

**Appendix G**  
**Preliminary Engineering Report**

# **PRELIMINARY ENGINEERING REPORT**

## **Kapolei Mixed Use Development**

1020 Wakea Street, Kapolei, Oahu, Hawaii 96707

TMK 9-1-088:021

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Prepared for:  
MJF Development Corporation  
1542 S. Beretania St. #101  
Honolulu, HI 96826

Prepared by:



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January 2015

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Site Photos

# **1 GENERAL**

## **1.1 PURPOSE AND SCOPE**

The purpose of this report is to identify and evaluate existing conditions and the impacts of the proposed project on existing utility (water, sanitary sewer, drainage) systems infrastructure.

The proposed project consists of development of a single block in Kapolei, bounded by Haumea Street (mauka), Wakea Street (east), Ala Kahawai Street (makai) and Alohikea Street (west). A Location Map is presented in Figure 1, Location Map and Existing Conditions, and site photos in the Appendices.

The project is proposed to be constructed in three phases as shown in Figures 2a, 2b and 2c. Phase 1 will consist of retail, building services, and residential tower lobby area on the first level, parking on the first and second levels, and studio, studio one- and two-bedroom senior residential apartments totaling 154 units. Phase 1 will occupy the mauka east portion and central of the site.

Phase 2 will consist of single-level retail uses totaling 21,000 square feet along Ala Kahawai and part of Wakea Street, and limited interior ground level parking.

Phase 3 will consist of retail, building services, parking and parking access, residential tower and recreation center uses on the first level, parking stalls on the second level and studio, one- and two bedroom senior residential on levels three through thirteen, totaling 143 units. Phase 3 will occupy the mauka west portion of the site.

Following information is based on various sources including but not limited to discussions with City agencies and officials.

## **1.2 PROJECT LOCATION**

The proposed project will be situated on a single-parcel block containing 132,227 square feet (3.036 acres), located in the Kapolei area of the island of Oahu.

The site is identified as Tax Map Key 9-1-088:021, see Figure 3, Tax Map in the Appendices for the parcel tax map and immediate surroundings.

## **2 SITE CONDITIONS**

### **2.1 EXISTING CONDITIONS AND USE**

Presently, the entire site has been vacant and unused since the end of sugar cane production uses in the 1970s. The property is vacant, graded with a gentle slope from Haumea Street frontage towards Ala Kahawai Street, and is becoming overgrown with grasses and weeds. Photos taken of the project site from mauka and makai street intersections are presented in the Appendix.

The property is bounded by Haumea Street (2-lanes, City) on the mauka side and Wakea Street (4-lane divided roadway, City) on its Diamond Head side. Both streets are fully developed with curbs and gutter, sidewalks, utilities and street lighting.

Ala Kahawai Street bounds the property on the makai side and Alohikea Street on the Ewa side. Both streets are incomplete with asphalt-treated base at 4 to 6 inches below gutter grade, concrete curb and gutters and street lighting. No sidewalks have been constructed. All utilities are in place but these streets are blocked from public access. Neither street has been completed where they adjoin the project site nor has been dedicated to the City at this writing.

The sidewalks at intersections of Haumea and Wakea Streets, and at Ala Kahawai Street, have curb ramps although several were constructed slightly steeper the regulatory maximum 1:12 slope.

There is a City bus stop on Haumea Street at the Ewa end of the site.

There are no driveway aprons around the perimeter of the site.

Properties across Ala Kahawai and Alohikea Streets are vacant. There is a shopping mall across Haumea Street, and Island Paradise Academy occupies the property across Wakea Street.

### **2.2 SOILS**

Soils in the area are identified by the NRCS' online soil mapping tools as type HxA – Honouliuli clay, 0 to 2 percent slopes. The soil is derived from basic igneous rock and occurs on alluvial flats. The mean annual precipitation is 18 to 30 inches. It is well drained, with moderate water capacity and the frequency of flooding or ponding is rare.

### **2.3 ORDINANCE 2412**

The City's Ordinance No 2412 (Chapter 14, Article 21 of the Revised Ordinances of Honolulu (ROH)) requires that any property owner making improvements to property abutting a public street must construct necessary improvements and dedicate a street

setback area. Type of improvements include but are not limited to sidewalks, curbs, curb ramps, gutters, pavement and adjustment to the property line.

Because there are no driveway aprons leading onto the site, driveways and curb ramps will have to be designed and constructed to meet current ADA Standards.

### 3 DEVELOPMENT REQUIREMENTS

#### 3.1 DOMESTIC WATER

Construction plans for streets bordering the project site show 12-inch water lines bordering the project site in Haumea and Wakea Streets, as well as on Alohikea and Ala Kahawai Streets. A 4-inch water lateral is provided from the 12-inch Haumea Street main, however no water meter has been provided at the site. Water lines in the project area, from distribution maps on file with the Honolulu Board of Water Supply (HBWS) are shown on Figure 4, Potable and Nonpotable Water.

A sample calculation of water fixture units for residential uses in Phases 1 and Phase 3 follows (the actual type and number of fixtures to be installed at each unit type has not been determined).

<b>Phase 1: Studio, One- and Two-Bedroom Units</b>		
Lavatory	1.2	
Tub/shower	1.6	
Water Closet (Tank)	1.7	
Kitchen Sink	1.6	
Washing machine	<u>2.0</u>	
	8.1	FU
2 Studios x 11 floors x 8.1 FU =		178.2
2 1-Bedroom units x 11 floors x 8.1 FU =		178.2
10 2-Bedroom units x 11 floors x 8.1 FU =		<u>891.0</u>
		1,247.4
Phase 1 Retail and Office (assumed)		
2 Lavatory x 1.2 =		2.4
4 Water Closet (Tank) x 1.7 =		6.8
2 Urinal x 1.7 =		<u>3.4</u>
		12.6
<b>Total Phase 1 =</b>		<b>1,260.0</b>

<b>Phase 2: Retail 21,000 sf (assumed, 10 leasees)</b>	
2 Lavatory x 1.2 x 10 leasees	24
4 Water Closet (Tank) x 1.7 x 10 leasees	68
2 Urinal x 1.7 x 10 leasees	<u>34</u>
<b>Total Phase 2 =</b>	<b>126</b>
<b>Phase 3: One-, Two- and Three-Bedroom Units</b>	
Lavatory x 1.2	1.2
Tub/shower x 1.6	1.6
Water Closet (Tank) x 1.7	1.7
Kitchen Sink x 1.6	1.6
Washing machine	<u>2.0</u>
	8.1 FU
1 Studio x 11 floors x 8.1 FU =	89.1
4 1-Bedroom units x 11 floors x 8.1 FU =	356.4
7 2-Bedroom units x 11 floors x 8.1 FU =	623.7
1 3-Bedroom units x 11 floors x 8.1 FU =	<u>89.1</u>
	1,158.3
<b>Retail, office and Recreation Center (assumed)</b>	
2 Lavatory x 1.2 x 4	9.6
4 Water Closet (Tank) x 1.7 x 4	27.2
2 Urinal x 1.7 x 4	<u>13.6</u>
	50.4
<b>Total Phase 3 =</b>	<b>1,208.7</b>
<b>Total, Phases 1 and 3 =</b>	
<b>1260 + 126 + 1,208.7 =</b>	<b>2,594.7 FU</b>
	<b>= 400 gpm</b>

A 4-inch compound meter, rated by BWS for 321 to 500 gmp, will be sufficient for water service to the planned project.

