

US EPA ARCHIVE DOCUMENT

# Partnership *for* Sustainable Communities *EPA Brownfield Pilot*



US EPA ARCHIVE DOCUMENT



## NATIONAL CITY, CALIFORNIA

Recommendations for the Sustainable Remediation Process,  
Open Space, and Habitat Restoration

FINAL REPORT

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**Prepared by:**



[www.sra.com/environment](http://www.sra.com/environment)



[www.vitanuova.net](http://www.vitanuova.net)

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# Introduction

## *Partnership for Sustainable Communities Brownfield Pilots*

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The U.S. Environmental Protection Agency (EPA), Department of Housing and Urban Development (HUD), and Department of Transportation (DOT) are working together under the Partnership for Sustainable Communities to ensure that federal investments, policies and actions support development that is more efficient and sustainable. This partnership is based on "livability principles" that guide inter-agency collaboration and support the integration of: safe, reliable, and economical transportation; affordable, energy-efficient housing; and sustainable reuse of idle or underutilized land. Pilot communities were selected by EPA's Brownfields Program with input from HUD and DOT. The three agencies are working with the pilot communities to build on past investments, as well as identify opportunities to link housing, transit, and brownfields, as well as coordinate sustainability resources.

## *Partnership Livability Principles*

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The Partnership for Sustainable Communities has established a set of livability principles to guide the agencies' efforts and other infrastructure investments to protect the environment, promote equitable development, and help address the challenges of climate change. The Livability Principles are:

- **Provide more transportation choices.** Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
- **Promote equitable, affordable housing.** Expand location- and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- **Enhance economic competitiveness.** Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services, and other basic needs by workers, as well as expanded business access to markets.
- **Support existing communities.** Target federal funding toward existing communities—through strategies like transit oriented, mixed-use development and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
- **Coordinate and leverage federal policies and investment.** Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
- **Value communities and neighborhoods.** Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban or suburban.

## *National City Partnership for Sustainable Communities Brownfield Pilot Project*

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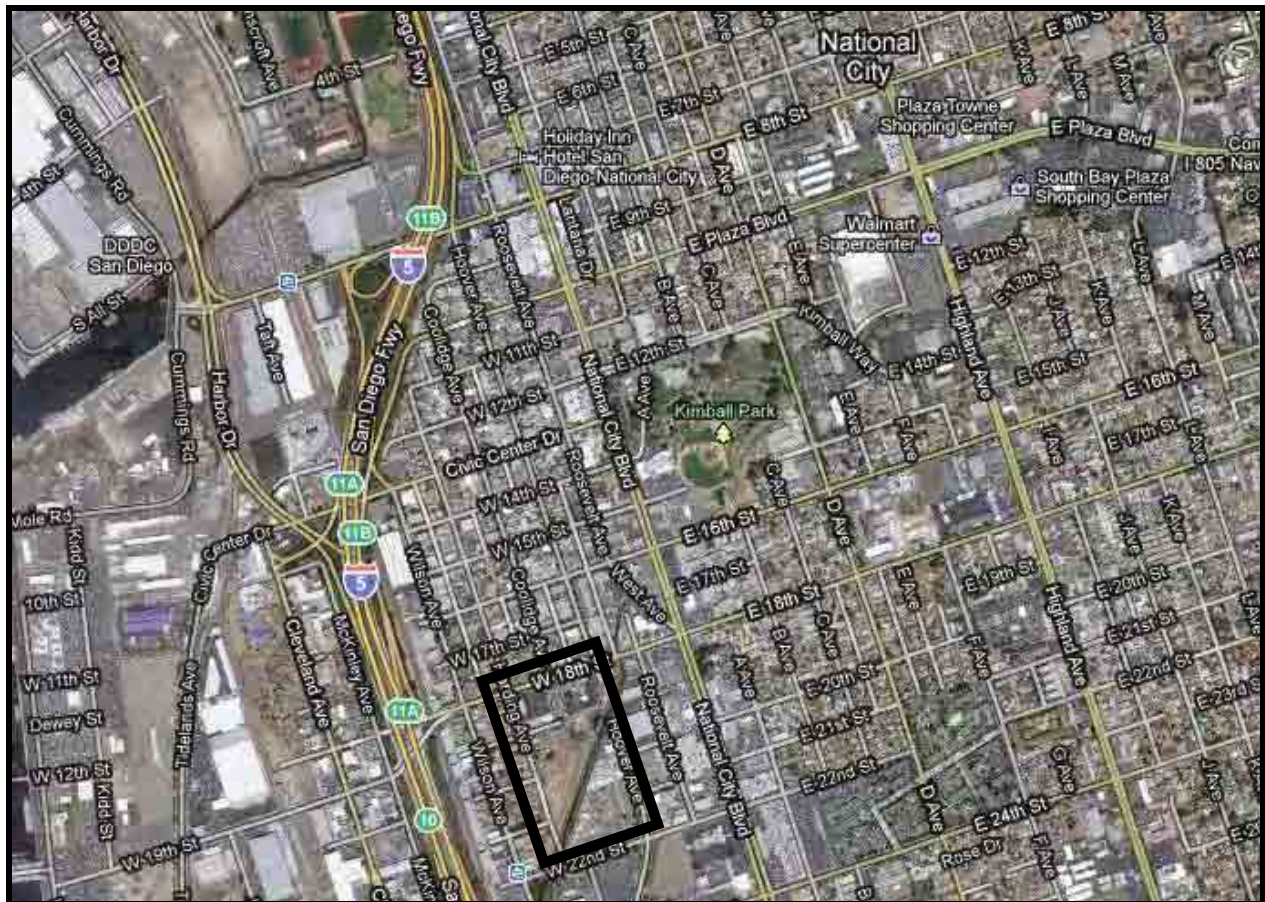
### *Study Area*

The National City Pilot is located in the Westside neighborhood, a primarily low-income, minority, urban neighborhood, wholly contained within the incorporated limits of National City, California. National City has a population of approximately 61,000 and is located five miles south of San Diego. Over the past 50 years, the Westside neighborhood has evolved from a primarily residential neighborhood to include a significant number of industrial uses, mainly auto body-related, in and around homes and an elementary school. The Westside Transit Oriented Development (TOD) Project will mark one of the largest and most

significant increases in residential use in the neighborhood.

