



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF

November 3, 2009

Environmental Analysis Branch

Ruth Pierpont, Director
New York State Office of Parks, Recreation & Historic Preservation
Historic Preservation Field Service Bureau
Peebles Island, P.O. Box 189
Waterford, New York 12188-0189

RE: CORPS
Yonkers Avenue, Continuing Authorities Program, Section 14 Emergency Streambank
Stabilization Project
Tuckahoe, Westchester County, New York

Dear Ms. Pierpont:

The U.S. Army Corps of Engineers, New York District (District), is investigating federal interest to install approximately 240 feet of steel sheet piling or concrete retaining wall and rip rap along the eastern bank of the Bronx River in Tuckahoe, Westchester County, New York. The proposed improvement would prevent further damage to the existing road and underground utilities. To begin addressing our Section 106 responsibilities, a limited cultural resources investigation was undertaken to determine the existence of cultural resources in the project area and to determine the level of archaeological sensitivity. The investigation involved background research and a site visit. Research was conducted at the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), the Westchester County Archives, and the Tuckahoe Public Library. This letter has been prepared to present the results of that survey and to initiate consultation with your office. Please review the information below and provide any comments in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Project Description

The study area is located on the eastern bank of the Bronx River along Yonkers Avenue between Main and Elm Streets in the Village of Tuckahoe (Appendix A). Yonkers Avenue is an active street in the center of the Village. The Bronx River flows up against a 20 foot tall stone retaining wall at this location and bank erosion along approximately 400 feet of the River is undermining the wall and Yonkers Avenue. The road surface is now showing signs of cracking, settlement, and sinking along the failed stretch (See Appendix A2). Yonkers Avenue contains vital infrastructure in the form of sewer lines, stormwater piping, and utility poles, and serves as the only emergency route between Tuckahoe and Yonkers. In the absence of action, this major road will be undermined by the Bronx River. The proposed plan is to protect the east bank by replacing the existing degraded stone retaining wall with either a reach approximately 170 feet long of concrete retaining wall or steel sheet piling along Yonkers Avenue (See Appendix A6-A10). The sheet piling wall is proposed to reach approximately 30 feet in height with 10 feet of

steel sheet piling exposed and about 20 feet embedded, assuming that rock is deep enough to make such an installation possible. A concrete wall to the same height is proposed if the bedrock will not support the sheet piling. Placement of a rip-rap apron at the ninety degree bend in the River is proposed to protect the toe of the wall against river scour. A conceptual design for the project illustrates the nature of these planned improvements (Appendix B).

Existing Conditions

A review of records at the NYSOPRHP revealed that the project is located within an archaeologically sensitive area. It is also located approximately 500 feet from the State and National Register of Historic Places listed Bronx River Parkway Reservation. Only one additional site, the Lawrence Park Historic District, is located within a mile of the study area. There are also three archaeological sites within a mile of the study area that were recorded by A.C. Parker. These are sites 5222, 5221, and 5197. Sites 5222 and 5221 are unknown but site 5197 is described as a burial site. None of these sites are within the study area.

No cultural resources investigations have been conducted within the study area. Only one study focused on an area within a mile of the study area: the *Cultural Resources Report – Addendum to the Environmental Assessment prepared for the New York Power Authority's Sound Cable Project* by EBASCO Services Incorporated in 1988. The main alignment of the project was not in the vicinity of the study area, however, a subsequent survey of an added segment along Avon Road and Midland Avenue in Tuckahoe and Bronxville came within 2,000 feet of the study area and crossed into a portion of the Bronx River Parkway providing a view of the potential archaeological conditions within the Parkway Reservation. The survey included shovel test pitting along Garret Street within the Parkway boundaries. The testing located a number of twentieth century artifacts but no definitive contextual data so that the material was determined to be either part of a fill episode or a series of random deposits made by park goers. No further archaeological investigations were recommended.

A geotechnical survey was conducted by the Corps in 2009 to investigate the subsurface conditions along the river bank (Appendix C). Two borings were excavated in the center of Yonkers Avenue. The first, Tuck #1, was taken toward the downstream end of the study area and it contained fifteen feet of silty sand with gravel and wood inclusions which was interpreted as fill material overlying twenty feet of silty sand with traces of gravel. Bedrock was reached there at approximately 40 feet. The second boring, Tuck #2, contained the same fill material as that found in Tuck #1 but instead of extending downward the strata stopped at six feet over bedrock. An outcrop of bedrock is visible along the riverbank at the upstream end of the study area so it appears that the bedrock, which is shallow at the upstream end of the project area, extends downward into a flood plain toward the downstream end. No obvious cultural layers were encountered during the survey. The use of the project area as a major thoroughfare containing utility lines supports the conclusion that the first fifteen feet would likely be fill material from the many years of repair and regrading of the street. Much of the bank is also likely to be disturbed from the associated construction and repair of the retaining wall along the street.

History and Map Documentation

Although it was officially incorporated in 1903, the Village of Tuckahoe has existed as a small settlement within the Town of Eastchester as early as the late seventeenth century. The land that was to become Eastchester was granted to a group of families from Connecticut under a patent in 1664. At its establishment, Eastchester encompassed all of the land between the Bronx and Hutchinson Rivers (Creamer 1964, Torres 1976).

Little has been recorded about the activities within the village in the seventeenth and eighteenth centuries. A grist mill was constructed in the Village around 1720 and the bridge where Main Street crosses the Bronx River has appeared on maps since 1728. It is known that during the Revolutionary War, the people of Eastchester and the Village of Tuckahoe were caught up in the activities and conflicts between the Continentals in the northern part of the County and the British in New York City. The soldiers and their supporters as well as looters of no affiliation ruthlessly pillaged the farms in the area. Several skirmishes also occurred on White Plains Road at the Ward House. The house was built and owned by a local patriot, Stephen Ward, who allowed the American troops to conduct their business there from 1776-1778. In 1778 the British destroyed the Ward house but the reconstructed house, which is listed on the NRHP, stands in the same location on White Plains Road to the north (Creamer 1964, No Author 2002).

Dating back to the eighteenth century Yonkers Avenue has served as a main thoroughfare running east to west, connecting Yonkers and Eastchester. Just upstream of the project area on the north side of Scarsdale Road is the Old Stone Mill (See Appendix A3). This mill, built between 1811 and 1814, is one of the oldest cotton mills in the country and is listed as a landmark of the Yonkers Landmark Preservation Board (Creamer 1964, No Author 2002).

In the 1800's, the Village of Tuckahoe was shaped very much by the marble industry. The great ridge which follows White Plains Road is paralleled by another ridge that runs along the Bronx River from Tuckahoe to Scarsdale. Between the two ridges lies a large deposit of marble. This was first discovered in the early nineteenth century but it was not until 1832 when Alexander Masterton of Masterton and Smith began to quarry the stone that the marble business took hold in Tuckahoe. Many quarries were established north of the project area and these drew people and businesses to settle nearby. The need to ship the marble brought the New York and Harlem Railroad to Tuckahoe in 1844. This industry flourished until the early 1900's when the demand for marble as a building material was replaced by sandstone, limestone, and granite and the local quarries began to disappear (Torres 1976).

Historic Maps dating from 1867 to 1930 depict the project area as similar to what it is today (Appendix D). In the Beers Atlas of 1867, the Hodgeman Rubber Company, which occupied the mill and much of the land to the north and west of the project area after 1853 is shown (Appendix D1). By 1918, the factory has been reduced in this area to a few large storage buildings. In the 1901 and 1910 maps by Bromley and Co., the project area is shown with the home of James Dusenberry standing to the south along Yonkers Avenue (Appendix D2 and D3). A structure within or very near the project area is depicted in the 1901 map but is not visible on the 1910 map. There is no mention of the structure in the historical record. It is possible that this is the same structure depicted in the 1910 map as an out building associated with the

Dusenberry estate but there is no other clue as to its purpose. Due to the small scale of the 1901 map, it is hard to pinpoint the actual location of the structure in relation to the proposed improvements of the project. The succeeding maps of the project area (1918 and 1930) demonstrate that the situation of the river bank appears to be fixed in place as the force of the River has continued to push against the bedrock and stone retaining wall of Yonkers Avenue (Appendix D4, D5, and D6). In the 1930 map, one structure is depicted at the corner of Main and Yonkers Avenues. This is possibly the abandoned building that is situated just north of the project area today.

