

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	IPS.905
Historic Name:	Green Street Bridge
Common Name:	
Address:	
City/Town:	Ipswich
Village/Neighborhood:	Ipswich
Local No:	142
Year Constructed:	
Architect(s):	
Architectural Style(s):	
Use(s):	Other Transportation
Significance:	Engineering; Transportation
Area(s):	IPS.AL: Ipswich Multiple Resource Area IPS.M: East End District
Designation(s):	Nat'l Register District (9/17/1980); Nat'l Register MRA (9/17/1980)



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Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

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Friday, March 07, 2014 at 3:11: AM

HISTORIC BRIDGE INVENTORY & EVALUATIONDate: August 6, 1980Municipality Ipswich S.H. _____ N.S.H. _____Street Name & Route # Green St.,Over Ipswich River

Street Name & Route # _____

Bridge No. I-1-1 Bridge Key # BTP-513-001 Dist. 5CRITERIA FOR DETERMINATION OF HISTORIC SIGNIFICANCEI. Builders ContributionQuantityUnknown ----- Several ----- Many -----
(1-10) (10 or more)Name of Builder: UnknownDesigner: UnknownPlaque: Yes _____ No. XII. AGE: Pre 1850 _____ 1850-1900 1894 ~~1881-82~~ 1900-1930 _____II. TECHNICALBridge Type Granite Stone ArchBridge Width 35'Total Length of Bridge 100Number of Spans: 2 Span Lengths 50'

Patented: Yes _____ No _____ Unknown _____

Load Carrying Capacity: Adequate X Inadequate _____Configuration: Unique X Unusual _____ Common _____

Types of Materials: _____

List Special Features and Modifications:

ENVIRONMENTAL

Aesthetics: Unusual _____ Good X Common _____
 Site Integrity: Retained _____ X Violated _____
 History of Bridge and Area: _____

See attached sheet

V. ECONOMICS

Owner: Municipal X County _____ State _____ Federal _____
 R.R. _____

What is your recommendation? not scheduled
 Maintenance _____ Replacement _____ Rehabilitation _____
 Are materials available for Rehabilitation: Yes _____ No _____
 Is structure scheduled for replacement? Yes _____ No _____

VI. PHOTOS - INDICATE SHOTS TAKEN

- | | |
|--------------------|------------------------|
| 1. Setting | 6. Elevation |
| 2. Builders Plaque | 7. Joint & Connections |
| 3. 3/4 View | 8. Machinery |
| 4. Thru View | 9. Decorative Features |
| 5. Under View | |

VII. COMMENTS & CONCLUSIONS

- In your judgement, does this bridge have historic value? Yes X No _____
- Please explain your answer to #1

3. Additional Comments required on back of page.

Preparer: W. J. Smith
 Title: asef Crummett
 Date of Survey: 8/6/80

INCLUDE TOPO SHEET SHOWING LOCATION

GREEN STREET BRIDGE - IPSWICH

Twenty years after the building of the County Street Bridge in 18⁶1 the construction began for the Green Street Bridge. The original structure was made of wood but was later replaced by an arched bridge of stone on May 14, 1894. This bridge was the fifth bridge built on the Ipswich River in the Town of Ipswich during the growth of the mill and fishing industries in that community.



Ipswich. June 11th 1894

Specifications for the building of the Stone Arch Bridge, over the Ipswich River at Green Street, Ipswich, in accordance with the plans made by Charles A. Putnam, C. E.

The timber work, piers, abutments and portions of the wing walls in present bridge are first to be removed. The abutments are to be taken down to the foundation course of stones, in bed of river and upon these foundations, the new abutments for the arches are to start

New Pier for Arches The Pier for the arches, is to be in the centre of river, as shown on the plan; is to be 8 feet in width; about $6\frac{1}{2}$ feet in height and 42 feet in length on the bottom, this length includes the ice breaker, as shown on plan. The bottom course of stones shall be of good quality granite, split in lengths of not less than 8 feet and from 18 to 20 inches in thickness and will be laid as headers; the sides of said stones shall be even enough to lay within 3 inches of each other. The top of this course shall be as level as possible. The remaining height will be in three courses, each to lay 20 inches; the beds and builds to be rough dressed, so as to lay in joints: the top course to be headers 8 feet in length, the ends being cut upon the angle required for the springing of the arches. The bed of the the River is hard gravel and ledge and will require to be carefully leveled, before the pier is commenced. The depth of water at low tide being about 3 feet.

Ipswich. June 11th 1894

Estimated Work in building the Stone Arch Bridge
over the Ipswich River, at Green Street. Ipswich.
in accordance with plans and specifications made by
Charles A. Putnam. C. E.

Arch Stones (these will be new stone)	225 cub. yds
New pier between arches (mostly new stone)	65 cub. yds
Ice Breaker, on end of pier (new stone)	10 cub. yds.
Cap Stones. 420 feet in length	
Side Walls and wall required to raise the grade of the Street about 4 feet (old stone)	410 cub. yds
Wing Wall to rebuild on South Side of River (old stone)	100 cub. yds
Backing for arches — — — — — about	350 cub. yds
Railing of iron gas pipe for sides of bridge and wing walls 420 feet in length.	
4 Catch Basins with curbs, covers, gutters and outlet pipes	
Grading for Street, about	800 cub. yds.
Timber Centres for Arches	
Removing old bridge	

Charles A. Putnam. C. E.

to start the additional work upon. Where requiring to be rebuilt, the best of the old stones are to be used and are to be laid in cement mortar. Any stones not suitable for the walls, can be used for backing the arches.

Grading After the backing for the arches is completed, the remaining filling is to be of good gravel, finished upon the grade shown upon the plan, having well formed sidewalks of 6 feet in width and gutters upon each side of street. The centre of the street is to be crowned one foot above bottom of gutters.

Catch Basins Four Catch basins will be required, two at each side of the river. These will be of brick, 4 feet in diameter and 5 feet deep, below top of curb. The basins are to be built under the sidewalks and each shall have a stone curb with plank cover, 4 feet square, the cover being on level with sidewalk. The brick walls of basins to be 8 inches thick. The outlets to these basins to be of 10 inch drain pipe, laid through the wing walls. At each basin there will be a concrete gutter, 12 feet long by 3 feet wide laid to conduct the water into the basins.

Railing The Railing on top of the cap stone course, on each side of the street, is to be made from 2 inch iron gas pipe, and will be 4 feet high, having 3 rows of pipe and posts set 8 feet apart, said posts to be firmly sunk not less than 5 inches deep into the cap stones, and the whole railing to have two coats of paint.

All of the above specified work to be done in a thorough and workmanlike manner, in accordance with the plans and specifications and to the satisfaction of the engineer in charge and approval of the Selectmen of Ipswich.

A certified Check of \$500 to accompany each bid.

All bids are to be in a gross sum for the entire work completed, whether more or less than the specified quantities.

Payments to be made each month, on or before the 10th of 80 per cent of the amount due on work actually done and materials furnished and certified to, by the engineer, in writing. The remaining 20 per cent is to be paid when the entire work is completed in accordance with the terms of contract and approval of the engineer and Selectmen of Ipswich.

The work to be completed on or before October 1st 1894.

Charles A. Putnam C.E.

Backing for Arches

The entire space between the arches, and up to the level of the top of arches, is to be filled with large stones and also the other sides of arches are to be backed with large stones, to the thickness of 6 feet, extending up to the level of the top of the arches. These stones are to be carefully laid; not thrown in.

Side Walls

The retaining, or side walls, over the ends of the arches are to be built from the stones in the present work, the best stones to be used for the front, or face work. These walls will be 9 feet thick at bottom, by 4 feet thick at the course below the cap stone. The cap stone course to be of the best quality granite, 2 feet in width, by 15 inches thick and in lengths of not less than 6 feet, with the ends squared to lay in joints, these stones to be joined together with $\frac{3}{4}$ inch iron dogs, 15 inches long, with ends to sink 4 inches into the stones and secured with lead or brimstone.

These cap stones will run the entire length of the side and wing walls, on top of which will be the railing. These walls are to be thoroughly laid with header and stretcher stones and carefully pinned in joints both front and back. No Cement mortar required.

Wing Walls

The easterly wing wall, on the southerly side of the river, is in rather a bad condition and is to be rebuilt. The top courses of stones (about 3 feet in height) in other wing walls are to be removed, as the stones are small and not suitable to start the additional work upon. Where requiring to be rebuilt, the best of the old stones are to be used and are to be laid in cement mortar. Any stone not suitable for the walls, can be used for backing the arches.

Grading

After the backing for the arches is completed, the remaining filling is to be of good gravel, finished upon the grade shown upon the plan, having well formed sidewalks of 6 feet in width and gutters upon each side of street. The centre of the street is to be crowned one foot above bottom of gutters.

Three courses, each to lay 20 inches; the bed and builds to be rough dressed, so as to lay inch joints: the top course to be headers 8 feet in length, the ends being cut upon the angle required for the springing of the arches. The bed of the the River is hard gravel and ledge and will require to be carefully leveled, before the pier is commenced. The depth of water at low tide being about 3 feet. 1 PS 905

Ice Breaker. The Ice Breaker, upon the upper end of the Pier, will be made from good quality granite. The stones to be rough dressed upon bed, build and sides, so as to lay inch joints. The outside, or face of the stones, are to be rough pointed, to form the required slope. The stones are to be tied together with dogs, made from $\frac{3}{4}$ inch iron, each 18 inches long, with ends to sink 4 inches into the stones. The dimension of each stone is shown upon the plans. Cal Ba

Arches There will be two arches, each having a clear span of $46\frac{1}{2}$ feet at the springing line and 35 feet long. The abutment walls for these arches will start from the foundation courses as above mentioned and built with the same quality stone and same manner as in the centre pier. R. excepting that the stones for the springing course may be either laid headers or stretchers. The springing line to be on same level as in the pier. The Arch Stones are to be of best quality granite, in lengths of not less than 5 feet and laid in regular courses of 18 inches, the sides and ends of said stones to be rough dressed so as to lay inch joints on the face and in depth, said stones shall not be less than 18 inches. The face of the stones at ends of the arches are to be of a uniform depth of 18 inches and the stones are to be cut to lay inch joints. These arch stones are to be laid in the best cement mortar and the joints in back shall be thoroughly filled with pinners, well driven.



NO DATE
ca. 1980

FORM F - STRUCTURE

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, State House, Boston

NADIS
NRMA 79/1780

NIR 1PS.905

In Area no.	Form no.
M 5AL	142

In Ipswich

PL-IPSWICH

905

ress Green St.

USGS-IPSWICH

SEA P

Green St. Bridge

Bridge

sent use

sent owner Town of Ipswich

e of structure (check one)

ge	<input checked="" type="checkbox"/>	pound	
al	<input type="checkbox"/>	powder house	
	<input type="checkbox"/>	street	
	<input type="checkbox"/>	tower	
gate	<input type="checkbox"/>	tunnel	
kiln	<input type="checkbox"/>	wall	
lighthouse	<input type="checkbox"/>	windmill	

other

5. Description

Date 1872-1874

Source Map and Atlas

Construction material random rubble

Dimensions 120' long, 30' wide

Setting the Ipswich River

Condition good

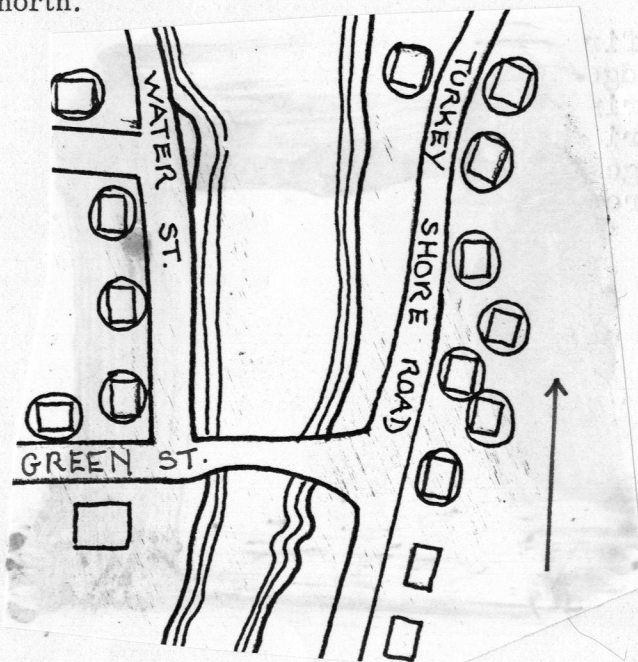
6. Recorded by Margaret E. Welden

Organization Ipswich Historical Comm.

Date Jan. 1978



4. Map. Draw sketch of structure location in relation to nearest cross streets, buildings, other structures, natural features. Indicate north.



DO NOT WRITE IN THIS SPACE
USGS Quadrant _____
MHC Photo no. _____

(over)

7. Original owner (if known) Town of Ipswich

Original use bridge

Subsequent uses (if any) and dates _____

8. Themes (check as many as applicable)

Aboriginal	_____	Conservation	_____	Recreation	_____
Agricultural	_____	Education	_____	Religion	_____
Architectural	_____	Exploration/ settlement	_____	Science/ invention	_____
The Arts	_____	Industry	_____	Social/ humanitarian	_____
Commerce	_____	Military	_____	Transportation	_____
Communication	_____	Political	_____		
Community development	<u>X</u>				

9. Historical significance (include explanation of themes checked above)

At the time of settlement, house lots in Ipswich were granted on the north and south sides of the river, thus bridges have always been an important consideration for the town. The progression from fording places to foot bridges to cart bridges of wood and finally to granite arches was first completed in the center of town.

Choate Bridge, built in 1764, was the first bridge to span the river and is the oldest stone arch bridge in the country. The majority of Ipswich bridges were built during the 19th century, reflecting the town's expansion. These bridges include Norwood's bridge, built in 1829, Willowdale bridge built in 1845, and County St. bridge built in 1861. The wooden Green St. bridge was replaced with graceful granite arches in 1894.

