ULI DEVELOPMENT CASE STUDIES

Bo01

Malmö, Sweden

Project Type:
Mixed-Use / Multi-Use

Case No:
C034014

Year:
2004

SUMMARY

Bo01 in Malmö, Sweden, began as an international housing exhibition in 2001 and has continued to develop as a permanent neighborhood near the city's historic center. Under the guidance of the city's Property Development Office, a plan was created to redevelop this formerly industrial, waterfront real estate. With the participation of over 20 developers, the plan has led to the transformation of 18 hectares (44.5 acres) into a mixed-use residential community built according to sustainable principles.

FEATURES

- Transformation of an industrial site into a viable neighborhood
- Public/private cooperation in both the financing and development of the site
- An environmentally sustainable development designed to run on 100 percent renewable resources
- Outgrowth of an international housing exhibition in 2001

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SPECIAL FEATURES

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PARTICIPATING DEVELOPERS		
Developer	Project Name(s)	Links
Skanska Nya Hem	Trähus 2001 Havshuset Entréhuset	www.nyahem.skanska.se
LB Hus AB	Steglisten Kaptenshusen	www.lbhus.com
Wingårdh Arkitekter AB	Kajplats 01	
Öresundsbostäder AB/Framtidsstaden AB	Framtidshus 01	www.oresundsbostader.se www.framtidsstaden.se
Yxhult AB	Villa Yxhult	
Utvecklingsbolaget Harmoni AB	Tomt nr 10	
Townhouse	Townhouse	
NCC Boende	Sundspromenaden Scaniaplatsen	www.boende.ncc.se
JM AB	Havslunden	www.jm.se
Seniorgården/JM AB	Vitruvius	www.seniorgarden.se www.jm.se
Nor-Sve Fastigheter AB	Core	www.nor-svefastigheter.se
Wihlborgs	Kajpromenaden	www.wihlborgs.se
Packwerk Bygg och Fastigheter	Packhus I-IV Radhus European Village	www.packwerk.se
Matmar HB	Pregnum Bianca and Pregnum Terra	
HSB	Twisting Torso	www.hsb.se
Wikeborg och Sander Fastighetsutv. AB	M3	www.wikeborgsander.com
MKB	Tango Tegelborgen	www.mkbfastighet.se
Peab Sverige AB	Friheten	www.peab.se
HSB/Wikeborg och Sander Fastighetsutv. AB	Studium	www.hsb.se www.wikeborgsander.com
Riksbyggen	Sundsblick	www.riksbyggen.se
LIR-Invest AB	Det Enkla Huset	
Södertorpsgården	Södertorpsgården	
Framtidsstaden AB	Framtidsstaden II Framtidsstaden III	www.framtidsstaden.se

GENERAL DESCRIPTION

Bo01 is the first project to be realized in the redevelopment of the postindustrial Western Harbor area of Malmö, Sweden. The project began as an international housing exhibition in 2001 and has, according to plan, continued to develop as a permanent, mixed-use neighborhood adjacent to the historic center of Malmö. The city's self-stated goal was to build the physical frame and necessary support systems for the "world's first ecologically sustainable information and welfare society."

Significant aspects of the project include the transformation of an industrial site into a viable neighborhood, public/private cooperation in both financing and developing the site, and, most important, the realization of a sustainable and physically attractive urban area.

SITE CONTEXT

The Bo01 mixed-use development area lies in Västra Hamnen, or the Western Harbor region of Malmö, Sweden. Located on the southern coast of Sweden and with a population of a quarter million, Malmö is the country's third-largest city. It is also an important part of the rapidly emerging Øresund region. This region is composed of the areas in Denmark and Sweden along the Øresund sound. Copenhagen is the urban anchor on the southern, Danish side of the sound and Malmö is the equivalent on the northern, Swedish side of the sound. A physical connection in the form of a bridge/tunnel link was opened between Malmö and Copenhagen in July 2000. This has significantly advanced the development of the two areas as a united region.

The Western Harbor area of Malmö has an industrial history. The area, including the site of the Bo01 project, was developed on land reclaimed from the sea in several stages since the mid-1800s for Kockums, a large Swedish shipbuilding company. Kockums began moving operations out of the Western Harbor area during the 1980s. The large dry docks used for shipbuilding were filled in over time, with the last one filled in to make way for a new Saab plant in 1987. Saab also moved out of the Western Harbor area in the 1990s and its plant buildings have since been adapted to function as Malmö's convention center.