Today the project area is abutted by the Bronx River. There is an abandoned building and parking lot just north of the project area (See Appendix A4). A historical photograph taken in the early part of the 1900's appears to show Yonkers Avenue abutted by the River with factory buildings located on the opposite bank (Appendix D7). No structures are depicted along Yonkers Avenue along the length of the project area. There appears not to have been a preceding structure on the corner of Yonkers and Main Avenues. The mill located upstream is now beautifully restored however the rest of the factory complex which at one time encompassed a number of buildings north and west of the project area has been replaced by newer structures over time. The factory buildings depicted in historic maps along the river and on both sides of Main Street and Scarsdale Road have been replaced by modern office buildings and assisted living units.

Recommendations

Based on the preliminary survey, the project area is not likely to contain significant cultural resources. The stone wall that supports the road and utilities is in disrepair and what remains of it at the downstream end of the project area is being degraded by the scouring action of the river. It has likely been repaired and replaced periodically with the repair of the road. The impact of the proposed installation of sheet piling or a concrete wall is expected to be limited to the river bank and the retaining wall. Archaeological investigations within the project area would be extremely difficult and potentially dangerous and are not likely to yield useful data. Therefore, it is recommended that no further cultural resources activities be undertaken for this project. If the project plans change to extend beyond the current boundaries and additional work is proposed, additional cultural resources may be required to include consultation with the NYSOPRHP.

Please provide comments in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. If you or your staff require additional information or have any questions, please contact Carissa Scarpa, Project Archaeologist, at (917)790-8612. Thank you for your assistance.

Sincerely,

A handwritten signature in dark ink, appearing to read "L. Houston", written in a cursive style.

Leonard Houston

Chief, Environmental Analysis Branch

Appendix A – The Project Area

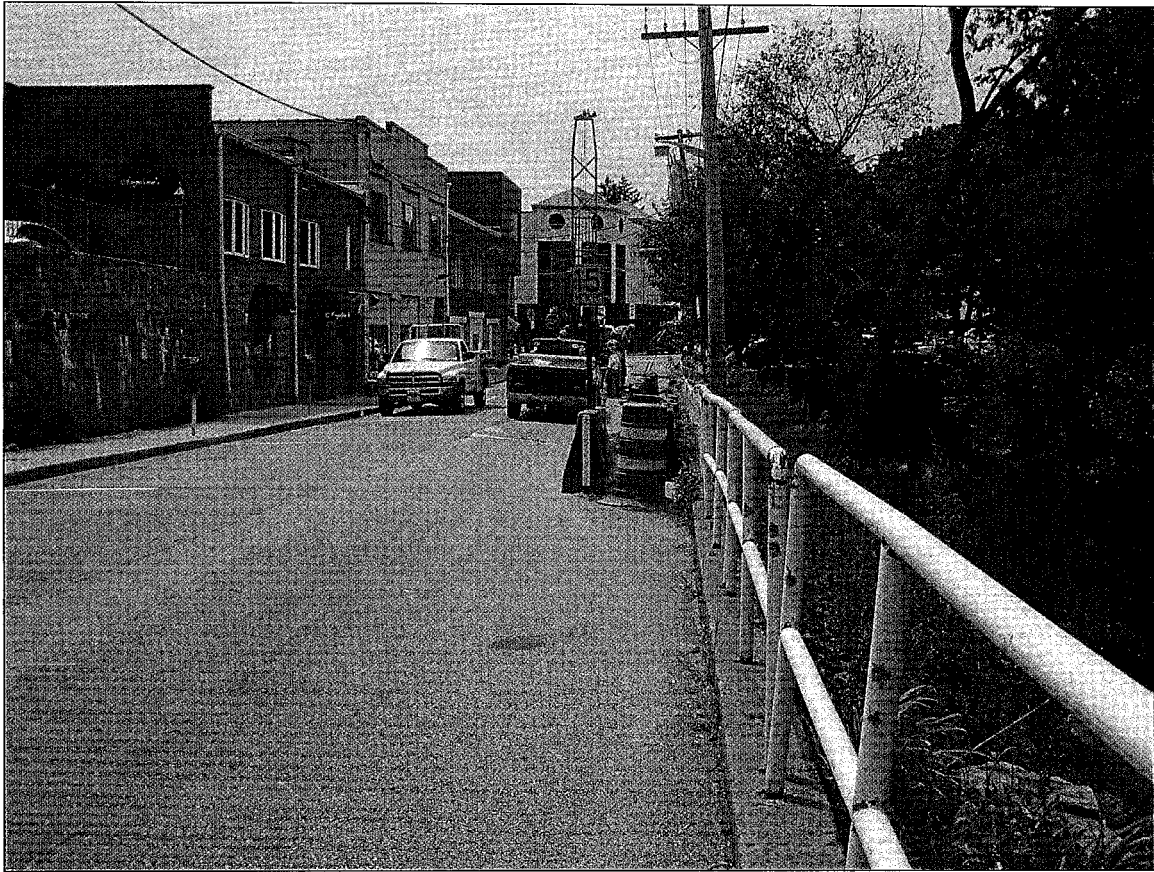


Figure A1: View southwest of the project area along Yonkers Avenue.



Figure A2: View southwest of cracks visible in the road surface along the project site on Yonkers Avenue.



Figure A3: The Old Stone Mill, a restored mill in Tuckahoe, upstream of the project area.

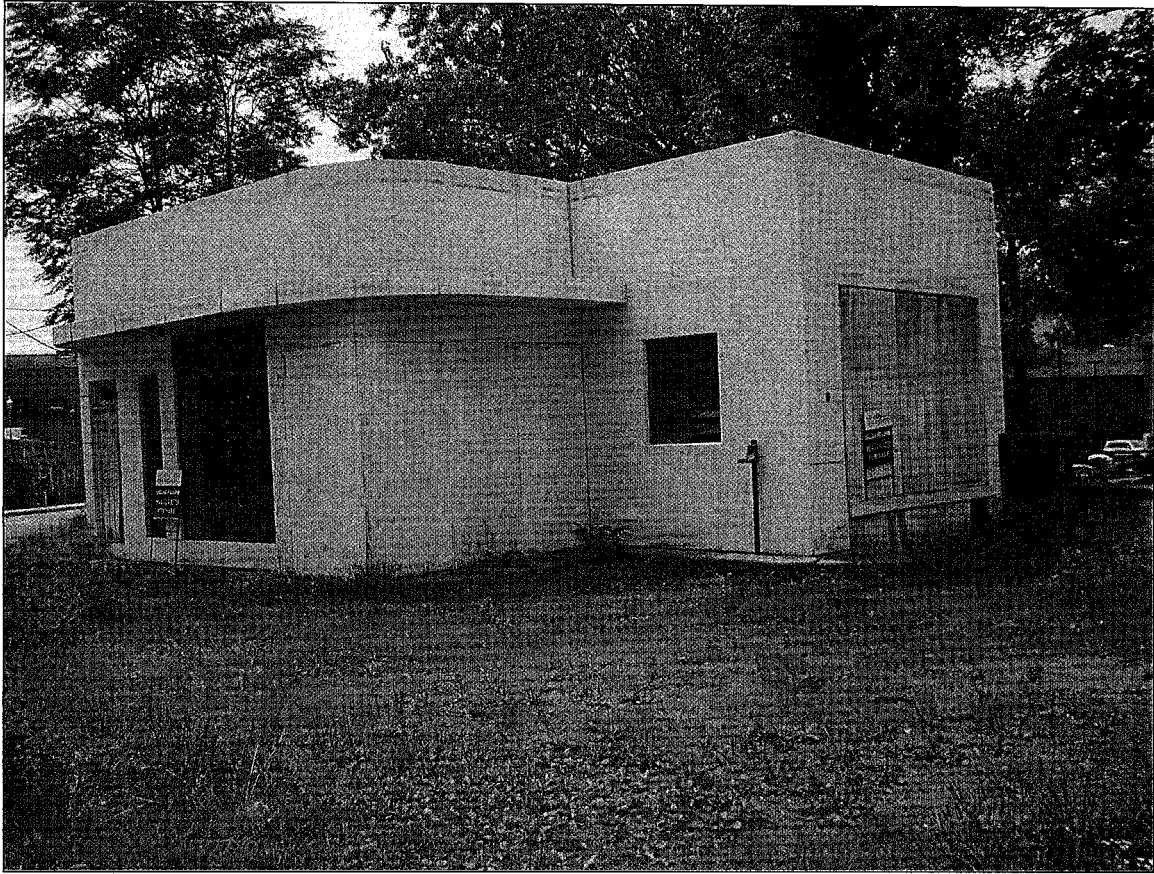


Figure A4: Looking south at the building located north of the project area on the corner of Main Street and Yonkers Avenue.