The study area is focused on the future site of the Westside Affordable Housing TOD Project (Westside TOD Project). The Westside TOD Project will be an infill development project on the site of a former city public works maintenance area and a charter bus company. The approximately 14-acre site is bounded by W. 19th Street on the north, Hoover Avenue to the east, W. 22nd to the south, and Harding Avenue to the west. Paradise Creek, a tidal waterway, bisects the site, Kimball Elementary School sits immediately to the north, and the 24th Street trolley station is approximately 200 feet to the south.

**Figure 1: Context Map**  
*The Westside TOD Site is Outlined in Black*



*Data source: Google Maps, December 2010.*

The 14-acre Westside TOD site is divided into two general areas, referred to as the facility side and the park side. The facility side is currently occupied by a charter bus company and National City's Public Works Department's maintenance yard and administrative offices. The site is generally flat, with some small inclines around Paradise Creek. There is a large mound of street sweeping materials on the park side of the property. The site also includes a small amphitheater and raised walkways around the Creek with educational signage.

**Figure 2: Westside TOD Site**

A release from former underground storage tanks located on the maintenance yard has impacted soil and ground water in the southern portion of the property. Investigations conducted to date indicate concentrations of volatile organic compounds, such as benzene, may be present in soil and ground water above state action levels. These compounds are generically referred to as “chemicals of concern.” The park side of the site is currently used by the City as a garbage transfer station and collection point for street sweeping materials. Current environmental conditions in this area of the site include elevated petroleum hydrocarbon concentrations in the soil and undocumented fill materials. Investigations are ongoing and remedial action selection and design has not yet been accomplished.

### *Pilot Scope*

Over the past few years, the Westside neighborhood has started to address the numerous heavy industrial uses, mostly auto-related, that exist throughout the neighborhood. With approximately 389 polluters per square mile, this technical assistance project is focused on providing recommendations for redeveloping and revitalizing the Westside TOD Project site to build upon the City and community’s redevelopment efforts already in progress, such as auto-related business design guidelines, revised zoning, and addressing auto-related non-conforming uses. This Pilot also includes technical assistance on addressing non-conforming uses in the Westside neighborhood, which will be delivered as a separate report in early 2011.

The recommendations in the report are based upon research on existing environmental, neighborhood,

and community reports, as well as extensive interviews with multiple community stakeholders, including residents and local nonprofits. A community meeting further served to solicit the community's input. Using the information and data collected, the Technical Assistance Team's recommendations focused on three primary areas to assist the Westside TOD Project meet the Partnership's livability principles and help the project serve as a catalyst for neighborhood revitalization. The three areas are: 1) sustainable remediation; 2) redevelopment options for the City-owned open space site; and 3) habitat restoration for Paradise Creek. These recommendations are intended to support National City as it prepares the TOD Project site for redevelopment.

### *Key Stakeholders*

The National City Partnership for Sustainable Communities Brownfield Pilot is led by the EPA Office of Brownfields and Land Revitalization (OBLR). Technical assistance for the Pilot is provided under contract by SRA International, Inc. and Vita Nuova LLC (Technical Assistance Team). During the Pilot, the Technical Assistance Team participated in two site visits to National City and the Westside TOD Project. In order to better understand the neighborhood needs, during the site visits the Technical Assistance Team interviewed key stakeholders and groups and conducted a community meeting. A summary of the individuals and their associated constituencies are provided in Table 1, as well as key concerns or issues related to the Westside TOD Project and neighborhood.

**Table 1: Key Stakeholders**

Organization	Description	Key Issue(s)	Interviewees
Environmental Health Coalition	Toxic Free Neighborhood campaign works with Westside residents to educate and organize around auto-related use issues. EHC represents a large number of residents and has been active in the neighborhood for at least 2 years. Promotoras (female residents) are one of the key ways EHC reaches out to the community.	<ul style="list-style-type: none"> <li>Affordable housing for large families (very low AMI)</li> <li>Restore community character</li> <li>Open space</li> <li>Include adjacent public works yard</li> <li>Paradise Creek preservation</li> </ul>	<ul style="list-style-type: none"> <li>Carolina Martinez, Policy Advocate</li> <li>Georgette Gomez, TFN Director</li> <li>Promotoras</li> </ul>
San Diego Organizing Project (SDOP)/St. Anthony's Parish	SDOP became involved with the Westside neighborhood when the parish priest was worried about his diminishing congregation. SDOP conducted listening campaigns and began training residents, initially around the high incidence of asthma.	<ul style="list-style-type: none"> <li>Open space</li> <li>Affordable housing</li> <li>Include adjacent public works yard</li> <li>Allow residents access to the TOD site</li> <li>Maintain neighborhood feel</li> </ul>	<ul style="list-style-type: none"> <li>Hannah Gravette, Community Organizer</li> </ul>
Kimball Elementary School	Neighborhood elementary school teaching pre-kindergarten through sixth grades. Immediately adjacent to the TOD site.	<ul style="list-style-type: none"> <li>Rare flooding of the school grounds and classrooms</li> <li>Trash collects after rain</li> <li>Need additional</li> </ul>	<ul style="list-style-type: none"> <li>Sonia Ruan, Principal</li> </ul>

	Teachers use Paradise Creek as a teaching tool and hold outdoor classes on the site.	community gathering spaces <ul style="list-style-type: none"> <li>• Development should make residents proud</li> <li>• Occasional drug dealing around the school and TOD site</li> </ul>	
Old Town Neighborhood Council	Neighborhood Council acts as a voice for the community and holds monthly meetings. Acts as a means of interacting with City departments and City Council.	<ul style="list-style-type: none"> <li>• Incompatible uses</li> <li>• Affordable housing</li> <li>• Paradise Creek preservation</li> <li>• Creek buffers</li> <li>• Move planned bridge across the Creek</li> </ul>	<ul style="list-style-type: none"> <li>• Jose Medina, President</li> </ul>
Paradise Creek Foundation	Nonprofit organization helping to restore Paradise Creek. Organize cleanup, educational programs and worked with City to raise money and create the Creek park.	<ul style="list-style-type: none"> <li>• Paradise Creek preservation</li> <li>• Creek buffers</li> <li>• Only one Creek view point</li> <li>• Remove apartments on west side of TOD site</li> <li>• Creek culverts</li> </ul>	<ul style="list-style-type: none"> <li>• Ted Godshalk, Executive Director</li> </ul>
Land Owner (Robert "Dukie" Valderrama)	Former neighborhood resident and current land owner. Son attended Kimball Elementary and contracted life-long health issues, potentially caused by the school's location.	<ul style="list-style-type: none"> <li>• Removal of auto-related businesses</li> <li>• Open space/community gardens/recreation for the community</li> <li>• Health impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Robert "Dukie" Valderrama, Local Land Owner/Port Commissioner/Formal Resident</li> </ul>
Westside TOD Project Developers	Planning to develop an approximately 200+ affordable housing development on the project site.	<ul style="list-style-type: none"> <li>• Community involvement</li> <li>• Project development</li> </ul>	<ul style="list-style-type: none"> <li>• Rick Westberg, The Related Companies</li> <li>• Mary Jane Jagodzinski, Community HousingWorks</li> </ul>

