

## **Harbor Grove Public Comments RE: Drainage**

### **(1) Ken Willett 8918 53rd Avenue W:**

Impact to the creek north of the proposed development

There is no mention in the proposal documents of the creek that runs north from the proposed development area. This creek runs through OGP and is documented in plot drawings including that of the author.

### **(2) Jan Delorey-Lytle 9035 Hargreaves Place:**

The Harbor Grove Phase 1 section is adjacent to our property. We are concerned about the drainage and runoff into our entire neighborhood from the plan provided by Sea Pac Homes.

In 2020, our basement flooded. We had to have pressure relief drains installed into the wall/floor in the crawlspace. Cost was \$6851.00. It would be a shame to have other houses experience the expense and damage caused by flooding.

Hargreaves Place has permeable pavement that requires expensive maintenance. On 10 May 2022, the private portion of the road is scheduled to be cleaned by Jet City Cleaning. The cost, to be shared by 4 properties, will be approximately \$3800. Any excess runoff impacts the permeability and compromises our street. This will require us to have more frequent cleanings on the private part and the city will also be tasked with the additional expense for cleaning the public part of the road.

We understand that the Daffron family sold their land to a house developer with the intent to construct quality homes with little or no negative impact to environment. We would like to see what their plan is for Phase 1 because it directly affects our home.

Bottom line is this: We are asking that the Sea Pac Homes overall project for 11 homes be properly redesigned to eliminate the negative impacts of drainage, stormwater and erosion on all of the area.

Please address the public concerns and environmental impacts and notify us when there will be a Public Hearing.

### **(3) Terri and Charlie Hix 9115 Hargreaves Place (Lot 2 Rugosa Ridge)**

Our first concern is with how the drainage from the development will be handled. Many of the homes on Hargreaves Place have been struggling with crawlspace drainage problems. Two of the neighbors that we are familiar with have spent thousands of dollars to put drainage systems in after the fact. Our lot is wet and while our crawlspace has not been a problem we are concerned that it will become a problem given that the foundation drains for the proposed retaining walls will have out fall near the NE corner of our property. This location is uphill of our home as well as the neighbor's home. That neighbor being one that has spent significantly to mitigate crawlspace flooding. We have included a photograph of Hargreaves Place taken Sunday, November 28, 2021 which shows how our street regularly floods following a rain storm. We include this because it further reinforces that our neighborhood has problems with ground water drainage.

### **(4) Steve Schmalz 9115 53rd Avenue W:**

I am really concerned about the proposed development on 9110 53rd Ave. Seven large homes as well as a many as 3 more to the north? Really? In 2012, the City of Mukilteo applied and received a DOE grant for a \$1,000,000 for a LID (Low Impact Development) grant in

Smuggler's Gulch (where this proposed property is located) which sole purpose was to slow the storm water from up the hill from Paine Field to the Puget Sound. There have been a lot of landslides in the area due to erosion (from storm water) and saturation from rain. The city had spent hundreds of thousands of dollars repairing damage from storm water from heavy and constant rain from the fall storms (similar to this fall).

The City identified 3 area of the Smugglers Gulch LID project: The upper area (area east of 525 to Paine Field), the mid area (area west of 525 to about Surrey Lane) and the lower area (west of Surrey) Both the upper and lower are very steep area while the mid area is a relatively flat area. The mid area (where this proposed development is located) was identified a area where the storm water and rain would be absorb into the ground (pervious surfaces) slowing the water down before it headed down hill to the Puget Sound. The key for this LID to be successful in my opinion, is having a much pervious surfaces and trees as possible. Adding almost 40% of impervious surfaces that this application is proposing, I feel jeopardizes the ability to control the storm water run off which could result in more erosion which could have a negative impact homes and roads costing homeowners and taxpayers a lot of money.

#### **(5) Charlie Van Citters 5416 88th Street SW:**

In the Geotechnical Engineering Study Plate 2 shows the test pit location, I notice that the only test pit below an elevation of about 400' was TP#2 about 35 feet East of where retaining wall #1 will be at an elevation of about 388', the base of retaining wall #1 will be at an elevation of about 380'. The test pits nearest the east side of the property are all above 400' in elevation, despite an obvious low spot near the middle of lot 1 where the temporary retaining pond will be with an elevation of about 392'.

This location is worth investigating for several reasons. (a) It is the lowest place on the eastern side of the property and yet there is no evidence of standing water nor is there any hydrophytic vegetation, hydric soils, or wetland hydrology according to the Critical Area Reconnaissance Report. What happens to all the water that must drain to there? The nearest test pit was also the deepest and the wettest TP#6 with a moisture content of 17.9% at 13 feet deep and getting wetter that would only be 5' below the surface at this low point, is it possible this is a natural drain or seep where surface water enters? If during construction this spot is going to be used for a temporary sediment trap shouldn't it be checked for what is happening to the water that drains there? Is there a liner or other method of retaining water for the temporary sediment trap? What is the depth of the temporary sediment trap?

From the Geotechnical report p.12 "Infiltration Evaluation- The dense, cemented, and unweathered glacial till soils (hardpan) observed at depths beginning at about one to four feet across the site generally exhibit very poor soil infiltration characteristics. In our opinion, the unweathered glacial soils should be considered impermeable for design purposes, and the use of infiltration systems at the subject site is not recommended."

Where does the water go? I just walked by the property and from the street it is oblivious that there is a low aria that should collect all the runoff from the eastern ½ of the property it is dry even with all the rain this November. From what I could see It did not appear that any water flowed off the Eastern portion of this property not to the north or the south, it all slopes into the low spot away from the Right of Way. Any water entering the ditches comes from the ROW or the street.

