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2015 AUG 5 PM 3 56

HAWAH COMMUNITY
DEVELOPMENT
AUTHORITY

Docket No.: CCED KAK 2015-3

## BEFORE THE HAWAII COMMUNITY DEVELOPMENT AUTHORITY

### STATE OF HAWAI'I

In re Downtown Capital LLC's

Petition for Waiver or Suspension of the Visible Light Transmittance Standard in HAR § 15-217-55(k)(2) for the Project under Development Permit No. KAK 12-109 for 801 South Street (State Tax Map Key No. (1) 2-1-047-003) Issued by Hawaii Community Development Authority on December 5, 2012 DEVELOPMENT PERMIT NO. KAK 12-109

DOWNTOWN CAPITAL LLC'S
PETITION FOR WAIVER OR
SUSPENSION OF THE VISIBLE
LIGHT TRANSMITTANCE
STANDARD IN HAR § 15-217-55(k)(2)

DECLARATION OF RYAN HARADA

**EXHIBITS 1-8** 

# DOWNTOWN CAPITAL LLC'S PETITION FOR WAIVER OR SUSPENSION OF THE VISIBLE LIGHT TRANSMITTANCE STANDARD IN HAR § 15-217-55(k)(2)

Downtown Capital LLC ("Downtown Capital")<sup>1</sup> petitions the Hawai'i Community Development Authority ("HCDA") to waive or suspend the visual light transmittance ("VLT") standard in HAR § 15-217-55(k)(2) as it applies to the residential workforce housing project at 801 South Street (the "Project").<sup>2</sup> Downtown Capital requests that the waiver or suspension be deemed effect as of date that HCDA issued Development Permit KAK 12-109 (the "Permit") for the Project on December 5, 2012. This petition is made pursuant to HAR § 15-219-98.

### I. INTRODUCTION

The VLT standard directs that the "visual light [transmittance] level of windows" on all floors above the ground floor shall be "fifty per cent or greater." See HAR § 15-217-55(k)(2). HCDA interprets this rule to mean that the window "glaz-

<sup>&</sup>lt;sup>1</sup> Downtown Capital's address is 215 North King Street, Suite 1000, Honolulu, Hawai'i 96817. Its telephone number is (808) 203-6980.

<sup>&</sup>lt;sup>2</sup> Section§ 15-217-55(k)(2) uses the word "transmission." We understand that HCDA intended the standard to be "transmittance," which means the property of allowing light through a boundary. We use the term "transmittance" in this petition.

ing" must allow at least 50 percent of the visible light into a unit.<sup>3</sup> As HCDA's staff and consultant explained, the spirit and intent of this rule were to reduce reflectance, which in turn can create "heat islands," and to allow views into and out of buildings. HCDA's staff and consultant agree, however, the VLT standard should be revised.

Importantly, a higher VLT does not necessarily mean lower reflectance. A higher VLT also creates privacy concerns for residents who generally do not want people to look into their units. Moreover, windows with a higher VLT pass more heat into a building. As the heat carried into a building increases, more energy is needed to cool the air. Weighing these various considerations, the "ideal VLT" and the "industry standard" is a range from "20 and up to 40 percent." Ex. 1 (7/22/15 transcript in *OMPR*)<sup>4</sup> at 91:21-92:2.

Following approval of the Permit in 2012, the City and County of Honolulu (the "City") issued grading, foundation and building permits for the Project. HCDA

<sup>&</sup>lt;sup>3</sup> The VLT portion of the rule literally applies to "windows" and not to "glazing." As discussed below, the "window" is the opening, and the "glazing" is the glass portion of the window. *Infra* at 6. The distinction between windows and glazing would be immaterial when applied to a curtain wall building with inoperable windows. For a concrete building with operable lanai doors and windows, the distinction makes a difference. As discussed below, the VLT for the "windows"—the openings—on the Project exceeds 50 percent when the windows are open. With a VLT of 50 percent for the windows, the Project complies with the rules and no petition for waiver or suspension is necessary. The "glazing"—the glass—used on the Project has a VLT of 35 percent. As interpreted by HCDA, the glazing is nonconforming. Accordingly, Downtown Capital makes this petition for waiver or suspension without waiving its position that the windows on the Project conform to the VLT standard.

<sup>&</sup>lt;sup>4</sup> OMPR refers to In re Petition of OliverMcMillan Pacific Rim, LLC, Docket No. CCED KAK 2015-2.

reviewed and approved each permit before it was issued. Indeed, the stamp confirming approval of the building permit stated that the Project was "approved as to the requirements of the Mauka and/or Makai Area Rules." At no time during this process did HCDA ask about the VLT of the glazing. The units were sold. The City issued a temporary certificate of occupancy. And the owners and residents moved into their units.

The VLT of the glazing used on the Project is 35 percent. When Downtown Capital and its team designed and built the Project, they were not aware of the VLT standard or HCDA's interpretation of it. HCDA likewise overlooked the VLT standard when staff reviewed and approved the building permit for the Project. The discrepancy between the VLT standard and the installed glazing was first identified around the time that HCDA reviewed the certificate of occupancy for the Project. Ultimately, HCDA approved the certificate with the understanding that Downtown Capital would petition for a waiver or suspension of the VLT standard.

Under the circumstances, a waiver or suspension of the standard is appropriate. There is no point in enforcing a standard that HCDA may revise, particularly where all parties overlooked the standard until the point at which a correction became impracticable. Nor would replacing the windows serve any public interest. Less than one-third of the building is glass, and all of the glass has low reflectance. Most of the glass is recessed and covered by the lanai above, which further reduces the potential for reflectance. The lower VLT glazing used on the Project furthers the public interest in sustainability by making the building more energy efficient with-

out sacrificing the goals of the VLT standard. In fact, the glazing falls within the recognized "ideal VLT range" of 20 to 40 percent. Moreover, the windows and doors may be opened when residents want to increase the visible light coming into their units. With the windows and doors open, the VLT exceeds 50 percent. For these reasons, the VLT standard should be waived and suspended as it applies to the Project.

Section II below discusses the Project. Section III discusses the VLT standard. Finally, Section IV explains that the VLT standard should be waived and suspended as applied to the Project.

### II. THE PROJECT

HCDA approved the Permit in 2012. Harada Dec. ¶ 3. The Project is a workforce housing project with 635 residential units. *Id.* In the course of building the Project, Downtown Capital received City grading, foundation and building permits. *Id.* HCDA reviewed and approved each permit before it was issued. *Id.*; Ex. 2 (building permit).

The Project is not a curtain-wall building with glass covering the entire face of the exterior. Harada Dec. ¶ 4. Sixty-seven percent of the exterior is concrete and similar solid surfaces. *Id.* Twenty percent of the surface comprises lanai doors, all of which are set back four feet from the building face with a roof overhang. *Id.* The remaining 13 percent of the exterior is glass windows. *Id.* All of the glass has a low reflectance. All of the windows and doors may be opened and closed. *Id.* With a majority of the building composed of concrete and other solid surfaces, low reflectance windows, recessed lanai doors and overhangs, there is no risk of creating a

heat island. See Ex. 1 (7/22/15 OMPR transcript) at 71:14-16 (Neupane testimony indicating that "less external reflectivity" correlates with less "heat island effect"); id. at 82:24-83:87 (Neupane testimony explaining that "heat island effect" is caused by "reflective glass"); Harada Dec. ¶ 4.

The VLT for the glazing used on windows located above the first floor of the Project is 35 percent. Harada Dec. ¶ 4; Ex. 3 (VLT survey in *OMPR*). When the windows and doors are fully opened, the VLT of the apertures exceeds 50 percent. Ex. 4 (3/23/15 letter).

Neither Downtown Capital nor its consultants identified the VLT standard when the Project was designed and built. Harada Dec. ¶ 4. For its part, HCDA did not check for compliance with the VLT standard when staff reviewed and approved the building permit. Nor did HCDA ask Downtown Capital about the VLT of the glazing installed on the Project. *Id.* As has become clear through another proceeding, "there was no real . . . checkoff from HCDA on whether the glass met the standard." Ex. 1 (7/22/15 transcript in OMPR) at 77:24-78:4. The City issued a temporary certificate of occupancy for the Project in 2015. Ex. 5 (temporary certificate of occupancy).

HCDA first raised the discrepancy between its interpretation of the VLT standard and the installed glazing around the time that the temporary certificate of occupancy was under review by HCDA. Harada Dec. ¶ 5. HCDA eventually approved the certificate with the understanding that Downtown Capital would petition for a waiver or suspension of the VLT standard. *Id*.

The sales of the units have closed. Harada ¶ 6. Owners and residents have begun moving into the units. *Id.* To replace the windows and lanai doors with glass meeting the VLT standard would be cost prohibitive, disrupt 635 units and achieve no public benefit. *Id.* 

### III. THE VLT STANDARD

The Mauka Area Rules regulate land use in part of the Kakaako development district. The rules include a section regarding "architectural design." HAR § 15-217-55. Within the rules for architectural design, subsection (k) sets out various standards for "glazing" and "windows." Those standards include the following:

Window *glazing* shall be transparent with clear or limited UV tint so as to provide views out of and into the building. Visible light transmission level of *windows* on the ground floor shall be seventy per cent or greater and on all other floors the visible light transmission level shall be fifty per cent or greater....

HAR § 15-217-55(k)(2) (emphasis added).

The key terms in this rule are "window," "glazing" and "visible light transmittance." The Glass Association of North America defines a "window" as "[a]n opening constructed in a wall or roof and functioning to admit light or air to an enclosure, usually framed and spanned with glass mounted to permit opening and closing." Glass Association North America Glazing Manual. availablehttp://www.glasswebsite.com/techcenter/Glossary. "Glazing" is the glass portion of a window. See id. (defining "glazing" as "[a] generic term used to describe an infill material such as glass, panels, etc."); Random House Webster's College Dictionary 551 (2d ed. 1997) (defining "glazing" as "panes or sheets of glass set or made to be set in frames, as in windows, doors, or mirrors"). Finally, "visual light transmittance" or "VLT" is the percentage of visible light allowed through a boundary. See Ex. 6 (HCDA consultant report in OMPR) at 3.

Section 15-217-55 regulates VLT for two reasons. First, by mandating the minimum amount of light that comes through windows, the standard was intended to provide views into and out of buildings. See Ex. 7 (staff report in OMPR) at 5. Second, a higher VLT was treated as a proxy for low reflectance with the goal of avoiding the "heat island effect." Ex. 7 (staff report in OMPR) at 5; see also Ex. 1 (7/22/15 transcript in OMPR; Neupane testimony) at 82:24-83:7 (defining "heat island effect").

