



SESSION III – Part One

GIVING SPACE FOR WATER

Opportunities for Urban Development

A Future-Development Approach in Adaptation to Climate Change

4th WORKSHOP

Tuesday, 09/12/2014 – Tuy Hoa
Wednesday, 10/12/2014 – Quy Nhon

Urban Drainage and the Problems of the City

- The limited capacity of basic system in facing climate change
- The increasing needs of surface run-off management
- **The need of improving the quality of urban life in facing the fast-growing population and climate change**



Fast-growing Population and Climate Change

- Our cities are medium-sized cities.
But the cities keep growing and we want to improve our cities in both social and economic aspects
- Because of economic and population growth, we need more livable open spaces, markets, healthy housing, and good school environments for our children, etc.





Fast-growing Population and Climate Change [2]

- The challenge is to make sure that our cities grow by incorporating the needs of adaptation to climate change
- Considering climate change, **we also need sufficient space for water in the city**, in different forms and size of green and blue urban elements
- Allocating space for water in the city is not an easy task, BUT it should not be too difficult. Our cities already have water-front spaces and green parks. **We just need to replicate and make them hydrological functioning.**
- *[the following slides are examples of the existing public spaces]*





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TP. Quy Nhon

TP. Quy Nhon Today

Quy Nhon is a beautiful and charming city. It has many green spaces, green streets and is blessed by the presence of mountains, rivers and the sea.