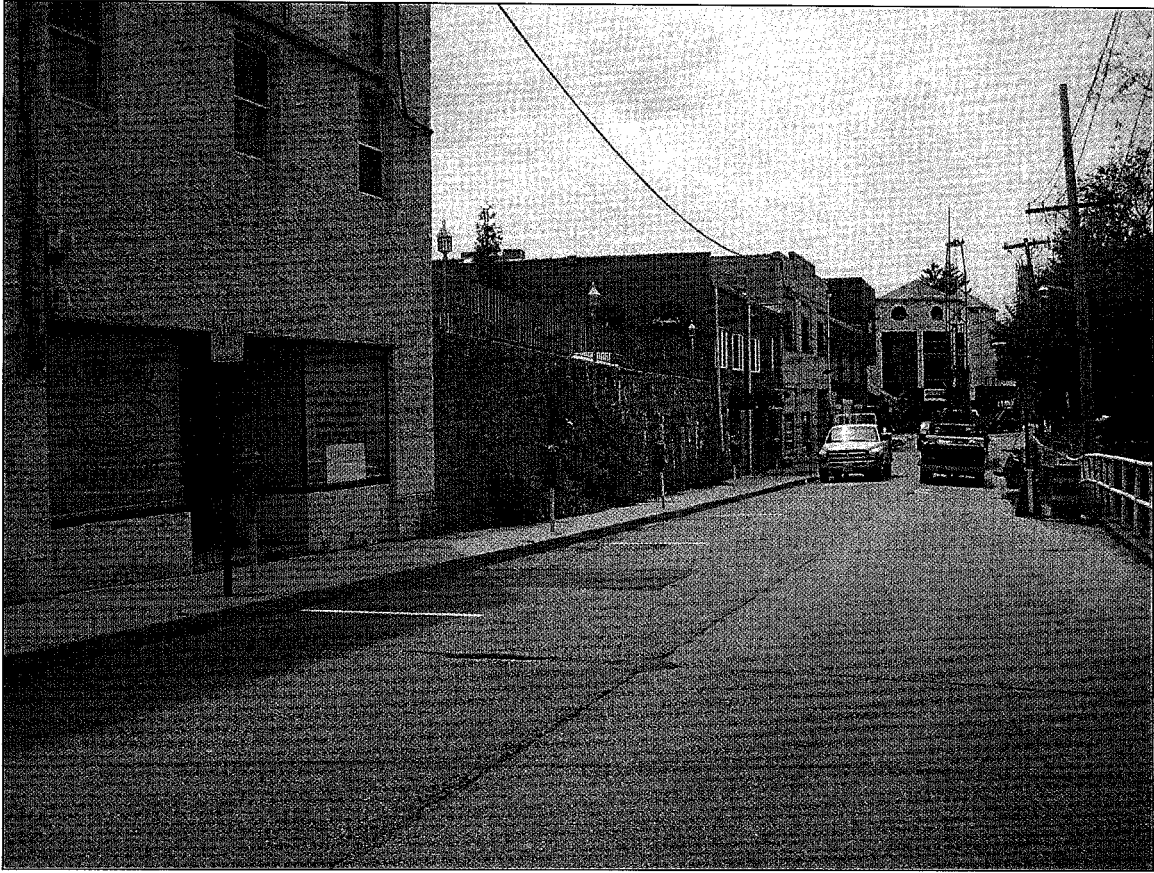
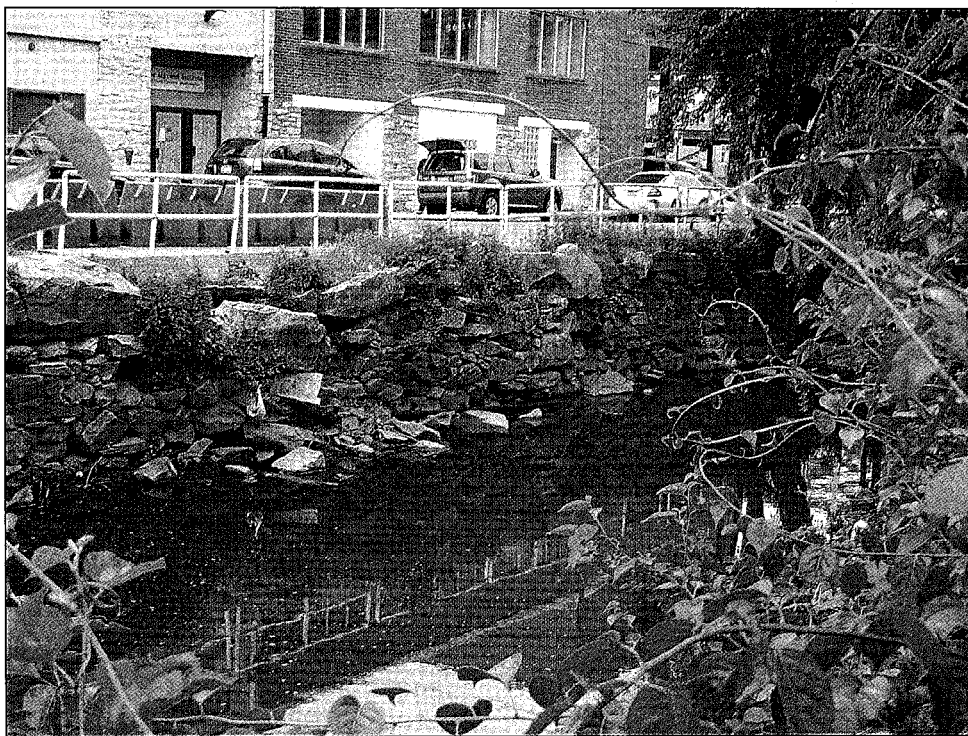
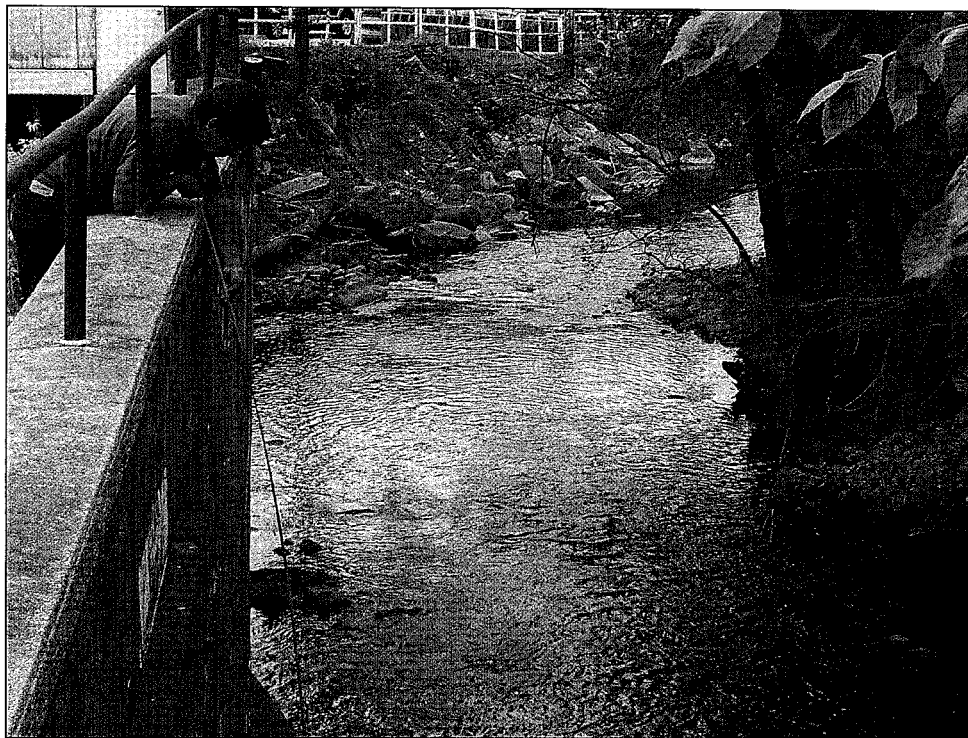


Figure A5: View of the streetscape along Yonkers Avenue.



Figures A6 and A7: Views of the retaining wall within the project area.



Figures A8 and A9: Views of the retaining wall at the downstream end of the project area where new riprap is proposed.

