

ORIGINAL

City of Scranton
Pennsylvania

David B. Miller, Esq.
City Solicitor



Municipal Building
340 North Washington Avenue
Scranton, Pennsylvania 18503
(717) 348-4105

Office of the City Solicitor

June 24, 1988

Jerry Rich, Secretary
Pennsylvania Utility Commission
P. O. Box 3265
Harrisburg, Pa. 17120

RE: Moscow Borough Bridge
Docket No. C-861119
Our File No. 7192

RECEIVED

JUN 27 1988

SECRETARYS OFFICE
Public Utility Commission

Dear Secretary Rich:

Enclosed for filing please find the City of Scranton's original and nine (9) copies of the Second Petition for Extension of Time in the above captioned matter.

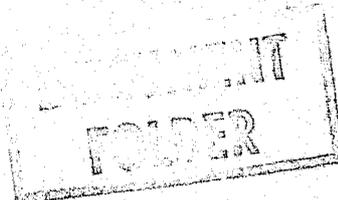
If you have any questions please do not hesitate to contact my office.

Very truly yours,

Carlene R. Gallo
CARLENE R. GALLO, ESQUIRE
First Assistant City Solicitor

CRG/kmg

Enclosures



3. This Respondent brought a Complaint against the City of Scranton alleging that the Moscow Borough Bridge, which carried Steamtown Rail Cars over Market Street, was in dangerous disrepair and demanding that the City of Scranton be ordered to make repairs.

4. A hearing on the Complaint referred to in Paragraph 3 was held on May 14, 1987 in front of Administrative Law Judge Morris Mindlin.

5. An Order was entered by the Commission on October 26, 1987 which ordered that the City of Scranton have an independent engineering study done of the Moscow Borough Bridge within six (6) months of the Order.

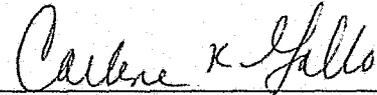
6. The City of Scranton petitioned the Commission for an extension of 60 days within which to have the independent engineering study done.

7. The Commission granted the City of Scranton up to and including June 27, 1988, to have the study done by Order adopted June 9, 1988, and entered June 15, 1988. Notice of said Order was received by mail on June 20, 1988.

8. The engineering study by CECO, Inc. has been proceeding since early May, 1988. However, CECO, Inc. will not have its study prepared by June 27, 1988, due to the fact that it is still waiting for the core borings to be taken. (See letter attached as Exhibit "A")

9. The study is very near completion and a further extension will not cause harm to Moscow Borough due to the fact that Steamtown will not be utilizing the tracks for excursions. (See affidavit attached as Exhibit "B")

WHEREFORE, the City of Scranton hereby requests the Public Utility Commission to grant an extension of 30 days time within which to complete said study.



CARLENE R. GALLO, ESQUIRE
First Assistant City Solicitor
Municipal Building
340 North Washington Avenue
Scranton, Pa. 18503
(717) 348-4105

CERTIFICATE OF SERVICE

I, **Carlene R. Gallo, Esquire**, First Assistant City Solicitor for the City of Scranton hereby certifies that copies of the foregoing Petition were served on counsel of all parties on June 24, 1988, by first class mail postage prepaid:

James J. Walker, Esquire
Suite 631-635 Connell Building
Scranton, Pa. 18503

Herbert G. Zahn, Esquire
Pennsylvania Department of Transportation
520 Transportation and Safety Building
Harrisburg, Pa. 17120

Thomas P. Cummings, Esquire
200 Adams Avenue
Scranton, Pa. 18503

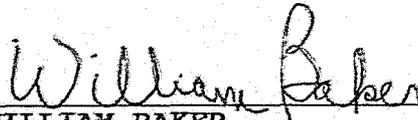
Carlene R. Gallo

CARLENE R. GALLO, ESQUIRE
First Assistant City Solicitor
Municipal Building
340 North Washington Avenue
Scranton, Pa. 18503
(717) 348-4105

COMMONWEALTH OF PENNSYLVANIA :
: SS.
COUNTY OF LACKAWANNA :

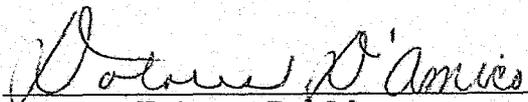
A F F I D A V I T

I, William Baker, Business Administrator/Deputy Mayor being duly sworn according to law, deposes and says that I am authorized to make this Affidavit and that the facts set forth in the foregoing Petition are true and correct to the best of my knowledge, information and belief.



WILLIAM BAKER,
Business Administrator/
Deputy Mayor

SWORN and subscribed to
before me, a Notary Public
this 24th day of June, 1988.



Notary Public



ceco associates inc.

consulting engineers

suite 202, scranton electric building
p.o. box 995, scranton, pennsylvania 18501
717-342-3101

June 24, 1988

Attorney Carlene Gallo
1st Assistant City Solicitor
340 North Washington Avenue
Scranton, Pennsylvania 18503

Re: Railroad Bridge
Borough of Moscow
over T.R. 690

Dear Attorney Gallo:

As discussed, our office has completed field inspection work at the above referenced structure, and the concrete cores will be taken on June 27, 1988. The test results from these cores should be completed within two (2) weeks from that date. Our office would then require one (1) additional week to incorporate this data into our report, therefore we are anticipating that the report would be completed by July 20, 1988.

If you have any questions, please feel free to contact me directly.

Very truly yours,

CECO ASSOCIATES, INC.