HBWS stated (Figure 5) a 9,000 gallons per day (gpd) water commitment to the project site, and that the existing water system is inadequate to service a proposed 585-unit commercial/residential development. The present project contemplates a total of 297 units with commercial and other uses. Additional water commitments beyond the present 9,000 gpd will have to be obtained from Kapolei Property Development LLC.

Water system adequacy and availability of water must be confirmed at the time of Building Permit application.

### **3.2 FIRE PROTECTION**

Water system distribution maps from HBWS show eight fire hydrants around the site, either on the block to be developed or immediately across the perimeter streets (Figure 4, Potable and Nonpotable Water).

The Uniform Fire Code requires fire apparatus access for every portion of a building when any portion of the building is located more than 150 feet from an approved accessway. Based on fire protection coverage afforded by existing fire hydrants in Figure 4, at least one additional onsite hydrant will be needed to afford protection to the project interior.

The Uniform Fire Code also requires onsite fire hydrants when any portion of the building is located more than 150 feet from a fire water supply, although the distance may be extended to 450 feet if the building is provided with fire sprinklers. Based on fire hydrant locations shown in Figure 4, fire sprinklers will be required in each building, connected to a new detector check meter. Sizing of the meter should be evaluated as the mechanical plans are developed.

A fire meter will be required for the parking structure planned as Phase 2.

### **3.3 IRRIGATION**

As-built plans show a 12" reclaimed irrigation water main along Haumea Street, and 8-inch reclaimed water mains along Wakea Street, Ala Kahawai Street and Alohikea Street. A stubout and meter box for a ¾" meter is provided from the main in Haumea Street (Figure 4, Potable and Nonpotable Water).

The recycled water system is not yet energized. Currently it is a pumped, on-demand system, fed with potable water from a fire hydrant. Flow and pressure are variable. Availability of water will be evaluated when a Building Permit application is made (Figure 6, BWS letter dated Sept. 11, 2013).

### **3.4 CROSS CONNECTION**

Connection to the HBWS water system will require a backflow preventer installed immediately downstream of the water meter and within private property, prior to any branches or tees. Size of the backflow preventer will be determined when the domestic meter size, building piping system size and allowable pressure drop is ascertained.

### 3.5 SANITARY SEWER

As-built plans show 8" and 15" gravity sewer mains along Haumea Street, a 10" main along Ala Kahawai Street and an 8-inch sewer line stubout to the undedicated portion of Alohikea Street. Two 6" laterals run onsite, one from a manhole on Haumea Street and another from the main along Ala Kahawai Street (Figure 7, Existing Sanitary Sewer System).

The average daily wastewater generation for each phase of the proposed project is calculated<sup>1</sup> as:

#### Phase 1

Residential:	Studio/1 Bedroom		
	143 units x 2.0 persons/unit x 80 gpcd	=	22,880 gpd
	2 Bedroom		
	11 units x 2.8 persons/unit x 80 gpcd	=	2,464 gpd
Retail:	(7,348 sf) x (1 employee/350 sf) x 15 gpcd	=	315
Office:	(2,573 sf) x (1 employee/200 sf) x 13 gpcd	=	167
Community Center:	(935 sf) x		
	Total Phase 1 average daily wastewater flow = 25,826 gpd		

#### Phase 2

Retail:	(22,156 sf) x (1 employee/350 sf) x 15 gpcd=	950 gpd
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#### Phase 3

Residential:	Studio/ 1 Bedroom		
	55 units x 2.0 persons/unit x 80 gpcd	=	8,800 gpd
	2 Bedroom		
	77 units x 2.8 persons/unit x 80 gpcd	=	17,248 gpd
	3 Bedroom		
	11 units x 4.0 persons/unit x 80 gpcd	=	3,520 gpd
Retail:	(1,966) x (1 employee/350 sf) x 15 gpcd	=	84
Office:	(3,935 sf) x (1 employee/200 sf) x 13 gpcd	=	255
Recreation Ctr.:	(4532 sf) x 50 gal/100 sf	=	2,266
	Total Phase 3 average daily wastewater flow = 32,173 gpd		

#### Total (Full Development) Wastewater Flow

Residential:	25,344 + 29,568	=	54,912 gpd
Retail:	315 + 950 + 84	=	1,349
Office:	167 + 255	=	422
Recreation Center:		=	2,266
	Total = 58,949 gpd		

<sup>1</sup> Sewage generation flow rates based on "Design Standards of the Department of Wastewater Management", City and County of Honolulu, (1993), and Metcalf and Eddy (1991) *Wastewater Engineering, Treatment and Reuse*, G. Tchobanoglous, Burton and Stensel (Eds.)

A Sewer Connection Application (2014/SCA-0915, Figure 8) was approved by the City, based on 297 residential units (33 studio, 66 one-bedroom, 182 two-bedroom, 11 three-bedroom) plus retail, daycare and office uses.

The “Revised Sewer Master Plan For Kapolei City” based on 420 persons at the site at full build-out was used in the preparation of Master Plans for interceptor sewers. No excess flow capacity is calculated to be available. Phase 1 contemplates 337 residents and employees onsite, Phase 2 adds 46 retail workers, and Phase 3 adds 378 residents and employees for a total of 768 persons onsite. There is sewer capacity for phases 1 and 2.

### 3.6 STORM DRAINAGE

The existing condition at the site is vacant land. Two catch basins fronting the site are connected to a 36” culvert along Haumea Street with an 18” drain stubout from one catch basin terminating within the project site. Three catch basins are connected to 18” and 30” culverts along Wakea Street. Three catch basins are connected to 66” culverts along Ala Kahawai Street with an 18” drain stubout from one catch basin terminating within the project site. Two catch basins are connected to 18” culverts along Alohikea Street with A drain stubout from one catch basin terminating within the project site (Figure 9, Existing Storm Drainage System).

The project will have to comply with the City & County of Honolulu storm drainage and runoff water quality requirements. The anticipated rainfall volume to be retained on site is calculated as follows.

$WQV = P \times C \times A \times 3630$ , where

P = water quality design storm depth (1” = 0.0833 foot)

C = runoff coefficient = 0.9 (assumed, for fully impervious developed surfaces)

A = area in acres

$WQV = 272.25 \times A$

Phase 1:  $WQV = 272.25 \times 1.66 = 452 \text{ ft}^3$

Phases 1 and 2:  $WQV = 452 + 272.25 \times 0.92 = 702 \text{ ft}^3$

Phases 1, 2 and 3:  $WQV = 702 + 272.25 \times 0.46 = 827 \text{ ft}^3$

Phases 1 and 2 may dispose of storm runoff to undeveloped portions of the site. Bio-filtration with appropriate low impact development measures will be required to be implemented for runoff leaving the site. Approved storm runoff treatment methods include:

- Vegetated bio-filter,
- Green Roof,
- Enhanced swale,

- Vegetated swale,
- Vegetated bumper strip,
- Tree box filters,
- Infiltration chambers.

### **3.7 FLOOD ZONE**

Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency (FEMA) indicates that the site is located in a flood hazard Zone D, as shown in Figure 10, Flood Hazard Map.

