

## Memo

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**To:** Ruji Ding, P.E.  
**From:** Joe Tafin, P.E.  
**CC:** Wes Geisbrecht, Cayson Fields LLC  
 Scott McMillen, Architectural Innovations, P.S.  
**Date:** December 14, 2021

**Subject:** Pratt Plat – Proposed Stormwater Conditions at Lot 5

The Lot 5 house plans for the Pratt Plat short plat development, located at 7233 80<sup>th</sup> Ave SE, in Mercer Island, have been submitted for building permit. This memo serves to document the proposed stormwater management conditions proposed for Lot 5 and conformance with the requirements established with the approved Preliminary Plat, dated November 17, 2017 (SUB16-007 and SEP16-021), and the Final Engineering Plans, dated September 19, 2019 (1903-061).

## Planned Conditions

The Pratt Plat (aka Cayson Fields) development is a 6-lot single family residential development located at 7233 80<sup>th</sup> Ave SE in Mercer Island, Washington. The development has been mass graded and utilities have been installed per the approved Final Engineering Plans, dated September 19, 2019. Per the approved plat, the development of the lots shall conform to the following coverage requirements:

Table 1: Lot Information

LOT #	GROSS FLOOR AREA CALCULATIONS		LOT SLOPE CALCULATIONS				LOT COVERAGE CALCULATIONS	
	LOT AREA (SF)	MAX GROSS FLOOR AREA (SF)	HIGHEST ELEVATION (FT)	LOWEST ELEVATION (FT)	SHORTEST DISTANCE (FT)	LOT SLOPE (%)	GROSS MAX LOT COVERAGE (SF)	NET MAX LOT COVERAGE (SF)
1	10,429	4,693	296.8	290.3	150	4.3%	40%	4,172
2	10,348	4,657	303.8	294.0	143	6.9%	40%	4,139
3	10,298	4,634	313.1	300.5	143	8.8%	40%	4,119
4	10,458	4,706	320.9	307.9	146	8.9%	40%	4,183
5	18,938	8,522	314.5	298.2	256	6.4%	40%	7,575
6	12,490	5,621	295.9	287.4	150	5.7%	40%	4,996

Lot 5 has been highlighted in Table 1 above.

Lot 5 as proposed with this building permit submittal is as follows:

## LOT INFORMATION

LOT#	LOT AREA (SF)	LOT COVERAGE CALCULATIONS			
		GROSS MAX LOT COVERAGE ALLOWED (% / SF)		GROSS MAX LOT COVERAGE PROVIDED (% / SF)	
5	18,938	40%	7,575	30.5%	5,778

As illustrated in the table above, the gross lot coverage is 30.5%, which is below 40%. Gross Floor Areas are documented by the architect in the house building plans.

## Proposed Stormwater Management

The Lot 5 house roof area runoff will be collected in roof drains and routed down to a below-grade roof drain leader pipe that will wrap around the house and connect to the storm stub connection from the storm main in the street that was constructed with the Final Engineering Plans. The storm stub connects directly to the detention vault further west in the development. The storm stub invert is 296.83 while the main floor elevation is proposed to be 307.00.

The driveway will surface flow into the street where it will be collected by a catch basin along the lot frontage. From the catch basin, runoff will be routed to a water quality filter vault, which will discharge treated stormwater runoff to the detention vault.

The foundation drainage will be collected by a 4-inch perforated PVC pipe that wraps around the basement foundation and connects to the catch basin located at the NW corner of the hammerhead road, just west of Lot 5, since the foundation drain is lower than the available stormwater stub from the storm main in the street. The basement floor elevation is at 296.41 while the storm stub is at 296.83. The connection to the catch basin can be made at elevation 292.55 (4" IE), matching crowns for the 8" pipe discharge from the CB (8" invert 292.22).

