the island's exportations. Four United States interests owned companies -- Central Aguirre Associates, South Porto Rico Sugar Co., Fajardo Sugar Co., and

Eastern Sugar Associates – accounted for 37.7% of the island's raw sugar production. That year, the Aguirre Company sold 67 acres near Colonia Potala to the Federal Government, for the construction of an aviation-training field. At that time, Luce & Co. owned 24,727 acres of land and leased another 17,978, of this total, 21,000 acres where cultivated with sugar cane. This made Luce & Co. the largest single sugar *colono* in the island (Rodríguez y del Toro 1993a:35 and 1993b:31).

A Census taken in 1940 revealed that the population of Central Aguirre was 2,563 and that of Barrio Aguirre, 7,811. There were 485 residential buildings in the district, with a total of 576 housing units, 554 occupied by 330 whites and 224 blacks or mulattos. Of the 554 occupied housing units, 476 were single family type dwellings, 4 two family type dwellings, 8 three to four family type dwellings, 1 one to four family with business type dwellings, and 87 ten or more family *barracones* type dwellings. Of the 554 occupied units, 64 had one occupant, 69 had two, 72 had three, 87 had four, 76 had five, 75 had 6, 44 had seven, 27 had eight, 21 had nine, 7 had ten, and 12 had eleven or more. Of the 576 housing units; 78 % where built of wood with galvanized iron sheets roof, 1 % of wood with straw roof, and 21 % of concrete or stucco; 96% where in good physical condition; 141 had toilets with running water, 1 latrine, and 431 didn't have either toilets or latrines; 190 had running water inside the unit and 383 outside the unit; 148 had showers or bathtubs and 425 did not; 557 had electricity and 13 did not; 166 had refrigerators and 378 did not. The average monthly rent for the 553 occupied housing units was as follows: 63 units between $2.00-$2.99, 13 between $3.00-$3.99, 265 between $4.00-$4.99, 53 between $5.00-$6.99, 41 between $7.00-$9.99, 50 between $10.00-$14.99, 19 between $15.00-$19.99, 5 between $20.00-$24.99, 17 between $25.00-$29.99, 24 between $30.00-$39.99, 2 between $40.00-$49.99, and 1 between $60.00-$99.99. The monthly rent was part of the Company's employees' salary. It must be noted that this information applies only to the population residing in the company town, which were administrative, technical and factory employees. However, the company had field employees who, together with their families, were distributed in the region between the municipalities of Juana Díaz and Guayama, many of them living in company housing (Rodríguez y del Toro 1993a:35-36 and 1993b:31).

Here's a description of what the nominated district probably looked like in 1940:

"Central Aguirre was reached by means of a straight road about one kilometer long, lined with tall Royal Palm trees. At the end of the stretch of road, where it is crossed by cane railroad tracks, one bears east and soon passes a large modern concrete hotel, built in 1926, having adjacent to it a large restaurant, glimpses of a swimming pool, and a club house. Across from the hotel is a group of one-story dwelling houses each with a lawn and white picket fence, all capturing the architectural flavor of old New England. Proceeding down to the mill gates, one sees on the left auxiliary structures, including several molasses tanks, a foundry, warehouses, and many mill shops; and on the right, more dwellings. Past the mill down to the harbor one finds a new, long dock, constructed in 1930. North and west of the factory were a new office building, built in 1924; a modern Post Office; an enlarged "general store" containing a variety of foods, supplies, and appliances; and a concrete theater building with a barber shop at one end. Off to its right was a restaurant.

There were some thirty American families living in Aguirre at that time, with the men mostly specialists, including some "crop men" who were on hand only during the crop period, plus sugar boilers, cane scale operators, etc. During the crop season the mill operated around the clock, except for some down time on weekends for cleaning and adjustments." (Pumarada & Plá 1998:11)

Aguirre and World War II

In 1901, when Central Aguirre processed its first sugar crop, the average yield of sugar per acre was 3.09 tons. During the 1940s, the yield averaged 5.1 tons of sugar per acre in spite of the fact that most of the sugar lands have been under cultivation for over a century, needing large quantities of fertilizer annually to maintain productivity. The completion of the government irrigation system in 1914 and its subsequent expansion helped to reduce the problem of water supply, but Aguirre's fields were still dependent to a large degree upon their own irrigation well and pump facilities. As part of the modernization following World War II, Luce and Co had installed overhead spray irrigation, which doubles the effectiveness of the normal irrigation. It proved both efficient and economical. Artificial irrigation likewise permits the application of fertilizers with the water, thus reducing the cost of fertilization (Pumarada & Plá 1999b:25).

Until the war years, insect and blight control had been largely accomplished by the expensive method of weeding out infected canes. Thereon, the firm began to control pests by more scientific methods, including the application of repellents with the irrigation water. Chemical herbicides replaced manual weeding with hoes to large extent. Luce and Co. constantly carried on field experiments to develop new types of sugar cane with increased sugar content. A very successful type of cane, known as BH 10/12,

was introduced in 1925 and was still highly productive in 1950. In that year the firm had its largest production since its foundation: 133,290 tons of sugar (Pumarada & Plá 1999b:25).

In December 1941 the United States entered World War II, bringing labor and material scarcities and uncertainty to the U.S. sugar business, which in the case of Puerto Rico were worsened by its condition of being an island. These events combined with actions brought against large sugar corporations by the new populist government of Puerto Rico to control the exploitation of its land and its workers. The approval of the Land Act of Puerto Rico in 1941 amended the Land Act from 1900, to the effect of extending the 500-acre agricultural landholding limitation not only corporations but also any artificial entity. In response to a *quo warranto* action initiated by the government of Puerto Rico to show that the Luce & Co. land holdings in excess of 500 acres, were illegal, Luce & Co, initiated action in federal court to avoid the implementation of the law. The matter was never resolved, which allowed Luce & Co. to continue using the lands it owned or leased. That year Luce & Co., under the management of Marcelo Obén, controlled 42,705 acres, 24,727 it owned and 17,978 it leased. Of this total, 21,000 acres (50%) were dedicated to the cultivation of sugar cane, making Luce & co. the largest single sugar *colono* on the island. The matter was still unresolved in 1970, when the government expropriated these lands. Also, between 1941 and 1942, the Federal government expropriated over 1100 acres of land near the Aguirre mill for military purposes. In 1942, while a major labor strike was affecting Central Aguirre, the Company created a new independent company, Tybor Stores, Inc., to take care of the Batey's General Store and the other stores located outside the company town. Later the name of the new company was changed to Caribe Stores, Inc. This was done in response to the approval, sometime in 1941-42, of a law by the Puerto Rico Legislature, which prohibited companies from selling merchandise to its employees. The war conditions created a shortage of tank ships, and as a result the mill's molasses tanks remained full and the product unsold. However, in 1943 and 1944, almost all of the sugar and molasses produced were sold to a U.S. agency (unidentified as of yet). On the other hand, war regulations had the company spend over $115,000 on growing food crops. The 1944 sugar cane crop reflected, in its scant 78,261 tons, the wartime lack of fertilizer and the required 20% land set-aside for food crops, all worsened by drought (Rodríguez y del Toro 1993a:36-37 and 1993b:32; Pumarada & Plá 1998:11-12 and 1999b:23-24).

A description from 1944 offers the following observations concerning life at Central Aguirre:

> In 1944, Crucita Maldonado began working in the main offices of Central Aguirre. Born in the Montesoria sector, her father had worked in the factory. She remembers that the first houses built in Montesoria were small huts (*casuchas*) and wooden barracks (*barracones*) covered with corrugated zinc roofing, and located near the coast. She remembers that there were various wooden barracks (*barracones*) in front of the Woodrow Wilson public school, which were later demolished and replaced with individual housing. These original Montesoria houses and *barracones* did not have any running water or sanitary facilities. It wasn't until 1924 that communal sanitary facilities were established, with the purpose of eliminating the existing latrines and improving hygiene. For her, the residents of Montesoria were like a big family that shared on a regular basis – the administrative and technical employees rarely passed through or visited the houses in the sector. Only at the Golf Club did the local boys from Aguirre talk with the United States officers, when they served them as golf caddies. The company operated a dairy farm where the residents went on a daily basis to get fresh milk. She continues saying that in front of the Theater there was a butcher shop that was run by a resident of Salinas. When she was a child, they used to have fun catching crabs and going to the movies. In the Montesoria community they celebrated the Feast of the Cross (*Fiestas de Cruz*). On Holy Week there was a procession starting at the Catholic Church that would cross the whole town. During the carnivals or patron saint festivities (*fiestas patronales*) in Salinas, the traditional *vejigantes* would be found throughout Montesoria. Until recently, the annual meeting of the former members of the community (*Aguirreños Ausentes*) was celebrated in Montesoria's plaza, where people from the entire island who had worked or lived in Aguirre would attend, and there would be a procession headed by the statue of the Virgin Mary as part of the festivities. Although of Catholic origin, *doña Crucita* and her family converted to Methodism because of the ministers that came to town since early on. The first Methodist church was originally located in a wooden house close to the shoreline, where she would attend with her family. She remembers that during the milling season the houses in town would be filled with the burnt *bagazo* ashes that came from the high factory chimneys. At eight o'clock at night a siren sounded at the factory, and all children had to be in their homes after that hour – the siren can still be heard, as a reminder of those days. *Doña* Crucita, just like most of those who worked, in one way or another, at Central Aguirre, remembers her years of work for the company and life in the town in a special way (Rodríguez y del Toro 1993a:38-39)

Between February 9 and March 20, 1945 another labor strike affected Central Aguirre. That year, the Company established a pension plan for all permanent employees who earned more than $1,200 a year. (Rodríguez y del Toro 1993a:39 and 1993b:32).

On 1946 the scarcity of adequate fertilizer was still holding down production. As the company tried to introduce new laborsaving methods in field operations due to the post-war labor shortage, a month-long labor strike occurred (Rodríguez y del Toro 1993a:40 and 1993b:32; Pumarada & Plá 1998:12 and 1999b:24). The labor saving methods mentioned included increased mechanization and rationalized management of the entire cane cultivation process. The following interview reveals the details of these

activities:

> "On September 3, 1946, agronomist José Antonio Navarro began working with Luce & Co., earning $125 a month, and food and lodging. Since he was a bachelor, he was assigned a room in Aguirre's *Hotel Americano*. He began working in the General Office, organizing and familiarizing himself with the production records of the cane sectors (*piezas de caña*) under Aguirre's control, which had been discontinued after the World War. That year he transferred to the Engineering Department in order to prepare and make topographic maps/plans of the cane sectors, with the purpose of improving the irrigation system and water usage. Later he was assigned to the Cultivation Department (*Departamento de Cultivo*), reestablishing the cane growth registry system, classified by cane variety (*clase de cultivo*), the basis for making production estimates. He was named assistant to Manuel Santisteban, Chief of Cultivation of the Western Division in Santa Isabel. The cane fields were divided into *colonias* or *haciendas*, identified with their name and surface area. When several of these properties were grouped together or leased by Luce & Co., they formed what was known as a division. Divisions were identified by their geographic location, and the management of each consisted of a Chief of Cultivation, his assistant and an irrigation superintendent. Each *colonia* had its scaled supervisory organization, which answered to an administrator or superintendent, who in turn answered to the superior Division management for all agricultural operations. Those in this level of management used vehicles on their jobs, while those from the *colonias* used horses, each having its own stable. In time there came to be 5 divisions: the Eastern Division, part of Guayama; the Western Division, in Santa Isabel; the Central Division, part of Aguirre and Salinas, with lands belonging to Manuel González and Godreau, previous owners of Central Caribe; and the Cortada Division, lands belonging to Central Cortada and Arroyo-Patillas, part of Guayama and lands belonging to Central Lafayette in Arroyo. As part of his duties, *don* José specialized in herbicide management, since Aguirre was a pioneer in its use. Because of his experience, in 1950 he was hired to go to Ingenio San Antonio in Nicaragua to organize the use of them (herbicides). In 1956 he was named Chief of Cultivation for the Western Division, earning $500 a month plus the benefits from Aguirre's Hotel *Americano*. In 1960, he became Chief of Cultivation for the Eastern Division, and lived in the hotel until 1964, when the company obtained a residence for him in Guayama, since there was none available in the company town. Due to the lack of laborers, due to the increase of industries in Guayama, *don* José developed a functional plan for organizing his division, consolidating specialized supervisory positions, substituting the use of horses for vehicles; which improved the efficiency of the field operations, making them more economical. The company adopted this system afterwards. Because of the new company administration at Aguirre in 1967, the Luce & co. management was reorganized and *don* José was named Field Manager, corresponding to the Divisions in Guayama, Arroyo-Patillas and the new Cayey Division. When the Sugar Division closed and the island government expropriated the company in 1970, he went to work with the Puerto Rico Land Authority (*Autoridad de Tierras de Puerto Rico*) in 1971, as Chief of Cultivation for Central La Plata in San Sebastián, and transferred to the Puerto Rico Sugar Corporation (*Corporación Azucarera de Puerto Rico*) in 1973. In 1977 he retired to live in Guayama, and just as all the employees who worked for Aguirre, he remembers his 24 years or work for Aguirre in a special way (Rodríguez y del Toro 1993a: 39-40).

This time period (1928-1947) was the apex of the constructive development of the nominated district. In the Aguirre sector 15 community and service structures were built, such as the Nurses' Residence next to the Hospital, the *Hotel Americano* complex, the Aguirre Golf Course and Country Club, the Theater, the

Garage, the *Club Panamericano* and the *Club Puertorriqueño*, the Post Office and the Ice Cream Plant. In addition, over 35 residential buildings, including additional servants quarters and communal bathroom facilities, were built at this time. In the Montesoria sector, 73 worker residences and 3 *barracones* were built during this period, while in the Hacienda Vieja sector 7 worker residences, 3 managerial residences and 1 gasoline station were built. The industrial sugar mill sector, whose constructive expansion continued up to ca. 1950, saw the building or reconstruction of at least 25 structures and buildings during this period, such as the New Boiler House and its expansion, the *Bagazo* Storage Building, the Electric Shop, the new sugar warehouses #5, #6, and #7 and the reconstruction of #1, #3 and #4, the Sugar Dock, the Carpentry Shop, the hot water, cold water, aqua ammonia and molasses tanks, the General Warehouse, the Caribe Stores Dry Goods warehouse and 4 residential buildings.

