

Geodetic Institute

Department Landmanagement

Department Measuring system and sensor technology



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Geoinformation as a key Technology for Urban and Wastewater Planning

Semi central Waste Treatment in Hanoi



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University of
Civil Engineering
Hanoi

Hanoi, October 19th, 2009

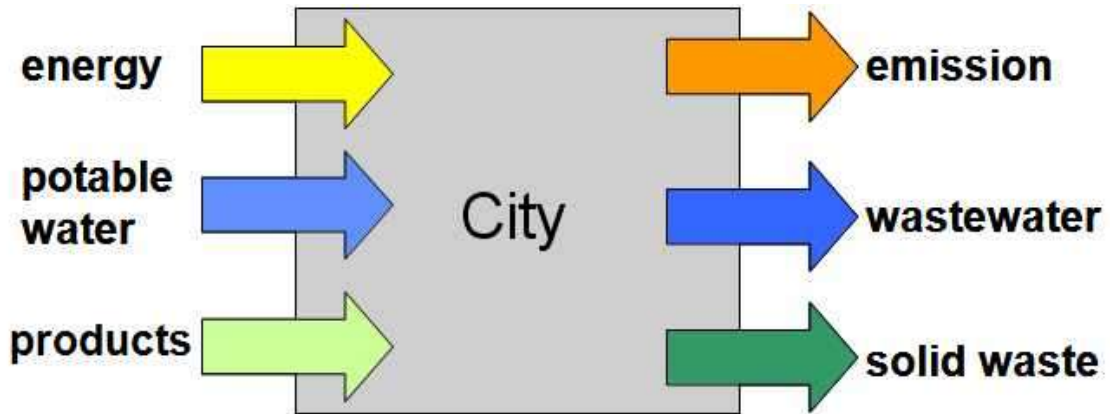
PASSAVANT ROEDIGER

The Multi Service Group. **BILFINGER BERGER**
