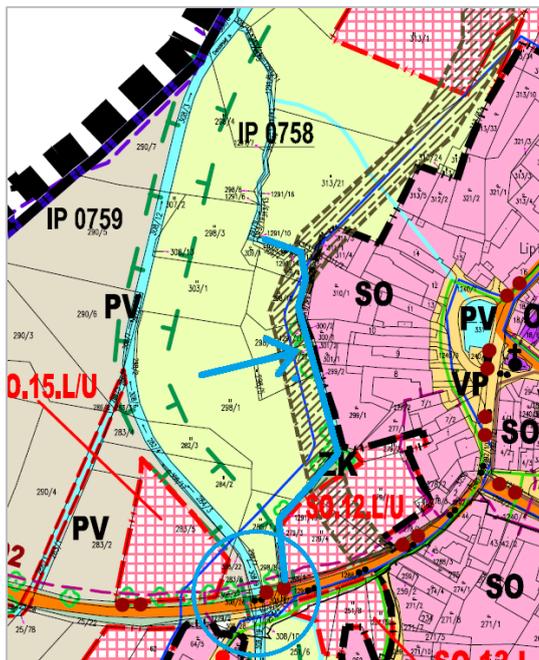


FACTSHEET RISK REDUCTION MEASURES	
Realization of the culvert in the municipality of Lipí (Pilot area Lipí)	
Where was it implemented?	 <p>View of the existing culvert under the bridge Source: Mapy.cz</p>
Village Lipí, District České Budějovice (South Bohemia, Czech Republic)	
Fields of action	
<ul style="list-style-type: none"> Watercourse, farmland, settlement area 	
Related to measure from the catalogue of measures	
<ul style="list-style-type: none"> Linear protection measures (no 42 / R15) Culverts - suitable hydraulic design (no 97) Barrages (no 17 / A07) 	
Area characterisation	
<ul style="list-style-type: none"> Area type: built up area Landscape type: stream bank 	
Problem	
In case of torrential rains from the Dehtářský creek, the existing culvert under the road has not sufficient capacity and clogging and wetting of the land north of the culvert occurs.	
Description and aim	
The need to regulate the Dehtářský brook is mentioned in the spatial plan of the municipality of Lipí, more precisely in the section between the football field and the proposed capacity increase of the culvert on the Dehtářský creek on the road III/14319 on the western edge of the Lipí settlement. The solution is based on the construction of a tubed bypass channel located behind the culvert, because increasing the capacity of the culvert itself would mean building a new bridge including the technical infrastructure. In case of heavy rainfall, the bypass channel helps to partially relocate the excess water, thus relieving the bed of the Dehtářský brook in this section. The bypass channel is again connected to the stream, but at a point where the stream can take larger discharges. In connection with this measure, the bed of the Dehtářský brook was modified and small barrages were built in the section from the culvert to the football field.	
Effect of measure	
A tubed bypass channel was built along the existing culvert, which relieves the bed of the Dehtářský brook at this point from heavy rainfall. The current culvert and respectively the bridge of the road III/14319 could be preserved in its present form.	
Description of implementation	
Effect horizon: long-term	Involved stakeholders: Landowners, road owner
Implementation: before 2014	Initiator / responsible: Village Lipí

Lessons-learned	
<p>Main success factor: Effective communication of interested parties, their awareness and willingness to accept the proposed technical solution.</p>	<p>Main challenge: Develop a technical solution that does not interfere with the construction of the existing bridge (culvert) and agree a solution with the parties concerned.</p>
<p>Synergies / beneficial aspects: Protection of property of adjacent land owners, protection of agricultural land from waterlogging.</p>	<p>Conflicts / Constraints: Ensuring the appropriate dimension and location of the bypass channel, agreement with landowners.</p>
Key message to others starting with a similar task	
<p>The flood protection measures must be designed according to the individual conditions ascertained by the field survey. A suitably selected measure with the correct technical parameters can also mean financial savings.</p>	
Contact	
<p>The Region of South Bohemia, The Section of Territorial Planning www.kraj-jihocesky.cz Contact list: https://www.kraj-jihocesky.cz/ku_tseznam/os?id_os=94</p>	



Cut-out of zoning plan with drawing of drainage pipeline
(source: The Region of South Bohemia, The Section of Territorial Planning)



Bird view
(source: Mapy.cz)



Relief pipe at culvert
(source: The Region of South Bohemia, The Section of Territorial Planning)



Culvert on the road III/14319
(source: The Region of South Bohemia, The Section of Territorial Planning)



Southward view from the culvert
(source: The Region of South Bohemia, The Section of Territorial Planning)



View from the culvert in the direction of the Dehtářský stream, in the north direction
(source: The Region of South Bohemia, The Section of Territorial Planning)



Bed of the Dehtářský stream, the relief pipe is located on the right
(source: The Region of South Bohemia, The Section of Territorial Planning)