In addition to the community interviewees, the Technical Assistance Team also interviewed National City staff, including Patricia Beard, Redevelopment Manager, Brad Raulston, Community Development Director, and Claudia Silva, City Attorney. The City's environmental consultant, Daryl Hernandez, also provided additional information related to the site's environmental conditions.

### *National City Pilot Purpose*

The following report provides guidance to National City on the redevelopment of its Westside Affordable Housing TOD Project. The recommendations presented reflect National City's desire to implement the Partnership's Livability Principles through a concrete project that:

- Reuses existing infrastructure;
- Sustainably addresses all environmental issues;
- Plans for affordable housing and open space;
- Builds community consensus; and

- Values and protects the natural habitat.

Using the recommendations as a starting point, the City can implement a coordinated approach to redeveloping the site that respects both the community and the site.

## Sustainable Remediation Process Recommendations

### *Background*

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As National City engages in efforts to redevelop the future Westside TOD site into a sustainable mixed income housing and greenspace that complements the surrounding residential and commercial communities, impacts to the ground water and soil associated with releases from former underground storage tanks, as well as other potential sources on the property, may need to be addressed. The sustainable strategy for the redevelopment must consider the environmental, economic and social impacts on the future uses of the property and the surrounding community. The following discussion is intended to provide background on the concepts of sustainable remediation.

Remediation is a term that is often used interchangeably with terms such as cleanup and corrective action. These terms generally refer to actions taken to:

- Investigate the presence and extent of chemicals in soil, ground water, and other environmental media;
- Select and implement a remedy that removes, reduces or eliminates exposure to concentrations of these chemicals in the environmental media to be protective of human health and the environment; and
- Conduct long-term monitoring and stewardship of the remedy.

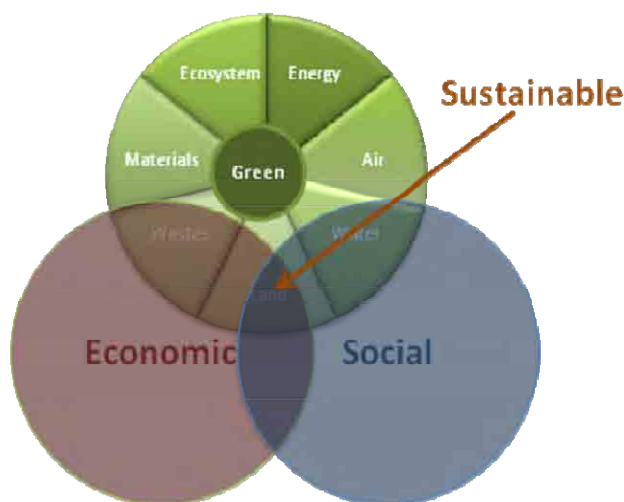
The actions taken will vary based on many factors such as the properties of the chemicals released, the environmental media impacted, surface topology, physical obstructions, such as buildings or roads, and regulatory requirements.

The terms *green remediation* and *sustainable remediation* are often used interchangeably. Remediation activities use energy and natural resources and generate wastes. Green remediation refers to the consideration of the potential impacts the remediation activities will have on the environment. It looks to maximize the net environmental benefit of a remediation on human health and the environment by using resources in a manner that does not exceed the rate at which it can be renewed, avoiding or minimizing the use of non-renewable resources, and not exceeding the capacity of the environment to absorb wastes. Specifically, EPA has identified five elements to assist in evaluating opportunities for green remediation activities. These elements are:

- Total energy use and renewable energy use
- Air pollutants and greenhouse gas emissions
- Water use and impacts to water resources
- Materials management and waste reduction
- Land management and ecosystems protection

**Figure 3: Green Elements**

Sustainable remediation encompasses a broader approach that includes green remediation as an important component. Sustainable remediation is the integration and balancing of social (i.e., common goals and individual needs of the community, such as health, nutrition, housing, education, recreation, and cultural norms, values, and beliefs), economic (i.e., the financial feasibility of achieving environmental quality and social equity, including jobs, a viable tax base, and community enhancements), and environmental (e.g., green remediation) values with practices that enhance social equity, economic prosperity, and environmental quality. It applies to all aspects of the remediation process and involves an alternatives analysis approach where alternatives are evaluated for each action or step in the remediation process with one alternative ultimately being chosen based on the preferred balance of environmental, economic or social impacts. It is important to note that the implementation of sustainable remediation requires that the remediation consider the potential future use of the property or area impacted by the remediation, comply with applicable laws and regulations, and be protective of human health and the environment.

**Figure 4: Intersection of Social, Economic and Environmental Elements**

### *Sustainable Remediation for the Westside TOD Project*

It is the remedial action decision, implementation and long-term stewardship that are the subject of this discussion on sustainable remediation for the Westside TOD Project site. Since investigation activities are not complete, a discussion of specific remedial action alternatives is not appropriate; therefore, a general discussion of the remedial action decision process in the context of sustainable remediation is provided.

Traditionally, the selection of a remedial action has been based on criteria such as the effectiveness of the remedy (e.g., toxicity, mobility or volume reduction of chemicals of concern), feasibility of the remedial action (e.g., capital and operating cost constraints), and time constraints. These considerations are critical components in the evaluation of remedial action alternatives, but do not fully balance the environmental, social and economic impacts of a remedial action beyond the remedial action itself. Remedial action should consider both traditional criteria to ensure that the selected remedial action will achieve the remediation objectives established for the property and sustainable criteria to ensure a balance of the environmental, social and economic impacts external to the remedial action. The selected remedial action should be the one that best meets these two sets of criteria. See Table 2 for the general steps and questions necessary to evaluate sustainable remedial actions.

