

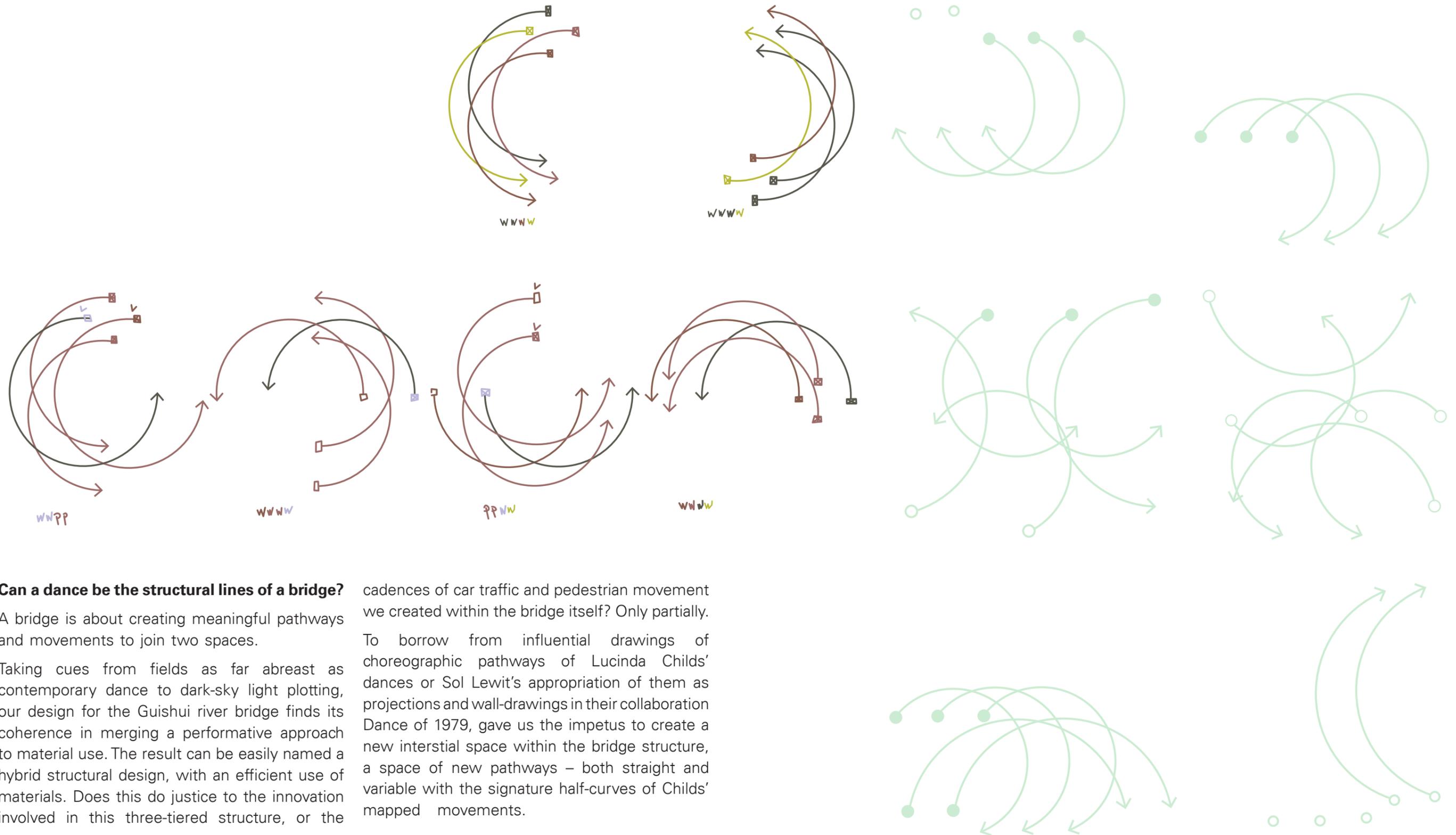
延崇高速路妫水河大桥设计方案

YANQING-CHONHLI HIGHWAY GUISHUI RIVER BRIDGE - A TIM CULBERT DESIGN



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Can a dance be the structural lines of a bridge?

A bridge is about creating meaningful pathways and movements to join two spaces.

