

ELLIS ISLAND
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EVALUATION OF IMPACT OF COLUMN
REHABILITATION ON CULTURAL RESOURCES

FOR THE

NATIONAL PARK SERVICE
DENVER SERVICE CENTER
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The following report on the potential for disturbance of cultural resources in conjunction with building stabilization on Ellis Island, New York, was undertaken at the request of the National Park Service, Denver Headquarters. Dr. Nan A. Rothschild, Hunter College, CUNY, was Project Director, and Richard Shallenberger was Field Director. The project began when early excavation in the basement of the Main Building revealed boulders thought possibly to relate to the original shoreline of the island. Work was done under that mandates of a series of federal laws, the National Historic Preservation Act of 1966, the National Environmental Policy Act (1969), the Archaeological and Historic Preservation Act (1974) and Executive Order 11593.

Observation during construction and analysis of recovered artifacts and visible architectural remains suggests that implementation of the proposed stabilization will not negatively affect any cultural resources of potential eligibility to the National Register of Historic Places.

Project Area

Ellis Island National Park, part of the Statue of Liberty National Mounument, lies in Upper New York Bay approximately one-quarter of a mile to the north of Liberty Island and one-fifth of a mile to the east of the New Jersey shoreline (Fig. 1). Ellis Island occupies an area of about 27 acres, and is made up mostly of landfill since the original island occupied an area of about 2 3/4 acres (Pitkin, 1975; Unrau, 1978a and 1978b).

The section of the island north of the ferry basin is the site of the Main Building, a French-Renaissance style structure (Fig. 1 and Fig. 2). When the island served as a port of entry and immigration station, the Main

Building was the immigration depot, featuring a large hall for the processing of the many thousands of immigrants who came to the United States in the first quarter of this century. The building measures about 380 feet by 160 feet and much of it is situated on the original 2 3/4 acre island (Fig. 1a).

Nature of Project

The Main Building, after almost twenty years of limited use and occupation, is being rehabilitated. The structural rehabilitation involves, in part, the repair of 39 of the more than 160 supporting columns in the basement (Fig. 3). The repair of the columns required the removal of the brick around the inner structural column, the breaking of the concrete floor around the columns and the excavation of the fill around the columns to determine the column condition. The extent of the column instability or deterioration, if any, was to be determined after the exposure of the inner structural steel. Excavations proceeded to the base plate on which each column rested. The depth of the base plate varied from about 7 feet to more than 8 feet below the surface of the concrete floor. The particular methods of excavation are discussed in the section on field procedures. Excavations around eleven columns were monitored (columns 8-13, 34, 51, 54, 55, 70); the area around columns 54, 55 and 70 was considered of foremost archeological interest because of its location on part of the original island (Fig. 3).

Historical Background

Ellis Island served several functions before its use as an immigration center. Pitkin (1975) and Unrau (1978a and 1978b) provide detailed descriptions

of earlier historic occupations of the island and the following outline was taken from those sources. Kardas and Larrabee (1976) discuss the potential for the discovery of Archaic and Paleo-Indian sites on Ellis Island.

In early historic times, Ellis Island served as a picnic ground, a location for harvesting oysters and a site for the hanging of suspected state criminals and pirates. During Dutch and English occupations the island was variously referred to as Oyster Island (or one of the Oyster Islands), Kioshk Island, Gull Island, Bucking Island, Green Island and Gibbet Island. From 1785, maps of New York Harbor indicate that the island was called Ellis Island, after its eponymous owner, Samuel Ellis. The State of New York had fortified the island by 1794, after which the War Department issued a proposal in 1808 for the installation of a casemented battery and garrison. Between that time and the War of 1812, the fort known as Fort Gibson was constructed (Fig. 4 and 5). The period from the end of the war to the beginning of the Civil War marked a time of relative inactivity and quiescence on the island. This period was followed by three decades of use of Ellis Island as a supply station and naval arsenal. In 1890, Ellis Island was converted into an immigration station after the adaptation of several existing arsenal structures. This first immigration depot was completed in 1890. According to a report in the October 24, 1891 issue of Harper's Weekly, Ellis Island was "about doubled in size" relative to its original area. When this immigration station burned in June, 1897, plans for the reconstruction of the station began immediately. These plans included measures for the extension of the island by several acres. An article in the January 31, 1897 issue of the New York Times noted that Ellis Island "contains about 14 acres and is being constantly

added to by filling in the shallow waters that surround it" (Unrau, 1978a: 25). By 1900, construction on the northern part of the island was completed.

Project Impact

The excavation around the columns noted above have the potential of disturbing any cultural resources, features or structures associated with the island's earlier uses. Structures associated with the island's use as a fort and garrison in the early 19th century are shown on Figure 5. If the boulder retaining wall near the southeast corner of the original island were intact, excavations around columns #118, 123, 138, 143, and 144 could disturb it (Fig. 4 and 5). Remnants or foundation walls of the brick building at the southern edge of the original island could also be affected by proposed construction (Fig. 5). All other excavation appear to be outside the range of the original island and outside the range of the walls of the first Main Building, and therefore are subject to a different type of archaeological concern.

The construction of the second Main Building was preceded by extensive excavation for the foundation. Before the foundation excavation, instructions were given "to include the breaking down of all the old building walls on the island damaged more or less by fire and [to] provide for their use in the crib-work, ballast, or filling, in the enlargement of the island" (Unrau, 1978a: 32-33). Any underground structures encountered in the process of excavation were removed by the R.H. Hood Co. which had been contracted for the foundation work (Unrau, 1978a: 56). The Hood Co. reported that "a delay of four or five months was occasioned on account of the existing (sic) of

cisterns, pipe conduits, wells, cellar floors, etc." (Unrau, 1978a: 70).

One may assume that all of these structures were removed and included in the fill as were the other structures that the Hood Co. encountered.

Because of the removal of extant structures on the island in 1898 prior to the reconstruction of the Main Building, the likelihood that excavations in the basement of the building will disturb any features was low. While much of the fill on the island would appear, from this information, to consist of building debris from the original island, additional fill would have been necessary to enlarge Ellis Island. Since the fill may represent what Kardas and Larrabee (1976: 47) refer to as "19th century metropolitan midden," excavation of the fill also required archaeological investigation. The fill may include the historic remains, the refuse of the 19th century inhabitants of the metropolitan area and, therefore, may constitute a significant cultural resource.

Since the excavations proceeded to depths of 7 feet and more, the digging also has the potential for disturbance of prehistoric sites. Kardas and Larrabee (1976) refer to the lower sea levels in the recent past. Prehistoric occupations might be beneath the present surface of Ellis Island, introducing the potential for disturbance of "Paleo-Indian camp sites, seasonal Archaic occupation and shell middens from Archaic into Late Woodland periods (Kardas and Larrabee, 1976: 13).

Field Procedure

The excavations around the columns had begun in 1980, during which time the construction crew uncovered boulders and large stones near columns # 118,

123, 138, 143 and 144. Examination of the relation of the boulder location to the plans of Fort Gibson indicated the possibility that the boulders could be the remnants of the seawall or of the boulder retaining wall on the south-eastern corner of the original island (Fig. 5). At that time, the excavations had proceeded to a depth of about 3 feet. The ground disturbance around the columns included an area less than 36 square feet around each column; that is, not more than 3 feet in any direction from the column. Further excavation in the basement was postponed to allow for the removal of asbestos in the basement.

When the excavations resumed in January, 1981, the areas around the previously exposed columns were reexcavated, effectively widening and deepening the holes. Ground disturbance continued through the second week in February, when the crew uncovered faunal remains in the pit around column # 53 (see Appendix). After the project supervisor contacted the archeologist, monitoring of the excavations began.

On March 3, Michael Devonshire of the Center for Building Conservation, New York, New York, took samples of the brick and mortar from the structure near columns # 13 and 29. His report appears in Appendix II.

Field Assistant Jill Moser helped in the monitoring of the excavations when three or more units were being excavated at the same time. Ms. Moser also assisted in the drawing of the profiles.

