HASTINGS ASSOCIATES

THE HARBOR AT HASTINGS

PLANNING, ARCHITECTURE, DESIGN

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HARBOUR AT HASTINGS
PLANNING, ARCHITECTURE, LANDSCAPE

A. CONTEXT

1. The Hudson River:

Hastings occupies a point along the Hudson River across from where the Palisades diminish from a series of high, faceted cliffs to the more gentle and rounded topography that continues to the north. Directly across from the center of Hastings, the Palisades create a dramatic backdrop for the Hudson River and reflect the changing light during the day as well as the progress of the seasons.
The Hudson's edge on the Hastings side is another story altogether. The railroad right-of-way forms the functional western limit of Hastings, except for the mile or so of largely filled land currently occupied by a variety of large and predominantly industrial structures. The section of that filled land proposed for development by Hastings Associates currently presents an almost unbroken wall of structures ranging from 30 to 75 feet in height which prevents access to the river itself and partially obscures views of the Palisades beyond.

The existing shoreline consists of rotting piers, bulkheads, and two inlets— the "North Cove" opposite the location of the Warburton Avenue Bridge and the "South Cove" some thousand feet to the south. About 2-1/2 acres of the site at the northern end lie completely underwater. For almost half of the length of the waterfront, existing industrial buildings are built to within 15 or 20 feet of the Hudson's edge. Access to and from the river at these locations was solely for industrial use—there was no sanctioned public access to the Hudson riverfront along the entire length of the Anaconda property. The noise, traffic, and other activity resulting from Anaconda operations were formerly tolerated, and possibly welcomed, as a necessary by-product of an industrial operation employing many Hastings residents.

The Hudson River is visible from a number of locations on the hills facing the river valley. These include: the lawn in front of the Library and Village Hall; the Warburton Avenue Bridge; points along Warburton Avenue south of the site; etc. The river itself is currently not visible from any of the low lying properties directly east of the railroad right-of-way as the existing industrial structures effectively block such views. Photographs of the development site have been taken from a number of these vantage points and the proposed development has been superimposed on these views. These superimposed images indicate that the removal of the existing industrial structures as a result of the proposed development will significantly improve the views of the Hudson River and the Palisades beyond.
2. Hastings On Hudson:

Hastings can perhaps be characterized as a small town on the banks of the Hudson River, just a few minutes by train from New York City. The village consists of a small central core along Warburton Avenue, Spring Street and Main Street, surrounded by residential development. Existing buildings range from single family, wood frame and brick residences to somewhat larger buildings near the village core - 3 to 4 story buildings with commercial uses on the lower levels and residential units above. A few apartment structures of 5 to 6 stories as well as 2 and 3 story garden apartments are also found in Hastings. Many of the existing buildings were built between the end of the 19th Century and World War II, giving Hastings the visual character of "small town America".

3. The Existing Site:

The site of the proposed development occupies about 20.8 acres along approximately 2,000 feet of Hudson River frontage in the Village of Hastings on Hudson. Occupied since 1919 by the Anaconda Company, the site is characterized by the incongruous contrast between the largely residential Village of Hastings and the complex of vast industrial buildings currently isolating Hastings from the Hudson River.

The relationship between the development site and the Village of Hastings parallels the structure of many of the communities lining the eastern shore of the Hudson River: a village on a hillside overlooking the Hudson; an industrial development on filled land along the river's edge; and the railroad right-of-way separating the two. The railroad was the 19th century's equivalent of our interstate highway system, both modes encouraging developments along their length while acting as functional separators between the areas they divided.
B. PLANNING AND DESIGN GOALS

The proposed development is guided by a series of planning and design goals determined in response to the unique context of this site. The following planning and design goals have been established:

1. **The extension of the Village of Hastings on Hudson to the Hudson River.** Included under this goal are: the provision of public access to the waterfront; the establishment of public open space adjoining the river's edge; the provision of public parking facilities for users of the newly developed waterfront; and the visual extension of an appropriate building scale and architectural character to the water's edge.

2. **Maximizing the potential of the riverfront location.** This goal includes: the creation of new waterfront activity—strolling, fishing, passive recreation; the creation of public and private open space along the water's edge; the creation of a development plan which addresses itself to the specific benefits and problems of development at the water's edge.