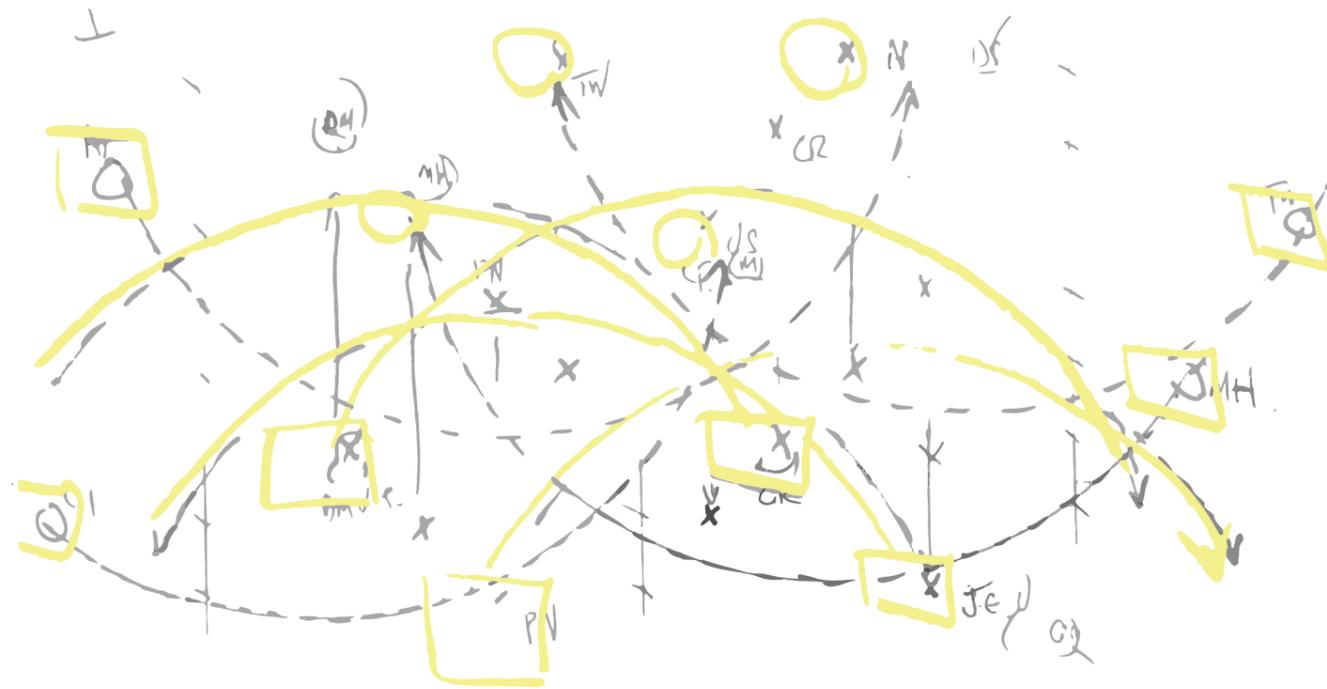
Taking cues from fields as far afield as contemporary dance to dark-sky light plotting, our design for the Guishui river bridge finds its coherence in merging a performative approach to material use. The result can be easily named a hybrid structural design, with an efficient use of materials. Does this do justice to the innovation involved in this three-tiered structure, or the

cadences of car traffic and pedestrian movement we created within the bridge itself? Only partially.

To borrow from influential drawings of choreographic pathways of Lucinda Childs' dances or Sol Lewit's appropriation of them as projections and wall-drawings in their collaboration Dance of 1979, gave us the impetus to create a new interstitial space within the bridge structure, a space of new pathways – both straight and variable with the signature half-curves of Childs' mapped movements.

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These early experiments for the stage by Childs, informed our design to create a stage for visitors using the bridge – a horizontal linear walking or biking path to the half-arch sitting areas overlooking the river. The possible criss-crossing of the walking paths and the undulating compound surfaces of the arches, allows for complex pathways – a three-dimensional choreographic score not seen in any other bridge design.

The use of Child's mapping diagrams, serial motifs, and their multiple combinations were a source in defining our design – placing

movement and the human body foremost in our thoughts as we experimented with spanning forms for this bridge. The result is in essence a serial structure that is both structurally stable, yet formally enigmatic with its rising and falling double-curvature arches towards the water. It is this very form that renders the bridge and arches stable, resistant to span large distances – by use of repetitive sinous curves – as well as visually rhythmic and spectacular with not one viewpoint the same: a choreographic movement in space.

Choreography by Lucinda Childs

Music by Philip Glass

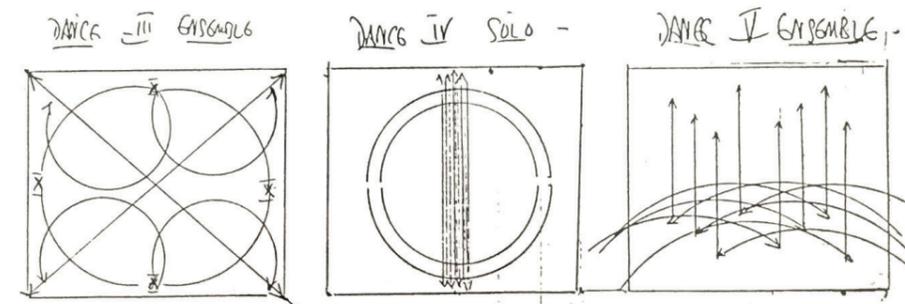
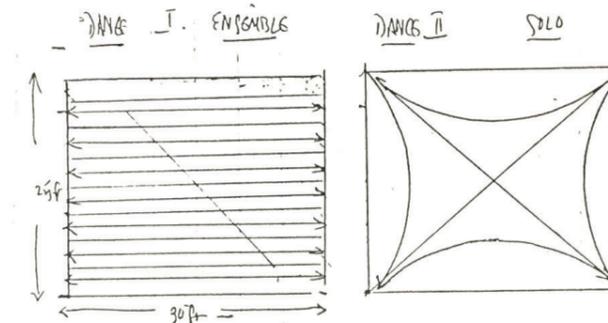
Dance # 3 (ensemble)

in order of appearance :