Covering the southwestern quarter of the Western Harbor area, the Bo01 site comprises approximately 18 hectares (45 acres) along the coast. The site is bounded by the sea to the north and west. The convention center housed in the former Saab factory complex lies to the east, and a recreational area is immediately to the south.

DEVELOPMENT, PLANNING, AND FINANCING

Bo01 is the result of cooperation among several public and private entities. The project's final form emerged in 1997 when a European housing exhibition planned for another site in Malmö was moved to the Western Harbor site and pushed back a year to 2001. This was due to the city's purchase of the dormant Saab factory complex in February 1997, combined with a desire to redevelop the harbor area immediately adjacent to the inner city. Other developments in the Western Harbor area, including schools, a university expansion, and a planned harbor tunnel, offered the potential for synergy with the housing exhibition. The city also saw an opportunity through the project to begin fulfilling ambitions regarding sustainability in the urban environment.

In 1998, the city began mapping pollution in the area and discovered that less contaminated soil had to be removed than was expected (3,500 cubic meters [123,606 cubic feet] of contaminated soil was removed and the entire site was covered with 1.2 meters [3.9 feet] of clean soil). The city planning office simultaneously began work on a new local plan for the area. Bo01 AB, a temporary, public company owned by the city of Malmö, was established to plan and operate the exhibition itself. Revenue generated from ticket sales and other exhibition-related activities was used to finance the company.

Development rights for the area were advertised and sold to a series of private developers through the city's Property Development Office during 1998. To be allowed to purchase development rights, developers were required to commit to participating in an association called the Owners' Group that would develop detailed guidelines for building on the site. Another significant condition of the sale was that the city of Malmö would be allowed to approve the developer's choice of architect. Twenty different developers purchased development rights and began work with the Owners' Group. Nearly half of them purchased rights to at least two developments within the site. These included major developers in the area such as Skanska Nya Hem, LB Hus AB, NCC Boende, JM AB, Packwerk Bygg och Fastigheter, HSB, Wikeborg och Sander Fastighetsutv. AB, and MKB.

Representatives from Malmö's City Planning Office and the municipally appointed exhibition architect Klas Tham rounded out the Owners' Group. The work of the Owners' Group resulted in a document called the "Quality Programme Bo01," which is a detailed supplement to the existing guidelines in the city's overall plan. This document describes the final master plan, the guidelines for the physical development of individual plots (including requirements for sustainability), and, most important, the clear allocation of responsibilities among the city, the exhibition team, and the participating developers.

Concurrent with the work of the Owners' Group, the City Water Board created a system for surface water

management and Sydkraft, the local power utility, developed a concept for 100 percent renewable energy.

The new local plan for the Western Harbor, including the Bo01 exhibition area, was approved in 1999. This allowed the Property Administration Department and the Department of Public Works to begin cleanup on site, start construction of public services, and plot the individual building sites. The city of Malmö allocated plots to the developers who had purchased rights based on its judgment of the developers' participation in the Owners' Group and their selection of architect. The city's criteria for approving architects was based on their level of experience in sustainable design and an assessment of the quality of the work their firm had built to date. The city felt that this would ensure both a consistently high quality of design and a strong commitment to sustainability. There were a few cases in which the city rejected a developer's choice of architect on one or both of these grounds.

Also in 1999, a grant of 250 million Swedish kroner was earmarked by the Swedish government through the "Local Investment Programme Fund" for use in the Bo01 project. These funds were used primarily to offset expenses associated with site cleanup and implementation of some of the more expensive infrastructure elements required to attain the ambitious goals for sustainability. Finally in 1999, the European Union granted €1.5 million in economic support to be applied to the renewable energy elements of the project.

Construction began in earnest in March 2000. Due to the fact that revenue would not be generated until after the exhibition opened, by the summer of 2000 the Bo01 AB company had run into liquidity problems. To solve these problems, the company borrowed 40 million kroner from the city. The international housing exhibition opened on May 17, 2001, and ran through September 16, 2001. A lively and well-functioning neighborhood, the site continues to be a catalyst for further development in the Western Harbor area.

DESIGN AND CONSTRUCTION

The Quality Programme Bo01 outlines the concepts and guidelines that governed the design of the project. The most important component of the guidelines is the master plan, which describes the overall physical structure for the area, including requirements for the building massing, placement, and development of exterior spaces. Other important guidelines covered in the program include requirements for sustainability and for the facades of the individual buildings.