Umwelttechnik

Challenge



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The semicentral approach



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inflexible



centralized

semicentral

decentralized

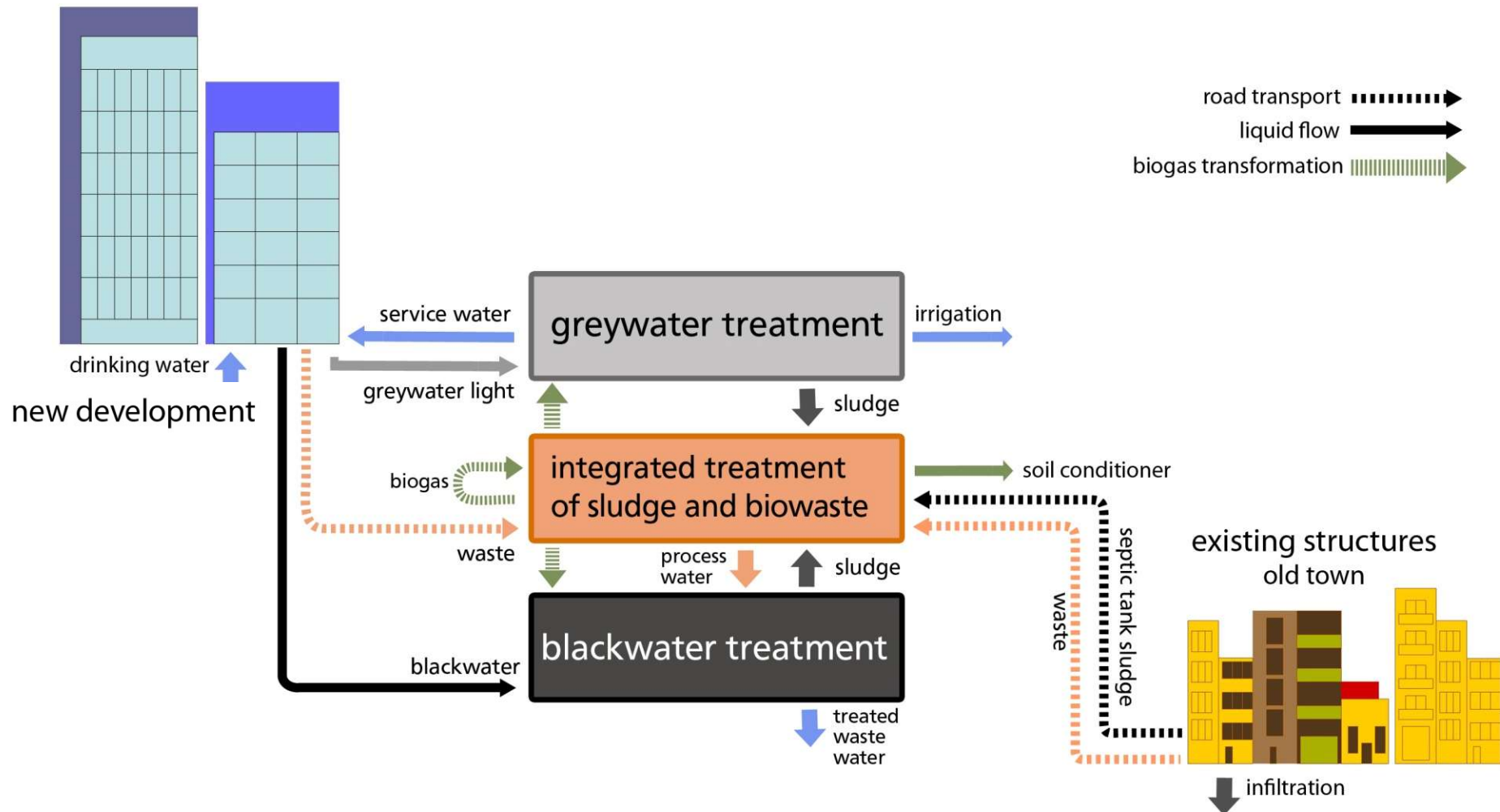


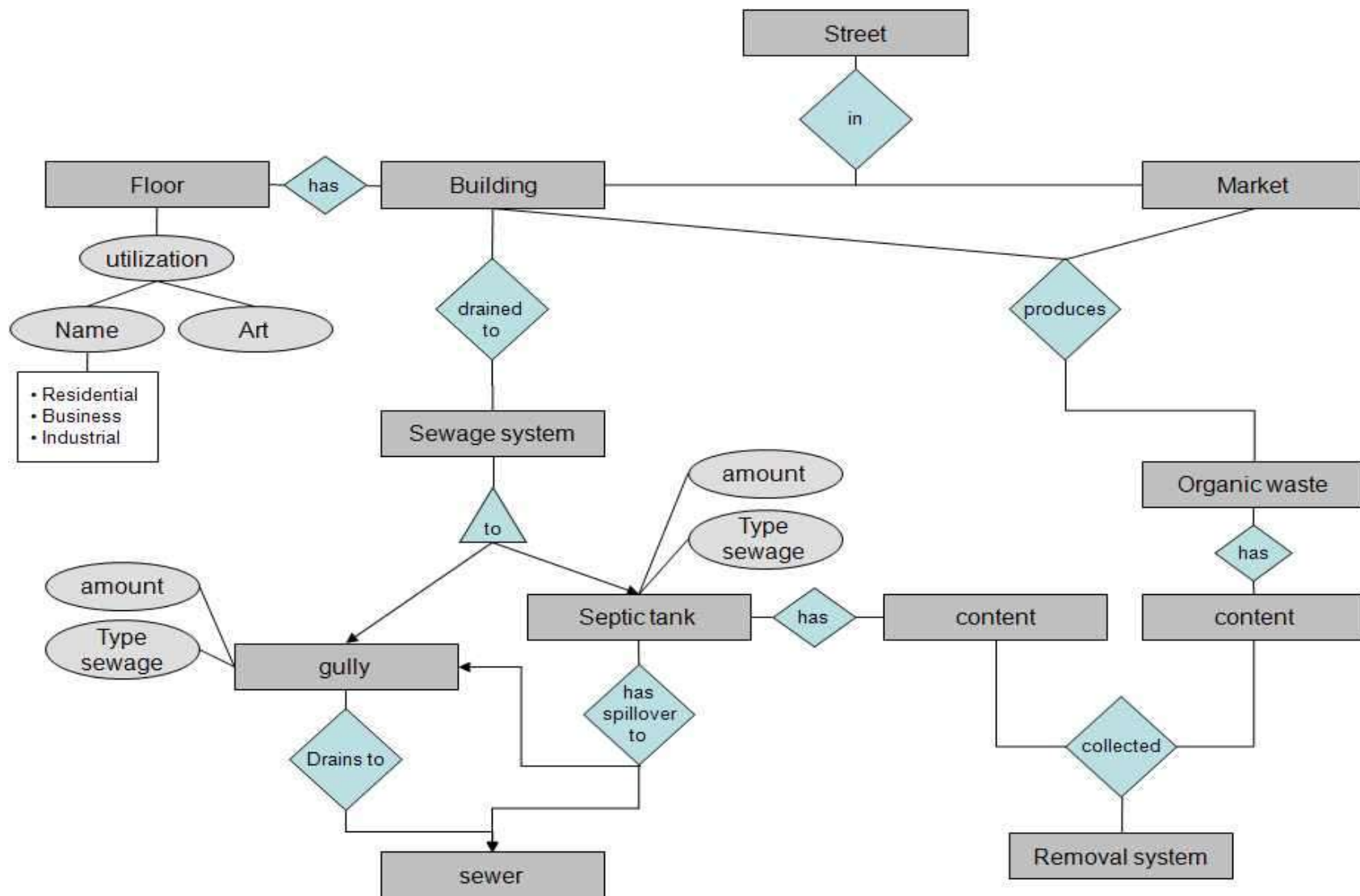
insufficient capacities



A semicentralized concept in Hanoi

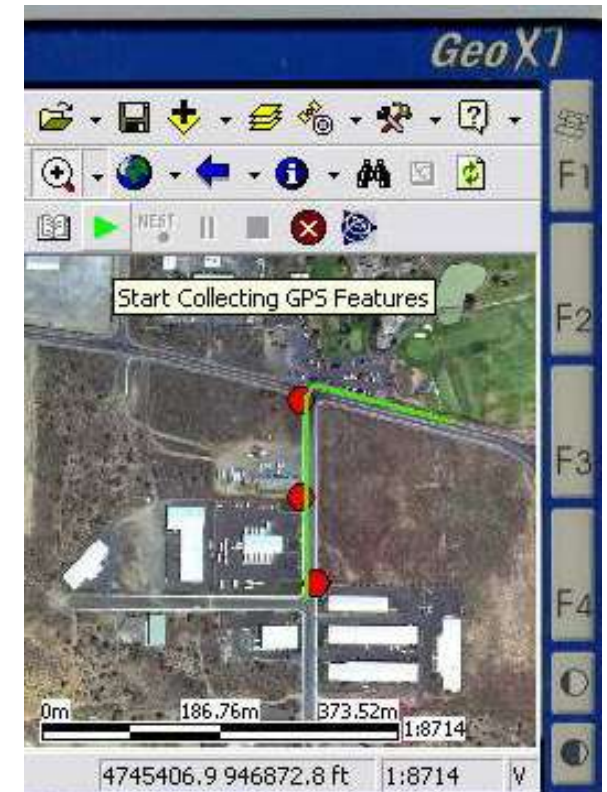
Integration of urban development with existing urban structures





Mobile GIS data capture

- Household interviews
 - Control samples of household sizes
 - Market evaluation
 - Restaurants capture (organic waste)
 - Confirmation of received data
-
- ArcPad
 - Intelliwhere OnDemand



Mobile GIS



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- Trimble GeoXH (GPS)
- Topcon GMS-2Pro (GPS/GLONASS)
- Mettenmeier “Colibri” X6

- + Easy to use (Windows Mobile / CE)
- + Including existing data
- + fast
- + Avoid media discontinuity

