CITY OF VANCOUVER
COMMUNITY SERVICES GROUP

DEVELOPMENT PERMIT STAFF COMMITTEE REPORT
NOVEMBER 2, 2011

FOR THE DEVELOPMENT PERMIT BOARD
NOVEMBER 28, 2011

400 SW MARINE DRIVE (COMPLETE APPLICATION)
DE415055 - CD-1 (Pending)

AM/BM/MW/DA/LH

DEVELOPMENT PERMIT STAFF COMMITTEE MEMBERS

Present:
J. Greer (Chair), Development Services
R. Thé, Engineering Services
L. Gayman, Real Estate Services
T. Driessen, Park Board

Also Present:
A. Molaro, Urban Design & Development Planning
B. Mah, Development Services
D. Autiero, Development Services
M. Williams, Development Services

APPLICANT:
Perkins + Will
Attention: Ryan Bragg
1220 Homer Street
Vancouver, BC
V6B 2Y5

PROPERTY OWNER:
PCI Marine Station Corp. and
Perfect Change Int'l Ltd.
1700 - 1030 W Georgia Street
Vancouver, BC
V6E 2Y3

EXECUTIVE SUMMARY

- **Proposal:** The development of a mixed use, transit-oriented complex comprising of two residential towers of 26 and 35 storeys with a STIR component, an office tower of 15 storeys, an 11 screen movie theatre, a three storey retail podium and five levels of underground parking, subject to Council's enactment of the CD-1 By-law and approval of the Form of Development. The project also includes the construction of two neighbourhood plazas and a ground oriented pedestrian mews.

See Appendix A Standard Conditions
Appendix B Standard Notes and Conditions of Development Permit
Appendix C Processing Centre - Building comments
Appendix D Responses to Rezoning Sustainability Conditions
Appendix E Plans and Elevations
Appendix F Applicant's Design Rationale

- **Issues:**
  1. Architectural Expression of Residential Towers
  2. Public Realm Interface
  3. Public Open Space/Pedestrian Connections

- **Urban Design Panel: Support**

DEVELOPMENT PERMIT STAFF COMMITTEE RECOMMENDATION: APPROVE

THAT the Board APPROVE Development Application No. DE415055 as submitted, the plans and information forming a part thereof, thereby permitting a development comprising of two residential towers of 26 and 35 storeys, an office tower of 15 storeys, an 11 screen movie theatre, a three storey retail podium and five levels of underground parking, subject to the following conditions:

1.0 Prior to the issuance of the development permit, revised drawings and information shall be submitted to the satisfaction of the Director of Planning, clearly indicating:

1.1 design development to the residential towers to strengthen their architectural statement to achieve a more distinguishable building expression given the prominence of this transit oriented "gateway entry" site at the city edge;

1.2 design development to the residential towers upper roof enclosure to ensure that any proposed cellular equipment is appropriately screened and will not detract from the overall architectural quality;

1.3 design development to further refine the exterior material treatment of the office tower and the residential buildings façade details to be consistent with the design intent of mullion details, glass color, transparency, fritting, and energy performance as portrayed in the drawings and material samples submitted;

Note to Applicant: Superior detailing and precise execution of the facades details are critical to achieving the proposed building(s) aesthetic. Detailed (1/2" =1'-0) sections and elevations of the various façade treatments along with full performance specifications are required.

1.4 design development to the southern portion of Level 01 - Marine to achieve a legible, smooth pedestrian movement between the mews and the station's concourse-level transit entry while also maximizing the amount of active interface/transparency between the uses and the covered/uncovered public open space (see also Recommended Condition 1.11) ;

Note to Applicant: The proposed location of the connecting stair (between Level 01 and Level 02) creates a pinch point affecting the pedestrian circulation connection between the mews, stairs between the lower bus loop plaza and station's transit entry. Consideration should be given to accentuating the retail façade curve to better draw people through while also better integrating the connecting stair within the building enclosure. Activation of the covered open space and retail/residential entries should be optimized.

In addition, staff are seeking provision of the detailed (1/2" = 1'-0") elevations and sections demonstrating high quality material treatments, including walls, railings and soffits, and vertical circulation elements.

1.5 design development to southern portion of Level 01 - Marine to optimize the amount of uncovered open space to strengthen and emphasize this area's role as a public gathering space between the pedestrian mews and the station's concourse-level transit entry;

Note to Applicant: Design development should consider extending the curved pedestrian movement of the mews, more directly, as a component of the uncovered open space.

1.6 design development to the Cambie Street retail and bicycle mobility centre frontage to achieve an active public realm interface combined with a well-integrated building with the station and guideway that maximizes the amount of retail frontage oriented to this important frontage (see also Engineering Condition A.2.1);

Note to applicant: A retail entry oriented to Cambie Street frontage should be provided. The number of exit corridors and exit doors should be minimized and, where possible, be relocated in order to optimize this retail frontage. Resolution of the bike mobility centre frontage and the station service door needs to be addressed. Integration of weather protection should also be considered along this frontage. Hard and soft landscaping treatments within the expanded sidewalk should also accommodate pedestrian and cyclist movement.

1.7 design development to achieve a high quality, visually interesting interface between the podium structure and the Marine Drive Station at both the concourse and platform levels;

Note to Applicant: Opportunities for a fully integrated elevation treated with high quality materials providing a high degree of visual interest for the transit patron should be provided. Design development of these elevations should explore dynamic themes including the use of light, movement and colour given its relationship with the transit facility. Opportunities to integrate public art at these locations should also be explored.

1.8 design development to the public realm interface of the Marine Drive retail frontage to achieve a higher quality, finer grain of architectural treatment including careful articulation and modulation of the cantilevered second floor to improve daylight access along this frontage;

Note to applicant: Given the northerly orientation of this frontage and to further maximize daylight access, continuous weather protection along this façade should incorporate clear glazing.

1.9 design development to the ensure that the public realm interface of Marine Drive retail frontage is well integrated with the retail entries and sidewalk elevations; and

Note to Applicant: Given the sloping grade along the Marine Drive frontage, design development should ensure that commercial retail units slab elevations will be stepped to achieve a compatible interface between the public sidewalk and the retail units.

1.10 design development to the design and location of the vertical circulation components (stairs, escalator and elevator) provided between the bus loop and pedestrian mews to create a stronger sense of place and connection between these two important public circulation areas and;

Note to Applicant: Integration of the various orientations and geometries of these components should emphasize the visual connection and pedestrian experience between these two levels. To improve legibility the escalator location should be consolidated with the elevator and/or stairs. CPTED principles should also be applied to maximize the visual connections between the two levels and circulation components. Blank walls of the stair edge should be avoided. In addition, the location of the parkade vent should be relocated to an alternate, perhaps vertical location.

1.11 design development to the retail unit(s) fronting onto the bus loop to minimize conflicts between alighting passengers and patrons of the retail units;

Note to Applicant: A minimum 4.5 m clear sidewalk width is required for transit passenger movement. Retail entries should be set back from the primary façade to minimize any potential conflict between the various pedestrian movements.

1.12 design development to expand and connect the bicycle mobility centre to provide a direct entry oriented into open space provided at the southern portion of Level 01 - Marine.

Note to applicant: The provision of a second entry oriented into the southern portion of Level 01 - Marine to improve the bicycle mobility centre proximity to the station for transit users as well as to serving as an active uses oriented into the covered open space of Level 01 - Marine.

2.0 That the conditions set out in Appendix A be met prior to the issuance of the Development Permit.

3.0 That the Notes to Applicant and Conditions of the Development Permit set out in Appendix B be approved by the Board.

- **Technical Analysis:**

	PERMITTED (MAXIMUM)	REQUIRED (MINIMUM)	PROPOSED*
Site Size	-	-	irregular
Site Area	-	-	1.95 ha = 209,903 sq. ft. (survey plan)
Floor Area	Dwelling Uses 331,787 sq. ft. All Uses 876,997 sq. ft.	Grocery/Drug Store 26,911 sq. ft.	Residential (STIR) 31,520 sq. ft. Residential (Market) 294,038 sq. ft. Excess Balcony Area 2,756 sq. ft. Subtotal 328,314 sq. ft. Theatre 57,389 sq. ft. General Offices 252,311 sq. ft. Grocery Store 50,932 sq. ft. Retail Stores 138,980 sq. ft. Excess Unenclosed Area 1,940 sq. ft. Subtotal 501,552 sq. ft. Future Theatre Infill 26,000 sq. ft. Future Retail Mezzanine 10,000 sq. ft. Subtotal 537,552 sq. ft. Residential 328,314 sq. ft. Commercial 537,552 sq. ft. Total Floor Area 865,866 sq. ft.
Open Balconies	12% x 325,558 sq. ft. = 39,067 sq. ft.	-	41,823 sq. ft. (2,756 sq. ft. over)
Unenclosed Outdoor Areas	1% x 325,558 sq. ft. = 3,256 sq. ft.	-	5,196 sq. ft. (1,940 sq. ft. over)
Amenity	10,764 sq. ft.	-	Residential - Levels 3/6 5,382 sq. ft.
Height[1]	Allowed 335 ft. Discretionary 351 ft.	-	Tower 2A 350 ft. Tower 3A 272 ft. Tower 2B (Office) 229 ft.
Horizontal Angles of Daylight (HAD)[2]	-	50°/78.7 ft.	to comply (internal rooms/spaces)
Parking	Residential + STIR 391 Visitor (STIR) 7 Non-Residential 967 Subtotal 1,365 Future Additions 70 Total 1,435 Small Car (25% x 1,265) 316	Residential + STIR 291 Visitor (STIR) 3 Non-Residential 527 Subtotal 821 Future Additions 38 Total 859 Disability 35 Future Additions 1 Total 36	Residential 373 Non-Residential 892 Total 1,265 Disability 66 Small Car 301
Bicycle Parking[3]	-	Class A / Class B Residential 576 / 12 Theatre n/r / 6+ Office Uses 47 / 6 Retail Uses 35 / 6 Total 658 / 30+	Class A / Class B Residential 579 / 6 Theatre - / 12 General Office 47 / 6 Retail Store 35 / 6 Total 661 / 40
	Vertical (30%)	Horizontal (70% x 661) 463	Horizontal to be clarified Vertical to be clarified
	-	Lockers (20% x 661) 133	Lockers to be provided
	-	Electrical Outlets 331	Electrical Outlets to be provided

	PERMITTED (MAXIMUM)	REQUIRED (MINIMUM)	PROPOSED*
	-	Clothing Lockers (0.7 x 73 = 52) Female 52 Male 52 Total 104	Clothing Lockers Female to be provided Male to be provided Total
Loading[4]	-	Cl. A / Cl. B / Cl. C Residential n/r / 2 / n/r Theatre n/r / 3 / n/a Office Uses 1 / 2 / n/r Retail Uses n/r / 8 / 2 Total 1 / 15 / 2	Class A / Class B / Class C Total 0 / 9 / 5
Acoustics[5]	-	report required	to be provided
Dwelling Units	-	-	Rental (STIR) 38 - one-bedroom 7 - two-bedrooms 1 - three-bedrooms 46 units Market 263 - one-bedroom 152 - two-bedrooms 415 units Total Units 46 + 415 = 461

* Figures for floor areas, including open balconies, unenclosed outdoor areas and amenity, are based on data received on November 9, 2011 by email.

[1]**Note on Height:** Due to unavailable City building grades, staff has accepted the measurement of height from the concourse level of the Canada Line at an elevation of 44'-0". Pursuant to Section 6.2 of the pending CD-1 By-law, the Director of Planning may permit a greater height to a maximum of 351 ft. for decorative roof and enclosure treatments which enhance the appearance of the building and integrate mechanical appurtenances, and similar items. Staff has assessed the additional height requested and are satisfied that the shaping of the upper roof enclosure contributes to the building's overall character and does not generate any significant additional shadow impacts.

[2]**Note on HAD:** Standard Condition A.1.1 seeks compliance with Section 7.1 and 7.2 of the pending CD-1 By-law for all internal habitable rooms and spaces.

[3]**Note on Bicycle Parking:** Due to the unavailable seating capacity of the theatre, 6 Class B spaces have been estimated as a minimum. The required number of Class B bicycle spaces for the theatre is a minimum of 6 spaces for any portion of each 300 person seating capacity. Standard Condition A.1.6 seeks clarification of the seating capacity of the theatre. Stacked bicycles will be considered as vertical spaces and limited to a max of 30%.

[4]**Note on Loading:** The application does not meet the minimum required Class A or Class B loading spaces, however, provides 3 additional Class C loading spaces, a much larger space. Engineering Condition A.2.7 seeks a Loading Management Plan to demonstrate operations of the loading facility without negatively impacting city streets.

[5]**Note on Acoustics:** Standard Condition A.1.13 seeks the provision of an acoustics report pursuant to Section 9 of the pending CD-1 By-law.

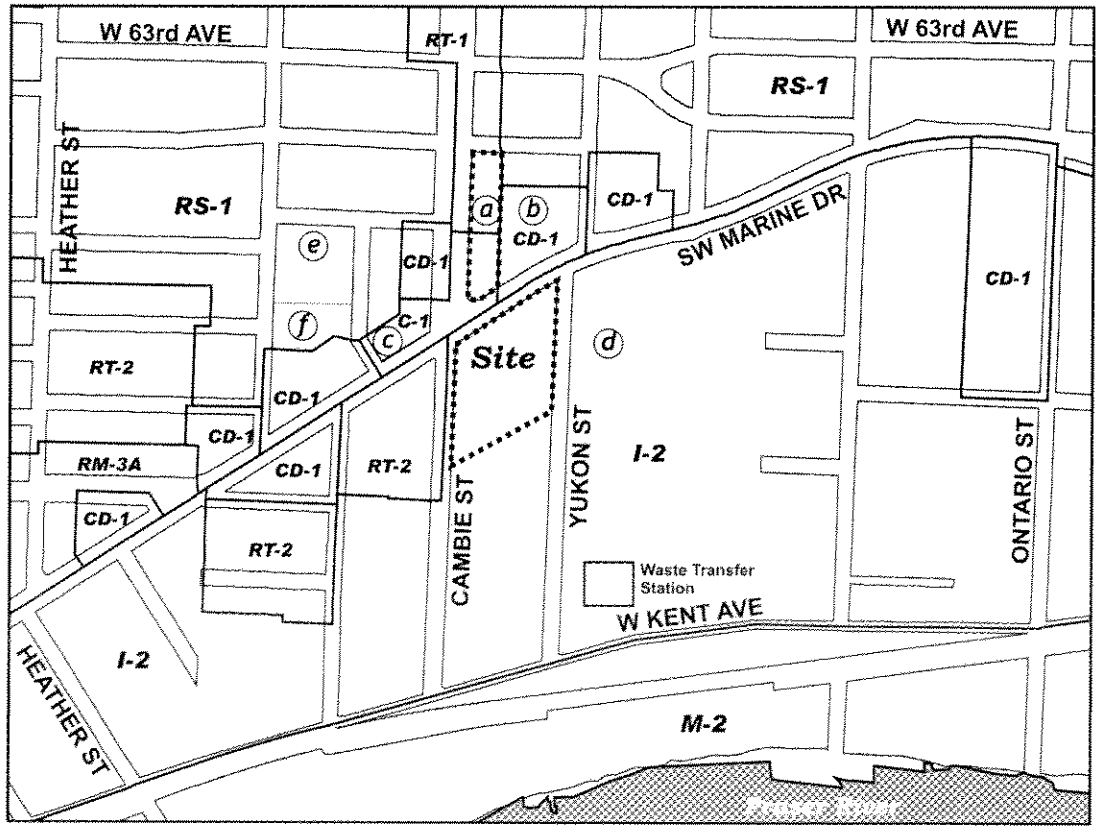
- **Legal Description**

Lot:	A
Block:	8
District Lot:	311
Plan:	18839

- **History of Application:**
  11 08 15 Complete DE submitted
  11 10 05 Urban Design Panel
  11 11 02 Development Permit Staff Committee

- **Site:** The site is located in Marpole neighbourhood on the southeast corner of Cambie Street and SW Marine Drive. It has a site area of 4.83 acres, although transit easements for the Canada Line and the bus loop occupy about one third of this land area. Grade drops across the site by about 20 ft. from marine drive to the bus loop. The Marine Drive Canada line Station physically straddles the west property line, with half the station on Cambie Street and half on the subject property. To the east Yukon Street provides access for Translink buses to the exchange loop, which occupies the southern quarter of the site. To the southeast of the site is the City of Vancouver Waste Transfer Station and Works Yard. To the west of the site are low-rise multi-unit residential developments and a Buddhist Temple at the southwest corner of Marine Drive. To the north, on the east side of the intersection is a large site, 8150 Cambie Street, that is subject of a rezoning application by Intracorp Group.

- **Context:** Significant adjacent development includes:
  (a) 8150 Cambie Street - rezoning application under review for mixed-use development
  (b) 8080 Yukon Street - Marine Gardens, market rental townhouse development and Kiwanis - Soroptimist Seniors Housing
  (c) Existing Gas Station
  (d) City of Vancouver Transfer Station and Works Yard
  (e) Laurier Annex Elementary school
  (f) Ash Park



• **Background:** The pending CD-1 Bylaw for this site, along with the form of development was approved by Council, subject to a series of conditions, following a Public Hearing in July 2011. Staff met the applicant prior to submission of a development application to review progress on the responses to rezoning conditions and generally supported the directions being pursued.

• **Applicable By-laws and Guidelines:**

1. CD-1 By-law (pending)
2. Rezoning Conditions

• **Response to Applicable By-law:**

1. CD-1 By-law (pending)

Use and Density: The proposed uses (residential, office, retail, service and entertainment uses) and density generally conforms to the provisions of the By-law, subject to Standard Condition A.1.2.

Height: The By-law specifies a maximum height of 102.11 m (335 feet), measured to the top of the parapet wall on the uppermost habitable floor from the building grade elevation at the southeast corner of Marine Drive and Cambie Street. However, the Director of Planning may permit, at his discretion, a further increase in height to 107 m (351 feet) for items such elevator machine rooms, access for green roofs, roof mounted energy technology, and decorative roof and enclosure treatments that enhances the overall appearance of the building and other similar items, provided that the Director of Planning considers;

a) their location and sizing in relation to views, overlook, shadowing, and noise impacts, and
b) all applicable policies and guidelines adopted by Council.

Subsequent to the general form of development at time of rezoning, design development has resulted in the higher tower being shifted further north by 13.25 ft. Given the sensitivity of the shadow impacts on the local neighbourhood park and school, staff have re-assessed the shadow impacts and are satisfied that the adjustment in the tower location will not create any significant additional shadowing.

While further design development has refined and integrated within the tower's overall architectural composition, the treatment of the roof top elements that includes elevator machine rooms and mechanical equipment including cellular equipment: Staff are satisfied that the additional height (up to 351 ft.) for the upper roof elements to accommodate these elements will not contribute to any additional shadow impacts. However, staff are seeking design development to ensure that any proposed cellular equipment is appropriate screened and will not detract from the architectural quality of the upper roof enclosure treatment. Recommended Condition 1.2

• **Response to Rezoning Conditions:**

Design Development

i) *Design development to ensure residential livability by addressing the impacts associated with the on-site transit, and both the existing and future industrial land use activities of the surrounding neighbourhood.*

Note to Applicant: In particular, residential units should be designed to address the existing and potential negative acoustical and aromatic impacts associated with the City of Vancouver Waste Transfer Station and the Canada Line Transit Station and bus loop activities.

Applicant Response: Potential negative acoustic and aromatic impacts have and will be addressed in the design of the envelope of the buildings (laminated glass, enclosed balconies) and the location of intake and exhaust ducts. In addition, a proposal was previously made by the applicant to fund mitigation efforts for the South Vancouver Waste Transfer Station in a manner to be determined by City Engineering.

Staff Assessment: Design development is continuing to work through the detailed design aspects. While no enclosed balconies are currently proposed, the CD-1 by-law has made specific provision, if provided, to be located not more than four floors above Marine Drive Station facing Cambie Street for noise mitigation purposes. The applicant's current application has chosen not to pursue enclosed balconies. Staff note that if enclosed balconies are to be contemplated within this façade, the design and expression of enclosed balconies would have to fulfill the intent of the Balconies Enclosure Guidelines.

In addition, staff are seeking detailed building elevation and sections of the typical components of the residential building enclosure demonstrating the high quality material treatments as proposed. Recommended Condition 1.3 and Standard Conditions A.1.12 and A.1.13.

Engineering has had several discussions with the applicant through the rezoning application process on the applicant's proposal to fund mitigation efforts for the South Vancouver Waste Transfer Station. Engineering does not support this offering as the existing facility may undergo future renovations and will require it to be flexible to its operations without resolving mitigation efforts to adjacent properties.

ii) *Design development to reduce the cumulative scale of overall massing, while improving residential privacy, by significantly increasing the tower separation, while also meeting the required shadowing performance.*

Note to applicant: Through careful attention to floorplate orientation, and related upper massing, a tower of separation of 70 ft. should be achievable.

Applicant Response: Scale and massing have been reduced on all towers, office and residential, while maintaining the shadow performance. Proximity between the residential towers has been increased by revisions to massing and orientation. This distance has been increased to 61' between facades without views towards the adjacent building and has been increased to 71 ft. between facades with views towards the adjacent building.

Staff Assessment: To increase the tower separation, the higher tower was shifted 13.25 ft. to the north. While the resultant increase in the tower separation to 61 ft. is less than that 70 ft. recommended in the rezoning condition, staff are satisfied that the design resolution addresses the privacy interface between the two buildings (unit orientation and layout) has adequately satisfied the intent of the condition.

As previously noted under Height, page 7, staff are satisfied that this new tower location does not generate any significant additional shadow impacts onto the local school and neighbourhood park.

iii) *Design development to the southerly portion of "Level 01 - Marine" to achieve a more open relationship with the bus loop while improving public open space/sitting opportunities with high solar exposure.*

Note to applicant: A re-configuration of the steps, and the reduction/elimination of the CRU adjacent to the southerly tower core, is required.

Applicant Response: The pedestrian approach to the Canada Line Station has been moved to the southern end of the podium and the CRU in question has been removed. The pedestrian approach is set level, and adjacent to, a terrace overlooking the bus loop plaza. The building overhang is 20'-0" above this terrace and will be set back for 1/3 its length to increase solar access.

Staff Assessment: While significant components of this condition have been addressed, there remain aspects that have not been fully resolved. As this is an important public connection between the transit facility and the pedestrian mews it is essential that the building and the uses within this connection animate and support this pedestrian movement, while also contributing to the vitality and usability of this covered public space.

To address these objectives, staff are requesting further design development to better integrate this covered frontage as part of the curve retail continuum to better facilitate transit riders movement, connectivity and legibility of the circulation pattern between the transit station concourse entry-level and the mews. Staff note that the convergence of the stair connecting between the lower bus loop and the pedestrian mews and the location of the connecting stair (between level 01 and level 02 creates a pinch point affecting pedestrian circulation between the mews and the station's transit entry. Staff are also recommending further design development to maximize the amount of active retail frontage along with increased transparency for both the retail and residential uses oriented into this covered open space.

To address these concerns, staff are recommending design development to achieve a legible, smooth pedestrian movement between the mews and the station concourse level transit entry while also maximizing the amount of active interface/transparency between the uses oriented onto the covered open space. As part of securing public access through the pedestrian mews in order access the Canada Line Station a Statutory Right-of-Way is required. See additional commentary under rezoning condition iv) below. Recommended Condition 1.4 and A.2.5.

To optimize the amount of solar access into this public space staff are seeking further design development to increase the amount of uncovered open space through a modest reduction and redistribution of the amount of retail floor area immediately above (level 2) that reduces the amount of coverage at the southeast corner. Clarification of the detailed high quality material treatments elements within this space, in particular the soffit, enclosure elements including walls, steel frame and the vertical circulation elements is required. Recommended Condition 1.5

iv) *Design development to the north end of "Level 01 - Marine" to achieve a legible, smooth and direct pedestrian movement between the pedestrian crossing at Marine Drive and Cambie Street through the mews to the station's concourse-level transit entry.*

Applicant Response: As part of the revision to station access the form of the western podium was set on a curve. This curve extends from the crossing at Marine Drive and Cambie Street, through the mews, and terminates at the station entry. This curve provides an architectural wayfinding element drawing pedestrians from the intersection to the station.

Staff Assessment: The proposed design has evolved from the rezoning stage with the introduction of a curved frontage that is intended to draw and facilitate the transit rider's pedestrian movement between Marine Drive and station's concourse-level transit entry. In general, staff are satisfied that

the curve frontage is a supportable design response to facilitate pedestrian movement from the corner through the commercial mews.

However, while design development has addressed the north end of Level 01 - Marine Drive up through the pedestrian mews, staff believe that circulation routing for the transit pedestrian at the south end to the station's concourse entry-level still needs improvement as noted previously under rezoning condition iii) above.

v) *Design development in consultation with the Director of Planning and the General Manager of Engineering Services to maximize the public realm and commercial retail opportunity, on the westerly edge (Cambie Street frontage) of the development including potentially available volume under the platform and guideway.*

Note to Applicant: The public realm interface with the transit infrastructure should be reconfigured towards achieving a vital, pedestrian-oriented Cambie Street retail frontage that recognizes this site's role as a pedestrian/cycling and transit focused environment. Opportunities to maximize the public sidewalk and CRU depth, while accommodating future bike infrastructure including the proposed Bicycle Mobility Centre, should be explored.

Applicant Response: The project team is currently working with Planning and Engineering to increase the public realm and increase CRU exposure and depth. This exploration is ongoing but the project team is awaiting engineering work from the City of Vancouver to proceed.

Staff Assessment: The Marine Drive station is sited, in part over the Cambie Street right of way as well as on the proposed site. The provision of retail space straddling the property line on the north side of the station was anticipated when the Canada Line Station was developed. It was also recognized, at that time, that the existing sidewalk widths were of minimum dimension.

As part of the public realm improvements associated with this development, subsequent to the application submission, Engineering has provided an interim geometric for the corner of Cambie Street and Marine Drive that relocates the existing curb to increase the sidewalk depth along the Cambie Street frontage. While this interim re-alignment of the curb is not necessarily the optimum long term configuration, it will provide for some improvement to the public realm for both the pedestrian and cyclist, while also allowing for the expansion and orientation of retail activities along this important frontage. A final curb alignment will be determined as part of the Cambie Corridor Public realm Plan. The timeline for this work program has yet to be determined.

Staff are seeking further design resolution of this frontage including the alignment of the retail frontage to ensure a well-integrated response of the building with the guideway above, visual and physical access to both the mobility centre and Canada Line station as well as pedestrian and cyclist movement. Design development should also maximize the active uses along frontage by minimizing and relocating, where possible, the number of exit doors along this important frontage. Recommended Condition 1.6

Bicycle mobility uses proposed within the street right-of-way will be subject to review by Engineering and will require a separate application to the General Manager of Engineering Services to allow for the construction of these building components and uses.

vi) *Design development to the general overall massing strategy to reduce apparent scale of the massing components.*

Note to applicant: This strategy is required to bridge/transition from the proposed "monumental scale" of the massing components and the "human scale" required as a local-serving, pedestrian-focused, mixed-use amenity.

Applicant Response: The general overall massing strategy for reducing the scale of the massing components is the refinement and further articulation of these components.

Residential Towers: The overall massing of the residential towers has been broken down by articulation of the massing in between the "fields" on the east and west elevations. Simple volumes sandwiched between these fields to complete the concept. We have broken the sandwiched portion into three distinct volumes. These volumes also have a staggered termination at the sky which emphasizes the vertical giving a feeling of lightness to the mass.

Office Tower: The overall massing of the office tower has been broken down through both adding a volume and narrowing the facades on the east and west. The horizontal expression on the north elevation has been revised to provide a more vertical expression in the glazing details. A further level of articulation is obtained by the addition of sunshades on appropriate facades.

East and West Podium: The transition between the larger scale of the towers and the pedestrian scale of the street is provided by a strong precast masonry edge at the top of both podiums. In the pedestrian "mews" the scale is further broken down by metal frames spaced 34'-0" and 17'-0" on center, east and west. Storefronts, contained by the frames, will have a wide variety of textures and materials: glass, masonry, wood, metal, etc.

Staff Assessment: Staff are satisfied that the design direction undertaken meets the intent. Staff are seeking detailed elevations and building sections confirming the high quality material treatments as proposed. Recommended Condition 1.3.

vii) *Design development to ensure that the various massing components achieve architectural excellence while remaining distinguished from each other.*

Note to applicant: Further to design development sought under condition 6, staff want to ensure that the overall image of the project is not homogenous. Staff strongly support innovative, bold architecture given the prominence of this transit oriented "gateway entry" site at the city's edge. A careful approach to the composition of varied expression(s) to distinguish between uses is required. A more vibrant colour strategy, as well as the architectural expression of landscape systems and energy performance, is strongly supported towards announcing Vancouver's civic identity.

Applicant Response: From a distance Marine Gateway is comprised of three towers that are related but not homogenous. Bold expression will come from the pair of residential towers, clad by what we call the field. What is innovative is that, unlike most tower pairs, these two are both similar and different. They are made similar and connected by the field but are different at their north and south ends depending on the solar orientation. They are the same plan, but rotated so that the tops of the towers have a distinct identity while maintaining the pair relationship.

The office tower, given its curtain wall glazing will have a smooth expression articulated by solar shading. This will contrast, and compliment, the more articulated window walls of the residential towers. In one of the office's volumes, a material, similar to the residential will be installed.

Solar shading is prominently featured in each three towers expression. In the residential we deploy deep balconies to provide shading, exterior amenity to the units, and which adds a vertical texture to

the field. A broad green roof on the theatre roof will greet visitors on their first view to Vancouver. A further line of trees along the Canada line to the north of the station will frame mountain views.

Staff Assessment: The Urban Design Panel supported the proposal and considered its architectural expression to be well resolved. Furthermore the residential buildings were noted as having a quiet elegance while the office building had been evolved into a high quality refined solution

Staff are satisfied that the office tower has achieved the architectural performance anticipated. However, staff believe that the design of the residential towers could be further developed to achieve a more distinguished architectural statement, given the prominence of this transit oriented "gateway entry' site at the city edge. Staff recommend further design development to address this aspect. Recommended Condition 1.1

viii) *Design development to secondary architectural elements, including elevator enclosures, stairs, bridges, canopies and other structures to ensure architectural quality/integrity while contributing to the transition from monumental building scale to human scale pedestrian activity.*

Note to applicant: Transparent vertical circulation elements are required, where possible, to reveal human activity, and related ambient light, towards greater evening vitality and CPTED performance.

Applicant Response: With the exception of the elevator serving the west podium at the south all elevators serving the pedestrian levels are to be fully glazed. It is the intent to glaze the southern elevator as much as possible as well. Stairs, guardrails, canopies, and the bridge are to receive as much glazing as possible.

Staff Assessment: Staff are satisfied that the design direction undertaken on these aspects will result in a varied, high quality pedestrian environment. Staff are seeking confirmation of the materials presented to the urban design panel be provided. See Recommended Condition 1.3.

ix) *Design development to maintain the physical and visual alignment of the transit rider's view from the in-bound transit platform (east side) at "Level 02 - Marine +1" to the northerly city and mountain views as well the immediate neighbourhood centre context.*

Note to applicant: The Marine Drive Station will introduce Vancouver to new visitors arriving from the airport for the first time. This development must ensure that this initial experience, reinforced by distant views to the north, is positive.

Applicant Response: The second floor of the western podium has been moved eastward to align with the station's east side. This will open up views from the platform northward to the city and mountains.

Staff Assessment: This condition has been satisfied.

x) *Design development to achieve a high quality, visually interesting interface of the podium structure and the Marine Drive Station at both the concourse and platform levels.*

Note to applicant: Opportunities for a fully integrated elevation treated with high quality materials providing a high degree of visual interest for the transit patron should be provided. Design development of these elevations should explore dynamic themes including the use of light, movement and colour given its relationship with the transit facility. Opportunities to integrate public art In these locations should also be explored.

Applicant Response: It is the interest of the Marine Gateway team that the wall between the station and the development be an opportunity for public amenity rather than a gap between the buildings. A dialogue between the Marine Gateway team and Translink has been initiated to investigate opportunities for public art for the transit patrons. At a minimum this elevation will be treated with the high quality materials befitting a civic amenity.

Staff Assessment: Very little information has been provided on the detailed design for this important interface. Staff are still seeking resolution of this rezoning condition. Recommended Condition 1.7

xi) *Design development to the office block's north, east and south elevations to improve architectural quality and visual appearance.*

Note to applicant: Mitigation of the extent of blank walls is required. A more thoughtful approach to fenestration, and facade composition, is required.

Applicant Response: The horizontal expression on the north elevation has been revised to provide a more vertical expression in the glazing details and the revised massing. Custom designed mullion caps provide shading from early morning and late afternoon sun in summer on the north facade. The east, west and south elevations are articulated by the addition of sunshades, carefully projecting the sun path on the building envelope. Their angle and dimension varies in order to maximize both protection from excessive solar heat gain and daylighting.

Staff Assessment: As previously discussed under rezoning condition vi) and vii) staff are satisfied in design resolution that has been presented and are seeking detailed sections and elevations demonstrating the high quality design intent. Recommended Condition 1.3.

xii) *Design development to architecturally integrate rooftop mechanical penthouse and elevator override service volumes into the overall form of each massing component.*

Applicant Response: Roof top mechanical penthouses have been integrated into the elevator overrun and tied into overall massing of the residential and office towers.

Staff Assessment: As previously discussed under Height, page 7, staff are satisfied that the design resolution that has been presented satisfies this condition but are seeking further clarification that any proposed cellular towers will be adequately contained within the roof top element. Recommended Condition 1.1.

xiii) *Design development to the ground-oriented storefront, display and weather protection systems to ensure variety and pedestrian interest in the expression of tenant frontages.*

Applicant Response: Ground-oriented treatments along Marine Drive, Cambie Street, the north and

south Neighbourhood Plazas, and the Mews comprise the predominant pedestrian experience in the project. In these areas we propose a distinct variety in materials, methods of weather protection, and storefront treatments. Routes from Marine Drive to the Mews to the Canada Line Station feature canopies as well as building overhangs providing continuous weather protection for the predominant pedestrian movement. Differentiation of storefronts is provided in cladding materials, window systems, heights and depths of canopies, location and type of signage, and the size and scale of storefronts that relate to the anticipated tenancies.

Staff Assessment: Staff are satisfied that the detailed design direction presented meets the intent.

xiv) *Provision of a conceptual lighting strategy to ensure appropriate lighting levels, and CPTED performance, while minimizing glare for nearby residents. Careful attention to public realm lighting, including all street frontages as well as the mews and bus loop interface, is required.*

Applicant Response: The lighting strategy is to wash the main pedestrian areas along the "mews" with light. Also along those routes we plan that, during open hours, the retail frontages will provide additional ambient light for pedestrians.

At the north neighborhood plaza additional event lighting will be provided.

A lighting plan has been developed that includes the bus loop interface with the bus loop plaza. In addition all stairs, walkways and urban spaces will be illuminated including street frontages.

The tops of the residential towers are intended to be lit from within to become beacons along the Canada Line. Overall tower lighting will be developed in collaboration with Planning.

Staff Assessment: Staff are satisfied that this condition has been met.

xv) *Provision of a conceptual signage strategy to ensure a well conceived, and disciplined, approach to announcing tenancy.*

Note to applicant: The strategy should confirm general signage hierarchy, location and type. Back-lit box signs are not supported. Further clarification of finer grain, and more creative approaches, to announcing ground-oriented tenancy for the mews-fronting and Cambie-fronting retail, is required.

Applicant Response: As illustrated in the drawing package, the signage strategy proposes a defined hierarchy for project and commercial signage. Project signage is proposed on the overall building elevations, visible from a distance and at a size commensurate with its function. Commercial signage is proposed in three forms:

1. Project commercial signage in two sign structures incorporated into the steel frame adjacent the plaza and mews
2. Signage for larger tenants and Marine+1 tenants is located above canopies incorporated into the facades of the building. These signs respond to the pedestrian and the vehicular scale as they are viewed from both.
3. Signage for smaller tenants is located below the canopies as perpendicular blade signs, fascia signs, and hanging signs from the structure of the canopies. These signs respond to the pedestrian in scale and location.

Directional signage and wayfinding signage will be determined in collaboration with Planning. Transit signage will be determined in collaboration with Translink and Planning.

Staff Assessment: Staff are satisfied that signage has been appropriately integrated into the architectural concept. Staff support the general strategy to accommodate signage, noting that this support does not super cede any requirements of the Signage By-law. A separate application is required. See Standard Condition A.1.13.

Other issues:

Marine Drive Frontage: The proposed design of the Marine Drive retail frontage (office podium) emphasizes a singularly expressed retail frontage treatment, combined with the second floor retail that cantilevers (approx 5 ft) over the public realm. The proposed treatment of the Marine Drive frontage is a departure from the highly considered and articulated retail treatments proposed on both sides of the pedestrian mews. In addition, while the proposed cantilever of the building mass over the public realm can offer some positive attributes, weather protection and limit solar access, it can also contribute to an unfavourable pedestrian environment by restricting daylight access to the public realm, particularly when located on a northerly oriented frontage.

To address these two concerns, staff are recommending further design development to introduce a finer grain, high quality architectural treatment to this important retail frontage. Staff are also requesting that design development include, in order to enhance the public realm, opportunities for daylight access through careful articulation and modulation of the second floor cantilevered retail floor area. In addition, given the sloping grade along the Marine Drive frontage staff are requesting additional design development to ensure that the public realm interface (sidewalk) and the retail uses (floor slabs) are compatible. See Recommended Condition 1.9.

Circulation Components between the Pedestrian Mews and Bus Loop: The application proposed a wide open stair providing a direct link between the pedestrian mews and the bus loop. An escalator is provided, located within the east side retail frontage of the mews. The elevator is offset from both the escalator and the stair.

Transit riders are picked up west of the stair, while bus passengers are off-loaded along the eastern sidewalk frontage of the bus loop. Retail frontages have been provided fronting onto the bus loop drop off area. To facilitate the passengers movement a minimum clear sidewalk of 4.5 m is recommended from Translink. The retail entries should be designed to minimize conflict between alighting passengers and patrons of the retail units. Included within this sidewalk frontage is a large intake vent servicing the parkade structure below.

Staff are also concerned about the disparate and isolated configuration of the elevator and the escalator, in addition to the insertion of the parkade vent along this pedestrian circulation frontage. Staff are recommending design development to the design and location of the vertical circulation components (stairs, escalator and elevator) provided between the bus loop and pedestrian mews to create a stronger sense of place and arrival between these important public connections. In addition, the location of the vent should be relocated to an alternate, perhaps vertical location.

Bicycle Mobility Centre: The bicycle mobility centre has been located, in part under the Canada Line Station on Level 01 - marine. A singular point of entry has been provided on the north side of the station, providing access for cyclists arriving on the site from the Marine Drive and Cambie intersection. As this facility also serves cyclists coming to/from the station and bus loop staff are recommended design development to further improve its usability with these functions with the provision of a second entry, located in closer proximity to the station entry at the concourse level. The provision of this additional point of entry would also contribute as an active use oriented into the

covered open space of Level 01 - Marine. See Recommended Condition 1.11.

• **Sustainability:** This re-zoned site is subject to both the Rezoning Policy for Greener Buildings and the Rezoning Policy for Greener Larger Sites (EcoCity Action A-2). The Rezoning Policy for Green Buildings, based on the time of its application, requires that the buildings achieve a minimum of LEED Silver certification or equivalency, with target points for energy performance, water efficiency and storm water management. This project is targeting LEED Gold certification. The application includes a preliminary LEED scorecard, which generally conforms to the Rezoning Policy, indicating that the project could attain 63 LEED points and, therefore, would be eligible for a LEED Gold rating. A rezoning condition was provided requiring the applicant demonstrate, through the development permit stage, that the project is on track to achieve the LEED Gold target. Staff are seeking confirmation of these LEED Gold targets through Standard Condition A.1.23.

This site is also subject to the Rezoning Policy for Greener Larger Sites. The policy is designed to achieve higher sustainability outcomes on large site development through the exploration and implementation of district and renewable energy opportunities, sustainable site design, green mobility and clean vehicle strategies, sustainable rainwater management, solid waster diversion strategies and strategies to achieve sustainable housing affordability and housing mix. The continuums of these rezoning objectives, as part of the detailed design are summarized below.

Sustainable Site Design: The applicant has provided an extensive green roof which meets the requirement of a Replicating Natural System. An Urban Orchard has also been provided on the 2nd level (adjacent to the Canada Line Station) however access is required to provide for ongoing maintenance. The office building includes passive design treatments which include sunshades responding to the unique orientation and requirements of each façade, while the residential buildings have included balconies to address some solar shading on its southerly orientation. Staff are seeking detailed information on these aspects. See Recommended Condition 1.3 and see Standard Condition A.1.16 and A.1.23.

Sustainable Housing Affordability and Housing Mix: The applications is proposed a mixed use of residential components including STIR. The provision of STIR has been secured as part of the CD-1 Rezoning enactment conditions.

Green Mobility and Clean Vehicle Strategies: Staff are currently working with the applicant on a Green Mobility and Clean Vehicle Strategy and the applicant has already provided Transportation Demand Management Strategies identifying areas to promote sustainable modes of transportation and reduce the amount vehicle trips to the site. Staff will continue to work with the applicant on meeting these objectives. See also Condition A.2.9.

Sustainable rainwater Management: Site design has been satisfied by providing high efficiency irrigation system with rain sensors and an extensive green roof that utilizes drought tolerant resistant plants. Engineering has worked with the applicant to provide target goals for the post development runoff water quality levels and volumes. See Conditions A.2.15 and A.2.16.

Solid Waste Diversion Strategies: Staff are awaiting the applicant to provide a solid waste strategy plan to propose sustainable options and alternatives in solid waste management. Staff will continue to work with the applicant to provide direction on meeting the goals of EcoCity Action A-2.

District and renewable energy Opportunities: In addition to the requirements under EcoCity Action A-2 the Cambie Corridor Plan requires buildings within a development to be capable of connecting to, and accepting thermal energy from, a future hot water district energy system along the Cambie Corridor.

The applicant has engaged a utility provider to develop, own, and operate a low-carbon energy system at the Marine Gateway development which proposes to incorporate a closed-loop geo exchange system

as well as waste heat recovery from cooling to satisfy the majority of the annual heating and cooling demands of the development. Backup and peaking energy requirements will be provided via centralized natural gas boilers and electric chillers.

The City requires the immediate development and operation of a renewable energy system for the Marine Gateway development. Such a system must be capable of achieving greenhouse gas (GHG) emission reductions exceeding 50% when compared to a conventional business as usual approach to heating and cooling of the development. Additionally, the mechanical system must be designed in such a way as to enable energy metering and monitoring for the purpose of preparing performance monitoring reports (See Condition A.2.14), as well as satisfy all required design provisions for compatibility with a future hot water district energy system in the area. The applicant's responses to the Renewable Energy Rezoning conditions are provided in Appendix D.

Some of outcomes of the Rezoning Policy for Greener Larger Sites have been secured through conditions of enactment, assessment and delivery of the rezoning sustainability conditions, cannot in some cases, be confirmed at the development permit stage but rather will be assessed and secured through the building permit stage, occupancy stage and post occupancy phases of development. See also Appendix C.

- **Conclusion:** Staff recommend approval of the carefully considered proposal, subject to further design development on the architectural expression of the residential towers, detailed design resolution and several modifications focusing on public realm interface and pedestrian circulation.

URBAN DESIGN PANEL

The Urban Design Panel reviewed this application on October 5, 2011, and provided the following comments:

EVALUATION: SUPPORT (10-0)

- **Introduction:** Anita Molaro, Development Planner, introduced the proposal for a site at Marine Drive and Cambie Street. She noted that the site is to reflect the local character and context of the area, acknowledge its unique and historical connection to the Fraser River, industrial lands and the evolving context of a surrounding residential neighbourhood (north side of Marine Drive). Ms. Molaro reminded the Panel that they had reviewed the project in May and identified a number of areas needing improvement including the public realm, building massing, architectural expression and landscape design. Ms. Molaro described the proposal noting that a rental housing component (STIR) will be located within the podium of the residential tower. She stated that the residential tower will have a slim profile and small floor plates of less than 5,500 square feet. The separation between the two towers at the rezoning was just over 51 feet and this has been increased to 61 feet to address the privacy interface. The office/retail/theatre component has been re-massed to address some of the Panel's previous concerns to reduce the boxiness and increase its architectural distinction. Ms. Molaro also stated that Planning and Engineering staff have recognized that there needs to be some sidewalk expansion along the Cambie Street frontage. Staff are still working through the details of the specific design that will increase the sidewalk width. This would allow the applicant to expand the retail footprint under the guideway to front Cambie Street and to also provide an improved access down to the bicycle mobility center. Ms. Molaro noted that the Panel had seen the proposal in various formats before and that this was the first time the Panel was seeing the proposal at the DE stage. The Panel supported the proposal at the Rezoning stage in May 2011 and Council approved the rezoning in July 2011. She added that the applicant is proposing LEED™ gold.

  Advice from the Panel on this application is sought on the following:

Has the proposal adequately address the rezoning conditions on the form of development through its detail design, and what other improvements should be considered, if any:

- within the parameters of the public realm, pedestrian connectivity, legibility and public open space treatments.
- within the parameters of building mass and scale (office), building relationship (residential towers), and transition into a human scale pedestrian focused environment.
- within the parameter of the overall architectural expression and excellence given the prominence of this site and demonstration of high quality sustainable building practice towards announcing Vancouver civic identity.
- within the parameters related to secondary architectural elements including elevators, stairs bridges and treatment of storefront, weather protection, signage and lighting systems and material treatments.
- within the parameters of integration, interface and treatment of the existing transit station and the podium structure.
- landscape treatments throughout including:
  - north plaza, pedestrian mews and upper and lower south plazas.
  - roof treatments, including residential and office access and usability.

Ms. Molaro took questions from the Panel.

- **Applicant's Introductory Comments:** Peter Busby, Architect, further described the proposal noting the office building's response to solar issues from the southwest sun. He noted that there has been a lot of work done on the separation between the residential towers and the retail street front. In terms of sustainability, the project will be LEED™ Gold and will also provide a District Energy System for the entire node using geo exchange, heat pumps and a water circulation system that will be energy efficient. He stated that they have considered all the materials in the building. He added that there has been a fair bit invested in the design and passive response of the building's envelope.

  Ryan Bragg, Architect, stated that the additional sidewalk area that they achieved with Engineering and Planning is an additional eight feet in the public realm, with the hope that they can increase that amount further with future negotiations with them. This will help them to activate the street front. Mr. Bragg described the architecture noting that the office tower has been broken down into three volumes and the facades have been narrowed. The residential towers have a central volume with two other flanking volumes, and echo the language of the office building. There will be an accent of colour running through the residential building and they also have an industrial reference of the area, such as in the proposed steel frame for the storefronts at grade.

  Bruce Hemstock, Landscape Architect, described the plans for the public realm noting that they wanted to create layers of landscaping on some specific themes: transportation, industrial, Fraser River, Simon Fraser and the First Nations. They also wanted to make sure that the open spaces fronting Marine Drive can be seen by the community and are welcoming. The plaza is a great size for community gathering with a connection to the Canada Line. On the other side of the plaza is a boardwalk that helps to animate the edge of the plaza. They will be expressing the Fraser River with a water feature. The plaza will contain a number of areas for seating. Mr. Hemstock described the materials noting the use of basalt and concrete along with the plant material.

  The applicant team took questions from the Panel.

- **Panel's Consensus on Key Aspects Needing Improvement:**

  - Design development to improve the connection to the Canada Line;

- Design development to the public realm along Marine Drive and Cambie Street;
- Consider moving the children's play area;
- Consider expanding the weather protection on the storefronts.

- **Related Commentary:** The Panel supported the proposal and thought there were many positive improvements since the last review.

  The Panel commended the applicant for a comprehensive submission. They agreed that it was an important project and they found it easy to understand the changes that had been made since the last review. The Panel liked the improvement along Cambie Street with the addition of the extra eight feet. They also supported the changes to the Canada Line connection and interface, as well as the increased and improved separation between the residential towers. A couple of Panel members thought the connection to the Canada Line could be improved as it still seemed pinched.

  The Panel had some concerns with the public realm landscaping and thought it could be softened more with street trees. As well, they thought there were more opportunities that could be taken with the public realm along Marine Drive and Cambie Street frontages. One Panel member thought there was too many trees on the edge of the bus loop and suggested they be moved up into the site.

  Some Panel members had some concerns regarding the convex shape of the storefronts. While some of the Panel thought it might be a problem, others supported the shape and thought people who live in the community or use the site on a daily base wouldn't have any issues in locating the stores.

  Several Panel members thought the children's play area might need to be relocated in order to receive more sunlight. As well, several Panel members mentioned that there could be more development of the clear storey scale as they thought it seemed out of place with the rest of the articulation and scale of the project.

  The Panel liked the development of the office tower and thought it had been greatly improved. However a couple of Panel members thought it could be more developed in order to relate better to the articulation and language of the residential towers. As well several Panel members thought the canopy on the high-movement storefront side could be expanded for better weather protection.

- **Applicant's Response:** Mr. Busby said he appreciated the thoroughness of the Panel's comments.

ENGINEERING SERVICES

Recommended Condition 1.6 seeks design development of the Cambie Street retail and Bike Mobility Centre frontages to achieve an active public realm interface combined with a well-integrated building with the guideway above. Engineering Condition A.2.1 requires the confirmation that all CRU's and entranceways are wholly contained within the private property and not on City streets. Enhancements to these frontages by way of canopies, weather protection and lighting are supported. Increased public realm space along the Cambie St., SW Marine Dr. and Yukon St. frontages will be secured by statutory right of way and dedication arrangements required prior to Rezoning By-law enactment. Condition A.2.5 requires these boundaries to be plotted on the plans.

The application proposes to provide stacked bicycle spaces to meet the requirements of residential Class A spaces. Stacked spaces will be considered as vertical and limited to a maximum of 30% and Engineering requires a review of its functionality prior to occupancy. Furthermore, the applicant has requested that spaces provided in the Bike Mobility Centre be calculated as part of their building requirements. Engineering does not support the inclusion of any required bicycle spaces to be located in the Bike Mobility Centre.

The recommendations of Engineering Services are contained in the prior-to conditions noted in Appendix A attached to this report.

SOCIAL PLANNING

The development has two residential towers of 26 and 35 stories. Of the 463 units in the two towers, 184 units have two bedrooms or more. Given that 40% of the units may be suitable for families with children the Housing Families at High Density Guidelines apply.

Level 3 Amenity Space

The indoor amenity room on level 3 (res. Level 1) has the desired accessible family washroom (include a diaper change table, see Standard Condition A.1.24) and a storage room. Design development is needed to include a kitchenette (see Standard Condition A.1.25). The outdoor play area is directly adjacent to the indoor amenity room, which is consistent with the Guidelines. Since the indoor amenity room is on the small side (415 sq ft) the applicant should consider a covered outdoor play area to extend the indoor space. The applicant has included a drift wood climber which appears appropriate for different ages and has included resilient rubber flooring. The planting in the outdoor area should not include any toxic plant and edible landscaping is encouraged as per the Urban Agriculture Guidelines for the Private Realm.

Level 6 Amenity Space

The indoor amenity space on level 6 (res. Level 4) is 2,831 sq ft and includes a lounge area, three (3) meeting rooms with kitchenettes, a storage room and two (2) accessible washrooms (which should include a diaper change table (Condition A.1.24). There are two separate patios directly adjacent to the indoor amenity rooms with a storage room adjacent to the east patio. Clarification on the plan is needed regarding access to these patios. These patios should have soft, durable surface materials to provide active play for children and edible landscaping is encouraged as per the Urban Agriculture Guidelines for the Private Realm (Condition A.26).

Urban Agriculture

The City of Vancouver Food Policy identifies environmental and social benefits associated with urban agriculture and seeks to encourage opportunities to grow food in the city. The 'Urban Agriculture Guidelines for the Private Realm' encourage edible landscaping and shared gardening opportunities in private developments. Design development is needed to include edible landscaping and to include some areas (planters or plots) suitable for urban agricultural activity with the necessary supporting infrastructure, such as tool storage, hosebibs and a potting bench (Condition A.1.26)

PROCESSING CENTRE - BUILDING

This Development Application submission has not been fully reviewed for compliance with the Building By-law. The applicant is responsible for ensuring that the design of the building meets the Building By-law requirements. The options available to assure Building By-law compliance at an early stage of development should be considered by the applicant in consultation with Processing Centre-Building staff.

To ensure that the project does not conflict in any substantial manner with the Building By-law, the designer should know and take into account, at the Development Application stage, the Building By-law requirements which may affect the building design and internal layout. These would generally include: spatial separation, fire separation, exiting, access for physically disabled persons, type of construction materials used, fire fighting access and energy utilization requirements.

Further comments regarding Building By-law requirements are contained in Appendix C attached to this report.

NOTIFICATION

On September 26, 2011, 332 notification postcards were sent to neighbouring property owners advising them of the application, and offering additional information on the city's website.

There has been no response to the notification.

The Neighbourhood organization called MARA (Marpole Area Residents Alliance) contacted the staff to arrangement a meeting between the Planning and Engineering Groups to hear their concerns and comments. Staff met with MARA on two separate occasions (November 4, 2011 and November 22, 2011) where the following items were discussed:

Pedestrian movement around the site, specifically at the Cambie Street and Marine Drive intersection.

Staff Response: The City recognizes the safety concerns from residents regarding pedestrian movement at this intersection. There is an ongoing review to address these safety concerns.

Crossing Marine on the east side of Cambie Street has a short walk signal and a long distance to travel with vehicles turning left into the pedestrian area.

Staff Response: The signal timings follow design standards which provide adequate walking time for the east leg of the intersection at Cambie Street/SW Marine Drive. This includes the "walking pedestrian" light which means to cross the street if it is safe to do so, followed by the flashing hand which allows the pedestrian already in the crosswalk to continue crossing at a normal pace. However, this light also warns pedestrians whom have not entered the intersection yet that it is too late to begin crossing.

The planned new corner bulge at this location will improve sight lines for the southbound left turning vehicles and improve the crossing distance for pedestrians.

Pedestrians drifting across Cambie Street south of Marine Drive.

Staff Response: The improved public realm planned for this area should encourage pedestrians to use a designated crosswalk.

Sidewalk adjacement to the station must provide adequate width for strollers, wheelchairs and large volumes of people.

Staff Response: The improved public realm around the station requires increasing existing sidewalk widths which should accommodate the anticipated facility use.

Cars parked within the surrounding community or parked for drop-off/pickup at station block traffic and pedestrians.

Staff Response: The activities observed today are based on low to moderate vehicle traffic in the area. Upon buildout of the redevelopment, travel patterns/conditions will change which may reduce these types of activities. As part of a typical process, the City will continue to monitor vehicle spillover conditions and/or respond to resident concerns in the area.

A temporary traffic management plan is needed during construction and when the project is completed.

Staff Response: A temporary traffic management plan is typically required and will be provided during construction and when the project is complete

A traffic management plan should be made available to the public.

Staff Response: A traffic management plan for construction purposes does not normally involve the public, however the City responds to resident concerns or issues as they arise.

DEVELOPMENT PERMIT STAFF COMMITTEE COMMENTS:

The Staff Committee has considered the approval sought by this application and concluded that with respect to the Zoning and Development By-law it requires decisions by both the Development Permit Board and the Director of Planning.

With respect to the decision by the Development Permit Board, the application requires the Development Permit Board to exercise discretionary authority as delegated to the Board by Council.

Development Permit Staff Committee has considered this application and supports the proposal with the conditions contained in this report.

J. Greer
Chair, Development Permit Staff Committee

A. Molaro, MAIBC
Senior Development Planner

for B. Mah
Project Coordinator

Project Facilitator: D. Autiero

DEVELOPMENT PERMIT STAFF COMMITTEE RECOMMENDATIONS

The following is a list of conditions that must also be met prior to issuance of the Development Permit.

A.1 Standard Conditions

A.1.1 demonstrate compliance with Sections 7.1 and 7.2 (Horizontal Angle of Daylight) of the pending CD-1 By-law for all habitable internal rooms and spaces;

A.1.2 provide an updated comprehensive set of detailed, sealed and signed, color-coded floor area diagrams and summaries of all floor areas and uses;

Note to Applicant: Storage rooms for commercial use in the underground parking levels must be included in the computation of floor areas. Mechanical (waste) rooms in level 00 may be excluded from the computation of floor area if they are located at or below base surface. Clarify all uses, existing uses and floor areas, including all exclusions from the computation of floor areas. Perimeter dimensions and/or gridlines should be shown on the floor area diagrams to match the floor plans. A complete summary sheet (Project Statistics), sealed and signed, is to be included in each sets of drawings. A sealed and signed letter with a schedule of the exterior wall types and details from a registered Building Envelope Professional is required.

A.1.3 clarify and identify all open balconies with dimensions on the floor plans;

Note to Applicant: Provide a summary at each level with a total summary on the FSR sheet and each set of plans. Provide details of all privacy screens. Open balcony areas exceeding the 12% maximum are to be included in the computation of floor area.

A.1.4 clarify and identify all unenclosed outdoor areas at grade level underneath building overhangs on levels 00A (mezzanine) and 01 (Marine);

Note to Applicant: Unenclosed outdoor areas exceeding the 1% maximum are to be included in the computation of floor area.

A.1.5 provide all required Class A bicycle spaces in the bicycle rooms (including bicycle compounds, lockers, electrical outlets and clothing lockers) and clarify the location and number of Class B bicycle spaces on the site/floor plan;

Note to Applicant: Clarify the seating capacity of the theatre to determine the number of Class B bicycle spaces required. Engineering Services does not support a portion of the required bicycle spaces located in the bicycle mobility centre. Stacked bicycle spaces will be considered as vertical spaces and limited to a maximum of 30%. Show layout and dimensions of bicycle spaces and maneuvering aisles in the bicycle rooms. Provide a summary of the numbers and types of bicycle spaces and separate bicycle rooms for commercial and residential uses. All Class B bicycle spaces are to be located on site. Pursuant to Article 3.7.2.11 of Division B of the Building By-law, shower and other change facilities are required when the number of required Class A bicycle spaces exceeds 3.

A.1.6 clarify the use of all amenity spaces excluded from the computation of floor area, including details of any freestanding or attached structures in the pedestrian plazas and mews;

Note to Applicant: Provide details of canopies, bus shelter, landscape elements, structures, etc.

