

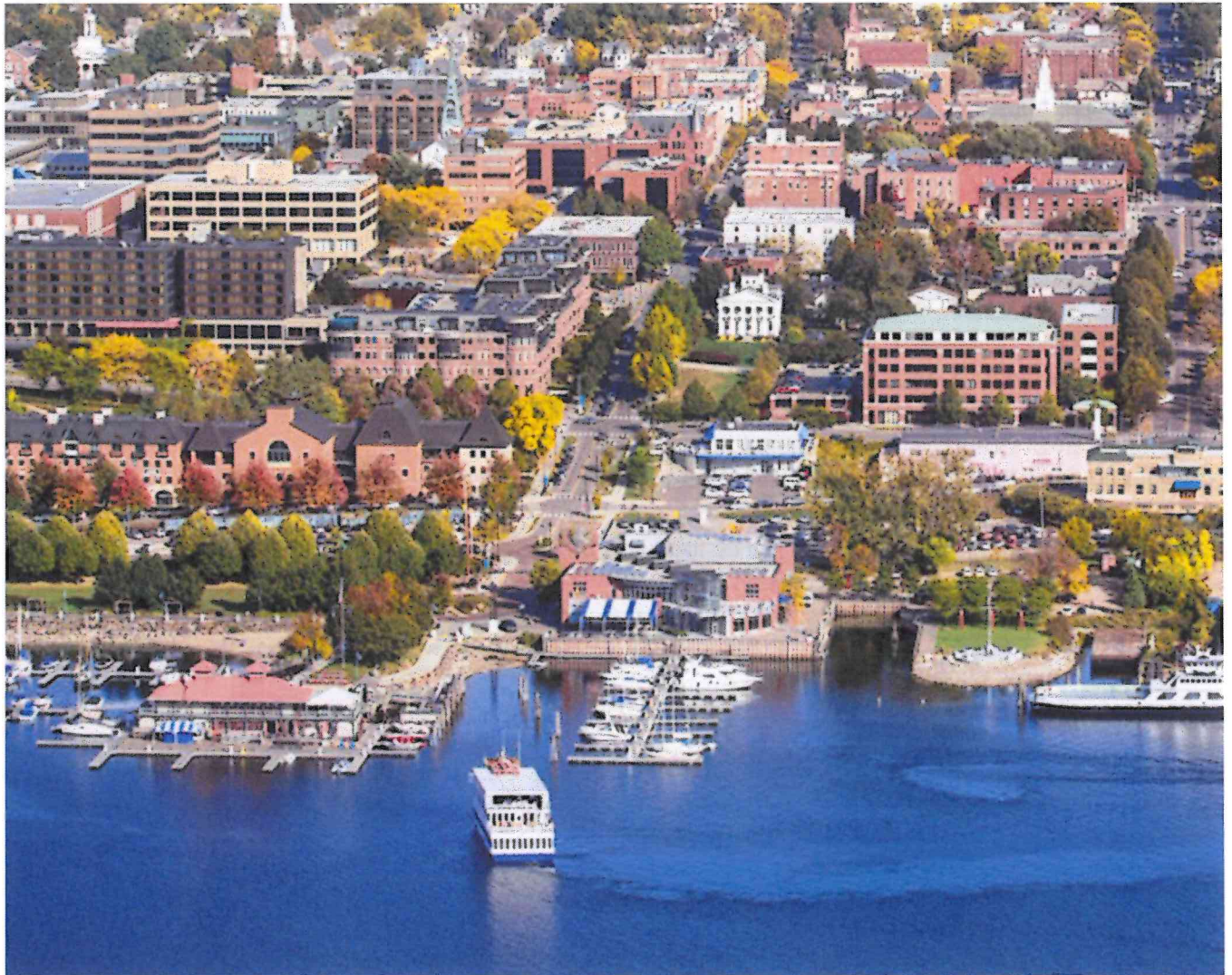
Sustainability Park

**ECHO Lake Aquarium and Science Center
Leahy Center for Lake Champlain
in partnership with
City of Burlington, Department of Parks and Recreation**

Water is the draw and arguably the greatest asset of the waterfront. Water is why ECHO is here.

Water, as commonplace in our lives, has one extraordinary quality: all of it, everywhere, is connected, actually, symbolically and poetically with all the rest of water on earth, some of it near, but some of it far away in mysterious submarine depths... captured in pools and reflecting light, its cooling presence connects the infinite and the intimate.

- Donlyn Lyndon and Charles W. Moore



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3) Executive Summary

The Project for Public Spaces suggests: “The water itself is the greatest asset of any waterfront, and should become the centerpiece for programming and activities.”

ECHO Lake Aquarium and Science Center, Leahy Center for Lake Champlain, in partnership with the City of Burlington, Department of Parks and Recreation, respectfully requests \$2,058,740 in qualified TIF funding (matched by \$1,751,400 in private fund raising and in-kind donations) to create *Sustainability Park*—a safe, socially, and educationally rich outdoor environment mirroring ECHO’s inside experience. The outdoor experience will be free-to-all, with no operating cost to the City. The Park will feature docks and floating nature-walks with direct access to the water—full of things to do, touch, and explore—surrounded by educational demonstrations of sustainable stormwater, energy, and waste management strategies. Right now, one comes to the waterfront to **see**—*Sustainability Park* will be full of things to **do**.

ECHO has served as Burlington’s Waterfront anchor—generating over \$12 million in economic activity annually and serving as the Waterfront’s only year-round public amenity. This *Sustainability Park* proposal is the highest and best use of TIF investments because it will grow the grand list, new taxes and direct and indirect economic activity by: 1) expanding the City’s ability to create extraordinary value to draw creative economy business to the area and expand downtown retail, tourism and convention business, 2) generating an additional \$777,000 annually in waterfront/downtown day and night-time economic activity, 3) reducing the need for municipal stormwater and energy production infrastructure, and 4) preparing the linkages necessary to fully actualize the largest parcel of waterfront property awaiting redevelopment between ECHO and Perkins Pier.

Sustainability Park compliments and enhances the entirety of Waterfront Park by offering a truly unique experience. Imagine yourself at the water’s edge, a floating nature walk takes you through a surprising wetland full of 30 species of local fauna and flora. Art is everywhere. An interpretive tool full of whimsy; making you look twice, giggle, want to explore more. Twenty-five students line a dock, net in hand, dipping into the lake’s wonders. It’s part enclave, part celebration—all for Burlington.