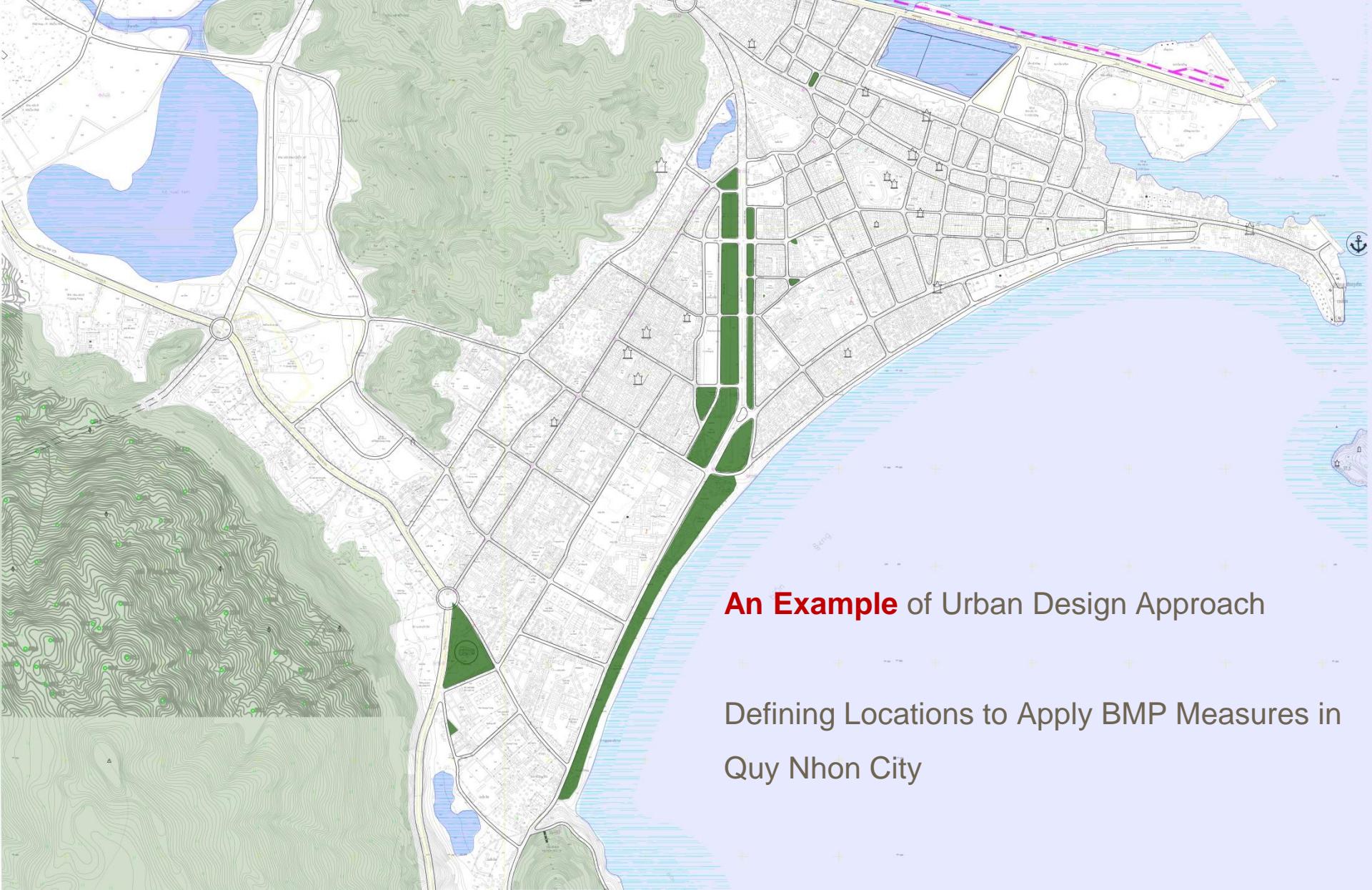


TP. Quy Nhon in the Future

Quy Nhon tomorrow can be even better, be more vibrant, beautiful and growing within a sustainable manner of development.

HOW? Among others, the following principles can be applied:

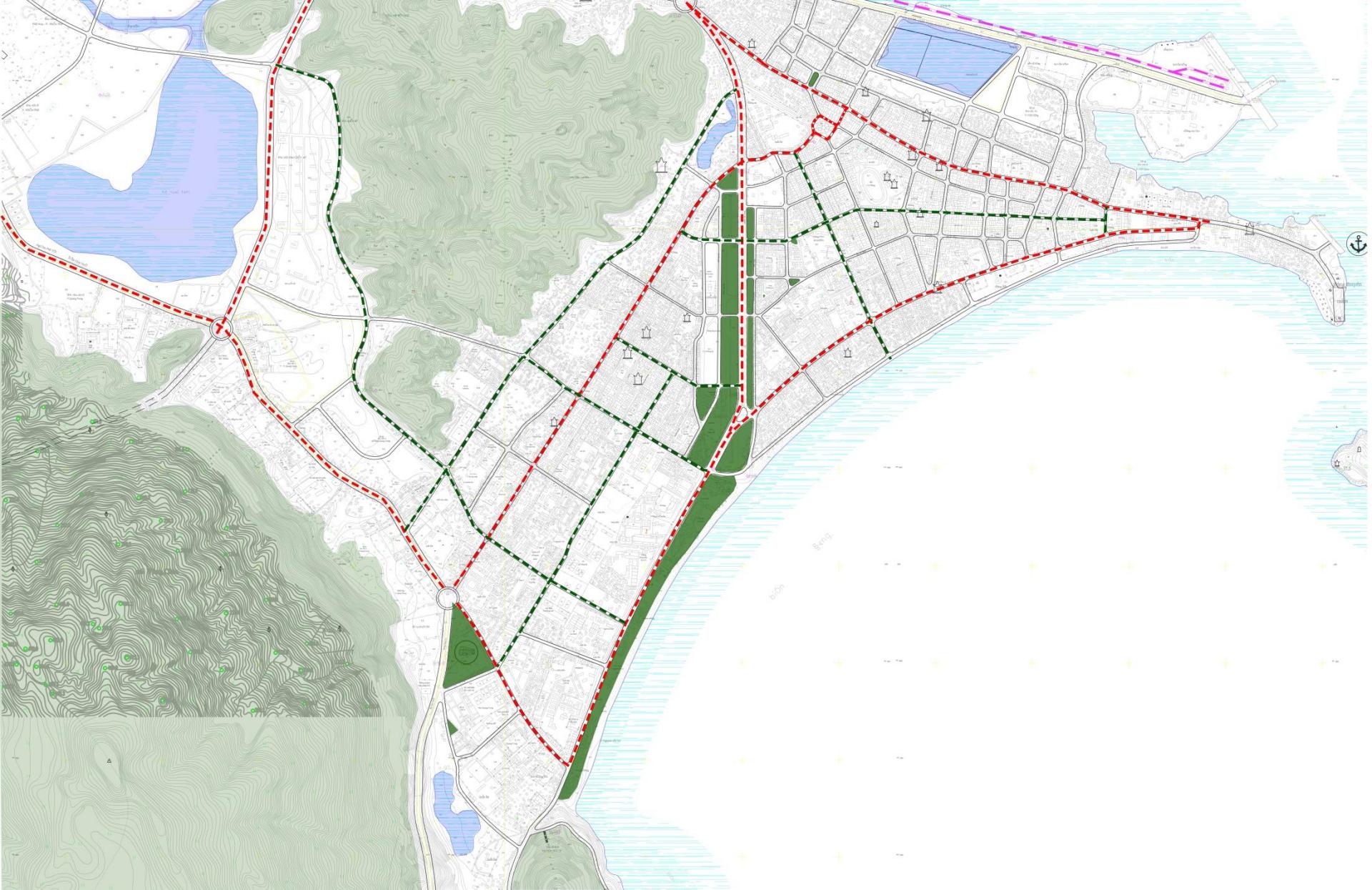
- To integrate urban drainage and public space
- To apply water-sensitive urban landscape that promote public environmental awareness
- By applying above principles, we can also promoting and providing more spaces for pedestrians and cyclists towards a more sustainable urban living.