3. **The removal of the physical wall currently blocking Hastings from views of the river.** This goal requires the removal of the virtually continuous barrier of large industrial structures from the site. Existing topographic features—such as the valley under the Warburton Avenue Bridge—would be extended to the river. Structures proposed in the development plan would be oriented perpendicular to the river to allow for view corridors from vantage points in the Village, in the Hudson River, and on the Palisades.

4. **Reconstruction of the river's edge without encroaching into the Hudson River.** The existing bulkheads and platforms would be replaced at their present location. All bulkheads would be placed behind the line of the existing river's edge. This would avoid shoreline changes, thereby preventing any impacts on the river's flow or fish habitat characteristics.
5. **Creation of a development of appropriate scale, density and bulk.** Building types and heights would be similar to the range of buildings currently found in the Village. High rise structures and unbroken expanses of construction would be avoided.

6. **Creation of a unique architectural character appropriate to the Village and the riverfront location.** Selection of materials and construction methods yielding an attractive and "friendly" architecture expressing a sense of place. Materials of construction would harmonize with those used in existing Hastings residences. The development would present a visually interesting roofscape to enhance the views from the hillsides overlooking the site.

7. **Creation of an integrated system of pedestrian and vehicular circulation.** To a large extent, separate pedestrian walkways and vehicular circulation routes (the Radburn Plan) would be developed, allowing for pedestrian circulation between residential units and communal areas without crossing vehicular roadways. Provide an appropriate mix of public/private, enclosed and open parking facilities.

8. **Provision of a buffer between the residential portions of the proposed development and the existing railroad right-of-way.** Use of appropriate screenings, planting, etc. to effect this separation.

9. **A comprehensive landscape plan.** Provide new trees, shrubs, ground cover, lawns, and other plantings to relate the proposed buildings to their waterfront site and harmonize with the landscape treatment prevalent in Hastings.

10. **Allowance for future circulation connections to the north and south.** Plan for future functional links to adjoining waterfront areas.
C. THE DEVELOPMENT PLAN

1. Public Amenities:

A sensitive development needs to be a mix of community and privacy - a spectrum of control between the private realm of a person's home and the public space in which community activity and interaction can occur. As in other parts of Hastings, a progression is desirable: home; yard; block; neighborhood; village. Careful definition of these space categories has been shown, by many design professionals, to enhance perceptions of security and encourage a sense of responsibility for one's home, neighborhood, and community. The following categories of spaces have been established:

**Public Areas:** Entrance roads, public parking, Restaurant/Commercial Building, Public Plaza, Public Waterfront Promenade, the Hudson River.

**Semi-Public Space:** Service drives, cul-de-sacs, walkways, recreation areas, outdoor parking areas.

**Private Space:** One's residence, private yard, covered parking area.

The transitions between these space categories will be handled where possible by subtle architectural features - changes of level, planting, steps, change of materials, etc. - rather than by walls or fences.
Public Plaza

One and six/tenths acres of the site's total area of 20.8 acres will be dedicated for use as a public plaza, public promenade, and public parking lot. The public plaza will encompass an area of approximately one acre. A series of landscaped and paved terraces will lead from the Restaurant/Commercial Building to the water's edge. A Gazebo/Band Shell structure will define the crossing of the Public Plaza and the Public Waterfront Promenade. This structure will be usable for passive recreation, band performances, public events, etc.
Trees planted around the perimeter of the Public Plaza will help to define that space and provide shade in the summer time as well as helping to cut down the wind from the river during the rest of the year. The residential structures south of the public plaza are low enough and are set back sufficiently to avoid casting excessive shadows on the public plaza.

Shadow Study - June 21: 11:00 A.M. & 3:00 P.M.
Shadow Study - December 21: 11:00 A.M. & 3:00 P.M.

11 am

3 pm

December 21
Restaurant/Commercial Building

A 2 story building, totalling approximately 10,000 square feet, will contain a restaurant and several small commercial facilities, such as an art gallery, craft store, etc. The building will include an exterior, roofed veranda as protection from the elements and to provide covered outdoor seating for the restaurant in good weather. Both levels of this building will command fine views of the Hudson River.

Public Parking

Publicly accessible parking will be provided for the Restaurant/Commercial Building and adjoining the Public Plaza. Such parking spaces will be available to Hastings residents who wish to drive to the water's edge, enjoy the Public Plaza and/ or Waterfront Promenade. The public commuter parking area immediately east of the railroad station will be available during weekends for additional parking.