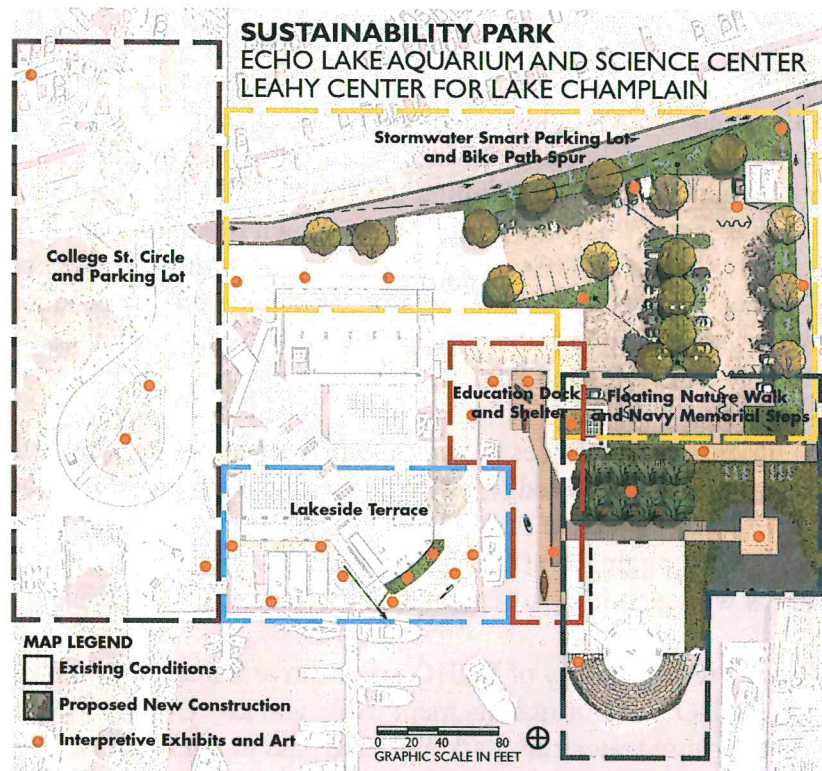
Project Leadership will be the responsibility of ECHO’s Executive Director. The Project Team will include a project manager, ECHO’s senior management team, and key Burlington Department of Parks and Recreation leadership to ensure waterfront park and bike path integration. ECHO’s senior management team has achieved a balanced budget for the past 10 years since start-up and managed over \$10 million in grant and special projects. We have accomplished this while providing 15% of our 150,000 annual guests significantly reduced admission, delivering award-winning teen programs, engaging school students in lake ecology, and presenting 30 different changing exhibitions, including the community enriching *Race: Are We So Different?* and *Our Body: The Universe Within*, amongst other world-class offerings.

4a) Approach to the Project: Project Need

Our Philosophy. Since 1994, ECHO has been working with the community; listening, learning, and defining shared goals. This work has been about enhancing the quality of existing destinations, connecting with the historical form to foster local, grounded identity, building continuously walkable spaces, encouraging a year-round, day and night diversity of activity, and most importantly, providing ways for people to actually interact with water. We are about embracing natural surroundings by creating a close connection between human and natural needs, from taking water samples and skipping rocks to fishing and picnicking dockside. These relationships to our community provide guidance to the development of Burlington’s *Sustainability Park*.

Why a Sustainability Park? Some say this community “gets it.” That is, being green. But do we really? Being a sustainable community means different things to different people—forever evolving. *Sustainability Park* will be a place for the community to celebrate what we have achieved, test new ideas, build momentum towards a greener future, explore our personal commitment, and communicate with each other. It is about pushing ourselves to achieve new heights of sustainable lifestyles.

What is Sustainability Park? An outside, safe, socially and educationally rich environment that mirrors ECHO’s inside experience; offered, free to all, with no operating cost to the City. While it will focus primarily on ECHO’s leased 2.2 acres, interpretation will reach out much further. Docks and floating nature-walks with direct access to the water, full of things to do, touch, and explore will be surrounded by demonstrations of sustainable stormwater, energy, and waste management strategies. Right now, one comes to the waterfront to **see**—Sustainability Park will be full of things to **do**.



Project Site: See Appendix C for Design Documents.

Sustainability Park will meet five needs of Burlington and our waterfront by: 1) expanding our economic vitality, 2) increasing accessibility to the lake for recreation and learning, 3) addressing localized stormwater degraded environments, 4) educating our citizenry to take personal action or support innovative “green” urban landscape municipal investments, and 5) creating greater connectivity between unique Waterfront assets and the rest of the City.

Economic Vitality

Burlington’s bottom line is enhanced when municipal expenses are reduced or business revenues are enhanced. The Guide to Green Infrastructure indicates installing low impact development strategies such as retention, infiltration, and green roofs reduce water treatment needs, grey water infrastructure, and the impact of flooding—all costs to the City.¹ The Vermont Department of Tourism and Marketing Report recommends, “creating a waterfront enhancement and redevelopment program” because “the visitor market is motivated by value.”² We are currently producing value, but growing regional and national

¹ The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits. Center for Neighborhood Technology and American Rivers. 2010.

² Vermont Department of Tourism & Marketing; Economic & Policy Resources, Inc; The Eisen Group, 2011

competition and recent and planned downtown business expansion will place additional pressure on our uniquely personal experience. According to the Waterfront Revitalization Plan, ECHO can serve as “a flagship project in the development of a year-round Waterfront.”³ *Sustainability Park* will increase economic vitality by both reducing costs through green infrastructure and delivering value to the City’s businesses’ many customers.



Accessibility

While the size and scope of Burlington’s public waterfront is unmatched around Lake Champlain, current physical, cultural, social, and educational access is inadequate. Those with physical disabilities—one in five Vermonters has a disability—find the small beach at the Boathouse, boat slip docks, ramps, or climbing over stone rip-rap at the water’s edge challenging. While social and cultural access has grown with new restaurants and events, settings for small group informal interaction languishes. Learning opportunities are limited to a few historical signs. Youth and adult groups do not have adequate safe water access to facilitate an array of educational and recreational activities. Tourists seeking to create a memorable waterfront experience must rely on tour boats or the boardwalk because family-friendly access to the water is missing. As one of the region’s few public waterfronts, it is critical that Burlington invest in creating an inclusive experience, meeting needs and interests of all its citizens and guests through universal design.

Environmental Benefit

Improvements must both demonstrate the power of low impact development (LID)⁴ and address critical degraded environments. While the tide is shifting, urban development rarely includes a focus on LID practices such as groundwater recharging, improved air quality, and reducing urban heat islands to improve habitat, community livability, and recreational opportunities. *Sustainability Park* must demonstrate these critical LID strategies. Climate change will heighten the impact of storm events and shift the seasons.⁵ *Sustainability Park* must enhance and expand one of the only naturalized shorelines and wetland areas in the urban core. *Sustainability Park* must also address the degraded environments of ECHO’s lakeside sure-pack parking lot and Lake Champlain Navy Memorial. Significant parking lot erosion currently releases sediment and the attached nutrients into the lake with every storm event. Over the course of ten years of storms, floods, and annual Lake-level fluctuations, 25 inches of gravel fill and stone rip-rap protecting the Navy Memorial has washed away, exposing the foundation of Lake Champlain’s Memorial and creating a waterfront hazard.



A July 2009 storm floods ECHO’s Parking Lot, discharging sediment and runoff directly into the Lake from the southwest corner of the lot.

Educated Citizenry

While Burlington is making great strides in becoming a greener city, it needs to take significant steps to demonstrate and educate about these environmental, financial, and quality of life challenges. ECHO is positioned to celebrate and foster a unique sense of place and identity because of our focus on the local

³ Waterfront Revitalization Plan, 1998.

⁴ The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits. Center for Neighborhood Technology and American Rivers. 2010.

⁵ Burlington Climate Action Plan, Draft 2013.

ecology, culture, history, and opportunities for stewardship. The “Green Machine” section of PlanBTV suggests, “Burlington has the opportunity to set in motion what can become a model for waterfront sustainable stormwater management.”⁶ According to the Waterfront Revitalization Plan, ECHO can serve “an important role in increasing public understanding of the watershed and teaching residents about stewardship for the environment.”⁷ With education at the core of ECHO’s mission, the *Sustainability Park* investments must provide a platform to demonstrate innovative stormwater, energy, and waste management strategies interpreted through potent, art-inspired, educational strategies bringing the community together around its waterfront experience.

