

56687

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form



This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: General Asbestos and Rubber Company (GARCO) Main Mill

Other names/site number: _____

Name of related multiple property listing: _____

(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & number: 0 O'Hear Avenue (Bounded by O'Hear Ave., Empire Ave., and Virginia Ave)

City or town: North Charleston State: SC County: Charleston

Not For Publication: Vicinity:

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, 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 at the following level(s) of significance:

___ national ___ statewide X local

Applicable National Register Criteria:

x A ___ B x C ___ D

	<u>1/6/2017</u>
Elizabeth M. Johnson, Deputy State Historic Preservation Officer:	Date
_____ State or Federal agency/bureau or Tribal Government	

General Asbestos and Rubber Co. (GARCO) Main Mill
Name of Property

Charleston, SC
County and State

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: _____ **Date** _____

Title : _____ **State or Federal agency/bureau or Tribal Government** _____

4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain:)

Jon Elson H. Beall _____ *2-28-16* _____
Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property

(Check only **one** box.)

- Building(s)
- District
- Site

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Structure

Object

Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>1</u>	<u> </u>	buildings
<u> </u>	<u> </u>	sites
<u> </u>	<u> </u>	structures
<u> </u>	<u> </u>	objects
<u>1</u>	<u> </u>	Total

Number of contributing resources previously listed in the National Register

6. Function or Use

Historic Functions

(Enter categories from instructions.)

INDUSTRY/manufacturing facility

Current Functions

(Enter categories from instructions.)

VACANT/NOT IN USE

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7. Description

Architectural Classification

(Enter categories from instructions.)

EARLY 20TH CENTURY AMERICAN MOVEMENTS/commercial style

Materials: (enter categories from instructions.)

Principal exterior materials of the property:

BRICK

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The General Asbestos and Rubber Company (GARCO) Main Mill building is a two-story rectangular brick and timber mill building with a nearly flat gable roof designed by prolific textile mill engineers and designers, Lockwood Greene & Company. The current site, once part of a larger industrial complex, is bounded to the east by Virginia Avenue and to the south by Empire Avenue in the Park Circle area of North Charleston, South Carolina. This building, constructed in 1915, is the first purpose built building for GARCO and the only surviving structure of the company in this area. It is historically significant for the role the company played in the development of North Charleston and for the prominent part the company played in the manufacturing of asbestos and rubber products for the American economy. It is also significant as a representative example of the early twentieth century industrial design work of Lockwood Greene & Co.

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Narrative Description

The existing building was built in 1915 during a time of tremendous growth for the “North Area” or “Park Circle” neighborhood, now part of the City of North Charleston. That growth was in large part because of the investment of GARCO, the only major manufacturing operation in the area. Early in its history, the building was purported to be the largest textile asbestos plant under one roof in the United States and produced nearly one-half of all asbestos textiles in the country as well. Throughout the twentieth century the plant expanded around this mill building, but today the main mill is the only building from the original complex that remains.

1915 Mill and 1916 Addition

Exterior

The original 1915 footprint of the building was nine bays by 27 bays. Shortly after construction and with operations growing rapidly due to the demand for asbestos brake linings for military vehicles in Europe in World War I, the building was expanded by seven bays to the east circa 1916. The main portion of the mill, consisting of the 1915 mill and the 1916 addition, is nine bays by 34 bays. The brickwork of the 1915 mill and 1916 addition is laid in seven-course Flemish stretcher bond. The mill has a nearly flat gable roof, with open eaves punctuated by large exposed rafter tails. Window and door openings are large, segmental arches. Although currently boarded up with plywood and not visible from the exterior, many of the original wood windows are still extant, albeit in deteriorated condition. Descriptions of the windows are included in the interior description below, as they are currently only visible from the interior.

On the north side of the building, there are two restroom towers that extend one bay from the building. The western tower is four bays wide and the eastern tower is two bays wide. It appears that the western tower was doubled in size and the eastern tower was added as part of the 1916 addition. At this time, a two-bay wide stair tower was also added to the south side of the building and currently abuts the south addition (described below).

Primary first floor access to the building is located at the two stairs through double doors; one at the westernmost bay of the north façade and the other in the south stair tower. Additional access points on the first level are in the two bays to the east of the north façade entry and a rolling loading door in the bay east of the eastern restroom tower. On the south of the building, there is a door at the westernmost bay, a door opening two bays east of that, and double doors in the center bay of the south addition. On the east façade, there is a loft door opening in the center bay of the second floor. Aside from the rolling door on the north façade and the double doors at the main entrance, all access points and windows are boarded.

Interior

On both the first and second floor, timber trusses are reinforced with metal plates and supported by narrow wood columns. The walls are painted brick and the floor and ceilings are wood. Floor plans are open and largely unobstructed aside from the northwest interior stair and the columns. There is

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an enclosed stair in the northwest corner of the 1915 mill and an elevator shaft directly west of the south addition that is located in the interior of the 1916 addition.

