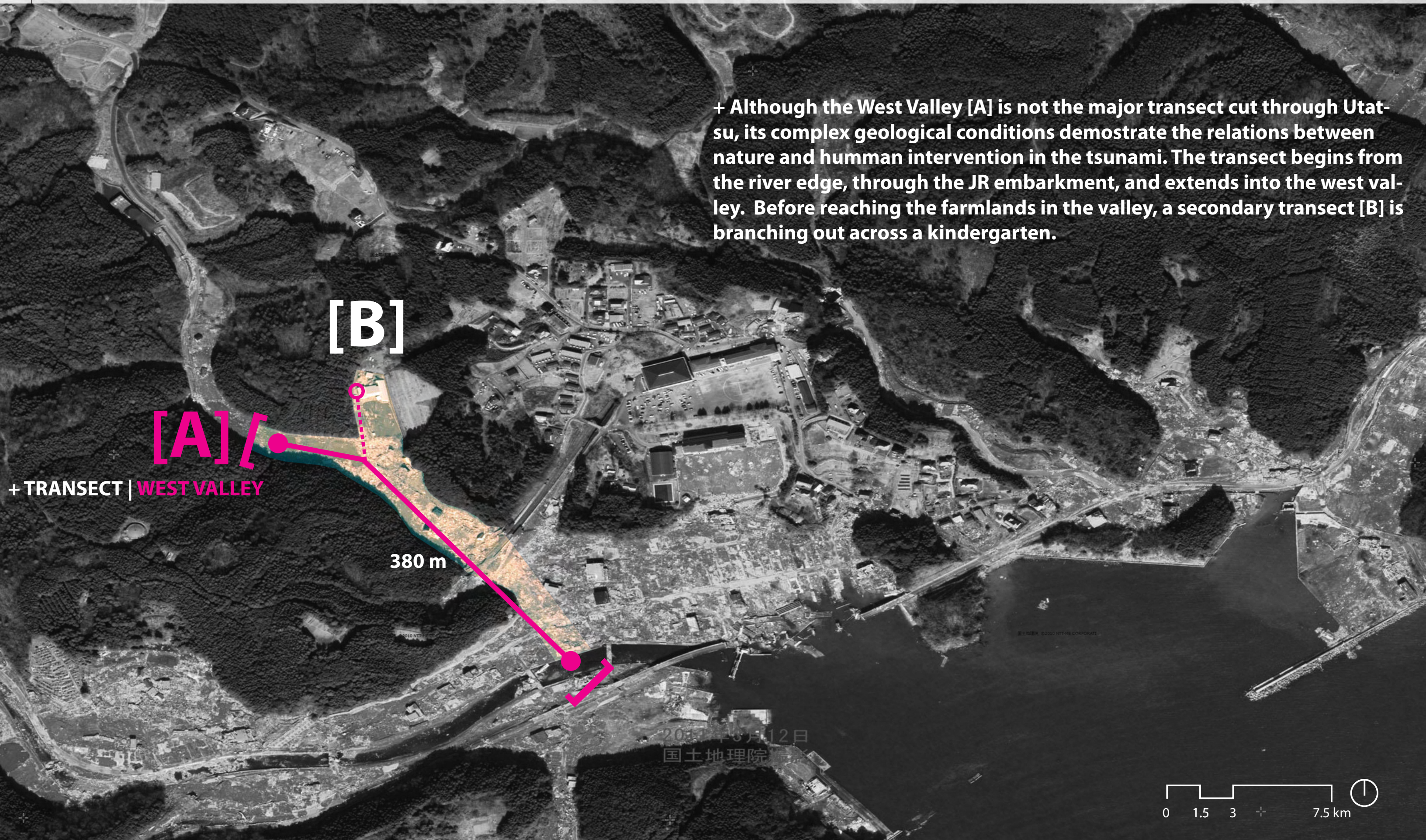


WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

+ Although the West Valley [A] is not the major transect cut through Utatsu, its complex geological conditions demonstrate the relations between nature and humman intervention in the tsunami. The transect begins from the river edge, through the JR embarkment, and extends into the west valley. Before reaching the farmlands in the valley, a secondary transect [B] is branching out across a kindergarten.