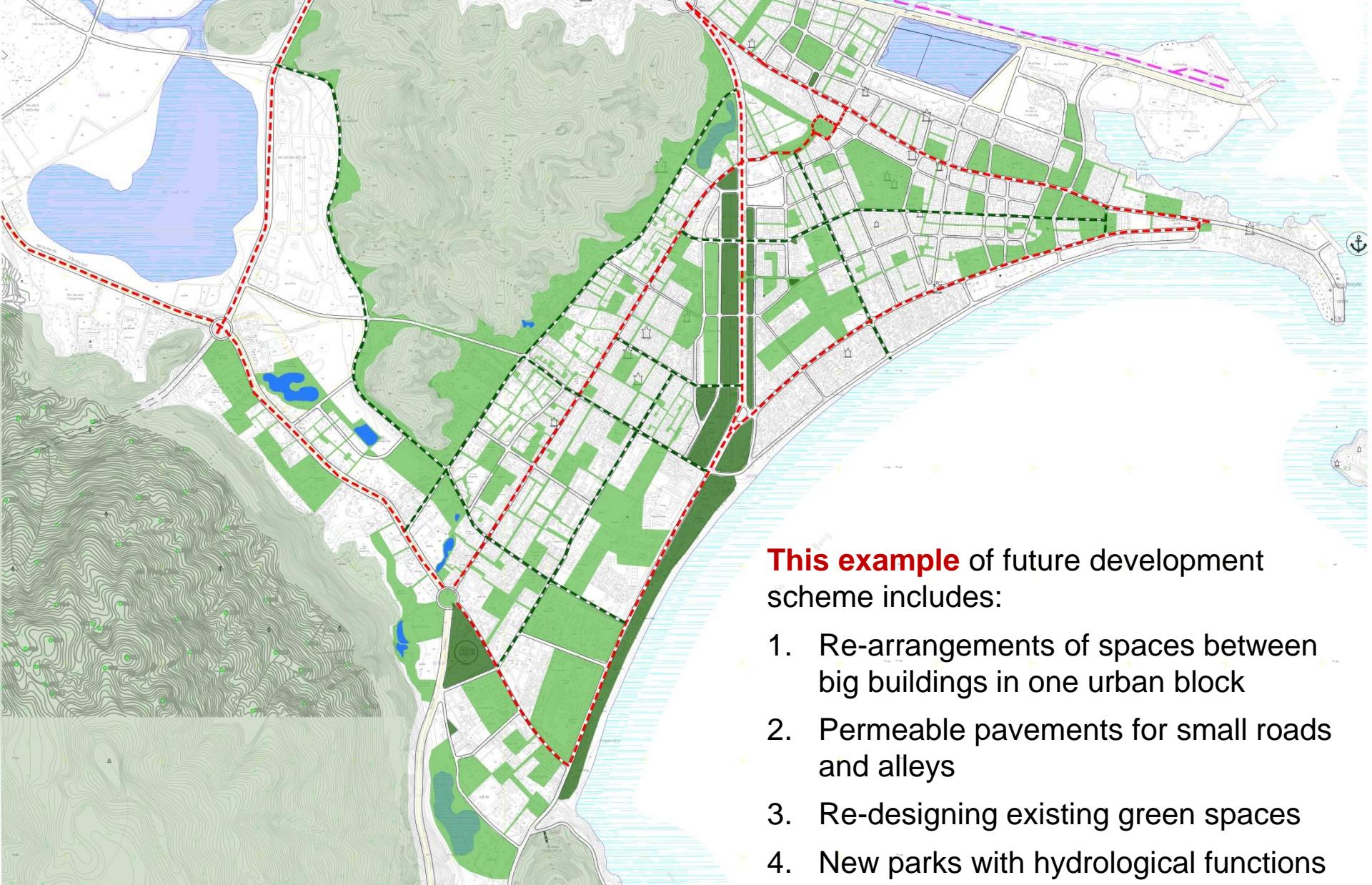
An Example of Urban Design Approach

Defining Locations to Apply BMP Measures in
Quy Nhon City

Existing blue and green elements in the city: the sea, the rivers and lakes, the hills, and the parks



Working on Strategic Urban Axis: strategic urban corridors that link important functions should also promote water-sensitive urban design



This example of future development scheme includes:

1. Re-arrangements of spaces between big buildings in one urban block
2. Permeable pavements for small roads and alleys
3. Re-designing existing green spaces
4. New parks with hydrological functions

Possible locations of BMP measures in Quy Nhon City



Urban blocks with permeable pavements between buildings



Permeable pavements in small roads and alleys

OPPORTUNITIES AND BENEFITS:

1. Retaining storm water and allowing water infiltration in order to restore ground water and protect traditional wells
2. Re-structuring spontaneous settlements
3. Improving the quality of poor neighbourhoods
4. Structuring future densification of settlements