Megan Walker	Andé Peck
Susan Osberg	Erin Matthiessen
Judy Padow	Graham Conley
Cynthia Hedstrom	Daniel McCusker

Dance # 4 (solo)

Lucinda Childs



Philip Glass Small Ensemble :

Philip Glass
Iris Hiskey
Michael Riesman

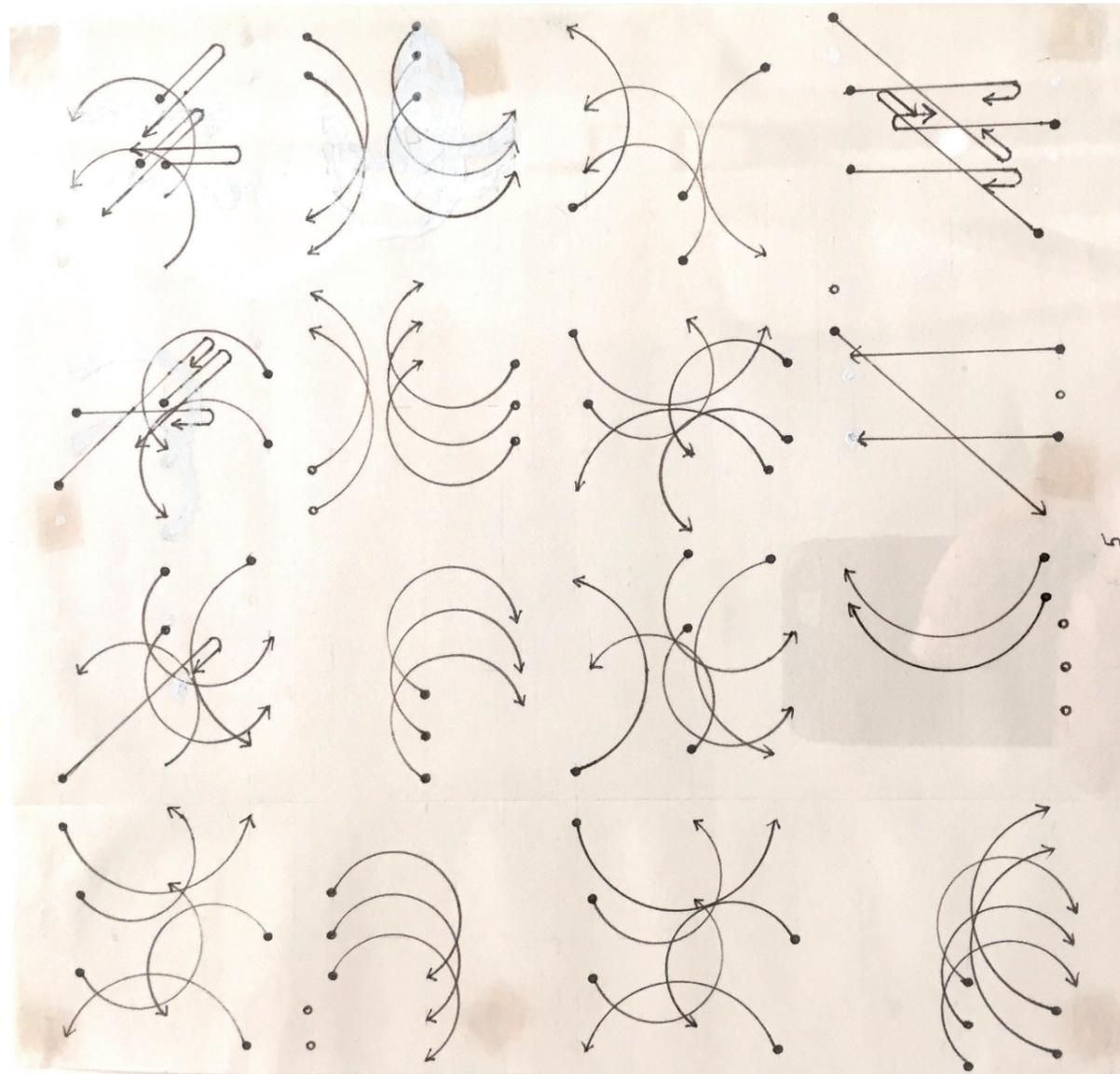
Performing Artservices
463 West Street
NYC 10014 Tel 989-4953

OSWALD - CURRICULUM VITAE
... VAN DE CRAAK ...

Sol LeWitt, Story-board Dance #4 (1979), 1979, graphite, pen and ink, and tape on paper mounted on board with wax crayon and collage on plastic, 74.9 x 92.4 x 0.3 cm. Courtesy Whitney Museum of American Art, New York, gift of Lucinda Childs.