A.1.7 provide a minimum of 200 cu. ft. of storage space for each dwelling unit, including a summary,

layout and assignment of the lockers in the residential storage rooms;

A.1.8 provide detailed and fully dimensioned parking and floor plans at a minimum scale of 1/8" = 1'-0";

Note to Applicant: Parking plans may be at a minimum scale of 1/16' = 1'-0" if details and dimensions are legible. Label all living spaces (living/dining) in the dwelling units. Clarify "den" and "flex" spaces. Show setbacks of the parking structure and building from the property lines. Clarify the number of levels of residential and office floors using consecutive numbering. Show complete bus loop on the floor plans and clarify the use of the rectifier building and if it is existing or proposed. Provide a summary of the type, number and floor area of all dwelling units at each level and a total summary on the Project Statistics sheet G-002.

A.1.9 provide details of all parking spaces to comply with the applicable provisions of the Parking By-law, having particular regard to space sizes, maneuvering, height clearances, curbs, etc.;

Note to Applicant: Spaces located next to walls and/or structure require extra width. Column sizes, spacing and encroachment into parking spaces may be permitted, subject to compliance with the City Engineer's guidelines. Number consecutively all parking spaces at each level and provide a summary of the number and types of parking spaces. Parking spaces for residential use are to be separated by a security gate from the commercial uses.

A.1.10 design development to locate, integrate and fully screen any emergency generator, exhaust or intake ventilation, electrical substation and gas meters in a manner that minimizes their visual and acoustic impacts on the building's open space and the Public Realm;

Note to Applicant: In order to prevent contaminated air from being drawn into the building, all fresh air intake portals must be located away from driveways, parking and loading areas.

A.1.11 provide calculations of the required parking, bicycle parking and loading for each use, including other related requirements, and the proposed spaces allocated to each use, all to be clearly summarized on the Project Statistics sheet G-002;

Note to Applicant: For the purpose of calculating the parking, bicycle parking and loading requirements only, excess balcony and unenclosed outdoor areas need not be included in the floor areas for such calculations.

A.1.12 submit an acoustical consultant's report which assesses noise impacts on the site and recommends noise mitigation measures in order to achieve noise criteria;

A.1.13 add following notes on the plans stating:

- "The design of the parking structure regarding safety and security measures shall be in accordance with Section 4.13 of the Parking By-law.";
- "The design of the bicycle spaces (including bicycle rooms, compounds, lockers and/or racks) regarding safety and security measures shall be in accordance with the relevant provisions of Section 6 of the Parking By-law.";
- "The acoustical measures will be incorporated into the final design and construction based on the consultant's recommendations.";

- "Adequate and effective acoustic separation will be provided between the commercial and residential portions of the building.";

- "Mechanical equipment (ventilators, generators, compactors and exhaust systems) will be designed and located to minimize the noise impact on the neighbourhood and to comply with Noise By-law #6555."; and

- "All proposed signage shall comply with the Sign By-law and require separate applications.";

Standard Landscape Conditions

A.1.14 provision of easier pedestrian access to the retail units along the eastern edge of the Neighbourhood Plaza (north) by reconfiguring the planters and water features;

Note to Applicant: The IPE 'wharf' access paths are narrow and are angled away from the street entrance;

A.1.15 provision of a more street like character to the Neighbourhood Plaza (north) through the provision of a row of trees along the length of the upper plaza;

Note to Applicant: Tree pits should be provided in order that the trees can be planted at grade.

A.1.16 provision of access to the Urban Orchard deck for maintenance and repair;

Note to Applicant: The access can be provided by a ladder attached to the building, by an access hatch or by a lockable door.

A.1.17 provision of detailed planting plans for the Neighbourhood Plaza South and the Level 3 Residential Amenity Deck;

A.1.18 provision of large scale elevation drawings of the wooden benches with backs and armrests proposed for the Neighbourhood Plaza South and for the plaza in the north east corner of the site;

A.1.19 clarification of the Plant Lists attached to each page of the Landscape Plan. All plants shown on a page that are labelled with identifying keys should be listed on the Plant List;

A.1.20 provide an overall Site Plan showing all the existing site trees to be removed;

A.1.21 provide a consolidated Plant List for the whole site that includes all the replacement trees to be planted;

Crime Prevention Through Environmental Design (CPTED)

A.1.22 design development to take into consideration the principles of CPTED, having particular regard to:
- reducing opportunities for theft in the underground parking; and
- reducing opportunities for break and enter and vandalism;

Sustainability

A.1.23 identification on the plans and elevations of the built elements contributing to the building's

sustainability performance in achieving LEED Gold Equivalency, including at least three optimize energy points, one water efficiency point and one storm water point.

Note to Applicant: Provide a LEED checklist confirming LEED gold equivalency and a detailed written description of how the above noted points have been achieved with reference to specific building features in the development. Both the checklist and description should be incorporated into the approved drawing set.

Social Development

A.1.24 design development to all amenity washrooms to include a diaper change table;

A.1.25 design development to the amenity room on Level 3 to include a kitchenette;

Note to Applicant: Since the indoor amenity room is on the small side (415 sq ft) consideration should be given to covering a portion of the outdoor play area nearest the building to extend the indoor space.

A.1.26 design development is needed to the outdoor amenity spaces to include edible landscaping and to include areas (planters or plots) suitable for urban agricultural activity with the necessary supporting infrastructure, such as tool storage, hosebibs and a potting bench;

Note to Applicant: Clarification is needed on plan indicating access to the outdoor patios (doors) on Level 6. Consideration should be given to creating soft surface area and creative landscaping to provide active play for children on Level 6 outdoor area.

A.2 Standard Engineering Conditions

A.2.1 indicate that all portions of the CRUs and entranceways in the area under the Canada Line Station and Guideway are wholly contained within the private property;

Note to Applicant: While the applicant has indicated that final building design for the area under the Canada Line station and guideway is pending the Cambie Street realignment plans, the applicant must ensure that all portions of CRUs and entranceways are located within private property and not on City streets.

A.2.2 amendment of the proposed SRW or deletion of the at grade portion of the CRU which encroaches slightly into the required right of way area on the Marine Dr. frontage at the northwest corner of the site to the satisfaction of the General Manager of Engineering Services and Director of Planning;

Note to Applicant: Confirmation from Development planner and agreement from Engineering Services as to the final SRW/building design and location at the North West corner of the site will be required (See P-A-106).

A.2.3 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services, for the glass sunshades shown encroaching onto Yukon Street on pages P-A-109, 301;

Note to Applicant: The sunshades are to be lightweight and demountable, and the applicant must provide rationale (i.e. that they are necessary in order to meet LEED standards). Building encroachments onto City Street may cause problems if strata titling the property, due to Section (1)(f) of the Strata Property Act. In such cases the City may not necessarily support the

provision of easements for any part of the building on City streets. An application to the City Surveyor is required to initiate the arrangements.

A.2.4 provision of all structures (other than canopies) above the right of way areas to be a minimum of 17' clear height above grade;

A.2.5 provision of all dedication and surface statutory right of way lines to be plotted on the drawings, including:

i. the mews area providing public access from the bus loops to the Canada Line Station;

ii. the north east corner at Marine Drive and Yukon Street and the Yukon Street frontage for road purposes; and

iii. the Marine Drive frontage for improved public realm;

A.2.6 deletion of the undescribed post-like structures shown on Yukon Street (Pages P-A-301, 303);

A.2.7 provision of a Loading Management Plan, to the satisfaction of the General Manager of Engineering Services;

Note to Applicant: The plan should demonstrate how the loading facility will operate and will ensure reasonable access by all delivery vehicles to loading spaces without negatively impacting maneuvering or require the use of adjacent city streets for loading operations. The plan should confirm the provision of a loading manager and that the manager is responsible for scheduling of deliveries so that the needed loading space is available at the time of delivery. The plan should also confirm how loading will be managed for end of month residential move ins and outs.

A.2.8 clarify or modify the following loading related issues:

a) Clearly identify the residential loading spaces on the plans and include notation on the plans that these are to be signed on-site.
b) Clarify the dimensions of largest truck that is intended to be accommodated in each loading space, and provide written confirmation and turning swaths from the Transportation Consultant that each space will operate independently while the adjacent space is occupied.
c) Confirm the slope of the loading access ramp as the ramp doesn't calculate at 5% slope.
d) Confirm the functionality of the courier space and the two Class B loading spaces at grid line N6 N7
e) Clarify the intended users of all elevators and function for passenger / goods movement and which CRU are served by them;

A.2.9 provision of a Letter of Commitment to implement TDM strategies as proposed in section 3.3.4 of the Transportation Assessment and Management Study as part of the Green Mobility Strategy;

A.2.10 provision of a programming details for the function and outfitting of the Bicycle Mobility centre;

A.2.11 clarification of the loading facility to provide a raised dock or other means of unloading the Class C semi-trailer trucks;

Note to Applicant: The elevations on the plan suggest there isn't a raised dock at the rear of these spaces, nor dock levelers or other means to provide direct access to the rear of the

trailer.

A.2.12 provision of column placement in compliance with the requirements of the Engineering Parking and Loading Design Supplement or provide additional parking stall width;

A.2.13 provision of required Class A bicycle spaces in separate bicycle rooms for the residential and commercial uses;

A.2.14 arrangements for delivery of a *Performance Monitoring Report* of the renewable energy and backup/peaking energy system to the satisfaction of the General Manager of Engineering Services;

Note to Applicant: The report must be certified by a registered Professional Engineer and delivered one (1) and three (3) years following issuance of the occupancy permit. The performance monitoring report must conform to the scope and requirements agreed to by the General Manager of Engineering Services at the time of building permit issuance.

A.2.15 confirmation that post development runoff is treated for 80% Total Suspended Solid (TSS) removal before discharging into the City's stormwater infrastructure;

Note to Applicant: The applicant is encouraged to use effective landscaping measures such as a water quality treatment pond, vegetated filter strip or other 'green' measures rather than using underground filtration systems or other mechanical forms.

A.2.16 confirmation of the post development runoff discharging into the City's storm water infrastructure to the satisfaction of the General Manager of Engineering Services;

Note to Applicant: The volume of development runoff discharged from the site should not increase from its former site use. If pre-development runoff volumes are not achievable, the applicant needs to provide sufficient information showing the feasibility and recommend targets to the satisfaction of the General Manager of Engineering Services.

A.2.17 building grades and design elevations are required at all entrances, and both sides of all parking ramps at all break points;

A.2.18 clarify garbage pick-up operations and confirmation that a waste hauler can access and pick up from the location shown is required;

Note to Applicant: Pick up operations should not require the use of public property for storage, pick up or return of bins to the storage location. Please confirm that the proposed garbage storage space is adequate for all uses contemplated in this development;

A.2.19 correction of the legal description on Page G-002 must be amended to include "Lot A";

A.2.20 clarify if there is indeed a CRU 0.04 located at the loading level at grid line P6 - P7;

A.2.21 modification or adjustment to bench and tree numbers and locations proposed within the City Right of Way at the intersection of Southwest Marine Drive and Yukon Street to the satisfaction of the General Manager of Engineering Services;

Note to Applicant: See LDP 1.02

A.2.22 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services, for a separate application for street trees and/or sidewalk improvements; and

Note to Applicant: Submit a copy of the landscape plan directly to Engineering Services for review. Please consult with staff regarding public property treatment before making changes to the landscape proposal.

A.2.23 provision of a crossing application;

A.3 Standard Licenses & Inspections (Environmental Protection Branch) Conditions:

A.3.1 Confirmation of an environmental consultant shall be available during any subsurface work.

B.1 Standard Notes to Applicant

B.1.1 The applicant is advised to note the comments of the Processing Centre-Building, Vancouver Coastal Health Authority and Fire and Rescue Services Departments contained in the Staff Committee Report dated November 2, 2011. Further, confirmation that these comments have been acknowledged and understood, is required to be submitted in writing as part of the "prior-to" response.

B.1.2 It should be noted that if conditions 1.0 and 2.0 have not been complied with on or before **May 31, 2012**, this Development Application shall be deemed to be refused, unless the date for compliance is first extended by the Director of Planning.

B.1.3 This approval is subject to any change in the Zoning and Development By-law or other regulations affecting the development that occurs before the permit is issuable. No permit that contravenes the by-law or regulations can be issued.

B.1.4 Revised drawings will not be accepted unless they fulfill all conditions noted above. Further, written explanation describing point-by-point how conditions have been met, must accompany revised drawings. An appointment should be made with the Project Facilitator when the revised drawings are ready for submission.

B.1.5 A new development application will be required for any significant changes other than those required by the above-noted conditions.

B.1.6 Notwithstanding compliance with the foregoing condition no. 1.0, A.1 and A.2, the Development Permit for this application cannot be issued until Council has first approved the form of development and enacted the CD-1 By-law.

B.1.7 This approval does not in any way constitute a representation or warranty that the necessary approval of the form of development or enactment of the rezoning will be granted by Council. All proceedings by the applicant prior to action by Council are therefore at his/her own risk.

B.1.8 The applicant must adhere to the Provincial Floodproofing Standards in order to reduce the risk of possible flood damage.

B.2 Conditions of Development Permit:

B.2.1 All approved off-street vehicle parking, loading and unloading spaces, and bicycle parking spaces shall be provided in accordance with the relevant requirements of the Parking By-law prior to the issuance of any required occupancy permit or any use or occupancy of the

proposed development not requiring an occupancy permit and thereafter permanently maintained in good condition.

B.2.2 All landscaping and treatment of the open portions of the site shall be completed in accordance with the approved drawings prior to the issuance of any required occupancy permit or any use or occupancy of the proposed development not requiring an occupancy permit and thereafter permanently maintained in good condition.

B.2.3 All approved street trees shall be planted in accordance with the approved drawings within six (6) months of the date of issuance of any required occupancy permit, or any use or occupancy of the proposed development not requiring an occupancy permit, and thereafter permanently maintained in good condition.

B.2.4 All services, including telephone, television cables and electricity, shall be completely underground.

B.2.5 No exposed ductwork shall be permitted on the roof or on the exterior face of the building without first receiving approval of the Director of Planning.

B.2.6 Amenity spaces of 5,382 ft.^{2}, excluded from the computation of floor space ratio, shall not be put to any other use, except as described in the approved application for the exclusion. Access and availability of the use of all amenity facilities located in this project shall be made to all residents and occupants of the building;

AND

Further, the amenity spaces and facilities approved as part of this Development Permit shall be provided and thereafter be permanently maintained for use by residents and users of this building.

B.2.7 Any phasing of the development, other than that specifically approved, that results in an interruption of continuous construction to completion of the development, will require application to amend the development to determine the interim treatment of the incomplete portions of the site to ensure that the phased development functions are as set out in the approved plans, all to the satisfaction of the Director of Planning.

B.2.8 The issuance of this permit does not warrant compliance with the relevant provisions of the Provincial Health and Community Care and Assisted Living Acts. The owner is responsible for obtaining any approvals required under the Health Acts. For more information on required approvals and how to obtain these, please contact Vancouver Coastal Health at 604-675-3800 or visit their offices located on the 12th floor of 601 West Broadway. Should compliance with the health Acts necessitate changes to this permit and/or approved plans, the owner is responsible for obtaining approval for the changes prior to commencement of any work under this permit. Additional fees may be required to change the plans.

B.2.9 This site is affected by a Development Cost Levy By-law and levies will be required to be paid prior to issuance of Building Permits.

Processing Centre - Building comments

The following comments have been provided by Processing Centre - Building and are based on the architectural drawings received on August 15, 2011 for this Development application. This is a preliminary review intended to identify areas in which the proposal may conflict with requirements of the Vancouver Building By-law.

1. If your project requires compliance with ASHRAE 90.1 - 2007, then proof of compliance with ASHRAE 90.1 - 2007 will be required at building permit stage;
2. Fire hydrant distances are exceeded; confirmation from Engineering and Fire Departments are required;
3. Principal entrances are to be located not more than 15 m from the access route required for fire department use.
4. The central control facility, fire fighters' elevator, stairwells equipped with standpipes, and other building safety facilities are to be co-ordinated with the location of each fire fighters' entrance.
5. northwest CRU is cross of a property line;
6. confirmation of clearance requirements between bus trolley power and adjacent buildings;
7. exiting system to be finalized, eg: glazing /level 1 exit exposure for CRUs;
8. Level 0 - Yukon (storey 1) requires more egress doors for CRU 0.01;
9. confirmation of accessibility access from both residential towers to the residential garbage room;
10. confirmation of exiting in parkade relative to the security separation between residential and commercial (security separation not shown);
11. indicate future location of potential kitchen exhausts for each CRU;
12. north mews stairs: handrails to direct pedestrian flow at right angles to the treads;
13. south mews stairs: handrails to direct pedestrian flow at right angles to the treads;
14. confirmation of corridor widths on level 1 to meet capacity of occupant loads;
15. level 1 CRU 1.02 requires a second remote exit (eg: onto SW Marine);
16. confirmation from BC Transit of their satisfaction of the design with regards to the SkyTrain and the bus loop;

Engineering - NEU

The following comments have been provided by the Neighbourhood Energy Utility Projects (Engineering) and have identified requirements of the Rezoning Approval by Council at a Public Hearing on July 19, 2011, that will need to be satisfied as part of the Building Application process:

Prior to issuance of the Building Permit:

1. Complete copies of all closed-loop geoexchange site testing results and concept design updates shall be summarized and submitted to Staff once completed and not later than at the time of building permit application.

2. Detailed design of the Renewable Energy System, including low-carbon energy sources and any conventional heating and cooling infrastructure required to meet base load and peaking/backup energy demands, must be submitted to and approved by the General Manager of Engineering Services prior to issuance of building permit. The Renewable Energy System design shall incorporate results of a closed-loop geoexchange intrusive site testing program, where relevant.

3. Make arrangements, to the satisfaction of the General Manager of Engineering Services, for confirmation that the Renewable Energy System meets the required detailed design and district energy compatibility provisions. Such arrangements may include but are not limited to completion and certification by the design engineer of record, at the time of building permit

application, of the City of Vancouver *Renewable Energy Detailed Design and District Energy Compatibility Checklist*.

4. A proposed energy system *Performance Monitoring and Reporting Plan* shall be submitted at the time of building permit application which describes how system performance data will be collected and analyzed for the purpose of evaluating short- and long-term system performance, system efficiency, energy consumption, building energy demand, and opportunities for optimization of system operation and efficiency. The applicant shall refer to the City of Vancouver *Performance Monitoring and Reporting Requirements for Renewable Energy Systems* for further instructions on performance monitoring and reporting.

Prior to the issuance of the Occupancy Permit:

5. Complete copies of all mechanical commissioning and testing reports shall be provided prior to issuance of occupancy permit, where energy system commissioning shall be completed under the supervision of a qualified registered professional. The ground loop portion of the Renewable Energy System, where applicable, shall be commissioned by a certified registered professional with expertise in the commissioning and inspection of closed-loop geoexchange systems.

6. For each building for which the owner is required to apply for an occupancy permit, the owner will include in its application a certificate, signed by the registered professional who is responsible for the design of the building mechanical system, stating that the building mechanical system is in compliance with the approved building permit application and the requirements of the Renewable Energy System, and that the building mechanical system is or is fully capable of operating in accordance with the agreed-upon design and performance parameters.

Response to Sustainability Conditions

41. *Provide for any further feasibility studies and technical investigations required to confirm the preferred approach to implementing the Renewable Energy technology (i.e. sewage heat recovery or alternative) to the satisfaction of the General Manager of Engineering Services.*

Applicant's Response: It is our understanding that any necessary feasibility studies and technical investigations for this project stage have been conducted to the satisfaction of the General Manager of Engineering Services. Please inform the project team if this is not the case.

Staff Assessment: A district energy feasibility study for the Marine and Cambie node, as well as numerous supplemental studies and analyses on the feasibility of a low-carbon energy system at Marine Gateway, have been completed and summarized for Staff. Staff are satisfied with the current proposed concept for a renewable energy system at Marine Gateway, which incorporates geoexchange and waste heat recovery from cooling. The results of the closed-loop geoexchange site testing and concept design update shall be submitted to Sustainability Staff as completed. (See Appendix C - Engineering NEU Commentary).

42. *The Renewable Energy sources (i.e. sewage heat recovery or alternative) shall provide a minimum of 70% of total annual space heating and domestic hot water energy requirements to the satisfaction of the General Manager of Engineering Services, and will be designed to be compatible with a District-scale Renewable Energy System. Remaining heating energy demands shall be provided by high efficiency gas boilers for peaking and backup. Where the District Energy approach is shown to be economically infeasible, then a suitable alternative will be selected from screened technologies and shall be implemented for the Marine Gateway development, all to the satisfaction of the General Manager of Engineering Services.*

Note to Applicant: Selection of the preferred Renewable Energy technology and approach to implementation must be approved by the General Manager of Engineering Services as further information regarding feasibility of technology and approaches to implementation are determined. The Applicant is advised to work closely with Staff to ensure emerging detailed building designs coordinate with potential energy system design requirements.

Applicant's Response: The Renewable Energy sources (geothermal, sewage heat recovery, or other alternatives, will be designed to provide a minimum of 70% of total annual space heating and domestic hot water energy.

Over the past two years the design team has worked intimately with the representatives of Engineering Services for the City of Vancouver. This has involved numerous meetings where the design rationale has been extensively discussed to meet and exceed the annual space greenhouse gas emission and energy reduction. Coordination with Engineering Services will continue throughout the development of detailed building designs.

Based on current projections for DES energy loads for the three Cambie and Marine Node developments (PCI, Intracorp, Wesgroup) and corresponding DES Class 4 capital cost estimates, the estimated DES utility rates are comparable to current BC Hydro electricity rates. On this basis, the PCI and FortisBC believe the proposed DES for Cambie and Marine Node is feasible.

Staff Assessment: The applicant has proposed a renewable energy system concept which incorporates low-carbon energy sources anticipated to meet at least 70% of the annual heating energy requirements of the development. The mechanical engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that this and other detailed design provisions have been meet. (See Appendix C - Engineering NEU Commentary).

43. *A Renewable Energy System shall reduce greenhouse gas emissions by a minimum of 50% relative to business as usual ("BAU", where residential units would otherwise be heated with electric resistance heat with natural gas combustion for heating ventilation air, common and nonresidential spaces and domestic hot water, and through the use of chillers and cooling towers for any space cooling requirements). Lower greenhouse gas reduction targets may be considered where the above listed target is shown to be economically infeasible. Such claims must be made to the satisfaction of the General Manager of Engineering Services.*

Applicant's Response: Design Consultant has prepared and issued a report showing greenhouse gas emission reductions beyond the target of 50% relative to BAU.

Staff Assessment: The applicant has proposed a renewable energy system concept which incorporates low-carbon energy sources anticipated to reduce GHG emissions by at least 50% over a conventional business as usual approach to heating and cooling. The mechanical engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that this and other detailed design provisions have been meet. (See Appendix C - Engineering NEU Commentary).

44. *All mechanical heat generation and cooling equipment, including all heat pumps and natural gas boilers, are to be centralized in one location. The preferred location for the centralized mechanical room is within the loading level, parkade level 1, or alternative location conveniently situated for the supply of energy to neighbouring developments at the Cambie and Marine intersection, if applicable. Equipment location and centralization must be to the satisfaction of the General Manager of Engineering Services.*

Applicant's Response: The location of heat pumps serving the Marine Gateway project will be in one central location on the Yukon (or loading) level of the development. The location of natural gas peaking boilers will be within the same mechanical room or housed directly adjacent.

Staff Assessment: The proposed concept for the renewable and peaking/backup energy system provides for heating generating and cooling equipment to be centrally located. The mechanical engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that this and other detailed design provisions have been meet. (See Appendix C - Engineering NEU Commentary).

45. *The energy system shall be designed in such a way as to enable energy metering and the monitoring of performance metrics during system operation for the purpose of preparing system performance reports, which shall include items such as: amount of heating and cooling energy produced, actual measurements of peak and annual cooling and heating loads (including DHW and make-up air, separated into commercial and residential components), heat*

recovery from cooling on an annualized basis, coefficients of performance of any heat pumps in cooling and heating mode, boiler use and efficiency, associated electricity and natural gas demand of heating equipment and any auxiliary electrical demands associated with the system including, but not limited to, pumping, and, if applicable, long-term expected performance or changes in performance of the Renewable Energy System sources.

Applicant's Response: The energy system will be designed to meet the requirements outlined in the Performance Monitoring & Reporting Requirements for Renewable Energy Systems issued by the city of Vancouver.

Staff Assessment: The applicant has acknowledged the City's minimum performance monitoring and reporting requirements for the renewable energy system. Arrangements must be made prior to release of the development permit for delivery of performance monitoring reports post-occupancy (see <refer to prior-to condition A.2.14. A proposed energy system Performance Monitoring and Reporting Plan shall also be submitted at the time of building permit application for GMES approval (See Appendix C - Engineering NEU Commentary)

46. *The energy system shall be designed to be capable of both supplying and receiving thermal energy from district energy pipes in order to connect to other future developments located in the Cambie Corridor area.*

Applicant's Response: Based on currently available information, the Marine Gateway site could supply sufficient geoexchange and waste heat recovery heating and cooling energy to meet the projected energy loads of the Wesgroup and Intracorp sites through the ambient loop connection. The ambient distribution system allows for future energy source inputs to allow it to expand to serve additional customers as required. The Marine Gateway Renewable Energy System will utilize a natural gas boiler system to provide peaking and backup thermal energy. The boiler system will be designed to allow for future replacement by a heat exchanger to allow for connection to a high temperature district heating system.

Staff Assessment: The proposed energy system will be capable of supplying excess thermal energy to surrounding sites through an ambient temperature distribution network. The Marine Gateway development must also be designed to be capable of accepting thermal energy from a future hot water district energy system along the Cambie Corridor as described in the City of Vancouver *District Energy Connectivity Standards*. The mechanical engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that this and other detailed design provisions have been meet. (See Appendix C - Engineering NEU Commentary).

47. *Mechanical heating and domestic hot water systems of all buildings on the site shall be designed to be easily serviced by the Renewable Energy System that provides a minimum supply temperature of 65 degrees Celsius and maximum return temperature of 50 degrees Celsius.*

Note to Applicant: Alternative supply and return temperatures may be agreed to by the City in consultation with the district energy provider at the Marine and Cambie node, if applicable, while ensuring the district energy system has supply and return temperatures adequate to serve all customer space heating and domestic hot water demands, and is compatible with a

larger future district energy system serving all future development along the Cambie Corridor. Preference will be given to temperature options that can also serve existing building stock in the area

Applicant's Response: The DE Connectivity Guidelines were written to target residential development; however, Marine Gateway's mix of uses provides the opportunity to capitalize on heat transfer between buildings rejecting waste heat from cooling equipment and refrigeration and buildings requiring heat for space heating/ventilation and domestic hot water throughout the entire site. When extended to the Cambie and Marine node, the waste heat will be shared with adjacent buildings on other sites until the heating capability of the ambient system has been reached, when peaking boilers will be activated.

As discussed and presented throughout the consultation process, the most compatible Renewable Energy System for Marine Gateway is an ambient temperature loop. Supply temperatures will be between 5 and 15°C in the winter and between 10 and 20°C in the summer. In addition to these operating temperatures, a 65C supply temperature provided by a high temperature hot water district heating system could be utilized as the primary thermal energy source for peaking and backup heat, displacing the requirement for the hot water boiler system.

Staff Assessment: The mechanical engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that Marine Gateway development will be capable of accepting thermal energy from a hot water distribution district energy system operating within the above-listed temperature range. The applicant is instructed to refer to the City of Vancouver *District Energy Connectivity Standards* for further information on technical requirements. (See Appendix C - Engineering NEU Commentary).

48. *Space heating and ventilation make-up air shall be provided by hydronic systems without electric resistance heat or distributed heat generating equipment including gas fired make-up air heaters.*

Applicant's Response: Hydronic systems will be utilized for space heating and heating of ventilation make up air. Electric resistance heat or distributed heat generating equipment will not be used.

Staff Assessment: The current energy system concept proposed by the applicant provides for a hydronic system which excludes electric resistance heating and distributed heat generating equipment within the development. The mechanical engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that this and other detailed design provisions have been meet. (See Appendix C - Engineering NEU Commentary).

49. *Detailed design of the Renewable Energy System must be to the satisfaction of the General Manager of Engineering Services.*

Applicant's Response: The conceptual design of the Renewable Energy System was presented to and agreed to the representative of Engineering Services of the City of Vancouver. As noted in Item #42 the design team will continue to coordinate with Engineering Services as the design is developed and detailed.

Staff Assessment: Detailed design of the renewable energy system has not been undertaken or

approved by Staff. The current concept design for a centralized geoexchange and internal waste heat recover system with conventional equipment for peaking and backup energy needs is satisfactory to Staff. Detailed design of the energy system must be approved prior to issuance of any building permits. (See Appendix C - Engineering NEU Commentary).

50. *No heat producing fireplaces are to be installed within residential suites.*

Note to Applicant: All fireplaces are discouraged. A letter from a professional Engineering outlining any provision for ornamental fireplaces is to be submitted at the time of application for Building Permit to state that the fireplaces installed are not heat producing.

Applicant's Response: Hydronic systems only will be used for heating in the residential suites. Heat producing fireplaces will not be installed within the residential suites.

Staff Assessment: No heat producing fireplaces are proposed within residential suites. The engineer of record will be required to certify at the time of building permit application, and prior to the release of building permit, that this and other detailed design provisions have been meet. (See Appendix C - Engineering NEU Commentary).

DE 415055

PERKINS +WILL PCI

MARINE GATEWAY

Development Permit

15 August 2011

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P-A-223	FLOOR PLAN RESIDENTIAL LEVEL 4								
P-A-224	FLOOR PLAN RESIDENTIAL LEVEL 5								
P-A-225	TYPICAL FLOOR PLAN RESIDENTIAL LEVEL 6								
P-A-226	FLOOR PLAN RESIDENTIAL SOUTH PENTHOUSE LEVEL								
P-A-227	FLOOR PLAN RESIDENTIAL NORTH PENTHOUSE LEVEL								
P-A-228	DIMENSIONAL IMAGE OF DEVELOPMENT								
SIGNAGE									
A-025	Signage - High Street Elevation								
A-026	Signage - North Elevation								
A-027	Signage - East Elevation								
A-028	Signage - South Elevation								
A-029	Signage - West Elevation								

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MARINE GATEWAY

Date: AUG 15, 2011

Scale:

Sheet: **G-001**

Title: **INDEX OF DRAWINGS**

Appendix ; page 2 of

Rezoning Application - Marine Gateway

Project Statistics

Owner:	PCI Group		
Architect:	Perkins + Will		
Legal Description:	Blk: 8, DL 311, Plan 18839		
Street Address:	8430 Cambie Street		
Site Area:		210,217 sf	19,530 sm
FSR Areas:	**Residential:**		
	Market	300,106 sf	27,881 sm
	Rental	31,233 sf	2,902 sm
	Commercial:	504,581 sf	46,877 sm
	Theatre Gross Up:	26,000 sf	2,415 sm
	Mezzanine Gross Up:	10,000 sf	929 sm
	Total	**871,920 sf**	**81,004 sm**
FSR:	**4.15**		
FSR Exclusions:	Residential Storage:	18,788 sf	
	Bike Storage:	6,497 sf	
	Residential Amenity:	3,169 sf	
	Residential Balconies:	46,725 sf	
	Loading:	47,845 sf	
	Waste:	9,203 sf	
	Mobility:	4,605 sf	
Total Housing Units:	Market	417	
	Rental	46	
	Total	**463**	
Tower Height:	North Residential:	334'0"	
	South Residential:	254'8"	
	Office:	208'0"	

Height Exlusions: Building height is expressed as the height to the top of roof slab of the highest occupied floor level excluding elevator machine room, roof parapets and other architectural appurtenances, measured from the Marine Drive level (shown in the following documentation as 44'0" above sea level) in accordance with the Cambie Corridor Policy as adopted by council on May 9th, 2011.

Parking Stalls:	P1	265
	P2	311
	P3	316
	P4	321
	P5	52
	Total	**1265**
Loading Bays:	Class B	9
	Class C	6
	Total	**15**
Bicycle Stalls:	Class A	688*
	Class B	57
	Total	**692**

*equivalent of 200 stalls provided as part of the Mobility Centre (see written response to conditions)

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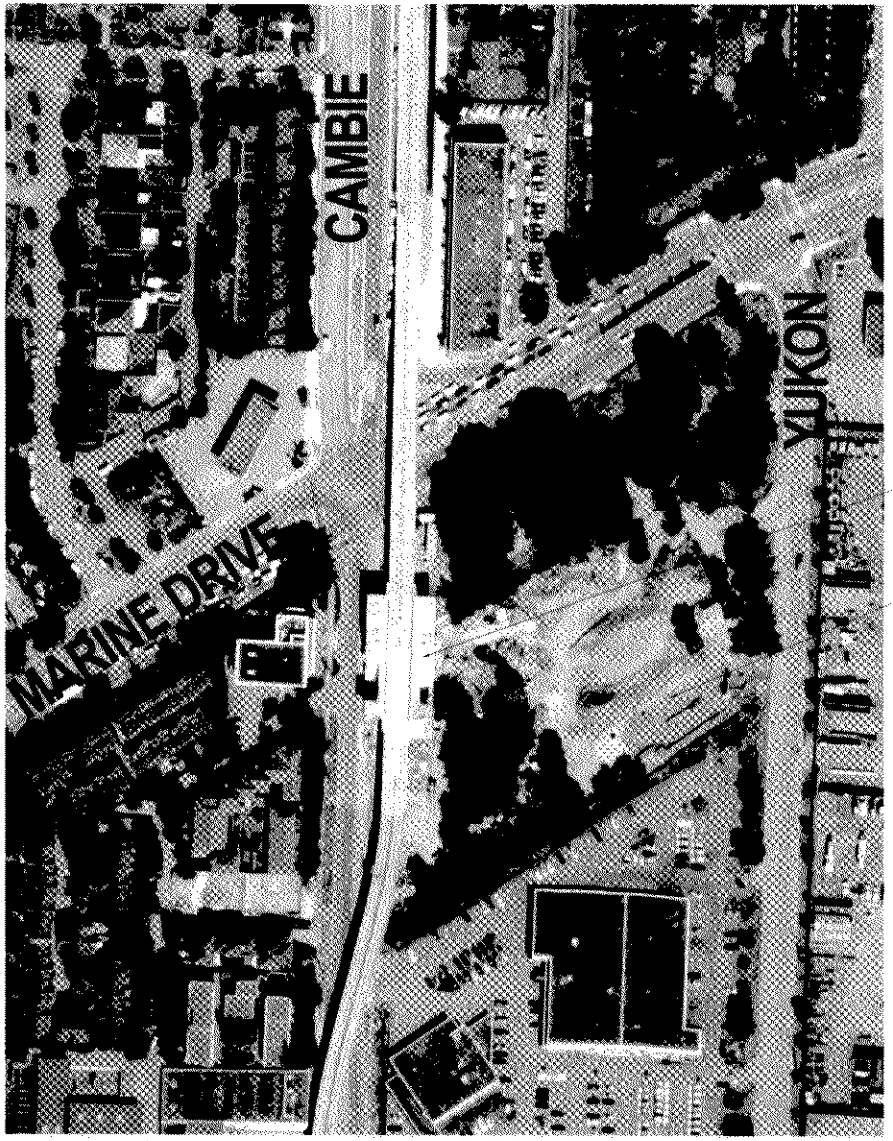
Date: AUG 15, 2011 | Scale: | Sheet: **G-002** | Title: **PROJECT STATISTICS**



PERKINS + WILL | PCI **MARINE GATEWAY**

Date: AUG 15, 2011 | Scale | Sheet: **P-A-053** | Title: **CONTEXT PLAN**

NORTH

300-400 SW MARINE DRIVE

500 SW MARINE DRIVE

8100-8400 YUKON ST ELEVATION

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MARINE GATEWAY

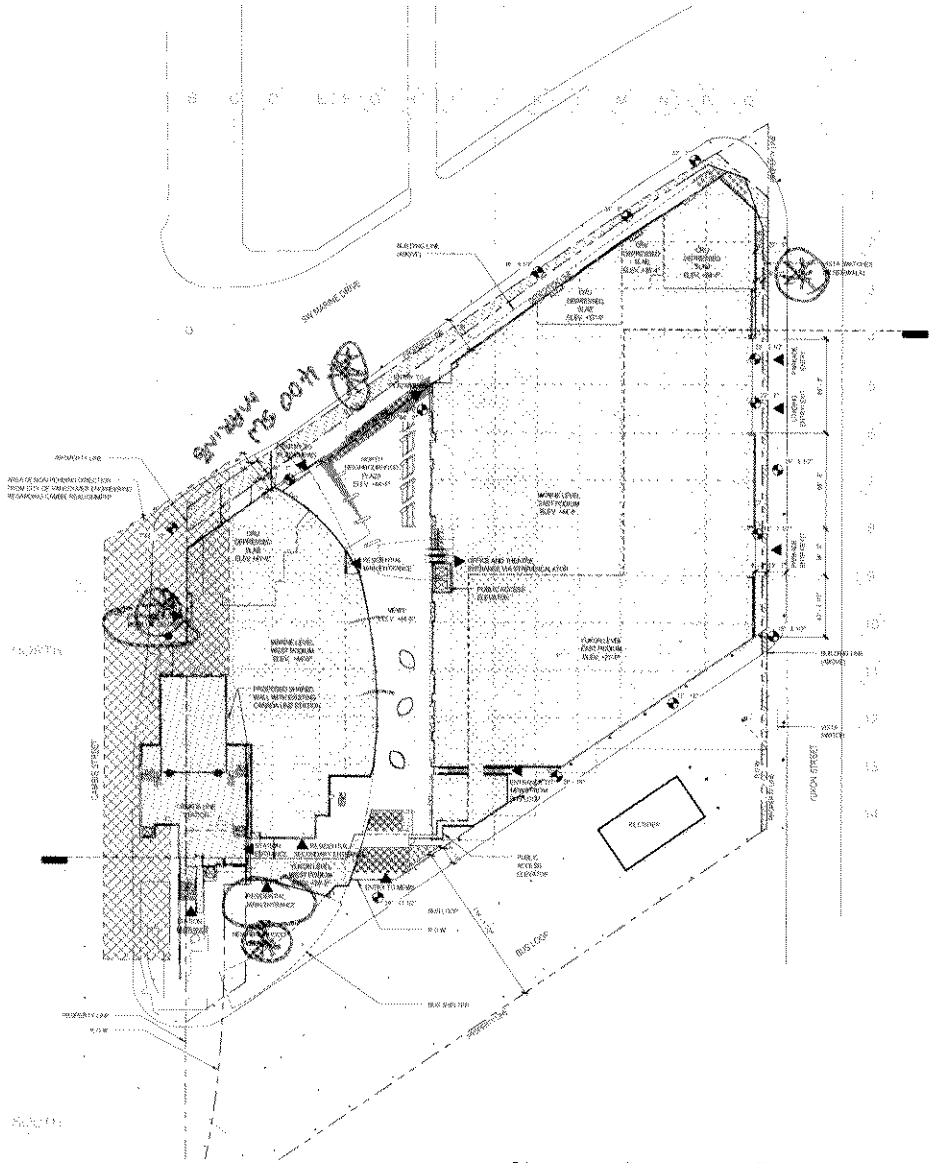
Date	Scale	Sheet	Title
AUG 15, 2011		**G-005**	**STREETSCAPE DRAWINGS**

8400-8600 CAMBIE ST ELEVATION

8400-8600 CAMBIE ST EVELATION (continued)

PERKINS + WILL | PCI **MARINE GATEWAY**

Date: AUG 15, 2011 | Scale: | Sheet: **G-006** | Title: **STREETSCAPE DRAWINGS**



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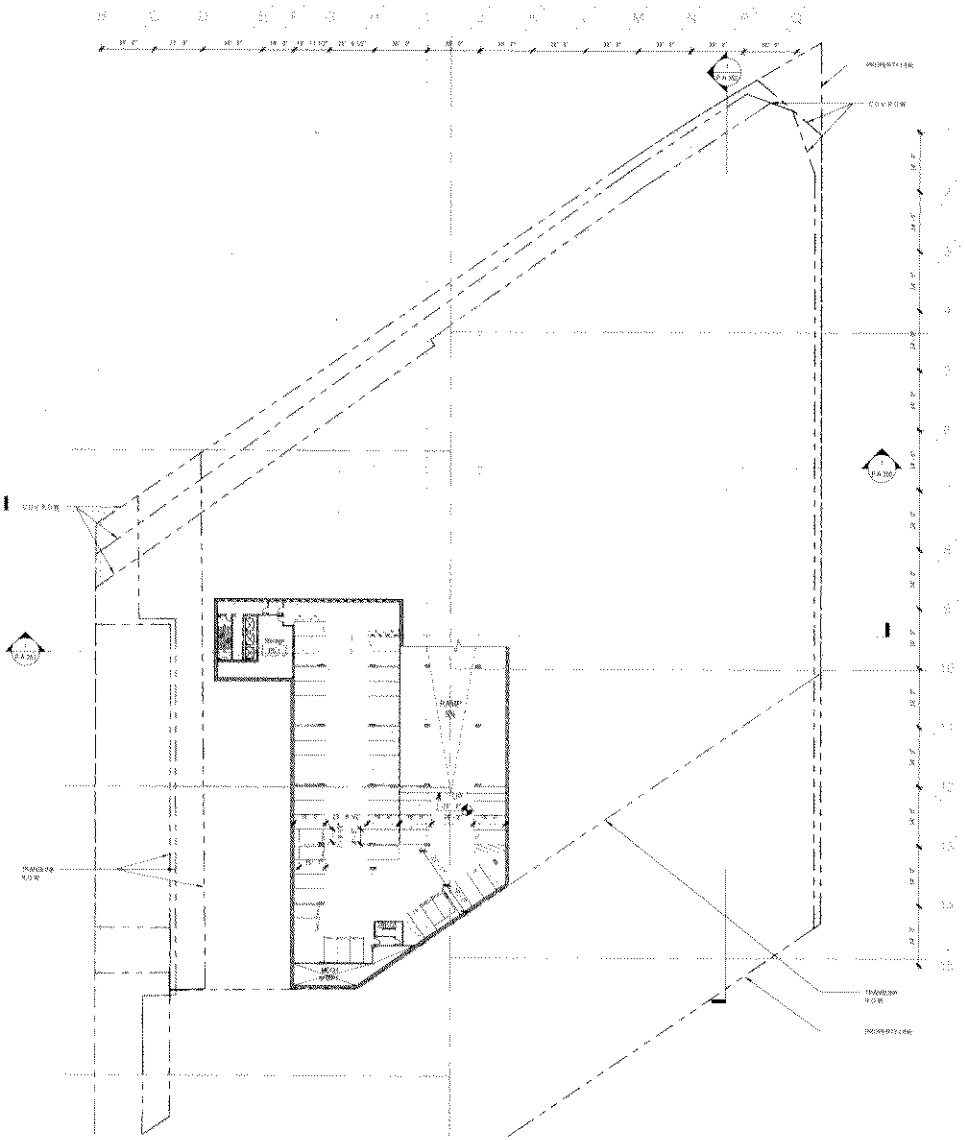
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1" = 40'-0"	**P-A-050**	**ARCHITECTURAL SITE PLAN**



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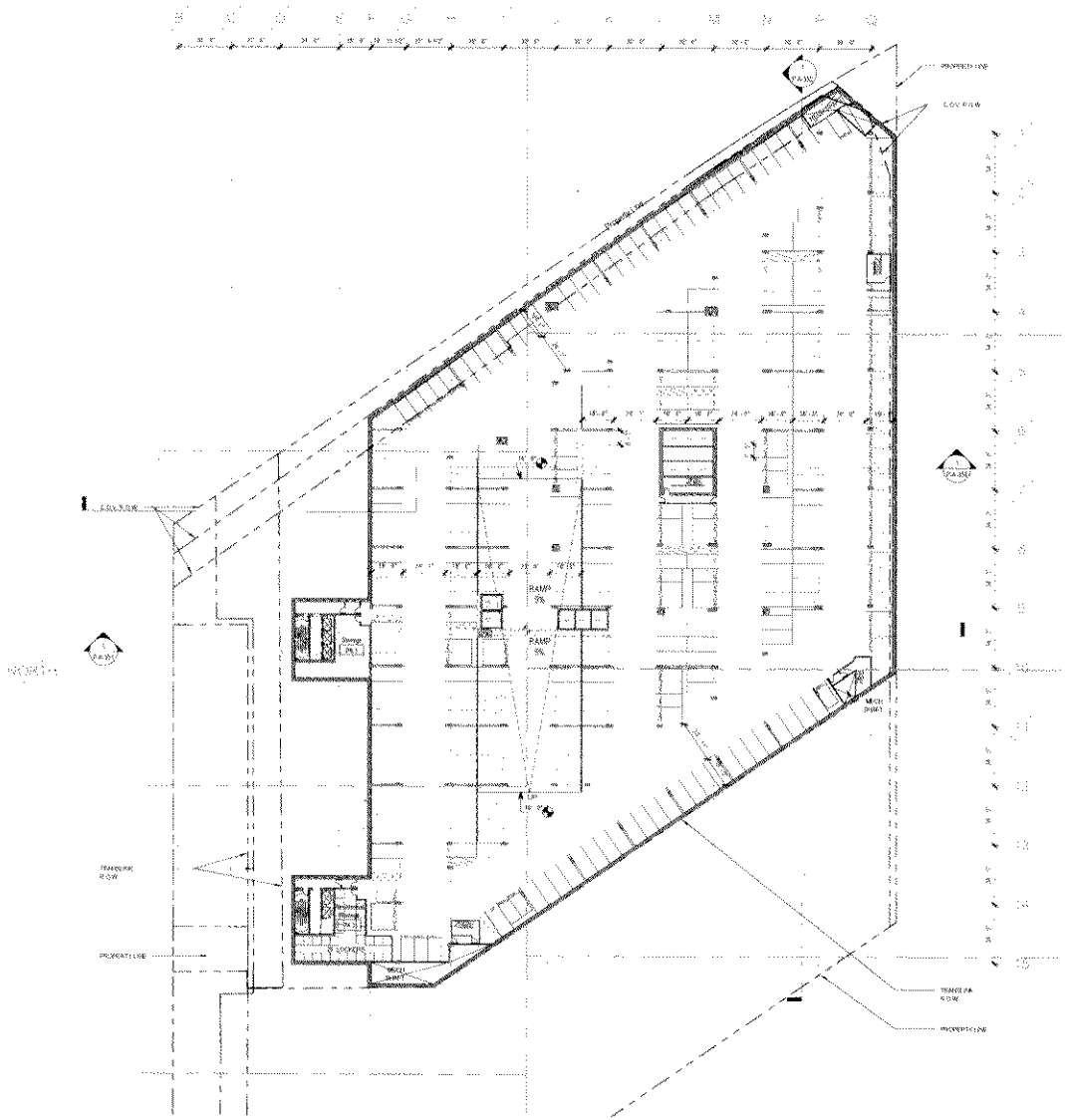
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-100**	**OVERALL PLAN LEVEL P5**



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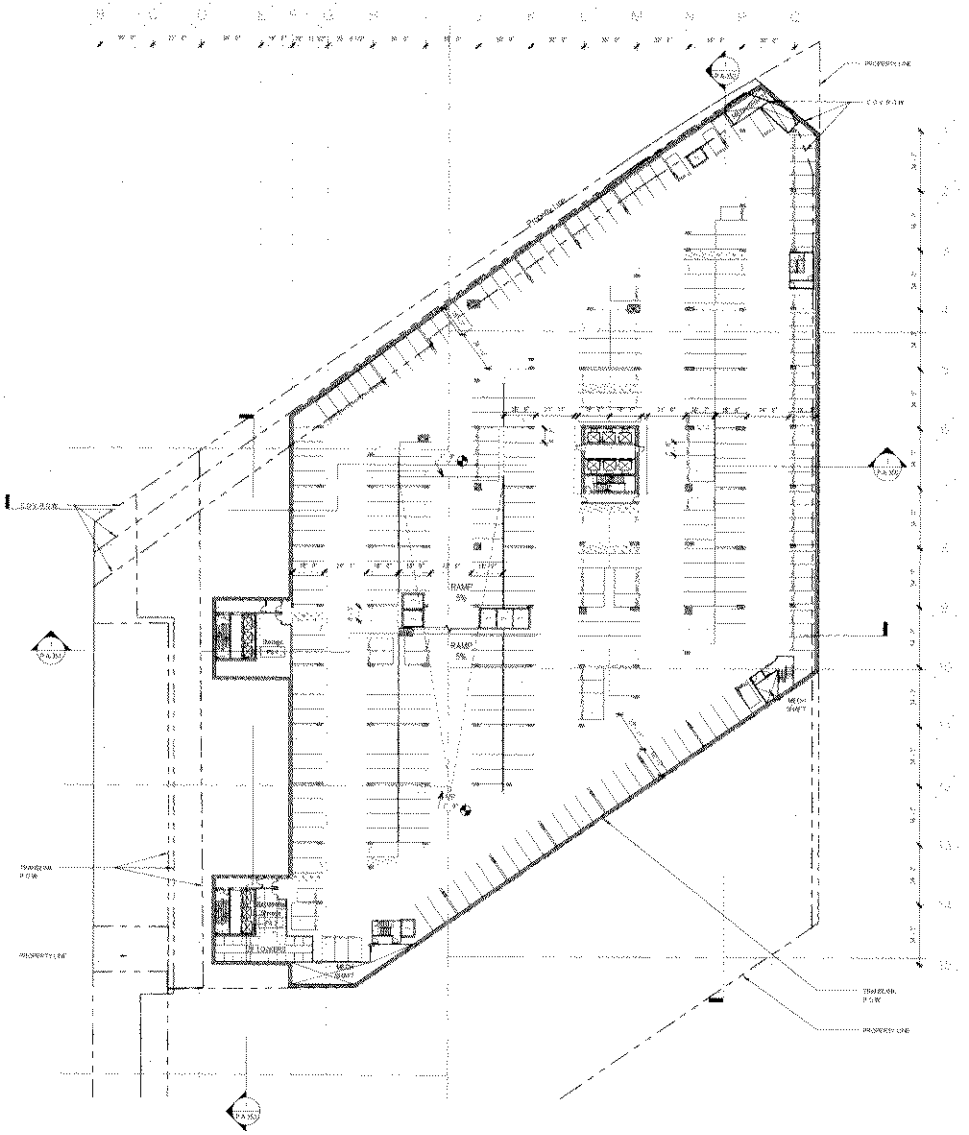
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-101**	**OVERALL PLAN LEVEL P4**



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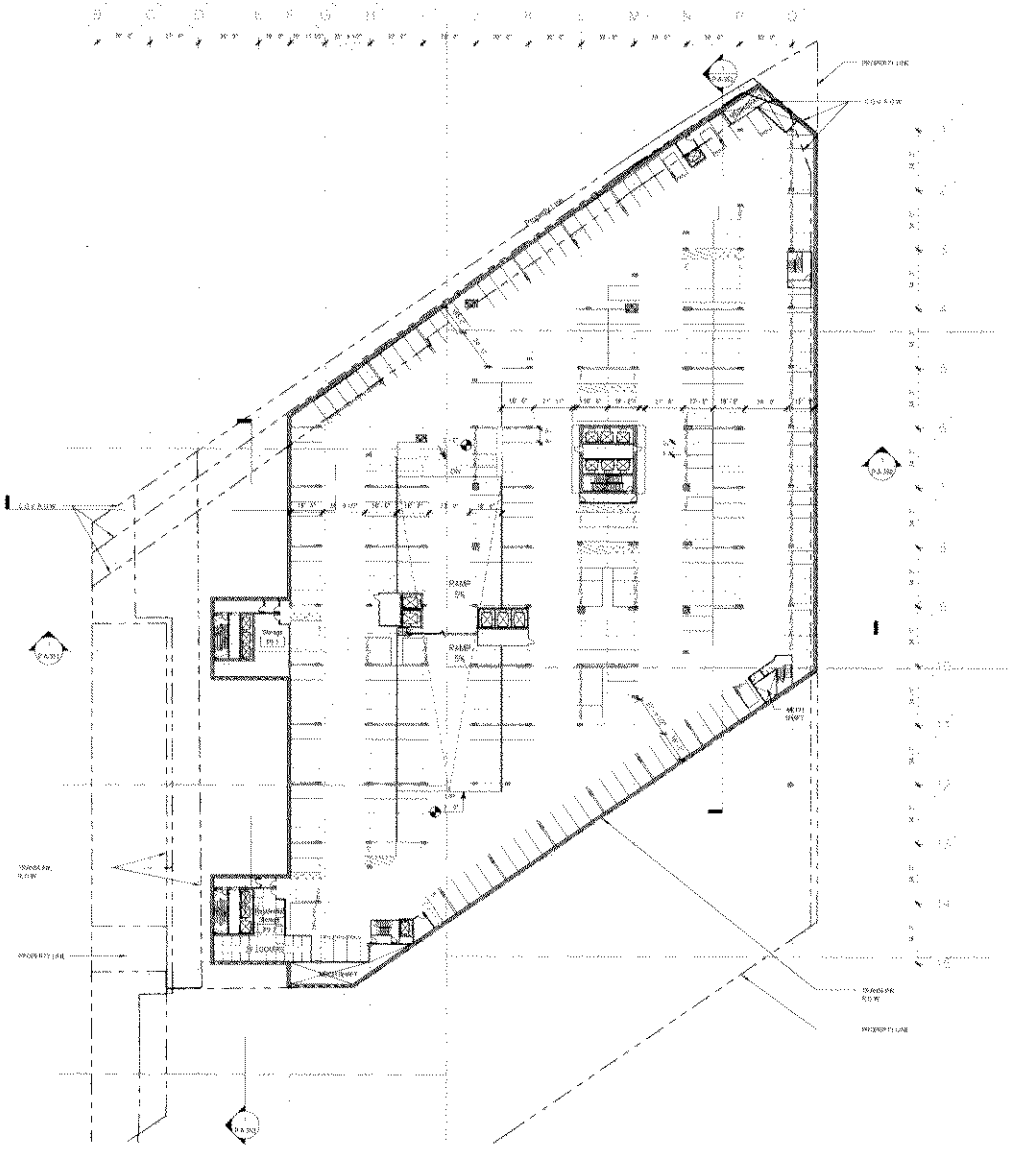
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-102**	**OVERALL PLAN LEVEL P3**



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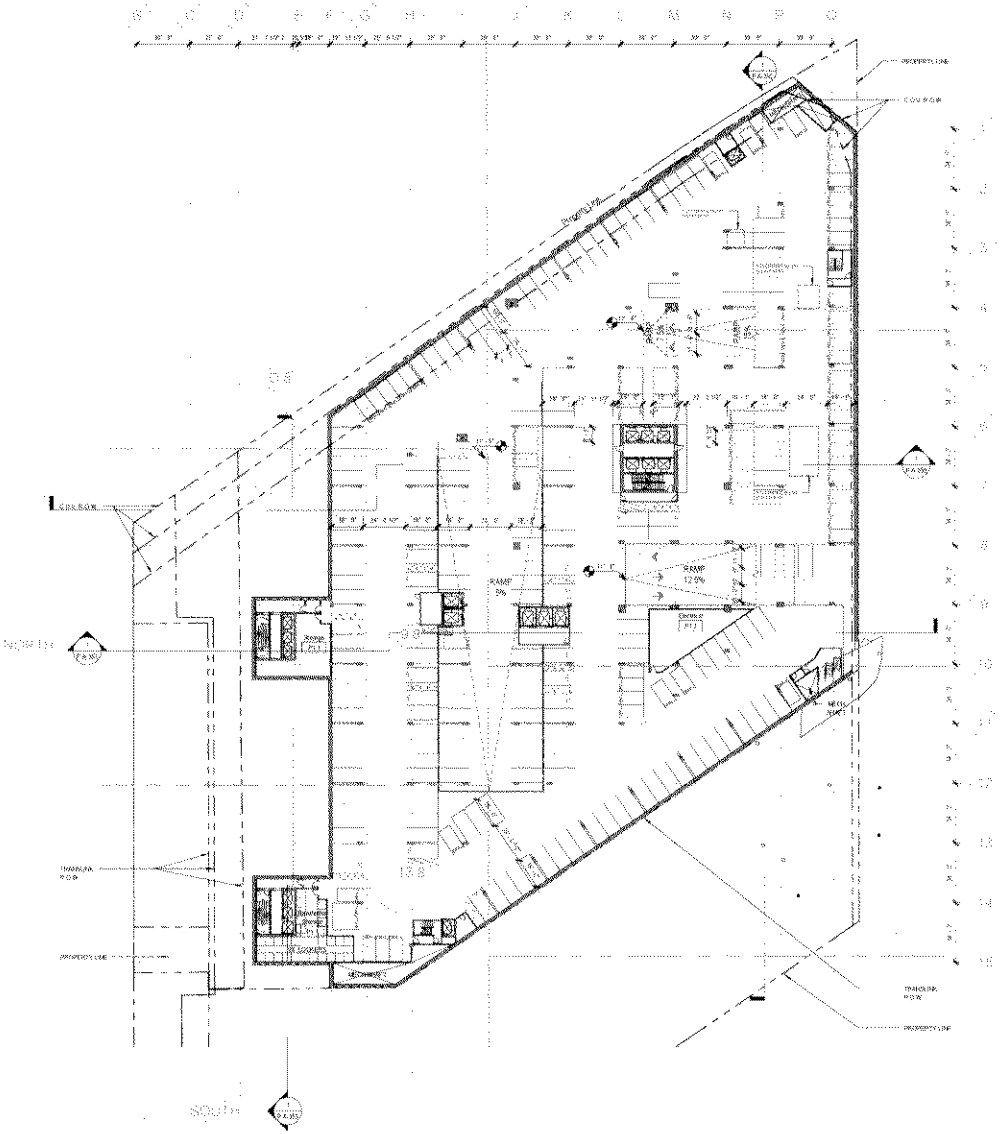
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-103**	**OVERALL PLAN LEVEL P2**