Excavations around twenty-eight of the columns had begun before the first day of monitoring, February 18, 1981. Of the remaining 11 columns to be exposed, attention was to be concentrated on the excavations in the "target area," an area in the basement located on part of the original island. This target area included all excavations around columns # 54, 55 and 70 (Fig. 3).

A crew of 3 to 6 excavators from the Ramshead Co., Inc., Long Island, New York dug around the 11 remaining unexposed columns from February 18 to March 17. After breaking up the concrete with a pneumatic jack-hammer, the excavators removed the concrete, exposing the fill. The concrete was 6 inches thick, consisting of a 1 inch thick layer of high-grade concrete, underlaid by 4-5 inches of lower grade, more porous concrete. Underneath the concrete was a very thin layer of asphalt not more than one-half inch in thickness (Fig. 6-8).

Using short-handled spades and picks, the excavators removed the fill. The archeologist observed the actual excavations, looking for any features or any patterns to the arrangement of stones and boulders in the excavation pits. Examination of the backdirt also proved necessary. The archeologist troweled through the excavated fill to look for any artifacts or resources overlooked during the actual excavation.

Excavations around column # 8 and column # 13 uncovered structures of potential archeological interest. The fill between columns # 13 and 29 had been removed before February 18, resulting in the effective joining of the two excavation units. To the east of column # 13 and to the west of column # 29, the excavators uncovered a cut stone wall running north to south about 8 inches below the surface of the concrete floor (Fig. 7 and 9). The stone wall, which is two courses wide and three courses deep, incorporates a brick extension that runs east to west for two lengthwise courses, and then continues south for several courses (Fig. 10). This extension is connected by mortar to a large boulder, concave on its western aspect. This boulder appears to be the first in a line of large stones that continue to the west (Fig. 11).

Further excavation showed that the structure bears a shelf of cement-like material near its base on its western aspect. The structure is underlain by footing stones in a matrix of orangish-red clayish silt. The stone wall runs into the north wall of the excavation unit, its extent to the north unknown. The entire structure measures over 7 feet in length.

Excavation around column # 8 uncovered a similar structure, running parallel to and about 16 feet to the west of the structure just described. In the east wall of the excavation unit, a cut stone structure abuts a brick extension which is attached by mortar to a large boulder (Fig. 8, 12 and 13). The structure is about 6 feet long and is underlain by large stones on a matrix of orangish-red clayish silt.

The profiles of the units around columns # 8 and 9 showed a large amount of terra-cotta tile and brick in the upper 10 to 12 inches of the fill. Because the fill was very hard-packed, the excavators used a pick to facilitate removal of the fill. Below the hard-packed fill, the excavators noted about one foot of more loosely-packed fill with cinder and slag and fewer terra-cotta tile fragment. Below this was silty fill with a large amount of architectural debris.

The components of the fill were consistently present in all excavations around the remaining columns. The fill around columns # 11, 12, 13, 33, 34, 54, 55 and 70 can be characterized as sandy silt, reddish brown to medium brown in color with oyster shell, pockets of ash, cinder, burned wood and architectural debris. The architectural debris pervaded the fill, composed of bricks, brick bats, sections of brick wall, mortar fragments, sections of corroded metal pipe, rusted metal conglomerate, wood, slate tile, terra-cotta tile, sheet metal, and cut stone. In addition, the units around all columns

had been filled with some large rocks, some approaching $1\frac{1}{2}$ to 2 feet in diameter.

The excavation process was often hindered by water seepage. During high tide, water seeped into the excavation pits after the excavators had reached a depth of about 3 feet below the surface of the concrete floor. The water seepage necessitated the constant use of pumps to enable further excavation. The wetness of the fill hindered observation of the excavations and the discernment of cultural resources, features and soil changes. Recovery of artifacts from the wet fill was also difficult.

Besides the problems associated with water seepage, the lighting in the basement proved difficult for the detection of smaller artifacts and for the differentiation of changes in soil color.

The artifact density was low relative to the large amount of fill removed. This low density may, in part, have resulted from the factors discussed above. However, even considering the problems encountered during the excavation, the artifact recovery was very low.

For example, from the excavation unit around column # 8, from which more than 250 cubic feet of soil was removed, only 33 diagnostic artifacts were recovered.

Results

Among the diagnostic artifacts recovered from the eleven excavations and from the backdirt, there were twenty-five fragments of whiteware, seven of which were decorated by the transfer-print process. Two pieces were rim fragments from two different chamber pots. The excavation around column # 54

produced a large whiteware dish fragment with an imprinted mark on its base: "GREENWOOD CHINA, TRENTON, N.J." According to Kovel and Kovel (1953), the mark can be dated to circa 1870 (Appendix I).

All other ceramics were stoneware, 35 in number, most of those grey-bodied with salt glaze or "Albany" slip (Appendix I).

Ten fragments of bottle glass were recovered, including three that preserved parts of the neck and crown. These three pieces exhibited pre-crown closure, indicating that the bottles were mold-made in the 19th century. Another four of the fragments were basal fragments, some of which included the "kick" or basal convexity in the bottom of the bottle. Six of the ten fragments were light green, three were dark green and one, brown. Of the dark green bottle glass fragments, one exhibited a raised ribbed design, characteristic of mid-19th century bitters' bottles. One of the basal fragments had raised lettering on the lower part of the body: "FOR H. CLAUSEN & SON BREWING CO. 886-890 SECOND AVE. NYC."

Two kaolin pipe-stem fragments were recovered, one each from the excavations around column # 8 and column # 12. The former had a bore diameter of 4/64ths of an inch; the latter, 5/64ths of an inch. According to the Harrington method of dating clay pipe stems, these diameters represent dates ranging from 1750 to 1800 and 1710 to 1750, respectively (Hume, 1969: 298).

In the pits around columns # 8, 9, 12 and 13, there were several dozen carbon rod fragments, some bearing imprinted letters or numbers and one with the incomplete imprint "CARBONS...VIENNA AUSTRIA S A SHIP CAP..." These rods were apparently used in carbon arc lamps. They measured about 3/8 of an inch in diameter.

The faunal remains from the excavations numbered 12 pieces of bone, all of them either from large mammals or from birds. Since the large mammal bones showed signs of butchering, the faunal remains could be refuse, or dietary remains. Considering the fragmentary nature of the diagnostic artifacts and the presence of dietary remains in the soil, it seems reasonable to conclude that the soil from the excavations included a small quantity of 19th century garbage. As was the case with the diagnostic artifacts, the faunal remains occurred in very low density in the soil removed from the excavation units. Table 1 below shows the total recovery of the most frequently found diagnostic artifacts and faunal remains.

Table 1

<u>Column #</u>	<u>Whiteware</u>	<u>Stoneware</u>	<u>Glass</u>	<u>Faunal Remains</u>
8	10	1	1	3
9		1	1	1
12	6		2	1
13		3		
31	2			
34	2			1
35				2
50		17*	1*	
52				2
54	2	7	1	
55	1	6	1	
70				1

*All recovered from backdirt

The artifacts and faunal remains were recovered from varying depths in the different excavation units. There seemed to be no concentration of artifacts at any particular depth in any single unit. The excavations that were monitored provided evidence that the fill was homogeneous in nature with no stratigraphic divisions except in the units with the stone and brick structures (units around columns # 8 and # 13). In these latter units, the structures seemed to be underlain by sterile subsoil.

It should be noted that, after March 18, excavation resumed around all 39 columns to the base plates. The excavations proceeded no more than one more foot in depth, that is, no more than 6 feet in total depth. Because the excavations seemed to continue in the homogeneous fill, and no stratigraphic differences could be discerned in the excavation units that had been examined (units around columns # 8 and # 9), monitoring was not continued.

The structures uncovered in the units near columns # 8 and # 13 were not associated with any undisturbed deposits. That is, the soil around the walls was the same homogeneous, synchronic fill that was removed from all the excavation units. The structures were 16 feet apart and, because they ran parallel to each other, could be the sides of one structure. Analysis of brick and mortar samples from the structure near column # 13 showed that the wall could be dated to a time before 1850 (Appendix II). Although the walls cannot be correlated with any structures on the island during the existence of Fort Gibson (Fig. 4 and 5), the parallel nature of the walls and the existence of a cement-like shelf at the base of the wall near column # 13 could suggest the use of the structure for storage, or perhaps as a cistern.