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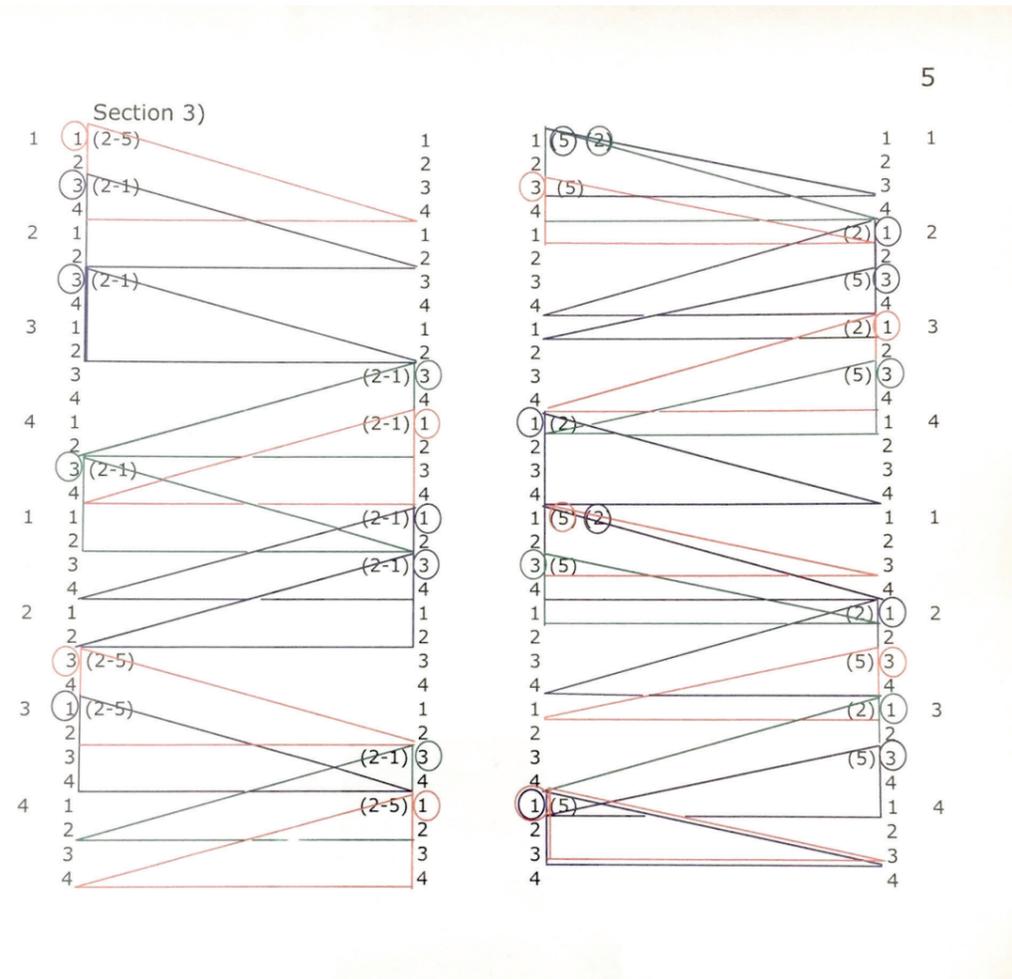


Lucinda Childs, Choreographic partition (extract) Score (abstract) Dance #1 (1979), graphite and felt pen on paper, Fonds Lucinda Childs - médiathèque du CND, 35,6 x 28 cm, courtesy Lucinda Childs.

