

LA606 Aqueduct II 2014

1. PRINCIPAL INVESTIGATORS:

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2. INTRODUCTION:

At 100 years old, the Owens River aka Los Angeles Aqueduct (LAA) system is a unique asset for the City of Los Angeles with a right-of-way that is underutilized and underappreciated. The Los Angeles Aqueduct is deeply embedded in the cultural identity of Angelenos, with a reciprocal identity embraced by residents of the Owens Valley. Our identities (Los Angeles and Owens Valley residents) are based on the shared legacy of mining, agriculture, frontier justice, and notorious real estate development schemes. The Eastern California region has evolved from a primary extraction economy (mining & agriculture) into a commensal, if not mutualistic, recreation based economy utilizing the unintended infrastructural legacy open space preserved in the Owens Valley.

2.1 The Aqueduct Futures Project

The mission of the Aqueduct Futures Project is to be the catalyst to transform the 20th century Aqueduct system into a 21st century multifunctional, sustainable, and resilient water supply for Los Angeles. Fostering the public discourse about water and infrastructure are the secondary goals of the project, as this transformation requires substantial public engagement and outreach. Revitalizing the Aqueduct will be a multi-year planning and implementation effort that can generate significant economic, environmental, and cultural benefits for the City, the LADWP, and the residents of Southern and Eastern California.

'Giving back' is a metaphorical platform – the Aqueduct Futures project is not advocating for the City to stop transferring water out of the Lohanton Basin. Instead we mean to give back by addressing the social and environmental justice legacy; for trying to find ways to balance the needs for water at both ends of the pipe; to use 21st century green infrastructure practices to improve what is essentially a 19th century system; to find means for the public to visit the Aqueduct and gain an understanding of the importance of water in arid Southern California.

2.2 Los Angeles Aqueduct 606 Part I

This year's 606 Aqueduct II project is exploring territory not covered by last year's 606 Watershed Wranglers Aqueduct project by Tiernan Doyle, Eric Haley, James Powell, and Devon Santy who created a planning framework for the Owens River and Mono Lake

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watersheds that feed the Aqueduct. Both 606 projects are intended to engage a larger civic dialog redefining the City of Los Angeles' relationship to their extra-urban property holdings in Owens River Aqueduct system that equals the area within the city limits, but the projects (part I and part II) are intended to be different in both scope and deliverables.

LAA2 team will benefit from the extensive research and documentation of the LAA system by earlier efforts of the Aqueduct Futures Project. Data available includes GIS files, historic maps, aggregated aqueduct flow data, tourism and economic data, results from earlier outreach efforts, established contacts with the stakeholders, and the expertise of Prof. Lehrman regarding the Aqueduct system. The quantity of available data is overwhelming, but the time saved from not having to search for the relevant documents can therefore be spent reviewing and analyzing them, and seeking missing resources.

3. PROJECT STATEMENT:

The Aqueduct Futures team aims to further develop the depth of our outreach, research, analysis, visioning, and policy recommendations with the 606 LA Aqueduct II project (LAA2). This project is to create a multifunctional vision plan for the 100-year-old right-of-way and adjacent landscapes along the Owens River aka Los Angeles Aqueduct (completed in 1913) and Second Los Angeles Aqueduct (completed in 1970) between the Owens Valley and Sylmar. LAA2 will examine the study area as a landscape that is perceived as filling two primary functions, water transport and recreation. As such, this landscape's performance needs to be measured according to the engagement of the water delivery infrastructure, economic benefits of tourism, along with cultural relevance and mitigating (or at least minimizing) the ecological impacts of recreational use. However, it currently performs a series of other (often inter-related) functions as part of a larger system, including:

- Climate regulation: greenhouse gas sequestration (carbon sequestration), mitigating urban heat island,
- Habitat provision (refuge and reproduction in support of biological and genetic diversity), supporting pollinator species
- Waste management - waste decomposition and treatment (breaking down and cycling nutrients),
- Air and water cleansing – removing and reducing pollutants in air and water, preservation of wetland and stream buffers
- Water management – storing, purifying, and providing water
- Sediment and erosion mitigation (along with preventing dust and wind erosion – this may be the biggest ecological issue and opportunity)
- Hazard mitigation - reducing vulnerability to flooding, storm surge, wildfire, and drought
- Human well-being - human health, cultural capital, transportation corridors, greenway linkage, farmland preservation, smart growth (development density), increased awareness of water scarcity, preserving sense of place through preservation of topography and natural vegetation