The Central Aguirre Sugar Company (1947-1970)

In 1947 Central Aguirre Associates acquired all the assets of Central Aguirre Sugar Company, proceeding to inactivate it. A year later, Central Aguirre Associates changed its name to Central Aguirre Sugar Company. The post-war rising wages stimulated increased mechanization. In 1947 Luce & Co. completed selling most or its bulls (oxen) as it accelerated the purchase of tractors, trucks, and mechanical harvesting equipment. Automotive power replaced the bull-cart as a means of transportation, while new implements, directly connected to tractors and controlled by hydraulic power, began to perform practically all field operations. Aguirre's sugar production for 1947 was 74,629 tons, of which 10,000 were turbinated sugar. Part of this amount must have been left from the previous year's grinding season. (Rodríguez y del Toro 1993a:40 and 1993b:32; Pumarada & Plá 1998:12 and 1999b:32)

The expansion of the company's operations in Puerto Rico continued. In 1947 the company purchased, dismantled and sold neighboring Central Caribe mill, bringing the cane from its land to Central Aguirre for milling. In 1948 the firm invested about one million dollars in properties and equipment. Of this total, $600,000 was divided among a pioneering station for handling bulk sugar; tractors and trucks to replace cattle; and additional buildings, including two "hurricane-proof" warehouses (Nos. 1&2 and No. 2), a new Foundry building and two new repair shops replacing older structures (a Tractor Repair Shop and a Carpentry Shop), and five first class dwellings (Rodríguez y del Toro 1993a:41 and 1993b:32; Pumarada & Plá 1998:12 and 1999b:24).

In 1948, Congress approved the Sugar Act of 1948, which required the U.S. Secretary of Agriculture to determine the amount of sugar to be free for consumption in the continental United States every year. Once this was determined, specific production quotas in the various domestic and foreign production areas were assigned. As a consequence of the Act, Aguirre was assigned a sugar quota for export. By this time, Central Aguirre operated under the jurisdiction of the Public Service Commission (*Comisión de Servicio Público*) and the price of sugar cane was subject to the control of the Commission and the U.S. Department of Agriculture. The salaries paid to the factory workers by Central Aguirre were subject to the regulations of the U.S. Fair Labor Standards Act and the Puerto Rico Minimum Wage Law, while the

field workers' salaries were subject to the regulations imposed by the U.S. Department of Agriculture, in addition to those imposed by the Puerto Rico Minimum Wage Law (Rodríguez y del Toro 1993a:41).

A system for bulk handling of sugar, the first of its kind in the Caribbean, became fully operational in 1949. Of the 1949 crop, Central Aguirre's entire 93,000-ton output, over three-quarters of the company's raw sugar production was shipped in bulk. This system, whose construction had begun in 1947, was designed by James P. Percy, Vice President in charge of engineering, with all the work done by Aguirre employees, and permitted the conveyance of bulk sugar directly from the warehouses to the cargo vessels. The bulk raw sugar was delivered to the dock in railroad cars with 2.5 ton buckets, loaded mechanically by means of overhead chutes. The cars carrying these buckets were then pulled into the dock, where the buckets were dumped directly into the hold of the waiting freighters. In the next two decades, bulk handling of raw sugar, handled by conveyors instead of railroad cars, became standard practice in the Puerto Rican sugar industry (Pumarada & Plá 1998:12-13 and 1999b:24).

The post-war sugar quota, combined with other current conditions, had very ill effects in Puerto Rico. The 1949 quota of 1,914,701 tons left 96,265 tons of over-quota sugar, which could not be marketed until 1950. However, of a quota reallocation of 300,000 tons made in September 26, Cuba, two thirds of whose sugar industry was American-owned, was awarded 204,241 tons. In 1949, Central Aguirre's partly owned New England Alcohol Company changed its name to Nealco-Monsanto Company (Rodríguez y del Toro 1993a:42 and 1993b:33; Pumarada & Plá 1998:13 and 1999b:24).

In 1949 Central Aguirre Sugar Company celebrated its 50th Anniversary. At this time the Company was the second largest producer of raw sugar in the island at 120,429 tons, representing 10% of the island sugar exportations to the United States and 1% of all the sugar imported into the United States. The sugar quota assigned to the company was 110,746 tons for export, with 3,285 tons to be disposed of locally, while the entire sugar quota for the island that year was 1,191,401 tons. The companies that comprised the enterprise were Luce & Co, the largest *colono* (both cane grower and seller) in Puerto Rico, and Central Aguirre Sugar Company. The first one was the proprietor of 50% of *Comunidad Hacienda*

Verdaguer while the second owned the following subsidiaries: Aguirre Corporation of New York, and the Ponce & Guayama Railroad Company. It also was part owner of The Central Machete Company (72.5%) and the Nealco-Monsanto Company (45%). The executive offices where located at 140 Federal Street, Boston, Mass., and the New York City office at 90 Wall Street. Old Colony Trust Co. of Boston and Chemical Bank & Trust of New York acted as transfer agents. Luce & Co. owned sugar cane fields that produced approximately two thirds of the cane milled by the company's *centrales*. That year, Aguirre milled 657,656 tons of cane grown on 15,068 acres owned by Luce & Co., in addition to 334,194 tons for other colonos. During its 50 years in operation, the P&G railroad delivered most of the sugar cane received by the firm's three mills, and transported all the raw sugar produced to the Aguirre dock, and operated 31 miles of rail lines with a rolling stock of 11 locomotives and 798 cars. With traffic almost exclusively limited to cargo, the train handled 746,307 tons of sugar cane that year. In the years following the proportion of cane delivered by trucks and tractor cart trains increased and became dominant in the firm's last three decades (Rodríguez y del Toro 1993a:43; Pumarada & Plá 1998:13 and 1999b:24, 33).

According to the 1950 Census, the population of the district was 2,781. For the first time, the satellite neighboring communities of Coquí and San Felipe appeared in the Census. Coquí, with a population of 1,656, was founded in the 1940's just north of the district by Company field workers, on land donated by Manuel Gonzalez, one of Central Aguirre's largest *colonos*. Factory workers also founded San Felipe in the 1940's (population 597), on land donated by the Company to the northeast of the nominated district. Coquí was a well-planned community, organized on a regular grid around its town square with community and commercial buildings. San Felipe was a more improvised regular grid community, formed mostly with houses relocated from the Montesoria sector that were either sold or granted to their tenants. The total population of Barrio Aguirre, including the three communities, was 9,152 (Rodríguez y del Toro 1993a:45 and 1993b:33).

The Central Aguirre Company influenced the development of satellite communities (Coquí, San Felipe, and Eugene F. Rice) that served as bedroom communities of the Company and eventually as a destination

of the migration that began to occur in the early 1950's. Of the three, Coquí was the largest and the best structured, having civic amenities such as a town square, a school, commercial buildings, and a church. Originally a poor sector with no more than 7 houses when the Americans arrived, Coquí's origins and conditions are described by Angela Vázquez in a 1952 newspaper article (El Mundo) when she was close to 90 years old. In 1948, Central Aguirre had offered to fund the expansion of the Coquí community in order to provide housing for cane workers, in addition to ceding the product of a 250 to 300 *cuerda* bean field to workers in the area in order to provide them at a more affordable price. Originally built on lands donated by Manuel González, one of Aguirre's largest client *colonos*, Coquí was built for Aguirre employees who desired their own houses. San Felipe wasn't organized as formally as Coquí, since it originated when the company sold or gave the holder wooden houses in the oldest sector of Montesoria (in the south) to its inhabitants, with the purpose of relocating them outside the area of the company town. At the time, some of these houses were moved to the Coquí sector. Also, Central Aguirre was directly responsible for the economic and urban growth of neighboring towns like Salinas, Santa Isabel, and Guayama (Rodríguez y del Toro 1993a:45; *El Mundo* newspaper articles: March 16, 1948: p. 4, July 1, 1948: pp. 5 and 24, and June 27, 1952).

Starting in 1950-51, the Company invested over $1.25 million in improvements to keep Aguirre Central's facilities up-to-date and competitive. In 1950, a new high speed tandem with 18 36"x78" rolls was acquired to replace the old Mill Tandem #2, built originally in 1900. It was installed in 1951, together with two new Dorr clarifiers, 6 high speed centrifugals, and one 1000 kW turbo-generator. The Vulcanizing Plant building was also built in 1950. Located north of the Sugar Mill, this metal frame structure covered with galvanized iron sheets, used for recycling the cane cart tires, was one of the first built in the island. The Garage and Fire Station building, located next to the Company's General Offices, was built that year. The Truck Repair Shop, located north of the sugar mill, was also built, a concrete structure used for repair and maintenance of trucks used to move the cut sugar cane from the fields to the sugar mill, assisting the cargo railroad. 31 new rail cars were also bought for the P&G RR. The existing mill's Engineering Office building was built in 1950-51. After the 1930's, the Engineering Office had not only attended field's surveying and planning and the factory, but also the design and construction of

community and housing buildings in the nominated district. They also administered the adjudications of dwellings to tenants and the buildings maintenance. Finally, the improvements also included several new houses in the adjacent company town (Rodríguez y del Toro 1993a:45-46 and 1993b:33-34; Pumarada & Plá 1998:14, 20 and 1999b:25).

Aguirre – 1951 to the present

The last half of the 20th C. saw the progressive decline of the sugar industry in Puerto Rico, which can be seen reflected in the events at Aguirre during that time. While total sugar production reached its second highest and highest historic peaks in 1950 and 1964, respectively, the conditions which had favored its development had been undermined by the variable international sugar market, declining profits and, last but not least, the passing of legislation at both the state and federal level which increasingly limited and controlled the fundamental inequities within the system, vis-à-vis labor and social issues in Puerto Rico.

Thus, during the 1950's the P&G Railroad Co. ceased its passenger operations, limiting its service to moving sugar cane to the Company's sugar mills. This was related to the failure of the island-wide train company, which resulted in the elimination of passenger train facilities throughout Puerto Rico. At the same time, the Company started the partial mechanization of the sugar cane harvest traditionally done by workers. This would progressively reduce the Company's field labor force. In 1953 Central Aguirre established and constructed a Research Laboratory building (*Laboratorio de Investigaciones*, ID#428-8MB), a two story concrete structure just east of the factory. Between 1953 and 1955 *El Vocero - Organo de Central Aguirre Sugar Co.*, the Company's monthly newspaper, was published in the Batey (Rodríguez y del Toro 1993a:46-48 and 1993b:33-34; Pumarada & Plá 1998:20 and 1999b:25).

By 1954, 44 executive employees worked for Central Aguirre Sugar Co. in Puerto Rico, 5 in Boston, and 5 in New York. The Company employed locally an additional 805 classified employees, distributed as follows: 2 in agricultural products, 70 in Central Aguirre's sugar mill, 38 in Central Cortada's sugar mill, 49 in Central Machete's sugar mill, 7 in Aguirre's wharf, 7 in the Engineer's Office, 7 in the Garage, 61 in the General Office, 12 in the Caribe General Store, 9 in the American Hotel, 3 in the Machine Shop, 31 in the Aguirre Hospital, 3 in miscellaneous positions, 488 in Luce & Co. (field workers), and 21 in the P&G Railroad. That year, Eugene R. Rice was elected President of Central Aguirre Sugar Co., occupying the position until June 31, 1965 when he retired after 45 years of service to the Company, although continuing his relationship with the Company as a Trustee (Rodríguez y del Toro 1993a:47-48 and 1993b:35).

In 1958 Central Aguirre Sugar Co. reached an agreement to operate Central Dessalines in Haiti. With this agreement, the Company started expanding its activities to other countries, activity that eventually proved counterproductive. In 1959, the old Hacienda Aguirre mill building, located at the entrance to the Batey, was remodeled to be used by the Company's subsidiary, Casco Sales Agency. Casco Sales distributed heavy agricultural and construction equipment and parts throughout the island. According to the 1960 Census, the population in the district was 1,689; Coquí, 2,088; San Felipe, 833; and the totality of Barrio Aguirre, 8,645. For the first time since the 1899 Census, the population of both the district and the Barrio decreased. The district had 415 census dwellings; Coquí, 445; San Felipe, 197; and the totality in Barrio Aguirre, 1,926 (Rodríguez y del Toro 1993a:49 and 1993b:34). That year, in an effort to diversify their agricultural projects, the Company established an agreement with Libby, McNeil & Libby to cultivate tomatoes to be packed at Libby's local plant. Eventually this venture failed and the local packing plant was closed. In 1967 the Company acquired the majority control of Equipment Services, Inc., reorganizing it with Casco Sales (Rodríguez y del Toro 1993a:48, 53 and 1993b:34-35).

Early in the 1960s, on the initiative of Eugene F. Rice, the Company donated a piece of land north of the district and next to State Road No.3, to establish a middle-class suburban community, mostly for office employees who wanted to own their homes. The grateful residents named the community "Eugene F. Rice" (Rodríguez y del Toro 1993b:35).

In 1962 negotiations were under way for the purchase of Central Guamaní in Guayama. Aguirre's fourth mill, which was purchased just prior to commencement of next year's crop, ground 2,496,000 tons of cane in 1963. To better link the mills, 3 additional Diesel locomotives were purchased to replace 3 obsolete steam engines, keeping the P&G RR's total to 12. The firm's 1964 season rendered it's highest ever total of sugar production: 134,281 tons. However, the following year, 2000 acres of cane fields in Guayama near the Bay of Jobos were expropriated by the government and ceded to Phillips Petroleum for the construction of an oil refinery, in spite of the company's warning of its impact on its economic viability. While Central Guamaní closed down immediately, that same year Central Aguirre Sugar Co. entered an agreement to operate Central San Vicente in the North coast of the island. In 1966 Aguirre was showing

a profit of $1,434,935. While many other Puerto Rican sugar companies were in the red, Aguirre invested $1,146,000 in mechanical cutters and aerial irrigation improvements (Rodríguez y del Toro 1993a:49-50 and 1993b:35).