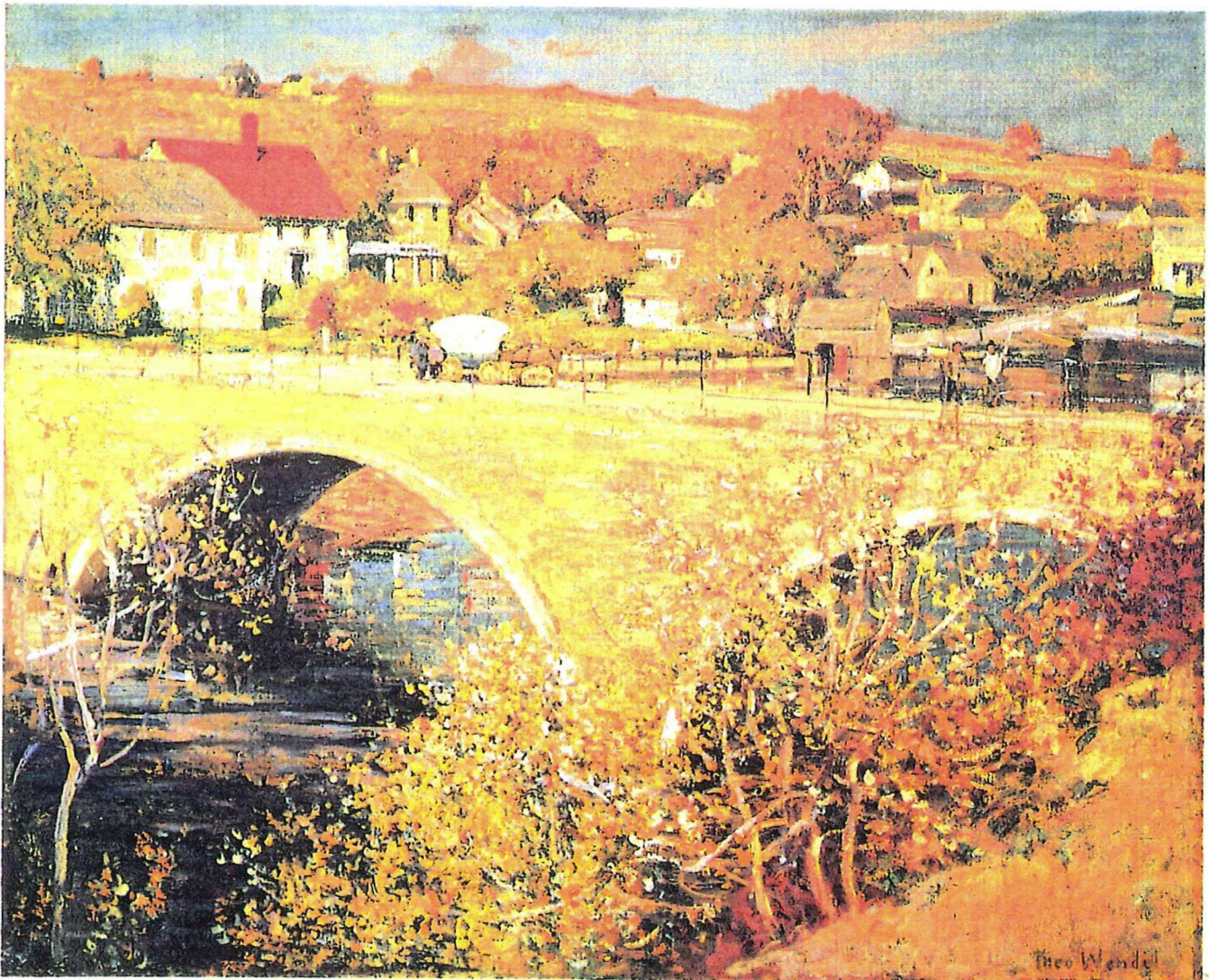
10. Bibliography and/or references such as local histories, deeds, assessor's records, early maps, etc.

Bicentennial Committee of Ipswich, The Spirit of Ipswich, 1976.

Town of Ipswich, Public Works Department

GREEN STREET BRIDGE

HISTORICAL DOCUMENTATION



SEPTEMBER 1992

prepared by
McGinley Hart & Associates, Architects & Preservation Planners

for
H. L. Turner Group, Inc. Concord, New Hampshire

Frontispiece "Bridge at Ipswich", Green Street Bridge, ca.1905. Oil Painting by Theodore Wendel (1859-1932). Museum of Fine Arts, Boston: Gift of Mr. and Mrs. Daniel S. Wendel and the Tompkins Collection. 1978.179 3.87

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- Figure 7. Construction of the present stone arch Green Street Bridge. Photo ca.1881 to 1894. View from foot of Summer Street at present Water Street. Note same fishing shanties in Figure 6, with arch centering, hoist, existing wing and retaining walls.
- Figure 8. "Ipswich River and Green Street Bridge." Postcard, ca.1910 showing context of Bridge including railing along Water Street which replaced fishing shanties. Courtesy of Susan Boice.
- Figure 9. Green Street Bridge and Emerson House, Ipswich. Postcard ca.1910 showing southwest side with original pipe railing. Courtesy of Ipswich Historical Society.
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- Figure 11. Green Street Bridge and Emerson House, Ipswich. Postcard ca.1910 showing northeast side original stonework. Courtesy of Susan Boice.
- Figure 12. "Old Bridge over Ipswich River near former Ipswich Jail. " Photo September, 1947 showing ice breaker and original railing.
- Figure 13. Green Street Bridge repairs showing bulldozer operator excavating northeast wing wall and backfill. Photo, July 1961. Courtesy of Armand Michaud, Ipswich DPW.
- Figure 14. Detail of Green Street Bridge repairs with Ken Richards excavating northeast wing wall and backfill. Photo, July 1961. Courtesy of Armand Michaud, Ipswich DPW.

GREEN STREET BRIDGE IPSWICH, MASSACHUSETTS - HISTORICAL DOCUMENTATION

Drawings: Existing Conditions at the Green Street Bridge with Proposed Work, 1992. H.L. Turner Group, Inc. Concord, N.H.

Recommendations sketches by McGinley Hart & Associates, Boston, MA. 1992.

NARRATIVE REPORT

Summary

- Location:** Spanning the Ipswich River on Green Street located between Water Street and Turkey Shore Road in the Town of Ipswich, Essex County, Massachusetts.
- Date of Construction:** Wooden bridge, stone piers 1881.
Rebuilt as twin-arched masonry bridge 1894 incorporating old materials.
Wing walls repaired 1961. Railings replaced, minor repairs 1981.
- Present Owner:** Town of Ipswich, Essex County, Massachusetts
- Present Use:** Vehicular Bridge
- Significance:** The Green Street Bridge is a double masonry arch, a later example of its type and one of five stone bridges in town spanning the Ipswich River. Designer Charles A. Putnam, C. E., of Salem drew plans for both the 1881 bridge (portions of which were incorporated in the rebuilding) and the 1894 structure. The Green Street Bridge was built by Joseph Ross (1822-1903), an Ipswich contractor who constructed numerous railroad bridges and was noted for his horizontal folding drawbridge design patented in 1849.
- Green Street Bridge is particularly significant for its use of traditional engineering design, notably similar to that of the nearby twin-arched historic Choate Bridge (1764, second-oldest in the U.S., widened 1838) over the Ipswich River at South Main Street. The other bridges are the Mill Road Bridge at Warner's Mills (ca.1830), Willowdale Bridge at Manning's Mill (1844-45) and the County Street Bridge (1861).
- Project Information:** This documentation was initiated in September 1992 in accordance with an agreement between the Town of Ipswich and H.L. Turner Group, Inc. of Concord, N.H., engineers for the rehabilitation of the bridge. This report was prepared by Paul McGinley and Frederic C. Detwiller of McGinley Hart & Associates, 77 North Washington Street in Boston.

Acknowledgements

The importance of this group of Ipswich bridges was first recognized and discussed in "Ipswich: Back to the Future" published in the Ipswich Chronicle in 1991 (See Appendix). This article on the historic bridges of Ipswich was written by Paul J. McGinley, Chairman of the Ipswich Historic District Study Committee which aroused interest in their restoration. This report is based upon a wealth of historic documentation including the original plans for the previous 1881 bridge, plans and specifications for the bridge of 1894, and historic views from local archives including the Ipswich Historical Society (Margo Galagar, Curator) and Public Library (Penney Gaunt, Librarian). Later changes are well-documented by bridge rating reports and photos provided by Armand Michaud of the Ipswich Department of Public Works. The following report reviews the historic appearance and later alterations to the bridge with a view toward developing restoration recommendations for repair work planned by H.L. Turner Group, Inc. of Concord, New Hampshire, for the Town of Ipswich.

I. Historical Background:

The need for a bridge at the Green Street location was recognized as early as 1719 when the residents of Turkey Shore on the southeast bank of the Ipswich River petitioned the town to allow them to build a bridge. However no bridge is known to have been erected prior to the consideration of the Town Meeting of March, 1880 to extend Green Street to Turkey Shore Road. At the meeting of October 12, 1881 the Town voted to build a wooden bridge over the River. The Town selected bridge designer Charles A. Putnam, C. E. (1828-1899), an engineer from Salem who drew plans for both the 1881 bridge (portions of which were incorporated in the later rebuilding) and the 1894 structure. Putnam was a surveyor and engineer who was born in Salem, educated in the local public schools, and performed so much public work in his last fifty years there that he was identified in his Salem Evening News obituary (May 26, 1899) as "practically City Engineer of Salem." He worked for a number of prominent clients including the Force River Lead Mills, Derby, Sawyer and Perkins. These are listed among papers including architectural drawings, maps and plans in the Essex Institute at Salem. Putnam began work as a civil engineer and surveyor in 1845 and in 1847 worked on the Eastern Railroad which may have put him in touch with builder Joseph Ross of Ipswich.

The Green Street Bridge builder is said to have been Joseph Ross (1822-1903), an Ipswich contractor who constructed numerous railroad bridges and was noted for his horizontal folding drawbridge design patented in 1849. The Green Street Bridge is particularly significant for its use of traditional engineering design, notably similar to that of the nearby twin-arched historic Choate Bridge (1764, second-oldest in the U.S., widened 1838) over the Ipswich River at South Main Street. The other bridges are the Mill Road Bridge at Warner's Mills (ca.1830), Willowdale Bridge at Manning's Mill (1844-45) and the County Street Bridge (1861). The marked similarity of the Green Street Bridge to the Choate Bridge suggests that the aesthetic and functional success of that (then 130 year-old) bridge inspired its use as a prototype for the design of the much later, twin-arched Green Street Bridge.

The Frontispiece "Bridge at Ipswich" shows the Green Street Bridge, ca.1905 in an oil painting by artist Theodore Wendel (1859-1932). This view in the Museum of Fine Arts in Boston illustrates the pastoral original setting of the bridge which has changed little in the last hundred years. The bridge served as a connector to the Turkey Shore of Ipswich allowing a "short cut" for commerce such as the hay wagon shown which would otherwise have had to travel the extra distance southwest to the old Choate Bridge up the River (See Figure 1. Location Plan)

A. 1881 Wooden Bridge with Stone Piers.

1. Proposed Drawbridge

The initial planning in 1880 called for a wooden drawbridge on stone piers as shown in Figure 2. This "Plan Showing Proposed Extension of Green Street, Ipswich Mass. across Ipswich River" was drawn by C.A. Putnam, C.E. of Salem on June 7, 1880, however his later drawings and photos show that the drawbridge was apparently not built. The decision to build a fixed bridge not allowing the passage of boats with masts would probably have been decided by vote of a Town meeting. Docking facilities for taller craft would have to have been down river subsequent to the construction of the 1881 bridge as shown in views described below.

2. 1881 Bridge as Built (First Bridge)

Plans for the 1894 Bridge are useful also for documenting the previous bridge of 1881. (See Figure 3.) This drawing of 1894, like the earlier 1880 drawing, is by C.A. Putnam, C.E. and dated March 29, 1894. The "Plan and Profile of Present Bridge" of the present shows stone piers and wood deck of earlier triple-span bridge. The upper left plan shows the pier of the new bridge superimposed on the plan of the old. The lower drawing "Plan of Proposed Stone Arch Bridge over the Ipswich River at Green Street in Ipswich" shows that the "present grade of street" on the 1881 bridge was lower than that of the 1894 bridge.

The original 1881 bridge at Green Street, Ipswich is shown in a photo ca.1881 to 1894 (Figure 6.). Two of the original three spans are shown in this view from the foot of Summer Street, the site of present Water Street. Note the fishing shanties in the tidal zone which remained until the laying-out and construction of Water Street shown in later, turn-of-the-century views.

1881 Bridge Components:

- a. Grade and Embankments - The 1880 drawing (Figure 2) shows that Turkey Shore Road was then substantially higher, and narrower than at present. The grade of the 1881 bridge was approximately four feet lower than that of the present 1894 bridge.
- b. Piers and Arches - The 1881 bridge had twin piers which were apparently to be replaced by the present single pier as shown in the 1894 plan (Figure 3).
- c. Wing Walls - The 1881 wing walls were apparently in the same location as those of the 1894 bridge and the 35 foot width was approximately the same according to the 1894 plan (Figure 3).
- d. Utilities: Drainage, Railings, Lighting - There was a three-rail board fence railing along the 1881 bridge as shown in the 1881 photo (Figure 6). There is no known documentation on the 1881 bridge lighting or drainage.