Connectivity

Connectivity needs are driven by a lack of east-west, safe, and attractive pedestrian and bike access, limited water connections, and minimal art or interpretative features enticing visitors to explore the waterfront. The Project for Public Spaces asserts, “A waterfront that is continuously walkable with a variety of activities along the way will successfully link destinations, allowing the appeal of each one to strengthen the place as a whole.”⁸ Currently, only a fraction of the visitors experiencing the Waterfront’s Boardwalk and Great Lawns explore the park south of ECHO surrounding the Navy Memorial. Way-finding to this area is limited. Small boat users must climb over rip-rap to land unless they enter the motorized boat launch areas. The bike path east of the railroad tracks is separated from the park’s core. The Navy Memorial, while providing a strong view of the Lake and the Adirondack Mountains, does not provide the rich variety of social and interactive platforms required to fully activate and create a vibrant public space.

Additionally, expansion in expected downtown and waterfront business-driven usage will require enhanced alternative connectivity to meet increased visitor/user demand. Studies in parking capacity,⁹ and bike path usage,¹⁰ suggest that greater connectivity throughout the downtown and waterfront could improve commuter and recreational access to the Waterfront. Zoning changes to increase downtown housing,¹¹ expected expansion of downtown retail,¹² hotel industry expansions,¹³ and increases in the number of waterfront events, requires additional connectivity through alternative transportation utilizing new pathways to the Waterfront and its experiences.

4b) Approach to the Project: Project Details

Note: This section (4b) of the proposal details only the scope of *Sustainability Park*. Because the Park meets a wide range of needs (economic vitality, connectivity, accessibility, etc.), how each need is met is fully defined in the sections 4c–4i, mirroring the sections in the PIAP RFP.

The *Sustainability Park* scope is guided by national and local research in best practices. The recently released Burlington Parks Master Plan survey indicated: 1) connections, 2) social spaces, and 3) healthy ecosystem with good maintenance are top priorities for Burlingtonians.¹⁴ The world’s greatest

⁶ Plan BTV: Downtown and Waterfront, 2013.

⁷ Burlington Waterfront Revitalization Plan. 1998.

⁸ Projects For Public Spaces (PPS), 9 Steps to Creating a Great Waterfront. downloaded 9-27-13 from: <http://www.pps.org/reference/stepstocreatingagreatwaterfront/>

⁹ Plan BTV: Downtown and Waterfront, 2013.

¹⁰ Estimating Tourism Expenditures for the Burlington Waterfront Path and the Island Line Trail

¹⁰ UVM Transportation Research Center, February 2010.

¹¹ City Council Vote to Eliminate 50% non-residential requirement - Mayor Weinberger Press Release downloaded from: <http://www.burlingtonvt.gov/Mayor/DMS-Documents/Press-Releases---DMS-Documents/Mayor-Miro-Weinberger-Statement-in-Response-to-Unanimous-City-Council-Vote-to-Lift-50--Non-Residential-Requirement/>

¹² Burlington has the capacity to add 100,000 square feet of retail space, Vermont Department of Tourism & Marketing; Economic & Policy Resources, Inc; The Eisen Group, 2011

¹³ Hilton Garden to add 139 rooms on TD Banknorth block lot in 2014 to the 544 current downtown hotel rooms, a 25% increase.

¹⁴ Burlington Parks Master Plan presentation, October 3, 2013. Memorial Hall Auditorium.

waterfront experiences include:¹⁵ 1) anchor buildings boosting activity around them, 2) year-round, day-and-night activities, 3) design flexibility fostering diverse uses, 4) creative amenities expanding enjoyment, 5) access by foot, boat, and bike, 6) showcasing of local identity, and 7) making the water the center of attention. ECHO utilized this guidance in defining the scope of *Sustainability Park*. Local needs and national models were key assets in defining the *Sustainability Park* plan.

Sustainability Park includes six major features: 1) Art and Interpretation, 2) Education Dock and Shelter, 3) Nature Walk and Navy Memorial Steps, 4) Stormwater Smart Parking Lot and Bike Path Spur, 5) Lakeside Terrace Southwest Rain Gardens, and 6) College Street Circle and Parking Lots.



Examples of similar features from around the country: (clockwise from left to right) Wind Sculpture, NRG Systems, Hinesburg, VT; Shelter, Bellevue Park, Cincinnati, OH; Wetland Walk, Missouri Botanical Garden, St. Louis, MO; Beaver Wetland, Portland, OR; and Mt. Independence, Addison, VT.

Art and Interpretation: Over forty different exhibits, graphic panels, and artwork will be distributed over nearly three acres—extending the experience found inside ECHO, to the outside. Blending art and science into exhibits, demonstration projects, the education dock, nature-walk, rain gardens, bike path, bike racks, and other components of *Sustainability Park*, are key to designing a one-of-a-kind waterfront experience where form and function both matter. Examples of such interpretation include: kinetic wind sculptures teaching about wind direction, speed and wind turbine design, 3D sidewalk art showing how rain gardens and permeable pavement work by revealing the hidden world of what’s underground, displays of renewable energy real-time production, lake-level and water quality measurement and data collection, using a “periscope” to look and listen under water to explore what lives in the lake, and radiating, glowing sunset markers embedded in the Navy Memorial steps demonstrating sunset changes throughout the year.

Education Dock and Shelter: The Public Education Dock, located in the slip north of the Navy Memorial, is designed to create a lakeside classroom to teach seasonal school classes, deliver public

¹⁵ Projects for Public Spaces: 10 Qualities of a Great Waterfront Locations. Downloaded 10.3.2013 from: http://www.pps.org/reference/10_qualities_of_a_great_waterfront/

demonstrations, and be used for recreational activities. The dock system will have lockable boat racks, an ADA accessible ramp, railings, and base curb, and will have dedicated nearby accessible parking. A Shelter at the top of the ramp will be home to equipment and interpretation about the lake. The dock includes an integrated kayak and canoe launch system.

Nature Walk and Navy Memorial Steps: The floating Nature Walk, located in the slip south of the Navy Memorial, is designed to provide access to a compelling naturalized shoreline and wetland with over 30 species of native plants and animals. A floating educational platform, positioned centrally in an oasis-like marsh, includes a gazebo to facilitate experimentation and interpretation, and is linked to land by two ADA accessible boardwalks with railings. The Waterfront's pedestrian promenade will be extended south of the Nature Walk to the abutting Lake Champlain Transportation (LCT) property line, thus preparing for the eventual continuation of the waterfront promenade as it hugs the shoreline south through LCT. Pre-cast cultured concrete block steps will be installed on the highly exposed lake side of the Lake Champlain Navy Memorial to eliminate storm and ice erosion. These step-sized blocks will provide direct access to the lake.

Stormwater Smart Parking Lot and Bike Path Spur: The sure-pack gravel parking lot will be re-graded to direct water, through a bio-swale and retention-pond, to the naturalized shoreline and wetland south of Navy Memorial. Alternative parking surfaces will be evaluated, including several types of permeable surfaces. The bio-swale, trees, plantings, retention pond, and rain gardens surrounding the lot will further enhance the naturalized shoreline so important to teaching about a sustainable urban landscape. A bike path spur will link the Waterfront bike path (path to be moved to the west side of the railroad tracks preparing for eventual connection to the bike path south of the LCT maintenance buildings) and connect users directly to *Sustainability Park* and Lake Champlain. The spur path will terminate at the floating Nature Walk and the Education Dock Shelter with bike racks. At this point, users have the options of direct access to the Lake at the Nature Walk, Education Dock, or Navy Memorial. Wheelchair and hand-bike users have multiple water access options. Sidewalks connect users along the Waterfront to the College Street Circle through ECHO's Lakeside Terrace.

