June 25, 2009

Matthew Cassel, P.E. Park City Engineer 445 Marsac Avenue P.O. Box 1480 Park City, UT 84060-1480

RE: Sixth Addendum to the Treasure Hill Traffic Impact Analysis, July, 2004 Intersection Operations Limiting Development Traffic on Empire Avenue

Dear Mr. Cassel,

Project Engineering Consultants (PEC) has performed a re-analysis of the anticipated traffic impacts of the site traffic on the local street system. This new analysis is due to changes to the development plan made to minimize the use of Empire Avenue south of Manor Way by traffic to and from the development.

The proposed change affects the traffic projections and analysis at the Manor Way intersections with Lowell Avenue and Empire Avenue. The original traffic study analyzed the traffic operations for both the Design Non Ski-Day and the Design Ski-Day. Because the Design Ski-Day is the "worst case" this re-analysis includes only that scenario. The results of the re-analysis are presented in Table 1 below. The highway capacity output sheets for each analysis run are attached.

Table 1 – Design Ski-Day Summary

	Empire	/ Manor	Lowell / Manor					
	AM Peak	PM Peak	AM Peak	PM Peak				
Total Intersection	A / 8.6	B/10.6	A / 7.7	B/11.4				
Northbound	A / 7.9	A / 8.6	A / 7.3	B / 10.7				
Southbound	A / 8.1	A / 9.4	A / 7.9	B/12.3				
Eastbound	A / 9.2	B/11.7	N/A	N/A				
Westbound	N/A	N/A	A / 8.3	B/11.3				
Legend: A / 8.7 A = Level of Service 8.7 = Delay Time in Seconds								

By moving that portion of the site traffic that was previously projected to use Empire Avenue over to Lowell Avenue, some of the traffic movements at the analysis intersections are projected to experience less delay, while other movements will experience increased delay. The net effect at both intersections is a minor increase in total intersection average delay. Both intersections are still projected to operate well within acceptable levels of delay in both the AM and PM peak periods on ski-days.



Page 2 of 2

After a review of this addendum, if there are any questions or need for further clarifications, please contact me at your earliest convenience.

Respectfully,

Project Engineering Consultants

H.K.

Gary Horton, P.E.

Principal

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General Information	1			Site Infor	mation				
Analyst	KJF			Intersection Manor/Empire					
Agency/Co.	PEC			Jurisdiction	Jurisdiction Park City				
Date Performed		6/25/2009			ır	Tota/	Traffic - Ski Day		
Analysis Time Period	AM Pe	ak							
Project ID <i>Treasure Hill TIA</i>									
East/West Street: Manor V				North/South	Street: <i>Empire P</i>	venue			
Volume Adjustment	s and Site Cl								
Approach Movement	L		Eastbound T	R		We	estbound T	D	
Volume	17	a	0	2	L 0		0	R 0	
%Thrus Left Lane	50				50				
Approach			Northbound		30	50	uthbound		
Movement	L	<u>'</u>	T	R L			T	R	
/olume	2		41	0	0		53	117	
%Thrus Left Lane	5)			50				
		bound	\\\	Westbound		bound	Sout	nbound	
		1	_			T		1	
Configuration	L1	L2	Ł1	L2	£1	L2	L1	L2	
Configuration	LR	ļ			LT		TR		
PHF Flow Rate	0.90				0.90		0.90		
	200		_		47		188		
% Heavy Vehicles No. Lanes	0	1			0	1	0	<u> </u> 1	
		1		0		<u>1</u> 1		1	
Geometry Group					.25	1		1	
Duration, T				U	.20				
Saturation Headway		Workshee	et			1			
Prop. Left-Turns	1.0				0.0		0.0		
Prop. Right-Turns	0.0				0.0		0.7		
Prop. Heavy Vehicle									
nLT-adj	0.2	0.2			0.2	0.2	0.2	0.2	
nRT-adj	-0.6	-0.6			-0.6	-0.6	-0.6	-0.6	
nHV-adj	1.7	1.7			1.7	1.7	1.7	1.7	
adj, computed	4.61				4.61		4.61		
Departure Headway		Time				1			
nd. initial value	3.20	I			3.20	1	3.20	T	
, initial	0.18		_		0.04		0.17	 	
nd, final value	4.61				4.61		4.61		
, final value	0.26				0.06		0.21		
Nove-up time, m	2.	0			2.	0		0	
Service Time	2.6	-	2.6		2.6	_	2.6	Ť	
Capacity and Level				1	,	1			
		oound	10/-	ethound	NI a	hound	Carin	bound	
				estbound		bound			
	L1	L2	L1	L2	L1	L2	L1	L2	
apacity	450				297		438		
elay	9.18				7.90		8.12		
os	Α				Α		Α		
pproach: Delay		9.18 7.90 8.12							
LOS	–	A			7			4	
				0	.58	1		1	
ntersection Delay					. 58 A				