Zone D is defined as the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

# **APPENDIX**

Figure 1 - Location Map and Existing Conditions

Figure 2a - Project Phase 1

Figure 2b - Project Phase 2

Figure 2c - Project Phase 3

Figure 3 - Tax Map

Figure 4 - Potable and Nonpotable Water

Figure 5 - BWS Water Allocation Letter

Figure 6 - BWS Reclaimed Water Letter

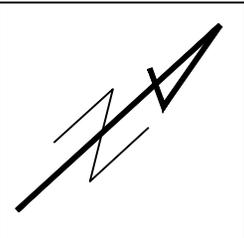
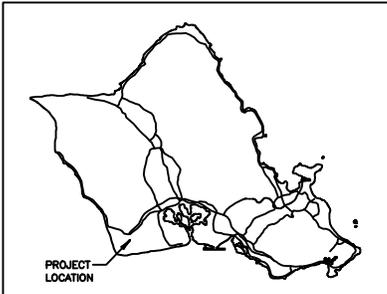
Figure 7 - Existing Sanitary Sewer System

Figure 8 - Sewer Connection Application

Figure 9 - Existing Storm Drainage System

Figure 10 - Flood Hazard Map

Site Photos



**PROJECT SITE**

**HAUMEA ST.**

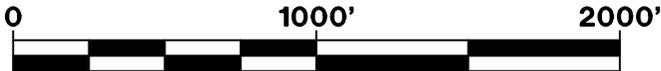
**ALA KAHAWAI ST.**

**ALOHIKEA ST.**

**WAKEA ST.**

2379 ft

**GRAPHIC SCALE**



Imagery Date: 1/29/2013

2

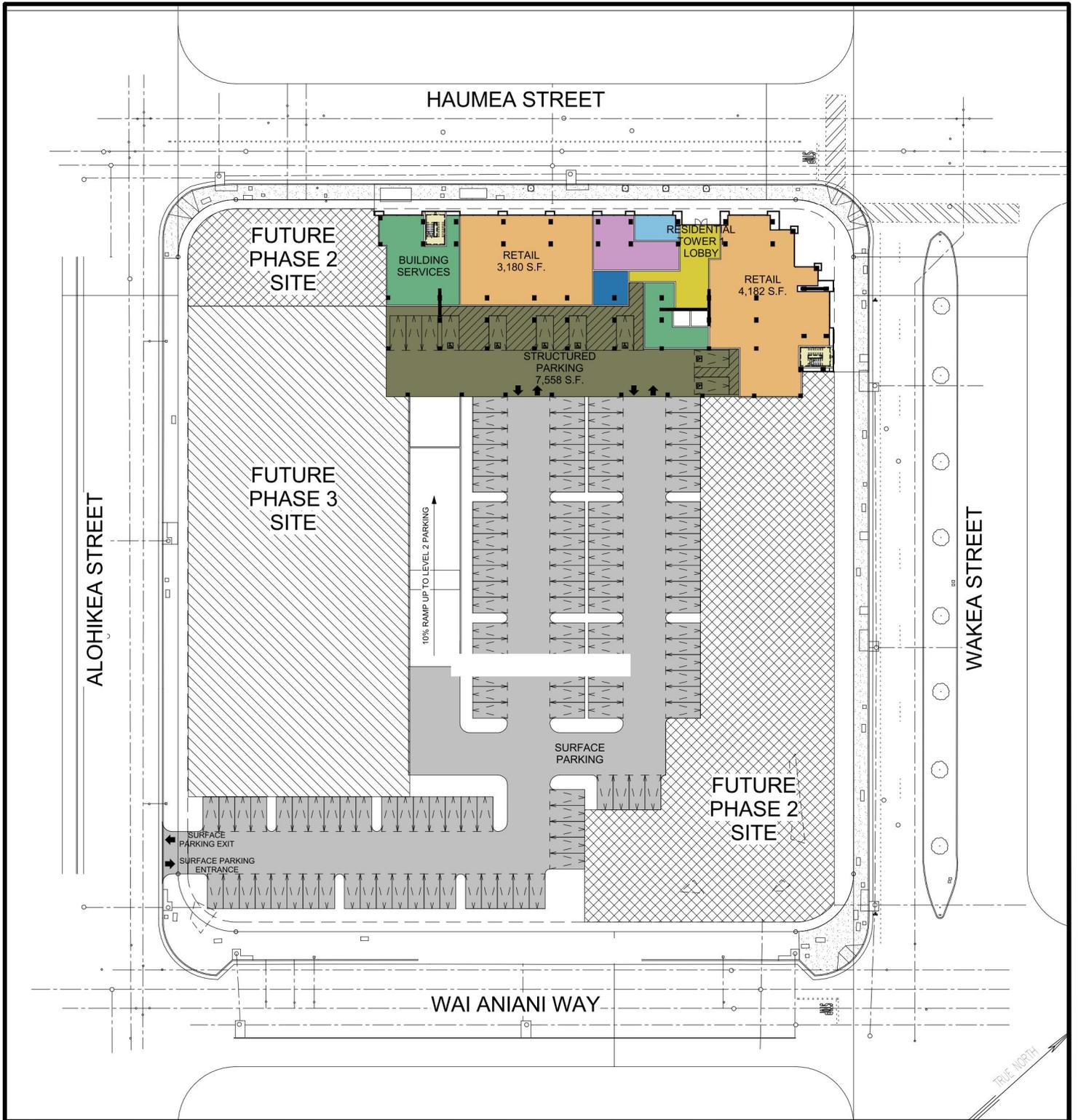


**SATO AND ASSOCIATES, INC.**  
CONSULTING ENGINEERS, CIVIL & STRUCTURAL  
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**KAPOLEI MIXED-USE DEVELOPMENT**  
1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
**LOCATION MAP AND EXISTING CONDITIONS**