Lakeside Terrace Southwest Rain Gardens: Contiguous with the UVM research vessels and wind turbine, the southwest rain gardens will manage 1,080 square feet of roof/deck water and provide a welcome 465 square feet of plantings to soften and enliven this portion of the waterfront's pedestrian promenade that circles around ECHO's building.

College Street Circle and Parking Lots: The existing College Street Circle and Parking Lot's sustainable features, permeable pavement, rain gardens, and the outfall pipe, will be interpreted. Way-finding signage will be installed to direct College Street pedestrians and bike path users to *Sustainability Park*.

Complementary Projects

Because story-making for the public through art and science experiences, is at the core of *Sustainability Park*, all "green" and accessibility waterfront activities can be included in the interpretation plan. Integration of these projects will happen through the Sustainability Park Advisory Committee (see list in Appendix E). These opportunities for additional public engagement include:

- The College Street Outfall pipe, located at the northwest corner of ECHO's leased land.
- "Pause and Play" spots along the renovated Waterfront Bike Path.
- Rain gardens and permeable pavement on College Street corridor.
- Docks and water access at the expanded Perkins Pier Harbor system.
- Moran Ecological experiences.

4c) Approach to the Project: Catalytic Effect On Economic Development

Since 2003, ECHO has served as Burlington's Waterfront anchor—generating over \$12 million in economic activity annually¹⁶ and serving as the Waterfront's only year-round public amenity.^{17 18} The City's original 2.2 acre 1995 lease with ECHO has proven highly successful for both the City's need to enliven the Waterfront and the watershed education so important to the region's long-term environmental viability. ECHO has had a catalytic effect on waterfront economic development—Mainstreet Landing's Lake and College buildings have been completed, including the successful "Skinny Pancake" restaurant. Burlington Bay restaurant has significantly expanded their outdoor seating. Waterfront Park hosts a robust series of successful peak-season festivals. Compared to 12 years ago when ECHO broke ground, the waterfront has grown substantially.

The proposed Public Investment Action Plan TIF investments, combined with matching private investments, continue to expand 12 years of successful economic vitality. The investments will support growth of the grand list, new taxes and direct and indirect economic activity by: 1) expanding the City's ability to create extraordinary value to draw creative economy business to the area and expand tourism, downtown retail, and convention business, 2) generating \$777,000 annually in waterfront/downtown day and night-time economic activity, 3) reducing the need for municipal stormwater and energy production infrastructure, and 4) preparing for the linkages necessary to fully actualize the largest parcel of waterfront property awaiting redevelopment south of ECHO. These investments will require no new operating costs to the City as ECHO will maintain and operate *Sustainability Park*.

Downtown Business District Impact

In order for Burlington to compete on regional and national stages, we must create dynamic public spaces designed to complement the many other development efforts happening throughout the city. Burlington's parks and public spaces make the city more desirable to the information-age workforce, driving the creative economy, retail, tourism, and business events and conventions. Highly mobile "New Economy" employees have much greater movement than previous generations, and the quality of parks and public spaces play a major role in their choice of residence.¹⁹ We know employees at Dealer.com are active users of our downtown and they are demanding additional amenities. The Retail Market Feasibility Analysis indicated, "the region could support a 10% increase or 100,000 square feet of additional retail space in downtown Burlington."²⁰ With the addition of the Hilton Garden Hotel in the TD Banknorth block, downtown Burlington now has more rooms than the Sheraton's conference center. Retail analysis shows that "Support for retail in downtown Burlington is clearly enhanced by a large visitor market drawn to the area by Lake Champlain and the broad array of recreational and cultural amenities."²¹ Further, "the visitor market is motivated by value, a combination of on-land and boating experiences."²² *Sustainability Park* can play a major role in enhancing the downtown customer value proposition—supporting the growth of the Grand



¹⁶ ECHO welcomes 150,000 annual visitors. Guest analysis indicates ECHO is the primary destination for our guests, with 75% visiting as part of a one-day trip and 25% are multi-night visitors. ECHO's economic impact is estimated to be \$12,400,000 assuming \$69 spending for daytime visitors and \$163 for overnight visitors (VT Dept of Marketing and Tourism, 2011)

¹⁷ ECHO provides free restrooms, heated/cooled lobby and retail year-round, 15% of ECHO's guests receive significantly reduced admission.

¹⁸ Waterfront Revitalization Plan, 1998.

¹⁹ Project for Public Spaces: Making Parks Work in Cleveland. Downloaded 10.3.2013 from: <http://www.pps.org/reference/parkworks-2/>

²⁰ Vermont Department of Tourism & Marketing; Economic & Policy Resources, Inc; The Eisen Group, 2011

²¹ Vermont Department of Tourism & Marketing; Economic & Policy Resources, Inc; The Eisen Group, 2011

²² Vermont Department of Tourism & Marketing; Economic & Policy Resources, Inc; The Eisen Group, 2011

List and taxes. As an example, the recent New York Times Travel Section article about the Lake Champlain causeway/bike-way grows national recognition and drives Burlington's tourism.²³ Imagine the impact of a similar article about Burlington's *Sustainability Park*.

Sustainability Park Direct Economic Impact

The direct impact of the \$3.75 million in capital investments is \$777,000 in direct annual downtown/waterfront revenues resulting in \$62,240 in retail taxes. See footnotes for details. Complete details in operating pro forma budget justification in Appendix B.

ECHO Sustainability Park public events, private events, conferences ²⁴	\$50,000
ECHO Sustainability Park Education Programs, After Dark Events, Parking ²⁵	\$34,000
ECHO 5% increase in Attendance (regional impact as per VT Tourism) ²⁶	\$693,000
Total Direct Impact	\$777,000
Taxes ²⁷	\$62,240

Chart 1. Direct impact of the Sustainability Park on downtown/waterfront economic vitality.

Savings in Municipal Costs

Throughout the United States, there is a growing recognition of the benefits green infrastructure provides to communities.²⁸ Green roofs (Chicago City Hall) and strategic land purchases to increase infiltration (Milwaukee), coupled with urban landscape permeable pavement changes (Philadelphia, Milwaukee, New York and Seattle), have slowed the need to expand combined grey-water sewer/stormwater systems saving millions of dollars in infrastructure investments. Investments now in education about the impacts of stormwater management and energy production and efficiency have been shown to be pivotal in causing societal changes netting positive economic benefit. Education today can reduce the future need for expansion of Burlington's combined sewers/stormwater management and energy production systems.

Lake Champlain Transportation (LCT) Parcel Connections

The LCT property represents the largest re-development opportunity on the core waterfront. Building multiple connections (pedestrian, bike, boat) to all aspects of the waterfront north and south of the LCT property are pivotal because they will link two key economic areas of the waterfront (Perkins Pier and ECHO/Boardwalk/Great Lawn) and create significant new opportunities for Grand List, taxes, and economic activity enhancement.

4d) Approach to the Project: TIF Eligibility and Compliance

ECHO's legal counsel's, Dunkiel Saunders, research and review determined ECHO's TIF eligibility of projects in September, 2011.²⁹ This memorandum indicated several reasons why the projects are TIF

²³ Warren Cornwall, September 22, 2013. Road Closed? Not for Me. The New York Times, Travel Section.

²⁴ 20 public and private events @ \$2,500/event for event rental, catering and equipment rental.

²⁵ 4 summer camps of 15 students, 6 ECHO After Dark events, parking.

²⁶ 5% increase on base 150,000 total annual guests = 7,500. 75% are single day visitors with spending of \$69 (\$388,000) and 25% are overnight guests with spending of \$163 (\$305,000).

²⁷ 8% of total in retail taxes

²⁸ Center for Neighborhood Technology and American Rivers, 2010. The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits.

