

# SCAPE

## HAYWARD AREA SHORELINE PLANNING AGENCY

# HAYWARD REGIONAL SHORELINE MASTER PLAN

NOVEMBER 9, 2018

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# LETTER OF INTEREST

November 9, 2018

To the Hayward Regional Shoreline Planning Agency,

We are pleased to submit our response to the Hayward Area Shoreline Planning Agency Request for Proposals for the Hayward Regional Shoreline Masterplan. Our team understands the severe threats that the Hayward Region faces due to climate change and sea level rise, and brings significant experience working on resilience projects in the Bay Area. SCAPE creates positive change in communities by combining regenerative living infrastructure and new forms of public space, and we are excited for the opportunity to work with the HASPA team to identify the synergies between resilience and preparedness needs and develop opportunities to enhance and renew existing ecological and man-made assets.

In addition to our design and resilience expertise, we also bring significant experience working with multi-agency client teams and managing interdisciplinary design and technical project teams. SCAPE and Arcadis are currently collaborating on the \$60M Living Breakwaters project in New York and have worked together on the innovative Resilient by Design Bay Area Design Challenge, where the team developed a vision to unlock Alameda creek and reconsider the role of sediment in resilience planning and design. Convey was a strong communications partner in the RBD effort and has previously worked with the Alameda County Flood Control and Water Conservation District on multiple projects, and brings years of experience translating complex engineering and planning concepts to the broader public. We have also invited re:focus partners to join our team; re:focus is a small practice with specialized expertise specifically in the area of funding and financing resilience projects. They are California-based, familiar with the financial and regulatory landscape, and have worked with SCAPE on similar initiatives in the North-East.

We hope that our team's qualifications – our previous experience, the expertise of our design and engineering team, our innovative approach to public outreach and engagement, and our commitment to working with Bay Area communities and stakeholders, as well as our approach and enthusiasm, convey how excited we are about the possibility of working with you. Should you require any additional information please do not hesitate to contact us.

Sincerely,



Kate Orff, RLA

Founder and Principal



Clapper Rail Habitat

Bay-edge Erosion

Active Recreation

Cogswell Marsh Loop + Bridge

Bay Trail Flooded 2-3 Times Annually

# EXHIBIT A: RESPONSE ITEMS

Risk of Marsh Drowning and Muddflat Conversion

## **SCAPE RESPONSE ITEMS**

### **SCAPE LANDSCAPE ARCHITECTURE D.P.C.**

1. Company Data

- a. SCAPE Landscape Architecture D.P.C.  
277 Broadway, Ninth Floor  
New York, NY 10007

Entity Type: Design Professional Corporation

Principal Officers: Kate Orff, President  
Elena Brescia, Treasurer  
John Donnelly, Secretary  
Alexis Landes, Principal  
Gena Wirth, Principal

- b. FE-IN: 81-4252394

- c. Alexis Landes, Managing Principal  
277 Broadway, Ninth Floor  
New York, NY 10007

- d. 277 Broadway, Ninth Floor  
New York, NY 10007

- e. None

- f. One year 11 months under current business name,  
(10 years as SCAPE Landscape Architecture PLLC, 2007-2016)

- g. 12 years

- h. SCAPE is not owned, either totally or partially, by another business organization or individual

- i. SCAPE does not own, either totally or partially, any other business organization or individual that will be providing services

2. Certificate of Insurance

SCAPE is capable of providing the required insurance coverage as set forth by Agency requirements and is willing to provide Sample Certificates of Insurance within ten (10) calendar days of notification of selection for award of this agreement. Final Certificates of Insurance will be provided upon execution of an agreement.

3. Validity of Proposal

This proposal shall remain valid for a period of 150 days from the date of submission.

4. Statement of Understanding

SCAPE understands that the Agency assumes no responsibility for any understanding or representation made by any of its officers or agents during or prior to the execution of any agreement resulting from this RFP unless:

- a. Such understanding or representations are expressly stated in the agreement; and
- b. The agreement expressly provides that the responsibility therefore is assumed by the Agency. Presentations made but not so expressly stated and for which liability is not expressly assumed by the Agency in the agreement shall be deemed only for the information of the proposer.

5. Resumes and Qualifications of Proposer's Personnel.

See following pages.

6. References:

San Mateo County  
City of San Francisco  
Port of San Francisco  
County of San Francisco  
San Francisco Public Utilities Commission  
US Army Corps of Engineers  
Bay Conservation and Development Commission



## ARCADIS RESPONSE ITEMS

### ARCADIS U.S., INC

#### 1. Company Data

- a. Arcadis U.S., Inc  
630 Plaza Drive, Suite 200  
Highlands Ranch CO 80129 USA

Principal Officers: Joachim Ebert, Chief Executive Officer/Chief Operating Officer

- b. FE-IN: 57-0373224

- c. Rudy Guichard  
10352 Plaza Americana Drive  
Baton Rouge, LA 70816

- d. 100 Montgomery Street, #300  
San Francisco, CA 94104

- e. N/A

- f. 130 years

- g. 40 years

- h. 21 years

- i. Arcadis is not owned, either totally or partially, by another business organization or individual

- j. Arcadis does not own, either totally or partially, by another business organization or individual

#### 2. Certificate of Insurance

Arcadis is willing and able to provide the required insurance coverage.

#### 3. Validity of Proposal

Our proposal will remain valid for a period of at least 150 calendar days.

#### 4. Statement of Understanding

Agreed.

#### 5. Resumes and Qualifications of Proposer's Personnel.

See following pages.

#### 6. References.

See page 9.





## CONVEY RESPONSE ITEMS

### CONVEY, INC.

#### 1. Company Data

- a. Convey, Inc.  
5901 Christie Ave, Suite 405  
Emeryville CA 94608  
  
Entity Type: California S-corp  
  
Principal Officers: Sybil E. Hatch, PE, President
- b. FE-IN: 26-3978390
- c. Sybil E. Hatch, PE, President  
Convey, Inc.  
5901 Christie Ave, Suite 405  
Emeryville CA 94608
- d. N/A
- e. None
- f. 21 years
- g. 21 years
- h. Convey is not owned, either totally or partially, by another business organization or individual
- i. Convey does not own, either totally or partially, by another business organization or individual

#### 2. Certificate of Insurance

Convey is willing and able to provide the required insurance coverage.

#### 3. Validity of Proposal

Our proposal will remain valid for a period of at least 150 calendar days.

#### 4. Statement of Understanding

Agreed.

#### 5. Resumes and Qualifications of Proposer's Personnel.

See following pages.

#### 6. References.

See page 9.

# RESUMES AND QUALIFICATIONS OF PROPOSER'S PERSONNEL

## NAME AND TITLE

## PROJECT ROLE

### SCAPE

Kate Orff, RLA	Founder and Principal	
Geneva Wirth	Design Principal	Design Lead
Pippa Brashear	Director of Planning and Resilience	Resilience Lead
Nans Voron	Associate	Project Manager
Lee Altman	Associate	Urban Designer
Gena Morgis	Landscape Designer	Landscape Designer

### ARCADIS

Peter Wijsman	City Executive, Vice President	Climate Adaptation and Resilience Technical Expert
Christopher Devick, PE	Coastal Engineer and PM	Civil and Coastal Engineer
Mary Kimball	Urban Planner	Urban Planner
Martina Novak, PE	Senior Water Resources Engineer	Water Resources Engineer And Adaptation Specialist

### CONVEY

Sybil E. Hatch, PE	Principal	Public Outreach Lead
Rebecca Krawiec	Project Manager	Outreach Manager
Susie Grant	Graphic Designer	Graphic Designer
Peter Petracca	Digital Producer	Web Developer

### RE:FOCUS

Shalini Vajjhala, PhD	Founder and CEO	Finance Consultant
James S. Rhodes	Director and Co-Principal Investigator	Finance Consultant

## SCAPE / PRINCIPAL-IN-CHARGE

KATE ORFF, RLA, FOUNDER AND PRINCIPAL



As the founder of SCAPE, Kate focuses on retooling the practice of landscape architecture relative to uncertainty of climate change and fostering social life which she has explored through publications, activism, research, and projects. She is known for leading complex, creative, and collaborative work processes that advance broad environmental and social prerogatives.

Kate was named a MacArthur Foundation Fellow in 2017, the first given in the field of Landscape Architecture. Kate was named a 2012 United States Artist Fellow, an Elle Magazine "Planet Fixer," and shared SCAPE's design methodologies at the International TEDWomen Conference in 2010. She graduated with a Master in Landscape Architecture from the Graduate School of Design at Harvard University. Kate is also the Director of Columbia University GSAPP's Urban Design Program and the Center for Resilient Cities and Landscapes.

### REGISTRATION

Landscape Architect: NY, CT, NJ, PA, KY, SC, MN, KY, AR  
CLARB Certified

### PRACTICE

SCAPE Landscape Architecture D.P.C., New York, NY  
Founder and Partner, 2004-present  
Public Sediment: Resilient By Design Challenge, Bay Area, CA  
Red Hoek Point, Brooklyn, NY  
City of Detroit Islandview Greater Villages Urban Design Neighborhood  
Revitalization, Detroit, MI  
Town Branch Commons, Lexington, KY  
SIRR Coastal Protection Plan, New York, NY  
Living Breakwaters, Rebuild by Design, HUD, NY/NJ  
Harlem RBI DREAM Charter School, Harlem, NY  
Battery Park City Community Center, New York, NY  
103rd Community Garden and Park, Harlem, New York  
Oyster-tecture, Gowanus Bay Pilot Project, Brooklyn, NY

OMA, New York, NY, Rotterdam, NL, Hong Kong, 1996, 2000-2003

Hargreaves Associates, San Francisco, CA, 1998-2000

### EDUCATION

Harvard University, Graduate School of Design, Cambridge, MA  
Master of Landscape Architecture, 1997  
The University of Virginia. College of Arts and Sciences, Charlottesville, VA  
Bachelor of Arts in Political and Social Thought w/Distinction, 1993

### AWARDS

ASLA-NY Merit Award, New York-Presbyterian & Columbia University Medical Campus Joint Master Plan, 2018; ASLA-NY Honor Awards, Hall of Science Discovery Terrace and Gowanus Lowlands, 2018; MacArthur Fellow, 2017; National ASLA Honor Award, Toward An Urban Ecology, 2017; American Academy of Arts and Letters Award in Architecture, 2015; Fuller Challenge Winner, 2014; HUD Rebuild by Design Winner, 2014; Named One of Fast Company's "Most Creative People" 2014; National Academician, 2013

## SCAPE / DESIGN LEAD

GENA WIRTH, DESIGN PRINCIPAL



Gena is the Design Principal at SCAPE. Trained in landscape architecture, urban planning and horticulture, Gena draws from her interdisciplinary training to create ecologically rich and culturally relevant landscapes from the infrastructural scale to the site level. Gena leads the design on several significant projects in the office. Gena was on the original Oyster-ecture team and was the Project Manager for SCAPE's involvement in SIRR, studying large-scale harbor-wide strategies for coastal protection measures that will be utilized in preparation for the next Superstorm. She was also the Project Manager for SCAPE's winning Rebuild By Design proposal, Living Breakwaters, a climate change resiliency strategy for the South Shore of Staten Island.

### PRACTICE

SCAPE Landscape Architecture D.P.C., New York, NY / 2009 -present  
Chattahoochee River Greenway Study, Atlanta Metro Region, GA  
Public Sediment: Resilient By Design Challenge, Bay Area, CA  
Living Breakwaters Rebuild By Design Competition, NJ/NY Metropolitan Region (Winner)  
Town Branch Commons, Lexington, KY  
Gowanus Lowlands Framework Plan, Brooklyn, NY  
Red Hoek Point, Brooklyn, NY, 2015-present  
Be'er Sheva Quarry Park, Be'er Sheva, Israel, 2014-present  
Greenpoint Environmental Education Center, Brooklyn, NY, 2015-present  
Arkansas Art Center, Little Rock, AR, 2016-present  
Spelman College, Atlanta, GA, 2016-present  
Midtown Center Plaza, Washington, DC, 2015-present  
Stapleton Waterfront Park, Staten Island, NY, 2015-present

PREX, Project for Reclamation Excellence, Cambridge, MA / 2006 - 2009

Hargreaves Associates, New York, NY / 2008

A. C. Durham Landscape Architecture, Wilmington, DE / 2004 - 2005

Longwood Gardens, Kennett Square, PA / 2003

### EDUCATION

Harvard University Graduate School of Design, Cambridge, MA  
Master in Landscape Architecture with Distinction, 2009  
Master in Urban Planning with Distinction, 2009  
University of Delaware, Newark, DE  
Bachelor of Science, Landscape Horticulture, 2005

### AWARDS

Charles Eliot Traveling Fellowship in Landscape Architecture, Harvard GSD, 2009  
Penny White Traveling Grant, Harvard GSD, 2006, 2008

## SCAPE / RESILIENCE LEAD

PIPPA BRASHEAR, DIRECTOR OF PLANNING & RESILIENCE



Pippa is the Director of Planning and Resilience at SCAPE. She works with planning, engineering and design teams to integrate landscape strategies that are sustainable and resilient, and that balance environment, infrastructure, development, and community quality of life needs. Pippa is currently managing the implementation of SCAPE's Living Breakwater's project. Other recent work includes developing coastal protection strategies for New York City's Strategic Initiative for Rebuilding and Resilience (SIRR); working with community planning committees as part of the New York Rising Community Reconstruction Program; and serving as a key team member in the development of the Hudson River RBD project with Dewberry and OMA.

### PRACTICE

SCAPE Landscape Architecture D.P.C., New York, NY / 2015 -present  
Living Breakwaters Design and Implementation, Staten Island, NY  
Ohio Creek Watershed Design and Implementation, Norfolk, VA  
Minot National Disaster Resilience Competition, Minot, ND (Winner)  
Stormwater Greenstreets, Hutchinson River DEP Priority CSO  
Tributary Area, Bronx, NY  
Hudson River RBD, Hoboken, NJ  
Living Breakwaters, Rebuild by Design, HUD, NJ/NY Metropolitan  
Region (Winner)  
New York Rising, Resiliency Planning for Seven Communities in New  
York City, NY  
SIRR Coastal Protection Planning, New York, NY

Parsons Brinckerhoff, New York, NY | Project Manager | Designer, Planner /

Spatial Information Design Lab, Columbia University, New York, NY |  
Designer / 2012

Project for Public Spaces, New York, NY | Project Manager | Designer /  
2010 - 2012

Wallace Roberts & Todd, New York, NY | Designer | Planner / 2007 - 2010

### EDUCATION

Harvard University Graduate School of Design, Cambridge, MA  
Master in Landscape Architecture, 2007  
Master in Urban Planning with Distinction, 2007  
Harvard College, Cambridge, MA  
Bachelor of Arts, cum laude, in Environmental Science and Public  
Policy, 2001

### AWARDS

Charles Eliot Traveling Fellowship in Landscape Architecture, Harvard GSD, 2007

### ACADEMIC

Studio Critic, Masters in Urban Design, Columbia University GSAPP / 2014  
- present  
Part-time Lecturer in Landscape Architecture, Rutgers University School of  
Environmental and Biological Sciences / 2011 - 2014

## SCAPE / PROJECT MANAGER

NANS VORON, URBAN DESIGNER



Nans is an Urban Designer at SCAPE. Drawing upon his prior training as an Architect, Nans brings his cross-disciplinary experience in the fields of urban design, architecture, and graphic design to urban projects of all scales. Nans also holds a Master of Science in Architecture and Urban Design from Columbia University. At Columbia, he was awarded with the Lucille Smyser Lowenfish Memorial Prize, the school's highest design award, for his project Might[Y] Spaces in Rio De Janeiro and won the GSAPP Prize for Excellence in the Urban Design Program, which recognizes outstanding work by a student in the Urban Design Program. At Columbia, Nans held the position of adjunct professor for the Urban Design Program teaching both in the urban design studio and Reading New York Urbanisms.