**1**

FIGURE

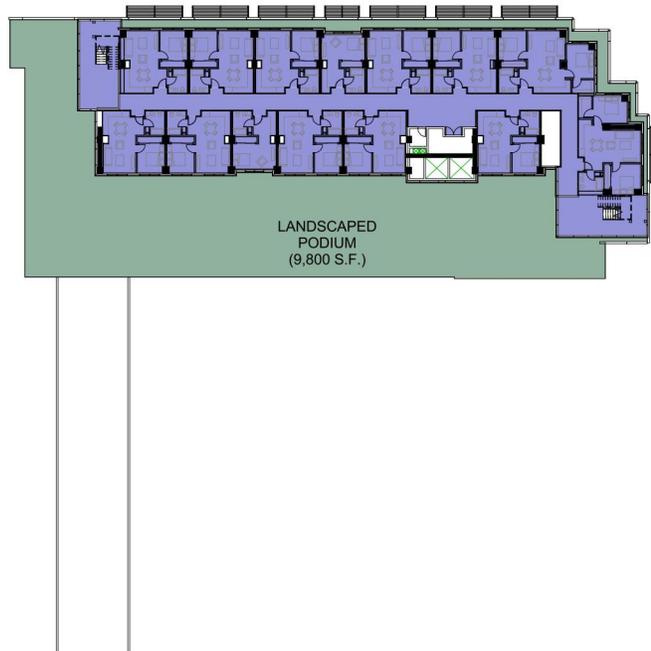


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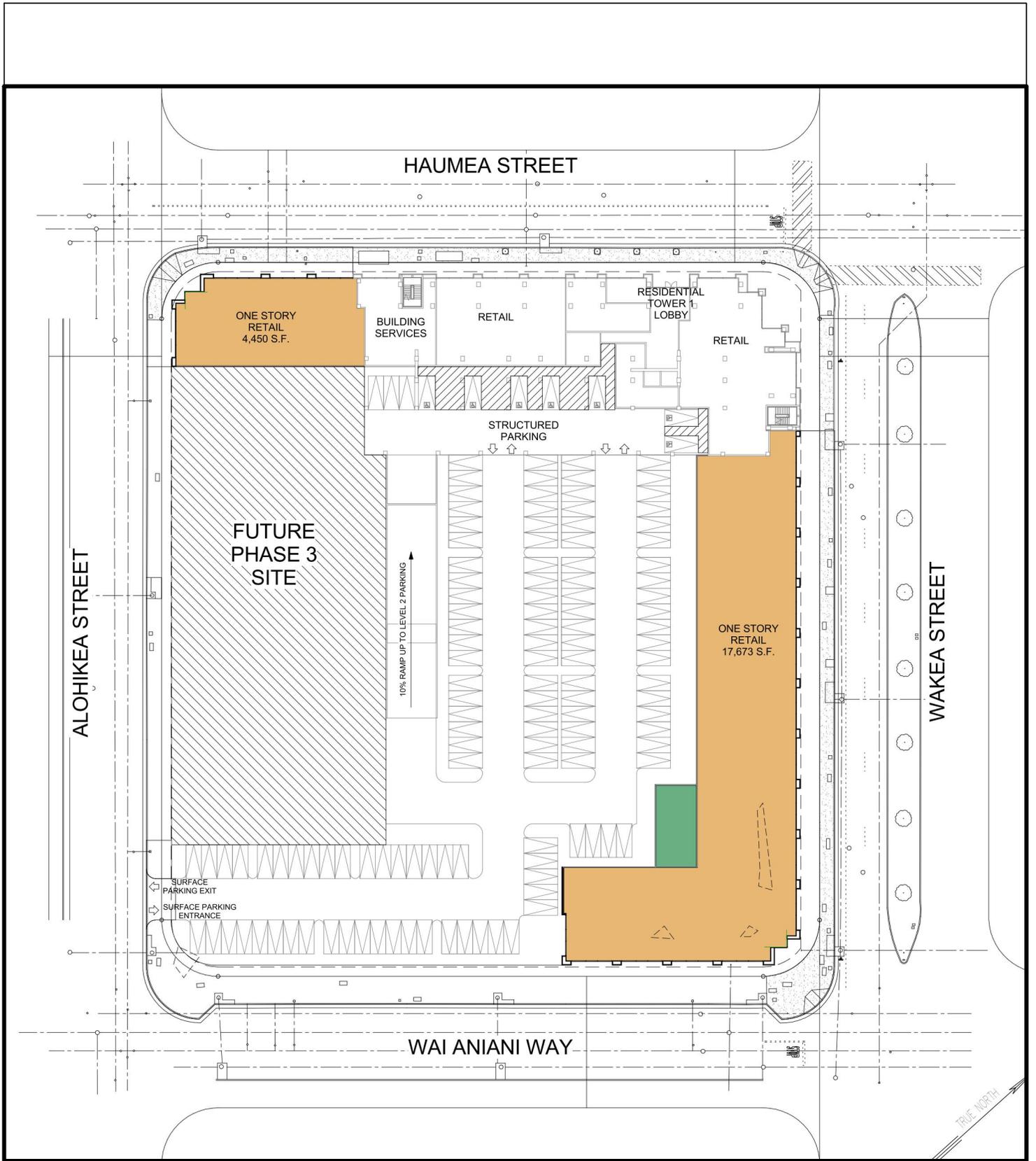
**KAPOLEI MIXED-USE DEVELOPMENT**  
**1020 WAKEA ST., KAPOLEI, OAHU, HAWAII**  
**PROJECT PHASE 1**

2a  
FIGURE

AFFORDABLE SENIOR TOWER



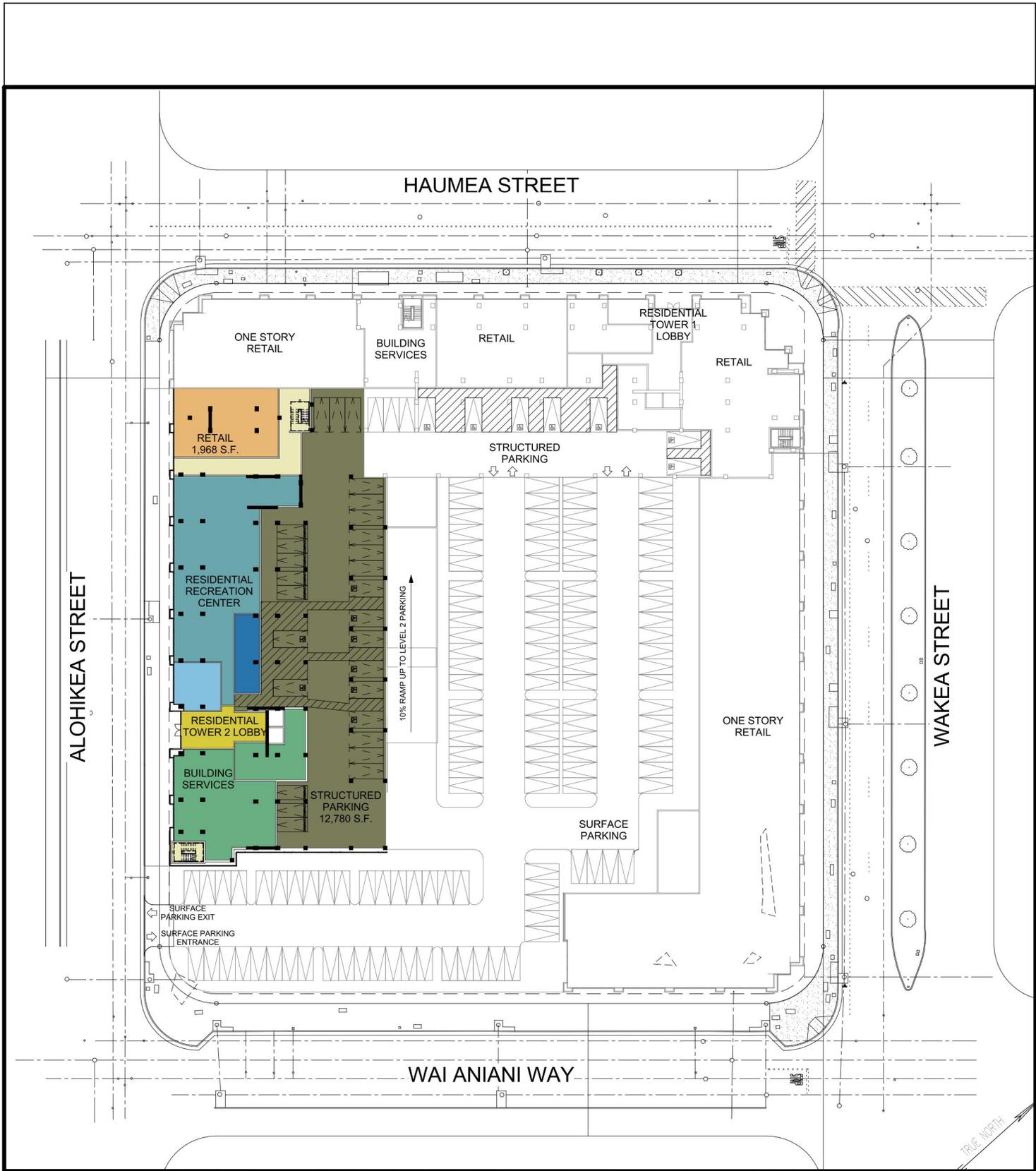
LEVEL THREE



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**KAPOLEI MIXED-USE DEVELOPMENT**  
**1020 WAKEA ST., KAPOLEI, OAHU, HAWAII**  
**PROJECT PHASE 2**