- Position not always available
- Software has to be adjusted



Public markets



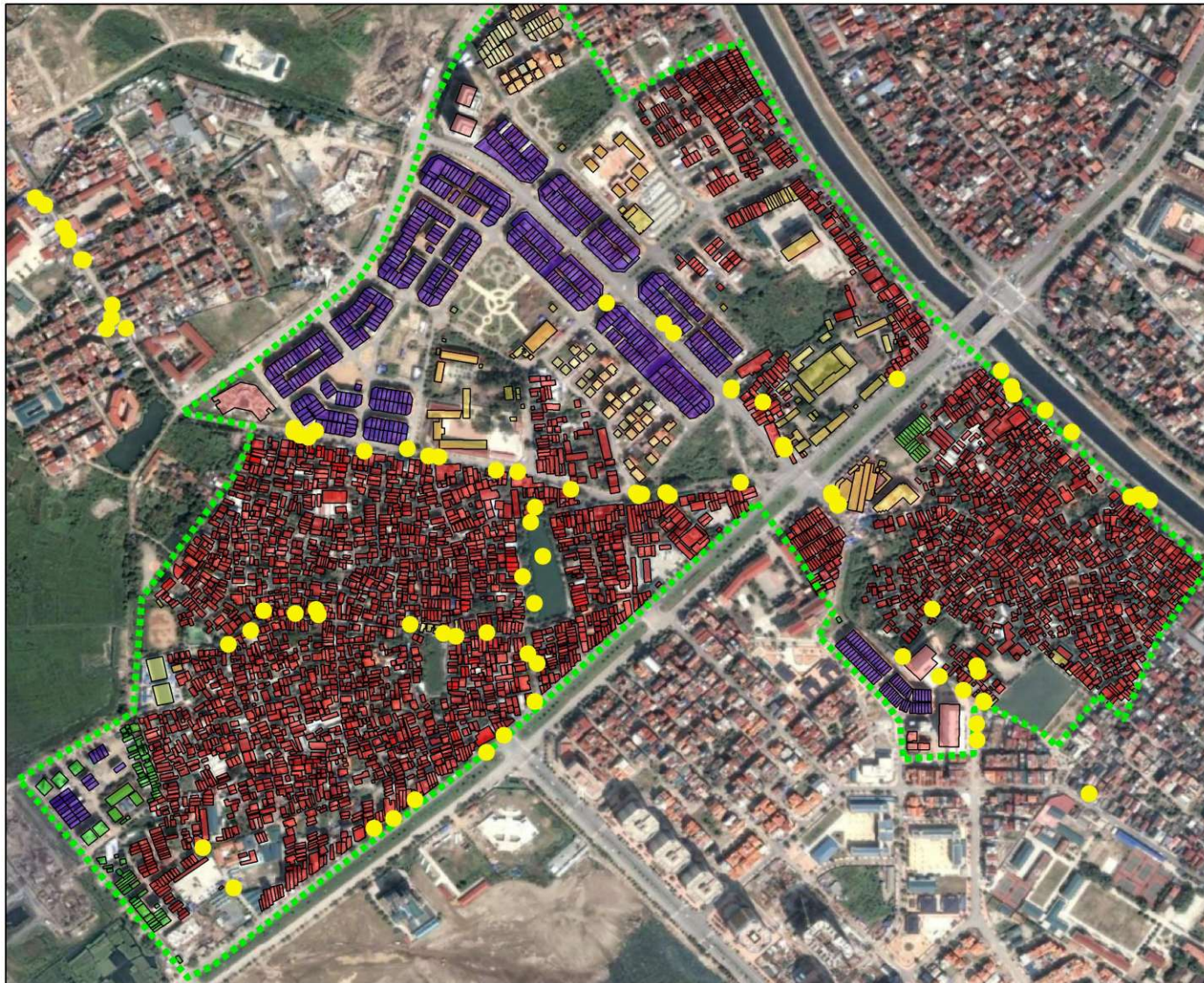
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Restaurant evaluation



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Eigenschaften von Restaurant