B. 1894 Twin-Arched Masonry Bridge (Present Bridge)

The engineer's drawings and specifications for the 1894 Green Street Bridge are very useful in determining the extent of material re-used from the 1881 bridge, as well as the amount of new stonework and fill required for the present bridge. The change in grade from the original bridge is shown in Figure 4, "Proposed Stone Arch Bridge over the Ipswich River at Green Street, in Ipswich" by Charles A. Putnam, C.E. March 29, 1894. The dotted line clearly shows the proposed grade four feet above the "present (1881-94) grade of street." The calculations for the amount of fill required are illustrated in Figure 5, C.A. Putnam's "Estimated Work in Building Stone Arch Bridge over the Ipswich River, at Green Street, Ipswich," June 11, 1894. Detailed quantities of materials are also given including new stonework, re-use of old stone, ice breaker, capstones and pipe railing. Important notes identify which components are to be of "new stone" and which are to be of "old stone," as will be further discussed in the analysis of the bridge by components below.

The bridge is unusually well-documented in a ca. 1894 photo showing the construction of the present stone arch Green Street Bridge (Figure 7). This view from the foot of Summer Street at present Water Street shows the same fishing shanties visible in Figure 6, with the arch centering for the new bridge and the stone hoist as well as the remaining wing and retaining walls of the previous 1881 bridge. The 1894 bridge as it was completed is best shown in a ca.1910 postcard showing the southwest side and original stonework of the Green Street Bridge with the seventeenth century Emerson-Howard House in the background (Figure 9).

1. Re-Use of 1881 Bridge Materials.

The 1894 bridge as it stands contains the remnants of the 1881 bridge abutments, based on the documentation cited above. These components include "the side walls and wall required to raise the grade of the street about 4 feet (old stone)" according to the 1894 "Estimated Work" list (Figure 5). Furthermore, according to the same source, the "Wing Wall to rebuild on the South side of River (old stone)" and the "New pier between arches (mostly new stone)" indicates the re-use of materials in these areas. In addition, the Specifications (See Appendix) call for "The retaining or side walls are to be built from the stones in the present work, the best stones to be used in the front or face work. As to the wing walls, the top three feet were to be removed "as the stones are small and not suitable to start new work upon" and rebuilt but "the best of the old stones are to be used and laid in cement mortar. Any stone not suitable for the walls can be used for backing the arches."

2. New Components:

As shown in the 1894 photo (Figure 7) considerably more than three feet of the old bridge abutments were removed, since according to the specifications, "The abutments are to be taken down to the foundation course of stones, in bed of River and upon these the new abutments for the arches are to start." According to the documentary evidence, the following new components of the bridge were built as follows:

- a. Raised Grade, Street and Sidewalk Surfaces - With the exception of used materials, these were entirely new in 1897 since the grade was raised four feet. These were to be composed of "good gravel, finished upon the grade shown upon the plan, having well-formed sidewalks of 6 feet in width and gutters upon each side of the street. The center of the street is to be crowned one foot above the bottom of the gutters."
- b. Piers and Arches - The new center pier was to be "mostly new stone" with an "Ice Breaker on end of pier (New Stone)" outside or face stones to be rough pointed to form the required slope. The stones to be tied together with dogs, made from 3/4 inch iron, each 18 inches long, with ends to sink 4 inches into the stone." Regarding the "Arch Stones (these will be new stone)" and "of best quality granite, in lengths of not less than five feet and laid in regular courses of 18 inches." These were "to be laid in the best cement mortar", according to the specifications. The stonework of the arches is best shown in a view from the beach looking east (Figure 11). The stone work of the arches, pier and ice breaker are visible on the southwest side of the 1894 bridge in

a photo of September, 1947 showing the "Old Bridge over Ipswich River near former Ipswich Jail. " (Figure 12).

- c. Wing Walls - According to the specifications, "The easterly wing wall, on the southerly side of the river, is in rather a bad condition and is to be rebuilt." This was to have been done with old stone according to the "Estimated Work" list, however the large scale of stonework in most of the the easterly wing walls suggest these are largely new stone. At the westerly end where stones are somewhat smaller, more of the early work has survived. The side walls had capstones "of the best quality granite 2 feet in width by 15 inches thick and in lengths of not less than 6 feet" secured by iron dogs.
- d. Utilities: Drainage, Railings, Lighting

Water runoff was controlled in the 1894 bridge with the use of four catch basins "two at each side of the river." These were to be "of brick, 4 feet in diameter and 5 feet deep, below top of curb. The basins are to be built under the sidewalks and each shall have a stone curb with a plank cover, 4 feet square, the cover being on level with sidewalk. The outlets of the basins, made of 8 inch brick walls, were to be "10 inch drain pipe laid through the wing walls." These terra cotta pipes are visible in an early postcard view (Figure 9).

The original railings for the 1894 bridge were specified to be of metal pipe: "The Railing on top of the cap stone course is to be made from 2 inch iron gas pipe and will be 4 feet high, having 3 rows of pipe and posts set 8 feet apart, said posts to be firmly sunk not less than 5 inches deep into the capstones and the whole railing to have two coats of paint." These were built according to the specifications and are shown in all the old views, most clearly shown in a view of the "old Prison Shop and House of Correction" on the site of the present Ralph C. Whipple Middle School, as seen from the bridge (Figure 10).

The original street lighting has been retouched out of most early views of the bridge on post cards, however two views (Figures 8 and 11) show crook-necked incandescent shaded fixtures attached to wood poles on Water Street and on the bridge. These would have been located at quarter points on the abutments of the bridge not far from the catch basins.

II. Alterations and Repairs

The earliest alteration at the bridge appears to have been the construction of Water Street along the western shore on the north side of the bridge. This is best seen in Figure 8, a ca.1910 postcard "Ipswich River and Green Street Bridge" showing context of the bridge including the railing along Water Street which replaced the old fishing shanties seen in earlier views. This construction may have caused the alteration of the north wing wall of the western approach to follow the curve of the turn into Water Street where a new retaining wall was built.

A. Wing Wall Repairs, 1961.

GREEN STREET BRIDGE IPSWICH, MASSACHUSETTS - HISTORICAL DOCUMENTATION

The best-documented of later repairs to the bridge are shown in a series of photos taken by Armand Michaud of the Ipswich DPW. A photo dated July, 1961 shows Green Street Bridge wing wall repairs underway with a bulldozer operator removing the northeast wing wall (Figure 13). A closer view shows DPW employee Ken Richards excavating the wing wall backfill for the reconstruction of the drywells and adjacent wing walls. (Figure 14).

B. Railings Replacement, Minor Repairs, 1981.

Subsequent repairs called for in detailed bridge rating reports of 1977 and 1980 by Anderson-Nichols & Co., Inc. of were relatively minor in nature and included repointing of stonework, installation of auto guard rails and replacement of the old railings with chain-link fence.

III. Existing Conditions: (As shown in H.L. Turner Group, Inc. 1992 Report)

- A. Grade, Street and Sidewalk Surfaces - The present bridge surface is covered with asphalt pavement which obscures the original sidewalk and street paving materials which are shown in the old photos as a fine gravel, sand or stone dust. Otherwise the grade has not changed significantly except that the bulging wing walls and loss of fines beneath the surface has resulted in localized settlement and cracking of the pavement.
- B. Piers and Arches - These appear to remain unaltered and as originally constructed and in relatively good condition.
- C. Wing Walls - The wing walls, especially those on the eastern shore, appear as they were rebuilt in 1961 with some larger slabs and much of the smaller stone remaining from the original 1894 reconstruction. The wing walls are cracked and bulged out in some locations, particularly the eastern end.
- D. Utilities: Drainage, Railings, Lighting - Three of the four dry wells appear to have been rebuilt; however, one on the western end of the bridge is said by H.L. Turner representatives to remain as originally constructed. The old pipe rails have been removed and replaced by the chain-link fence installed in 1981. Old utility poles and streetlamp fixtures have been replaced.

IV. Recommendations:

A. Grade, Street and Sidewalk Surfaces

Maintain original six foot width of sidewalk at arched section. Sidewalks may widen at extremities of bridge to improve traffic control and pedestrian safety. New granite curb topped by tubular steel guard rail (see sketch detail) may be expedient if required for traffic and pedestrian safety. Maintain existing granite cap grade elevation at outside walls of bridge. Sidewalk curb cuts as required for accessibility are recommended.

GREEN STREET BRIDGE IPSWICH, MASSACHUSETTS - HISTORICAL DOCUMENTATION

B. Piers and Arches

These appear to be in good condition; however, if repairs are required the ice breaker should be repointed ("outside or face stones to be rough pointed") as originally specified to match existing stonework.

C. Wing Walls

Restore as above with bulged-out stonework rebuilt using salvaged material to match existing at locations where required. Retaining walls to be rebuilt on Turkey Shore Road, as elsewhere, should be of stonework similar to the original.

D. Utilities: Drainage, Railings, Lighting

Drainage - Maintain and/or replace drainage basins in existing locations. It would be desirable to retain any old granite drain curb found in place.

Railings - Restore pipe railings similar to those specified for original 1894 bridge with minimal modification to meet modern codes. Fencing along Turkey Shore Road should be three-rail wood fencing scaled to meet bridge rails as shown in early views.

Lighting - Appropriate light poles and fixtures should be designed to be compatible with the bridge.

E. Historical Plaque

It would be appropriate to incorporate a suitable plaque to briefly describe the historical significance of the bridge. This would be important since a high degree of pedestrians use the bridge and it is adjacent to a public school which all Ipswich students attend. It could possibly be incorporated into the eastern end of the bridge where the approach may be narrowed and additional non-roadway area would be available.

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"Specifications for the Building of the Stone Arch Bridge over the Ipswich River at Green Street, Ipswich, in Accordance with the Plans by Charles A. Putnam, C.E.

"Plan Showing Proposed Extension of Green Street, Ipswich Mass. across Ipswich River." C.A. Putnam, CE, Salem, June 7, 1880. Shows drawbridge not as built.

"Plan and Profile of Present Bridge " of 1881 with "Plan of Proposed Stone Arch Bridge over the Ipswich River at Green Street in Ipswich." By C.A. Putnam, C.E. March 29, 1894. Shows stone piers and wood deck of earlier triple-span bridge.

"Proposed Stone Arch Bridge over the Ipswich River at Green Street, in Ipswich." By Charles A. Putnam, C.E. March 29, 1894. Shows proposal for raising of grade.

Ipswich Public Works Department:

Photos of Work done in 1961, Armand Michaud, Director DPW

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Museum of Fine Arts, Boston:

"Bridge at Ipswich", Green Street Bridge, ca.1905. Oil Painting by Theodore Wendel (1859-1932). Gift of Mr. and Mrs. Daniel S. Wendel and the Tompkins Collection.
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ILLUSTRATIONS



Figure 1. Location Plan, Town of Ipswich, 1992.

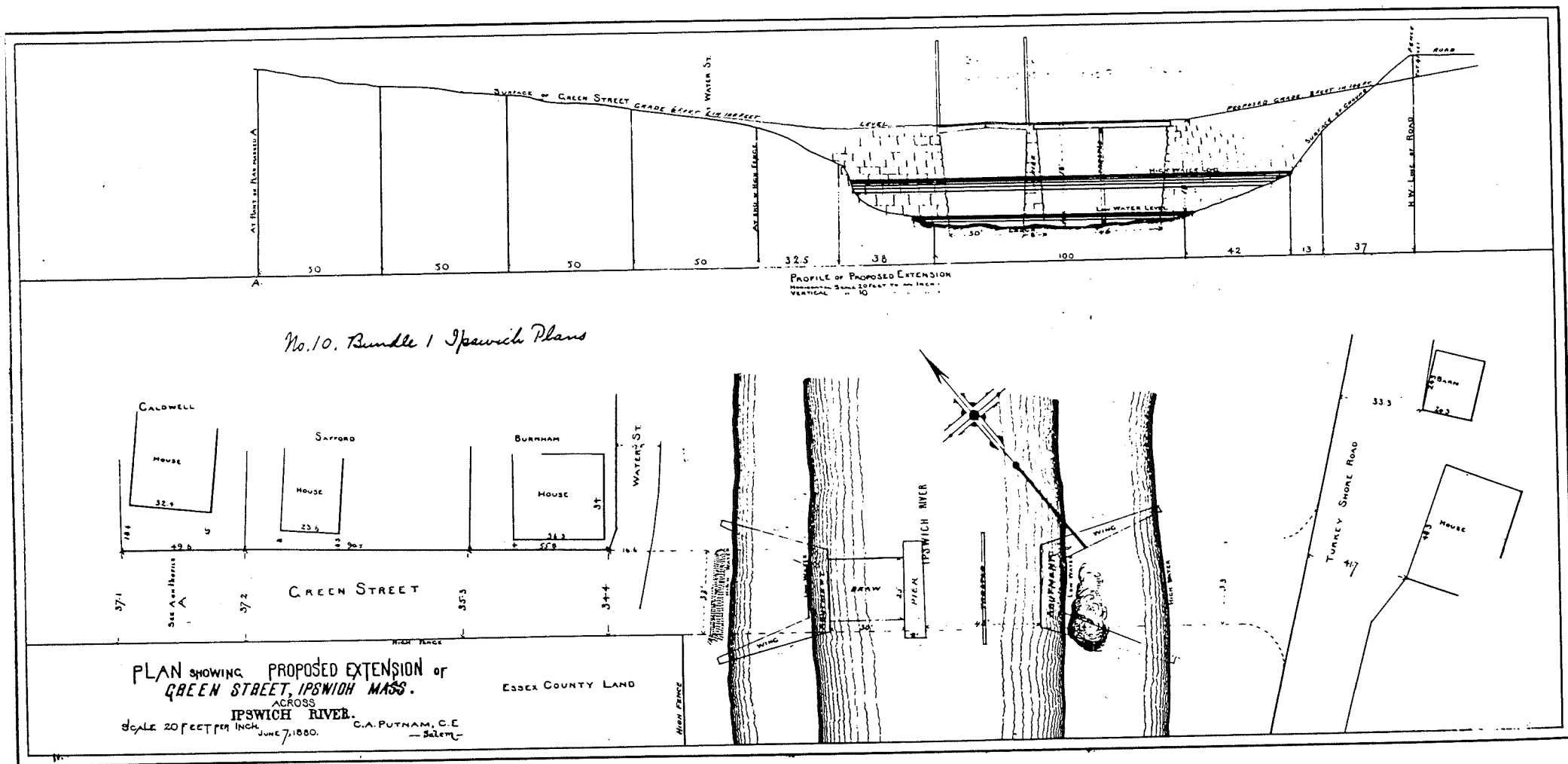
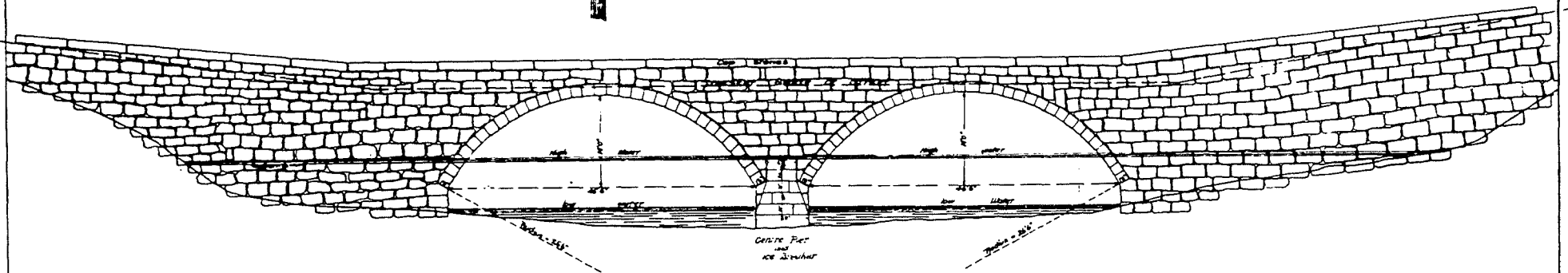
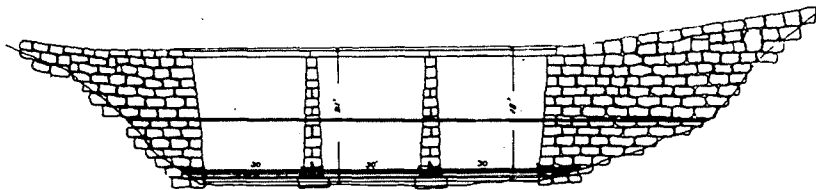
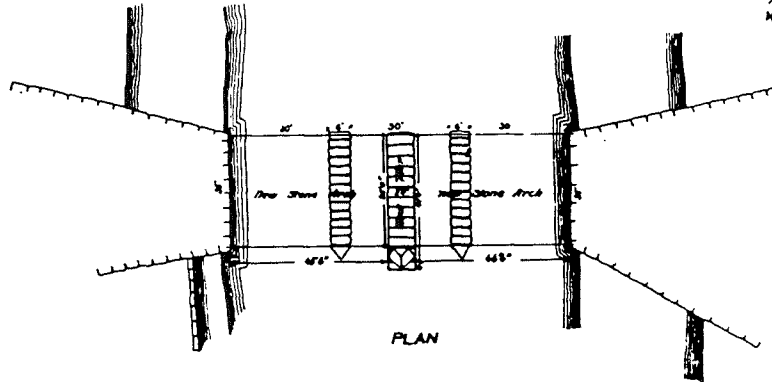