The master plan for Bo01 was designed primarily around two water elements running north-south. The first of these elements is the waterfront promenade, or "Standpromenaden," which runs the length of the western edge of the site. The promenade is intended to be a public amenity for both the residents of Bo01 and of Malmö in general. A boardwalk allows patrons to experience the wind and sounds of the sea. The second water element is the canal park, or "Kanalparken," which runs parallel to the waterfront promenade near the eastern edge of the site. This element is a landscaped, man-made canal intended to complement the urban character of the promenade.

The massing of the buildings is another major aspect of the master plan and plays an important role in regard to the two water elements. Larger, six-story buildings line the waterfront promenade to the west. These structures are tall enough to act as a backdrop for the promenade and give shelter from the west wind blowing in off the sound, thus protecting the more intimately scaled dwelling blocks in the heart of Bo01.

A collection of interconnected public spaces of varying scale and character are woven into this structure. Dwellings in the center of the scheme are laid out around intimate, semipublic pedestrian streets that establish a scale reminiscent of that seen in traditional European villages. Parking is located along the perimeter of the site, with a general focus on public transportation in the form of buses.

The "European Village," located in the northeast corner of the site, is a component of the master plan specifically associated with the International Housing Exhibition held in 2001. This area consists of housing designs contributed by 15 European countries. These buildings were constructed to reflect their country of origin's interpretation of sustainability while simultaneously responding to the specific climatic and cultural conditions of the site in Malmö.

The final major element of the master plan is a 54-story mixed-use tower called the "Twisting Torso." This skyscraper is located centrally in the plan to advertise the presence of the new development to the old city and to act as a point of orientation.

The city's aspirations for sustainability are also reflected in the Quality Programme Bo01 through requirements regarding the arrangement and form of the individual buildings. A majority of the structures are oriented toward, and open up to, the south in order to achieve maximal passive heating and orientation for solar energy collectors. The narrow depth of nearly all of the buildings also allows for maximal daylighting conditions within.

Guidelines in the Quality Programme Bo01 also regulated the appearance of each building beyond its massing and placement. A color scheme, for example, was created to effect a consistent, common identity for the neighborhood. Also, material selection was limited to environmentally friendly materials chosen primarily from local sources.

SUSTAINABILITY

The project was developed on the premise that it would run on 100 percent renewable resources. This has required significant investment on all levels, including the initial infrastructure, the individual projects and their units, and the continued maintenance and operation of the sustainable systems that have been implemented. Energy, waste

handling, and transportation were three of the primary areas of investment among these sustainable systems.

Several sustainable sources generate heat and electricity for the project. Heat is extracted from seawater and groundwater and supplemented with solar collectors. Additional heat is provided by biogases. Electricity is supplied by energy harnessed from the wind and sun through the use of photovoltaic panels.

Sustainable waste handling begins within the individual dwelling units where waste is separated. The waste is then collected and processed in a plant constructed to extract energy and nutrients from sludge produced at the city's local sewage plant. Phosphates separated during this process are used to fertilize agriculture. The remaining organic sludge is incinerated to produce biofuel for heating and potentially for vehicle fuel.

Transportation also is structured to support the project's sustainable systems. Walking and bicycling are emphasized forms of transportation, and the use of vehicles that run on alternative fuels is also encouraged. And there are plans to establish a filling station in the project for alternative fuels such as biogases.

EXPERIENCE GAINED

Much of the experience gained in the Bo01 project, both positive and negative, is being directly applied to further development in the Western Harbor area of Malmö. Positive experiences include the success of the exhibition form of development as both a marketing tool for the city and a catalyst for attracting further development to a particular area. The incorporation of green elements in the individual projects beyond basic landscaping at the ground level of exterior areas proved to be a success as well. A most significant positive experience was collaborating on and achieving a shared vision of sustainability among companies and organizations with different goals.

Challenges experienced in the project include the extreme amount of control exerted by the municipal planning side, which dictated the design and development of the project to such a degree so as to make it unattractive for many developers. Also, monitoring and evaluating the success of the sustainable systems continues to be challenging due to complexity and cost. Moreover, another challenge has been determining the amount of space needed for parking. Some critics have suggested that demand for parking was underestimated.