Many wood windows still remain but are largely damaged and deteriorating. On the first floor, remaining wooden window frames are side-by-side nine-over-nine double-hung sash with side-by-side six-light segmental arch pivot transoms. On the second floor, windows are similar with the exception that the double-hung sash windows are nine-over-six. In the restroom and stair towers, the windows are set high on the walls and are side-by-side six-light fixed windows, with side-by-side six-light segmental arch transoms.

South Addition

Exterior

A two-story tall addition projects from the southeast portion of the building and covers eight bays of the mill. A one-story brick addition was first built between 1944 and 1951 and was expanded to its current footprint in 1964 with the addition of two bays to the south. The addition was dramatically altered in the early 1980s, presumably after acquisition of the property by the Intertech Group, but certainly after a newspaper article in 1973 that shows it as a one-story addition. The non-historic alterations to this section of the building removed all historic structural elements, the roof, the entire south façade of the 1964 addition, and the flooring. A new two-story steel post and beam system was installed that doubled the volume of the addition and covered the second floor of the main mill. New metal sheeting was installed above the 1944-1964 walls on the east and west side of the building and at the entire height of the south wall. While portions of the east and west walls date to 1944-1951 and 1964, the changes to the volume, massing, and scale, as well as the removal of historic materials have compromised the historic design, materials, workmanship, feeling, and association of the south addition.

Interior

The interior connection between the first floor of the 1916 addition and the south addition is made through six altered window openings that have been cut down to the floor level. The interior of the addition is an open two-story tall space with poured concrete flooring and brick and aluminum walls (mimicking the outside materials). Exposed steel bent framing runs east to west. The wall material is simple metal sheeting with no insulation and the space is not conditioned. The west wall has seven bays of windows and the east has eight. These windows are 28 light (four by eight) fixed metal windows. There is a raised concrete platform in the southeastern quadrant of the addition added in the 1980s.

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8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- 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.
- 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

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

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Areas of Significance
(Enter categories from instructions.)

Industry
Architecture

Period of Significance
1915-1972

Significant Dates
1915

Significant Person
(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder
Lockwood, Greene & Co.

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Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The GARCO plant was integral in the Charleston economy throughout the 20th century. The company provided jobs for the community and was a local leader in exports, while being directly tied to some of the most significant national events during the twentieth century. Therefore, the GARCO Main Mill building is locally significant under National Register Criterion A for significantly contributing to the industrial development of North Charleston and for the plant's role in manufacturing asbestos and rubber products that met the needs of the nation and beyond, including involvement in war-time production of essential materials and the NASA Apollo program. Built in 1915 the current building is the last surviving structure associated with the major GARCO manufacturing presence in the Charleston area and operated as a wind and loom facility. The end date of the period of significance, 1972, was chosen to coincide with the conclusion of NASA's Apollo space program. GARCO produced important materials, most notably an elastomer adhesive known as REFSET, that was used on the Apollo spacecraft.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

In the early 1900s, North Charleston, South Carolina was a fledgling community. An influx of industry and community investment by the General Asbestos and Rubber Company created a workers village virtually overnight in 1915 and extended the Charleston trolley system up the peninsula. This community would eventually contain a hospital, boarding house, athletic fields, and 245 worker residences.¹ The company and those who acquired it produced rubber and asbestos products for over a century from its founding in downtown Charleston in 1895 to the bankruptcy of an elastomer producer in 1999, leading the way in industry practice and innovation; from being nationally recognized for efficiency in producing essential asbestos-based automotive parts during the World Wars to sending their products to space and back again.

Charleston Metallic Packing Company

Beginning in 1895, the Charleston Metallic Packing Company located in Charleston, South Carolina was using asbestos in the production of packing, or seals, for the hydraulic systems used for the steam engines and pumps. The business was founded by Samuel Hughes, a former manager of the Charleston Iron Works, who invented and patented a "semi-bronze" packing that he made by hand until he began manufacturing operations in downtown Charleston. The company employed about thirty people at its first location on the second floor of the Cameron-Barkley Company at the corner of East Bay and Cumberland Streets and, according to a *Charleston News & Courier* article in 1906, delivering goods to every state in the Union as well as Canada, Mexico, and England.²

¹ Nadine Parks, "North Charleston has rich heritage," *The Post & Courier* (August 5, 1999).

² "A Profitable Industry," *The Charleston News & Courier* (April 12, 1906): 12.

