Dynamic Response of High Rise Structures under The Influence of Shear Walls

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ABSTRACT :This have a look at provides the technique for seismic overall performance estimation of excessive-rise homes primarily based on a concept of the capacity spectrum method. In 3D analytical version of thirty storied buildings were generated for symmetric homes Models and analyzed the usage of structural evaluation tool ETABS. The analytical model of the constructing includes all essential components that have an effect on the mass, power, stiffness and deformability of the shape. To study the effect of concrete core wall & shear wall at extraordinary positions for the duration of earthquake, seismic evaluation the use of both linear static, linear dynamic and non-linear static system has been finished. The deflections at every storey stage has been compared by using appearing Equivalent static, response spectrum approach in addition to pushover technique has also been carried out to determine potential, demand and performance level of the considered building fashions. From the underneath research it has been determined that non-linear pushover analysis provide excellent estimate of world as well as local inelastic deformation needs and also exhibits design weakness that could remain hidden in an elastic analysis and additionally the 1893-2002) in Equivalent static, linear dynamic & nonlinear static evaluation.

Keywords: Shear Wall, Story Drift, Displacement, ETABS, High Rise Buildings

I.INTRODUCTION

Vibrations in the tall structures are for the most part due to either ground movements because of seismic or solid breezes .In the two conditions, the instrument that impacts the shaking qualities of tall structures is the dynamic Soil-Structure Interaction (SSI), which is for the most part affected by the dirt properties supporting the structure. In the customary technique for outline of structures, for the most part the impacts of soil supporting the structure are not considered. In any case, past seismic tremor demonstrated that on the off chance that we disregard soil-structure connection impact it will prompts serious harms and misfortunes of lives particularly when supporting soil is delicate soil. The procedure in which the reaction of the dirt impacts the movement of the structure and movement of the structure impacts the reaction of the dirt is called as soil-structure communication (SSI). In tall structures sidelong loads are basic one, shear divider is one of the auxiliary component which is extremely effective in opposing parallel load. The significance of shear dividers in the auxiliary arranging of multi-story structures assumes an essential job. At the point when dividers are arranged

in worthwhile positions in a building, they can be exceptionally productive in opposing sidelong loads beginning from wind or tremors. There has been an impressive increment in the development of tall structures both private and business and the advanced pattern is towards more tall and thin structures. Along these lines the impacts of sidelong loads like breeze loads, seismic tremor loads and impact powers are achieving expanding significance and relatively every fashioner is looked with the issues of giving satisfactory quality and soundness against horizontal burdens. Shear divider framework is a standout amongst the most ordinarily utilized parallel load opposing framework in elevated structures. Shear divider has high in plane firmness and quality which can be utilized to at the same time oppose huge flat loads and bolster gravity loads, which altogether lessens sidelong influence of the building and along these lines decreases harm to structure and its substance.

PERFORMANCE EVALUATION

Auxiliary conduct under seismic stacking requires a comprehension of the conduct under expansive inelastic misshapenings .Nonlinear Static Procedure/Pushover examination can be utilized to assess building stacked past the flexible range. The limit range strategy is a standout amongst the most settled and broadly acknowledged removal based seismic outline technique which is utilized for execution based seismic plan. The utilization of shear dividers in the seismic tremor safe auxiliary arrangement of fortified solid structures isn't regularly in quake inclined nations. By and by, the exercises gained from the seismic conduct of Chilean structures amid the March 3, 1985 quake, demonstrate that palatable seismic conduct might be accomplished amid extreme tremor occasions, when the aggregate sum of divider cross segments is sufficiently expansive, i.e., 0.02 to 0.03 times the floor plan territory toward every path of seismic opposition for structures up to 25-story high. In this occasion, both flexural yielding of limit fortification and shear minutes in dividers were kept at a direct level, nonstructural harm was enough controlled because of the huge sidelong firmness of the auxiliary framework, and crumple of this sort of structures was for all intents and purposes forestalled. The even cooperation minutes between the dirt and the establishment are ostensibly more dangerous than the vertical minutes, as relatively little is thought about permissible seismic inactive weights and the impact of seismic dynamic weight in various establishment circumstances. As per The Council of Tall Buildings and Urban Habitat, the portrayal of 'Tall building', proportionate to 'Elevated structure' utilized in this, is: "A building whose stature makes diverse conditions in the plan, development, and use than those that exist in like manner structures of a specific area and period. A customary tallness cutoff between skyscraper and low-ascent structures is 35 meters or 12 stories. This qualification is utilized as 12-stories are by and large thought to be the base stature expected to accomplish the physical nearness to acquire the acknowledgment as an "elevated structure". The twelve-story confine is likewise observed as a trade off among aspiration and reasonability for use in characterization of structures in an overall database.