PROJECT DATA

LAND USE INFORMATION

Site area (hectares/acres): about 18/44.5

GROSS BUILDING AREA (GBA)

Use	Gross Square Meters/Square Feet
Office	21,000/215,000
Retail	3,000/32,300
Residential	143,000/1,500,000
Parking	4,500/48,500
School	2,000/21,500
Restaurant	1,000/11,000
Leisure center	10,000/108,000
Total GBA	184,500/1,936,300

LEASABLE AREA OR UNITS/ROOMS

Use	Square Meters/Square Feet
Office net rentable area	21,000/215,000
Retail gross leasable area	3,000/32,300
Residential	48,000/517,000

Units: about 650
Floor/area ratio: 1.0

LAND USE PLAN (Approximate)

Use	Hectares/Acres	Percentage of Site
Buildings	6/15	34
Streets/surface parking	3.5/9	20
Landscaping/open space	8.3/20.5	46
Total	18/44.5	100

DEVELOPMENT COST INFORMATION

Site acquisition cost: $10,000,000
Site improvement costs: $54,500,000
Total revenue from sale of development rights: $35,000,000
Total site development costs for city of Malmö: $29,500,000
Grant from Swedish government (applied to pollution cleanup and creation of sustainable infrastructure systems): $33,000,000
Grant from European Union (applied to renewable energy systems): $1,800,000
Total public investment: $34,800,000

DEVELOPMENT SCHEDULE

Site purchased: February 1997
Planning started: 1998
Construction started: March 2000
Phase I completed: May 2001
Project completed: Ongoing

DIRECTIONS

From Copenhagen Airport at Kastrup (Denmark): Take the E20 highway west across the Øresund bridge/tunnel link to Sweden (toll). Follow the E20 north on the Swedish side at Trafikplats Petersborg and exit at Trafikplats Lindeborg (roundabout) and continue north on Trelleborgsvägen. Turn left on Ystadsvägen and turn right at roundabout onto Pildammarna. Turn left onto Regementsgatan and then turn right onto Mariedalsvägan, which becomes Västra Varvsgatan. Enter development to the left immediately before Malmö Convention Center.

Driving time: 30 minutes in nonpeak traffic.

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The waterfront promenade, or Standpromenaden, is one of many public amenities found in Bo01. Running along the western edge of the 18-hectare (44.5-acre) development, the promenade lets visitors experience the wind and sounds of the sea.

Apartment buildings with commercial uses on the ground floor face the southern entrance of the development. The contemporary architecture gives little indication that this site was once a polluted industrial area.

To ensure a visually interesting environment, the city retained the right to approve developers? choice of architect, taking into consideration the architecture firm?s experience in sustainable design as well as the quality of its previous work.