**Table 2: General Steps for Sustainable Remediation Evaluation**

1.	Establish remediation objectives that are protective of human health and the environment. These could be concentrations of chemicals of concern in soil, ground water or other environmental media that are protective of human health and the environment, specific exposure pathways that need to be minimized or eliminated, or a combination of the two.
2.	Engage stakeholders early in the evaluation process to understand the perspectives and values of all of the stakeholders. Stakeholders include property owners, developers, regulatory agencies, and community members.
3.	Identify potential alternatives for remedial action that can meet the remediation objectives (traditional criteria). <p>3.1. Does the remedial action reduce the toxicity, mobility, or volume of the chemical of concern in the environmental media (reduction)?</p>

- 3.2. Will the remediation objectives be achieved during the remedial action implementation (short-term effectiveness)?
- 3.3. Will the remediation objectives continue to be achieved after the remedial action is complete (long-term effectiveness)?
- 3.4. Can the remedial action be constructed, reliably operated, maintained, and monitored (technical feasibility)?
- 3.5. Will the remedial action meet regulatory requirements for the remediation and related regulatory requirements associated with potential treatment, storage, and disposal requirements and services (administrative feasibility)?
- 3.6. Is the equipment and technical expertise required for the remedial action readily available to implement and maintain the remedial action (administrative feasibility)?
- 3.7. Is the cost of implementation and operating the remedial action reasonable with respect to the effectiveness of the remedial action (cost constraints)?
- 3.8. Are their time constraints associated with the implementation or completion of the remedial action (time constraints)?

4. Evaluate the opportunities for sustainability of the identified remedial action alternatives (sustainable remediation criteria). The evaluation should consider issues on the property and in the surrounding area resulting from the implementation of the remedial action.
  - 4.1. Environment (green remediation)
    - 4.1.1. Does the remedial action create new unacceptable exposures and risks not associated with the current environmental condition on the property or allow unacceptable exposures to continue?
    - 4.1.2. What are the energy requirements necessary to operate the system throughout the entire life of the remedial action?
      - 4.1.2.1. Are there opportunities to improve energy efficiency and use renewable energy sources?
    - 4.1.3. Are natural resources going to be utilized when implementing the remedial action (e.g., water)?
      - 4.1.3.1. Can natural resource use be reduced or eliminated?
      - 4.1.3.2. Can treated water be reused or treated and discharged to surface or ground water?
      - 4.1.3.3. Are natural resources going to be impacted when implementing the remedial action (e.g., water, soil, ecological habitats)?
      - 4.1.3.4. Will remedial action further harm land resources and ecosystems at or near the property?
    - 4.1.4. Are pollutants generated by the remedial action (e.g., chemical emissions to air, chemical discharges to water, waste disposal or treatment, and other particulate matter)?
      - 4.1.4.1. Are there opportunities to reduce air emissions from activities, such as treatment processes, operation of heavy machinery, and vehicle use?
      - 4.1.4.2. How effective will the remedial action be versus the impact of the remedial action on the environment as a whole?
      - 4.1.4.3. What are the impacts of operating the remedial action (e.g., green house gas emissions, disturbance of native flora)?
    - 4.1.5. Are there opportunities to reduce the use of raw materials, minimize waste generation, use recycled and/or local materials, use local labor and expertise, and purchase environmentally preferred products?
    - 4.1.6. Are there opportunities to harness or mimic a natural process (e.g., natural attenuation processes)?
  - 4.2. Economic
    - 4.2.1. What are the costs of implementing the remedial action without consideration of the sustainable criteria (e.g., based on the traditional criteria only)?

<p>4.2.2. Are their positive economic benefits that can be realized by the implementation of sustainable alternatives for the remedial action (e.g., soil reuse, accelerated redevelopment, implementation during or as part of the redevelopment activities)?</p> <p>4.2.3. Are there economic risks that are presented by the remedial action alternative (i.e., extended timeframes for redevelopment, unacceptable costs, worker safety)?</p> <p>4.3. Social</p> <p>4.3.1. Have stakeholders been actively engaged in the evaluation and decision making process?</p> <p>4.3.1.1. Are the issues the community and other stakeholders raised addressed by the remedial action alternative?</p> <p>4.3.1.2. Has information on the advantages and disadvantages along with the potential for impacts on the community associated with each remedial action alternative been provided to the community and other stakeholders?</p> <p>4.3.1.3. Are there issues that have resulted from the environmental condition of the property that have had an inequitable or adverse effect on the community?</p> <p>4.3.1.4. Will the remedial action resolve these issues or create new situations that may lead to further inequities or adverse effects?</p> <p>4.3.2. Are there potential adverse effects to the community associated with each remedial alternative?</p> <p>4.3.2.1. Are there potential effects to existing local traffic flow and patterns?</p> <p>4.3.2.2. Are there potential health and safety risks to the community (e.g., truck traffic)?</p> <p>4.3.2.3. Are there nuisance issues (e.g., noise, dust) that will result from the remedial action?</p> <p>4.3.2.4. Are there opportunities for local employment or purchase of materials and supplies from local suppliers?</p> <p>4.3.3. Are there restrictions on the current and future use of the property that are inconsistent with the local vision for the property and surrounding area?</p>
<p>5. Identify actions to meet sustainability criteria.</p>

The selection, implementation and operation of a remedial action provide significant opportunities to increase the sustainability of the remedial action. For example, concentrations of chemicals of concern in soil can be addressed in a number of ways:

- Treatment in place using bioremediation techniques
- Excavation and treatment on the property
- Excavation and disposal or treatment off the property
- Engineering controls (e.g., paving)
- Engineered caps
- Building foundations to eliminate exposures
- Institution controls that minimize exposure to the soil (e.g., non-residential use)

However, each technique has unique tradeoffs. In-place treatment may reduce concentrations to a level acceptable for most future uses, but may delay redevelopment of the property until remedial action is complete. Excavation and treatment will reduce concentrations of chemicals of concern in the soil, but will require excavation equipment on the property (and associated dust and vehicle air emissions) and may delay redevelopment of the property until remedial action is complete. Excavation and disposal removes chemicals of concern, but requires soil to be trucked from and to the site, resulting in additional truck traffic and air emissions and dust during the excavation activities. Engineered controls and deed restrictions can be implemented quickly and as part of the redevelopment activities, but chemicals of concern remain on the property requiring long-term stewardship to protect users from unexpected exposures. Best management practices, such as using clean fuels and renewable energy sources for vehicles and equipment, and reusing construction and routine operational materials, can address many of

these issues. However, the ultimate decision on a remedial action will depend on the ability of the selected remedial action to best meet the traditional and sustainable criteria for a sustainable remediation.