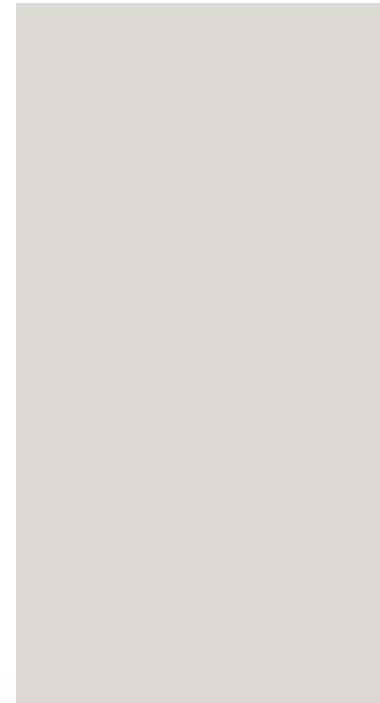


Nguyen Van Troi Street and a junction in Ngo May Street



An alley in Nguyen Lu Street

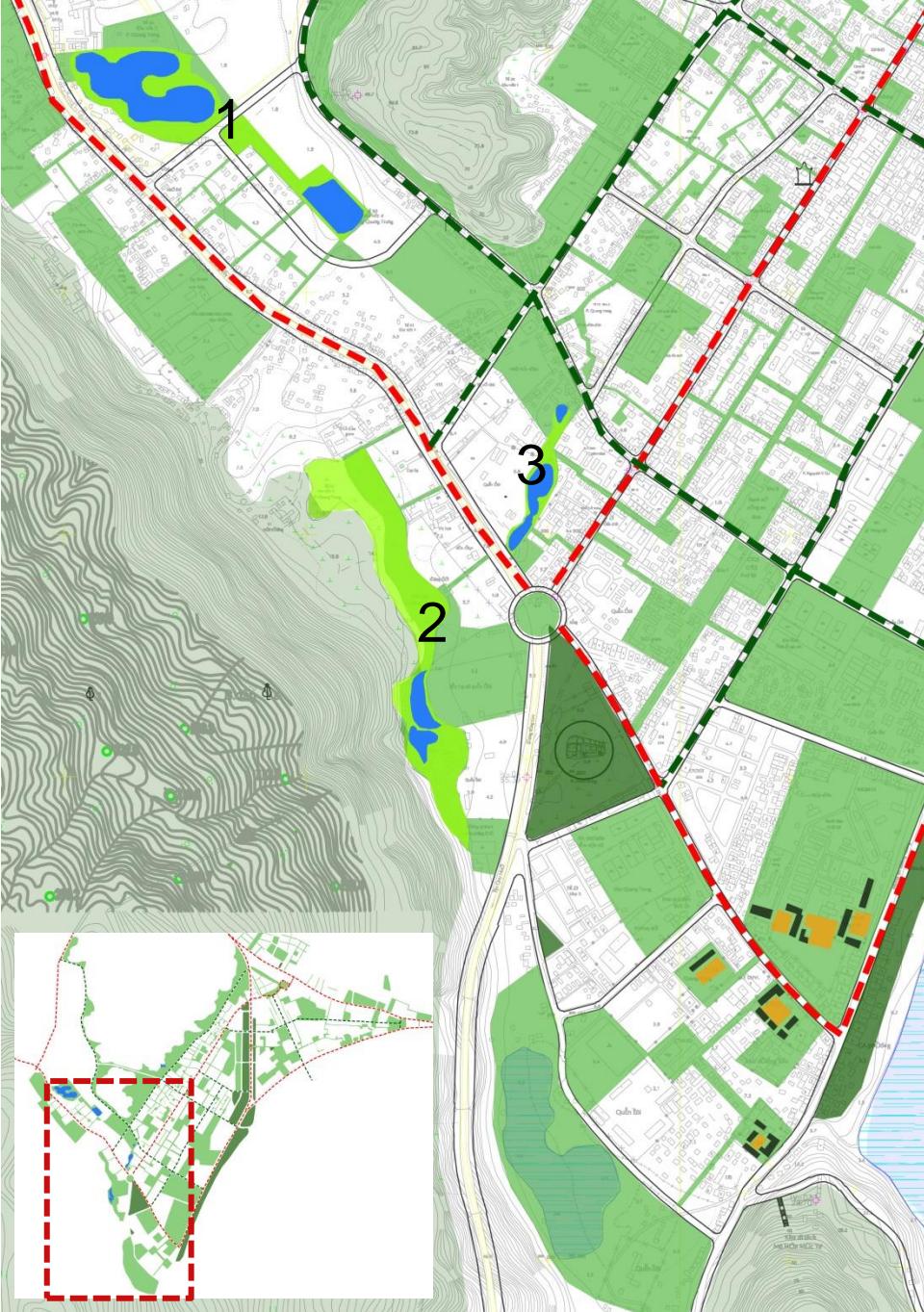
Permeable pavement provides identity to the street as well as improves the urban spatial quality within the neighbourhood