²⁹ Dunkiel Saunders, 2011. Memorandum: Use of Tax-increment financing for proposed improvements at the Lake Champlain Basin Science Center.

eligible. First, the March 5, 1996 ballot measure providing the necessary public approval explicitly authorizes City Council to borrow money for waterfront revitalization projects...including but not limited to...Lake Champlain Basin Science Center (ECHO previous corporate name) improvements.” Further, as stated in the 1998 Burlington Waterfront Revitalization Plan, Lake Champlain Basin Science Center improvements are “specifically allowed” use of TIF revenue. Additionally, the memorandum indicates, “ECHO improvements also satisfy the state statutory criteria governing proper use of TIF districts.” Further analysis is provided in the memorandum and is attached in Appendix K.

In preparation of this proposal, ECHO leadership has met with the following agencies to review preliminary concepts for the investments and to fully understand regulatory steps. Feedback from these agencies has been integrated into this overall Park concept. ECHO has met with: Burlington Stormwater Program, Department of Public Works, Army Corps of Engineers, Vermont Department of Environmental Conservation’s Lake and Ponds program, Burlington’s Harbor Master, Burlington’s Transportation Planner and Pedestrian and Bicycle Program Manager, Engineers Yeaton and Associates, Burlington City Arts, Burlington Parks Planner and consultants, and Burlington Planning and Zoning. Further details are summarized in section 5a, Communication and Collaboration. No substantial issues were uncovered and ECHO does not expect any significant hurdles to implement the project as defined.

4e) Approach to the Project: Accessibility

The Project for Public Spaces states: “The water itself is the greatest asset of any waterfront, and should become the centerpiece for programming and activities.”³⁰ *Sustainability Park* is free to all, accessible year-round, day-and-night, and will utilize multiple accessibility strategies to meet the physical, cultural, social, and educational needs of local residents and visitors. It includes: 1) utilizing universal design for all facilities and public accommodations, 2) providing direct, multiple-point access to the lake in a safe and structured setting, and 3) providing opportunities to socialize and learn about how we all can contribute to a sustainable urban landscape.

The projected users and beneficiaries of *Sustainability Park* are: 1) year-round residents of Burlington and surrounding towns and seasonal visitors to northwest Vermont looking for recreational and learning opportunities, 2) local school, camp and other youth groups needing access to Lake Champlain and natural areas for curriculum purposes, 3) special needs adult and youth groups and individuals requiring ADA accessible facilities, 4) downtown employees or convention participants looking for break-time or after work recreational activities, and 5) urban planners and sustainable design professionals looking for “green” demonstration projects.

Recreational users will discover multiple access points to the water, numerous seating options, walkway and bike-way connectivity to the rest of Waterfront Park, and opportunities to learn and explore with family and friends about sustainable landscapes, lake and wetland ecology, waterfront history, and numerous other visitor-interest topics. The need is especially high along Waterfront Park as evidenced by a 2010 report about bike path users that found 103,000 people used the Waterfront portion of the path from May to September—highest of any portion of the path.³¹

School, camp, and other youth groups will find a rich tapestry of educational opportunities from ECHO-led, water-side dock and naturalized shoreline exploration activities and citizen science projects to self-directed explorations. Over forty graphic panels, interactive exhibits, and equipment distributed across the site provides the setting for individual or group learning. Chittenden County schools educate over

³⁰ Projects for Public Spaces: 10 Qualities of a Great Waterfront Destination. Downloaded 10.3.2013 from: http://www.pps.org/reference/10_qualities_of_a_great_waterfront/

³¹ Estimating Tourism Expenditures for the Burlington Waterfront Path and the Island Line Trail

³¹UVM Transportation Research Center, February 2010

22,000 students.³² To maximize the impact of field trips, schools are looking for partial-day, low-cost, enriching activities such as visiting ECHO and *Sustainability Park*.

Special need adult and youth groups and individuals will discover a safe and structured environment that facilitates their access to Lake Champlain not found in Waterfront Park or other regional facilities. All development on the ECHO site exceeds the Americans with Disabilities Act standards, both scoping and technical, for accessible design for newly designed and constructed or altered facilities and public accommodations accessible to and usable by individuals with disabilities. All ramps, docks, bikeways, structures, pedestrian paths, interpretation, and associated programming will be implemented to the highest accessibility standards.



In Woodland Park, Harrisburg, PA the two miles of accessible wetland and marsh nature trails have accessible permanently-mounted binoculars.

Downtown employees or convention visitors will find a quiet enclave with stunning views of Lake Champlain and ample seating surrounding three iconic experiences: a floating Nature Walk into a naturalized urban shoreline and wetland, a shelter linked to an Educational Dock, and the Lake Champlain Navy Memorial. Recreational activities available to workers have shown to be very important to quality of life measures. Downtown workers are already waterfront users as 15–18% of bike path users are commuters.³³ Downtown will shortly have more rooms than South Burlington's Sheraton conference center, driving conference need for quality recreation spaces.

Urban planners and sustainable design professionals will find one of the nation's leading examples of sustainable landscape design. Integrating stormwater strategies, renewable energy production, and waste and recycling management into a cohesive story situated within an urban waterfront and downtown will prove to be a key asset for defining Burlington as an internationally recognized innovator. ECHO was recently recognized as a leader in museum sustainable design as a case study in the book The Green Museum.³⁴ Convening urban planners, sustainable landscape, public spaces, and educator conferences and meetings will build both Burlington recognition and downtown revenues.

³² US Census 2010 available at: <http://quickfacts.census.gov/qfd/states/50/50007.html>

³³ Estimating Tourism Expenditures for the Burlington Waterfront Path and the Island Line Trail. UVM Transportation Research Center, February 2010

³⁴ Sarah Brophy and Elizabeth Wylie, 2008. *The Green Museum: A Primer on Environmental Practice*, AltaMira Press.

4f) Approach to the Project: Environmental Benefit

The 2011 Think Tank! Report (25 experts including landscape and building architects, land trust managers, stormwater experts, regional planners, NGO leaders and City officials) defined a plan for addressing ECHO's low impact development (LID) infrastructure needs.³⁵ The findings, to be both demonstrated and interpreted, include stormwater remediation, renewable energy production, and waste and recycling management. Demonstration and remediation of stormwater will be accomplished through: parking lot resurfacing with bio-swale and rain garden installations to manage water and reduce erosion, expansion of ECHO's rain gardens to manage roof and deck water, and a 600 sq. ft. green roof on the Education Dock Shelter. The gravel parking lot will be re-graded to direct water, though a bio-swale, rain gardens, and retention-pond, to the naturalized shoreline and wetland south of the Navy Memorial. Alternative parking surfaces will be explored, including several types of permeable surfaces. ECHO is keenly aware of the impacts of construction on filled-land and the need for analysis regarding potentially compromised or hazardous sub-soils. ECHO roof and deck stormwater management will expand with 465 square feet of new rain gardens managing 1,080 square feet of roof and deck surface. These gardens will be installed on the southwest corner of the Lakeside Terrace to complement existing 800 square feet of rain gardens located on the northwest Terrace. Current gardens have eliminated stormwater sheeting from the roof and deck to the lake and we expect the expanded rain gardens to accomplish the same. The social and environmental value of stormwater management improves habitat and community livability by enhancing aesthetics and recreational opportunities, reducing noise pollution, improving community cohesion, and cultivating public education opportunities.³⁶



St. Albans, VT road-side rain garden examples (left to right): Rugg St. and Northwest Medical Center.