David J. Osborne, P.E.
Structural Manager

DJO/slb

cc: File

EXHIBIT A

E

COMMONWEALTH OF PENNSYLVANIA :
 : SS.
 COUNTY OF LACKAWANNA :

A F F I D A V I T

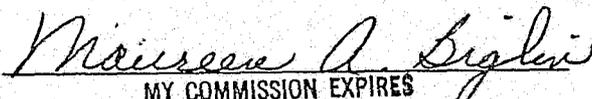
I, JOHN HART, do hereby swear and affirm that I am General Manager of Steamtown, U.S.A. and that I have sufficient personal knowledge and information, as well as the authority, to make the following representation:

There will be no train excursions over the Moscow Borough Bridge during the 1988 season.



 JOHN HART

SWORN and subscribed to
 before me, a Notary Public
 this 15th day of
April, 1988.


 MY COMMISSION EXPIRES
 MAY 9, 1988
 SCRANTON, LACKA. CO., PA.

ORIGINAL

City of Scranton
Pennsylvania

David B. Miller, Esq.
City Solicitor



Municipal Building
340 North Washington Avenue
Scranton, Pennsylvania 18503
(717) 348-4105

Office of the City Solicitor

August 26, 1988

RECEIVED

AUG 29 1988

SECRETARYS OFFICE
Public Utility Commission

Jerry Rich, Secretary
Pennsylvania Utility Commission
P. O. Box 3265
Harrisburg, Pa. 17120

RE: Moscow Borough Bridge
Docket No. C-861119
Our File No. 7192

Dear Mr. Rich:

Enclosed for filing, please find two (2) copies of the completed study of the Moscow Borough Bridge as ordered by the Pennsylvania Utility Commission in the above-captioned matter.

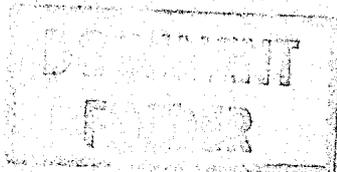
Sincerely,

Carlene R. Gallo

CARLENE R. GALLO, ESQUIRE
First Assistant City Solicitor

CRG/kmg

Enclosure



RECEIVED

AUG 29 1988

SECRETARYS OFFICE
Public Utility Commission

IN-DEPTH INSPECTION REPORT

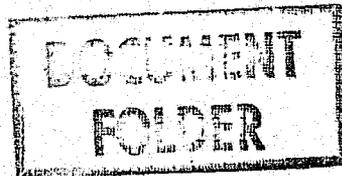
FOR
RAILROAD BRIDGE
OVER
TRAFFIC ROUTE 690
BOROUGH OF MOSCOW



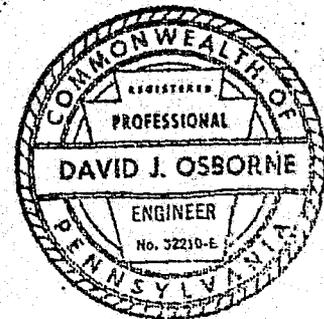
DOCKETED

AUG 31 1988

Prepared For:
THE CITY OF SCRANTON



AUGUST, 1988



ceco associates inc.

consulting engineers

IN-DEPTH INSPECTION REPORT
FOR
RAILROAD BRIDGE
OVER
TRAFFIC ROUTE 690
BOROUGH OF MOSCOW

Prepared For:
THE CITY OF SCRANTON

AUGUST, 1988



ceco associates inc.
consulting engineers

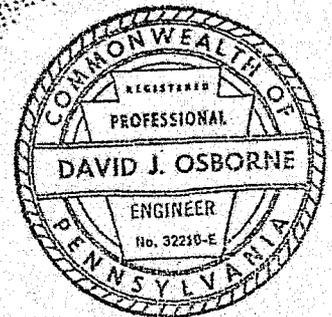
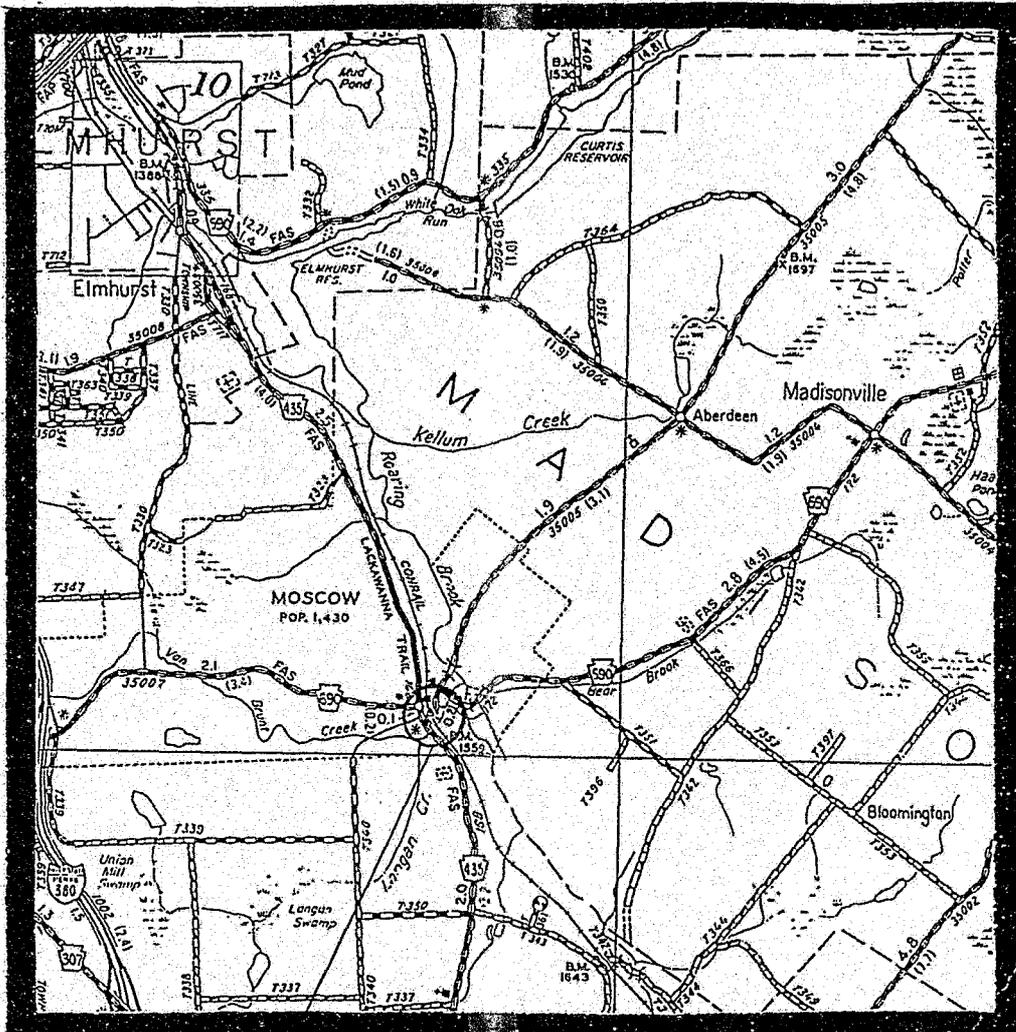


