

SUMMARY OF NOMINATION INFORMATION IN ONJH FILES

NAME Watts Campbell Company
 COUNTY Essex
 MUNICIPALITY Newark city

TYPE:
 Individual X
 Historic District
 Multiple Property
 Documentation Form

NOMINATION FORM

ONJH FILES

- Nomination form (If there are continuation sheets, please indicate number) ✓
- First page (#1-6) ✓ CS:
- Description (#7) ✓ CS: 2
- Significance (#8) ✓ CS: 1
- Last page (#9-11) ✓ CS: 1
- SHPO Signatures ✓
- USGS Map ✓
- Site plan
- Tax map ✓
- Floorplan ✓
- Photo index map
- Other maps historic
- Photographs (Indicate number) ✓
- Exterior 9
- Interior 17
- Streetscapes
- Outbuildings
- Historical 1 (plus 10 photos of the historic maps)
- Negatives ✓
- Contact Sheet ✓

DATE OF LISTING

State Register 6/24/96
 National Register 8/13/96

SUPPLEMENTAL INFORMATION

N.J.H.S.I. # Draft Nomination
 Newspaper/Magazine Articles ✓ Correspondence ✓
 HABS Contextual Data ✓ (company brochures, etc)
 Other (Please specify)

STAFF MEMBER Tom Godwin DATE 7/97
 UPDATES: STAFF DATE
 STAFF DATE

NATIONAL REGISTER SUBMISSION SUMMARY SHEET/CROSS INDEX TO OTHER FILES

NAME Watts, Campbell Company
 MUNICIPALITY Newark COUNTY Essex
 DATE SENT TO WASHINGTON 7/1/86

***photo copy noted as PC

NOMINATION FORM:

- Signed nomination form
- U.S.G.S. Map
- Site plan
- Tax map
- Floorplan
- Photo index map
- Other maps (indicate type)

Sent to Washington

NJ File

✓	PC
✓	PC
✓	PC
✓	PC

PUBLIC NOTIFICATION:

- Intent to nominate letters
- General Public Notice
- Owner list
- Certification of owners

2/27/86

PUBLIC COMMENTS:

- Notarized owner objection letters (Indicate #)
- Other comments (Indicate #)

0
1

PHOTOGRAPHS: (Indicate #. Indicate if OCES photos differ from photos sent to Washington)

- Exterior
- Interior
- Streetscapes
- Outbuildings
- Historical
- Negatives
- Contact Sheet

5	5
4	4
8	8

Staff Member

Sue Pringle

Date

7/1/86



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HELEN C. FENSKE, ASSISTANT COMMISSIONER

CN 402

TRENTON, N.J. 08625

609-292-3541

ONJH-F86-87

July 1, 1986

Ms. Carol Shull
Chief of Registration
National Register of Historic Places
National Park Service
Department of Interior
Washington, D.C. 20240

Dear Ms. Shull:

I am pleased to nominate the Watts, Campbell Company,
Newark, Essex County, New Jersey to the National Register.

This application has received majority approval from the
New Jersey State Review Board. All procedures were followed
in accord with regulations published in the Federal Register.

Should you want any further information concerning this
application, please feel free to contact F. Robert Perry,
Acting Administrator, Office of New Jersey Heritage, CN 404,
Trenton, New Jersey 08625 or call (609) 292-2028.

Sincerely,

A handwritten signature in cursive script that reads "Helen C. Fenske".

Helen C. Fenske
Deputy State Historic
Preservation Officer

HCF:SP:lr

United States Department of the Interior
National Park Service

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National Register of Historic Places
Inventory—Nomination Form

received

date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Passaic Machine Works, The Watts, Campbell & Company

and or common Watts, Campbell Company

2. Location

street & number 1270 McCarter Highway NA not for publication

city, town Newark _____ vicinity of

state New Jersey code 034 county Essex code 013

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture <input type="checkbox"/> museum
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial <input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational <input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment <input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government <input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input checked="" type="checkbox"/> industrial <input type="checkbox"/> transportation
	<u>NA</u>	<input type="checkbox"/> no	<input type="checkbox"/> military <input type="checkbox"/> other:

4. Owner of Property

name Charles (Chad) H. Watts, Jr.