A description of the continuing housing practices by the company in the 1960's is found in an interview of Dr. Frank Bellaflores:

> Dr. Frank Bellaflores arrived at Central Aguirre to work as the Aguirre Hospital sub-director. The company provided him with a house whose rent was included as part of his salary. When he arrived he was assigned a temporary house whose rent equaled $250.00 a month. One month later he was assigned a two-story concrete residence with a monthly rent of $350.00. At that time, housing rental at Aguirre fluctuated between $250 and $350, and housing was assigned according to the employees' salary. Housing in the Aguirre community was offered completely furnished, although some families preferred having their own furnishings. Any married employee who came overseas to work with the company was provided with the basic and indispensable furnishings for the house they were assigned. These furnishings, including a refrigerator, a stove and a heater, were considered the employee's personal property while he worked for the company, and their repair and upkeep were his responsibility. The electricity used in the company town was generated by the factory, and billed to the residents, while the excess electricity that was generated was sold to the island government. The drinking water supply was free and came from the company wells. Houses were painted alternately every four years, and the practice was to paint the administrative and technical employees' housing in white, and the factory workers' housing in gray. The wooden houses were periodically covered with a tarpaulin and fumigated for termites. Administrative employees were housed in the *Hotel Americano* during the fumigation, while factory workers were accommodated in housing reserved for this purpose. A work brigade under the company's Engineering Department carried this work out, as well as any necessary carpentry, electrical and plumbing repairs, all paid by the company. Trash was collected daily in front of the houses by a company truck. Dr. Bellaflores, as well as other administrative employees, was provided with a company car. His children could obtain an education at the Aguirre Private School up to the eighth grade, after which they had to go to high school in Ponce or Guayama. The company had a fund for loans not exceeding $2,000 over a certain number of years, for children with very good high school grades and whose economic circumstances did not allow them to continue studying. Families could obtain basic staples and food in town. The children of the administrative and technical personnel had access to the company horses on Saturdays, for which they took turns on Thursdays at the Luce & Co. offices. The community had various recreational facilities. They could be members of the Aguirre Golf Club, the Pool, the Jobos Yacht Club or the *Club Panamericano*. The quotas at these were relatively low, and each celebrated a certain number of social activities throughout the year (Rodríguez y del Toro 1993a:50).

Production, peaks and decline

The actual tons of sugar cane milled per day (TMD) increased steadily throughout the century. In 1949 Aguirre milled an average 3,701 TMD, and increased to what was probably the highest in Aguirre history, 6,040 TMD in 1954. After 1954, the tonnage milled started declining, although actual milling capacity

increased to a maximum 7,500 TMD in 1964. Aguirre's actual sugar production did not increase significantly over the last 60 years, as can be seen in the following table:

Year	Sugar Tonnage
1928	79,899
1934	77,096
1949	74,629
1950	81,368
1951	73,017
1952	80,256
1953	73,118
1955	69,978
1956	70,496
1964	88,583

During its peak years, Aguirre's sugar yield in tons of sugar as a percentage of tons of cane milled was always above 10%. For the 1932 harvest and grinding season, Aguirre had the third largest tonnage in the island, 582,808 tons, and sugar production reached 73,188 tons. This is a very good 12.55% yield. However, in 1963 Aguirre produced 72,481 tons of sugar, but had to grind 680,179 tons of cane, for a yield of only 10.66%. Yield is directly related to weather conditions as well as by agricultural practices and transportation. In its decline as a money losing operation, as the field practices and the mill's equipment deteriorated, sugar yields dipped significantly below 9%. The reduction in sugar cane cultivation forced the shut down of mill tandem No. 3 and left an inefficient surplus capacity in the rest of the system. Aguirre's productivity had declined greatly in all measures by the end of its lifetime in 1990 (Pumarada & Plá 1998:21-22 and 1999b:30).

In 1966 the Company contracted consultants to look into the possibilities of sources of income from new uses of locally owned land and for the acquisition of companies outside Puerto Rico. This eventually changed the Company's involvement from sugar production to land development, with various projects being started up throughout the latter years of the decade. A new Board of Trustees, including European, American and Puerto Rican investors, was elected on January 26, 1967, ousting Aguirre's long time managing interests. The profit for the year ending July 31, 1967 was $575,835, the last for the company.

The new administration would lead the Company to major losses that eventually forced the closing of the local sugar operations and focusing on urban land development. On June 30, 1967 the government of Puerto Rico bought Central Fajardo and Central Juncos. With the acquisition of these two sugar mills the government started the acquisition of the island's major sugar mills owned by United States interests. In October, 1967 Central Aguirre Sugar Co. decided to close operations of partly owned Central Machete of Guayama after that year's harvest, and projected the closing of Central Cortada of Santa Isabel after the 1969 harvest (Rodríguez y del Toro 1993a:51-54 and 1993b:35-36).

On January 28, 1968 the Company acquired Industrial Molasses Corporation of Leonia, New Jersey, which distributed sugar molasses internationally and had warehouses in 12 cities around the United States, in Puerto Rico, and in Holland. The Company also renewed an administration contract with Azucarera Tropical Americana, owner of an Ecuadorian sugar mill and 12,000 acres of sugar cane lands. In March 1968 the Company established two new subsidiaries, Irrigation Sales, Inc. and Riego Services, Inc. The new subsidiaries designed, equipped, and supervised the installation and operation of aerial and conventional irrigation systems. Aguirre's engineers developed the island's aerial irrigation system, used and admired all around the World. In May 1968 the Company's Central Cortada in Santa Isabel ceased operations. In October, 1968 Central Aguirre Sugar Co. reached an agreement to buy Port Everglades Steel Corporation in Fort Lauderdale, Florida, and Knappen Molasses Company, Inc. in Augusta, Michigan. Despite all these diversified ventures, in 1968 the Company had a net loss of $3,394,278.00, due in part to the worst drought in island's history and the business ventures outside Puerto Rico. The Boston office was closed and a new executive office was opened in New York City. Local administrative offices where moved from Aguirre to San Juan. In the annual meeting the Company's name was changed to Aguirre Company and the stockholders approved an amendment to the Trusteeship Declaration giving the power to the Company to engage in any commercial, agricultural or industrial enterprise of any description. As a result, the Company diversified, concentrating in non-agricultural land development. In June 18, 1968 the government approved the Company's housing and urban development project, Hacienda Vives. Located on 325 acres southwest of the town of Guayama, the project proposed constructing a 3,500 housing unit, self-sufficient, high-density new town community. For this purpose

the Company organized Vives Development Corp. (Rodríguez y del Toro 1993a:51-54 and 1993b:35-36).

On July 10, 1970, with a net loss of $3,877,295.00, the Board of Trustees voted to close the Company's sugar division as soon as possible, and to find other applications for the land holdings. The Company then sold its Dominican Republic operations and the Industrial Molasses Corp. As if presaging the end, the South Porto Rico Sugar Co. sold Central Guánica to the insular government on July 15, 1970. On September 10, 1970, the Government of Puerto Rico, seeking to preserve agricultural lands and to keep jobs for over a thousand citizens working in Aguirre, began the expropriation of the firm's sugar-producing and agricultural lands, sugar mills, and some other assets, including the P&G Railroad. This move was part of a policy that the government of Puerto Rico put into effect since the existing mills were being closed by their private owners. The Company's offer to the insular government for leasing Central Aguirre's sugar mill and sugar cane fields was met by a lack of interest in leasing, given the suit being followed in court. As part of the expropriation process, the Government of Puerto Rico offered $11 million for the facilities described. The Company didn't accept and filed suit, eventually winning nearly $50 million. The Company received the last payment from the local government in 1976 (Rodríguez y del Toro 1993a:54-55, 59 and 1993b:36-37; Pumarada & Plá 1998:15 and 1999b:26).

At the time of its expropriation, Central Aguirre controlled a total area of 325.953 acres, divided as following: residential areas, 87.68 acres; industrial areas, 47.91 acres; company town streets, 25.42 acres; public and semi-public spaces, 23.47 acres; agriculture, 11.08 acres, commercial, 9.45 acres, and grassland, 120.93 acres. There where 7.25 kilometers of streets, 5.80 kilometers of aqueduct, 2.80 kilometers of sewage, and 6.75 kilometers of electric service. There were a total of 317 buildings, 275 residential and 42 were for community and commercial use. Approximately 90% of the buildings were one story high, 74% were built of wood and corrugated zinc sheet roofing, while the remaining 26% were built out of concrete. The sugar mill produced both raw and turbinate sugar, had a daily milling capacity of 7,500 tons of cane, and all its machinery was modern and efficient, making it the second largest in Puerto Rico after *Central Guánica* (Rodríguez y del Toro 1993a:55-57 and 1993b:37). Mill operations consisted of the following departments:

- Cane Weighing and Unloading
- Milling
- Raw Juice and Clarification
- Filtering
- Evaporators
- Pans and Crystallizers
- Centrifuges
- Sugar Handling and Weighing
- Final Molasses
- Boilers
- Electrical Energy
- Bulk Sugar
- Miscellaneous
- Storage Tanks
- Shops
- Laboratory

The Ponce & Guayama (P&G) Railroad had three 1-meter railway networks operating in 1970. The first, 14 km between Barrio Tuna in Guayama and Central Aguirre's sugar mill; the second, 45 km between Central Aguirre's sugar mill and Barrio Boca Chica in Juana Díaz; and the third, 11 km between Barrio Guásima in Arroyo and the intersection with Line One. They had 10 engines, between 15 to 45 tons, and close to 800 sugar cane cargo cars (Rodríguez y del Toro 1993a:57 and 1993b:37).

At the time, Luce & Co., the subsidiary that controlled the company landholdings, grew sugar cane on the following haciendas or *colonias* in the area between Ponce and Guayama:

Haciendas and *Colonias* under *Central Aguirre* (1970)*

Division	Haciendas
Guayama	Algarrobos
	Santa Elena
	Olimpo
	Vives
	Reunión
	Josefa
	Adela
	Verdaguer
Central	Rovira
	Aguirre
	Esperanza
	Carmen
Santa Isabel	Texidor
	Santiago
	Destino
	Florida
	Paso Seco
Cortada	Altura
	Centro
	Juana Díaz
	Amelia
	Potala

(Rodríguez y del Toro 1993:57-58)

In 1970 the insular government initiated construction, Southwest of the Batey, of the *Central Termoeléctrica Costa Azul*, the island's largest electric generation plant. In 1971 Guamaní Schools, Inc., a private non-profit corporation, was organized to operate Aguirre Private School. They operated until 1984, after which the three school buildings were converted to residential dwellings. Between 1971 and 1975 the Aguirre Sugar Company's Board of Trustees sold most of the remaining land not expropriated by the insular government (Rodríguez y del Toro 1993a:58 and 1993b:37).

On January 29, 1973 the government-owned Puerto Rico Sugar Corporation (*Corporación Azucarera de Puerto Rico*) was created, with the purpose of managing all the expropriated or acquired sugar mills. The Corporation became the administrator of the nominated **Central Aguirre Historic District**, including the sugar mill, the company town, the sugar cane fields, and the P&G Railroad. That same year the

Corporation made a building survey of Central Aguirre holdings. The survey identified 279 residential buildings in the district. Of these, current Central Aguirre employees rented only 90, while persons not employed by Central Aguirre rented 73, and 6 were rented to particulars. Of the 73 occupied by persons not currently employed by Central Aguirre, 18 were ex-employees, 28 were retired employees, 8 were widows of employees, and 19 had never been employed by Central Aguirre. There where 16 clandestinely-built dwellings and commercial buildings. On the lands owned by Luce & Co. there where 146 existing residential buildings: 100 were occupied by employees, 36 by particulars, and 10 were vacant. Of the 36 occupied by particulars, 28 were ex-employees, 5 were retired employees, 2 were widows of employees, and 1 had never been an employee (Rodríguez y del Toro 1993a:58-59 and 1993b:37).

Around 1974, *Proyecto Aguirre* was initiated in an effort by the government to solve most of the Central Aguirre community's existing socioeconomic problems. As part of this project, a study was done to determine the direction the company town should follow. Among the recommendations of this study were that residential properties and the lots around them be sold or transferred to the people living in them, and that the hospital, hotel and restaurant, schools and recreational facilities such as the swimming pool, plazas and parks, etc., should be transferred to the appropriate insular agencies for their maintenance or reuse. In 1977 the insular government segregated a parcel of land in the northwest area of the district, dividing it into lots to be distributed among poor people of the area. The community formed was named Montesoria II. Although containing some resources that are within the nominated district, the general area lost its architectural continuity and quality, since no guidelines were provided for the privately built dwellings in the new community (Rodríguez y del Toro 1993a:59-60 and 1993b:37-38).

In March 8, 1977 Aguirre Sugar Company's Trustees decided to liquidate the Company and divide the product among the stockholders. By 1977 the government owned Central Aguirre, and employed 411 permanent employees and an additional 4,191 part-time employees during the harvest season. Of the 411 permanent employees, 223 were field employees, 69 factory workers, and 119 administrative employees. Of the 4,191 temporary employees, 3,458 were field workers, 670 factory workers, and 63 administrative

employees. Between 1977 and 1983 the Company was liquidated, ending the history of one of the island's best, if not the best, agricultural enterprise, representative of the now almost disappear sugar industry of Puerto Rico (Rodríguez y del Toro 1993a:59-60 and 1993b:37).

In 1980 the property lots of the residential structures within the Montesoria sector were formally delimited and segregated, and later transferred to the local Rural Housing Administration for their distribution. In 1984 the P.R. Sugar Corporation authorized the disposition of the community properties, and existing Company-built houses where sold to their tenants for a symbolic amount of money. According to the 1980 Census the population of the district at the time was 1,049; of Coquí, 3,018; and of the totality of Barrio Aguirre, 8,772 (Rodríguez y del Toro 1993a:60 and 1993b:38).