## Open Space Usage Recommendations

### *Community Workshop Summary*

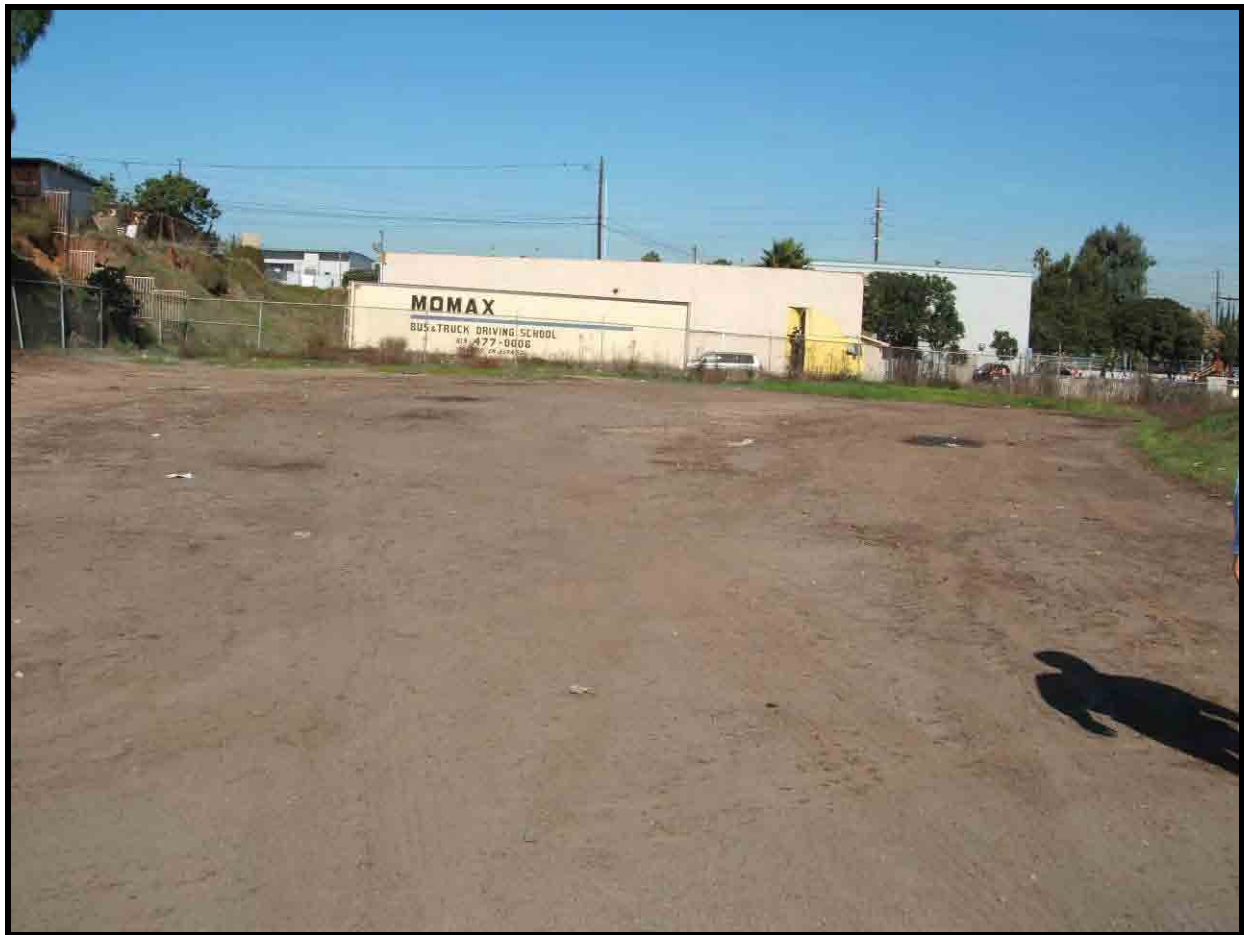
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On November 4, 2010, National City, EPA and the Technical Assistance Team held a community workshop in the Westside neighborhood to discuss the following:

- Advantages of brownfields redevelopment
- Sustainable remediation approaches
- Options for open space on the City-owned parcel

The workshop provided examples of brownfields redevelopment and remediation options, information on the regulatory framework for brownfields cleanup, and presented potential site features for the open space site. Community members were invited to participate in an interactive discussion, ask questions regarding brownfields, and discuss options for open space on the Westside TOD Project site. The workshop was intended to educate and begin to build consensus, as well as serve as the starting point for future plans for open space.

The open space site is a City-owned parcel of approximately 0.8 acres that has been designated by National City for general open space. It sits northeast of the future Westside TOD Project. The site is a former fueling station and is currently used as a transfer station. The site also includes a large mound of street sweeping debris.

**Figure 5: Open Space Site**

During the community discussion, a number of community members asked questions and made comments regarding the open space site. One audience member said that the Westside neighborhood needs more open space and requested that the City investigate additional sites. Community members also indicated a desire that age and mobility be considered when programming and designing the site, so regardless of the end use, the site will be functional for the entire community. Participants suggested speaking with the children attending the adjacent Kimball Elementary School to ask their preferences for the site or polling the citizens once the choices have been narrowed. In addition, many participants were specifically interested in how community gardens were managed and operated and whether uses could be combined (i.e., combining active and passive parks). The audience, in general, also expressed a desire to stay involved as the planning of the site moves forward.

**Figure 6: Community Workshop Participants**

At the community workshop, community members were asked to participate in a preference exercise to help inform the reuse of the site. Participants were given four colored dots (two red – first choices, yellow – second choice, blue – third choice) and asked to place the dots on the potential features they preferred. The potential features and associated dot counts are as follows.

**Table 3: Community Meeting Dot Exercise**

Potential Feature	First Choice	Second Choice	Third Choice
Art Installations	1	5	2
Community Gardens	11	4	1
Formal Gardens			5
Gathering Space		3	8
Meditation/Prayer/Memorial Space	1		1
Open/Event Spaces	6	5	4

Other Gardens (educational, butterfly, drought tolerant, etc.)	1	2	2
Seating	5	7	
Tot Lot/Swings/Park	33	5	4

The top two preferences indicated by the community during the workshop (highlighted in Table 3) were an active recreational space (e.g., tot lot, swings) and a community garden. The following sections provide additional information on these two options.

