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Via e-mail only to cityplanner@corb.us

The Mayor and Councilors
City of Rockaway Beach
PO Box 5
Rockaway Beach, OR 97136

Re: Application of Nedonna Development / Nedonna Wave PUD, Phase 2
Our File No. 5701.001

Dear Mayor McNeilly and Councilors:

I'm writing this letter on behalf of Anna Song and Nedonna Development LLC in response to the appeal of the approval of Phase 2 of the Nedonna Wave PUD, and specifically to cover the question about the exit path for a tsunami emergency and show compliance with RBZO § 3.140.

Section 3.140(6) of the Rockaway Beach Zoning Ordinance (RBZO) states that land divisions in the Tsunami Hazard Overlay Zone "shall incorporate evacuation measures and improvements, including necessary vegetation management, which are consistent with and conform to the adopted Tsunami Evacuation Facilities Improvement Plan."

A partly marked evacuation route runs east as a trail through the dedicated but unimproved section of Riley Street, and then roughly along the boundary line between Nedonna Wave and the property to the south. It then enters the railroad property, where the trail leads up steps to and across the tracks and then to Highway 101. In wet weather the evacuation route is muddy and likely boggy for the 200+ feet from the end of the pavement to the railroad embankment.

Here's how the city's official map of evacuation routes depicts the route:

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Currently Riley Street is paved only a few feet beyond Kittiwake Drive, though the unimproved right-of-way of Riley Street extends more than 200 feet further toward the railroad. As part of building Phase 2, Mrs. Song would be required to improve Riley Street to city standards, which means paving it eastward to its terminus. The portion of the evacuation route that’s now a dirt trail along Riley Street would be paved, which will be a substantial improvement to the existing trail. In case of emergency, pedestrians will be walking on pavement instead of through grass and mud for several hundred feet, and they will be able to get to the railroad’s portion of the trail much more readily. If a portion of the trail beyond the end of the public right-of-way is on Mrs. Song’s property, she will lay down gravel on that portion to make a 6-foot wide path to continue until the trail leaves her property.

Paving several hundred feet of the existing dirt trail will substantially improve the speed of evacuation. A second benefit will come from widening the trail into a road. How much benefit is hard to quantify, though some data does exist. A Federal Highway Administration report entitled “Capacity Analysis of Pedestrian and Bicycle Facilities: Recommended Procedures for the ‘Pedestrians’ Chapter of the Highway Capacity Manual”¹ gives some useful data about the relationship between path area and pedestrian capacity. Although the report is oriented mainly toward designers of sidewalks and crosswalks, it contains some useful information to help measure the benefit of the proposed improvements here.

Pedestrian capacity was measured by levels of service (“LOS”) from A through F, similarly to how traffic engineers measure levels of service for roadways. Pedestrian speed drops by only about 10% from LOS A to LOS D, then much more rapidly at LOS E and LOS F. The authors cited the Highway Capacity Manual stating that an uninterrupted pedestrian facility can operate at LOS D or better with walking speeds of 225 or more feet/minute or more (2.5

¹ Federal Highway Administration report no. FHWA-RD-98-107 (the “Report”), available online and through the National Technical Information Service, Springfield, Virginia.

miles per hour, or essentially free flow) if each pedestrian has at least 15 square feet of space on the walkway.² Here is an extract of the table:

TABLE 2 Existing HCM walkway Level of Service (LOS) criteria

LOS	Space		Flow Rate		Average Speed	
	(m ² /ped)	(ft ² /ped)	(ped/min/m)	(ped/min/ft)	(m/s)	(ft/min)
A	≥12	≥130	≤7	≤2	≤1.32	≥260
B	3.7-12	40-130	23-Jul	7-Feb	1.27-1.32	250-260
C	2.2-3.7	24-40	23-33	10-Jul	1.22-1.27	240-250
D	1.4-2.2	15-24	33-49	15-Oct	1.14-1.22	225-240
E	0.6-1.4	15-Jun	49-82	15-25	0.76-1.14	150-225
F	≤0.6	≤6	var.	var.	≤0.76	≤150

SOURCE: TRB, 1994.

The planning commission approved Mrs. Song’s request to plat 20 residential lots in Phase 2, subject to review of any proposed improvements to the emergency escape route. Mrs. Song’s proposed improvements to the evacuation route are more than adequate to handle the increased emergency demand that an additional 20 houses would place on the route.

The 2020 census reported that Rockaway Beach had a population of 1,441 and 1,980 housing units, of which 737 (37.2%) were occupied and 1,243 (62.8%) were “vacant.” A house is “vacant” if it’s not a primary residence; the census counts a house as vacant if it’s a second home or a vacation rental as well as if it’s actually empty and unoccupied.

If the demographics of the buyers of the 20 new houses are similar to Rockaway Beach’s current demographics, then 7 or 8 of them will be occupied by full-time residents and 12 or 13 will be occupied only part-time. The occupied housing units have an average of 2 occupants. It’s fair to assume that the vacation units, when occupied, will have more occupants, perhaps 4 on average, but that they’ll be occupied only half the year or less, for an average of about 2 occupants when measured over the year. It follows that the houses in Phase 2 will create a demand for the evacuation route for about 40 persons on average.

Mrs. Song proposes to pave about 6,000 square feet of Riley Street along the evacuation route, an area about 250 feet long and 24 feet wide, which equates to pedestrian space for about 400 persons. She also proposes to widen and improve any remaining dirt trail on her property to be a 6-foot gravel path. If the current trail is at most 3 feet wide toward the east then she is doubling the evacuation capacity of that portion of the trail, which more than covers the

² Report, section 3.1, Table 2.

additional demand that Phase 2 would put on the trail. Her proposed improvements more than offset any increased demand.

With respect to the specific criteria of RBZO 3.140: Each of the lots will enjoy direct access to a paved road that will connect to the existing evacuation route. Mrs. Song will improve the portion of the evacuation route that is on her property either with the new paved portion of Riley Street or with a 6-foot gravel path, which will ensure adequate pedestrian access from the development site to the evacuation route.

The proposal does not create an evacuation need that would require frontage improvements to designated evacuation routes on or contiguous to the development site beyond the improvements that Mrs. Song would make as part of Phase 2.

The rest of the evacuation route is entirely on the private property of others. Mrs. Song is not aware of any publicly-owned portion of the evacuation route other than Riley Street, which she will improve more than proportionally to the evacuation needs of Phase 2.

Mrs. Song proposes to install a tsunami-route sign at the beginning of the gravel path, if a sign at that location is consistent with the standards of the Tsunami Evacuation Facilities Improvement Plan. If that plan requires other route signage on her property, she will install the signage.

Thank you for your consideration of Anna Song's application to create Phase 2 of this planned unit development. She meets all of the zoning criteria and looks forward to bringing this project to completion.

Very truly yours,

Dean N. Alterman

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