



# UNTAPPED WATER + US/MEXICO BORDER FENCE

WHAT DOES THE FENCE HAVE TO DO WITH ARCHITECTURE?

The US/Mexico border fence is often seen at best as an issue of national security, and at its worst, an empty tool for political leverage. Regardless of my own opinions on the effectiveness of the wall or its reasons for being, I feel that its design and methods for construction suffer from a limited, possibly erroneous set of objectives, and in turn harm the *border culture, ecological systems*, and in turn, a broader dipomatic climate of *cooperation* and *mutual understanding* between our two nations.

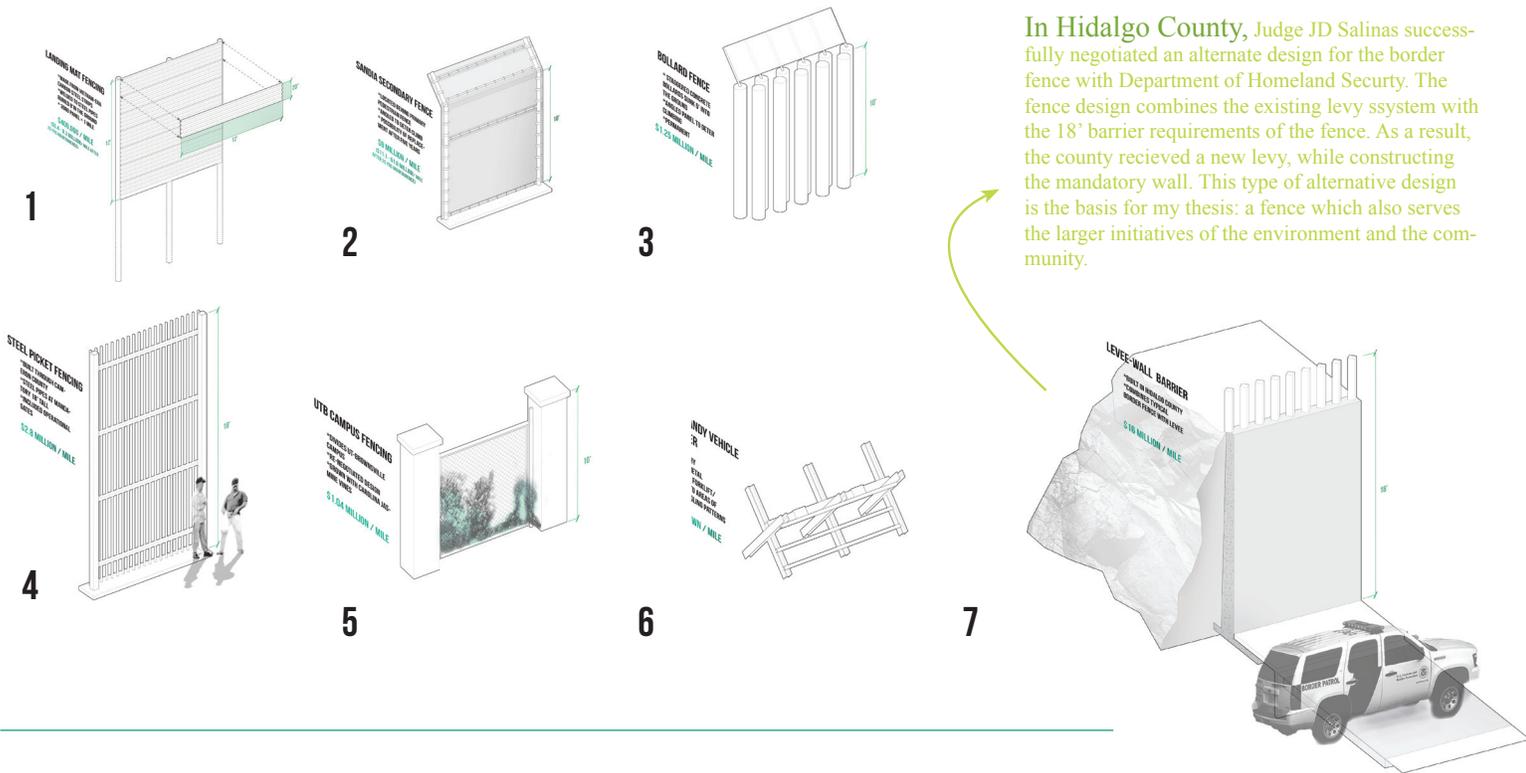
As architecture students, we are taught to design holistically, balancing a myriad of factors in order to produce a *contextually responsive* object. Among these factors are climate, environment, occupancy, use of materials, cost, and meaning or experience. I believe the construction of the wall brazenly ignores all of these things, in spite of its profound effect on them. The wall may not be an occupiable building, but its physical presence shapes the experience of thousands of people everyday.