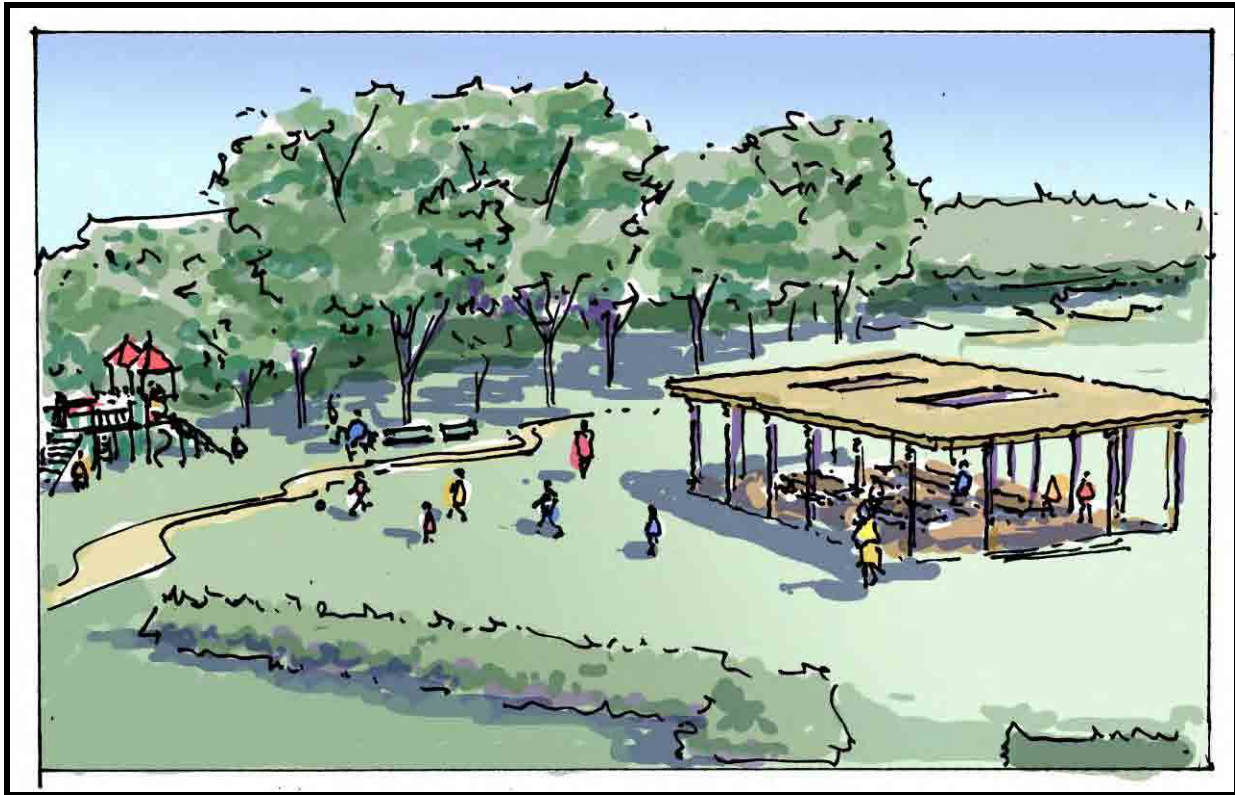
### *Active Recreation Options*

During the community workshop, the participants clearly indicated a preference for active recreational space. The following are illustrations and images of potential active recreational features that could be used on the redeveloped open space site. For additional images, please see Appendix A.

**Figure 7: Rendering of a Potential Playground**



**Figure 8: Rendering of a Potential Picnic Area**



**Figure 9: Example Play Structures**



**Figure 10: Example Park Seating**

*Data source: Image via Flickr, courtesy of cjc4454.*

### *Management/Organizational Structure Options*

#### **Maintenance**

There are a number of management structures that could be utilized to develop and maintain the open space site as an active recreational area. The City could maintain ownership of the site and develop the park. The space could then be added to National City's list of parks and maintained as part of its Parks and Facilities Department. Another option is for the City to transfer ownership (or create a lease agreement) to the developers of the TOD Project. Alternatively, the developers could develop and maintain the facilities themselves, as an amenity to their residents. In addition, the City could develop the park, but the developers take control of maintenance once the facilities and equipment are in place. Depending on the structure of the open space site development, the City and the TOD developer will need to create an agreement that stipulates whether the park is open to the entire community, or only to the development residents.

#### **Programming/Partnerships**

Reuse as an active recreation space presents a number of potential partnership opportunities for the site. The site is located immediately adjacent to Kimball Elementary School, a public school serving Kindergarten through sixth grade. The school has very limited access to recreation equipment and does not have any greenspace. Kimball Elementary could use the new active recreation space as their playground, allowing the students access to greenspace. While the partnership with the elementary school

is the most obvious, due to its proximity, other organizations, such as local daycares, afterschool programs and even churches could use the space. Partnerships with these different organizations and groups will help keep the space active, while enhancing recreational opportunities for area children.

### *Community Garden Options*

During the community workshop, the participants clearly indicated a preference for community gardens, although there were a number of questions regarding the creation, management and operation of the gardens. The following are illustrations and images of potential community garden features that could be used on the redeveloped open space site. For additional images, please see Appendix B. Additional information on creating and setting up a community garden is also provided.

**Figure 11: Rendering of a Potential Community Garden**



**Figure 12: Example In Ground Garden**



**Figure 13: Example Above Ground Garden**

### *Management/Organizational Structure Options*

#### **Leasing/Insurance**

Before a community garden is established, it is important that the organizing group, whether it is a group of residents, a nonprofit or a church group, develop a leasing agreement or memorandum of understanding with National City. This type of agreement typically specifies a nominal yearly lease amount (e.g., \$1) and should run for a length of time, preferably three years or more. In addition, the lease should specify a “hold harmless” clause which will address the City’s liability for injuries sustained on the site. This clause states that the gardeners will not sue the landowner if they sustain any injuries on site. In some cases, community gardens also purchase liability insurance to help protect the landowner. When investigating liability insurance, it may be beneficial to use a local insurance agent who is familiar with the community.