When completed, three forms of renewable energy will be produced. Solar panels generating 27 kW of power have already been installed. Four geothermal wells will be installed below the parking surface to provide 75–90% of ECHO cooling and heating annual physical plant requirements. A residential-scale wind turbine will be installed on the southwest corner of the Lakeside Terrace producing 2.5 kW of power. The goal is to renewably produce 25% of ECHO's annual energy need, reducing the need for expanded municipal electrical power expansion. All *Sustainability Park* lighting will be low energy LED and meet the very highest standards for energy usage and night sky protection.

³⁵ Stephanie Hurley and Julie Silverman, 2011. *Think Tank: Opportunities for Green Stormwater Infrastructure and Low Impact Development on Burlington's Waterfront - Guidelines for ECHO Lake Aquarium and Science Center.*

³⁶ *The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits.*

The ECHO parking lot houses the waterfront's waste and recycling transfer station. By working with the producers, haulers, and recipients, ECHO will be able to tell the story of food composting, paper, plastics, and metal recycling and waste-stream management in an urban setting.

4g) Approaches to the Project: Public Art

The guide to *The Value of Green Infrastructure* states, "American society can benefit from art, artists, and artistic practices in city infrastructure projects, education, community development, placemaking, and environmental cleanup."³⁷ For Larry Kirkland, a renowned Washington DC artist who has worked with the nation's greatest science centers, "Much of the built environment lacks the resonance of history or civic responsibility that can make residents proud of where they live. Site-specific public art, however, takes on a more ambitious role."³⁸ ECHO plans to be ambitious. We will not just add art to *Sustainability Park*, but will integrate it into every aspect of the Park experience. ECHO will work with notable local and national artists such as Gordon Auchincloss, Homer Wells, Kate Pond, Steve Conant, Ned Kahn,³⁹ and Larry Kirkland in the process to interpret the stormwater, energy, and waste management issues demonstrated in *Sustainability Park*. Kirkland provides guidance for this pursuit,

I believe that carefully conceived public art installations and environments can create places of meaning within communities. The best of public art can challenge, delight, educate and illuminate. But above all, it can celebrate the qualities that make each place unique and can create a sense of civic ownership. This pride of place is a building block for the future of these communities.⁴⁰

ECHO will utilize art to tackle the most difficult concepts to communicate while turning "infrastructure" into art. We want Park visitors to wonder, investigate, tell their friends, but most of all enjoy the space. As Lesley Lewis, CEO of the Teluscape Ontario Science Center exclaimed about their public park, "We wanted 'a legacy green space' that will make a lasting contribution to...the cityscape."⁴¹

Here are photos of examples of the ideas we will bring to Burlington's Waterfront *Sustainability Park*. Additional photos are included in Appendix I. An inventory of exhibits, art and interpretation opportunities are included in Appendix J.



Art on the street and as architecture: (left) Edgar Müller's 3D sidewalk art installation reveals hidden imaginary world; (right) Lincoln Park Zoo Outdoor Classroom, Chicago, IL. transforms urban pond.

³⁷ Sarah Graddy, 2010. *Creative and Green: Art, Ecology and Community*, Chapter 2: Art in Land and Water Remediation. Downloaded from greenmuseum.org.

³⁸ Larry Kirkland. Downloaded from <http://www.larrykirkland.com/projects.html>

³⁹ Ned Kahn. Downloaded from <http://nedkahn.com/statement/>

⁴⁰ Larry Kirkland. Downloaded from <http://www.larrykirkland.com/projects.html>

⁴¹ Lesley Lewis personal communication.



Art is everywhere—in architecture, science, way-finding, history, and play: (clockwise, starting top left) Modern picnic shelter, Northshore Hamilton QLD, Australia; Sculptural signage, Erie Basin Park, Red Hook, Brooklyn NY; Historic interpretation, Erie Commercial Slip Harbor, Buffalo, NY; Kansas City Art Institute glowing pavers, Kansas City, MO; Interactive light sculpture, *Halo*, College Bouret de Rigaud, Quebec, Canada; and Science outside – *What color's the water?* Exploratorium, San Francisco, CA.

4h) Approaches to the Project: Housing

While this proposed project is not primarily about improving housing in Burlington, the same arguments that indicate Waterfront investments support expanded retail, convention, and business meetings through meeting the need for recreation, can be translated from the Economic Development section above. In summary, Burlington's goal to increase the housing stock and livability of our downtown rests, in part, on the recreational foundation that *Sustainability Park* provides the City's current and future residents. The positive relationship between "improved urban greening and property values is well documented."⁴²

4i) Approaches to the Project: Walk-ability and Bike-ability

Over a half-million people utilize the crowded east-west College Street corridor as their primary connection to the Waterfront—ending up in the Traffic Circle and distributing north and south along the Waterfront. *Sustainability Park*, somewhat visually separated from this confluence, will address connectivity issues by: 1) creating a "bike path spur" from the waterfront bike path and providing bike parking, 2) installing signage, art, and interactive exhibits as "engagement bread crumbs" leading to the Park, 3) providing a small boat launch site and short-term storage, and 4) showcasing the Lake's local identity and creative amenities in the form of an Education Dock and Shelter, floating Nature Walk and Gazebo, and improved access and seating at the Navy Memorial.

A bike path "spur" linked to the Waterfront bike path will connect the 100,000 bike path users directly to primary elements of Sustainability Park and Lake Champlain. The spur will terminate at the Nature Walk and the Education Dock and Shelter—both will have adjoining bike racks. Multi-use pedestrian paths continue waterfront access by following the edge of the water and connect to the continuous waterfront boardwalk heading to the Boathouse and points further north. The bike path spur terminates at the future location of the connection to the Lake Champlain Transportation parcel when re-development occurs.



Examples of bike path design and rack: (left) Interpreted "Green Bike Path" in Delta Watershed Park, BC, Canada; (right) Living Roof Bike Shelter, Columbus, OH.

The Education Dock will provide a launch site for small boats and provide short-term storage as the boaters enjoy the waterfront.

⁴² The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits.

“Engagement bread crumbs” are as simple as signage clearly marking how to get to a location and as complex as artwork embedded in a walkway drawing you forward while providing content. Interactive science exhibits will draw visitors through the Lakeside Terrace to the Park. Strategically placed art or artistic enhancements of typical infrastructure (example right: lawn chairs made of “real” lawn) draw the visitor ever-inward to the Park and the water’s edge.



Whether a waterfront guest peers across the railroad tracks, around the edge of ECHO’s building or is looking back at the waterfront from either the Boathouse or a boat, the combination of Nature Walk Gazebo, Education Dock Shelter, and Navy Memorial will provide a strong reason to visit that part of the waterfront. These visual cues are an important part of creating a bike-able and walk-able waterfront. The more than forty interpretative signs and interactive exhibits create a string of connected experiences, drawing waterfront guests from one to the next. Placed within sight of each other, the astute visitor quickly surmises an exploration trail is available and worth investigation. While each graphic or interactive can be independently experienced, the collective builds a story of a sustainable urban landscape along a welcoming pedestrian path.