On the TESC (Temporary Erosion and Sediment Plan), I see that with the exception of the north panhandle portion of the property, practically all of the rest of the property will be bulldozed. I see that there is a temporary interceptor swale that runs North South across the property about

60' east of the western property line. At its lowest point it appears to be at an undisturbed ground level of 393ft. This swale then drains according to the plan to a temporary 23' x 42' sediment trap on lot 1 about 280' to the East with a current ground level elevation of 396' to 398' from there it drains thru a temporary 12" flex pipe outfall with continuous positive slope to a riprap pad at an elevation of about 401' and then into the storm ditch that drains North to Smugglers Gulch Creek. It seems that the runoff that the swale collects will have to run uphill at least 8' to its outfall 340' away. I don't see how this can work unless it installed after all the grading is done when it may no longer needed. If the runoff does reach the outfall (perhaps by pumping from another temp sediment pond??) there is another problem. Until vegetation can be planted, the entire plat with the exception of the north panhandle, will be practically impervious (relative to pre-development conditions) to water due to either being scraped down to glacial till or being filled over with compacted structural fill or because it has been run over and compacted by all the machines doing the scraping and filling. With all the runoff making its way to the outfall there may be big problems in Smugglers Gulch Creek. Very, very little water from this site previously flowed north into the creek according to the Storm Drainage Report page 3.3 (Frontage Basin) Contrary to what is stated on the SEPA check list #3.c.1, which appears to apply only after the plat is finished, during construction virtually all of the water that lands on the plat will run north thru a temporary straw waddle at the North East corner of the plat and continue to Smugglers Gulch Creek which then drains West thru 8924 and 8916 then across the Woodson property and along the East side of Property on Surrey Lane, 9003, 9017, and 9031 that have already reported problems during heavy rains, then join the other sub-basin flow and continues west. (See Downstream Exhibit in Preliminary Storm Drain Report) This represents a huge increase in flow (potentially sediment laden) to an already stressed system. What are the Best Management Practices (BMP's) concerning the downstream properties? According to BMP's it is necessary to document existing conditions, what are the current discharge rates from the Harbor Grove property to the catch basin on the East side of Hargreaves (photo 4 and 5 in the Preliminary Storm Drainage Report, what is the current flow from the Harbor Grove property to the culvert where the temporary straw waddle will be placed (no picture available). What is the expected flow rate at these locations during construction? What will the flow rate be after completion of the subdivision? What amount of fines in the construction discharge are allowed? How will these fines be monitored during construction? How will this impact existing ecology in the creek?

The Grading Plan shows two retaining walls #1 located about 6 feet from the western property line and #2 about 6 feet further East from #1. #1 at its lowest point rests on ground that has a current elevation of 380 and its Toe is at an elevation of 382(?) and the Top is at 390 it is to be backfilled to the top with structural fill which slopes up to the bottom of retaining wall #2, which, if you are following along, is to be built on about 10 feet of structural fill with a Toe of 394 and a Top of 402 and Backfilled with compacted structural fill to a height at least 18' above the original ground elevation directly below. Having seen a lot of failed retaining walls, I looked for some detail of how these would be constructed, but could find only a drainage plan for them included with the Preliminary Storm Drain Report. The footing drains for the approximately 400' of retaining walls daylight near the South West corner and drain toward the property at 9155 Hargreaves Pl, less than 12' away. How will these retaining walls be built, what is the expected lifespan of the walls, how will they be monitored to insure that they are performing per design, who will be responsible for maintenance and repairs as time goes by, is there any guarantee provided for the retaining walls by anyone involved? In the event of failure is there a bond, or a fund set aside to pay for repairs or will it be necessary to sue the city, and the contractors, and the engineers to try to get the replacement or repairs paid for?

Is there any provision for monitoring ground water and saturation levels of the compacted fill behind and under the retaining walls? How are the retaining walls expected to act during a

major earthquake, how will the temporary erosion control be handled to the West of the interceptor swale especially during the grading and digging and setting forms and pouring of concrete and stripping forms and backfilling and compaction necessary to build the approximately 400 linear feet of retaining walls? How will the Best Management Practices (BMPs) be implemented concerning onsite fueling? How will the BMPs be implemented concerning concrete waste water? How will the BMPs be implemented concerning spill prevention and control? There is a French drain indicated on the Grading Plan. How will it be maintained and who will be responsible for it? Will the owners of lots 4, 5, 6, and 7 be allowed to build over it, as it lies within these lots building setbacks? What is the purpose of the French drain? Is the French drain an essential part of the retaining wall system?

**(6) Erich Volkstorf 9005 53rd Avenue W:**

In the SEPA Environmental checklist, Section B Environmental Elements, Subsection 1.g., the developer submits that approximately 39% (40,785 square feet) of the site will be covered with impervious surfaces. The developer has submitted that “water runoff from both storms and construction activities” will be conveyed to a detention vault and thence to an existing drainpipe at 92nd Street SW. To date, there is no evidence the developer has installed active groundwater monitoring wells at the site to determine the extent of passive groundwater storage which exists at the site. Such monitoring wells are sometimes required for construction sites to determine the amount of passive storage which will be lost after construction. SeaPac Homes needs to properly assess and document, rather than make assumptions, of the ground water storage which will be lost due to the development.

Further, what provisions if any, will be in place for maintenance of the underground vault(s)? SeaPac Homes needs to provide detailed plans for what party or entity will be responsible for maintaining the underground vault(s) and how such maintenance will be financed.

How will SeaPac Homes mitigate increased stormwater impacts on the drain system it will discharge into at 92nd Street SW? With climate change, Pacific Northwest winters are expected to be warmer and wetter with more extreme weather events, including severe rain storms. What analysis has SeaPac Homes done on the expected more extreme weather and what plans have been prepared to do so vis a vis ground water and soil stability issues.

Further, residents on Hargreaves Pl. and Surrey Lane already experience flooding in severe storm events. SeaPac needs to demonstrate how they will mitigate these existing issues, given that much of the proposed site will eliminate passive stormwater storage.