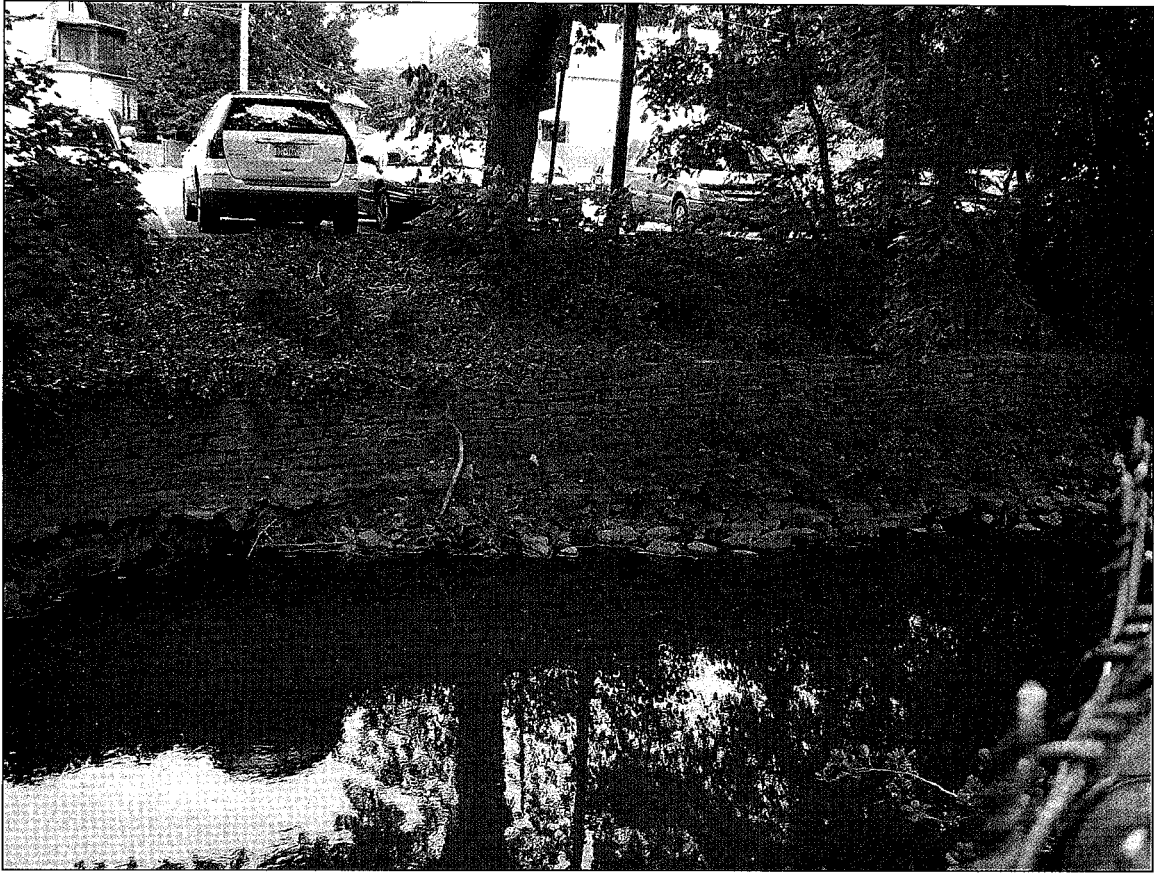
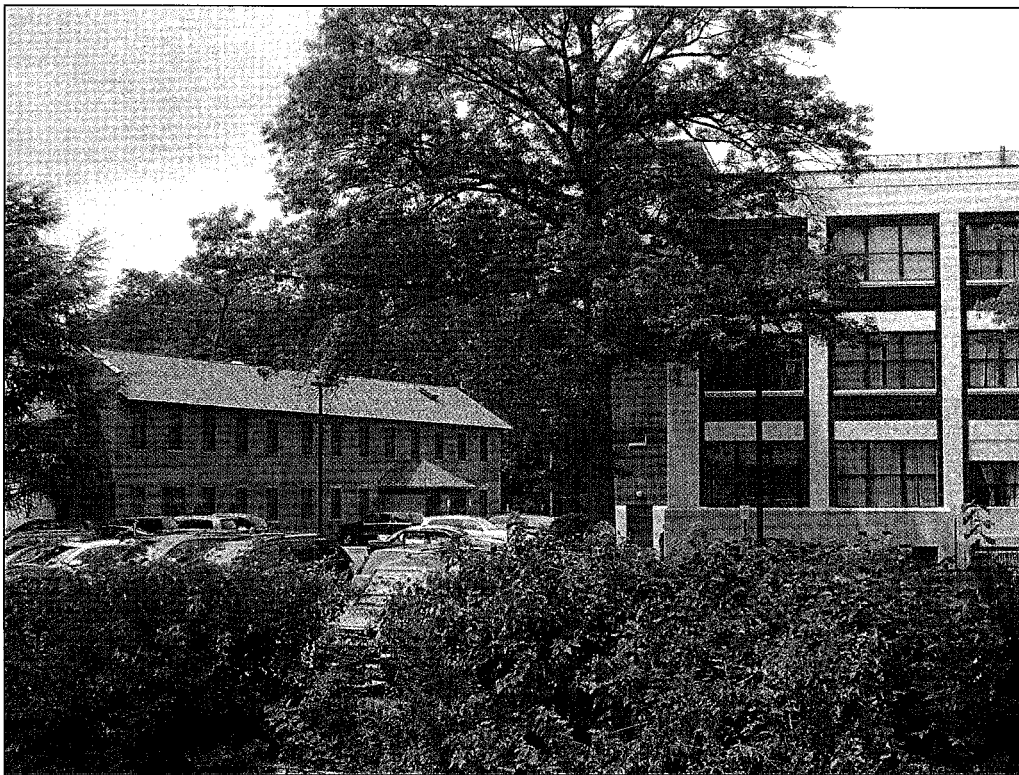
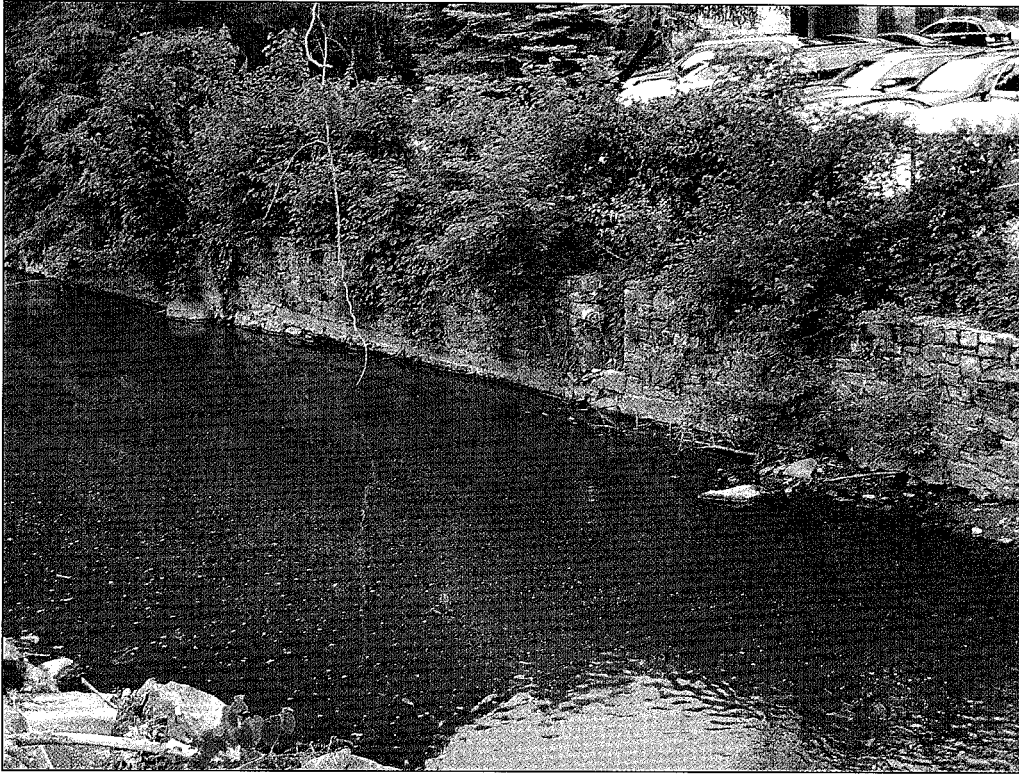


Figure A10: View of the retaining wall at the downstream end of the project area.



Figures A11 and A12: Views of the opposite bank and buildings along the Bronx River.