As HCDA's staff and consultant recently explained in a separate proceeding, there are substantial grounds for revisiting the VLT standard. First, although increased VLT was intended to reduce reflectance and heat island effect, there is no direct correlation between VLT and reflectance. Ex. 1 (7/22/15 transcript in *OMPR*; Neupane testimony) at 81:12-16. High VLT glazing can have high external reflectance, and low VLT glazing can have low external reflectance. Ex. 7 (HCDA staff report in *OMPR*) at 5; Ex. 1 (7/22/15 transcript in OMPR; Neupane testimony) at 72:9-18. Thus, VLT is not a reliable indicator of reflectance or a means for preventing heat island effect.

Second, while the VLT standard increases views into buildings, the high degree of transparency mandated by the standard raises privacy concerns. Ex. 7 (HCDA staff report in *OMPR*) at 5. Simply put, a higher VLT makes it easier for people on the outside to look into units. Ex. 6 (HCDA consultant report in *OMPR*) at 13; Ex. 1

(7/22/15 transcript in OMPR; Neupane testimony) at 72:23-73:4. As HCDA Vice Chair Scott aptly observed, "from the inside of the building, obviously, you don't want to be living in a fishbowl . . . . where everyone can be looking in." Ex. 1 (7/22/15 transcript in *OMPR*) at 46:2-6.

Third, a high VLT glazing is less energy efficient, because it allows more heat to pass through the glass into the units. Ex. 7 (staff report in *OMPR*) at 5; Ex. 6 (HCDA's consultant report in *OMPR*) at 5, 12; Ex. 1 (7/22/15 transcript in *OMPR*; testimony by Weir)<sup>5</sup> at 25:1-7 ("There is a direct correlation between visible light transmittance and the solar heat gain that's inside of a building."). A "higher VLT" makes it "much more difficult . . . keeping the environment in the apartment comfortable." Ex. 1 (7/22/15 transcript in *OMPR*) at 60:7-12. Turning up the air conditioning is the only way to combat the heat. Ex. 6 (consultant report in *OMPR*) at 12.

A lower VLT allows less light to be transmitted through the glass, which reduces heat transference and increases energy efficiency. Ex. 7 (HCDA staff report in OMPR) at 5, 12; Ex. 1 (5/22/15 transcript in OMPR; Neupane testimony) at 70:16-21 ("So lowering VLT would obviously lower the heat gain into the building and would reduce the energy load in the building."). For example, reducing the VLT from 58 percent to 28 percent would result in an energy savings of nearly 3 percent. Ex. 6 (HCDA consultant report in OMPR) at 10. Thus, a lower VLT furthers the public interest in sustainability. See Ex. 7 (HCDA staff report in OMPR) at 5.

 $<sup>^5</sup>$  Jon Weir was admitted as an expert in the  $O\!MPR$  proceeding. Ex. 1 (7/22/15 transcript in OMPR) at 7:23-8:23.

Finally, the "ideal VLT range" and apparent "industry standard" is "20 and up to 40 percent." Ex. 1 (7/22/15 transcript in *OMPR*) at 91:21-92:2. The current VLT standard is substantially higher than the ideal range.

For these reasons, HCDA staff recommended that the Board consider revising the VLT standard. *Id.* at 62:5-6, 73:5-16 (Neupane testimony).

### IV. ANALYSIS

HCDA may waive or suspend the VLT standard under HAR § 15-219-98. This section provides as follows:

- (a) Every petition for a waiver of any of the provisions of the administrative rules of HCDA's community development districts shall be in writing, signed by the petitioner, and submitted to the authority for approval.
- (b) Every petition shall state:
  - (1) The name, address, and telephone number of the petitioner and the petitioner's legal counsel, if any, which shall be updated by the petition at all times;
  - (2) The specific provision of the administrative rules of HCDA's community development districts for which petitioner seeks a waiver;
  - (3) The effect of the strict application of the provision for which petitioner seeks a waiver;
  - (4) The reasons why the petitioner seeks to avoid the strict application of the provision for which petitioner seeks a waiver;
  - (5) An alternate plan or other means by which the spirit and intent of the provision for which petitioner seeks a waiver can be accomplished other than the strict application of the provision;
  - (6) The extent to which such waiver is in the best interest of the subject community development district; and
  - (7) The extent to which such waiver may endanger the health, safety, or welfare of the subject community development district.

\* \* \*

- (e) No waiver shall be granted by the authority unless the petition and supporting information demonstrate that:
  - (1) Granting the waiver will not endanger the health, safety, or welfare of the subject community development district; and
  - (2) There is either an alternate means for which the spirit and intent of the provision for which petitioner seeks a waiver can be accomplished or the waiver of the strict application of the provision is in the best interest of the subject community development district.

Section A below explains that the Project is faithful to the spirit and intent of the VLT standard. Section B shows that strict application of the VLT standard would cause substantial and undue hardship to Downtown Capital and the unit owners. Finally, section C establishes that waiving and suspending the VLT standard is in the best interest of the community development district and promotes the public interest.

# A. The Spirit and Intent of the VLT Are Met.

As explained above, the spirit and intent of the VLT standard were two-fold. First, the VLT standard was intended to minimize external reflectance and the heat island effect. Ex. 7 (HCDA staff report in *OMPR*) at 5. The Project meets this goal. Less than a third of the building is glass. Most of the glass is recessed and covered by an overhanging lanai. And none of the glass is highly reflective. Accordingly, there is no potential for creating a heat island.

Second, the VLT standard was intended to provide views into and out of buildings. Ex. 6 (HCDA consultant report in *OMPR*) at 13. The value of being able to see into a residential unit is questionable, however, as HCDA staff has explained. Ex. 7

at 5. Few would "want to be living in a fishbowl." Ex. 1 (7/22/15 transcript in *OMPR*; Vice Chair Scott statement) at 46:2-6.

In any event, the glazing used on the Project has a VLT of 35 percent. Although less than the minimum 50 percent under HCDA's interpretation of the VLT standard, a reduction in VLT from 50 percent to 35 percent does not noticeably alter a person's ability to see through the glass. See Ex. 8 (OMPR Weir affidavit) ¶ 28 ("[A] reduction in VLT from 50% to 30% does not noticeably alter one's ability to see through the glass."). And when the windows and doors fully opened, the total VLT of the apertures exceeds 50 percent.

More broadly, the Mauka Area Rules were intended to protect and promote the public interest. HAR § 15-217-2(c). Improving energy efficiency is in the public interest. See HRS § 46-19.5(a) (requiring counties to utilize "[e]nergy efficiency building standards"). A higher VLT is inherently less energy efficient, because higher VLT glazing allows more heat into the units, which in turn requires increased use of air conditioning to regulate the temperature. Ex. 7 (HCDA staff report in OMPR) at 5; Ex. 6 (HCDA consultant report in OMPR) at 12. By using lower VLT glazing, the Project is more energy efficient. Ex. 6 at 13; Ex. 1 (5/22/15 transcript in OMPR; Neupane testimony) at 70:16-21.

# B. Strictly Applying the VLT Standard Would Cause a Substantial and Undue Hardship.

The strict application of the VLT Standard would require the removal and replacement of thousands of windows and lanai doors in 635 units, all of which have been sold. The cost would be prohibitive. The current windows, which fall within the

"ideal VLT range," would be a total loss. See Ex. 1 (7/22/15 transcript in OMPR) at 91:21-92:2 ("ideal VLT range"). This result would cause substantial and undue hardship to Downtown Capital and the unit owners who have relied on HCDA's approvals.

# C. Granting the Waiver or Suspension of the VLT Standard Is in the Public Interest.

The waiver or suspension of the VLT standard "is in the best interest of the subject community development district" and does not "endanger the health, safety, or welfare of the subject community development district." See id. § 15-219-98(b)(6), (7). As explained above, HCDA staff recommends reconsidering the VLT standard because the VLT standard does not accomplish the goals for which it was adopted. It is not in the public interest interest to apply an ineffective standard to the detriment of a Project that was constructed with the good faith belief that it complied with all applicable Mauka Area Rules and that achieves all of the good that HCDA sought to accomplish through the VLT standard.

### V. CONCLUSION

The VLT standard does not further the purpose for which it was adopted. The Project was approved and constructed without awareness that the glazing was out of compliance with any required minimum VLT. Nevertheless, as constructed, the Project is faithful to the spirit and intent of the VLT standard. No public interest will be harmed if the waiver is approved, and no public good will be advanced if HCDA's interpretation of the VLT standard is strictly enforced. For these reasons, a waiver and suspension of the VLT standard is warranted. The waiver or suspension

should be deemed effective as of date that HCDA issued the Permit for the Project on December 5, 2012.

DATED: Honolulu, Hawai'i, August 5, 2015.

CALVERT G. CHIPCHASE CHRISTOPHER T. GOODIN

Attorneys for Petitioner DOWNTOWN CAPITAL LLC

# BEFORE THE HAWAII COMMUNITY DEVELOPMENT AUTHORITY STATE OF HAWAI'I

In re Downtown Capital LLC's

Petition for Waiver or Suspension of the Visible Light Transmittance Standard in HAR § 15-217-55(k)(2) for the Project under Development Permit No. KAK 12-109 for 801 South Street (State Tax Map Key No. (1) 2-1-047-003) Issued by Hawaii Community Development Authority on December 5, 2012

DEVELOPMENT PERMIT NO. KAK 12-109

DECLARATION OF RYAN HARADA

Docket No.: CCED KAK 2015-3

### **DECLARATION OF RYAN HARADA**

- I, RYAN HARADA, declare of my own personal knowledge as follows:
- 1. I am a principal of Downtown Capital, LLC ("Downtown Capital").
- 2. Downtown Capital is the owner and developer of the residential workforce housing project at 801 South Street (the "Project").
- 3. Hawai'i Community Development Authority ("HCDA") approved the Development Permit for the Project in 2012. The Project is a workforce housing project with 635 residential units. In the course of building the Project, Downtown Capital received grading, foundation and building permits from the City and County of Honolulu. HCDA reviewed and approved each permit before it was issued.
- 4. The Project is not a curtain-wall building with glass covering the entire face of the exterior. Sixty-seven percent of the exterior is concrete and similar solid surfaces. Twenty percent of the surface comprises lanai doors, all of which are set

back four feet from the building face with a roof overhang. The remaining 13 percent of the exterior is glass windows. All of the windows and doors may be opened and closed. The visual light transmittance ("VLT") for the glazing used in the windows located above the first floor of the Project is 35 percent. Neither Downtown Capital nor its consultants identified the VLT standard when the Project was designed and built. HCDA did not ask Downtown Capital about the VLT of the glazing installed on the Project.