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General Asbestos & Rubber Company (GARCO) in North Charleston

The company was acquired by a group of local businessmen in 1901 and the name changed to the General Asbestos & Rubber Company, or GARCO, in 1910.³ The rapid growth of production activities required two separate factories in downtown Charleston: a textile plant on the northwest corner of East Bay and Columbus Streets and a packing plant on Cumberland Street between Meeting and Church Streets.⁴ According to a 1913 local news article, the latter produced asbestos and rubber packing “of every description for steam, air, oil and ammonia: these forms of goods being essential to all machinery involving in its operation heat as well as pressure.” The same article listed “all forms of asbestos textiles” which included asbestos cloth, yarns, and tape for automotive brake band lining as well as friction drums used in hoists, elevators, and cranes.⁵

It was announced in the first days of 1915 that GARCO would be consolidating its factories into one \$250,000 facility in North Charleston, a young planned community that had already experienced nearly \$1 million in investment from the building of several other plants that included the Texas Oil Company, Reed Fertilizer Company, E.P. Burton Lumber Company, and the Oakdene Cotton-Compress and warehouses. In addition, the Charleston Navy Yard was the major contributor to the area. The proposed plant was one of only seven of its kind in the United States at that time.

With the agreement to move manufacturing of asbestos textiles and other goods to this new town also came the extension of the Charleston trolley line to the area. Given the state of affairs around the world, this investment heralded good news for otherwise bad times:

The signing of agreements today, which brings the North Charleston Corporation and the North Charleston Farms into direct and speedy communication with Charleston means more than the mere construction of railways and factories, more than the redevelopment of a tract of land superbly arranged and naturally qualified to fulfil [sic] the requirements of suburban life and commercial prominence. It means that Charleston has given one of the most striking evidences of vitality to which attention has been called in or around an American community since the outbreak of the European struggle and the ominous depression that followed it its wake.⁶

Coming in under budget at \$150,000 and built by the Fisk-Carter Construction Company of Greenville, SC, the brick mill building was ready for production by fall of that same year. It was 106,300 feet long and built for continual production growth. Nearly 200 people were employed in its first phase with twenty “attractive” bungalows of varying design built for the white workers and “quarters” on the outer edge of North Charleston for the black workers.⁷

The company was purchased by the Raybestos Company of Bridgeport, Connecticut in 1924 but retained the GARCO name even after Raybestos merged with the Manhattan Rubber Company in 1929. In fact, the company was largely referred to as the General Asbestos and Rubber Company

³ Ralph Muldrow, *Where the Rubber Meets the Asbestos: Memories of GARCO North Charleston, South Carolina*, Beach Manufacturing, LLC (February, 2010): 19.

⁴ “Trolley Line to N. Charleston; And New Factory,” *The Charleston Evening Post* (January 4, 1915): 1.

⁵ “The Asbestos Trade,” *The Charleston News & Courier* (May 23, 1913).

⁶ “Trolley,” (1915).

⁷ “Charleston is on the Advance,” *The Charleston Evening Post* (July 30, 1915).

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until the 1980s acquisition of the company by businessmen Jerry Zucker and Robert Strum who renamed it RM Engineered Products Inc. in 1985.

Influence in Development of North Charleston

Although the City of North Charleston was not incorporated until 1972, the development of “The North Area” began in the mid-18th century with real growth occurring in the early 20th century. The industrialization of North Charleston began in the late 1800s when the E.P. Burton Lumber Co. cleared and lumber cut 5,000 acres between the Charleston Naval Base and Goose Creek. This allowed, by 1912, for several companies to buy tracts for operations: Oakdene Cotton Compress, Texaco, and the Read Phosphate Co. The location along the Cooper River made the area conducive to industrial development.

In a 1914 bird’s eye illustration of North Charleston, the historic GARCO Main Mill building is one of the only structures depicted. Created in 1913 by Olmstead Brothers Engineering Corporation, the North Charleston neighborhood plan was created around the central Park Circle with streets radiating from that center point. Homes began being sold in this plan in 1915, the same year that GARCO began operations in North Charleston. Being one of the only economic drivers in the area at the time, the relocation of the company to this area was a driver of this residential growth.⁸

GARCO Products

GARCO and Raybestos-Manhattan produced a wide array of asbestos and rubber products in the North Charleston plant over its seventy-year history, with the majority in textiles, automotive materials, and coatings that could withstand harsh and high-temperature environments.

In the early years as the Charleston Metallic Company, asbestos products for steam and engine pumps were the primary concern of the business. Asbestos textiles and brake band linings were added to the product line in the 1910s. In 1921, at an exhibition in Greenville, South Carolina, GARCO drew attendees with their “Stork of Brake Band Lining” display that graphically represented how brake linings were made from raw asbestos to finished product. Also at this exhibition were samples of GARCO made gaskets, packing, and textiles. Reports stated that ladies were “drawn to the... teapot, under which was a beautiful mat made entirely of asbestos yarn.” The booth also featured an asbestos cloth colonial flag with the caption “The Flag Which Will Stand the Heat of Any Battle.”⁹

Under the auspices of Raybestos-Manhattan, the product line extended in 1937 with the manufacturing of rubber rolls and rubber linings that were used in the paper, textile and chemical industries for pipes and tanks. The active research and development department at GARCO worked to patent new products to sustain the post-World War II production of military goods for aircraft, missiles and rockets.¹⁰ By the late 1950s, the plant was also producing textile and paper mill rollers that were made of a mixture of asbestos and cotton.¹¹ Automotive parts continued to play a part in the output of the company as they produced heat shields, catalytic converter parts, belts and other heat-resistant solutions.