SeaPac Homes indicates it would divert stormwater from the site to a detention vault(s) and thence either north to the existing creek or south to the stormwater pipe on 92nd Street SW. SeaPac Homes needs to provide data showing how many gallons per hour will be discharged to either or both locations during extreme rain events. SeaPac Homes needs to provide data showing such pipes or stream beds are capable of sustaining such increases and, if not, how these systems will be modified and how such planning anticipates greater flows due to climate change.

**(7) Sean Baker 9003 Surrey Lane:**

My name is Sean Baker and I live at 9003 Surrey LN SW. I have some major concerns regarding the proposed development on 53rd AVE WEST SeaPac development.

We have storm water drainage issues when the creek behind us overflows. My understanding is that the new development will increase the flow of water heading west which will negatively impact my property. What studies have been done to verify that the flooding and erosion issues from this project will not effect my property? I can send video of the last time the creek overflowed through our property, and I brought this up to the city regarding our storm drainage issues. Please reach out to me with any questions.

**(8) Peter and Emmi Brant-Zawadzki 9107 Hargreaves Place:**

We live in 9107 Hargreaves Pl, Mukilteo, WA 98275. My husband was got job from Providence Medical Center as Vascular Surgeon and relocated here 8 years ago. Our property will be the lowest point in the west of development.

In this past 8 years, our house flooded 3 times already. We have a few reputable drainage companies come and evaluate the source of drainage. All 3 companies agreed water was coming from Outside, East of our property and all the water in Rugosa Ridge since our property is the lowest point.

Each time, we had out work done by Bodine Company over past 8 years. Our crawl space wasn't good candidate for sum pump. In our last flooding, we have to have our drainage pipe connected to the street pipe. The cost of establishing the drainage system established is total \$15,000.

We also put many improvements in the yard (Establishing the drainage system and Vegetation planted). Our backyard improvement was approved by City a few years back. Despite all the effort we put, drainage has been still serious problem for us.

In the down pour, water almost come from the bottom of ground, eroding patio stone slate already.

Right now, all the vegetation hold the water. No matter what or who builds it, any kind of man-made structure erodes very rapidly with water. Having high wall constructed would be a safety risk and would definitely flood us even further and to the Hargreaves Street, which as you know flooding already as well.

We are asking that the Sea Pac Homes overall project for 11 homes be properly redesigned to eliminate the negative impacts of drainage, stormwater and erosion on all of the area and reconsider to save current vegetation behind our property line.

**(9) Bryan Carli 9047 Hargreaves Place:**

I am writing to express my concern regarding the proposed development at 9100 53rd Ave W, Harbor Grove Subdivision (SD-2021-001/ENG-2021-019/SEPA-2021-010). Our home is located at 9047 Hargreaves Place, which is west of and downhill from the proposed development. Our lot is at a lower elevation than the site of the new development and water currently flows from the higher lot around 9100 53rd Ave W toward our property.

Over the past three and a half years of living here we have had a problem with ground water seeping from the eastern hillside portion of our property down toward the foundation of our home. The water seeps up at the foundation level causing our surrounding lawn to always be muddy and has caused excessive moisture issues in our basement.

I am concerned that the disturbance to the environment at the proposed Harbor Grove Subdivision will only exacerbate the water problems that are flowing westward toward our

home. The removal of many trees, removal of topsoils, introduction of compacted material and addition of seven homes can only cause more water to seep toward our property.

I am also concerned about the runoff from the new development impacting the permeability of our unique impervious street on Hargreaves Place. Maintenance of the street has come at a high cost to the city and private property owners. I am concerned that the runoff from the development will introduce more organic material into the surface, requiring more frequent maintenance and reducing the permeability of the street.

**(10) Gregory Chapdelaine 9101 Hargreaves Place:**

Adverse effect on groundwater flow and surface water. I have serious concerns for the potential impact on groundwater and surface water and drainage as a result of the combination of required alterations of the site including removal of native vegetation, addition of up to 20' of fill, prevalence of non-permeable surfaces, etc. My property and those of my neighbors on Hargreaves Place have already suffered from significant drainage issues that have required extensive and expensive remediation and I am concerned the proposed development would add pressure to the groundwater table increasing groundwater flow to my properties and those of my neighbors. I am concerned for the effectiveness of the proposed scheme required to redirect the natural flow of groundwater and stormwater from the proposed development onto my property and those of my neighbors to mitigate potential increased groundwater and stormwater.

**(11) Sandra Marie Hoffman 9005 53rd Avenue W:**

In the City of Mukilteo Smuggler's Gulch Stormwater Retrofit Study which was conducted by Perteet Inc. of Everett, Washington and dated August 27, 2010, Perteet provided maps showing that on the development site in question (9110 53rd Ave. W) there is a wetland on the property on the west side of 53rd Ave. W with a northern border approximately 150 south of the creek at the north side of the two tracts (Harbor Grove Phase 1, and the adjoining tract which Sea Pac Homes is also purchasing). In the Sea Pac Homes material provided in records available to the public, there is no mention of this wetland. Said wetland is in the area which Sea Pac Homes plans to construct homes. It is this author's understanding that wetlands are protected under City, State and Federal regulations and that construction of any sort on such wetlands requires extensive study and mitigation. Sea Pac Homes and the City of Mukilteo must provide documentation as to why a City of Mukilteo sponsored study is apparently being disregarded.

Sea Pac Homes has submitted soils and hydrology reports conducted in the spring and summer of 2021 on the site in question (9110 53rd Ave. W, Mukilteo, WA 98275). To date, these reports do not indicate how this project will affect properties downslope from the site, including properties on Hargreaves Place and Surrey Lane. Homes on those streets already experience flooding in yards and basements during severe rain events. The Sea Pac Homes development will severely reduce the natural passive stormwater retention on the site by creating impervious surfaces on more than 40% of the site and also removing 75% of the mature flora. Sea Pac Homes must provide data showing that further studies have been done to address these questions.