Constructed (particularly militarized) international boundaries inherit a set of salient *symbolic meanings* much larger than their physical existence. The US/Mexico border fence, the Berlin wall, the Great Wall of China, the border between Israel and Palestine; these are all examples of how physical borders define national relationships and how people from adjoining countries define each other.

Ultimately my aim with this project is to demonstrate how the fence can respond to the environment and the set of cultures it divides while satisfying its stated objectives of security. The US/Mexico border is over 2,000 miles long; a one-fence-fits-all mentality has proven disastrous on a number of levels. As for now, I seek improvement mainly through the lens of *water management* and *integration* with existing infrastructure, but redesign can also originate from the wall's broader environmental and human tolls as well.

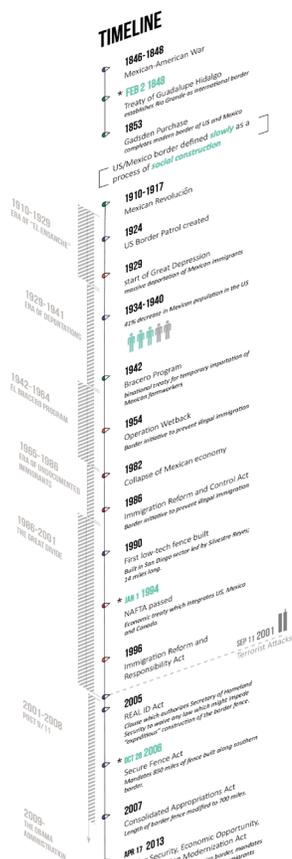
**WATER** *wo • ter*  
: issues related to shortage, contamination, and flood on the US/Mexico border region. overall health of regional water ecosystem and public accessibility to clean, potable, water.

**FENCE** *fens*  
: militarized barrier built by US Department of Homeland Security (DHS) along the southern border under the 2006 Secure Fence Act.



In Hidalgo County, Judge JD Salinas successfully negotiated an alternate design for the border fence with Department of Homeland Security. The fence design combines the existing levy system with the 18' barrier requirements of the fence. As a result, the county received a new levy, while constructing the mandatory wall. This type of alternative design is the basis for my thesis: a fence which also serves the larger initiatives of the environment and the community.