2c  
FIGURE



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**KAPOLEI MIXED-USE DEVELOPMENT**  
**1020 WAKEA ST., KAPOLEI, OAHU, HAWAII**  
**PROJECT PHASE 3**

2d  
FIGURE

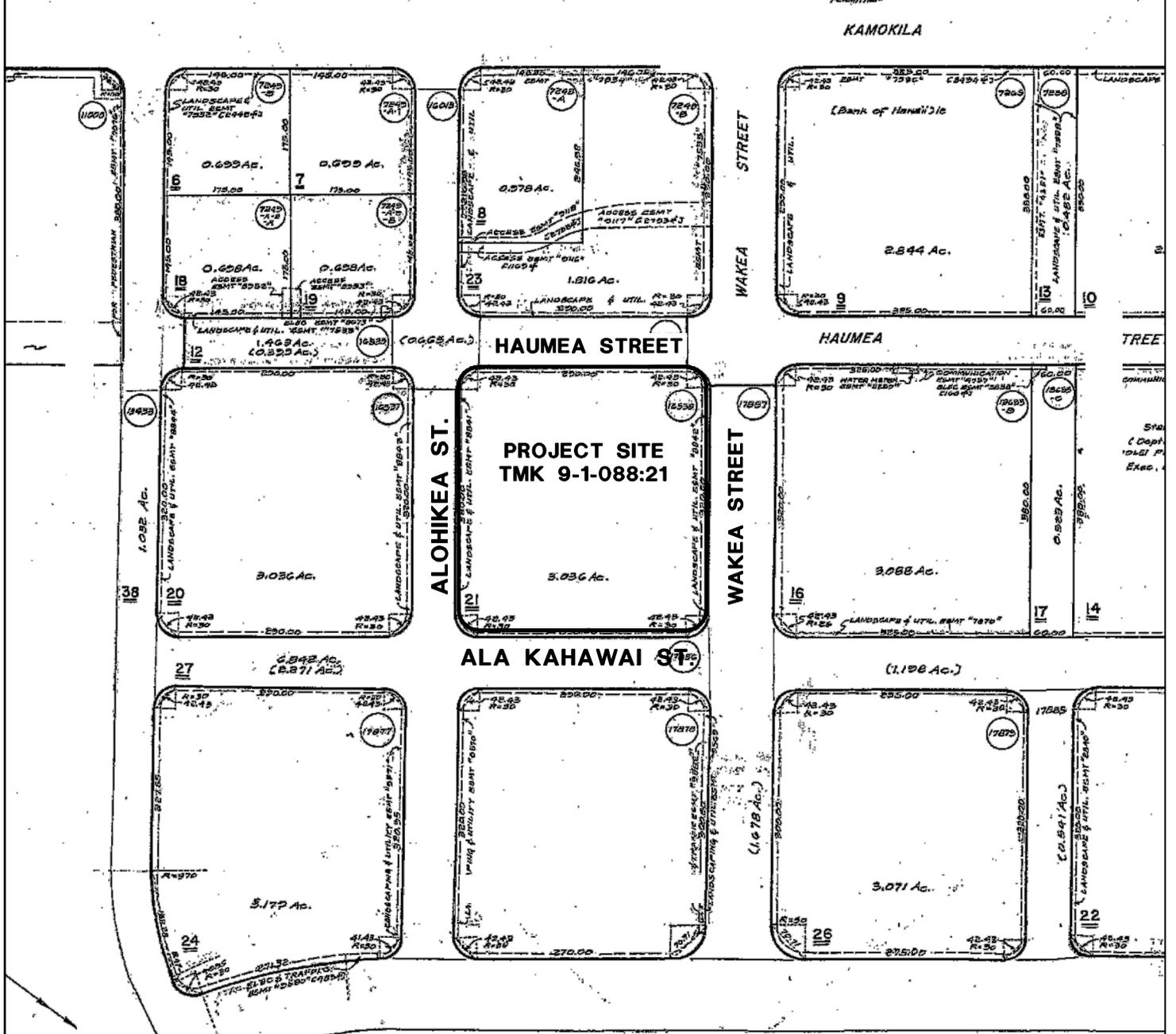
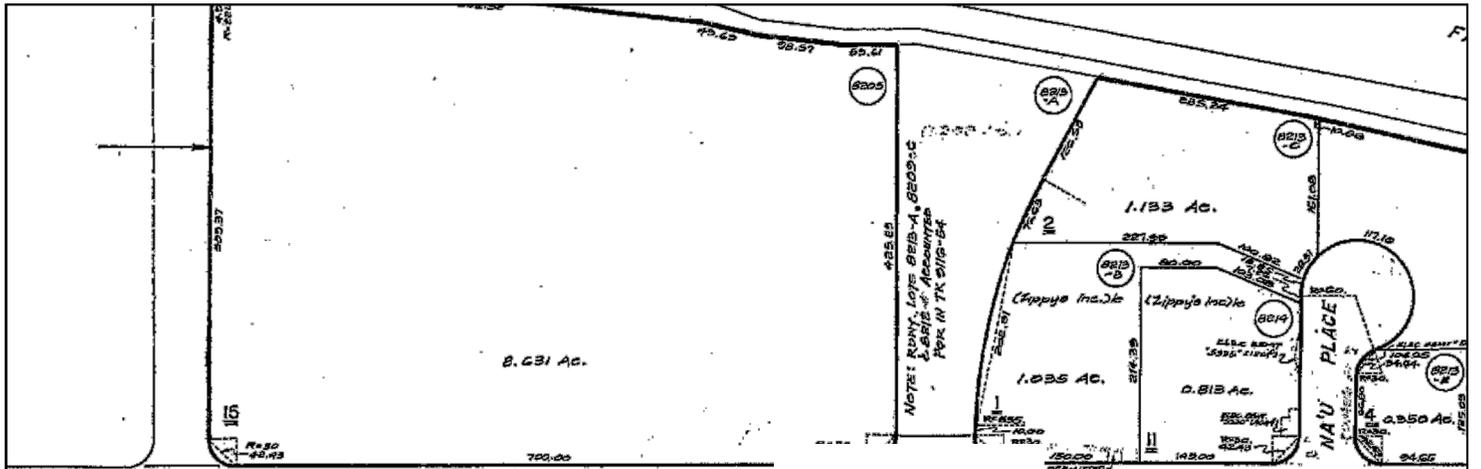
AFFORDABLE SENIOR TOWER



MARKET RATE  
CONDO  
TOWER 2

LANDSCAPED  
PODIUM  
(14,700 S.F.)