In 1988, the Puerto Rico Legislature approved Joint Resolution No. 51, authorizing and ordering the Puerto Rico Sugar Corporation (*Corporación Azucarera de Puerto Rico*) to sell the dwellings in the Aguirre community to their tenants for the nominal price of $1. Due to wide opposition outside Aguirre and inherent problems, the resolution was not implemented. Operating the mill at a consistent loss, little by little the government-owned Sugar Corporation, sold tracts of land, abandoned fields, canals and rail spurs, but continued operating the Central Aguirre sugar mill until April 15, 1990. Since then, the mill and its rail system have been undergoing a piecemeal dismantling process. Abandoned facilities are being rented or allowed to deteriorate. The more modern machinery and other facilities are often sold or taken away to the few mills remaining in operation (Rodríguez y del Toro 1993a:60-61 and 1993b:38).

With the mill and its lands managed at a loss by the governmental Puerto Rico Sugar Corporation, the government little by little sold tracts of land, abandoned fields, canals and rail spurs, but it continued operating Central Aguirre. In April 15, 1990 unable to continue, Central Aguirre's sugar mill ceased operations 91 years after having been established. At the moment of the mill's closing, only four sugar mills were operating in the island. Since then, the mill and its rail system have been undergoing a piecemeal dismantling process. At present, a small part of the original sugar cane fields are still being cultivated, the sugar mill remains closed although most of the ancillary installations are been used by the

Corporación Azucarera or by the private sector. Abandoned facilities are being rented or allowed to deteriorate. The more modern machinery and other facilities have mostly been sold or taken away to the few mills remaining in operation. Only the memory remains of the soundly and aromatic factory, as one local journalist wrote, "...Today, as old machinery rots, the vehicles rust and the buildings grow shabby, it is said that on a calm night, if one listens carefully, the clear sound of cane being crushed can be heard in the land" (Rodríguez y del Toro 1993a:60-61 and 1993b:38; Pumarada & Plá 1998:15 and 1999b:26).

On March 12, 1991 the local Legislature approved Joint Resolution No. 1922 with the purpose of repealing Joint Resolution No. 51 and ordering the preparation of a study to propitiate the preservation and development of Aguirre. Once the study was effected, appropriate measures would be taken in relation to the existing structures, with the purpose in mind of disposing of them by leasing or outright sale, taking into account, amongst other things, the housing needs of Aguirre's former employees. To this date, this study has not been commissioned (Rodríguez y del Toro 1993a:61 and 1993b:38).

In 1992, the first phase of the project known as *Tren del Sur* was implemented. This project proposed to restore the railroad service between Arroyo and Ponce in stages, on what were formerly Aguirre's Ponce & Guayama Railroad Co. lines, close to 70 kilometers. The project had the backing of the Puerto Rico Lands Administration, the now-defunct Puerto Rico Sugar Corporation and the Puerto Rico Department of Agriculture. The first phase focused on restoring the engines and converting railcars into passenger cars, in addition to clearing the lines between Aguirre and the town of Salinas. This equipment came from the Aguirre, Fortuna and Mercedita *centrales* and totaled six operational diesel locomotives in its first phase. Unfortunately, the project was abandoned (Rodriguez y del Toro 1993a:61).

In the last ten years, Aguirre has been subject to various proposals and projects, of which most have not materialized. Of those that have, the use of Sugar Warehouses #1&2 for a tire recycling concern, together with the old Caribe Stores General Warehouse, still continues, although a recent fire damaged the structure seriously. However, the general neglect of these properties and the passage of time have allowed the nominated district to deteriorate further, while as recently as 1999, the industrial sector was the subject of a proposal to reuse its buildings for a vocational training school, without consideration of

its historic value. In the meantime, the residents of the district are still struggling with obtaining title to their properties, which they have not obtained despite the ill informed and incoherent government initiatives towards that goal. Sadly, the few isolated facts related to the nominated district that are known to the general public do little more than attract a certain regretful sympathy, which appears to be a barely subconscious response to the unique history represented, and witnessed, by the nominated district.

Central Aguirre Production, 1900-1970*

Year	Capital	Net Income	Sugar (Tons)	Molasses (Gals.)	Company Name
1900	$ 525,000	$ 14,280	----	NA	Central Aguirre Syndicate
1901	900,000	123,122	6,103	NA	Ibid
1902	1,320,000	92,398	9,206	NA	Ibid
1903	1,500,000	102,569	13,280	NA	Ibid
1904	1,907,000	187,497	16,871	NA	Ibid
1905	2,000,000	558,536	22,272	NA	Central Aguirre Sugar Companies
1906	2,000,000	284,754	27,745	NA	Ibid
1907	2,000,000	120,039	16,278	NA	Ibid
1908	2,000,000	26,249	11,241	NA	Ibid
1909	2,000,000	228,439	18,695	NA	Ibid
1910	2,750,000	544,908	30,083	NA	Ibid
1911	3,000,000	51,775	24,070	NA	Ibid
1912	3,000,000	151,532	26,195	NA	Ibid
1913	3,000,000	208,550	28,033	NA	Ibid
1914	3,000,000	180,199	27,100	NA	Ibid
1915	3,000,000	1,109,953	32,050	NA	Ibid
1916	3,000,000	1,799,755	39,690	NA	Ibid
1917	3,000,000	2,027,403	49,049	NA	Ibid
1918	3,000,000	1,325,070	47,117	NA	Ibid
1919	3,000,000	723,673	44,682	NA	Central Aguirre Sugar Company
1920	3,000,000	5,194,052	51,911	NA	Ibid
1921	3,000,000	1,209,601	61,049	NA	Ibid
1922	3,000,000	718,998	56,458	NA	Ibid
1923	3,000,000	2,032,576	50,852	NA	Ibid
1924	3,000,000	659,188	45,975	NA	Ibid
1925	3,000,000	1,382,072	88,188	NA	Ibid
1926	3,600,000	1,060,247	80,890	NA	Ibid
1927	3,600,000	2,449,597	94,675	NA	Ibid
1928	3,600,000	2,755,097	122,564	NA	Central Aguirre Associates
1929	3,600,000	243,165	77,669	NA	Ibid
1930	3,600,000	1,727,180	125,644	NA	Ibid
1931	3,600,000	1,087,422	105,289	NA	Ibid
1932	3,600,000	1,164,887	124,071	NA	Ibid
1933	3,600,000	1,401,993	121,600	NA	Ibid
1934	3,766,370	2,197,040	130,240	NA	Ibid
1935	3,766,480	1,580,847	111,451	NA	Ibid
1936	3,766,635	2,545,473	103,400	NA	Ibid
1937	3,766,715	2,647,043	124,611	NA	Ibid
1938	3,766,775	2,242,351	121,976	NA	Ibid

Year	Capital	Net Income	Sugar (Tons)	Molasses (Gals.)	Company Name
1939	3,766,820	1,572,690	89,510	NA	Ibid
1940	3,766,870	1,202,596	101,157	NA	Ibid
1941	3,766,870	1,515,822	93,738	NA	Ibid
1942	3,766,870	1,839,710	107,438	NA	Ibid
1943	3,766,870	1,639,458	107,879	NA	Ibid
1944	3,766,870	930,687	78,571	NA	Ibid
1945	3,766,870	1,029,093	94,071	NA	Ibid
1946	3,766,870	719,174	84,718	NA	Ibid
1947	3,766,870	2,103,672	107,774	NA	Ibid
1948	3,766,870	791,279	96,508	NA	Central Aguirre Sugar Company
1949	3,766,870	1,369,294	120,429	NA	Ibid
1950	3,766,870	2,111,823	133,290	NA	Ibid
1951	3,766,870	2,489,059	122,214	NA	Ibid
1952	3,766,870	1,932,922	125,610	NA	Ibid
1953	3,766,870	1,615,723	112,413	NA	Ibid
1954	3,766,870	1,227,750	112,184	NA	Ibid
1955	3,766,870	901,072	107,565	NA	Ibid
1956	3,766,870	1,354,392	107,972	NA	Ibid
1957	3,766,870	1,822,987	111,601	NA	Ibid
1958	3,766,870	1,039,429	110,369	7,525,168	Ibid
1959	3,766,870	1,902,051	129,655	5,942,718	Ibid
1960	3,766,870	901,977	108,845	5,942,718	Ibid
1961	3,766,870	1,614,756	128,014	7,219,721	Ibid
1962	3,766,870	840,297	109,159	5,809,942	Ibid
1963	3,766,870	2,100,506	125,862	6,983,186	Ibid
1964	3,766,870	2,149,307	134,281	8,184,887	Ibid
1965	3,766,870	338,049	116,278	7,736,908	Ibid
1966	3,766,870	1,434,935	125,622	8,830,621	Ibid
1967	3,766,870	575,835	121,842	8,165,118	Ibid
1968	3,766,870	[3,394,278]	81,433	5,737,802	Ibid
1969	3,766,870	[7,588,305]	55,273	5,338,449	Ibid
1970	3,766,870	[3,977,295]	73,268	7,589,608	Ibid

*(As cited in Rodríguez y del Toro 1993a:44-45)

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GEOGRAPHICAL DATA

VERBAL BOUNDARY DESCRIPTION

The **Central Aguirre Historic District** is defined by the following boundaries:

To the **NORTH**, the boundary line begins at the NW corner of the district (Point A, see UTM References, (Sect. 10, p. 5) and USGS location map), running to the southeast for about 150 meters, parallel to the dirt access road at a distance of 10 meters to the north of said road, until reaching a point 10 meters to the west of the palm-lined entrance road to the district. From this point the boundary line runs north along the entrance road for about 600 meters, at a distance of 10 meters west of said road, until reaching the end of the palm trees lining the road. From this point, the boundary line heads east, crossing the entrance road to a point 10 meters east of said road (Point B, see UTM References (Sect. 10, p. 5) and USGS location map). From this point, the boundary line runs south for about 600 meters, running parallel to the entrance road at a distance of 10 meters to the east, until reaching a point 10 meters to the north of the dirt access road just north of the eastbound rail line. From this point the boundary proceeds southeast for a distance of about 200 meters, and then turns east for over 300 meters, running parallel to the dirt access road at a distance of 10 meters north of said road as it leaves the railroad tracks, until intersecting another dirt access road from the north (NE corner of the district, Point C, see UTM References (Sect. 10, p. 5) and USGS location map).

To the **EAST** by an imaginary line running south and southeast from the NE corner of the district (Point C, see UTM references (Sect. 10, p. 5) and USGS location map) for about 400 meters, running parallel to the dirt access road as it crosses the eastbound railroad line to the east of the rail line junction, until the point where the dirt access road again meets the railroad tracks and heads southeast and south, at a distance of 10 meters to the east of said access road, for about 600 meters until a point 10 meters to the north of another dirt access road running east-west. From this point the boundary line heads east, parallel to said access road, for a distance of about 100 meters, at which point it turns south for about 50 meters, crossing the access road until reaching the Jobos Bay shoreline, approximately 25 meters to the east of

Aqua Ammonia Tank #5 (SE corner of district, point D, see UTM references, Sect. 10, p. 5, and USGS location map).

To the **SOUTH,** by the Jobos Bay shoreline, beginning from the SE corner of the district (Point D, see above) and running southwest along the shoreline for about 400 meters, until reaching the base of the Sugar Dock (ID#462-000), from where it heads south for 300 meter along the eastern edge of the Sugar Dock, until reaching the end of the dock (southernmost point of the district, Point E, see UTM References (Sect. 10, p. 5) and USGS location map). Crossing to the east edge of the dock, the boundary line runs north for 300 meters until meeting the Jobos Bay shoreline, from where it runs west-southwest for about 400 meters, until reaching a point where the fenceline separating the industrial warehouse and Montesoria sectors reaches the shoreline (SW corner of the district, Point F, see UTM references, Sect. 10, p. 5, and USGS location map).

To the **WEST**, the boundary line runs from the SW corner (Point F, see above) to the northwest, northeast and then northwest along the fenceline separating the industrial warehouse and Montesoria sectors for about 150 meters, reaching the southern edge of 4th Street, at the point where 5th Street intersect it and ends. From this point the boundary line runs west-southwest along 4th Street until reaching the intersection with Avenue E, from where it runs north-northwest along the west edge of Avenue E until it reaches 6th Street, from where it runs west-southwest along the southern edge of 6th Street, until reaching the property line dividing Montesoria and the Aguirre Thermoelectric Plant, at the western end of 6th Street. From here the boundary line runs northwest along the property line between Montesoria and the Aguirre Thermoelectric Plant until reaching the northern edge of 8th Street, from where it continues northwest and then west-southwest along the property line between the Aguirre Golf Course (ID#344-000) and the Thermoelectric Plant until reaching the southwestern-most point of the Aguirre Golf Course (Point G, see UTM References (Sect. 10, p. 5) and USGS location map). From here the boundary line heads north for about 450 meters until reaching the northwestern-most point of the Golf Course (Point H, see UTM References (Sect. 10, p. 5) and USGS location map). From this point the boundary line runs east along the northern limit of the Golf Course until reaching the western property line of the properties

just north of the Golf Course grounds, from where it runs northeast, southeast, north, west, north (as it crosses the Old Street), east and north along the property lines of the buildings to the north of the Golf Course, until reaching the western edge of Central Avenue, from where it runs for about 400 meters north along Central Avenue (excluding the post-1980 residential development called Montesoria II from the nominated historic district), at which point it turns west, reaching a point approximately 25 meters southwest of a worker's residence (ID#326-1070), from where it heads north-northwest for about 250 meters to a point about 25 meters to the west of the westernmost building associated with the old Sugar Mill (ID#370-1001). From this point the boundary line runs northwest for about 100 meters, crossing the westbound railroad tracks and dirt access road just north of the tracks, and ending at a point 10 meters to the north of said access road, at the NW corner of the district (Point A, see above, UTM References (Sect. 10, p. 5) and USGS location map).

BOUNDARY JUSTIFICATION

The area delineated corresponds to the entire built area of Central Aguirre and its company town, including the entrance road and the old sugar hacienda area to the north, the Aguirre Golf Course to the west, the residential Montesoria sector (excluding the area almost completely impacted by new development since the 1980's) to the southwest, the industrial Central sector (including the entire sugar mill and transportation complexes) to the south and east, and the Aguirre managerial residential sector roughly in the center of the nominated district. This area incorporates most of the area dominated by the activities of the Central Aguirre Company as relates to the initial acquisition and utilization of the old Hacienda Aguirre lands and facilities, the establishment of the new, industrialized mill and its complete development throughout the 20th C., as well as the establishment and development of the company town and related facilities, the rail and road transportation system, and the maritime shipping facilities for sugar exportation.