- 5. HCDA first raised the discrepancy between its interpretation of the VLT standard and the installed window glazing around the time that HCDA reviewed the certificate of occupancy for the Project. HCDA eventually approved the certificate with the understanding that Downtown Capital would petition for a waiver or suspension of the VLT standard.
- 6. The sales of the units in the Project have closed. Owners and residents have begun moving into the units. To replace the windows and lanai doors with glass meeting the VLT standard would be cost prohibitive, disrupt 635 units and achieve no public benefit.
- 7. I am familiar with the proceedings in the case of *In re Petition of OliverMcMillan Pacific Rim, LLC*, Docket No. CCED KAK 2015-2 ("OMPR").
- 8. Attached hereto as Exhibit 1 is a true and correct copy of an excerpt of the transcript of proceedings on July 22, 2015, in *OMPR*. Certain pages have been annotated to state the name of the person testifying.

- 9. Attached hereto as Exhibit 2 is a true and correct copy of an excerpt of the building permit for the Project.
- 10. Attached hereto as Exhibit 3 is a true and correct copy of the Hawaii Highrise Glazing Performance Data dated March 12, 2015, filed with HCDA on April 9, 2015, by Petitioner in the *OMPR* case.
- 11. Attached hereto as Exhibit 4 is a true and correct copy of the calculations of the VLT of the windows installed on the Project.
- 12. Attached hereto as Exhibit 5 is a true and correct copy of the Temporary Certificate of Occupancy dated April 10, 2015, for the Project.
- 13. Attached hereto as Exhibit 6 is a true and correct copy of an excerpt of the Glazing and Energy Analysis Report Relating to Visual Light Transmittance (VLT) and Leadership in Energy and Environmental Design (LEED) Requirements of the Mauka Area Rules prepared by Douglas Engineering Pacific, Inc. dated July 20, 2015, for the *OMPR* case.
- 14. Attached hereto as Exhibit 7 is a true and correct copy of the Staff Report dated July 22, 2015, for the *OMPR* case.
- 15. Attached hereto as Exhibit 8 is a true and correct copy of the Affidavit of Jon Weir submitted in the *OMPR* case.

I declare under penalty of perjury that the foregoing is true and correct.

DATED: Honolulu, Hawai'i, August 5, 2015.

RYAN HARADA

1	HAWAII COMMUNITY DEVELOPMENT AUTHORITY
2	STATE OF HAWAII
3	In re:
4	The Application of
5	OLIVERMcMILLAN PACIFIC RIM, LLC,
6	Applicant,
7	To amend Development Permit
8	No. KAK 12-075 by waiving or permanently suspending the
9	requirement of HAR \$15-217-55(k)(2) for the Symphony Honolulu project
10	and that such waiver or permanent suspension be retroactive from
11	April 5, 2015
12	
13	
14	TRANSCRIPT OF PROCEEDINGS
15	
16	Wednesday, July 22, 2015
17	
18	Taken at 547 Queen Street, Second Floor
19	Honolulu, Hawaii 96813
20	commencing at 9:01 a.m.
21	
22	
23	
24	Reported by: LAURA SAVO, CSR No. 347
25	

1	APEARANCES
2	John Whalen, Chairperson
3	Steven Scott, Vice Chairperson
4	Aedward Los Banos, Acting Executive Director
5	Deepak Neupane, Dir. of Planning and Development
6	Lori Tanigawa, Deputy Attorney General
7	BOARD MEMBERS:
8	Beau Bassett
9	Jade Butay
10	Scott Kami
11	Tom McLaughlin
12	William Oh
13	Jason Okuhama
14	Mary Pat Waterhouse
15	ALSO PRESENT:
16	For Petitioner OliverMcMillan Pacific Rim, LLC:
17	D. SCOTT MacKINNON, ESQ.
18	SCOT MATAYOSHI, ESQ. JESSICA M. WAN, ESQ.
19	McCorriston Miller Mukai MacKinnon, LLP
20	500 Ala Moana Boulevard, Suite 5-400 Honolulu, Hawaii 96813
21	For Respondent HCDA:
22	DIANE TAIRA, ESQ.
23	Diane laika, ESQ.  Deputy Attorney General  425 Queen Street
24	Honolulu, Hawaii 96813
2.5	

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1 Honolulu, Hawaii July 22, 2015, 9:01 a.m. 2 -000-3 CHAIR WHALEN: Good morning. I'd like to call the order to July 22nd, 2015, public hearing for the Hawaii Community Development Authority. 5 The time is now 9:01 a.m. Thank you for your 6 7 interest in Kaka'ako and your attendance today. 8 My name's John Whalen, chairperson of the 9 Authority. Let the record reflect that the 10 following Kaka'ako members are present: John 11 Whalen, Jade Butay, Steven Scott, Jason Okuhama, Tom McLaughlin, Scott Kami, Beau Bassett and Mary 12 13 Pat Waterhouse. 14 So the first item is the appearance for 15 the Authority. Will the counsel for the Applicant introduce their party? Thank you. 16 17 MR. MacKINNON: Yes. Chair Whalen and 18 board members, Scott MacKinnon, counsel for 19 OliverMcMillan Pacific Rim, LLC, the Petitioner, 20 and I have to my right Daniel Nishikawa, President 21 of OliverMcMillan Pacific Rim, LLC. 22 (Whereupon, Member Oh joined the 23 proceedings.) 24 CHAIR WHALEN: (To Member Oh) Good 25 morning.

purple/lavender sheet.

MR. MacKINNON: Right. I will make reference to where the exhibit -- which exhibits we're talking about because there was a difference between the ones that are attached to the exhibit list and the ones that are part of the original petition. The original petition is essentially the letters.

CHAIR WHALEN: Oh, right. Yeah, there's actually a yellow folder also. They're kind of grouped together. So I didn't see that there were two parts to it. Thank you.

There being no objection, does the staff -- first of all, does the staff have any objections regarding the Applicant's proposed exhibits?

ACTING EXECUTIVE DIRECTOR: No.

CHAIR WHALEN: There being no objection,
Applicant's Exhibits 1 through 7 are admitted to
the record. A through J are admitted to the
record.

(Exhibits A through J are admitted.)

CHAIR WHALEN: Mr. MacKinnon, are there any witnesses that you seek to designate as expert witnesses?

1	MR. MacKINNON: Yes, there are. That
2	would be Jon Weir, David Miller, Keith Chan, Jeanne
3	Murata and John Gustafson.
4	CHAIR WHALEN: Does the staff have any
5	objections regarding the designation of such
6	individuals as expert witnesses?
7	ACTING EXECUTIVE DIRECTOR: No
8	objections.
9	MR. MacKINNON: Chair, I neglected David
10	Munn
11	CHAIR WHALEN: David Munn?
12	MR. MacKINNON: of Chelsea Group.
13	Yes, David Munn of Chelsea Group.
14	CHAIR WHALEN: Munn?
15	MR. MacKINNON: Munn.
16	CHAIR WHALEN: M-u-n-n?
17	MR. MacKINNON: M-u-n-n.
18	CHAIR WHALEN: Okay. There will be no
19	objection to the admission of these witnesses,
20	including the last named?
21	ACTING EXECUTIVE DIRECTOR: None.
22	CHAIR WHALEN: They will be designated as
23	expert witnesses.
24	Mr. MacKinnon, you may proceed with your
25	presentation.

### TESTIMONY OF JON WEIR:

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There is a direct correlation between visible light transmittance and the solar heat gain that's inside of a building. Visible light transmittance is the amount of light that goes through the glass and gets inside the building. This light then heats the air which becomes the So it's a direct correlation. solar heat gain. What we try to do is we try to limit the glass or the amount of light that comes through the glass in order to gain a better solar heat gain coefficient, and that is simply the characteristic of the glass that will block the heat. Anything that's not blocked, we have to take care of with air conditioning or closing the shades or whatever it may be.

All right. High performance glass does aid in this process. It does lower the visible light transmittance. It does some other things with regards to infrareds and all, but the main issue is the visible light transmittance. We quantify it by calling it the solar heat gain coefficient, and that's what any glass company's brochure is going to have on — to describe the glass and its energy performance.

Our goal on Symphony Honolulu was to meet

## TESTIMONY OF KEITH CHAN:

2.2

the public to have a higher VLT? You're talking about the public that's outside the building. I know from the inside of the building, obviously, you don't want to be living in a fishbowl --

- A Right.
- Q -- where everyone can be looking in.
- A Right.
- Q But from the outside, what is the advantage to the public to have a higher VLT of 50 and above?

I didn't even really look at VLT until recently.

It's not something — it never comes into the energy model. There's no input in our program for VLT. So it's — really, it's out of my expertise.

I mean, even as a homeowner, I don't even look at that when I buy —

- Q Well, looking at VLT now --
- A -- windows.
- ${\tt Q}$  -- if you have a higher VLT, that makes it harder to get the 10 percent savings?

A Right. There's a direct correlation, as was explained before, between VLT and solar heat gain. So from my standpoint, I mean, my expertise is energy, designing air conditioning systems.

	TESTIMONY OF DANIEL NISHIKAWA:
1	mainland, they deal with changes of seasons.
2	A Yes.
3	Q And, obviously, they don't have summer
4	like we do all year round.
5	A Right.
6	Q So the standards here by
7	If you impose a higher VLT, you're going
8	to end up
9	A Year round.
10	Q having a much much more difficult
11	time keeping the environment in the apartment
12	comfortable.
13	A Correct. Correct. It's much more of an
14	issue.
15	Q On the mainland, you're dealing with
16	wintertime; you're dealing with summertime
17	A Correct.
18	Q whatever, and, obviously, they have
19	different issues, but they don't have to deal with
20	the
21	A Year-round sun.
22	Q heat gain year round.
23	A Yes. I would say that's true to our
24	knowledge. You know, we're not like I said,
25	we're not experts in that regard either.