## WHAT IS THE FENCE?

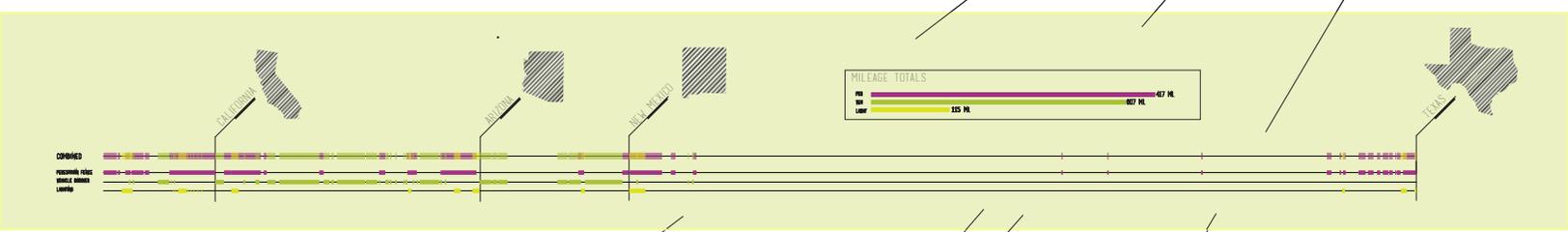
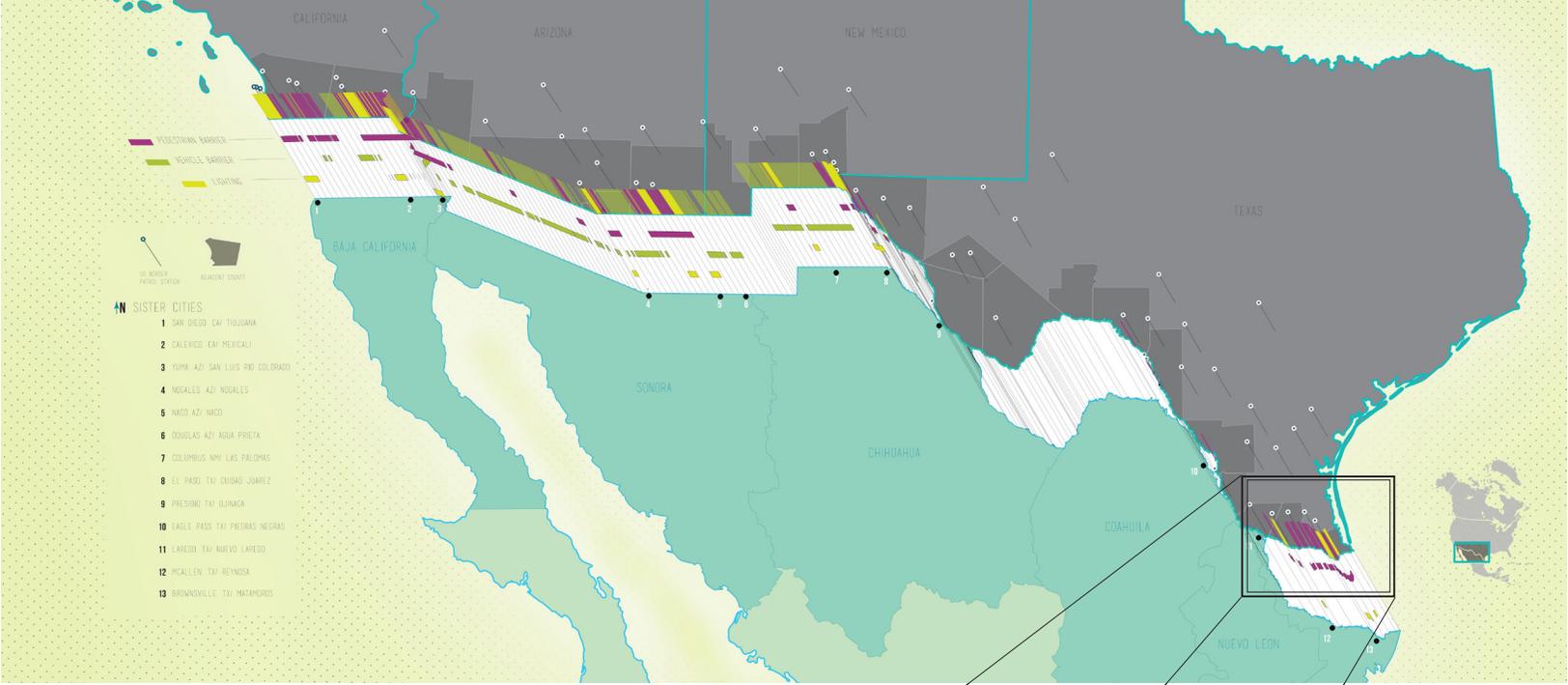


Although militarized barriers have been erected along the border as early as 1990, the border fence as we know it today wasn't officially mandated until 2006 under the Secure Fence Act signed by former President Bush. Originally slated to run 850 miles of the 2,000 mile southern border, this figure was later modified to 700 miles under the Consolidated Appropriations Act in 2007. The wall's stated objectives are one's of security against illegal immigration, drug smuggling, and international terrorism.

Contrary to popular belief, the wall is a discontinuous patchwork of fence typologies of various scale, materiality, cost, and function. Functionally, the fence is divided into two general typologies: vehicle and pedestrian fencing. Pedestrian fencing is often 10' -18' high, and deters pedestrians from walking into the US by foot. Vehicle barriers simply prevent drivers from crossing the border, although these two typologies are sometimes combined along various stretches of the border.