The location of the Public Plaza and Restaurant/Commercial Building directly adjoining the railroad station and central Hastings also make it an attractive destination for pedestrian traffic from the village, thereby reducing somewhat the need for parking at this location.
Public Waterfront Promenade

A linear pedestrian Promenade along approximately one-half the Hudson River shore line of the proposed development will be created for strolling, fishing, sitting, jogging, biking, and other public recreation. The Promenade will include benches, trash receptacles, and a sturdy railing to safeguard children. Spectacular river views to the north, west and south will be available from the Promenade. The Promenade will end in a cul-de-sac approximately 900 feet south of the Public Plaza.

At selected locations along the waterfront, in the North and South Coves, provisions for tying up boats are possible. Educational and recreational craft could tie up in these locations by prior arrangement. This river activity will provide a focus of interest for people enjoying the waterfront. The proposed development does not contemplate the creation of a marina facility or the dredging of material from the river bottom to increase water depth for water activity. Avoidance of such river bottom dredging will help prevent any impacts on the river's flow or fish habitat characteristics. The lack of sufficient parking space for the storage of vehicles, boat trailers and other ancillary facilities make the provision of a boat launching platform impractical at this location.
A change of level of 3 or 4 feet, and some perimeter planting, will be the only physical features separating this publicly accessible walkway from the residential areas of the development. As shown in the enclosed rendering, the residential open space and Promenade have been designed as an integrated unit, reinforcing the sense of openness at the water's edge. This change of levels not only helps define the Public Waterfront Promenade but allows for views of the river from the residential areas. The residential structures have been set back between 55 and 120 feet from the water edge of the deck (i.e. from the west edge of the Public Promenade) in a "crescent", to preserve a sense of openness which will benefit not only the public promenaders but the residents of the buildings behind - all of whom will enjoy views of the Hudson River.
2. Circulation and Service:

While the automobile is an indispensable component of any suburban residential community, the pedestrian realm is still the most significant factor in the success of a residential environment. We have been guided in the development of an appropriate relationship between pedestrian and automobile by the "Radburn Plan" developed by Henry Wright and Clarence Stein in the 1920's for Radburn, New Jersey. This pioneering plan for a suburban residential community was designed to separate pedestrians from vehicular traffic and was an early, successful attempt to deal with the growing importance of the automobile in American life. As in Radburn, the proposed development has two circulation networks which largely separate the slow moving, vulnerable pedestrian from the faster and potentially dangerous automobile and service traffic.

Fig. 34—Plan of Burnham Place. This, with its grouped houses and turning circle, is the most spacious cul-de-sac at Radburn. The turning circle allows vehicles to turn and get away more easily, and it provides an island for planting.
Vehicular Traffic

The needs of vehicular circulation are served by two major north-south streets and a series of east-west tributary cul-de-sacs from these main arteries. The major service road will be an extension of River Street to the south, along the railroad tracks. The northerly section of this River Street extension, containing 0.32 acres of the site's total area of 20.84 acres, would be dedicated as a Village street. It would extend from the end of the bridge ramp to the south edge of the commercial building parking area. The remaining section of the River Street extension will be retained by Hastings Associates as a private street. Emergency vehicular access to the south would be permitted by way of these private streets. This River Street extension will be the most efficient route for service and emergency vehicles. The River Street extension would provide a link to future development south of the Hastings Associates' site.

Approximately 150 feet to the west of the River Street extension will be an interior north-south service road linking all the residential structures. This road will be limited to automobiles only. It will be lined with walks and trees, will begin and end at landscaped circular cul-de-sacs and will pass through the two apartment structures at the southern portion of the site.

Leading from this interior service road will be six cul-de-sac or crescent shaped tributaries serving the entrances to the residential structures. Visitor entrances to the residential structures would be from these circulation tributaries. The vehicular progression of River Street to interior service road to cul-de-sacs is marked by a progressive decrease in the vehicle's speed and an increase in the privacy of the adjacent residential space. The cul-de-sacs at the townhouses, for example, directly adjoin the private gardens of those residential units.