1 Engineering consultant's report clearly indicates 2 that there is no conflict in the rule. They have 3 made certain recommendations saying that, look, 4 even though there is no conflict in the rule, there 5 are certain other consequences of higher VLT. 6 the Authority may want to look at revising VLT. They are not recommending revising because there is 8 a conflict. Their analysis clearly indicates that 9 there is no conflict in the rule. 10 MEMBER KAMI: Thank you. 11 CHAIR WHALEN: Yeah, and I think we'll 12 hear from the staff in their presentation too. 13 we can direct those questions at that time to 14 staff. 15 Any other questions of Mr. Nishikawa 16 first? 17 Staff, do you have any questions of 18 Mr. Nishikawa? 19 ACTING EXECUTIVE DIRECTOR: No questions. 20 CHAIR WHALEN: Okay. Thank you. 21 Mr. MacKinnon, would you like to 22 summarize before you close your argument? 23 MR. MacKINNON: Yeah, I guess the 24 question we would ask if I have an opportunity to 25 comment after the staff, or is this where I get to

### TESTIMONY OF DEEPAK NEUPANE:

Over and beyond the modeling, the consultant had some observations regarding VLT.

And as was presented by the petitioner's witnesses, some of the witnesses, that is there a limitation in the rule in designing some things, a building that's a lot more energy efficient than what is required by the rule? And the answer to that would be yes. But the way we look at it is that the requirement in the rule is a minimum requirement that the Applicant has to meet. If the Applicant wishes to design a building that's much more energy efficient, then that's a choice. That's not a requirement.

That said, the consultant -- one of the conclusions or one of the recommendations that the consultant is proposing is that, yes, it is true that higher VLT means higher energy load, meaning that higher energy costs. So lowering the VLT would obviously lower the heat gain into the building and would reduce the energy load in the building.

I believe the question came from Member Scott that what was the thinking behind regulating VLT in the first place. So back in 2007 and 2011 when the staff was going through the Mauka Area

Rule amendment process, we looked at many of the elements, and I think one of the elements was look at the buildings, not only from the architectural side, but from the reflection the building creates on the street level and to surrounding buildings as well as the heat island effect that it creates.

And if you walk around Kaka'ako, you'll notice that certain buildings have a lot of glare and do create heat island effect. So we're trying to address some of those issues.

At the time the recommendation from HCDA's consultant, Torti Gallas, was that it probably would be better to regulate VLT because it means more light transmission, hence, less reflection and less external reflectivity and heat island effect.

There was no hypothetical modeling done in the building in terms of energy analysis and all at that time because it's kind of difficult. If you analyze one building, then the question will be, well, how many different types of buildings are you going to analyze? I am not aware of any real modeling in terms of heat island effect and external reflectivity that you could accurately model and come up with some reasonable answers.

So at that time, HCDA staff just took the consultant's recommendation that 50 percent VLT is reasonable, can be made, and, excuse me, it will address the external reflectivity, heat island as well as the dark look of buildings.

One thing I would note is that since we hired Douglas Engineering and got into the analysis of it, one of the things that we realized at staff level, reviewing data for all glazing, was that VLT does not necessarily correlate with external reflectivity. And I think the terminology I used in the staff report was inverse correlation, meaning that if the VLT is high, then you would think that external reflection would be low because it's an inverse relationship, but that is not entirely true. If you look at the glazing data, then it shows that you can have a product that has a very low VLT, but has low reflectivity too.

Normally, you'd think that, well, if, you know, less light is going in, more light is being reflected out. That is not true looking at the product. And based on this and, obviously, you know, if you have the clearer the glass is, the more of the interior is visible. So higher VLT means that, you know, you can see things typically

during daylight. I mean, nighttime when the interior is lit, you can see the interior with even very low VLT glass, but during daytime as the VLT increases, you can see more of the inside.

2.2

And the consultants, Douglas Engineering, is saying that if sustainability and energy efficiency is really important, then we may want to take a look at, you know, reviewing the VLT and coming up with a parameter that balances energy savings with the other elements that we are trying to achieve like, you know, look up the building. We don't want all the buildings to have the same dark look, what I sometimes call the Darth Vader look, or more so the heat island effect and external reflection -- reflectivity. So that's, basically, the recommendation from them.

CHAIR WHALEN: Yes, Tom?

MEMBER MCLAUGHLIN: Deepak, a couple questions. I'm still not sure what the public purpose or general benefit of a high VLT/low VLT are necessarily in a residential tower, but the issue of reflectivity certainly is one of concern

### TESTIMONY OF DEEPAK NEUPANE:

and then reflectance. And, obviously, to some extent, the look of the buildings that --

A lot of the buildings in Kaka'ako are very reflective. So having a higher VLT in our opinion would help with that that the building would not be as reflective and dark looking.

CHAIR WHALEN: Okay. Well, I'll probably be asking your expert witness about, you know, the reflectivity standard, whether, you know, we should be concentrating on that rather than VLTs as a standards.

MR. NEUPANE: I did talk to a glass representative actually from Viracon, and after probably close to an hour conversation on different parameters, it gets convoluted.

of convoluted, I mean, having administered codes and written codes in the past, a couple of things I learned from sometimes tough experience is that when you're adopting a new rule, it's really important to understand how you are going to enforce it. You know, especially if it's something that's not applied to other buildings outside of Kaka'ako and this is something brand new. So it seems to me, you know, hearing sort of permit

history, that some things kind of slipped through the cracks; in other words, you know, that there was no real check on, you know -- checkoff from HCDA on whether the glass met the standard. I believe the witness or the Applicant testified that they disclosed that to HCDA. Is that true or is that how you understand?

MR. NEUPANE: Let me go into the sequence of events there in terms of permitting. At the development permit stage, the information that's provided on the development permit application is not at a level where we know what kind of product is being used in the building. Not just the glazing. You know, it's other stuff.

CHAIR WHALEN: Right. Certainly.

MR. NEUPANE: And because of that reason and the permit, there is specific language that says that the Applicant shall comply with the provisions of this subchapter. We were trying to cover that.

Typically, even at the building permit level, if you look at a building permit set, that information like glazing is not provided. On this case, it was discovered rather anecdotally because I had a meeting with another consultant on a

1 concerned, any rule specific to the reflection of the window or the reflectivity reflectance? 2 3 MR. NEUPANE: That is correct. There are no rules regulating reflectivity. 4 5 MEMBER BASSETT: That was changed out with this measure of VLT? 6 MR. NEUPANE: Correct. 7 MEMBER BASSETT: But the intent of you're 8 9 saying imposing the VLT, part of the intent was to 10 monitor and regulate reflectance? 11 MR. NEUPANE: Yes. 12 VICE CHAIR SCOTT: And you also said you 13 found out that there's no correlation between -- no 14 direct correlation in some products having a higher VLT and not being as reflective? 15 16 MR. NEUPANE: That is correct. 17 VICE CHAIR SCOTT: Okay. 18 MEMBER BASSETT: I have a question. Were 19 you able to find out if there were any other public 20 policies that supported having a high VLT besides 21 the decrease in reflectivity? MR. NEUPANE: In terms of energy code, we 22 23 did talk to DBEDT energy office and looked at the parameters that, you know, the state energy office 24 25 would be regulating, and solar heat gain

### **TESTIMONY OF DEEPAK NEUPANE:**

coefficient is the parameter that really directly correlates to energy efficiency. So the state energy code does regulate solar heat gain coefficient. And if I remember correctly, I believe that number is .25.

CHAIR WHALEN: Yes?

MEMBER OH: Deepak, just continuing on with Beau's and also Steven's comments, which leads me to pretty much the intent of the VLT. We have the fact that a higher VLT does not necessarily mean a lower glare or reflectivity, which the second purpose was to restrict -- well, to regulate the views in and out of the building. But I'm sure that as a resident in a resident building, we don't want necessarily to be able to look at the residents or vice versa, which also -- which I guess leads us to the heat island effect which pretty much leads us --

Can you kind of explain what that heat island effect is? I live right diagonally at 909 Kapiolani Boulevard to this project. Maybe if you can kind of explain what that heat island effect is.

MR. NEUPANE: Heat island effect is if you have a reflective glass that reflects sunlight

1 into the surrounding environment. So the reflected 2 sunlight, excuse me, will hit a building or, you 3 know, streets and sidewalks and all and raises the temperature of the --4 5 MEMBER OH: Sure. MR. NEUPANE: -- sidewalk. So that's 6 7 basically heat island effect. 8 MEMBER OH: What is the approximate 9 radius or what area will that affect, do you think? 10 MR. NEUPANE: Difficult to say because it 11 depends on, you know, the time of the year because 12 it depends on the angle of the sun and the 13 orientation of the building and how the sunlight, you know, gets reflected. So --14 15 MEMBER OH: Okay. Thank you, Deepak. 16 CHAIR WHALEN: Okay. Any other 17 questions? 18 So we can call your witness, Patrick Yen. Patrick, would you raise your right hand 19 20 and swear or affirm that you will be the truth? 21 MR. YEN: I swear to tell the truth. 22 PATRICK YEN, 23 called as a witness by the Petitioner, 24 was sworn/affirmed to tell the truth and testified 25 as follows:

### TESTIMONY OF PATRICK YEN:

that in the credit for daylighting. I don't think reflectivity is addressed in that particular credit.

Q So when you say daylighting, daylighting to me sounds like the amount of light that comes through into the unit during the day.

A Correct.

Q Which is, according to LEED, I would think a plus because you're not using indoor electricity to light your building --

A Correct

Q -- your interior. So in that sense, VLT could be a plus for LEED standards? I mean, I'm sorry, not VLT, but higher VLT.

A It's gonna be a balance because the energy efficiency portion of LEED is a real big factor in obtaining higher LEED certifications like silver, gold and platinum; whereas, the daylighting section, I believe, is not as big as the energy efficiency part.

