

From Brownfield to Eco-City

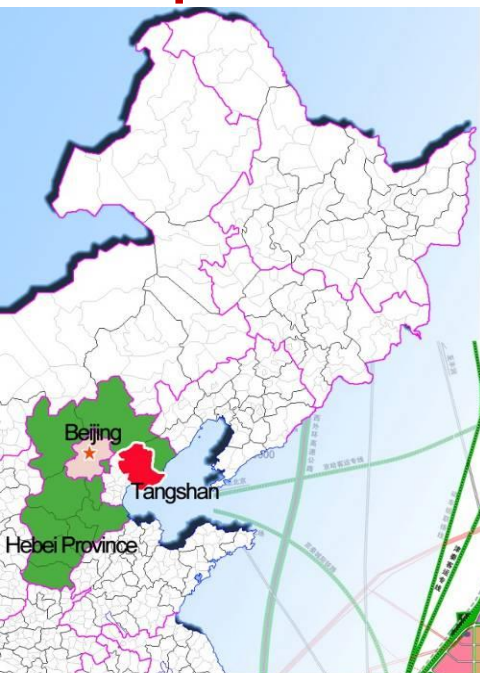
– Tangshan Nanhu Eco-city, China



Jie Hu ASLA

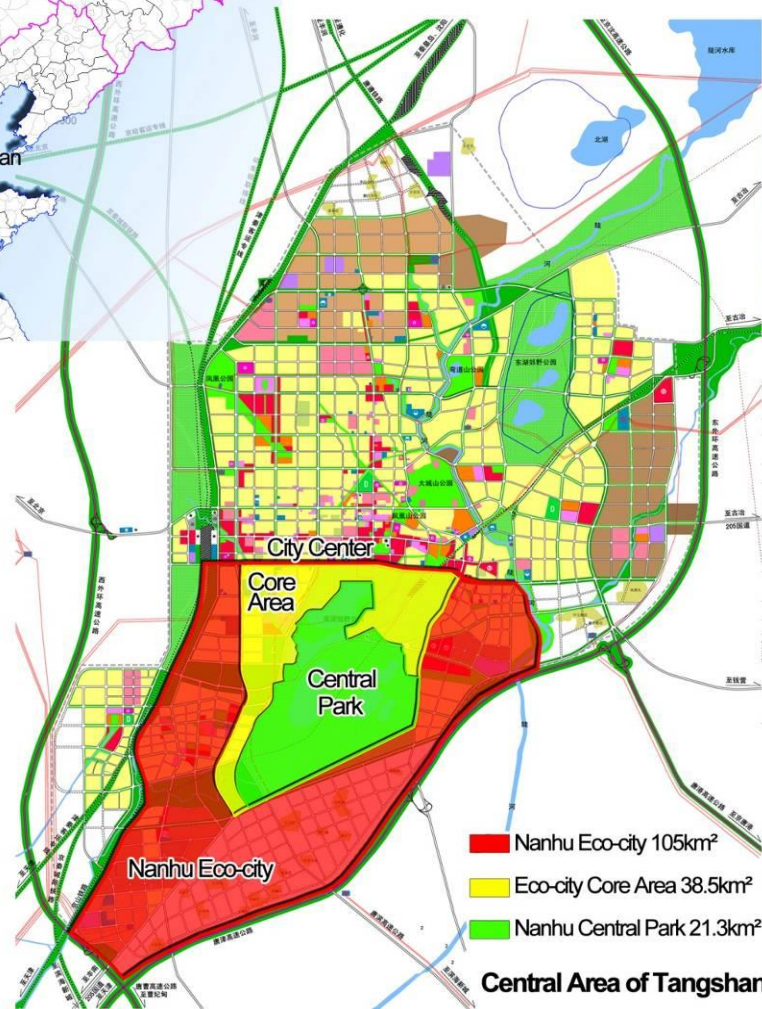
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Earthquake Revealed Brownfield



Tangshan is located at the south-north part of Hebei Province, 154km to Beijing. The Nanhu area is 1km south to the city center of Tangshan.