Figure 2. "Plan Showing Proposed Extension of Green Street, Ipswich Mass. across Ipswich River." C.A. Putnam, CE, Salem, June 7, 1880. Shows drawbridge not as built.

PLAN AND PROFILE OF PRESENT BRIDGE

Horizontal Scale 80 feet to an inch.
Vertical Scale 10 feet to an inch.



PLAN OF PROPOSED STONE ARCH BRIDGE OVER THE IPSWICH RIVER AT GREEN STREET IN IPSWICH.

By C.A. Putnam, C.E.

March 28, 1894.

Scale 6 Feet to an inch.

Figure 3. "Plan and Profile of Present Bridge " of 1881 with "Plan of Proposed Stone Arch Bridge over the Ipswich River at Green Street in Ipswich." By C.A. Putnam, C.E. March 29, 1894. Shows stone piers and wood deck of earlier triple-span bridge.

PROPOSED STONE ARCH BRIDGE OVER THE IPSWICH RIVER,
AT GREEN STREET, IN IPSWICH.

BY CHARLES A. PUTNAM, C.E. MCH. 29TH 1894.
SCALE 8 FEET TO AN INCH.

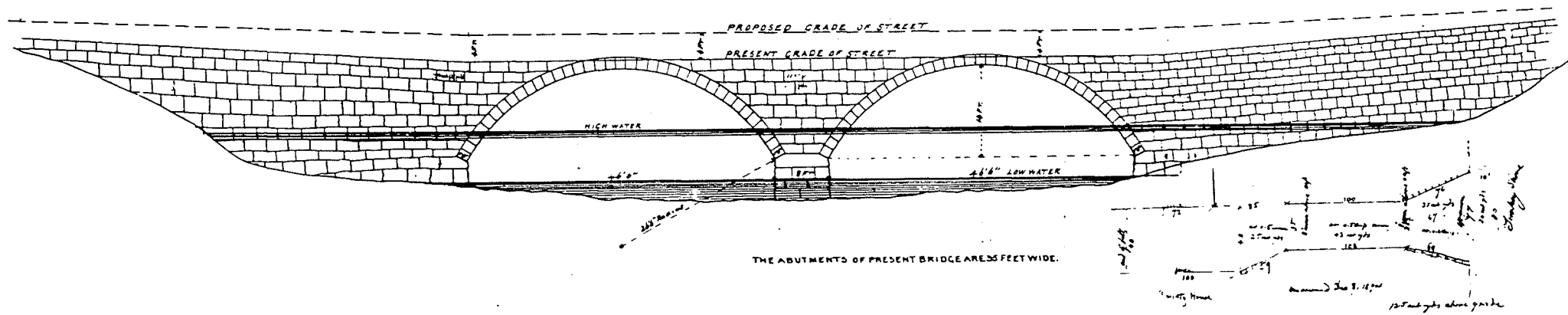


Figure 4. "Proposed Stone Arch Bridge over the Ipswich River at Green Street, in Ipswich."
By Charles A. Putnam, C.E. March 29, 1894. Shows proposal for raising of grade.

Ipswich. June 11th 1894

Estimated Work in building the Stone Arch Bridge
over the Ipswich River, at Green Street. Ipswich.
in accordance with plans and specifications made by
Charles A. Putnam. C. E.

Arch Stones (these will be new stone)	225 cub. yds.
New pier between arches (mostly new stone)	65 cub. yds.
Ice Breaker, on end of pier (new stone)	10 cub. yds.
Cap Stones. 420 feet in length	
Side Walls and wall required to raise the grade of the Street about 4 feet (old stone)	410 cub. yds.
Wing Wall to rebuild on South Side of River (old stone)	100 cub. yds.
Backing for arches — — — — — about	350 cub. yds.
Railing of iron gas pipe for sides of bridge and wing walls 420 feet in length,	
4 Catch Basins with curbs, covers, gutters and outlet pipes	
Grading for Street, about	800 cub. yds.
Timber Centres for Arches	
Removing old bridge	

Charles A. Putnam. C. E.

Figure 5. "Estimated Work in Building Stone Arch Bridge over the Ipswich River, at Green Street, Ipswich." June 11, 1894 by C.A. Putnam. Details quantities of materials including new stonework, ice breaker, capstones, re-use of old stone, pipe railing.

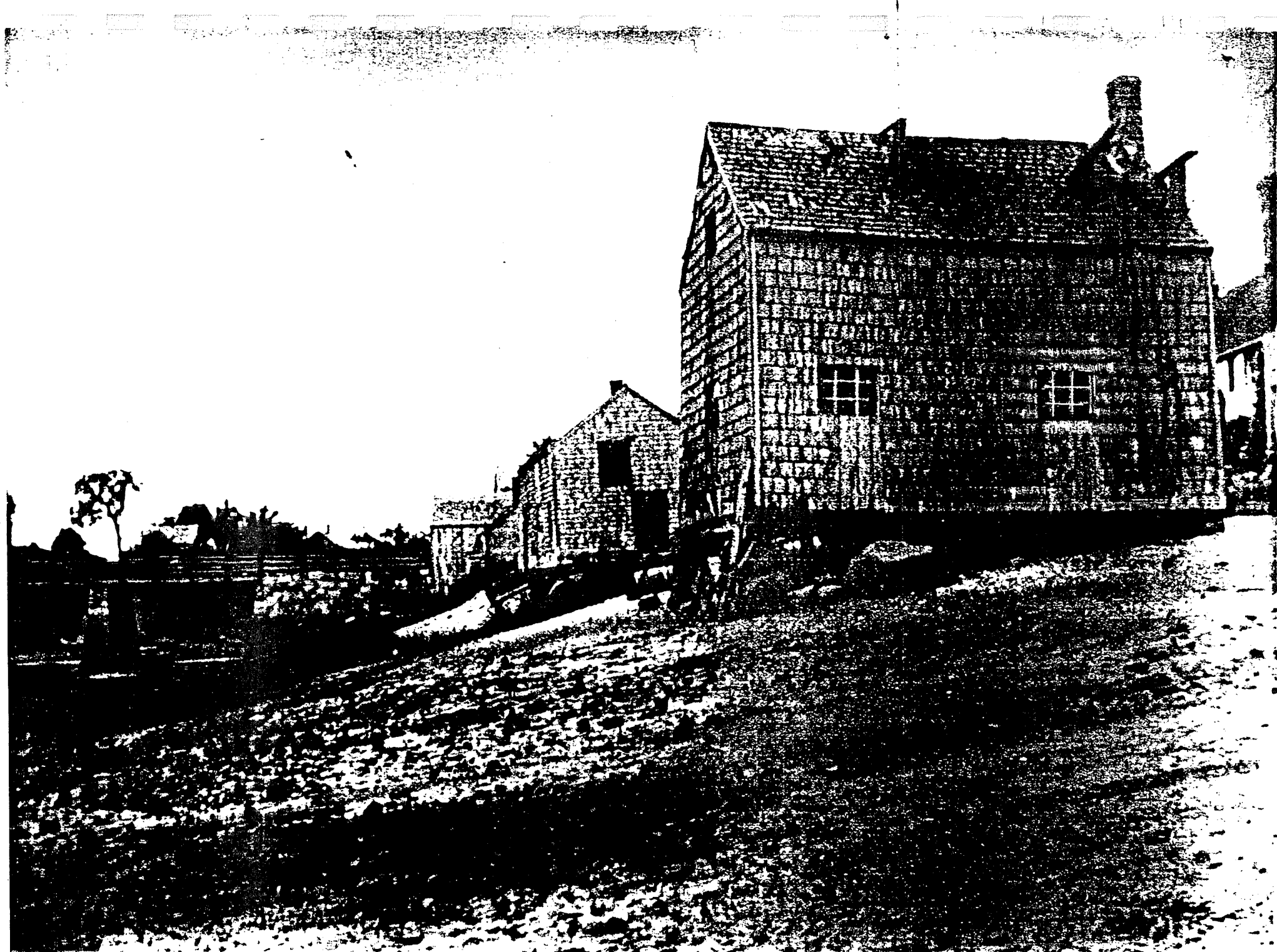


Figure 6. The original bridge at Green Street, Ipswich. Photo ca.1881 to 1894. View from foot of Summer Street, site of present Water Street. Note fishing shanties in tidal zone.

