



WATER REVITALIZATION IN UMM EL-JIMAL

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Team CamelBack



Photo courtesy of Cameron Carley

From left to right: Noah Szott, Sarah Bradley,
Jason Eisenhart, & Ross Vander Meulen

Recap

Research

Alternatives

Conclusion

Problem Summary



Photo courtesy of [researchgate.net](https://www.researchgate.net)

Recap

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Objective

- Revitalization of Roman Era reservoirs
- Treatment of water collected in reservoirs
- Preservation of Umm el-Jimal archeology



Photo courtesy of Bert de Vries

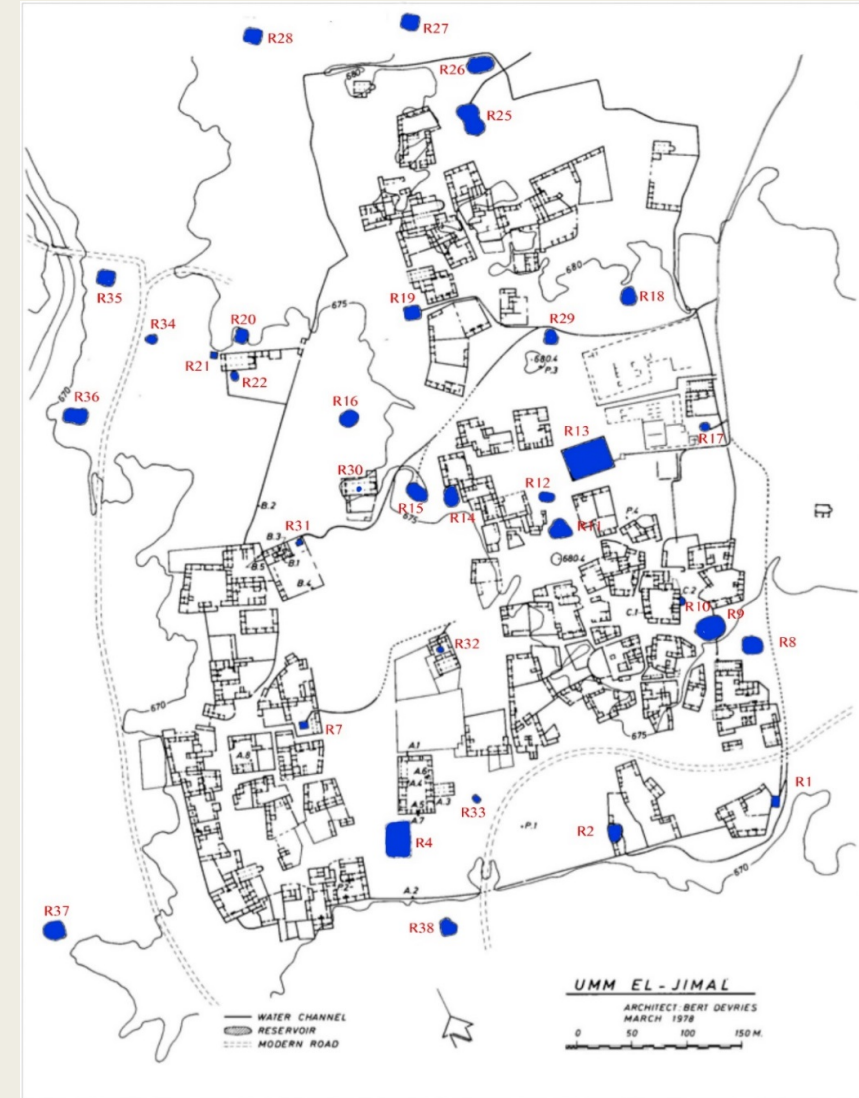


Photo courtesy of Bert de Vries

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Water Transmission

- Archaeological Impact Assessment
- Character Defining Elements
- Modern Integration By Community



Photo courtesy of Umm el-Jimal Project

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Water Quality

- Water quality within 50 miles of Umm el-Jimal
- Water quality standards for drinking water
- Water treatment options