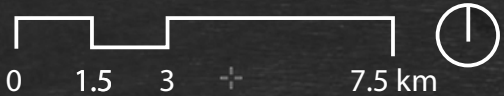


[A]

[B]

380 m

+ TRANSECT | WEST VALLEY

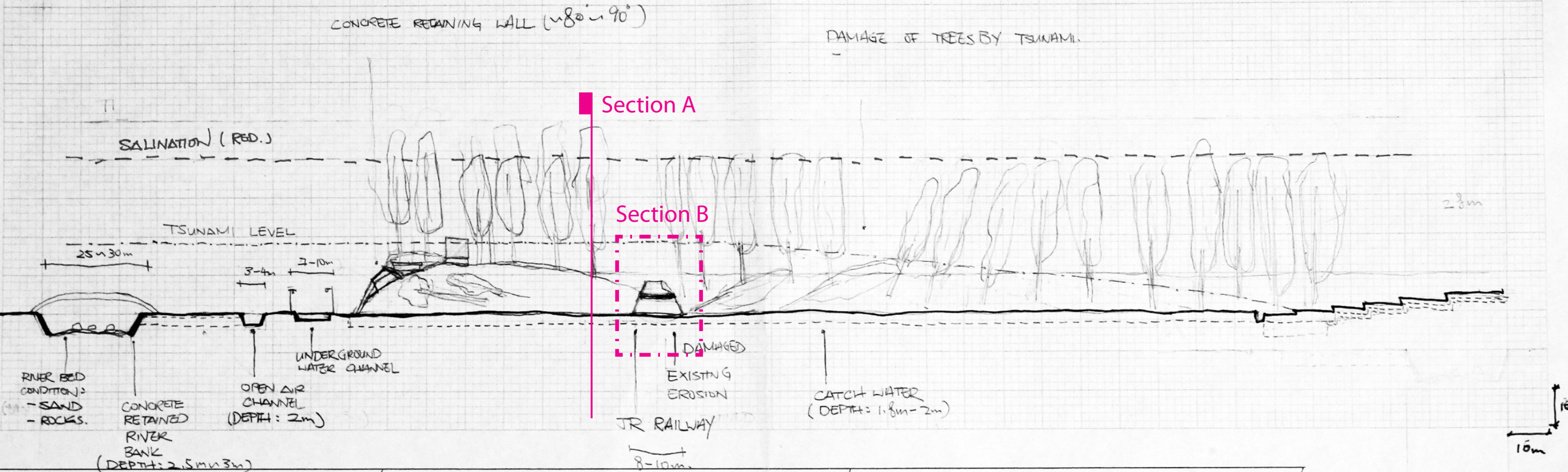


2011年3月12日
国土地理院

WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

ON SITE | TRANSECT [A]

Total: 548 Enkla's Steps
15 steps = 10m
Total LENGTH & SECTION
365m
HUMAN FIGURE 1.5m.



Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

Inventory along Transect

Site Analysis

3B / Transects
through the Site



WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

TRANSECT [A] | LAND FORM & WATER



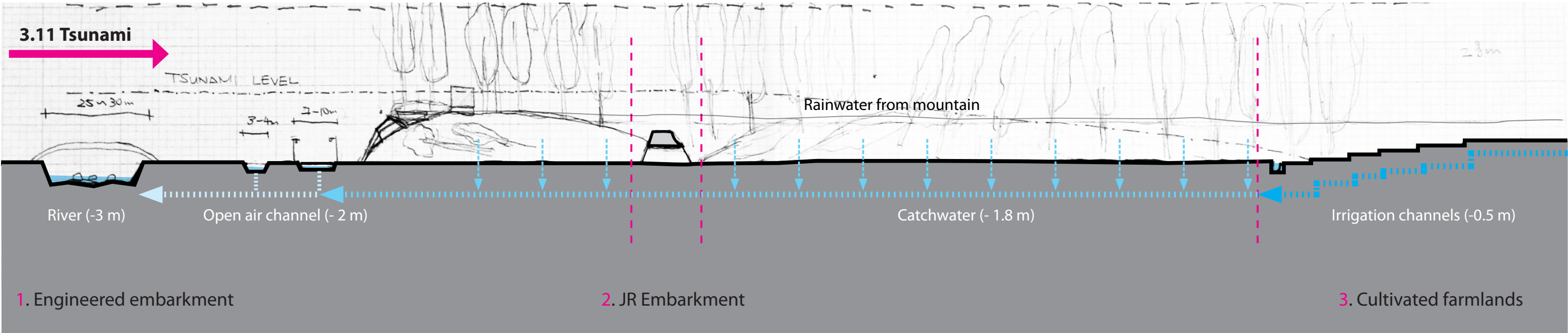
Concrete surface performs badly in keeping water. Comprehensive drainage system is required .