**(12) Sylvia Kawabata 6031 88th Street SW:**

Comments on the Geotech Report Page 2. Project Description

The report says the total approximate area is 1.33 acres, the Supplemental Application and the Preliminary Plat Plans says the Gross Site Area = 2.43 acres and the New Site Area = 2.38 acres. Please clarify what is the correct size of the project.

The Geotech Report discusses the stormwater vault (2nd paragraph) but does not mention the discharge from the "Bypass Basin" area. (See comments below about the absence of any analysis/evaluation of the discharge from the Bypass Basin).

### Landslide Hazard Areas

The current topography of the site may not have any "steep gradients" as defined in MMC 17.52.020, however after the site is developed (especially on the west side of the property) what are the impacts to the properties located to the west?

What are the landslide hazards to the properties downhill of the west property line after the 24 trees and vegetation in the Bypass Basin area are removed? Will cutting down of these trees make this area less stable and prone to landslides? Will the collected water from the Bypass Basin area be discharge to the west side neighbor's backyards? And will this discharge make the west side slope of the proposed development a landslide hazard area? What evaluation has been done to analyze the impact of the Bypass Basin flows to the neighbors' property on the west side? Jennifer Adams (City of Mukilteo's Surface Water Manager) indicated receiving a complaint from a homeowner located on Hargreaves Place (adjacent to the west side of the applicant's proposed development) of onsite runoff from the current parcel and the property was very wet. At a recent meeting with the homeowners living on the north end Hargreaves Place, they have said their backyards receives a lot of water and they had to install drainage systems. What alternatives have been evaluated for the discharge from the Bypass Basin area? Has the alternative of routing the water collected in the Bypass Basin area to the underground vault been evaluated?

### Retaining Walls

This report says drainage is proposed to be provided behind the retaining walls and connected to an approved discharge location. The applicant's documents do not analyze, discuss alternatives, or mitigation for the discharge of this drainage. All that is mentioned in the Storm Drain Report, is that the Bypass Basin is 0.46 acres, or 19% of the developed conditions. There needs to be more evaluation of this proposed discharge of drainage from the Bypass Basin area. Currently, the neighbors on the west (houses on north end Hargreaves Place) have excess water entering their backyards. What will this development do to prevent/mitigate the runoff or seeps from entering these neighbors' backyards?

### Comments on the Preliminary Storm Design Report

This report does not analyze, discuss, or mitigate the impact(s) of the discharge from the post developed site drainage and discharge, including its impact on the existing flow conditions of Smugglers Gulch Creek or other nearby drainage ways. Without this analysis, the City Council cannot make formal written findings that the applicant has plans for appropriate provisions to protect public health, safety and general welfare including the impact of the drainage ways as required in MMC 16.12.050.

The Preliminary Storm Design Report violates MMC 16.12.010. C.2.e since it does not discuss the disposal of stormwater from the Bypass Basin, nor of the Rain Garden. What are the downstream water quality and quantity impacts to neighboring properties, who will be managing these storm design structures, and what assurances will the property owners and/or developer guarantee that these storm water system operate properly? The city should require financial assurance (e.g., performance bond) from the developer to cover at least the first five years of maintenance and operations expenses in case these systems fail, and the city has to step in and take over these systems The application is incomplete since it did not include a

Hydrology report as required in MMC 15.16.060 for sites with a mass clearing and grading and development of a proposed sub-division site. According to MMC 15.16.060 D. 6. the hydrology report shall include:

" ... an adequate hydrology study of the drainage basin in which the development site is located, conclusions setting forth existing and future changes in the hydrology and the extent of significant effects on the surrounding and downstream properties as a result of the proposed clearing, grading and development and design criteria for corrective measures whenever necessary, together with opinions and proposed project conditions. Recommendations included in the report shall be incorporated in the plans, specifications, or support material."

#### Page 3.6, Section 4.2 Vault Performance

The calculated "required" space of the wetvault is only 98% of the "provided" space, which provides 2% volume for rainfall events greater than the 2-year 24-hour rainfall events. - What does this mean for the downstream impacts (flow quality and quantity). It is my understanding that the developer and homeowners are responsible for the inspection and maintenance of this vault. How is this wetvault inspected and maintained on a regular basis? How will the homeowners be notified of their responsibility for the inspection and maintenance of the wetvault? What happens if the vault maintenance is not kept up? The City should require the Developer and homeowners to provide an assurance bond for the City to use in case they have to do emergency maintenance and cleanouts.

The discussion about discharges from the vault to the existing stormwater collection line on 92<sup>nd</sup> Street SW does not analyze if the existing 92<sup>nd</sup> ST SW stormwater line can take on additional flows, especially during high storm events. And what would happen if the capacity of the existing line reaches full capacity? Is the excess water backing up to the project site, and flowing along the road ditches of 53rd Ave West, or will it go via overland flow via the road surfaces and into the neighboring properties either along 53rd Ave West of 92<sup>nd</sup> Street SW. This capacity issue needs to be evaluated and presented for public review and comment before the City can decide on whether the wetvault has been adequately sized and whether the 92nd ST SW stormwater line can accept this additional flows.

#### Page 4.7, Section 4.3 Water Quality Analysis and Design

This Storm Drainage Report should compare the pre-development and post-development runoff volumes and analyze the impacts to the neighboring properties and other areas in the downstream areas of Smugglers Gulch Basin. The City should require the applicant to complete a SEPA analysis and look at the alternatives and mitigation for the management of the runoff. For example, what will be the resulting increase in flows and water quality impacts to Smugglers Gulch Creek with the addition of drainage from the Rain Garden, detention vault and Bypass Basin? What would the result be if Bypass Basin flows are routed thru a detention vault (either thru the proposed wetvault or another detention vault located near the Bypass Basin area)? What are the pre-development and post-development storm flows? During post-development what is the cfs and percent increase of flows during various times of the year? How does it compare to the pre-development conditions?