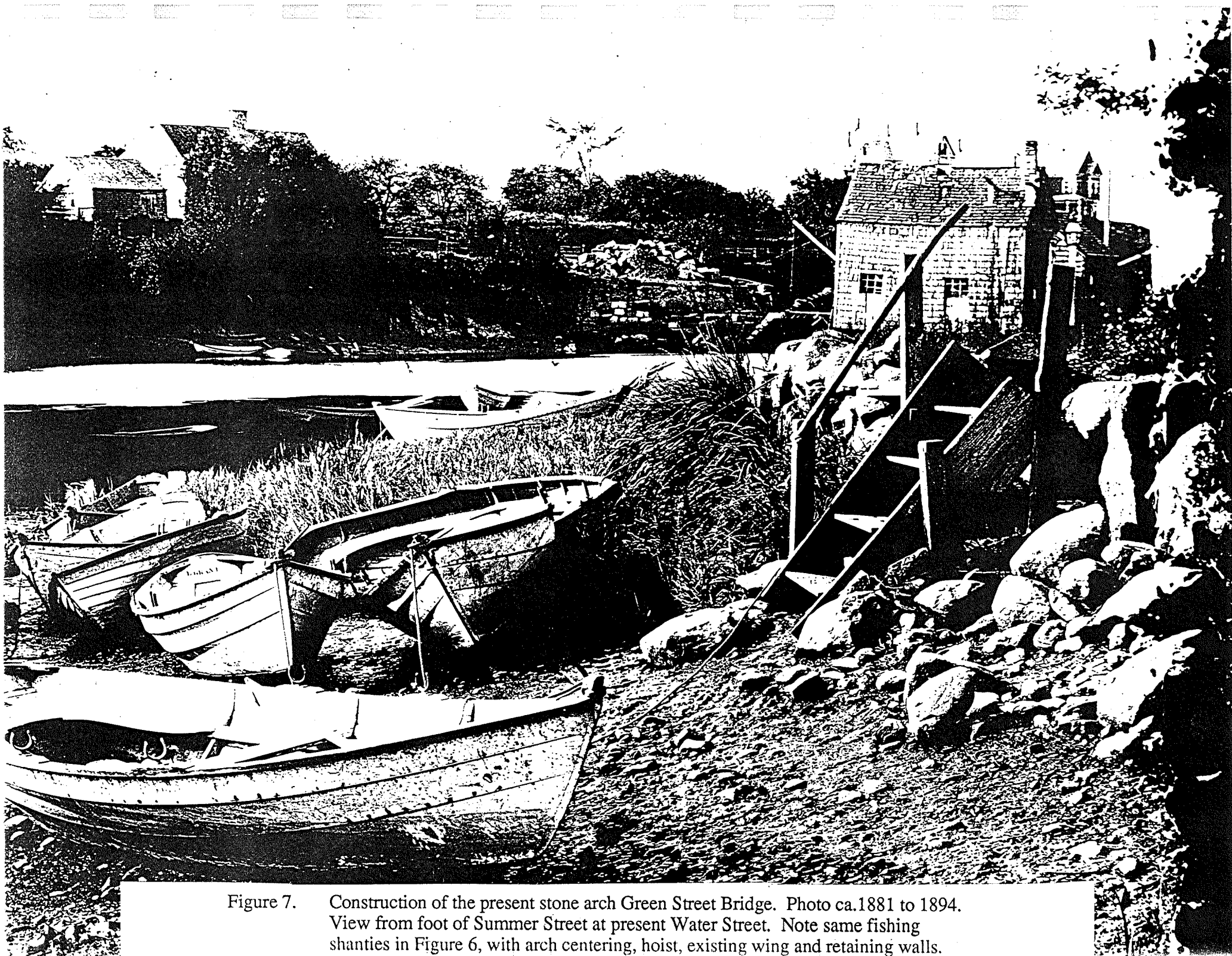
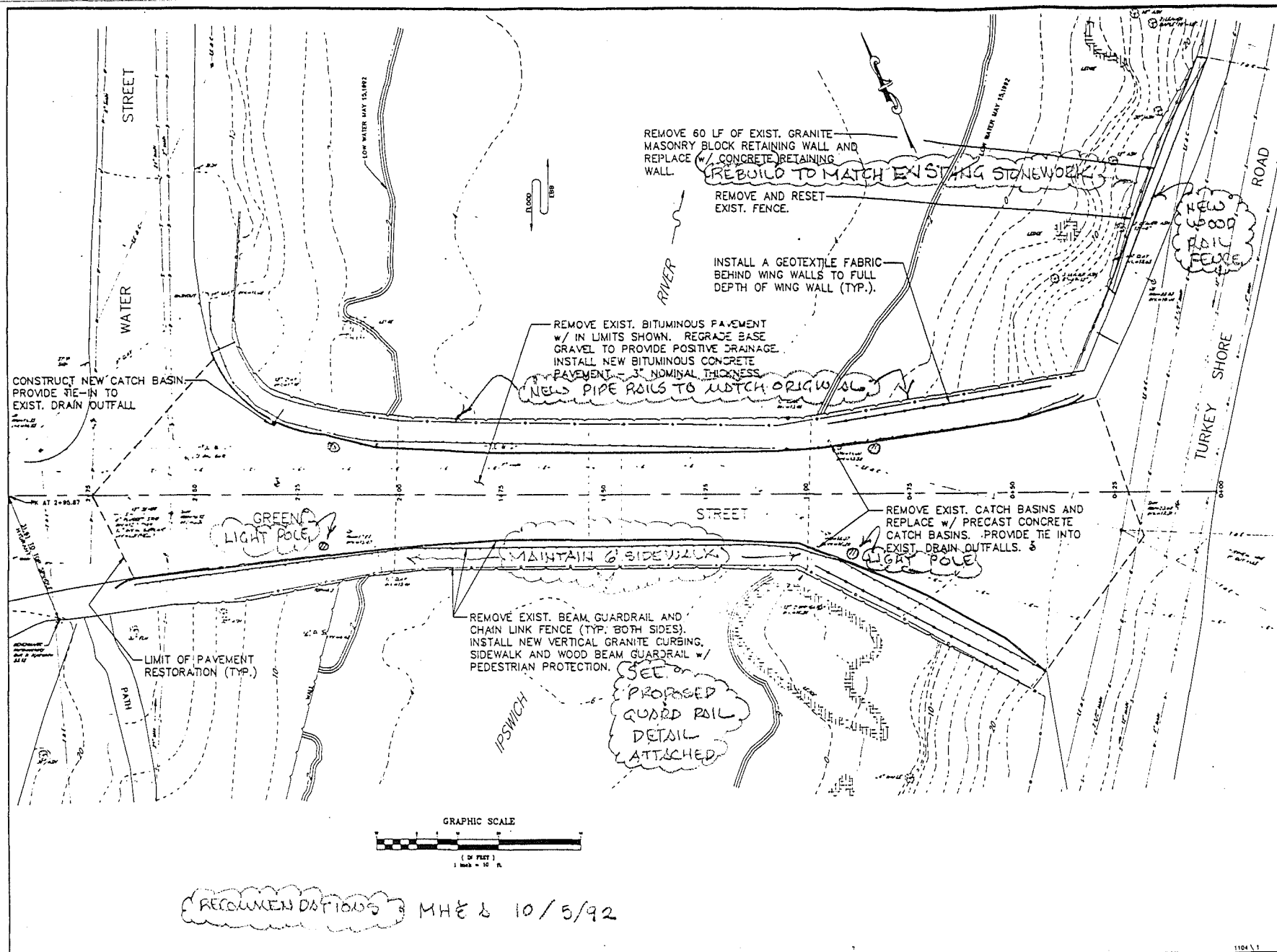


Figure 7. Construction of the present stone arch Green Street Bridge. Photo ca.1881 to 1894. View from foot of Summer Street at present Water Street. Note same fishing shanties in Figure 6, with arch centering, hoist, existing wing and retaining walls.

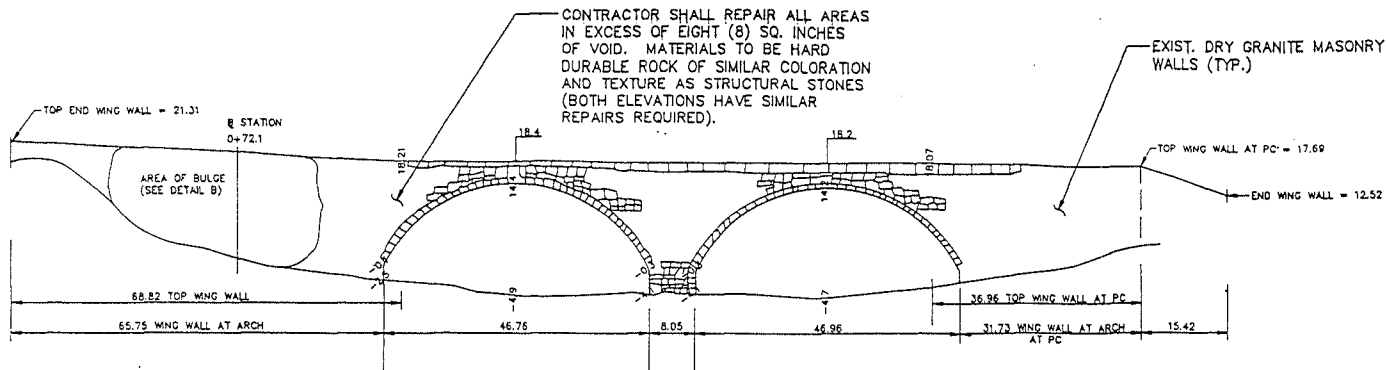
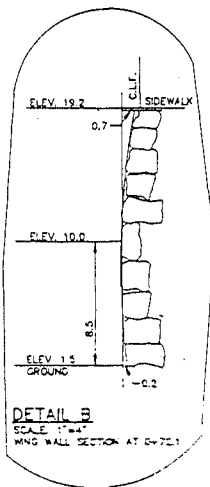
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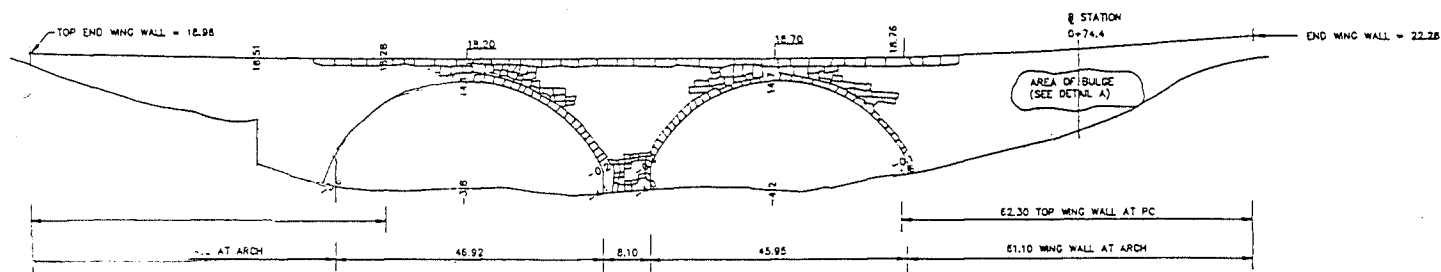


RESTORATION GREEN STREET BRIDGE TOWN OF IPSWICH IPSWICH, MA	
THE H.L. TURNER GROUP Inc. 1000 WEST STREET, SUITE 200 IPSWICH, MA 01938 TEL: (508) 926-1100 FAX: (508) 926-1101	TURNER GROUP
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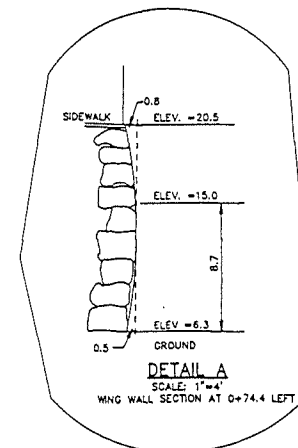
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IPSWICH RIVER
(TIDAL)



ELEVATION LOOKING NORTHEAST

IPSWICH RIVER
(TIDAL)



RESTORATION
GREEN STREET BRIDGE
TOWN OF IPSWICH
IPSWICH, MA

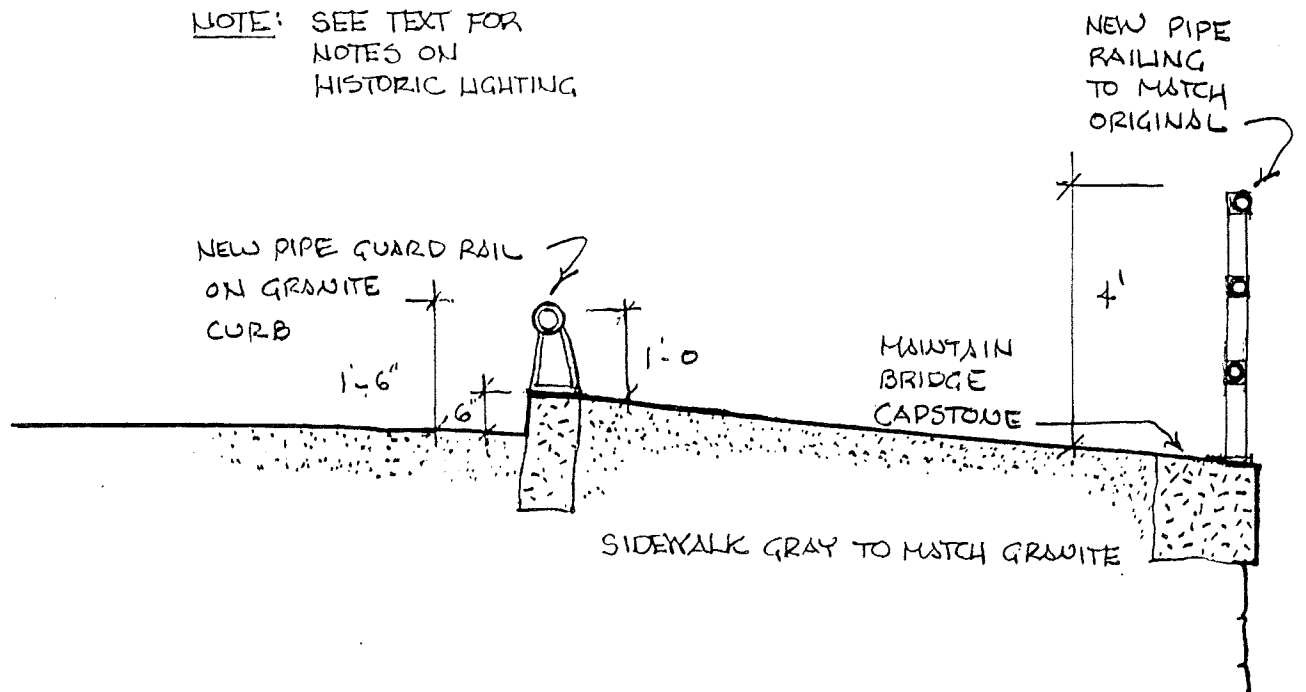
THE T.L. TURNER GROUP Inc.
A DIVISION OF TURNER HOLDINGS, INCORPORATED IN MASSACHUSETTS
ARCHITECTS • CONSTRUCTION MANAGERS
ENGINEERS • ENVIRONMENTAL CONSULTANTS
CONCRETE DIVISION
HARTFORD, CT 06105
9/1/97

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GROUP

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ELEVATIONS

NOTE: SEE TEXT FOR
NOTES ON
HISTORIC LIGHTING



RECOMMENDED DETAILS - GREEN STREET BRIDGE

NOT TO SCALE

MHEA 10/5/92
REV. 10/14/92

McGINLEY HART & ASSOCIATES
Architects & Planners
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APPENDIX

"Specifications for the Building of the Stone Arch Bridge over the Ipswich River at Green Street, Ipswich, in Accordance with the Plans by Charles A. Putnam, C.E.

"Ipswich: Back to the Future" in Ipswich Chronicle , June 20, 1991, p. 12. Article on Historic Bridges of Ipswich by Paul J. McGinley, Chairman, Ipswich Historic District Study Committee.

Ipswich. June 11th 1894

Specifications for the building of the Stone Arch Bridge, over ^{for 6} the Ipswich River at Green Street, Ipswich, in accordance with the plans made by Charles A. Putnam, C. E.