Appendix B – Conceptual Design

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MAY 2209 NYD BORDER

LOCATION PLAN
NOT TO SCALE

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SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL
OF ALL DRAWINGS IN THIS SET AS INDICED ON THIS SHEET

APPROVED FOR TECHNICAL ADEQUACY BY:

DESIGN TEAM LEADER	DATE
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INCURRED BY:

TECHNICAL MANAGER _____ DATE _____

APPROVAL RECOMMENDED BY:

	DATE
TIME DESIGN BOARD	

CHIEF, DESIGN BRANCH

APPROVAL RECOMMENDED BY:

DATE

[illegible]

CHIEF, ENGINEERING MANAGEMENT BRANCH	DATE

PROVED BY:

CHIEF, ENGINEERING DIVISION

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his project was designed by the U.S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents, within the

scope of their employment as required by ER 1110-1-8152.



- NOTES:
1. INSTALL SHEET PILE BEHIND CURB. SHEET PILE DEPTH SHALL BE DESIGNED PER CURRENT ENGINEERING STANDARD AND SPECIFICATIONS.
 2. LENGTH OF SHEETPILE IS APPROXIMATELY 170 LINEAR FEET.
 3. RIPRAP SHALL BE PLACED AT BENDS TO OFFSET RIVER FORCES. REPLACE EXISTING RIP RAP WITH 12"-15" STONE 15" THICK.
 4. ROCK BOLTS MAY BE REQUIRED FROM STA 0+00 TO STA 0+60 TO REINFORCE THE EXPOSED ROCK.

NTS

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ALL DIMENSIONS/NOTES/CONDITIONS SHOWN SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR OBTAINING ALL NECESSARY INFORMATION FROM THE LOCAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION FROM THE LOCAL AGENCIES.

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SHEET NUMBER
S-101
SHEET 1 OF 1

PLAN AND NOTES
BRONX RIVER - YONKERS AVENUE
STICKLEMAN STABILIZATION
TUCKAHOE, NEW YORK

FILE NAME	WCHESBRYNK\KRS1810XXX.DGN
DATE	09-OCT-2009 10:24
DESIGNED BY	K. X. X.
CHECKED BY	K. X. X.
SUBMITTED BY	K. X. X.
CONTRACT NO.	
SOLUTION NO.	

DATE	DESCRIPTION	DATE	MARK	DATE	MARK

U.S. Army Corps of Engineers
New York District




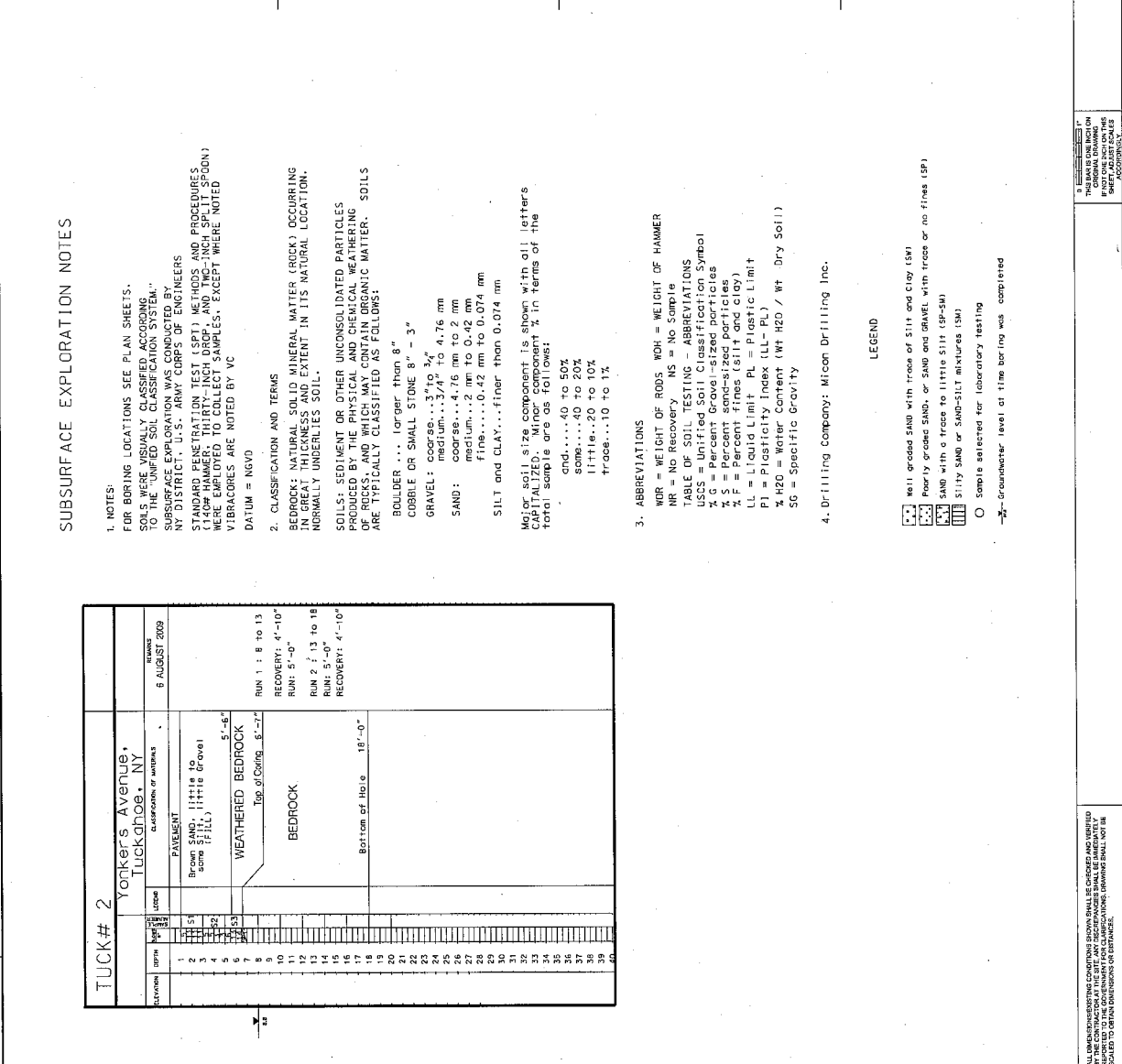
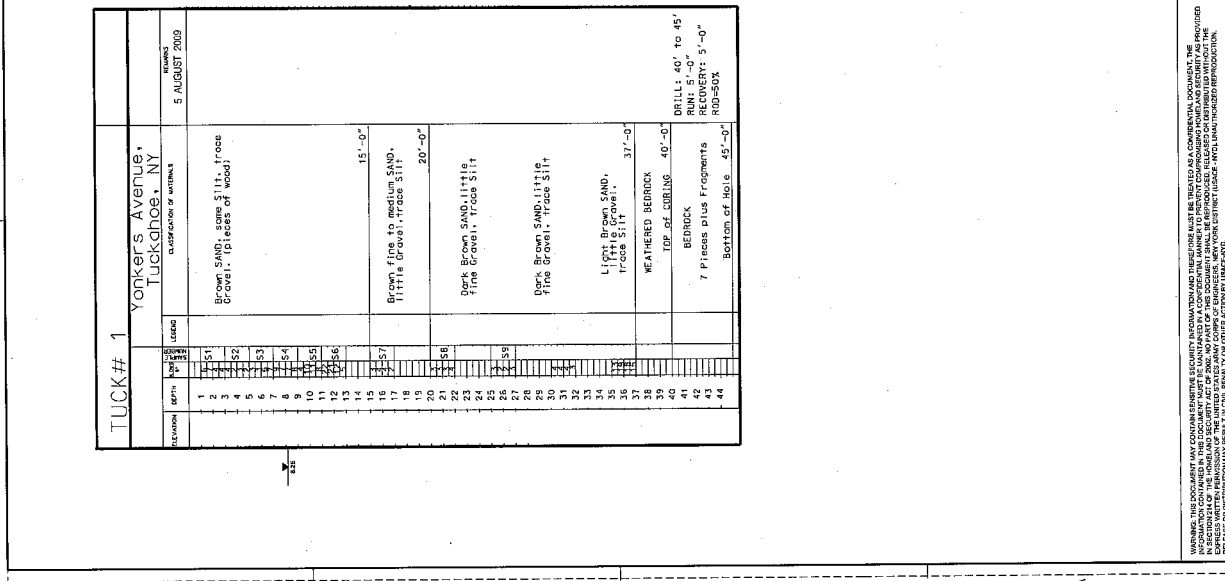
NOT TO SCALE

1. INSTALL SHEETPILE BETWEEN STA 0+60 AND STA 2+30. APPROXIMATE LENGTH OF SHEET PILE IS 170'. VERIFY ROCK DEPTH ADDITIONAL REINFORCEMENT MAY BE NEEDED.
2. VERIFY EXISTING ROCK CONDITIONS BETWEEN STA 0+00 AND 0+60. ROCK BOLTS MAY BE NEEDED TO REINFORCE EXPOSED BEDROCK.
3. REPLACE ALL MISSING SOIL BEHIND SHEET PILE IN ORDER TO HAVE A LEVEL ROAD.
4. EXPOSURE AND EMBEDMENT OF SHEET PILE ARE APPROXIMATELY SHOWN HERE FOR COST ESTIMATE PURPOSE. THE CONTRACTOR AND HIS ENGINEER SHALL BE RESPONSIBLE FOR THE FINAL RESULTS.