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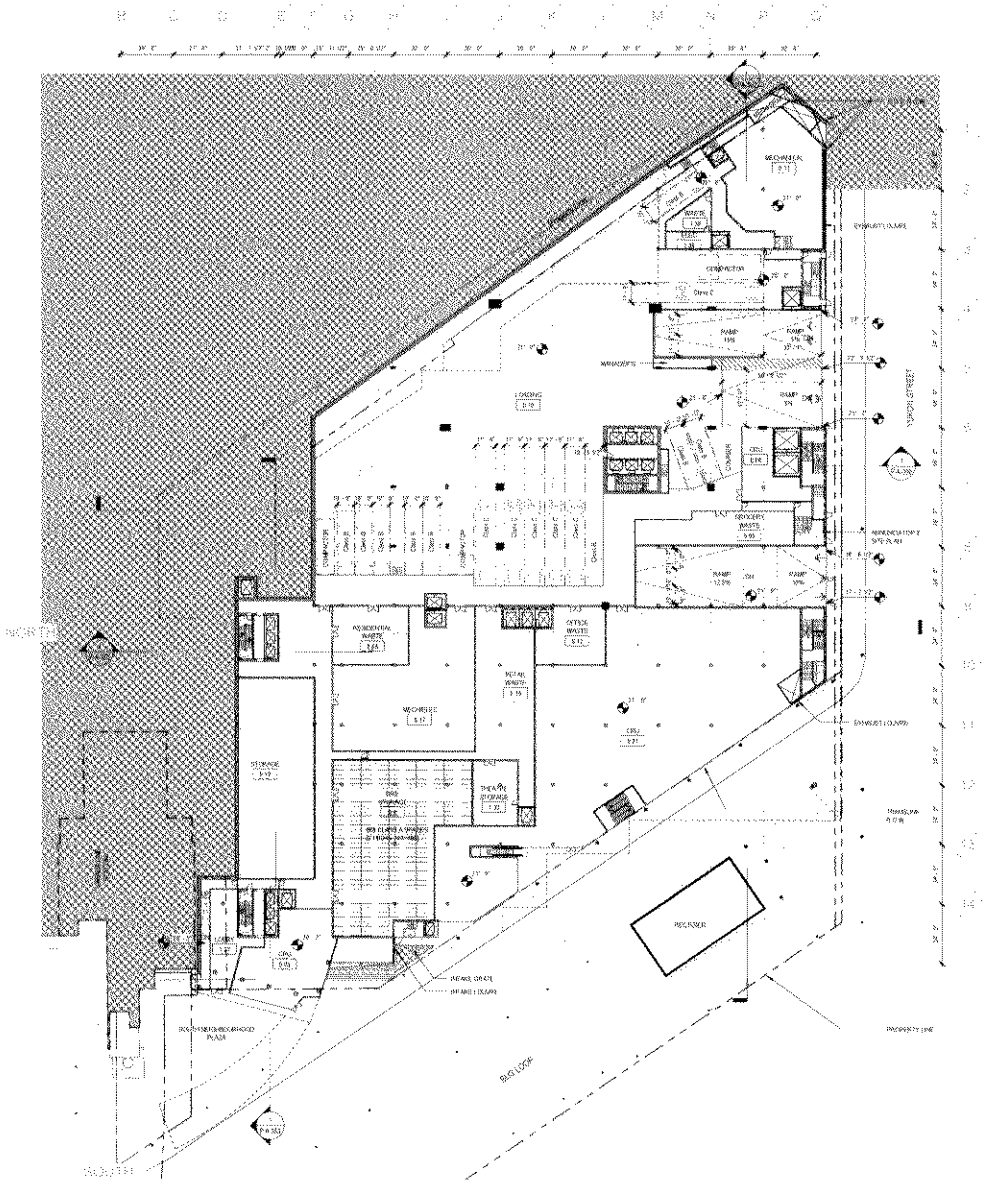
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-104**	**OVERALL PLAN LEVEL P1**



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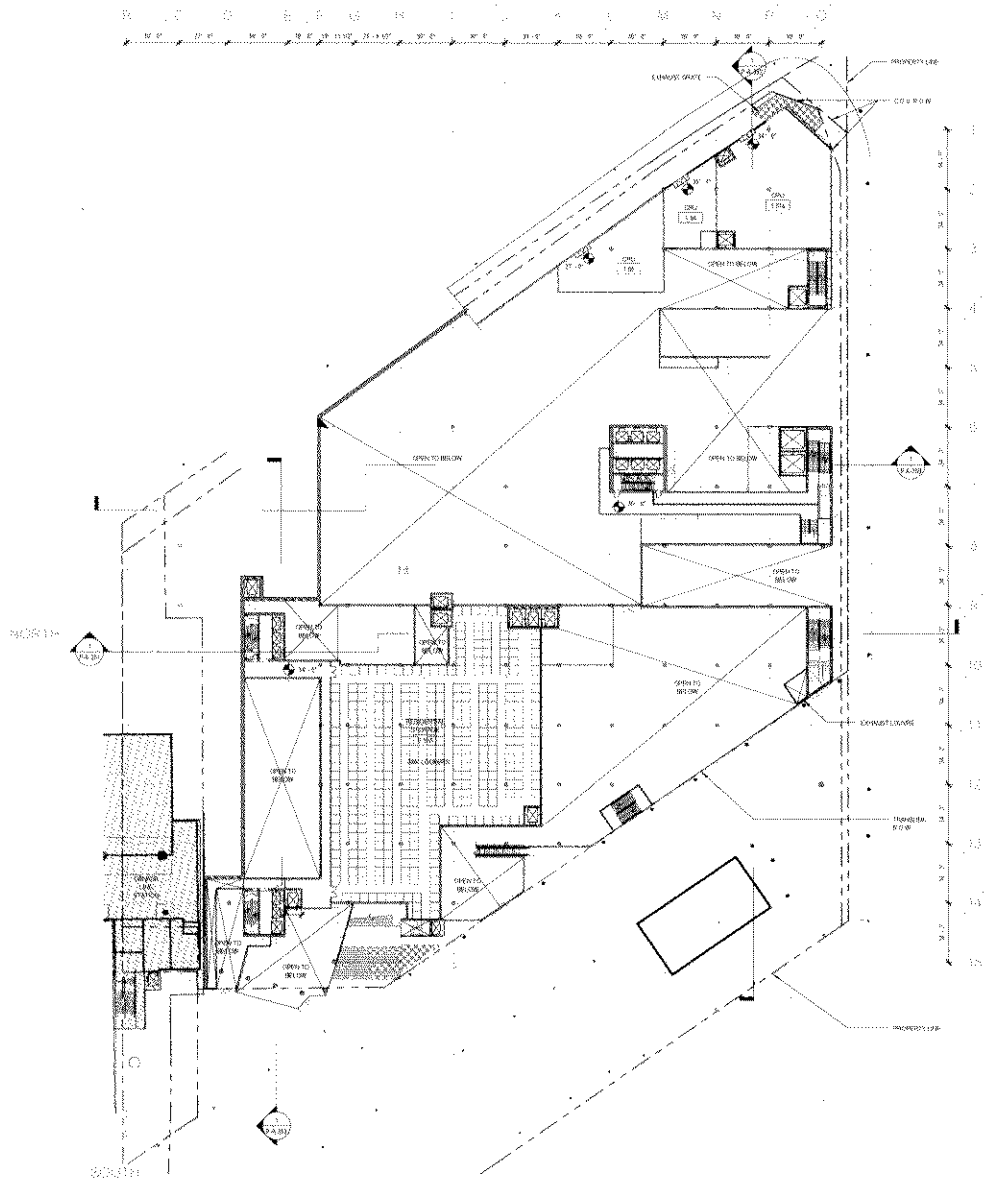
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-105**	**OVERALL PLAN LEVEL 0 - YUKON**



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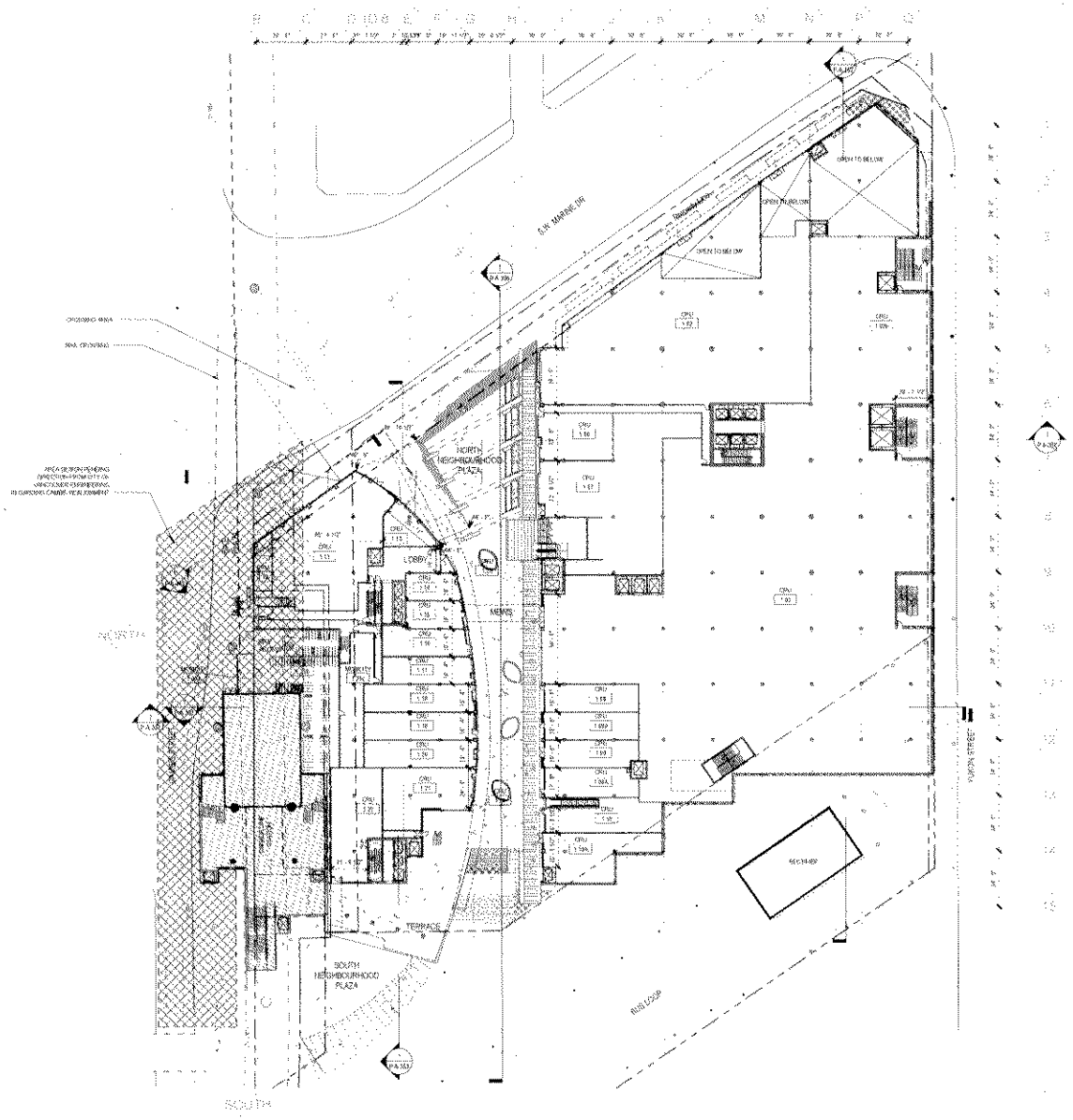
MARINE GATEWAY

Date	Scale	Sheet	Title
05/13/11	1/32" = 1'-0"	**P-A-105a**	**OVERALL PLAN** **0.1- YUKON MEZZANINE**

LEVEL



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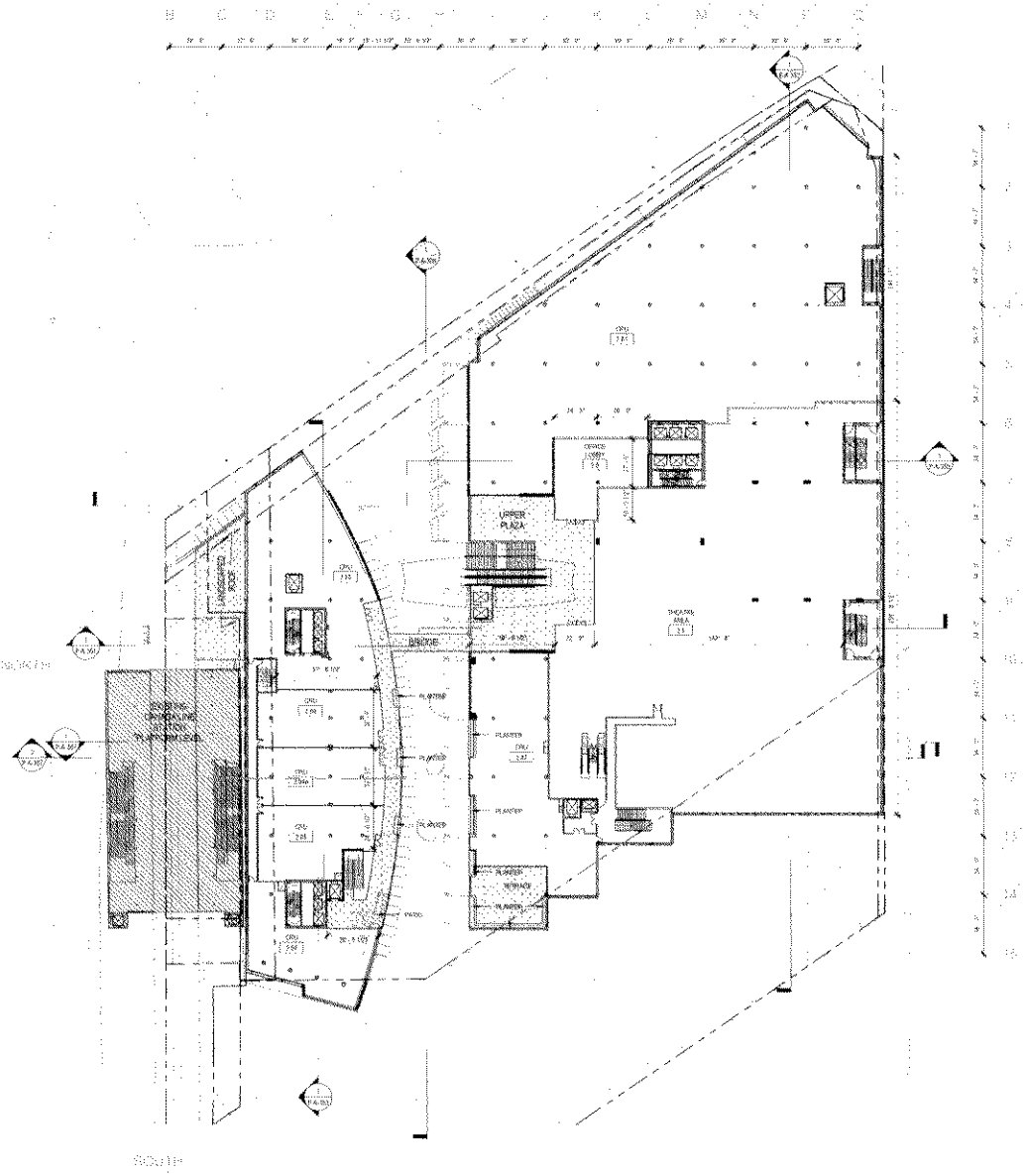
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-106**	**OVERALL PLAN LEVEL 01 - MARINE**



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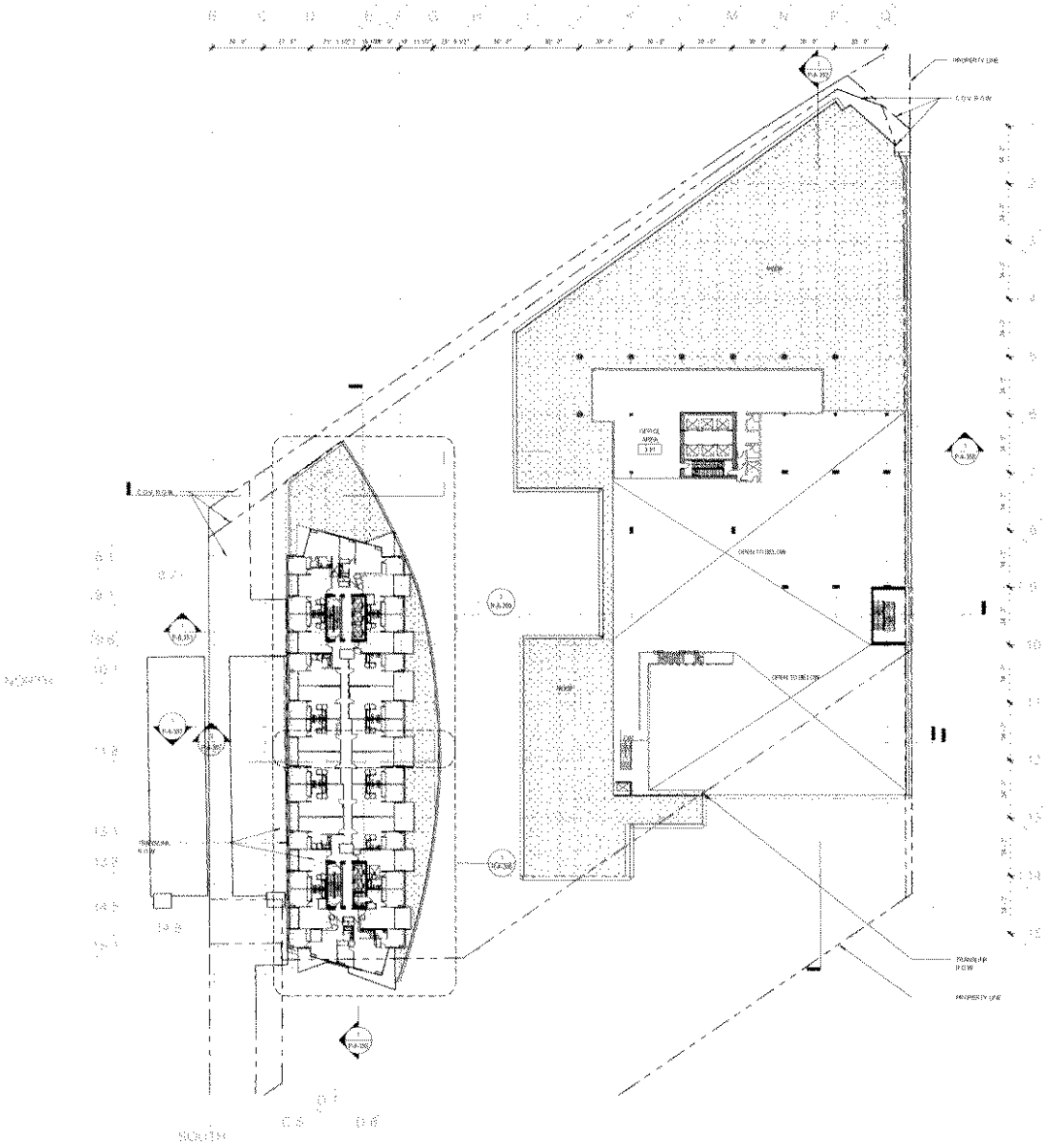
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-107**	**OVERALL PLAN LEVEL 02 - MARINE +1**



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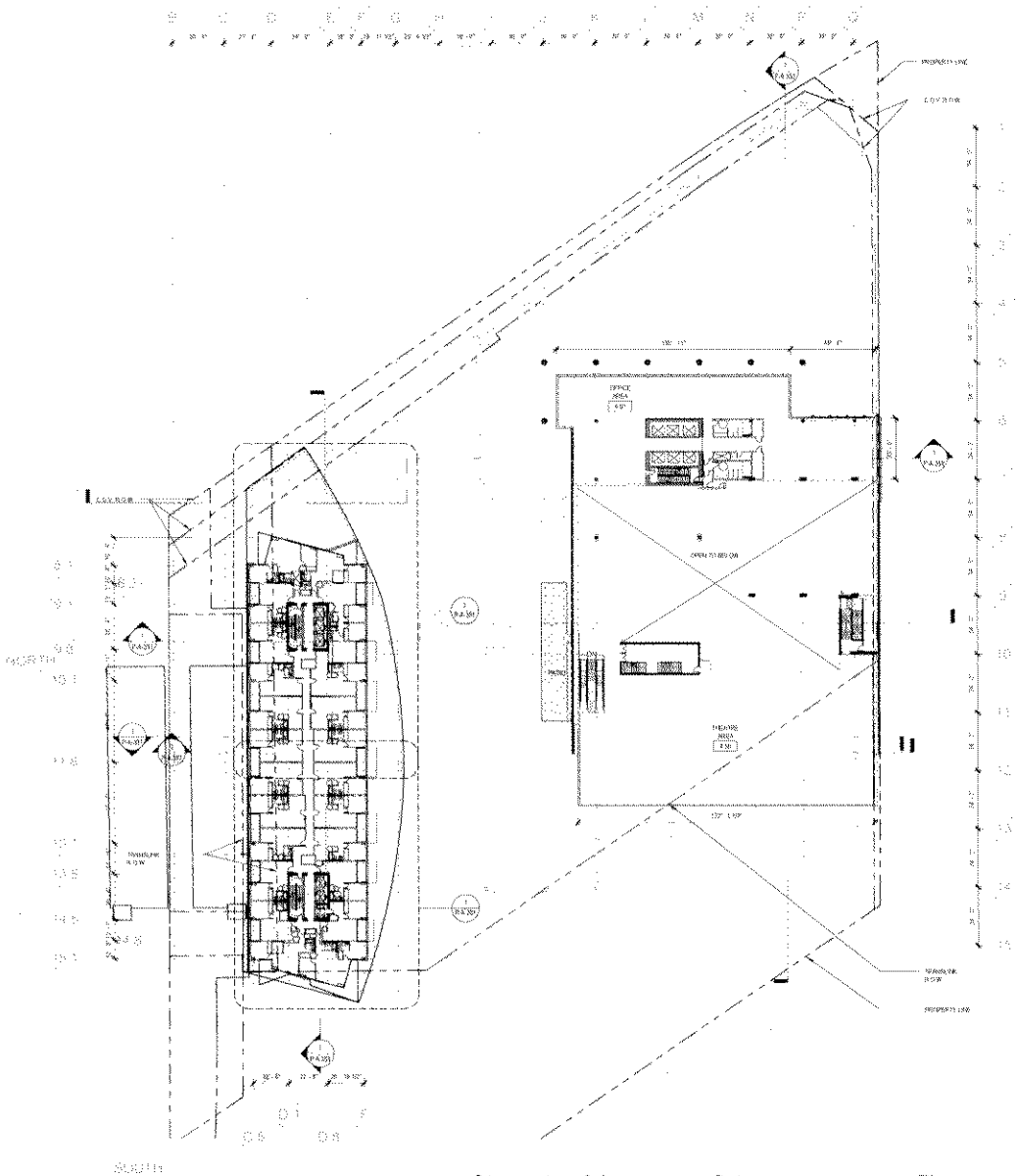
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-108**	**OVERALL PLAN LEV 03 - MARINE +2 (LEV 01 OFFICE)**



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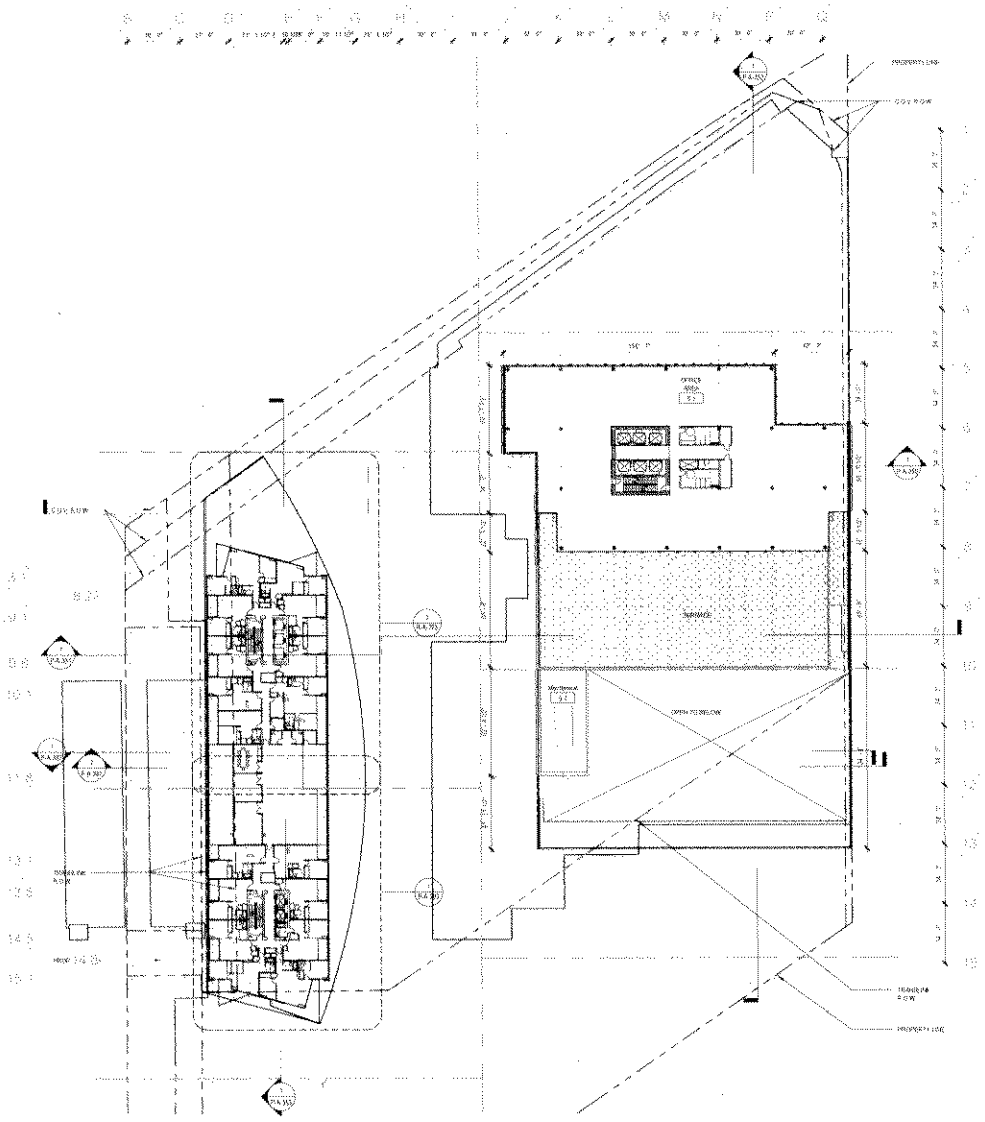
MARINE GATEWAY

Date	Scale	Sheet
AUG 15, 2011	1/32" = 1'-0"	**P-A-109**

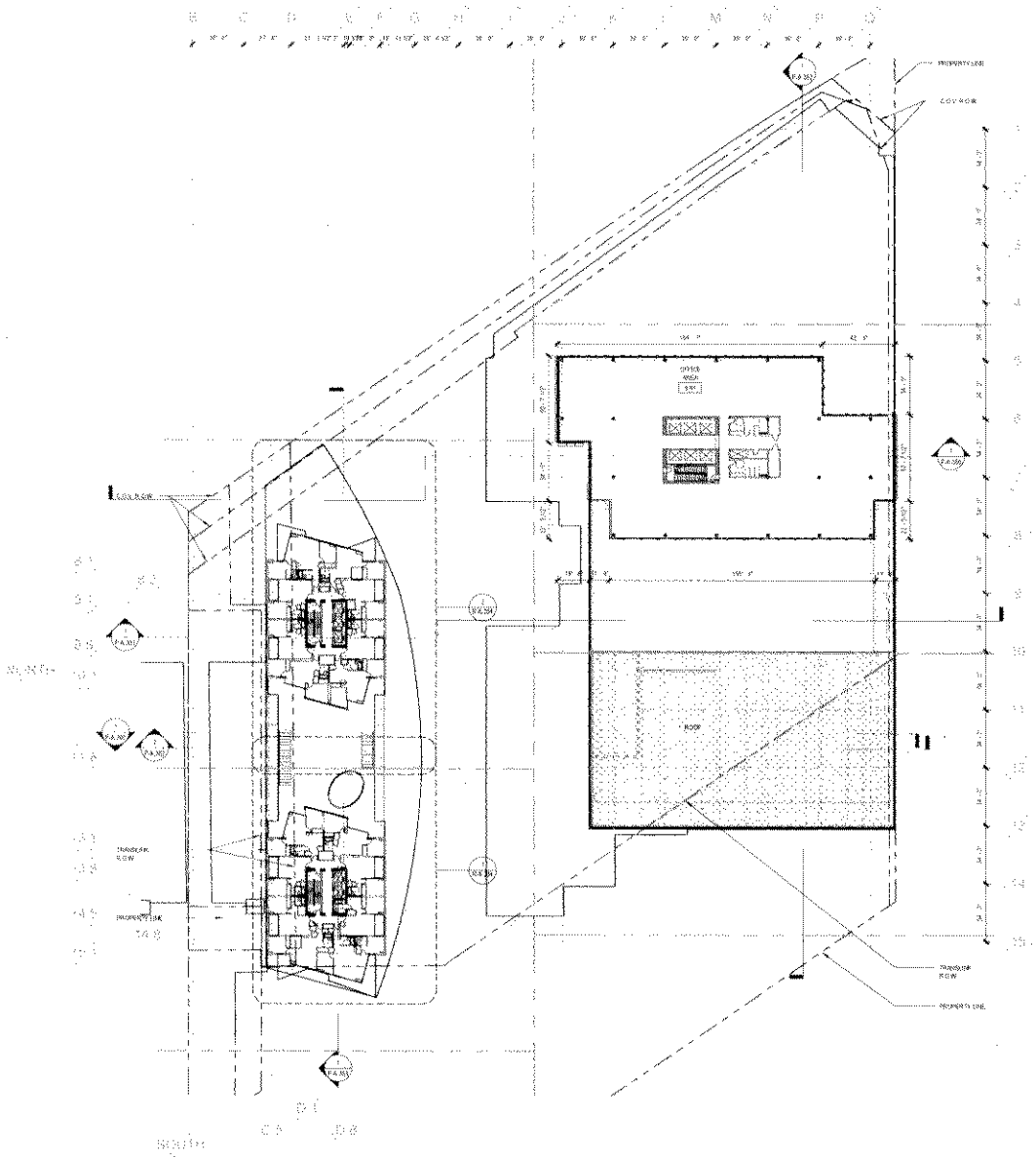
Title

OVERALL PLAN LEV 04 - MARINE + 3
(LEV 02 OFFICE + LEV 02 - RESIDENTIAL)



PERKINS + WILL | PCI | MARINE GATEWAY

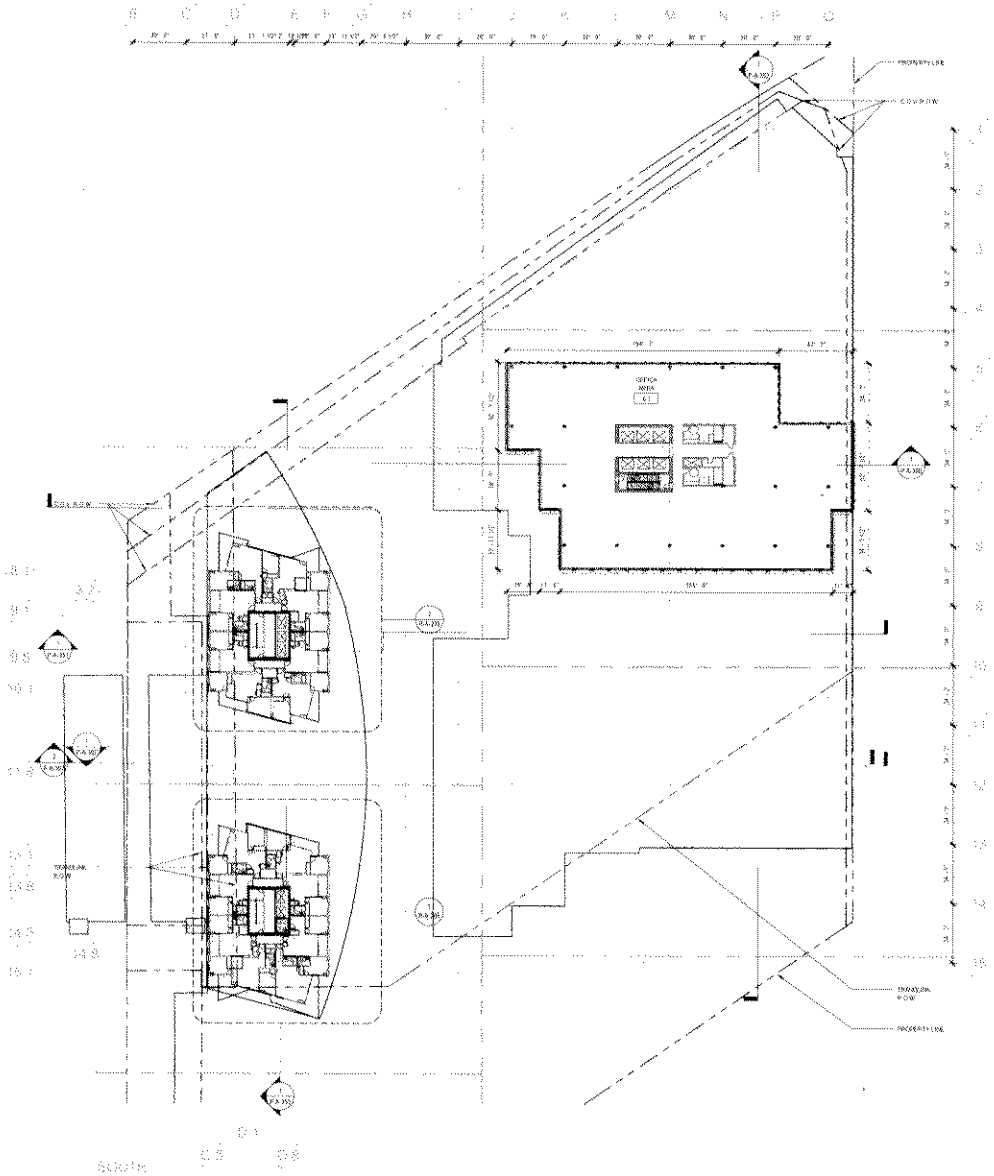
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	P-A-110	OVERALL PLAN LEV 05 - MARINE + 4 (LEV 03-OFFICE + LEV 04-RESIDENTIAL)



PERKINS + WILL | PCI

MARINE GATEWAY

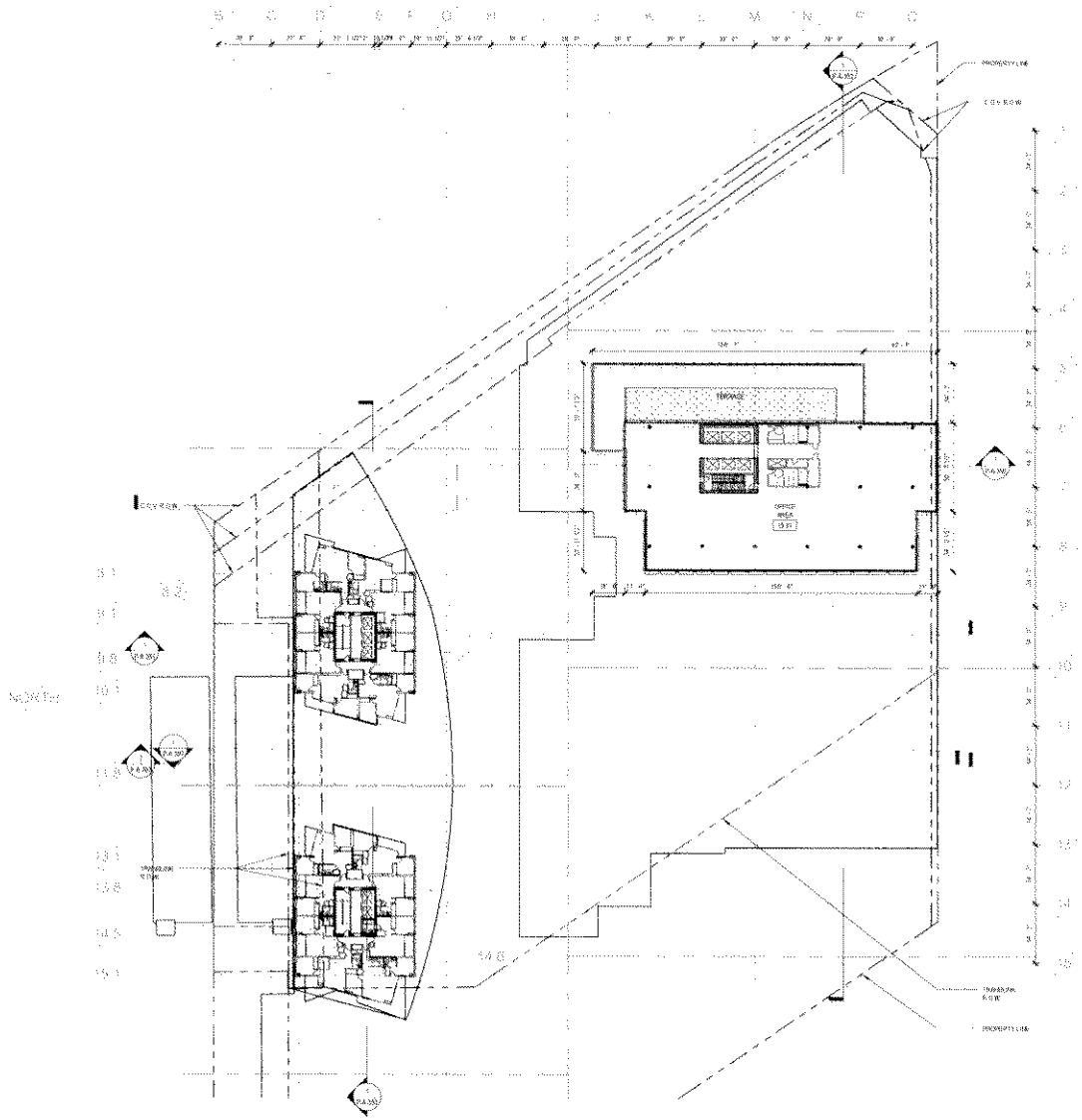
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-111**	**OVERALL PLAN (LEV 04 OFFICE+LEV 05-RESIDENTIAL)**



PERKINS + WILL | PCI

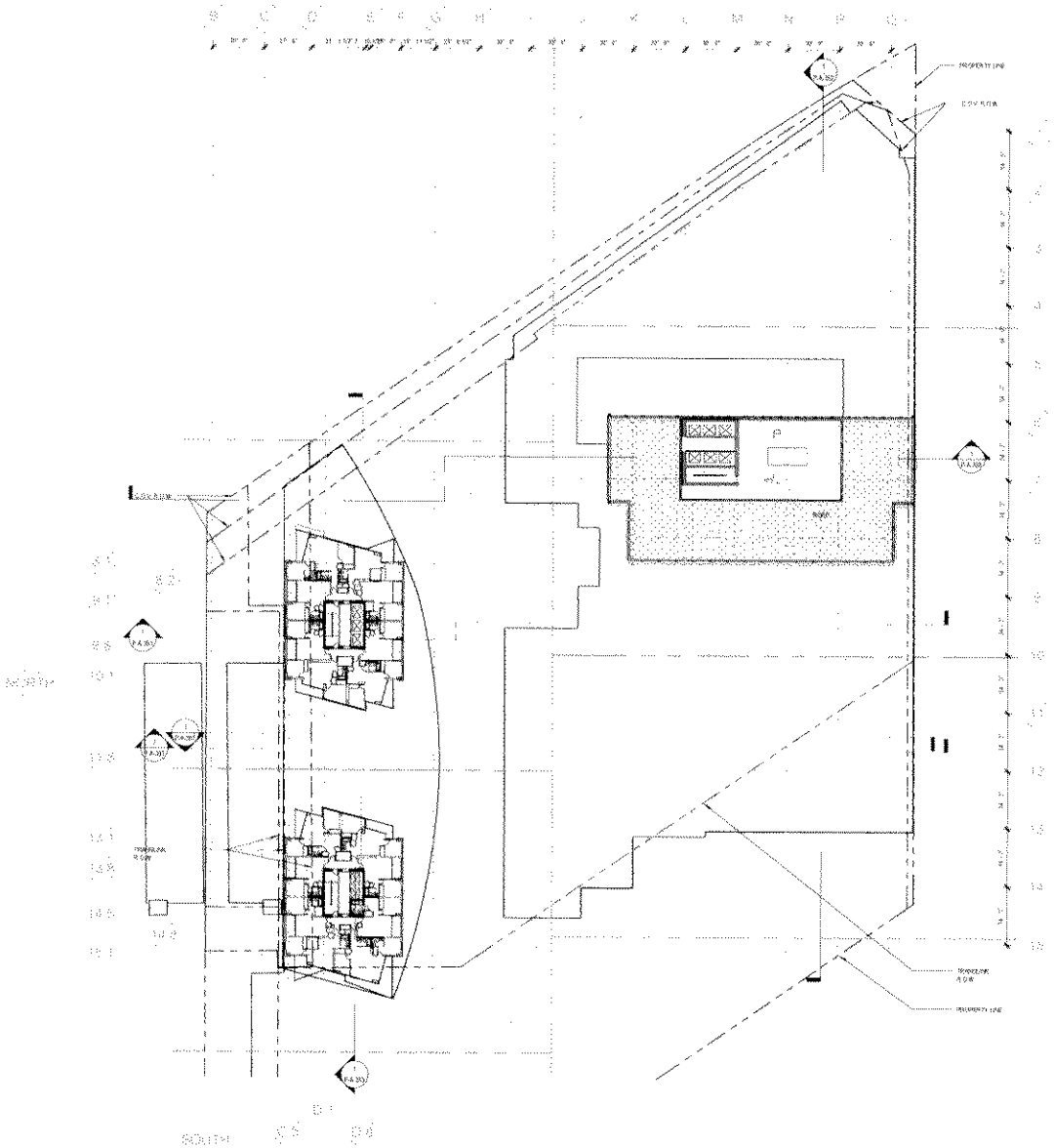
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-113**	**OVERALL PLAN (LEV 5-12-OFFICE+LEV 15-RESIDENTIAL)**



PERKINS + WILL | PCI **MARINE GATEWAY**

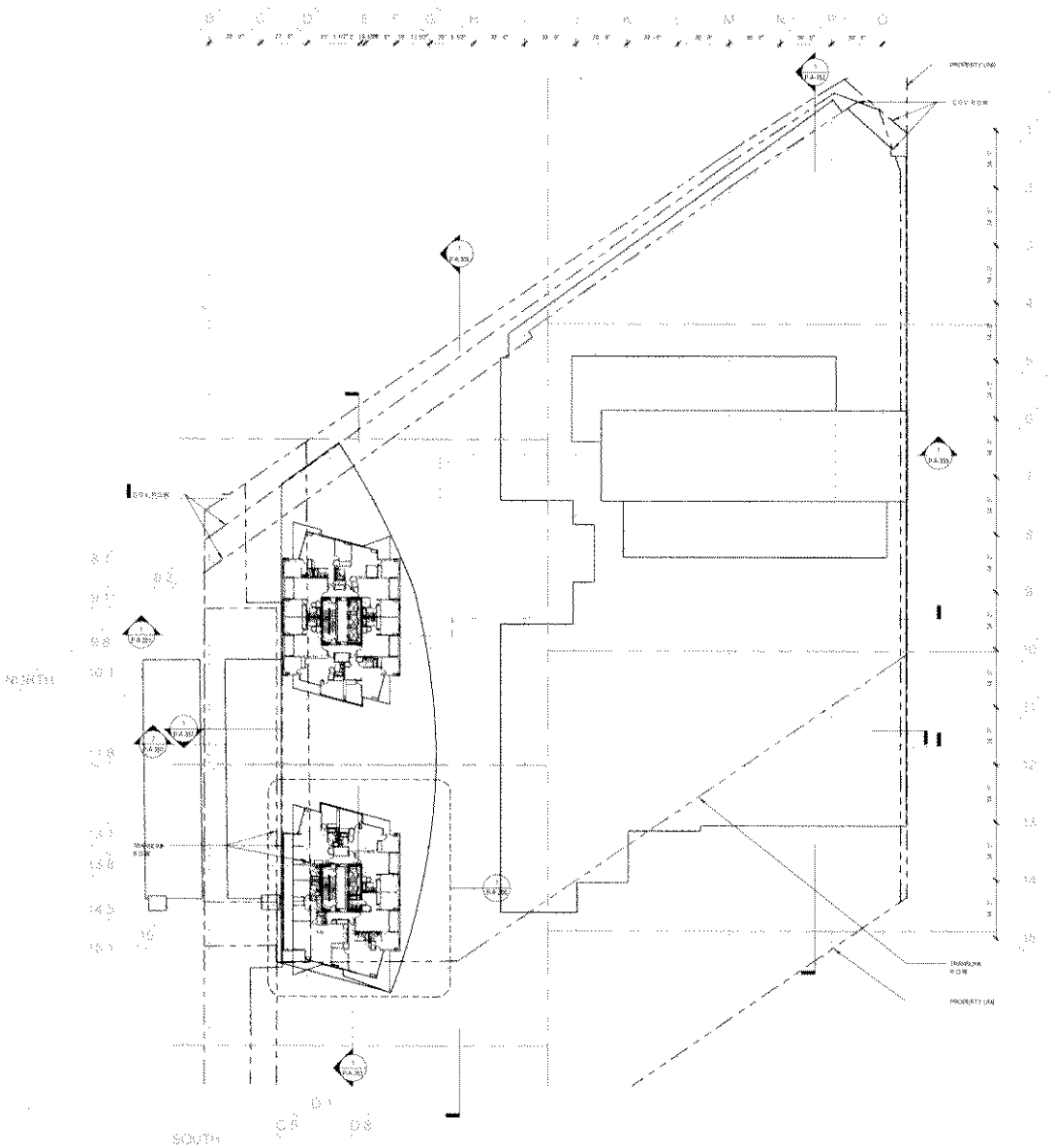
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-115**	**OVERALL PLAN (LEVEL 13 &14 OFFICE)**



PERKINS + WILL | PCI

MARINE GATEWAY

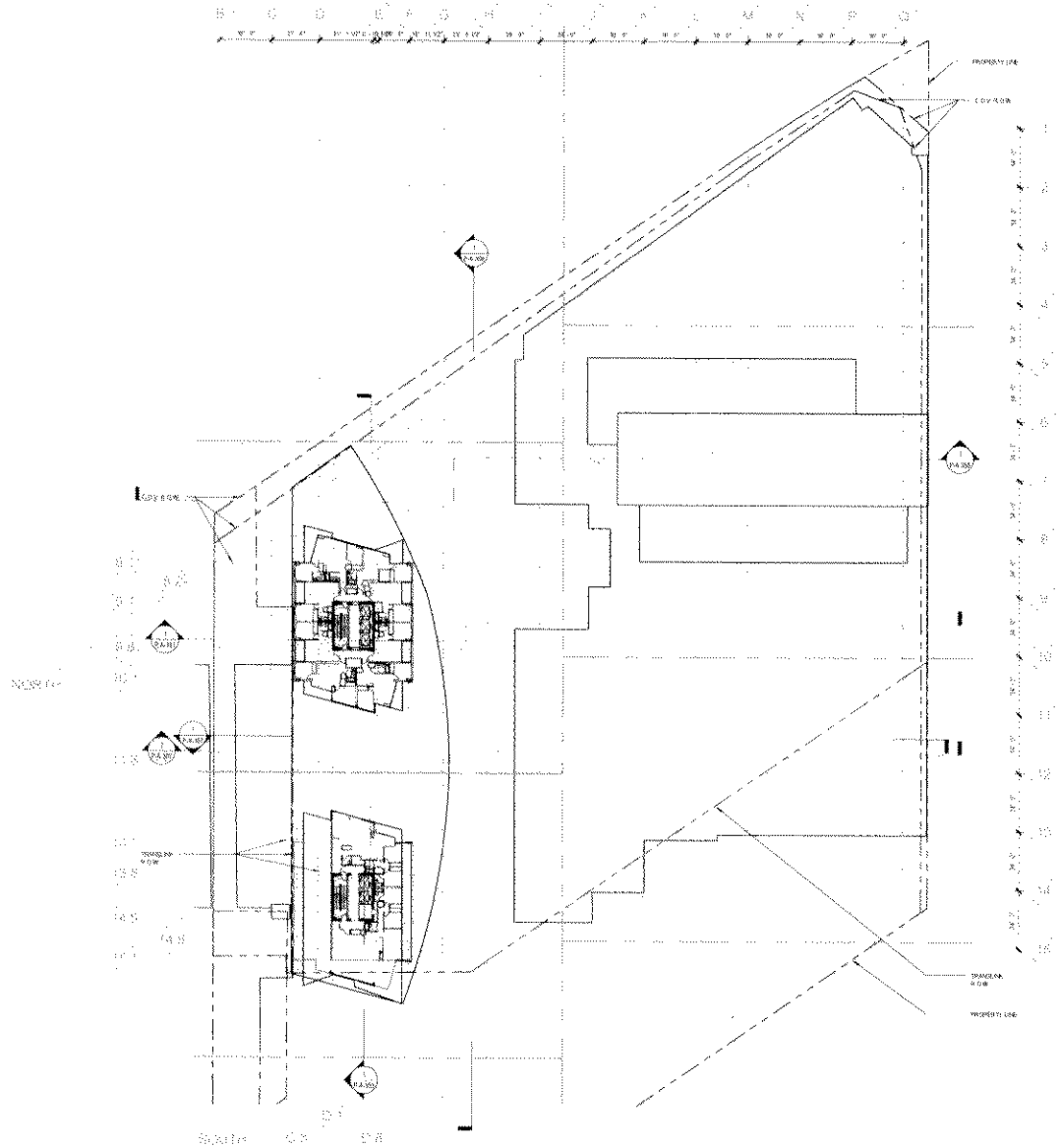
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-116**	**OVERALL PLAN OFFICE ROOF**



PERKINS + WILL | PCI

MARINE GATEWAY

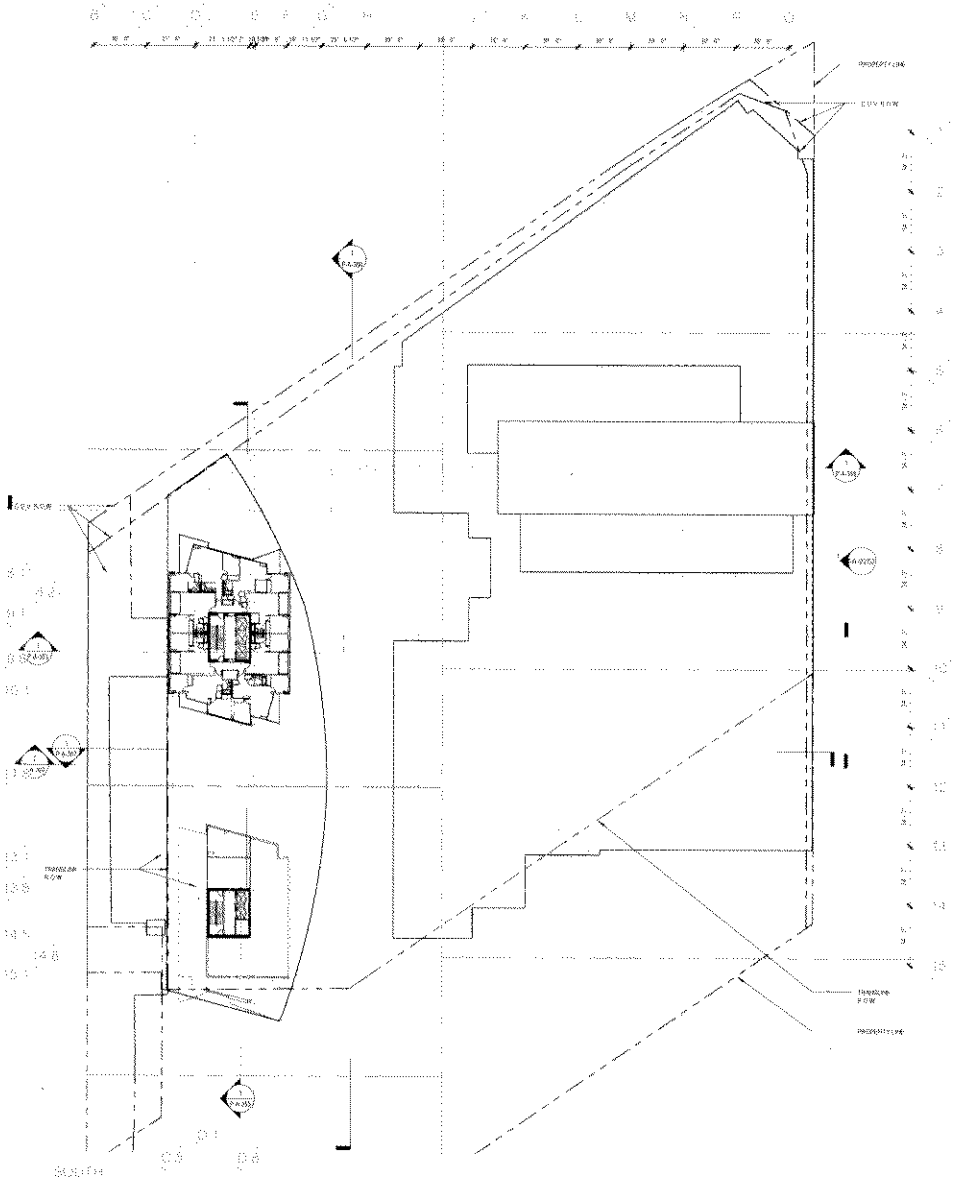
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-117**	**OVERALL PLAN (LEV 23 RESIDENTIAL)**



PERKINS + WILL | PCI

MARINE GATEWAY

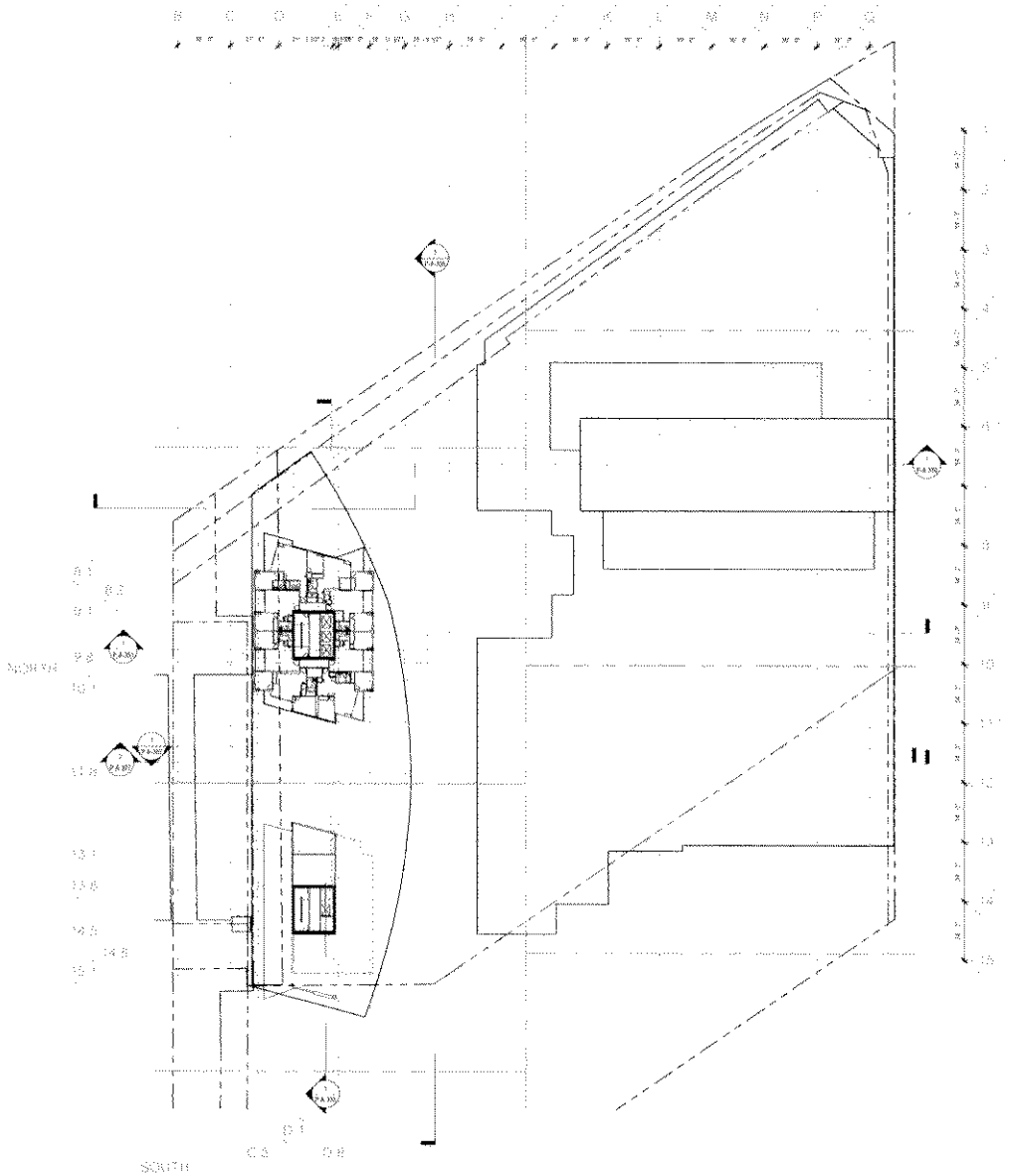
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-118**	**OVERALL PLAN (LEV 24 RESIDENTIAL)**