### REGISTRATION

Registered Architect: France

### PRACTICE

SCAPE Landscape Architecture D.P.C., New York, NY / 2015 -present  
Chattahoochee River Greenway Study, Atlanta Metro Region, GA  
Climate Resiliency Design Guidelines, Department of Design and Construction, New York, NY  
Ecological Citizens, Venice Architecture Biennale  
Public Lands Neighborhood Visioning, Detroit, MI  
Public Sediment: Resilient By Design Challenge, Bay Area, CA  
Living Breakwaters Design and Implementation, Staten Island, NY  
City of Detroit Islandview Greater Villages Urban Design Neighborhood Revitalization, Detroit, MI  
Brooklyn Strand, Brooklyn, NY  
Hudson River RBD, Hoboken, NJ  
Rager Boulevard, Be'er Sheva, Israel  
Minot National Residency Competition, Minot, ND  
CSO+: New Jersey Future, Gloucester, Jersey City, Perth Amboy, NJ

Groupe d'Architecture Ellipse, Paris, France | Designer / 2012 - 2014  
Beauregard District, Rennes, France  
Bois de Ponthual District, Dinard, France  
Porte-de-Nantes District, Rennes, France

SATA Afrique, Ouagadougou, Burkina Faso | Intern / 2010  
Housing and Leisure Center Competition, Cotonou, Benin  
Housing and Medical Center, Ouagadougou, Burkina Faso

Masson-Lemoine Architects, Paris, France | Intern / 2009  
Haussmannian Building Refurbishment, Paris, France

### EDUCATION

Columbia University Graduate School of Architecture, Planning and Preservation, New York, NY  
Master of Urban Design, Valedictorian, 2015  
Ecole Nationale Supérieure d'Architecture Paris-Val de Seine, Paris, France  
Master in Architecture, Summa Cum Laude, 2012  
Ecole Nationale Supérieure d'Architecture Paris-Val de Seine, Paris, France  
Bachelor in Architecture, 2009

### AWARDS

GSAPP Prize for Excellence in the Urban Design Program, 2015  
Lucille Smyser Lowenfish Memorial Prize for Design, 2015  
Tony Garnier Prize Laureate, 2013

## SCAPE / LANDSCAPE DESIGNER

GENA MORGIS, LANDSCAPE DESIGNER



Gena is a Landscape Designer at SCAPE. Her background in environmental science has informed her focus on creating landscapes at the intersection of ecological processes and infrastructural systems. Prior to working at SCAPE, Gena was an intern with the Coastal Sustainability Studio in Baton Rouge, Louisiana as well as the Dredge Research Collaborative, where she assisted in the development of exhibition content for DredgeFest Great Lakes. Gena holds Bachelors of Landscape Architecture from SUNY College of Environmental Science and Forestry in Syracuse, NY where she was named a Departmental and University Scholar, the highest academic honors bestowed by the college.

### PRACTICE

SCAPE Landscape Architecture D.P.C., New York, NY / 2016 – Present  
Public Sediment: Resilient By Design Challenge, Bay Area, CA,  
2017-present

Living Breakwaters Rebuild By Design Competition, Staten Island, NY  
Living Breakwaters Design and Implementation, Staten Island, NY

W Architecture and Landscape Architecture, Brooklyn, NY | Landscape Designer  
/ 2015

Dredge Research Collaborative, Brooklyn, NY | Summer Intern / 2015

### EDUCATION

State University of New York, Syracuse, NY  
Bachelor of Landscape Architecture, 2015

## SCAPE / URBAN DESIGNER

LEE ALTMAN, RA, LEED AP, ASSOCIATE



Lee is an Urban Designer and an Associate at SCAPE. She draws on her experience in city government as well as her past work with architects, artists, scientists, and public health professionals to form a multifaceted perspective in managing urban design and infrastructure projects. Prior to joining SCAPE, Lee worked for New York City's Department of Design and Construction, where she coordinated the efforts of over 20 city agencies improving health through the design of public buildings and infrastructure, and promoted high-quality public design through the Design and Construction Excellence program.

### REGISTRATION

Registered Archtiect: NY, Israel; LEED AP Certified

### PRACTICE

SCAPE Landscape Architecture D.P.C., New York, NY / 2016 – Present  
Living Breakwaters Design & Implementation, Staten Island, NY  
Rager Boulevard, Be'er Sheva, Israel

CSO+: New Jersey Future, Glouchester, Jersey City, Perth Amboy, NJ  
Be'er Sheva Quarry Park, Be'er Sheva, Israel  
The Gowanus Lowlands, New York, NY

NYC Department of Design and Construction, New York, NY | Design Liaison / 2015 -  
2016; Active Design Coordinator / 2013 - 2016

### EDUCATION

Columbia University Graduate School of Architecture, Planning, and Preservation, NY  
Master of Science in Architecture and Urban Design, 2008  
Faculty of Architecture and Town Planning, Israel Institute of Technology, Israel  
Bachelor of Architecture, 2004

## ARCADIS / CLIMATE ADAPTATION AND RESILIENCE TECHNICAL EXPERT

PETER WIJSMAN, CITY EXECUTIVE, SAN FRANCISCO



Peter Wijsman has program management experience with Arcadis in both Europe and the U.S. focusing on the effects of climate change on the land and water environments. Currently he is the company's city executive for San Francisco. He also forms the knowledge bridge between the Netherlands and the United States for expertise and experience in flood protection, coastal zone management, resiliency planning and climate change.

### PRACTICE

#### ARCADIS

Organizational Plan and Sea Level Rise Vulnerability Assessment, San Mateo County, CA / Project Manager

Development of an organizational development and financing plan for the San Mateo County Flood Control District

Coastal Resiliency Planning, San Francisco, CA / Project Manager

SPUR vulnerability assessment and development of climate adaptation measures for Mission Creek. Brought together multiple city agencies including: SFPUC, SFDPW, City Planning, Capital Planning, DOE

Vulnerability Assessment of Bay Area Transportation Infrastructure to Sea Level Rise, San Francisco, CA / Project Manager

Alternatives Evaluation and Design, Sacramento-San Joaquin Delta, CA / Project Manager

Managing alternatives evaluation and the design of a 550-ft-wide salinity control barrier in Three Mile Slough

CA Bay-Delta Conservation Plan, Delta Stewardship Council / Project Manager

### EDUCATION

University & Research Centre, Wageningen, the Netherlands, 2005

MS, Water Resources Management, 2005

Inholland University, Delft, the Netherlands

Bachelor of Landscape Design, 2003

## ARCADIS / WATER RESOURCES ENGINEER AND ADAPTATION SPECIALIST

MARTINA NOVAK, PE, SENIOR WATER RESOURCES ENGINEER

### REGISTRATION

Professional Engineer: TX, GA

### PRACTICE

#### ARCADIS / 2018-Present

Flood Study and Stormwater Pump Station Analysis Phase I, Angola, LA / Lead water resources engineer

25th Street Canal Resiliency Project, City of Gretna, LA / Lead water resources engineer

San Antonio River Authority: Elmendorf Lake Conceptual Master Plan, San Antonio, TX

San Antonio River Authority: Medina River Watershed Master Plan, San Antonio, TX

North Carolina Floodplain Mapping Program, Caswell County, NC

### EDUCATION

Georgia Institute of Technology, 2002

MS, Civil Engineering, 2002

University of Belgrade, Serbia

BS, Hydraulic Engineering, 1999



## ARCADIS / CIVIL AND COASTAL ENGINEER

CHRISTOPHER R. DEVICK, PE, COASTAL ENGINEER AND PROJECT MANAGER



Mr. Devick has 10 years of experience in a variety of civil engineering projects. He has been involved in numerous aspects of engineering including analysis and design of shore protection, wetland and beach restoration, wave protection, marina, and flood protection projects. Recent projects include support to sea level rise and flood protection planning and analysis for urban redevelopment and park projects, and coastal engineering analysis and design of wetland creation projects.

### REGISTRATION

Professional Engineer, Civil: CA

### PRACTICE

#### ARCADIS

- Public Sediment: Resilient By Design Challenge, Bay Area, CA  
Providing technical background around sediment movement and interpreting sediment transport modelling results; input on engineering feasibility
- Crissy Field Sea Level Rise Vulnerability Assessment, San Francisco, CA  
Assessment including researching and mapping the existing natural resources, public access, infrastructure, utilities and historic, archeological and cultural resources, analyzing the potential for future increases in sea levels
- India Basin Waterfront Parks Coastal Processes Study San Francisco, CA  
Assessment of development of shoreline improvements along 2 miles of shoreline, including analysis of water level, wind, wave and sedimentation processes within in the basin

### EDUCATION

University of Florida  
MS Coastal & Oceanographic Engineering, 2007  
Northeastern University  
BS Civil Engineering, 2006

## ARCADIS / URBAN PLANNER

MARY KIMBALL, URBAN PLANNER

### PRACTICE

ARCADIS / 2018-Present  
New York City Department of City Planning, Waterfront and Open Space Division  
Senior Resiliency Manager / 2016-2018  
Coordinates agencywide work program with a budget of \$8.4 million and approximately 15 staff members  
Manages coordination with other NYC agencies on resiliency projects, incl. coastal protection studies and housing recovery  
Policy guidance on resiliency and waterfront planning  
Reviews local, state, and federal projects for consistency with the NYC Coastal Zone Management Program.  
Program Manager / 2013-2016  
City Planner / 2010-2013

### EDUCATION

Harvard University, Graduate School of Design, Cambridge, MA  
Master in Urban Planning, June 2009  
Georgetown University, Georgetown College, Washington, DC  
Bachelor of Arts, American Studies, Cum Laude, May 2005

## CONVEY, INC. / PUBLIC OUTREACH LEAD

SYBIL E. HATCH, PE, PRESIDENT



President of a successful marketing and public relations consultancy, with a unique combination of superlative communications and public engagement skills combined with an extensive understanding of science and engineering. Deep commitment to supporting initiatives, projects, and clients that improve people's safety, health, and quality of life.

### PRACTICE

Convey, Inc. / 1997-Present

Alameda County Flood Control District

Oversees and implements communications and organizational initiatives, including the annual report, website, various informational documents, hydrology & hydraulics engineering manual, and more

Coastal Hazards Adaptation Resiliency Group (CHARG) / Co-facilitator and secretariat

Led more than a hundred stakeholders from the San Francisco Bay region to participate in CHARG. Works closely with sponsoring agencies Alameda County Flood Control District, Santa Clara Valley Water District, and FEMA to develop CHARG's vision and goals

Delta Stewardship Council's Delta Levee Investment Study / Communications  
Guiding California's investments in the levees surrounding islands in the Sacramento-San Joaquin River Delta. Provided strategic guidance for outreach collateral, including presentations, fact sheets, FAQs, website content, and public meetings information.

### EDUCATION

Virginia Polytechnic Institute

M.S. and B.S., Civil Engineering

## CONVEY, INC. / GRAPHIC DESIGNER

SUSAN GRANT, GRAPHIC DESIGNER



Susie Grant has a full range of experience creating and managing design projects from inception to delivery. She has worked on marketing campaigns in both the public and commercial arena as well as non-profits.

### PRACTICE

Convey, Inc. / 2013-Present

Metropolitan Transportation Commission's 511 Campaigns (Transit Tracker, Real-Time Transit and 511 Mobile)

Contra Costa Transportation Authority

Alameda County Transportation Commission's Countrywide Transit Plan

Alameda County Flood Control Water Conservation District

Delta Stewardship Council's Delta Levees Investment Strategy

### EDUCATION

University of California, Berkeley, School of Environmental Design

B.A. Architecture

## CONVEY, INC. / OUTREACH MANAGER

REBECCA KRAWIEC, PROJECT MANAGER



Rebecca brings more than a decade of experience in the construction, architecture, and engineering industries, collaborating closely on water resources and transportation projects in the San Francisco Bay Area and working with public agencies to achieve key public outreach goals. She brings an exceptional ability to use a consultative approach to a project, tirelessly seeking the best solutions to meet the needs of a client.

### PRACTICE

Convey, Inc. / 2014-Present

Contra Costa Transportation Authority's communication program / Project Manager

Intelligent Transportation Society of California Website/ Project manager and content development

Alameda County Transportation Commission's Affordable Student Pass Project / Project Manager

Alameda County Safe Routes to Schools program / Project and Content Manager

Oakland Comprehensive Circulation Study / Project and Content manager

Alameda County Flood Control District / Lead procurement specialist

### EDUCATION

Hamline University School of Law

J.D. Juris Doctor

Southwest Minnesota State University

B.A. Speech Communications; Minor in Philosophy (Magna Cum Laude)

## CONVEY, INC. / WEB DEVELOPER

PETER PATRACCA, DIGITAL PRODUCER



Peter has more than ten years of experience in media and web production for marketing communications programs. He has extensive experience in web-based media, creating and employing rich media to increase brands' reach and engagement. Peter is also a video producer-editor and uses his background in large-scale film production to reinforce marketing tactics with creative, mass audience appeal.

### PRACTICE

Convey, Inc. / 2013-Present

Website development: Alameda County Flood Control District, Charles Pankow Foundation, ITS California, Western Equipment Solutions, Soilmec North America, Champion Equipment Sales, and Champion Equipment Company; major upgrades to Malcolm Drilling's website.

Video producer, director of photography, and editor for marketing-related videos for Alameda CTC's Safe Routes to Schools program, Malcolm Drilling, Soilmec North America, and the National Park Service.

### EDUCATION

University of Arizona

B.A. Fine Arts Photography (Magna Cum Laude)

## RE:FOCUS / FINANCE CONSULTING

SHALINI VAJJHALA, PH.D., FOUNDER & CEO



Shalini has an interdisciplinary background with over a decade of experience in green design, engineering, economics, and policy. Before starting re:focus partners and launching the RE.invest Initiative, Shalini served as Special Representative in the Office of Administrator Lisa Jackson at the US Environmental Protection Agency. In this position, she led the US-Brazil Joint Initiative on Urban Sustainability (JIUS) announced in March 2011 by Presidents Obama and Rousseff. The JIUS was a signature initiative of the June 2012 UN Conference on Sustainable Development (Rio+20), demonstrating how environmental protection can serve as a driver for building the green economies and smart cities of the future. Previously, Shalini served as Deputy Assistant Administrator in the Office of International & Tribal Affairs at the US EPA and as Deputy Associate Director for Energy and Climate at the White House Council on Environmental Quality. She joined the Obama Administration from Resources for the Future, where she was awarded a patent for her work on the Adaptation Atlas.

