LafargeHolcim

BAFWAC

Water Management and Flood Prevention in France

a LafargeHolcim France case study

Company details

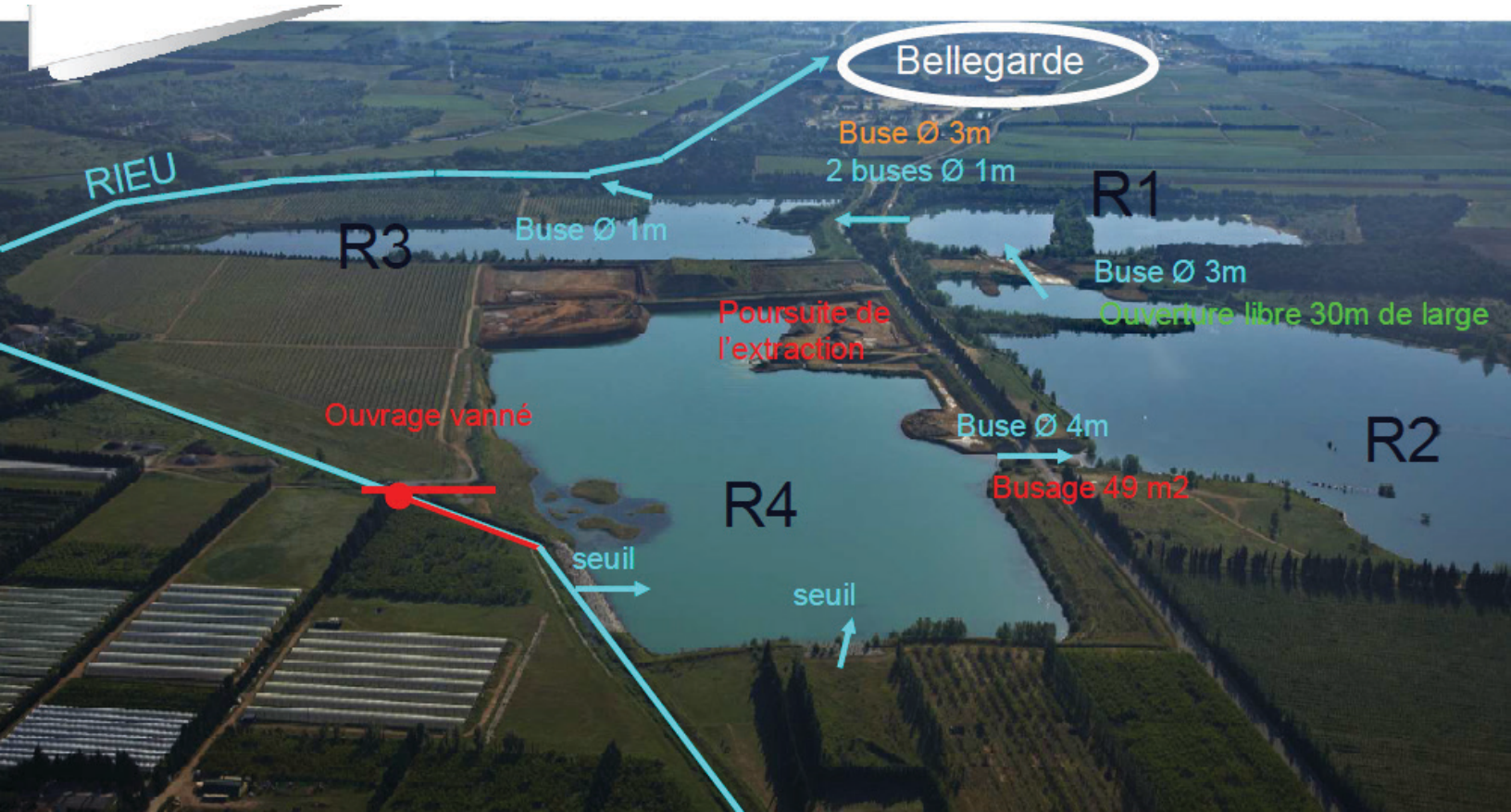
LafargeHolcim (The Group), a world leader of building materials, operates in 64 countries. Operations in France include more than 450 production sites and 5,200 employees. The Group's three primary activities are cement production, concrete production, and extraction of aggregates to supply the building and public work markets, which include housing, road, railways, and related infrastructure.

Summary of action

Annual flooding is commonplace in some parts of the world, including where the company operates. Over the last 17 years to address this issue, LafargeHolcim has worked with the local municipality of Bellegarde in the south of France to expand the flood prevention infrastructure through quarry rehabilitation and management programs and created wetlands that have been fully operational since 2015.

Program rationale

The overflow of Rieu exposes the municipality of Bellegarde (population of 6200 people) to the risk of flooding. Over the years, LafargeHolcim has gained experience managing changes in river flow dynamics by designing quarry



rehabilitation and managing operations to mitigate flood risks. This particular project was driven by regulatory requirements and community demand.

Program approach

The project required partnership with the local municipality and regulatory bodies to satisfy both security and environmental objectives. The project was developed taking into account the following issues: landscape, hydrogeology and hydrology, natural areas, and transport of extracted materials.

The extracted quarry areas were converted into stormwater reservoirs with a capacity of 2.5 million cubic meters, reducing the risk of flooding to the local communities. In addition to the constructed wetlands, the completed system includes automated flood control gates, piping, and channels. When the level of the waterway rises, the system releases water, in a controlled manner, from the river into the basins. The rehabilitation included the creation of shoreline areas and gently sloped riverbanks with varied contours, which offer diverse natural habitats (for example, ponds, resting places, and small islands) that are favorable to many species. The ecosystems created in the Bellegarde reservoirs are mostly wetlands that provide regulation services, such as water purification.

Lessons learned

Converting a quarry into water retention basins is a relatively simple solution for flood control, and this system has proven to be very effective in preventing flooding. However, data must be reviewed carefully to avoid overestimations.

This project is applicable for most quarries located near a river or water basin provided there is access to sufficient land and area for storage created through

Results & Benefits

1. **Flood protection** for the local communities—a potential savings of millions of euros in flood damage costs

2. The creation of **wetland** areas to increase **biodiversity**

3. The creation of a **recreational area** for the local community

quarrying activities. In designing this type of system, it is important to ascertain the needs of the natural environment and local communities.

Working in partnership with local authorities and community stakeholders has made the project a success for all involved.

What next?

Next, LafargeHolcim France plans to look for similar opportunities at other sites.

Source:

http://www.naturalinfrastructureforbusiness.org/wp-content/uploads/2015/11/LafargeHolcim_NI4BizCaseStudy_WaterManagementFloodPrevention.pdf

BAFWAC

BAFWAC was jointly launched by CDP, CEO Water Mandate, SUEZ, and World Business Council for Sustainable Development (WBCSD) in December 2015. The initiative commits companies to analyze and report water-and-climate-related risks and impacts, and to implement collaborative response strategies along the value chain.

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