ALL DIMENSIONS EXISTING CONDITIONS SHOWN SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE GOVERNMENT FOR CLARIFICATIONS. DRAWING SHALL NOT BE SCALED TO OBTAIN DIMENSIONS OR DISTANCES.

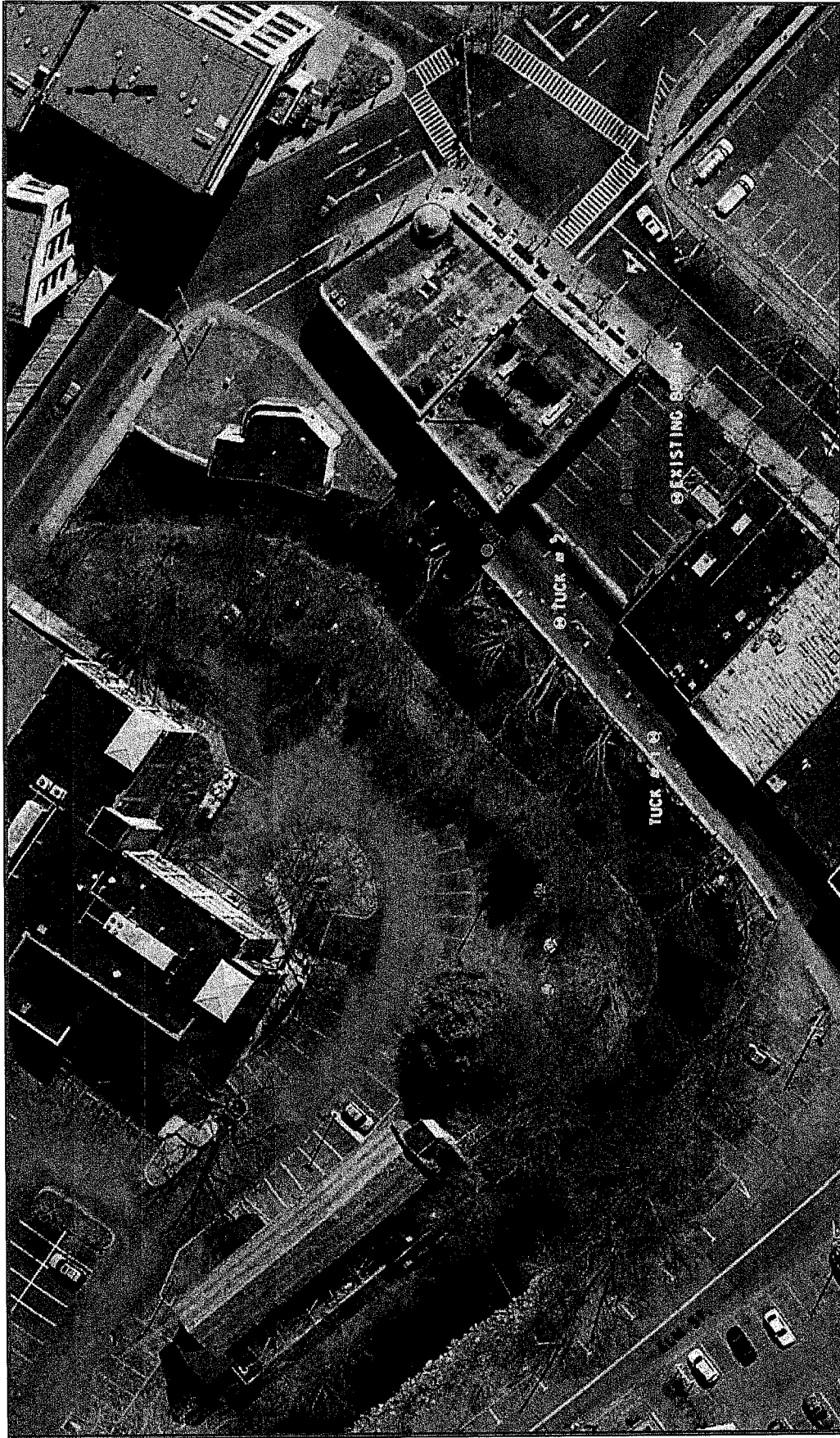
THIS BAR IS ONE INCH ON
ORIGINAL DRAWING
NOT ONE INCH ON THIS
SHEET, ADJUST SCALES
ACCORDINGLY

 New York State Department of Transportation		U.S. ARMY ENGINEER DISTRICT NEW YORK http://www.usace.army.mil		SECTION AND DETAILS BROOK RIVER - YONKERS AVENUE STREAMBANK STABILIZATION TUCKAHOE, NEW YORK		SHEET NUMBER S-501 OF 1	
DATE 08-07-99		DATE 08-07-99		DATE 08-07-99		DATE 08-07-99	
DRAWN BY J. J. J.		CHECKED BY J. J. J.		DATE 08-07-99		DATE 08-07-99	
PROJECT NO. 100-100-100		SHEET NO. 100-100-100		DATE 08-07-99		DATE 08-07-99	



U.S. ARMY ENGINEERING DISTRICT NEW YORK STUCKAHOE, NEW YORK BRONX RIVER - YONKERS AVENUE STUCKAHOE, NEW YORK BORING LOGS		SHEET REFERENCE B-601 SECTION 1	
PROJECT NO.	15725-B-601	DATE	5 AUGUST 2009
CONTRACT NO.		DESIGNED BY	X X X X
LOCATION NO.		DRAWN BY	X X X X
PLANT DATE		CHECKED BY	X X X X
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Appendix C – Soil Profiles



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TUCK# 1						
Yonkers Avenue, Tuckahoe, NY						
ELEVATION	DEPTH	BLOWS 6"	SAMPLE NUMBER	LEGEND	CLASSIFICATION OF MATERIALS	REMARKS
						5 AUGUST 2009
	1	6	S1		Brown SAND, some Silt, trace Gravel. (pieces of wood)	
	2	4				
	3	4				
	4	2	S2			
	5	3				
	6	3	S3			
	7	6				
	8	7				
	9	8	S4			
	10	10				
	11	11	S5			
	12	22				
	13	12	S6			
	14	5				
	15				15'-0"	
	16	3	S7		Brown fine to medium SAND, little Gravel, trace Silt	
	17	4				
	18	2				
	19					
	20				20'-0"	
	21	3	S8		Dark Brown SAND, little fine Gravel, trace Silt	
	22	3				
	23	4				
	24					
	25					
	26	3	S9			
	27	2				
	28	2				
	29	3				
	30					
	31	4			Dark Brown SAND, little fine Gravel, trace Silt	
	32	4				
	33	4				
	34	3				
	35					
	36	13			Light Brown SAND, little Gravel, trace Silt	
	37	19				
	38	18			37'-0"	
	39	15				
	40				WEATHERED BEDROCK	
	41				TOP of CORING 40'-0"	
	42				BEDROCK	
	43				7 Pieces plus Fragments	
	44				Bottom of Hole 45'-0"	
						DRILL: 40' to 45' RUN: 5'-0" RECOVERY: 5'-0" ROD=50%

▼
8.25

TUCK# 2

Yonkers Avenue, Tuckahoe, NY

ELEVATION	DEPTH	BLOWS 6"	SAMPLE NUMBER	LEGEND	CLASSIFICATION OF MATERIALS	REMARKS
						6 AUGUST 2009
	1	5			PAVEMENT	
	2	11	S1		Brown SAND, little to some Silt, little Gravel (FILL) 5'-6"	
	3	11				
	4	5	S2			
	5	3				
	6	6	S3			
	7	13			WEATHERED BEDROCK	
	8	14			Top of Coring 6'-7"	RUN 1 : 8 to 13
	9					RECOVERY: 4'-10"
	10					RUN: 5'-0"
	11				BEDROCK	
	12					
	13					RUN 2 : 13 to 18
	14					RUN: 5'-0"
	15					RECOVERY: 4'-10"
	16					
	17					
	18				Bottom of Hole 18'-0"	
	19					
	20					
	21					
	22					
	23					
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	25					
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Appendix D – Historic Maps

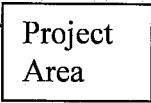


Figure D1: Beers Atlas from 1867 showing the project area.