### PRACTICE

re:focus partners, San Diego, CA | Founder & CEO / 2012 - present

Johns Hopkins University, School of Advanced International Studies (SAIS), Washington, D.C. | Visiting Associate Professor of Environmental Policy / 2013 - 2014

U.S. EPA, Washington D.C. | Special Representative, Office of the Administrator | 2011 - 2012

U.S. EPA, Washington, DC | Deputy Assistant Administrator, Office of International & Tribal Affairs | 2009 - 2011

White House Council on Environmental Quality, Washington, DC | Deputy Associate Director for Energy & Climate / 2009

Resources for the Future, Washington, DC | Fellow / 2005 - 2009

### EDUCATION

Carnegie Mellon University, Pittsburgh, PA  
Ph.D. in Engineering & Public Policy, 2005

Carnegie Mellon University, Pittsburgh, PA  
M.S. in Engineering & Public Policy, 2001

Carnegie Mellon University, Pittsburgh, PA  
B.Arch in Architecture, 2001

### AWARDS

Andrew W. Mellon Foundation. \$108,000 Mellon Fellowship in Environmental Regulatory Implementation to document federal and state environmental justice regulation and its impacts, June 2006 – May 2008. Charles A. and Anne Morrow Lindbergh Fellowship. Awarded a \$10,580 grant for applied environmental research that promotes a sustainable balance between technology and nature, June 2003 – June 2004. Information Week Fellowship. Awarded a \$10,000 grant from Information Week Magazine and the CMU Software Industry Center to study social applications of information technology, May 2001 – Sept. 2001.

## RE:FOCUS / FINANCE CONSULTING

JAMES S. RHODES, PH.D., DIRECTOR & CO-PRINCIPAL INVESTIGATOR



Jamie Rhodes is an expert in risk mitigation strategies that fall at the intersection of policy, technology, and project development. He is the Director of Insurance-Linked Finance at re:focus partners, co-founder of the TRT Group, and a Co-Principal Investigator of the RE.bound Program. Jamie also serves as President of the Embori Group LLC, which includes several firms engaged in developing near-term approaches to reduce CO2 emissions and mitigate associated climate risks. Jamie's work in these fields spans 16 years and includes roles in academia, in the private sector, and as a grantee on projects designed to advance the public interest. He is an entrepreneur who holds multiple patents and has founded and built multiple successful enterprises across diverse industry segments. Jamie earned a Ph.D. in Engineering and Public Policy from Carnegie Mellon University, and worked as a Post-Doctoral Researcher at Scripps Institution of Oceanography and then as a Staff Researcher at U.C. Davis.

### PRACTICE

re:focus partners, San Diego, CA | Director, Insurance-Linked Finance & Co-Principal Investigator, RE.bound Program / 2015-present

Embori Group LLC | Co-founder & President / 2012-present

University of California | Project Managing Director / 2010-2011

ContentScan, Inc. | Co-founder, EVP Srategic Development; Chairman of the Board of Directors: Lead negotiator for the sale of core business assets / 2000-2012

### EDUCATION

UC San Diego, Scripps Institute of Oceanography, San Diego, CA  
Postgraduate Researcher, 2009

Carnegie Mellon University, Pittsburgh, PA  
Doctor of Philosophy in Engineering and Public Policy, 2007  
Master of Science in Engineering and Public Policy, 2003

University of Denver, Denver, CO  
Bachelor of Science in Environmental Science, 1997



Alameda Creek Crawl

East Bay Dischargers Authority

Treatment Ponds

Connection to EBDA Pipeline

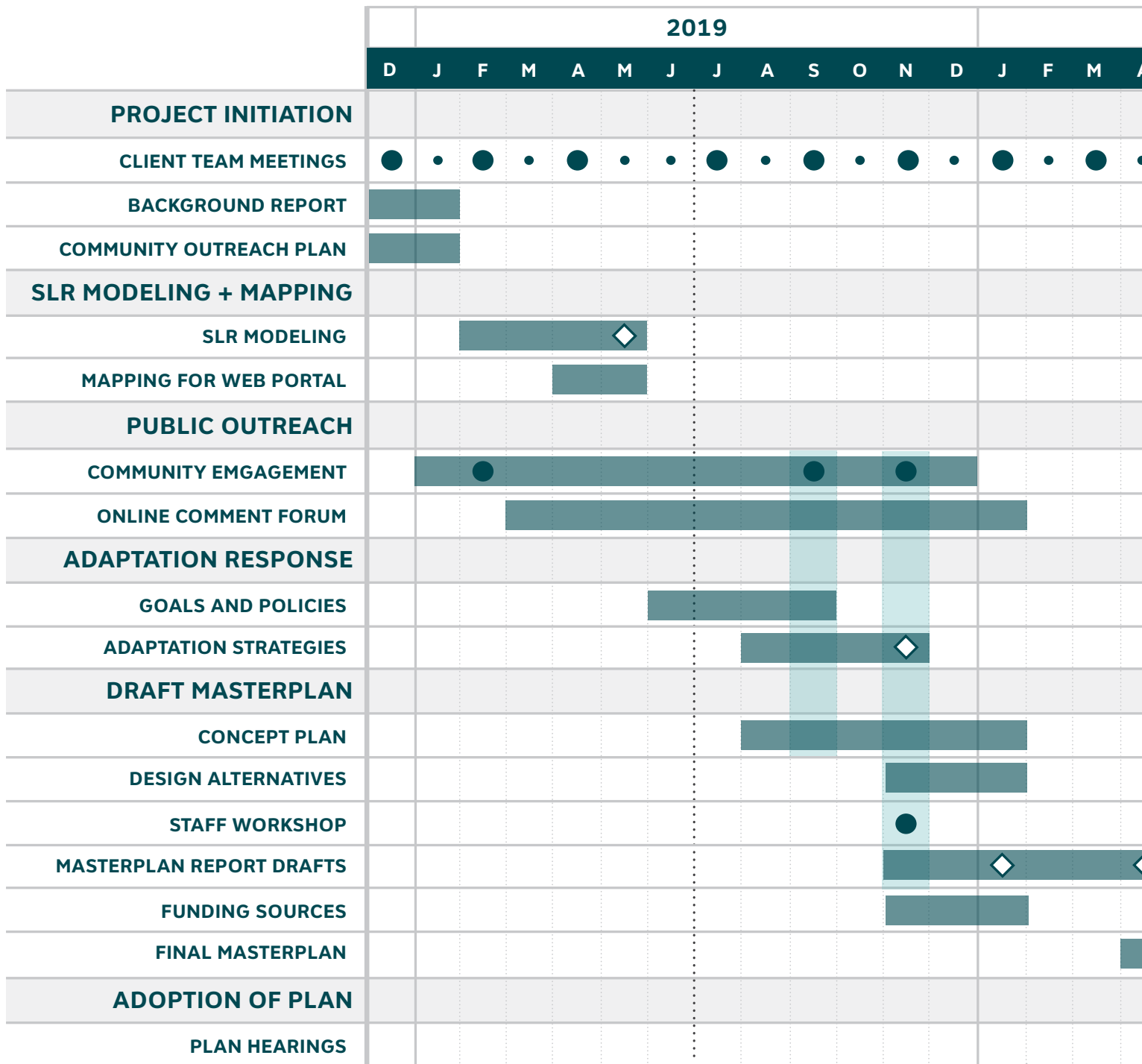
Perimeter Levee Protection

# EXHIBIT B: SCOPE OF WORK



Critical Infrastructure at Risk of Inundation

# PROJECT TIMELINE



- IN-PERSON MEETING / WORKSHOP
- VIRTUAL MEETING
- ◆ REPORT SUBMISSION
- ✦ FINAL MASTERPLAN REPORT SUBMISSION





# FEE PROPOSAL

TASK	FIRM	FEE	DIFFERENCE FROM GRANT
<b>1. PROJECT INITIATION AND FAMILIARIZATION</b>		<b>\$54,000</b>	<b>+ \$13,000</b>
	SCAPE	\$20,000	
	CONVEY	\$34,000	
<b>2. SLR MODELING + MAPPING</b>		<b>\$36,500</b>	
	SCAPE	\$1,500	
	ARCADIS	\$35,000	
<b>3. PUBLIC OUTREACH</b>		<b>\$40,000</b>	<b>+ \$37,500</b>
	SCAPE	\$15,000	
	CONVEY	\$30,000	
<b>4. ADAPTATION RESPONSE</b>		<b>\$99,500</b>	<b>- \$45,500</b>
	SCAPE	\$42,500	
	ARCADIS	\$57,000	
<b>5. DRAFT MASTERPLAN</b>		<b>\$207,500</b>	<b>- \$37,500</b>
	SCAPE	\$161,000	
	ARCADIS	\$31,000	
	CONVEY	\$3,500	
	REFOCUS	\$12,000	
<b>6. ADOPTION OF PLAN</b>		<b>\$4,000</b>	
	SCAPE	\$2,000	
	ARCADIS	\$2,000	
<b>EXPENSES</b>		<b>\$34,500</b>	
	SCAPE	\$30,000	
	ARCADIS	\$2,000	
	CONVEY	\$500	
<b>TOTAL</b>		<b>\$479,000</b>	

Our team believes that strong and resilient communities are critical to any planning and adaptation process, and that residents' voices and priorities should play a key role in the development of master plans for their neighborhoods. We also know that engagement, with the public and with key stakeholders, is a time consuming activity. Therefore, we chose to prioritize tasks related to the project's

public engagement scope such as the background report work (Task 1.4) and public outreach work (Task 3) and reallocate some of the project funding accordingly, to compensate partners in accordance with the time we feel necessary to perform the desired result. Our team is open to suggestions and further discussion on this distribution. .

# SCOPE OF WORK

## PROJECT INITIATION

Many Bay Area communities are tackling the tough technical, social, and environmental challenges faced by sea level rise. Members of the SCAPE team have helped shape this regional dialogue. For example, on behalf of the Alameda County Flood Control District (ACFCD), Convey served as the founding secretariat for CHARG (Coastal Hazards Adaptation Resiliency Group), bringing together local, regional, state, and federal stakeholders for common understanding and action. Arcadis has worked on the San Mateo County shoreline vulnerability study and worked with SCAPE on Resilient by Design (RBD), a highly collaborative and high-paced initiative, which offered a unique opportunity to engage the range of adaptation strategies being advanced and discussed throughout the Bay Area, from Suisun to the lower reaches of the South Bay. Through these many landmark projects, our group is extremely well-versed in potential regional adaptation concepts, likely regulatory hurdles, and potential funding mechanisms for the implementation of big ideas, both short- and long-term.

Through RBD, and through numerous other planning, design, modeling, and capacity-building projects, our team is familiar with the Hayward Shoreline's key stakeholders, communities, and regulatory partners that will be critical to this planning process. This includes a strong working relationship with the ACFCD, East Bay Regional Park District, US Fish and Wildlife, California Department of Fish and Wildlife, San Francisco Bay Area Development Commission, Regional Water Quality Control Board, US Army Corps of Engineers, South Bay Salt Pond Restoration Project, San Francisco Bay Joint Venture, Metropolitan Transportation Commission, and the State Coastal Conservancy.

Our team also has strong working relationships with staff at the City of Hayward, Hayward Area Recreation District, Alameda County Public Works Agency, and local elected officials through Convey's work, for example, of securing funding for the San Lorenzo Creek Greenway and working with City staff on recycled water initiatives.

## 1.3 MEETING WITH STAFF AND CONSULTANT TEAM, STAKEHOLDERS LIST

Our team will build on this knowledge, and as a first step will identify and compile a list of key stakeholders for the study area, including a broad base of partners that includes community stakeholders, ecological stakeholders, and owners/operators of key infrastructural elements along the shoreline like public utilities and transportation systems.

## 1.4 BACKGROUND REPORT

Through a focused online survey tool, along with individual and small group interviews, the SCAPE team will start to articulate people's concerns, aspirations, and priorities for shoreline resiliency. These early discussions will help frame and guide subsequent community outreach activities. They will also help prioritize the fundamental criteria by which adaptation strategies will be developed and analyzed. An equally important early step will be to understand and consolidate the thoughts of people who have not been working on shoreline resiliency and introduce them to the future threats that face the study area.

The online survey tool will be distributed to the project contact list (developed in Task 1.3) and will also be disseminated through project partner channels (for example, via city e-newsletters and social media feeds). Carefully formulated survey questions will be augmented with images, maps, or other visuals to help enhance people's understanding and make their responses more meaningful.

The SCAPE team will assemble and summarize survey and interview findings into a Stakeholder Interview Summary that offers a high-level overview of public sentiment about the future of the Hayward Shoreline. Data and interview summaries will be attached as an appendix.

## 1.5 COMMUNITY OUTREACH PLAN

The Hayward Shoreline is an invaluable public asset, beloved and used by many. Its marshes and tributaries serve as wildlife habitat, as well as the first line of defense for flood risk reduction for nearby neighborhoods, amenities, and vital public services.

One of the SCAPE team's core values is to integrate land use strategies and projects into communities through creative collaboration and participation.

Our Community Outreach Plan (COP), developed in partnership with HASPA, will outline the techniques, including schedule, by which we will accomplish this important aspect of the project.

Engagement will set expectations for the Shoreline Master Plan, help identify participants' perceptions and goals for the shoreline area and its open spaces and generate useful ideas and concepts that impact the plan. Outreach and engagement will be organized to maximize participation, employ a variety of meeting types (including face-to-face sessions, open forums, and guided charrettes), and provide a digital survey platform for engagement and feedback of a wider group of users. Engagement will be documented, with clear project reporting and summaries of messages received during each event and how these comments influenced the plan's evolution.