The boulders found in the excavation units near the eastern end of the building could have been part of the retaining wall around the eastern end of the original island (Fig. 5). Again, no undisturbed deposits were associated with the boulder and stone walls; the soil around them was fill. The configurations of the boulder and stone are recorded in photographs (Fig. 14, 15 and 16) and the position of these boulders and stones relative to that of the retaining wall is recorded on maps (Fig. 3,4, and 5).

Conclusions

The excavation around the columns in the basement of the Main Building on Ellis Island showed that the soil probably was homogeneous fill, deposited in one episode, and comprised in large part of architectural debris from the burned buildings of the first immigration station. The diagnostic artifacts composed a small percentage of the fill; those artifacts that can be dated were characteristic of utilitarian objects from the middle to late 19th century. While there is midden material mixed in with the fill, the density and age of the material makes them unlikely to be significant cultural resources.

Structural elements uncovered during the excavations included two stone and brick walls that could not be associated with any structures on the original island or inside Fort Gibson although the walls were clearly in existence before the extant structures.

Boulders and stones found in the excavations near the eastern end of the island were located in a position indicating that they could have been part of the sea wall around the original island. However, there were no undisturbed deposits associated with the boulders and stones.

In summary, it is our opinion that the implementation of proposed rehabilitation will not affect any structures or archeological deposits which could be eligible for nomination for the National Register of Historic places.

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Appendix I

Material Recovered

Excavation Unit Around Column # 8

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
10	Whiteware	Fragments of Plates, 3 with Transfer Print Design
1	Porcelain	Fragment of Plate with Hand-Painted Blue Design
2	Tile	Ceramic Tile Fragment
1	Stoneware	Small Sherd
1	Kaolin Pipe Stem	Fragment with Bore Diameter: 4/64ths inch

Diagnostic Artifacts: Other

17	Carbon Rod Fragments	1 with imprint "CARBONS... VIENNA AUSTRIA S A SHIP CAP"
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Diagnostic Artifacts: Glass

1	Bottle Glass, Light Green	Rounded Bottom of Bottle
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Non-Diagnostic Artifacts

1	Yellow Brick Fragment	Hand-Made
1	Terra-Cotta Tile Fragment	
1	Slate Tile Fragment	With Hole for Nail

Faunal Remains

1	Rib Fragment: Large Mammal
1	Bird Bone: Wishbone
1	Fragment Calcified Bone

Excavation Unit Around Column # 9

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Stoneware with Albany Slip	Rim Sherd

Diagnostic Artifacts: Glass

1	Bottle Glass, Blue-Green	Body Sherd with Raised Rib-Like Design, Possibly From Bitters' Bottle
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Diagnostic Artifact:

1	Carbon Rod Fragment	Possibly Used in Arc Light
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Faunal Remains

1	Long Bone Fragment: Large Mammal	Possible Tibial Fragment: Appears to be Domestic Cattle--apparent Butchering Marks on One Side
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Excavation Unit Around Column # 12

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Porcelain	Fragment of Thick Glazed Porcelain
6	Whiteware	5 Body Sherds, 1 Rim Sherd
1	Kaolin Pipe Stem Fragment	Bore-Diameter of 4/64ths inch
1	Tile Fragment	

Diagnostic Artifacts: Glass

2	Bottle Glass	1 Dark Green Fragment From Neck; Mold-Made
		1 Light-Green Crown and Neck Fragment. Slight Patination. Mold-Made, Pre-Crown Closure

Faunal Remains

1	Long Bone Fragment, Large Mammal
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Excavation Unit Around Column #13

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
2	Grey-Bodied Stoneware	1 Burned Rim Fragment From Wide-Mouthed Vessel or Pot 1 Small Body Sherd
1	Red-Bodied Stoneware with Albany Slip	Large Basal Fragment of Pot with about 2/3 of Base
1	Kaolin Pipe Bowl	Fragment Includes Part of Rim

Diagnostic Artifacts: Other

31	Carbon (Graphite) Rod Fragments	Some with Tapered Tips-- Possibly Used in Arc Lights. 4 Fragments Imprinted With Letter "J" on Shaft; 2 Frag- ments with "2"; 3 Fragments with "A"
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Non-Diagnostic Artifacts

1	Slate Tile Fragments
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Excavation Near Column # 31

Diagnostic Artifacts: Ceramics

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Transfer-Print, Whiteware	Fragment of Dish
1	Whiteware	Fragment of Dish

Excavation Unit Around Column # 34

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
2	Whiteware	2 Small Sherds; 1 with Blue Transfer Print Design

Faunal Remains

1	Long-Bone Fragment Large Mammal
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Excavation Around Column # 35

Diagnostic Artifacts: Metal

<u>Number</u>	<u>Type</u>	<u>Comment</u>
1	Shell Casing-Brass	From About .50 Caliber Shell

Faunal Remains

1	Long Bone Fragment Large Mammal	Distal End of Tibia--Saw Marks Near End--Sawed Away From Rest of Bone
1	Femoral Fragment, Bird	

Backdirt From Excavation Unit Near Column # 50

Diagnostic Artifacts: Ceramics

<u>Number</u>	<u>Type</u>	<u>Comment</u>
13	Stoneware	Bases of 2 Different Vessels; 11 Body Fragments (unburned)
3	Stoneware	3 Body Fragments, All Burned, Decorated with Incised Con- centric Rings Near Neck-- Includes 1 Handle Fragment
1	Stoneware	Large Fragment From Top of Vessel, Crown Pinched in Middle, Small Aperture, Handle Fragment Attached to Crown. Small Black Bump on Body Near Neck.
1	Red Earthenware	Thin, Glazed Rim Sherd

Diagnostic Artifacts: Glass

1	Bottle Glass	Patinated Basal Fragment with Kick.
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Excavation Unit Around Column # 53

Faunal RemainsTypeNumber

2	Long Bone Fragments Large Mammal
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Excavation Unit Around Column # 54

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
2	Whiteware	Rim Sherd From Chamber Pot. Also About Half of Whiteware Dish with Imprint: "Greenwood China Trenton, N.J."--Date: ca. 1870 (Kovel & Kovel, 1953: 54).
1	Tile	Small Fragment
4	Grey-Bodied Stoneware with Salt Glaze	All Fragments From Neck and Crown of Proprietary Bottle
2	Grey-Bodied Stoneware with Albany Slip Inside	Neck and Crown Fragments From Proprietary Bottle
1	Grey-Bodied Stoneware	Fragments include Handle and Part of Possible Spout, Indi- cating Very Small Aperture. Appears Burned and Exhibits Crazing.

Diagnostic Artifacts: Glass

1	Bottle Glass, Brown	Bottom of Bottle, No Kick, Slight Convexity, Mold Made
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Excavation Unit Around Column # 55

Diagnostic Artifacts: Ceramics

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Grey-Bodied Stoneware, Clear Glaze on Outer Surface	Large Fragment From Body
4	Stoneware with Albany Slip	Fragments From Same Basal Portion. Very Thick--Probably Storage Jar
1	Grey-Bodied Stoneware with Albany Slip	Fragment of Neck, Storage Vessel or Proprietary Vessel. From Same Vessel as Fragments Unit # 54.
1	Whiteware-Transfer Print	Base of Dish--Blue Design

Diagnostic Artifacts: Glass

1	Bottle Glass; Light Green	Neck and Crown with Top of Body. Mold-Made, Pre-Crown Closure
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Non-Diagnostic

2	Metal Fragments	1 Corroded Iron; 1 Corroded Brass or Copper
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Excavation Unit Around Column # 70

Faunal Remains

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Long Bone Fragment Large Mammal	Bone Cut at One End

Trench Between Columns #32 and # 33

Faunal Remains

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Femoral Fragment Bird	

Backdirt Near Column # 138

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
2	Red Earthenware With Blue, Green and Red Annular Design	Fragments from Small Vessel; Handle Frag- ment on One Sherd