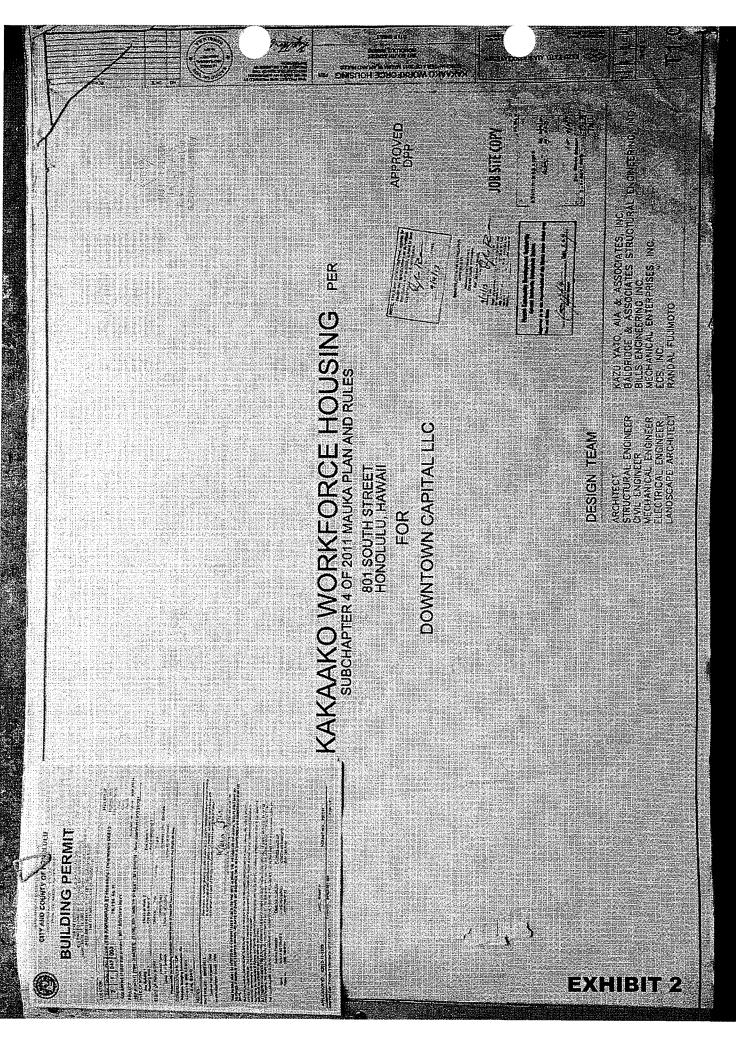
Q Previous testimony stated some kind of happy balance, this nice range where ultimate VLT. Do you have any range that you would say is an ideal VLT range?

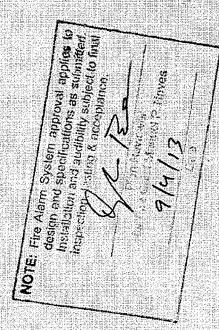
A From what I've read, a lot -- like kind

1 of like an industry standard, you could say is a 2 range between maybe 20 and up to 40 percent. 3 And do you agree that that range there would give you the benefit of some of the daylight 4 5 points and also some of the decrease in the SHGC? 6 Decrease in the SHGC for sure. 7 daylighting part is a little bit more tricky 8 because it depends on the window geometry and if 9 you have shading or overhangs that might affect the way the sun is coming into the space and whatnot 10 11 and also the orientation of the buildings. 12 So in your opinion, it sounds like a lot 13 of this has to do with the design of the building? 14 Α Correct. 15 So that there are things like geometry, external shadings that could be implemented that 16 17 would increase the LEED points in your building? 18 Uh-huh. 19 But that a glass building like this has some inherent flaws because it doesn't include any 20 21 of those design features? 22 Well, it doesn't include those design 23 features to say, but the daylighting credit can 24 still be met and the energy efficiency -- well, at 25 least a prerequisite can be met without any of

yourself to me earlier before the meeting. What is
your name just so he
MS. MORIKAWA: Clara.
CHAIR WHALEN: Clara. Okay.
MEMBER BASSETT: Thank you.
CHAIR WHALEN: Not completely shy. First
name only.
Okay. Another hearing on this matter is
scheduled for July 23rd, tomorrow, and
decision-making is scheduled for August 5th, 2015.
Both hearings will be held in this same venue. The
proposed findings of fact, conclusions of law and
decision and order are to be filed by July 29th,
2015.
On behalf of HCDA Authority members and
staff, I thank you for your attendance. The time
is now 11:25.
(Meeting adjourned at 11:25 a.m.)

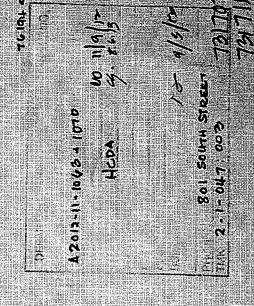
1	CERTIFICATE
2	STATE OF HAWAII
3	CITY AND COUNTY OF HONOLULU )
4	
5	I, LAURA SAVO, a Certified Shorthand Reporter in and for the State of Hawaii, do hereby
6	certify:
7	That the foregoing proceedings were taken down by me in machine shorthand at the time and
8	place herein stated, and was thereafter reduced to typewriting under my supervision;
9	That the foregoing is a full, true
10	and correct transcript of said proceedings;
11	I further certify that I am not of counsel or attorney for any of the parties to this case, nor in any way interested in the outcome
12	hereof, and that I am not related to any of the parties hereto.
13	Dated this 23rd day of July, 2015, in
1.4	Honolulu, Hawaii.
15	· Charles Constitution
L6	LAURA SAVO, RPR, CSR NO. 347
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CONSTRUCTION OR INSTALLATION APPROVED BY

Honolulu Fire Dopartment Cily and County of Honolulu



APPROVED DPPVED

SUBCHAPTER 4 OF 2011 MAUKA PLAN AN KAKAAKO WORKFORCE HO

HONOLULU, HAWAII

KAZU YATO, AIA & ASSOCIATES,IUC



Hawaii Highrise - Glazing Performance Data March 12, 2015

		Visual Light	Solar Heat Gain	
Project	Zoning	Transmittance (VLT)	Coefficient (SHGC)	Manufacturer - Product
Watermark Waikiki	C&C of Honolulu	40%	0.32	Guardian - SunGuard LE 40
Trump Waikiki	C&C of Honolulu	38%	0.25	
Moana Pacific	HCDA	37%	0.31	Viracon VE1-42
Pacifica	HCDA	37%	0.33	Shanghai Pilkington
801 South	HCDA	35%	0.23	Shanghai Pilkington YBE-0140
	HCDA	34%	0.22	
Allure Waikiki	C&C of Honolulu	33%	0.23	China Southern CER 65-46
	HCDA	33%	0.24	Shanghai Pilkington
Hawaiki Tower 1	HCDA	32%	0.24	Viracon VE2-40
Ritz Carlton Waikiki 1	C&C of Honolulu	31%	0.18	Viracon VUE1-30
Capitol Place	C&C of Honolulu	78%	0.18	Viracon VRE7-38
Symphony	HCDA	78%	0.19	Viracon VRE1-30
	HCDA	27%	0.17	Guardian-SNR43
Ritz Carlton Waikiki 2	C&C of Honolulu	27%	0.25	Viracon VE19-42
Waiea	HCDA	27%	0.17	Guardian-SNR43
One Alamoana	HCDA	23%	0.18	Viracon VRE26-38
Keola Lai	HCDA	22%	0.23	Viracon VE4-42
Waihonua 2	HCDA	21%	0.21	Shanghai Pilkington
Waihonua 3	HCDA	17%	0.22	Shanghai Pilkington
ver 2	C&C of Honolulu	10%	0.17	Viracon VS2-14
Waihonua 4	HCDA	10%	0.20	Shanghai Pilkington
Koolani	HCDA	%6	0.16	Viracon VS8-14
Century Center	C&C of Honolulu	%8	0.20	Viracon VS1-08

### Visible Light Transmission Level of Windows

There are two types of windows in the Project; a sliding lanai door and an awning window. The visible light transmission level of the windows in the calculation includes:

- 1) The Visible Light Transmittance of the window glazing;
- 2) The Visible Light Transmission of the opening created by sliding the operable lite; and
- 3) The dimensions of the window in the open position.

### Calculation of the Visible Light Transmission Level of Sliding Lanai Doors

The sliding lanai doors consist of three lites; two fixed and one operable. When the operable lite is in the open position it decreases the visible light transmittance of the lite that is covered. The calculation to determine the visible light transmission of the sliding window is as follows:

Term Definitions:

 $W_1$ = Width of first fixed lite

Wo= Width of operable lite

W<sub>2</sub>= Width of second fixed lite

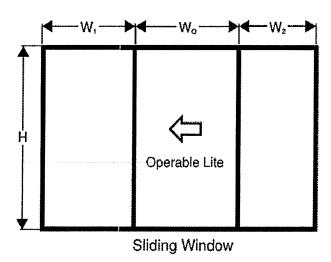
H=Height of window

T<sub>vis</sub>= Visible light transmittance of window glazing

T<sub>O</sub>= Visible light transmittance of opening with no glazing

T<sub>Sliding</sub>=Visible light transmission of effective sliding window

A<sub>Sliding</sub>=Total effective area of sliding window



Computation:

$$((W_1^* + W_0^+ W_2^-)^* H) = A_{Sliding}$$

$$\frac{((W_1*H)*(\ T_{vis}*\ T_{vis})) + ((W_0*H)*\ T_O) + ((W_2*H)*\ T_{vis})}{A_{Sliding}} \ = T_{Sliding}$$

### Calculation of the Visible Light Transmission Level of Awning Windows

The awning windows consist of two types of window lites, fixed and operable. The components that are factored into the calculation are the Visible Light Transmittance of the window glazing and the visible light transmittance of the opening created by opening the awning style operable lite. The calculation to determine the visible light transmission level of the sliding window is as follows:

Term Definition:

W<sub>A</sub>= Width of awning window

H=Height of window

O<sub>T</sub>=Opening size at top of lite when window is open

O<sub>B</sub>=Opening size at bottom of lite when window is open

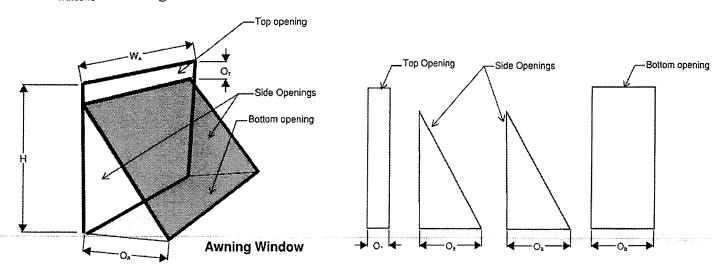
T<sub>vis</sub>= Visible light transmittance of window glazing

T<sub>o</sub>= Visible light transmittance of opening with no glazing

T<sub>Awning</sub>=Visible light transmission of effective awning window surface

A<sub>Awning</sub>=Total effective area of awning window

Twindows=Visible light transmission of windows



Computations:

$$\frac{(W_A*H)+(W_A*O_T)+(W_A*O_B)+((H*O_B)/2)+((H*O_B)/2)=A_{Awning}}{\frac{((W_A*H)*T_{vis})+((W_A*O_T)*T_O)+((W_A*O_B)*T_O)+(((H*O_B)/2)*T_O)+(((H*O_B)/2)*T_O)}{A_{Awning}}} = T_{Awning}$$

### Calculation of the Total Visible Light Transmission Level of Windows

The total visible light transmittance of windows for the Project is calculated by taking the combined visible light transmission of both sliding and awning windows together.