Most notably, construction of the border fence is granted special legislative circumvention as a result of the REAL ID Act, passed in 2005. In a distinctly post-9/11 fashion, this little-known piece of legislation authorizes the Secretary of Homeland Security to waive any law which might impede "expeditious" construction of the wall. By way of this clause, then Secretary of Homeland Security Michael Chertoff waived over 35 laws, mostly environmental, including: The National Environmental Policy Act (NEPA), the Endangered Species Act, the Clean Air Act, the Safe Drinking Water Act, the Endangered Species Act, Federal Pollution Control Act...

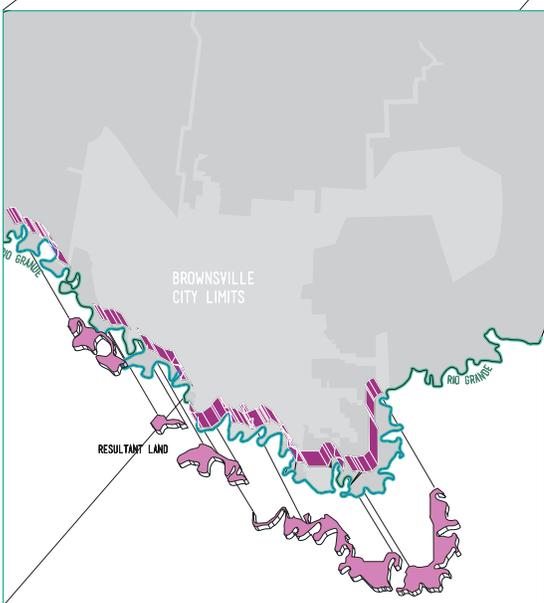
*While in most cases, no wall is better than a barrier at all, this project is also premised on the idea that the wall will get built no matter what. Legislative authority has superseded protest.*



## WHERE IS THE FENCE?

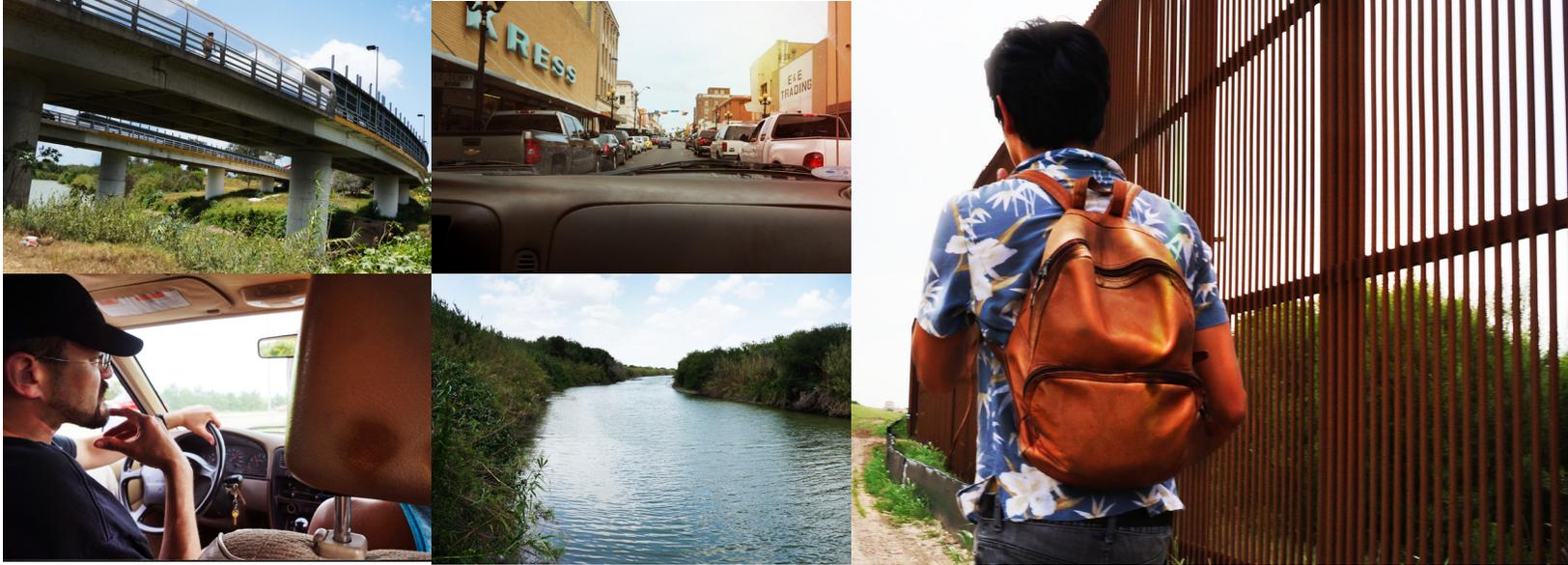
As of May 2013, approximately 700 miles of border fence have been completed in their various forms. The majority of constructed fence is located along the southern borders of California, Arizona, and New Mexico. Most of the Texas border is currently without a wall, although Texas and Mexico are naturally separated by the Rio Grande.