Diagnostic Artifacts: Glass

2	Bottle Glass, Light Green	One Fragment With Part of Crown and Neck
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Non-Diagnostic Artifacts:

1	Building Tile	Arcs Near One End Light Green on One Side
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Backdirt--No Provenience

Diagnostic Artifacts: Ceramic

<u>Number</u>	<u>Type</u>	<u>Comments</u>
1	Stoneware	Large Body Fragment
1	Porcelain	Small Undecorated Sherd
2	Whiteware	(1) Rim Sherd From Chamber Pot; Appears to be Hand-Painted-Blue (2) Small Sherd
1	Pearlware	Large Body Sherd
1	Tile	Ceramic Tile Fragment

Diagnostic Artifacts: Glass

1	Bottle Glass Very Light Green	Lower Part of Bottle- Mold-Made. Three Dis- crete Mold Seams on Base. Raised Lettering: H Clausen & Son Brewing Co.- 886-890 Second Ave. NYC- On Back: "This Bottle Not To Be Sold"
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Non-Diagnostic

1	Slate Tile	Small Fragment
1	Polished Granite	Decorative Molding

Appendix II

Wall Section Investigation:
Ellis Island Site

Prepared for R. Shallenberger

By: M. Devonshire

Introduction

This report discusses masonry components found in wall section at the U.S. Immigration Station, Ellis Island (Boring and Tilton, 1898).

As found conditions:

- 1.1 The wall section shows a series of six bricks laid in header bond, terminating at rock formation on the East end (gneiss), and a foundation of cementitious material at the West.

Brick:

- 2.1 Visible bricks show the following dimensions:

- a. 7 3/4" x 3 1/2" x 2 1/4"
- b. 7 3/4" x 3 1/2" x 2 1/4"
- c. 7 3/4" x 3 3/8" x 2 1/4"
- d. 7 1/2" x 3 1/4" x 2 1/4"
- e. x 3 3/8" x 2 1/4" (length broken)
- f. 7 1/2" x 3 1/4" x 2 1/4"
- g. 7 1/2" x 3 1/2" x 2 1/4"

- 2.2 Bricks are handmade sand struck variety.

Mortar:

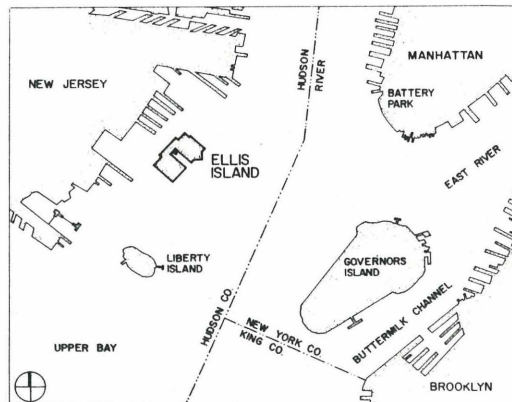
- 3.1 Cursory examination of the mortar shows 1/2" wide joints.
- 3.2 Gross appearance of mortar is dark gray in color with very coarse aggregate.

3.3 Microscopic examination of mortar sample reveals very dark aggregate (similar to Schofield sample # 171).

3.4 Microscopic examination shows high lime content using well slaked lime. No unslaked lime appears to be present in sample.

Summary Observation

Given the evidence of hand-made brick, in conjunction with the high lime content of the mortar (post 1850 would have most likely resulted in a natural cement being used in this location), it can be concluded that the wall section was constructed in the first half of the 19th century.



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3	FIRST FLOOR PLAN		WINDOW DETAILS
4	SECOND FLOOR PLAN	86	B1 WINDOW DETAILS
5	THIRD FLOOR PLAN	87	B2 DOOR DETAILS
6	CLERESTORY PLAN	88	C1-C4 ELEVATIONS
7	ROOF PLAN	89	C1 WINDOW DETAILS
		90	C2 WINDOW/DOOR DETAILS
ELEVATIONS		91	C3, C4 WINDOW DETAILS
8	SOUTH ELEVATION - WEST HALF	92	E7, I WINDOW DETAILS
9	SOUTH ELEVATION - EAST HALF	93	F1, F2, F4 WINDOW ELEVATIONS
10	EAST ELEVATION	94	F1, F4, F5 WINDOW ELEVATION
11	NORTH ELEVATION - EAST HALF	95	F2, F5 WINDOW ELEVATION
12	NORTH ELEVATION - WEST HALF	96	F1-F5 WINDOW/DOOR DETAILS
13	WEST ELEVATION	97	F1-F5 WINDOW DETAILS
14	SOUTH TOWERS/CLERESTORY	98	G1, M WINDOW/SKYLIGHT DETAILS
15	NORTH TOWERS/CLERESTORY	99	G2 WINDOW DETAILS
16	PARTIAL TOWER ELEVATIONS	100	J WINDOW DETAILS
17	SOUTHWEST LIGHTCOURT	101	L1, L2 WINDOW DETAILS
18	SOUTHEAST LIGHTCOURT	102	S WINDOW DETAILS
19	NORTHEAST LIGHTCOURT	103	T1, X WINDOW DETAILS
20	NORTHWEST LIGHTCOURT	104	U WINDOW DETAILS
		105	V, K WINDOW DETAILS
WINDOW SURVEY FORMS		106	Z, D WINDOW/DOOR DETAILS
21-24	OPENING SCHEDULE	107	Y, A WINDOW/DOOR DETAILS
25,26	NOT INCLUDED IN THIS SET	108	M SKYLIGHT ELEVATIONS
27	WINDOW/DOOR TYPE CHART	109,110	NOT INCLUDED IN THIS SET
28-30	NOT INCLUDED IN THIS SET		
31-43	SOUTH WINDOWS		STONE REPAIR DETAILS
44-49	EAST WINDOWS	111	SOUTH ELEVATION
50-64	NORTH WINDOWS	112	EAST AND WEST ELEVATIONS
65-69	WEST WINDOWS	113	NORTH ELEVATION
70-73	SOUTHEAST LIGHTCOURT WINDOWS		
74-77	SOUTHWEST LIGHTCOURT WINDOWS		TOTAL NUMBER OF DRAWINGS THIS SET - 1