#### **Supervision/Oversight**

Before a community garden breaks ground, creating a garden steering committee or oversight group is a necessary first step. This committee or group acts as the garden’s first set of leaders and guides the set-up phase. This committee can be a division of a larger, already established organization, such as a neighborhood nonprofit, neighborhood association or church.

The committee's first responsibility is to negotiate a lease and potentially obtain insurance for the site. Once the land for the garden has been obtained, the committee should establish a set of rules or bylaws which govern the community garden. The rules should stipulate, at a minimum:

- Individual plots or one large community plot
- Appropriate plant materials
- Maintenance responsibilities
- Watering guidelines
- Pesticide usage
- Membership conditions (e.g., residence, fees)
- Membership application procedures

The rules should also include a “gardener’s agreement” (which every garden user must sign) that outlines appropriate use of the plots and responsibilities.

Once clear rules and guidelines have been established, the oversight committee should create a clear communication strategy to disseminate information to gardeners and potential volunteers. The strategy should take into account the best methods to contact community members. For example, email may not be the most preferred way of communicating. Communication should also include periodic meetings among the gardeners and volunteers, as well as periodic reports to the City on garden progress. All communication should be available in both Spanish and English.

#### Maintenance

Maintenance is an extremely important aspect of community gardens. Without a well-maintained garden, plantings will not flourish and the community will be unlikely to invest more in the site. As a result, the steering committee must set clear expectations for maintenance. These should also be codified in the garden rules discussed above and all gardeners should agree to the stipulated maintenance. The following are key maintenance concerns, as well as a short description of each.

- **Cooperative vs. Individual Responsibility.** If individual plots are used, the responsibility for each plot’s maintenance can be divided between the respective plot owners. A schedule of tasks could be established for maintenance of communal space, such as paths. If the garden is a single communal garden, the steering committee could also create a schedule that assigns maintenance tasks to each member on a rotating basis.
- **Training.** Community garden members will have a variety of gardening skill levels. In order to ensure that the garden has the best chance for success, the steering committee should set up periodic training sessions with experienced gardeners. More experienced members could also be assigned as mentors to new garden members.
- **Seeds.** Quality seeds are important to establishing a thriving garden. If fees or dues are charged for membership, seeds can be purchased from local garden stores. If dues are not required, the garden could approach local stores to donate seeds. When choosing seeds it is crucial to select those plants that will thrive at the site.
- **Compost/Mulch.** Compost materials provide key nutrients for the garden’s plants. Many community gardens have a communal compost bin that members can use. The bin may take a season to produce usable compost, so additional materials made need to be purchased or donated.
- **Fencing.** Most community gardens have fencing around the perimeter of the garden. This is to designate the boundaries of the garden and to deter vandalism. Many gardens have gates and only provide keys to members.
- **Tools.** Tools are a necessary part of any gardening endeavor. The community garden can

maintain a communal set of tools that are kept on site or members can share and/or trade their own personal tools. Garden membership agreements should specify if members are responsible for providing their own tools.

- **Watering.** It is crucial that the site have access to ample water for gardening. This can be accomplished through rain barrels or access to the public water supply. If the garden is communal, watering should be assigned as a task on the rotating schedule.
- **Weeding.** If the garden is divided into individual plots, each member should be responsible for keeping their plot weeded. This should be outlined in the membership agreement. If the garden is organic, the membership agreement should also stipulate that pesticides are not allowed. If the garden is communal, the weeding responsibility should be assigned as a task on the rotating schedule.
- **Common spaces (e.g., paths).** Common spaces can be extensive (e.g., benches, fruit orchards, children's play area) or minimal (paths). Regardless of their size, all garden members should take responsibility for their maintenance.

### *Partnerships/Sponsor*

Community gardens can greatly benefit from partnerships and/or sponsor groups. While not necessary, they can provide much needed support in the beginning stages. These groups can help provide funding, donate supplies, such as seeds and tools, and provide volunteers to help put up fencing, outline paths, etc. Potential partners or groups could include:

- Schools
- Farmer's markets
- Food pantry
- Churches
- Other community gardens
- Local garden centers or clubs

Partnerships with schools are particularly advantageous because the garden can become an educational tool for neighborhood children and foster interest in healthy eating. Many foundations and county health departments have also provided funding to gardens that are associated with schools. In El Granada, California, the HEAL program uses donated farmland as a teaching tool for agriculture and sustainable food practices (<http://www.thehealproject.org/>). Farmer's markets, food pantries and churches can also provide an outlet for excess food production. Nearby community gardens, garden centers and garden clubs can offer invaluable mentoring for new community gardens. These groups can help with training and offer advice and support during set-up.

### *Food Distribution Arrangements*

Before the garden begins to produce food, the steering committee and members should agree on how the food will be distributed. While food may not be the only items planted in the garden, distribution should be considered regardless. With individual plots, members will most likely use their food production for personal use. However, if the garden is communal, there are a number of methods of distribution. Members could receive a basket of food on a weekly basis or, if equal distribution is not a concern, members could take what they need. Unwanted food could be sold at local farmers markets, donated to a food bank, or provided to school cafeterias.

# Habitat Restoration Recommendations

## *Habitat Restoration Summary*

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A key feature of the Westside TOD Project site is Paradise Creek, a tidal salt water marsh that bisects the entire length of the property. The Creek has undergone extensive community-led habitat restoration over the past 15 years, including cleanup days, native species planting, and the creation of an educational park. The following information provides framework for moving forward on habitat restoration at Paradise Creek and throughout National City, as well as specific recommendations for next steps.