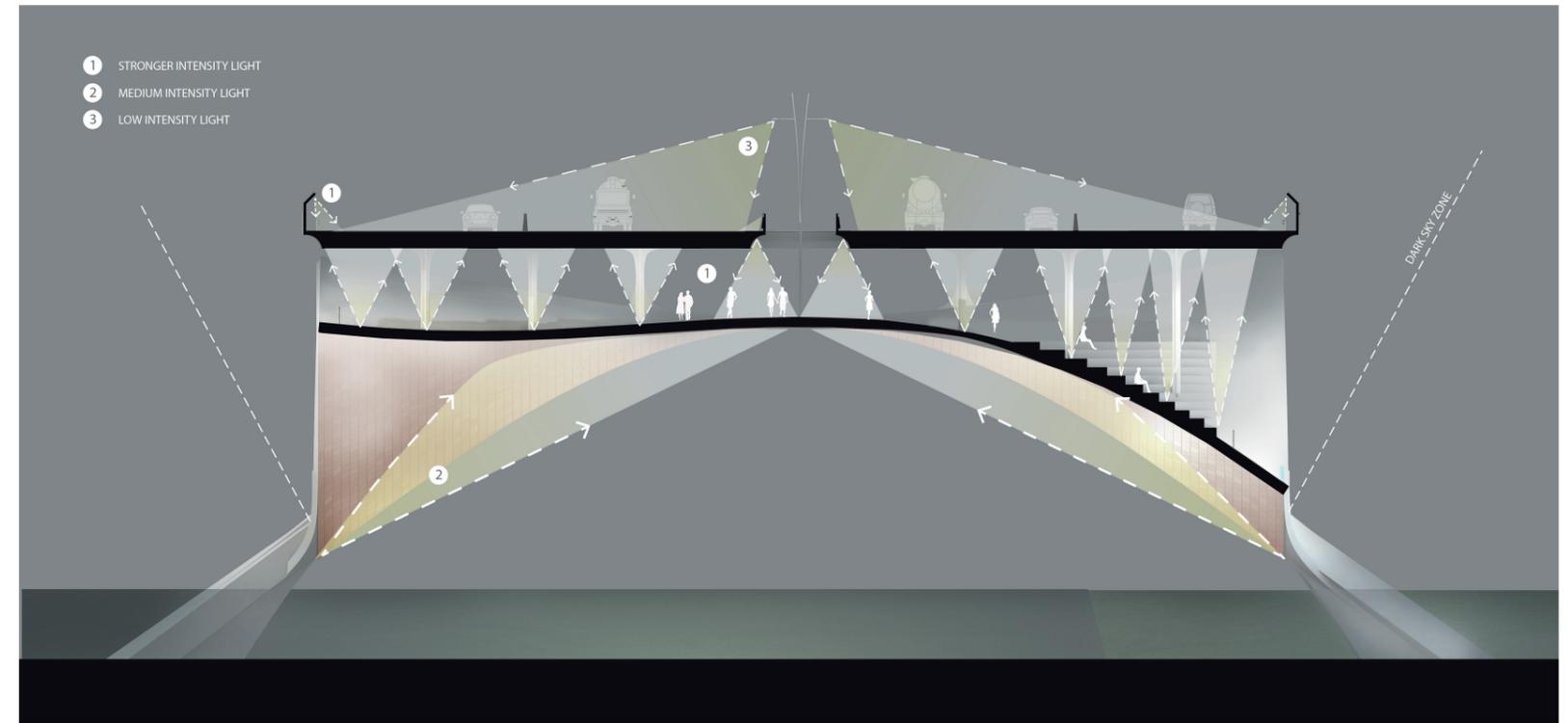


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LUCINDA CHILDS / SOL LEWITT
Exhibit at Gallery Thaddeus Raloppac exhibit at
Thaddeus Raloppac in Pantin



Lighting strategy

The three-tiered structural design with an open network – or forest – of slender metal columns, allows us to create a new occupied area on top of the shell arches below the roadway – a social gathering space – not found in any other bridge. Open to views over the river to the East and West, it serves as a pedestrian walkway and bike-path, separated from the noise of the car traffic above. As each shell arch reaches down to the river they form a series of steps – like an amphitheater - to view the landscaped site. These same steps

serve to bring the public down to the river's edge at end of the last arch.