The region covered by the project includes: 164.5 mile of the Owens River Aqueduct's and the 2nd Los Angeles Aqueduct's right-of-ways, the parallel high voltage DC and AC electrical

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transmission line easements, other LADWP property in the vicinity, and adjacent landholdings and viewsheds along the Aqueduct south of the Owens Valley ending at the Aqueduct's terminus in Sylmar (Los Angeles) at the Van Norman Reservoir and Purification plant. Additional sites for consideration by the project team include: the Owens River Aqueduct north of Haiwee Reservoir to the Aqueduct's Intake in the Owens Valley, the CA 14 and CA 395 highway corridors, and nearby CA State Parks and BLM land.

The deliverables for this project will be a vision and strategic plan for the area that addresses long -term design for the area related to its role in water delivery and recreation examined in light of the above functions, in order to support further land use and economic planning by the City of Los Angeles or National Park Services. This plan will address the entirety of the LA Aqueduct extending from Owens Valley to Sylmar, including its right-of-way and adjacent communities that are impacted by (and impact) the functioning of the LAA.

4. PROJECT GOALS AND OBJECTIVES:

To create the vision and strategic plan, the LAA2 team will address the following goals for the Aqueduct Futures team:

- a) Design of the LAA as a linear infrastructure component in the landscape, and strategies for increasing its contribution to the environmental, economic, and social/cultural ecologies of the area;
- b) Design the LAA's right-of-way (ROW) to increase awareness of the LAA, increase and enable access to it as a recreational, tourism, and educational resource;
- c) Identify landscape typologies and design strategies that can guide the planning and design priorities of areas adjacent to the LAA, and provide criteria for prioritization, planning requirements, and design strategies, with guidance for why an area should focus on some ecosystem services over others;
- d) Propose development tactics for the LAA, ROW, and adjacent areas such that they maximize their positive impact on ecosystem services while recognizing the necessity of balance in the system;
- e) Apply state-of-the-art multifunctional landscape practices and green infrastructural thinking to create a more adaptable and resilient water supply system;
- f) Expand the theory of infrastructural ruralism developed by Lehrman and Linkus in the Aqueduct Futures Exhibit (November 2013);
- g) Define cultural uses and marketing/branding strategies for the right-of-ways of the Aqueduct, associated electrical transmission right-of-ways, other LADWP controlled land, and adjacent landscapes to increase utilization and awareness;
- h) Propose strategies for the equitable distribution of shared resources (avoiding exploitation and addressing allocation), especially planning and design tools to support this goal;
- i) Articulate design strategies that adapt the LAA for multiple functions (beyond water transportation) that enhance the local sense of place.

5. PROJECT PARTNERS:

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Aqueduct Futures Team (Lehrman, Linkus, and others), Dean Michael Woo, with Metabolic Studio and Los Angeles Council District 4

6. STAKEHOLDERS:

The project team will develop an extensive list of stakeholders based on their research and analysis including:

Primary Agencies: City of Los Angeles, Los Angeles Department of Water and Power, Kern County, Los Angeles County, and Inyo County

Secondary Agencies and communities:

- US Departments of: the Interior (BLM, National Parks), Agriculture (Forest Service), Defense (China Lake Naval Air Station), & Energy
- California State Lands Commission, & State Parks
- Communities of Indian Wells, Ridgecrest, Inyo-Kern, California City, Mojave, Rosamond, Lancaster, Palmdale, Acton, Santa Clarita/Canyon County, and Sylmar
- Lohontan Regional Water Board
- Great Basin Unified Air Pollution Control District
- Piute-Shoshone Tribes
- Community and Environmental Groups
- Metropolitan Water District
- Southern California Edison and other electrical utilities, solar energy, geothermal energy, and wind energy providers

7. PROJECT SUMMARY:

The project will include the following:

- a) Review of appropriate precedents that address large-scale infrastructure in rural areas that serve populations in distant metropolitan areas, especially those with significant local impacts.
- b) Review relevant local and regional planning and related documents. Preparation of a summary of precedents, relevant planning documents and principles as applied to the project (precedent investigation stage).
- c) Individual and group meetings with stakeholders including members of Los Angeles City Council, senior city staff and agency heads, business owners and organizations, and members of the public. This will include the preparation of outreach and communication materials, the facilitation of at least one community/stakeholder workshop, informational meetings/interviews and/or questionnaires/surveys to collect information, and a quantitative and qualitative analysis of the resulting data, including a written summary of the method, implementation, and implications of the results. The results and issues identified will be the core of the objectives addressed by the planning and design proposals.
- d) Landscape analysis of the ROW and surrounding area, towns and communities for the following considerations: water storage quantity and quality, tourism and recreation, as well as factors which influence climate regulation, habitat provision,

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waste management, air and water cleansing, sediment and erosion mitigation, hazard mitigation, and human well-being (see section 3 for more details). This advanced site inventory and analysis will include a series of diagrams identifying critical opportunities and constraints for the vision process, stakeholder identification and the identification of planning and implementation issues. Products will include the preparation of maps and summary written material on issues relevant to design and planning of the LAA and its surroundings including social-cultural, environmental, and economic factors. Supporting maps and written documentation will create a narrative tying together all relevant information for the project. The analysis report will be exclusive of supplementary information not necessary for the development of the vision and strategic plan (regional analysis stage).

- e) Divide the landscape into landscape units and sub-units that reflect the primary function(s) of those areas and typologies; then articulate performance requirements for those units using appropriate ecological, environmental and social criteria. Identify existing or missing links between these units at multiple scales (that can) support enhanced regional performance
- f) Develop a vision and strategic plan identifying critical zones and nodes with performance goals, and design and planning tools to support your goals. Identify planning tools and strategies to link or buffer these areas to ensure they function as a system, not just as a sequential series of spaces, at multiple scales. This will include design typologies for different types of areas/zones/et cetera to demonstrate not just what needs to be done, but how it should be done. Timing will also be addressed by the plan: what needs to happen first, in series or concurrently to ensure the systems function properly?
- g) Identification of any supplementary resources as identified during the process of the project, including programming requirements or recommendations, especially those on how local and regional agencies are to effectively communicate and collaborate on the proposed long-term effort toward the sustainability of the LAA regions, available funding resources, policies recommended for revision, etc. (final report).
- h) Be bold in seeking and proposing non-conventional strategies that potentially can provide substantial improvement over the status quo – your performance claims need to be backed up with data from analogous projects and/or rigorous methodology.

8. SCOPE OF WORK:

8.1 Stage I: Research

A. Precedent Studies - including review of precedents, local and regional planning studies and reports, and other relevant projects and documents.

B. Inventory - Collect, review and evaluate relevant data as listed above using both qualitative and quantitative methods. These methods might include GIS, remote sensing, site visits, focus groups, questionnaires and interviews, and other inventory tools as needed. Review scope of data provided by the Aqueduct Futures Project first and fill in known gaps based on priority and relevance.

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C. Analysis - Categorize assembled site inventory information for analysis, analyze collected site inventory information with appropriate qualitative and quantitative models such as descriptive statistics and GIS technologies, identify zones/units/areas that require similar planning and/or design strategies or interventions.

D. Inventory and Analysis Revision - Conduct necessary research and inventory to address gaps in available information, follow up visit to site by Studio 606 project team to ground truth initial findings (confirmed by on-the-ground in-person site visits), review initial finding with client for feedback and gaps.

E. Program – conduct interviews, focus groups, questionnaires, behavioral observation or other social data collection tools to assess issues and concerns as identified by stakeholders, present initial analysis to client for review and feedback, compile relevant findings and assessments of project issues, constraints and opportunities into a cohesive and comprehensive presentation format.

