Presentation Overview

- History of the Council’s Action on the Breakwater
- Review of City’s Reconnaissance Study
- Overview of the Army Corps’ Study
- Feasibility Study Overview
- Funding Options to Become the Local Sponsor
Background

- The Breakwater is owned and operated by the federal government (Army Corps of Engineers)
  - Authorized in 1940 as an extension to the San Pedro Breakwater
  - Construction began in 1941 on the 2.5 mile eastern leg of the breakwater and was completed in 1949
  - The US Army Corps of Engineers maintains jurisdiction over the Breakwater
Long Beach Breakwater

**Breakwater Profile View**

- **Harbor Side**:
  - Class A Stone
  - Class B Stone
  - Class C Stone

- **Ocean Side**:
  - Sand Core

**Scale**

- 20 feet

**Elevations**:
- EL +14
- EL 0
- EL -10
- EL -24
Federal Breakwater System

Long Beach Breakwater
Previous Council Action

- July 5, 2005
  - City Council requested the federal government to conduct a one-year reconnaissance study
  - Goal: To determine if there is federal interest for a reconfiguration of the Long Beach Breakwater
Long Beach Reconnaissance Study

- July 24, 2007: City Council voted to approve a $100,000 Reconnaissance Study
  - Funds from Tidelands Fund and Coastal Conservancy
- Long Beach’s efforts are unprecedented
  - Army Corps cannot recall a Reconnaissance Study that was conducted by a city
Study Process

- Moffatt & Nichol selected June 17, 2008 through a competitive process
- Study began August 2008, and was completed within the usual 12 months timeframe
- No new research usually completed, but Moffatt & Nichol went above and beyond what is usually included in a Reconnaissance Study
Reconnaissance Study Goals

- To improve water quality
- To promote ecosystem restoration
- To increase recreational activity opportunities
- To protect existing infrastructure
Long Beach Breakwater Reconfiguration Study

Becomes...

East San Pedro Bay Ecosystem Restoration Study
Stakeholder Issues: LB Lifeguards & Marinas

- Increased Wave Penetration
- Trash Control
- Belmont Pier
- Recreational Sailing and Other Activities
- Navigation Safety
- Fishing Habitat
Stakeholder Issues: Port of Long Beach/Port Pilots & Operators/USCG

- Increased Wave Activity
- Increased Wave Penetration & Surge
- Port of Refuge
- Existing Habitat Value
- Navigation Hazard
Stakeholder Issues: U.S. Navy – Seal Beach Naval Weapons Station

- Ammo Transfer Operations
- Explosive Anchorage
- Dredging
Stakeholder Issues: THUMS Oil Islands

- Increased Wave Activity
- Impacts to Operations
Stakeholder Issues: City of Seal Beach

Coastal Flooding

Sand Transport and Beach Nourishment
Stakeholder Issues: Peninsula Beach Preservation Group

- Increased Wave Penetration
- Beach Erosion and Coastal Flooding
- Trash Control
- Recreational Sailing and Other Activities
- Navigation Safety
- Fishing Habitat

Belmont Pier
Moffatt and Nichol examined four alternatives.

The four alternatives were selected for their potential to improve the surrounding ecosystem and enhance recreational value.
Alternatives

- Lower this 1,800ft length leave as is
- Alternatives
  - Remove this section entirely (~4,500 ft)
  - Leave as is
  - Remove this section of the breakwater entirely (~9,000 ft)
- This section left as is
- New breakwaters fronting THUMS oil islands
- LA River training structure
Long Beach Study Findings: Economic Benefits

Maximum Potential Benefits Include…

- Additional 3 million beachgoers annually
- $27 million federal recreation benefits (annualized)
- Local benefits
  - $52 million annual spending increase
  - $7 million annual taxes and parking fees
Long Beach Study: Major Findings

- Various alternatives identified to improve the ecosystem and create recreational value
- Possibility to create up to 500 acres of kelp bed
- Potential to create up to 300 acres of rocky reef habitat
- Potential for wave heights up to 4 times present size in some areas
Long Beach Study: Major Findings (continued)

- Identifies various breakwater reconfigurations and changes to the Los Angeles River
  - Must protect Port infrastructure, THUMS oil islands, Navy anchorage, and City beaches
  - May be possible to reconfigure the breakwater to generate some wave activity without damage to existing infrastructure
Water Quality Improvement (Long Beach & Upstream cities)

- Continue the efforts to capture trash, metals, bacteria before it hits the LA River
- $10 million Stimulus grant for catchbasin retrofits will help
- More needs to be done as those devices only capture trash and not bacteria / metals
- Breakwater will not be the solution to all water quality issues
Army Corps Review of the Long Beach Reconnaissance Study

● FY 2010
  – Congress appropriated $90,000 to the Army Corps for the review of the Long Beach Reconnaissance study

● Purpose:
  – Army Corps to determine: Is there federal interest?
Purposes of Reconnaissance Study

- Define water resources problems and identify potential solutions
- Decide whether there is a Federal interest in continuing onto a Feasibility Study
- Identify a local sponsor
- Prepare a Project Management Plan (PMP)
East San Pedro Bay Ecosystem Restoration

ECOSYSTEM PROBLEMS
• Lack of rocky reef / hard bottom habitat
• Lack of Kelp, Eelgrass, other habitat
• Impacted harbor water circulation
• Reduced transmissivity (clarity)
• Contaminants in the sediment
• Contaminants in the water column
• Trash/floating debris