Allgemein Attribute

Name	Wert
NAME	Hung
FLOOR	1
AGE	5
FOODS	pho
CUSTOM	20
ID1	18

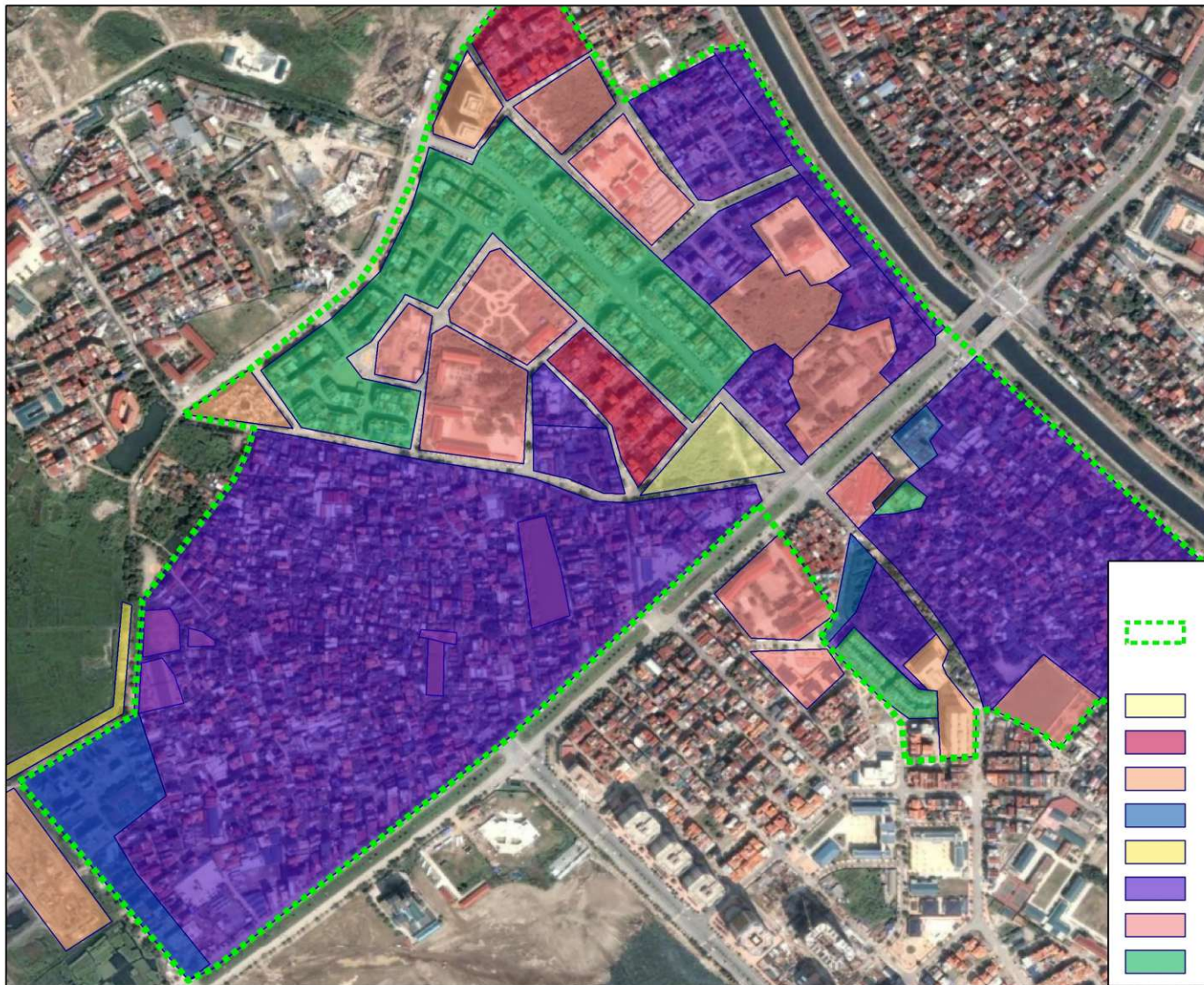
OK Abbrechen



Structure investigation area



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Field work 04/2009

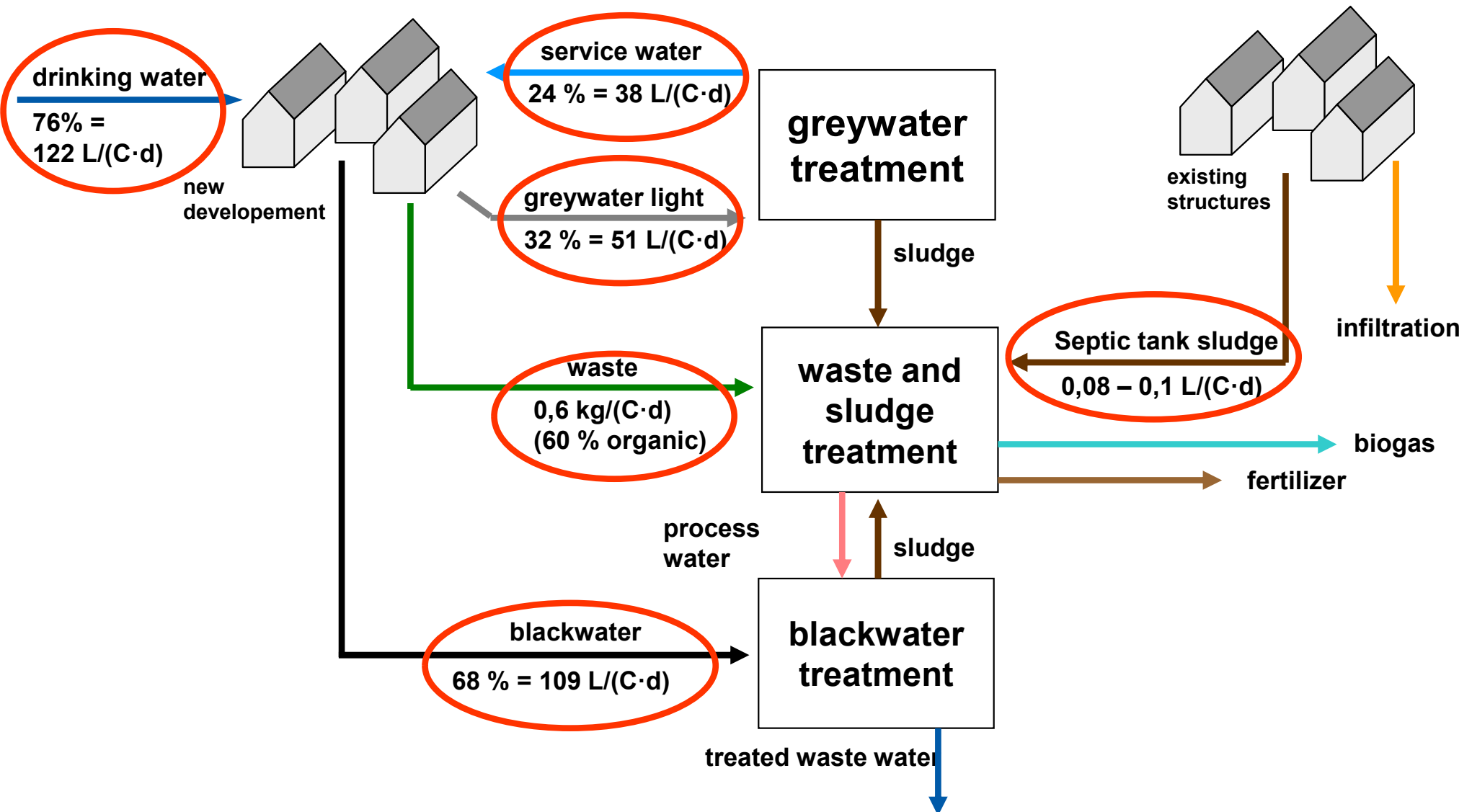
Legend	
	investigation_area
	structure
	building site
	city villa
	high rise
	individual new buildings
	new canal
	old structure
	public building
	row house



Hanoi (water demand 160 L/(C·d))



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GIS supports Urban planning



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- dependency on parameters from planning / pilot plant
- recalculation of patch for septic tank sludge / organic waste
- compare different scenarios
- Analyze the transportation concept
- optimal relation STC, patch, transportation
- Adjustment of concepts after discussion with Vietnamese partners



- Semicentral treatment as an answer for some problems
- Unique data base for all partners
- Analyze different scenarios
-
- facilitate web access to data
- Optimize the transportation concept in conjunction with the laws and restrictions

Cám ơn quý vị đã lắng nghe!



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