PERKINS + WILL | PCI

MARINE GATEWAY

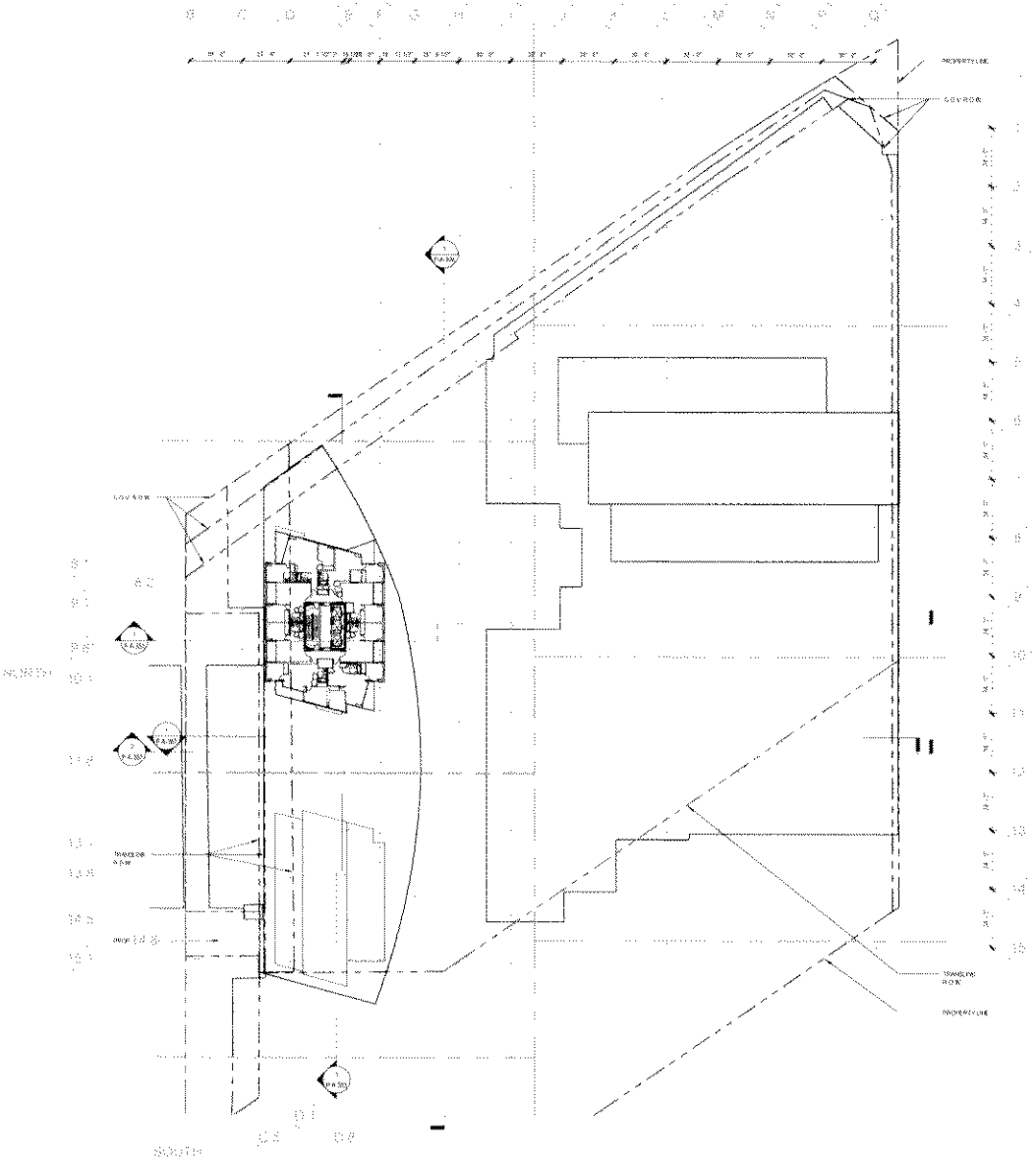
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-119**	**OVERALL PLAN (LEV 25 RESIDENTIAL)**



PERKINS + WILL | PCI

MARINE GATEWAY

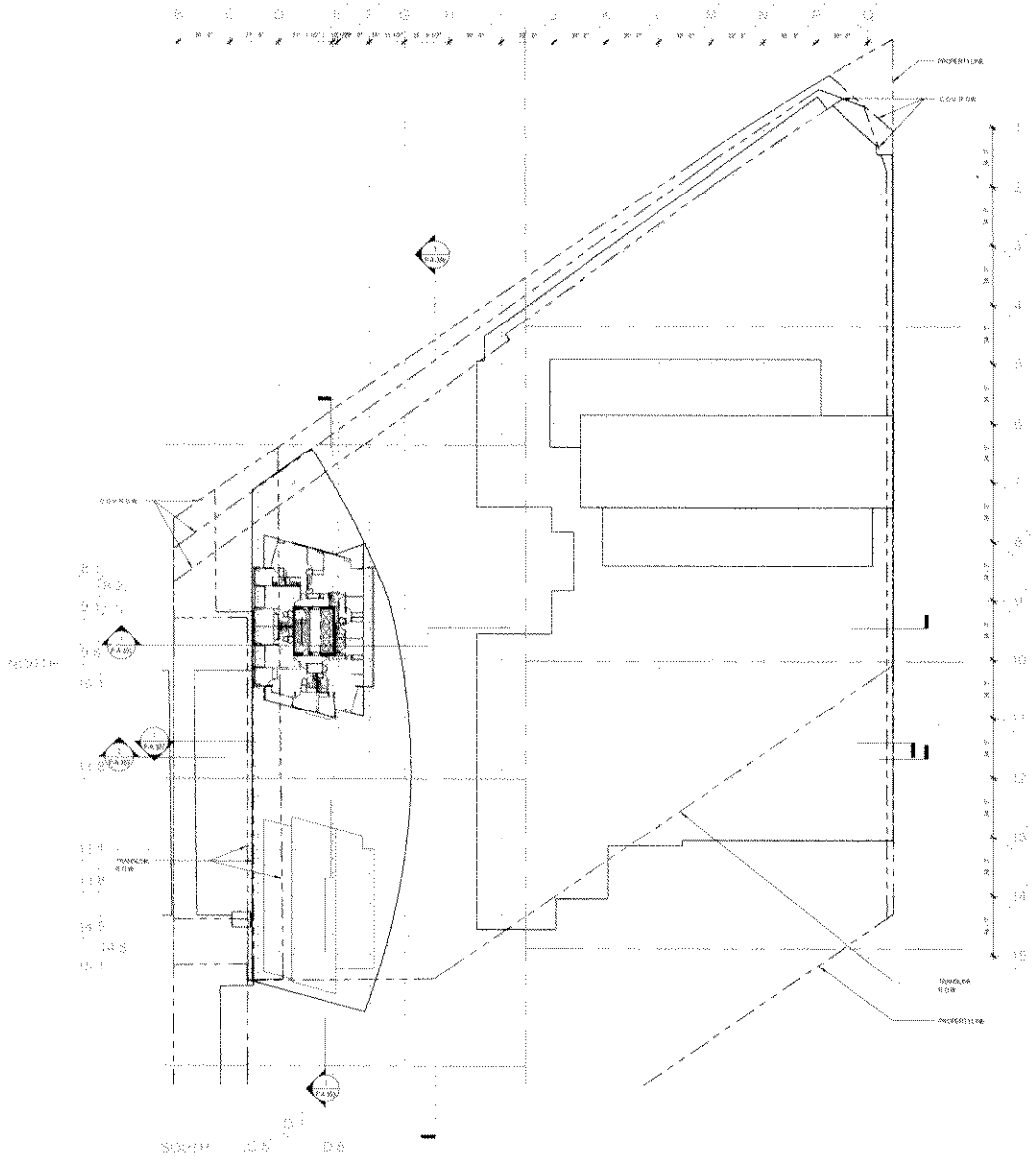
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-120**	**OVERALL PLAN (SOUTH RESIDENTIAL MECHANICAL PENTHOUSE)**



PERKINS + WILL | PCI

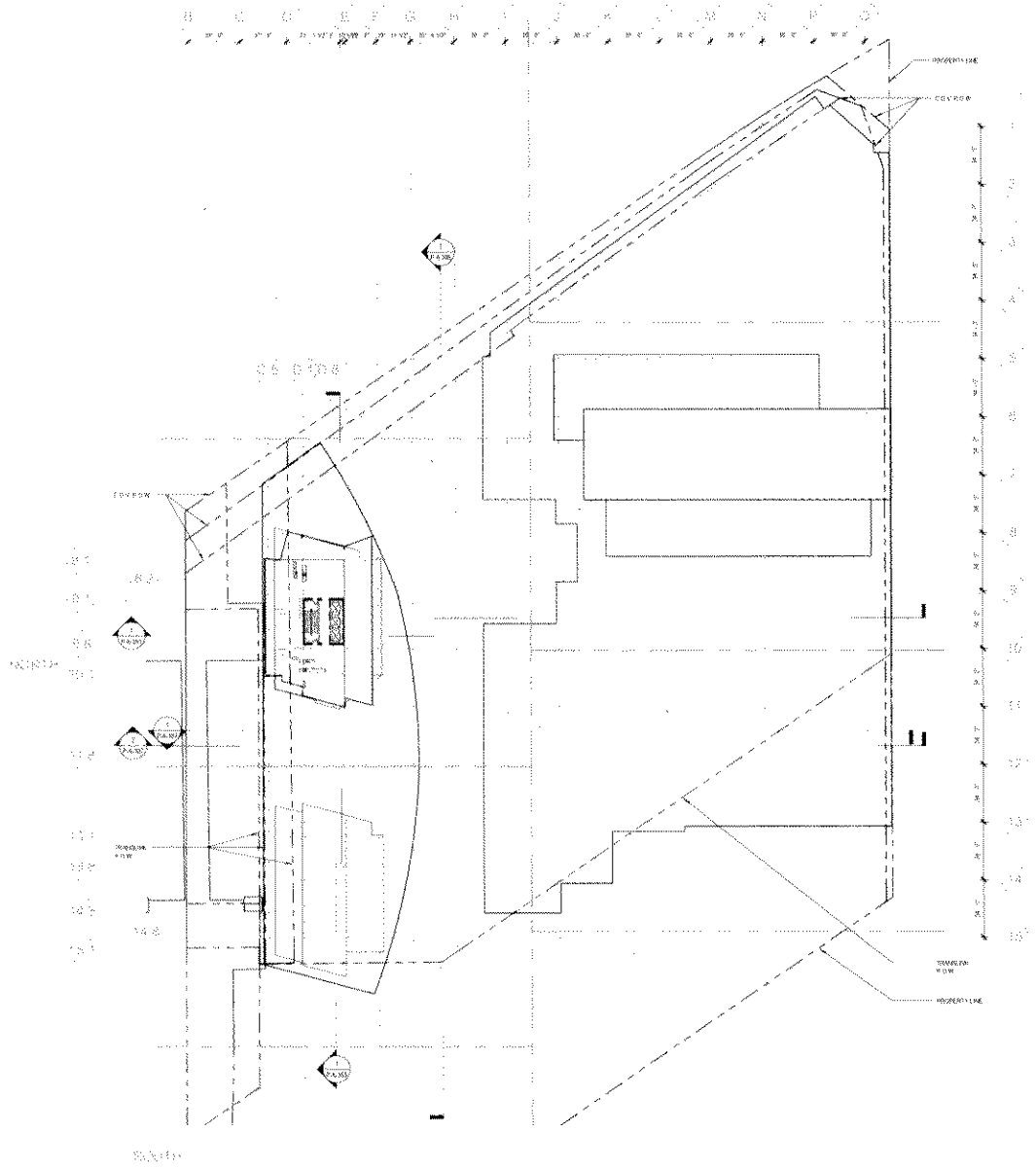
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-121**	**OVERALL PLAN (LEV 31 RESIDENTIAL)**



PERKINS + WILL | PCI **MARINE GATEWAY**

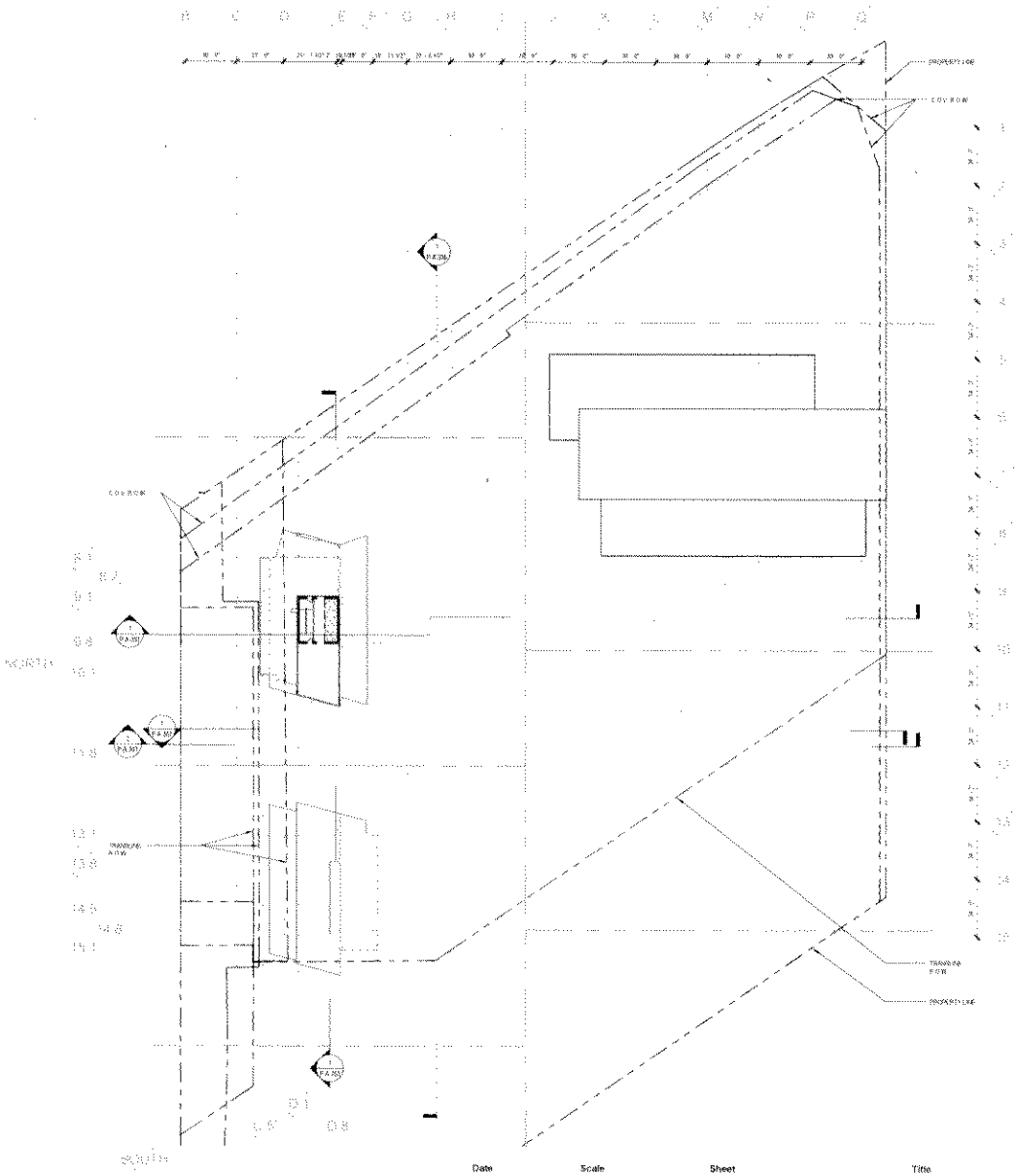
Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-122**	**OVERALL PLAN (LEV 32 RESIDENTIAL)**



PERKINS + WILL | PCI

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	**P-A-123**	**OVERALL PLAN (LEV 33 RESIDENTIAL)**



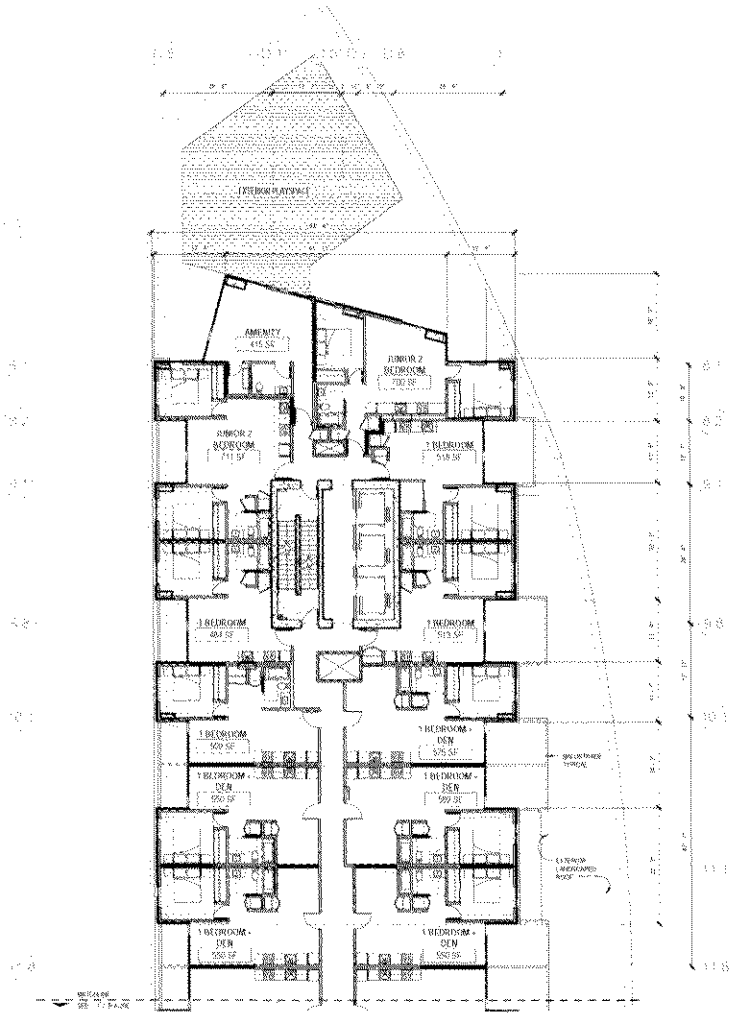
PERKINS + WILL | PCI

MARINE GATEWAY

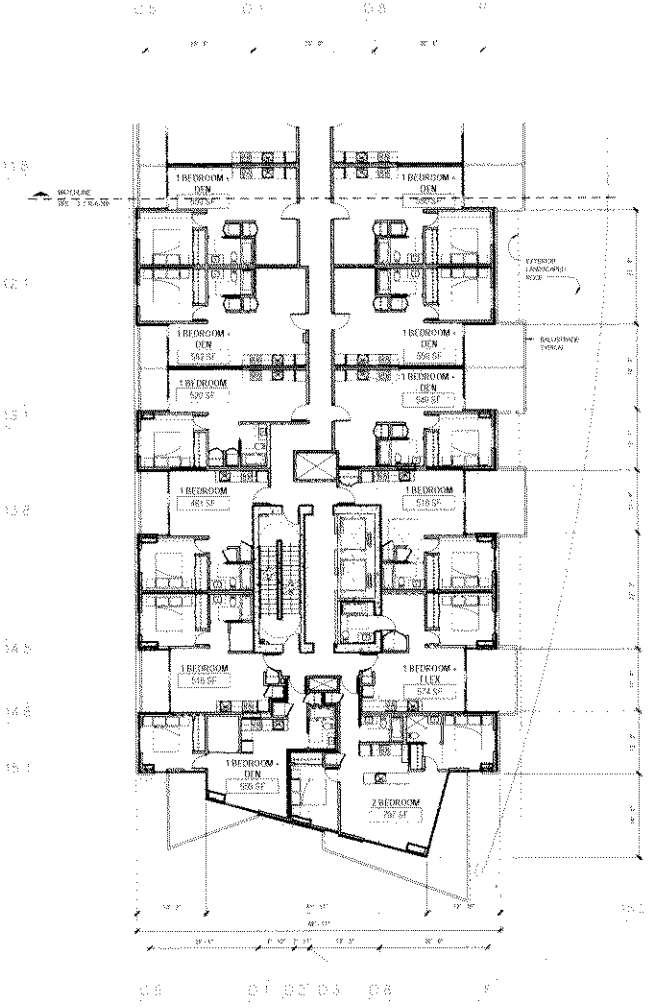
Date	Scale	Sheet
AUG 15, 2011	1/32" = 1'-0"	**P-A-124**

Title

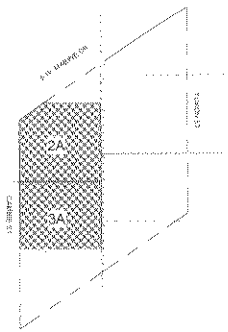
OVERALL PLAN (NORTH RESIDENTIAL TOWER MECHANICAL)



2 LEV 03 - (RES LEV 1) -SECTOR 2A
3/32" = 1'-0"

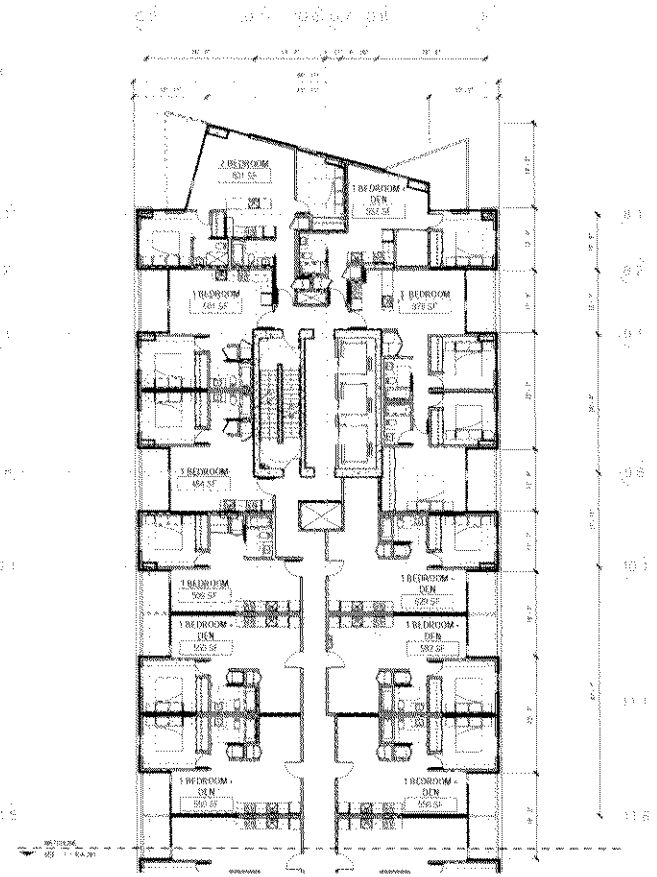


1 LEV 03 - (RES LEV 1) -SECTOR 3A
3/32" = 1'-0"

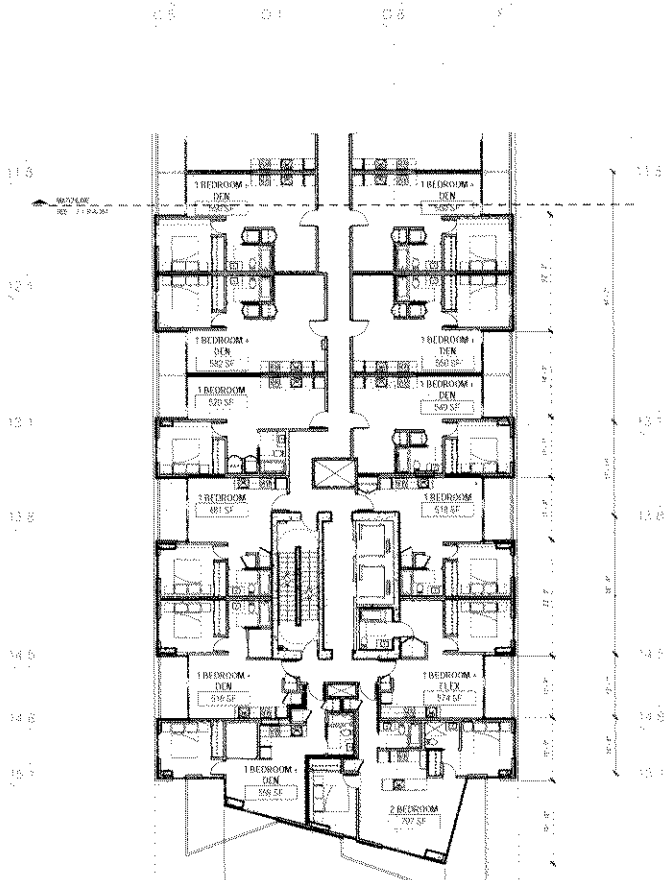


PERKINS + WILL | PCI **MARINE GATEWAY**

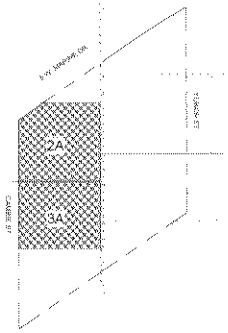
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-200**	**FLOOR PLAN - RESIDENTIAL LEVEL 1**



2 LEV 04 - (RES LEV 2) - SECTOR 2A

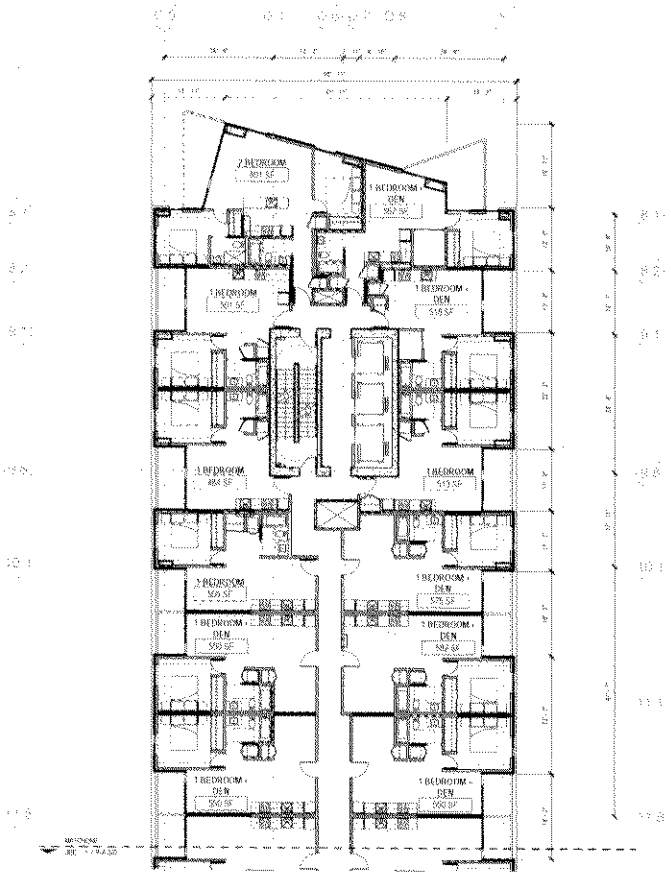


1 LEV 04 - (RES LEV 2) - SECTOR 3A

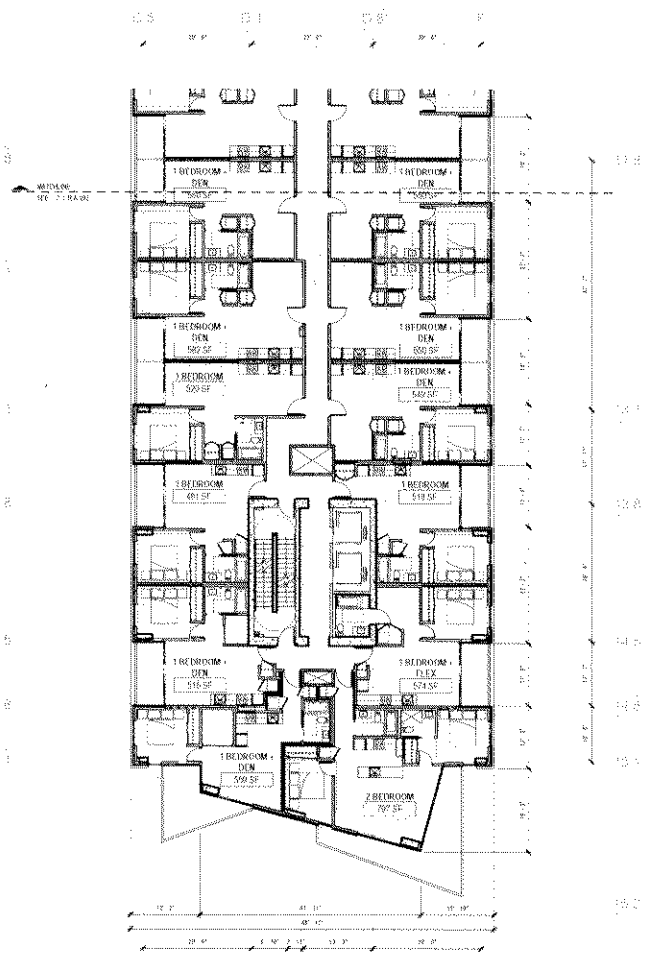


PERKINS + WILL | PCI **MARINE GATEWAY**

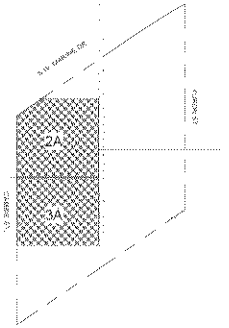
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-201**	**FLOOR PLAN - RESIDENTIAL LEVEL 2**



2 LEV 05 - (RES LEV 3) - SECTOR 2A

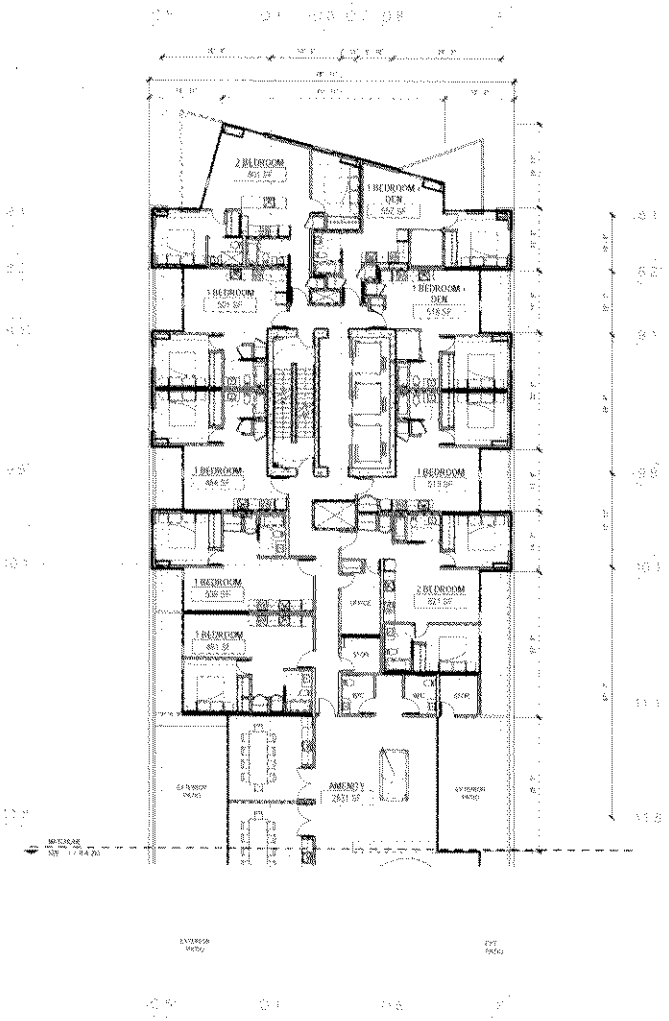


1 LEV 05 - (RES LEV 3) -SECTOR 3A

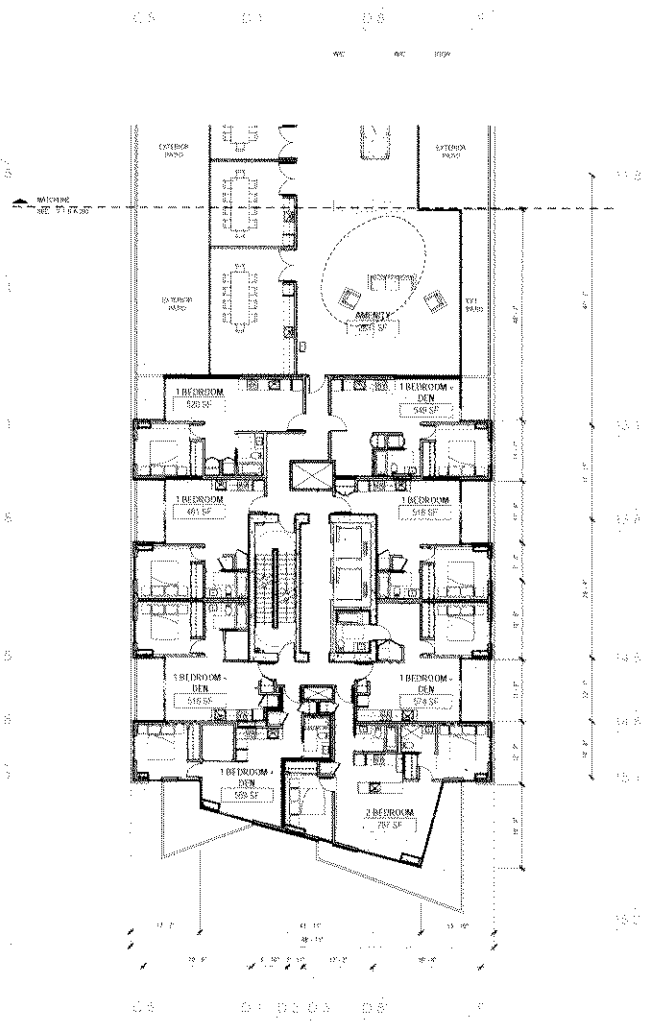


PERKINS + WILL | PCI **MARINE GATEWAY**

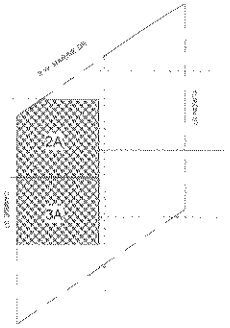
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-202**	**FLOOR PLAN - RESIDENTIAL LEVEL 3**



2 LEV 06 - (RES LEV 4) - SECTOR 2A

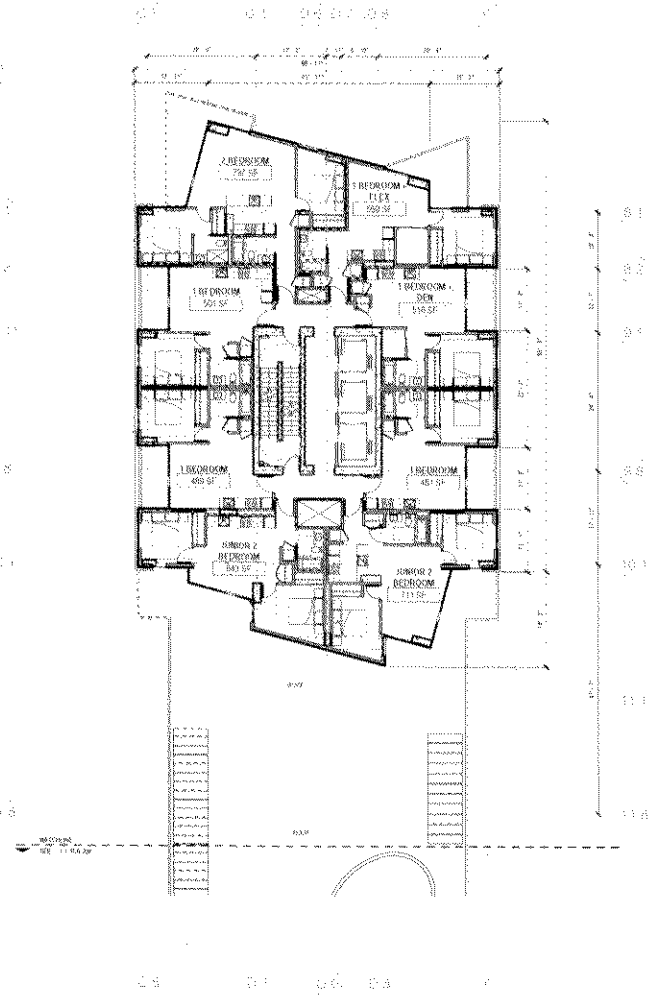


1 LEV 06 - (RES LEV 4) - SECTOR 3A

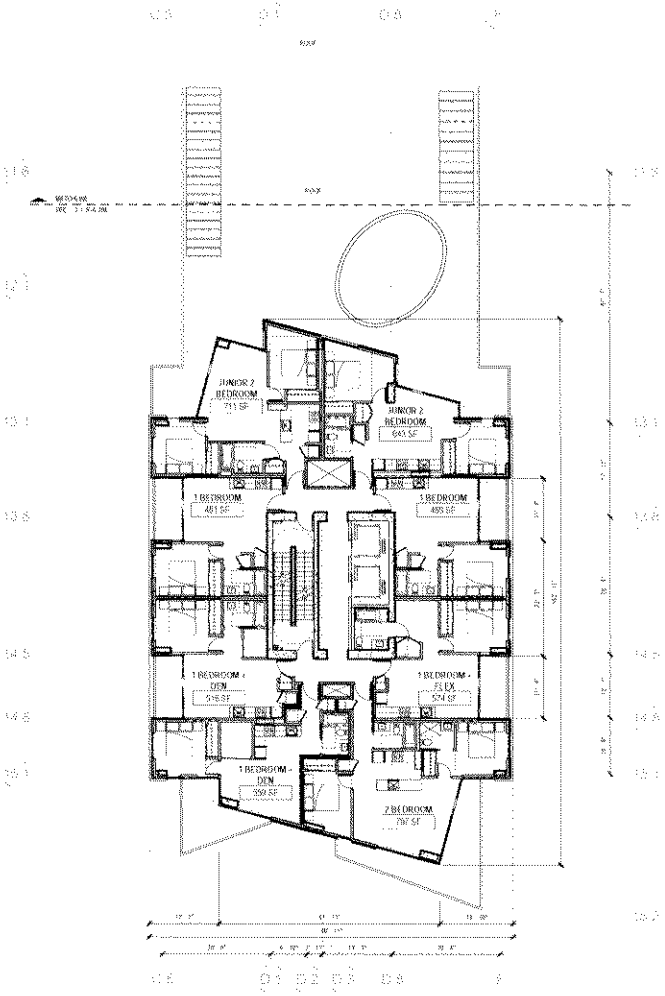


PERKINS + WILL | PCI **MARINE GATEWAY**

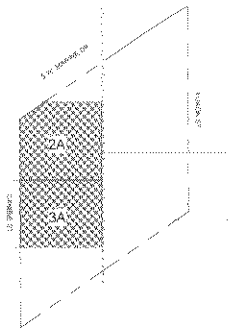
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-203**	**FLOOR PLAN - RESIDENTIAL LEVEL 4**



2 LEV 07 - (RES LEV 5) - SECTOR 2A

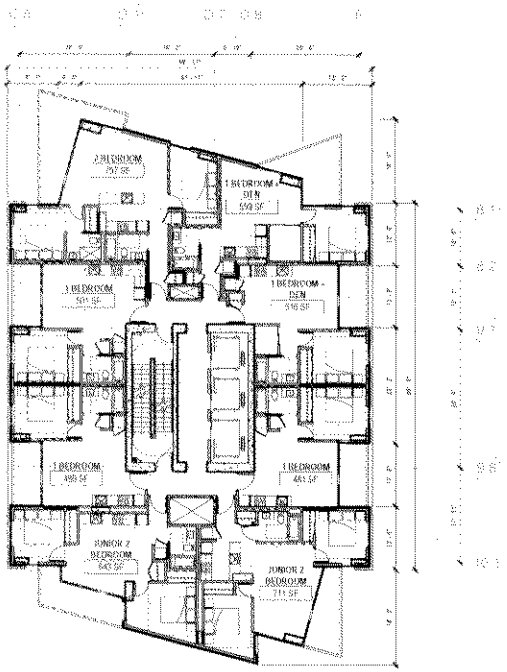


1 LEV 07 - (RES LEV 5) - SECTOR 3A

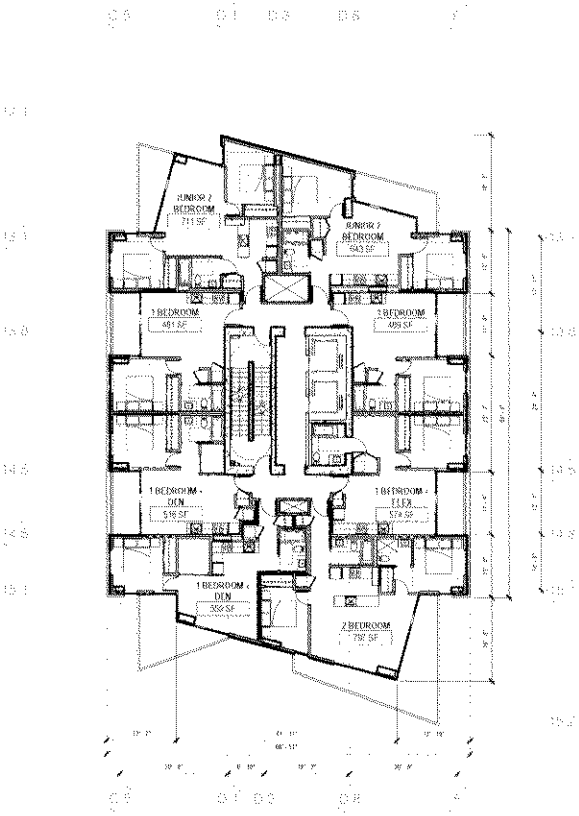


PERKINS + WILL | PCI **MARINE GATEWAY**

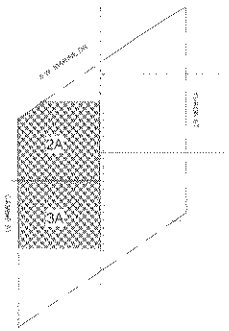
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-204**	**FLOOR PLAN - RESIDENTIAL LEVEL 5**



2 LEV 08 (RES LEV 06) - SECTOR 2A



1 LEV 08 (RES LEV 06) - SECTOR 3A



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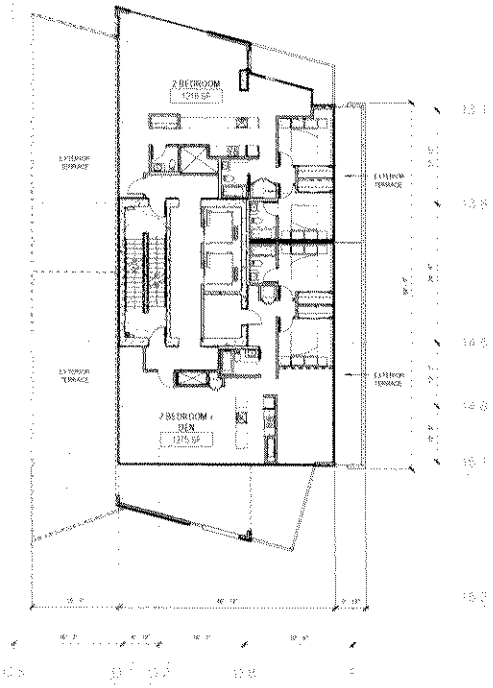
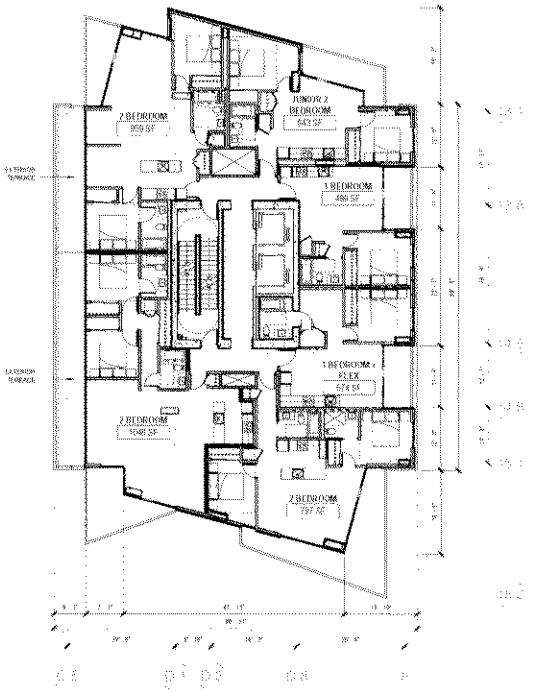
MARINE GATEWAY

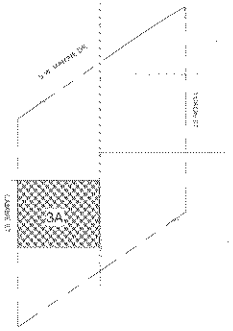
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-205**	**TYPICAL FLOOR PLAN - RESIDENTIAL LEVEL 6**



2 SOUTH PENTHOUSE 2 - SECTOR 3A



1 SOUTH PENTHOUSE 1 -SECTOR 3A



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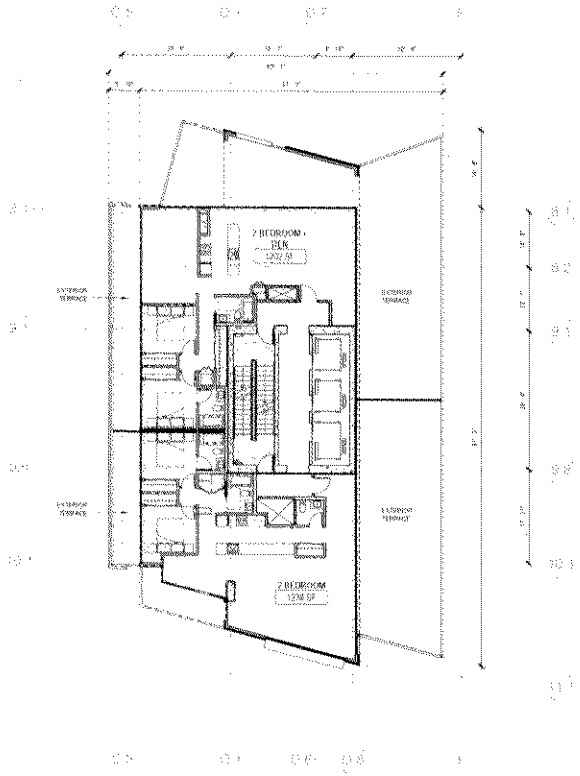
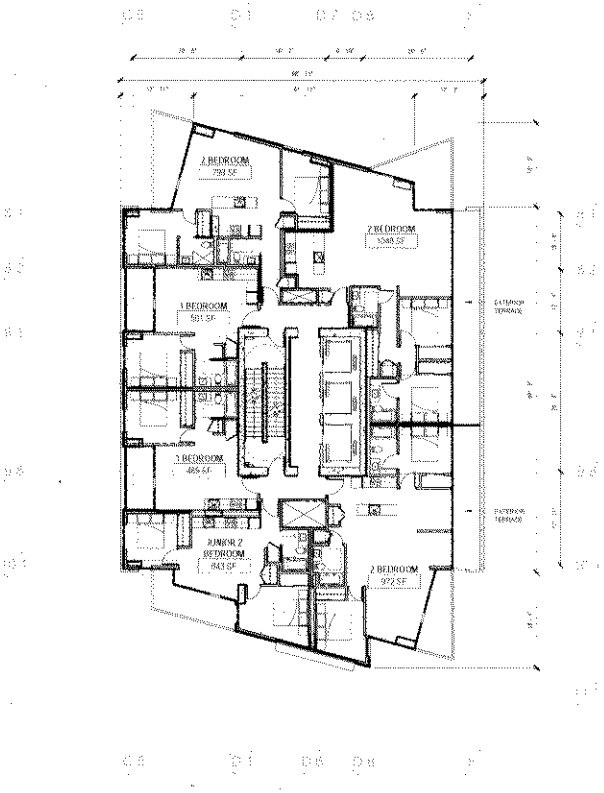
MARINE GATEWAY

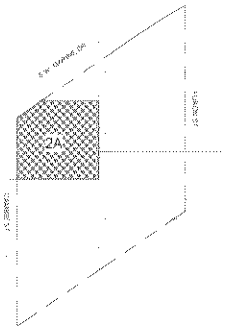
Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-206**	**FLOOR PLAN - RESIDENTIAL SOUTH PENTHOUSE 1 & 2**



2 NORTH PENTHOUSE 2 - SECTOR 2A
3/32" = 1'-0"



1 NORTH PENTHOUSE 1 - SECTOR 2A
3/32" = 1'-0"



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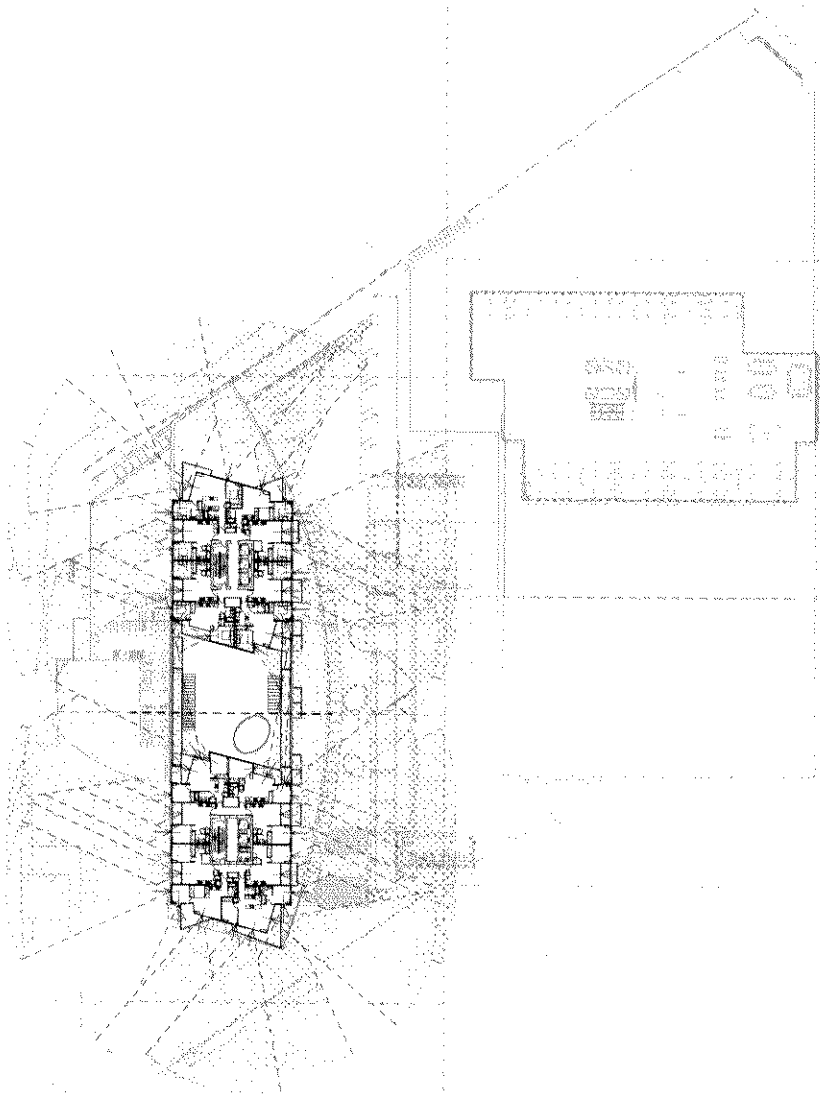
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**R-A-207**	**FLOOR PLAN - RESIDENTIAL NORTH PENTHOUSE 1& 2**



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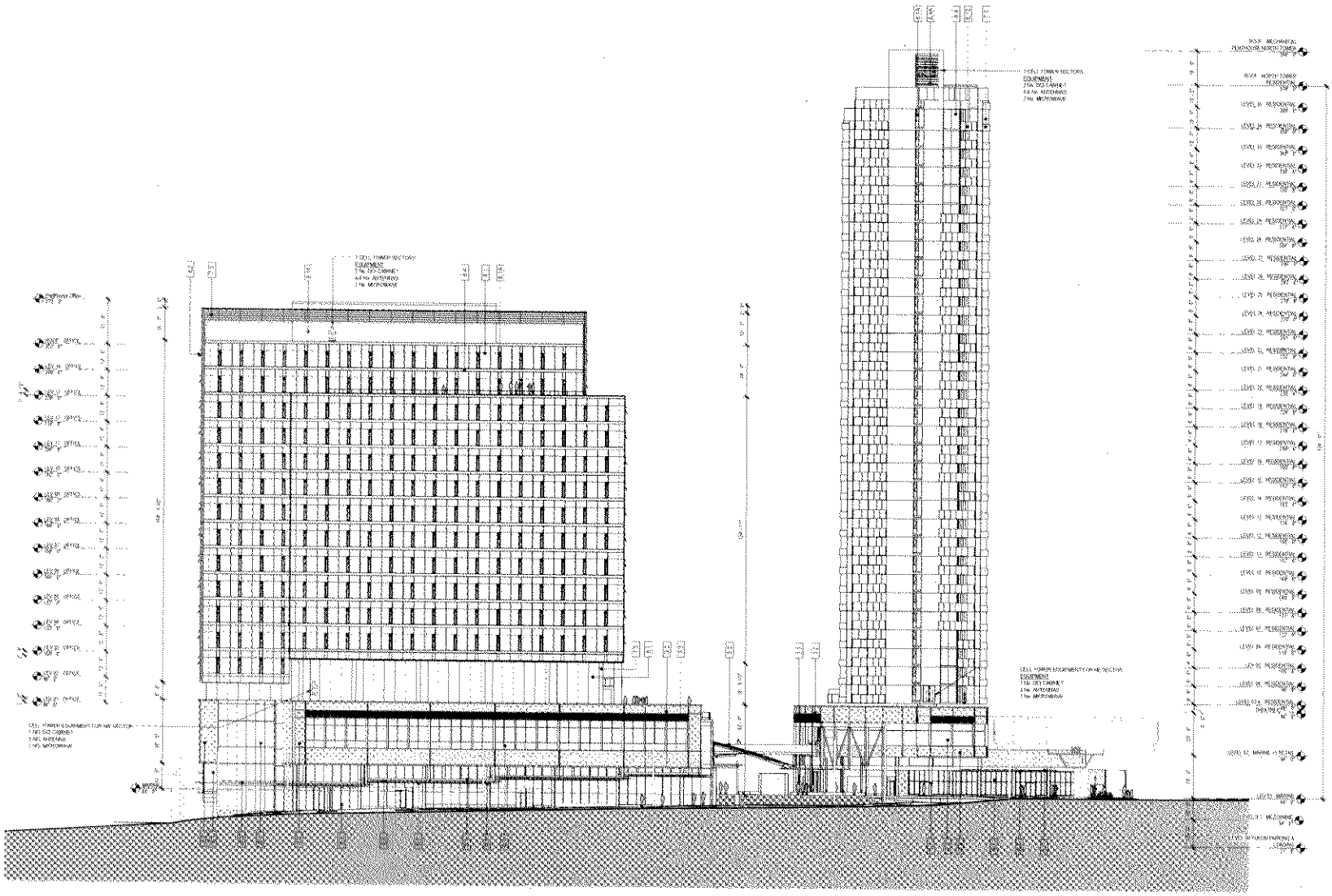
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	1/32" = 1'-0"	R-A-208	HORIZONTAL ANGLE OF DAYLIGHT



Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick - Concrete - Gray 1
4.2	Brick - Concrete - Light Brown
4.3	Brick - Basalt - Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulation Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum-Frame Glazed Wall Panel
8.7	Aluminum-Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance - Clear Finish
8.9	Aluminum-Frame Storefront and Entrance - Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

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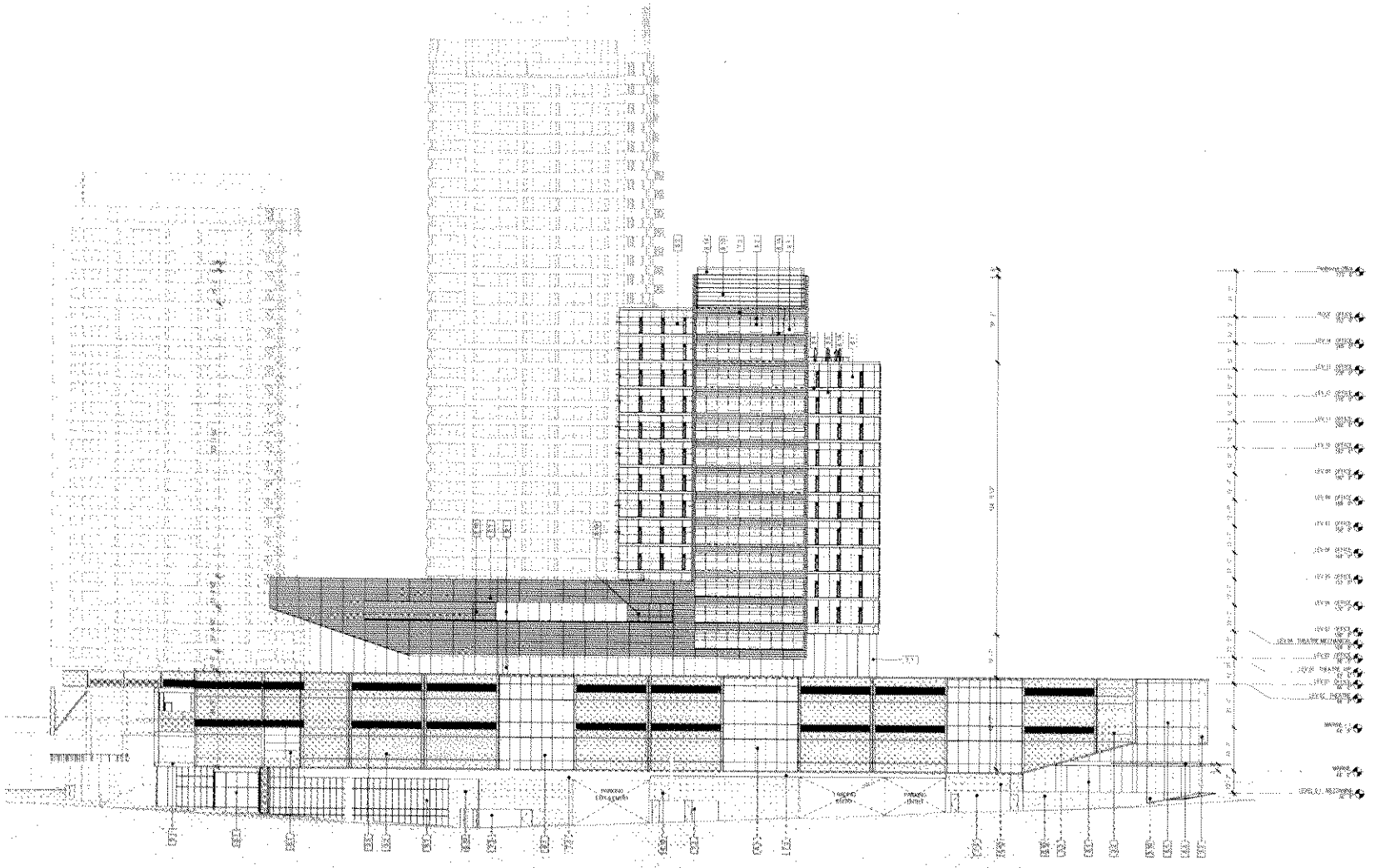
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-301**	**NORTH ELEVATIONS**



Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick -Concrete -Gray 1
4.2	Brick -Concrete -Light Brown
4.3	Brick -Basalt -Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum Frame Glazed Wall Panel
8.7	Aluminum-Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance -Clear Finish
8.9	Aluminum-Frame Storefront and Entrance -Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