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LOCATION MAP



Inspection Site
Railroad Bridge
Over Traffic Route 690
Borough of Moscow

Taken From:
Lackawanna County
Type 10 General Highway Map
Scale: 1" = 1 Mile



**LACKAWANNA COUNTY
BOROUGH OF MOSCOW
IN-DEPTH INSPECTION REPORT
RAILROAD BRIDGE OVER TRAFFIC ROUTE 690**

SCOPE

This inspection was made to determine the general structural condition of the subject bridge. The following report covers the results of a field inspection of the structure and provides recommendations of actions to be taken.

The inspection was made according to generally recognized standards and procedures, but it is not implied that all defects were or could have been disclosed by this inspection.

HISTORICAL INFORMATION

The structure was constructed in 1910 to carry the Delaware, Lackawanna and Western Railroad above the grade of Traffic Route 690 in the Borough of Moscow, Lackawanna County, Pennsylvania. Rehabilitation of the structure has been completed since its original construction and consisted primarily of concrete resurfacing of certain areas of the exposed substructure and superstructure with pressure mortar surfacing.

DESCRIPTION

The Railroad Bridge over Township Route 690 in the Borough of Moscow consists of two (2) simple reinforced concrete spans supported by un-reinforced concrete abutments and a pier. There are two equal spans of 20'- 0" which currently carry two tracks. The original structure drawings showed four (4) sets of tracks across the structure. The bridge is built with a 90° skew and is currently posted for a 12'-3" underclearance.

The deck slab was placed in 6'- 6" wide by 2'- 8" thick units with ballast material on top to accommodate the railroad tracks.

The substructure consists of un-reinforced gravity type abutments and a concrete pier which is only reinforced in the cap and footings. There is no reinforcing in the pier columns.

INSPECTION PROCEDURE

The inspection was made to determine the general condition and to determine the Load Carrying Capacity of the structure. The guidelines used for the inspection are from the 1983 AASHTO Manual, Inspection of Bridges.

The bridge inspection included a visual inspection of the component parts of the structure, as well as concrete core borings, to check for the presence of major structural defects and evidence of possible present or future deterioration.

OBSERVATIONS

TEMPERATURE - 65° F.
WEATHER - CLOUDY
DATE - JUNE 8, 1988

CONDITION OF STRUCTURE

The structure overall is in poor condition.

Superstructure

The superstructure is in fair condition; however, there are numerous areas of delaminations, exposed reinforcing and spalling of the underside of the deck. The evidence of water stains at all joints of the precast deck slab panels indicates that large amounts of water is leaching through the deck. There were numerous areas where hammer sounding revealed hollows in the underside of the deck. The top of the deck is covered with ballast material, therefore making a complete inspection impossible.

Substructure

The concrete gravity abutments are in poor condition with heavy spalling throughout. The pier is also in extremely poor condition with extensive scaling and spalling throughout. Although repairs have been recently made to the substructure, the majority of these repairs are now hollow sounding indicating the presence of moisture and lack of bonding between the original concrete and the repair material. The pier has also experienced shrinkage cracking throughout the columns. This is probably due to the lack of reinforcing in this portion of the pier. The pier cap is heavily spalled and deteriorated.

STRUCTURAL ANALYSIS SUMMARY

This report was to contain an analysis to determine the current load-carrying capacity of the structure. However, two (2) of the four (4) concrete core samples taken at the structure were unable to be tested because the small amount of sample recovery. The recovered samples were small, broken with a characteristic lack of bonding between the aggregate and the cement matrix in addition to the reinforcing steel. The aggregate was also found to be rounded and smooth, rather than coarse and angular which would provide a better bond. The two (2) samples which were tested, provided an average compressive strength of 4,182 PSI. Considering the age of the structure, the compressive strength of the concrete was expected to be much higher.



