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ENGINEERING, SURVEYING & PLANNING
LANDSCAPE ARCHITECTURE, GIS
NATURAL RESOURCE SERVICES

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An analysis of the intersection using Traffic counts from 2021 and Highway Capacity Software shows that the intersection of W 3000 S and SH 33 will soon go from the current LOS of C/D to an LOS of E/F regardless of whether or not the subdivision is constructed.

A closer inspection reveals that the failure of the eastbound and westbound legs of the intersection in the no build scenario occur either in the same year as, or one year later than the build scenario, with a difference in service delay of only a few seconds. This indicates that the construction of the subdivision plays a very limited role in the failure of the intersection. Given that 2021 traffic counts combined with the predicted growth rate would cause an AM peak hour increase of 420 vehicles on SH 33 (993 to 1413) and a PM peak hour increase of 543 vehicles (1282 to 1825) in 2030, the trips generated by the subdivision contribute a relatively minor portion of the overall traffic. Only 18 trips are generated during the AM peak hour, while 24 trips are generated during the peak PM hour, accounting for approximately 4% of the total volume in either scenario.

The attached tables show the predicted levels of service and expected service delay for the eastbound and westbound legs of the W 3000 S and SH 33 intersection through 2030.

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LOS/Service Delay by year for the Build/No Build scenarios.

	Eastbound AM					Eastbound PM				
	No Build		Build			No Build		Build		
Year	Delay (sec)	LOS	Delay (sec)	LOS	Difference (sec)	Delay (sec)	LOS	Delay (sec)	LOS	Difference (sec)
2021	19.0	C	19.3	C	0.3	27.7	D	28.9	D	1.2
2022	19.9	C	20.3	C	0.4	29.7	D	31.1	D	1.4
2023	21.2	C	21.6	C	0.4	32.3	D	33.9	D	1.6
2024	22.5	C	23.0	C	0.5	35.0	E	36.9	E	1.9
2025	23.9	C	24.5	C	0.6	41.9	E	44.2	E	2.3
2026	25.8	D	26.5	D	0.7	46.3	E	48.9	E	2.6
2027	27.8	D	28.6	D	0.8	46.3	E	49.1	E	2.8
2028	30.2	D	31.1	D	0.9	51.5	F	54.8	F	3.3
2029	33.5	D	34.6	D	1.1	58.4	F	62.5	F	4.1
2030	36.9	E	38.0	E	1.1	66.6	F	71.1	F	4.5

	Westbound AM					Westbound PM				
	No Build		Build			No Build		Build		
Year	Delay (sec)	LOS	Delay (sec)	LOS	Difference (sec)	Delay (sec)	LOS	Delay (sec)	LOS	Difference (sec)
2021	19.2	C	21.1	C	1.9	29.2	D	31.3	D	2.1
2022	20.4	C	22.1	C	1.7	31.4	D	34.1	D	2.7
2023	21.4	C	23.8	C	2.4	34.2	D	37.4	E	3.2
2024	23.1	C	25.5	D	2.4	38.8	E	41.0	E	2.2
2025	24.4	C	27.8	D	3.4	40.8	E	45.4	E	4.6
2026	26.6	D	29.9	D	3.3	45.0	E	50.7	F	5.7
2027	28.4	D	33.2	D	4.8	50.4	F	58.8	F	8.4
2028	31.5	D	37.5	E	6.0	59.5	F	67.0	F	7.5
2029	35.4	E	41.9	E	6.5	68.1	F	78.4	F	10.3
2030	40.3	E	48.6	E	8.3	74.9	F	92.2	F	17.3

Osprey Landing Subdivision
Preliminary Plan Engineering Cost Estimate

GENERAL CONTRACT ITEMS				
Item	**Quantity**	**Unit**	**Unit Price**	**Total Cost**
Mobilization, Demobilization and General Contract Requirements	1	LS	17,194.89	$ 17,195
Traffic Control	1	LS	34,389.78	$ 34,390
Stormwater Prevention Plan and Implementation	1	LS	8,597.44	$ 8,597
Contingency	1	LS	25,792.33	$ 25,792
			SUBTOTAL=	$ 85,974

DEMOLITION				
Item	**Quantity**	**Unit**	**Unit Price**	**Total Cost**
Mill Existing Asphalt	9600	SF	2.00	$ 19,200
Remove Existing Base	9600	SF	1.00	$ 9,600
Remove Existing Signs & Poles	4	EA	60.00	$ 240
Remove Existing Striping	1600	LF	1.00	$ 1,600
Remove Existing Turn Arrows	2	EA	50.00	$ 100
			SUBTOTAL=	$ 30,740

ROAD CONSTRUCTION				
Item	**Quantity**	**Unit**	**Unit Price**	**Total Cost**
Asphalt (Hot Plant Mix)	330	Ton	330.00	$ 108,900
2" Minus Gravel	144	CY	61.00	$ 8,811
Structural Fill	289	CY	65.00	$ 18,778
Earthwork (Cut & Fill)	50	CY	16.00	$ 800
Striping (4" wide)	2120	LF	1.00	$ 2,120
Turn Arrows	8	EA	25.00	$ 200
			SUBTOTAL=	$ 139,609

SITE AMENITIES & LANDSCAPING				
Item	**Quantity**	**Unit**	**Unit Price**	**Total Cost**
Replace Street and Site Signs	4	EA	400.00	$ 1,600
			SUBTOTAL=	$ 1,600

TOTAL ESTIMATED PROJECT COST=	$ 257,923

Note: This is an estimate only based on preliminary design. Unit costs and quantities may vary. Also, prices are based on the date of preparation, which is 8-28-2024. Construction costs vary drastically and may be significantly different at the time of construction.