street & number 1270 McCarter Highway

city, town Newark _____ vicinity of state New Jersey

5. Location of Legal Description

courthouse, registry of deeds, etc. Essex County Hall of Records

street & number Martin Luther King Blvd. (High Street)

city, town Newark _____ state New Jersey

6. Representation in Existing Surveys

title NJ Historic Sites Inventory has this property been determined eligible? yes no

date 1978 federal state county local

depository for survey records Office of NJ Heritage, CN 404,

city, town Trenton _____ state New Jersey 08625

7. Description

Condition

excellent
 good
 fair

deteriorated
 ruins
 unexposed

Check one

unaltered
 altered

Check one

original site
 moved date _____

Describe the present and original (if known) physical appearance

The Watts, Campbell Company, located at 1270 McCarter Highway in Newark, is possibly the oldest machine shop in continuous operation under the same family ownership in New Jersey. Founded in 1851 under the name, Passaic Machine Works, the company manufactured steam engines until around 1930. The company currently specializes in large-size, non-production machine work, and repairs and replacements for a variety of clients.

The plant, originally consisting of several separate buildings now connected together, occupies five city lots, four fronting on McCarter Highway and one on the corner of East Mill Street and Passaic Street. In the 1880s, the company was housed in approximately eleven buildings including a foundry across Passaic Street on the Passaic River; the riverfront buildings were sold off in 1938, and are now occupied by Art Metal U.S.A., a manufacturer of steel office furniture. The plan of Watts, Campbell Company is "L"-shaped, made up of three of the five city lots. The remaining lots, #21 and #22, are used for employee parking. The office occupies part of the corner lot (#18) at the intersection of East Mill Street and McCarter Highway. On the north and the east, lots #20 and #13 respectively, is the machine shop.

The office, a three bay, three story, white stuccoed structure, was altered from its original appearance in 1950 when the slate and tin mansard roof was flattened, the brick walls stuccoed, and the windows, door and door surround replaced. The main entrance was also moved from East Mill Street to McCarter Highway (formerly Ogden Street). This 19.0' x 40.0' building is divided into a cellar and three floor levels: a first story office, a second story drafting room, storage for patterns on the third floor and valves and supplies in the cellar. The interior of the building has undergone few alterations since the 19th century and retains its character with tongue and groove wood wainscot, chair rails, elaborate window and door moldings, wooden floors and much original office furniture. Alterations include linoleum over the first floor wood floor and suspended acoustic tile ceilings on the first and second floors.

The machine shop, which envelopes the office on the north and the east, is connected to it by stairs and an entrance off the east wall of the office. Built of brick, the machine shop varies from one to two stories in height. On its north and west sides, the machine shop is stuccoed to match the office, however, cast iron star shaped bosses betray its brick facades. The south and east facades have retained their original facades with alterations limited to the infilling of openings (windows and doors) on the ground floor.

Immediately behind the office and forming part of the southern facade of the plant is a two story, seven bay section of the machine shop. Each story is delineated by a course of brick corbelling above the windows. All the first story windows and door (fifth bay from the west corner) have been infilled. The second story windows are set in segmentally arched brick surrounds. The fifth bay from the western corner is a hoistway door surmounted by two beams from which

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a pulley system must have operated at one time. An unornamented pressed metal cornice edges the gabled roofline.

East of this section is a single story, three bay "blacksmith shop" which housed a forge in the 19th century. Although now part of the machine shop, it is still called the "blacksmith shop", and it retains features of its function such as the immense arched entrance flanked by a small single windows. The arch, now infilled with brick, once contained a set of large wooden batten doors. Below the bracketed wood cornice are unusual cast iron bosses in the shape of wheels. A small brick structure, also with a wooden cornice, connects the "blacksmith shop" with the two story brick machine shop extending along Passaic Street. This small connecting structure stands on what was once a "coal alley" leading to the boiler plant, behind which one can see the brick stack.

The two story brick machine shop wraps around the north and east facades of the office building. An elongated gabled roof structure with a clerestory, it consists of a multiple bay facade with segmental arched windows. The five bay McCarter Highway shop facade contains a central arched overhead door operated on pulleys. Flanking this door are large vertical multi-pane windows, above which are two smaller matching windows with inset ventilator panels. Originally these windows were segmentally arched four sash windows, possibly casement. These were changed when the exterior was modernized in 1950. A brick parapet roof was also added to the front of the building. To the south of this facade section are an additional two bays which illuminate the interior between the main body of the machine shop and the office. This stuccoed section of the shop is connected to a larger brick shop behind it, paralleling Passaic Street.

The two story, 18 bay machine shop section along Passaic Street is of common bond brick construction with bluestone lintels and sills and a wooden cornice. The third bay from the south contains a batten door on the first floor and a hoistway door on the second. In the center of the first floor is a large metal overhead door which serves as the vehicle entrance. Immediately next to it on the south is a door for the "shipping and receiving" functions of the plant. All the first floor windows have security bars, the second floor windows are boarded up.