The section of the analysis says the detention/wetvault's simulated daily volume (which represents the upper limit of the range of daily volumes) accounts for 91% of the entire runoff volume over a multi-decade period of record. What geographic area does this decade period of rainfall record represent? Is this rainfall record obtained from an area that is in close proximity to the Smugglers Gulch watershed? Are there any rainfall records from Paine Field or Everett that can be used for this analysis (instead of the SEATAC rainfall region - Section 4.1, page



And what is the basis for the Scale Fraction of 0.833 mean and how is it used in the calculations?

In the last decade, the rainfall events have been larger and with longer durations. The city should analyze how the size of more recent storm events affects the design capacity of the wetvault. The City should be more protective of downstream stream impacts, require more vigorous upstream storm control systems, starting with the Harbor Grove wetvault system and not put the burden of future retrofits on the Mukilteo citizens. The City has already witnessed and experienced the impacts to the lower Smugglers Gulch Basin during the December 2007 storm event.

And subsequently monetarily compensated the affected neighborhood for damages that occurred downstream in Smuggler's Gulch Creek. The City should start being more proactive in making decisions that will impact neighborhoods that could be affected by storm related discharges and the associated decisions, especially when climate change has affected the rain events (intensity and frequency).

Comments on the Environmental Checklist:

According to MMC 17B.52A.010:

"The purpose of this chapter is to designate geologic sensitive areas in the shorelines management area and to regulate development activities in or near geologic sensitive areas to safeguard the public health, safety and welfare." (emphasis added).

"Several geologic conditions influence development on or adjacent to slopes including: slope inclination, soil types, underlying geology, groundwater and seepage, surface water runoff and vegetative cover. Therefore, for the purposes of this chapter, a geologic sensitive areas map has been prepared for the city that will be used to determine when additional site analysis will be required as a condition of development."

The City's Critical Area map (pdf copy attached) indicates there are steep slopes to the west of the proposed project. The applicant has not evaluated nor discussed mitigation of the potential impacts this project will have on these steep slopes.

Also, in the City of Mukilteo's Pre-Design Report of the Smuggler's Gulch Stormwater Retrofit Study (dated 8-27-2010, prepared by Perteet) Figure 1.2 identifies a wetland area on the proposed sub-division about 175 feet south of where the creek goes under 53rd Ave W. (A copy of Figure 1.2 is attached.) The applicant needs to address the impacts to this wetland, alternatives to not disturb this wetland and mitigation for its loss if the applicant intends to fill in this wetland area.

Surface Water:

The applicant's response to the question "is there any surface water body on or in the immediate vicinity of the site (including year-round and season streams...)" is incorrect. Less than 150 feet north of the NE corner of the property is a year-round stream that the applicant proposes to receive the rain garden discharges. There is no analysis or discussion about the quality or quantity of flows that will be discharged from this rain garden. And yes, the applicant is proposing work within 200 feet of this year-round stream.

Also, the applicant proposes to discharge the Bypass Basin flows west overland existing drainage channels which connect to Smugglers Gulch creek. Neither of the Bypass Basin nor the Rain Garden proposed discharges were analyzed to determine its impact (water quality or quantity) to Smugglers Gulch Creek and its downstream uses.

The application is incomplete since there was no Critical Area Reconnaissance Report for the 9110 53<sup>rd</sup> Ave West parcel. The applicant must submit this report before the City can begin to evaluate this sub-division proposal.

#### Water runoff

The applicant is proposing to install a "trench drain" and other collections systems to capture the runoff from the western portion of the site (the Bypass Basin). This has not been addressed in the Environmental Checklist form; therefore, the application is not complete.

The adjacent neighbor located to the west of the proposed site has complained about excess water coming onto their property from the existing site. The applicant has not proposed any mitigation for the current excess runoff or seepage from its property to the western neighbors. And this issue has not been discussed nor addressed in any of the documents submitted by the applicant. Before the City can review this applicant's sub-division request the applicant must provide this information, the analysis and mitigation.

#### **(13) Brandon Rudd 5353 92nd Street SW:**

Do we have security regarding the retaining walls to ensure they don't divert water runoff into my lot (located in the SW corner of the development area)? Just trying to ensure nothing weakens the large corner tree or floods my lot.

#### **(14) Allie Schmahl:**

I am extremely concerned about the environmental impact, ground water runoff and traffic on the proposed development proposed by SeaPac for 9110 53rd Ave W Mukilteo WA 98275.

#### **(15) Rugosa Ridge Homeowners Association**

Stormwater runoff and erosion.

Almost the entire site proposed for development is currently forested. The proposed project would remove all of the vegetation from the western portion of the site and there would up to 20 feet of dirt placed above the existing ground level. Because the land slopes down to the west, removal of the vegetation and filling the site will result in an increase in site runoff, with potential storm drainage and erosion impacts on Hargreaves Place and the adjoining lots 3, 4, 5 and 6. Hargreaves Place is not designed to accommodate stormwater from developments outside of Rugosa Ridge. It already floods during heavy rains. Any soil erosion that occurs during construction or post-development could have a negative adverse impact affecting not only private properties, but the City of Mukilteo. Both parties have a mutual interest in preventing erosion and sedimentation impacts on the Hargreaves Place, which means potential impacts on the street must be considered during the project review.

There is a history of basement flooding and wet yards for properties on the east side of Hargreaves. The owner of Lot 5 (author of this letter) has spent thousands of dollars on drainage improvements to move water away from the house foundation. Others, including Lots 3 and 8, have spent similar amounts. There is a clay layer in the soil causing groundwater migrating down from the east to daylight, resulting in water problems for these property owners, including those abutting the subject property. The proposed development threatens to make this situation worse by filling the site and removing vegetation, which helps absorb stormwater and prevent it from moving off-site.