War Work

⁸ “Chapter 6 – Cultural and Historic Resources,” *North Charleston Comprehensive Plan Review, 2015*.

⁹ “Brake Band Lining Draws Attention,” *The Charleston News & Courier* (October 16, 1921).

¹⁰ Muldrow, 24.

¹¹ Muldrow, 13.

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GARCO played an important role in the United States contribution to World War I by supplying asbestos brake lining for Allied tanks and was deemed a class one essential war industry by the United State government. They were supplying British and the French with important military materials as well as producing a "great quantity" of brake linings for American made tanks and trucks. The production volume was so great, in fact, that they had to reopen their downtown factory on Cumberland Street and were equipping two more building in Charleston leading up to the end of the war in 1918.¹²

By receiving the class one essential war industry designation, the government was sending "soldiers of industry" to work in the factory to meet the demand for asbestos product. GARCO was ordered to display posters in all of its plants to remind workers of the reason for their efforts:

This plant is doing war work.

It accepts the policies laid down by the United State, War Labor Board.

The United State Government is supplying it with labor.

The length of the war depends on the speed with which our country does its war work.

The lives of thousands of our soldiers may depend on how fast and well this plant does war work.

You are soldiers of war industry.

You are doing your duty like soldiers. Keep it up.

United State Employment Service.

Attest:

H. L. Tilghman
State Director¹³

The conclusion of the First World War did not disrupt the success of the company, and in 1920 the company president C. Bissell Jenkins, Jr. reported that GARCO was producing about half the asbestos textiles in the United States as well as two-thirds of the brake linings for motorcars.¹⁴ He also boasted that the company was the largest asbestos textile production operation under one roof in the world.¹⁵

GARCO and its employees were again called on to undertake the important task of supporting the troops through manufacturing during the World War II campaign, and from 1942 to 1945 they received the coveted Army-Navy "E" pennant (or Army-Navy Production Award) for efficiency for their production of war materials. They were only one of two Charleston manufacturers to be awarded the honor, the other being the Charleston Navy Yard. In particular, the facility was recognized for producing asbestos cloth used as insulation in naval cables and for brake linings for military tanks, airplanes, and trucks.¹⁶ This work represented eighty-four percent of their output in 1942.¹⁷

¹² "French Republic Now Buying Here," *The Charleston News & Courier* (September 21, 1918).

¹³ Ibid.

¹⁴ "Rotary Club for Careful Driving," *The Charleston News & Courier* (May 19, 1920).

¹⁵ "Southeastern Business Men Cite Reasons," *The Charleston News & Courier* (May 21, 1920).

¹⁶ "'E' Pennants to Yard and Asbestos Co.," *The Charleston Evening Post* (November 11, 1942): 1.

¹⁷ "Pennant Presentation Takes Place Saturday," (1942).

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Criterion Consideration G

The period of significance for the GARCO Main Mill extends to 1972, less than fifty years in the past, and the end date to the period of significance was chosen to coincide with the conclusion of NASA's Apollo space program. GARCO developed an elastomer adhesive known by the acronym REFSET that was used on the Apollo capsules, among other places. The rubber soles for the boots worn by Apollo 11 crew members were also produced at GARCO. The significance of the association between GARCO and NASA is sufficient to justify extending the end date of the period of significance beyond the fifty year threshold.

NASA Space Program and REFSET

Aeronautical products were added to the GARCO product line as early as the 1940s with the production of missile and rocket parts.¹⁸ Beginning with the Apollo 9 mission in the 1960s, the North Charleston research and development team created REFSET, an adhesive that was incorporated into experiments and practical use for the NASA space program. REFSET is an acronym for Raybestos-Manhattan's Elastomer for Space Exploration and Travel and was a tough rubbery material that protected the astronauts during the re-entry of Apollo 9. GARCO developers were tasked with making a coating that would not burn in an oxygen-rich atmosphere and would withstand temperatures ranging from 150 degrees below zero to 5100 degrees Fahrenheit, all while keeping the cabin around 70 degrees in extreme conditions.¹⁹

Flourel, a fluorinated copolymer, was a compound developed for REFSET and was mixed with asbestos and inorganic pigments that passed the Apollo program's nonmetallic materials requirements. It continued to be used in the program, including the coating of the Apollo 11 quarantine facility interiors. The material was considered critical to the missions. "But for the application of this coating, the [Manned Space Flight] would have had to be greatly modified and the whole lunar landing program delayed," noted Jerome F. Lederer, director of safety for NASA's Office of Manned Space Flight.²⁰ The rubber soles of the astronauts boots for the Apollo 11 mission were also made in the North Charleston GARCO factory, making them one of the first man-made products to ever touch the moon when Neil Armstrong stepped out of the lunar module *Eagle*.²¹