The main part of the machine shop, north and east of the office and facing McCarter Highway, is a large and tall open space with an open truss and post and beam supported roof illuminated with a clerestory and skylights. Interior finishes include painted brick walls and wood ceilings. A rail curves throughout the facility.

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The plant equipment dates from the 1880s to the 1920s, and includes an immense vertical boring mill, horizontal boring mill, wooden pivoting cantilevered hoist, lathes, drill presses, grinders, planers, slotters and jib cranes. Below the roof is an overhead horizontal wooden bridge crane and alongside both sides of the crane the original belt driven overhead shaft gearing. Originally the entire shop was run on the power provided by one steam engine. Today the shop is run on electricity provided by a local utility.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input checked="" type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1851, 1865, 1883 **Builder/Architect** Unknown, assumed Watts, Campbell designed

Statement of Significance (in one paragraph)

The Watts, Campbell Company is significant in the areas of engineering, industry and invention. Probably the oldest machine shop in continuous operation under one family ownership in New Jersey, the company is the oldest functioning industrial facility on the Passaic River in Newark (Karschner 1985:130).

Established in 1851 as the Passaic Machine Works by William Watts and Zachariah Belcher, the company was first established in a Washington Street factory. By 1853, they had moved to the corner of Ogden (McCarter Highway) and Passaic Streets and erected a small building (Shaw 1884: 598). Zachariah Belcher withdrew from the firm in 1855, after which it was run by William and George Watts. (William Watts had been an apprentice of Seth Boyden, famous Newark inventor). In 1865, with the reorganization of the firm to include Daniel T. Campbell and Henry Parsons, the firm was renamed Watts, Campbell and Company (Ford 1874: 67). After the death of William Watts in 1883, the firm was again reorganized with George Watts, Daniel T. Campbell, Mary Belcher and Charles Watts as incorporators (Shaw 1884: 598). George Watts, a chemist by profession, had emigrated from Bristol, England in 1821, and died in 1888. Charles Watts apprenticed with Hewes and Philips Company on a pit lathe prior to joining Watts, Campbell and Company (interview with Chad Watts, 2/10/86).

By 1874, the chief products of Watts, Campbell and Company were steam engines, sugar plantation machinery and machine tools. Most of the sugar estate machinery was shipped to Cuba. Other equipment was sent to markets in the east, south and west. In 1874, the plant employed 125 men, had a weekly payroll of \$1,700 and yearly products valued at \$275,000 (Ford 1874: 67). By 1875, Watts, Campbell ranked second in Newark only to Hewes and Phillips in total output of steam engines, machinery and tools (Cunningham 1954: 134). By 1884, the company employed 320 men with sales over \$300,000 and shops covering 1 ½ acres (Shaw 1884: 598).

The Watts, Campbell Company specialized in the manufacture of Corliss steam engines, a necessity for Newark's developing industry in the second half of the 19th century. Steam power was the ideal solution for industrial energy as the Passaic River was unable to generate sufficient hydropower below the fall line, and an abundance of anthracite coal was available due to the transportation advantages of the Morris Canal. Prominent Newark companies who were supplied with Watts, Campbell Corliss engines included: Clark Thread Company, Ballantine Brewery, The Celluloid Company, Weston Electric and Wiss Shears. At the Newark Industrial Exhibition of 1872, Watts, Campbell displayed both vertical and horizontal steam engines (Karschner 1985: 130 and The Watts-Campbell Co.: c. 1887).

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In the areas of engineering and invention, Watts, Campbell and Company received three patents for their improvements on the Corliss steam engine and considered themselves the manufacturers of the "improved Corliss steam engine, 30 to 2,000 horsepower" (company letterhead from the 1880s). The company advertised its steam engines as "very adaptable, useful for electric-lighting purposes, and for driving the machinery in cotton and woolen mills". They were considered the first builders to keep the exhaust system separate from the walls of the cylinder: "in all sizes of our engines it (the exhaust) is separated as soon as it leaves each end of the cylinder, and is carried to a common outlet in the passage forming a part of, yet entirely distinct from, the cylinder proper. The economy of this in lessening the loss from condensation in the cylinder is now recognized by all engineers" (The Watts, Campbell Company c. 1887: 4). The company was also responsible for the invention of the "dash-pot", a shock absorber for the valve allowing extremely rapid valve closure without jar, shock or noise, thereby lengthening the life of the valves (The Watts-Campbell Co. c. 1887: 6).