		ALL-W	AY STOP	CONTROL	ANALYSI	 S				
General Information	n			Site Infor	mation					
Analyst	KJF	K.IF				Mano	Manor/Empire			
Agency/Co.	PEC						rk City			
Date Performed	6/25/			Analysis Yea	r	Total	Traffic - Ski Day			
Analysis Time Period	PM F	PM Peak								
Project ID <i>Treasure Hill TIA</i>										
East/West Street: Manor I	Nay			North/South S	Street: <i>Empire A</i>	venue				
Volume Adjustmen	ts and Site C	haracte								
Approach			Eastbound			We	estbound			
Movement	1	92	T	R	L 0		T 0	R		
Volume			U	0 16			U	0		
%Thrus Left Lane		50			50					
Approach Movement			Northbound T	R	L	Sou	uthbound T	R		
Volume		2	55	0	0		85	130		
%Thrus Left Lane		50		U	50			700		
76 Tillus Lett Laile							<u></u>			
	Eas	stbound	W	estbound	North	bound	Sout	nbound		
	L1	L2	L1	L2	L1	L2	L1	L2		
Configuration	LR				LT		TR			
PHF	0.90				0.90		0.90			
Flow Rate	341				63		238			
% Heavy Vehicles	0				0		0			
No. Lanes		1		Ö		1		1		
Geometry Group		1			1					
Duration, T			•	0.	.25					
Saturation Headway	y Adjustmen	t Worksł	neet							
Prop. Left-Turns	1.0				0.0		0.0			
Prop. Right-Turns	0.0				0.0		0.6			
Prop. Heavy Vehicle	0.0	+			+ 0.0					
	0.2	0.2			0.2	0.2	0.2	0.2		
hLT-adj										
hRT-adj	-0.6	-0.6			-0.6	-0.6	-0.6	-0.6		
hHV-adj	1.7	1.7			1.7	1.7	1.7	1.7		
hadj, computed	4.79				4.79		4.79			
Departure Headway	and Service	Time								
hd, initial value	3.20				3.20		3.20			
x, initial	0.30				0.06		0.21			
nd, final value	4.79				4.79		4.79			
k, final value	0.45				0.09		0.30			
Move-up time, m	2	2.0			2.	0	2	.0		
Service Time	2.8		2.8	I	2.8		2.8			
Capacity and Level		***************************************					***************************************			
, , , , , , , , , , , , , , , , , , , ,		tbound	We	estbound	North	bound	South	nbound		
***************************************	L1	L2	L1	L2	L1	L2	L1	L2		
Capacity	591				313		488			
Delay	11.70				8.60		9.43			
										