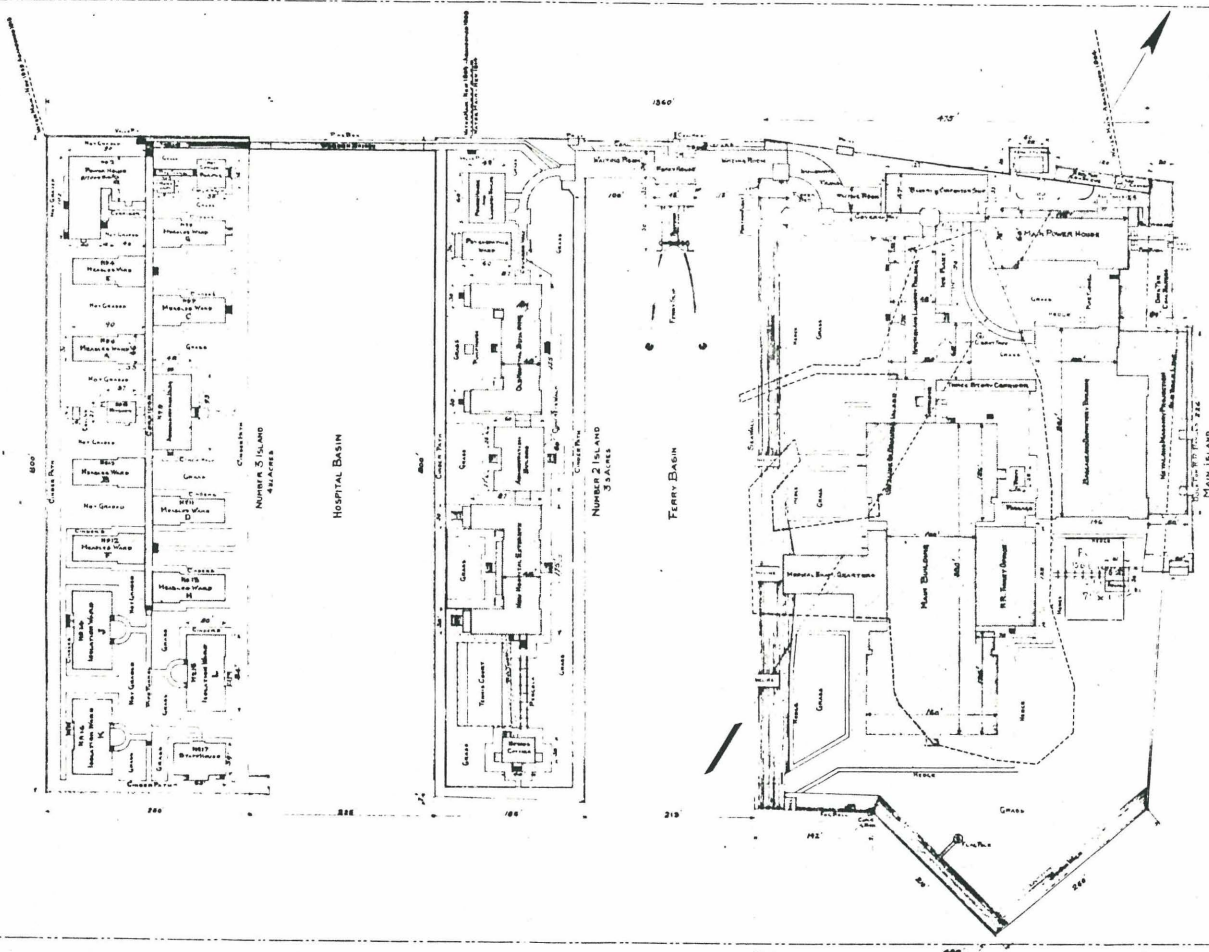
TOTAL NUMBER OF DRAWINGS THIS SET - 106

REDUCED SIZE REPRODUCTION
IFB NO. 1940-79B

BASIC DATA	This drawing has been prepared in compliance with Preliminary/Comprehensive Design Drawing No. <u>482-41023</u>	BUILDING CONSERVATION TECHNOLOGY, INC. WASHINGTON, D.C.	CONSTRUCTION DRAWINGS	PREPARED	TITLE OF DRAWING REPAIR OF WOOD WINDOWS AND DOORS MAIN BUILDING - ELLIS ISLAND LOCATION WITHIN PARK	DRAWING NO. 482 25001
	Approved by <u>JACK E. STARK</u> REGIONAL DIRECTOR on <u>11-2-78</u> <u>Donald F. Benson</u> Date <u>7-14-79</u> Associate Manager D.C. (Act) Date	THE EHRENKRANTZ GROUP NEW YORK, NEW YORK	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DENVER SERVICE CENTER	DESIGNED <u>AS</u> DRAWN <u>JS</u> CHECKED <u>5/79</u> DATE <u>5/79</u>	ELLIS ISLAND NAME OF PARK STATUE OF LIBERTY NATIONAL MONUMENT	PWG NO. SHEET 107 1 OF 115

Figure 1

ELLIS ISLAND, NY STA.



CUBIC CENTIMENTS OF BUILDINGS			
MAIN ISLAND			
MAIN BUILDING	SQ. FT.	HEIGHT IN FEET	
REAR OF REAR BUILDING	28,830		
CLIPPING BUILDING REAR BUILDING	10,000		
IN TOWER BUILDING	40,000		8,000
BIGGAR AND DEERMAN BUILDING	12,000		3,000
ADDITIONAL BUILDING ON	10,000		2,000
METAL WORKING BUILDING	30,000		13,000
STEEL WORKING BUILDING	51,000		18,000
POWER HOUSE	40,000		2,000
WATER TOWER	4,000		1,000
CATERING	14,000		400
BATTERY AND CAPACITOR HOUSE	16,000		3,000
REAR BUILDING OF REAR BUILDING	10,000		2,000
REAR BUILDING OF REAR BUILDING	10,000		2,000
NO 2 ISLAND			
POWER HOUSE	8,000		3,000
PSYCHIATRIC WARD	72,000		8,000
CLIPPING BUILDING	47,000		2,000
ADMINISTRATION BUILDING	30,000		3,000
NEW HOSPITAL TENDON	51,000		10,000
NUMBER CENTRAL	4,000		2,000
NO 3 ISLAND			
OFFICE BUILDING	3,000		1,000
POWER HOUSE	81,000		2,000
MORTUARY	8,000		400
MEASURING BUILDING	10,000		400
ADMINISTRATION BUILDING	17,000		1,000
KITCHEN	1,000		600
ISOLATION WARD	12,000		400
STAFF HOUSE	8,000		3,000
COVERED WARD	20,000		1,000
PIPE TUNNEL	4,000		

ACERAGE OF ALL THREE ISLANDS	
MAINLAND	1018 ACRES
No 2 ISLAND	3.00 "
No 3 ISLAND	4.00 "
FERRY BRIDGE ETC	.37 "
TOTAL ACRES 1030	

NOTE
DOTTED LINES ON MAIN ISLAND INDICATE
SIZE AND SHAPE OF ORIGINAL ISLAND.

BLOCK PLAN
SHOWING RELATIVE LOCATIONS OF BUILDINGS
CORRIDORS ETC ON THE THREE ISLANDS
U.S. IMMIGRANT STATION ELLIS ISLAND N.Y.
DECEMBER 24, 1913 SCALE 1" = 60 FEET