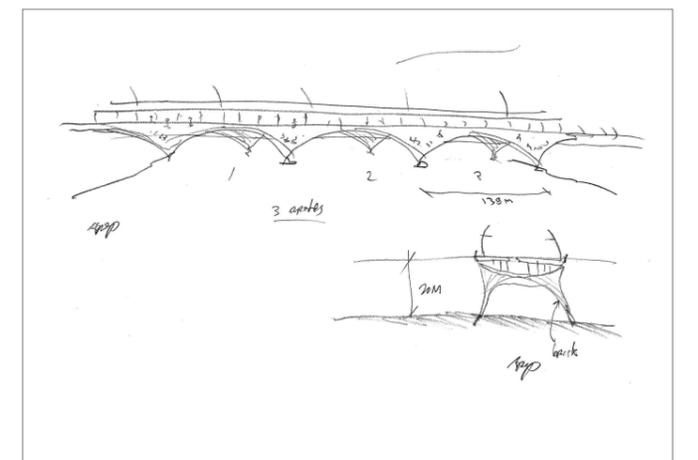
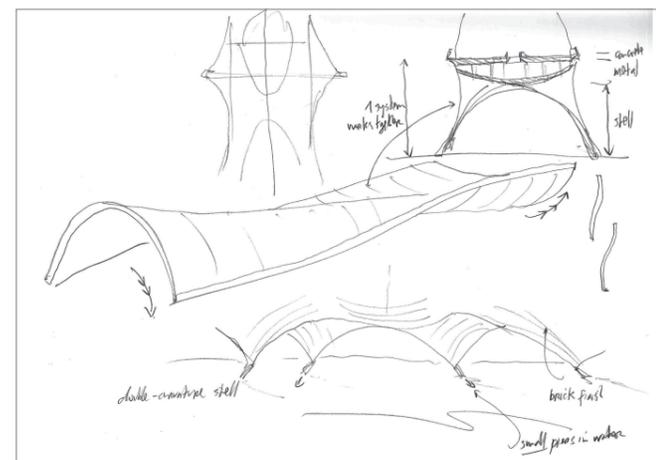
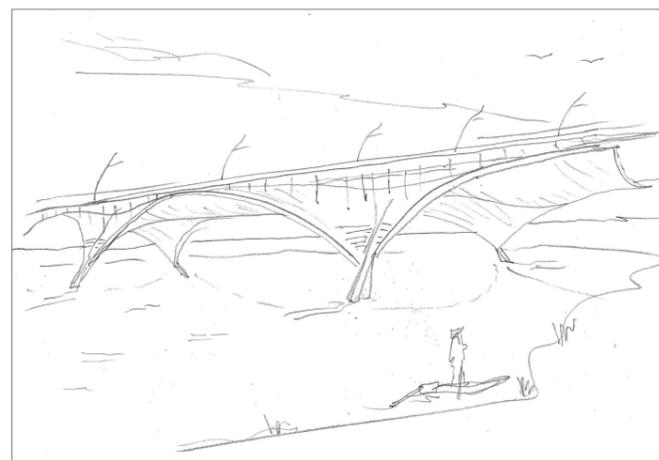
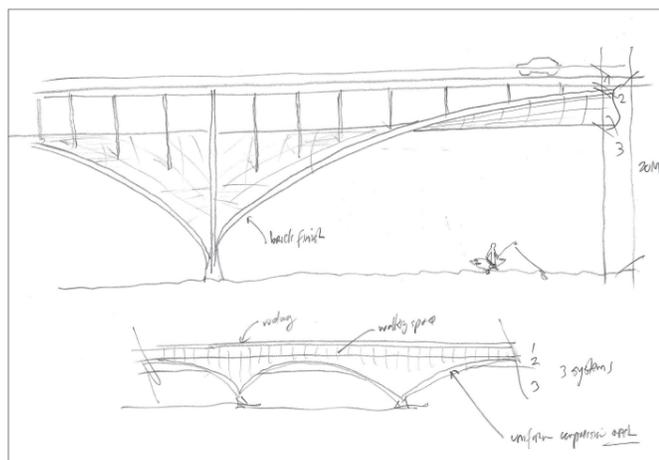
The areas on top of the undulating shell arches are free for people to walk, run or bike along the flat middle line of the sinuous arches – a choreographic space of multiple pathways. Thus the Guishui bridge indeed forms the support of a three-dimensional dance a la Lucinda Childs.

At night the space is brightly lit, becoming a visual spectacle from a distance. With the underside of the shell arches lit from below, from the

supporting piers, all artificial light is held “within” the structure and avoids stray light upwards to the sky – light pollution in other words – a key fault of bridge structures with over lighted structures above the roadway. From an environmental point of view, the bridge thus respects a “dark-sky” approach to night lighting without losing in iconic impact and night light effects or use.