The northern boundary described was selected because it represents the limit of the natural or manmade landscaping elements that framed the setting of the district as it was established and developed since 1899 (although possibly earlier), through the mill's closure in 1990, and still evokes a strong sense of place and

setting in the present time. The use of the entrance road, and the access roads to the east and west of it, provides a logical and reasonable boundary for these elements.

The western boundary described was selected since it represents the limits of the constructed area related to the development of the Hacienda Vieja and Aguirre residential sectors, including the Golf Course, from 1899 to 1964, the last date of construction for that sector. Exception to this are eight properties (7 contributing and one non-contributing) to the west of Central Avenue and north of the *Club Panamericano*, which have been subsumed into a relatively large, recent residential development in this area since the 1970's and 1980's, known as Montesoria II. South of the Golf Course, the western boundary is defined by the clear division between the Aguirre Thermoelectric Power Plant (built ca., 1965) and the Montesoria residential sector, of which the Aguirre Power Plant impacted some 4 acres when it was built, down to the Jobos Bay shoreline. In addition, the boundary described excludes the section of Montesoria affected by demolition in the 1970's and new construction since the 1980's, where only 3 structures out of a current total of 60 remain from the early to mid 20th C construction in the area associated with the Central Aguirre Company.

The southern boundary described was selected given the historic significance that the proximity to Jobos Bay had in determining the acquisition of the old Hacienda Aguirre and the establishment and intensive technological development of the industrial sugar mill throughout the 20th C. (including the wharf and storage tank area), as well as being a natural and historic boundary for the district.

The eastern boundary described was selected given the extent of the district's industrial sector (including the sugar mill and transportation complexes), as well as selecting currently existing dirt access roads which coincide with known early to mid- 20th C access roads as the "natural" boundaries for the district, separating the sugar mill production and transportation activity areas from the strictly agricultural character of the surrounding lands which stretch to the east and north of these access roads.

NOTE:

All the maps generated as part of this nomination, except for the USGS topographic quadrangle, were produced by the Geographic Information System (GIS) project in the PRSHPO, using the ArcView™ program by ESRI, Inc. Base maps generated on paper for the 1993 PRSHPO-funded survey were scanned into a computer and manipulated, adding data from the 1993, 1998, 1999 and 2000 surveys and site visits, elements of the digital basemap coverage (topography, hydrography, roads, municipal boundaries) and aerial photography of the nominated district area. Information requirements regarding the district boundaries, photography, roads, and contributing vs. non-contributing properties within the district were used as guides for generating the maps accompanying this nomination, which were generated in 11" x 17" format for ease of use and reference, in addition to the large-scale property key plan (36"x 48"). Our thanks and appreciation to Jossie Y. Correa and Vanessa Ortiz, GIS specialists assigned to this project, for their work in producing these maps.

PROPERTY LIST

#	SURVEY#	CLASSIFICATION (& comments)	MATERIALS (Roof/Walls/Floor)	SECTOR	CATEGORY	YEAR	CONTRIBUTING // NON-CONTRIBUTING
1	001-065	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1906	C
2	002-064	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1906	C
3	003-110	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1963	NC (date)
4	004-106	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
5	005-094	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1948	C
6	006-072	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1948	C
7	007-085	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1930	C
8	008-076	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1921	C
9	009-074	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1916	C
10	010-073	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1916	C
11	011-113	Managerial Residence	Concrete/Concrete/Tile & Wood	Aguirre	Building	1953	NC (date)
12	012-168	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1955	NC (date)
13	013-182	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1961	NC (date)
14	014-061	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1907	C
15	015-090	Managerial Residence (last wood managerial res. built in Aguirre)	Zinc/Wood/Wood	Aguirre	Building	1938	C
16	016-059	Managerial Residence (Administrator's House, *Casa Grande*)	Asbestos tile/Wood//Wood	Aguirre	Building	1900	C
17	017-000	Servants Quarters (in Administrator's House lot)	Zinc/Wood/Wood	Aguirre	Building	1909	C
18	018-080	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1926	C
19	019-087	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1930	C
20	020-086	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1930	C
21	021-058	Vacant Lot (prev. site of managerial res., demol.)	----/----/----	Aguirre	Site	1902	NC (ruins/demol.)
22	022-057	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1907	C
23	023-056	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1904	C
24	024-055	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1904	C
25	025-054	Managerial Residence	Zinc/Wood/ Wood & Concrete	Aguirre	Building	1904	C
26	026-173	Managerial Residence	Concrete/Concrete/Concrete & Mosaic	Aguirre	Building	1959	NC (date)
27	027-172	Managerial Residence	Concrete/Concrete/Concrete & Mosaic	Aguirre	Building	1959	NC (date)
28	028-171	Managerial Residence	Concrete/Concrete/Concrete & Mosaic	Aguirre	Building	1959	NC (date)
29	029-170	Managerial Residence	Concrete/Concrete/Concrete & Mosaic	Aguirre	Building	1959	NC (date)
30	030-100	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
31	031-099	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
32	032-098	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
33	033-097	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
34	034-096	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
35	035-010	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1938	C
36	036-008	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1936	C
37	037-006	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1934	C
38	038-004	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1932	C
39	039-002	Residence (repl. prev. managerial wooden res.)	Concrete/Concrete/Concrete	Aguirre	Building	c.1992	NC (no sig.)
40	040-075	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1917	C
41	041-068	Managerial Residence	Concrete/Concrete/Concrete & Wood	Aguirre	Building	1940	C
42	042-052	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1904	C

PROPERTY LIST

#	SURVEY#	CLASSIFICATION (& comments)	MATERIALS (Roof/Walls/Floor)	SECTOR	CATEGORY	YEAR	CONTRIBUTING // NON-CONTRIBUTING
43	043-051	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1904	C
44	044-009	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1937	C
45	045-011	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1923	C
46	046-013	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1906	C
47	047-019	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1907	C
48	048-169	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1955	NC (date)
49	049-023	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1904	C
50	050-025	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1926 (1925)	C
51	051-088	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1934	C
52	052-079	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1927	C
53	053-078	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1922	C
54	054-077	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1922	C
55	055-176	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1961	NC (date)
56	056-177	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1961 (1960)	NC (date)
57	057-178	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1961	NC (date)
58	058-179	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1961	NC (date)
59	059-180	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1963	NC (date)
60	060-181	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1964	NC (date)
61	061-175	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1961	NC (date)
62	062-093	Managerial Residence	Concrete/Concrete/Concrete & Mosaic	Aguirre	Building	1948	C
63	063-092	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1948	C
64	064-091	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1948	C
65	065-069	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1944	C
66	066-060A	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
67	066-060B	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
68	066-060D	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1950	C
69	066-060C	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1950	C
70	067-083	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1929	C
71	068-081	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1928	C
72	069-071	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1912	C
73	070-028	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1912	C
74	071-026	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1928	C
75	072-931	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
76	073-933	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
77	074-935	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
78	075-E93	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
79	076-E96	Worker's Residence (repl. prev. 1937 wood res.)	Zinc/Concrete/Concrete	Montesoria	Building	c.1985	NC (no sig.)
80	077-E94	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	1937	C
81	078-937	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937 (1938)	C
82	079-939	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
83	080-943	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
84	081-945	Worker's Residence	Zinc/Wod/Concrete	Montesoria	Building	1938	C
85	082-947	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
86	083-949	Worker's Residence (altered)	Zinc Wood Concrete	Montesoria	Building	1938	NC, altered

PROPERTY LIST

#	SURVEY#	CLASSIFICATION (& comments)	MATERIALS (Roof/Walls/Floor)	SECTOR	CATEGORY	YEAR	CONTRIBUTING // NON-CONTRIBUTING
87	084-951	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
88	085-953	Worker's Residence	Concrete/Concrete/Concrete	Montesoria	Building	1939	C
89	086-955	Worker's Residence	Concrete/Concrete/Concrete	Montesoria	Building	1939	C
90	087-956	Worker's Residence	Concrete/Concrete/Concrete	Montesoria	Building	1939	C
91	088-954	Worker's Residence	Concrete/Concrete/Concrete	Montesoria	Building	1939	C
92	089-950	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
93	090-948	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
94	091-946	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
95	092-944	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
96	093-942	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
97	094-940	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
98	095-938	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
99	096-936	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
100	097-E87	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1921	C
101	098-000	Residence	Concrete/Concrete/Concrete	Aguirre	Building	c.1992	NC (no sig.)
102	099-024A	Managerial Residence (partially demol. wooden bldng)	----/----/----	Aguirre	Site	1904	NC (demol.)
103	099-024B	Managerial Residence	Zinc/Wood/Wood	Aguirre	Building	1904	C
104	100-022	Residence (repl. prev. 1904 wood managerial res., demol. 1973)	Zinc/Wood & Concrete/Concrete	Aguirre	Building	c.1985	NC (no sig.)
105	101-095	Managerial Residence	Concrete/Concrete/Tile	Aguirre	Building	1950	C
106	102-018	Residence (repl. prev. res., empty lot in 1982)	Concrete/Concrete/Concrete	Aguirre	Building	c.1985	NC (no sig.)
107	103-016	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1904	C
108	104-014	Managerial Residence	Concrete/Concrete & Wood/Concrete	Aguirre	Building	1939 (1940)	C
109	105-012	Managerial Residence	Concrete/Concrete/Concrete	Aguirre	Building	1939	C
110	106-010	Managerial Residence	Zinc/Wood/Wood & Concrete	Aguirre	Building	1904 (1933)	C
111	107-B76	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
112	108-B74	Worker's Residence	Zinc/Woo/Wood & Concrete	Montesoria	Building	1904	C
113	109-706	Worker's Residence (pre-1937)	Zinc/Wood/Wood & Concrete	Montesoria	Building	c.1923	C
114	110-B68	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1937	C
115	111-711A	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1920 (1934)	C
116	111-711B	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1920 (1934)	C
117	111-711C	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1920 (1934)	C
118	111-711D	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1920 (1934)	C
119	112-000	Residence (replaces demol. part of bldg.#711)	Concrete/Concrete/Concrete	Montesoria	Building	c.1993	NC (no sig.)
120	113-C72	Managerial Residence	Concrete/Concrete & Wood/Concrete	Aguirre	Building	1941	C
121	114-C70	Managerial Residence	Concrete/Concrete & Wood/Concrete	Aguirre	Building	1941	C
122	115-715	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1923	C
123	116-719	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1922	C
124	117-D73	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1920	C
125	118-D75	Worker's Residence	Zinc/Wood/Wood& Concrete	Montesoria	Building	1920	C
126	119-D77	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1924	C
127	120-D82	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1923	C
128	121-825	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1921	C
129	122-827	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1921	C

PROPERTY LIST

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130	123-829	Residence (repl. prev. 191/41/64 worker's wood res.)	Zinc/Wood/Concrete	Montesoria	Building	c.1990	NC (no sig.)
131	124-831	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1921	C
132	125-833	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1921	C
133	126-835	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1921	C
134	127-836	Residence (repl. prev. 1927/50 worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1992	NC (no sig.)
135	128-834	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1921	C
136	129-832	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1921	C
137	130-830	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1921	C
138	131-828	Worker's Residence	Zinc/Wood/Concrete (descr. from photo)	Montesoria	Building	1921	C
139	132-826	Worker's Residence	Zinc&Concr./Wood&Concr./Wood&Concr.	Montesoria	Building	1921	C
140	133-824	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1921	C
141	134-D76	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1920	C
142	135-D74	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1920	C
143	136-D72	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1917	C
144	137-725	Residence (repl. prev. 1927/55 worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1992	NC (no sig.)
145	138-727A	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
146	138-727B	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
147	139-729A	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
148	139-729B	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
149	140-731A	Worker's Residence (altered, balcony and room added)	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
150	140-731B	Worker's Residence (altered, balcony and room added)	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
151	141-733	Worker's Residence (twin house with –734)	Zinc/Concrete/Concrete	Montesoria	Building	1927	C
152	142-735	Worker's Residence (twin house with –736, wood add.)	Zinc/Concrete/Concrete	Montesoria	Building	1930	C
153	143-E77	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	c.1921	C
154	144-841	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1938	C
155	145-843	Residence (repl. prev. 1937 worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1985	NC (no sig.)
156	146-845	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
157	147-847	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
158	148-849	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
159	149-851	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937	C
160	150-853	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	1939	C
161	151-855	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	1939	C
162	152-857	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	1939	C
163	153-859	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	1939	C
164	154-975	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1931	C
165	155-856	Worker's Residence	Zinc/Wood/Concrete	Montesoria	Building	1937 (1939)	C
166	156-854	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1931	C
167	157-F76	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
168	158-F75	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930 (1939)	C
169	159-846	Worker's Residence (altered, balcony added)	Zinc/Wood/Concrete	Montesoria	Building	1930	C
170	160-844	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1930 (1937)	C
171	161-842	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
172	162-E76	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
173	163-E74	Worker's Residence (balcony partially destroyed)	Zinc/Wood/Wood	Montesoria	Building	1930	C