Therefore, due to the in-conclusive results of the concrete tests, no structural analysis of this structure was made.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the field inspection, review of original construction drawings and results of the concrete core extraction and testing, the following is concluded:

- a.) The structure is not in any danger of collapsing under its own dead load, however, the spalled concrete and small popouts could possibly fall from the structure if impacted or during the freeze-thaw cycles, the structure will undergo this coming winter.
- b.) The entire substructure is severely deteriorated and in need of extensive repairs to maintain its overall structural integrity.
- c.) The precast deck panels are deteriorated, however, no signs of over-stressing or structural cracking were discovered during the inspection.
- d.) The concrete core sampling proved to be inconclusive. Two (2) of the samples were able to be tested. However, two (2) additional samples provided an extremely low percentage of solid core recovery, making compression testing impossible. Repeated attempts to secure suitable samples for testing were made.

It is therefore concluded that the structure does not pose any immediate danger to the travelling public since no rail traffic is currently scheduled to use the bridge. If rail traffic is anticipated in the future, it is recommended that additional testing be completed at the structure. This may be in the form of additional concrete core extraction and analysis, or possibly physical Load Testing of the structure. Load Testing is a very expensive method of determining the load carrying capacity of the structure, however, it would result in the most accurate determination of the structure's capacity.

It is recommended that if the structure is to remain, that a substructure rehabilitation plan be developed and implemented to preserve remaining portions of the substructure. In addition, cleaning and rehabilitating the precast concrete deck panels is also recommended. If, however, it is anticipated that heavy railroad loading will occur in the future, load testing and analysis should be performed prior to permitting the resumption of rail traffic.

The results of the Load Testing Analysis should be used to determine the economic viability of rehabilitation verses replacement of the structure.