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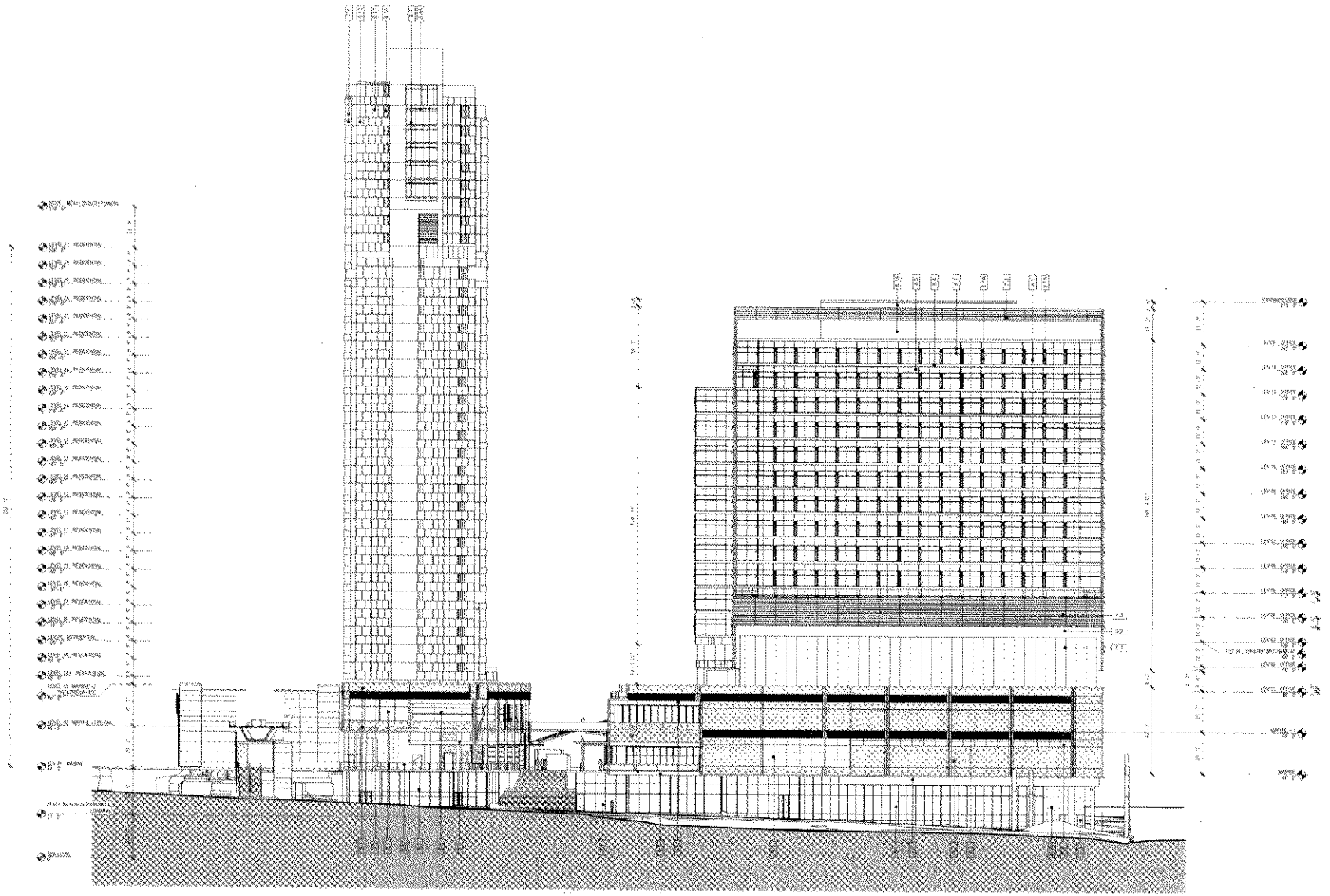
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-302**	**EAST ELEVATIONS**



Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick -Concrete -Gray 1
4.2	Brick -Concrete -Light Brown
4.3	Brick -Basalt -Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum-Frame Glazed Wall Panel
8.7	Aluminum-Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance -Clear Finish
8.9	Aluminum-Frame Storefront and Entrance -Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

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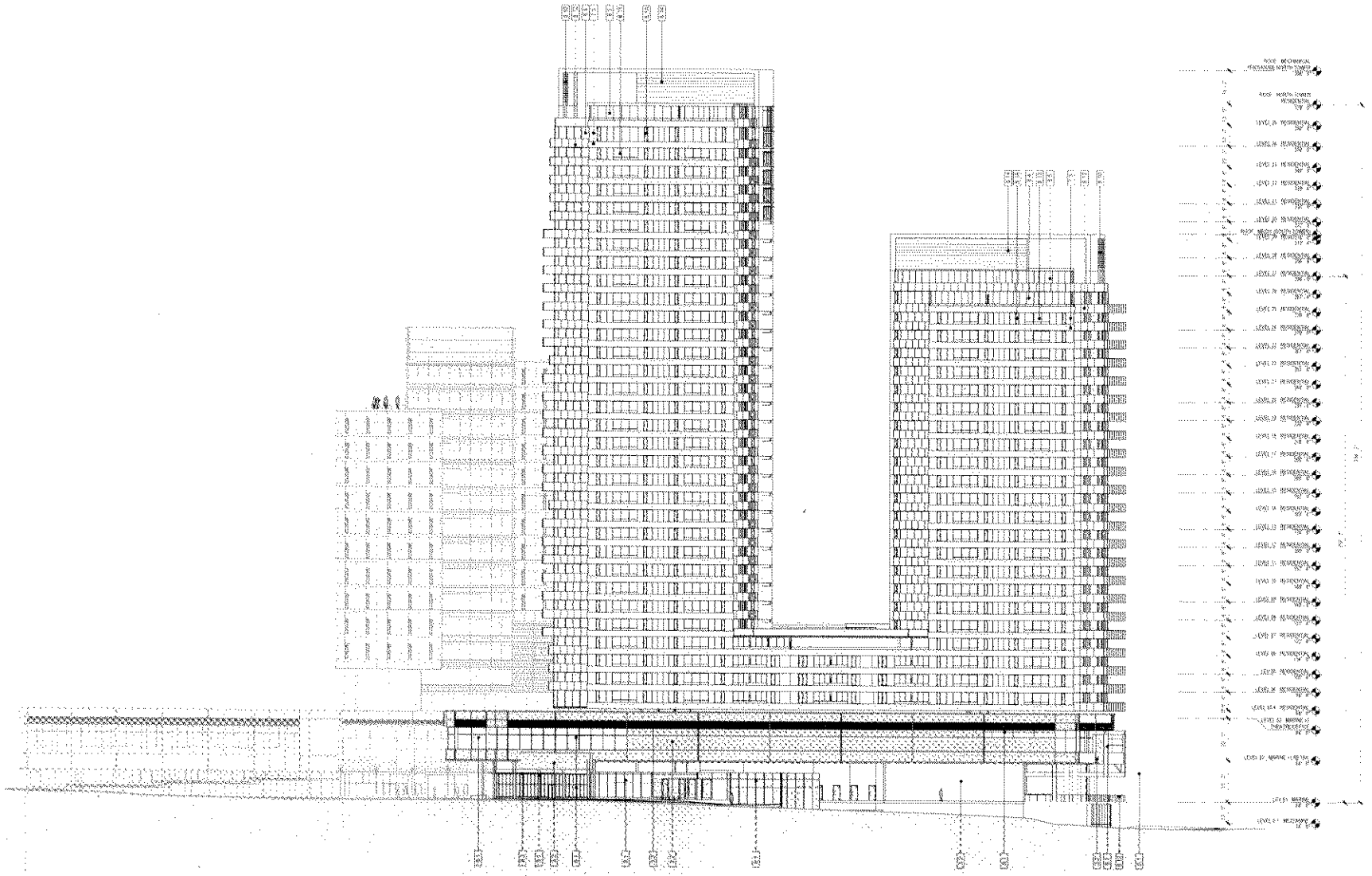
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-303**	**SOUTH ELEVATIONS**



Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick -Concrete -Gray 1
4.2	Brick -Concrete -Light Brown
4.3	Brick -Basalt -Black
5.1	Structural Steel - Paint Finish
6.2	Glazed Metal Railing
6.7	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum Frame Glazed Wall Panel
8.7	Aluminum Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance -Clear Finish
8.9	Aluminum-Frame Storefront and Entrance -Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

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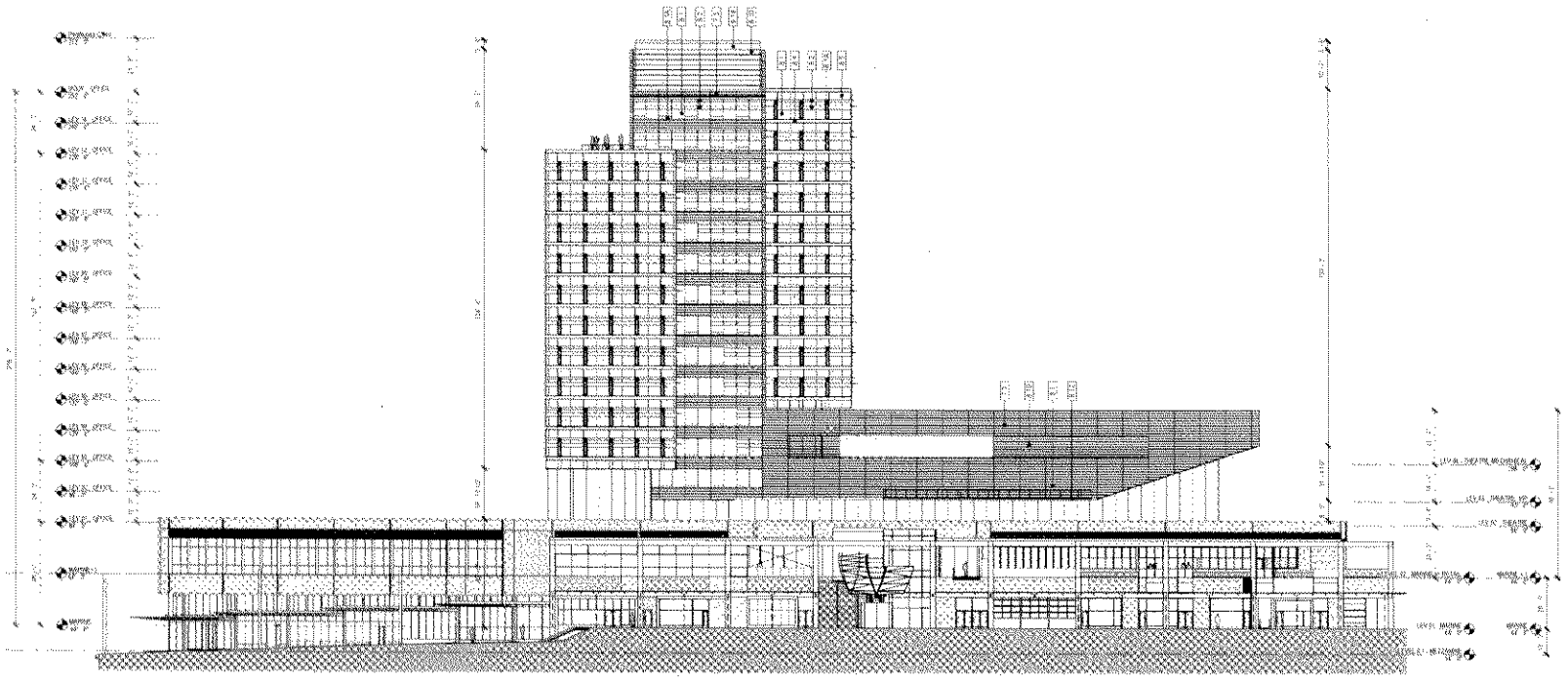
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-304**	**WEST ELEVATIONS**

Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick Concrete -Gray 1
4.2	Brick Concrete -Light Brown
4.3	Brick Basalt -Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum Frame Glazed Wall Panel
8.7	Aluminum Frame Storefront and Entrance
8.8	Wood Frame Storefront and Entrance -Clear Finish
8.9	Aluminum Frame Storefront and Entrance -Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel



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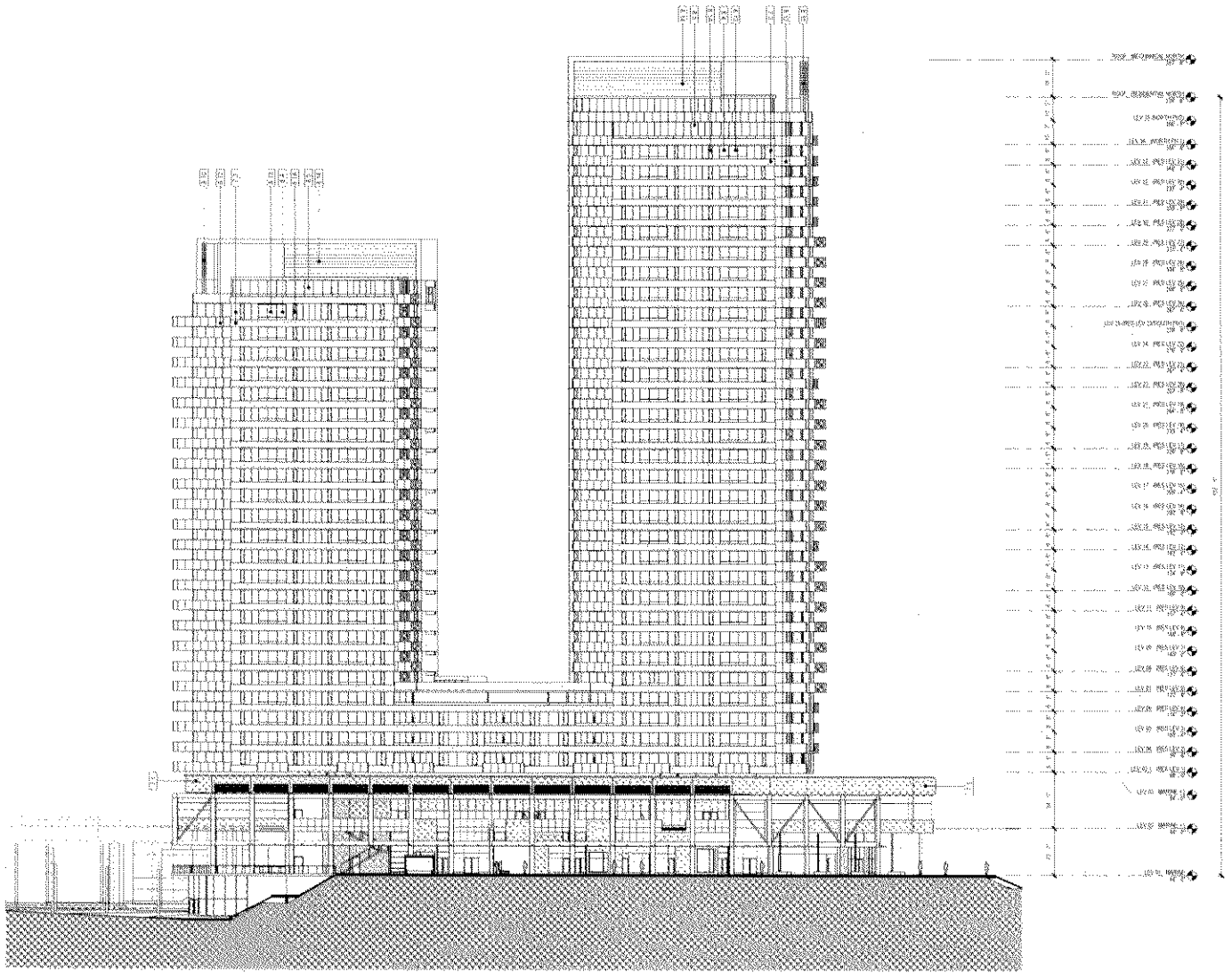
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-305**	**ELEVATION EAST PODIUM**



Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete - Louvre
4.1	Brick - Concrete - Gray 1
4.2	Brick - Concrete - Light Brown
4.3	Brick - Basalt - Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum-Frame Glazed Wall Panel
8.7	Aluminum-Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance - Clear Finish
8.9	Aluminum-Frame Storefront and Entrance - Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

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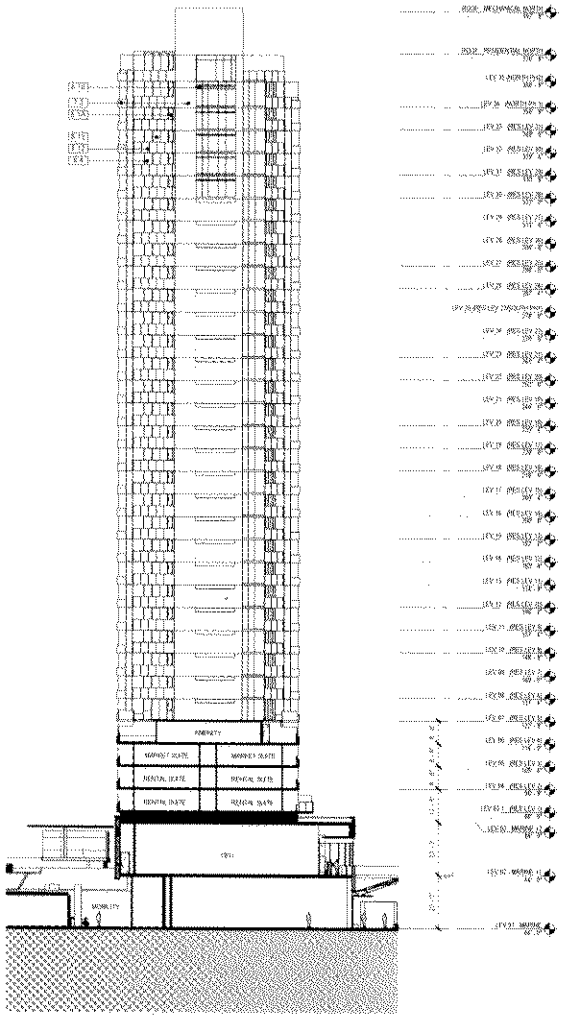
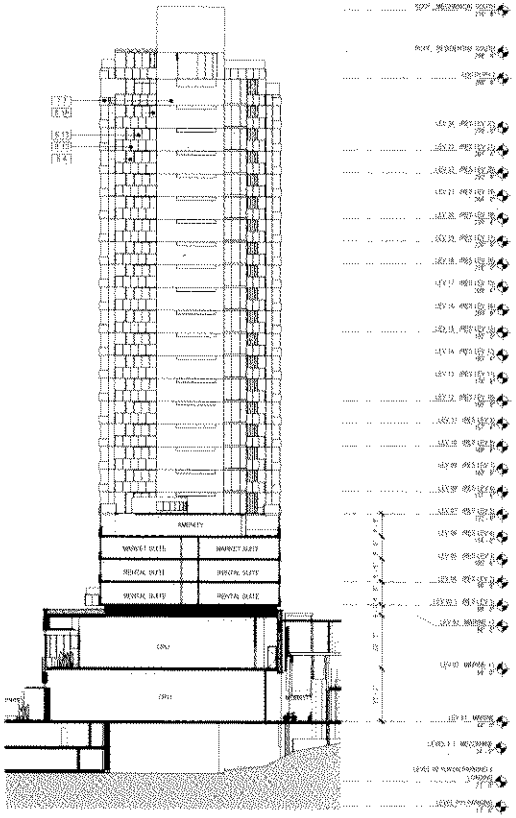
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-306**	**ELEVATION WEST PODIUM AND RESIDENTIAL**



2 NORTH TOWER - SOUTH ELEVATION
3/64" = 1'-0"



1 SOUTH TOWER - NORTH ELEVATION
3/64" = 1'-0"

Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick Concrete - Gray 1
4.2	Brick Concrete - Light Brown
4.3	Brick Basalt - Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum Frame Glazed Wall Panel
8.7	Aluminum Frame Storefront and Entrance
8.8	Wood Frame Storefront and Entrance -Clear Finish
8.9	Aluminum Frame Storefront and Entrance -Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

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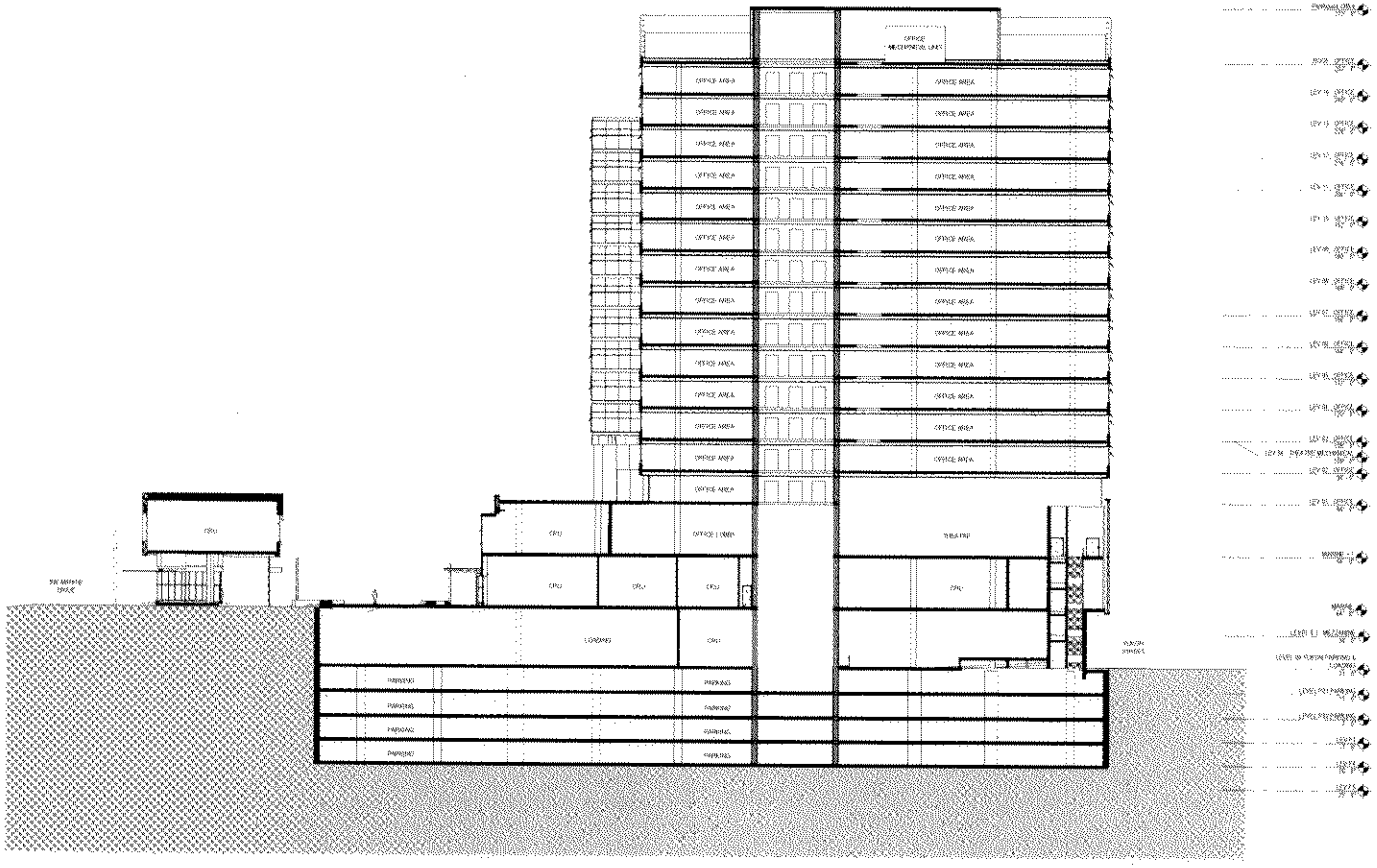
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-307**	**ELEVATIONS NORTH AND SOUTH RESIDENTIAL TOWER**



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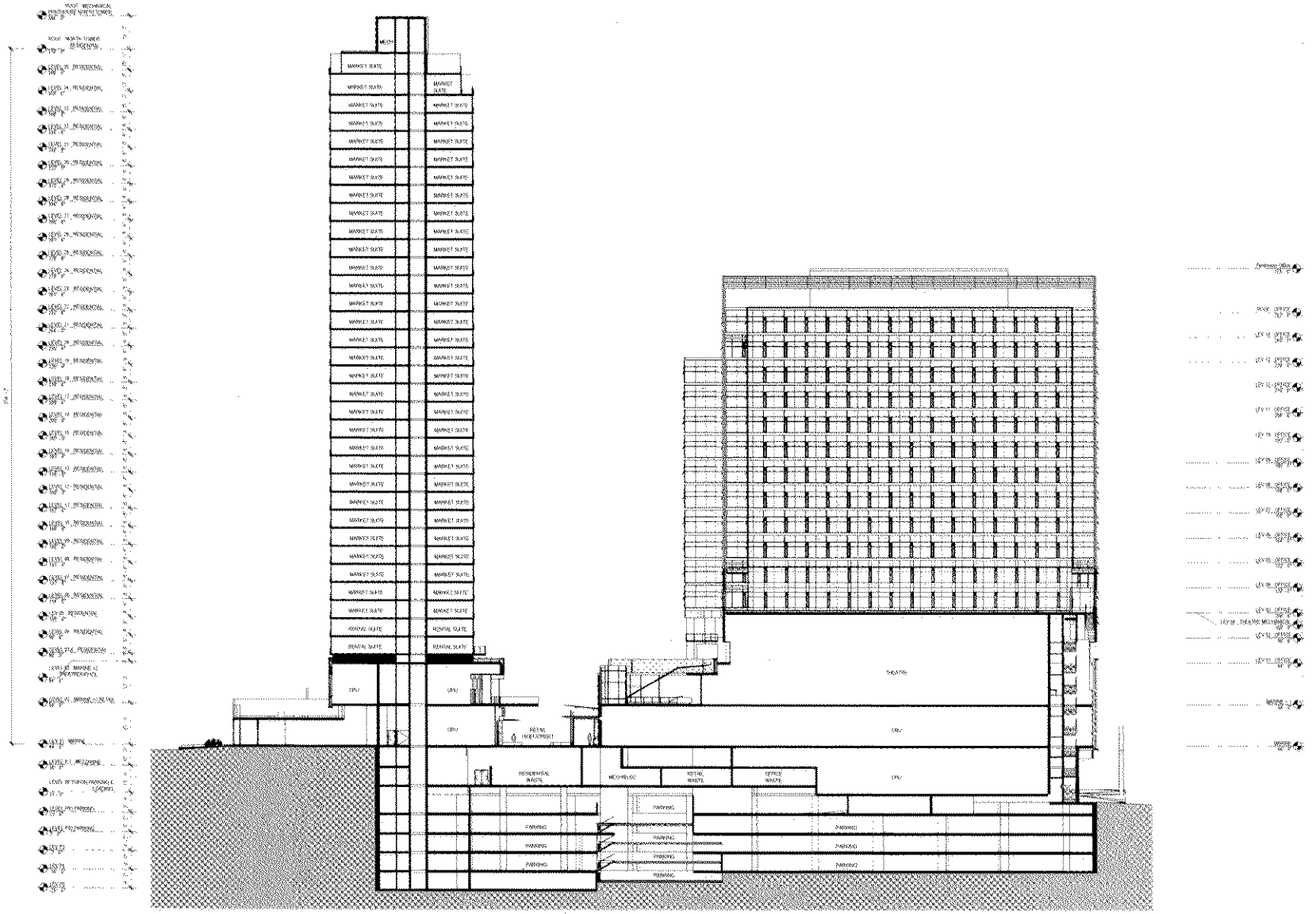
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-350**	**SECTION WEST PODIUM AND OFFICE**



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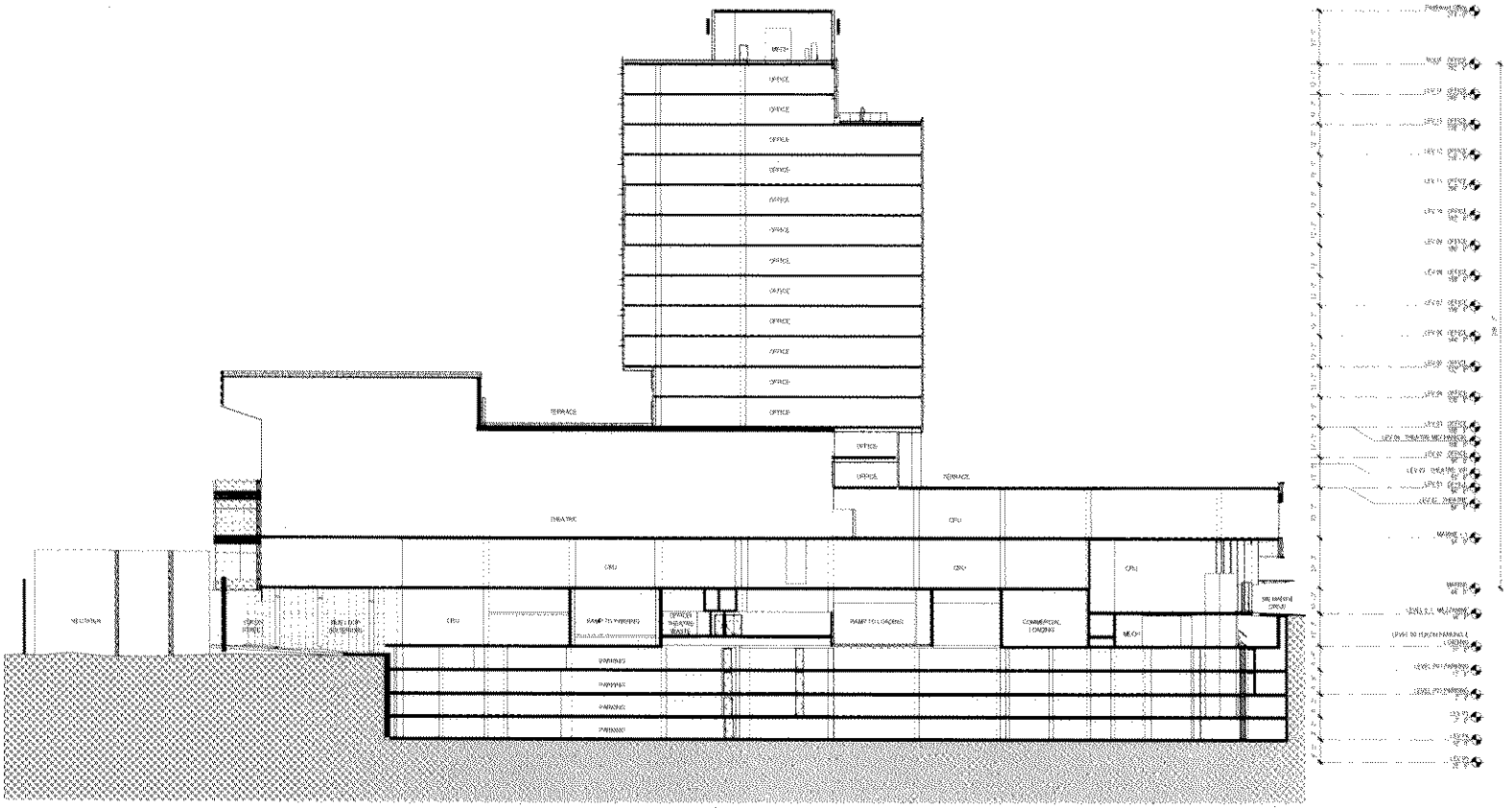
MARINE GATEWAY

Title

SECTION RESIDENTIAL AND EAST PODIUM



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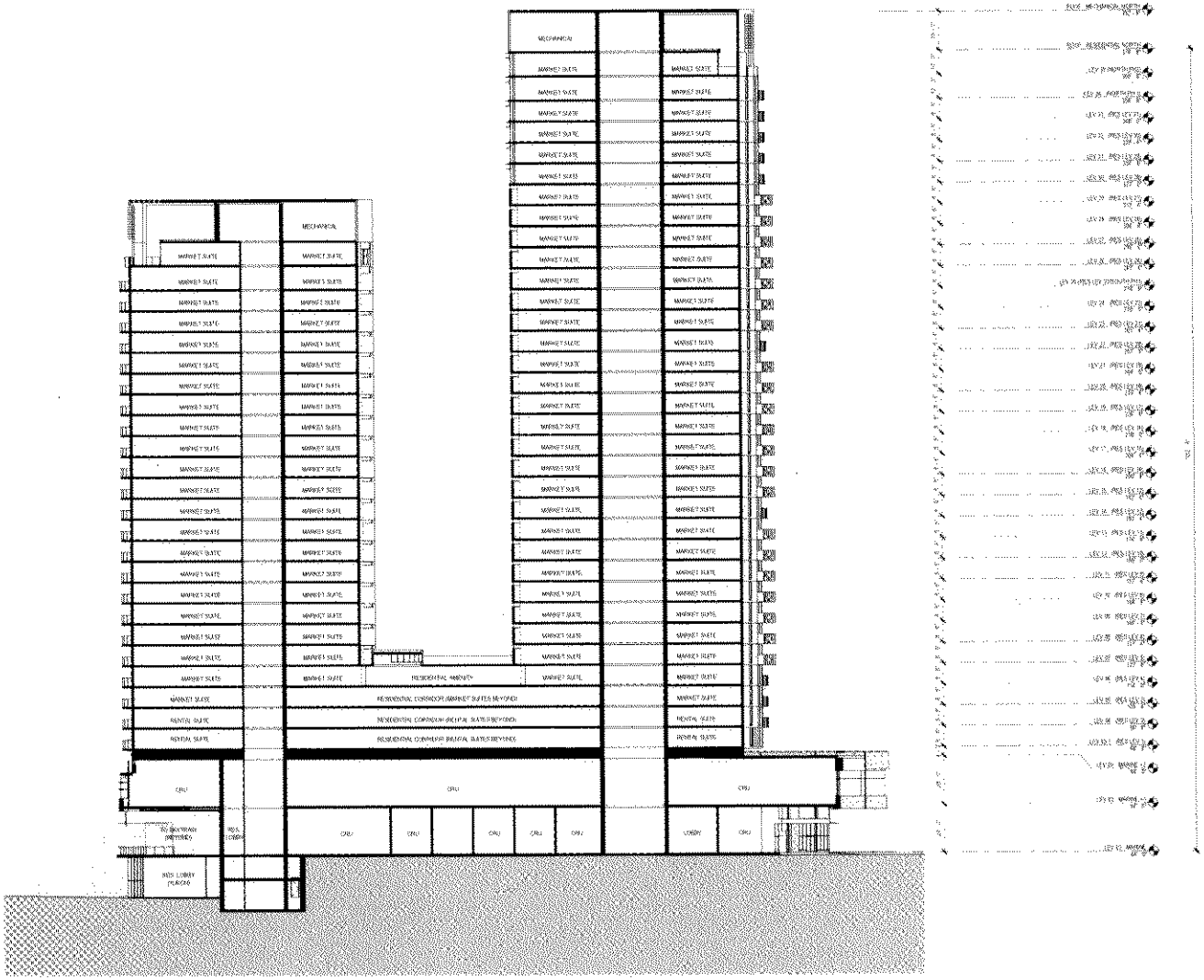
MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-352**	**SECTION THRU EAST PODIUM**



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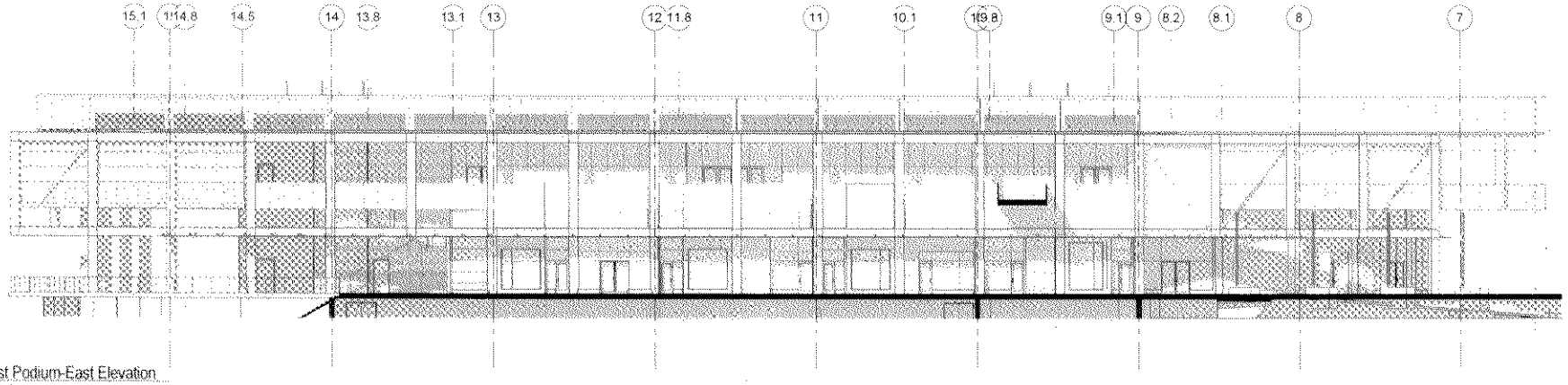
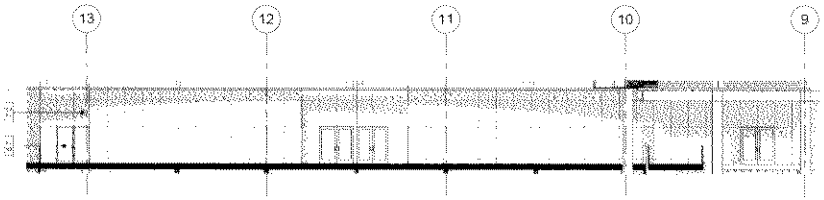
MARINE GATEWAY

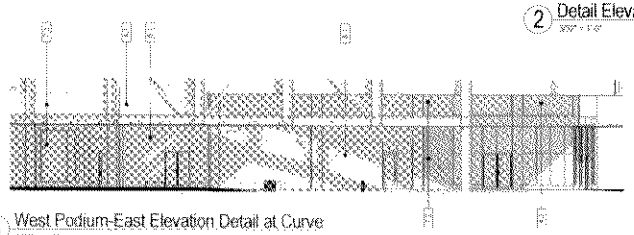
Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**P-A-353**	**SECTION THRU RESIDENTIAL AND WEST PODIUM**



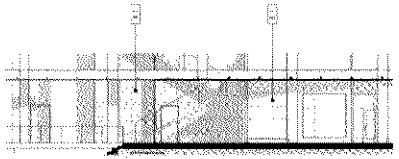
1 West Podium-East Elevation



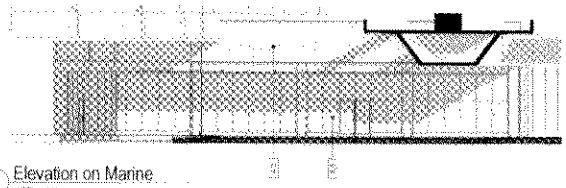
2 Detail Elevation- Marine+1 Storefronts



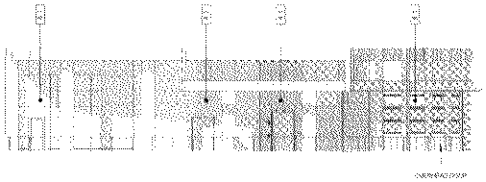
3 West Podium-East Elevation Detail at Curve



5 Elevation-Detail Elevation Marine Storefonts



4 Elevation on Marine

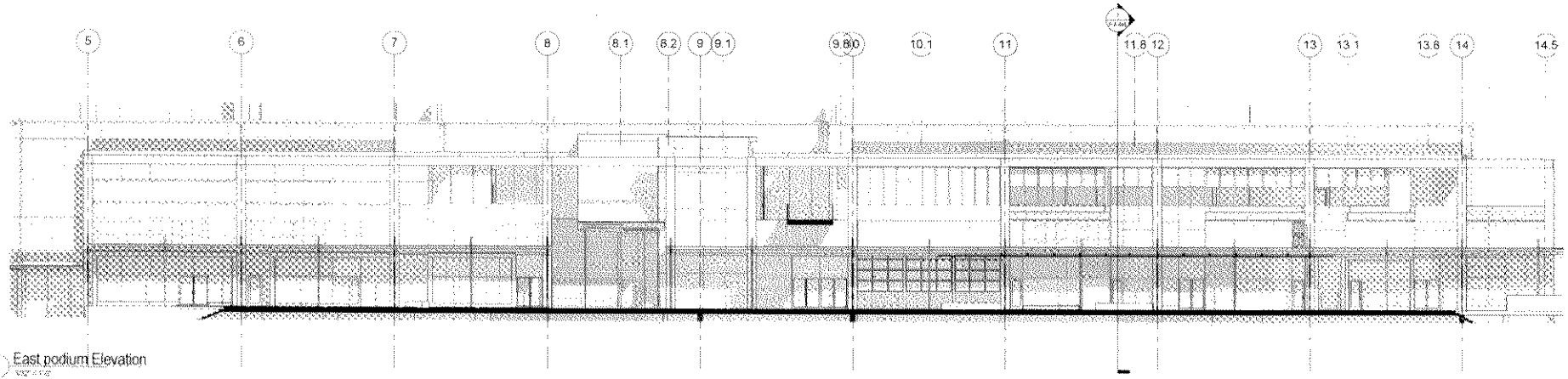


6 Elevation-Detail Elevation-Marine Storefronts

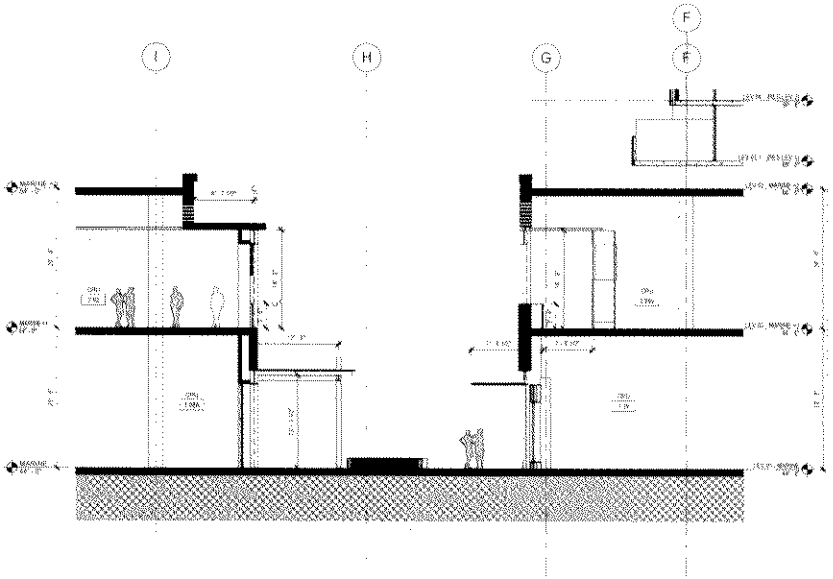
PERKINS + WILL | PCI

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**P-A-445**	**West Podium - High Street Elevation**



1 East podium Elevation

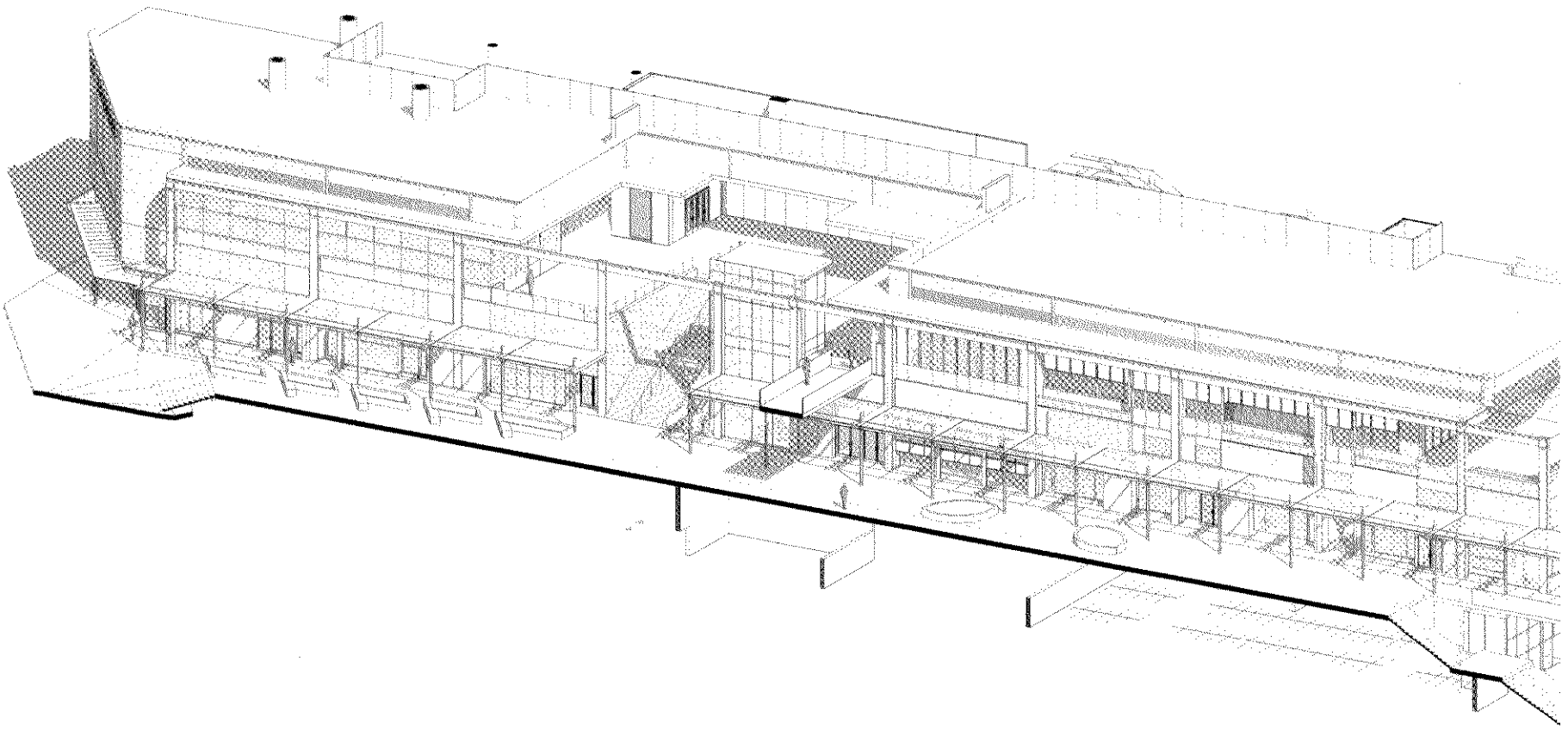


2 Section through Retail High Street

PERKINS + WILL | PCI

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	As indicated	**P-A-446**	**East Podium - High Street Elevation**



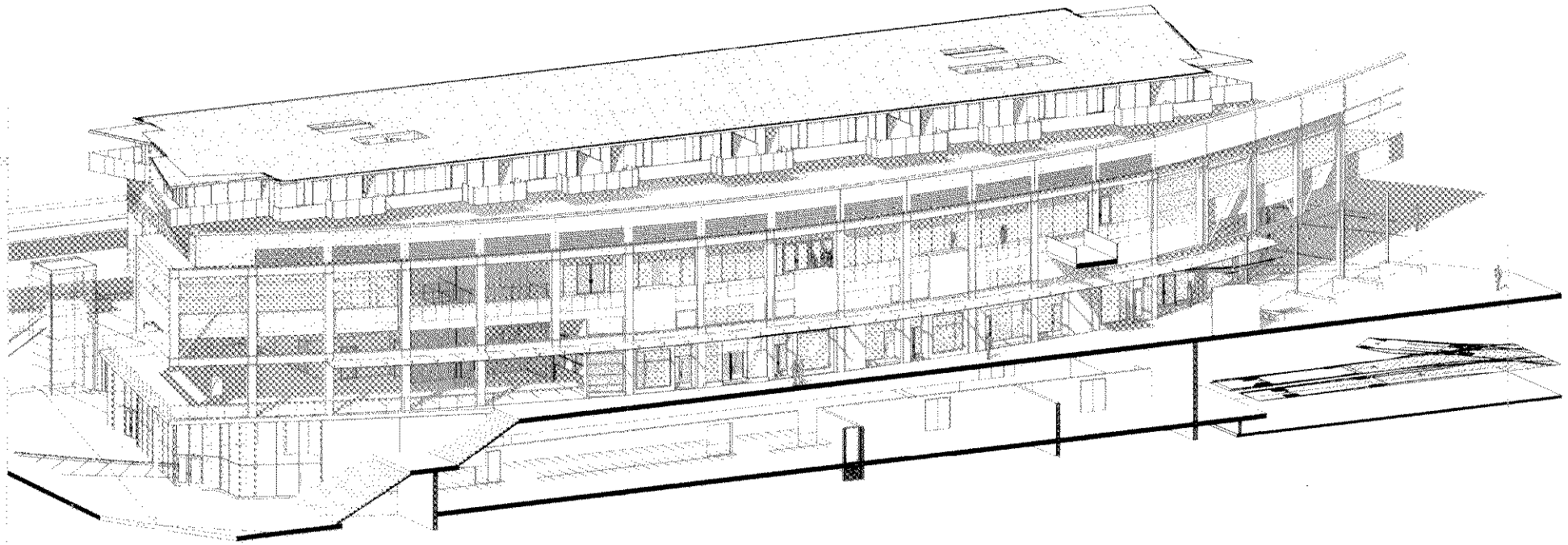
PERKINS + WILL | PCI **MARINE GATEWAY**

Date: AUG 15, 2011

Scale:

Sheet: **P-A-448**

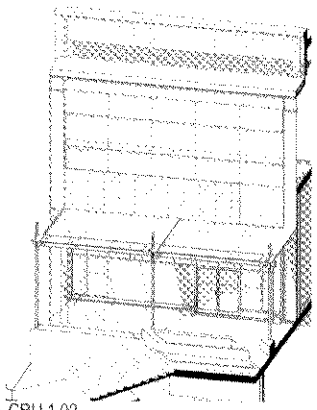
Title: **Axo - East Podium High Street**



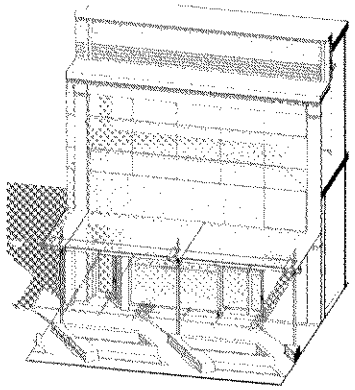
PERKINS +WILL | PCI

MARINE GATEWAY

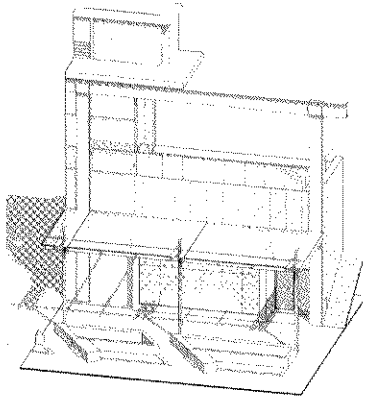
Date	Scale	Sheet	Title
AUG 15, 2011		**P-A-449**	**Axo -West Podium High Street**



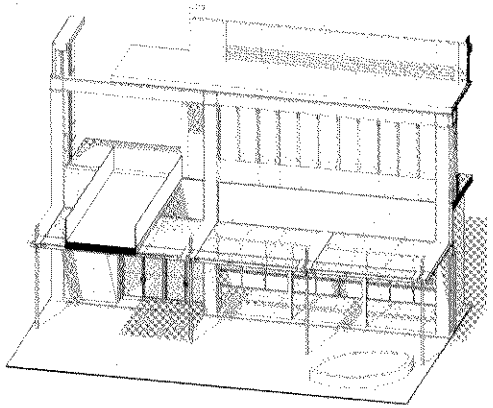
1 CRU 1.02



2 CRU 1.06

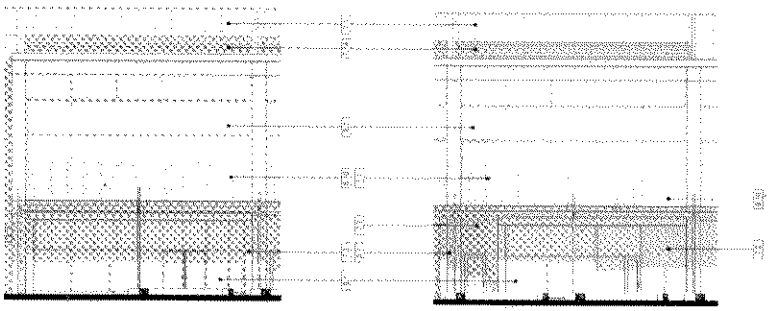


3 CRU 1.07



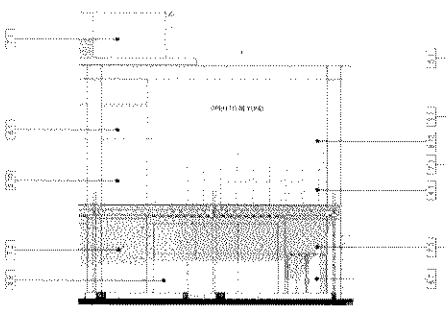
4 CRU 1.03

Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete - Louvre
4.1	Brick -Concrete -Grey 1
4.2	Brick -Concrete - Light Brown
4.3	Brick -Basalt -Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding - Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum Frame Glazed Wall Panel
8.7	Aluminum Frame Storefront and Entrance
8.8	Wood Frame Storefront and Entrance - Clear Finish
8.9	Aluminum Frame Storefront and Entrance - Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

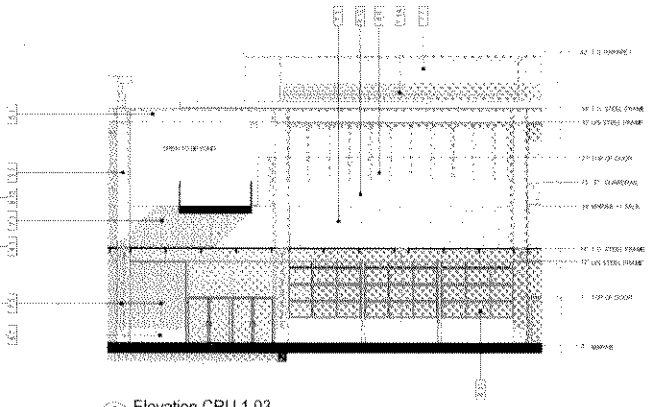


6 Elevation CRU 1.02

5 Elevation CRU 1.06



7 Elevation CRU 1.07

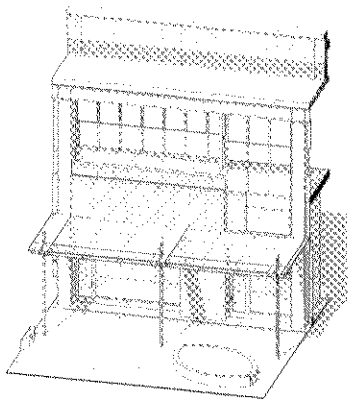


8 Elevation CRU 1.03

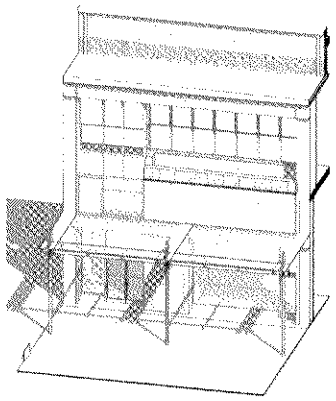
PERKINS + WILL | PCI

MARINE GATEWAY

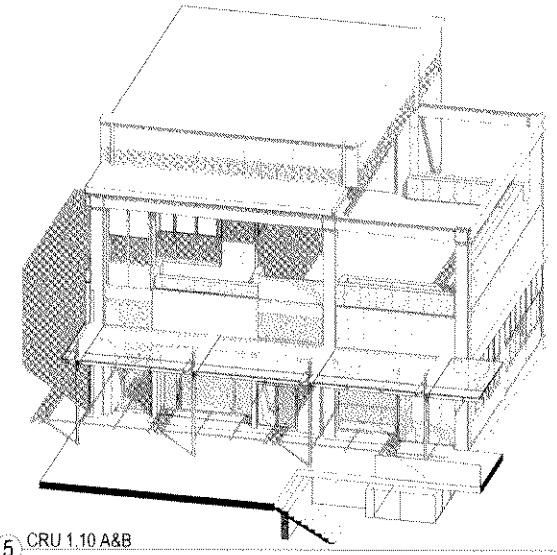
Date	Scale	Sheet	Title
AUG 15, 2011	1/8" = 1'-0"	**P-A-450**	**EAST PODIUM STOREFRONTS I**



7 CRU 1.08 A&B

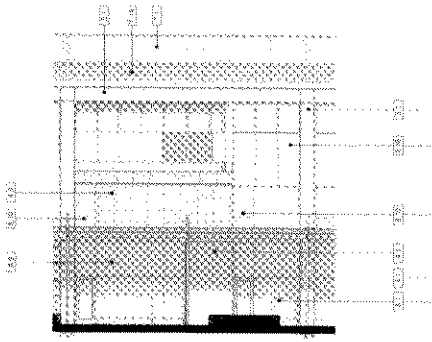


6 CRU 1.09 A&B

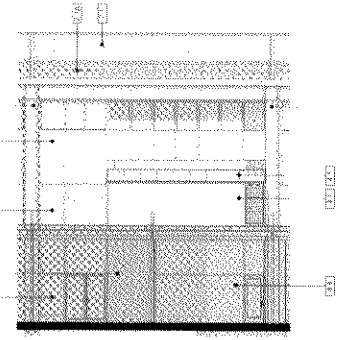


5 CRU 1.10 A&B

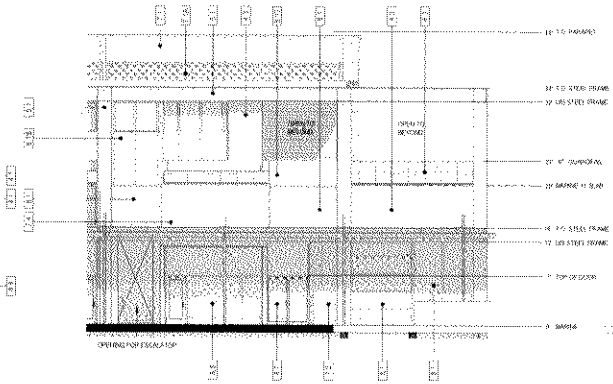
Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick -Concrete -Grey 1
4.2	Brick -Concrete -Light Brown
4.3	Brick -Basalt -Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum Frame Glazed Wall Panel
8.7	Aluminum Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance -Clear Finish
8.9	Aluminum-Frame Storefront and Entrance -Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel



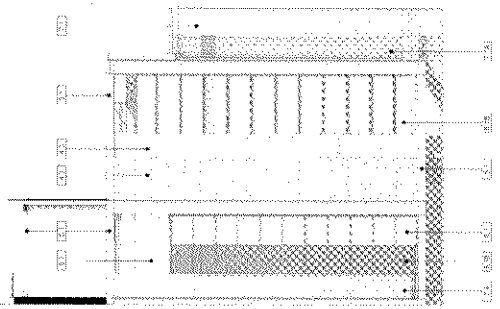
4 Elevation CRU 1.08 A&B



3 Elevation CRU 1.09 A&B



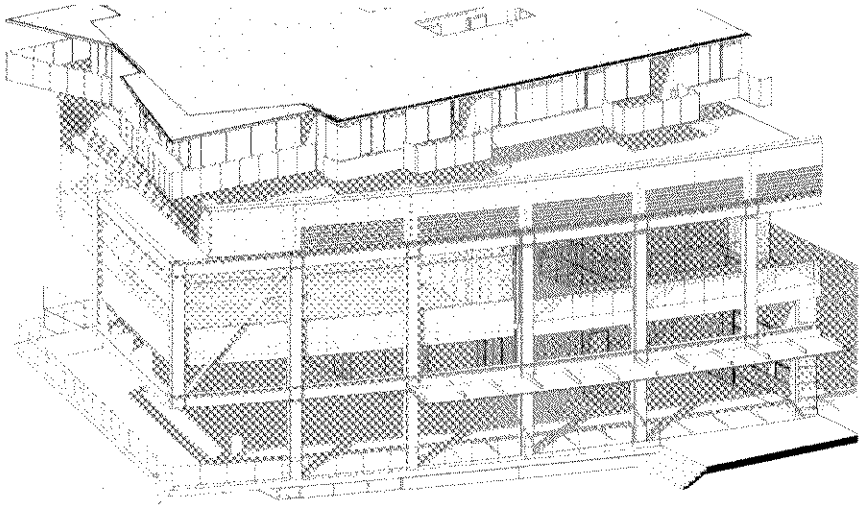
2 Elevation CRU 1.10 A&B



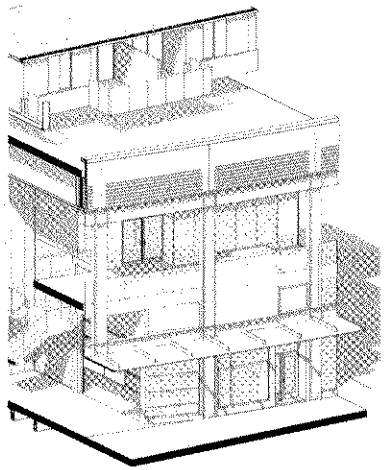
1 South Elevation CRU 1.10 B

PERKINS + WILL | PCI **MARINE GATEWAY**

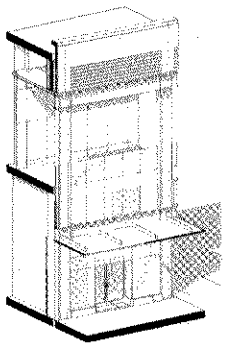
Date	Scale	Sheet	Title
AUG 15, 2011	1/8" = 1'-0"	**P-A-452**	**EAST PODIUM STOREFRONTS III**



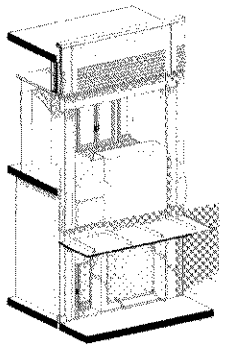
8 CRU 2.06



7 CRU 1.21



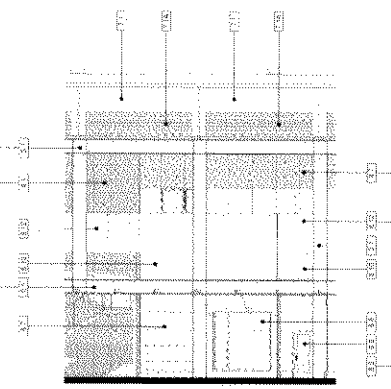
6 CRU 1.20



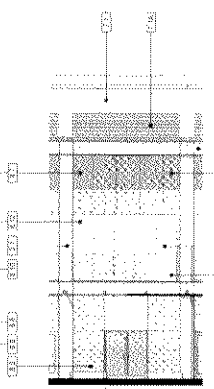
5 CRU 1.19

Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete Louvre
4.1	Brick - Concrete - Grey 1
4.2	Brick - Concrete - Light Brown
4.3	Brick - Basalt - Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Facing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding - Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum-Frame Glazed Wall Panel
8.7	Aluminum-Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance, Clear Finish
8.9	Aluminum-Frame Storefront and Entrance - Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel

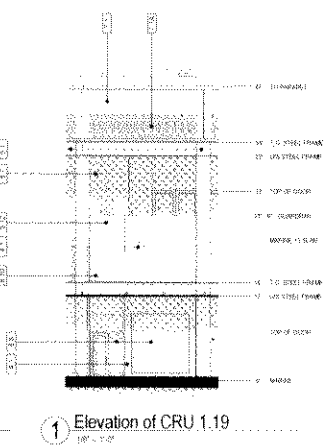
4 Elevation of South End West Podium



3 Elevation of CRU 1.21



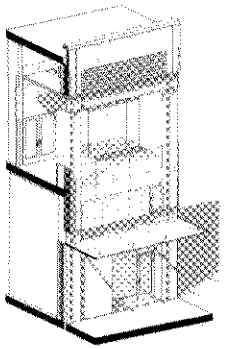
2 Elevation of CRU 1.20



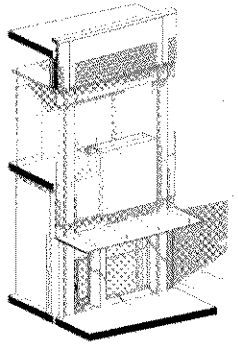
1 Elevation of CRU 1.19

PERKINS + WILL | PCI **MARINE GATEWAY**

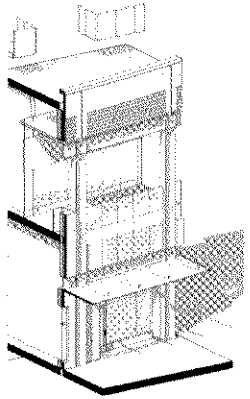
Date	Scale	Sheet	Title
AUG 15, 2011	1/8" = 1'-0"	**P-A-454**	**WEST PODIUM STOREFRONTS I**



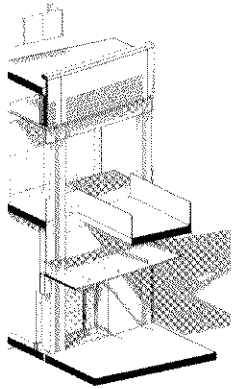
10 CRU 1.18



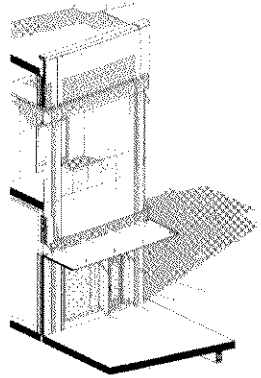
9 CRU 1.17



8 CRU 1.16

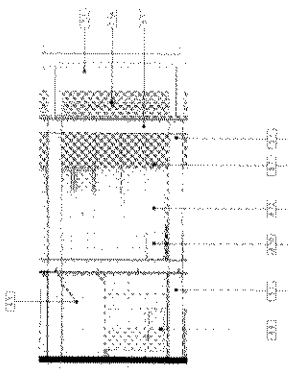


7 CRU 1.15

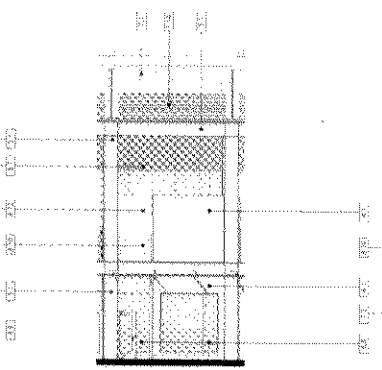


6 CRU 1.14

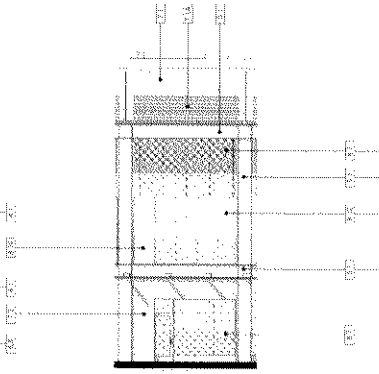
Materials Legend	
Tag	Description
3 1	Architectural Concrete
3 2	Precast Architectural Concrete
3 3	Precast Architectural Concrete Louvre
4 1	Brick -Concrete -Gray 1-
4 2	Brick -Concrete -Light Brown
4 3	Brick -Basalt -Black
5 1	Structural Steel - Paint Finish
5 2	Glazed Metal Railing
6 1	Glulam Canopy Support
6 2	Wood Soffit
7	Wood Wall Panels
7 1	Cementitious Wall Panels
7 1A	Louvre in Cementitious Panel
7 2	Wood Wall Panels
7 3	Aluminum Wall Panels
7 4	Fibre Reinforced Cement Wall Panels
7 5	Aluminum Cladding / Insulated Column
8 1	Curtain Wall
8 1A	Operable Window
8 1B	Operable Single-Hung Aluminum Window
8 2	Glass Sunshade
8 3	Glazed Canopy
8 4	Aluminum Spandrel Panel
8 4A	Aluminum Sunshade
8 5	Glass Spandrel Panel
8 6	Sliding Aluminum Frame Glazed Wall Panel
8 7	Aluminum-Frame Storefront and Entrance
8 8	Wood-Frame Storefront and Entrance -Clear Finish-
8 9	Aluminum-Frame Storefront and Entrance -Silicone Joints
8 10	Fixed Aluminum Louvres
8 11	Glazed Aluminum Overhead Doors
8 12	Glazed Balustrade
8 13	Glazed Sliding Door
8 14	Polycarbonate Panel



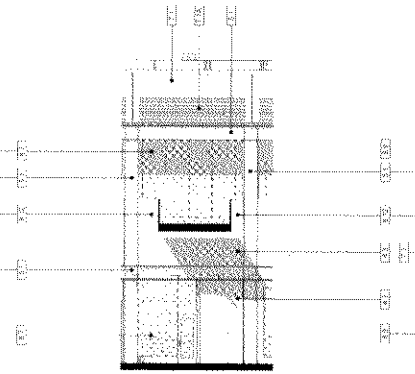
5 Elevation of CRU 1.18



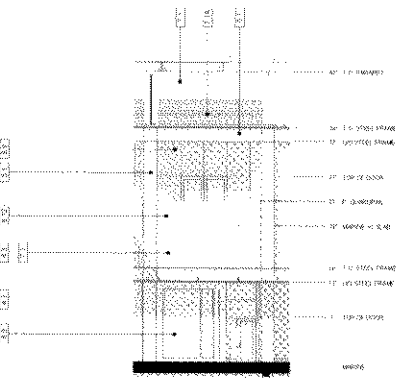
4 Elevation of CRU 1.17



3 Elevation of CRU 1.16



2 Elevation of CRU 1.15

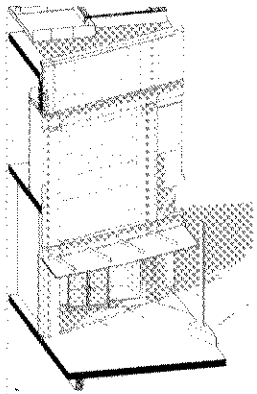


1 Elevation of CRU 1.14

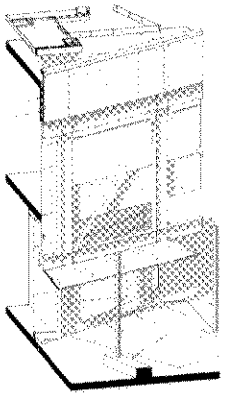
PERKINS + WILL | PCI

MARINE GATEWAY

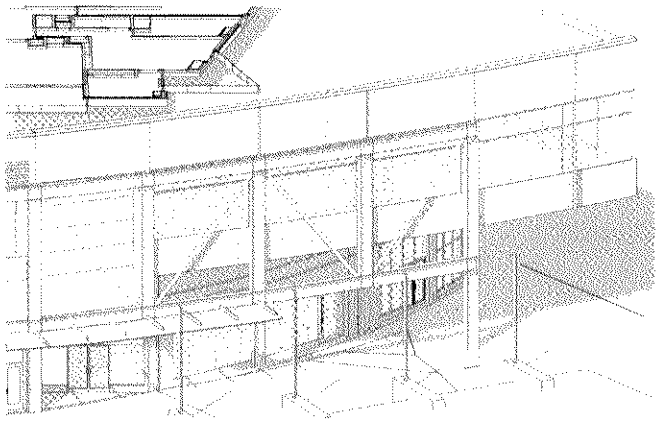
Date	Scale	Sheet	Title
AUG 15, 2011	1/8" = 1'-0"	**P-A-456**	**WEST PODIUM STOREFRONTS III**



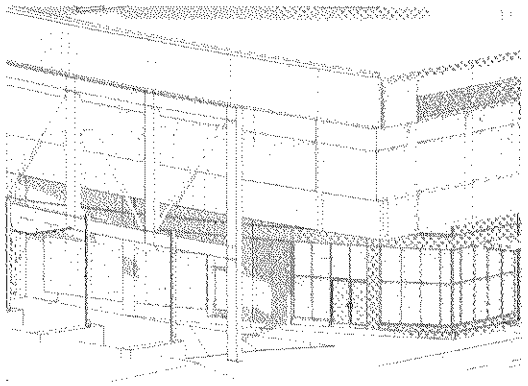
Residential Lobby



7 CRU 1.13

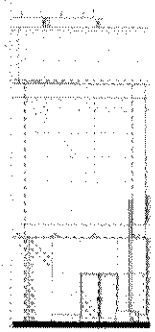


6 CRU 2.03

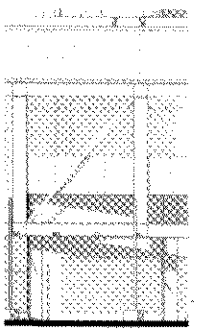


5 CRU 1.11

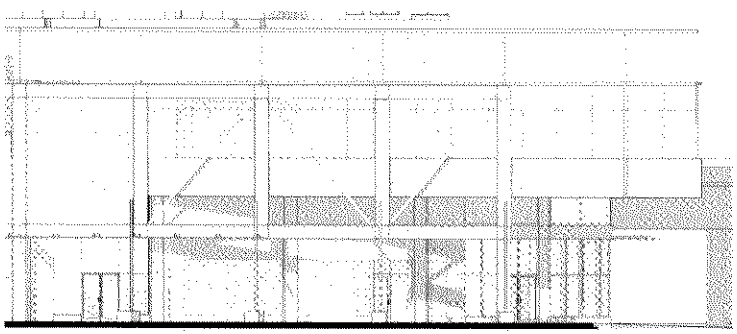
Materials Legend	
Tag	Description
3.1	Architectural Concrete
3.2	Precast Architectural Concrete
3.3	Precast Architectural Concrete - Louvre
4.1	Brick - Concrete - Gray 1
4.2	Brick - Concrete - Light Brown
4.3	Brick - Basalt - Black
5.1	Structural Steel - Paint Finish
5.2	Glazed Metal Railing
6.1	Glulam Canopy Support
6.2	Wood Soffit
7	Wood Wall Panels
7.1	Cementitious Wall Panels
7.1A	Louvre in Cementitious Panel
7.2	Wood Wall Panels
7.3	Aluminum Wall Panels
7.4	Fibre Reinforced Cement Wall Panels
7.5	Aluminum Cladding / Insulated Column
8.1	Curtain Wall
8.1A	Operable Window
8.1B	Operable Single-Hung Aluminum Window
8.2	Glass Sunshade
8.3	Glazed Canopy
8.4	Aluminum Spandrel Panel
8.4A	Aluminum Sunshade
8.5	Glass Spandrel Panel
8.6	Sliding Aluminum-Frame Glazed Wall Panel
8.7	Aluminum-Frame Storefront and Entrance
8.8	Wood-Frame Storefront and Entrance - Clear Finish
8.9	Aluminum-Frame Storefront and Entrance - Silicone Joints
8.10	Fixed Aluminum Louvres
8.11	Glazed Aluminum Overhead Doors
8.12	Glazed Balustrade
8.13	Glazed Sliding Door
8.14	Polycarbonate Panel



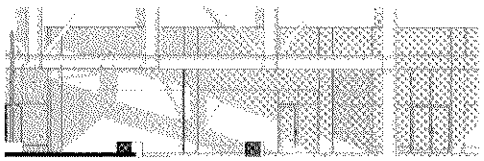
Elevation ofResidential Lobby



3 Elevation of CRU 1.13



2 Elevation of CRU 2.03



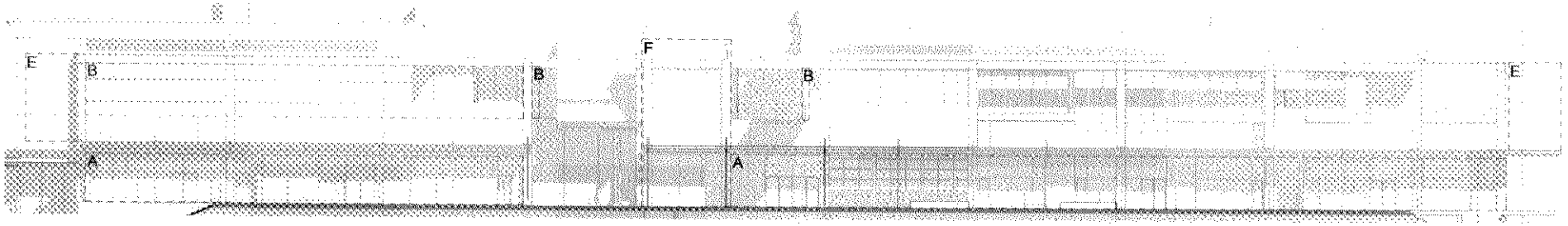
1 Elevation at CRU 1.11

PERKINS + WILL | PCI **MARINE GATEWAY**

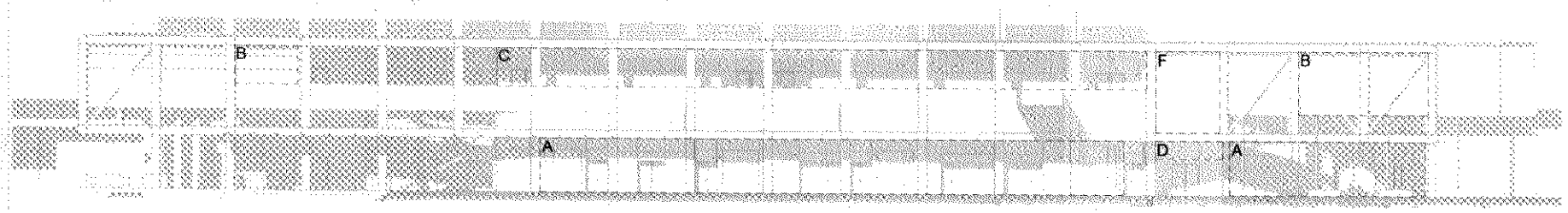
Date	Scale	Sheet	Title
AUG 15, 2011	1/8" = 1'-0"	**P-A-458**	**West Podium Storefronts III**

Signage Schedule

Type	Description	Comments
A	Signage: Commercial	Individually lit letters or letters on a non-illuminated continuous background, that is externally lit. Contained within the storefront.
B	Signage: Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit.
C	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit.
D	Signage: Residential	Non-lit, individual letters residential identification and address supported from steel frame. Externally lit.
E	Signage: Commercial	Sign identifying all major project tenants. Bus loop (1 sign / 2 faces). Marine Drive (1 sign / 2 faces)
F	Signage: Project Identification	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
G	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit



1 Elevation-Signage-East Podium Storefronts
3/32" = 1'-0"



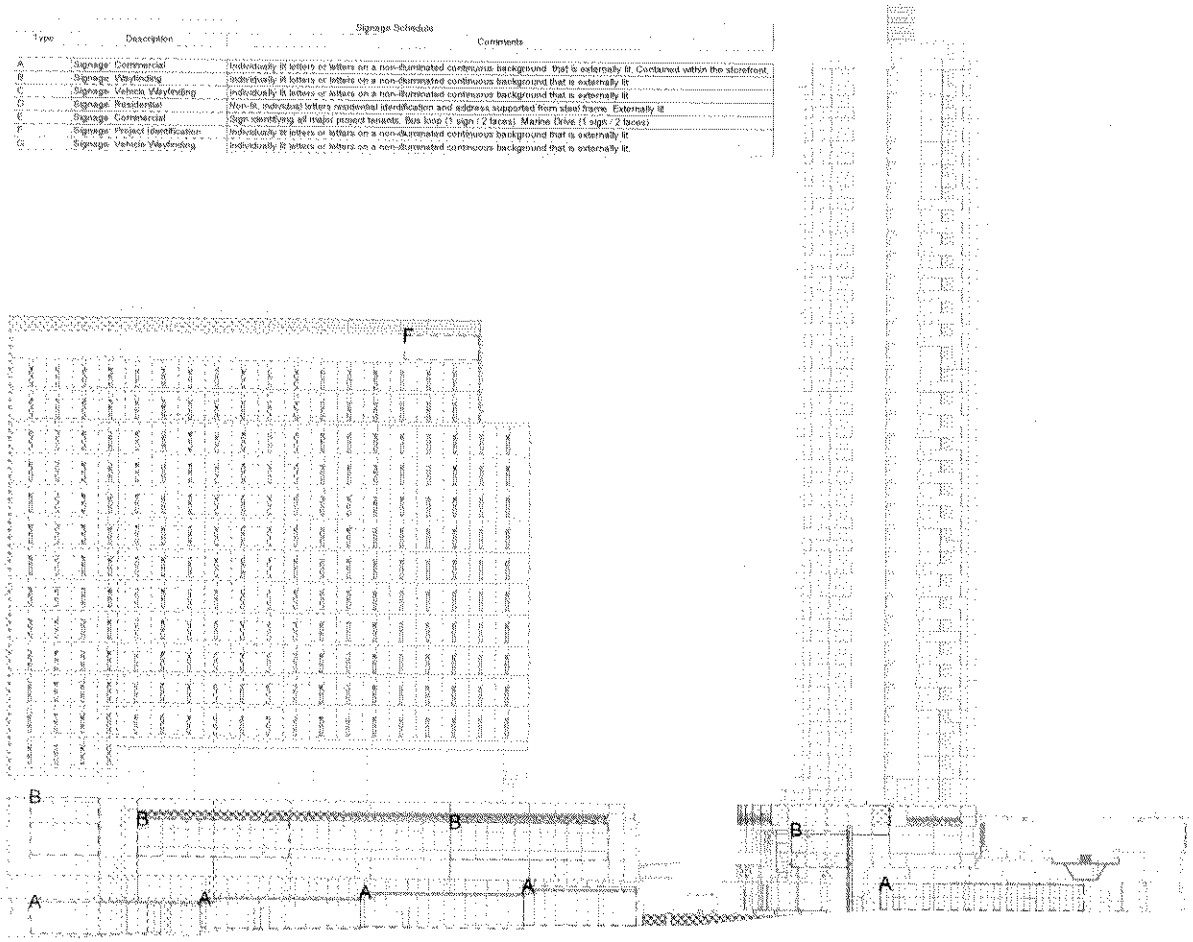
2 Elevation-Signage-West Podium Storefronts
3/32" = 1'-0"

PERKINS + WILL | PCI **MARINE GATEWAY**

Date	Scale	Sheet	Title
AUG 15, 2011	3/32" = 1'-0"	**A-923**	**Signage - High Street Elevations**

Signage Schedule

Type	Description	Comments
A	Signage: Commercial	Individually lit letters or letters on a non-illuminated continuous background that is externally lit. Contained within the storefront
B	Signage: Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
C	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
D	Signage: Residential	Non-lit, individual letters residential identification and address supported from steel frame. Externally lit
E	Signage: Commercial	Sign identifying all major project tenants. Bus loop (1 sign / 2 faces); Marine Drive (1 sign / 2 faces)
F	Signage: Project Identification	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
G	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit.



1 North Elevation - Signage
3/64" = 1'-0"

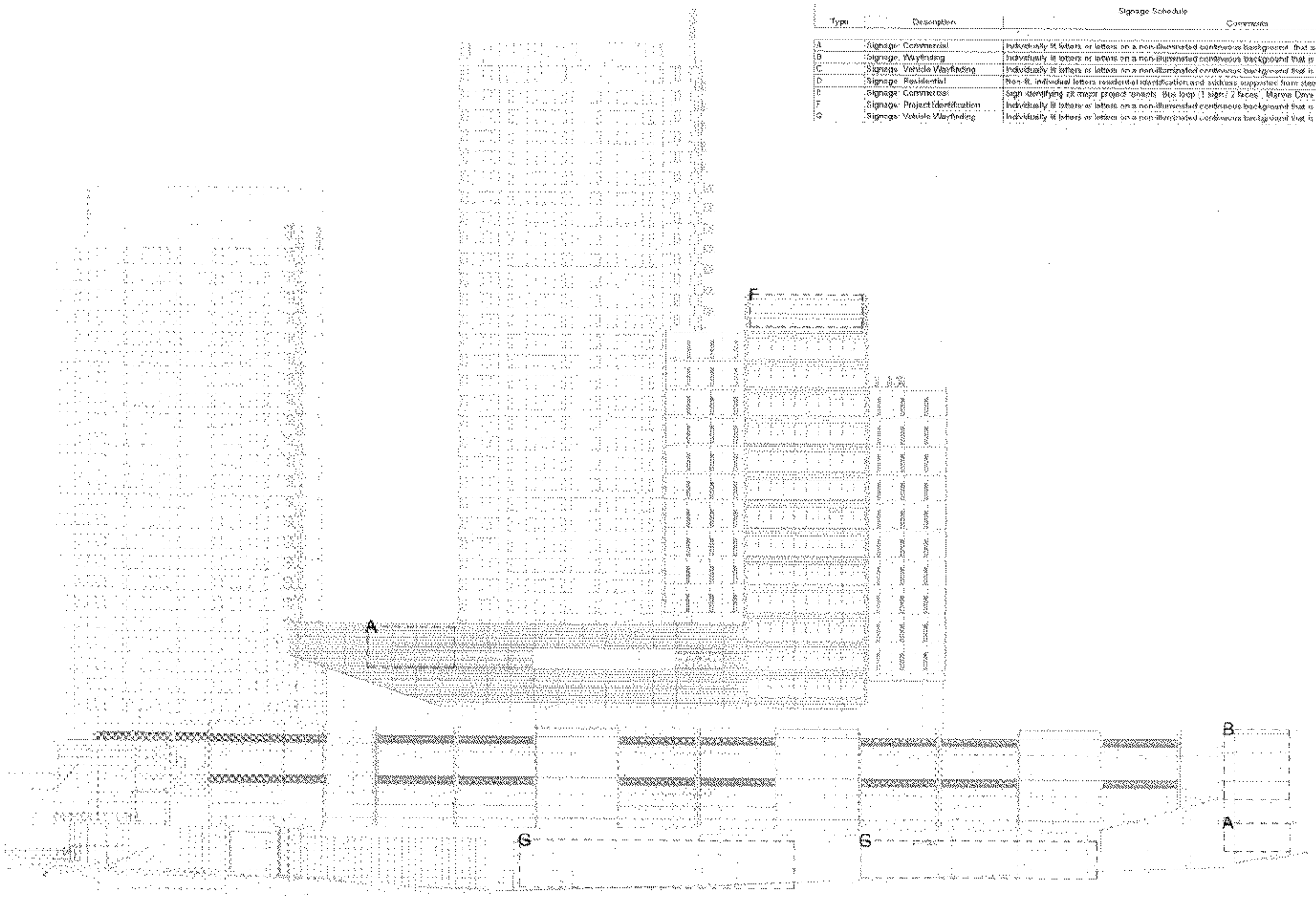
PERKINS + WILL | PCI

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**A-924**	**Signage - North Elevation**

Signage Schedule

Type	Description	Comments
A	Signage: Commercial	Individually lit letters or letters on a non-illuminated continuous background that is externally lit. Contained within the storefront
B	Signage: Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
C	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
D	Signage: Residential	Non-lit, individual letters residential identification and address supported from steel frame. Externally lit
E	Signage: Commercial	Sign identifying all major project tenants. Bus loop (1 sign / 2 faces), Marine Drive (1 sign / 2 faces)
F	Signage: Project Identification	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
G	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit



1 Signage - East Elevation
3/64" = 1'-0"

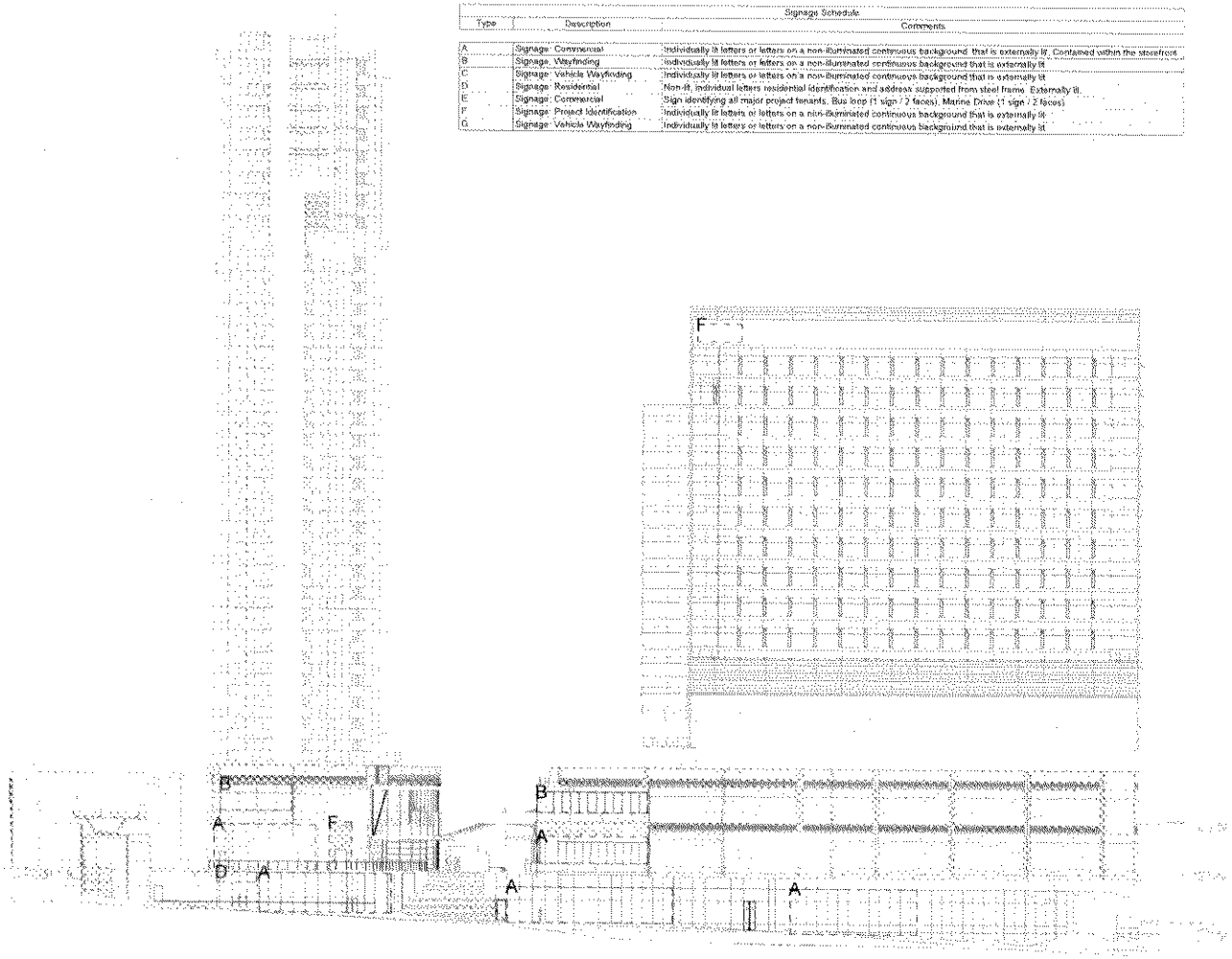
PERKINS + WILL

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**A-925**	**Signage - East Elevation**

Signage Schedule

Type	Description	Comments
A	Signage: Commercial	Individually lit letters or letters on a non-illuminated continuous background that is externally lit. Contained within the storefront.
B	Signage: Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
C	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
D	Signage: Residential	Non-lit, individual letters residential identification and address supported from steel frame. Externally lit.
E	Signage: Commercial	Sign identifying all major project tenants. Bus loop (1 sign / 2 faces), Marine Drive (1 sign / 2 faces)
F	Signage: Project Identification	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
G	Signage: Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit



1 South Elevation - Signage

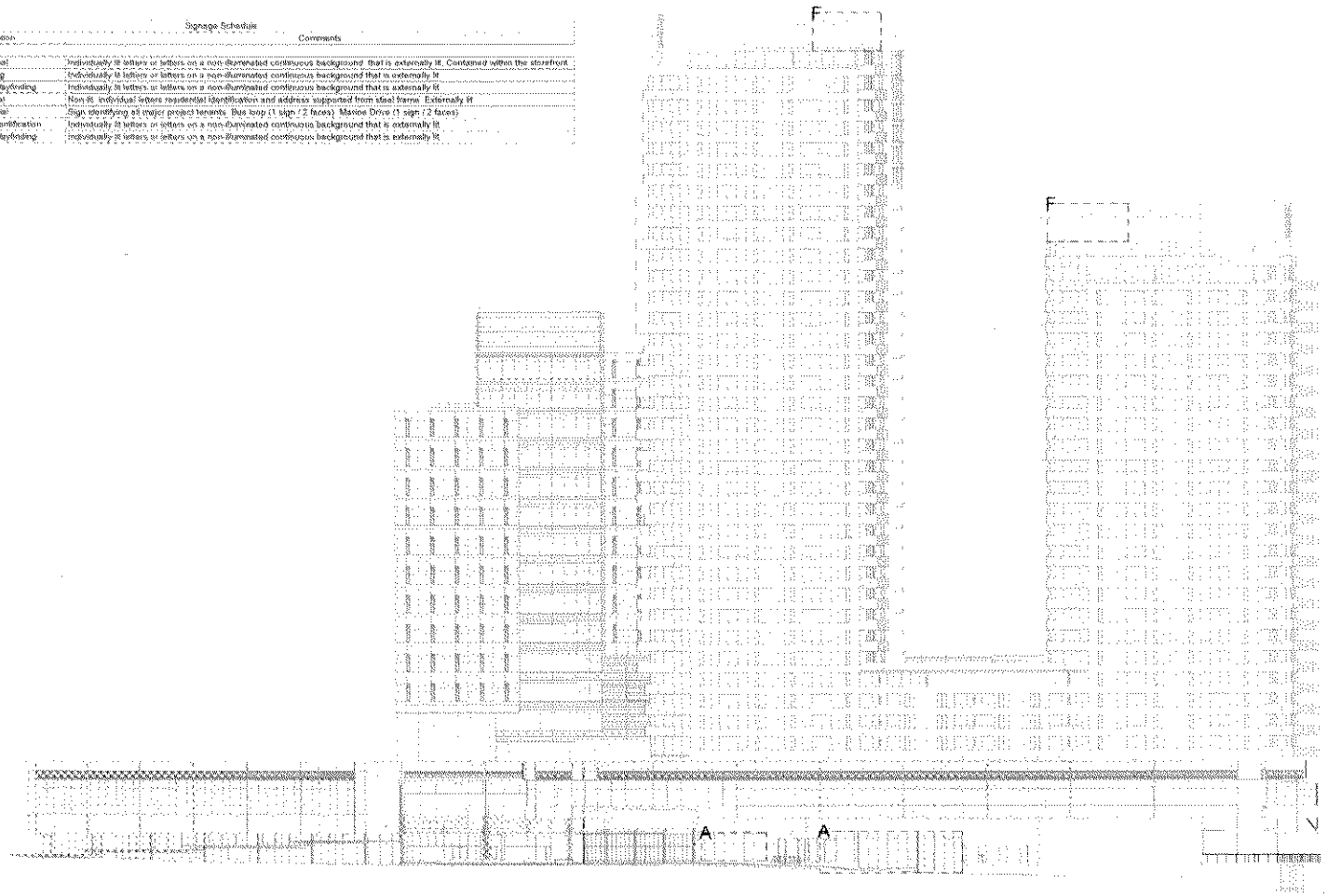
PERKINS + WILL | PCI

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**A-926**	**Signage - South Elevation**

Signage Schedule

Type	Description	Comments
A	Signage - Commercial	Individually lit letters or letters on a non-illuminated continuous background that is externally lit. Contained within the storefront
B	Signage - Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
C	Signage - Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
D	Signage - Residential	Non-lit, individual letters residential identification and address supported from steel frame. Externally lit
E	Signage - Commercial	Sign identifying all major project tenants. Bus loop (1 sign / 2 faces). Marine Drive (1 sign / 2 faces)
F	Signage - Project Identification	Individually lit letters or letters on a non-illuminated continuous background that is externally lit
G	Signage - Vehicle Wayfinding	Individually lit letters or letters on a non-illuminated continuous background that is externally lit



1 Sigange - West Elevation
3/64" = 1'-0"

PERKINS + WILL | PCI

MARINE GATEWAY

Date	Scale	Sheet	Title
AUG 15, 2011	3/64" = 1'-0"	**A-927**	**Signage - West Elevation**

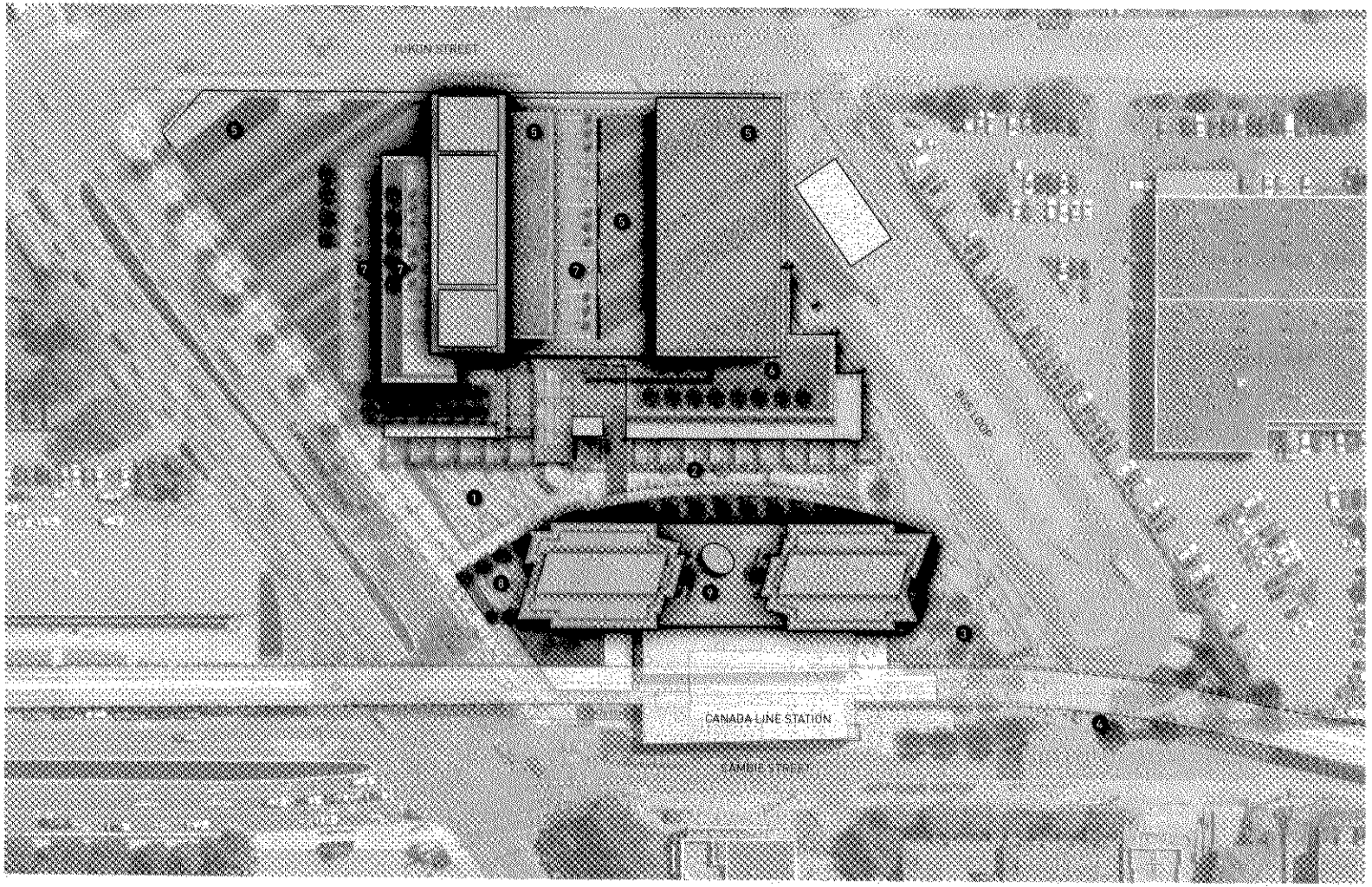
DEVELOPMENT PERMIT - LANDSCAPE PACKAGE

AUGUST 15TH, 2011

LANDSCAPE DRAWING LIST	
NO.	DESCRIPTION
	LAYOUT & MATERIALS PLANS
LDP 1.00	OVERALL LANDSCAPE PLAN
LDP 1.01	LANDSCAPE PLAN - LEVEL 01 MARINE
LDP 1.02	LANDSCAPE PLAN - LEVEL 01 MARINE STREETSCAPE AND YUKON
LDP 1.03	LANDSCAPE PLAN - LEVEL 01 YUKON
LDP 1.04	LANDSCAPE PLAN - LEVEL 02 MARINE+1
LDP 1.05	LANDSCAPE PLAN - LEVEL 03 RESIDENTIAL - MARINE+2
LDP 1.06	LANDSCAPE PLAN - LEVEL 03 OFFICE - MARINE+2
LDP 1.07	LANDSCAPE PLAN - LEVEL 03 OFFICE
LDP 1.08	LANDSCAPE PLAN - LEVEL 04 OFFICE
LDP 1.09	LANDSCAPE PLAN - LEVEL 04 RESIDENTIAL
LDP 1.10	LANDSCAPE PLAN - LEVEL 13,14 OFFICE
	CHARACTER BOARDS
LDP 2.01	PUBLIC REALM PLAN - MARINE LEVEL - RENDERED PLAN
LDP 2.02	PUBLIC REALM PLAN - MARINE LEVEL DIAGRAMS
LDP 2.03	PUBLIC REALM PLAN - MARINE LEVEL - LIGHTING PLAN
LDP 2.04	PUBLIC REALM PLAN - MARINE LEVEL - NEIGHBOURHOOD PLAZA NORTH
LDP 2.05	PUBLIC REALM VIEW - MARINE LEVEL - NEIGHBOURHOOD PLAZA NORTH
LDP 2.06	PUBLIC REALM VIEW - MARINE LEVEL - NEIGHBOURHOOD PLAZA NORTH
LDP 2.07	PUBLIC REALM PLAN - MARINE LEVEL - THE MEWS
LDP 2.08	PUBLIC REALM VIEW - MARINE LEVEL - THE MEWS
LDP 2.09	PUBLIC REALM PLAN - MARINE LEVEL - GRAND STAIRS
LDP 2.10	PUBLIC REALM VIEW - MARINE LEVEL - GRAND STAIRS
LDP 2.11	PUBLIC REALM PLAN - YUKON LEVEL - NEIGHBOURHOOD PLAZA SOUTH
LDP 2.12	PUBLIC REALM VIEW - YUKON LEVEL - NEIGHBOURHOOD PLAZA SOUTH
LDP 2.13	PUBLIC REALM - MARINE/YUKON LEVEL - IMAGE BOARD
LDP 2.14	PUBLIC REALM PLAN - ROOF TOPS-IMAGE BOARD
	SECTIONS AND DETAILS
LDP 3.01	PLANTING LIST - MARINE AND YUKON
LDP 4.01	LANDSCAPE SECTIONS
LDP 5.01	LANDSCAPE DETAILS

PERKINS + WILL | PCI | **MARINE GATEWAY** | PWL partnership | DEVELOPMENT PERMIT AUGUST 15TH

LDP 0.00 **LANDSCAPE DRAWING LIST**

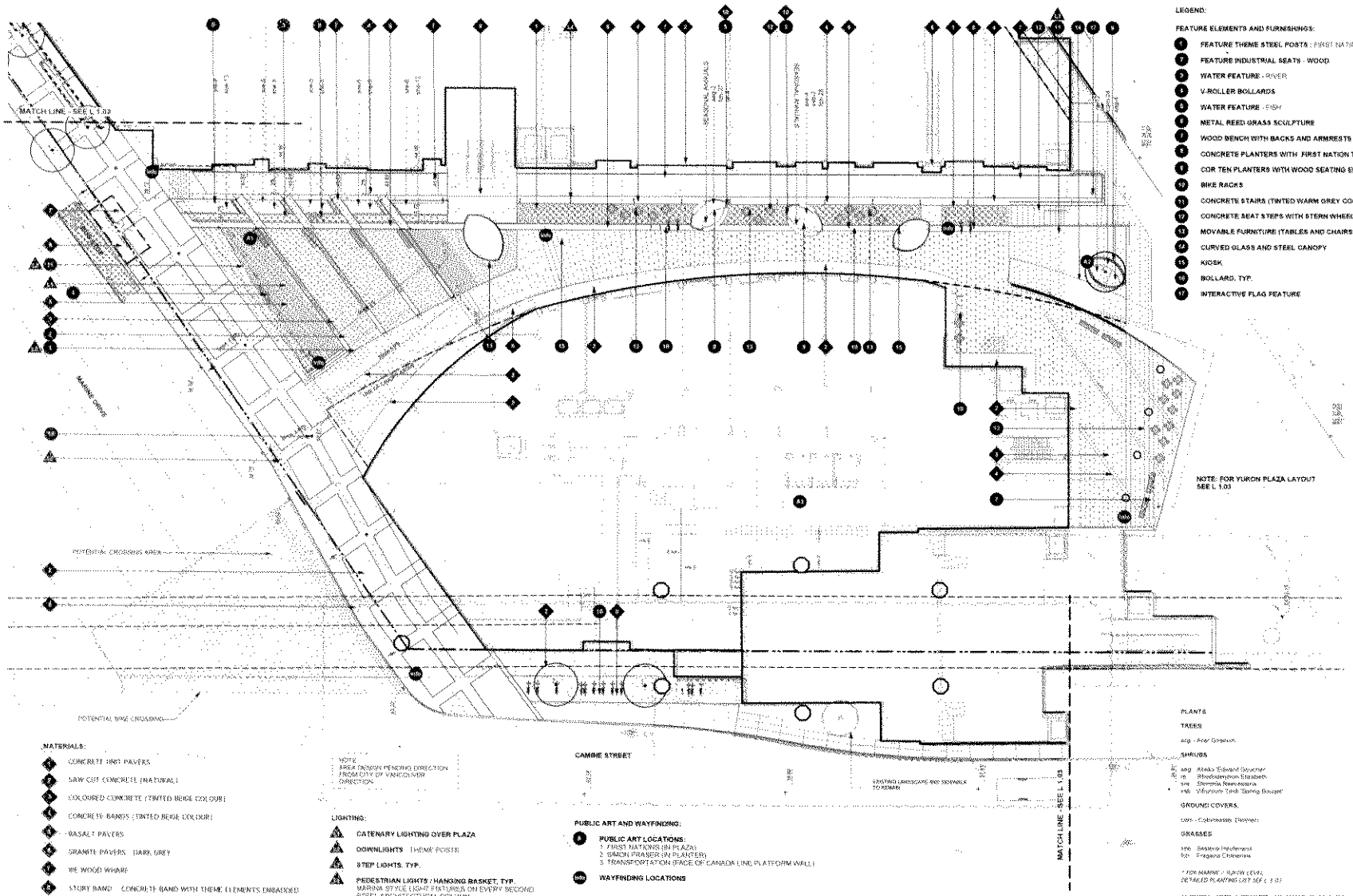


1. NEIGHBORHOOD PLAZA, NORTH
2. THE MEWS
3. NEIGHBORHOOD PLAZA, SOUTH
4. CONNECTION TO THE GREENWAY
5. PATTERNED ROOFS: GREEN AND BALLAST
6. THEATRE OUTDOOR PATIO
7. OFFICE OUTDOOR PATIO
8. RESIDENTIAL OUTDOOR PATIO
9. RESIDENTIAL ROOF WITH BALLAST

PERKINS + WILL | PCI | **MARINE GATEWAY** | PWL

DRAWING NO.
LDP 1.00

TITLE
PUBLIC REALM PLAN
OVERALL MASTERPLAN



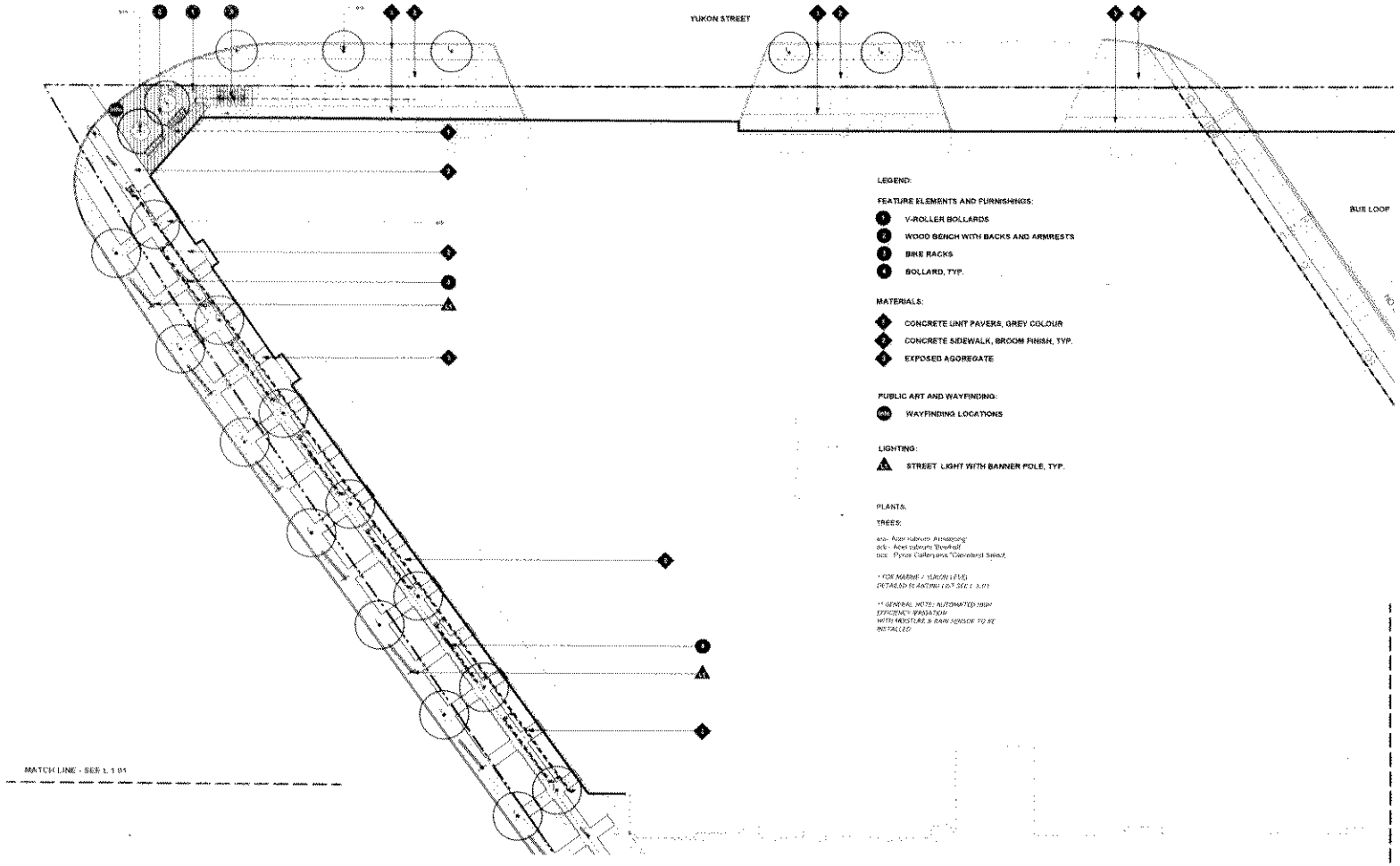
PERKINS + WILL | PCI | PWL

MARINE GATEWAY

LDP 1.01

LANDSCAPE PLAN
LEVEL 01 - MARINE

SCALE 1/16" = 1'-0"

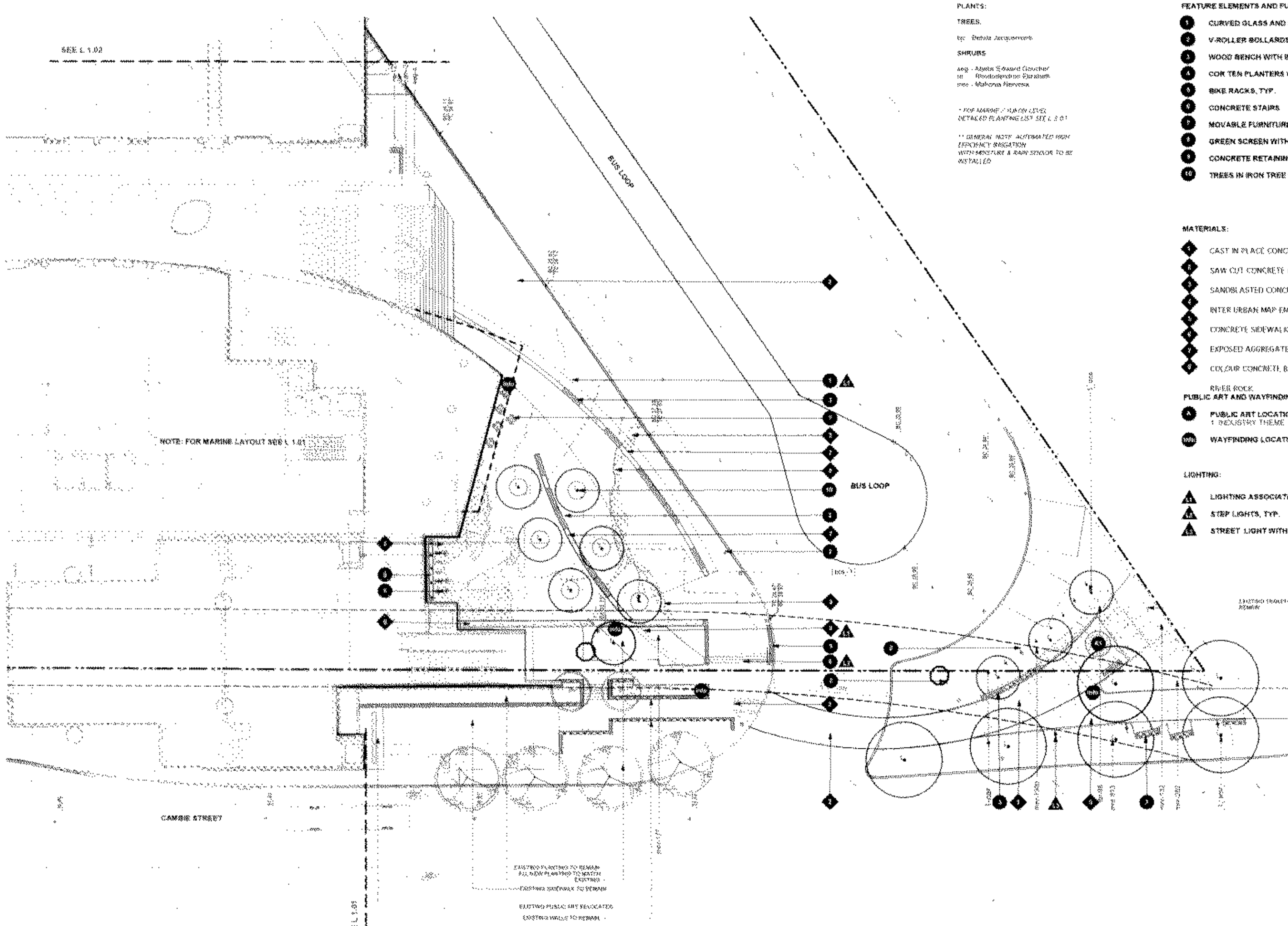


PERKINS + WILL | PCI | **MARINE GATEWAY** | PWL partnership

DRAWING NO. **LDP 1.02**

TITLE **LANDSCAPE PLAN**
LEVEL 01 - MARINE STREETSCAPE AND YUKON

SCALE 1/16" = 1'-0"



PLANTS:

TREES:

bp - Betula Jacquemontii

SHRUBS:

aeg - Abelia 'Edward Gauchet'
rd - Rhododendron Dauricum
mn - Mahonia Nervosa

* FOR MARINE / YUKON LEVEL DETAILED PLANTING LIST SEE L 3.01

** GENERAL NOTE: AUTOMATED HIGH EFFICIENCY IRRIGATION WITH MOISTURE & RAIN SENSOR TO BE INSTALLED

LEGEND:

FEATURE ELEMENTS AND FURNISHINGS:

1. CURVED GLASS AND STEEL CANOPY
2. V-ROLLER BOLLARDS, TYP.
3. WOOD BENCH WITH BACKS AND ARMRESTS, TYP.
4. COR TEN PLANTERS WITH WOOD SEATING EDGE AND TUG BOAT NAMES
5. BIKE RACKS, TYP.
6. CONCRETE STAIRS
7. MOVABLE FURNITURE (TABLES AND CHAIRS AND UMBRELLAS)
8. GREEN SCREEN WITH VINES
9. CONCRETE RETAINING WALL WITH MARINE GATEWAY SIGN
10. TREES IN IRON TREE GRATES

MATERIALS:

1. CAST IN PLACE CONCRETE
2. SAW CUT CONCRETE (NATURAL), 10'X10' GRID
3. SANDBLASTED CONCRETE
4. INTER URBAN MAP EMBEDDED IN CONCRETE
5. CONCRETE SIDEWALK, BROOM FINISH, TYP.
6. EXPOSED AGGREGATE
7. COLOUR CONCRETE BAND (TINTED BEIGE)
8. RIVER ROCK

PUBLIC ART AND WAYFINDING:

- PUBLIC ART LOCATIONS: 1. INDUSTRY THEME
- WAYFINDING LOCATIONS

LIGHTING:

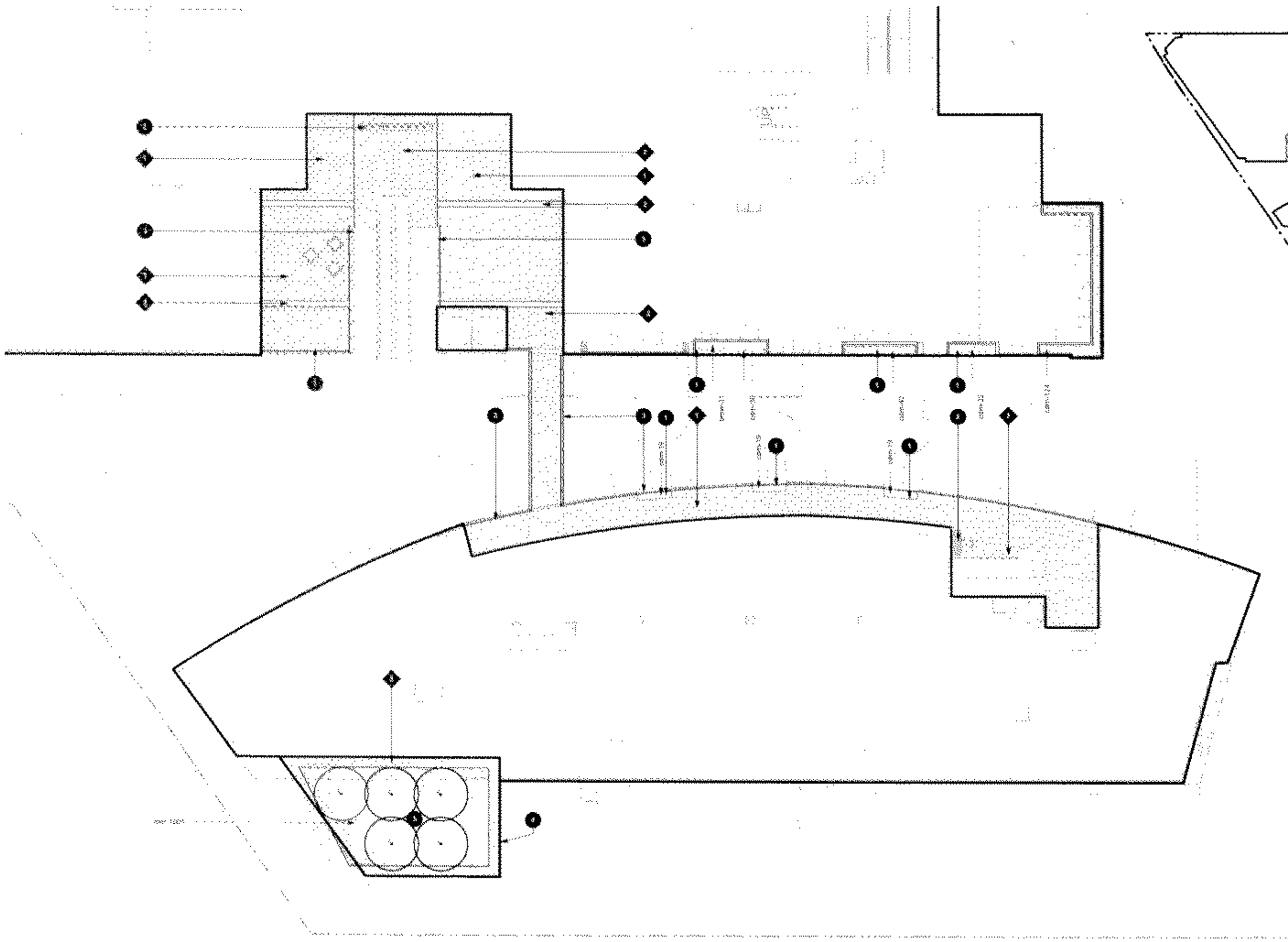
- LIGHTING ASSOCIATED WITH THE CANOPY, DOWNLIGHTING
- STEP LIGHTS, TYP.
- STREET LIGHT WITH BANNER POLE, TYP.