The Final Decades

At the time that GARCO was producing REFSET (as well as many other assorted asbestos and rubber products) in the late 1960s and early 1970s, the company employed nearly 800 people and had 14 plant buildings on 35 acres of land.²² Growing concerns over asbestos-related illness plagued the industry and GARCO implemented risk-mitigating processes to deal address them. In the early 1970s, they developed a unique yarn making process called Novatex that employed a "super-secret wet method that eliminates much of the dust and noise hazards of conventional processes." Company spokespeople continued to maintain that Novatex was safe, but the public opinion of asbestos was too damaged to continue using it in production.²³

¹⁸ Janice Shumake, "Solving Problems A Specialty Of North Charleston Company," *The Charleston News & Courier* (January 30, 1979).

¹⁹ "General Asbestos Product Aided Re-Entry of Apollo 9," *The Charleston News & Courier* (April 6, 1969): 11-b.

²⁰ "Space Program Yields Promising New Material Said Highly Resistant to Fire," *Daytona Beach Morning Journal* (January 12, 1970): 6.

²¹ "North Charleston Product Has Been to the Moon," *The Charleston News & Courier* (January 21, 1973): 10-b.

²² *Ibid.*

²³ Rick Nelson, "North Area Industry's Links With Past Now All But Gone," *The Post & Courier* (August 31, 1989): 3-A.

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In 1982, Jerry Zucker, the chairman of InterTech Group and Polymer Group Inc., along with Robert Strum bought the plant from Raybestos-Manhattan and they continued to manufacture aerospace defense products and elastic swimsuit.²⁴ The mid-1990s saw a succession of owners of the property where elastic goods were the primary product, and eventually the property was left vacant by the bankruptcy of owners M-Tec Corp. in 1999.

Criterion C: Architecture

Lockwood, Greene & Co.

Lockwood, Greene & Co. was a firm organized in Providence, Rhode Island in 1882 as a collaboration between mill engineer Amos D. Lockwood and Stephen Greene. Though Lockwood died in 1884 and Greene died in 1901, the firm became one of the most significant and prolific engineering firms on the east coast in the early twentieth century under the leadership of Greene's son Edwin Farnham Greene. Lockwood, Greene & Co. maintained offices in Boston, Charlotte, Atlanta, Greenville, and Spartanburg and were best known for their design and construction of cotton processing mills, engineering more than fifty in South Carolina. Lockwood, Greene, & Co. would continue as a leader in mill engineering until the early 21st century. In 2003 the firm was acquired by CH2M Hill, a global engineering firm based out of Denver, Colorado.

Among the many textile mills designed by the firm are Columbia Mills, Columbia, S.C. (1893-94; NRHP Listed 1982); Hickman Mill, Graniteville, S.C. (1900; NRHP Listed 2016); Brandon Mill, Greenville, S.C. (1901; NRHP Listed 2014); and American Spinning Mill No. 2, Greenville, S.C. (1901; NRHP Listed 2016). The design for the GARCO Main Mill mimics quite closely the designs deployed by Lockwood, Greene & Co. at these cotton textile production facilities. It shares with them the slightly gabled roof, exposed rafter tails, and arched windows. Like these other mills designed by Lockwood Greene & Co., the GARCO main mill is a linear brick building with repetitive window forms that allow for both light and ventilation. Significantly, at GARCO, unlike at nearly every cotton textile manufacturing facility, the original windows were never infilled in the service of adding centralized air conditioning. The GARCO Main Mill, therefore, retains not only its original fenestration patterns, but the original openings and sills also remain intact. While these have been recently boarded over to weather-proof the building, they serve to convey Lockwood, Greene and Co.'s original design intent. The exposed rafter tails also remain evident and overall the integrity of the building is better than is typically seen on most other textile manufacturing facilities in South Carolina.

ADDITIONAL CONTEXT

Asbestos

Asbestos is widely vilified in today's society for its role in causing pulmonary disorders like mesothelioma, a tumor of vital organ tissue, among those who are exposed to the material. It has become a textile pariah and, while not banned in the United States, is treated with caution in most instances now that more is known about its health risks. The intrinsic chemical properties of the naturally-occurring mineral, however, make it useful in the making of goods that are required to withstand heat and is thought to have been used for over 5,000 years. In the 20th century, industrial innovation and large-scale production of asbestos goods created a profitable industry in the United States.

²⁴ Ibid.

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History

Artifacts have been found that suggest that asbestos has been used in regions, where the mineral is naturally occurring, for thousands of years and asbestos fibers has been found in debris that date back to the Stone Ages. In 2000-3000 BC Egypt, pharaohs were wrapped in asbestos cloth after death to protect their remains from deterioration, and a few thousand years later the Greeks used asbestos cloth to wrap their dead before throwing them into funeral pyres so that the ashes of the bodies would not mingle with those of the fire. In Finland and the Lapland region, clay pots dating to 2000 BC have been discovered that contained asbestos, most certainly because of its known heat resistant properties even in that time.