PROPERTY LIST

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174	164-736	Worker's Residence	Zinc/Concrete/Concrete	Montesoria	Building	1930	C
175	165-734	Worker's Residence (twin house, additions)	Concrete/Concrete/Concrete	Montesoria	Building	1929	C
176	166-732A	Residence (repl. prev. 1929 twin worker's concrete res.)	Concrete/Concrete/Concrete	Montesoria	Building	1993	NC (no sig.)
177	166-732B	Residence (repl. prev. 1929 twin worker's concrete res.)	Concrete/Concrete/Concrete	Montesoria	Building	1993	NC (no sig.)
178	167-730A	Worker's Residence (twin house, wooden addition)	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
179	167-730B	Worker's Residence (twin house, wooden addition)	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
180	168-728A	Worker's Residence (twin house)	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
181	168-728B	Worker's Residence (twin house)	Zinc/Concrete/Concrete	Montesoria	Building	c.1927	C
182	169-726	Residence (repl. prev. c.1920 worker's wood res.)	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
183	170-000	Residence	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
184	171-D65	Residence (repl. prev. 1920 worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1990	NC (no sig.)
185	172-720	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1922 (1927)	C
186	173-718	Worker's Residence (police station/housing until 1973)	Zinc/Wood/Wood & Concrete	Montesoria	Building	1922	C
187	174-716	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1923	C
188	175-714	Managerial Residence	Concrete/Concrete & Wood/Concrete	Aguirre	Building	1930	C
189	176-C66	Worker's Residence (concrete balcony added)	Concrete/Concrete/Concrete	Montesoria	Building	1941 (1940)	C
190	177-C64	Worker's Residence	Concrete/Concrete & Wood/Concrete	Montesoria	Building	c.1941	C
191	178-615	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1918	C
192	179-617	Residence (repl. prev. c.1918 worker's wooden res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1992	NC (no sig.)
193	180-D61	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1920	C
194	181-D63	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1926	C
195	182-D64	Residence (repl. prev. undated worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1992	NC (no sig.)
196	183-000	Residence	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
197	184-625	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1920	C
198	185-627	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1912	C
199	186-629	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1912	C
200	187-631	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1918	C
201	188-633	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1918	C
202	189-E63	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1920	C
203	190-E65	Worker's Residence (balcony added to façade)	Zinc/Wood/Wood & Concrete	Montesoria	Building	c.1929	C
204	191-E72	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
205	192-739	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
206	193-741	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
207	194-743	Worker's Residence (concrete verandah added)	Zinc/Wood/Wood	Montesoria	Building	1930	C
208	195-745	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1930	C
209	196-F71	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
210	197-F73	Worker's Residence (concrete balcony)	Zinc/Wood/Wood	Montesoria	Building	1939	C
211	198-F74	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1930	C
212	199-F72	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1930	C
213	200-753	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1931	C
214	201-755	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1931	C
215	202-G73	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1931	C
216	203-G71	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1931	C
217	204-758	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1931	C

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#	SURVEY#	CLASSIFICATION (& comments)	MATERIALS (Roof/Walls/Floor)	SECTOR	CATEGORY	YEAR	CONTRIBUTING // NON-CONTRIBUTING
218	205-756	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1931	C
219	206-754	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1931	C
220	207-752	Residence (repl. prev. 1920 worker's wood res.)	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
221	208-750	Residence (repl. prev. 1929 worker's wood res.)	Zinc/Wood/----	Montesoria	Building	c.1985	NC (no sig.)
222	209-F65	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
223	210-74B	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
224	211-746	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
225	212-744	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
226	213-742	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
227	214-740	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
228	215-738	Residence (repl. prev. 1929 worker's wood res.)	Concrete & Zinc/Concrete & Wood/ Concr.	Montesoria	Building	c.1985	NC (no sig.)
229	216-E66	Residence (repl. prev. worker's wood res.)	Zinc/Wood/Concrete	Montesoria	Building	ND (no date)	NC (altered)
230	217-639	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1918 (1928?)	C
231	218-641	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
232	219-643	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
233	220-645	Residence (repl. prev. 1929 worker's wood res.)	Zinc/Wood & Concrete/Wood	Montesoria	Building	c.1990	NC (no sig.)
234	221-647	Residence (repl. prev. 1929 worker's wood res.)	Zinc/Concrete & Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
235	222-649	Residence (repl. prev. 1929 worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1992	NC (no sig.)
236	223-651	Restaurant & Bar	Zinc/Wood/Concrete	Montesoria	Building	ND (no date)	NC (date)
237	224-F63	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
238	225-F64	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
239	226-653	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
240	227-655	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
241	228-657	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
242	229-659	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1929	C
243	230-661	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1932	C
244	240-632	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1912	C
245	241-628	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1912	C
246	242-626	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1912	C
247	243-D56	Residence (repl. prev. c.1912 worker's wood res.)	Zinc/Wood/Wood	Montesoria	Building	c.1985	NC (no sig.)
248	244-000	Residence (repl. prev. worker's res., demol. pre-1960)	Concrete/Concrete/Concrete	Montesoria	Building	1993	NC (no sig.)
249	245-E27	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	c.1929	C
250	246-529	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1916	C
251	247-E51	Residence (repl. prev. undated worker's wood res.)	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
252	248-E53	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	c.1912	C
253	265-000	Residence (repl. prev. worker's wood res., demol. 1960-72)	Zinc/Wood/Concrete	Montesoria	Building	c. 1985	NC (no sig.)
254	266-530	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
255	267-431	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1929	C
256	268-E41	Residence (repl. prev. worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c. 1990	NC (no sig.)
257	304-000	Empty Lot (prev. worker's wood res. demol. 1960-72)	----	Montesoria	Site	ND (no date)	NC (demol.)
258	305-D51	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	c.1929	C
259	306-D53	Residence (repl. prev. worker's wood res., demol. 1960-72)	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)

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260	307-D55	Residence (repl. prev. worker's wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	c.1990	NC (no sig.)
261	308-620	Barracks (*Barracón*, ruins)	Zinc/Concrete & Wood/Concrete	Montesoria	Building	1929	NC (ruins)
262	309-618	Barracks (*Barracón*, partially demol.)	Zinc/Concrete & Wood/Concrete	Montesoria	Building	1924	NC (ruins)
263	310-614	Residence (built on original 1920 *barracón* lot)	Concrete/Concrete/Concrete	Montesoria	Building	1992	NC (no sig.)
264	311-614	Residence (built on original 1920 *barracón* lot)	Concrete/Concrete/Concrete	Montesoria	Building	1992	NC (no sig.)
265	312-612	Residence (repl. prev. 1910/12 workers wood res.)	Concrete/Concrete/Concrete	Montesoria	Building	1992	NC (no sig.)
266	313-C63	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	1904	C
267	314-C65	Worker's Residence	Zinc/Wood/Wood & Concrete	Montesoria	Building	c.1904	C
268	315-C67	Worker's Residence	Zinc/Wood/Wood	Montesoria	Building	1937	C
269	316-61C	Residence (Aguirre Golf Club groundskeeper res.)	Zinc/Wood/Wood & Concrete	Aguirre	Building	c.1934	C
270	317-067	Managerial Residence	Concrete/Concr. & Gypsum/Concr.& Wood	Aguirre	Building	1940	C
271	326-1070	Worker's Residence	Zinc/Wood/Wood	Hacienda Vieja	Building	c.1929	C
272	327-1076	Worker's Residence	Zinc/Wood/Wood	Hacienda Vieja	Building	c.1929	C
273	328-1077	Worker's Residence	Zinc/Wood/Wood & Concrete	Hacienda Vieja	Building	1929	C
274	329-446	Residence (prev. worker's res. demol.)	Concrete/Concrete/Concrete	Hacienda Vieja	Building	c.1990	NC (demol.)
275	330-1118	Worker's Residence	Zinc/Wood/Wood	Hacienda Vieja	Building	c.1929	C
276	331-1026	Worker's Residence	Zinc/Wood/Wood	Hacienda Vieja	Building	c.1920's	C
277	332-27B	Residence (associated with railroad personnel)	Zinc/Wood/Wood	Industrial	Building	1929	C
278	333-000	Yacht Club (*Club Náutico*, dock is destroyed)	Zinc/Wood/Wood & Concrete	Industrial	Building	ND (no date)	NC (altered)
279	334-000	"Club Panamericano" (bldng. belongs to employee club)	Zinc/Wood/Wood & Concrete	Aguirre	Building	c.1935	C
280	335-000	Woodrow Wilson School (original 1914-15 structure in wood)	Concrete/Concrete/Concrete	Aguirre	Building	c.1920	C
281	336-000	Catholic Church and Parish House (wooden parish house built later)	Zinc/Concrete & Wood/ Concrete	Montesoria	Building	c.1920	C
282	337-000	Methodist Church (concrete annex built later)	Zinc/Concrete/Concrete	Aguirre	Building	c.1920	C
283	338-000	Aguirre Plaza (originally dirt floor)	----	Aguirre	Site	c.1900	C
284	339-000	Aguirre Park	----	Aguirre	Site	c.1906	C
285	340-000	Basketball Court	Steel/Steel/Concrete	Aguirre	Structure	c.1990	NC (no sig.)
286	341-000	Dairy Farm (*Vaquería*) (part of structure is used for child care)	----	Aguirre	Site	c.1910	C
287	342-000	Green House and Garden (where diff. strains of sugar cane were tested)	Glass & Steel/Glass & Concrete/Concrete	Aguirre	Structure	c.1940	NC (in ruins)
288	343-000	Aguirre P&G Railroad Station	Zinc/Concrete/Concrete & Wood	Industrial	Structure	1922	C
289	344-000	Golf Course (1st golf course in southern PR)	----	Aguirre	Site	1931	C
290	345-000	American Hotel Pool (*Piscina, Hotel Americano*)	Concrete	Aguirre	Site	c.1933	C
291	346-000	YMCA/UTIER Building	Concrete/Concrete/Concrete	Aguirre	Building	1966	NC (date)
292	347-012	Ice Plant (*Planta de Hielo*)	Zinc/Concrete/Concrete	Aguirre	Building	1911	C
293	348-016	Puerto Rican Hotel (*Hotel Puertorriqueño*) (burned c.1990)	----/----/----	Aguirre	Site	1907	NC (ruins)
294	349-017	Golf and Country Club House	Zinc & Asbestos/ Concrete & Wood/ Concrete & Tile	Aguirre	Building	1934	C
295	350-018	Puerto Rican Club (*Club Puertorriqueño*) (removed from location)	---/----/----	Aguirre	Site	1936	NC (removed)
296	351-021	Telephone Exchange	Concrete/Concrete/Concrete	Aguirre	Structure	1961	NC (date)
297	352-023	Aguirre Private School #3 (now used as res.)	Concrete/Concrete/Concrete	Aguirre	Building	1961	NC (date)

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298	353-024	Aguirre Private School #2 (now used as res.)	Zinc/Wood/Wood	Aguirre	Building	1928	C
299	354-028	Aguirre Private School #1 (now used as res.)	Zinc/Wood/Wood	Aguirre	Building	1918	C
300	355-031	"Fonda de Margarita" Restaurant	Zinc/Concrete/Concrete	Montesoria	Building	1953	NC (date)
301	356-035	American Club (*Club Americano*) // Luce & Co offices (restored and used by DNER for Regional Headquarters)	Asbestos/Concrete/Concrete	Aguirre	Building	1921	C
302	357-036	Police Station (now converted to res. #B77)	Zinc/Wood/Wood	Aguirre	Building	1923	C
303	358-037	Main Office Bldg (additions in 1941, 1948, 1957, 1963, 1967)	Concrete & Asbestos & Copper/Wood & Concrete/Concrete	Industrial	Building	1924	C
304	359-37A	Aguirre Post Office	Concrete/Concrete/Concrete	Industrial	Building	1941	C
305	360-376	IBM Machine Building (repl. original phone exchange bldg.)	Concrete/Concrete/Concrete	Aguirre	Structure	1957	NC (date)
306	361-038	Aguirre Vegetable Market (later Pharmacy/Credit Union/Video/Church)	Zinc/Concrete/Concrete	Aguirre	Building	1924	C
307	362-039	Caribe General Store	Concrete/Concrete/Concrete	Aguirre	Building	1925	C
308	363-040	Aguirre Ice Cream Plant	Concrete/Concrete/Concrete	Aguirre	Building	1942	C
309	364-41A	American Hotel (*Hotel Americano*) Dining Room	Asbestos/Concrete/Concrete	Aguirre	Site	1927 (1928)	C
310	365-041	American Hotel (*Hotel Americano*)	Concrete & Asbestos/ Concrete/Concrete	Aguirre	Building	1928	C
311	366-043	Aguirre Hospital	Concrete/Concrete/Concrete	Aguirre	Building	1931	C
312	367-044	Aguirre Theater (later beauty salon & barbershop on 1st fl.)	Concrete/Concrete/Concrete	Aguirre	Building	1934	C
313	368-045	Pedro's Restaurant	Concrete/Concrete/Concrete	Aguirre	Building	1950	C
314	369-066	Nurses' Residence (later police station, now vacant)	Concrete/Concrete/Concrete	Aguirre	Building	1939	C
315	370-1001	Old Hacienda Aguirre Mill (*Hacienda Vieja*)	Zinc/Masonry & Brick/ Concrete & Mortar	Hacienda Vieja	Building	c.1850	C
316	371-1017	Luce & Co. Store	Zinc/Wood/Concrete	Hacienda Vieja	Building	1916	C
317	372-1024	Loma Stable Feed Cutter (horse stable area)	Zinc/Wood & Concrete/ Concrete	Hacienda Vieja	Site	ND (no date)	NC (demol.)
318	373-1025	Horse Coach Shed	Zinc/Wood/Wood	Hacienda Vieja	Building	1917	C
319	374-1064	Luce & Co. Office & Warehouse (orig. *barracón*, converted in 1958)	Zinc/Concrete/Concrete	Hacienda Vieja	Building	c.1920	C
320	375-000	Gasoline Station	Concrete/Concrete/Concrete	Hacienda Vieja	Building	c.1940	C
321	377-000	Fishermen's Village	Zinc/Wood/Concrete	Montesoria	Building	c.1985	NC (no sig.)
322	378-456R	Communal bathrooms	Zinc/Wood & Concrete/ Concrete	Montesoria	Building	1924 (1912)	C
323	379-455R	Communal Bathrooms	Zinc/Concrete/Concrete	Montesoria	Building	1924 (1912)	C
324	380-454R	Communal Bathrooms	Zinc/Concrete/Concrete	Montesoria	Building	1924 (1912)	C
325	381-470R	Communal Bathrooms	Zinc/Concrete/Concrete	Montesoria	Building	1927	C
326	382-452R	Communal Bathrooms (demol.)	Zinc/Concrete/Concrete	Montesoria	Site	1924 (1912)	NC (in ruins)
327	385-000	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	c.1934	C
328	386-000	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	c.1938	C
329	387-000	Empty Lot	----/----/----	Montesoria	Site	ND (no date)	NC (demol.)
330	388-350	Empty Lot (originally worker's wood res.)	----/----/----	Montesoria	Site	ND (no date)	NC (demol.)
331	389-000	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1930	C
332	390-76A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1921	C
333	391-64A	Communal Bathrooms (demol.)	----/----/----	Aguirre	Site	1939	NC (ruins)
334	392-80A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1929	C
335	393-87A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1930	C