Other improvements included: a distinctive cross-head with removable shoes, tapered cross-head pin and tapered piston rod secured by a cross-key; ball-and-socket bearing for the dash-pot plunger; a releasing gear adapted to high rotative speeds and designed to improve the regulation of the governor; slotted end connecting-rod: improved piston and piston packing; and safer balance, belt and rope wheels (The Watts-Campbell Co. Corliss Steam Engines n.d.: 10-20).

Steam engine production continued until the mid-1920s, by which time most companies had switched to utility-provided electricity. The company continued manufacturing replacement parts and repairing old equipment. According to the present owner, Chad Watts, the last repair call made by the company on a steam engine was at least fifteen years ago (circa 1970). The Watts, Campbell Company maintains files of old drawings and patterns for its steam engines as well as those of the Hewes and Phillips Company which closed around 1912.

Note: The name of the company has changed many times throughout its history. It was founded as the "Passaic Machine Works", then changed to "The Watts, Campbell and Company". Sometime at the end of the 19th century, the name was changed to "The Watts-Campbell Company". The current name of the company is "The Watts, Campbell Company".

9. Major Bibliographical References

See continuation sheet.

10. Geographical Data

Acreage of nominated property less than 1

Quadrangle name Orange

Quadrangle scale 1:24000

UTM References

A	<u>18</u>	<u>570260</u>	<u>4511180</u>	B			
	Zone	Easting	Northing		Zone	Easting	Northing
C				D			
E				F			
G				H			

Verbal boundary description and justification

Site is located on the easterly side of McCarter Highway, on the southerly corner of East Mill Street. Newark Tax Map: Block 436, Lots 13, 18, 20-22

List all states and counties for properties overlapping state or county boundaries

state	code	county	NA code

11. Form Prepared By

name/title Ulana D. Zakalak

organization Newark Preservation & Landmarks Committee date 02/21/86

street & number 868 Broad Street, 2nd floor telephone (201) 622-4910

city or town Newark state New Jersey

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

Deputy
State Historic Preservation Officer signature Allen P. Semler

title Assistant Commissioner for Natural Resources

date 6/24/86

For NPS use only

I hereby certify that this property is included in the National Register

date

Keeper of the National Register

Attest:

date

Chief of Registration

United States Department of the Interior
National Park Service

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Cunningham, John T. Made in New Jersey. New Brunswick, N.J.: Rutgers University Press, 1954.

Ford, William. The Industrial Interests in Newark. New York; Van Arsdale and Co., 1874.

Karschner, Terry. Industrial Newark. Compiled by Terry Karschner for the 14th Annual Conference of the Society for Industrial Archaeology, May 1985.

Shaw, William. History of Essex and Hudson Counties, New Jersey. 3 Vols. Newark: Everts and Peck, 1884.

Pamphlets

Guzzo, Dorothy, "Watts, Campbell Company Machinery and Floor Plan". Prepared for the 14th Annual Conference of the Society for Industrial Archaeology, May 1985.