Masonry surface with soil infill reduces the water holding capacity.



Soil surface has strong water holding capacity.



Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

Inventory along Transect

Site Analysis

3B / Transects
through the Site

Along the transect A of west valley, the land form changes from the engineered embarkment at river end to farming soil on the other end inside the valley. In between there is a JR embarkment, which interrupts the transect continuity. In addition, the water system is also changed from engineered concrete channel, catchwater and traditional irrigation channels.

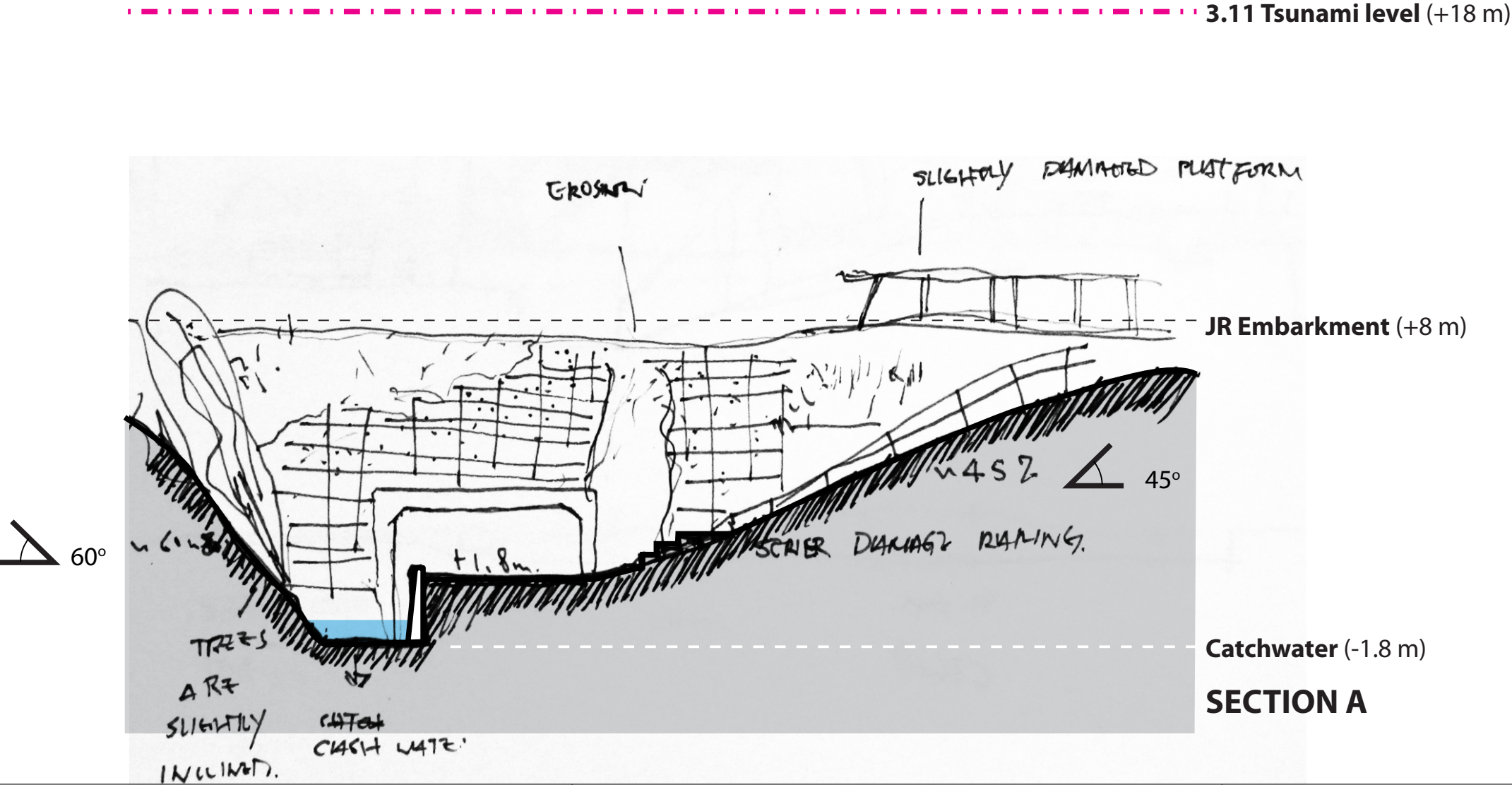
- River embarkment
- Open Air water channel
- Engineered slope retaining structure
- JR Embarkment
- catchwater
- Trees
- Cultivated farmlands
- Rainwater reservoir