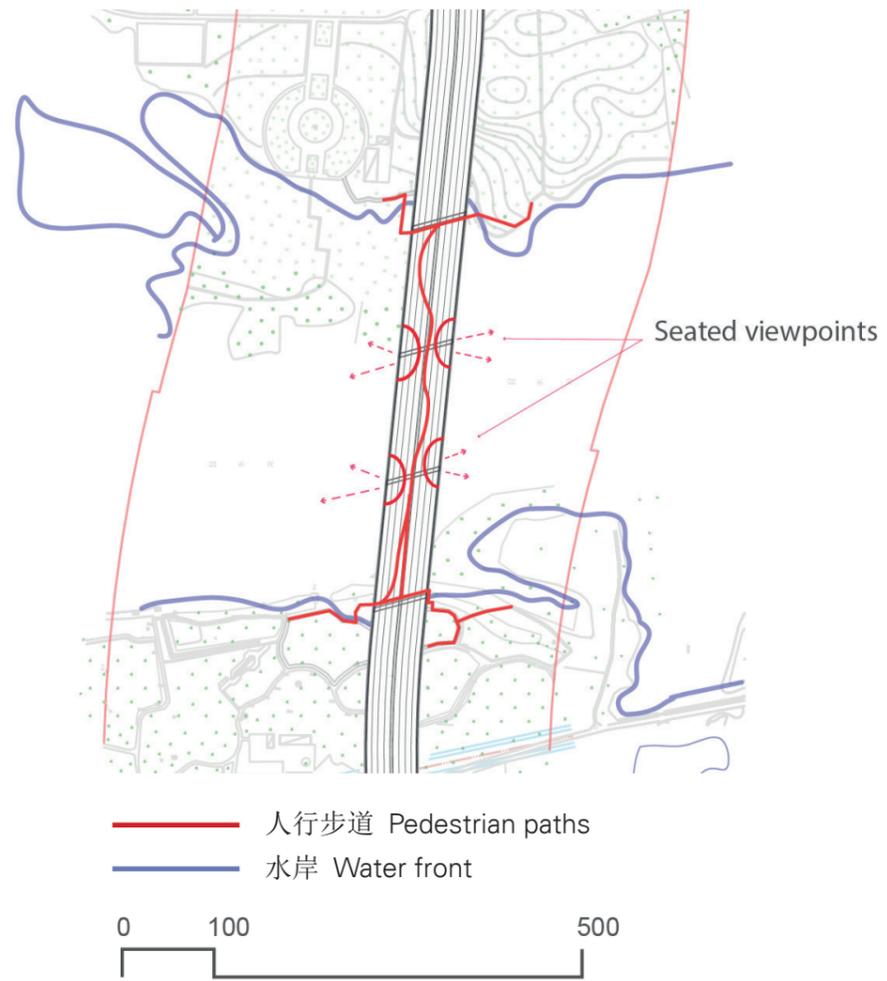
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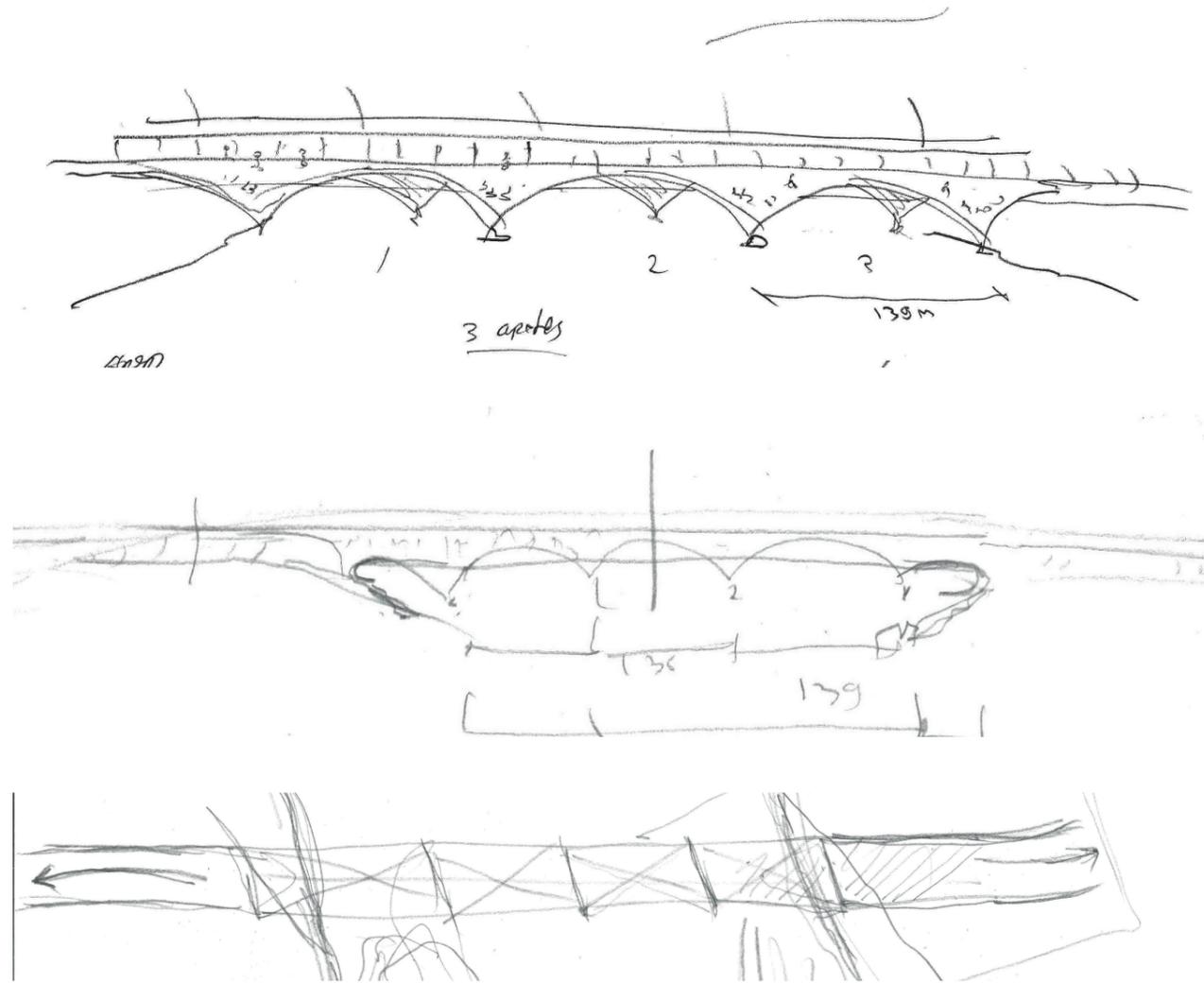
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Bridge span: 556 m
Bidge width: 58 m

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Architects & Engineers

Design Direction

Etienne Tricaud, AREP Consulting Engineers
Chantraux, Executive Director
Daniel Clarisse, International Managing Director
Tim Culbert, Architect and Head of Design
Andreas Alexopoulos - Architect-Structural Engineer

Project Team

Ebrahim Hassibi
Heloise Cai
Sergio Capasso

Consulting Structural Engineers

Arep + Map3
Emmanuel Livadiotti

Sustainability & lighting: Arep (TC)