Documentation of historical figures like King Charlemagne of France (742-814 AD) and Marco Polo (1254-1324 AD), an Italian merchant traveler, speak of the minerals use in the Middle Ages, the former ordering it to be used in the court's tablecloths that were often scorched by accidental fires during feast and celebrations and the latter recording his observations in 1280 AD of Mongolians making clothing from a "fabric which would not burn."

Other notable historic uses of asbestos include the bags used for the flaming ammunition used by the French, German and Italian knights in First Crusade; Italian bank notes in the 1800s; and heat-resistant jackets and helmets for Parisian Fire Brigades in the mid-1850s.²⁵

Manufacturing

Asbestos was only a novelty until the Industrial Revolution of the late nineteenth century changed the output of mining and production. Many different types of asbestos mineral exist, but the most commonly used type for textile production was chrysotile (or white asbestos) that was found in Canada, Russia, the United Kingdom, and parts of Africa. Its soft, fibrous form made it ideal for textile manufacturing, among other things.²⁶

Manufacturing plants took the raw asbestos and created a number of customized products for use in harsh environments. In the case of asbestos textile manufacturing, the process began by mixing the desired fibers according the product. The process began with different grades of asbestos fibers were blended to specifications in preparation for carding. In the carding process the mixture was combed into a fiber mat and pressed and layered into a lap, or arrangement of multiple fiber mats. Rovings, thin ribbons of the lap, were cut and combined with cotton fibers (or other raw fabric material) and spun into threads or yarn of customizable size.²⁷ These threads were then woven into cloth, rope, wicking, tape, wrapped around wire or rubber, or spun onto spools.²⁸

²⁵ "The History of Asbestos – Importing, Exporting & Worldwide Use," Asbestos.com, <http://www.asbestos.com/asbestos/history> (accessed August 4, 2015).

²⁶ Ibid.

²⁷ *Regulatory Impact Analysis of Controls on Asbestos Products, Final Report, Volume III, Appendix F*, ICF Incorporated, Fairfax, VA (January 19, 1989): Section XXVI, 1-3.

²⁸ "Pennant Presentation Takes Place Saturday," *The Charleston Evening Post* (November 27, 1942): 12.

General Asbestos and Rubber Co. (GARCO) Main Mill
Name of Property

Charleston, SC
County and State

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

- . "The Asbestos Trade." *The Charleston News & Courier* (May 23, 1913).
 - . "Brake Band Lining Draws Attention," *The Charleston News & Courier* (October 16, 1921).
 - . "Charleston is on the Advance," *The Charleston Evening Post* (July 30, 1915).
 - . "'E' Pennants to Yard and Asbestos Co.," *The Charleston Evening Post* (November 11, 1942): 1.
 - . "French Republic Now Buying Here," *The Charleston News & Courier* (September 21, 1918).
 - . "General Asbestos Product Aided Re-Entry of Apollo 9," *The Charleston News & Courier* (April 6, 1969): 11-b.
 - . "The History of Asbestos – Importing, Exporting & Worldwide Use," Asbestos.com, <http://www.asbestos.com/asbestos/history> (accessed August 4, 2015).
 - . "North Charleston Product Has Been to the Moon," *The Charleston News & Courier* (January 21, 1973): 10-b.
 - . "Pennant Presentation Takes Place Saturday," *The Charleston Evening Post* (November 27, 1942): 12.
 - . "A Profitable Industry," *The Charleston News & Courier* (April 12, 1906): 12.
 - . *Regulatory Impact Analysis of Controls on Asbestos Products, Final Report, Volume III, Appendix F*, ICF Incorporated, Fairfax, VA (January 19, 1989): Section XXVI, 1-3.
 - . "Rotary Club for Careful Driving," *The Charleston News & Courier* (May 19, 1920).
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 - . "Trolley Line to N. Charleston; And New Factory," *The Charleston Evening Post* (January 4, 1915): 1.
- Ralph Muldrow, *Where the Rubber Meets the Asbestos: Memories of GARCO North Charleston, South Carolina*, Beach Manufacturing, LLC (February, 2010).
- Rick Nelson, "North Area Industry's Links With Past Now All But Gone," *The Post & Courier* (August 31, 1989): 3-A.
- Nadine Parks, "North Charleston has rich heritage," *The Post & Courier* (August 5, 1999).
- Janice Shumake, "Solving Problems A Specialty Of North Charleston Company," *The Charleston News & Courier* (January 30, 1979).