Due to different in landform and water system, the transect has dramatic difference in term of damages and post-disaster conditions. The area with engineered concrete land surface suffered from most serious damage, However, the cultivated farmlands with soil land in the valley has least damages. One of the reason is the soil surface has better water holding capacity.

Approximate Scale

WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

TRANSECT [A] | LAND FORM & WATER



Concrete Retaining : Provides protection to prevent slopes from erosion , but its low wall porosity requires intensive drainage for rain



JR underpass: Becomes a by-pass for water when tsuinami came. It created a severe flush with high water velocity.

Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

Inventory along Transect

Site Analysis

3B / Transects
through the Site

A catchwater system, about 2 m wide and 1.8 m deep is used to collect rain water from the valley and slope. Due to its materiality of concrete and engineered strength, the damage is minimal. The concrete JR underpass also was preserved well after tsunami.

WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

TRANSECT [A] | JR EMBARKMENT & VEGETATION



Concrete retainment only protects parts of uphill vegetations



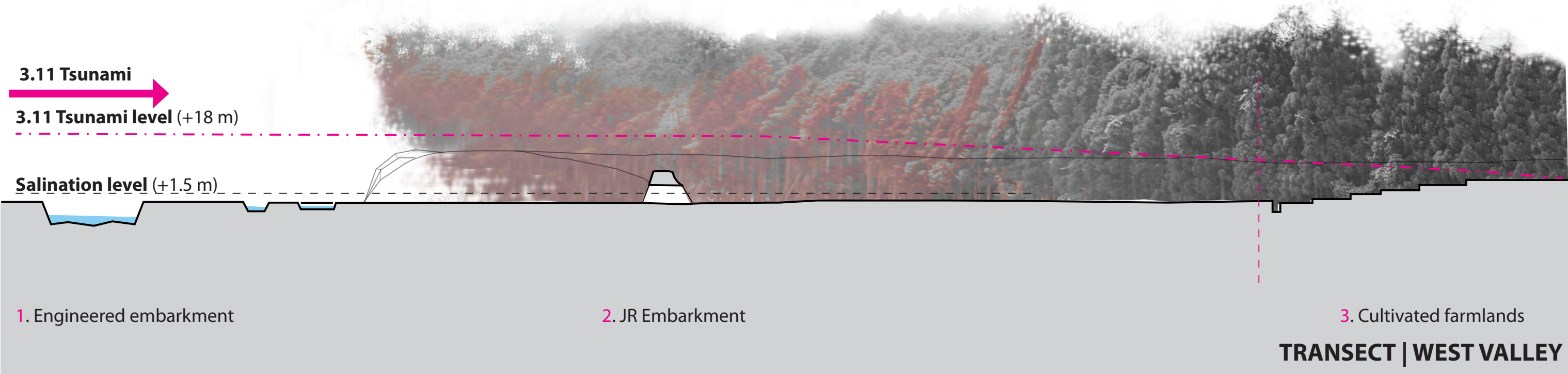
The concrete underpass, below JR, became the weakest point during tsunami, vegetation and trees are seriously damaged by severe flush passing through