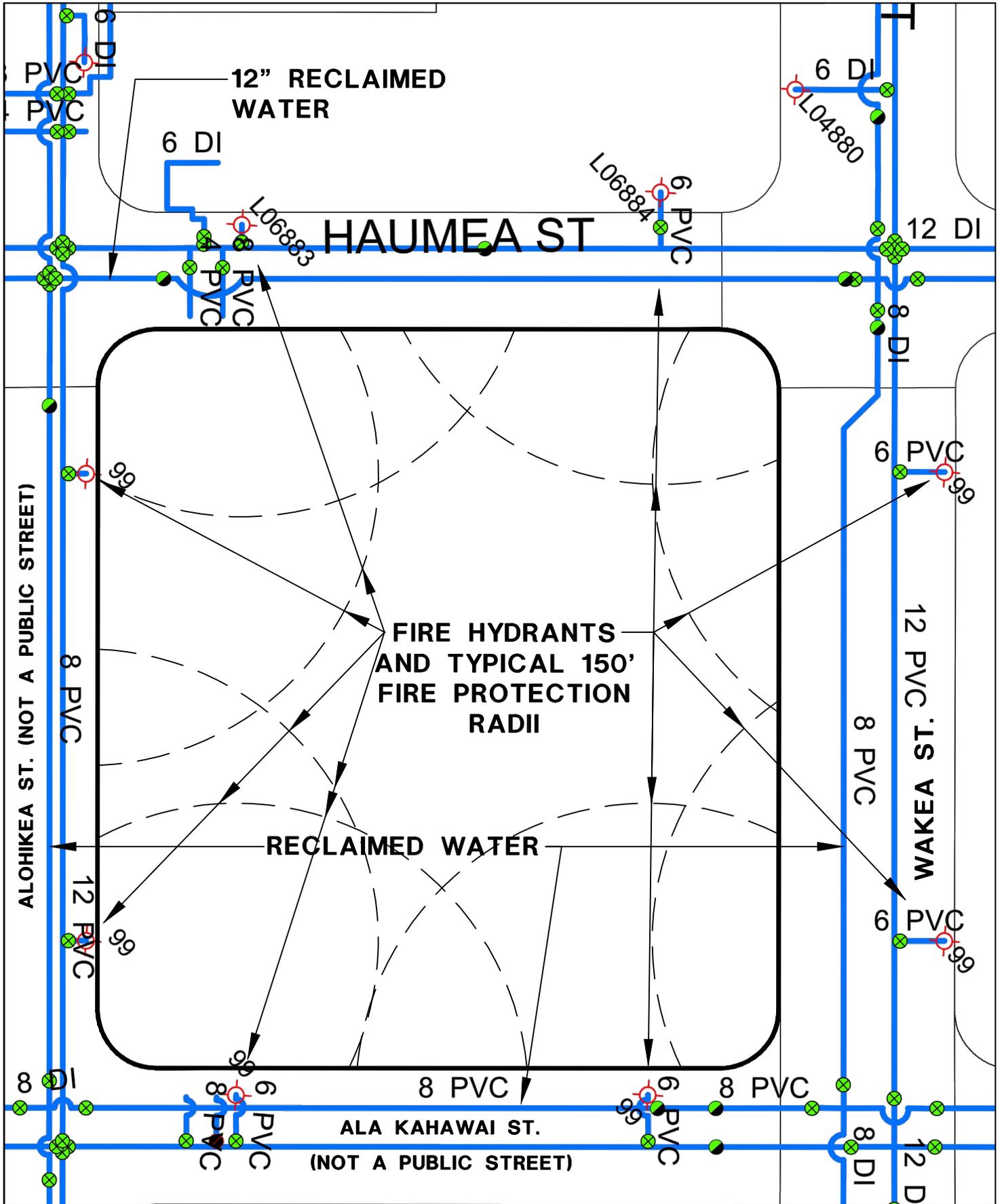
LEVEL THREE



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**KAPOLEI MIXED-USE DEVELOPMENT**  
 1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
**TAX MAP**

**3**  
 FIGURE



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**KAPOLEI MIXED-USE DEVELOPMENT**  
 1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
**POTABLE AND NONPOTABLE WATER**

**4**

FIGURE

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843



June 17, 2013

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MAHEALANI CYPHER, Vice Chair  
THERESIA C. McMURDO  
ADAM C. WONG  
KAULANA H. R. PARK

ROSS S. SASAMURA, Ex-Officio  
GLENN M. OKIMOTO, Ex-Officio

ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.  
Deputy Manager and Chief Engineer *ek*

Mr. Keane K. Kaneakua, P.E.  
Community Planning and Engineering, Inc.  
1286 Queen Emma Street  
Honolulu, Hawaii 96813

Dear Mr. Kaneakua:

Subject: Your Email Dated June 4, 2013 Requesting Availability of Water to the Proposed 585-Unit Commercial/Residential High-Rise Development on Wakea Street – Tax Map Key: 9-1-088: 021

Thank you for your letter on the proposed commercial/residential development in Kapolei City.

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

This parcel currently has a potable water allocation of 9000 gallons per day. The estimated water requirements exceed this amount. Therefore, the developer will be required to obtain additional potable water allocation from Kapolei Property Development LLC.

When water is made available, the applicant will be required to pay the applicable Water System Facilities Charges.

Water conservation measures are required for all proposed developments. These measures include low flow plumbing fixtures, utilization of nonpotable water for irrigation using rain catchment and chiller/air handler condensate, cooling tower conductivity meters and water softening recycling systems, drought tolerant plants, xeriscape landscaping, efficient irrigation systems and the use of Water Sense labeled ultra-low-flow water fixtures and toilets.

High-rise buildings with booster pumps will be required to install water hammer arrestors or expansion tanks to reduce pressure spikes and potential main breaks in our water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

*Ernest Y. W. Lau*  
ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

RECEIVED  
JUN 19 2013

COMMUNITY PLANNING AND ENGINEERING INC.

Water for Life . . . Ka Wai Ola



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**KAPOLEI MIXED-USE DEVELOPMENT**  
**1020 WAKEA ST., KAPOLEI, OAHU, HAWAII**  
**BWS WATER ALLOCATION LETTER**

**5**

FIGURE

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843



September 11, 2013

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chairman  
MAHEALANI CYPHER, Vice Chair  
THERESIA C. McMURDO  
ADAM C. WONG  
KAULANA H. R. PARK

ROSS S. SASAMURA, Ex-Officio  
GLENN M. OKIMOTO, Ex-Officio

ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.  
Deputy Manager and Chief Engineer *EEL*

Mr. Anson Murayama  
Chief Executive Officer  
Community Planning and Engineering, Inc.  
1286 Queen Emma Street  
Honolulu, Hawaii 96813

Dear Mr. Murayama:

Subject: Your Letter Dated June 25, 2013 Regarding Recycled Water Availability for the Kapolei Mixed-Use Development, Haumea Street – Tax Map Key: 9-1-088: 02

Thank you for your letter requesting a recycled water availability for the Kapolei Mixed Use Development. We have the following comments:

1. Provide a site plan showing the recycled water meter location, meter size and the landscaped area proposed for irrigation. Provide supporting calculations for the requested 1,167 gallons per day (GPD) of R-1 recycled water.
2. The availability of recycled water will be confirmed when the Recycled Water Service Agreement (RWSA) between the Board of Water Supply (BWS) and the user is executed. BWS reserves the right to change any position or information stated herein up until the execution of the RWSA. When recycled water is made available, the user will be required to pay any applicable costs for its use.
3. The user shall be required to comply with Chapter 11-62, Hawaii Administrative Rules, Wastewater Systems and Department of Health (DOH) Guidelines for the Treatment and Use of Recycled Water, dated May 15, 2002, and as amended, published by the State DOH Wastewater Branch, including the Recycled Water Project Application, permitting, training, signage and on-site improvements.
4. The BWS Recycled Water System is an on-demand, pumped system, so flows and pressures will vary throughout the day. At this time, the recycled water system at the City of Kapolei is not yet energized and is being temporarily fed by a potable water fire hydrant.
5. We recommend using drought tolerant and low water use plants, and xeriscaping principles in all landscaping. We also recommend installing efficient irrigation systems, such as drip irrigation, and incorporating moisture sensors to avoid operating the irrigation system in the rain and/or if the ground has adequate moisture.

If you have any questions, please contact Barry Usagawa at 748-5900.

Very truly yours,

*Ernest Y. W. Lau*  
ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

RECEIVED  
SEP 16 2013

COMMUNITY PLANNING AND ENGINEERING INC.

*Water for Life . . . Ka Wai Ola*

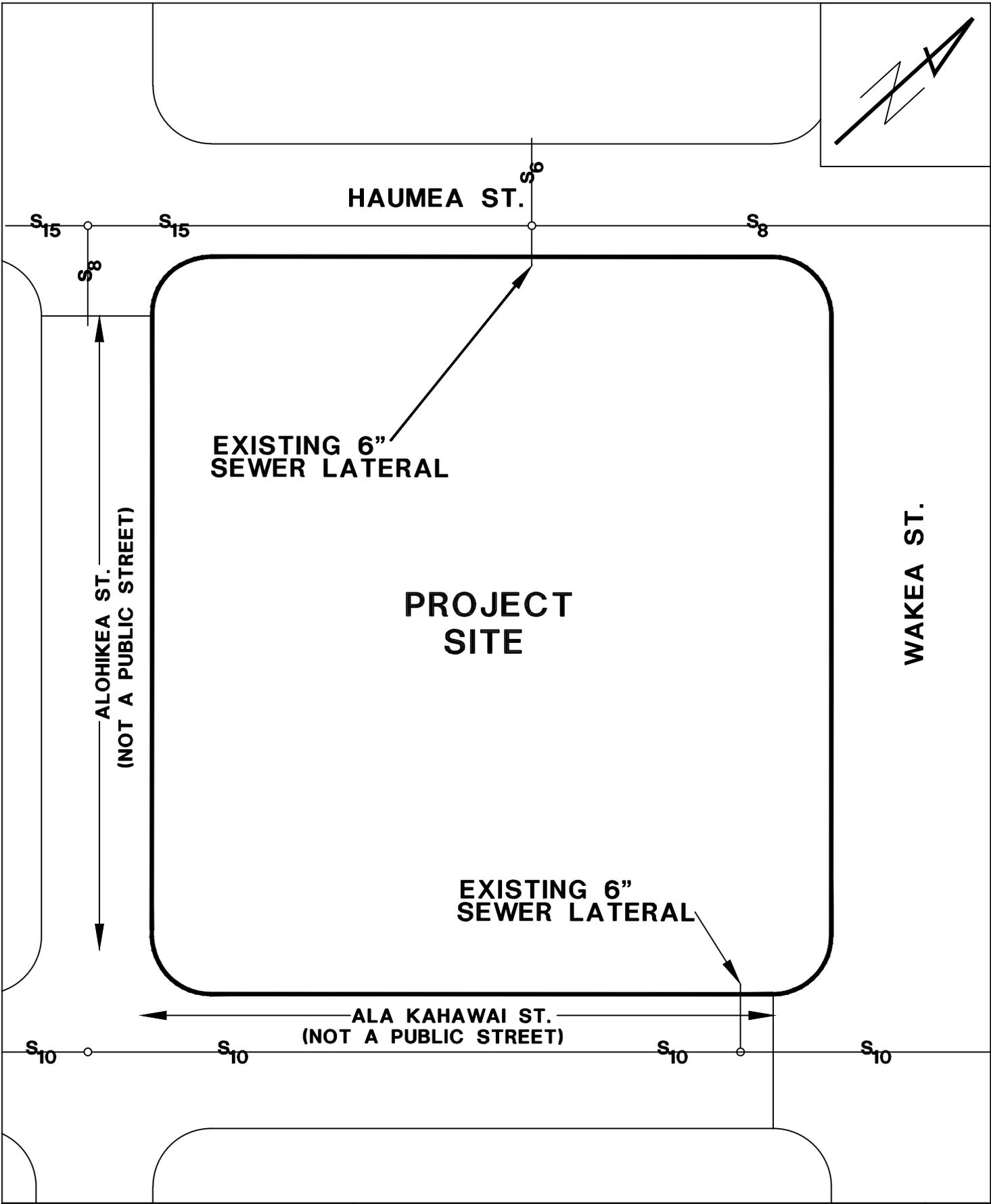


**SATO AND ASSOCIATES, INC.**  
CONSULTING ENGINEERS • CIVIL & STRUCTURAL  
2046 SOUTH KING STREET  
HONOLULU, HAWAII 96826  
T (808) 955-4441 F (808) 942-2027

**KAPOLEI MIXED-USE DEVELOPMENT  
1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
BWS RECLAIMED WATER LETTER**

**6**

FIGURE



**SATO AND ASSOCIATES, INC.**  
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**KAPOLEI MIXED-USE DEVELOPMENT**  
 1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
**EXISTING SANITARY SEWER SYSTEM**

**7**

FIGURE



DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET \* HONOLULU, HAWAII 96813  
 Phone: (808) 768-8209 \* Fax: (808) 768-4210

# SEWER CONNECTION APPLICATION

APPLICATION NO.: **2014/SCA-0915** STATUS: **Approved with conditions**  
 DATE RECEIVED: **12/19/2014** IWDP APP. NO.:  
 PROJECT NAME: **2014/SCA-0915 Kapolei Mixed Use Development: Phase 1, 2, and 3**

<b>\$1,852,092.00</b>
Estimated Wastewater System Facility Charge*

LOCATION:

Zone	Section	Plat	Parcel		
9	1	088	021	1020 WAKEA ST Kapolei 96707	132,248 Sq. Ft.