General Asbestos and Rubber Co. (GARCO) Main Mill
Name of Property

Charleston, SC
County and State

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 # _____
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
 - Other State agency
 - Federal agency (*Museum of American History – Lockwood Greene*)
 - Local government
 - University
 - Other
- Name of repository: _____

Historic Resources Survey Number (if assigned): City of North Charleston Historical and Architectural Survey Resource # 1660.00-06

10. Geographical Data

Acreage of Property 1.9 acres

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

- | | |
|--------------------------|------------------------|
| 1. Latitude: 32.883724 N | Longitude: 79.975593 E |
| 2. Latitude: 32.883153 N | Longitude: 79.975561 E |
| 3. Latitude: 32.883164 N | Longitude: 79.974291 E |
| 4. Latitude: 32.883728 N | Longitude: 79.974200 E |

General Asbestos and Rubber Co. (GARCO) Main Mill
Name of Property

Charleston, SC
County and State

Or
UTM References

Datum (indicated on USGS map):

NAD 1927 or NAD 1983

- | | | |
|----------|-----------|-----------|
| 1. Zone: | Easting: | Northing: |
| 2. Zone: | Easting: | Northing: |
| 3. Zone: | Easting: | Northing: |
| 4. Zone: | Easting : | Northing: |

Verbal Boundary Description (Describe the boundaries of the property.)

The boundaries follow the current property marking for Charleston Tax Parcel # 4711600247 recorded in Deed Book 0381-407 and Plat Book L15-0405. The boundary is denoted by the thin red line and shaded polygon on the accompanying Charleston County Tax Map drawn at a scale of 1 inch = 200 feet.

Boundary Justification (Explain why the boundaries were selected.)

The proposed boundaries encompass the Main Mill, the primary historic building and the only remaining manufacturing resource for the General Asbestos and Rubber Company, and correspond to the existing Charleston County tax parcel.

11. Form Prepared By

name/title: Katherine Ferguson
organization: MacRostie Historic Advisors
street & number: 3 Broad Street, Suite 301
city or town: Charleston state: SC zip code: 29403
e-mail kferguson@mac-ha.com
telephone: (843) 203-5406 ext 7023
date: December 18, 2015

General Asbestos and Rubber Co. (GARCO) Main Mill
Name of Property

Charleston, SC
County and State

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

General Asbestos and Rubber Co. (GARCO) Main Mill
Name of Property

Charleston, SC
County and State

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: General Asbestos and Rubber Company

City or Vicinity: North Charleston

County: Charleston

State: South Carolina

Photographer:

Date Photographed:

Description of Photograph(s) and number, include description of view indicating direction of camera:

- 1 of 44: West elevation, camera facing east
- 2 of 44: North elevation, camera facing south
- 3 of 44: First floor, south stair, camera facing south
- 4 of 44: First floor, south stair, camera facing east
- 5 of 44: North elevation, east stair tower, camera facing south
- 6 of 44: North elevation, camera facing southwest
- 7 of 44: Second floor, camera facing east
- 8 of 44: Second floor, camera facing west
- 9 of 44: Second floor, camera facing southwest
- 10 of 44: Second floor, camera facing northwest
- 11 of 44: Roof, camera facing northwest
- 12 of 44: Roof, camera facing west
- 13 of 44: Roof, camera facing southwest
- 14 of 44: Roof, camera facing south
- 15 of 44: West elevation, camera facing southeast
- 16 of 44: East elevation, camera facing southwest
- 17 of 44: East elevation, camera facing northwest
- 18 of 44: Addition, south elevation, camera facing north
- 19 of 44: South elevation, camera facing northwest
- 20 of 44: Addition, west elevation and south elevation stair tower, camera facing northeast

General Asbestos and Rubber Co. (GARCO) Main Mill

Charleston, SC

Name of Property

County and State

- 21 of 44: South elevation, camera facing northwest
- 22 of 44: South elevation, camera facing east
- 23 of 44: First floor, camera facing east
- 24 of 44: First floor, ceiling detail, camera facing east
- 25 of 44: North elevation, camera facing south
- 26 of 44: First floor, camera facing south
- 27 of 44: First floor, camera facing northeast
- 28 of 44: First floor, camera facing west
- 29 of 44: North elevation, camera facing southeast
- 30 of 44: North elevation, camera facing south
- 31 of 44: First floor, camera facing west
- 32 of 44: First floor, camera facing southeast
- 33 of 44: First floor, camera facing south
- 34 of 44: First floor, camera facing west
- 35 of 44: First floor, addition, camera facing west
- 36 of 44: First floor, addition, camera facing southeast
- 37 of 44: First floor, addition, camera facing northeast
- 38 of 44: North elevation, camera facing south
- 39 of 44: North elevation, camera facing south
- 40 of 44: First floor, addition, camera facing east
- 41 of 44: North elevation, camera facing south
- 42 of 44: North elevation, east stair tower, camera facing southeast
- 43 of 44: North elevation, west stair tower, camera facing southwest
- 44 of 44: First floor, northwest stair tower, camera facing southeast