5) Communication and Collaboration

Since 1995, ECHO has been working closely with the City of Burlington and state and federal agencies to operate and continually improve and invest in our waterfront location. ECHO leadership has sought feedback on preliminary *Sustainability Park* designs with the following agencies (anticipated regulatory issues highlighted under each agency):

- Public Service Board issued a certificate of public good for installation of the 2.5 kW wind turbine near the SW corner of the ECHO building in 2010 and a certificate of public good for the ECHO roof solar panels installed in 2011. Engineers Yeaton and Associates have provided preliminary designs for the below-parking lot geothermal plans.
- Burlington Stormwater Program, Department of Public Works indicated no issues with the preliminary *Sustainability Park* plans presented regarding EPSC Plan, Technical Assistance, Wastewater, and State Approval. ECHO will work closely with the Stormwater Program, along with a team of advisers, as we fully design the parking lot water management system.
- Army Corps of Engineers indicated no issues with the preliminary *Sustainability Park* plans presented regarding project aspects entering waterways and the permitting required. ECHO will keep the Corps apprised of design details, especially concerning the Education Dock and floating Nature Walk.
- Burlington City Arts indicated no issues with the preliminary *Sustainability Park* plans presented regarding public art, the process to create, and installation. ECHO looks forward to guidance from City Arts in the selection, fabrication, and installation of the art.
- Vermont Department of Environmental Conservation Lakes and Ponds Program indicated no issues with the preliminary *Sustainability Park* plans presented regarding project aspects entering waterways and the permitting required. ECHO will keep the Lakes and Ponds Program apprised of design details, especially concerning the Education Dock and floating Nature Walk.
- Burlington Parks and Recreation Department indicated no issues with the preliminary *Sustainability Park* plans presented concerning public amenities, interpretation, and access. ECHO will work very closely with this key partner as design plans mature in all aspects of *Sustainability Park*.

- Burlington's Harbor Master indicated no issues with the preliminary *Sustainability Park* plans presented concerning docks and boat traffic. ECHO will keep the Harbor Master apprised of design details as they emerge.
- Burlington's Transportation Planner and Pedestrian and Bicycle Program Manager indicated no issues with the preliminary *Sustainability Park* plans presented concerning traffic and right of way issues. ECHO will engage the Transportation Planner as the design details for the College Street bike and pedestrian crossing emerge.
- Burlington Parks Planner and consultants (VHB) for the renovated Bike/Recreation Path indicated no regulatory issues during the presentation with the preliminary *Sustainability Park* plans concerning the updated bike path. ECHO will engage the Parks Planner and consultants as the design details for the Bike Path "spur" into the *Sustainability Park* is fully designed.
- Burlington Planning and Zoning and the Development Review Board indicated no issues with the preliminary *Sustainability Park* plans presented concerning process and timing. Special attention will be made to answer historic preservation and archeology issues as the design matures. ECHO's previous Pavilion and Terrace expansion landscape plan received a Department of Planning and Zoning permit in March 2011 including rain gardens and their interpretation, stormwater abatement, conditions to maintain public circulation between the building and lake shore, and comply with energy efficiency standards.

The following community stakeholders and City committees will be consulted concerning the emerging design for *Sustainability Park*. ECHO's believes that a wide variety of perspectives provide important feedback in a public project—always improving the final product.

- ECHO members and Waterfront users will get the opportunity to review preliminary and final plans for *Sustainability Park* and provide feedback in public sessions. An ongoing presentation of *Sustainability Park*, along with other significant Waterfront Park PIAP investments, will be in ECHO's lobby once funded project decisions are made. We invite other projects to do the same.
- ECHO Lake Aquarium and Science Center Board of Directors.
- Other PIAP TIF-funded downtown and waterfront projects.
- City of Burlington, City Council Parks, Arts and Culture Committee.
- City of Burlington, Parks and Recreation Commission.
- Burlington City Arts about art installations and overall park aesthetics.
- Burlington Committee on Accessibility.
- Burlington Business Association Waterfront Action Group.
- University of Vermont Rubenstein Ecosystem Science Lab, a key Leahy Center for Lake Champlain partner.
- The Lake Champlain Basin Program, a key Leahy Center for Lake Champlain partner.
- The Lake Champlain Transportation Company, ECHO's immediate southerly neighbor.
- MainStreet Landing, ECHO's immediate easterly neighbor.

6a) Experience: Expanded Project Team

ECHO senior management will be the lead for the project design, financing, construction, and operation of *Sustainability Park* after completion. The Burlington Parks and Recreation Department leadership will serve as a key asset representing the integration of waterfront park and bike path. ECHO and the Department have worked closely since 2003 guided by an annual operating agreement. Key Parks and Recreation personnel will be included in the monthly project leadership meetings. Project quality control and procedures, overseen by a project manager, will be consistent with relevant project experience detailed below and protocols required in major federal grant administration and include: 1) monthly budget review and forecasting, bi-monthly progress review, and weekly project schedule review by the appropriate members of the leadership team, 2) attention to permitting requirements and time lines, bid and construction process protocols, 3) review of plans with regulatory agencies, 4) review of plans with community stakeholders, and 5) oversight of the design process by a content-expert advisory committee.

Project Leadership will be the responsibility of ECHO's Executive Director Phelan Fretz. The Project Team will include a project manager, ECHO's senior management team, and key Burlington Department of Parks and Recreation leadership to ensure waterfront park and bike path integration. The following will report to/work with the Project Leader during design and construction:

- Project Manager – hired specifically for *Sustainability Park*
- Finance and Budget – ECHO Director of Finance and Administration
- Design/Development – ECHO Director of Exhibits
- Construction and Installation – ECHO Director of Facility and Animal Care
- Fund Raising – ECHO Director of Development
- Waterfront Park Integration – Burlington Parks and Recreation Director
- Overall Project Design and Waterfront Park Integration – *Sustainability Park* Advisory Committee

The following will report to/work with Project Leader after project completion:

- Park Maintenance and Operation – ECHO Director of Facilities and Animal Care
- Park Program Experience – ECHO Director of Education
- Park Event Management – ECHO Director of Guest Services and Private Events
- Waterfront Park Integration - Burlington Parks and Recreation Director

Sustainability Park Team Member Bios

- ECHO Executive Director (Phelan Fretz, Ph.D.) – 30 years of museum leadership experience raising \$30 million and designing and building 250,000 sq. ft. of exhibitions and facilities. Completed fund raising and opened ECHO in 2003. Operation of facility 2003 to present. In partnership with Board and community, raised \$16 million since 2003. Phelan will oversee the entire *Sustainability Park* project.
- Project Manager – To be hired with credentials consistent with the project scope.
- Burlington Department of Parks and Recreation Director (Jesse Bridges) – oversees all of Burlington's 37 Parks, 550+ Acres of Open Space, 3 Public Beaches, Street Trees & Greenways, Community Gardens, 3 Cemeteries, Miller Recreation Center, Leddy Park Arena, Memorial Auditorium, and all Recreation Programs. He also serves as the City's Harbormaster overseeing the public marina and harbor activities. See Appendix B for letter of commitment to serving as a partner.
- ECHO Director of Animal Care and Facilities (Steve Smith) – 30 years of zoo/aquarium live animal and facility management. Manage ECHO's live animal collection and LEED certified facility since 2002. Steve will oversee, with a construction manager, the infrastructure investments of the project.
- ECHO Director of Exhibits (Julie Silverman) – 25 years of program and exhibit development leadership experience. Responsible for all ECHO's exhibit development and installation since 1995. Julie will oversee the project's interpretation development, fabrication and installation.
- ECHO Director of Guest Service and Private Events (Tina Lecours) – 10 years of event and guest service management. Responsible for ECHO guest services and private events since 2004. Tina will oversee the private events.
- ECHO Director of Development and Community Relations (Steve Perkins) – 15 years of fund raising experience. Steve will oversee the fund raising for the private match for the project.
- Director of Education (Molly Loomis, Ph.D.) – 15 years of educational leadership. Responsible for ECHO education programs since 2008. Molly will oversee education programs implemented in the Park.
- ECHO Director of Finance and Administration (Chris Miller, Ph.D. CPA) – 35 years of operations and capital budget management in for-profit and non-profit companies. Chris will oversee finance and budget management for the project.