Smugglers Gulch Creek runs though the north and western portion of the Rugosa Ridge development within a NGPA tract owned by the HOA. Hargreaves Place drains to the creek. There is a history of erosion and flooding within Smuggler's Gulch Creek, including drainage

complaints from property owners in the Surrey Lane Development. These complaints are mentioned in the drainage study and subsequently dismissed, but the HOA feels they are relevant, given there are two projects in the planning stage with one of them already approved by the city (SP 2017-003). A portion of the creek is actively eroding due to elevated stormwater flows (Photos 1 and 2). Note the elevation of the chain fence, eroded fence posts and overhanging bank in the photos. This information is missing from the Applicant's storm drainage report.







The potential for increased stormwater flows to Rugosa Ridge could cause additional erosion problems in Smuggler's Gulch Creek, creating liability issues for the city and HOA.

Any additional runoff from the site to Rugosa Ridge would be a significant adverse impact requiring a redesign of the project, additional stormwater mitigation measures, or both. Discharge of any stormwater or collected surface water will require approval of the HOA, individual property owners and City of Mukilteo.

The downstream analysis in the Storm Drainage report stops at the point where the project's stormwater would be discharged to the Smuggler's Gulch Creek. The storm drainage analysis should be expanded to include Smuggler's Gulch Creek, both upstream and downstream of the discharge point.

The City, Association and downstream property owners have a shared interest in preventing flooding and erosion of Smuggler's Gulch Creek and Hargreaves Place. The City should require an independent, third party review of the drainage study at the Applicant's expense. The review should be performed by licensed civil engineer with expertise in stormwater/drainage design.

Additional Comments on Drainage Study (Preliminary Storm Drainage Report - 9/28/21) Page 10 of the report includes the following statement regarding the existing drainage pattern on the site and a portion of Rugosa Ridge:

*The majority of the on-site runoff sheet flows west across vegetated landcover (Photo 1 - 3). Runoff travel/Jing west continues across Parcel No. 01116500000600, Parcel No. 01116500000500, Parcel No. 01116500000400, and Parcel No. 01116500000300 before entering a catch basin on the east side of Hargreaves Pl (Photo 4 - 5).*

This statement is incorrect because it does not accurately describe existing conditions. Much of the on-site runoff currently infiltrates into the ground, migrates west as groundwater, and daylights where it comes in contact with a layer of glacial till soil that has been exposed by construction of residences in Rugosa Ridge. This groundwater is what is currently causing drainage issues described in the preceding section. For reference, the parcels listed above are Lots 3, 4, 5 and 6 in Rugosa Ridge.

## Summary

The Association acknowledges the right to develop property and anticipates the site will eventually have houses on it. However, the property must be developed in accordance with the city's zoning and other development regulations. The proposed plan would create adverse impacts on Rugosa Ridge as a whole, Hargreaves Place, and would reduce property values for those properties that would be immediately adjacent to the development. The project should be redesigned to reduce and mitigate impacts on stormwater, drainage, erosion and visual impacts.

### **(16) David Tyler 9055 Hargreaves Pl Mukilteo, WA 98275:**

I am a resident on Hargreaves Pl, and my property immediately abuts the subject property on the west side. There are a number of issues and concerns regarding this application:

Drainage impacts on abutting property due to the slope, underlying soils and proposed grading;

Drainage impacts on downstream properties, including Hargreaves Place, which is a public/private stormwater facility and part of a Low Impact Development;

Visual eyesore created by installation of two retaining walls up to 16 feet in height along the west perimeter of the development, as well as associated fill;

Building height and structural integrity of future residences located on fill on the west side of the property;

Loss of significant existing vegetation. The plans do not appear to make any attempt at retaining vegetation on the site, which will further exacerbate drainage impacts;

Lack of mitigation for all potential impacts identified above.

Groundwater study. The City should require a groundwater study that analyzes the location, depth and movement of groundwater on the site. The study is needed in order to evaluate impacts of large scale alteration of the site through removal of the forest vegetation, placement of up to 20 feet of fill, retaining walls and future house construction. It should identify how the presence of underlying glacial till will influence groundwater flow on and off the site. The study should establish both pre-development baseline conditions, as well as monitoring recommendations for post-development conditions. It should have specific recommendations addressing how groundwater impacts on adjacent properties to the west would be mitigated during construction and post-development.

### Drainage, Surface Water and Groundwater

The large scale alteration of the property would radically alter the amount of surface water runoff, as well as groundwater movement on and off the subject property. There is a high likelihood that additional surface and/or groundwater would flow from the project site onto adjacent properties in Rugosa Ridge, including mine. This is because the site naturally slopes down to the west. Placement of a large amount of fill material will put added pressure on the groundwater table, resulting in the water being squeezed out and away from the site. My property sits below the west boundary of the site and could be impacted by changes in groundwater flow. It has existing drainage issues that have required extensive backyard improvements to fix.

French drain. The proposed french drain to be installed across Lots 4-7 will be buried under approximately 10-12 feet of fill dirt (see Sheet 7 of the preliminary plans and Figure 1 below). How will this drain be maintained? What will happen if it fails? Will it be possible to bring equipment into the back yards of future homeowners and dig a 12 foot deep trench? Future property owners will have no incentive to maintain the drain systems because failure would mostly impact other properties outside of the development. My guess is this drain will never be maintained or repaired, and if it fails, it will cause major drainage issues for my property and my neighbors. Such a failure would be nearly impossible to detect and locate, much less to fix. There is also a possibility that future homeowners will cover the drain area with patios and other hard surfacing, making it less effective.