## 2. UPDATE SLR MODELING AND MAPPING

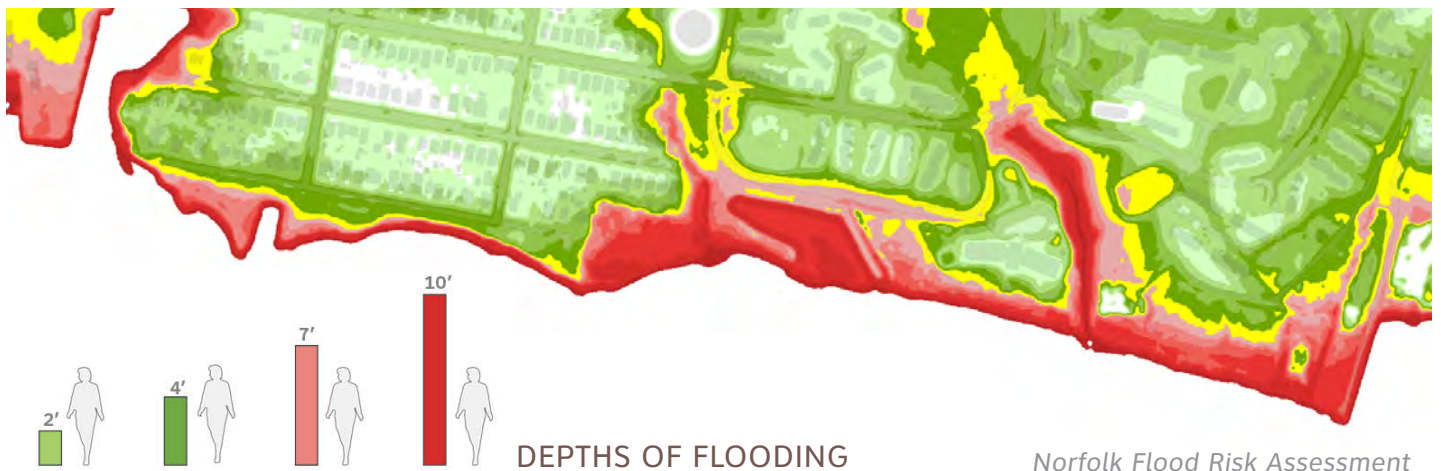
### 2.1 MODEL SLR INCLUDING GROUNDWATER AND RAINFALL IMPACTS

Existing Sea Level Rise vulnerability and flood inundation mapping studies for the City of Hayward have been conducted by multiple sources, including FEMA, the ACFCD and the Adapting to Rising Tides Program. These studies provide a good base point to understanding vulnerability of the Hayward Area Shoreline to present and future flooding. SCAPE and Arcadis have been working closely with the ACFCD

over the last 2 years as a part of the Resilient by Design project and understand the significant amount of flood inundation modeling they have conducted for Alameda County. Arcadis is continuing to work with the ACFCD on its Coastal and Riverine Flood Assessment project to evaluate the impacts of present and future changes in precipitation and extreme tides on the Alameda County tidal shoreline including the Hayward Area Shoreline. Convey has been working with ACFCD since 2014 on shoreline resilience (through the CHARG project) and since 1999 on community outreach and education about western Alameda County flood risk. These relationships provide an important technical resource for understanding present day and future potential flood inundation due to storm surge, wave action, SLR and rainfall.

We will update the existing flood inundation maps and review the existing vulnerabilities within the Hayward Area Shoreline. Additionally, the project team will review existing topographic information and the recent LIDAR set to incorporate any recent construction, erosion, or subsidence which may impact vulnerable areas.

Prior to developing the SLR inundation maps, the project team will provide a summary of existing SLR planning guidance based on local, State, and Federal guidance for the client team's consideration. This will include the recently published State of California Sea Level Rise guidance updated in 2018. Based on this guidance, a recommendation for sea level rise projections to be used in the mapping will be developed for discussion.



For the impacts associated with groundwater, the project team will utilize the existing work conducted by CHARG and any available literature regarding present ground water levels in the project shoreline to qualitatively identify potential areas of vulnerability within the project shoreline. There has been very limited investigation into the response of groundwater levels to future increases in sea levels. Some simplifying assumptions may be made to understand what risks exist based on a scientific understanding of groundwater responses within tidally influence areas. Additionally, the risks associated with shallow groundwater interacting with surface water bodies (exacerbating the flood risk) and infrastructure will be qualitatively evaluated.

Based on this review of the available information around groundwater levels, storm surge and sea level rise a series of maps will be generated to define risks at three different time scales appropriate for the masterplan. These maps will be generated as spatially driven data sets and depict the extent of risks within the project vicinity.

The inundation maps will be overlaid with additional existing GIS data to describe the types of areas impacted, for example land use, habitat types, recreational areas, infrastructure, and critical facilities. This data collection and modeling effort overlaps with work being conducted by Arcadis for the ACFCD's Coastal and Riverine Flood Assessment and creates an opportunity to coordinate between HASPA and the ACFCD on future flood potential. Collected data used in this effort and mapping results identifying vulnerable areas will be summarized into a Data Collection and Sea Level Rise Mapping report. The report will be provided in draft and final formats for review and comment by HASPA.

## **2.2 ONLINE DISPLAY AND SHARING**

There are many ways to communicate the results of the SLR mapping efforts to the public and to allow end users to evaluate how SLR may impact areas important to them. The use of a web portal can provide varying levels of complexity and overlays to communicate vulnerability associated with SLR.

For example, for the Delta Levee Improvement Strategy project, Arcadis, with outreach support from Convey, developed a web-based planning tool to show the range of possible outcomes across the study area for the range of plausible future scenarios in map and tabular formats. For the Hayward Shoreline Master Plan, we propose a simple and user-friendly portal that would allow people to visualize the inundation extent over existing land use types and facilities.

Upon completion of the SLR mapping efforts, the project team will work with the City of Hayward GIS staff to identify the preferred level of complexity to incorporate into the web portal and how to store and publicly disseminate the new map information. At this time the project team assumes that the mapped data will be incorporated into the City of Hayward GIS Web Map and Open Data Portal (<https://www.hayward-ca.gov/discover/maps>) by the City of Hayward GIS staff. The project team will work with GIS staff to provide and package all pertinent data and information into the required formats.

## **VISUALIZING RISK**

A critical step in our team's resilience work is "unpacking the black box" of climate projections and hazard analyses and being transparent about the uncertainties inherent in climate projections and models. The translation of the technical jargon of hazard mitigation and coastal engineering to people's perceived needs, concerns, and actual experiences is critical to building confidence in the planning and design process and a commitment to collaboration among project stakeholders.

The SCAPE team has deep expertise in the tools used to evaluate flood scenarios and flood risk, and how to translate their complex analysis to legible tools for public engagement and dialogue about risk. Our team will visualize the risk, showing the modeled sea level rise scenarios over time, in relation to community assets, critical infrastructure vulnerabilities, and ecological features.

In addition to visualizing the updated SLR modeling our team will overlay new insights into other climate change risks that will inform the planning process, including likelihood of increased / decreased

sedimentation, increased erosion, changes to precipitation, and temperature change. While more accurate SLR projections are the focus of the modeling work, the planning process should be informed by a wider set of climate change criteria.

### 3. PUBLIC OUTREACH

#### OUTREACH STRATEGY

Successful community engagement requires an ongoing and meaningful conversation with a wide range of stakeholders throughout the process. No engagement technique is one-size-fits-all; people are diverse in how they want to converse or choose to be engaged. We have found in our work that variety and innovation in engagement is key to the success of any public project.

The Hayward area already has a number of interested local stakeholders engaged in the waterfront's future. A critical component of public engagement will be to establish an ongoing dialog with these various stakeholders while reaching out to groups that are often under-represented, such as immigrant communities, ESL communities, and communities of color.

The SCAPE team's general outreach strategy will be to reach out to key stakeholders first (via interviews and surveys performed as part of Task 1.4), then broaden our outreach to the larger public. Key stakeholders will include, for example, HASPA joint power authority representatives, staff from partner

and affiliated agencies (for example, Caltrans, ACFCD), and local elected officials.

The SCAPE team will also make an extra effort to invite community groups such as the Hayward Area Shoreline Citizens Advisory Committee, nearby large property owners, and neighborhood groups, to participate. Our outreach strategy includes techniques by which we will educate people about important issues and solicit their meaningful input.

#### 3.1, 3.2, 3.4 COMMUNITY WORKSHOPS

HASPA's RFP has outlined three community workshops over the course of the project. The SCAPE team, in collaboration with HASPA, will plan, organize, and facilitate these workshops. Each workshop will be designed with clear objectives to provide meaningful input to the Master Plan and, concurrently, educate the participants about shoreline resiliency. We are currently assuming 3 workshops will be conducted but may propose alternative activities as part of the Community Outreach Plan effort.

SCAPE and Convey have led very successful and engaging workshops with community members of the East Bay as part of the Public Sediment RBD project, including workshops of varied formats and forums to attract different participants. These include in-situ site workshops, more conventional 'town hall' type forums, engaged design charrettes, and 'science-fair style' sessions. We will work with the client team to tailor the approach to the need of the project and timeframe.



Creek Crawl event organized as part of Resilient By Design. San Francisco, CA.



Town Branch Waterwalk by SCAPE

### 3.3 ONLINE FORUM

Online survey and comment tools are well accepted in the Bay area and are a powerful and economical way to reach a broad sector of the public. As with the online survey in Task 1.4, the SCAPE team will embed graphics – including maps and photographs – into the online tool so that people can quickly grasp the preferred alternatives and offer their input on them. We recommend, as an additional service, to have all major outreach materials translated into Spanish to reach Hayward’s diverse communities.

### ADDITIONAL/INNOVATIVE ENGAGEMENT METHODS

We believe in reaching out to people where they already are. Therefore, as an optional task, a part of our strategy will be to identify already-planned events (festivals, farmers markets, etc.) and community gathering places at which to conduct additional pop-up outreach activities. The number and extent of these activities would be developed with the client team as part of the Community Outreach Plan (Task 1.5).

In addition to the workshops outlined in the expressed scope, as an optional task, our team proposes to hold two additional outdoor events, timed in concert with team site visits, to bring people out into the vast and expansive landscape of the Hayward Shoreline. The raw landscape is a powerful place, but the risks that the Hayward Shoreline faces is difficult to comprehend without interpretation.

To engage the largest number of constituents we believe engagement must be fun. SCAPE and Convey bring experience with facilitating events that combine engagement of local communities with site-specific activation and programming. As an optional task, the SCAPE team can partner with the Hayward Shoreline Interpretive Center to host a “Shore Activation” event along the Hayward area waterfront. This can include stands serving food and beverages from local businesses; kayaking or boating tours; tabling for community organizations that provide services and programs; activity stations with models, maps, and blackboards that allow interactive commenting on proposed alternatives. SCAPE has successfully

used similar events to engage community during past planning efforts, such as the Alameda Creek Crawl at Alameda Creek.

‘Shore Tours’ and ‘Creek Crawls’ are examples of in-situ events that can help people more deeply engaging the planning of the future shore and attract a more diverse and multi-generational audience to the conversation. We will work with the client team to identify the most appropriate and relevant strategy for the area.

To help support neighborhood associations and community groups who are able to devote more time to the effort, or for future meetings without the consultant team, our team can produce a “Meetings-In-A-Box” that may include maps, models, diagrams and other items that can be taken to local events and meetings, used for tabling at local seasonal events, and kept by the client team for future community engagement work related to community resilience and watershed management. Providing these ready to use “toolkits” to more invested members of the community can help foster a sense of co-ownership and expand the reach of outreach.

## 4. ADAPTATION RESPONSES

### 4.1 GOALS AND POLICIES

Bay Area communities are on the front lines of the challenges presented by climate change. Rising temperatures, rising sea levels, and increasingly intense storms and rainfall events threaten to irreversibly change not only the frequency of disasters, but our everyday urban experience. This requires ideas for physical infrastructure improvements, ecological investments, and new planning and zoning guidelines that ease the path for private landowner adaptation. The Shoreline Master Plan is an important step forward. The SCAPE team will evaluate past vulnerability assessments carefully and identify key planning issues to be addressed through the shoreline masterplan. Building on knowledge and insight collected through public workshops and engagement, as well as the analysis of Sea Level Rise and related risks, we will outline key goals and

# Natural and Built Assets of the Hayward Shoreline

San Lorenzo Creek

Bockman Canal

Alluvial Plain

Oro-Loma Marsh

Sulfur Creek

Managed Marsh

Hayward Landing

Cogswell Marsh

SMH Mouse Preserve

Johnson Landing

Oliver Salt Ponds

Eden Landing Phase I

Old Alameda Creek

Whale's Tail Marsh

Eden Landing Phase 2

Mudflats

Alameda Creek

Fringe Marsh

Oro Loma Sanitary District

East Bay Regional Dischargers Authority

Golf Course

Hayward Exec Airport

Railway

Landfill

Recreational Access

Russel City Energy Center

Industrial Development

Oxidation Ponds

Hayward

Wet Weather Storage

Bay Trail Connection

Hayward-San Mateo Bridge Approach

Interpretive Center

Residential Development

Union Sanitary District

Union City

Alameda Creek Trail

Coyote Hills Park





objectives for the masterplan and identify potential policy frameworks and tools to be leveraged toward these goals. These preliminary goals and policies will be further shared and discussed with interested stakeholders through the public engagement process and refined based on ongoing feedback.

## 4.2 ADAPTATION STRATEGIES AND IMPLEMENTATION ACTIONS

The SCAPE team believes in a layered approach to waterfront resilience, where combinations of creative design and planning techniques enable communities to step down risk while also generating new opportunities for placemaking, education, and both economic and ecological activity. Our team strongly believes in jointly exploring layered concepts of hard and soft infrastructure, investing equally in protecting critical infrastructure like wastewater treatment plants and bridge abutments from near-term and long-term damage, while setting up functional ecosystems, like connected sediment flows from creeks to tidal wetlands, to ensure long term sustainability of ecological resources that buffer the shore.

While a focus is often put on reducing inundation of critical infrastructure, it is equally critical to study the wider implications of sea level rise and urbanization on the wider ecosystem. The Bay area's ecological infrastructure - its marshes, mudflats, and coastal edges - is at risk. The slow and methodical subsidence of the Bay's tidal wetlands, combined with sea level rise, is a catastrophe of tremendous proportion not just for ecosystems, but for communities.

A review of the vulnerable areas and facilities will be conducted at the outset of this task, learning from previous assessments and identifying any constraints that may limit the ability for adaptation strategies to be implemented. For each adaptation strategy a series of alternative implementation actions will be developed. Each alternative will be described in plan and section to outline its general layout. Additionally, for each alternative a discussion of pros and cons will be provided. The pros and cons will qualitatively discuss things such as constructability, cost, environmental impacts, permitability, etc. so that alternatives can be compared to one another.

The adaptation strategies and implementation alternatives will be summarized in an Adaptation Strategies Report. The report will be provided in Draft and Final format for HASPA Review.

The Hayward Shoreline, because of its concentration of built and natural assets, is an ideal case study for a layered approach of solutions that hybridize soft and hard infrastructure. We will develop draft adaptation strategies customized for these specific vulnerabilities, and study various implementation actions for each of these strategies. The following list is not comprehensive, but includes early thoughts on adaptation and mitigation solutions to explore:

- Expanding and implementing 'Horizontal levee'-type solutions piloted at Oro-Loma, for the protection of critical infrastructure and vulnerable communities.
- Updating and adapting the zoning code to incentivize, enable, and require private landowners to incorporate resilient building retrofits and new construction, including the elevation of critical utilities, floodable ground floors, and potentially elevation of homes, including temporary structures like trailer homes.
- 'Pebble Dune' or Gravel Beach and Berm solutions for erosion control and flood risk reduction along the bay-side edge, as explored with Public Sediment at Alameda Creek with the regulatory community. The Hayward Shoreline historically hosted coarse-grain beaches with flood risk reduction and habitat benefits.
- Restoration alternatives with risk-reduction benefits of the EBDA discharge into Hayward Marsh which is not functioning as desired.
- New Bay Trail construction details or alternative alignments that are flood resilient and do not limit ecosystem functions.
- Identify opportunities for tributary connection with bayland ecosystems for habitat and sediment supply purposes. This includes a sediment assessment and assessment of long-term viability of bayland habitat along the East Bay shoreline, which historically has had

low rates of accretion compared to the South Bay. This includes a need to look outside the shoreline study area, to the upland areas, to understand the relationship between the bay edge and its tributary watersheds.