There are additional vehicular tributaries leading to the lower level parking areas provided in all the residential structures. This is the most private of the vehicular routes and is reserved for residents of these specific structures.
Pedestrian Circulation

The residential structures are organized around five exterior "rooms" or landscaped courtyards. With the exception of the lightly trafficked cul-de-sacs, these are entirely pedestrian precincts. These courtyards allow residents from any residential unit to walk to another unit in the development, or to the communal recreation facility, without having to cross a vehicular route. This is especially desirable in the case of young children. A somewhat less protected pedestrian network exists along the interior service road, providing north-south pedestrian circulation and a landscaped route to the Public Plaza, Restaurant/Commercial Building, railroad station and center of Hastings. A parallel, crescent-shaped pedestrian promenade borders the western edge of the residential areas. This promenade is completely isolated from vehicular traffic, and allows for a leisurely walk along the river's edge - at an elevation 3 or 4 feet above the Public Waterfront Promenade.
Parking

Parking facilities are provided for the various users of the proposed development. The facilities include: covered parking of 218 spaces under the residential structures; 315 spaces of exterior residents' and visitor's parking; 65 parking spaces for the Restaurant/Commercial Building, Public Plaza, and Public Waterfront Promenade.

Exterior residents' parking is laid out in small parking units running east and west between River Street and the interior service road. Bands of landscaping separate the parking units to: avoid a large, unbroken expanse of pavement; to screen the parking from views from surrounding higher portions of Hastings; and to provide shade for the parking areas.

Visitors' parking is provided at the end of the cul-de-sacs adjoining residential entrances and at the crescent-shaped drives adjoining the apartment structures at the south end of the site. In addition, residents could make their private parking spaces available to visitors as well.

Parking for the Restaurant/Commercial Building is provided along the north and south edges of that building. The parking for the Public Plaza and Public Waterfront Promenade runs east-west along the north edge of the Public Plaza.
Emergency Vehicles

Police cars and ambulances will have free access to any vehicular roadway, parking area or cul-de-sac, thereby gaining access to within a few feet of any residential structure. In an emergency, police cars or ambulances would also be able to utilize some of the pedestrian walks and the Public Waterfront Promenade.

Fire trucks will also use the River Street route to reach any of the residential structures. The interior service road can also be utilized - with the exception of the two underpasses at the southernmost apartment structures. The apartment structures are all readily accessible from River Street and the townhouses can also be reached from the interior service road and the two entrance cul-de-sacs - all of which will accommodate fire fighting equipment.

As the buildings are similar to comparable structures already existing in the Village of Hastings, the existing fire fighting equipment should be adequate to handle fires at this site. The residential structures will be of fire resistant construction and fire hydrants and alarms will be located throughout the site.

Service Vehicles

Service vehicles - delivery trucks, sanitation, appliance repair vehicles, will primarily use the River Street extension to reach specific residential buildings. Trash will be collected from individual buildings by a small, Cushman-type vehicle for delivery to site containers - from where it will be picked up by Sanitation trucks.
3. The River's Edge:

The existing structures along the water's edge - bulkheads, piers and decking - are mostly in need of reconstruction. A more complete discussion of the technical aspects of this process can be found in a separate report, titled "Shore Edge Conditions and Proposed Treatment".

To respect the water's edge and create maximum possible views from the proposed residential structures as well as maximizing the views of users of the Public Pedestrian Promenade, the residential structures have been set back in a "crescent" form from the river's edge. Individual residential structures are set back between 55 and 120 feet from the water edge of the promenade platform. The only building within this crescent will be a single story recreation structure adjoining a swimming pool at the center of the proposed development.
4. The Railroad

The development's location adjoining the Hastings station on the Metro North Amtrak railroad line, allows for a decreased reliance on the automobile for travel to work. The large majority of residents commuting to New York City will certainly walk to and from this station, reserving their automobile use for longer trips.

The railroad is also a noise source which needs to be addressed. To minimize the effect of railroad noise on residents of the proposed development, the apartment structures have been set back approximately 120 feet from the main line tracks. A buffer - consisting of a low sound barrier, planting, the River Street extension, and landscaped parking areas - separates the apartment structures from the railroad. The townhouse units are a minimum of 230 feet from the main line tracks, with a wider buffer and landscaping serving as additional separation. The exterior wall construction of the residential units and the selection of sound insulating windows will significantly reduce the perceived noise from the railroad. Such sound insulation will also decrease any noise from river traffic and yield additional energy conservation benefits.
5. Phasing

The phased construction of the proposed development will minimize construction traffic and provide for the gradual integration of new residents into the community.