The timber work, piers, abutments and portions of the wing walls in present bridge are first to be removed. The abutments are ^{Sc} _W to be taken down to the foundation course of stones, in bed of river and upon these foundations, the new abutments for the arches are to start

New Pier for Arches The Pier for the Arches, is to be in the centre of river, as shown on the plan; is to be 8 feet in width; about $6\frac{1}{2}$ feet in height and 42 feet in length on the bottom, this length includes the ice breaker, as shown on plan. The bottom course of stones shall be of good quality granite, split in lengths of not less than 8 feet and from 18 to 20 inches in thickness. and will be laid as headers; the sides of said stones shall be even enough to lay within 3 inches of each other. The top of this course shall be as level as possible. The remaining height will be in three courses, each to lay 20 inches; the beds and builds to be rough dressed, so as to lay in one joints: the top course to be headers 8 feet in length, the ends being cut upon the angle required for the springing of the arches. The bed of the the River is hard gravel and ledge and will require to be carefully leveled, before the pier is commenced. The depth of water at low tide being about 3 feet.

Three courses, each 10 or 12 inches; the bed and courses to be rough dressed, so as to lay inch joints: the top course to be headers 8 feet in length, the ends being cut upon the angle required for the springing of the arches. The bed of the the River is hard gravel and ledge and will require to be carefully leveled, before the pier is commenced. The depth of water at low tide being about 3 feet.

Gra

Ice
Breaker.

The Ice Breaker, upon the upper end of the Pier, will be made from good quality granite. The stones to be rough dressed upon bed, build and sides, so as to lay inch joints. The outside, or face of the stones, are to be rough pointed, to form the required slope. The stones are to be tied together with dogs, made from $\frac{3}{4}$ inch iron, each 18 inches long, with ends to sink 4 inches into the stones. The dimension of each stone is shown upon the plans.

Cal.
Ba

Arches

There will be two arches, each having a clear span of $46\frac{1}{2}$ feet at the springing line and 35 feet long. The abutment walls for these arches will start from the foundation courses as above mentioned and built with the same quality stone and same manner as in the centre pier, excepting that the stones for the springing course may be either laid headers or stretchers. The springing line to be on same level as in the pier. The arch stones are to be of best quality granite, in lengths of not less than 5 feet and laid in regular courses of 18 inches, the sides and ends of said stones to be rough dressed so as to lay inch joints on the face and in depth, said stones shall not be less than 18 inches. The face of the stones at ends of the arches are to be of a uniform depth of 18 inches and the stones are to be cut to lay inch joints. These arch stones are to be laid in the best cement mortar and the joints in back shall be thoroughly filled with pinnors, well driven.

Re

Backing Arches

The entire space between the arches, and up to the level of the top of arches, is to be filled with large stones and also the other sides of arches are to be backed with large stones, to the thickness of 6 feet, extending up to the level of the top of the arches. These stones are to be carefully laid; not thrown in.

Side Walls

The retaining, or side walls, over the ends of the arches are to be built from the stones in the present work, the best stones to be used for the front, or face work. These walls will be 9 feet thick at bottom, by 4 feet thick at the course below the cap stone. The cap stone course to be of the best quality granite, 2 feet in width, by 15 inches thick and in lengths of not less than 6 feet, with the ends squared to lay in joints, these stones to be joined together with $\frac{3}{4}$ inch iron dogs, 15 inches long, with ends to sink 4 inches into the stones and secured with lead or brimstone.

These cap stones will run the entire length of the side and wing walls, on top of which will be the railing. These walls are to be thoroughly laid with header and stretchor stones and carefully pinned in joints both front and back. No cement mortar required.

Wing Walls

The easterly wing wall, on the southerly side of the river, is in rather a bad condition and is to be rebuilt. The top courses of stones (about 3 feet in height) in other wing walls are to be removed, as the stones are small and not suitable to start the additional work upon. Where requiring to be rebuilt, the best of the old stones are to be used and are to be laid in cement mortar. Any stone not suitable for the walls, can be used for backing the arches.

Grading

After the backing for the arches is completed, the remaining filling is to be of good gravel, finished upon the grade shown upon the plan, having well formed sidewalks of 6 feet in width and gutters upon each side of street. The centre of the street is to be crowned one foot above bottom of gutters.

to start the additional work upon. Where requiring to be rebuilt, the best of the old stones are to be used and are to be laid in cement mortar. Any stones not suitable for the walls, can be used for backing the arches.

Grading After the backing for the arches is completed, the remaining filling is to be of good gravel, finished upon the grade shown upon the plan, having well formed sidewalks of 6 feet in width and gutters upon each side of street. The centre of the street is to be crowned one foot above bottom of gutters.

Catch Basins Four Catch basins will be required, two at each side of the river. These will be of brick, 4 feet in diameter and 5 feet deep, below top of curb. The basins are to be built under the sidewalks and each shall have a stone curb with plank cover, 4 feet square, the cover being on level with sidewalk. The brick walls of basins to be 8 inches thick. The outlets to these basins to be of 10 inch drain pipe, laid through the ring walls. At each basin there will be a concrete gutter, 12 feet long by 3 feet wide laid to conduct the water into the basins.

Railing The Railing on top of the cap stone course, on each side of the street, is to be made from 2 inch iron gas pipe, and will be 4 feet high, having 3 rows of pipe and posts set 8 feet apart, said posts to be firmly sunk not less than 5 inches deep into the cap stones, and the whole railing to have two coats of paint.

All of the above specified work to be done in a thorough and workmanlike manner, in accordance with the plans and specifications and to the satisfaction of the engineer in charge and approval of the Selectmen of Ipswich.

A certified Check of \$500 to accompany each bid.

All bids are to be in a gross sum for the entire work completed, whether more or less than the specified quantities.

Payments to be made each month, on or before the 10th of 80 per cent of the amount due on work actually done and materials furnished and certified to, by the engineer, in writing. The remaining 20 per cent is to be paid when the entire work is completed in accordance with the terms of contract and approval of the engineer and Selectmen of Ipswich.

The work to be completed on or before October 1st 1894.

Charles A. Putnam C.E.

Ipswich: Back to the Future

The following is part of a continuing series on parts of town that may be included in a historic district.

Ipswich is fortunate to have the Ipswich River meander through the middle of our community. Indeed, the river is the very reason why an early settlement was founded here and why Ipswich prospered at various times as an early industrial and cultural center.

Ipswich is also unique in that it has five stone bridges at strategic crossings over the river. These bridges and their year of construction are as follows (beginning at Foote's Canoe Landing and proceeding down the river):

— Willowdale Bridge at Manning's Mill (1844-45)

— Mill Road Bridge at Warner's Mills (Ca. 1830)

— Choate Bridge at South Main Street (1764, widened 1838)

— County Street Bridge (1861)

— Green Street Bridge (1894)

Except for the Willowdale Bridge, these bridges are all of stone-arch construction and are exceptionally beautiful and graceful structures. You can see some of these bridges at the upcoming Annual Riverwalk on June 22. Walk along the river and take a close look at their beauty and see how they were put together.

With Scheme Z and the ongoing debate over the proposed Beverly-Salem replacement bridge, it seems that bridges are always enveloped in controversy. The early Ipswich bridges were no exception to this characteristic.

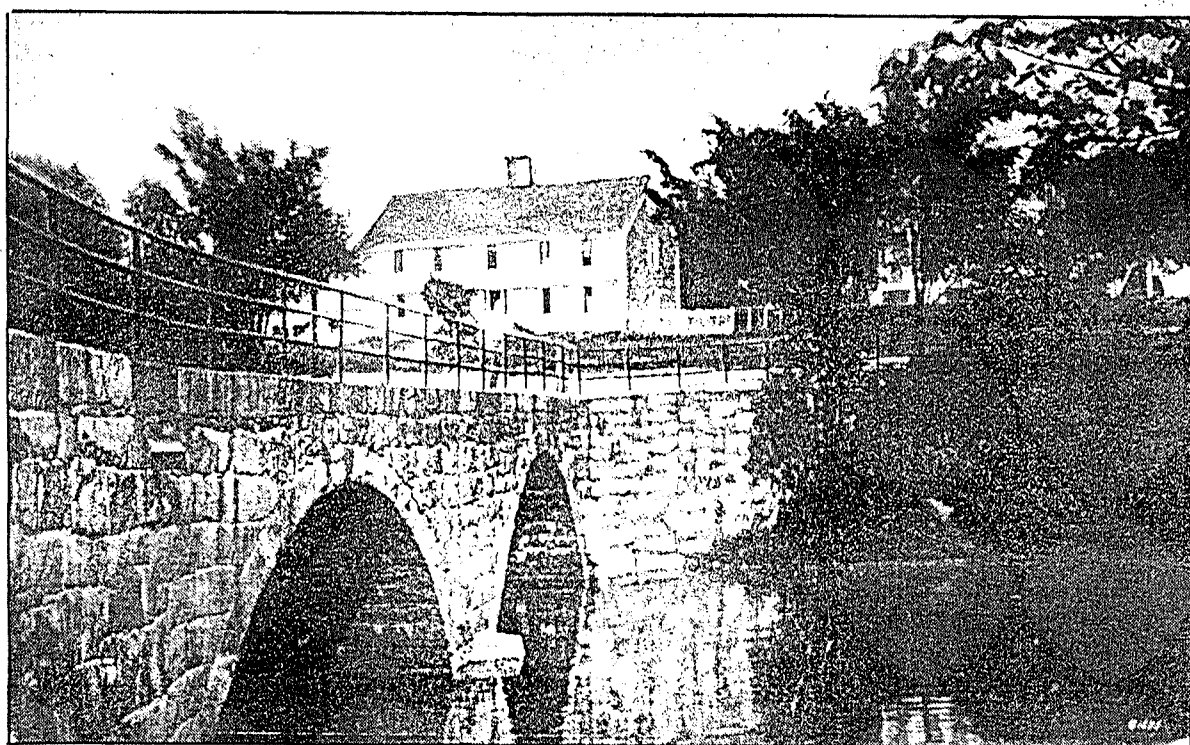
The Willowdale Bridge was opposed by the town but the county ordered it built. The town also opposed the Mill Road bridge but again, the town was overruled by the county. The town sued the county and contested any payment for its construction but the State Supreme Court assessed the Town \$1,498 for its cost. My, how costs have increased!

The Choate Bridge also was the subject of much controversy between the town and the county. There were bitter disputes at both the original construction in 1764 and in the widening of 1838.

Fortunately, the recent restoration of the bridge in 1989 by the town and the state was accomplished without a repeat of the prior disputes. Everyone was well pleased with the result. The effort has received praise and awards, culminating in the recent dedication of a new sign by the Historical Commission last month.

These granite bridges of Ipswich also tell us something about the history of bridge construction. Choate Bridge (1764) is the second oldest stone arch bridge in America. There is one older bridge: The Frankford Avenue Bridge in Philadelphia. It was built in 1697, a three-span stone arch structure over the Pennypack Creek, and is still in use.

The design and construction of bridges is a relatively new technology that developed in the United States. Throughout history,



The Emerson House in Ipswich, near one of the town's several stone arch bridges over the Ipswich River. (Courtesy of Gary Studley)

ry, bridges were important structures to civilization. However, they were required to carry only light loads of animal-driven carts, horses and people.

Light-weight structures of wood were often built but they did not resist deterioration from the weather on a long-term basis. (An exception are the historic covered bridges which protected the wood) and were often replaced by stone-arch structures.

Stone-arch construction is very old and was employed throughout Europe. However, stone-arch construction was limited by the technology of stone-cutting which was exceptionally laborious as it had to be done by hand and only relatively small stones could be used.

The original part of Choate Bridge (on the up-river side) is an excellent example of this small-stone construction. The development of new stone-cutting techniques during the 1820's and 30's developed for the construction of the Bunker Hill Monument in Charlestown, enabled much larger granite blocks to be used in the construction of buildings and bridges.

Notice that the addition to Choate Bridge in 1838 (down-river side) is built with much larger granite blocks than the earlier section. The later bridges including the Green Street Bridge are constructed of larger, quarried granite blocks.

It was the Civil War (1861-65) and the development of the railroads, however, that were to have the biggest impact on the development of the new bridge technology in the United States.

The railroads started to develop in the 1830's and obviously had much heavier load demands than ever before. Wood bridges, which deteriorated quickly, were also susceptible to fire as the Civil War clearly demonstrated. The Civil War resulted in new experiments with iron and later steel. The development of the iron truss began, primarily by military engineers from the Civil War.

Until the 1900's there was little understanding of scientific engineering principles and the design of bridges was often put forth on a trial-and-error basis and with much controversy.

Until this time, there were no civil engineers. The civil engineering profession actually grew from the officers in the military that built the essential structures for the U.S. Army. Colonel John Choate, the designer and constructor of Choate Bridge, is an excellent example of such an engineer.

The same person usually designed and built a bridge. These people really were not engineers but were contractors. Until the 1900's there was little understanding of scientific engineering principles and the design of bridges was often put forth on a trial-and-error basis and with much controversy.

Again, Choate Bridge is an excellent example of such a controversy when it was built. Colonel Choate, the contractor, had to ride over the bridge first to improve its stability. Today it serves our modern traffic of heavy trucks of all types.

The Green Street Bridge was built in 1894 by Joseph Ross, another Ipswich contractor, who is well-known as a famous contractor of railroad bridges and many other endeavors. He was born in 1822 and died in 1903.

Mr. Ross is particularly known for his horizontal folding drawbridge, patented in 1849. There were 13 of these heavy railroad drawbridges in the Boston area beginning in 1845. The last example, familiar to train commuters as Draw 7 over the Mystic River, was demolished last year and replaced by the MBTA with a new concrete bridge.

At first, it appears surprising that the Green Street Bridge would be built in 1894 as a granite arch structure rather than an

iron truss. All of the other four Ipswich River bridges were built before the Civil War, when bridge technology was simple and bridges were made of either wood or stone. But the Green Street Bridge is 30 years later when numerous iron bridges were being built.