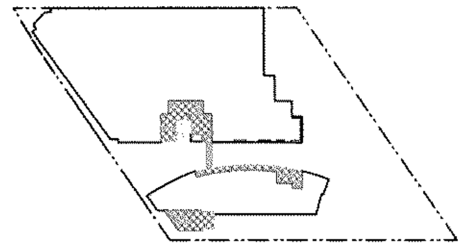
PERKINS + WILL | PCI | MARINE GATEWAY | PWL partnership | DEVELOPMENT PERMIT AUGUST 2008

DRAWING NO. **LDP 1.03**

TITLE: **LANDSCAPE PLAN LEVEL 01 - YUKON**

N SCALE 1/16" = 1'-0"





1 CONCRETE PLANTER WITH OVERHANGING PLANTING
2 WOOD BENCH (ON CONCRETE WALL BASE)
3 GLASS GUARDRAILS TYP. - SEE ARCH.
4 STEEL GUARDRAILS TYP. - SEE ARCH.
5 "URBAN ORCHARD" - SEE PLANTING LIST FOR DETAILS

MATERIALS:
1 CONCRETE UNIT PAVERS (WARM GREY)
2 CONCRETE UNIT PAVERS (DARK GREY)
3 BALLAST

LIGHTING:
WALL LIGHTS
DOWN LIGHTS

Plant List

ID	Botanical N	Common Na	Qty	heduled Size	Spacing	Remarks
	Trees					
[illegible]	Betula jacquemontii	Himalayan Birch	5	6cm (2.5") cal		
	Shrubs					
[illegible]	Buxus microphylla	Littleleaf Boxwood	33	#1 pot	45cm (18")	
[illegible]	Mahonia nervosa	Dwarf Oregon-grape	1500	#1 Pot	30cm (12")	
	Ground Cover					
[illegible]	Cotoneaster dam	Bearberry Cotone	275	#1 pot	36 cm (15")	Minimum 3 [illegible]

** GENERAL NOTE: AUTOMATED HIGH EFFICIENCY IRRIGATION WITH MOISTURE & RAIN SENSOR TO BE INSTALLED

PERKINS + WILL | PCI MARINE GATEWAY | PWL partnership | DEVELOPMENT PERMIT AUGUST 15TH

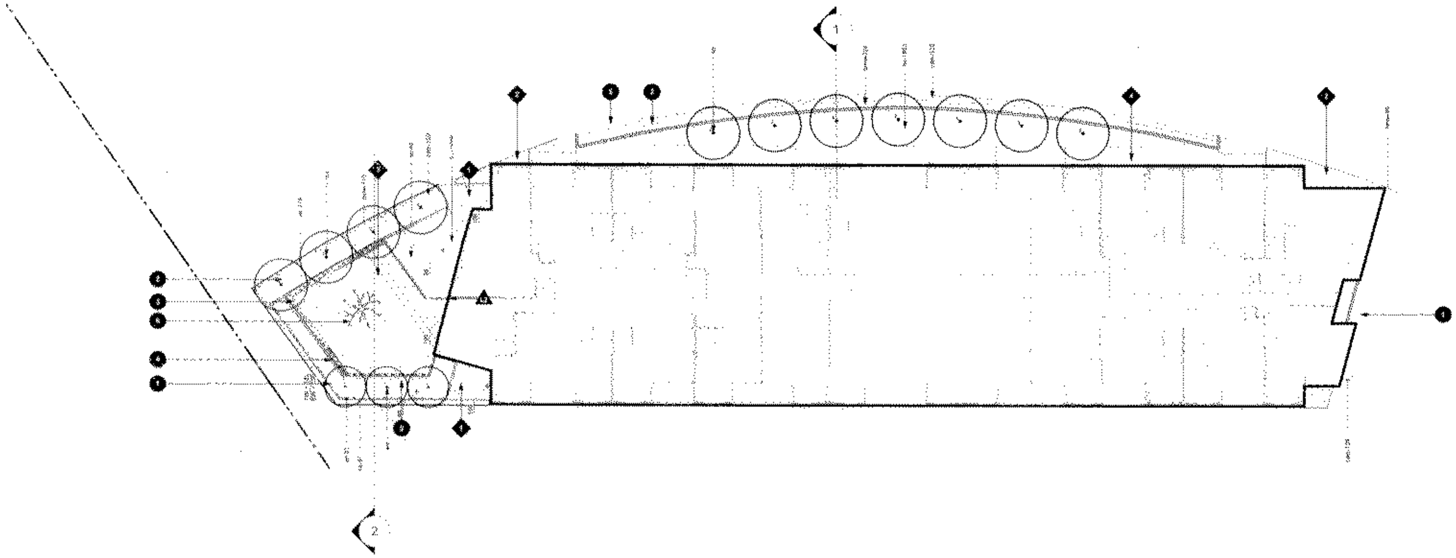
DRAWING NO. **LDP 1.04**

TITLE **LANDSCAPE PLAN LEVEL 02 - MARINE+1**

N

SCALE 1/16" = 1'-0"

Appendix E; page 71 of 94



LEGEND:

FEATURE ELEMENTS AND FURNISHINGS:

- ① CONCRETE PLANTER WITH TREE
- ② CONCRETE PLANTER WITH OVERHANGING PLANTING
- ③ WOOD BENCH (ON CONCRETE WALL BASE)
- ④ GLASS GUARDRAILS TYP. - SEE ARCH.
- ⑤ STEEL GUARDRAILS TYP. - SEE ARCH.
- ⑥ DRIFTWOOD PLAY PIECE

MATERIALS:

- ◆1 CONCRETE UNIT PAVERS (WARM GREY)
- ◆2 CRUSHED STONE
- ◆3 RESILIENT RUBBER SURFACE
- ◆4 RIVER ROCK UNDER RAISED PATIO

LIGHTING:

- ▲ WALL LIGHTS - SEE ARCH.

Plant List

ID	Botanical Name	Common Name	Qty	Scheduled Size	Spacing	Remarks
	Trees					
[illegible]	Acer circinatum	Vine Maple	3	5cm (2") cal		
[illegible]	Acer griseum	Paper Bark Maple	4	6cm (2.5") cal		B&B, Minimum 3 stems
[illegible]	Betula jacquemontii	Himalayan Birch	16	7 cm (3") cal		
[illegible]	Styrax japonica	Japanese Snowbell	19	6cm (2.5") cal		[illegible]
	Shrubs					
[illegible]	Buxus microphylla	Littleleaf Boxwood, English Boxwood	784	#3 pot	35.5cm (14")	
[illegible]	Mahonia nervosa	Cascade Barberry	1544	#1 Pot	35.5cm (14")	grown, well established
[illegible]	Skimmia japonica 'Rubella'	Red Flowered Japanese Skimmia	93	#3 pot	60cm (24")	
	Ground Cover					
[illegible]	Cotoneaster dammeri	Bearberry Cotoneaster	815	#1 pot	35.5 cm (14")	[illegible]
[illegible]	Polystichum munitum	Sword Fern	278	#1 pot	40.5cm (16")	
	Perennials					
[illegible]	Liriope muscari	Big Blue Lily Turf	1107	#1 pot	30cm (12")	
[illegible]	Liriope spicata	Creeping Lily Turf	1969	#1 pot	30cm (12")	

** GENERAL NOTE: AUTOMATED HIGH EFFICIENCY IRRIGATION WITH MOISTURE & RAIN SENSOR TO BE INSTALLED

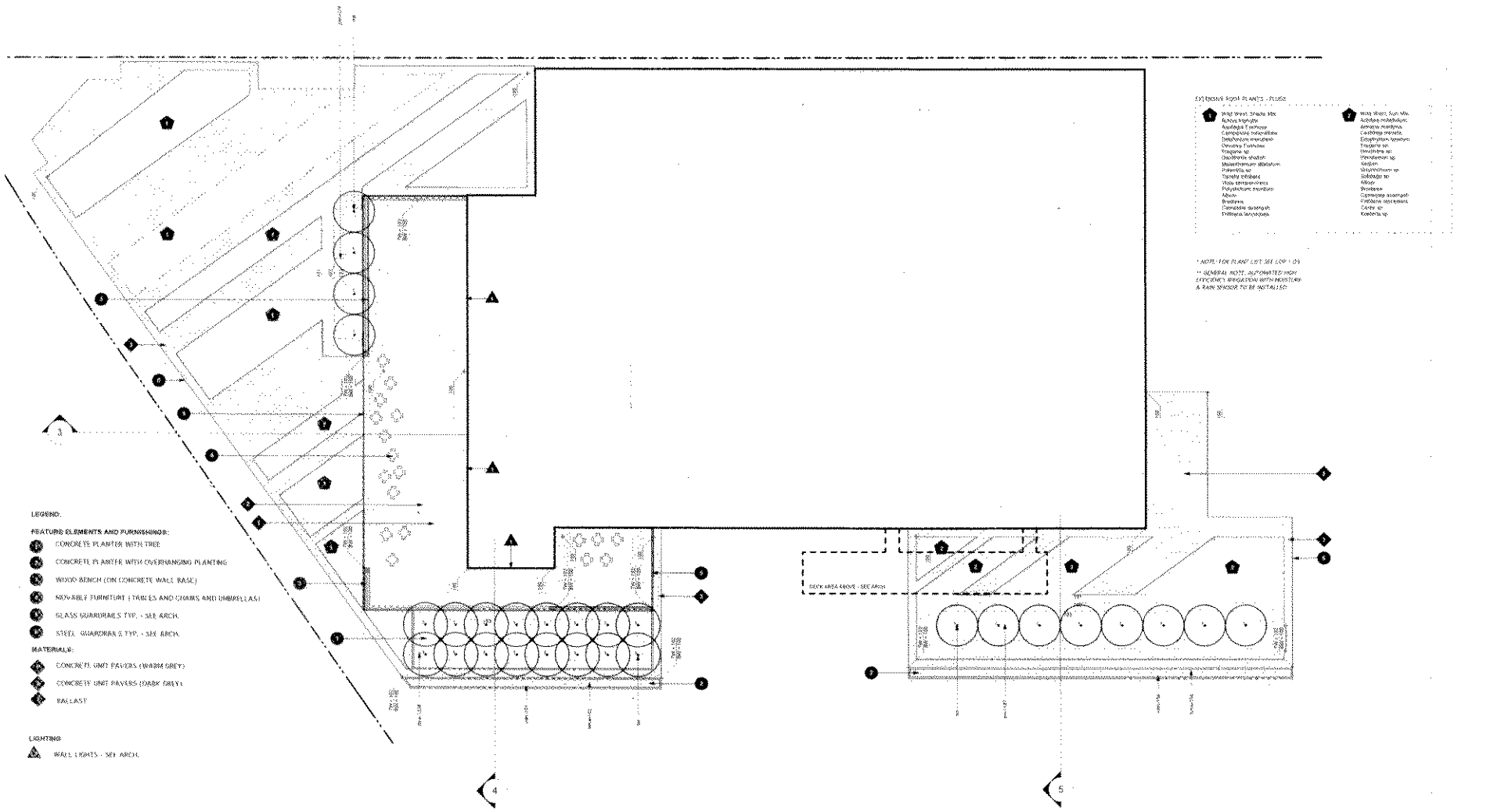
PERKINS + WILL | PCI MARINE GATEWAY | PWL

DRAWING NO. **LDP 1.05**

TITLE **LANDSCAPE PLAN LEVEL 03 RESIDENTIAL- MARINE+2**

N

SCALE 1/16" = 1'-0"



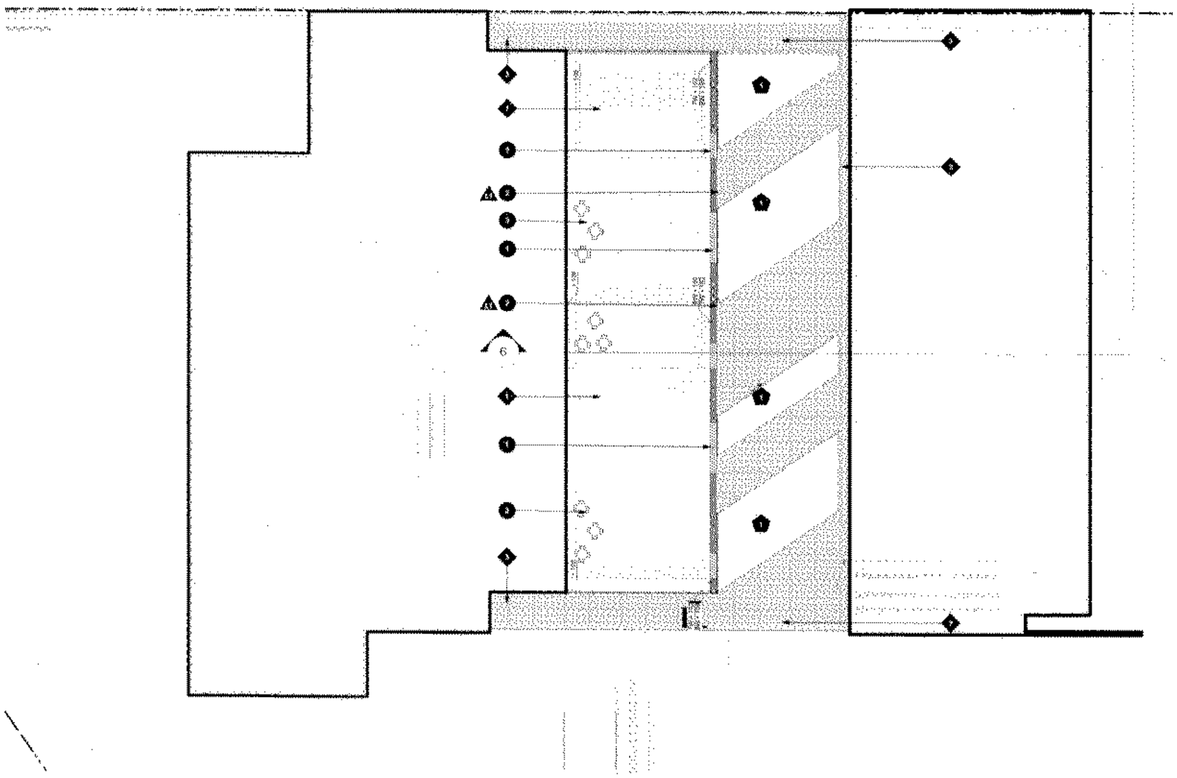
PERKINS + WILL | PCI | **MARINE GATEWAY** | PWL partnership

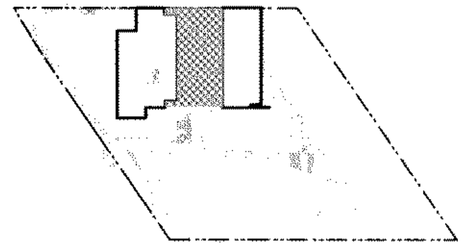
DEVELOPMENT PERMIT APPLICATION

DRAWING NO. **LDP 1.06**

TITLE **LANDSCAPE PLAN**
LEVEL 03 OFFICE - MARINE+2

SCALE 1/16" = 1'-0"





LEGEND:

FEATURE ELEMENTS AND FURNISHINGS:

1. WOOD BENCH (ON CONCRETE WALL BASE)
2. CONCRETE SEATING WALL 24" TALL SMOOTH FINISH, NATURAL)
3. MOVABLE FURNITURE (TABLES AND CHAIRS AND UMBRELLAS)

MATERIALS:

1. CONCRETE UNIT PAVERS (WARM GREY)
2. CONCRETE UNIT PAVERS (DARK GREY)
3. BALLAST

LIGHTING:

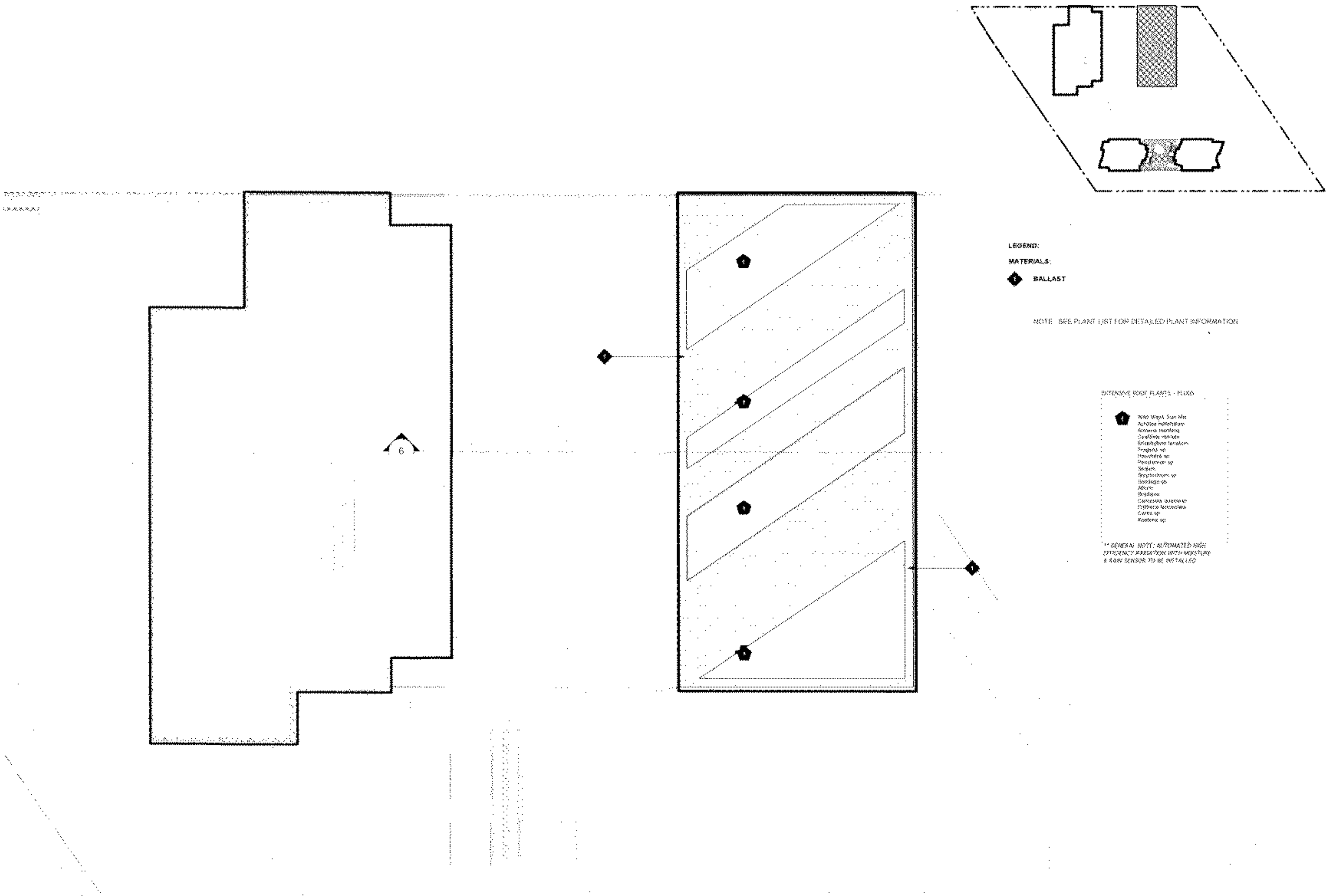
WALL LIGHTS

PERKINS + WILL | PCI **MARINE GATEWAY** | PWL

LDP 1.07

LANDSCAPE PLAN
LEVEL 03 OFFICE

SCALE 1/16" = 1'-0"

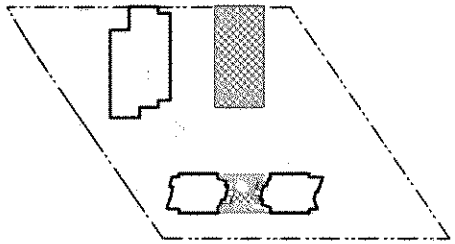


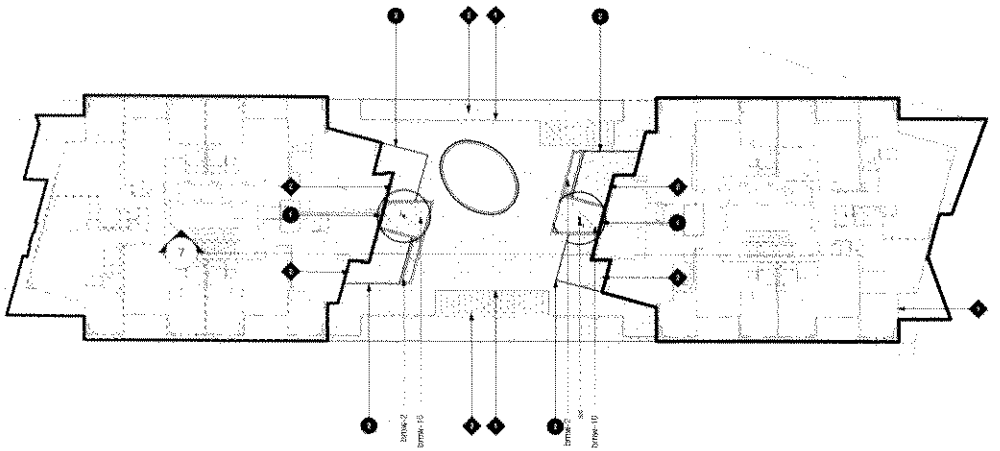
PERKINS + WILL | PCI | MARINE GATEWAY | PWL partnership

LDP 1.08

LANDSCAPE PLAN
LEVEL 04 OFFICE

SCALE 1/16" = 1'-0"





LEGEND:

MATERIALS:

- BALLAST
- CONCRETE UNIT PAVERS (WARM GREY)

FEATURE ELEMENTS AND FURNISHINGS:

- CONCRETE PLANTER WITH TREE
- GLASS GUARDRAILS TYP. - SEE ARCH.

LIGHTING:

- WALL LIGHTS - SEE ARCH.

NOTE: SEE PLANT LIST FOR DETAILED PLANT INFORMATION

PERKINS + WILL | PCI **MARINE GATEWAY** PWL PARTNERSHIP

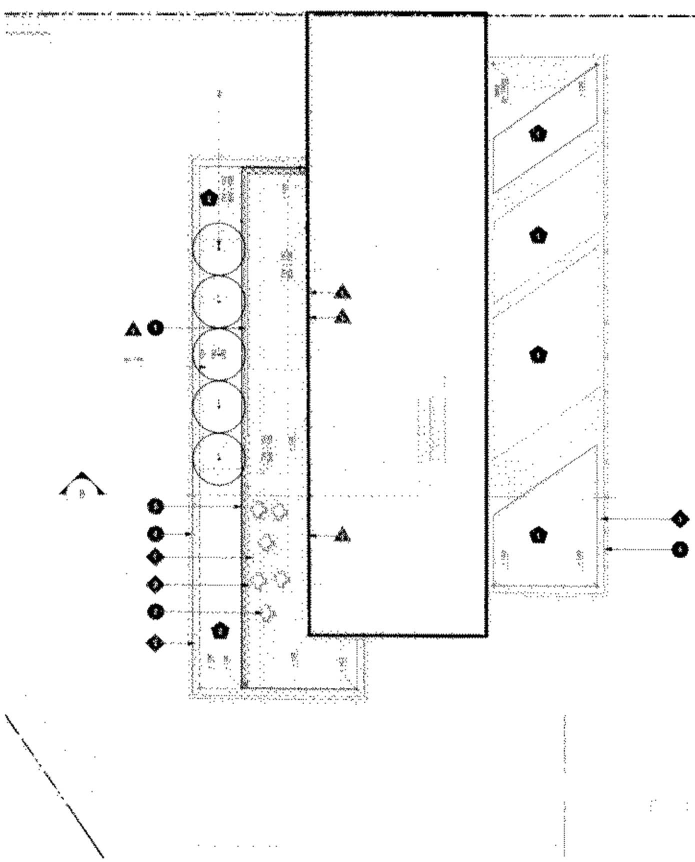
DEVELOPMENT PERMIT
AUGUST 2018

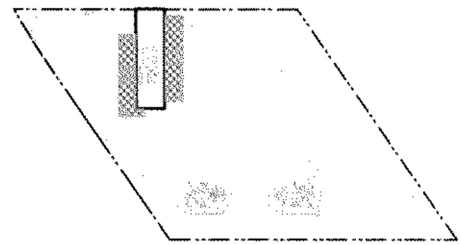
DRAWING NO.
LDP 1.09

TITLE
LANDSCAPE PLAN
LEVEL 04 RESIDENTIAL

N

SCALE 1/16" = 1'-0"





LEGEND:

FEATURE ELEMENTS AND FURNISHINGS:

1. WOOD BENCH (ON CONCRETE WALL BASE)
2. MOVABLE FURNITURE (TABLES AND CHAIRS AND UMBRELLAS)
3. GLASS GUARDRAILS TYP. - SEE ARCH.
4. STEEL GUARDRAILS TYP. - SEE ARCH.

MATERIALS:

1. CONCRETE UNIT PAVERS (WARM GREY)
2. CONCRETE UNIT PAVERS (DARK GREY)
3. BALLAST

LIGHTING:

L1 WALL LIGHTS - SEE ARCH.

EXTENSIVE ROCK PLANTS - PLUGS

1. Wild West, Shade Mix (Edited)
   [illegible]

2. Wild West, Sun Mix (Edited)
   [illegible]

** GENERAL NOTE: AUTOMATED HIGH EFFICIENCY IRRIGATION WITH MOISTURE & RAIN SENSOR TO BE INSTALLED

Plant List

ID	Botanical Name	Common Name	Qty	Scheduled Size	Spacing	Remarks
	Trees					
[illegible]	Acer griseum	Paper Bark Maple	5	6cm (2.5") cal		B&B, Minimum 3 stems
	Shrubs					
[illegible]	Skimmia japonica	Japanese Skimmia	124	#3 Pot	60cm (24")	

PERKINS + WILL | PCI | MARINE GATEWAY | PWL partnership | DEVELOPMENT PERMIT [illegible]

DRAWING NO.

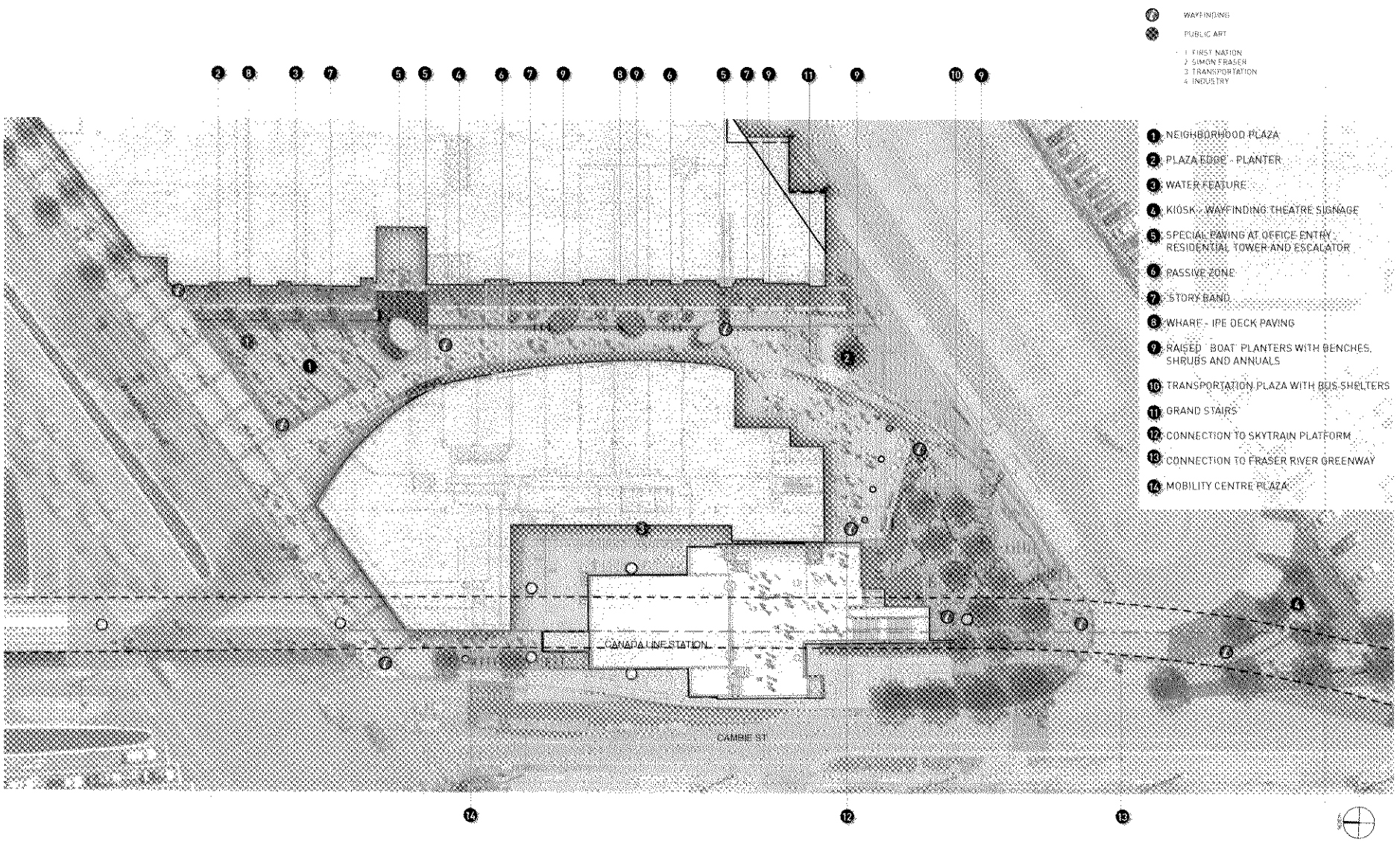
LDP 1.10

TITLE

LANDSCAPE PLAN
LEVEL 13,14 OFFICE

SCALE 1/16" = 1'-0"

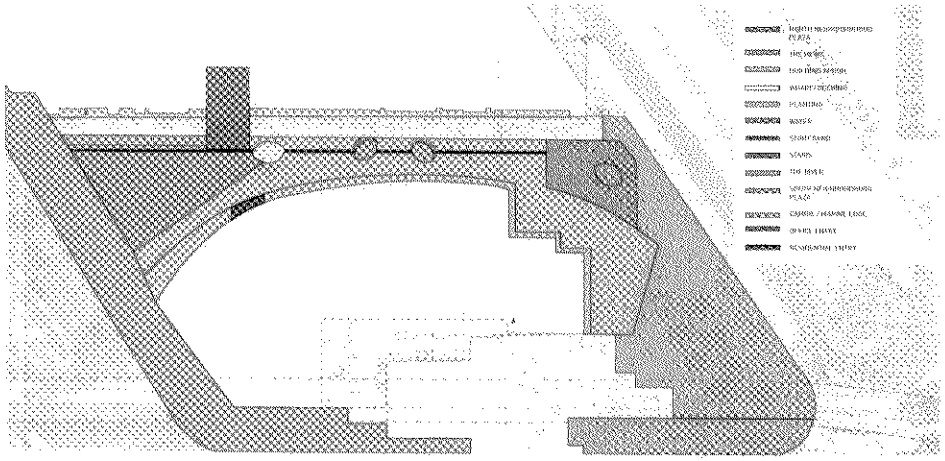
Appendix E, page 77 of 94



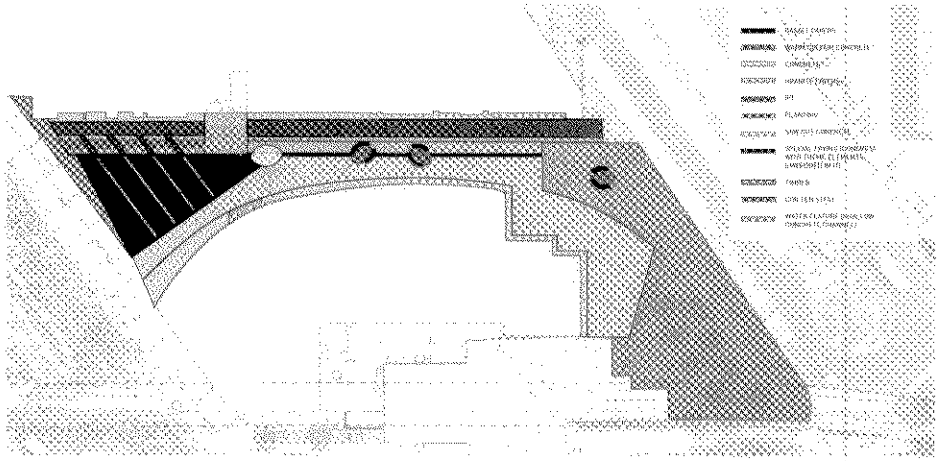
PERKINS + WILL | PCI **MARINE GATEWAY** | PWL

DRAWING NO.
LDP 2.01

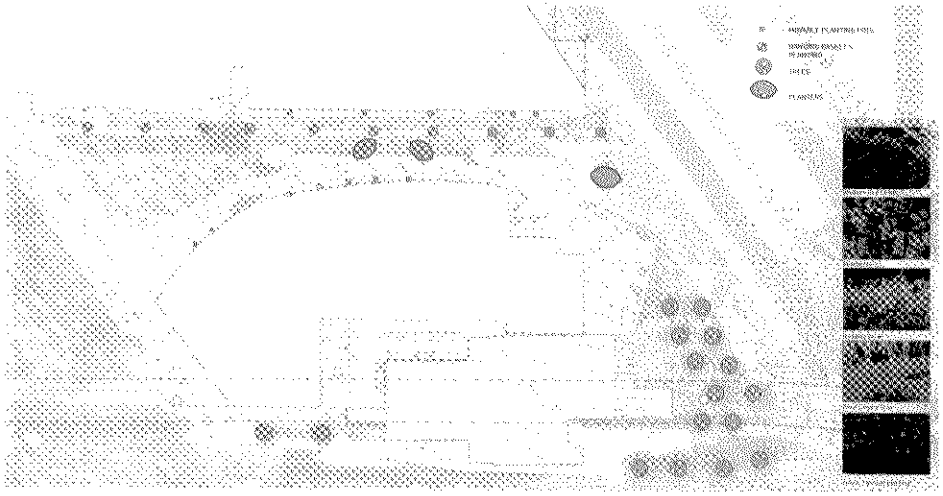
TITLE
PUBLIC REALM PLAN - MARINE LEVEL
RENDERED PLAN



PUBLIC REALM ZONES



PUBLIC REALM HARDSCAPE SURFACES



PUBLIC REALM PLANTING

PUBLIC REALM MOVABLE SEATING ZONES

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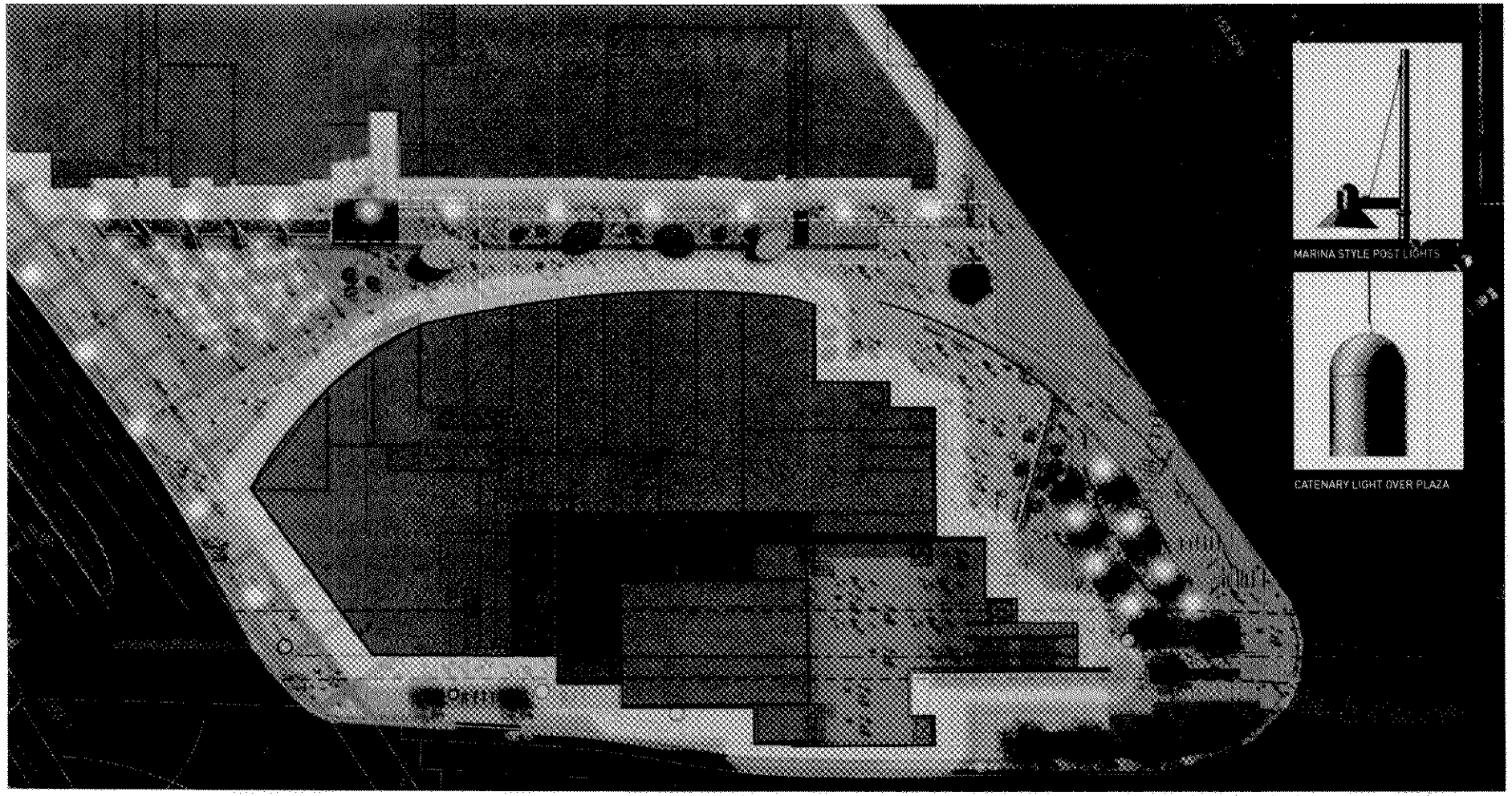
DEVELOPMENT PERMIT AUGUST 2018

DRAWING NO. **LDP 2.02**

TITLE PUBLIC REALM PLAN - MARINE LEVEL DIAGRAMS



PERKINS +WILL | PCI

MARINE GATEWAY

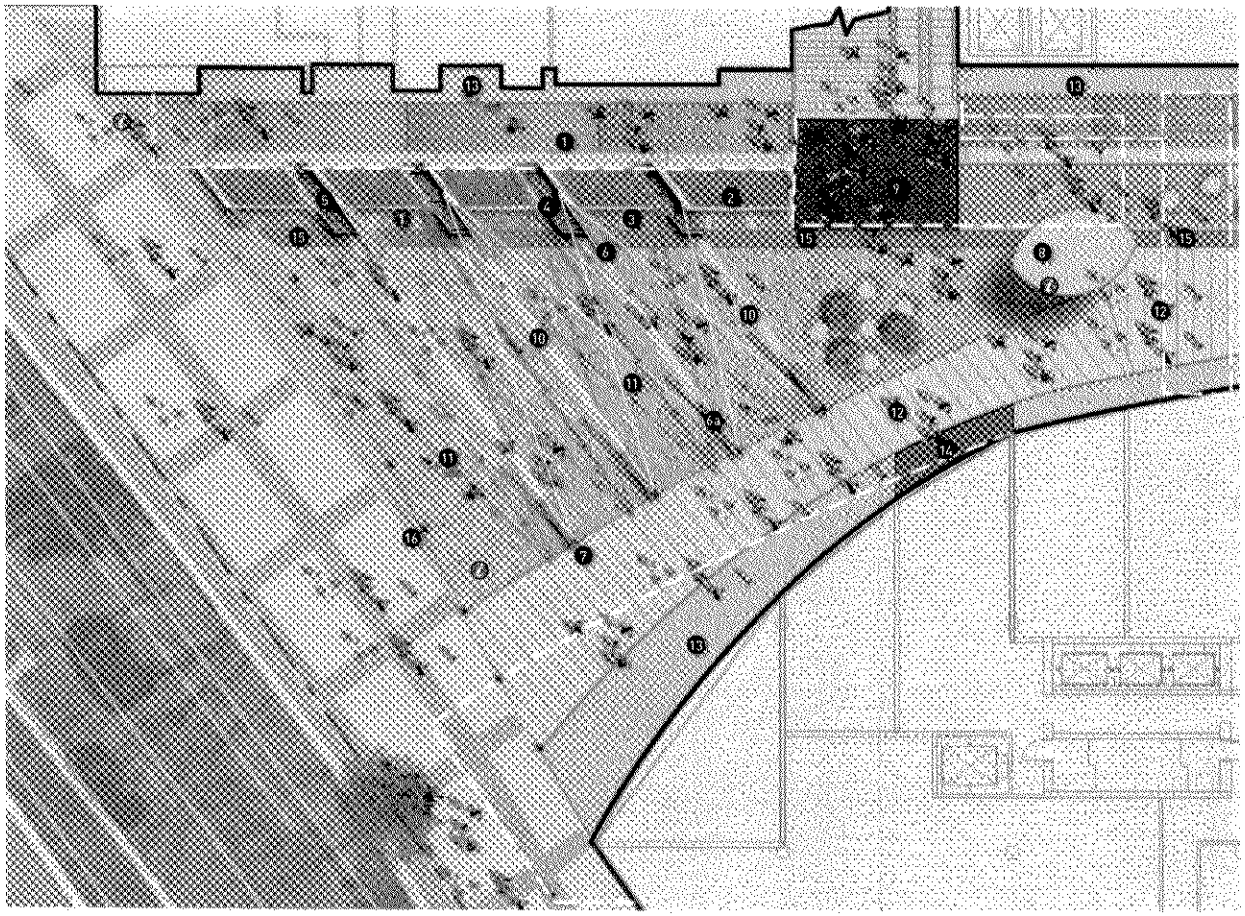
PWL partnership

DRAWING NO.

LDP 2.03

TITLE

PUBLIC REALM PLAN - MARINE LEVEL
LIGHTING PLAN



NEIGHBORHOOD PLAZA

- FLEXIBLE OPEN SPACE
- NEIGHBORHOOD CHARACTER, MULTICULTURAL, MULTI FUNCTIONAL

DESIGN ELEMENTS:

1. WHARF - IPE PAVING ALONG SHOP FRONTAGE, 2.75 M WIDE
2. INDIGENOUS PLANTING - CONCRETE PLANTERS WITH FIRST NATIONS ART SCULTURE, LANGUAGE ON FACADE
3. BUBBLING WATER FEATURE - NOISE CONTROL
4. LINEAR CHANNEL ALONG THE WALL WITH 4 CHANNELS FEEDING INTO IT AS REPRESENTATION OF 4 MAIN RIVERS FEEDING INTO FRASER RIVER
5. DECK PASSAGES - IPE
6. SEATING BENCHES - BENCHES WITH BACK RESTS
- 6b. FEATURE BENCHES - RECLAIMED TIMBER
7. STORY POSTS - 4 STEEL POSTS FOR EVERY THEME: FIRST NATIONS, SIMON FRASER, INDUSTRY AND TRANSPORTATION
8. MAIN KIOSK
   WAYFINDING, THEATRE SIGNAGE-STEEL STRUCTURE
9. GRANITE PAVING AT OFFICE ENTRY - LOCAL GRANITE STONE PAVERS
10. CONCRETE BANDS
11. MAIN OPEN SPACE - BASALT STONE PAVERS
12. CONCRETE WALK ZONE - TINTED SAW CUT CONCRETE
13. BUILDING APRON ZONE - CONCRETE
14. FEATURE PAVING FOR RESIDENTIAL TOWER ENTRANCE
    GRANITE PAVING
15. STORY BAND - 1M TINTED CONCRETE BAND WITH INTERPRETIVE INFORMATION INCLUDING FISH ETC.
16. V-ROLLERS BOLLARDS

- FIRST NATIONS PUBLIC ART
- WAYFINDING LOCATION - DESIGN TBD

PERKINS + WILL | PCI

MARINE GATEWAY

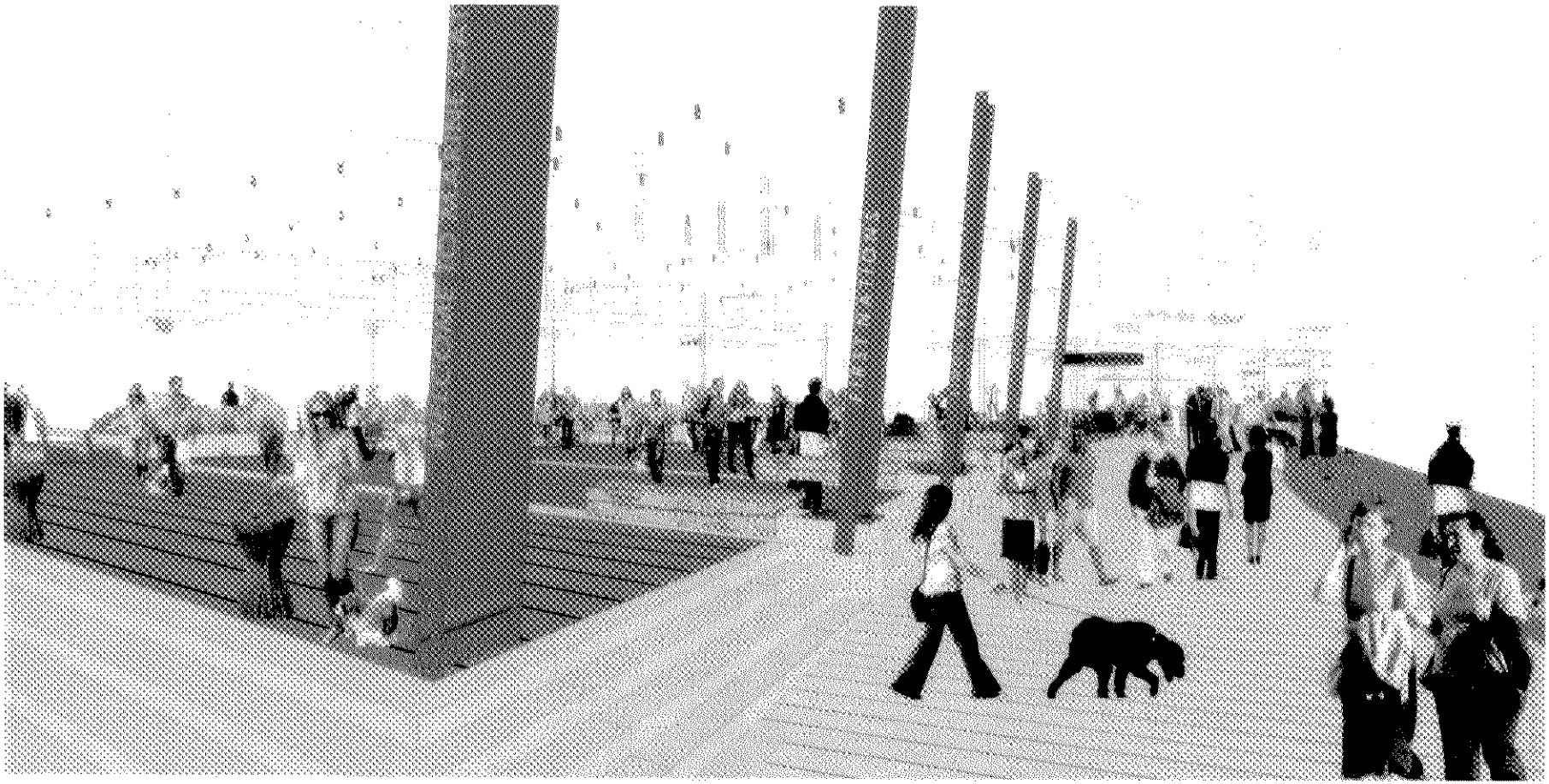
PWL partnership

DRAWING NO.