APPENDIX

- 1.) **Photographs**
- 2.) **Sketches**
- 3.) **Concrete Core Test Results**

BRIDGE INSPECTION AND CONDITION REPORT

BRIDGE Railroad Bridge
Lackawanna County
LOCATION: Borough of Moscow

DATE OF PHOTOGRAPH: 6/8/88

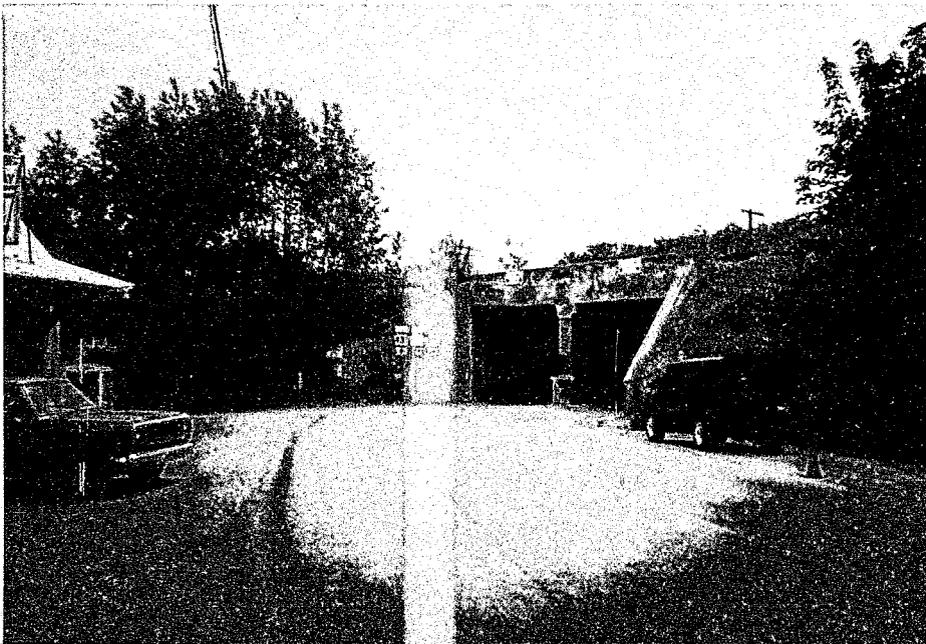
FEATURE CROSSED: T.R. 690



DESCRIPTION: Elevation View Looking North At The Structure

REFERENCES: _____

PHOTOGRAPH # 1



DESCRIPTION: Elevation View Looking South At the Structure

REFERENCES: _____

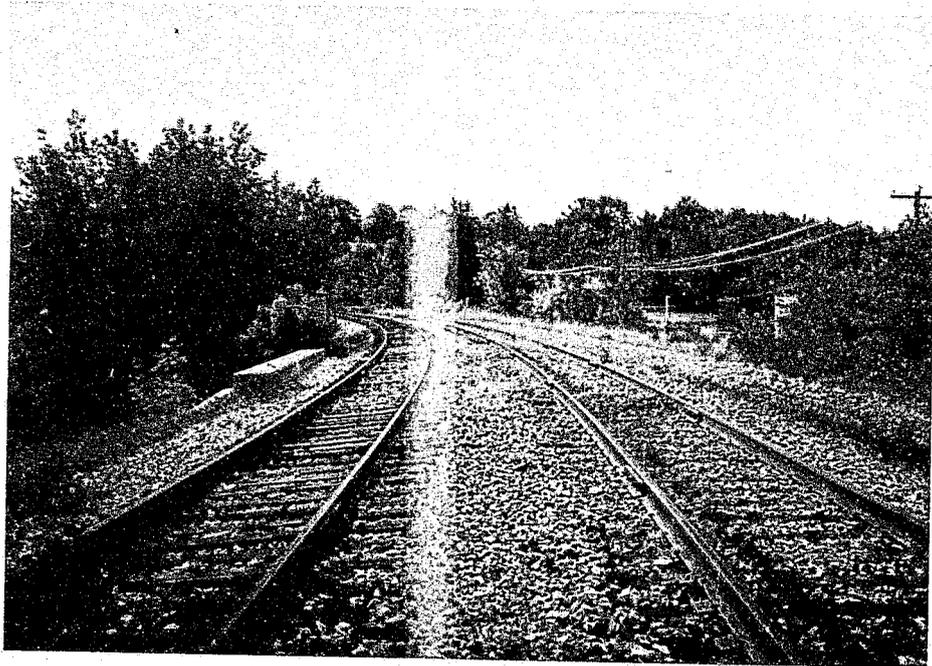
PHOTOGRAPH # 2

BRIDGE INSPECTION AND CONDITION REPORT

BRIDGE Railroad Bridge
Lackawanna County
LOCATION: Borough of Moscow

DATE OF PHOTOGRAPH: 6/8/88

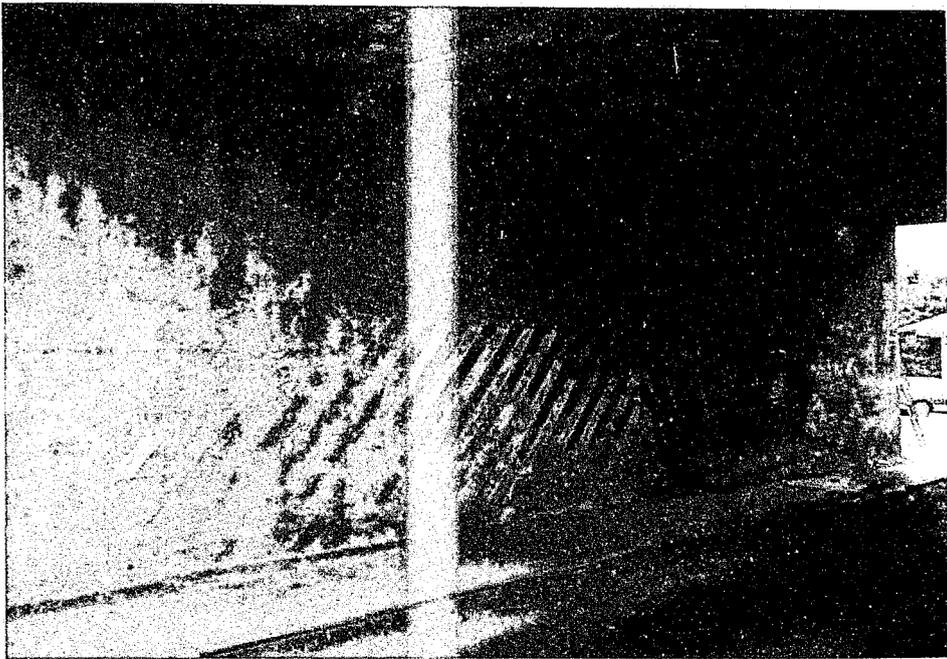
FEATURE CROSSED: T.R. 690



DESCRIPTION: Looking Ahead Across The Structure

REFERENCES: _____

PHOTOGRAPH # _____ 3



DESCRIPTION: Abutment #1

REFERENCES: _____

PHOTOGRAPH # _____ 4

BRIDGE INSPECTION AND CONDITION REPORT

BRIDGE Railroad Bridge
Lackawanna County
LOCATION: Borough of Moscow

DATE OF PHOTOGRAPH: 6/8/88

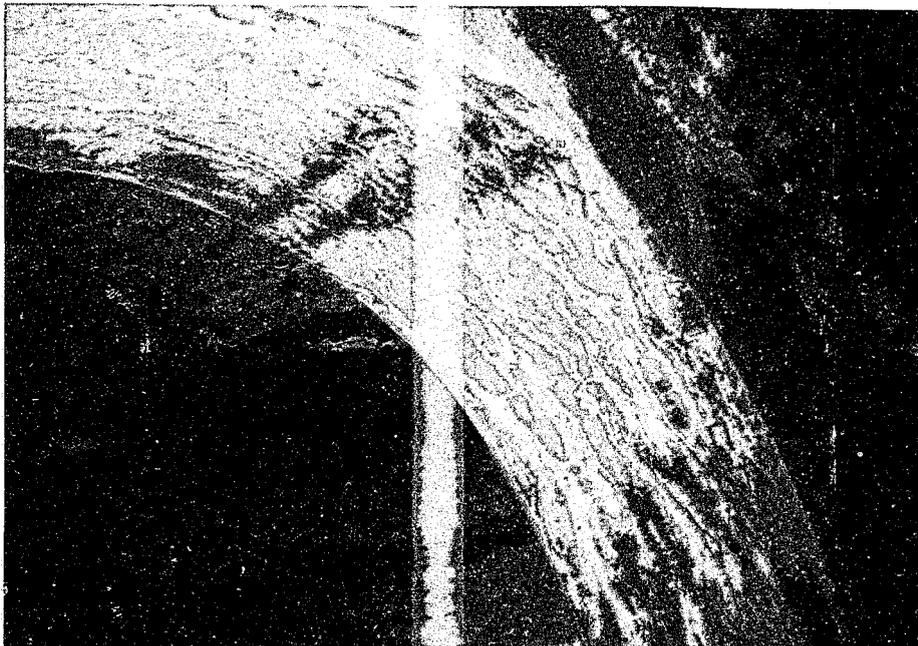
FEATURE CROSSED: T.R. 690



DESCRIPTION: Pier

REFERENCES:

PHOTOGRAPH # 7



DESCRIPTION: Severe Cracking and Efflorescence of Pier - Typical

REFERENCES:

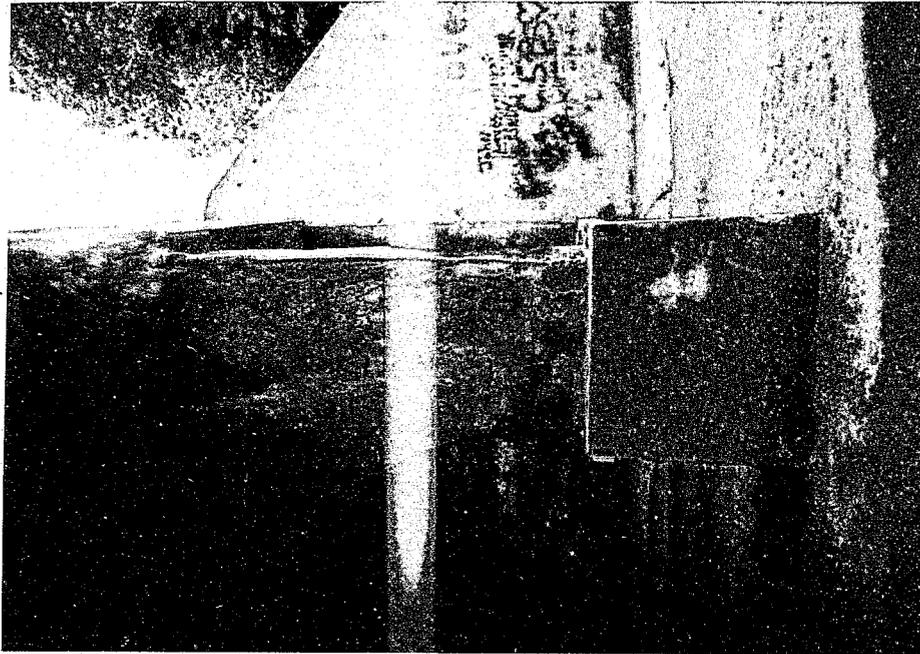
PHOTOGRAPH # 8

BRIDGE INSPECTION AND CONDITION REPORT

BRIDGE Railroad Bridge
Lackawanna County
LOCATION: Borough of Moscow

DATE OF PHOTOGRAPH: 6/8/88

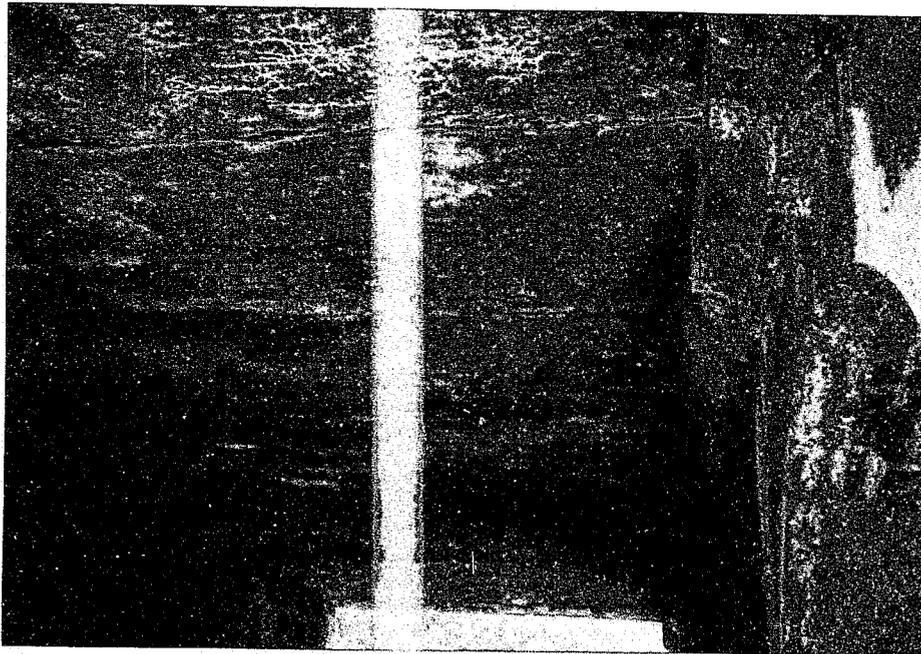
FEATURE CROSSED: T.R. 690



DESCRIPTION: Typical Pier Column - Spalling, Cracking & Efflorescence

REFERENCES: _____

PHOTOGRAPH # 9



DESCRIPTION: Underside of Deck Slab - Spalling, Efflorescence & Water Leakage

REFERENCES: _____

PHOTOGRAPH # 10

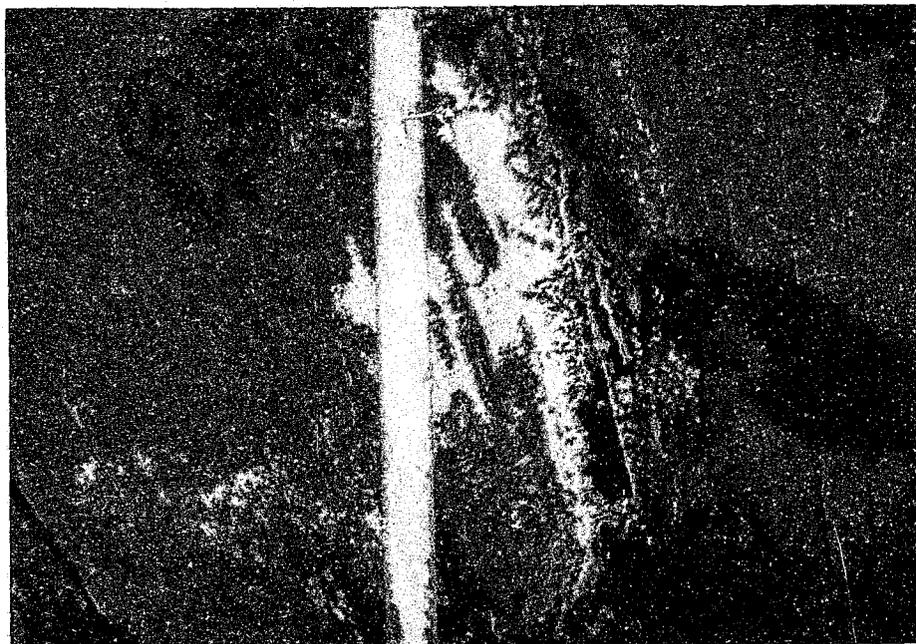
BRIDGE INSPECTION AND CONDITION REPORT

BRIDGE Railroad Bridge
Lackawanna County

LOCATION: Borough of Moscow

DATE OF PHOTOGRAPH: 6/8/88

FEATURE CROSSED: T.R. 690



