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Introduction
The San Fernando Canal, is part of the Lijan Riverfront, situated in the northern region of greater Buenos Aires, Argentina. Historically, the area included industrial uses, commercial shipyards, private marinas and yacht clubs and associated water-related uses. The area is served with two regional train lines, the Tigre Station and the Delta stations.
Site Context

The San Fernando waterfront today is dominated by waterfront industrial businesses, private marinas, boatyards and abandoned warehouse facilities. To the south of the site is a gridded neighborhood of mostly mixed use buildings, small retail and single family homes. To the west of the canal, is a squatter neighborhood consisting of small single family typically self built homes and a few fields used for communal activities. Also in this area are some newly built apartments that offer affordable options to residents in the area. A new development of apartment complexes and condominiums is under development further beyond the canal promising new housing options and opportunities for development in the area. The area is well-served by transit with two lines running to the center of Buenos Aires.
Existing Figure Ground
Site Analysis
Site Density Diagram

The streets and blocks of the gridded part of the area exhibit fairly consistent density and neighborhoods of about two to three stories, with taller buildings on streets and the canal edges up to six stories in height with a variety of uses. The studio extended this pattern of design for the site, replicating and extending the existing pattern and continued the intensity of development upward towards the waterfront.
Buenos Aires, Argentina - Redevelopment of the San Fernando Canal

Street View Along the Canal

View of a Typical Retail Mixed - Use Street
View of a Typical Retail and Small Warehouse Street

View of a Typical Retail Street

- 0' - 20' - 8'
  - Pathway
  - Landscaping
  - Two Parallel Patches
  - One Way Street
  - Sidewalk

- 10' - 12' - 10'
  - Pathway
  - One Way Street
  - Sidewalk
  - Brick Path
Problem Definition
The San Fernando Canal Major Issues

Industrial maritime uses currently dominate the area with little access for the residents to the river and the canal for community benefit. In many areas, under-utilized industrial buildings block access and this contributes to issues such as:

- Disconnect Between People+Water
- Edge conditions- transition between water|urban
- Water Quality and Access
- Lack of Public Green Spaces
- Public Parks
- Gathering Places Along Water
- Lack of Urban identity
- Lack of Diversity in Program
- Social Infrastructure

Many of these issues impact both the individual and have a negative impact on the well being of those in the overall community. For example, available water is not of the best quality, and for poor communities that rely on this water, it is a major public health problem.

- Inadequate Infrastructure
- Poor Quality Housing
- Limited and inadequate Utilities
- Lack of Public Services
- Climate Change + Sustainability
- Sea Level Rise and Annual Flooding
- Storm-water runoff

View of poor water conditions
Credit: Daniel Gutman/IPS
At the edge of the Canal

Entry to light industrial sites

Typical streetscape

Map of Private Open Spaces on the Waterfront
Regional Train Routes

Tren de La Costa
- Runs every 30 minutes between 8am - 10 pm
- Does not connect directly to downtown Buenos Aires

Trenes a Tigre
- Runs every 15 mins between 5 am - 10 pm
- Connects directly to downtown Buenos Aires
Solutions for the San Fernando Canal

Many of these issues impact both the individual and have a negative impact on the well being of those in the overall community. For example, available water is not of the best quality, and for poor communities that rely on this water, it is a major public health problem.

- Maximize potential of T.O.D.
- Regional Train
- Local and Regional Bus
- Focus on Pedestrians
- Water Transportation
- Maintain Maritime Industry
- Create Destination
- Place making
- Activating the Waterfront
- Diversifying Housing Stock
- Creating View Corridors
- Environmental Revitalization
- Sea Level Rise
- Mitigate runoffs and flooding
- Cultural Identity
- Natural Environmental Qualities
Design Scheme A
Weaving Urban Fabric

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Site Plan of Mixed use Block
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Buenos Aires, Argentina - Redevelopment of the San Fernando Canal
Design Scheme B
Activate Existing Assets

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Place making Diagram

- PARQUE EL MIRADOR
- PARQUE LA MARINA
- RIO LUJAN
- BARRIO BELLA VISTA
- VILLA GARROTE
- AV. ITALIA
- VIA PRINCIPAL

Improvement of infrastructure in existing residential areas
Public transportation loop
Expansion and connection of green spaces
Existing Warehouse Renovation Typology
This space type can be used for new restaurants, art exhibits and more. The building can also serve two separate activities simultaneously.

Retail Typology
This typology exists mainly on the canal, and holds strictly retail.

Residential Typology
The row home typology not only introduced a different housing option for the area, but also provides a greater density.
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Section of Market on Canal

Section of Market and Residential Street
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Section of Residential Mixed-use Block

Section of Typical Residential
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**Phase 1**
- Build up the Canal
- Add retail along water

**Phase 2**
- Introduce new Housing Options
- Expand on existing Apt. Options

**Phase 3**
- Renovate buildings on waterfront
- Activate water with amenities

**Phase 4**
- Mimic vegetation type of Delta for sustainability
- Integrate with existing community
Design Scheme C
Uniting and Connecting Communities

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Sustainability Strategy

Mixed-program blocks will integrate careful designs to direct the flow of waterfall, capture solar energy and natural ventilation to courtyards and units.
Design Strategies

Water
Deep water penetrations into land create unique opportunities to connect residents to water and increase the value of development.

Transit
Adequate public transit network throughout the development including new ferry station and pedestrian friendly streets.
**Connection**
Integrating historic San Fernando grids out to water with natural flow of waterfront grids to enhance the connection.

**Green**
Green corridors along the Canal and Club bring people out to the water.
Phasing Strategies

Existing Condition
Lack of connection to water and downtown with dying industry along valuable waterfront real estate.

Phase 1
Activate the marina to create new "downtown" destination for San Fernando.
Phase 1
Development along the Canal and cul de sacs by pulling green corridors from downtown San Fernando.

Phase 2
Development around train stations to promote the growth of Transit Oriented Development.
**Phase 4**
Additional density along the new waterfront road that will connect isolated communities and future developments.

**Phase 5**
New neighborhoods to fill the gaps and fully capture the market growth of Canal San Fernando.
Program Build - Out
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