LDP 2.04

TITLE

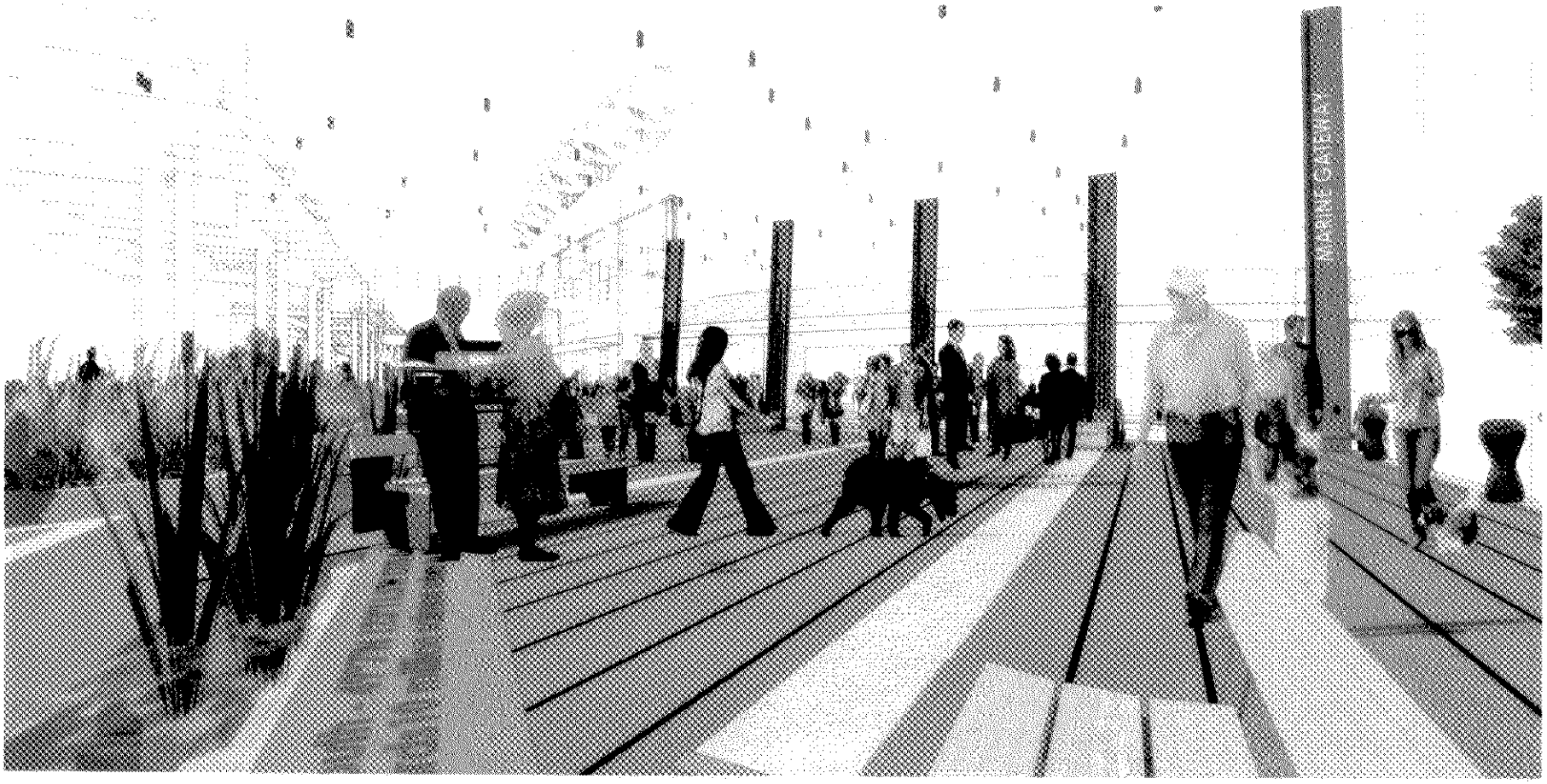
PUBLIC REALM PLAN - MARINE LEVEL
NEIGHBOURHOOD PLAZA NORTH



PERKINS +WILL | PCI **MARINE GATEWAY** PWL

LDP 2.05

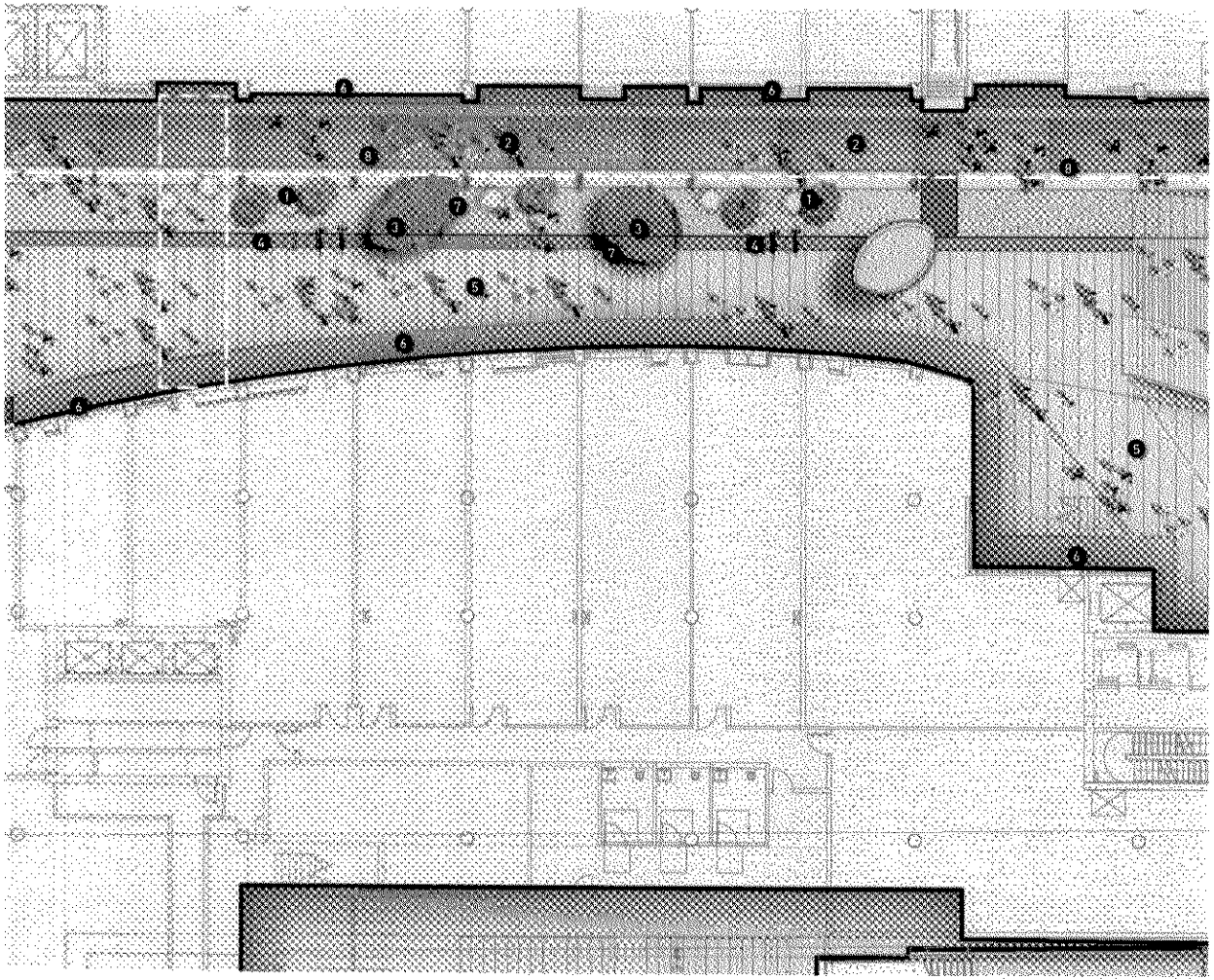
PUBLIC REALM VIEW - MARINE LEVEL
NEIGHBOURHOOD PLAZA NORTH



PERKINS +WILL | PCI **MARINE GATEWAY** | PWL

LDP 2.06

PUBLIC REALM VIEW - MARINE LEVEL
NEIGHBOURHOOD PLAZA NORTH



THE MEWS

- UNOBSTRUCTED PATHWAYS
- INTERACTIVE ART PIECES
- SYMPATHETIC KIOSK DESIGN
- LOTS OF SEATING POTENTIAL
- LOW PLANTING
- SEMI PRIVATE PATIOS & DINNING ZONE
- THEMES: RIVER, INDUSTRY

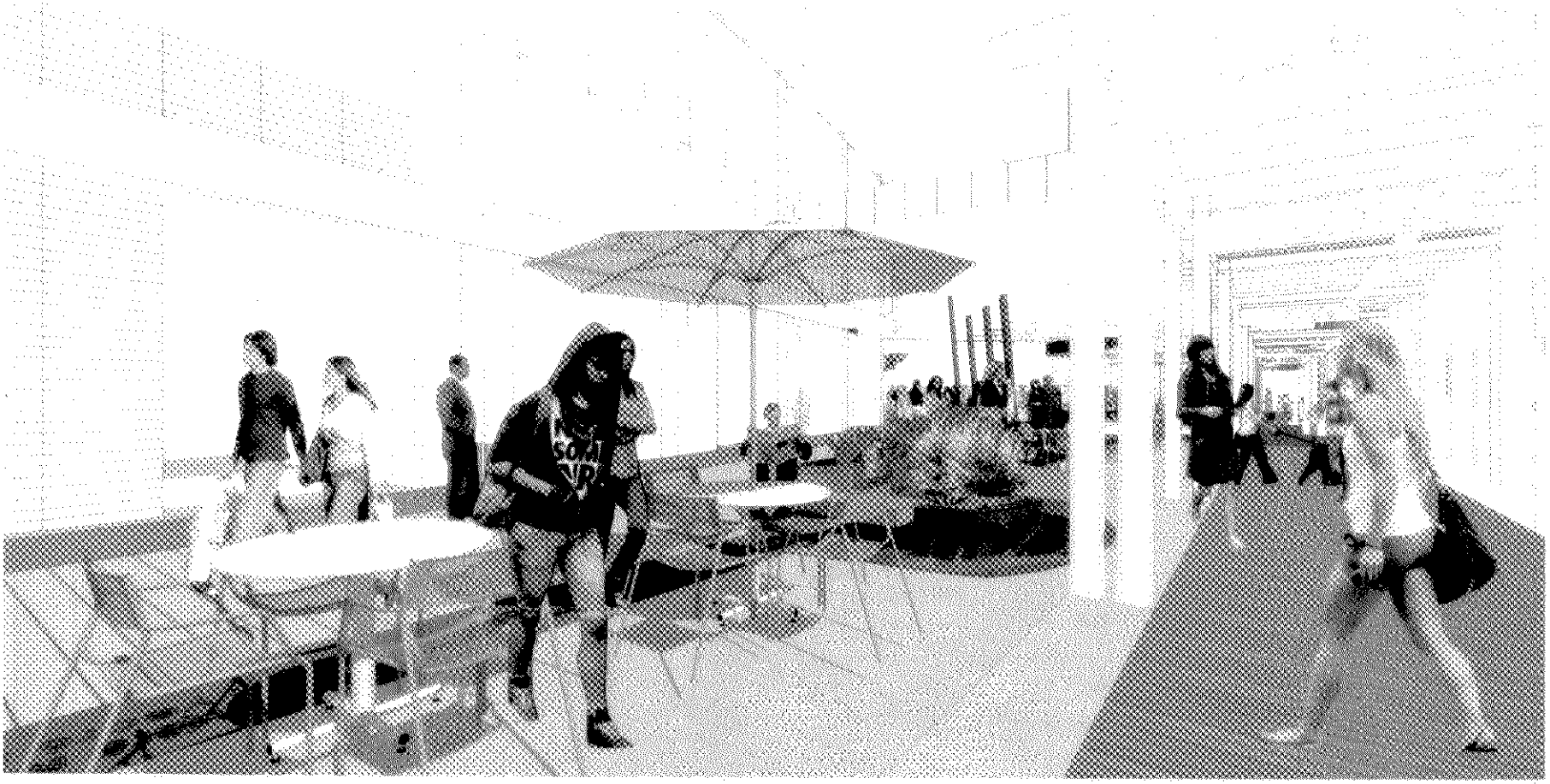
DESIGN ELEMENTS:

1. SEATING/ PASSIVE/ DINNING ZONE
   - STONE PAVING BAND, 3M WIDE
2. "WHARF"
   - IPE PAVING ALONG SHOP FRONTAGES, 2.75 M WIDE
   - UNOBSTRUCTED PATHWAY UNDER CANOPY (RAIN PROTECTION)
3. "BOATS"
   BOAT SHAPED PLANTERS WITH INDIGENOUS PLANTING
   WOOD SEATING INCORPORATED INTO EDGES
4. STORY BAND
   CONCRETE BAND WITH THEME ELEMENTS :
   WORDS, DATES, PLACES AND NAMES
5. MOVEMENT ZONE
   - UNOBSTRUCTED PATH OF "FAST TRAVEL", SKYTRAIN ACCESS
   - SAW CUT CONCRETE
6. BUILDING APRON
   - VARIOUS WIDTH PAVING ZONE IN FRONT OF SHOPS TO ALLOW FOR POTS, SEATING ETC.
   - CONCRETE
   - POTS WITH PLANTING
7. "RIVER EDGE"
   TEXTURED COBBLES PAVING AT THE EDGE OF THE PLANTER WITH SMALL CONTAINED WATERFEATURE - SALMON BRONZE SCULPTURES
8. CONCRETE BAND - DIVIDER BETWEEN WHARF AND MAIN ZONE

PERKINS +WILL | PCI **MARINE GATEWAY** PWL

LDP 2.07

PUBLIC REALM PLAN - MARINE LEVEL
THE MEWS



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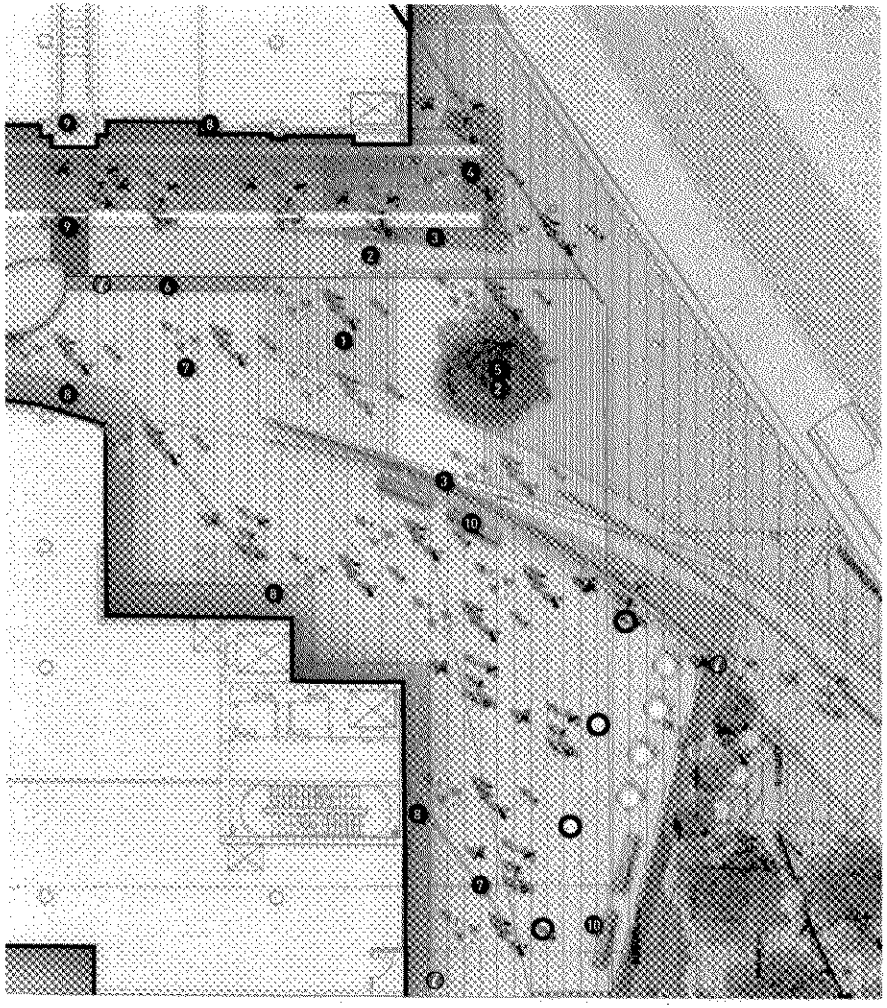
DEVELOPMENT PERMIT APPLICATION

DRAWING NO.
LDP 2.08

TITLE
PUBLIC REALM VIEW - MARINE LEVEL
THE MEWS



GRAND STAIRS

- FLEXIBLE
- NEIGHBORHOOD CHARACTER, MULTICULTURAL

DESIGN ELEMENTS:

1. GRAND STAIRS - CONCRETE
2. SEATING STEPS WITH TUG BOAT NAMES
3. STORY WALL - RIVER THEME COLLAGE DISPLAY ON THE WALLS ALONG STAIRS
4. WHARF END
   - INTERACTIVE FLAG
   - VIEWING POINT
   - CAFE SPILL OUT ZONE
5. BOAT/ PUBLIC ART
   BOAT SHAPED PLANTERS
   WITH SIMON FRASER PUBLIC ART
6. STORY BAND
   1M TINTED CONCRETE BAND WITH INTERPRETIVE INFORMATION INCLUDING FISH ETC.
7. MOVEMENT ZONE
   - UNOBSTRUCTED PATH OF "FAST TRAVEL", SKYTRAIN ACCESS
   - SAW CUT CONCRETE
8. BUILDING APRON
   - VARIOUS WIDTH PAVING ZONE IN FRONT OF SHOPS TO ALLOW FOR POTS, SEATING ETC.
   - CONCRETE
   - POTS WITH PLANTING
9. ESCALATORS ENTRY - GRANITE PAVERS
10. VIEWING BENCHES

SF. SIMON FRASER PUBLIC ART

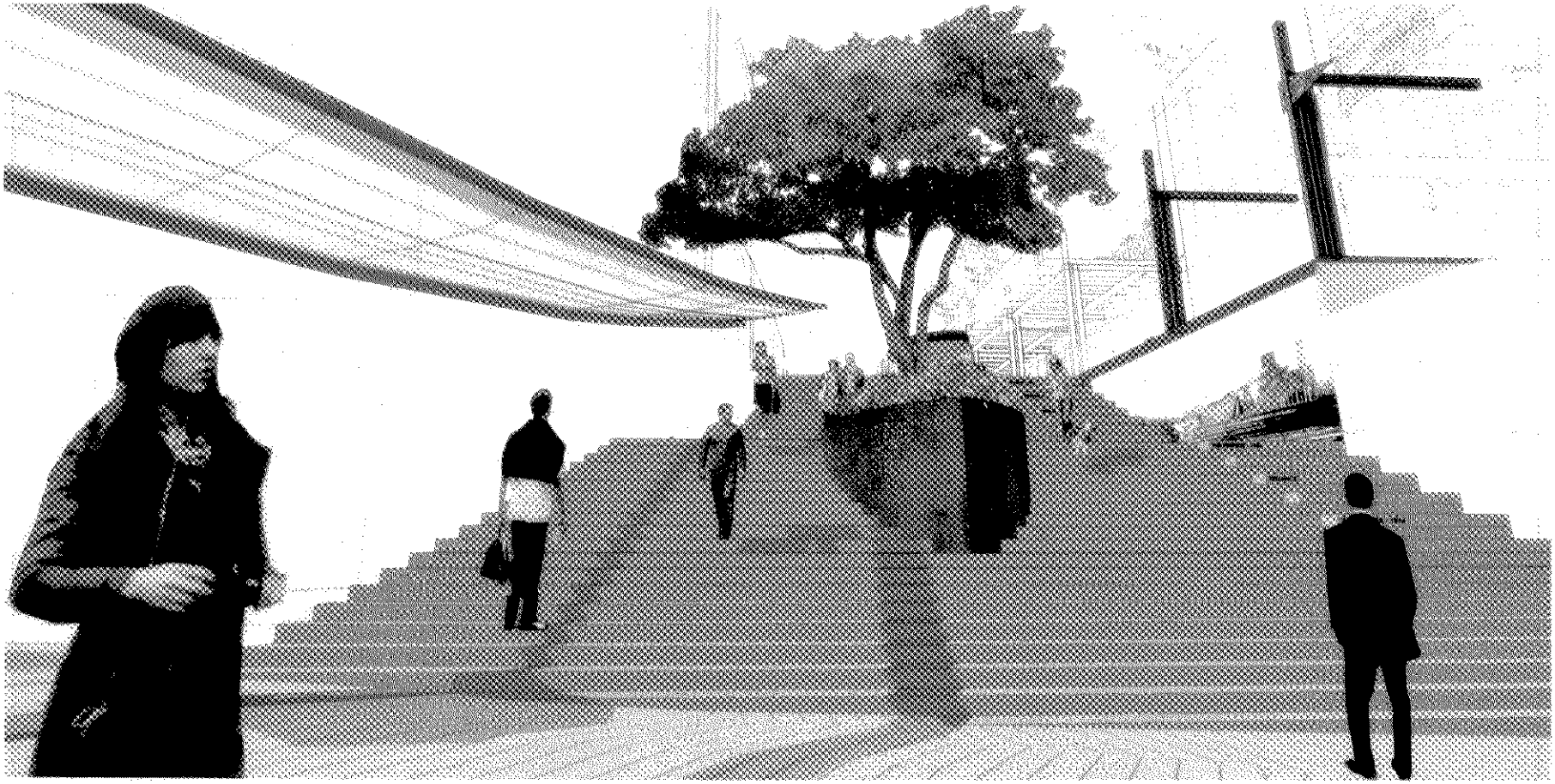
W. WAYFINDING LOCATION - DESIGN TBD

PERKINS +WILL | PCI **MARINE GATEWAY** PWL PARTNERSHIP

DEVELOPMENT PERMIT APPLICATION

DRAWING NO. **LDP 2.09**

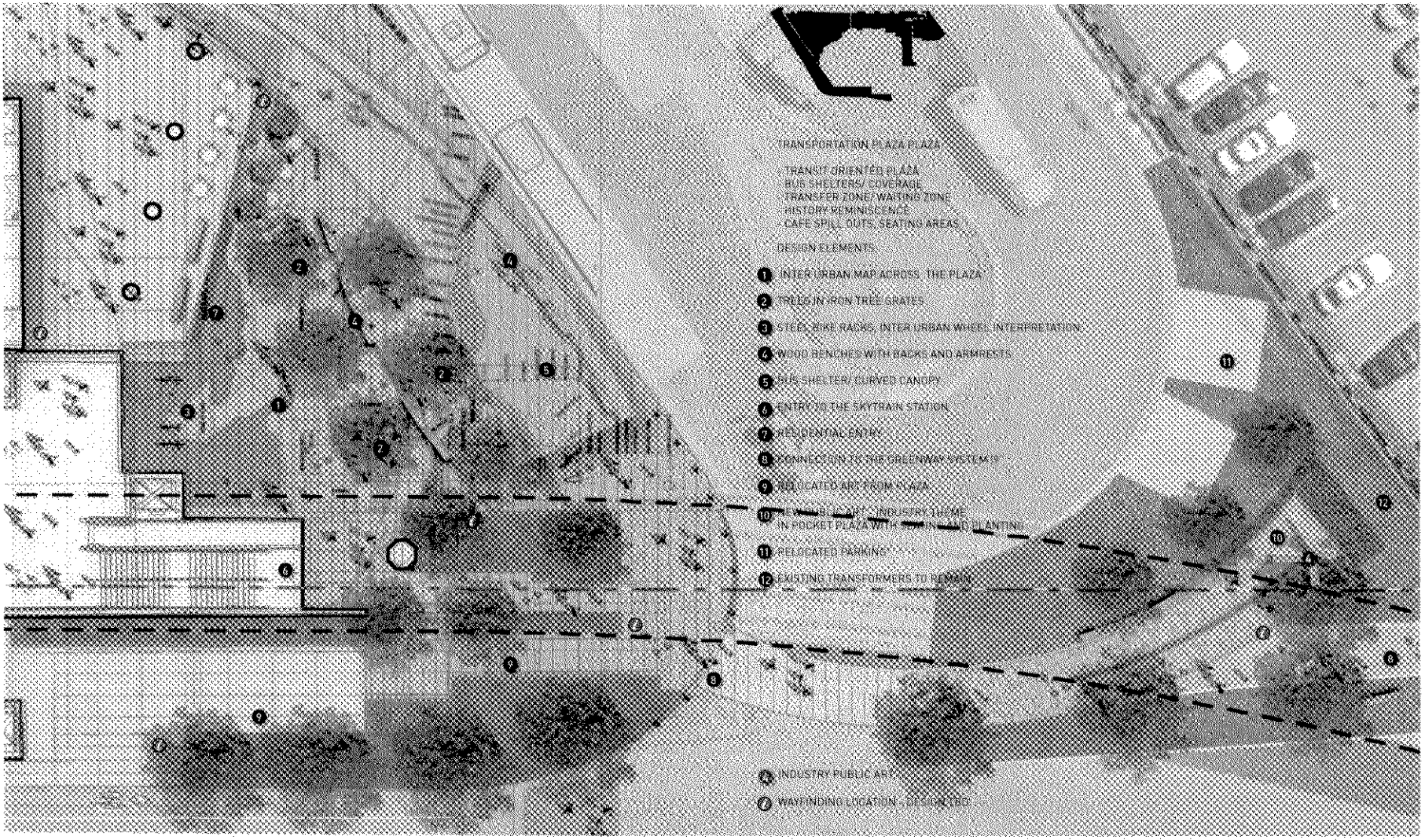
TITLE: PUBLIC REALM PLAN - MARINE LEVEL GRAND STAIRS



PERKINS +WILL | PCI **MARINE GATEWAY** | PWL partnership

DRAWING NO. **LDP 2.10**

TITLE PUBLIC REALM VIEW - MARINE LEVEL GRAND STAIRS



PERKINS + WILL | PCI | MARINE GATEWAY | PWL partnership

DEVELOPMENT PERMIT AUGUST 2010

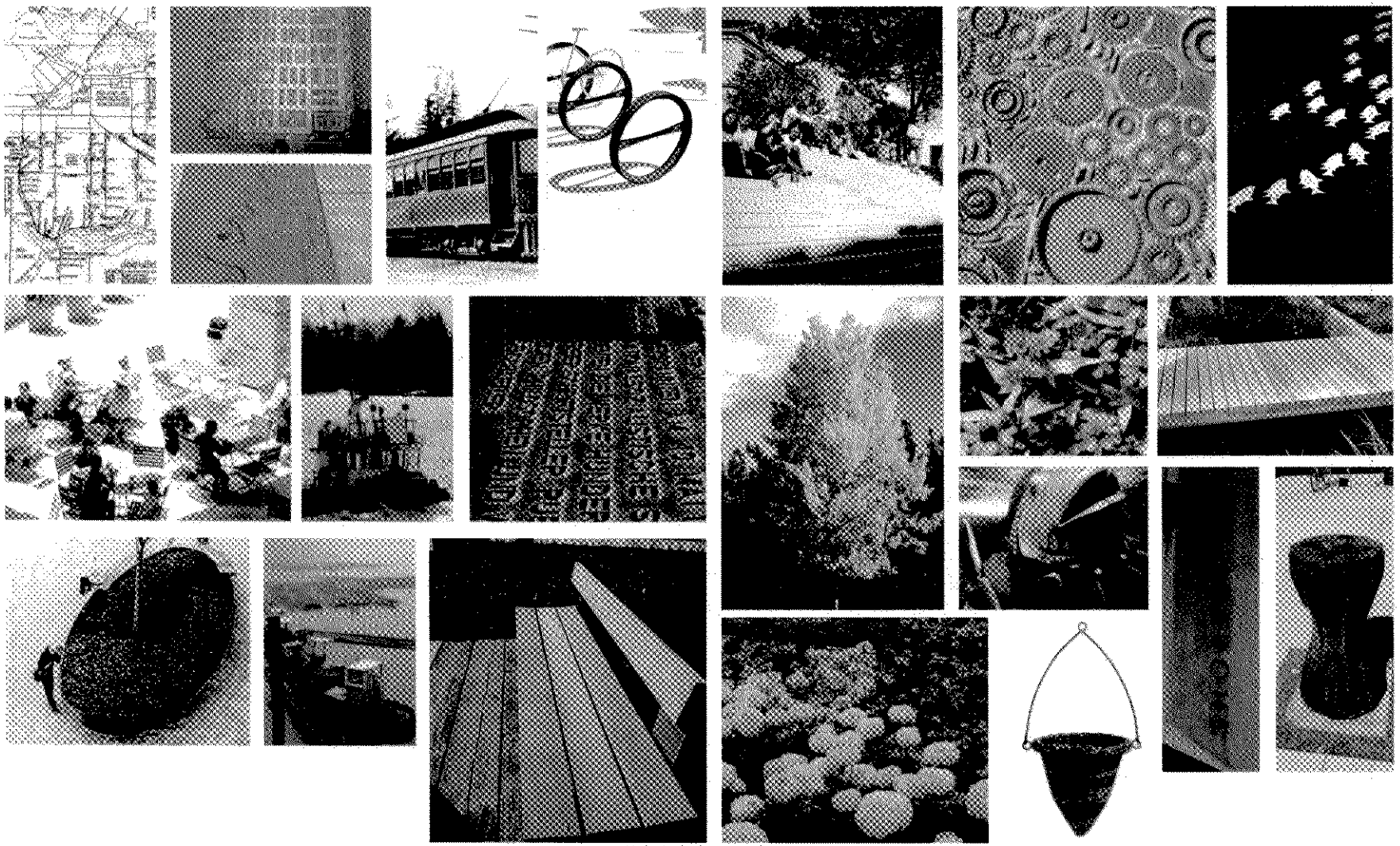
DRAWING NO.
LDP 2.11

TITLE
PUBLIC REALM PLAN - YUKON LEVEL
NEIGHBOURHOOD PLAZA SOUTH

PERKINS +WILL | PCI **MARINE GATEWAY** PWL partnership

DRAWING NO. **LDP 2.12**

TITLE
PUBLIC REALM VIEW - YUKON LEVEL
NEIGHBOURHOOD PLAZA SOUTH

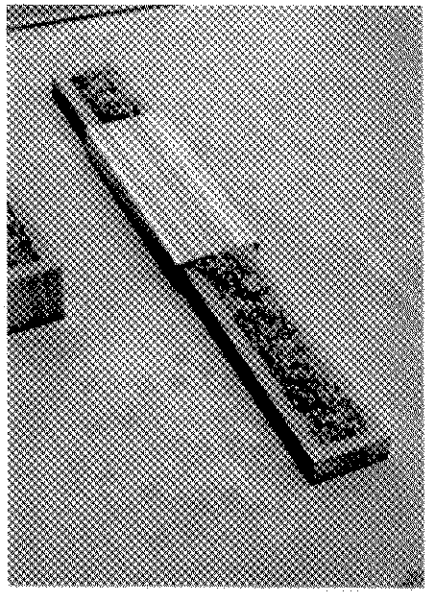
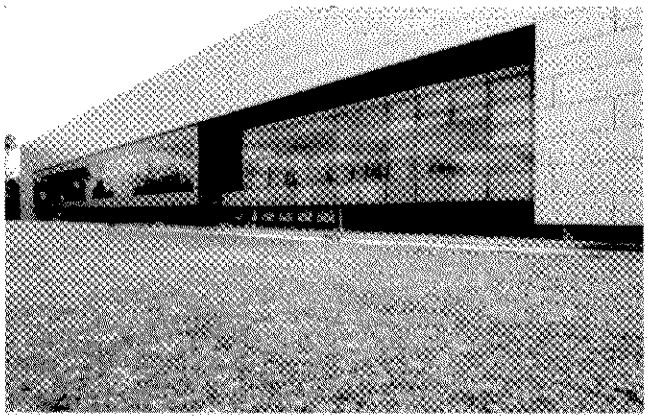


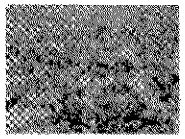
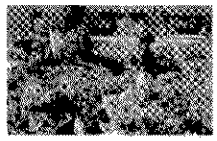
PERKINS +WILL | PCI | **MARINE GATEWAY** | PWL partnership

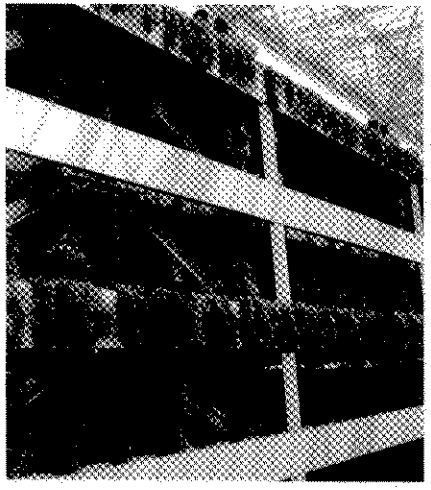
DEVELOPMENT PERMIT AMENDMENT

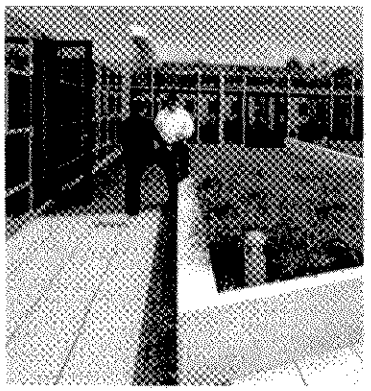
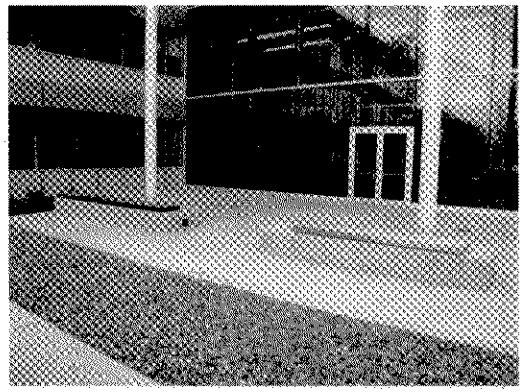
DRAWING NO.
LDP 2.13

TITLE
PUBLIC REALM - MARINE / YUKON LEVEL
IMAGE BOARD



PERKINS + WILL | PCI **MARINE GATEWAY** | PWL

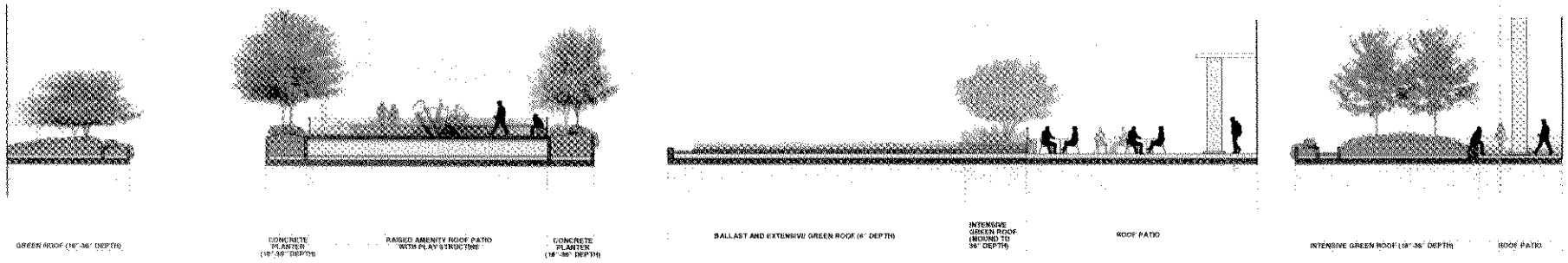
DRAWING NO. **LDP 2.14**

TITLE ROOF TOPS IMAGE BOARD

Plant List

ID	Botanical Name	Common Name	Qty	Scheduled Size	Spacing	Remarks
	Trees					
[illegible]	Acer Griseum	Paperbark Maple	2	7cm (3") CAL	As Shown	B&B, Uniform branching, dense tree, 7' (2.1m) std
[illegible]	Acer rubrum	Red Maple, Swamp Maple	9	7cm (2.75") cal.	7.2 m (25')	B&B, Well branched, dense tree
[illegible]	Acer rubrum 'Armstrong'	Armstrong Red Maple	5	5cm (2") CAL	As Shown	B&B, Uniform branching, dense tree, 7' (2.1m) std
[illegible]	Acer rubrum 'Bowhall'	Bowhall Red Maple	14	7cm (3") CAL	As Shown	B&B, Uniform branching, dense tree, 7' (2.1m) std
[illegible]	Pyrus calleryana 'Cleveland Select'	Cleveland Select Flowering Pe	14	6cm cal. (2.5" cal.)	As Shown	B&B, Uniform branching, dense tree, 6' (1.8m) std
	Shrubs					
[illegible]	Abelia 'Edward Goucher'	Edward Goucher Abelia	9	#3 Pot	60cm (24")	
[illegible]	Mahonia nervosa	Dwarf Oregon grape	2884	#1 Pot		
[illegible]	Rhododendron 'Elizabeth'	Rhododendron 'Elizabeth'	15	#3 Pot	50cm (20")	
[illegible]	Skimmia Reevesiana	Reeves Skimmia	36	#3 Pot	50cm (20")	
[illegible]	Taxus baccata 'Repandens'	Dwarf Spreading English Yew	96	#3 pot	60cm (24")	
[illegible]	Viburnum 'Spring Bouquet'	Spring Bouquet Viburnum	2	#2 pot	60 cm (24")	
	Ground Cover					
[illegible]	Cotoneaster dammeri	Bearberry Cotoneaster	24	#1 pot	38 cm (15")	15cm (6") leads. Minimum 3 leads
	Ornamental Grasses and Ferns					
[illegible]	Fragaria chiloensis	Beach Strawberry	95	10cm	10cm (4")	
[illegible]	Sesleria heufleriana	Blue-green moor grass	49	#1 pot	30cm (12")	
[illegible]	Campsis radicans	Trumpet Vine	8	#1 pot		Nursery grown, well established

** GENERAL NOTE: AUTOMATED HIGH EFFICIENCY IRRIGATION WITH MOISTURE & RAIN SENSOR TO BE INSTALLED

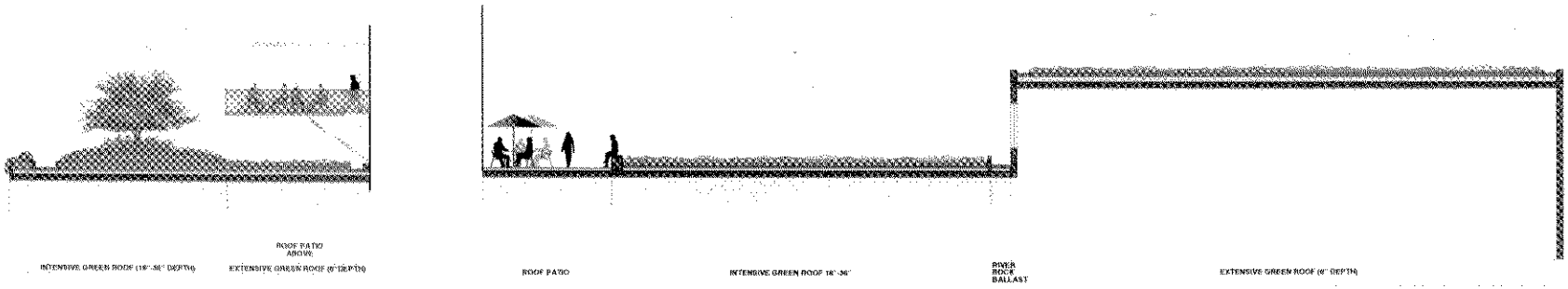


1 RESIDENTIAL PATIOS

2 RESIDENTIAL AMENITY

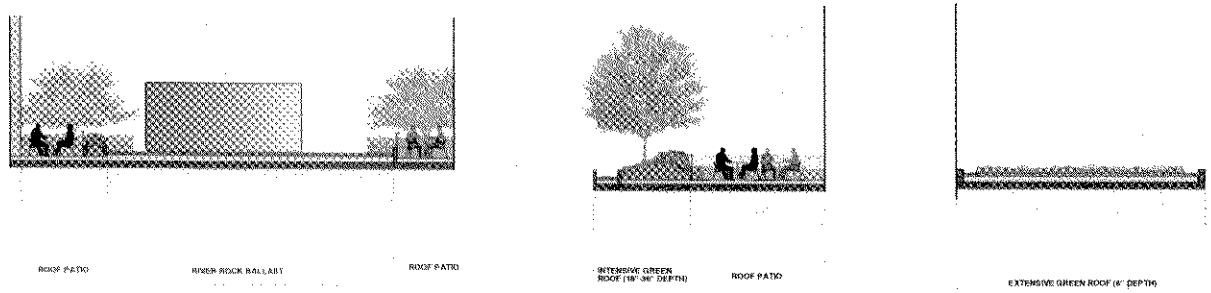
3 OFFICE PATIO NORTH

4 OFFICE PATIO WEST



5 VIP THEATRE DECK

6 OFFICE PATIO SOUTH



7 RESIDENTIAL PATIOS LEVEL 04

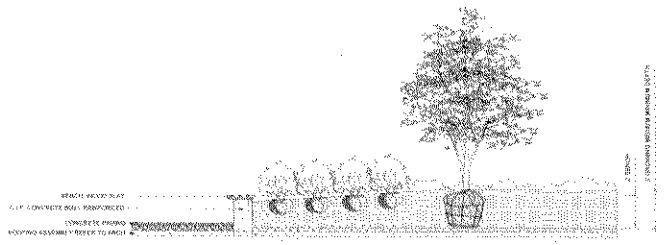
8 OFFICE PATIO NORTH AND GREEN ROOF SOUTH

PERKINS + WILL | PCI **MARINE GATEWAY** PWL PARTNERSHIP

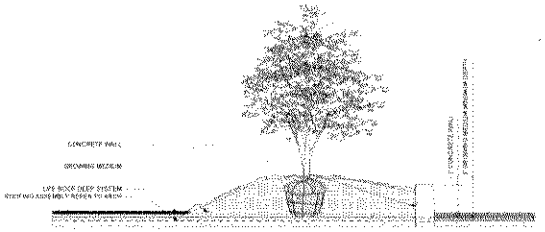
DEVELOPMENT PERMIT AMENDMENT

DRAWING NO. **LDP 4.01**

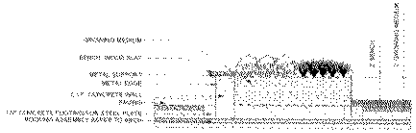
TITLE **LANDSCAPE SECTIONS**
SCALE 1/16"= 1'-0"



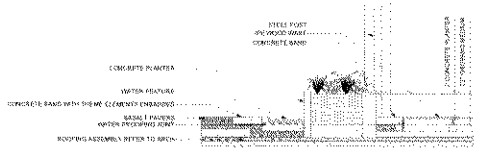
1 INTENSIVE GREEN ROOF WITH BENCH
Scale: 1/4



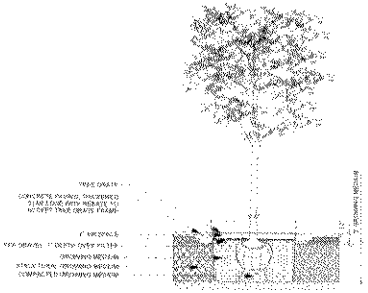
2 INTENSIVE AND EXTENSIVE GREEN ROOF WITH CONCRETE WALL
Scale: 1/4



3 CORTEN PLANTER WITH BENCH
Scale: 1/4



5 CORTEN PLANTER WITH BENCH
Scale: 1/4



4 TREE GRATE
Scale: 1/4

PERKINS + WILL | PCI **MARINE GATEWAY** | PWL PARTNERSHIP

LDP 5.01 **LANDSCAPE DETAILS**
SCALE 1/4"=1'-0"

3.1 Form

Marine Gateway is a transit oriented development that capitalises on the proximity of the new Canada Line Station, South Vancouver Bus Loop, and anticipated increases in density at the intersection of SW Marine Drive and Cambie Street. Its role will function as a new heart for the existing community as well as establishing a presence on a more regional scale. The architecture relates to the neighbourhood scale with an rich public realm and an articulated podium and at the regional scale with three expressive towers in the skyline.

Public Realm

Essential to the success of a transit oriented development is the quality and functionality of the public realm. Marine Gateway focuses on efficient pedestrian movement within the site, to the transit stations, and connecting to the existing community to the north as well as the future community to the south. Augmented with references to the theme of the Fraser River, the ground plane is designed with high quality materials and provides interest and texture that relate to its proximity to the river.

East and West Podium

The transition between the larger scale of the towers and the pedestrian scale of the street is provided by a strong precast masonry edge at the top of both podia. In the pedestrian "mews" the scale is further broken down by a structural steel frame spaced at 34'-0" and 17'-0" on center, east and west. Storefronts, contained by the frames, provide a wide variety of textures and materials: glass, masonry, wood, and metal. These podia use these devices to inherently provide wayfinding and orientation for visitors.

Residential Towers

The overall massing of the residential towers has been broken down into three types of volumes. The central volume is largely opaque, terminating in the mechanical penthouse and an enclosure that will act as a beacon in South Vancouver. Adjacent to the central volume are two largely glazed volumes on the east and west that are faced with balconies on their north and south faces, responding to views and solar shading. These volumes are staggered in their height at their tops, biasing the northern tower to the west and the southern tower to the east. At the exterior of the east and west facades are two "fields" that are clad in a clean white metal panel expressing their verticality while proposing a simple solar response to the difficult shading on the west and eastern facades. The towers are the same small floorplate of approximately 510sm plan, but rotated, so that the tops of the towers are distinct, biasing one tower to the east and one to the west.

Office Tower

The massing of the office tower has been broken down through the expression of three volumes and narrowing the facades on the north and south. The horizontal expression on the north elevation has been revised to provide a more vertical expression in the glazing details. A further level of articulation is obtained by the addition of sunshades responding to the unique requirements of each facade. This will contrast, and complement, the more articulated window walls of the residential towers. The residential towers all share a "field" of white metal panel articulating the simple portions of the floor plan, and providing order to the more expressive balconies at each end. The "field" in the office serves to emphasize the verticality of its massing as well as its connection to the theatres atop the podium.

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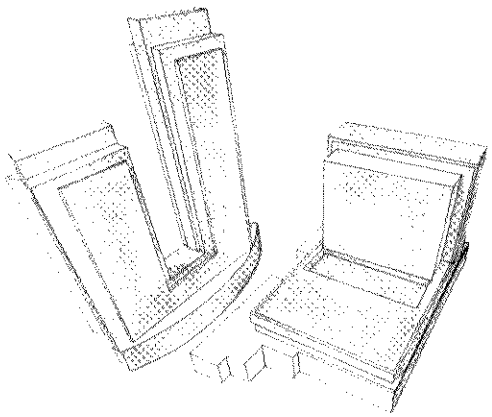

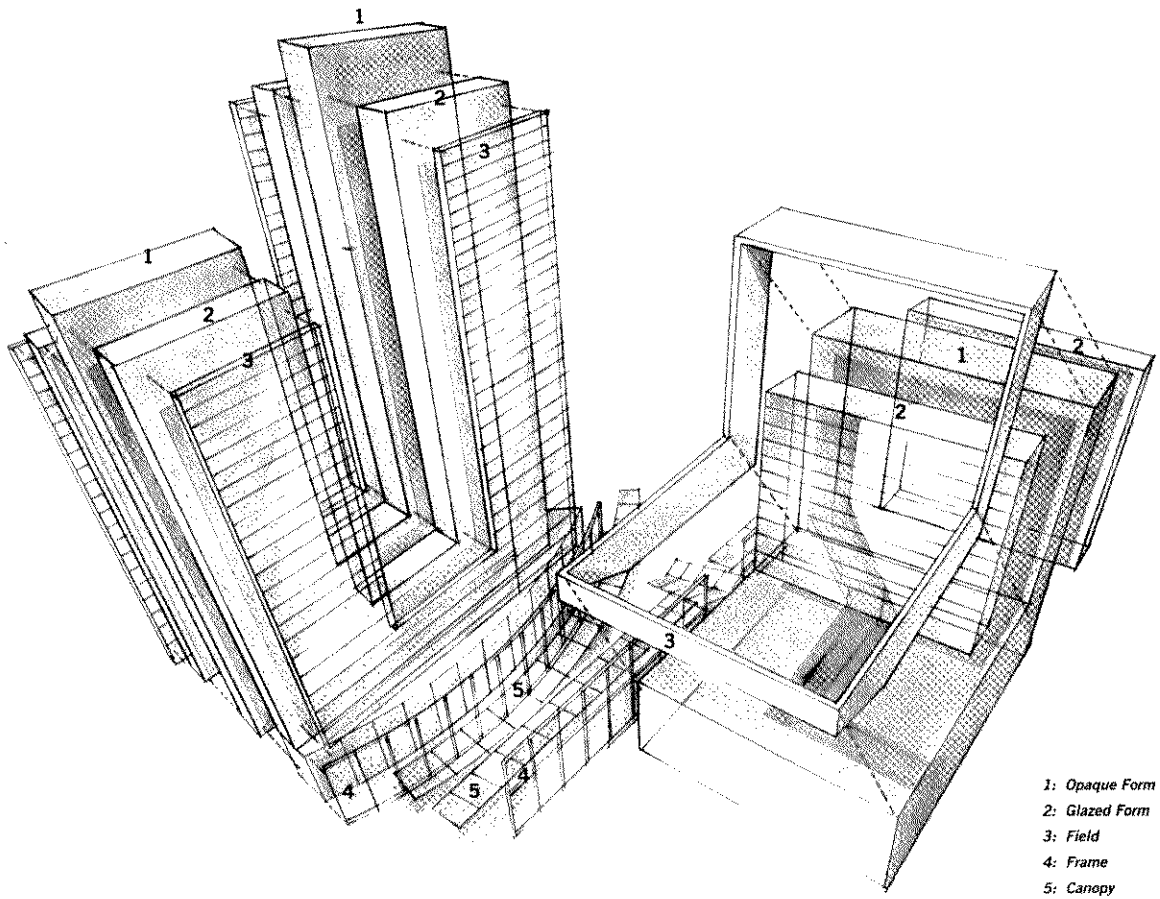

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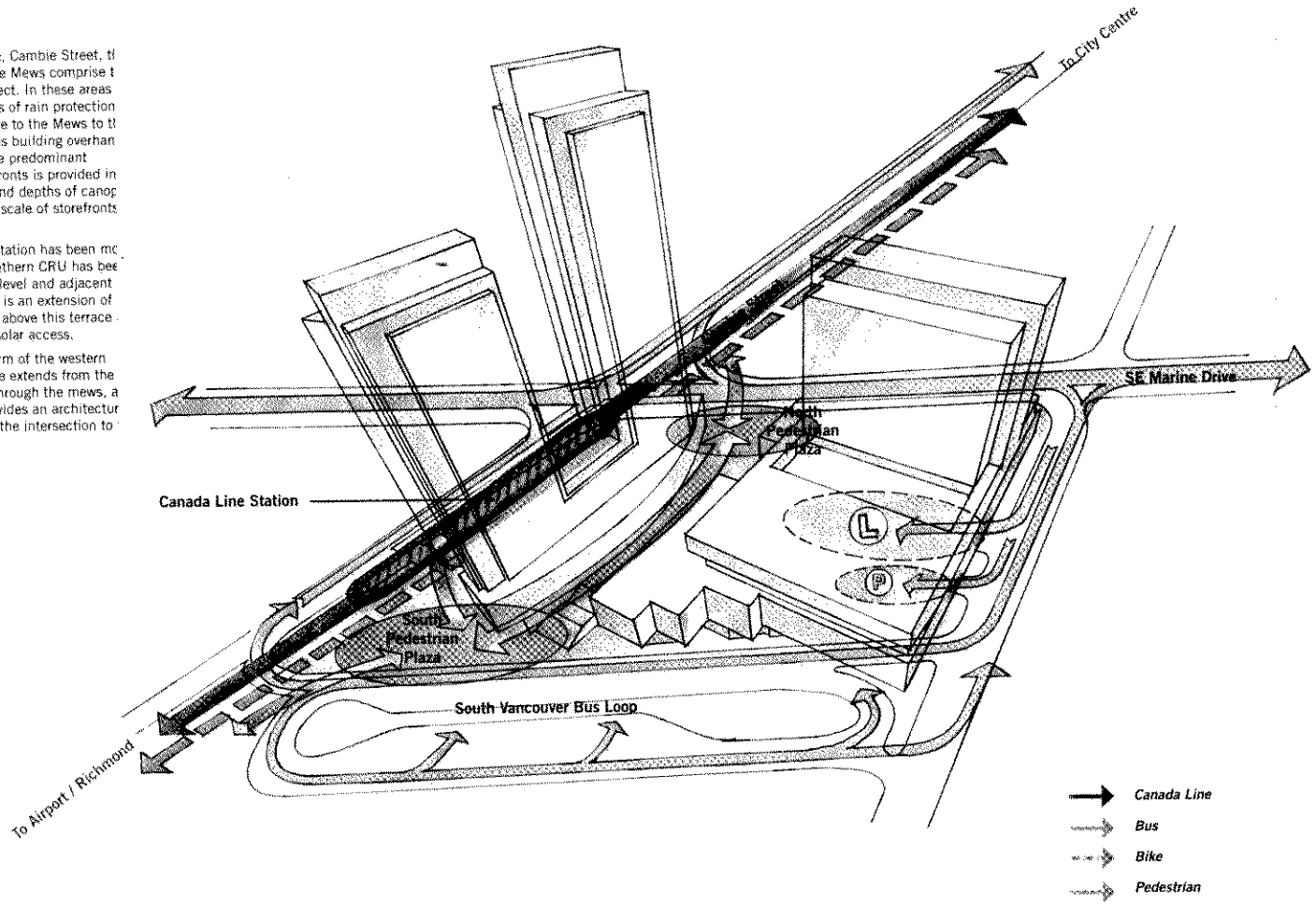
3.3 Movement

Ground-oriented treatments along Marine Drive, Cambie Street, th north and south Neighbourhood Plazas, and the Mews comprise t predominant pedestrian experience in the project. In these areas propose a distinct variety in materials, methods of rain protection storefront treatments. Routes from Marine Drive to the Mews to th Canada Line Station feature canopies as well as building overhan providing continuous weather protection for the predominant pedestrian movement. Differentiation of storefronts is provided in cladding materials, window systems, heights and depths of canop location and type of signage, and the size and scale of storefronts relate to the anticipated tenancies.

The pedestrian approach to the Canada Line Station has been mc to the southern end of the podium and the southern CRU has bee removed. This pedestrian approach is entirely level and adjacent a terrace overlooking the bus loop plaza which is an extension of public realm. The building overhang is 20'-0" above this terrace will be set back for 1/3 its length to increase solar access.

As part of the revision to station access the form of the western podium was revised to a curve form. This curve extends from the crossing at Marine Drive and Cambie Street, through the mews, a terminates at the station entry. This curve provides an architectur wayfinding element drawing pedestrians from the intersection to station.



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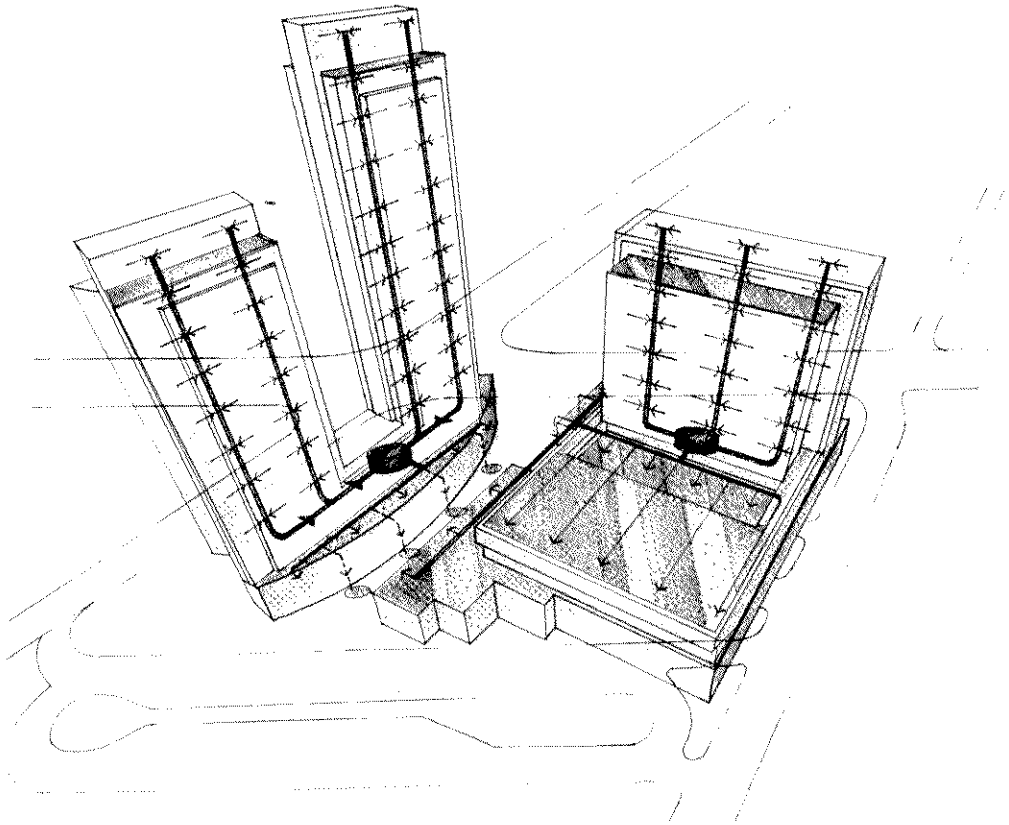
3.4 Water

The water system for Marine Gateway is comprised of a system to collect grey water from sinks and showers. Collected into a cistern, this water will be used to irrigate the on-site landscape. Stormwater will be processed by stormceptor filters prior to leaving the site.



3.5 Environment

Solar Shading

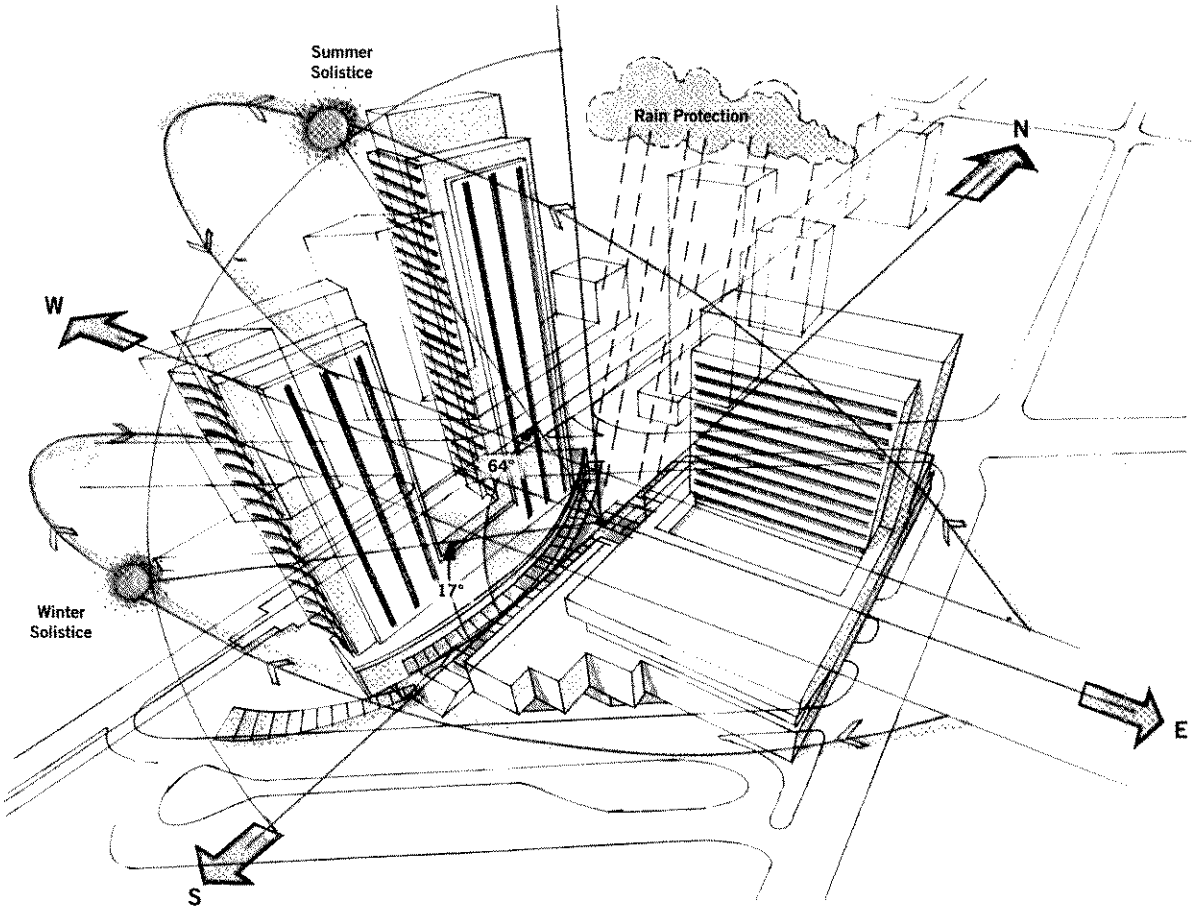
Solar shading is prominently featured in all three towers expression. On the residential tower, deep balconies provide shading and exterior amenity to the units. On the office, solar shading strategy provides shading on the East, West, and South via a system that maintains a consistent detailing while acknowledging the difference of each façade orientation.

Rain Protection

An extensive system of canopies will be provided along the various paths through Marine Gateway. These canopies run along both East and West sides of the Mews and reflect the uses on either side. On the West is the direct pathway to the Canada Line Station while the East side is articulated for strolling shoppers.

Alternative Transportation

Marine Gateway will build upon the current transit node by expanding transit options for the public. A Mobility Centre, a kind of bicycle parking garage/maintenance/shopping facility will operate adjacent to the Canada Line station. Charging facilities will be provided to 20% of parking stalls and space will be allocated for cooperative car use.



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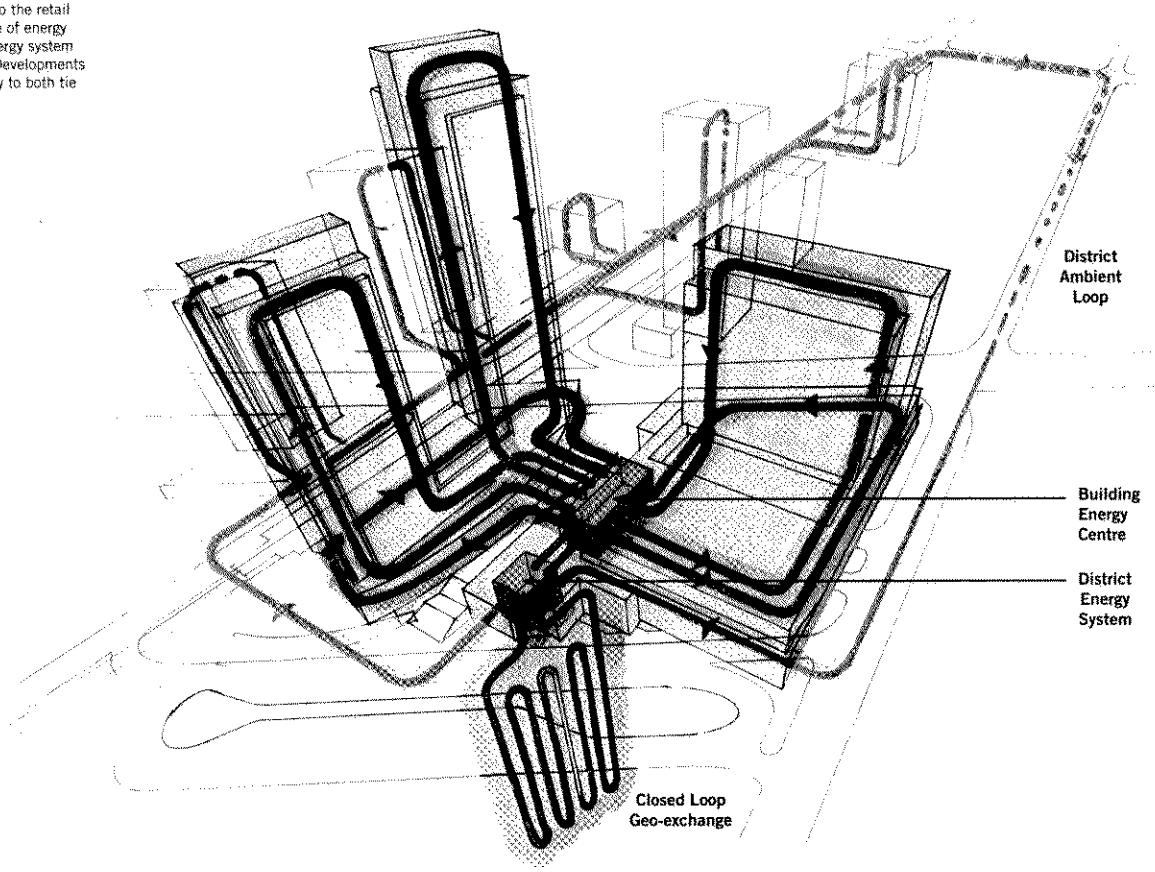
3.6 District Energy

Marine Gateway is a mixed use development. As such, mainly heating must be provided to the residential and cooling to the retail and office. Using an ambient loop we intend to make use of energy transfer within the site. To supplement this, a district energy system (DES) based on geo-exchange, will be provided on-site. Developments around the Marine Cambie node will have the opportunity to both tie into and support the DES.



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