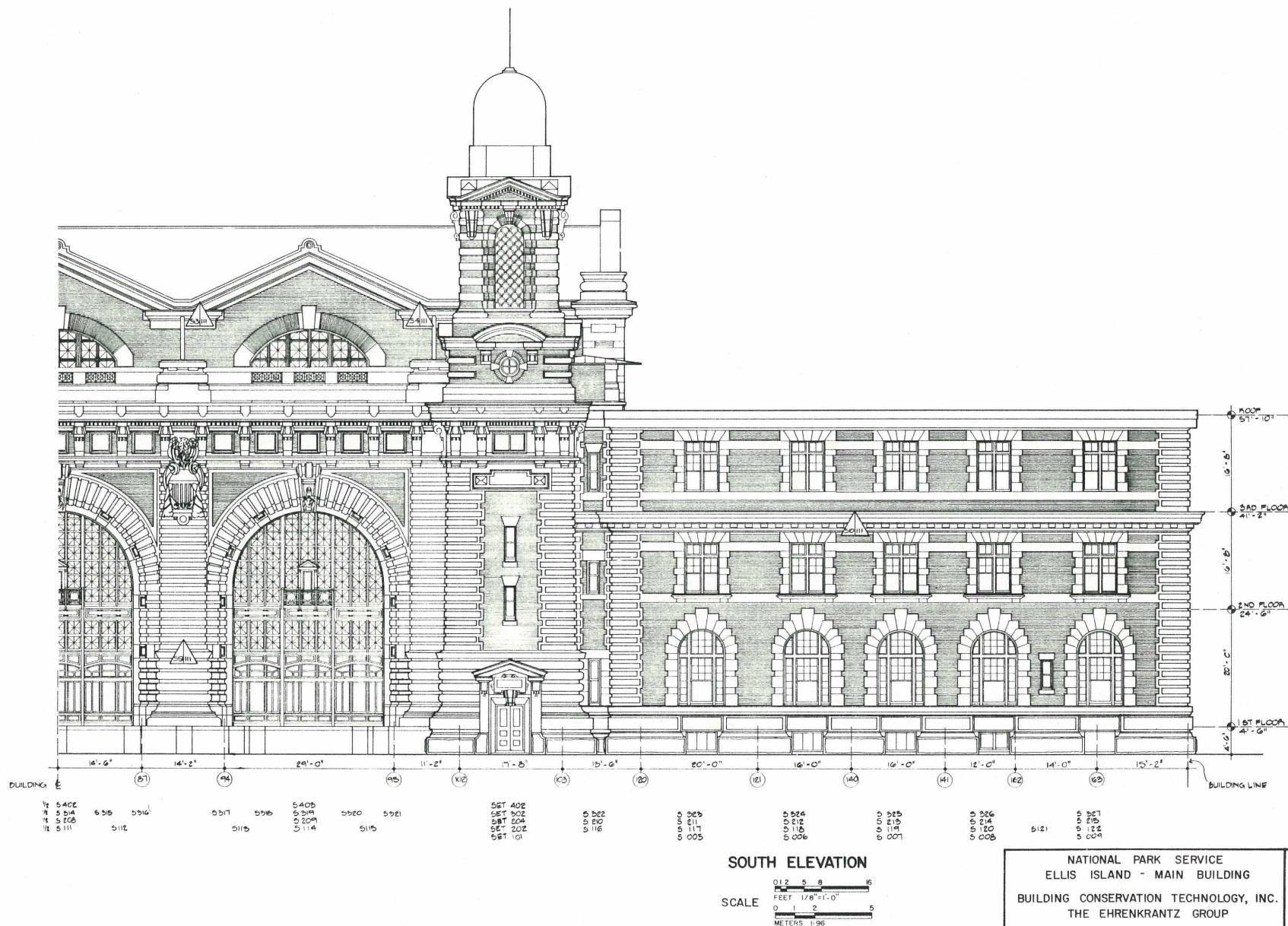
Figure 1a

462143-68
sheet 6 of 28

TWO DRWG #S ONE DRWG

ON REPLY

ON WORK



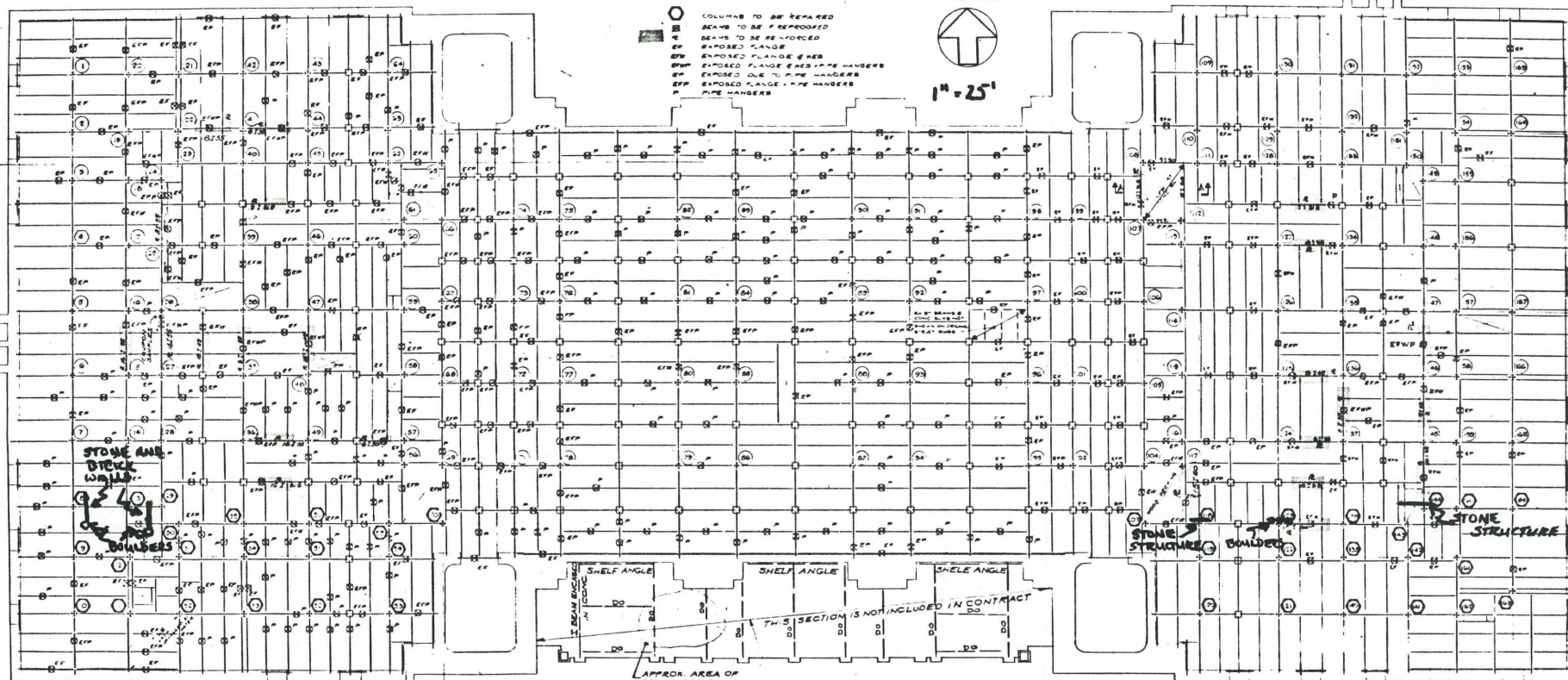
LEGEND

- COLUMNS TO BE REPAIRED
- BEAMS TO BE FIREPROOFED
- BEAMS TO BE RE-TOPIED
- EP EXPOSED PLATE
- EPW EXPOSED PLATE & WELDS
- EPWP EXPOSED PLATE & WELDS - PIPE HANGERS
- EPH EXPOSED HULL PIPE HANGERS
- EPF EXPOSED PLATE - PIPE HANGERS
- EPH EXPOSED PLATE - PIPE HANGERS
- P PIPE HANGERS

REF NORTH



1" = 25'



NOTES:

- 1.- ALL EXPOSED BEAMS SHALL BE CLEANED, WIREBRUSHED, PAINTED AND FIREPROOFED. PRIOR TO EFFECTING REPAIRS, BEAMS SHOULD BE CLEANED AND WIREBRUSHED.
- 2.- NO REPAIR, PAINTING OR FIREPROOFING WILL TAKE EFFECT BEFORE INSPECTION BY THE DULY AUTHORIZED CONTRACTING OFFICER.
- 3.- PIPE HANGERS SUPPORTING 4" DIAMETER PIPES OR LARGER SHALL BE REPLACED UPON APPROVAL BY THE CONTRACTING OFFICER. AFTER REPLACEMENT, THESE HANGERS WILL BE PAINTED. ALL OTHER HANGERS WILL BE REMOVED.
- 4.- SEE DWO. 54 FOR DETAILS OF REPAIRS AND FIREPROOFING.
- 5.- LETTERS INDICATING PIPE HANGERS ON BEAMS DO NOT INDICATE THE NUMBER OF PIPE HANGERS ON THAT BEAM.

FIRST FLOOR FRAMING PLAN

- EXISTING 8" CINDER CONCRETE REINFORCED WITH DIAGONAL WIRE MESH PLUS 1/2 INCHES OF TOPPING, TOTAL THICKNESS = 8 INCHES.

NOTE:

- 1.- THE CONTRACTOR SHALL VERIFY THE NUMBER OF PIPE HANGERS TO BE ORDERED AND NOTIFY THE CONTRACTING OFFICER BEFORE PLACING ORDER.