DESCRIPTION: Insufficient Coverings of Rebars with Pressure Mortar Treatment

REFERENCES: _____

PHOTOGRAPH # 11



DESCRIPTION: Typical Wing

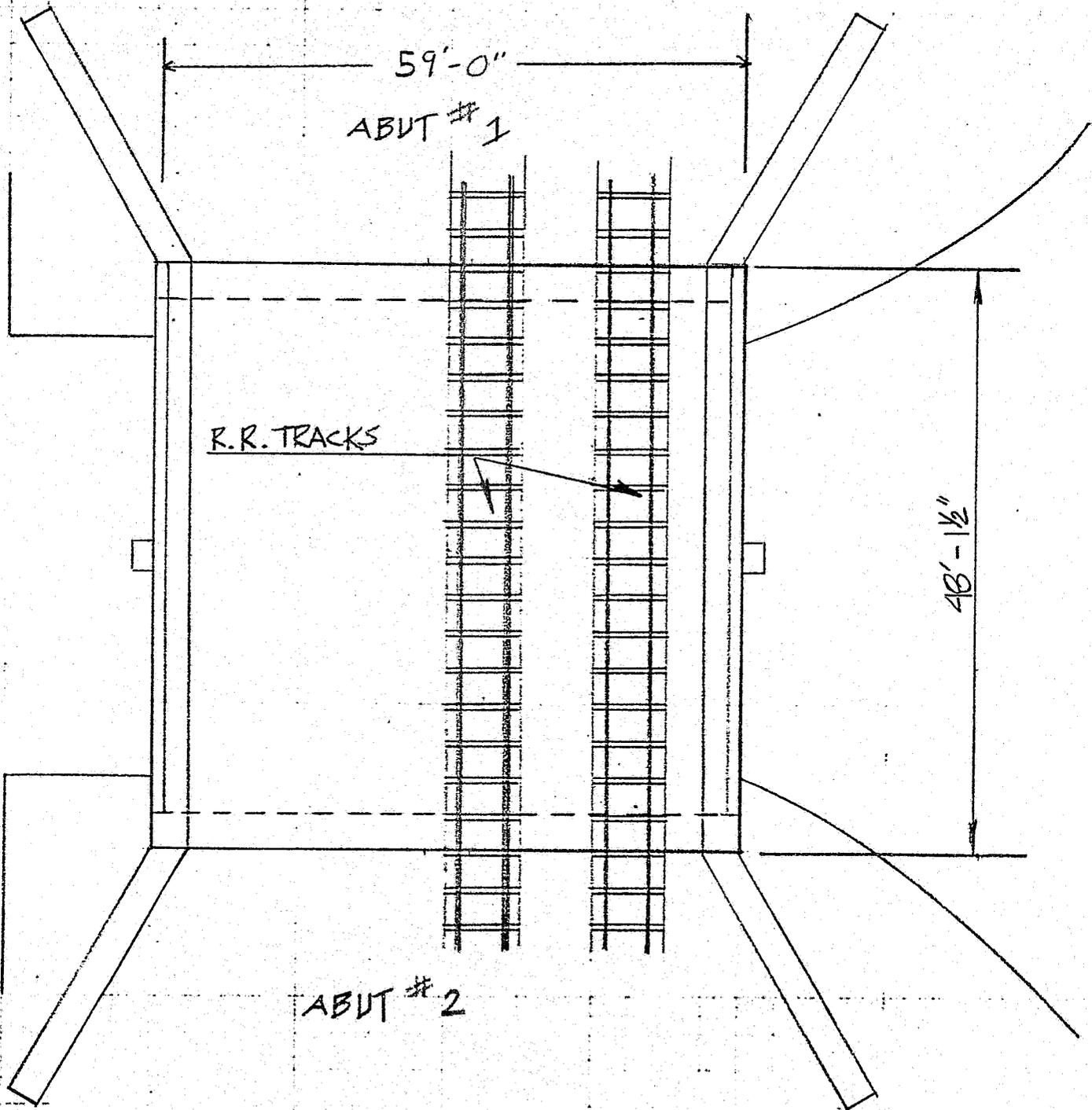
REFERENCES: _____

PHOTOGRAPH # 12

DATE 8-1-88
BY D.C.B.
CHK'D _____
DATE _____

CECO ASSOCIATES, INC.
P.O. BOX 995
SCRANTON, PENNSYLVANIA 18501

SH. NO. 1 OF 2
JOB NO. RAILROAD BRIDGE
BOROUGH OF MOSCOW

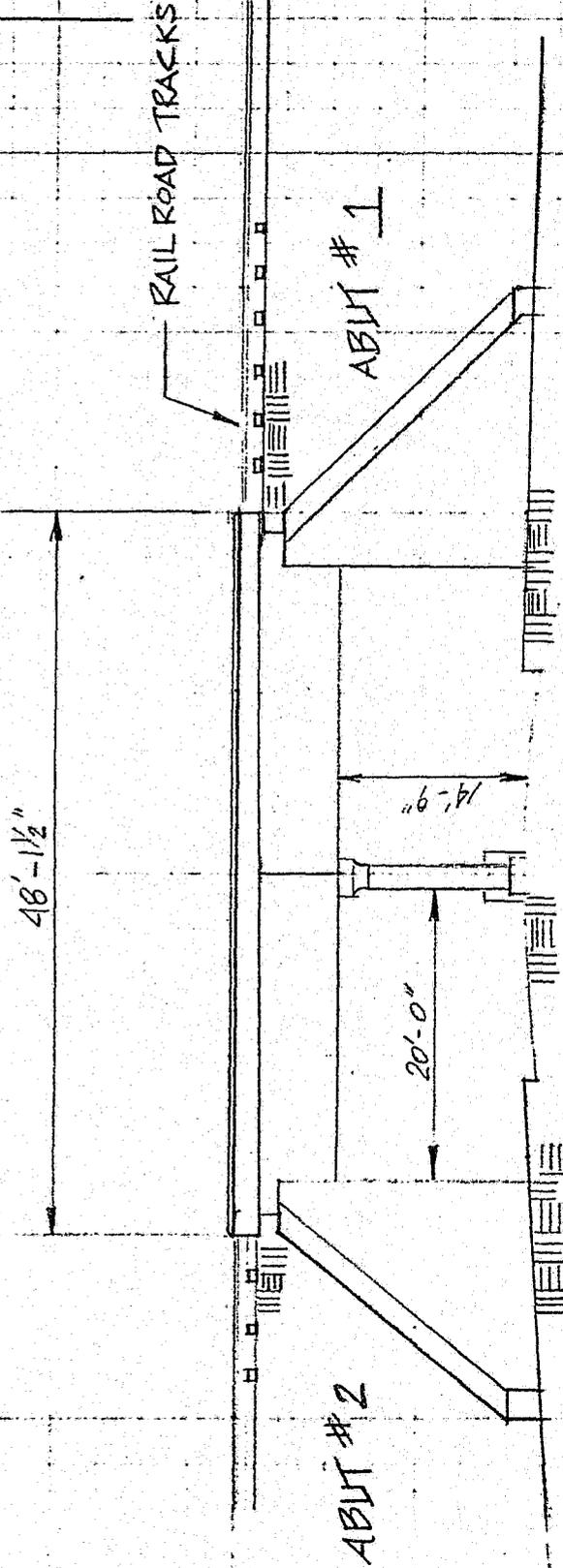


PLAN
N.T.S.

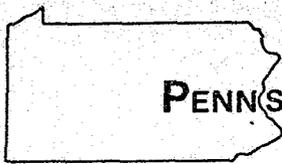
DATE 8-1-88
BY D.C.B.
CHK'D _____
DATE _____

CECO ASSOCIATES, INC.
P.O. BOX 995
SCRANTON, PENNSYLVANIA 18501

SH. NO. 2 OF 2
JOB NO. RAILROAD BRIDGE
BOROUGH OF MOSCOW



ELEVATION
N.T.S.



PENNSYLVANIA TESTING LABORATORIES

Phone: (717) 654-8359 Moosic, PA

Mailing Address: P.O. Box 571, Pittston, PA 18640