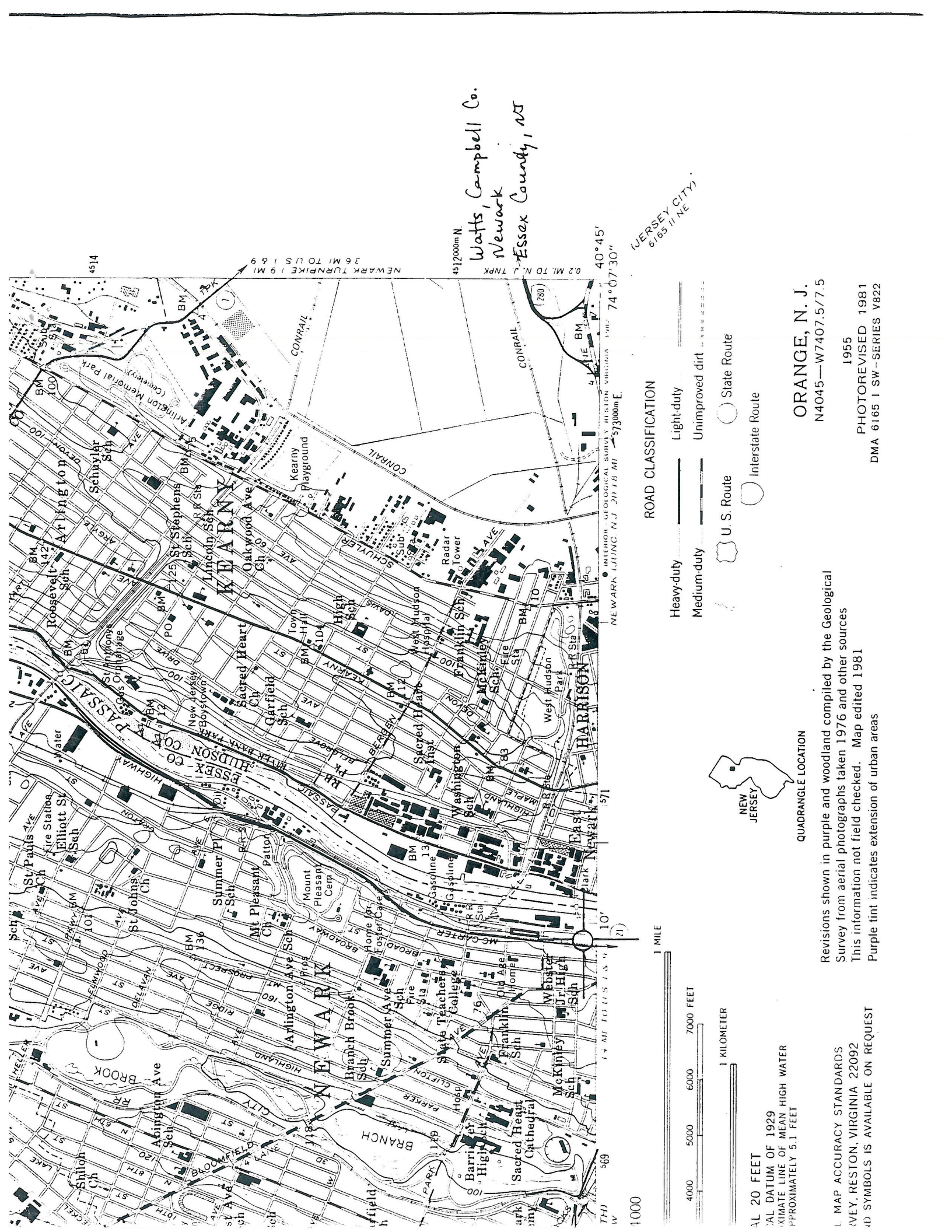
The Watts-Campbell Company: Corliss Steam Engines. n.p.: no publ., n.d.

Illustrated Circular of Improved Corliss Steam-Engines built by The Watts-Campbell Company. New York: DeVinne Press, n.d. (c. 1887).

Maps

"Passaic Machine Works, The Watts, Campbell Co." Insurance Survey #9329, November 17, 1887, revised February 18, 1888, in the possession of Chad Watts, proprietor.

Interview with Charles (Chad) H. Watts, Jr., proprietor, February 10, 1986.



Watts, Campbell Co.
Newark
Essex County, NJ

JERSEY CITY
6165 11 NE

ROAD CLASSIFICATION

- Heavy-duty
- Medium-duty
- Light-duty
- Unimproved dirt
- U. S. Route
- State Route
- Interstate Route



QUADRANGLE LOCATION

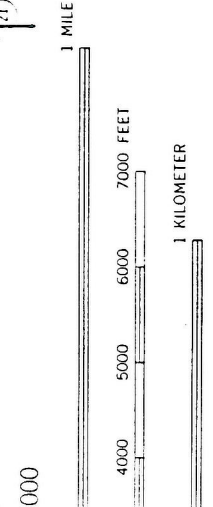
Revisions shown in purple and woodland compiled by the Geological Survey from aerial photographs taken 1976 and other sources. This information not field checked. Map edited 1981. Purple tint indicates extension of urban areas.

ORANGE, N. J.
N4045—W7407.5/7.5

1955
PHOTOREVISED 1981
DMA 6165 1 SW—SERIES V822

MAP ACCURACY STANDARDS
VEY, RESTON, VIRGINIA 22092
D SYMBOLS IS AVAILABLE ON REQUEST

AL 20 FEET
AL DATUM OF 1929
IMATE LINE OF MEAN HIGH WATER
PPROXIMATELY 5.1 FEET



1000

1 MILE

1 KILOMETER

4000 5000 6000 7000 FEET

40°45'

74°07'30"

573000m E

NEWARK, UJLINC N.J. 211 118 MI

INTERIOR GEOLOGICAL SURVEY

NEWARK TURNPIKE 1.9 MI

36 MI TO US 1 6.9

4512000m N

0.2 MI TO N. J. TRPK

4514

CONRAIL

CONRAIL

CONRAIL