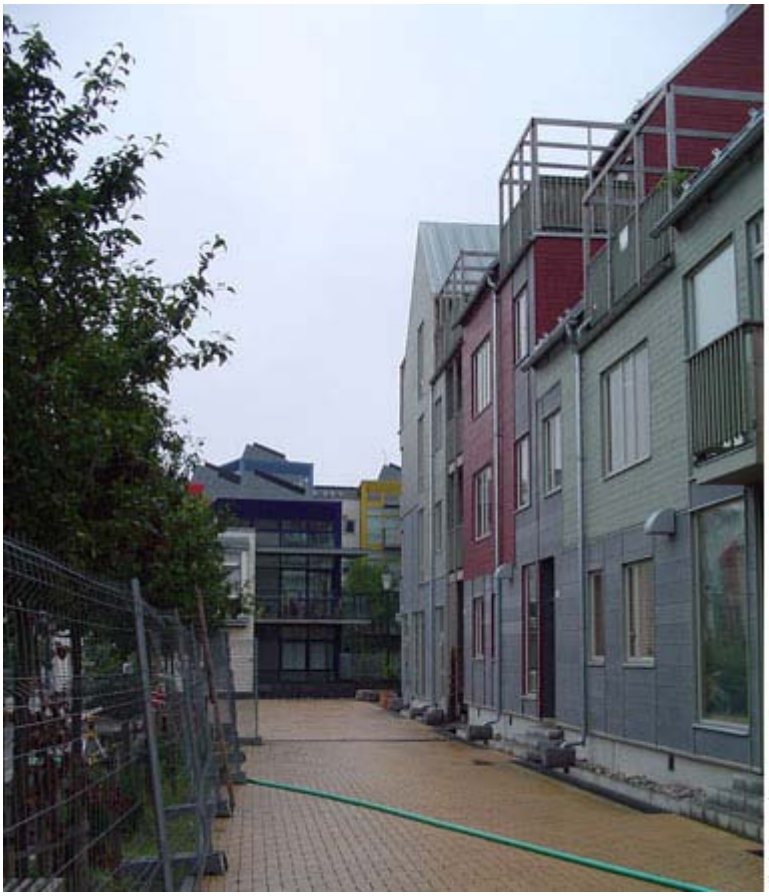
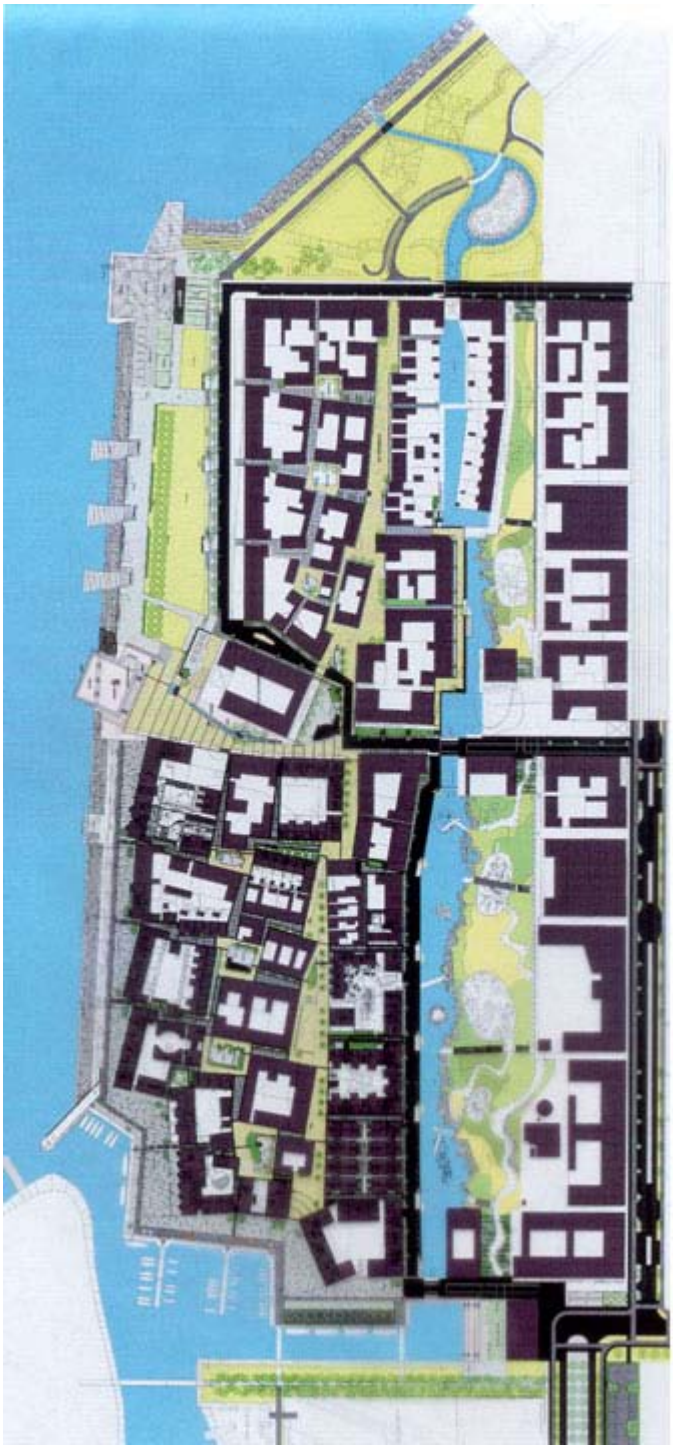


Photo by author

pedestrian streets, an emphasis on bicycle transportation, and the use of vehicles powered by alternative fuels are a strong part of the development team?s commitment to creating an environmentally sustainable neighborhood.

The canal park, or Kanalparken, runs along the eastern edge of the project, parallel to the waterfront promenade. It is a landscaped, man-made canal intended to complement the urban character of the promenade.

The "Twisting Torso" (under construction in this photo) is a 54-story mixed-use tower designed to advertise the presence of the new development to the old city and act as a point of orientation.



Master plan for the Bo01 mixed-use development.