Location Map



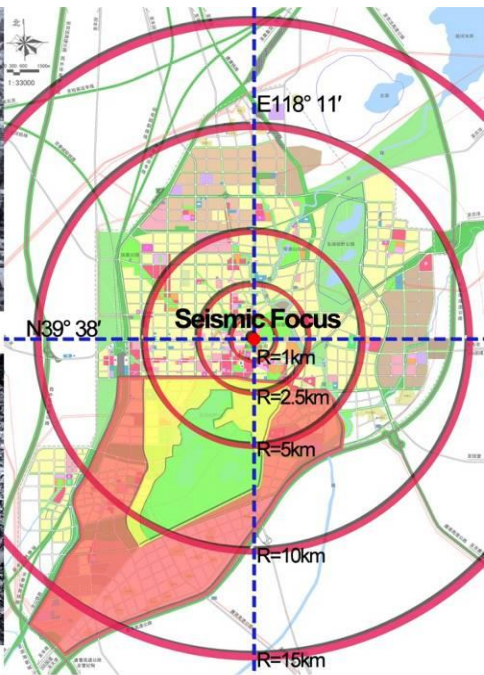
Central Area of Tangshan



The City before the Earthquake



The City after the Earthquake

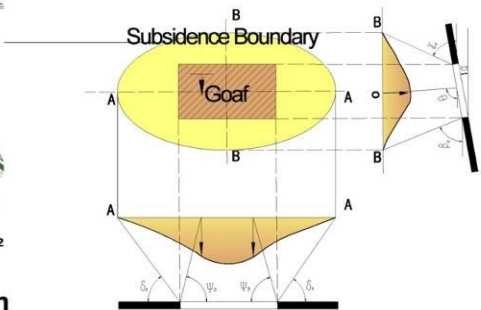
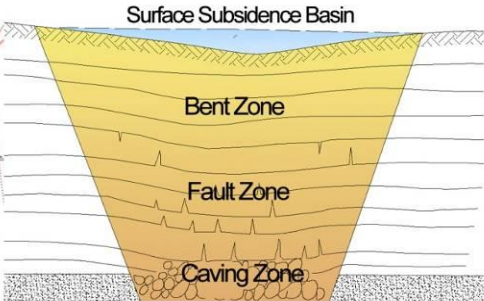


Influence of 1976 Earthquake

Magnitude : Richter 7.8
Focus: 11km to Earth Surface
Intensity: 11 Degrees

The earthquake in 1976 killed 240,000 people and seriously wounded 160,000 people and caused more than 7,000 entire families perished.

The earthquake caused a severe surface collapses of excavated coal mining area in the Nanhu, and resulted in serious subsidence.



Design Concept - Green Core



Master Plan of Nanhu Eco-city Core Area



Rendering of the Core Area



Rendering of the Central Park Phase I



Night Rendering of the Central Park Phase I

Central Park in Core Area - 591 ha



Central Park planning and design continues regional Shan-Shui characteristics, acting as a natural ecology zone integrated with history, culture and modern development. Primary planning and design goals are to preserve, restore and rebuild the existing landscape elements (hills, water, wetlands), create a beautiful environment, and provide an inviting and accessible natural space.

LOW-CARBON, LOW-IMPACT, LOW-COST TECHNIQUES 1

Weave waste plant materials together to form solid revetments.



The willow branches implanted along boardwalks sprouted the next spring, stabilizing the banks and providing shade for fish and wildlife.



Treat weak foundations first with timber piles to increase bearing capacity.



Then apply recycled coal ash, coal-ash concrete and other materials for roads.



REUSING COAL
ASH AS CON-
STRUCTION MA-
TERIALS



8,000,000 tons of coal ash



Coal ash bricks



Concrete mixed w/ coal ash as road base material

GABIONS WITH
RAISED
WOODEN
STRUCTURES:
RESILIENCE TO
POTENTIAL
GROUND SUB-
SIDENCE





After

Cover the garbage with low density polyethylene and soil



Retaining wall filled with seeds and nutrients



After



Source of water

The daily 80,000 tons of reclaimed water discharged from the sewage treatment plant flow into the Nanhu after purification; the 20,000 tons of underground water transported from coal mining site everyday will also flow into the Nanhu.







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More information please find from:



Landscape Performance Series: <http://www.lafoundation.org/>

Official Website of Tangshan Nanhu Eco-City: <http://www.tssouthlake.gov.cn/>