RECREATION PROBLEMS
• Impaired swimming due to bacteria levels and debris
• Lack of wave activity
Planning Objectives

1. Restore and sustain aquatic habitat
2. Improve water quality to maintain healthy marine habitats
3. Increase recreational opportunities
Army Corps Review:
Changes to the Scope of Study

- Broader Alternatives
  - Creating of rocky reef habitat and kelp features
  - Reconfiguring the Long Beach Breakwater
  - Changes in alignment of the LA River
  - Measures to address pollutants in the LA River
  - No specific alternatives identified
Army Corps Review: Changes to the Scope of Study

- Enhanced Los Angeles River Focus
  - Feasibility Study includes the ability to examine the Los Angeles River
  - Improved water quality is an important component to ecosystem restoration
  - The scope of the LA River focus will be determined in the Feasibility Study
Army Corps Review: Changes to the Scope of Study

- Simplified Document
  - Long Beach included non-standard components in our Reconnaissance Study
    - Water quality / Wave modeling, economic analysis
    - Army Corps utilized the City’s information
  - However, those documents are not in the Corps’ Reconnaissance Study
  - Will be included in the Feasibility Study
Army Corps Review: Changes to the Scope of Study

- **Enhanced Ecosystem Restoration Focus**
  - More emphasis on restoring lost ecosystem
  - Continues to examine recreation
  - Continues to examine wave activity
  - Continues to examine water quality
  - Continues to keep infrastructure protection high on list of priorities
Is there Federal Interest?

YES

- Alternatives to improve water quality, ecosystem restoration and increasing recreational opportunities are viable.
- Long-term economic benefits have potential to outweigh implementation costs.
- Assumption that without action, the ecosystem will continue to degrade.
What is a feasibility study?

- Describe and evaluate alternative plans
- Describe in detail the recommended plan
- Develop a baseline cost for the project
- Prepare Feasibility Report
What is a feasibility study?

- Investigates and identifies solutions, which could differ from initial assessment
- Develops conceptual designs, assesses available data and collects necessary new data
- Extensive analysis (wave/water quality modeling, economic analysis, engineering, tidal, sediment transport, etc)
- Full Environmental Assessment
- Consultations with DOD, DOT and Coast Guard
- Creates a cost estimate for construction
**Typical Army Corps Timeline**

<table>
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<tr>
<th>6 months</th>
<th>12 months</th>
<th>36 - 48 months</th>
<th>24 - 36 months</th>
<th>24 months</th>
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<tbody>
<tr>
<td>Recon Phase</td>
<td>Feasibility Phase</td>
<td>Design Phase</td>
<td>Construction</td>
<td></td>
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</tbody>
</table>

- Minimum 4 year Feasibility Study
  - May be extended due to funding and scope
- 2-3 years for design and WRDA Authorization
- Construction
  - Dependant on project scope and funding availability
Pros/Cons of a Feasibility Study

Pros

- Information to make informed decisions
- May lead to a project that could change Long Beach
- Includes LA River
- Addresses many different community concerns as part of one study

Cons

- Cost and potential cost overruns
- Potential for no project after a lengthy study process
- Army Corps format may not meet all the City’s expectations
- Ultimate cost of the construction project (35% local share)
Feasibility Study Obligations

- Partnership with Army Corps
- 50/50 cost-share
- Equal and concurrent spending over the course of the study
- Long Beach anticipated cost: $4,068,700
- Total estimated cost: $8,337,400
- If sufficient funds are not available, both the City and the Army Corps may suspend the study
Army Corps Funding

- The Army Corps’ share of the $4.1 million will be met with federal dollars
  - Long Beach submitted a $1 million federal appropriations for the Corps’ share
  - If appropriated, this award will fund the first year of the Army Corps’ Feasibility study

- Annual appropriation requests will be needed
- Requires the support of our Congressional delegation
Long Beach Funding Options

- **In-Kind Services**
  - Staff time spent on this project by City of Long Beach will reduce the City’s cash contribution ($825,000)
  - Previous studies may reduce the scope of the study, thereby also reducing the cash amount

- **Grants**

- **Future One-Time Tidelands Oil Funds**

- **One-Time Port Transfer Funds**

- **Port of Long Beach Support**
Potential Funding Scenario

- $825,000 in-kind services
- $2.5 million will be set aside from the requested one-time Port transfer
  - Reserved but not allocated
  - Staff will pursue grants to minimize the use of these funds
- $743,700 unfunded (in-kind, scope reduction, grants, etc)
- Only appropriate City funds equal to Congressional appropriation
- City will not exceed the annual amount appropriated by the Army Corps
## Potential Funding Scenario

<table>
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<tr>
<th>Funding Option</th>
<th>Amount</th>
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<tr>
<td>In Kind Services</td>
<td>$825,000</td>
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<tr>
<td>Reserve One-time Port Transfer (while seeking grants)</td>
<td>$2,500,000</td>
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<tr>
<td>Unfunded (in-kind, scope reduction, grants, etc.)</td>
<td>$743,700</td>
</tr>
<tr>
<td>TOTAL COST (over four years)</td>
<td>$4,068,700</td>
</tr>
</tbody>
</table>
Questions?

- Email Breakwater@longbeach.gov
- Visit www.longbeach.gov/citymanager
- Contact Tom Modica, Manager of Government Affairs, at (562) 570-5091