Date: August 11, 1988
Lab #: 44104

For: Ceco Associates, Inc.
Scranton Electric Building
P. O. Box 995
Scranton, Pa. 18501

Attention: Mr. Tom Pichiarella

PROJECT: STEAMTOWN BRIDGE
SCRANTON, PA.

Re: Compressive Strength Test Results of Concrete Core Specimens

TEST RESULTS

<u>CORE NUMBER</u>	<u>SURFACE AREA (SQ. IN.)</u>	<u>CORE D^{x2} (H/D)</u>	<u>CORE H/D RATIO</u>	<u>CORRECTION FACTOR (H/T)</u>
#1 (Core #1)	5.94	5.5	2.2727	1.02182
#2 (Core #4)	5.94	5.5	2.1818	1.01454

<u>CORE NUMBER</u>	<u>TOTAL LOAD (LBS.)</u>	<u>CORRECTED TOTAL LOAD (LBS.)</u>	<u>CORRECTED COMPRESSIVE STRENGTH (LBS./SQ. IN.)</u>
#1. (Core #1)	25200	25749	4334
#2. (Core #4)	23600	23943	4030
			<u>AVERAGE = 4182 PSI</u>

Respectfully Submitted,
PENNSYLVANIA TESTING LABORATORIES

Robert F. Brannon - Gen. Mgr.

RFB/bp