Phase I would comprise: the Public Plaza, Restaurant/Commercial Building; parking serving both plaza and building, the North Cove waterfront area, Gazebo, the two northernmost apartment structures, and two outdoor tennis courts. Concurrent with this phase will be the construction of the utility network required for Phase I.

Phase II will include the 54 townhouse units, related parking and landscaping, construction of the Waterfront Promenade and decking as far as the South Cove, and the recreation structure. Also included in Phase II will be the corresponding sections of the interior service road and the River Street Extension.

Phase III will include the waterfront development south of the South Cove, the two south apartment structures, and the remaining roads, walks, parking areas and landscaping.

The projected time table for these three phases is:

<table>
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<tr>
<th>Phase</th>
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<th>Complete Construction</th>
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</thead>
<tbody>
<tr>
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<td>August 1989</td>
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<tr>
<td>Phase II</td>
<td>August 1989</td>
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<tr>
<td>Phase III</td>
<td>August 1990</td>
<td>August 1991</td>
</tr>
</tbody>
</table>
2. Density and Bulk

The proposed development represents a significant decrease in the density and bulk from the existing Anaconda structures.

**Density** - the existing industrial structures cover approximately 41% of the project site. The proposed development will cover approximately 14% of the site— or about 1/3 of the area covered by the existing buildings. This reduction in density of construction (site coverage) does not adequately reflect the actual improvement, since the new buildings are specifically arranged to allow for maximum viewing corridors— as discussed in the next section.

**Bulk** - the existing structures are enormous containers for heavy industrial processes. They were built to significant heights to allow for the fabrication and moving of large equipment by overhead cranes. As a result, the bulk or volume enclosed by the existing structures is approximately 13,248,628 cubic feet. In comparison, the proposed residential structures, including the ground level parking, enclose 5,630,400 cubic feet— less than half the existing bulk.

In elevation (view from ground level, looking to the west) the proposed buildings have a projected area of 62% of that of the existing buildings.
D. VISUAL ASPECTS

1. Scale

The major determinant in selecting the scale of proposed residential structures has been the size of existing Hastings buildings. Most Hastings buildings are 2 to 3 story structures - often above a garage level. The proposed townhouse structures consist of 3 story units above a basement parking level which extends 4 feet above grade. The top floor of these units is a dormer level with sloping roofs - resulting in the appearance of a 2 story structure with an attic above.

Hastings also has a number of buildings in the range of 5 to 6 stories. The tallest proposed structures are 5 and 6 story residential buildings above a ground level parking area (or 6 and 7 levels total). As in the townhouse units, the apartment structures treat the top residential level as a dormer floor - reducing the apparent height of the buildings.

The fact that the proposed structures are on a low elevation, (approximately +8' above Mean Sea Level) while most of Hastings is at higher elevations looking over the site, further reduces the visual impact of these buildings on their surroundings. The apartment structures "step" down one level toward the water's edge to further reduce their apparent scale and to respect the profile of the Hudson River Valley.
Alternative Proposals

The proposed development contains 350 residential units. As a requirement of this EIS, alternative schemes have also been developed for 420 dwelling units (120% of the proposed development) 262 DU's (75% of the proposed development) and 175 DU's (50% of the proposed development). Diagrams are enclosed illustrating these development alternatives.

120% Alternative (420 Units)

The "120%" alternative would have the same footprint as the proposed development for the residential buildings, but would add a 3 level, 70,000 sq.ft., commercial and parking structure, located between the townhouses and the railroad tracks. The height of the apartment buildings would be increased to 8 levels (parking + 7 residential levels) for those portions nearer the railroad tracks and 7 levels (parking + 6 residential levels) for those portions near the river.
75% Alternative (262 Units)

The buildings in the "75%" alternative would have the same footprint as the proposed development. The apartment buildings would be reduced to 4 residential levels over a parking level. The townhouse units would remain the same as in the proposed development.

50% Alternative (175 Units)

The "50%" alternative would result in the elimination of part of the apartment building adjacent to the South Cove, shortening the length of the apartment building at the south end of the site, and a reduction of the apartment buildings to 3 residential levels over a parking level. The townhouse units would remain the same as in the proposed development.
3. Views

a) Views from Hastings

The existing industrial structures present an almost unbroken visual barrier between Hastings and the river. An elevation of this barrier (a measurement of the area of the east face of the existing structures) indicates an area of 54,500 square feet - representing a wall of approximately 1,300 feet long.