Green Street ended at the edge of the river and for many generations was simply a ford where horses and wagons could cross the river at low tide. The town considered extending Green Street to Turkey Shore Road at the Town Meeting in March 1880 and voted on October 12, 1881 to build a wooden bridge over the river.

There were many houses on Turkey Shore, including the 17th century Emerson-Howard House shown in the early close view of the bridge. Citizens of Turkey Shore had earlier petitioned the town to allow them to build a bridge in 1719 but it was never erected.

The town finally built a wooden bridge in 1881-82 but it soon

decayed and the town voted on May 4, 1894 to replace it with a bridge of stone. Since the wooden bridge had such a short life, the town opted for a permanent solution and chose the time-tested material of stone, like the other older bridges.

Joseph Ross, a prominent citizen at this time and experienced in stone construction, was a logical choice to build the structure. He lived on High Street in the Old Lace Factory, which was demolished in the 1930's and is now occupied by the large brick house opposite the Whittier-Porter Funeral Home. He also built the funeral home building and the house next door for his sons, Fred and Joseph Jr.

If you look closely at both sides of High Street at these houses, you can see the dressed stone curbing that fronts all of these houses and defines the walks and driveways. This is the work of Joseph Ross, builder of the Green Street Bridge.

Today, the Green Street Bridge needs some TLC (tender loving care). It has served the town for almost 100 years, but it is in need of repair to stop the advancing deterioration. Some of the granite walls are starting to bulge from water getting into the structure and then freezing and thawing cycles gradually move the old stones. Once this occurs, deterioration accelerates. Incompatible guard rails and fencing also detracts from the beauty of this historic bridge.

The beauty of the bridge is often captured by artists who paint along Water Street. Theodore Wendell, one of the famous artists of Ipswich School at the early part of this century, painted a picture of the Green Street Bridge. It was featured in an art exhibit at the Museum of Fine Arts several years ago and has been reproduced in a wonderful poster by the Museum.

The town has turned down two recent efforts at Town Meeting to appropriate funds to repair the ailing Green Street Bridge. The necessary repairs and their cost are only getting larger as the problem is avoided, due to pressing financial matters of the town.

Hopefully, in the near future the careful repair of the bridge can be treated as an economic development project and we can preserve the historic Green Street Bridge. This would be a great way to celebrate the 100 year birthday of the bridge in 1994.

Paul McGinley
Chairman, Ipswich Historic District Study Committee

Hall Haskell gets some help

In a cooperative effort, the Ipswich High School woodworking instructor and the Hall-Haskell Committee have completed a project to install a supporting beam in the Hall Haskell House on South Main Street.

Richard Merullo of the high school and Bill Thoen of the Hall-Haskell Committee have been working and planning their project for several months.

Thoen, a structural engineer, along with Merullo directed the

students in theory, design, and completion of the installation beam.

All went like clockwork last Friday when members of the advanced woodworking class gathered at the Hall Haskell House and successfully raised the beam.

Members of the class who worked on the project were Chris Bocci, Kirby Crestin, Rob Dolman, Eric Robinson, Mike Rousseau, and Joe Wright.

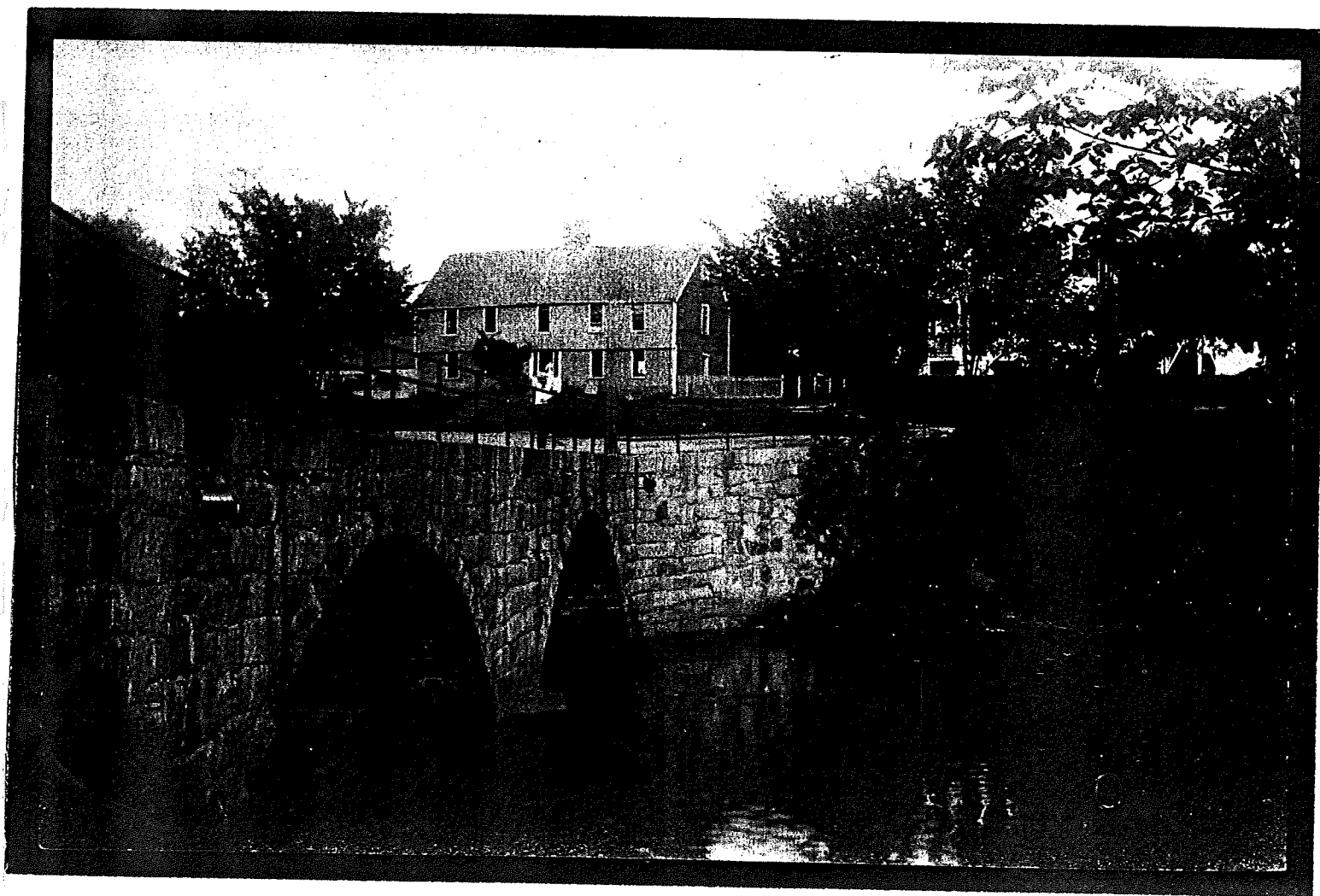
— Gregory Liakos

**Ipswich River and Green Street Bridge,
Ipswich, Mass.**



Figure 8. "Ipswich River and Green Street Bridge." Postcard, ca.1910 showing context of Bridge including railing along Water Street which replaced fishing shanties. Courtesy of Susan Boice.

Figure 9. Green Street Bridge and Emerson House, Ipswich. Postcard ca.1910 showing southwest side with original pipe railing. Courtesy of Ipswich Historical Society.



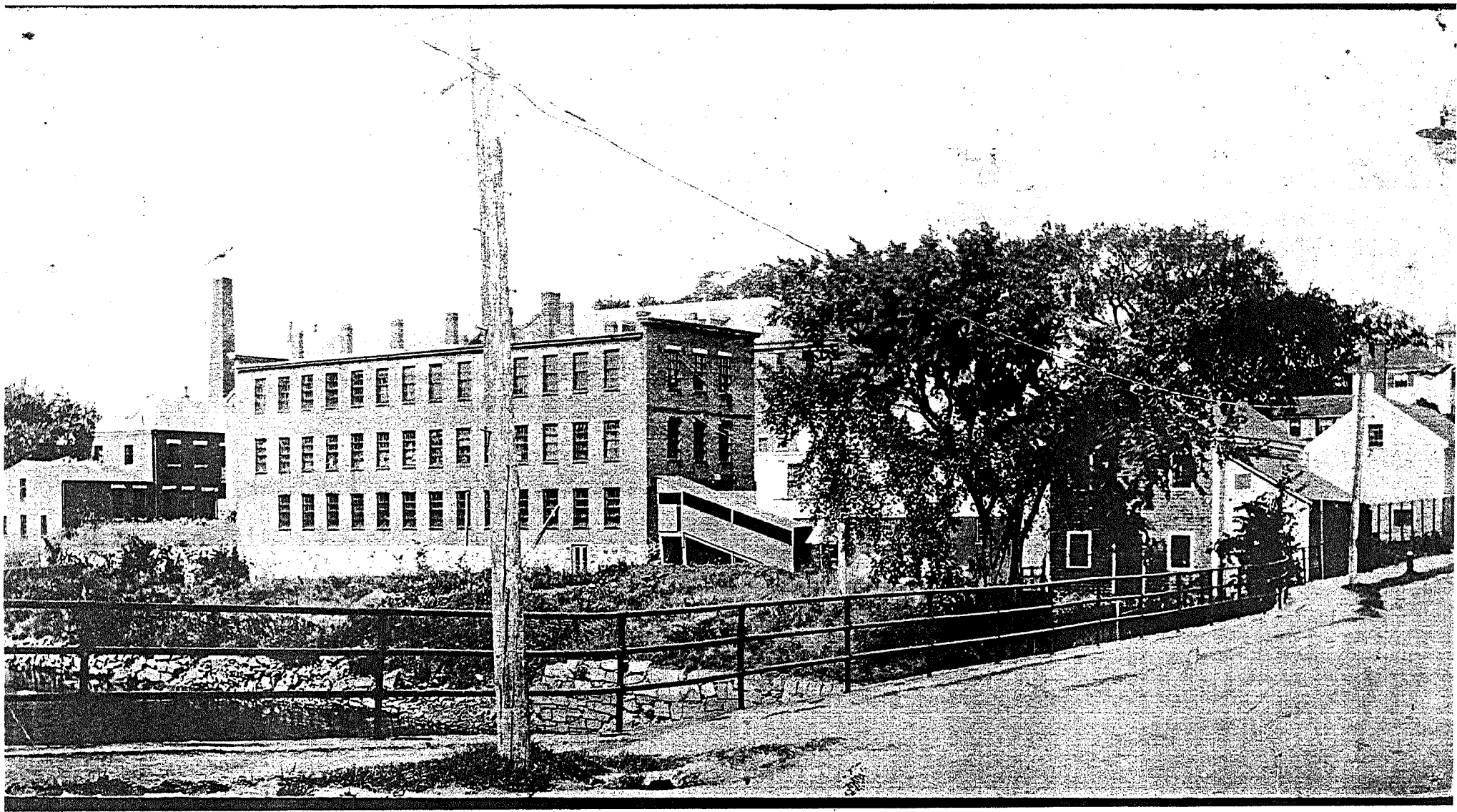


Figure 10. Green Street Bridge and Old Prison Shop, House of Correction. Photo ca.1910 showing detail of original pipe railing. Courtesy of Ipswich Historical Society.

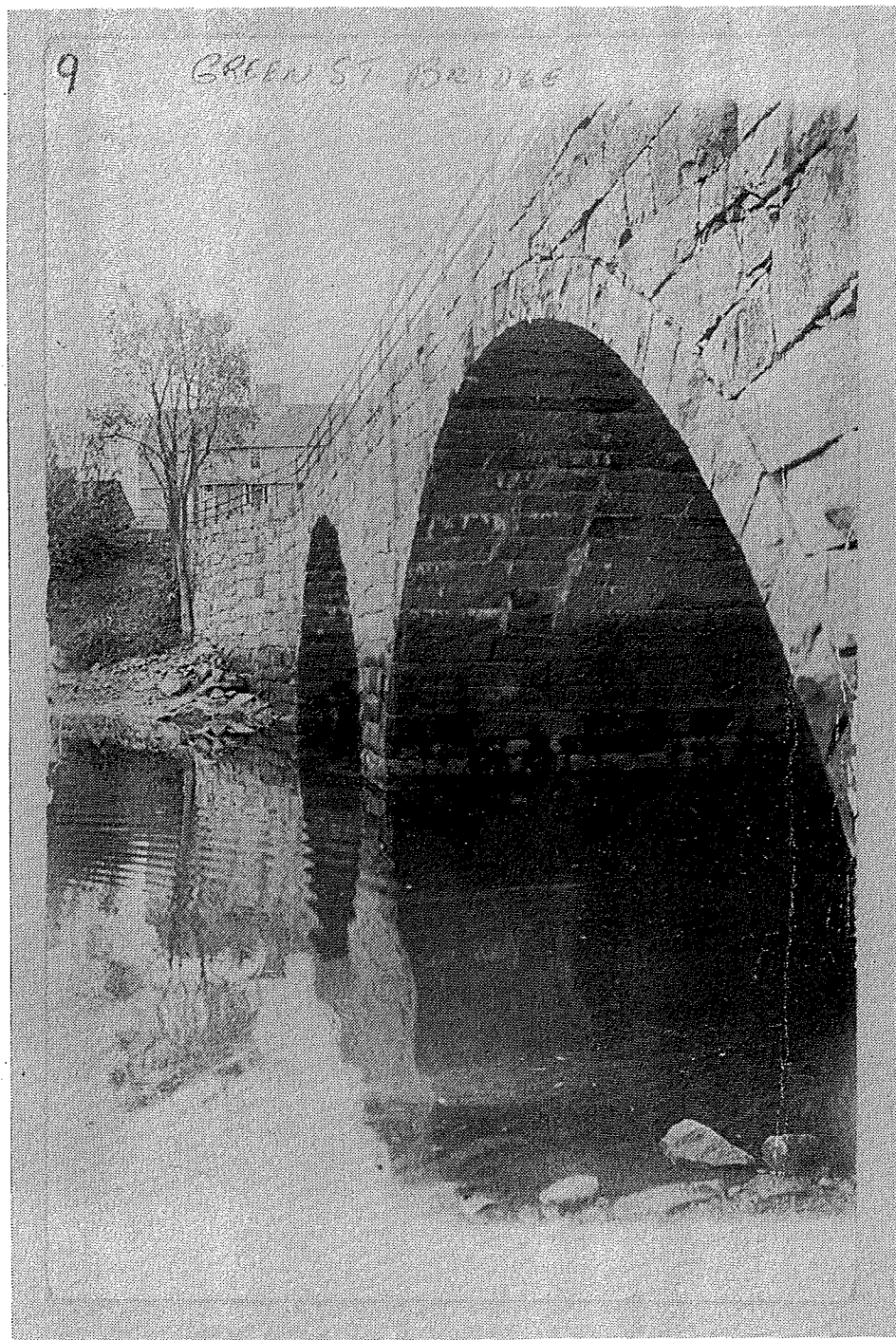


Figure 11. Green Street Bridge and Emerson House, Ipswich. Postcard ca.1910 showing northeast side original stonework. Courtesy of Susan Boice.

