

## **APPENDIX D**

**Excel Computer Program of Dynamic Damper Applied Proceeding on 183-m High Building in Exposure B**

Program 4 Table of proceeding of applying dynamic dampers on 183-m high building in exposure B

Dynamic Damper	H	W	K	3.5/(0.1H)	D	(sqrD)/0.09H	Avg $n_D$	$C_{-H}$	$V_H$
Uncontrol	183	30.5	0.1	0.1912568	30.5	0.335317578	0.263287	1.898	36.50839
TLD	183	30.5	0.1	0.1912568	30.5	0.335317578	0.263287	1.898	36.50839
MTLD	183	30.5	0.1	0.1912568	30.5	0.335317578	0.263287	1.898	36.50839
TMD	183	30.5	0.1	0.1912568	30.5	0.335317578	0.263287	1.898	36.50839
MTMD	183	30.5	0.1	0.1912568	30.5	0.335317578	0.263287	1.898	36.50839
Dynamic Damper	B	S	$X_o$	F	$\beta_D$	$\sigma/\mu$	$v$	T	$\ln Tv$
Uncontrol	0.616	0.07	8.8	0.2306585	0.015	0.301877793	0.211263	3600	6.634039
TLD	0.616	0.07	8.8	0.2306585	0.032	0.24417138	0.177719	3600	6.461137
MTLD	0.616	0.07	8.8	0.2306585	0.035	0.240003638	0.17396	3600	6.439759
TMD	0.616	0.07	8.8	0.2306585	0.037	0.23715498	0.171225	3600	6.423914
MTMD	0.616	0.07	8.8	0.2306585	0.039	0.23444598	0.168488	3600	6.407800
Dynamic Damper	$g_p$	$C_g$	q	Cpl	Cpw	Cel	Cew	PI	Pw
Uncontrol	3.800	2.15	46.5	0.5	0.8	1.342080885	0.140303	67.05	11.21523
TLD	3.755	1.92	46.5	0.5	0.8	1.342080885	0.140303	59.85	10.01145
MTLD	3.749	1.9	46.5	0.5	0.8	1.342080885	0.140303	59.32	9.922588
TMD	3.745	1.89	46.5	0.5	0.8	1.342080885	0.140303	58.95	9.861577
MTMD	3.741	1.88	46.5	0.5	0.8	1.342080885	0.140303	58.60	9.803327
Dynamic Damper	$\wedge$	q	D	g	lb	H	3.5/(0.1H)	W	(sqrW)/0.09H
Uncontrol	0.5	456	30.5	9.81	200	183	0.191257	30.5	0.335317
TLD	0.5	456	30.5	9.81	200	183	0.191257	30.5	0.335317
MTLD	0.5	456	30.5	9.81	200	183	0.191257	30.5	0.335317
TMD	0.5	456	30.5	9.81	200	183	0.191257	30.5	0.335317
MTMD	0.5	456	30.5	9.81	200	183	0.191257	30.5	0.335317
Dynamic Damper	Avg $n_w$	$a_r$	$\beta_w$	$a_w$	D	$a_D/g$	$a_w/g$		
Uncontrol	0.263	11.6	0.015	0.3885654	0.174	0.02077311	0.039609		
TLD	0.263	11.6	0.032	0.2612082	0.155	0.013964461	0.026627		
MTLD	0.263	11.6	0.035	0.2509384	0.154	0.01341543	0.02558		
TMD	0.263	11.6	0.037	0.2437874	0.153	0.01303313	0.024851		
MTMD	0.263	11.6	0.039	0.2368784	0.152	0.012663763	0.024147		