_OS	В	1			A		A			
Approach: Delay		1.70			8.6			43		
LOS		B A A								
ntersection Delay		10.55								
ntersection LOS					В					
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		ALL-W	VAY STOP	CONTROL	ANALYSI	S			
General Information				Site Infor	mation				
Analyst	KJF			Intersection		Mano	anor/Lowell		
Agency/Co.	PEC			Jurisdiction					
Date Performed	6/25/2009			Analysis Yea	ır	Total	Traffic - Ski Day	,	
Analysis Time Period	AM Pe	ak							
Project ID Treasure Hill TIA -	Addendum 6								
East/West Street: Manor Wa	У			North/South S	Street: Lowell Av	venue			
Volume Adjustments	and Site Cl	naracte					·		
Approach Movement			Eastbound	1		We	stbound		
Volume	0		T	R 0	94		T 0	0 0	
%Thrus Left Lane	50		U	0 0			. 0		
Approach			Northbound		50	Sou	ıthbound	<u></u>	
Movement	L	Т	T	<u></u>			T	R	
Volume	0		0	140	37		32	0	
%Thrus Left Lane	5	0			50				
	Eastbound		W	estbound	North	bound	Sout	hbound	
	L1	L2		L2	L1	L2	L1	L2	
Configuration	-		L	1	R		LT		
PHF			0.90		0.90		0.90		
Flow Rate			104		155		76		
% Heavy Vehicles			0		0		0		
No. Lanes	1 ,)		1		1	<u> </u>	1	
Geometry Group	 			1					
Duration, T				. 0	25		-		
Saturation Headway	Adiustment	Works	heet	_					
Prop. Left-Turns	T	1	1.0		0.0		0.5		
Prop. Right-Turns			0.0		1.0		0.0		
Prop. Heavy Vehicle			0.0		70		0.0		
hLT-adj		1	0.2	0.2	0.2	0.2	0.2	0.2	
hRT-adj		1	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed			0.00	1.7	0.00	1.1	0.00	1.7	
Departure Headway a	nd Comico	Time	1 0.00		0.00	1	0.00	1	
	T Service	Time	1 2 20		1 2 20	1	1 220	1	
hd, initial value x, initial	+	-	3.20 0.09		3.20 0.14		3.20 0.07		
hd, final value			0.09		0.74		0.07		
x, final value			0.00		0.16		0.00		
Move-up time, m		<u> </u>		2.0	0.76	0		2.0	
Service Time				2.0	2.	1		I	
Capacity and Level o	f Service	<u> </u>				4			
Capacity and Level o		oound	\/\/	estbound	North	bound	Sout	hbound	
	L1	L2		L2	L1	L2	L1	L2	
Consoitu	L'	LZ		LZ	-	LZ		L2	
Capacity			354		405		326	-	
Delay	-	ļ	8.27	-	7.31		7.86		
Los			A	0.07	A -	1	A		
Approach: Delay				8.27	7.3			86	
LOS				Α	<i></i>	1	,	A	
Intersection Delay					.73	·			
Intersection LOS					A			***	
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		ALL-	WAY STOP	CONTROL	ANALYSI	S		
General Information				Site Infor	mation			
Analyst	K.I.	KJF				or/Lowell		
Agency/Co.		PEC				Park		
Date Performed		5/2009		Analysis Yea	r	Total	Traffic - Ski Day	
Analysis Time Period	PN	l Peak						
Project ID Treasure Hill TIA								
East/West Street: Manor V				North/South S	Street: Lowell A	/enue		
Volume Adjustment	s and Site	Charact						
Approach			Eastbound		L	We	estbound	
Movement Volume		0	0	T R 0			T 0	R
%Thrus Left Lane		50	0	 	180 50		0	U
		30	Nonthbound	J	30		. the house of	
Approach Movement		L	Northbound T	R	L	500	uthbound T	R
Volume		0	0	327	181		112	0
%Thrus Left Lane		50		02.	50			<u> </u>
70111100 2011 2011		Eastbound	1/2	/estbound		bound	Court	nbound
				- 1				
	L1	- L	2 L1	L2	L1	L2	L1	L2
Configuration			L		R		LT	
PHF			0.90		0.90		0.90	
Flow Rate			200		363		325	
% Heavy Vehicles			0		0		0	
No. Lanes		0		1		1		1
Geometry Group				1		1		1
Duration, T				0	.25			
Saturation Headway	Adjustme	nt Works	sheet					
Prop. Left-Turns			1.0		0.0		0.6	
Prop. Right-Turns	-		0.0		1.0		0.0	
Prop. Heavy Vehicle								
hLT-adj			0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj			-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
-								
hHV-adj			1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed			0.00		0.00		0.00	
Departure Headway	and Servi	ce Time						
hd, initial value			3.20		3.20		3.20	
x, initial			0.18		0.32		0.29	
hd, final value			0.00		0.00		0.00	
x, final value			0.32		0.44		0.46	
Move-up time, m				2.0	2.0		2.0	
Service Time		1		1				
Capacity and Level	of Service							
	E	astbound	N	estbound	North	bound	South	nbound
	L1	L	2 L1	L2	L1	L2	L1	L2
Capacity			450		613		575	
Delay			11.32		10.73		12.28	
LOS			B		B		B	
Approach: Delay				11.32	10.	73		28
LOS	_			В	E)	<u> </u>	5
ntersection Delay					1.43			
ntersection LOS	L	Rights Reser			M Version 5.1			