Minimum Documentation Fiche
composed by regional working party of LOMBARDIA, Italy

01. Picture of building

Depicted item: Basento Viaduct
source:
date: August 2013

1. Identity of building

1.1 current name of building	Basento Viaduct
1.2 variant or former name	Industry Viaduct
1.3 number & name of street	
1.4 town	Potenza
1.5 province/state	Potenza/Basilicata
1.6 zip code	85100
1.7 country	Italy
1.8 national grid reference	40°37’42 N 15°48’24 E
1.9 classification/typology	Infrastructural work/bridge
1.10 protection status & date	None

2 History of building

2.1 original brief/purpose	Infrastructural work/bridge
2.2 dates: commission/completion	1967/1974

2.3 architectural and other designers	Sergio Musmeci
2.4 others associated with building	Aldo Livadiotti
2.5 significant alterations with dates	
2.6 current use	Infrastructural work/bridge
2.7 current condition	Medium

3. Description

3.1 General description

Muscemi's project born from the need to face the problems of connection between the industrial area and the city. In the 60s there was, in fact, the swift development of the industrial area along the banks of the Basento. However, the connection between the new industrial area and the city was hindered by the presence of the railway line, which also caused a slowdown in traffic affecting the speed of all the services. Based on these reasons the President of the Industrial Consortium (Viggiani) became a promoter of the initiative to build a bridge that would put in direct connection the city with the industrial area. Viggiani also claims to having to build a structure important not only functionally but in itself significant and able to qualify the access to the city.

3.2 Construction

The viaduct consists of a vault of 30 cm thick and four spans of about seventy meters opening, that crosses the river Basento, two roads and the railway station of Potenza. The deck is a straight line and thin, just sloping toward the city. It is supported by a complex three-dimensional form, a thin shell that rotates and rests on the ground. A membrane in reinforced concrete with a thickness of 30 cm, that form four contiguous arcs, with a center distance of 69.20 meters and free span between the supports of 58.80 meters. The deck is composed of a continuous sequence of Gerber beams. Between two adjacent decks is interposed a structure consisting of simply supported beams, having structural function and joint to thermal deformations.
Inside the bridge a covered walk, never completed, invented by Muscemi on the back of the membrane that opens new perspectives between the curved profiles cut into the shell.

3.3 Context

The viaduct crosses the river Basento becoming the access to the ancient city of Potenza.
The bridge is the main route of communication between industrial area and the residential area of the city, with its design influenced initially by the location of the river and the railroad tracks, across both, plus two roads in the nearby industrial area to the city.

4. Evaluation

4.1 Technical

High value. The work is independent from the usual canons of design and shows how the shape, designed to increase the efficiency of the material used, constitutes a resolution factor of a static system.

4.2 Social

High value.

4.3 Cultural & aesthetic

High value. The work can be considered among the most representative of the architectural culture of the twentieth century, a considerable example of harmony between architecture and engineering.

4.4 Historical

The work marks the transition of Muscemi to the study of the forms of shells as reversal of the forces acting on the structures..

4.5 General assessment

The design result is a continuous form, organic, modern. It represents the solution of forces and balance into a single structure that shows the peculiarities of significant work in term of architectural, structural and environmental integration.

5. Documentation

5.1 *Principal references*

MUSMECI, Sergio, *Il ponte sul Basento a Potenza,* in «L'Industria Italiana del cemento», febbraio 1997

NICOLETTI, Manfredi, *Sergio Musmeci. Organicità di forme e forze nello spazio*, Testo & Immagine, Torino 1999

Il ponte e la città. Sergio Musmeci a Potenza, a cura di Margherita Guccione, Darc-Gangemi, Roma 2003.

CAPOMOLLA, Rinaldo, *Il ponte sul Basento di Sergio Musmeci. Il progetto della forma strutturale prima dell'avvento del calcolo automatico,* Atti dei Primo Convegno Nazionale di Storia dell'Ingegneria, Napoli 8 marzo 2006, pp. 1143-1152

GIOVANNARDI, Fausto, *Sergio Musmeci. Strutture fuori dal coro,* Gennaio 2010

CAPANNA, Alessandra, *Musmeci, Sergio*, Dizionario Biografico degli Italiani – Volume 77, 2012, Istituto dell'Enciclopedia italiana Treccani

5.2 *visual material attached*

Fig.01 – General view of the Basento Viaduct
Fig.02 – General view of the Basento Viaduct
Fig.03 – View of the "covered walk"
Fig.04 – View of the "covered walk"

5.3 *rapporteur/date*

Massimiliano Savorra, March 2015
Adriana Marra, March 2015

6. Fiche report examination by ISC/R

name of examining ISC member: date of examination:
approval:
working party/ref. n°: NAI ref. n°:
comments:

Fig.01 – General view of the Basento Viaduct

Fig. 02 – General view of the Basento Viaduct

Fig.03 – View of the “covered walk”

Fig.04 – View of the “covered walk”