8.2 Stage II: Synthesis, Conceptual Vision and Design

- a) Review and analyze previously identified potential initial program elements
- b) Identify and develop design and planning alternatives
- c) Develop initial conceptual graphics to express potential design alternatives
- d) Present initial design alternatives to client for feedback
- e) Site visit of Studio 606 team to assess potential of design alternatives in context of site
- f) Select a preferred planning and design alternative based faculty and client feedback
- g) Create an initial conceptual vision plan of the preferred alternative to be presented to the client and community
- h) Edit supporting text and presentation materials for final stage of product

8.3 Stage III: Final Vision

- a) Finalize design and policy recommendations
- b) Compile and refine all necessary supporting graphics including maps, plans, sections and perspectives as needed.
- c) Address and resolve gaps as possible
- d) Complete and edit all document text
- e) Finalize relevant models and GIS content for inclusion in document and presentation
- f) Assemble all relevant materials into a cohesive, comprehensive and attractive document for publication
- g) Assemble all relevant materials into a cohesive, comprehensive and attractive visual presentation format
- h) Formally present Vision Plan to client and department
- i) Produce final document, summary report, DVDs and presentation boards.
- j) Deliver all final project presentation materials in digital format to client for reproduction purposes as needed.

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9. CLIENT RESPONSIBILITIES:

1. Participation in jury reviews/presentations – tentatively booked for Fridays in Winter and Spring:

Friday, Jan. 24, 1pm or 2pm

Friday, Mar. 7, 1pm or 2pm

Friday, Apr. 18, 1pm or 2pm

Friday, May 30, 1pm or 2pm

It is expected that at least one representative from the Aqueduct Futures team will attend each of the presentations. Comments at the presentations will be appreciated.

2. The client will provide detailed written comments within three weeks to the preliminary draft of the third student submission, which will be submitted approximately on April 30th, 2014. (Earlier drafts may be reviewed and written or verbal feedback provided as possible.)

A final draft of the document will be submitted in June or July (2014) for final review and comments, but the majority of substantive comments should be provided during the April review or at the presentations (or at supplemental client meetings if required and requested by the client).

3. The client will assist the Cal Poly Pomona 606 team in identifying appropriate contacts in local municipality, county, and other regional public agencies to obtain and collect necessary inventory resources in documents, graphics, plans, GIS data or other formats.

4. The client will assist with the organization and coordination of meetings with stakeholders and city representatives, and will provide copies of (or access to) relevant planning and other documents.

10. PROJECT DELIVERABLES:

Final Report: Total of twelve copies of the final vision plan report (including 4 for the student team) will be printed and bound. The report will include all information collected and created throughout all stages of the vision plan.

Summary Report: Summary report in 8.5 x 11 format of 16, 20, 24, or 28 pages in length (must be in multiples of 4 and can include 2 page spreads if properly designed), formatted to be printed double sided on 11x17 paper, folded and stapled on the spine. The summary report should address information in the final report for distribution to the public and other stakeholders, to be included on the DVD. [IS THIS ALSO A PRESENTATION – OR IS THAT A SEPARATE ITEM???

DVD of Project Deliverables: All final documents and files, including the report, presentation materials, graphic files, and other supporting documents will be presented in digital format for distribution or future printing needs. Eight (8) DVDs holding final documents should be in a double-sided DVD case with designed cover and DVD labels. Final

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Deliverables should also include an additional four (4) DVDs or alternative media (as appropriate) (in a case with a designed cover) with copies of all geospatial data collected through using any means, to be added to the new 606 Geospatial Data Library. Such data should be organized in a geospatial file format and clearly labeled.

Large Format Board Posters: A maximum of four (4) full color, photo-quality large format (maximum 36x48") boards on the project for client display.

Presentations: A digital copy of all interim and final presentations in ppt and pdf format to be included on the DVDs identified above.

11. 606 STUDIO:

The California State Polytechnic University, Pomona, 606 Studio is a design team made up of faculty and third-year Landscape Architecture Masters students. The Studio promotes the application of advanced methods of analysis and design to address serious and important ecological, social, and aesthetic issues related to urban, suburban, rural, and natural landscapes with a particular emphasis on preserving and restoring natural systems.

The academic studio environment offers a unique opportunity for graduate students to explore issues and possibilities at a variety of levels. The students, with faculty direction and participation, carry out the project – including the tasks of research, analysis, planning, design and presentation. Because the Studio is part of an educational institution, the projects that come from it must maintain academic integrity, display technical and professional expertise, advance sustainable land management practices and theory, and be grounded in reality. The projects are also required to address significant issues concerning resources and the physical environment with broad implications beyond the boundaries of the project site and promise to result in significant benefits to the general public.