- Establishment of long-term tidal wetland priority sites for maintenance and preservation, for ecological and community risk-reduction benefit. Exploration of the range of techniques that might be needed to ensure long term success, including the beneficial use of dredge material for tidal marsh restoration, 'marsh lift' and enhanced tidal dissipation.
- Identification of long-term potential land use changes for further study, including transition zone planning and the identification of areas for marsh migration, and voluntary coastal retreat or relocation of urban development.
- Adjustment or fortification of tide gates and pump stations to reduce the potential for inland flooding along the creeks and tributaries
- Repair the outboard levee along the Hayward Marsh to provide additional flood protection and protect the marshland behind it.
- Fortify perimeter flood protection measures, with levees or floodwalls, at critical infrastructure such as the Russell City power plant.

Adaptation strategies and implementation actions must align with regional and local goals and policies, thinking both at the scale of the Bay and at the scale of individual tributaries. A suite of adaptation strategies will be developed based on relevant goals and policies along with a review of the vulnerabilities identified in previous studies and new vulnerabilities identified in the SLR mapping efforts. It is important to consider adaptation strategies that strive to provide multiple lines of defense and incorporate nature-based solutions where possible, but to also recognize limitations to implementation.

## 5. DRAFT MASTER PLAN AND MAPS

### 5.1 DEVELOP SHORELINE MASTER PLAN CONCEPT

Building on the adaptation strategies and implementation actions identified in earlier tasks, as well as public feedback collected through community workshops and online survey/forum, the SCAPE team will compile a conceptual master plan proposal, continuously testing against goals and policies set in Task 4.1. This plan will be developed in tandem with the HASPA team and vetted and revised through team meetings and work sessions.

The Public Sediment process is a useful example of how adaptation alternatives were discussed



with multiple stakeholders, narrowed down to key implementable but visionary ideas, and incorporated into a draft plan for review. Larger stakeholder working group meetings allowed for the periodic review of adaptation concepts assembled by the team. Strategic, focused charrettes with clusters of key stakeholder groups (organized separately around themes of fish passage, sediment + flood control, and public access) allowed the planning team to vet the impacts of a wider array of solutions that addressed more specific problems, and then incorporate these decisions into the work presented at wider stakeholder and client meetings. This tiered process of communication and design will be translated to the Hayward Shoreline planning process as part of the Community Outreach Plan (Task 1.5), where our team will work with HASPA to identify the appropriate mix of large vs. small meetings, charettes vs. presentations, interactive events vs. information sharing, which will help develop the shoreline masterplan concept.

## **5.2 FORMULATE ALTERNATIVES**

Our team will prepare a Preferred Alternative Framework, including policies and implementation actions. All master plan concepts will be robustly represented in visual format, accessible and easy to interpret by a wide variety of users. Our team's approach is grounded in the idea of understanding and enhancing connections between ecological and social systems and public infrastructure.

SCAPE believes in iteration and testing through hand sketches, diagrams, perspectives, 3D visualization, physical models, and plan drawings to convey multiple alternatives to the client team and relevant stakeholders. Through a process of exploration, we develop and review multiple options, and work with our clients to identify the most successful alternative. We bring expertise in bridging not only engineering and design, but concept and implementation and will be committed, throughout the planning process, to delivering a visionary yet implementable strategy. Refining the adaptation strategies and implementation actions identified in Task 4.2 the

team will formulate a limited number of preferred alternatives for further review and assessment.

## **5.3 MASTER PLAN WORK SESSION**

Once a draft master plan is developed and design alternatives are explored and refined, the SCAPE team will coordinate and lead a working session with HASPA and other City of Hayward staff to present the work and collaboratively identify weaknesses and opportunities for further development. We consider this work session to be a critical step in the process, building on the local and professional expertise of city staff and their familiarity with the existing regulatory landscape, planning and zoning mechanisms, as well as social and environmental conditions.

## **5.4, 5.6, 5.7 DRAFT MASTER PLAN REPORTS**

Based on the preferred alternative developed through the planning and outreach process, the SCAPE team will compile a draft master plan report consisting of relevant research and analysis methodology, an outline of goals and policies identified, and a clear and comprehensive visual and analytical representation of the preferred alternative. This draft will be further refined through public input and the professional review and comments of the HASPA team, through multiple iterations. Building on our team's ample design and construction experience, we will formulate the report to be actionable and implementable, including specific implementation mechanisms, policy tools, and financing strategies.

## **5.5 POTENTIAL FUNDING SOURCES**

re:focus partners will lead our team's work to identify specific funding sources for implementation of the master plan's different components. re:focus works directly with public and private sector organizations to move from setting high-level resilience priorities to identifying investable projects and opportunities through a rapid, structured, participatory process. Re:focus will use four main tools to identify funding and financing sources including (1) finding who loses money in the absence of an intervention, (2) identifying value across multiple sectors, (3) integrating revenue and non-revenue generating

projects and services, and (4) leveraging insurance-linked solutions, such as Resilience Bonds for project finance. The end goal in every process is to create new opportunities to generate savings and efficiencies; capture value; and potentially attract private capital for large-scale resilience projects. A premise of re:focus' finance portfolio is that design and financing are fundamentally parallel and complementary activities. Designing abstract solutions is unlikely to produce financing; similarly, creating a fund does not help a government agency figure out what to build or buy.

## HASPA ADOPTION OF FINAL PLAN

### 7.2 MASTER PLAN HEARING

The SCAPE team will prepare a presentation of the master plan and will attend a public meeting with HASPA, Hayward City Council, HARD Board of Directors, and EBRPD Board of Directors.

## SHORT, MEDIUM, AND LONG-TERM GOALS

The Hayward Area shoreline faces near term, very real risks – the Bay Trail floods multiple times a year within the study area, requiring new details and alignment considerations. The city's water pollution control facility emergency storage ponds are at risk of contaminating the bay as subsidence, sea level rise, and groundwater levels change. Perimeter levees have eroded, reducing the coverage and extent of tidal marsh systems. Residential and industrial neighborhoods face potential future inundation on a regular basis. The long-term risks are also clear, if abstract. Subsidence and lack of sediment supply to the bay create unsustainable conditions for the ecological systems of marshes and mudflats along the Hayward shore. Bridges and highway crossings may be compromised, limiting access and mobility in the region. Our team proposes to fully assess these potential risks, and evaluate their interrelationships and potential responses to other climate change

impacts, like changes to precipitation, temperature, and storm and wave action threats. We will aim to propose a range of solutions that adapt and mitigate the risks over time. These include short-term projects that protect critical assets, short- and medium-term projects that unlock and enable sustainable ecological processes to grow over time, and medium- and longer term projects for pursuit that define new ways of zoning, regulating, and investing in a resilient Hayward Shoreline.

## UTILIZATION OF CO-BENEFITS AND LIVING INFRASTRUCTURE

SCAPE is an international leader in sustainable living systems design and works to integrate an innovative ecological approach in every project. Our team has specific expertise designing intertidal and subtidal habitats for the Living Breakwaters project, where we are working closely with a team of marine ecologists and engineers to design coastal protection structures that protect shorelines from erosion while providing rocky substrate and habitat to recruit bivalves, protect established fish spawning grounds, and expand feeding and shelter zones for juvenile fish. While this type of work is deeply technical, it spurs opportunities for stewardship and education that inform the design process. Such projects also serve as platforms for community engagement, environmental education, and long-term stewardship. We will seek similar stewardship and engagement opportunities for the Hayward region shoreline. SCAPE and Arcadis' work on Public Sediment reveals the opportunities embedded in living infrastructure design in the Bay Area, where we proposed that sea level rise adaptation must happen upstream. The project proposed to unlock the creek to feed downstream baylands with sediment and sustain protective tidal ecosystems as the climate changes, and recognizes that tidal ecosystems are protective infrastructure that cushion the urban edges of the San Francisco Bay. We would bring this collective expertise to this project and identify sediment and living infrastructure design opportunities to improve

the resilience of the urban and ecological assets of the Hayward Shoreline.

## **MANAGEMENT APPROACH**

### **MANAGING PROCESS AND COMMUNICATION**

At the outset of the project our team will prepare a workplan based on our proposal and discussions with HASPA, that will guide the successful completion of the project. The workplan will define how the SCAPE team will manage the work to meet the client team's expectations, outline the project activities, key events, and deliverable requirements to meet the project design, schedule, and budget.

A critical component of our process is establishing pathways for structured communication and decision-making with the HASPA team. We have extensive experience leading complex master planning processes with broad client groups, including work in Lexington, KY, where SCAPE led the development of a 230-page masterplan for the first phase of Town Branch Commons. The client team for this 2.5-mile length linear trail and park system for the City of Lexington includes the Lexington Downtown Development Authority, county parks and utilities departments, and multiple private foundations, each with their priorities and interests. Through visioning workshops, design charrettes, and periodic review and comment periods, the SCAPE team was able to deliver a robust masterplan that has secured over \$20 million in state, federal, and local dollars, now under construction.

### **INTERDISCIPLINARY COLLABORATION**

SCAPE excels at collaborating with other design and engineering professionals and believes the best projects emerge from dynamic teams with a clear decision-making matrix and seamless communication. Having worked closely with Arcadis on multiple projects, including our \$60M Living Breakwaters project in NYC, we are confident in our ability to coordinate the work seamlessly.

Most recently, SCAPE and Arcadis collaborated on the award-winning Public Sediment project developed

for the Bay Area Resilient by Design Challenge, where Convey provided consulting services for the Alameda County Flood Control & Water Conservation District and played a critical role in supporting and facilitating discussions with the larger stakeholder group involved in the design process. Convey has also worked with Arcadis on the Delta Levees Improvement Strategy (DLIS).

Working with re:focus partners, SCAPE has developed resilience and green infrastructure strategies for several New Jersey cities as part of the New Jersey Future initiative, outlining specific financing strategies and implementation mechanisms.



Head of Tide Migration Over Time

Bockman Canal

Gravel and cobble deposition

# EXHIBIT C: STATEMENT OF QUALIFICATIONS

Limited Public Access

# TEAM OVERVIEW - ORGANIZATIONAL CAPACITY

## PRIME

### SCAPE

SCAPE is a design-driven landscape architecture and urban design studio with local, national and international projects. SCAPE was founded in 2007 by Kate Orff and located in New York City. We believe landscape architecture can enable positive change in communities through the creation of regenerative living infrastructure and public landscapes. We work to integrate natural cycles and systems into environments across all scales, from the urban pocket-park to the regional ecological plan. We do this through diverse forms of landscape architecture – built landscapes, planning frameworks, research, books, and installations – with the ultimate goal of connecting people to their immediate environment and creating dynamic and adaptive landscapes of the future.

Our staff is experienced in landscape architecture, architecture, urban design, and planning, and we integrate these skillsets to practice design as interpreters and synthetic thinkers. We lead and work with teams of engineers and architects on complex projects, from stormwater streetscapes to large public pedestrian infrastructure, translating technical expertise into legible and engaging public space. We also believe in working with communities and stakeholders to translate complex visions into realizable actions. We work with clients to ensure that visionary design concepts remain intact through the process of building landscapes. We aim to create public landscapes of lasting significance, reconnecting neighborhood infrastructure and habitats for generations to come.

We believe that designing resilient landscapes and building resilient cities starts with clear and successful communication to visualize risk and engage communities; requires iterative science-driven design; means working not just with static infrastructure but with living, adaptive landscapes; and necessitates realizing resilience not only through design but through policy, regulation, and adaptive management.

Our approach to landscape design and planning is articulated well in our book, *Toward an Urban Ecology* which reconceives urban landscape design as a form of activism, demonstrating how to move beyond familiar and increasingly outmoded ways of thinking about environmental, urban, and social issues as separate domains; and advocating for the synthesis of practice to create a truly urban ecology.

Our innovation and groundbreaking work in the field has earned the firm numerous awards and accolades: two national American Society of Landscape Architects awards, and a several NY American Society of Landscape Architects Awards.

We were the 2014 Buckminster Fuller Challenge Winner for our Living Breakwaters project, and founder and partner Kate Orff was the recipient of a 2017 MacArthur “Genius” Fellowship, an award that recognizes commitment and originality in creative pursuits.

SCAPE has been operating since 2007, and currently has 30 full-time employees. Our primary office is in New York City, with 29 full-time and we recently opened a satellite office in New Orleans with 1 full-time employee.





CLIENT TEAM

# HAYWARD AREA SHORELINE PLANNING AGENCY

CITY OF HAYWARD

EAST BAY REGIONAL  
PARK DISTRICT

HAYWARD AREA RECREATION  
AND PARK DISTRICT

## SCAPE

KATE ORFF, RLA

DESIGN LEAD  
GENA WIRTH

RESILIENCE LEAD  
PIPPA BRASHEAR

PROJECT MANAGER  
**NANS VORON**  
URBAN DESIGNER  
**LEE ALTMAN**  
LANDSCAPE DESIGNER  
**GENA MORGIS**

## ARCADIS

CLIMATE ADAPTATION AND  
RESILIENCE TECHNICAL EXPERT  
**PETER WIJSMAN**

CIVIL AND COASTAL  
ENGINEERING  
**CHRISTOPHER DEVICK, PE**

URBAN PLANNER  
**MARY KIMBALL**

WATER RESOURCES ENGINEER  
AND ADAPTATION SPECIALIST  
**MARTINA NOVAK, PE**

## CONVEY

OUTREACH MANAGER  
**REBECCA KRAWIEC**

PUBLIC OUTREACH LEAD  
**SYBIL HATCH, PE**

WEB DEVELOPER  
**PETER PATRACCA**

GRAPHIC DESIGNER  
**SUSAN GRANT**

## RE:FOCUS

FINANCE CONSULTING  
**SHALINI VAJJHALA, PH.D.**

FINANCE CONSULTING  
**JAMES S. RHODES, PH.D.**

DESIGN AND PROJECT LEAD

ENGINEERING AND SUPPORT

## SUBCONSULTANTS

### ARCADIS ENGINEERING

Arcadis is the leading global Design & Consultancy firm for natural and built assets with multiple offices in in the Bay Area supported by 28,000 employees across the globe. Founded in the Netherlands in 1888, Arcadis has long been involved in flood risk and resilience projects for planning, design and construction management, varying from large scale storm surge barriers, gate structures, levees, dikes and dunes to natural systems such as Building with Nature. Through our Dutch roots, Arcadis is recognized as a global leader in water management technologies.

We understand the complexities of coastal/estuarine environments - beyond San Francisco Bay we have planned, designed and managed the construction of some of the largest coastal resiliency projects in the world, including most recently in New York, New Orleans, Boston, Seoul, Goteborg, London, and of course, the Netherlands. We have specialized expertise in sea level rise risk and vulnerability assessments, hydraulic and hydrodynamic modeling, wetland restoration and green infrastructure planning and design, sediment transport and dredging, urban waterfront redevelopment planning and design and critical infrastructure protection.