Photo courtesy of WHO

Recap

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Storage

- Pre-treatment
- Post-treatment
- Distribution to people
- Location

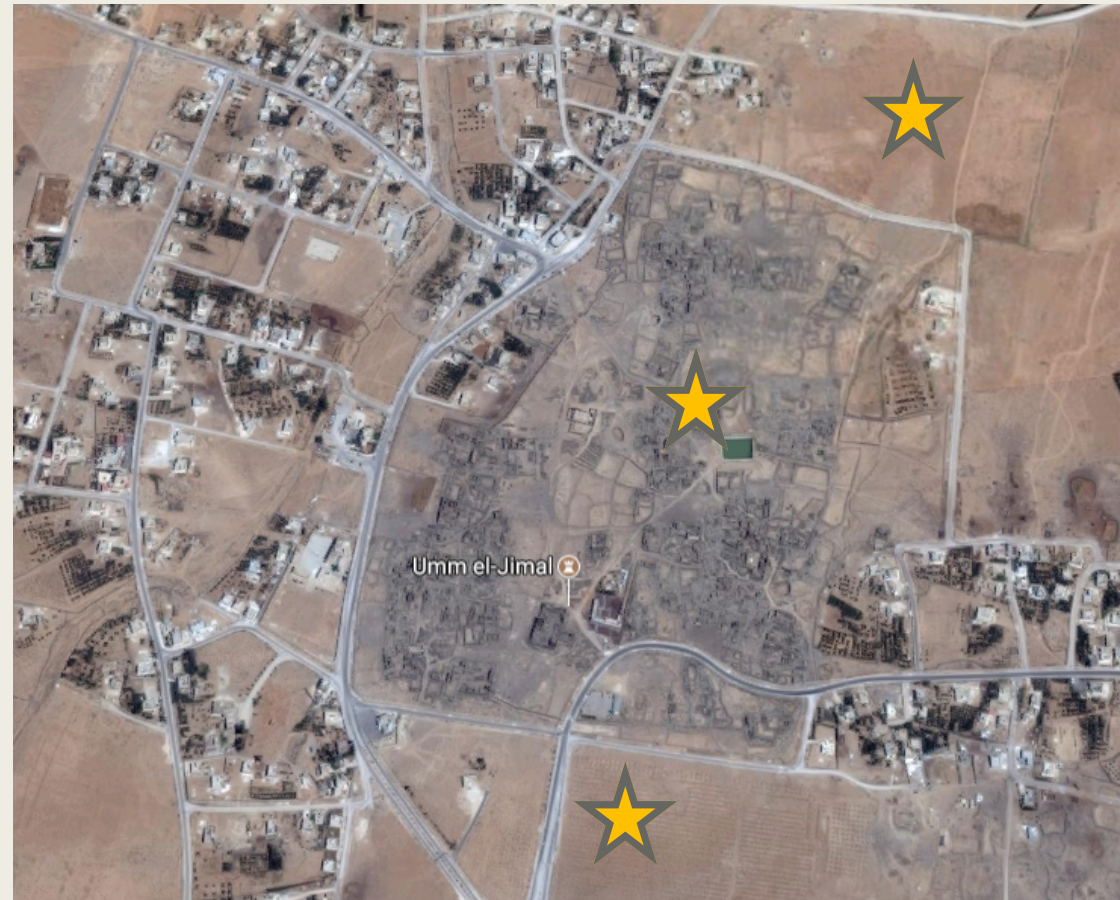


Photo courtesy of Google Maps

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Transmission

- Buried Pipe
- Above Ground Pipe
- Open Channel Flow



Photo courtesy of Wikipedia

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Treatment

- Sedimentation
- Filtration
- Sorption
- Disinfection

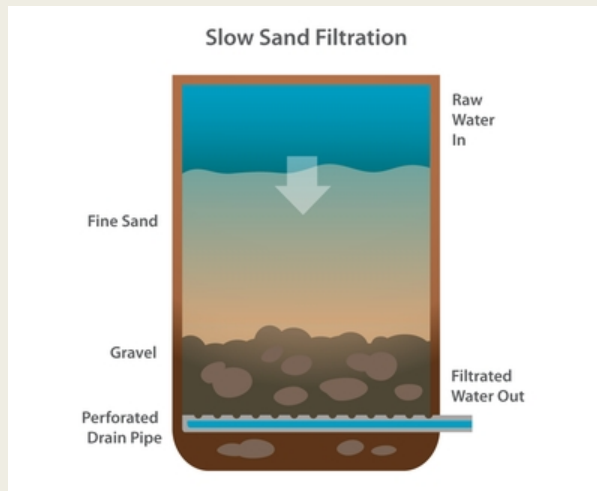


Photo courtesy of Koshland Science Museum



Photo courtesy of Umm el-Jimal Project

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Obstacles

- Lack of water demand data
- Lack of water quality data
- Preservation of archeology
- No knowledge of Jordanian culture
- Arising communication issues
- Defining the scope



Photo courtesy of [Archaeological Institute of America](#)

Recap

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Christian Faith Influence

“Unite the gift of a higher education with the heart of Christ to meet one of the world’s most basic needs” – Clean Water Institute



Photo courtesy of [Clean Water Institute](#)

Recap

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Progress Report

- Research Completed...
 - *Historical preservation design criteria*
 - *Water quality data from nearby areas*
- Researching...
 - *Water treatment options*
- Still waiting for...
 - *Water Demand Survey data*
 - *Water Quality Testing results*
- Evaluating alternatives

Questions



Photo courtesy of Bert de Vries