Due to the extreme curvature of the Rio Grande, and its fluctuating position, the fence is constructed as far as 2 miles from the actual designated border. As a result, large swathes of land become stranded in this ambiguous zone. Planned gaps in the construction of the fence correspond statistically to wealthier, higher educated and english-speaking communities<sup>1</sup>.



**BROWNSVILLE**

<sup>1</sup> Wilson, Dr. Jeff, Dr. Jude Benavides, Prof. Karen Engle, and Denise Gilman. "Border Wall Research." Border Wall Research.

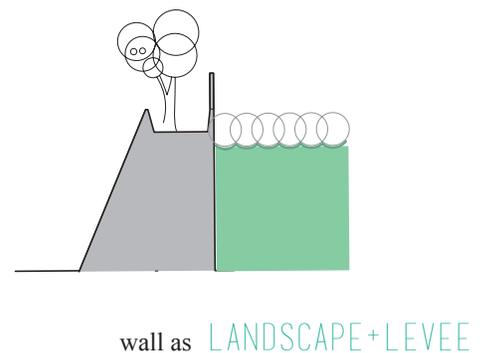
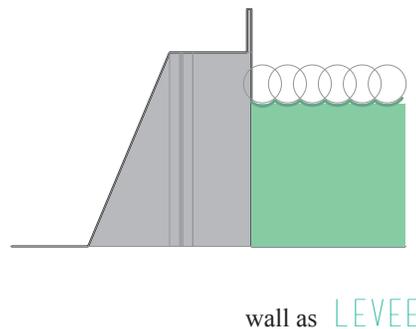
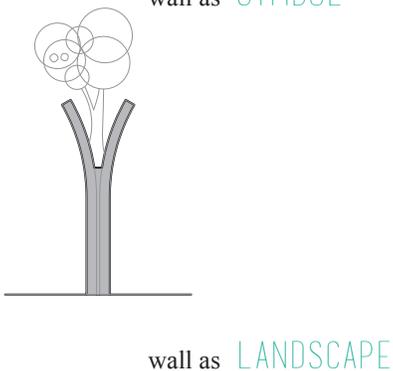
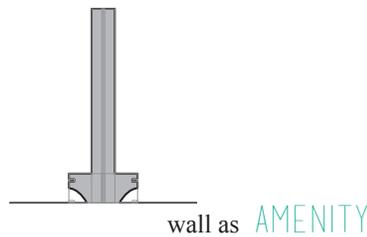
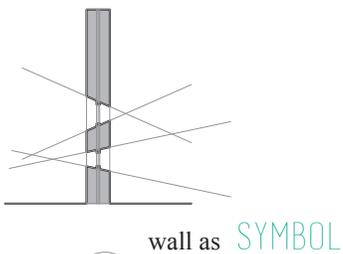


## WHAT HAVE I DONE SO FAR?

Thanks to CMU's Summer Undergraduate Research Fellowship, I've already completed a summer's worth of general research on the subject of the US/Mexico border, immigration, and bi-national water policy. My research is based primarily on five-weeks spent in central and south Texas, during which I filmed interviews with academics, travelled to the border region, and spoke with members of the border community, both within and outside of policy.