To maintain academic integrity, California State Polytechnic University, Pomona and the 606 Studio retain the rights to all final editorial decisions in the final document. All materials produced by the studio are owned by the University as per the University Copyright Policy. For more information on the 606 Studio, please visit our website at http://www.csupomona.edu/~la/mla_606.shtml. The faculty profiles are appended to the end of this document.

12. FACULTY PROFILES:

Barry Lehrman PLA, LEED-AP, Assistant Professor of Landscape Architecture at California State Polytechnic University, Pomona. Professor Lehrman is a landscape architect, urban designer, and sustainability expert focused on the design of natural infrastructure and urban systems, landscape performance metrics and tools. Prior to joining the faculty at Cal Poly Pomona in 2011, he was a lecturer and research fellow at the University of Minnesota with the Zero+ Campus Project and Department of Landscape Architecture. He has served on the ASLA Policy Committee and is a founding member of the editorial board of the Journal of Living Architecture. Mr. Lehrman earned a Master of Landscape Architecture/Master of Architecture from the University of Pennsylvania where he was a

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Van Alan Traveling Fellow and a Dales Fellow. His undergraduate architectural studies were at Ohio State University.

Dr. Weimin Li, ASLA, Assistant Professor of Landscape Architecture at California State Polytechnic University, Pomona. Dr. Li specializes in advanced geospatial technologies e.g., geospatial data integration, geospatial analysis, geo-processing modeling, high resolution remote sensing imagery processing and 3D landscape construction, and their application in a wide range of landscape design and planning practice. In addition to Geodesign, Dr. Li also researches the environmental and social impacts of contemporary landscape design and planning on different dimensions of sustainability and quality of life in urban settings, including storm water management, urban green space, wildlife habitat conservation, multimodal transportation, neighborhood safety, public health, and environmental justice. Dr. Li's teaching echoes her research interests and includes introductory and advanced GIS, intermediate landscape design, environmental analysis and advanced ecosystematic landscape design. Dr. Li has a B.S. in Urban and Resource Planning, a M.S. in Physical Geography and a Ph.D. in Landscape Architecture and Environmental Planning.

Dr. Lee-Anne Milburn, PLA, LEED-AP, Department Chair and Associate Professor of Landscape Architecture at California State Polytechnic University, Pomona. Dr. Milburn researches issues related to sustainability, water quality and quantity, energy consumption and the energy-water nexus, active and alternate transportation, human capacity through outdoor physical activity, land conservation and stewardship, and physical design's impact on the urban heat island (and related problems). Her other primary area of research is specific to landscape architecture: the research culture of landscape architecture, relationship between research and design, and distributing and communicating research to the design professions. Her teaching interests are directly related to her scholarly concerns: sustainable design, healthy communities, and site-scale design to affect human activity. Dr. Milburn has a B.F.A., an M.L.A., and a Ph.D. in Rural Studies— Environmental Design and Rural Development.

13. CONTRACT INFORMATION:

Contract Type: minimally cost reimbursable to extent possible per resources of the Aqueduct Futures Project administered by Barry Lehrman

Dates of Contract: October 2013 to June 2015

Payment Schedule: upon provision of receipts

Scope of work: vision plan

Deliverables: 8 copies of the complete report for the department/university (including one copy for B. Lehrman, W. Li and L. Milburn), and one copy per student (12 total). The digital version of a summary report 16, 20, or 24 pages in length, formatted for printing double-sided on 11x17 paper, folded and stapled along spine. Eight (8) DVDs with content per department guidelines, digital copies of all presentations, and 4 large format boards for project promotion and communication. An additional four (4) DVDs or alternative media (as appropriate) (in a case with a designed cover) with copies of all geospatial data collected through using any means, to be added to the new 606 Geospatial Data Library. Such data should be organized in a geospatial file format and clearly labeled.

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The Aqueduct Futures Project (supported by Metabolic Studio) has limited funds available for the 606 Aqueduct II team following the completion of the AF Exhibit. Unused AF project funds remaining after Fall 2013, will go towards subsidizing the 606 Aqueduct II team's expenses related to:

1. Stakeholder/Community workshop(s)
2. Printing copies of the final reports
3. Travel

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Satellite imagery of project site

Source: Maps.Google.Com



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