### Term Definition:

A<sub>Sliding</sub>=Total effective area of sliding window
A<sub>Awning</sub>=Total effective area of awning window
T<sub>Sliding</sub>=Visible light transmission of effective sliding window
T<sub>Awning</sub>=Visible light transmission of effective awning window surface
T<sub>Windows</sub>=Visible light transmission of windows

### Computation:

$$\frac{(T_{Sliding} * A_{Sliding}) + (T_{Awning} * A_{Awning})}{(A_{Sliding} + A_{Awning})} = T_{Windows}$$



15-038 TEMPORARY

Expiration Date: APR 1 0 2016

CERTIFICATE OF OCCUPANCY
CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PLANNING AND PERMITTING
BUILDING DIVISION

	801 SOUT	H APA	RTMENT AND GARACESCRIPTION OF STRUCTURE	E	
OWNER	Downtown Capital, LLC				at
	DRESS 801 South Street			<u></u>	
TAX MAP KE	Y2-1-047: 003	MA	JOR OCCUPANCY GRO	OUP	R-2. S-2
USE ZONE	Hawaii Community Development	Author	ity_TYPE OF CONSTR	UCTION	1A
SPECIAL	NNone				
APPLICABLE CODE	2006 IBC PER	RMIT NO	726702 0731711	DA <sup>.</sup>	07/01/13 TF 09/05/13
REMARKS: Auto Resi	matic sprinkler system throughout dential Tower only (Section 403.2)	: ).	ALLOWANCE FOR:	[ ] Autor [ ] Sepa [ ] Area [ ] Front	matic Sprinkler System ration on Sides Separation Wall lage Increase %
The above-de	escribed structure has been inspec	ted and	the following occupan	cy thereo	f is hereby authorized:
ļ	OCCUPANCY		Floor Area (Sq. Ft.		Maximum Allowable
1 <sup>st</sup> Floor	Residential Tower B, Office, Lobby R-2, Apartments (5 Units)		13,891		
2 <sup>nd</sup> Floor thru 8 <sup>th</sup> Floor	R-2, Apartments (14 Units Per F	loor)	11,326 (Per Flo	or)	
9 <sup>th</sup> Floor thru 46 <sup>th</sup> Floor	R-2, Apartments		11,315 (Per Floo	or)	
Roof	B, Elevator Machine Room		659		
1 <sup>st</sup> Floor	<u>Garage</u> A-3, Recreation Room S-2, Parking (31 Stalls)		25,430		294
2 <sup>nd</sup> Floor thru 8 <sup>th</sup> Floor	S-2, Parking (90 Stalls Per Floor	r)	25,150 (Per Flo	or)	
9 <sup>th</sup> Floor	S-2, Parking (89 Stalls)		25,150		
10 <sup>th</sup> Floor	S-2, Parking (90 Stalls)		25,150		
11 <sup>th</sup> Floor	S-2, Parking (75 Stalls)		20,931		
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By: CHIĘF	<u>· /                                     </u>	2.15	Approved: for D	) Y	2 4/10/15

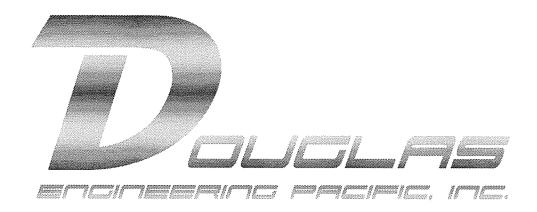
This certificate must be posted and permanently maintained in a conspicuous place at or close to the entrance of the building or structure referred to above.

850-50 (Rev. 1/05) BSD-50 (Rev. 1/05)

## **Glazing and Energy Analysis Report**

# Relating to Visual Light Transmittance (VLT) and Leadership in Energy and Environmental Design (LEED) requirements of the Mauka Area Rules

### Prepared By:



55 Merchant Street, Suite 1812 Honolulu, Hawaii 96813

July 20, 2015

## 

### **Abbreviations and Definitions**

For the purposes of this report, abbreviations and definitions are as follows:

- ASHRAE American Society of Heating, Refrigerating, and Air-Conditioning Engineers

  ANSI/ASHRAE/IES Standard 90.1-2007 | Energy Standard for Buildings Except Low-Rise
  Residential Buildings
- Baseline The building design with the minimum acceptable energy efficiency. Guidelines are provided in ASHRAE 90.1.
- Glazing An assembly of glass that serves as the exterior window.
- IECC International Energy Conservation Code

  IECC 2006 | Chapter 5 Commercial Energy Efficiency
- LEED Leadership in Energy and Environmental Design

  LEED 2009 for New Construction | Energy and Atmosphere | Prerequisite 2 –

  Minimum Energy Performance
- MAR Mauka Area Rules
  HAR §15-217

Located under: Hawaii Administrative Rules | Department of Business, Economic

Development and Tourism | Hawaii Community Development Authority

- ROH Revised Ordinances of Honolulu | Chapter 32 Building Energy Conservation Code
- SHGC Solar Heat Gain Coefficient

  Number between 0 and 1 describing how much heat the glazing assembly absorbs from the sun. Lower values indicate less heat absorption from the sun, which is generally favorable in Hawaii.
- U-value An insulative property of an assembly, such as a glass window. Lower values indicate less heat absorption between the exterior and the building envelope, which is favorable.
- VLT Visible Light Transmittance

  Percentage of visible light allowed through a glazing assembly.

### I. Executive Summary

Concerns have been expressed that the requirements in the Mauka Area Rules (MAR) contained in the Hawaii Administrative Rules (HAR) are so stringent that it inadvertently prohibits certain types of building designs. The requirements in question are visible light transmittance (VLT) minimums and LEED energy efficiency minimums. The concern being that the combination of requirements restricts the types of allowable glazing products to the extent that there may be no readily available glazing product meeting both requirements for an all glass building.

An updated building energy model simulation for the Symphony Honolulu project conducted using the actual glazing selection for the project shows a 13.0% improvement in building energy performance, which is 3.0% higher than the LEED minimum. The glazing in the Symphony Honolulu project meets the LEED requirements, but does not meet the VLT requirement of the MAR; however, energy modeling of other glazing options has shown it possible to meet both the 50% VLT required by the MAR and the 10% improvement over baseline energy performance required by LEED. Several glazing options were explored that meet the VLT requirements of the MAR and exceed the baseline energy performance by 10.3% to 10.7%. Based on these results, we believe that the VLT requirement of the MAR does not excessively limit building design. Creative building designs like a high-rise tower with all-glass exteriors are still possible.

There are some potential disadvantages caused by requiring high VLT values. Glazing with high VLT does not always provide low external reflectance, which is the presumed intent of the VLT requirement. One concern is that high VLT glazing may reduce the privacy of the residential units. Another concern is that higher VLT glazing typically results in lower energy efficiency in a building. If sustainability and environmental consideration are priorities, lower energy consumption by a building may be more desirable than its transparency. This means that lower VLT values may be more desirable.

Through a study of applicable codes, glazing options, and calculations, this report addressed the apparent conflict between the MAR VLT requirement and the LEED energy efficiency requirements. The study shows that the Symphony Honolulu building could have been designed to comply with both requirements, but at the cost of lower energy efficiency. A lower VLT value generally relates

to higher efficiency, more privacy for residents, and does not restrict low external reflectance. A high VLT does not necessarily relate to a low external reflectance.

If sustainability is a priority, lowering energy consumption to gain transparency of the glazing may not be desirable. Current glazing technology is very advanced, offering dynamic glazing that adjusts depending the level of sunlight present in the environment. Given these considerations, we recommend that the HCDA consider revising the VLT requirement in the MAR and addressing the reflectance issue directly.

### II. Introduction

The primary concern addressed in this report is whether the Visible Light Transmittance (VLT) requirement of the Mauka Area Rules (MAR) in combination with the energy efficiency requirements of Leadership in Energy and Environmental Design (LEED) criteria, creates an unnecessarily difficult set of design constraints that have no real purpose. This report summarizes and presents a study of the MAR and other rules and codes governing the Mauka Area of the Kakaako Community Development District (KCDD) and analyzes the effects VLT on the energy efficiency of a building.

The Symphony Honolulu project ("Project") has been analyzed to determine if there is a conflict between the VLT and LEED requirements of the MAR. The Project is a residential high-rise project located on the corner of Kapiolani Boulevard and Ward Avenue. The Project is under the jurisdiction of the Hawaii Community Development Authority (HCDA) and the design of the Project must comply with all applicable provisions of the MAR, except where variances are approved.

The Project incorporates a window-wall design, which creates the look of an all glass building exterior. With this design, glass performance becomes a key factor in the overall building energy performance. Although the proposed glass selection for this building design does allow the building to meet the LEED energy efficiency goals, it does not comply with the VLT requirements of the MAR. The lower VLT glazing product increases efficiency by allowing less light to be transmitted through the glass. In other words, lower VLT means less light is transmitted through the glass, potentially increasing energy efficiency. Likewise, higher VLT means more light is transmitted through the glass, potentially decreasing energy efficiency.

The MAR, contained in the Hawaii Administrative Rules (HAR) §15-217, has specific glazing requirements. Section 15-217-55 (k)(2) states that "[w]indow glazing shall be transparent with clear or limited UV tint so as to provide views out of and into the building." Discussion with HCDA planning staff indicates that an additional intent of the VLT requirement was to minimize external reflection on outdoor public spaces, streets, and neighboring buildings in the district and also to minimize heat island effects.

### III. Applicable Code Requirements

This section provides a description of the applicable codes and ordinances and the minimum requirements the Project must meet. The MAR provide planning, zoning, and design criteria for the Mauka area of the KCDD. MAR section 3(e) states that "[e]xcept as otherwise specifically stated in this chapter, all other rules, laws, and ordinances shall continue to remain applicable to the developments and properties within the Mauka area." The intent was that relevant provisions of the Revised Ordinances of Honolulu (ROH) also apply to projects within the KCDD, except where specifically exempted or superseded by the MAR.