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336	394-86A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1930	C
337	395-61A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1909	C
338	396-55A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1904	C
339	397-54A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1904	C
340	398-75A	Servant's Quarters	Zinc/----/Wood	Aguirre	Building	1917	C
341	399-68A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1909	C
342	400-62B	Communal Bathrooms	Zinc/Concrete/Concrete	Aguirre	Building	1937	C
343	401-52A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1929	C
344	402-52B	Communal Bathrooms	Zinc/Concrete/Concrete	Aguirre	Building	1937	C
345	403-88A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1934	C
346	404-79A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1927	C
347	405-25A	Garage Structure	Zinc/Wood/Wood	Aguirre	Building	c.1940	C
348	406-81A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1929	C
349	407-71A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1930	C
350	408-28A	Servant's Quarters	Zinc/Wood/Wood	Aguirre	Building	1912	C
351	409-19C	Truck Repair Shop	Concrete/Steel & Concrete/Concrete	Industrial	Building	1949 (1950)	C
352	410-027	Tractor Repair Shop & Warehouse	Zinc/Zinc & Steel/Concrete	Industrial	Building	1948	C
353	411-010	Miscellaneous Warehouse	Zinc/Wood/Concrete	Industrial	Building	1934 (1937)	C
354	412-42MB	Foundry & Welding Shop (originally built in 1921)	Zinc/Zinc & Steel/Concrete	Industrial	Building	1932/1948	C
355	413-004	Vulcanizing Plant (one of first on island)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1950	C
356	414-007	Lumber warehouse (2 parallel structures, incl. old machinery warehouse)	Zinc/Zinc & Wood/Concrete	Industrial	Building	1911	C
357	415-008	Pipes and Iron Bar warehouse	Zinc/Zinc & Wood/Concrete	Industrial	Building	1911	C
358	416-43MB	Carpentry Shop (rebuilt 1948)	Zinc/Zinc & Wood/Concrete	Industrial	Building	1928	C
359	417-41MB	Main Machine & Pattern Shop (additions 1936, 1968)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	c.1921	C
360	418-48MB	Blacksmith Shop	Zinc/Zinc & Concrete & Wood/Concrete	Industrial	Building	c.1910	C
361	419-046	Mill Foreman and Pay Office Bldg.	Zinc/Wood/Concrete	Industrial	Building	1935	C
362	420-042	General Warehouse (additions 1928, 1933)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1912	C
363	421-000	Train Dispatch Office	Zinc/Wood/Wood	Industrial	Building	c.1950	C
364	422-000	Truck & Rail Car Sampling & Scale Station	Zinc/Steel/----	Industrial	Building	c.1950	NC (no sig.)
365	423-000	Locomotive Roundhouse & Diesel Shop (added/reconstructed 1950)	Zinc & Asbestos/Zinc & Steel/Concrete	Industrial	Structure	c.1950	C
366	424-005	Garage and Fire Station Bldg.	Zinc/Concrete/Concrete	Industrial	Building	1950	C
367	425-034	Car Garage Bldg.	Zinc/Concrete/Concrete	Industrial	Structure	1921	C
368	426-029	Caribe Stores Warehouse & Office Bldg.	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1948	C
369	427-5MB	Tandem #4 (originally Tandem #2)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1900	C
370	428-8MB	Research Laboratory Bldg.	Concrete/Concrete/Concrete	Industrial	Building	1953	NC (date)
371	429-9MB	Tandem #3 (repl. original 1900 mill)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1906 (1907)	C
372	430-9AMB	*Bagazo* Storage Building	Zinc & Steel/Concrete/ Concrete	Industrial	Building	1938	C
373	431-9BMB	Electric Shop/Room (1st fl.) and Factory Offices (2nd fl.)	Zinc/Concrete/Concrete	Industrial	Building	1938	C
374	432-9CMB	Engineering Office Bldg.	Concrete/Concrete/Concrete	Industrial	Building	1951	C
375	433-10MB	Boiler Feed Station & Emergency Storage (Boiler House)	Zinc/Zinc & Steel/ Concrete	Industrial	Building	1902	C
376	434-11MB	Boiler Feed Station & Emergency Storage	Zinc/Zinc & Steel/ Concrete	Industrial	Building	1927	C

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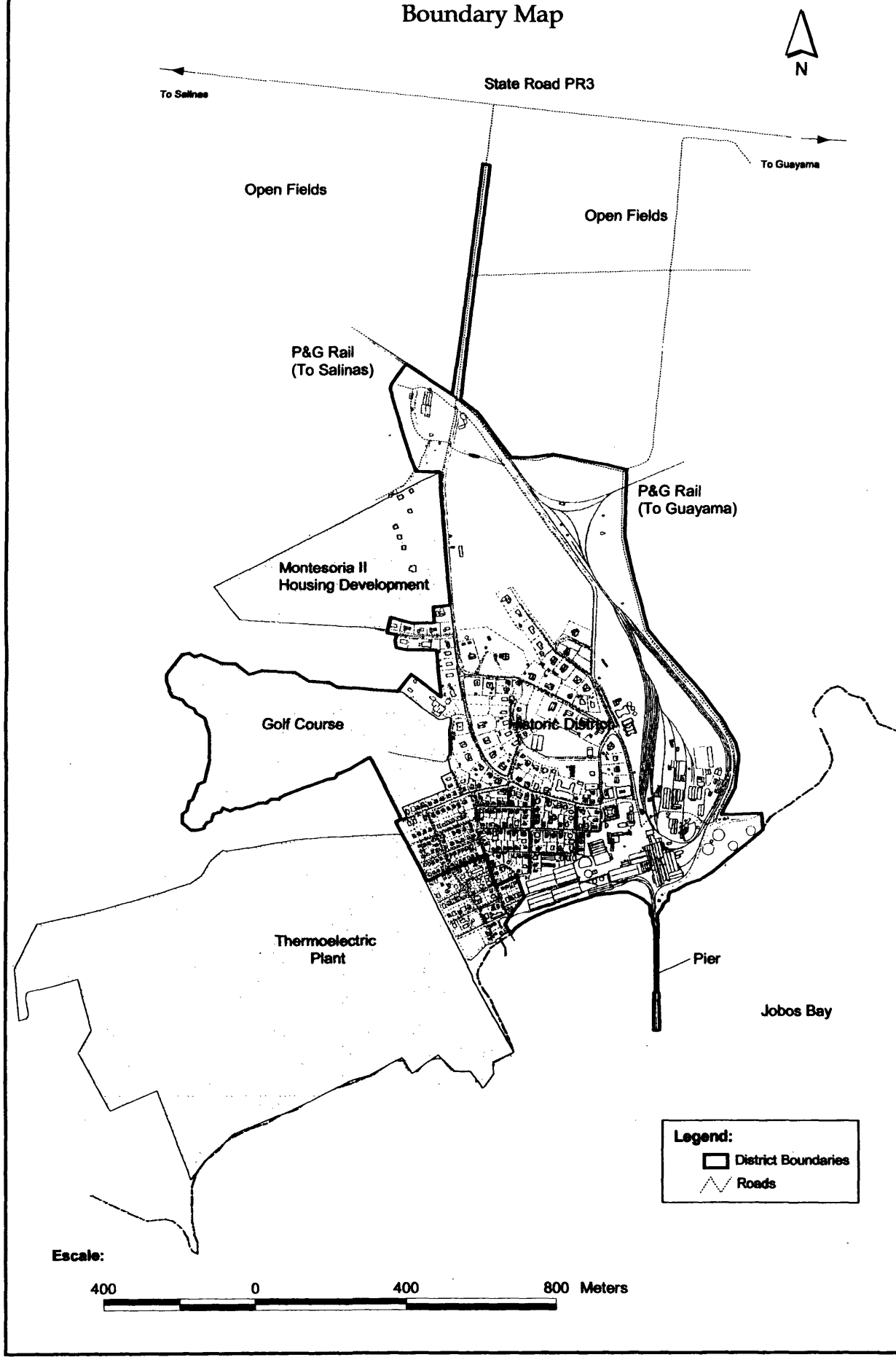
377	435-11AMB	Boiler House (extension of #434-11MB)	Zinc/Zinc & Steel/ Concrete	Industrial	Building	1928	C
378	436-12MB	Electric Power Plant	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1900	C
379	437-13MB	Clarification House (clarifiers and juice scales)	Zinc/Zinc & Steel/ Concrete	Industrial	Building	1900 (1903)	C
380	438-15MB	Boiler House Building	Zinc/Zinc & Steel/ Concrete	Industrial	Building	1900 (1902)	C
381	439-16MB	New Boiler House	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1910	C
382	440-18MB	Evaporator House Building	Zinc & Steel/Zinc & Steel/ Concrete	Industrial	Building	1903	C
383	441-52MB	New Boiling House (repl. prev. Boiling House)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1940	C
384	442-22MB	Old Crystallizer House Building (also used for emergency storage)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	ca.1901	C
385	443-24MB	Caustic Soda & Lime Station Building	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	ca.1901	C
386	444-26MB	Sugar Warehouse #2 (rebuilt 1948, burned down in 2000)	Zinc & Steel/Concrete/ Concrete	Industrial	Structure	1916	NC (burned down)
387	445-28MB	Sugar Warehouses #1 & #2 (1901 wood structure, rebuilt 1948, burned 2000)	Zinc/Concrete/Concrete	Industrial	Structure	1948	NC (burned down)
388	446-29MB	Sugar Warehouse #4 (connected w/#5 1942, remodeled 1956)	Zinc/Zinc/Concrete	Industrial	Structure	1920	C
389	447-30MB	Sugar Warehouse #3 (expanded 1932, connected w/#6, 1957)	Zinc/Steel & Brick/ Concrete	Industrial	Building	1918 (1908)	C
390	448-31MB	Hot Water Tank #1	Steel/Steel/Concrete	Industrial	Structure	c.1940's	C
391	449-32MB	Hot Water Tank #2	Steel/Steel/Concrete	Industrial	Structure	c.1940's	C
392	450-33MB	Cold Water Tank #8	Steel & Wood/Steel/ Concrete	Industrial	Structure	c.1940's	C
393	451-34MB	Molasses Pump House	Zinc/Zinc/Concrete	Industrial	Site	ND (no date)	NC (demol.
394	452-35MB	Molasses Tank #3 (one of original molasses tanks, *tanques de mieles*)	Steel/Steel/Concrete	Industrial	Structure	c.1940's	C
395	453-36MB	Molasses Tank #6	Steel/Steel/Concrete	Industrial	Structure	c.1940's	C
396	454-37MB	Molasses Tank #7	Steel/Steel/Concrete	Industrial	Structure	c.1940's	C
397	455-49MB	Salt Water Pump House	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Structure	1939 (1938)	C
398	456-50MB	Sugar Warehouse #5 (connected w/#4 1942, remodeled 1956)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Structure	1935	C
399	457-51MB	Sugar Warehouse #6 (connected w/#3 1957)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Structure	1939	C
400	458-55MB	Aqua Ammonia Tank #4 (fertilizer storage)	Steel/Steel/Concrete	Industrial	Structure	1943	C
401	459-56MB	Aqua Ammonia Tank #5 (fertilizer storage)	Steel/Steel/Concrete	Industrial	Structure	c.1940's	C
402	460-015	Tractor Repair Shop (demol. by Hurricane Georges, 1998)	----/----/----	Industrial	Site	1913	NC (demol.)
403	461-000	Payee's Office	Zinc/Wood/----	Industrial	Building	C.1950	C
404	462-000	Sugar Dock/Wharf	----/Concrete & Wood/Concrete & Wood	Industrial	Structure	1930	C
405	463-000	Residence	Zinc/Wood/Wood	Montesoria	Building	c.1985	NC (no sig.)
406	464-000	Servant's Quarters	Concrete/Concrete/Concrete	Aguirre	Building	1940	C
407	465-41D	American Hotel (*Hotel Americano*) Garage	Zinc/Wood/Gravel	Aguirre	Building	1950	C
408	466-15A	Boiler House Extension (extension of #435-11AMB)	Zinc & Steel/Zinc & Steel/Concrete	Industrial	Building	1928	C
409	467-53MB	Sugar Warehouse #7 (converted molasses tank)	Steel/Steel/Concrete	Industrial	Building	1934 (1937)	C
410	468-54MB	Caribe Stores Dry Goods Warehouse (originally Sugar Warehouse #8)	Concrete/Concrete/Concrete	Industrial	Building	1946	C
411	469-000	Palm-lined Entrance	NA	Hacienda Vieja	Site	c.1950	C
412	470-000	Empty Lot	NA	Montesoria	Site	ND (no date)	NC