By contrast, the proposed development will have an east elevation area of 36,800 square feet (62% of the existing area), representing a length of 800 feet, and will provide views of the river between the buildings.

The proposed residential structures have been laid out on an east-west axis to present their narrow side to Hastings and to provide view corridors between and around these buildings. In addition, the majority of existing Hastings residences facing the site will look over the proposed structures from the adjacent hillside - Warburton Avenue is at an elevation higher than the top of the tallest proposed residential structure.
View from Warburton Avenue Bridge - Existing

View from Warburton Avenue Bridge - Proposed Development
View from Warburton Avenue - Existing

View from Warburton Avenue - Proposed Development
View from Washington Avenue - Existing

View from Washington Avenue - Proposed Development
View from Library Plaza - Existing

View from Library Plaza - Proposed Development
b) Views toward Hastings from the River

As important as the view corridors provided for Hastings residents is the appearance of the proposed development as seen from the Palisades or from the Hudson River itself. The view corridors allowing views of the river from Hastings obviously work both ways - they will also allow views of Hastings from the Hudson.

Since both the Palisades and much of Hastings are at a considerably higher elevation than the proposed development, the low buildings proposed will have an almost negligible impact on views of Hastings from across the river at the Palisades. Further, the profile of the proposed buildings from the Hudson and their strongly defined pitched roofs will harmonize with many of the existing Hastings structures - particularly the larger houses higher up on the hills.

c) Views from the Development Site

The site has been planned to take maximum advantage of views to the north, west and south. The Public Waterfront Promenade will have unimpeded views in these three directions. Views of the George Washington Bridge and Manhattan skyline beyond will be made available from these locations for the first time. Opening much of the river frontage to public use will create areas with spectacular views of the Hudson and the Palisades not previously available to most community residents.
4. Architectural Character

The design of the proposed structures attempts to establish an architectural character and design vocabulary appropriate to the context of Hastings. Materials such as brick, wood, stucco and dark roofing shingles have been selected for their warmth, esthetic value and similarity to building materials currently utilized in the Village.
In architectural character, the proposed development will have a campus-like, dignified and formal setting. The visual treatment of the buildings will recall traditionally designed apartment buildings found in Westchester County. The tree lined interior service road will terminate in landscaped circles. A design vocabulary will be established for walkways, pavement, curbs, light standards, fencing, and other common amenities to reinforce the overall character. The architectural language will be neither "trendy" nor an attempt at historic reproduction, rather it will aim to combine the best in contemporary planning with the warmth of traditional residential materials and details.

The "roofscape" of the proposed structures is an important design feature, as much of Hastings will look out over the development from a higher elevation. In addition to the strongly pitched roofs, dormer windows and rooftop balconies will further break up the scale of the residential structures. Brick chimneys will punctuate the roofs of the townhouse units. The roofs of all the buildings will also have a strong and unified profile from ground level - which will decrease their apparent scale while gracefully terminating their elevations.
The proposed construction will be of high quality, with an appropriate level of detail, materials and finish. The exterior walls of the residential structures are planned to be masonry cavity wall construction; all construction will comply with the New York State Building Code. The site plan allows for the possibility that the townhouse structures may be partly supported by existing piles supporting some of the existing buildings. The other buildings will be supported on new piles driven into the filled land.

However, final determinations regarding the feasibility of re-using any of the existing foundation piles for this project will depend on detailed testing to be carried out during the construction stage. Should the results be negative as to the re-use of existing piles, new pile foundations will have to be driven for the townhouse units.

There will be a minimum of discreet signage in the proposed development and all graphics (directional signs, building identification signage for the commercial building) will be comprehensively designed.

5. Residential Units

The proposed development will contain 350 dwelling units; 296 units in the apartment buildings and 54 townhouses. There will be 65 studio apartments (19% of the total), 75 1-BR apartments (21%), 122 2-BR apartments (35%) and 34 3-BR units, (10%).
6. **Landscape Development**

The proposed planting for the Harbor at Hastings must contend with several special conditions present at the site. These conditions determine, to a large extent, the nature of the landscape program for the project.