A short and small street that ends in Nguyen Tai Hoc Street

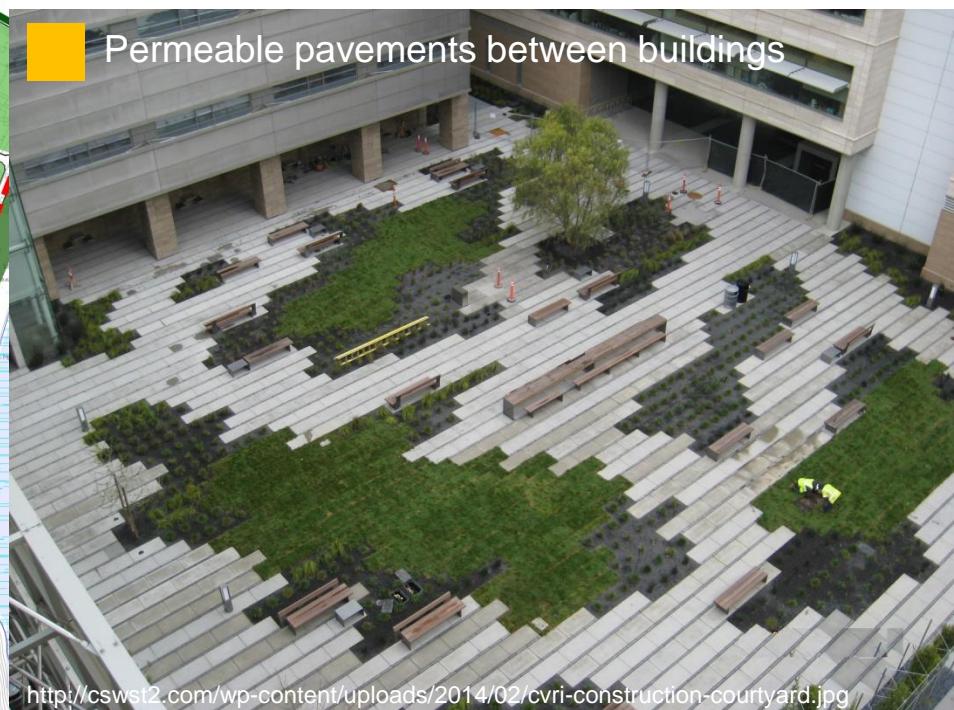


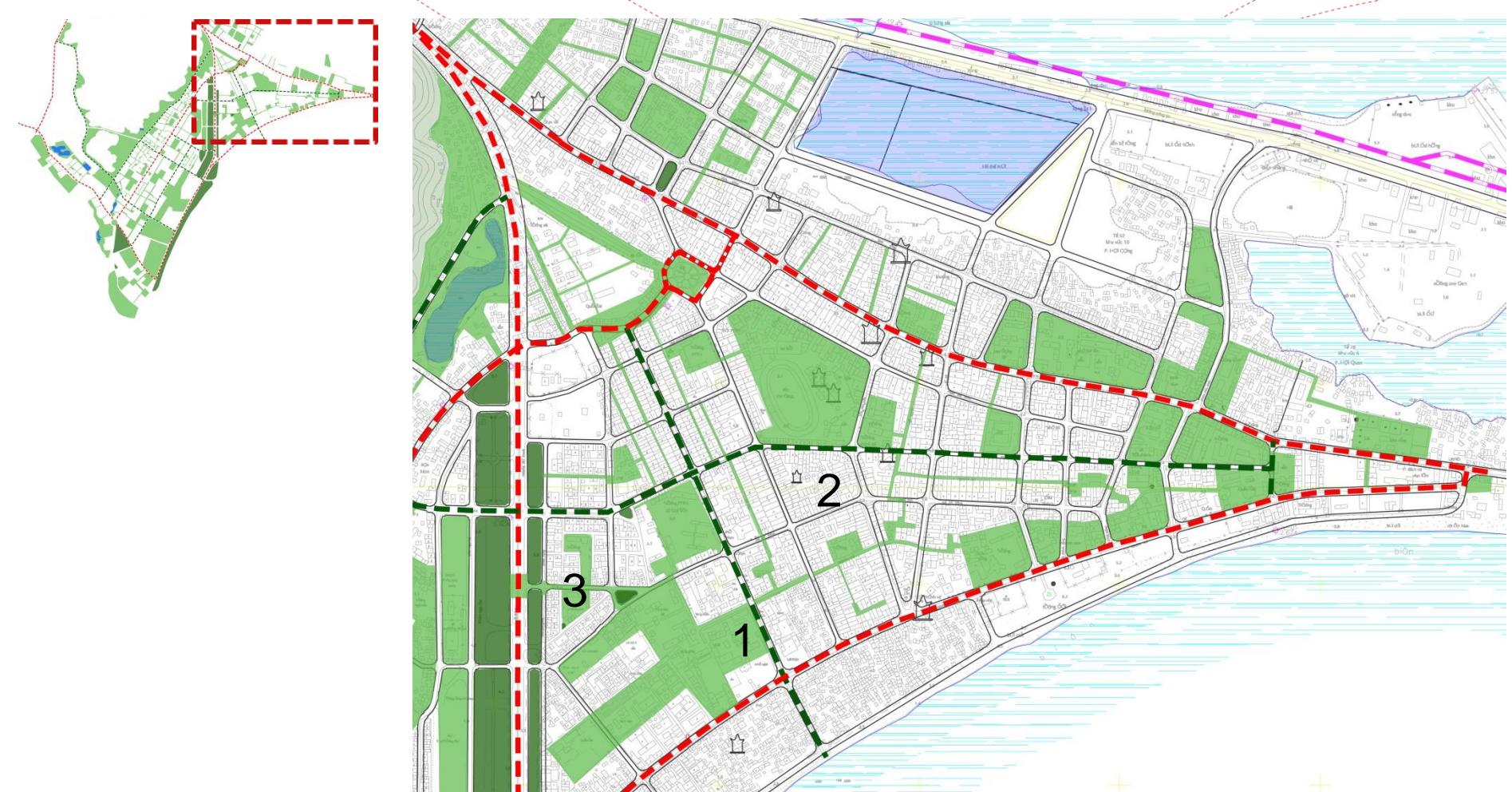


1,2 & 3
New recreational parks for sports, educations and protecting the environments



Permeable pavements between buildings





Some Examples from this Cluster:

1. Tran Phu Street
2. An alley in Hai Ba Trung Street
3. A school in Ha Huy Tap Street



1. Tran Phu Street

Expanded travel islands that
function as bio-swales





2. An alley in Hai Ba Trung Street

Permeable pavement provides identity to the street as well as improves the urban spatial quality within the neighbourhood