## WHERE IS THIS ALL GOING?

I hope to continue developing my initial design ideas for the border fence as they relate to issues of *shortage*, *contamination*, and *flood*. My focus as of now is on the ecological impacts of the fence, although alternatives should also address the cultural controversy to which this issues obviously extends. Can the border become a collaborative zone, rather than a divisive one? In what ways would that idea manifest itself architecturally? These are the questions I hope to answer at the conclusion of this year.



# FILMED REFERENCES



BEATRIZ DE LA GARZA AUTHOR



DR. JEFF WILSON PROFESSOR OF ENVIRONMENTAL STUDIES, DEAN AT HOUSTON TILLOTSON UNIVERSITY



MICHAEL LYTLE FORENSIC INVESTIGATION COORDINATOR, CRIMINAL JUSTICE, UT BROWNSVILLE



JOSHUA GREENE GRADUATE STUDENT OF POLICY AT AUSTIN, FORMER JOURNALIST



DR. WILLIAM DOOLITTLE PROFESSOR OF GEOGRAPHY AND THE ENVIRONMENT, UT AUSTIN

## ADDITIONAL REFERENCES

- PLINY FISK, III, COFOUNDER OF CMPBS
- DR. DAVID EATON, PROFESSOR OF NATURAL RESOURCE POLICY STUDIES, UT AUSTIN
- KAT LIEBERKNECHT, ASSOCIATE PROFESSOR OF ARCHITECTURE, UT AUSTIN
- DR. LES SHEPHARD, PROFESSOR, DEPARTMENT OF CIVIL ENGINEERING, UT SAN ANTONIO
- DR. JUDE BENAVIDES, PROFESSOR OF HYDROLOGY AND WATER RESOURCES
- AGENT DANIEL TIRADO, OFFICER AT RIO GRANDE SECTOR OF BORDER PATROL
- DR. VIVIENNE BENNETT, AUTHOR, PROFESSOR OF BORDER STUDIES, CSUSM
- PAT AHUMADA, FORMER MAYOR OF BROWNSVILLE

## BIBLIOGRAPHY

Massey, Douglas S., Jorge Durand, and Nolan J. Malone. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation, 2002. Print.

Maril, Robert Lee. *The Fence: National Security, Public Safety, and Illegal Immigration along the U.S.-Mexico Border*. Lubbock, TX: Texas Tech UP, 2011. Print.

Adams, John A. *Bordering the Future: The Impact of Mexico on the United States*. Westport, CT: Praeger, 2006. Print.

“Borderwall as Architecture” Borderwall as Architecture. Web. 07 Feb. 2013.

Herzog, Lawrence A. *From Aztec to High Tech: Architecture and Landscape across the Mexico-United States Border*. Baltimore, MD: Johns Hopkins UP, 1999. Print.

Martínez, Oscar J. *Border Boom Town: Ciudad Juárez since 1848*. Austin: University of Texas, 1978. Print.

Martínez, Oscar J. *Border People: Life and Society in the U.S.-Mexico Borderlands*. Tucson: University of Arizona, 1994. Print.

Romero, Fernando. *Hyperborder: The Contemporary U.S.-Mexico Border and Its Future*. New York: Princeton Architectural, 2008. Print.

Bennett, Vivienne. *The Politics of Water: Urban Protest, Gender, and Power in Monterrey, Mexico*. Pittsburgh: University of Pittsburgh, 1995. Print.

Wilson, Dr. Jeff, Dr. Jude Benavides, Prof. Karen Engle, and Denise Gilman. “Border Wall Research.” *Border Wall Research*. N.p., n.d. Web. 21 Aug. 2013. <<http://www.utb.edu/vpaa/csmt/chemenv/Pages/BorderWall-Research.aspx>>.

Stoll, Katrina, Scott Lloyd, and Stan Allen. *Infrastructure as Architecture: Designing Composite Networks*. Berlin: Jovis, 2010. Print.

Lohrer, Axel. *Designing with Water*. Basel: Birkhäuser, 2008. Print.

Malloy, Richard. *Design with the Desert: Conservation and Sustainable Development*.

FOR MORE COMPLETE DOCUMENTATION, VISIT [CARGOCOLLECTIVE.COM/UNTAPPED](http://CARGOCOLLECTIVE.COM/UNTAPPED)