6b) Experience: Project Experience

The ECHO senior management team has worked together to complete four projects relevant to the implementation of the public-private partnership *Sustainability Park* project. Reference letters from the New England Interstate Water Pollution Control Commission (US Environmental Protection Agency and Great Lakes Fishery Commission grant manager) and Davis and Hogdgon Associates, ECHO's auditors outlines ECHO's budgetary history and controls. See Appendix D. Our experience includes:

- ECHO Lake Aquarium and Science Center, Leahy Center for Lake Champlain – Design and build 28,500 square foot LEED certified facility housing 2,000 live animals, 100 exhibits, retail, cafe and program/event spaces. Total budget: \$15 million, re-development of 2.2 acre City-lease site and building, 2001 - 2003. Fretz, Smith and Silverman served in similar roles as above.
- ECHO Major Exhibition Installations – Design and install 4 major exhibitions about live animals and lake stewardship. Total budget: \$1.75 million, 4,000 square feet of new exhibitions, 2004 - 2012, Fretz, Smith, Silverman and Miller served in similar roles described above.
- ECHO Lakeside Pavilion and Terrace – Design and build LEED certified expansion to ECHO facility, Total budget: \$2.5 million, facility expansion of 5,900 sq. ft., 2012 - 2013. Fretz, Smith, Silverman, Lecours, Miller and Perkins served in similar roles as described above.

The *Sustainability Park* project will convene an Advisory Committee, representing experts in science, education, arts, environmental remediation, accessibility, and others, for three meetings in the first year to provide guidance on the project design and impact. The list of the 22 members of the Advisory Committee is included in Appendix E.

6c) Experience: Cost Controls

As evidence of well managed operation and project budgets, ECHO has had a balanced budget for the past 10 years, has complied, in all material respects, with all requirements as indicated in annual audits, and managed over \$10 million in grant and special projects. All capital projects have come in on or under budget and exceeded goals. All accounting meets or exceeds the requirements of OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations. As per GuideStar, no concerns have been raised by public or private funders. Please see the letters from New England Interstate Water Pollution Control Commission and ECHO's Auditor, Davis and Hogdgon Associates, concerning cost controls and budgeting, Appendix F.

7) Project Feasibility and Schedule

Project schedule with justification comments are included below.

Project Phase	2013				2014				2015				2016		
	S	S	F	W	S	S	F	W	S	S	F	W	S	S	F
Conceptual Design	X	X	X												
Permitting/Regulatory	X	X	X	X	X	X	X	X							
Stakeholder Interactions	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Advisory Committee Meetings					X	X	X								
Design/Development					X	X	X	X							
Construction Docs/Specifications							X	X							
Bid Process								X	X						
Construction Phase One (Eastside/Parking)									X						
Construction Phase Two (Westside/Lakeside)										X					
Construction Contingency													X		
Opening													X	X	

Notes on Schedule:

1. Conceptual Design – Identify main concepts of overall design. This process is complete.
2. Permitting/Regulatory – Engage federal, state and local permitting agencies at each phase from conceptual design to issuing of the permit. This process has already begun and is completed before construction documents are completed in winter 2014.
3. Stakeholder Interactions – The engagement of regulatory agencies, contiguous land owners, waterfront users, City partners, and ECHO's Board of Directors, has already begun and will continue throughout the process. At the conclusion of each significant decision point, in addition to permitting agencies and partners, the public will be engaged through ECHO's site and communications network.
4. Advisory Committee – Committee of public and experts in education, accessibility, stormwater, art, outdoor exhibitions, marketing, energy, and business meets in January, May and September 2014.
5. Design/Development – Site layout, materials, utilities, grading are all assessed, concepts designed by fall 2014. Project manager is hired.
6. Construction Docs/Specifications – Documents prepared for bid process, completed by winter 2014-15.
7. Bid Process - Competitive process, complete by winter 2015.
8. Construction Phase One (East side/Parking) – Geothermal, parking lot and pedestrian pavement, parking rain gardens and drainage, bio-swale, retention pond, wind turbine. These items are completed first because of spring high water. Phase One work starts in the spring as soon as possible and is completed by start of peak visitor season.
9. Construction Phase Two (West side/Lakeside) – Installation of the Education Dock and Shelter, the floating Nature Walk, Navy Memorial concrete, seating, interpretation, and art. Construction starts after Labor Day and ends with the onset of winter.
10. Construction Contingency – Aspects of construction that experiences unforeseen delays can be completed the spring of 2016.
11. Opening – *Sustainability Park* opens in spring 2016.

8) Project Budget

Sustainability Park Capital Budget

The total budget for *Sustainability Park* is \$3,810,140. ECHO requests \$2,058,740 in TIF funding to be matched by \$1,751,400 in private fund raising and in-kind donations. TIF funding reflects 54% of the total budget. Three estimators were utilized in this proposal: 1) Dock Doctors for the Education Dock, floating Nature Walk, and the Navy Memorial steps, 2) WagnerHodgens Landscape Architects for the overall landscape conceptual plan, and 3) ECHO Exhibit Design for the art and interpretive exhibits and signage. Budget Justification is in Appendix A. Estimator qualifications and estimated budgets included in Appendix G and H.

Activities	TIF Request	Other Funding
Structures	425,500	725,000
Interpretation and Art	488,000	118,000
Pavement	130,890	125,000
Walls and Stonework	170,300	73,400
Plantings	166,650	18,000
Renewable Energy	0	530,000
Site Furniture	44,400	22,000
Drainage, Plumbing and Electrical	58,000	0
Demolition and Site Preparation	40,000	0
Landscape Design and Construction Documents	120,000	0

Project Management	150,000	0
Art Process	15,000	0
Contingency (15%)	250,000	0
Total	2,058,740	1,751,400

Sustainability Park Operating Pro Forma

The operating budget for *Sustainability Park* is defined for start-up (first three years) and as a stable budget (years 4 through 15). ECHO expects the operating budget for Sustainability Park to have an annual net of 0. Revenues from public and private events, fee-based camp and school education programs, and ECHO After Dark evening events for adults are expected to offset the cost of Park maintenance, free seasonal daily education programs for the general public, and fee-based program implementation costs. It is forecasted that the Park will serve as an additional experience for ECHO guests and will increase attendance by 2% (start-up) to 5% (stable).⁴³ The increase in admission revenue is noted below the pro forma because guidance indicates this is highly variable and depends on many issues including juxtaposition to the facility, programming, and local use patterns. The Budget Justification is included in Appendix B.

Activities	Start-Up	Stabilized
<u>Revenues</u>		
Private and Corporate Events	25,000	50,000
Education Programs	15,000	20,000
ECHO After Dark events	3,000	6,000
Parking	8,000	8,000
Total	51,000	84,000
<u>Expenses</u>		
Private and Corporate Events	15,000	30,000
Education Program Implementation	21,000	26,000
ECHO After Dark events	1,500	3,000
Maintenance - Park, Stormwater System and Parking Lot	14,000	25,000
Total	51,000	84,000
 Net	 0	 0
 ECHO Admission (2% start-up, 5% stable)	 16,000	 40,000

9) Design Documents

Sustainability Park design concept is included in Appendix C. This includes an overall plan for the 2.2 acre site with investments noted and call-out sections of the overall plan defining examples of the types of investments to be located in each area.

⁴³ David Goudy, ED, Montshire Museum, Neil Gordon, previous COO Boston Children's Museum - Personal communication about the impact of contiguous parkland on museum admissions.