The first special condition is the saline nature of the Hudson River. In times of very high tides or severe storms, parts of the site may experience some puddling or flooding of river water—which will leave a residue of salt. More commonly, areas of the site will experience wind blown salt spray. In this form, salt is deposited on foliage, and in certain species dessicates the tissue and leads to the death of the foliage or even dieback of twigs.

Two other special conditions which must be addressed are ground water (also presumably of a saline nature) and poor existing soil conditions. It has been determined that since ground water is closely linked to the elevations of the river due to its proximity, there may be parts of the site that will experience occasional wet conditions. The site presently has little soil available for planting, so that new soil will have to be brought in.
The new site conditions of salt water, salt spray, and saline ground water can be addressed by choosing plants which are tolerant of these conditions. The accompanying list of plants includes landscape materials which will tolerate these conditions, while offering a wide range of aesthetic choices.

Since most of the topsoil required for the proposed planting will be imported, the specifications will require that a lighter, well draining sandy loam is provided which will aid in establishing plant material on this site. Planting areas will be mounded up or bermed where possible to obtain suitable soil depths. This will also serve to keep these areas dry and free from ground water interference. In areas where the existing structural slab may be utilized as a base for construction, the entire grade will be raised approximately four (4') feet to provide adequate soil depth for large shade trees and evergreens. To alleviate the large loads imposed by this amount of soil, closed cell styrofoam slabs and blocks will be utilized to provide the required depth without the heavy soil load. These slabs and blocks will also be used where shallow plantings on pavements are proposed. Underlying the entire raised area will be a layer of crushed stone and subdrains placed directly on the slab - allowing for good drainage of the planting areas.

Irrigation will be provided throughout the site, either by an automatic sprinkler system or through a series of quick-coupler valves and ground hydrants. This will allow for the establishment of plant material, adequate water supply through dry periods, and for the flushing and rinsing of salt covered foliage and lawns.
The following list of plants are suitable, in varying degrees, for use in the conditions described above:

**Plant List**

<table>
<thead>
<tr>
<th>Shade Trees</th>
<th>Evergreen Trees</th>
<th>Small Trees</th>
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<td>Sweet Gum</td>
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</tr>
<tr>
<td>Sour Gum</td>
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</tbody>
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**Shrubs & Ground Covers**

| California Privet         | Euonymus                     |
| Memorial Rose             | Cotoneaster                  |
| Pfitzer Juniper           | Japanese Holly               |
| Shore Juniper             | Honeysuckle                  |
| Bayberry                  | Pyracantha                   |
| Inkberry                  | Spirea                       |
| Beach Plum                | Wintergreen Barberry         |
| Bearberry                 | Chokeberry                   |
| Rugosa Rose               | Summersweet                  |
| Russian Olive             | Winterberry                  |
| Autumn Olive              | Potentilla                   |
| Buckthorn                 | Virginia Creeper             |
|                            | Boston Ivy                   |
SITE

Site Area: 20.839 Acres
Area within River: 2.508 Acres
Land Area: 18.331 Acres

Exist. Coverage: (% of Site Area) 41%

Proposed Coverage:
  a) Townhouse Coverage 6%
  b) Apartment Bldg. Coverage 7%
  c) Commercial Bldg. Coverage 1%

Proposed Public Area: 1.92 Acres
  a) Public Plaza, public parking area, and public right-of-way (extension of River St. to south edge of Commercial Bldg. parking area) 1.57 Acres
  b) Public Promenade (875 Lin. Ft.) 0.35 Acres

Proposed Private Residential and Commercial Development Areas: 16.42 Acres
Area within River: 2.50 Acres
Total Site Development Area: 20.84 Acres

Proposed Outdoor Parking at Plaza Commercial Bldg.: 65 Cars
Proposed Residents' and Visitors' Outdoor Parking: 315
Proposed Residents' Indoor Parking: 218

Total Parking: 598 Cars

PROPOSED RESIDENTIAL DEVELOPMENT

Townhouse Units: 54 D.U. (15%)

Apartment Dwelling Units (D.U.):
  0 BR: 65 D.U. (19%)
  1 BR: 75 D.U. (21%)
  2 BR: 122 D.U. (35%)
  3 BR: 34 D.U. (10%)

Total Number of Units: 350 D.U. (100%)

Proposed Commercial Development: 10,000 SF