The french drain will flow back to the east in a pipe connected to the detention system. The slope gradient of this pipe is specified at a minimum of 1%, which is barely enough for the water to flow in its intended direction (see Sheet 7). In order to flow back to the east, this drain will need to be installed at a minimum elevation of 393' because the catch basin elevation will be set at 391' (Sheet 7 and Figure 1, below). The french drain collection pipe will be above the existing grade level of approximately 386' to 392'. This is significant because the drain will be at too high of an elevation to capture all of the site's subsurface drainage. It would be located above the layer of glacial till that underlies the site. Because of the site's sloping topography, water is likely pass under the pipe, contact the glacial till layer, and migrate to the west. And what would happen if the site were to experience post-development settlement, changing the gradient of the pipe? Could it potentially stop flowing? These are valid questions since the proposal is to place a massive amount of fill material on the site.

*The effectiveness of this project's subsurface drainage system will be reduced as a result of the applicant's design objective of sending collected water back to the east. System improvements, including the french drain, would be installed at too high of an elevation. The City should require the applicant to prepare an alternative design that places the subsurface drainage collection system at a lower elevation to more effectively capture subsurface water. The design should be prepared in close coordination with a groundwater study and a revised soils study. Long-term access and maintenance provisions should be included for this or any system.*

The applicant's drainage scheme is attempting to re-engineer the natural drainage pattern of the site and direct surface and subsurface water in a manner that is contrary to the forces of gravity. It ultimately will not work and will cause a hazard to downslope properties.

Future dwelling location and improvements. The storm drainage plan (Sheet 7) and Preliminary Storm Drainage Report- 9/28/21 (Figure DC)- shows preliminary building and driveway locations for the lots in the subdivision. For Lots 4, 5, 6 and 7 the pads are shown as being pushed as far east as possible, close to the access road. However, these lots will have views of Puget Sound, which makes it highly likely the future houses will be moved as far west on the lots as possible and closer to the rear setback line in order to capture the views. This means longer driveways than shown on the plans, with a greater amount of impervious area and stormwater runoff.

If the future dwellings on Lots 4, 5, 6, and 7 are to be constructed in the locations shown on the plans, why is it necessary to fill and grade all the way to the west property line?

The future homeowners on Lots 4-7 will likely construct decks, patios and walkway improvements, since these are common and expected improvements for any home. These improvements, if constructed in the rear yard, are likely to cause uncontrolled stormwater runoff that will flow to the west and impact my property and other neighboring properties in Rugosa Ridge.

Retaining wall footing drains. Where do these drains discharge? If they simply infiltrate into the ground, the water will end up in my back yard as well as my neighbors. If they discharge at a point, the applicant should be required to obtain off-site easements for discharge and conveyance of the water, as well as approval from the City. Discharge of water from the retaining wall footing drains to any lot in Rugosa Ridge will adversely impact that lot and must be prohibited by the City. Additional design details should be requested by the City.

The applicant's storm drainage report and plans should be updated to address actual future building locations on Lots 4-7; longer driveways; future back yard improvements; trench drain system design, access and maintenance and; retaining wall footing drain discharge.

#### Grading, Fill, Soils and Erosion Impacts

The project includes a mass grade of the site, resulting in up to 15 - 20' of fill to be placed on the western and southern portions of the property (see Sheet 5 of the preliminary plans). The applicant submitted a Geotechnical Engineering Study dated July 30, 2021.

Use of on-site soils as structural fill. The applicant has proposed using 10,200 cubic yards of soils as structural fill, with approximately 5,100 cubic yards consisting of on-site material and the same amount imported to the site. In evaluating the use of on-site soils for fill, the geotechnical study states the following on page 8:

The in-situ soils encountered at the subject site have a moderate to high sensitivity to moisture and were generally in a damp to moist condition at the time of exploration. Soils anticipated to be exposed on site will degrade if exposed to wet weather and construction traffic. Compaction of the soils to the levels necessary for use as structural fill may be difficult or infeasible during wet weather conditions.

This statement creates doubt as to whether the on-site soils can be used as structural fill. Because they have a "moderate to high sensitivity to moisture" the applicant should be required to submit inspection reports during excavation and placement of fill to verify the use of on-site soils is feasible. If the soils are unsuitable, they will need to be exported from the site and more material imported.

Potential soil erosion impacts during construction. The applicant's environmental checklist states on page 4:

Erosion is not expected to occur as a result of clearing, construction, or use.

This statement is dismissive of potential impacts due to mass grading, site topography and the likelihood of an extended period of soils being exposed to wet weather during construction. Placement of up to 20 feet of fill may require the soils to be "pre-loaded" in order to allow proper settlement and compaction as structural fill. During pre-loading, the soils would be exposed to rain storms and will likely become saturated at times, leading to potential erosion impacts. If erosion occurs, it will likely impact downslope properties to the west and south of the site, and possibly Hargreaves Place. Potential soil erosion impacts during construction need to be identified in the application documents and analyzed by the City during the project review.

#### SEPA Analysis

The City of Mukilteo should conduct a thorough analysis of the project under SEPA. This includes impacts under the following elements of the environment:

- (a) Earth (erosion, grading and retaining walls)
- (b) Water (ground and surface water)
- (c) Plants and Animals (additional wildlife on site not mentioned in the environmental checklist, including mountain beaver, owls, hawks, and eagles)

- (d) Aesthetics (visual impacts and compatibility; building height).
- (e) The SEPA responsible official should use his/her authority under MMC 17.84.160 to require a review of alternative design(s) with reduced impacts on surrounding properties, and to place conditions on the development. The cumulative impacts of this project related to surface water and drainage, combined with the impacts of the recently approved project to the north (SP 17-003) should be considered.

This letter provides additional details in support of issues raised in my previous comment letter dated November 30, 2021 on the proposed subdivision.