PROPERTY LIST

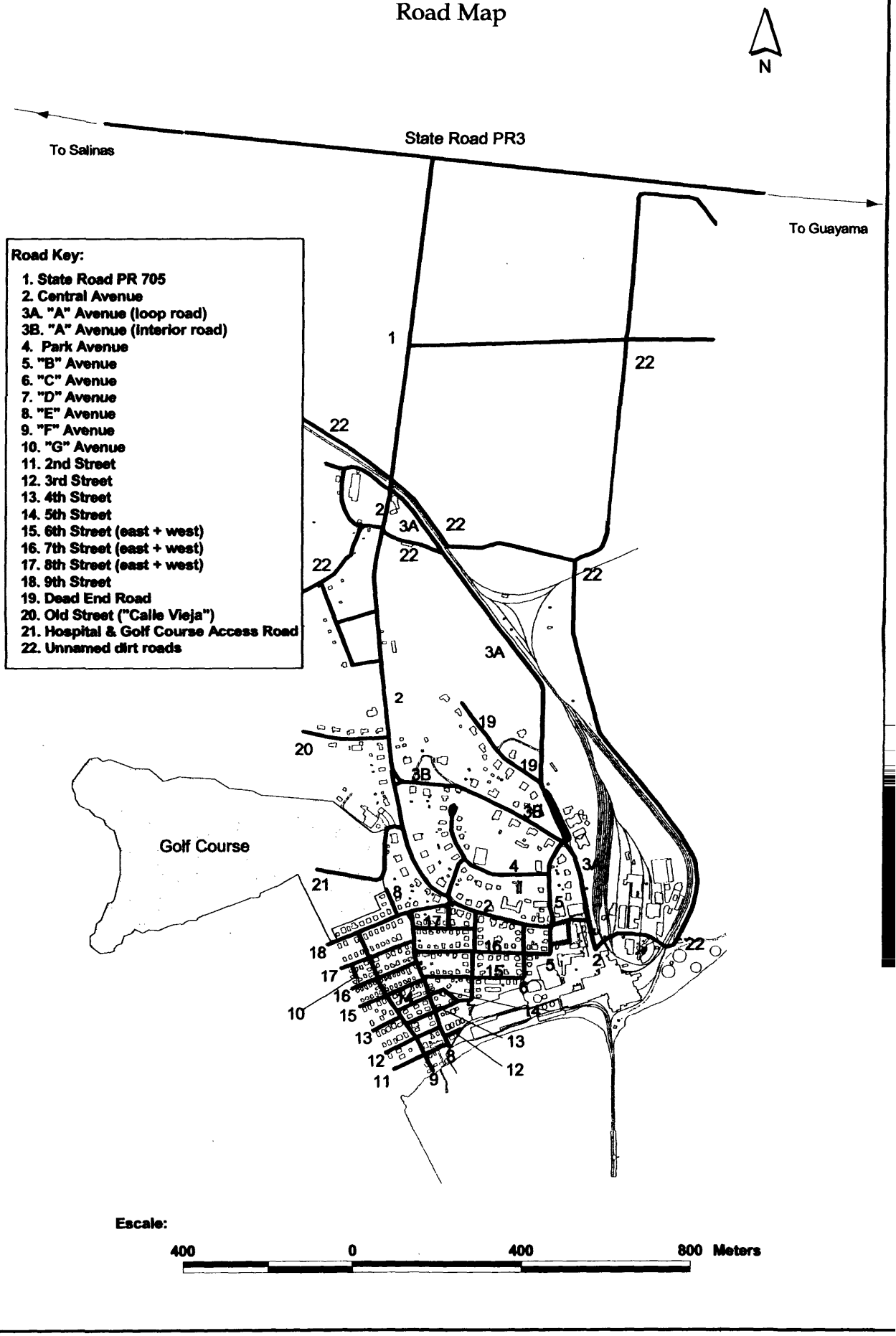
#	SURVEY#	CLASSIFICATION (& comments)	MATERIALS (Roof/Walls/Floor)	SECTOR	CATEGORY	YEAR	CONTRIBUTING // NON-CONTRIBUTING
413	471-000	Empty Lot	NA	Montesoria	Site	ND (no date)	NC
414	472-000	Empty Lot	NA	Montesoria	Site	ND (no date)	NC
415	473-000	American Hotel (*Hotel Americano*, 2-Apartment Suites)	Concrete/Concrete/Concrete	Aguirre	Building	1953	NC (date)
416	474-000	American Hotel (*Hotel Americano*, Apartment Suites	Concrete/Concrete/Concrete	Aguirre	Building	1948	C
417	475-000	Residence (associated with railroad personnel)	Zinc/Wood/Wood	Industrial	Building	c.1950	C
418	476-000	Residence (associated with railroad personnel)	Zinc/Wood/Wood	Industrial	Building	c.1950	C
419	477-000	Residence (associated with railroad personnel)	Zinc/Wood/Wood	Industrial	Building	c.1950	C
420	478-63A	Servant's Quarters (House #113)	Zinc/Wood/Wood	Aguirre	Building	c.1906	C
421	479-63B	Servant's Quarters (House #168)	Zinc/Wood/Wood	Aguirre	Building	c.1906	C
422	480-92A	Servant's Quarters (House #92A)	Zinc/Wood/Wood	Aguirre	Building	1948	C
423	481-93A	Servant's Quarters (House #93)	Zinc/Wood/Wood	Aguirre	Building	c.1930	C
424	482-78A	Servant's Quarters (House #78)	Zinc/Wood Wood	Aguirre	Building	1936	C
425	483-91A	Servant's Quarters (House #91A)	Zinc/Wood/Wood	Aguirre	Building	1948	C
426	484-90A	Servant's Quarters (House #90A)	Zinc/Wood/Wood	Aguirre	Building	1938	C

Central Aguirre Historic District
Salinas, Puerto Rico
Boundary Map



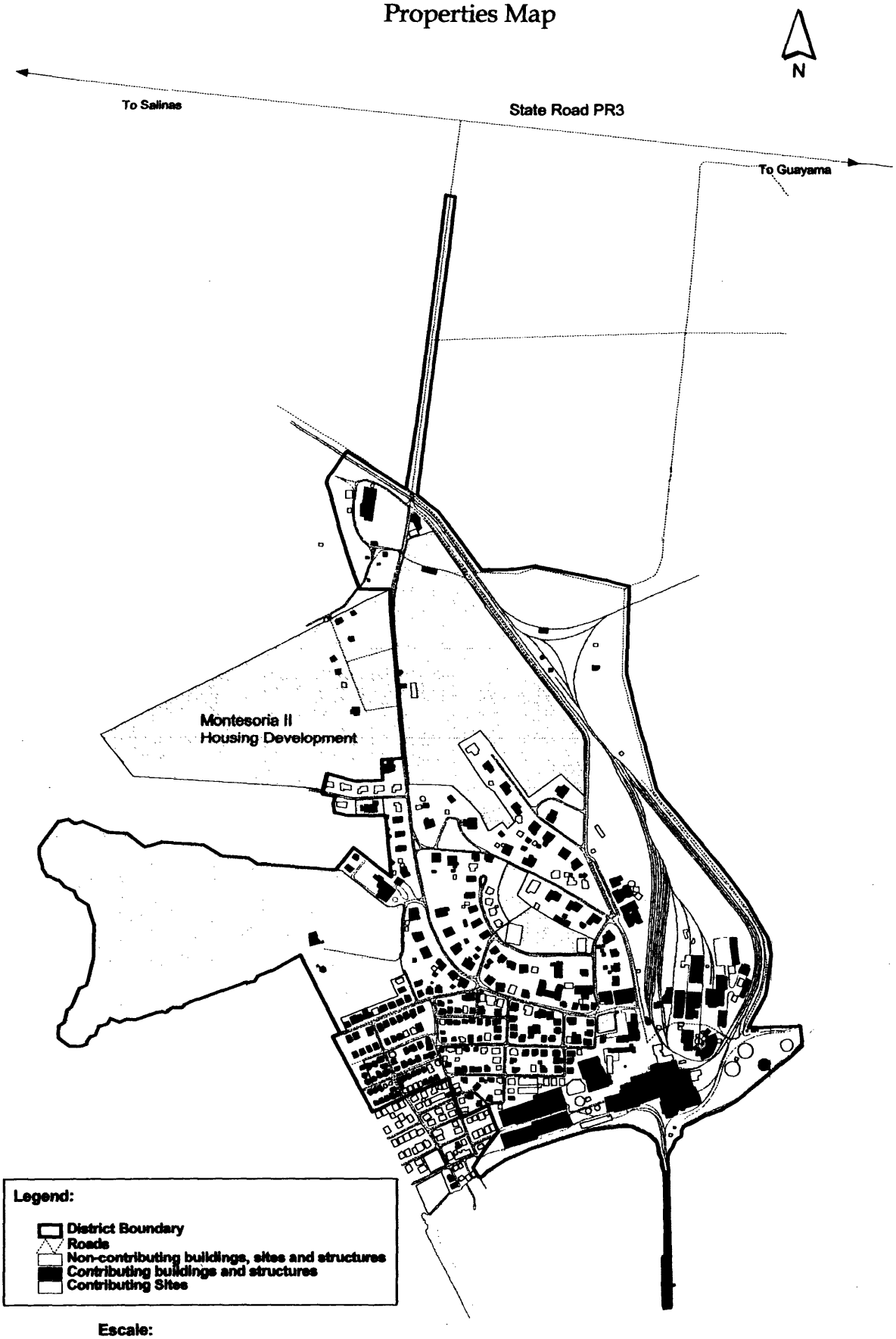
Central Aguirre Historic District
Salinas, Puerto Rico

Road Map



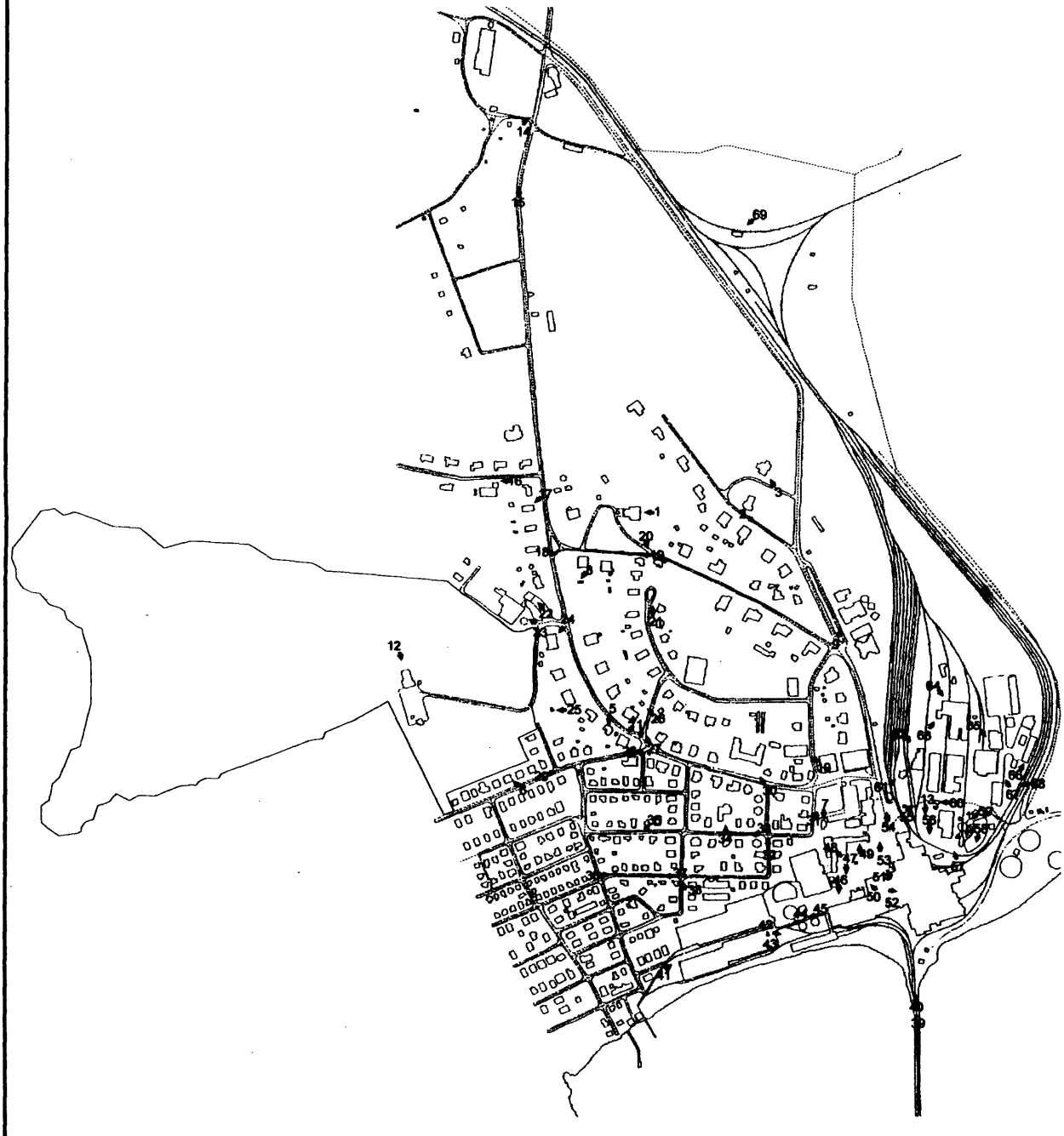
Central Aguirre Historic District
Salinas, Puerto Rico

Properties Map



Central Aguirre Historic District
Salinas, Puerto Rico

Photograph Key Map



NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 02001208 Date Listed: October 23, 2002

Property Name: Central Aguirre Historic District

County: Salinas State: Puerto Rico

none
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

for Daniel J. Vivian
Signature of the Keeper

October 23, 2002
Date of Action

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Amended Items in Nomination:

Section 7. Property Description

Clarification: Individual resources within the district are referenced parenthetically in the narrative property description with ID numbers. These numbers correspond to the first three numbers in the entries under the "survey#" column of the property list included with the nomination. To locate resources on the property maps, the survey numbers must be cross-referenced with the numbers in the preceding column labeled "#" on the property list. For example: The Woodrow Wilson School (Survey #335-000) is listed in the "#" column and shown on the property map as site number 280. The Caribe Stores Warehouse and Office Building (Survey #426-029) is listed in the "#" column and shown on the property map as site number 368. The Golf and Country Club House (Survey #349-017) is listed in the "#" column and shown on the property map as site number 294.

Users should be aware that this numbering system was devised because some individual properties have multiple listings in the survey# column. In such cases, the survey numbers

SUPPLEMENTARY LISTING RECORD (continued)

assigned to the property refer to several sequential numbers in the "#" column, which are in turn shown on the property maps within the footprint of a single building or resource. For example, one managerial residence in the Aguirre Sector is assigned four survey numbers: 066-060A, 066-060B, 066-060D, and 066-060C. These numbers correspond to the numbers 66, 67, 68, and 69, respectively, in the "#" column of the property list. On the property map, the residence is shown with these four numbers inside the building footprint. Another example is a worker's residence (survey #111-711A, 111-711B, 111-711C, and 111-711D) that is listed in the "#" column and shown on the property map as site numbers 115, 116, 117, and 118 (which appear within the building footprint).

The Puerto Rico State Historic Preservation Office was notified of this amendment.

DISTRIBUTION:

National Register property file
Nominating Authority (without nomination attachment)