PIPE HANGERS TO BE REPLACED		
PIPE SIZES	QUANTITIES	REMARKS
4" Ø	150	N ^o
5" Ø	75	"
6" Ø	50	"
8" Ø	150	"
10" Ø	25	"
12" Ø	75	"

PREPARED	DRAWING NO.
N.G.	462 S2
DESIGNED	41022
E.P.	PCIP
DRAWN	SHEET
I.O.C.	2
CHECKED	OF 7
JULY 1978	
CAD	

Figure 3

ON MICROFILM

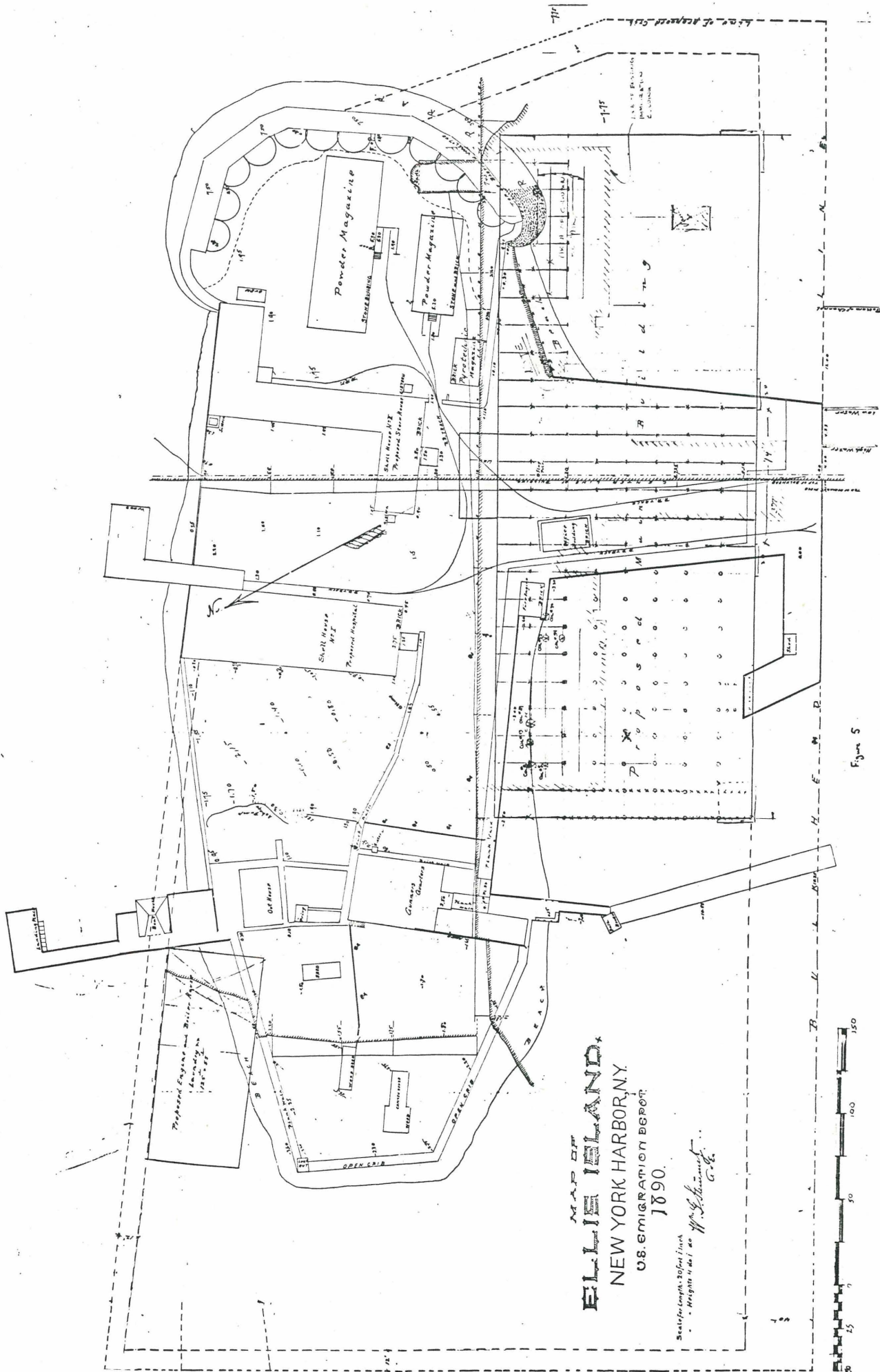
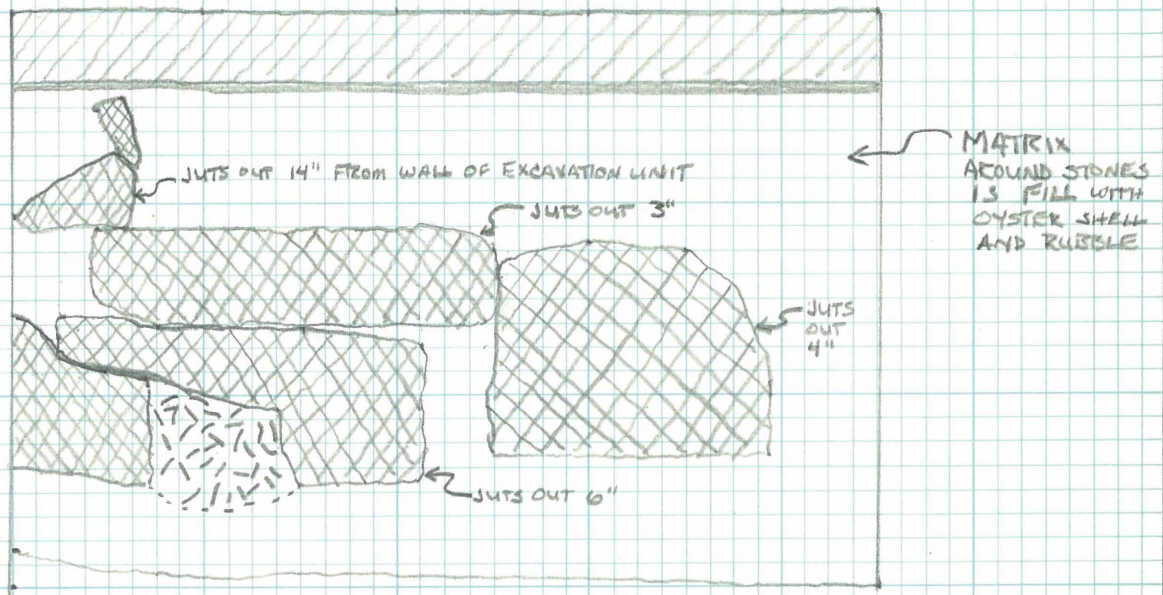


Figure 5

FIG. 6

Park	STATUE OF LIBERTY NAT'L MON.		NATIONAL PARK SERVICE DENVER SERVICE CENTER	Sheet
Area	ELLIS ISLAND			of
Project	COLUMN REHABILITATION	By JM, RS	Checked	Pkg.
Feature	POSSIBLE SEA WALL	Date 3/4/81	Date	Account

PROFILE OF NORTH WALL / EXCAVATION UNIT AROUND COLUMN # 118
 WALL IS 3' NORTH OF STRUCTURAL COLUMN
 SCALE: 1 SQUARE = 2"



LEGEND:

-  - CONCRETE
-  - ASPHALT
-  - CUT STONE
-  - OYSTER SHELL CONCENTRATION

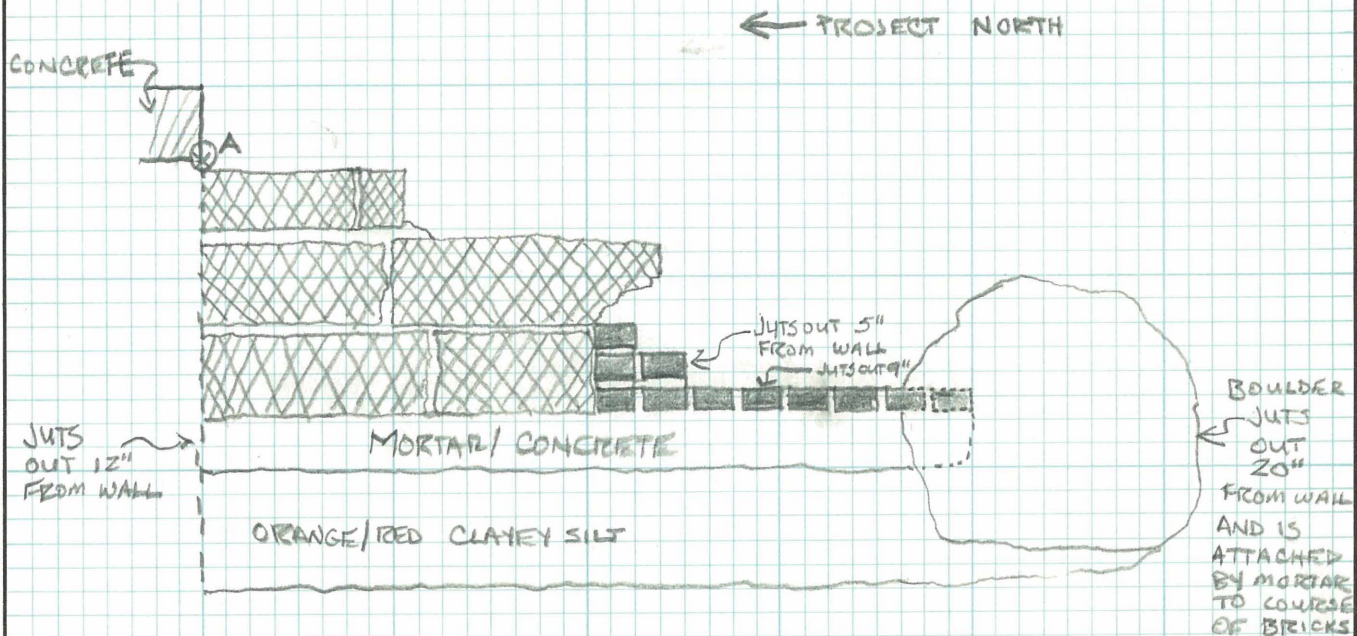
FIG. 7

Park	STATUE OF LIBERTY NAT'L MON.		NATIONAL PARK SERVICE DENVER SERVICE CENTER	Sheet	
Area	ELLIS ISLAND			of	
Project	COLUMN REHABILITATION	By	RS	Checked	Pkg.
Feature	WALL BETWEEN COLUMNS 13 + 29	Date	4/13/81	Date	Account

PROFILE OF WALL BETWEEN COLUMNS 13 + 29 - WEST FACE OF WALL

LOCUS A ON PROFILE IS 44" EAST OF COLUMN #13 AND 21" WEST OF COLUMN 29
 LOCUS A IS 36" NORTH OF BOTH COLUMNS.

SCALE: 1 SQUARE = 2"



MORTAR BETWEEN ALL STONES AND ALL BRICKS,
 MORTAR CONNECTS ALL STONE AND BRICK

IN PLAN VIEW, THIS WALL IS 2 STONE COURSES WIDE, EACH STONE
 MEASURING 10" IN WIDTH.

EACH BRICK IS 7 1/2" LONG (EAST TO WEST MEASUREMENT) - THE LOW
 THE LOWEST COURSE OF BRICKS MEASURES ONLY 1 COURSE
 IN WIDTH.

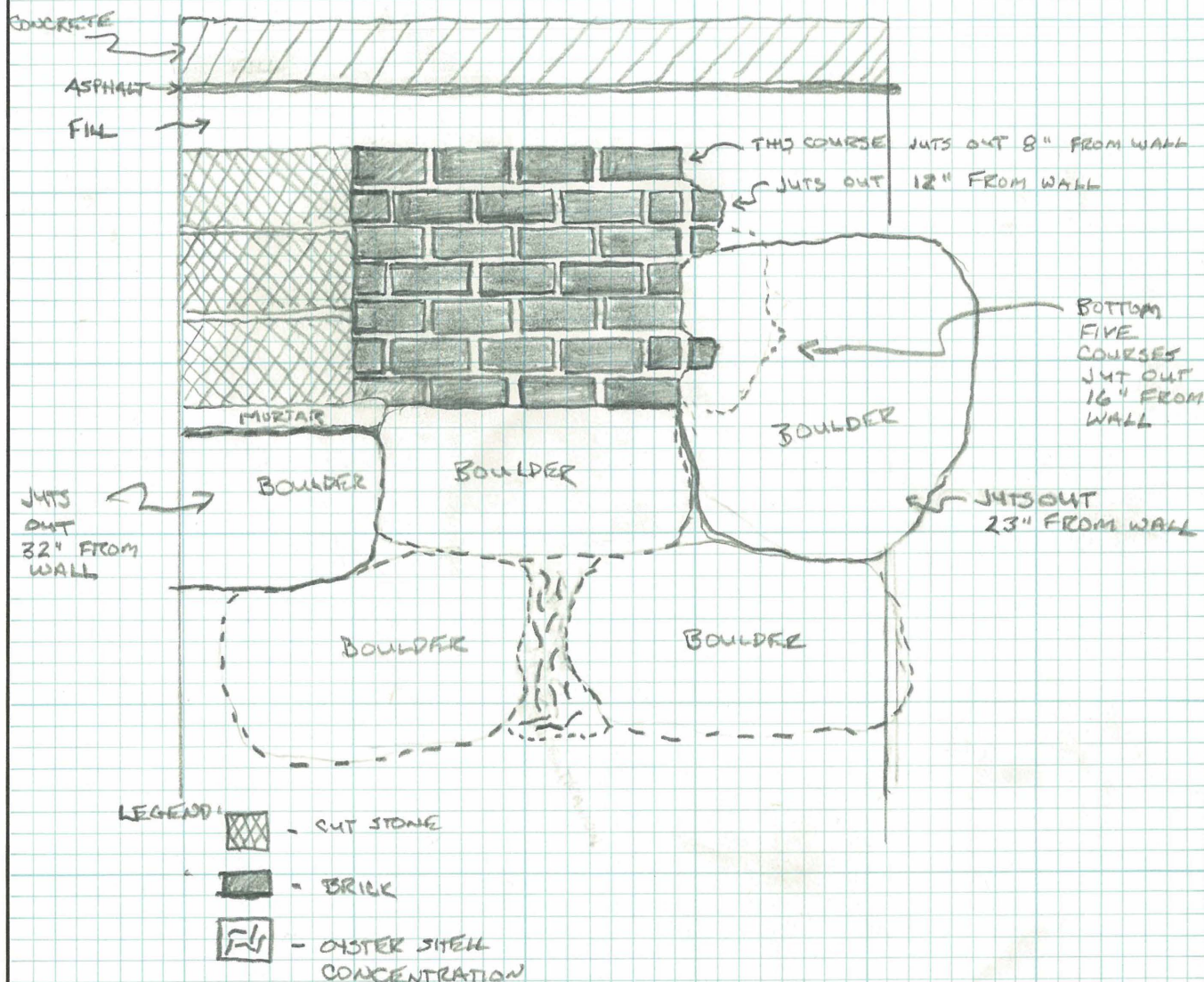
THE STRATUM OF ORANGE/RED CLAYEY SILT APPEARS TO
 BE THE MATRIX CONTAINING LARGE FOOTING STONES.

LEGEND:  - CUT STONE
 - BRICK

FIG 8.

Park	STATUE OF LIBERTY NAT'L MON.		NATIONAL PARK SERVICE DENVER SERVICE CENTER	Sheet
Area	ELLIS ISLAND			of
Project	COLUMN REHABILITATION	By	RS	Checked
Feature	WALL NEAR COLUMN #8	Date	4/13/81	Pkg.
				Account

PROFILE OF EAST WALL OF EXCAVATION UNIT AROUND COLUMN #8
 WALL IS 3' EAST OF STRUCTURAL COLUMN
 SCALE: 1 SQUARE = 2'



OUTLINE OF LOWER BOULDERS IS ONLY AN APPROXIMATION.
 BOULDERS ARE IN MATRIX OF ORANGISH-RED CLAYEY SILT,



Figure 9. Stone and brick and boulder wall between columns # 13 and 29 (trowel points in direction of project north; folding ruler is extended to 18 inches.)



Figure 10. Stone and brick and boulder wall
between columns # 13 and 29.



Figure 11. Detail of boulder portion of wall between columns # 13 and 29.



Figure 12. Stone and brick and boulder wall
in east wall of excavation unit around
column #8.



Figure 13. Detail of junction between stone and brick portions of wall in excavation unit around column #8 (eastern profile of wall; stone portion is 24 inches in height).



Figure 14. Stone structure in north wall
of excavation unit around column #118.



Figure 15. Plan view of boulders near north wall of excavation unit around column #123.



Figure 16. Stone structure in north wall
of excavation unit around column #144.