#### 1. Surface Water/Drainage Impacts.

A. Off-site analysis. The off-site study area in the preliminary storm drainage study stops at the existing storm-drain outfall located at Hargreaves Place. It does not evaluate any open channel portions of the downstream flow path. The project will require new storm drainage pipe to connect the proposed detention vault to the existing 92nd Street storm drain. The ¼ mile off-site analysis should be extended downstream as measured from the furthest downstream improvement required within the city's storm drain system. If system improvements are required to the 92nd Street/ Hargreaves Place storm system, this information should be included in the drainage study. Based on existing downstream erosion issues in Smuggler's Gulch Creek, the City should use its authority to require a quantitative analysis under section 3.5.12 of the City's Development Standards (2019 amendment) and DOE Manual.

B. Impacts on Smuggler's Gulch Creek during construction. Until the storm detention vault is fully completed and operational, stormwater flows from the site during construction will run north (not south) along 53rd and enter Smuggler's Gulch Creek. The drainage study does not address temporary impacts on stormwater runoff and erosion of the creek during construction. Further analysis must be provided.

C. Bypass Basin. The drainage study identifies a "bypass basin" consisting of 0.46 acres of land that will not drain to the detention vault (see pages 4.3, 4.4 and Developed Conditions Exhibit and Figure 1 below). This area is located along the west and south property lines of the project site and directly abuts several properties in Rugosa Ridge. The drainage study contains no analysis of potential impacts on adjacent properties and must be amended to address this issue since nearly 20% of the developed project site will bypass the storm system and flow to adjacent properties. The amount of runoff generated post-development from the bypass basin would exceed runoff from existing conditions as a result of removal of all existing vegetation. This information also supports a requirement for a groundwater study.

Figure 1 – Detention Vault "Bypass Basin" Area (highlighted in yellow)

D. R.O.W. dedication and future frontage improvements on 53rd Ave. W. The City's requirement for a dedication of 10 feet of right-of-way on 53rd would seem to imply frontage improvements (street widening and/or sidewalk) will be needed. The drainage study should account for any additional impervious area tied to this project's need for frontage improvements, whether they are built now or at some point in the future. This obligation should not be passed on to the City of Mukilteo and taxpayers.

E. TESC Plan (Sheet 4 of 12). The TESC plan shows a "temporary interceptor swale" that apparently is intended to collect surface flows and route them east to a sediment trap, which appears to discharge to a swale in 53rd at an approximate elevation of 402 feet. However, no elevation data is provided for the swale itself. Since positive flow is required from all portions of the interceptor swale to the sediment trap discharge point, a likely scenario is that the lowest point of the swale will need to be at least 405' elevation. This will be at too high of an elevation



to effectively prevent stormwater runoff and erosion impacts on adjacent properties, which are at a much lower elevation of around 380' or less.

An additional concern is the timing of the installation of the interceptor swale. At its proposed location, the swale cannot be installed until the clearing and fill placement phases of the project are complete, which increases the risk of an erosion/runoff event affecting adjacent properties during construction.

#### Areas of 35%-40% slopes

The City should require installation of the interceptor swale along the western boundary of the property, at the lowest elevation, not at the 405' level as proposed. The most effective timing of swale installation would be immediately following the clearing phase of construction and prior to the grading/fill phase. Appropriate easements for conveyance and discharge of temporary stormwater runoff must be obtained by the applicant, in addition to approval by the city for the discharge point.

2. Groundwater/Hydrology Study. The need for a groundwater/hydrology study is further supported by the following:

A. 15.16.050.C.2.b.i.(b), which requires a slope and hydrology report when clearing/grading on slopes greater than 35%. The south and southwest portions of the site contain slopes greater than 35% (see Figure 2 below from Grading Plan, Sheet 5). I calculated slopes up to 40%.

#### *Figure 2 – Areas of 35-40% slopes*

B. 15.16.060.D.6. and D7, which require a groundwater component in the geotechnical study. The study provided with the application addresses groundwater in a cursory manner—it does not provide any analysis of the proposed large-scale grading and fill project on groundwater, particularly as it would affect the adjacent properties.

3. Grading and Retaining Walls. Subsection 15.16.140.C requires the incorporation of “special precautions” to protect adjoining properties from impacts. How has this requirement been met by the proposed project design? Based on previously described impacts, the project design should be revised by the applicant to demonstrate consistency with this standard. 4

4. Risk Analysis. As a means of disclosing and evaluating impacts on adjoining properties, the City should conduct an analysis of the following:

A. Probable effects of a major storm event that exceeds the design capacity of the proposed storm detention vault;

B. Risk of retaining wall failure given size and proximity to adjacent properties;

C. Risk of erosion during construction and post development; and

D. Risk of settlement of fill areas.

#### **(17) John Cole 9150 53<sup>rd</sup> Avenue W:**

My biggest concern with the proposed development is the drastic change of landscape and the negative impact it will have on surface water. The removal of so many significant trees and vegetation will no doubt effect those who live to the west (and downhill) of this property. There is already a massive amount of groundwater running through this property. I was involved with the construction of two homes on Hargreaves Pl, and witnessed this first hand.

The Mukilteo Watershed Based Stormwater Strategies Plan from May of 2013 also addresses this topic. There are many interesting takeaways from the findings. In regards to this

development, section 4.4 addresses the integration of the Stormwater Strategies Plan with the Comprehensive Land Use Plan. It seems a LID would be much more in line with this property than what is proposed.

There was a similar development put in only a couple hundred feet to the south of this proposed development several years ago. The houses were built on 52nd Ave W. The wetland below the development now becomes inundated and overflows when we get heavy rain events. The house (I believe 5304 92nd St SW) now requires a large pump to be used to keep from flooding during these events. I believe the City of Mukilteo provides this.

**(18)                      Juanito C. Borromeo III 9031 Surrey Lane:**

I would just like to address my concern about the environmental impact of this project (Harbor Groove Subdivision Preliminary 9110 53rd Ave W). Specifically the rapid erosion of the creek south of my property (9031 Surrey Ln SW, Mukilteo WA).