Urban planning: Arep (TC)

Construction process: Arep (TC, AA) + Map3

Arep Beijing

Luc Neouze, Local Office, Office Manager
XingXing, local office, Managing director

Consultants

3D Rendering: Inui, Stéphane Curtelin

3D modelling: Emmanuel Livadiotti

3D printing: Yassin Bruneau, Fablab manager, ENSAPVS

Translation

Mandarin, Telelingua

Project Location

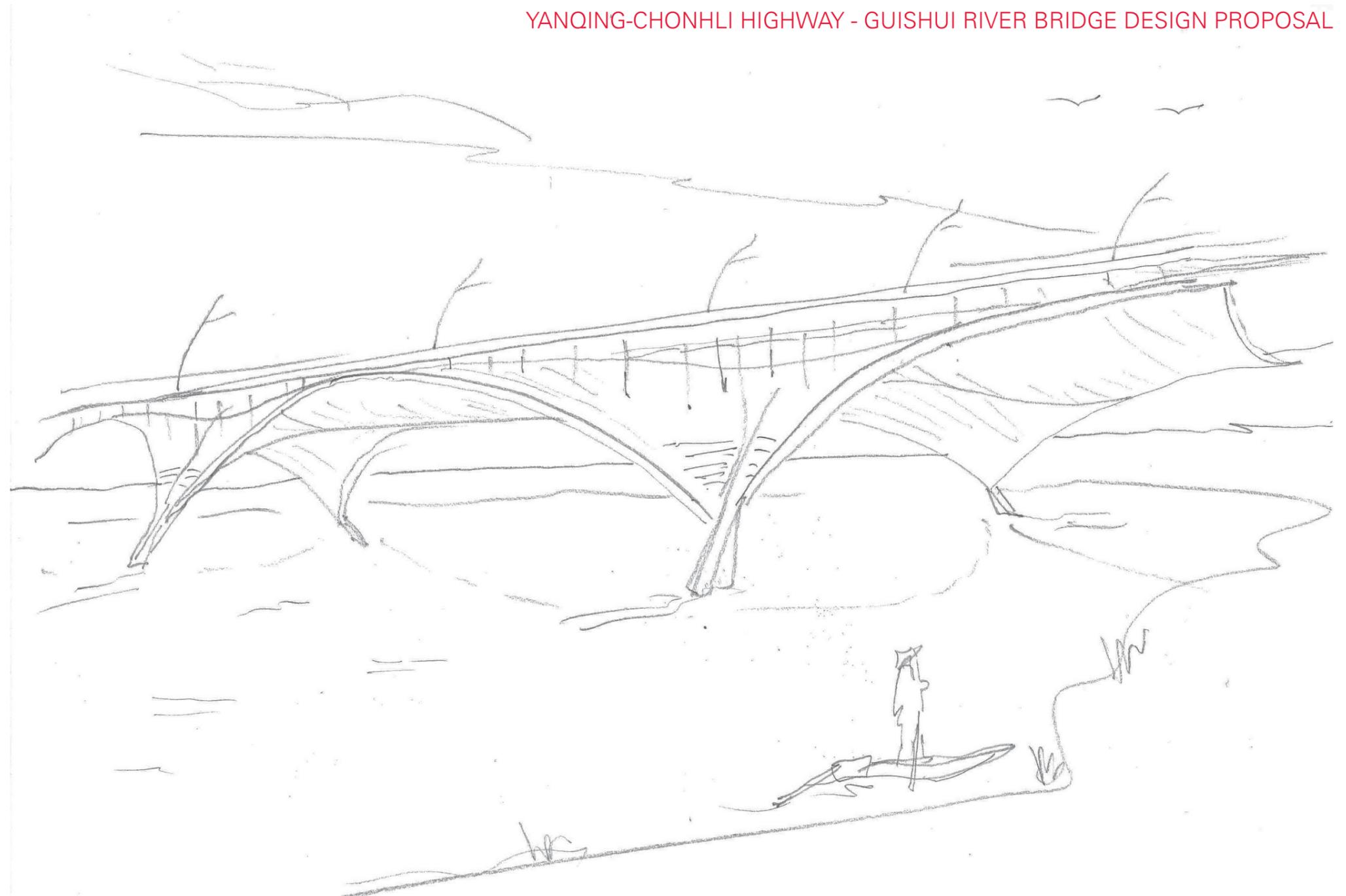
Yanqing, China

Estimated construction cost 25 M €

Commission Direct

Status awaiting approval

Project submission date October 2017



Drawings by Lucinda Childs' works where collected form:

LUCINDA CHILDS / SOL LEWITT, Exhibit at Gallery Thaddeus Raloppac, automne 2016, Pantin.

LUCINDA CHILDS, NOTHING PERSONAL 1963-1989, Exhibit at Centre National de la Danse, automne 2016, Pantin.

LUCINDA CHILDS, Portrait, John Adams, Lucinda Childs, Frank Gehry, AVAILABLE LIGHT, festival d'automne 2016, Théâtre de Châtelet, Paris.

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