Figure 12. "Old Bridge over Ipswich River near former Ipswich Jail. " Photo September, 1947 showing ice breaker and original railing.

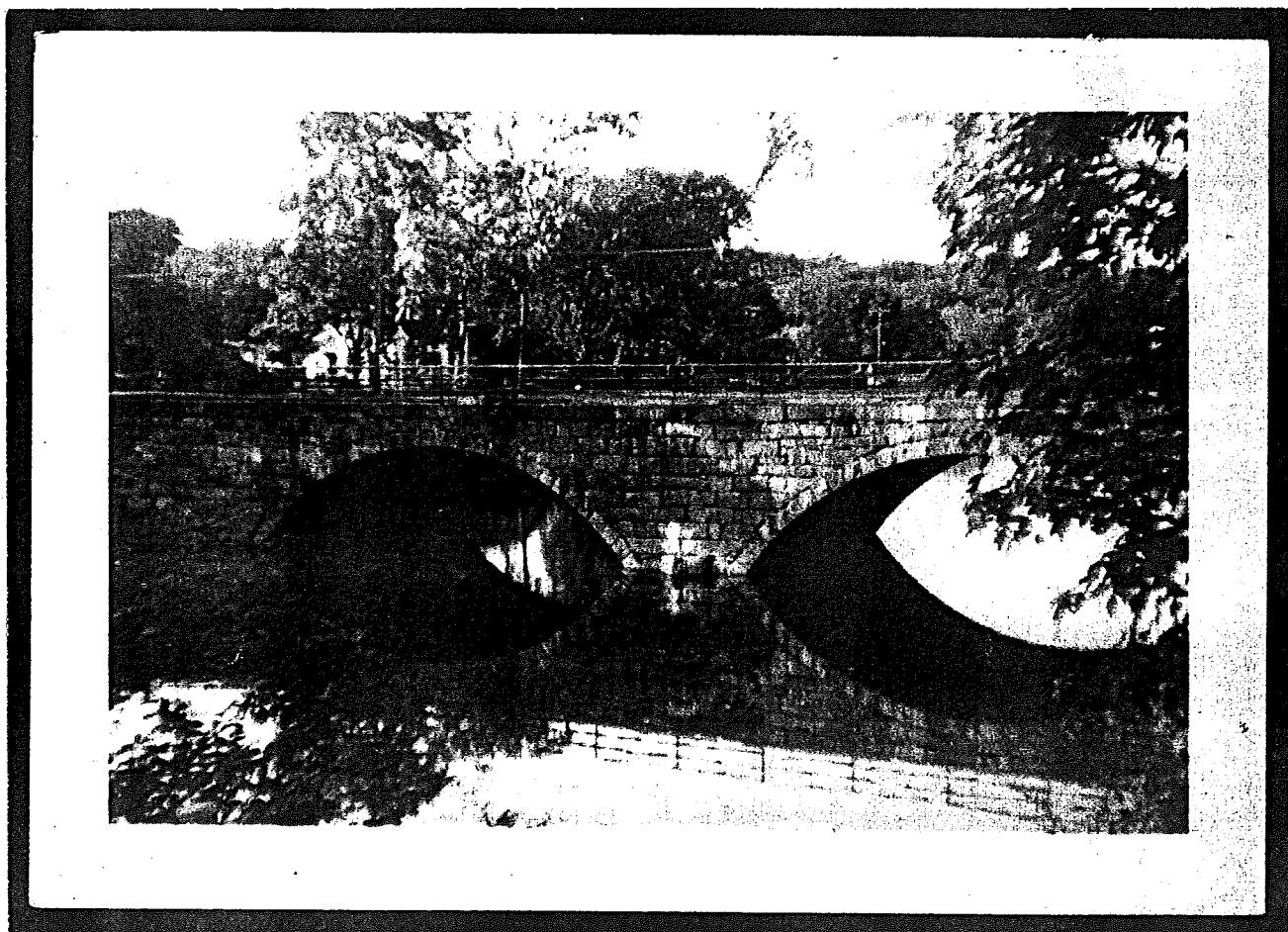


Figure 13. Green Street Bridge repairs showing bulldozer operator excavating northeast wing wall and backfill. Photo, July 1961. Courtesy of Armand Michaud, Ipswich DPW.

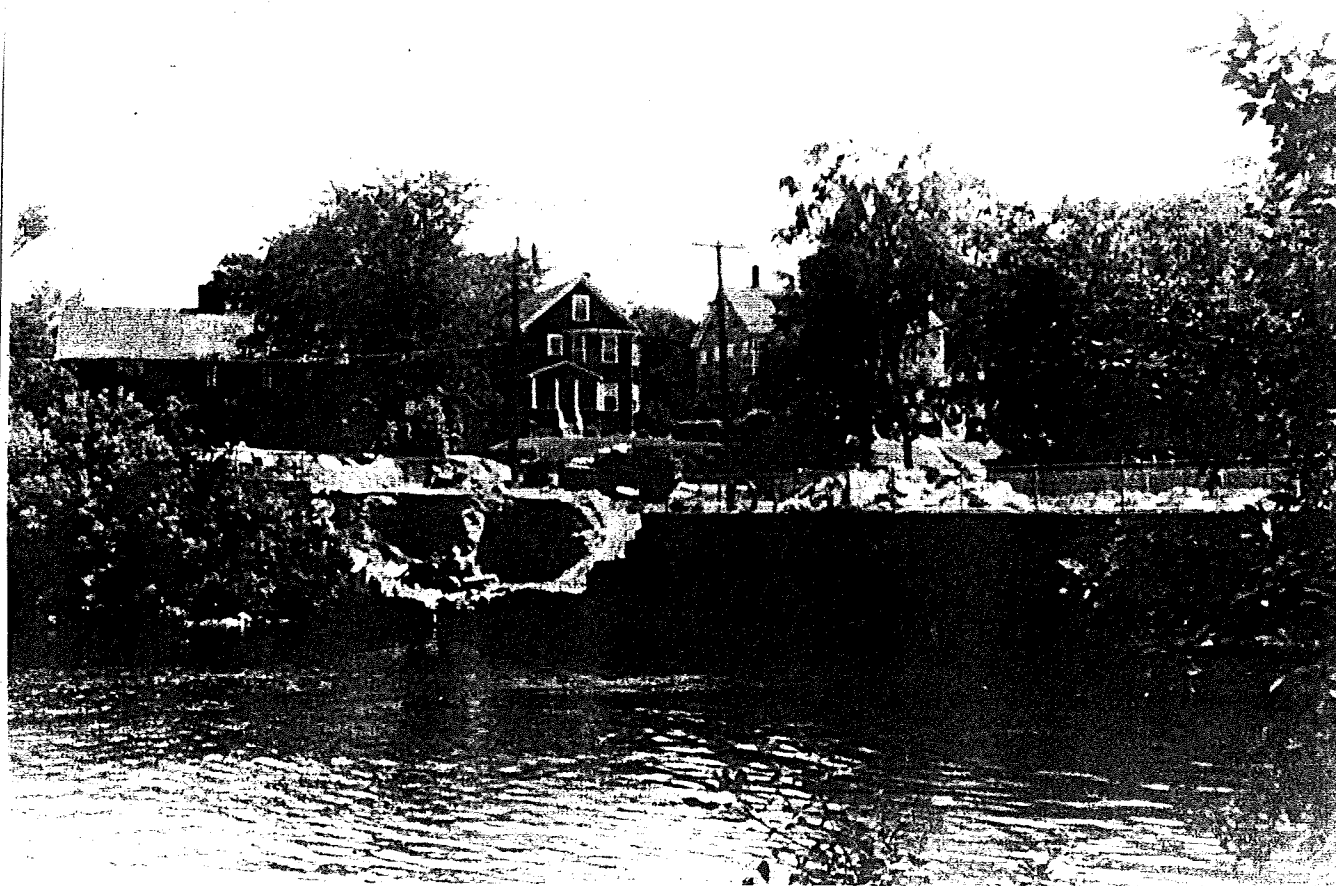
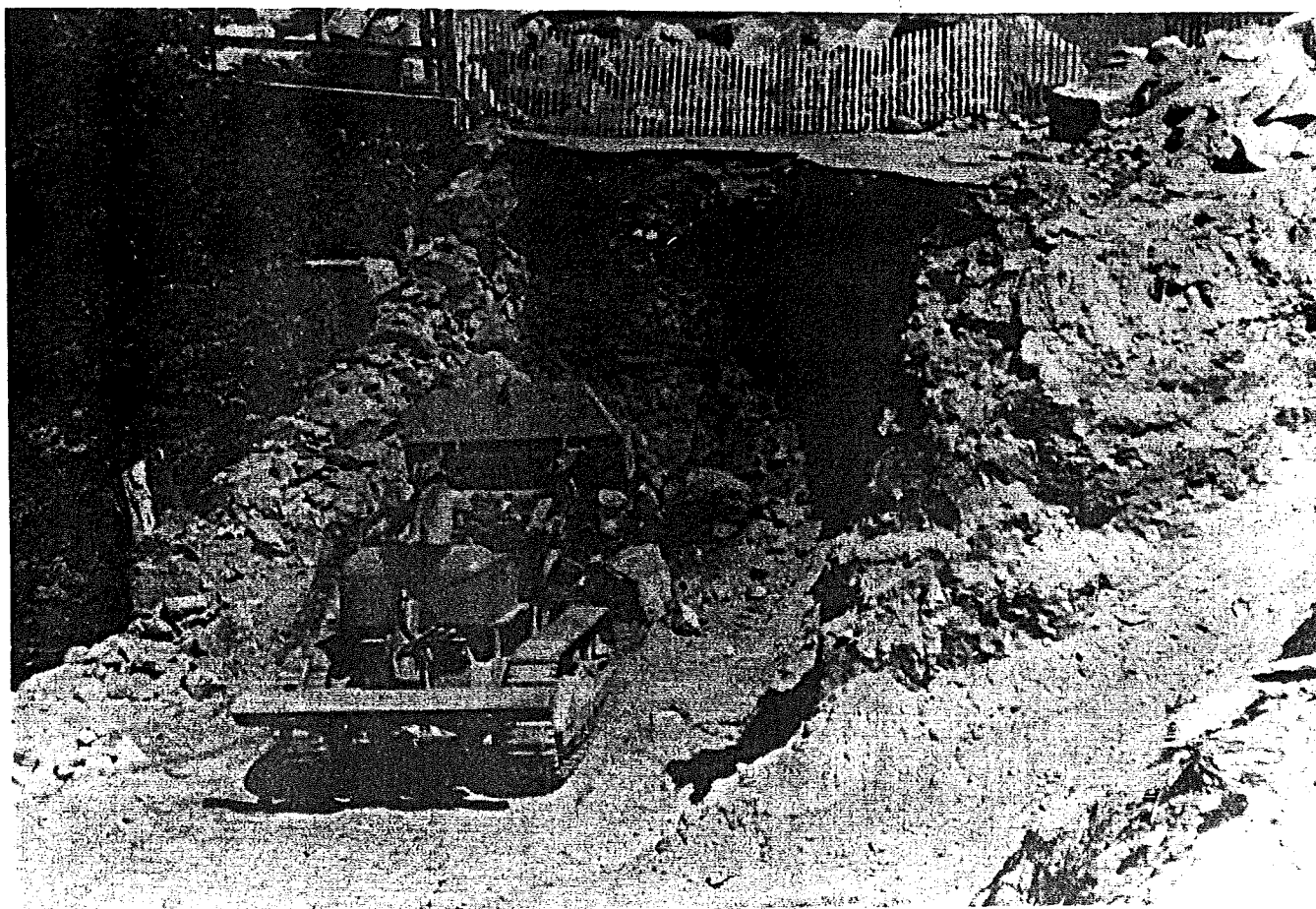


Figure 14. Detail of Green Street Bridge repairs with Ken Richards excavating northeast wing wall and backfill. Photo, July 1961. Courtesy of Armand Michaud, Ipswich DPW.



DETERMINATION OF ELIGIBILITY (MHC OPINION)

letter sent to
DPW 11/14/80

IPS. 905

TO: VAL

RETURN TO REVIEWER BY _____
(DATE)

FROM: phs

DATE: 10/29/80

TOWN: IPSWICH

PROPERTY: DPW Bridge # I-1-1 (Green St. over Ipswich River)
(NAME AND ADDRESS)

1. Does this property meet the criteria for NR eligibility?

☒ YES

☐ NO

A. Criteria

- a. events
- b. lives
- c. characteristics
- d. information

B. Local ✓ State _____ National _____

2. Statement of Significance: OR Why not eligible?

2-span granite arch bridge over Ipswich River

→ ALREADY NR AS PART OF IPSWICH MULTIPLE RESOURCE
NOMINATION, AREA M.

☐ DOE LETTER WRITTEN

FILED IN ER FILE _____

(DATE)