## *Overall Approach: Ten Tenets of Habitat Restoration*

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Ecological restoration of the urban and post-industrial landscape should strive to maximize habitat function while creating a self-sustaining ecosystem. From the initial design phase to the future longevity of the site, several guidelines outline the core considerations required for an effective restoration. Specifically, the restoration approach follows a set of ten tenets:

1. **Target selection.** The restored site must complement adjacent and regional ecosystems and provide habitat for native fauna of interest.
2. **Substrate selection.** A proper substrate should be selected that favors the establishment of native plant species while preventing the colonization of invasive, exotic species. To achieve this, frequently low nutrient soils are selected—not to meet the ideal growing requirements for planned species—but to give them a competitive advantage over weedy species.
3. **Hydrologic understanding.** The hydrologic regime of a restored site should mimic the ideal surface water, ground water, and soil moisture regimes found at reference sites of the same ecosystem type.
4. **Light regime understanding.** High light levels provide the greatest opportunity for multi-layered development of plant communities and low light levels allow for the establishment of microclimates for certain target organisms.
5. **Native, diverse plant selection.** Only native plants should be selected (when possible, source plants grown from local seed stock to preserve plant genotypes). A diversity of plants should be used to maximize biodiversity. However, selected species should be dominated by hardy species with a wide range of soil, water, and light requirements to insure success. More delicate species should be added to the plant list to increase diversity.
6. **Construction practices and timing.** The proper techniques and sequencing for construction must be considered during the design process. For example, planting should occur early in the growing season, with water level controlled if planting in the spring.
7. **Succession as a tool.** Ecosystems are dynamic and changes to soils, hydrology, light, and plants can be expected. Thus, carefully designed and built systems can influence the trajectory of succession, attracting the appropriate species to the site.
8. **Adaptive management and maintenance.** For a restoration to be successful in the long-term, ongoing monitoring, maintenance, and an adaptive management approach that responds to unanticipated events is critical.
9. **Protection from predation and herbivory.** It is particularly important during the establishment of a restored ecosystem that protection in the form of fencing and water fowl barriers be temporarily installed for the first growing season.
10. **Inclusion and stewardship from the community.** Community stewardship and educational programs are a critical component of successful, urban restoration. People are more likely to protect and respect restorations when they have had involvement in its creation and maintenance.

**Figure 14: Example Habitat Restoration**



*San Dieguito Lagoon serves as a precedent site because of its proximity (30 miles north of Paradise Creek) and makeup of intertidal salt marsh and transitional salt marsh habitat.*

*Data source: San Dieguito Habitat Restoration -  
<http://www.projectdesign.com/sandieguito/Final%20planting%20plan%20text%20042806.pdf>.*

### *Application of Tenets to National City*

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The ten tenet approach can guide the restoration/creation of habitat within National City. The effort should start with the consideration of the regional context. In particular, intertidal habitats are important target ecosystems that provide the link between terrestrial and aquatic systems, from the ocean to the foothills. If suitable coastal and inland habitat is protected, restored and/or created, several endangered and threatened species have potential to utilize the habitat for stopover, foraging and nesting grounds. Within San Diego County, the arroyo toad, California gnatcatcher, California least tern, California red-legged frog, least Bell's Vireo, light-footed clapper rail, San Diego fairy shrimp, southwestern willow flycatcher, and western snowy plover represent only a portion of the many threatened and endangered species requiring intact, diverse habitat for survival.

National City exhibits low, middle and high intertidal salt marsh habitat with the upland edge of the salt marsh (above the direct influence of tidal water) transitioning to typical coastal scrub vegetation. Salt-tolerant Pacific cordgrass is dominant in the low marsh zone, adapted to twice-daily tidal inundation, while pickleweed is found in the middle and high marsh where it can withstand only a brief period of flooding. The transition zone between salt marsh and upland has a specific set of soil and hydrology regimes not found in other ecosystems. Prairie bulrush and southern cattail thrive in these brackish water conditions. The coastal sage scrub plant community dominates further upland and occurs on flat or gently sloping areas adjacent to drainages. Indicator plant species include black sage, sagebrush, flat top buckwheat, coyote bush, laurel sumac, and bush sunflower.

**Figure 15: Paradise Creek**



Within the regional scale, National City lies adjacent to upland chaparral habitat found along the coastal terraces, plains and foothills of the Pacific coast. The chaparral plant community consists of drought-tolerant plants adapted to mild, wet winters, cool, dry summers, and periodic fires that allow germination of seeds. The upland of Southern California may also include pockets of valley grassland adjacent to and

often mixed in with chaparral and coastal sage scrub. Grasslands occupy deep, mostly well-drained soils in hot, interior valleys, often on south-facing slopes but more typically found on flatter land. Valley grassland is dominated by several perennial bunch grass species and many common wildflowers including the California poppy, blue-eyed grass, lupines, and asters. Restoration of chaparral or grassland ecosystems is not being suggested; however, understanding these ecosystems and the fauna that they support is critical in predicting how restored ecosystems will interact with the larger region.

In addition to identifying the target ecosystems, species, plant communities, and hydrology and soil regimes, an ecological restoration within National City must include adaptive management and maintenance. An adaptive management plan should be developed and followed to address issues as they arise and to make more effective decisions, enhancing the long-term viability of the site. Further, short-term intensive maintenance strategies will ensure the establishment of an ecosystem and long-term maintenance strategies will guide the trajectory of ecosystem succession.

The final tenet calls for the community to continue to take ownership as caretakers and stewards of the site. The restoration and ongoing maintenance of the site can serve as an educational tool and generate local involvement. For example, community members can become educated about the workings of the site and help to prevent litter by fostering stewardship while local volunteers can be responsible for trash pick-up.

## Summary

This report provides National City, California with guidance for building a livable community through sustainable remediation, consensus-driven open space creation, and habitat restoration. Together they provide an approach that will guide the City in selecting options that address the site's environmental impacts, but consider and preserve the site's assets and reflect the community's desires. Through these three aspects, the City, the future Westside TOD Project developers, and the community can come together to create and build a project that enhances the sustainability of both National City and the Westside neighborhood. This Pilot demonstrates the commitment EPA, DOT and HUD have in promoting and fostering existing neighborhoods and communities, while leveraging investment that protects the environment and provides more sustainable choices.



# Appendix A: Active Recreation Images



**Climbing Wall**  
*Image via Flickr, courtesy of amboo who?.*



**Splash Area**  
*Image via Flickr, courtesy of shehnew19.*



**Mulch Surface**  
*Image via Flickr, courtesy of cdsessums.*



**Sand Surface**



**Sandbox**



**Basketball Court**



**Rubber Surface**  
*Image via Flickr, courtesy of Rubberecycle.*



**Slides**



**Seesaw**  
*Image via Flickr, courtesy of dbgg1979.*



**Link to Existing Paths**



**Play Area**



**Swings**

## Appendix B: Community Garden Images



**Compost Bins**

*Image via Flickr, courtesy of Daquella manera.*



**Individual Plots**



**Tool Shed**

*Image via Flickr, courtesy of La.Catholique.*



**Rain Barrels**



**Year-round Growing Structure**

*Image courtesy of Pax In Terra.*



**Communal Garden**