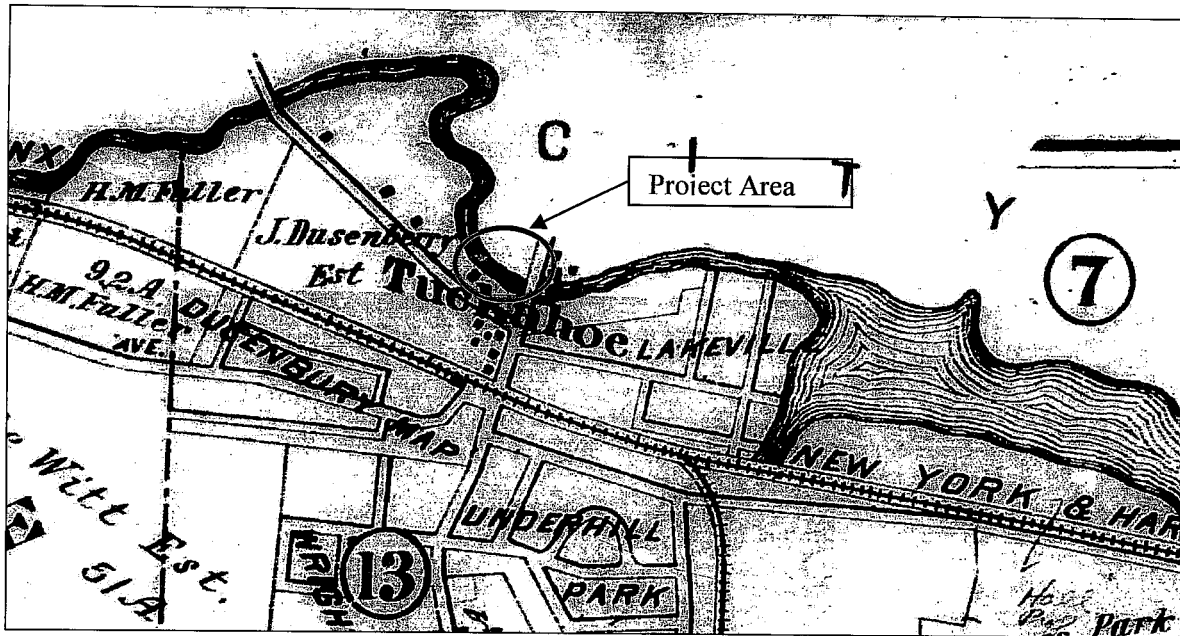


Figure D2: Map of Tuckahoe in 1901 (G.W. Bromley and Co.).

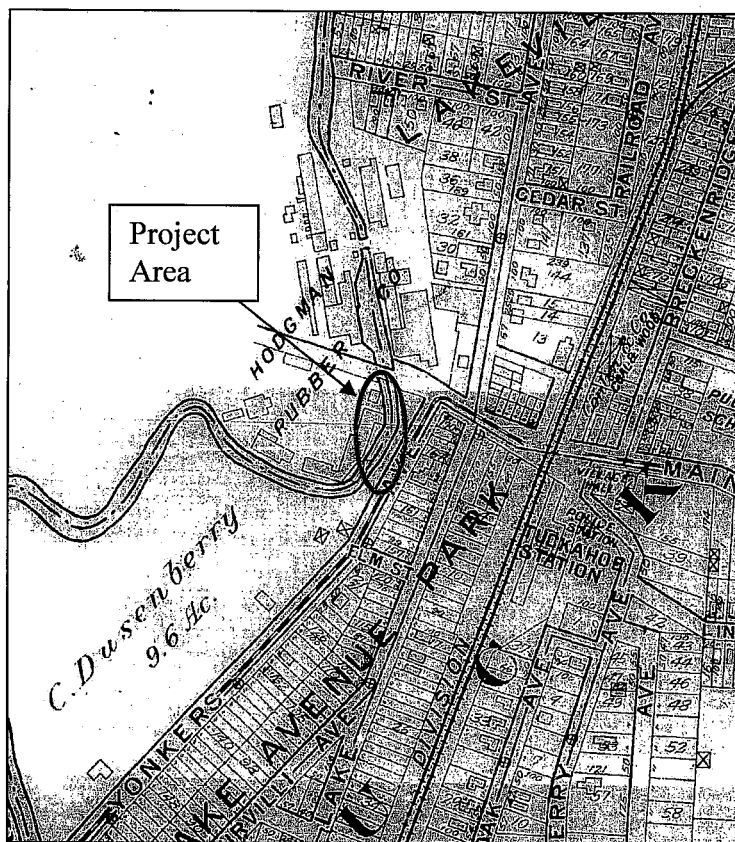


Figure D3: 1910 Map of the Project Area (G.W. Bromley 1910).

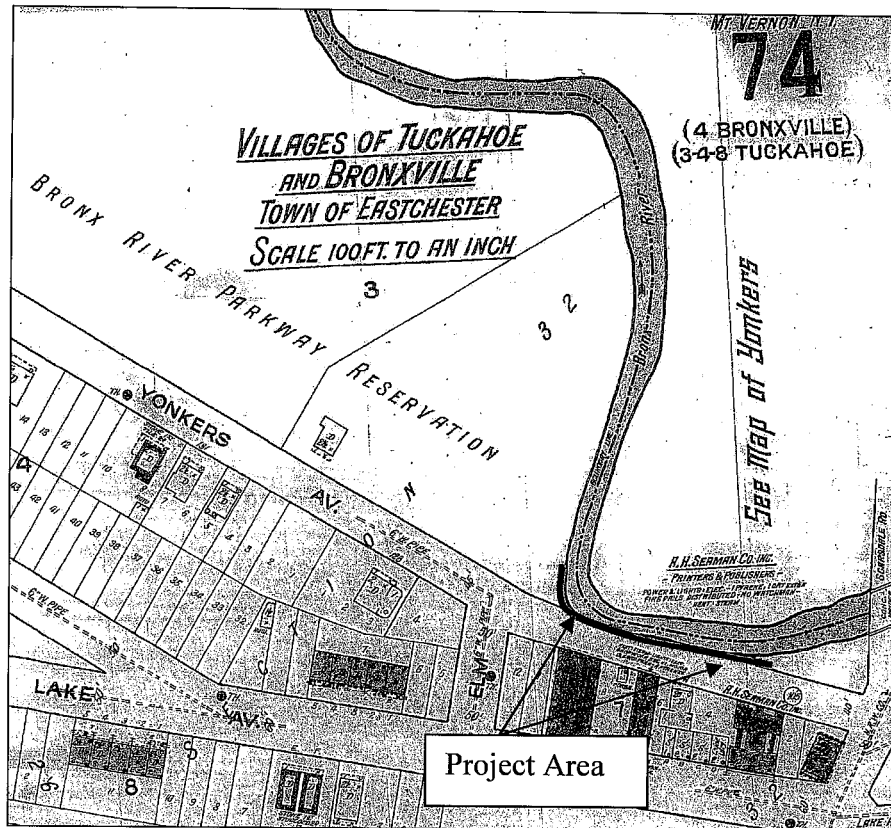


Figure D4: Sanborn Map of the project area (Sanborn 1918).