ARCADIS and SCAPE have a strong history of collaboration on resilient design and coastal risk reduction projects, most recently on the Public Sediment Proposal for Resilient by Design Bay Area as well as on Resilient Boston Harbor Vision.

### CONVEY, INC.

Convey specializes in public outreach and communications to the flood control, water resources, transportation, and construction industries. Convey, celebrating its 21st year, is small enough to offer extremely responsive, innovative, and tailored service to its clients, and large enough to offer high-quality and diversified program implementation. Since 1997, Convey has helped advance ideas, initiatives, and organizations that are changing the way people understand the world.

### re:focus

re:focus partners is a design firm dedicated to developing integrated resilience solutions and innovative public-private partnerships for vulnerable communities around the world. The re:focus team uses its decades of collective policy experience to identify systemic infrastructure and funding gaps, where large-scale integrated projects can create both public value and new private investment potential with sound financial returns and economic, social, and environmental integrity for the communities they serve. In all cases, re:focus projects center on creatively aligning people and resources to solve major resilience challenges that range from reducing regional flood risk to catalyzing economic redevelopment and building social resilience.

THE FOLLOWING PAGES INCLUDE A SAMPLE OF RELEVANT PROJECTS BY THE PLANNING TEAM. ADDITIONAL PROJECTS ARE INCLUDED AS AN ATTACHMENT.

# RELEVANT EXPERIENCE

## LIVING BREAKWATERS DESIGN AND IMPLEMENTATION

STATEN ISLAND, NY / 2016-ONGOING

SIZE: 13,000 LF

BUDGET: \$60,000,000

ROLE: PRIME

Contact: Lisa Kaplan, Senior Project Manager  
NY Governor's Office Of Storm Recovery  
25 Beaver Street, 5th Floor, New York, NY  
(212) 655-8988  
Lisa.Kaplan@StormRecovery.ny.gov

\*National Achievement Award For Environmental Planning / 2015

\* ACES NY Engineering Excellence Award / 2015

\* Rebuild By Design Competition Winner / 2014

\* Buckminster Fuller Challenge Winner / 2014

The project is anticipated to move into construction in 2019 and be completed in 2021. It is currently on schedule and within budget.

The Living Breakwaters project is an innovative resilient infrastructure project designed to reduce coastal risk, create habitat, and support social resilience through improved access, education and stewardship. Designed for the shoreline of Tottenville in southern Staten Island, the Living Breakwaters are living in-water infrastructure that reduce erosion, attenuate damaging storm waves, and enhance ecosystems. They also link this in-water infrastructure with education and outreach to help increase awareness of harbor ecosystems and coastal risk. In 2014, the project was awarded \$60 million from US HUD in CDBG-DR funding for implementation based on the conceptual design developed by the SCAPE team through the Rebuild by Design competition. Now in final design, the project is being implemented by the NY Governor's Office of Storm Recovery (NY GOSR).

As the prime consultant and lead designer on the project for NY GOSR, SCAPE is leading the design process and managing the large multi-disciplinary team consisting of 8 subconsultants including engineers, ecologists, and surveyors. ARCADIS

Aerial Living Breakwaters Shoreline View

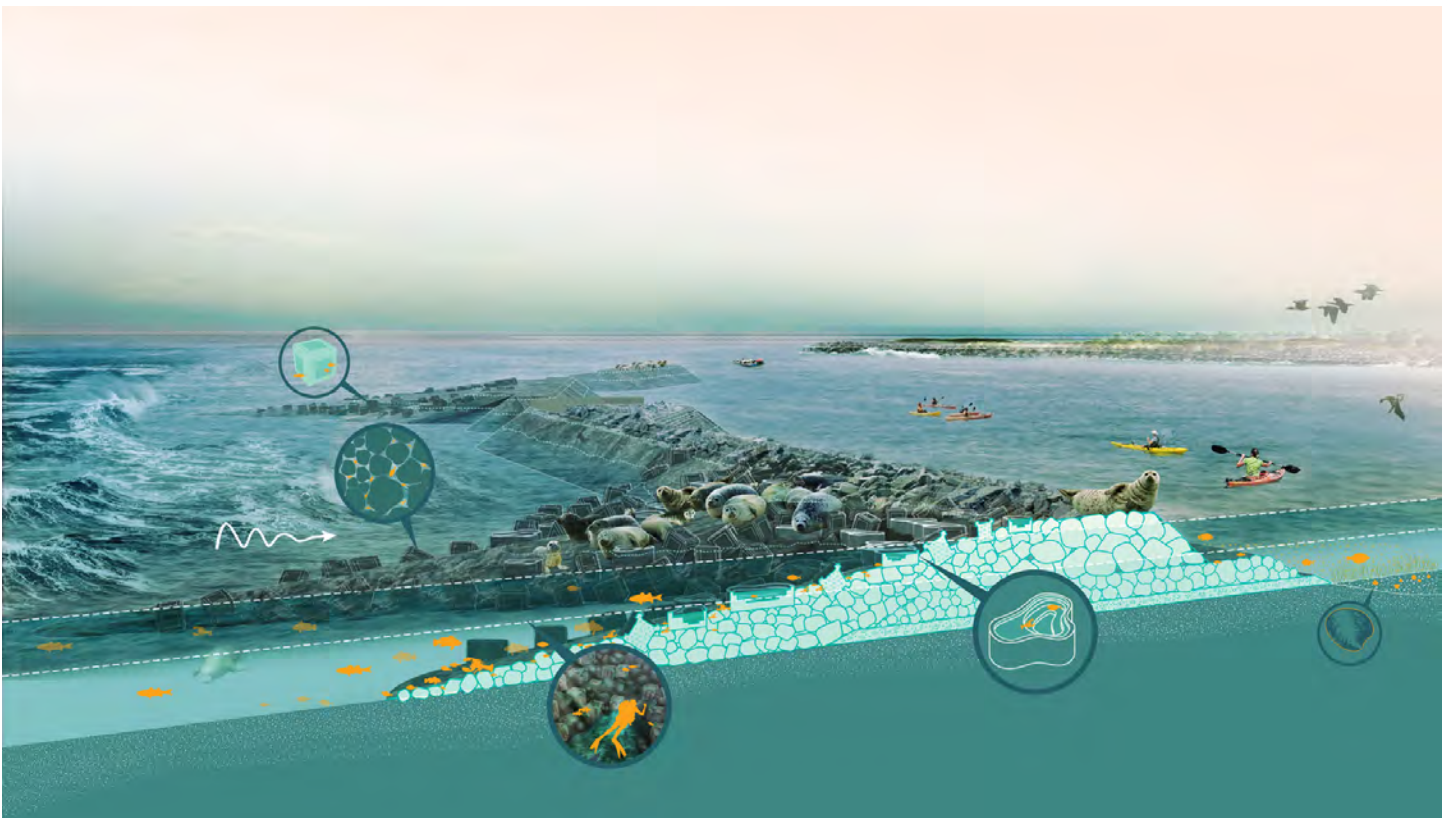


is leading the modeling and analysis—which includes long-term shoreline change modeling, wave modeling, water circulation and sediment transport modeling, computational fluid dynamic (CFD) modeling, and physical modeling—as well as assisting with environmental assessment tasks. MFS is providing surveying services and preparing a detailed engineer's opinion of probable cost for each phase of the design.

Throughout the design process, the team has maintained a close, interdisciplinary, design-science collaboration. SCAPE has worked with the engineering team to iteratively test and model different scenarios and evaluate the scenarios' impact on shoreline change, wave attenuation, sedimentation, and water quality in order to inform design decisions and resolve the technical design of breakwater elements. The design process includes this complex hydrodynamic modeling as well as ecological data collection, physical modeling, coastal, geotechnical, and marine structural engineering, active community engagement, agency coordination, and constructability assessments.

The design team has also worked closely with GOSR and their environmental team to prepare the necessary documentation for environmental and permitting documents and to clearly articulate the benefits and impacts of the project, helping to provide clear communication and design to minimize mitigation requirements. The SCAPE team and GOSR have also partnered with the Billion Oyster Project (BOP) to include the cultivation and installation of live oysters on the breakwaters. SCAPE is working closely with BOP to combine tried and true restoration techniques BOP is using throughout the harbor with new techniques specifically designed to enhance recruitment and growth of oysters on in-water structures like breakwaters. These installations will also for the basis for ongoing monitoring, education, and stewardship activities for BOP.

*Breakwater Section Diagram*



## OHIO CREEK WATERSHED RESILIENCE PROJECT

NORFOLK, VA / 2017-ONGOING

SIZE: 12 ACRES

BUDGET: \$13,000,000

Contact: *Christine Morris*

*Chief Resilience Officer*

*City of Norfolk, Office of Resilience*

*501 Boush Street, Norfolk, Virginia 23510*

*(757) 441-2602 x233*

*christine.morris@norfolk.gov*

The City of Norfolk selected the ARCADIS-led team including SCAPE Landscape Architecture to help them design and realize a bold strategy for neighborhood-scale resilience addressing flood risks, access, and social vulnerabilities in the neighborhoods of Chesterfield Heights and Grandy Village. Funded by US HUD through the National Disaster Resilience Competition, the project is currently in design development and scheduled to be constructed by 2022. The project includes a series of water-management strategies to address acute flooding (storm surge), chronic flooding (storm water), climate change (SLR) and social vulnerabilities. ARCADIS is managing a large interdisciplinary team to ensure that the project is truly multi-benefit, addressing concerns about mobility and access to economic opportunity and recreational amenities as well as reducing flood risk. ARCADIS is also designing the drainage and roadway infrastructure solutions that will help achieve these goals. As a key element of the overall neighborhood project, SCAPE is developing a design for a new “resilience

*Birdseye View of Park*



park” that will integrate a flood protection berm to prevent coastal flooding, green infrastructure to manage stormwater, and connect the two adjacent neighborhoods with a destination open space that incorporates programs and activities identified by

residents of both communities. The park design also incorporates spaces for “wild play” and educational programs for the adjacent elementary school and local non-profit run “learning barge.”



Above: Stakeholder and community group workshops. Below: Regional watershed map



## PUBLIC SEDIMENT FOR ALAMEDA CREEK

BAY AREA, CA / 2017-2018

SIZE: N/A

BUDGET: N/A

Contact: *Amanda Brown-Stevens*  
*Managing Director*  
*Resilient by Design*  
405 14th ST, Suite 164, Oakland CA  
(510) 816-2978  
[abrownstevens@resilientbayarea.org](mailto:abrownstevens@resilientbayarea.org)

*\*AIA California Council Urban Design*  
*Merit Award / 2018*

Public Sediment was developed for the Resilient by Design Bay Area Challenge, a design competition that brings together local residents, public officials, and local, national and international experts to develop innovative solutions to the issues brought on by climate change in the Bay Area.

Our team proposes that sea level rise adaptation must happen upstream. Public Sediment for Alameda Creek unlocks the creek to feed downstream baylands with sediment and sustain protective tidal ecosystems as the climate changes. Tidal ecosystems are protective infrastructure that cushion the urban edges of the San Francisco Bay. Yet the Bay Area's tidal ecosystems—its marshes, mudflats—are at risk. These systems require sediment to grow vertically in response to sea level rise – without sediment, our baylands will drown. Low sediment supply and bayland drowning represents a slow but devastating scale of loss that threatens ecosystems, recreational landscapes, and places hundreds of thousands of residents and the region's critical drinking water, energy, and transportation systems at risk. To

*Concept Rendering: Unlock Alameda Creek*





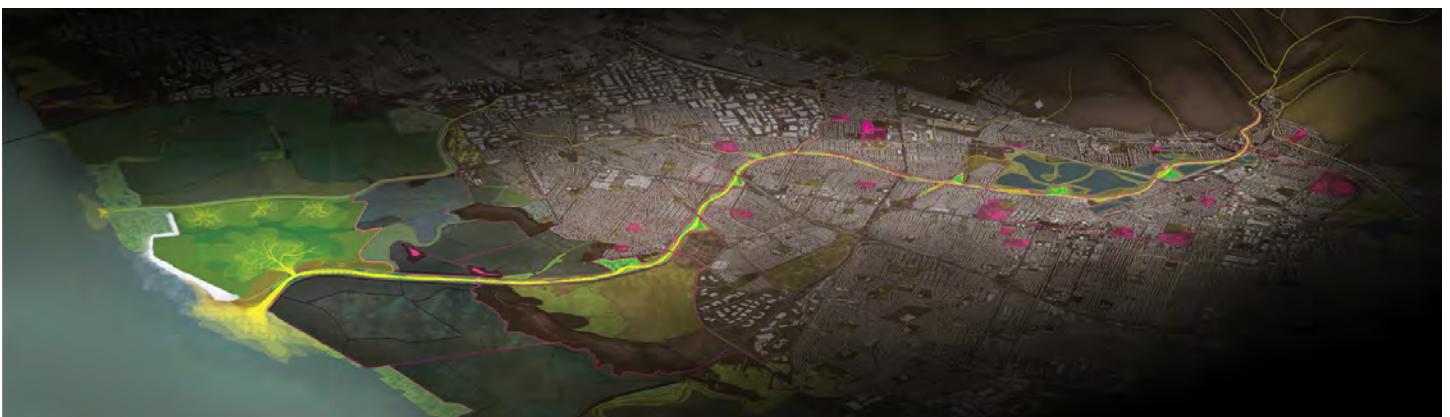
creatively adapt to this challenge, our team has focused on sediment, the building block of resilience in the Bay. Our team proposes to actively intervene in this ecological transformation by Designing with Mud and Making Sediment Public.

As part of Public Sediment's project, the team invited residents and community stakeholders to look past the flood control channel and experience the living creek hidden in their backyards, in an event called the Alameda Creek Crawl. Led by local experts from the Alameda County Water District, East Bay Regional Park District and Alameda Creek Alliance, the Creek Crawl revealed the creek's relationship with the Bay, its seasonal ecosystems, and its role as a critical flood control and water supply lifeline for the region.

Over 100 people joined the Creek Crawl, building an engaged constituency and audience committed to shaping the future of Alameda Creek. Creek Crawl interactive activities included a mudroom design station targeted towards children, a social media

photography exercise targeted to teens, and map-making and co-design opportunities for all ages. The Creek Crawl initiated a series of creek-based outreach events that advanced the conversation around the future of Alameda Creek and directly shaped the design of the Public Sediment for Alameda Creek proposal.