The MAR has glazing requirements, including Visible Light Transmittance (VLT) minimums and LEED minimums for new construction. The three applicable requirements of the MAR are listed in three sections. MAR section 55(k)(2) states, "[VLT] level of windows on the ground floor shall be seventy per cent or greater and on all other floors the [VLT] level shall be fifty per cent or greater." MAR section 59(c)(1) states, "[A] project shall qualify for the applicable base LEED rating system at the appropriate certification level (e.g., new construction shall qualify for LEED for new construction." MAR section 55(m)(4) states, "At least seventy per cent of a retail thoroughfare front element shall be transparent glazing, with at least seventy per cent of the glazing to allow views into the store rather than being shallow window box displays."

Chapter 32 of the ROH states that all residential and commercial buildings must comply with the International Energy Conservation Code (IECC) as amended. The ROH and IECC classify this building as commercial (IECC Ch.2 and ROH Section 16.1.1(21)); therefore, the Project must comply with the IECC commercial requirements.

Chapter 5 of the IECC provides two compliance paths for energy consumption of commercial buildings. Based on IECC section 501.1, the designer can choose between the requirements of American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 90.1 or IECC Chapter 5. LEED baseline requirements are not fulfilled by the use of IECC chapter 5; therefore, the designer must comply with ASHRAE 90.1.

ASHRAE 90.1 describes the minimum requirement for energy efficiency in a new building. The methodology for determining baseline building energy usage is described in sections 5 through 9. Because this building has an all glass exterior, the following are the applicable fenestration requirements for determining baseline energy use:

- 1. Maximum U-value of 1.2
- 2. Maximum Solar Heat Gain Coefficient (SHGC) of 0.25
- 3. Maximum Glass Area of 40%

These requirements are not mandatory design criteria for the building; they are prescriptive provisions to determine baseline energy use. The designer is free to use any materials to design the building as long as the design exceeds the baseline building model energy efficiency determined by the prescriptive provisions. ASHRAE 90.1 Section 11 describes an alternate method to the prescriptive provisions that "may be employed for evaluating the compliance of all proposed designs except designs with no mechanical system" (ASHRAE 90.1 11.1.1). A building simulation program must be used to perform an energy usage calculation to show that the proposed building performs better than or equal to the baseline building design.

The LEED requirement pertaining to the energy efficiency of this building is Energy & Atmosphere (EA) Prerequisite 2, Option 1, which states, "Demonstrate a 10% improvement in the proposed building performance rating . . . compared with the baseline building performance rating." The designer must "[c]alculate the baseline building performance rating according to the building performance rating method in Appendix G of [ASHRAE] Standard 90.1-2007 . . . using a computer simulation model for the whole building project." Simply put, the proposed building design needs energy performance that is 10% better than the baseline building performance.

Table1: Code and Ordinance Requirements					
Requirement	VLT	U-factor	SHGC	Minimum Energy Savings	
ROH	n/a	1.2 max OR Comply with ASHRAE	0.40 max OR Comply with ASHRAE	n/a	
MAR	50% min <sup>1</sup> / 70% min <sup>2</sup>	n/a	n/a	Comply with LEED	
LEED	n/a	Comply with ASHRAE	Comply with ASHRAE	10% over baseline <sup>3</sup>	
ASHRAE	n/a	1.2 max OR Perform Calculation	0.25 max OR Perform Calculation	Provides baseline details	
IECC	n/a	Superseded by ROH	Superseded by ROH	n/a	

Bold is the limiting factor. Where options are presented, underlined is the chosen option.

Percentage improvement

$$= 100 x \frac{(Baseline\ building\ performance-Proposed\ building\ performance)}{Baseline\ building\ performance}$$

<sup>&</sup>lt;sup>1</sup> Upper floors

<sup>&</sup>lt;sup>2</sup> Ground floor

<sup>&</sup>lt;sup>3</sup> Energy savings is calculated per the following formula:

## Petition for Waiver and Suspension of §15-217-55(k)(2) of the Mauka Area Rules

Staff Report July 22, 2015

Background: On May 28, 2015, OliverMcMillan Pacific Rim, LLC ("OMPR") filed a Petition for waiver and suspension of Hawaii Administrative Rules ("HAR") §15-217-55(k)(2) ("Glass Rule") and to amend Development Permit No. KAK 12-075 ("Petition"). In the Petition, OMPR requested the Hawaii Community Development Authority ("HCDA" or the "Authority") to: (1) waive or permanently suspend the Glass Rule as it applies to the Symphony Honolulu Project ("Project") associated with Development Permit No. KAK 12-075 ("Development Permit"), that such waiver or permanent suspension be retroactive from April 5, 2015 and (2) suspend the Glass Rule for the Kakaako Community Development District ("KCDD") in general pending further review, analysis, and research prior to consideration of an appropriate modification and/or amendment to remove the conflict and negative impacts of the current Glass Rule on other Mauka Area Rules.

On June 6, 2012, the Authority approved the Development Permit. The property subject to the Development Permit is located within the Mauka Area of the KCDD. The Development Permit was obtained under HAR Chapter 15-217, Mauka Area Rules of the KCDD ("Mauka Area Rules"). The Glass Rule is a provision under Subchapter 4 (Area-Wide Standards) of the Mauka Area Rules and reads as follows:

"Window glazing shall be transparent with clear or limited UV tint so as to provide views out of and into the building. Visible light transmission level of windows on the ground floor shall be seventy per cent or greater and on all other floors the visible light transmission level shall be fifty per cent or greater;"

Visual light transmittance ("VLT") was the characteristic intended to be measured in the Glass Rule. The Development Permit was approved with the condition that OMPR would "comply with all applicable requirements of Subchapter 4 (Area-Wide Standards) of the Mauka Area Rules." Exterior glass for the Project was not specified as a part of the Development Permit submittal. The level of design completeness for the Project at the time of the Development Permit approval was consistent with the typical submittal standards for a development permit submitted in compliance with the Mauka Area Rules. The Authority approved the Development Permit with the condition that OMPR shall comply with the Glass Rule and all applicable Subchapter 4 provisions.

The City and County of Honolulu ("City") required that the Project obtain a Building Permit. The City requests that the HCDA review and acceptance of the drawings associated with the Building Permit prior to its approval. Although the Building Permit is not a HCDA permit, HCDA staff reviews Building Permit drawings for consistency with the Mauka Area Rules and the HCDA approved the Development Permit. The City provides the option to divide up the Building Permit approval process into several different stages to offer timely approvals and to help avoid project delays. Prior to the final Building Permit, developers can apply for a Foundation Permit and a Superstructure Permit for a development project. The developer applies for these additional permits and can build portion of the Project under those permits at its own risk, since the entire Project is not approved under a Building Permit. OMPR opted to divide up the Project Building Permit and applied for and received both Foundation and Superstructure Permits. OMPR submitted the Project Building Permit drawings for HCDA staff review in January 2015. Specifications for the Project's exterior glazing was not provided as a part of the Building Permit drawing set. As a part of the Project Building Permit review process, on January 29, 2015 HCDA staff requested via email that OMPR provide the Project glass specifications relevant to the Mauka Area Rules. On February 4, 2015, OMPR responded with an email stating that the Project did not comply with the Glass Rule stating, "Symphony tower glass VRE 1-30 is 28% VLT and does not meet the 50% VLT required in this rule."

On February 23, 2015, HCDA staff issued a Notice of Violation ("NOV") to OMPR pursuant to HAR §15-219-99 for violating the Glass Rule. In the NOV, HCDA staff requested that, "any and all non-conforming windows which have been installed be removed by no later than March 25, 2015, and that the developer refrain from any further use of the non-conforming windows."

On March 3, 2015, OMPR responded acknowledging receipt of the NOV and indicated that (1) OMPR will be seeking "a waiver or suspension of the minimum VLT requirement for windows above ground level in the Project" and (2) "OMPR does not intend to remove any of the so-called 'non-conforming windows' pending the final determination on its Petition for waiver or suspension of the administrative rule provisions in §15-217-55(k)(2)", and (3) OMPR requested confirmation of the "cut-off date for submission of its Petition." OMPR also notified the HCDA that the NOV is "without prejudice to OMPR's right under §15-219-99(e) to file an appeal of the NOV letter to the Authority in accordance with §15-219-34 within thirty (30) days of OMPR's receipt of the NOV letter." In the letter dated March 3, 2015, OMPR highlights a so-called inconsistency within the Mauka Area Rules. It claims that the "VLT requirement is inconsistent with and conflicts with and/or severely constrains the design alternatives available to meet or achieve other requirements of the Mauka Area Rules, including without limitation, LEED standard energy efficiencies".

On March 5, 2015, HCDA staff issued a revised Notice of Violation ("Revised NOV") extending the date to resolve the violation to April 5, 2015. The Revised NOV included

additional language stating, "Pursuant to §15-219-99(e), you may appeal to the Authority within thirty (30) days of your receipt of this notice of violation. An appeal to the Authority shall not stay any notice or any fines imposed thereby."

On March 9, 2015, HCDA staff responded to OMPR's letter dated March 3, 2015 acknowledging and responding to the three points in their letter. On March 23, 2015, OMPR's counsel, McCorriston Miller Mukai MacKinnon LLP ("Petitioner's Counsel"), requested that the HCDA's Executive Director, begin the process to waive and/or suspend the Glass Rule.

On March 30, 2015, HCDA staff sent a letter to the Petitioner's Counsel acknowledging receipt of their March 23, 2015 letter and requesting that OMPR submit a petition. On April 1, 2015, OMPR responded to HCDA staff's March 5, 2015 Revised NOV stating their intention to file a petition and not to remove the non-conforming windows.

On April 9, 2015, the Petitioner's Counsel submitted an (1) "Appeal of the Executive Director's Notice of Violation Letter to Appellant, Dated March 5, 2015 and Received March 10, 2015", (2) "Motion for Modification of the Compliance Date of Notice of Violation, or in the Alternative to Stay Enforcement, Pending Consideration of any Request by OliverMcMillan Pacific Rim, LLC for Waiver and Suspension of §15-217-55(k)(2) of the Mauka Area Rules", and (3) a letter request for administrative review and other relief relating to HAR §15-217-55(k)(2) of the Kakaako Mauka Area Rules.