SPECIFIC LOCATION: **1020 Wakea St.**

APPLICANT: **Choy, Liana S.F.  
 Sato & Associates, Inc.  
 2046 S. King Street  
 Honolulu, Hawaii 96826**

DEVELOPMENT TYPE: **Dwelling, Multi-family** SEWER CONNECTION WORK DESIRED:

OTHER USES: **Retail  
 Daycare  
 Office**

NON-RESIDENTIAL AREA: **s.f.** APPROXIMATE DATE OF CONNECTION:

<u>PROPOSED UNITS</u>	<u>EXISTING UNITS</u>	<u>UNITS TO BE DEMOLISHED</u>
No. of New Units: <b>297</b>	No. of Existing Units: <b>0</b>	No. of Units to be Demolished: <b>0</b>
Studios: <b>33</b>	Studios:	Studios:
1-Bedroom: <b>66</b>	1-Bedroom:	1-Bedroom:
2-Bedroom: <b>182</b>	2-Bedroom:	2-Bedroom:
3-Bedroom: <b>11</b>	3-Bedroom:	3-Bedroom:
4-Bedroom:	4-Bedroom:	4-Bedroom:
5-Bedroom:	5-Bedroom:	5-Bedroom:
6-Bedroom:	6-Bedroom:	6-Bedroom:

REMARKS **Application supersedes 2013/SCA-0467 and 2014/SCA-0649. A letter from Campbell is required for the allocation of Wastewater System Facility Charge credits and capacity.**

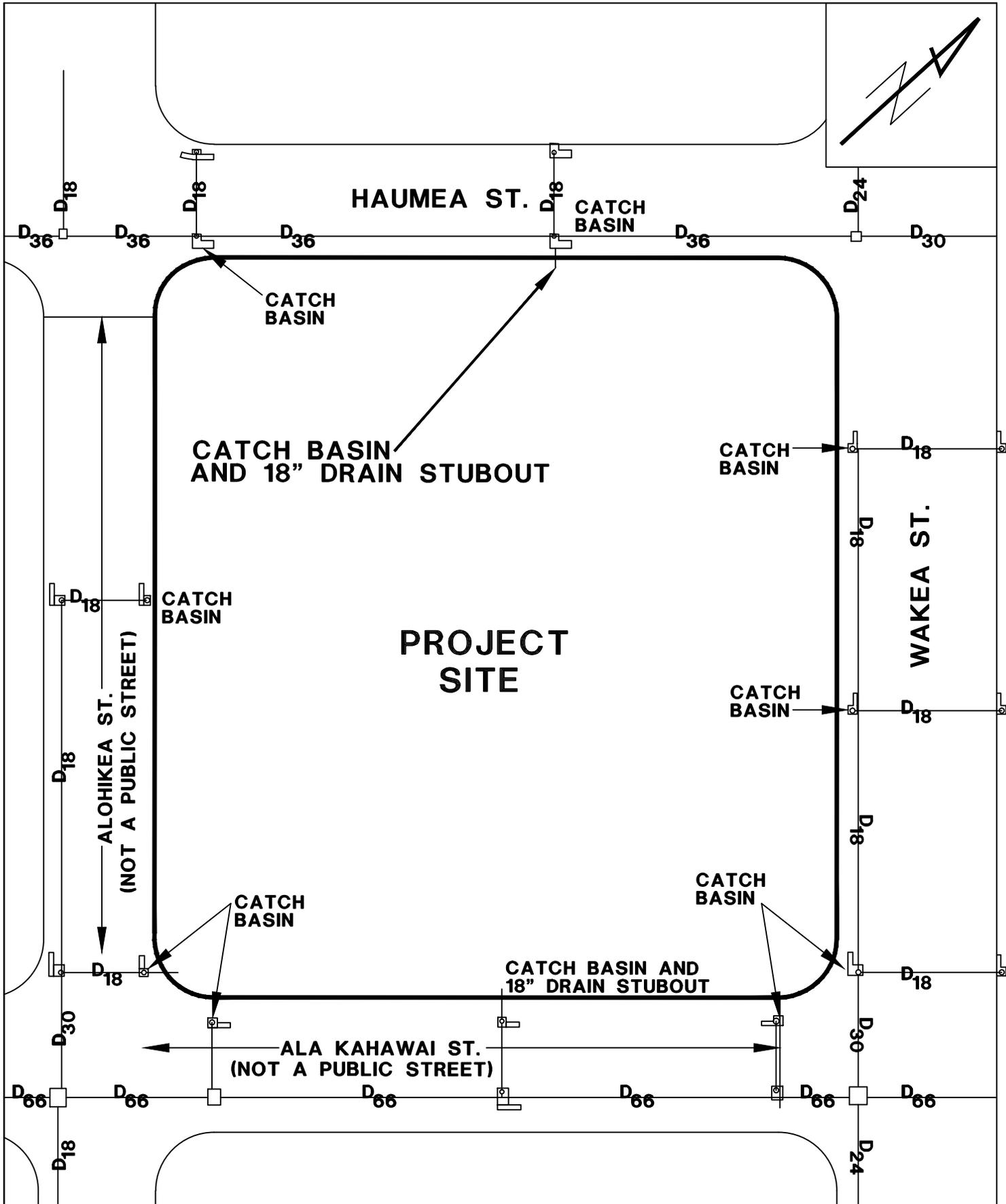
APPROVAL DATE: **12/23/2014** *Valid 2-years after approval date. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans.*  
 EXPIRATION DATE: **12/22/2016** *\* Applicable WSFC shall be collected at the prevailing rate in accordance with ROH 1990, Chapter 14, Sections 14-10.3, 14-10.4, 14-10.5 and Appendix 14-D.*

REVIEWED BY: **Tessa Ching**

*Tessa Ching*  
 Site Development Division, Wastewater Branch



**KAPOLEI MIXED-USE DEVELOPMENT  
 1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
 SEWER CONNECTION APPLICATION**



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**KAPOLEI MIXED-USE DEVELOPMENT**  
 1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
**EXISTING STORM DRAINAGE SYSTEM**

**9**

FIGURE



**View from intersection of Wakea and Ala Kahawai Streets, looking west across the site.**



**View from intersection of Alokikea and Ala Kahawai Streets, looking north across the site.**



**SATO AND ASSOCIATES, INC.**  
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**KAPOLEI MIXED-USE DEVELOPMENT**  
**1020 WAKEA ST., KAPOLEI, OAHU, HAWAII**  
**SITE PHOTOS**



**View from intersection of Haumea and Alohikea Streets, looking east across the site.**



**View from intersection of Haumea and Wakea Streets, looking south across the site.**



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**KAPOLEI MIXED-USE DEVELOPMENT**  
**1020 WAKEA ST., KAPOLEI, OAHU, HAWAII**  
**SITE PHOTOS**



Zoom In Zoom Out Pan Measure Full View Last View Select Parcel LOMC Report Datasheet Home

County: HONOLULU TMK: (1) 9-1-088-021 Address: ADDRESS NOT FOUND LOMC: NONE Clear Map

Layers

Property Search

1. Select a County:  
HONOLULU

2. Enter a street name to search:

Street Lookup

OR

Enter a 9-digit Tax Map Key with no special characters (e.g. 444002032):  
191088021

Search TMK

Restart Search

Pop-up blockers must be disabled for searches to work properly.

Map Legend

Letter of Map Change (LOMC)

Elevation Certificate

Flood Insurance Studies (FIS)

Island Number

H E L P

Using Toolbox Buttons

Source: NRCS online Web Soil Survey mapping tool.



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**KAPOLEI MIXED-USE DEVELOPMENT  
1020 WAKEA ST., KAPOLEI, OAHU, HAWAII  
FLOOD HAZARD MAP**