*Alameda Creek Crawl*



# MISSION CREEK SEA LEVEL RISE ADAPTATION STUDY

SAN FRANCISCO, CA / 2014-2016  
SIZE: N/A  
PLANNING COST: \$200,000  
CONSTRUCTION COST: NONE

Contact:

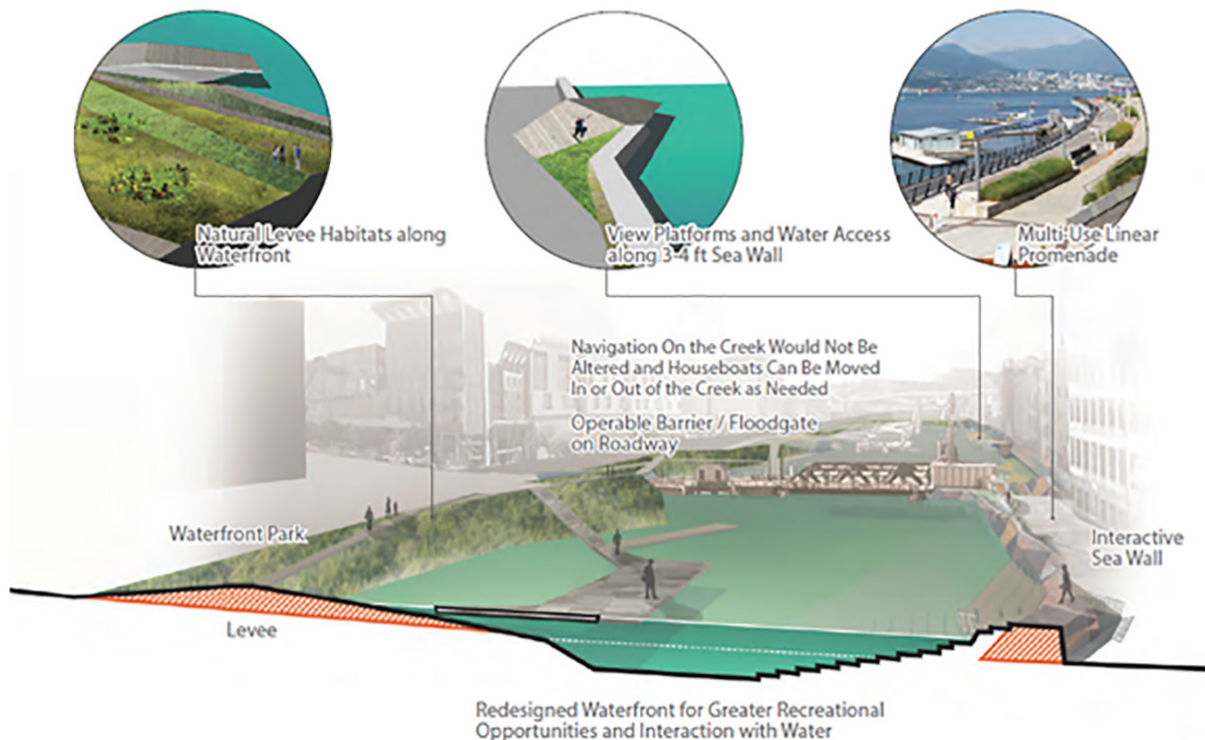
*Brad Benson, Special Projects Director  
Port of San Francisco  
Brad.Benson@sfport.com  
(415) 819-1759*

San Francisco is vulnerable to the impacts of sea-level rise. One of the lowest-lying parts of the city is the area surrounding Mission Creek on the eastern waterfront. To imagine what its future might look like with sea level rise, and to consider options to make the waterfront more resilient, multiple City and County of San Francisco (City) agencies teamed up with experts from the Netherlands, SPUR, the San Francisco Bay Conservation and Development Commission, and other stakeholders in an iterative design process. Using Mission Creek and the Mission Bay shoreline as a test case, the team sought to consider ways the shoreline could be modified to provide resilience for a rapidly growing mixed-use neighborhood. The team also sought to develop a

model for interagency collaboration and knowledge-sharing the City can use in future work to address sea level rise along its entire shoreline.

As this was one of the first studies that was specific about future adaptation a lot of public communication and involvement, as well as coordination with different city departments, was required. This allowed the team to take advantage of the best available local knowledge and input and buy-in on the alternatives that are carried forward.

The objective of the study was not to come up with one final recommended alternative, but rather with a suite of options to be considered for future studies. As such, the Arcadis team developed graphics of alternatives that show different and multiple lines of defense strategies, a mix of hard and soft adaptation measures, and alternatives that put different emphasis on community, economy and the natural system. Lastly, the alternatives also considered the City's stormwater and sewer system, as much of that system will be heavily impacted by higher tides.



# LIST OF KEY TEAM MEMBERS

## SCAPE

### GENEVA WIRTH, DESIGN PRINCIPAL

Education Harvard University Graduate School of Design, Cambridge, MA  
Master in Landscape Architecture with Distinction, 2009  
Master in Urban Planning with Distinction, 2009  
University of Delaware, Newark, DE  
Bachelor of Science, Landscape Horticulture, 2005

Years of experience 9

Time on project 3%, 95 hours

Role Design Lead

### PIPPA BRASHEAR, DIRECTOR OF PLANNING AND RESILIENCE

Education Harvard University Graduate School of Design, Cambridge, MA  
Master in Landscape Architecture, 2007  
Master in Urban Planning with Distinction, 2007  
Harvard College, Cambridge, MA  
Bachelor of Arts, cum laude, in Environmental Science and Public Policy, 2001

Years of experience 11

Time on project 3%, 95 hours

Role Resilience Lead

### NANS VORON, ASSOCIATE

Education Columbia University Graduate School of Architecture, Planning and Preservation, New York, NY, Master of Urban Design, 2015  
Ecole Nationale Supérieure d'Architecture Paris-Val de Seine, Paris, France, Master in Architecture, Summa Cum Laude, 2012  
Bachelor in Architecture, 2009

Years of experience 5

Time on project 30%, 935 hours

Role Project Manager

### LEE ALTMAN, ASSOCIATE

Education Columbia University Graduate School of Architecture, Planning, and Preservation, New York, NY, Master of Science in Architecture and Urban Design, 2008  
Faculty of Architecture and Town Planning, Israel Institute of Technology, Israel, Bachelor of Architecture, 2004

Years of experience 13

Time on project 10%, 300 hours

Role Urban Designer

## **GENA MORGIS, LANDSCAPE DESIGNER**

Education State University of New York, Syracuse, NY  
Bachelor of Landscape Architecture, 2015

Years of experience 3

Time on project 50%, 1560 hours

Role Landscape Designer

## **ARCADIS**

### **CHRISTOPHER DEVICK, PE, COASTAL ENGINEER AND PROJECT MANAGER**

Education MS Coastal & Oceanographic Engineering, University of Florida, 2007  
BS Civil Engineering, Northeastern University, 2006

Licenses Professional Engineer, Civil – CA #76950

Years of experience 10

Time on project 6.5%, 186 hours

Role Civil and Coastal Engineer

### **PETER WIJSMAN, CITY EXECUTIVE, VICE PRESIDENT**

Education MS, Water Resources Management, Wageningen University &  
Research Centre, Wageningen, the Netherlands, 2005  
BS, Landscape Design, Inholland, University, Delft, the Netherlands  
2003

Years of experience 12

Time on project 6.5%, 186 hours

Role Climate Adaptation and Resilience Technical Expert

### **MARY KIMBALL, URBAN PLANNER**

Education Harvard University, Graduate School of Design, Cambridge, MA  
Master in Urban Planning, June 2009

Georgetown University, Georgetown College, Washington, DC  
Bachelor of Arts, American Studies, Cum Laude, May 2005

Years of experience 9

Time on project 5%, 140 hours

Role Urban Planner

### **MARTINA NOVAK, PE, SENIOR WATER RESOURCES ENGINEER**

Education Georgia Institute of Technology  
Master of Science in Civil Engineering, 2002  
University of Belgrade, Serbia  
Bachelor of Science in Hydraulic Engineering, 1999

Licenses Professional Engineer – TX #109478, GA # 033219

Years of experience 15

Time on project 6.5%, 186 hours

Role Water Resources Engineer and Adaptation Specialist

## CONVEY

### SYBIL E. HATCH, PE, PRESIDENT

Education	M.S. and B.S., Civil Engineering, Virginia Polytechnic Institute
Licenses	Professional Engineer, California (46652)
Years of experience	32
Time on project	2%, 65 hours
Role	Public Outreach Lead

### REBECCA KRAWIEC, PROJECT MANAGER

Education	J.D. Juris Doctor, Hamline University School of Law B.A. Speech Communications; Minor in Philosophy, Southwest Minnesota State University (Magna Cum Laude)
Years of experience	17
Time on project	6%, 175 hours
Role	Outreach Manager

### SUSIE GRANT, GRAPHIC DESIGNER

Education	B.A., Architecture, University of California, Berkeley
Years of experience	15
Time on project	1%, 20 hours
Role	Graphic Designer

### PETER PETRACCA, DIGITAL PRODUCER

Education	B.A. Fine Arts Photography, University of Arizona (Magna Cum Laude)
Years of experience	10
Time on project	2%, 65 hours
Role	Web development

## RE:FOCUS

### SHALINI VAJJHALA, PHD, FOUNDER AND CEO

Education	Carnegie Mellon University, Pittsburgh, PA: Ph.D. in Engineering & Public Policy, 2005; M.S. in Engineering & Public Policy, 2001 B.Arch in Architecture, 2001
Years of experience	13
Time on project	2.5%, 40 hours
Role	Finance consulting

### JAMES S. RHODES, PHD, DIRECTOR AND CO-PRINCIPAL INVESTIGATOR

Education	UC San Diego, Scripps Institute of Oceanography, San Diego, CA Postgraduate Researcher, 2009 Carnegie Mellon University, Pittsburgh, PA Doctor of Philosophy in Engineering and Public Policy, 2007 Master of Science in Engineering and Public Policy, 2003 University of Denver, Denver, CO, Bachelor of Science in Environmental Science, 1997
Years of experience	15
Time on project	1%, 20 hours
Role	Finance consulting



**Industrial Parcels at Risk of Inundation**

**Engineered Channel**

**Limited Public Access to Water**

**Multi-modal Transportation at Risk**

**Whitesell Street**

# EXHIBIT D: TERMS OF PROPOSED AGREEMENT

A photograph of a paved road with a construction barrier and a street lamp in the background. The road is dark asphalt with a white line on the left. A concrete barrier with orange safety cones is in the middle ground. A tall street lamp is on the left. In the background, there are trees and a utility pole under a clear blue sky.

Maq Trucking - Storage

## **EXHIBIT D: TERMS OF PROPOSED SERVICE AGREEMENT**

1. SCAPE has preliminarily reviewed the Standard Contract for issues of concern included within the RFP, and we would like to flag and discuss the following items further if selected to complete the project: a) inclusion of a Standard of Care for Professional Services, currently missing; and b) discussion of Ownership of Materials (p. 44) and Copyright (p. 45). We will be pleased to provide standard language as a starting point for discussion for these items upon request. In addition, per the Licenses section (p. 43) SCAPE would like to note that one Principal's professional landscape architecture license, to be issued by reciprocity, is currently in process, and that the company's corporate registration with the California Secretary of State is in process.

2. Disclose any past, ongoing, or potential conflicts of interest which the Consultant may have as a result of performing the work for this program.

N/A

3. Sample insurance certificates to follow





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
01/18/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> David Carothers c/o Praxiom Risk Management, LLC 123 West Bloomingdale Avenue #300 Brandon, FL 33511	<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): (888) 350-7729      FAX (A/C, No): E-MAIL ADDRESS:	
	<b>INSURER(S) AFFORDING COVERAGE</b> <b>NAIC #</b> INSURER A : American Zurich Insurance Company      40142 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :	
<b>INSURED</b> Prestige Employee Administrators, Inc.; Prestige Employee Administrators II, Inc. Labor Contractor, for co-employees of: Scape Landscape Architecture D.P.C. 538 Broadhollow Road Ste. 311 Melville, NY 11747		

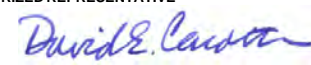
**COVERAGES**      **CERTIFICATE NUMBER:** 18NY01492790      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED    RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
<b>A</b>	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	<input type="checkbox"/> Y / <input type="checkbox"/> N	N/A	WC 10-15-649-02	02/01/2018	02/01/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
	<b>Location Coverage Period:</b>			02/01/2018	02/01/2019	<b>Client#</b> 10034-NY	

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

Coverage is provided for only those co-employees of, but not subcontractors to:  
 Scape Landscape Architecture D.P.C.  
 277 Broadway Suite 1606  
 New York, NY 10007

<b>CERTIFICATE HOLDER</b>  Scape Landscape Architecture D.P.C. 277 Broadway Suite 1606 New York, NY 10007	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 

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# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/8/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Arthur J. Gallagher Risk Management Services, Inc. 200 Jefferson Park Whippany NJ 07981	<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): 800-350-8005		FAX (A/C, No): 973-921-2876
	<b>E-MAIL ADDRESS:</b>		
		<b>INSURER(S) AFFORDING COVERAGE</b>	<b>NAIC #</b>
		<b>INSURER A :</b> National Fire Insurance Co of Hartford	20478
		<b>INSURER B :</b> Continental Casualty Company	20443
		<b>INSURER C :</b>	
		<b>INSURER D :</b>	
		<b>INSURER E :</b>	
		<b>INSURER F :</b>	

**INSURED** SCAPLAN-01  
 Scape Landscape Architecture PLLC; D.P.C  
 277 Broadway Ste 1606  
 New York NY 10007

**COVERAGES**

CERTIFICATE NUMBER: 1020533151


REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR VVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			B6012148131	5/9/2018	5/9/2019	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 \$
A	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			B6012148131	5/9/2018	5/9/2019	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			B6012149764	5/9/2018	5/9/2019	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$ PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		Y/N <input type="checkbox"/> N/A				

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

**** SAMPLE**** SAMPLE SAMPLE NY 10007 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE 
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ACORD 25 (2016/03)

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**ACORD™ CERTIFICATE OF LIABILITY INSURANCE** DATE (MM/DD/YYYY)  
**5/9/2018**

PRODUCER <b>WHITEHORN FINANCIAL GROUP INC</b> 29 Main Street, 2nd Floor Madison, NJ 07940 (973) 564-9330	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.												
INSURED <b>SCAPE Landscape Architecture DPC</b> 277 Broadway 16th Floor New York, NY 10007	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">INSURERS AFFORDING COVERAGE</th> <th style="text-align: left;">NAIC#</th> </tr> <tr> <td>INSURER A: <b>CNA/Continental Casualty Company</b></td> <td><b>20443</b></td> </tr> <tr> <td>INSURER B:</td> <td></td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> </table>	INSURERS AFFORDING COVERAGE	NAIC#	INSURER A: <b>CNA/Continental Casualty Company</b>	<b>20443</b>	INSURER B:		INSURER C:		INSURER D:		INSURER E:	
INSURERS AFFORDING COVERAGE	NAIC#												
INSURER A: <b>CNA/Continental Casualty Company</b>	<b>20443</b>												
INSURER B:													
INSURER C:													
INSURER D:													
INSURER E:													