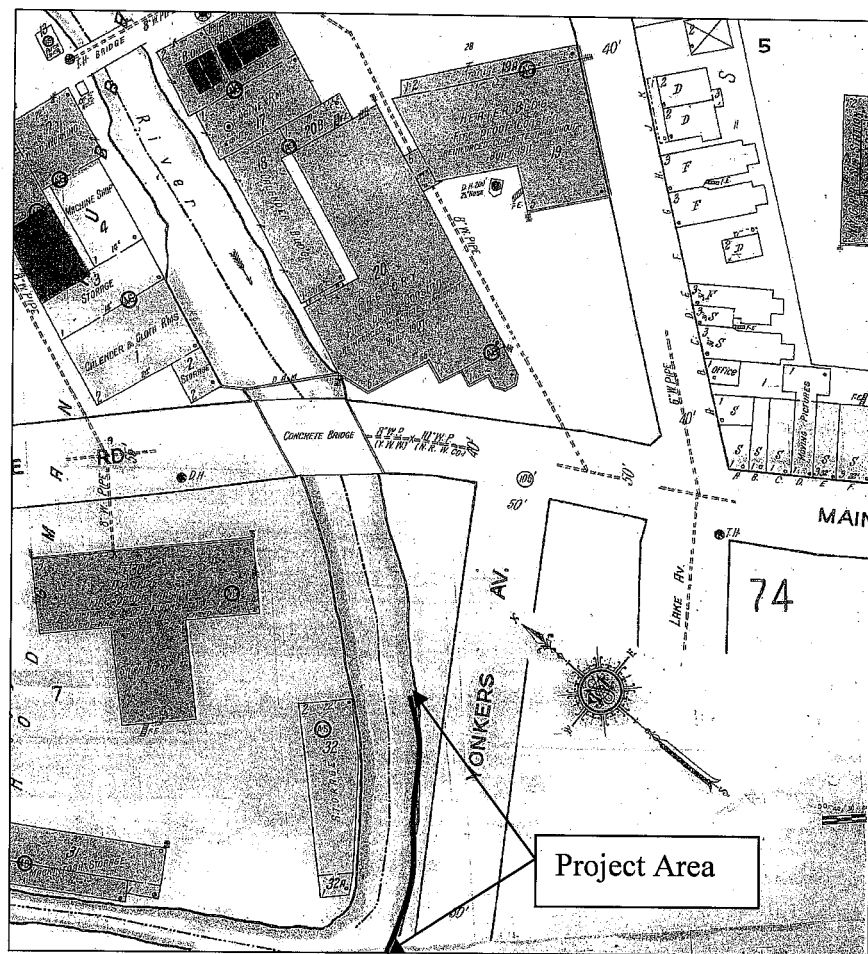


Figure D5: Detailed Map of the project area (Sanborn 1918).

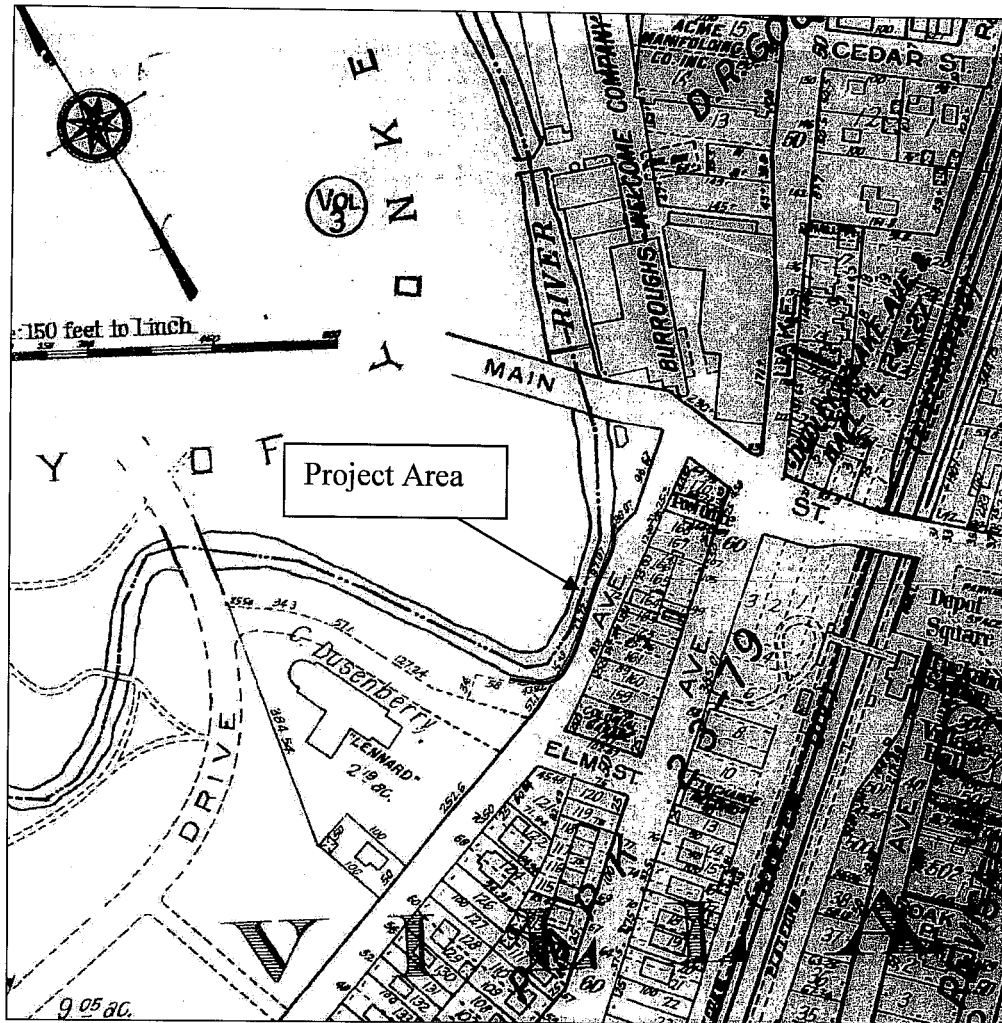


Figure D6: 1930 Map of the Village of Tuckahoe (Hopkins 1930).

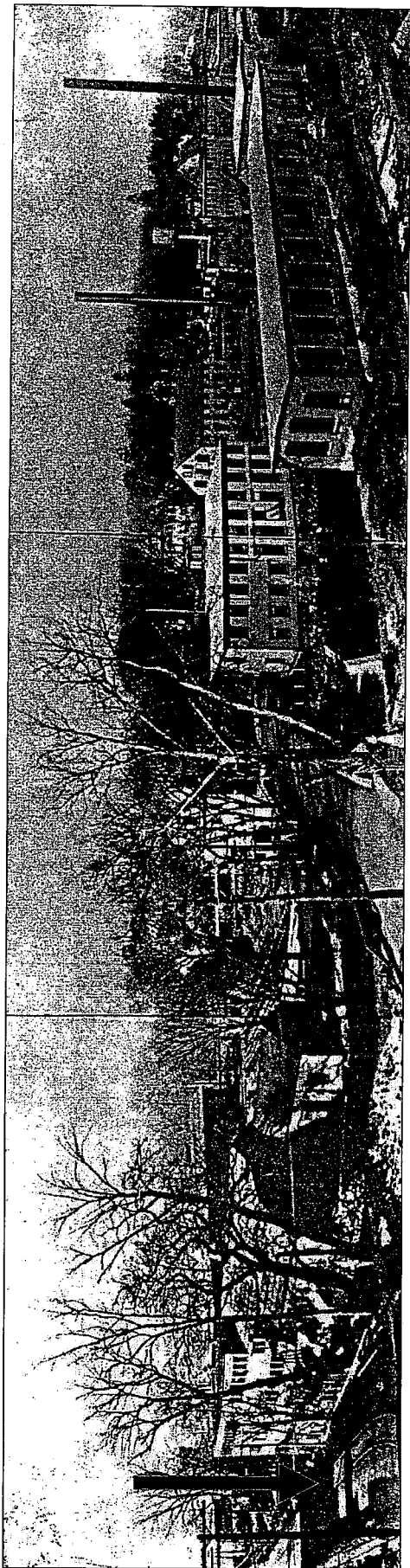


Figure D7: A Photograph from the early 1900's at the corner of Main Street/Scarsdale Road and Yonkers Avenue. Yonkers Avenue and the project area in view at the far left (Creamer 1964).

Appendix E – References

References:

Creamer, Robert

- 1964 The Story of a Town, 1664-1964. Town of Eastchester Tercentennial Committee. Spartan Offset Printing Co., Tuckahoe, NY.

EBASCO

- 1988 Cultural Resources Report – Addendum for the Sound Cable Project. Prepared for the New York Power Authority.

Torres, Louis

- 1976 Tuckahoe Marble: The Rise and Fall of an Industry in Eastchester, New York. 1822-1930.

No Author

- 2002 Tuckahoe Centennial 1902-2002.

Maps Referenced:

Beers, F.W.

- 1867 Atlas of New York and Vicinity. Published by F.W. Beers, A.D. Ellis, and G.G. Soule. New York, NY.

Bromley, G.W.

- 1901 Outline and Index Map of Westchester County. Published by Bromley and Co. Philadelphia, PA.
1910 Outline and Index Map of Westchester County. Published by Bromley and Co. Philadelphia, PA.

Hopkins, G.M. Co.

- 1930 Map of Westchester County, New York. Vol. 2. Pub. by G.M. Hopkins Co. Philadelphia, PA.

Sanborn Map Company

- 1911 Villages of Tuckahoe and Bronxville, Town of Eastchester, New York.
1918 Villages of Tuckahoe and Bronxville, Town of Eastchester, New York.