Index of Figures

Figure 1 of 1: Illustration of additions to GARCO Main Mill

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

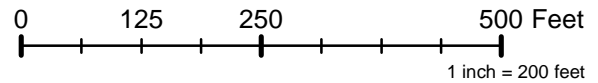
Figure 1



- 1915 Mill
- 1916 Addition
- 1944-1951 Addition
- 1964 Addition
- 1980s Addition



Charleston County SC

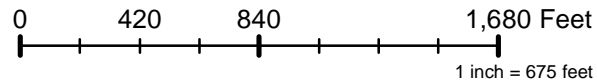


Note: The Charleston County makes every effort possible to produce the most accurate information. The layers contained in the map service are for information purposes only. The Charleston County makes no warranty, express or implied, nor any guaranty as to the content, sequence, accuracy, timeliness or completeness of any of the information provided. The County explicitly disclaims all representations and warranties. The reader agrees to hold harmless the Charleston County for any cause of action and costs associated with any causes of action which may arise as a consequence of the County providing this information.

Author: Charleston County SC
Date: 1/6/2017



GARCO Main Mill



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Author: Charleston County SC
Date: 11/4/2016

GARCO Main Mill

North Charleston, Charleston Co., S.C.



Google earth

©2016 Google



500 ft

GARCO Main Mill

North Charleston, Charleston Co., S.C.



Google earth

© 2018 Google



1000 ft







EXIT



Please DO NOT
Touch NOOSES.
They are very delicate
And touching them and pulling on
them will cause them to break/be
larger illuminate. Thank you.

Please DO NOT
Touch NOOSES.
They are very delicate
And touching them and pulling on
them will cause them to break/be
larger illuminate. Thank you.







GEKOE





Red and white graffiti tag on a brick wall. The tag consists of large, stylized letters, possibly 'SW'. To the right of the tag, there is some smaller, less legible red graffiti that appears to say 'FOWA RONE' and 'PATON'.





Large, colorful graffiti piece in black, yellow, and red.

ATC

SECURE!
HOUSE
VETS
FOR
QUOTE

Large, colorful graffiti piece in purple, blue, and yellow.

















Ellie's

































5.3.14

33





EXIT















GERBOE
KOC
MOM

92
MAY





Handwritten graffiti on the wooden ceiling, possibly including the letters "G" and "E".

Handwritten graffiti on the wooden wall, possibly including the letter "G".

Handwritten graffiti on the wooden wall, possibly including the letters "H" and "L".

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action:

Property Name:

Multiple Name:

State & County:

Date Received: 1/13/2017 Date of Pending List: Date of 16th Day: Date of 45th Day: 2/28/2017 Date of Weekly List: 3/9/2017

Reference number:

Nominator:

Reason For Review:

- | | | |
|---------------------------------------|--|--|
| <input type="checkbox"/> Appeal | <input type="checkbox"/> PDIL | <input type="checkbox"/> Text/Data Issue |
| <input type="checkbox"/> SHPO Request | <input type="checkbox"/> Landscape | <input type="checkbox"/> Photo |
| <input type="checkbox"/> Waiver | <input type="checkbox"/> National | <input type="checkbox"/> Map/Boundary |
| <input type="checkbox"/> Resubmission | <input type="checkbox"/> Mobile Resource | <input type="checkbox"/> Period |
| <input type="checkbox"/> Other | <input type="checkbox"/> TCP | <input checked="" type="checkbox"/> Less than 50 years |
| | <input type="checkbox"/> CLG | |

Accept Return Reject 2/28/2017 Date

Abstract/Summary Comments:

Recommendation/ Criteria

Reviewer Lisa Deline Discipline Historian

Telephone (202)354-2239 Date _____

DOCUMENTATION: see attached comments : No see attached SLR : No

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.



SOUTH CAROLINA DEPARTMENT OF
ARCHIVES • HISTORY



January 6, 2017

Paul Loether
National Register Chief
U.S. Department of the Interior
National Park Service
1201 Eye (I) Street, NW (2280)
Washington, DC 20005

Dear Mr. Loether:

Enclosed is the National Register nomination for the General Asbestos and Rubber Company Main Mill in North Charleston, Charleston Co, South Carolina. The nomination was approved by the South Carolina State Board of Review as eligible for the National Register of Historic Places under Criteria A and C at the local level of significance. We are now submitting this nomination for formal review by the National Register staff. The enclosed disk contains the true and correct copy of the nomination for the General Asbestos and Rubber Company Main Mill to the National Register of Historic Places.

If I may be of further assistance, please do not hesitate to contact me at the address below, call me at (803) 896-6182, fax me at (803) 896-6167, or e-mail me at efoley@scdah.sc.gov.

Sincerely,

Ehren Foley, Ph.D.
Historian and National Register Coordinator
State Historic Preservation Office
8301 Parklane Rd.
Columbia, S.C. 29223