3. A school in Ha Huy Tap Street

Educative public
space for children:

- Lines of gravel to convey rain water, including from the surrounding roads
- Collected rain water is discharged to wetlands and lotus/fish pond
- Overflow water can be discharged to a sunken basketball court

Actor-based Best Management Practice (BMP)

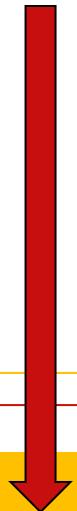
- Define the main urban actors:
i.e. relevant government institutions, private developers, individual property owners, house-owners, and ward community groups
- The actors can manage run-off within their built-environments or areas under their authorities
- The actors are the providers of BMP measures and the facilities they provide can be used for private, communal (semi-private) and/or public purposes

A Possible way of categorization

- I. Governmental offices and public buildings owned by the governments
- II. Facilities owned by the private sectors, co-operatives and community groups
- III. Individual houses

can be grouped together and functionally linked to no 4

- IV. Streets, alleys, open space and parks
[both existing and new development]





A possible way of categorization

I. **Governmental offices and public buildings owned by the governments**

1. Binh Dinh Province Stadium, Quy Nhon
2. Schools in Quy Nhon and Soc Trang
3. Clusters of government offices in Quy Nhon
4. A sport-center in Soc Trang



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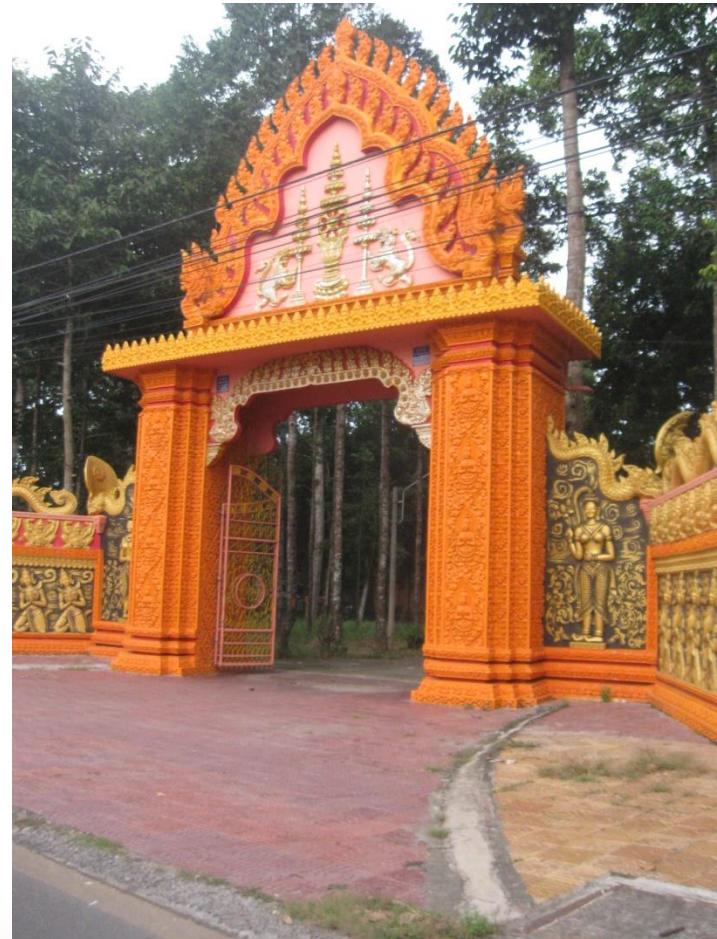
A possible way of categorization

II. Facilities owned by the private sectors, co-operatives and community groups

1. Markets
2. New-developments – residential estates in Soc Trang (private-public ownership)
3. Religious buildings
4. Hotels, shopping malls, big shops, automotive dealers, other commercial functions (private-public ownership)









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A possible way of categorization

III. Individual houses (shop-house or pure residential function)





A possible way of categorization

IV. Streets, alleys, open space and parks

1. Some alleys in Soc Trang
2. Existing open space and canal in Tuy Hoa
3. A boulevard (Le Duan) in Soc Trang
4. A water-front open space in Tuy Hoa



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Group Discussion

(after Q&A for clarifications or general feedback from participants)



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