Tree by salinated by seawater

10m

10m



TRANSECT | WEST VALLEY

Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

Inventory along Transect

Site Analysis

3B / Transects
through the Site

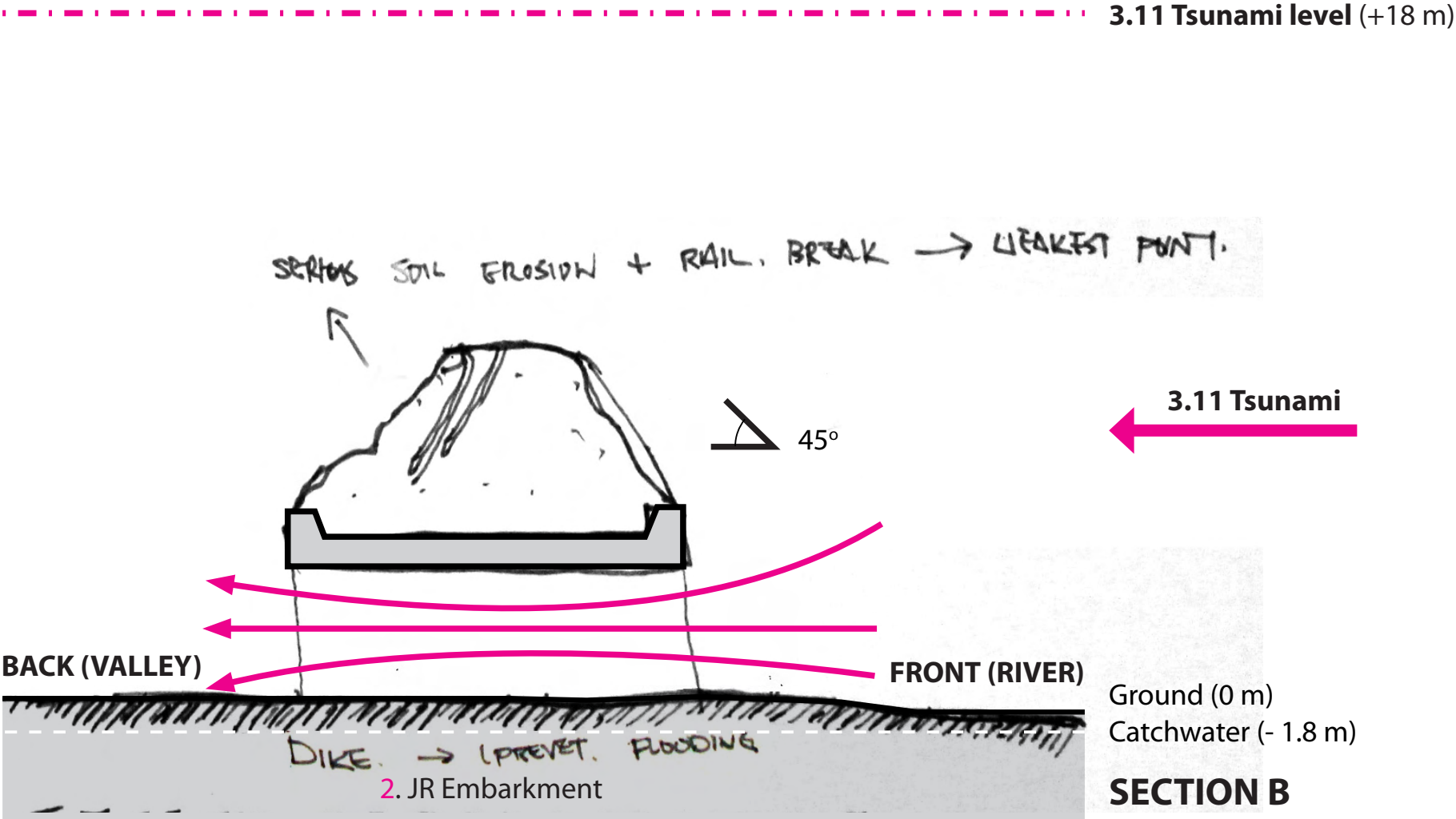
The damages and salinations of tress was most seri-
ous nearby the JR embarkment underpass during
the 3.11 tsunami. These damages indicate a direct
connection between the JR embarkment and its
context

Originally, the JR embarkment is engineered strongly as
an infrastructure to support the JR railway. In addition,
it could function as a dike to protect the inland valley.
However, th tide of tsunami came over the JR embark-
ment very much, so proverties behind the embarkment
were totally damaged. Moreover, from the damges
tresses, they reflect the JR underpass was the weakest
point, which suffer strongest impact during tsunami.

Approximate Scale

WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

TRANSECT [A] | JR EMBARKMENT ENLAGRED



FRONT: Minor erosion happened, the gravel surface is slightly washed out.



BACK: Serious erosion happened, the embankment surface is totally washed out, the soil infill is exposed.

Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

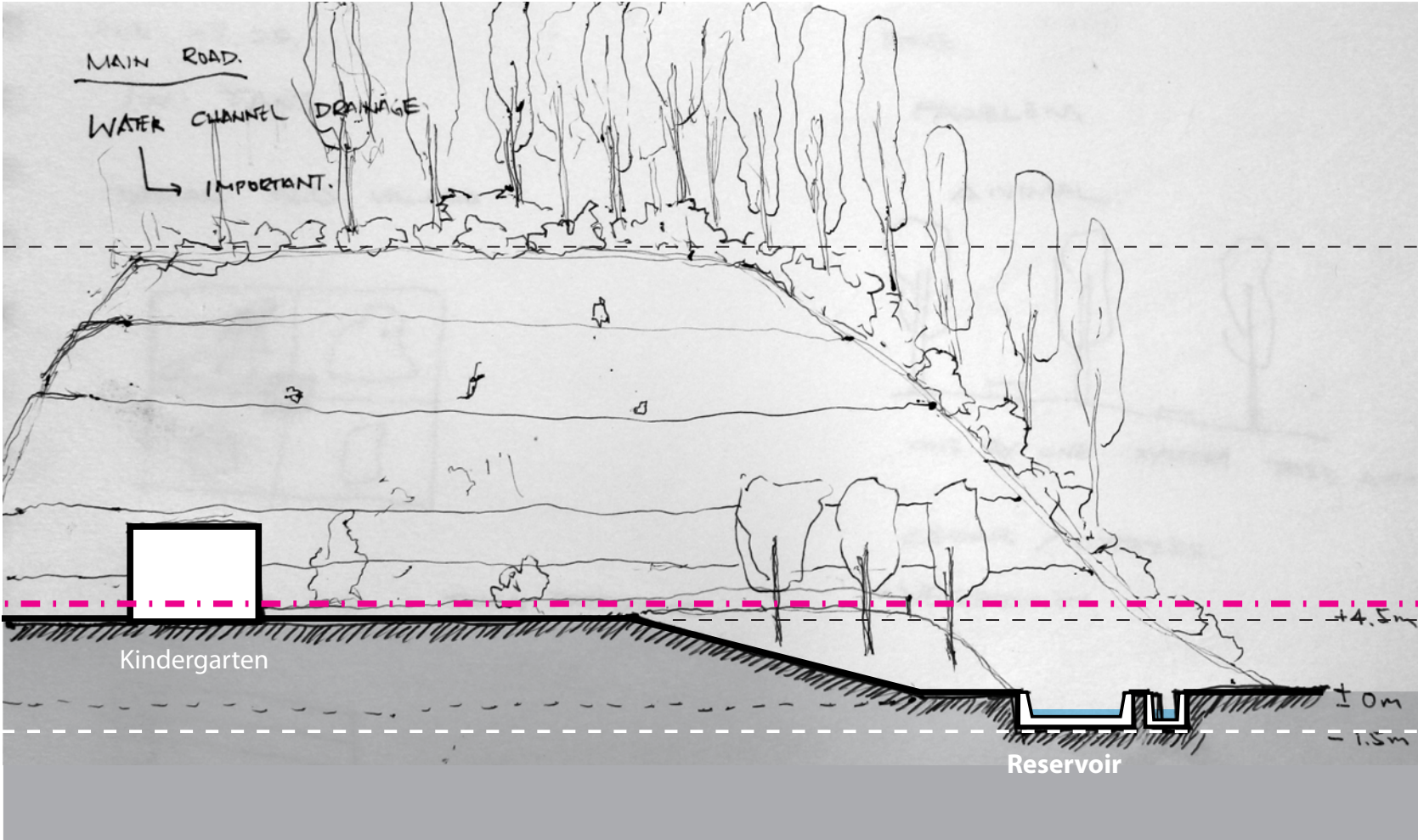
Inventory along Transect

Site Analysis

3B / Transects through the Site

The JR embarkment has different extend in term of damages. At the front, the surface was slightly washed out. At the back, serious soil erosion is happened to the embarkment.

TRANSECT [B] | Kindergarten



Peak (+ 14 m)



3.11 Tsunami level (+ 5 m)
Platform (+ 4.5 m)

Catchwater (- 1.5 m)



Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

Inventory along Transect

Site Analysis

3B / Transects
through the Site

Although the kindergarten is located at relatively low altitude place, but due to its geographical condition of its context, it has minimal damage during 3.11 tsunami.

From observation, the kindergarten is located in a small valley, which joins to the major west valley. And the kindergarten is built on top of a podium about four and half meters higher, it became potential protection during the tsunami.