**COVERAGES**

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS												
		GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$												
		AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$												
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EA ACC \$ AGG \$												
		EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE  DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$												
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">WC STATU-TORY LIMITS</td> <td style="width: 10%;">OTH-ER</td> <td style="width: 80%;"></td> </tr> <tr> <td colspan="2"></td> <td>E.L. EACH ACCIDENT \$</td> </tr> <tr> <td colspan="2"></td> <td>E.L. DISEASE - EA EMPLOYEE \$</td> </tr> <tr> <td colspan="2"></td> <td>E.L. DISEASE - POLICY LIMIT \$</td> </tr> </table>	WC STATU-TORY LIMITS	OTH-ER				E.L. EACH ACCIDENT \$			E.L. DISEASE - EA EMPLOYEE \$			E.L. DISEASE - POLICY LIMIT \$
WC STATU-TORY LIMITS	OTH-ER																	
		E.L. EACH ACCIDENT \$																
		E.L. DISEASE - EA EMPLOYEE \$																
		E.L. DISEASE - POLICY LIMIT \$																
		OTHER <b>Professional Liability</b>	<b>LAH 28-824-10-24</b>	<b>05-09-18</b>	<b>05-09-19</b>	<b>\$2,000,000 Per Claim</b> <b>\$3,000,000 Aggregate</b>												

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

<b>CERTIFICATE HOLDER</b>  <p style="text-align: center;"><b>SAMPLE CERTIFICATE</b></p>	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE: <i>Maurice Andrews</i>
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Alameda Creek Crawl

# ATTACHMENT: SIMILAR PROJECTS



HOBOKEN, NJ / 2015

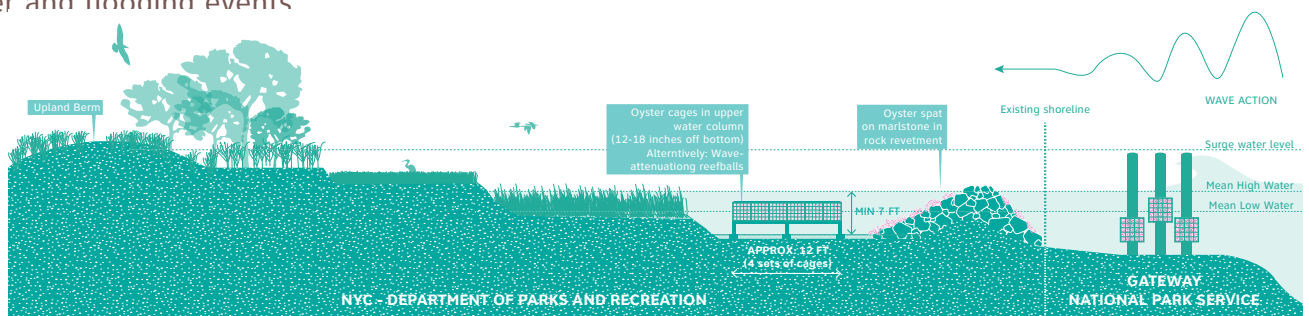
SIZE: N/A

BUDGET: \$330,000 (LANDSCAPE COST);  
\$230,000,000 (TOTAL COST)

Contact: Rahul Parab, PE, CFM, D. WRE  
Assistant Department Manager  
Water Resources

Dewberry  
31 Penn Plaza  
132 West 31st Street, Suite 301, New York, NY  
(646) 434-4363  
rparab@dewberry.com

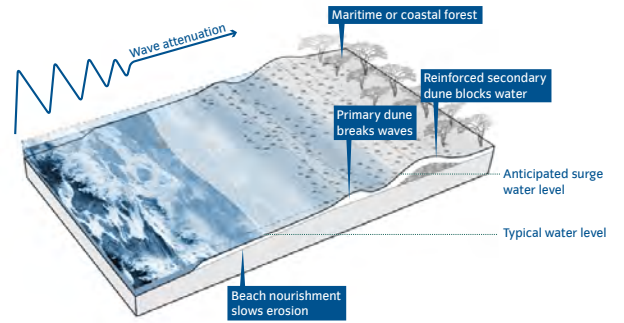
SCAPE partnered with OMA and Dewberry Engineering on the Hudson River Rebuild by Design (RBD) project, a coastal storm and stormwater management feasibility study for the City of Hoboken, New Jersey. The first stage towards implementation of the RBD Competition proposal developed in 2014, the design consists of two components—Resist, and Delay, Store, and Discharge (DSD). DSD maximizes the potential to capture, store, infiltrate, evaporate, and release stormwater in the city of Hoboken to create a sustainable stormwater system for the city to mitigate future flooding events. Through rigorous study of physical, environmental, and infrastructural constraints, the team located key sites and right-of-way opportunities where stormwater interventions would provide co-benefits to the city. New technologies and details were evolved to adapt green infrastructure techniques to the high groundwater table conditions particular to Hoboken. First stage design work culminates in a toolkit of implementable strategies that help the city of Hoboken improve civic life and manage stormwater and flooding events



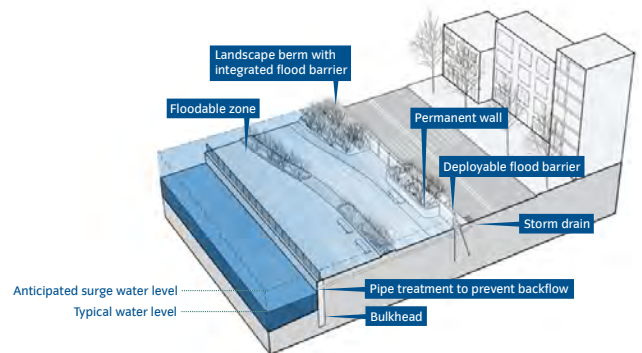
NEW YORK, NY / 2013  
 SIZE: 520 MILES OF SHORELINE  
 BUDGET: N/A

Contact: Daniel Zarrilli  
 Senior Director of Climate Policy & Programs  
 NYC Office of the Mayor  
 dzarrilli@nycsirr.org

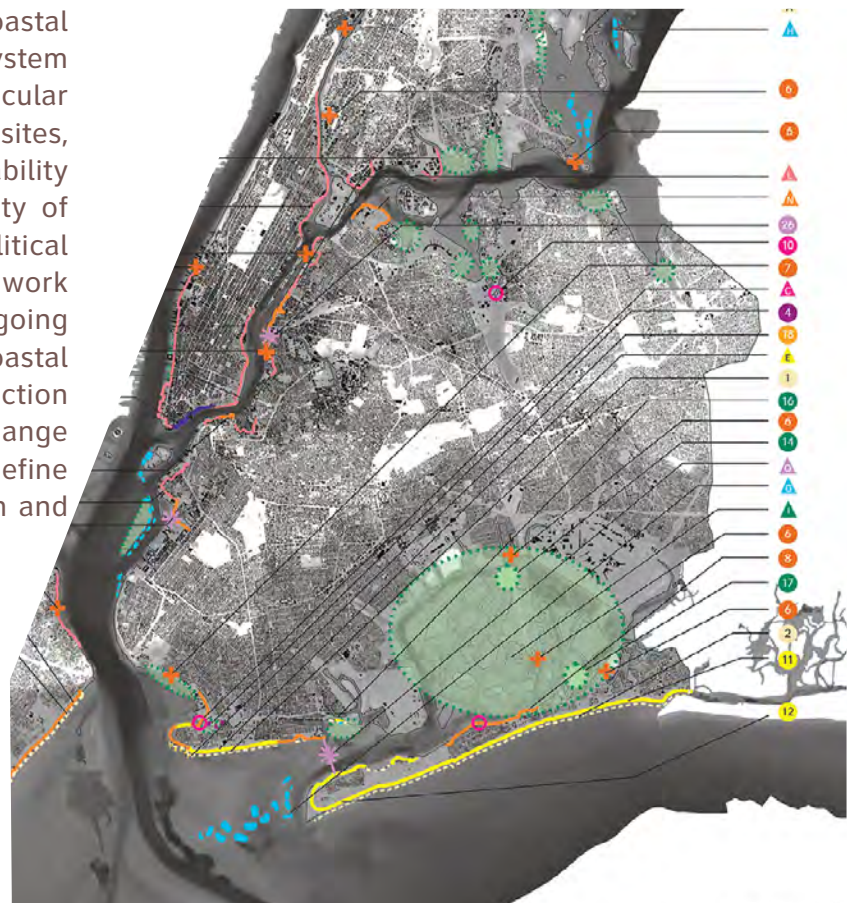
Our interdisciplinary team worked as part of Mayor Bloomberg’s Special Initiative for Rebuilding and Resiliency (SIRR) to develop, model, and visualize shoreline and offshore coastal protection measures for the five boroughs. The consulting team collaboratively designed, sited, modeled and analyzed the performance of hard and soft coastal protection measures under multiple storm and sea level rise conditions, employing an iterative process of design exploration, modeling, analysis, and refinement of strategies. SCAPE advanced the exploration of integrating natural systems as risk-reduction infrastructure and layering strategies for enhanced coastal protection, resident quality of life, and ecosystem health. Attention was paid to the particular character and conditions of the proposed sites, as well as financial and ecological sustainability of the system as a whole, and the viability of strategies within the regulatory and political framework of New York City. This city-scale work has provided the framework for NYC’s ongoing planning, design, and implementation of coastal protection measures across the city and action in response to the risks of future climate change impacts. It has helped New York City define itself as a leader of resilient coastal design and planning.



PRIMARY AND SECONDARY DUNES



INTEGRATED FLOOD PROTECTION SYSTEM



Images (from top to bottom):  
 Axons of shoreline strategies:  
 City-wide map of Coastal Protection  
 Recommendations

SAN FRANCISCO, CA / 2017-ONGOING  
SIZE: 3.5 MILES  
BUDGET: \$40,000,000 (TOTAL COST)

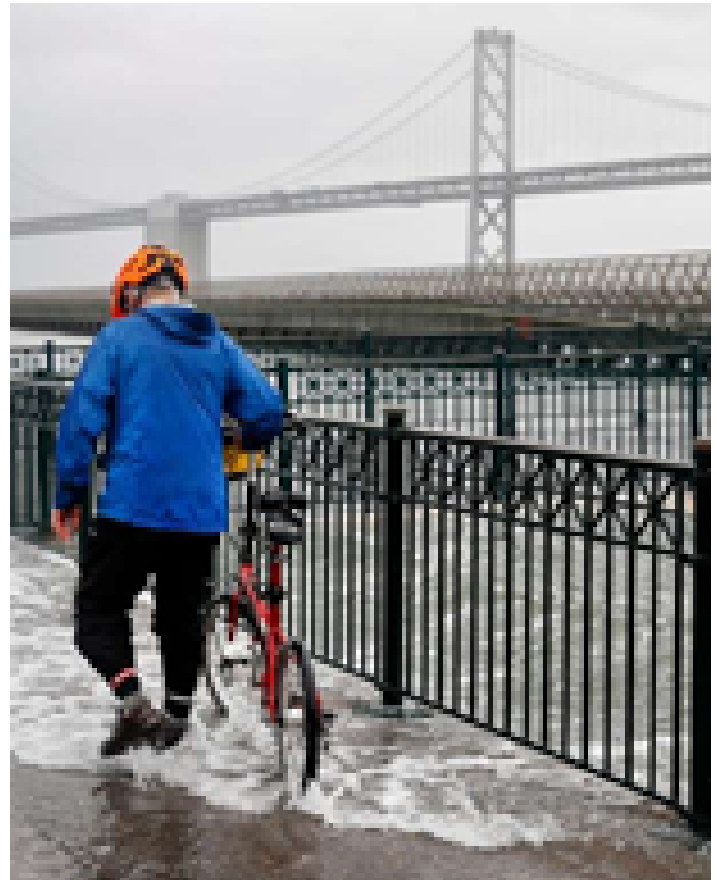
Contact: N/A at this stage

The Port of San Francisco has selected Arcadis as part of a larger consultant team to lead the design and engineering for the city's 10-year Seawall Resiliency Project. The total fee for the contract amounts to \$40 million. Arcadis is leading the risk analysis, coastal engineering, and modeling. The aim of the San Francisco Seawall Resiliency Project is to fortify 3.5 miles of a century-old sea wall protecting the city's most treasured waterfront from Fisherman's Wharf to Mission Creek near AT&T Park, home of the San Francisco Giants baseball team.

The major drivers for making significant improvements to the seawall include earthquake protection enhancements and flood risks caused by climate change. Arcadis brings its Dutch heritage of addressing coastal resiliency and its broad experience in civil engineering and coastal protection in urban settings, most recently in New York City and in New Orleans after major hurricanes.

The seawall supports historic piers, wharves, and buildings including the Ferry Building. It underpins the Embarcadero Promenade which welcomes millions of people each year and provides flood protection to San Francisco's Financial District and other neighborhoods. The seawall also serves as a critical emergency response and recovery area, and it supports multiple municipal transportation systems and utility networks.

One of the specific tasks Arcadis leads is the coastal engineering to assess flood potential along 3 miles



of seawall in downtown San Francisco. Services include evaluating the impacts of flood inundation due to extreme high water (including storm surge), wind waves, precipitation and sea level rise to the pile supported historic waterfront, marinas, ferry landings and downtown San Francisco. Included in the evaluation is a co-incident statistical analysis of combined rainfall and high-water level events and high wave and high-water level events and evaluation of the impact sea level rise has on flood inundation over time.



**BROOKLYN & QUEENS, NY / 2013**  
**SIZE: N/A**  
**BUDGET: N/A**

*Contact: Jamie Springer, Partner  
 HR&A Advisors, Inc  
 99 Hudson St, New York, NY 10013  
 (212) 977-5594  
 jspringer@hraadvisors.com*

As part of The New York Rising Community Reconstruction (NYRCR) Program, a New York state initiative to respond to storm damage from Hurricane Sandy, SCAPE developed a series of strategies for rebuilding resilient communities in four different communities in New York City. SCAPE developed a strategy for shoreline enhancement along Fresh Creek that reduced the neighborhood's risk of flooding from sea level risk and coastal storm and rainfall events while improving access to the shoreline and recreational opportunities.

The community reconstruction plans included cost and feasibility studies for tide gates, berms, salt marsh restoration, and oyster reefs. Through fieldwork and community meetings, the study creates a comprehensive flood protection strategy that would include the placement of berms in the upland perimeter to provide shoreline protection, ensuring greater resiliency to coastal flooding, and the effects of climate change.



**DELTA STEWARDSHIP COUNCIL, SACRAMENTO, CA**  
**SIZE: 1,100 MILES**  
**BUDGET: \$300,000**

*Contact: Dustin Jones, PE,  
 Delta Stewardship Council  
 (916) 445-5891  
 dustin.jones@deltacouncil.ca.gov*

The 1,100 miles of levees in the Sacramento-San Joaquin Delta are critical in protecting people, property, natural resources, and infrastructure systems of statewide importance. Catastrophic levee failure would cause devastating flooding of Delta islands, many of which are below sea level. Levee maintenance and improvement programs over the past 30 years have helped strengthen the levees. However, the State lacks a long-term strategy to guide future investments of its limited funding. The 2009 Delta Reform Act directed the Delta Stewardship Council to develop levee investment priorities that reduce risk, maintain water supply reliability, enhance the ecosystem, and protect the Delta as a place.

The Council selected Arcadis to establish priorities for State investments in the Delta levee system to reduce the likelihood and consequences of levee failures. Project work, which is nearing completion, addresses the coequal goals set forth in the Delta Reform Act and the many complex factors in the Delta including impacts of climate change, and has involved extensive outreach to agencies, stakeholders, and the public.