On April 14, 2015, OMPR submitted a "Motion to Stay Appeal Proceedings Pending Consideration of any Request by OliverMcMillan Pacific Rim, LLC for Waiver and Suspension of §15-217-55(k)(2) of the Mauka Area Rules."

On May 6, 2015, the Authority held a public hearing and approved an order "Granting OliverMcMillan Pacific Rim, LLC's Motions to Stay Appeal Proceedings Pending Consideration of any Request by OliverMcMillan Pacific Rim, LLC for Waiver and Suspension of §15-217-55(k)(2) of the Mauka Area Rules; and to Stay Enforcement, Pending Consideration of any Request by OliverMcMillan Pacific Rim, LLC for Waiver and Suspension of §15-217-55(k)(2) of the Mauka Area Rules."

At its May 27, 2014 public meeting, the Authority voted to deny OMPR's "Request for Administrative Relief for the Symphony Honolulu Project Relating to Hawaii Administrative Rule §15-217-55(k)(2)" since there is no provision in the Rules of Practice and Procedure for the Authority to administratively waive or suspend community development district rules.

On May 28, 2015, OMPR submitted its Petition for waiver and suspension of §15-217-55(k)(2) of the Mauka Area Rules. In a letter dated June 17, 2015, the Petitioner's Counsel clarified that it is requesting two separate action in its Petition that separate

procedural process would be applicable to each of the two requested actions under the Petition.

On June 20, 2015, a Notice of Public Hearing for considering the Petition was published in the Honolulu Star-Advertiser.

The President of the Senate and Speaker of the House of Representatives were notified upon the posting of the hearing notice. Associations of apartment owners of residential buildings in the KCDD adjacent to the Project, surrounding landowners and businesses, the Ala Moana/Kakaako Neighborhood Board, and the Kakaako Improvement Association were notified of the public hearings. Various elected officials and State and County agencies were also notified of the public hearings. Hearing notice was also provided to approximately 402 individuals and organizations that have shown interest in development activities in the KCDD.

As set forth in the Notice of Public Hearings, the deadline to intervene was July 10, 2015. No motion for intervention was filed.

On July 15, 2015, a pre-hearing conference was held at HCDA's office at 547 Queen Street, Honolulu, Hawaii 96813, and a Pre-Hearing Order was issued, requiring the submission of witness lists, exhibits lists, and exhibits by no later than July 20, 2015.

**Discussion:** OMPR has made the claim that the VLT requirement [§15-217-55(k)(2)] and the Leadership in Energy and Environmental Design ("LEED") requirement (§15-217-59) of the Mauka Area Rules cannot be met simultaneously, therefore, there is an inherent conflict in the Mauka Area Rules. To assess the OMPR's claim, staff needed to engage a mechanical engineering consultant to review the Mauka Area Rules as well as other pertinent energy and LEED rules. Following a Hawaii Revised Statutes, Section 104D-304, Professional Services procurement process, staff retained Douglas Engineering Pacific, Inc. ("Consultant") to review all pertinent rules and prepare building energy model simulation to evaluate the alleged conflict in the Mauka Area Rules. The Consultant is an electrical and mechanical consultant with expertise in LEED. The Consultant has reviewed all pertinent rules and prepared several building energy model simulation, including simulation for the Project with the glazing that is used in the Project that does not meet Mauka Area Rules requirements as well as glazing that meets the Mauka Area Rules requirements. The Consultant's report is provided as Exhibit A.

The Consultant's report indicates that there is no conflict between the VLT and LEED requirements of the Mauka Area Rules and any building, including an all glass high-rise tower, could be designed to meet both the VLT and LEED requirements. The report also provides a list of glazing products that can be utilized that meet the VLT and LEED requirements. Since there are several glazing products that can meet the VLT and LEED requirements, the VLT rule is not excessively restrictive either.

However, the Consultant provides some insight into the efficacy of regulating VLT. As provided in §15-217-55(k)(2) of the Mauka Area Rules, the intent of regulating VLT is to provide views out of and into the building. In a residential building, a high VLT glazing may cause privacy issues. A high VLT glazing is inherently less energy efficient, therefore, if sustainability and environmental consideration are a priority, lower energy consumption by a building may be more desirable than its transparency. Another objective of high VLT glazing requirement in the Mauka Area Rules was to minimize external reflectance and heat island effect in the surrounding environment. The Consultant's report indicates that high VLT glazing does not necessarily mean lower external reflectance. Glazing products researched by the Consultant indicate that there are several high VLT glazing that have high external reflectance. Also, there are low VLT glazing that have low external reflectance. For these various reasons, the Consultant recommends considering revising the VLT requirement in the Mauka Area Rules.

Attachment: Exhibit A - Douglas Engineering Pacific, Inc. Report

## BEFORE THE HAWAII COMMUNITY DEVELOPMENT AUTHORITY

In the Petition of	) DOCKET NO. CCED KAK 2015-2
OLIVERMcMILLAN PACIFIC RIM, LLC,	) AFFIDAVIT OF JON WEIR
for waiver and suspension of § 15-217-55(k)(2) of the Mauka Area Rules as applied to the Symphony Honolulu Project.	) ) ) _)
<u>AFFIDAVIT</u>	OF JON WEIR
STATE OF CALIFORNIA )	5

JON WEIR, being first duly sworn on oath, deposes and says:

COUNTY OF LOS ANGELES

- I have a Bachelor of Science degree in Architectural Technology and am the Principal of JA Weir Associates.
- 2. Prior to forming JA Weir Associates ("JA Weir"), I worked as a project manager for a national (later international) curtain wall design, and installation firm followed by consulting firms in Chicago, Dallas, Hong Kong, and Los Angeles.
- 3. JA Weir provides traditional and design consulting, as well as due diligence and forensic review.
- 4. Unless otherwise indicated, all statements herein are based upon my personal knowledge.
- 5. I make this declaration in support of OliverMcMillan Pacific Rim, LLC's ("OMPR") Petition for Waiver and Suspension of § 15-217-55(k)(2) of the Mauka Area Rules as applied to the Symphony Honolulu Project ("Petition").

- 6. Visible Light Transmittance ("VLT") is best defined as the amount of light that passes through a pane of glass, with higher VLT translating to greater light pass-through.
- 7. The Solar Heat Gain Coefficient ("SHGC") is a measurement of the amount of heat generated by the light (visible or infrared) that has passed through the glass (long wave conduction of heat due to glass absorption is not included in this measurement).
- 8. Higher VLT equates to worse SHGC, which results in more heat buildup inside the building.
- 9. The more heat that enters the building, the more energy it takes to cool it. This is especially problematic in sunny, hot climates such as Honolulu.
- 10. Chapter 15-217 of the Hawaii Administrative Rules (dated September 14, 2011) discusses the "visible light transmission level" and mandates a minimum level of 50% for the tower of a building and 70% for the ground floor.
- 11. The phrase "visible light transmission level" is confusing because it does not have a definition in the commercial glazing industry as "transmission" is an action and glass does not "transmit" anything.
- 12. Assuming that this is a misnomer and that transmittance (the property of glass that allows light through) was meant to be used, section 15-217-55(k)(2) of Mauka Area Rules requires that all glass in a new tower façade have a VLT of 50% or greater ("Glass Rule").
- 13. After searching through a database of just about every coated piece of glass manufactured in the world with a VLT of 50% or greater, the best performing product on the market today has a corresponding SHGC of 0.22. This roughly translates into 22% of the solar radiation on the façade converting to heat inside the building that must now be neutralized by a cooling system.

- 14. Conversely, the glass OMPR is currently installing in the Symphony Honolulu Project provides an SHGC of 0.19-three percentage points below the 0.22 value, representing substantial energy savings (approximately 16%).
- 15. The Symphony Honolulu Project's SHGC of 0.19 was also required to meet the energy model necessary for Code compliance.
- 16. Among the major suppliers of glass my co-associates and I have researched throughout the world, we can find no high performance glass that can meet both the Symphony Honolulu Project's necessary SHGC and the 50% VLT requirement. This includes, but is not limited to, thousands of glass types as manufactured by Asahi, Cardinal, China Southern, Interpane, Guardian, NSG, Pilkington, PPG, Shanghai Pilkington, Saint Gobain, and Viracon.
- 17. In fact, JA Weir found only five comparable products with a VLT of 50% or greater, none of which came close to the Symphony Honolulu Project's 16% required energy savings performance.
- 18. The absence of an available product identifies a fundamental flaw in the Glass Rule as it stands today.
- 19. JA Weir believes that the Glass Rule, as it stands, is an incorrect approach to solving one perceived issue while forcing building design to become less energy efficient.
- 20. Hawai'i is not alone in its attempt to accommodate tenant comfort and limit energy consumption in this manner. California has a provision in Title 24 of its Code that limits U Value, Relative SHGC and VT, or visible light transmittance, which is defined as the rating for overall daylight transmittance of a product, including the frame.

- 21. California's Title 24 provision reflects an understanding that VLT (or VT) cannot be regulated alone, but only as a part of three interrelated factors affecting the performance of exterior wall systems.
- 22. JA Weir is unaware of any other municipalities in the United States that regulate glass selection solely by VLT.
- 23. It is also important to emphasize that VLT is not a performance attribute of glass but an optical one. It is the indicator of how much light travels through the glass.
- 24. Rather, the SHGC is the performance indicator. It defines how the solar radiation traveling through the glass is controlled.
- 25. For high sunlight areas, such as the Mauka District of Honolulu, the SHGC needs to be low to control energy consumption and allow tenant comfort.
- 26. While every project is different, aiming for a low SHGC, as the Symphony Honolulu Project did, would save both energy and assist in reducing the overall energy consumption for cooling for the residents.
- 27. JA Weir surveyed the projects currently under construction in the various Honolulu districts, none of which use glass with a 50% VLT or greater. All of the glass products in use in commercial developments today provide a much lower VLT percentage due to the emphasis on performance (e.g., SHGC) in the design.
- 28. Further, a reduction in VLT from 50% to 30% does not noticeably alter one's ability to see through the glass.

29. Considering the above and the current status of the Glass Rule, JA Weir believes that the HCDA should grant OMPR's Petition.

FURTHER AFFIANT SAYETH NAUGHT.

DATED: Redondo Beach, California, July 16, 2015.

JON WEIR (Jon Allen Weir

This \_\_\_\_\_ page Affidavit of Jon Weir was subscribed and sworn to before me this \_\_\_\_\_ day of July, 2015.

Signature: 4 my 3, you le

Notary Public, State of California

My Commission expires: Mar 22. 2017