STRUCTURAL TYPES

The huge development in tall structures was proposed by Khan and Rankine (1980)[5], who proposed utilizing an empty thin-walled tube with punched gaps to shape the outside of structures. By decreasing the separating of outside segments, the whole arrangement of shafts and segments lying on the outer edge of a building can be made to go about as a punctured or confined tube. The investigation strategies Ali (2001)[1] for RC elevated structures have extraordinary necessities unique in relation to low-to-center ascent structures, particularly for the average auxiliary framework that comprises of thin individuals in casings and more RC stocky basic dividers. The complexities of solid properties, divider outline communication and three-dimensional impacts should be represented in basic demonstrating. Seismic tremor catastrophe had

dependably been one of the colossal normal cataclysms trust upon the humankind since time immemorial and getting its wake untold tragedies and hardship to the general population influenced. Indian subcontinent has been knowledgeable about the absolute most serious seismic tremor on the planet. Rearranged approaches for the seismic assessment of structures, which represent the inelastic conduct, for the most part utilize the aftereffects of static fall investigation to characterize the worldwide inelastic execution of the structure. At present, for this reason, the nonlinear static technique (NSP) which is portrayed in FEMA-273/356 and ATC-40 (Applied Technology Council, 1996) archives are utilized. Presently a days we are seeing a quickly expanding the expense of land not just in India even everywhere throughout the world and furthermore we have to safeguard our imperative agrarian beneficial land as well. All contributed towards both private and business structures development vertical way that is elevated structure. Conduct of these skyscraper structures particularly with unpredictable design amid risks like tremor, wind are these days prime point of investigation of auxiliary building. Numerous structures in the present days have sporadic arrangements to fulfill engineering needs or some other reason .leads both arrangement and rise anomaly. These anomalies in the structure results in the sporadic circulations in their mass, Stiffness and quality along the height of building. The Sudden varieties in basic solidness are not alluring for better execution of the structures amid common crisis.

SCOPE OF THE STUDY

Seismic tremors are the one which are very unusual and crushing out of every single cataclysmic event, the loss of human, creature life and disappointment of structure against it incredible. It was seen that structure with basic and normal design would be advised to performed in the past quake contrasted with structure with unpredictable arrangements.In High ascent structure with Asymmetric arrangement design, flat (horizontal) loads and torsion in the structure are of significance. The sidelong loads because of seismic tremor or wind are the one which will increment bit by bit with increment in tallness of the structure. The auxiliary arrangement which is intended to convey all gravity burdens might not have adequate ability to oppose this sidelong load or regardless of whether it has, the plan for horizontal load will be uneconomical with increment in number of floors in tradition outline.

The figure1 describes different plan irregularities we may come across during configuration of any structure and similarly figure2 explains different forms of vertical irregularities. To achieve better performance in these high rise structures to overcome lateral load and torsion problems, special systems to resist these need to be adopted. Shear walls are one of the very effective solutions to sustain these lateral forces and they provide required stiffness and strength and good drift control and are simple to construct.

OBJECT OF THE STUDY

1. The primary goal is to decide the ideal position of shear divider by taking sporadic arrangement of the building.

2. To locate the ideal position of shear divider with a similar cross sectional zone on auxiliary reaction under seismic and wind stacking.

3. Identical static examination is done for zone II and ZONE V to decide base shear.

4. To decide parameters, for example, base shear, relocation, story floats.

5. To give rules to basic designers on the usefulness and the monetary angles, that could be acquired by utilizing shear divider.

SUMMARY

Shear dividers are the basic components of the even power opposing framework .shear dividers have high impact firmness and quality and gave to oppose gravity stacks and in addition sidelong loads caused by seismic and wind. Such huge numbers of literary works are accessible to break down and plan of shear divider. Anyway the ideal area and its belongings in tall building r.c. structures isn't greatly examined in any written works. In this paper the principle point is to locate the successful, effective, and ideal area of shear dividers in skyscraper unpredictable R.C building. In this present examination the ideal area of shear divider has been explored with the assistance of three distinct models. Show 1 is exposed casing auxiliary framework and other two models are double compose basic framework with focal center divider and corner shear divider. A seismic tremor stack is computed according to IS 1893(PART-1)- 2002 and connected to (G+20) story R.C working in zone-5. The investigation is performed utilizing ETABS 9.7.4 Software bundle.

II.LITERATURE REVIEW

Bozdogan K.B.,Deierlein et.al.,(2010)

The investigation examined in detail the displaying issues, nonlinear conduct and examination of the casing – shear divider auxiliary framework. A surmised technique which depends on the continuum approach and one dimensional limited component strategy to be utilized for sidelong static and dynamic investigations of divider outline structures is displayed.

Shaik Kamal Mohammed Azam et. al.,(2013)

the present investigation on seismic execution assessment of multistoried rc surrounded structures with shear divider. A correlation of basic conduct regarding quality, solidness and damping attributes is done.The arrangement of shear divider has huge effect on horizontal quality in taller structures while it has less impact on parallel firmness in taller structures. The arrangement of shear divider has critical effect on sidelong firmness in structures of shorter tallness while it has less impact on parallel quality. The impact of shear dividers is noteworthy as far as the damping qualities and period at the execution point for tall structures. Arrangement of shear dividers symmetrically in the furthest minute opposing casings and ideally interconnected commonly opposite way shaping the center will have better seismic execution regarding quality and firmness.

III.DESIGN OF SHEAR WALL

3.2 PROBLEM STATEMENT

In the Design was taken in seismic zone V for seismic analysis of the steel structure . The basic specifications are:

Plan Size	= 30 m x 30 m
No of Bays in X-Direction	= 10nos
No of Bays in Y-Direction	= 10nos
Spacing Between Bay Both X-Direction and Y-Direction is 3m	
Steel section	= 100 mm × 300 mm;
Height of Structure	= 9.0 m;
Materials used	= Fe500;
Seismic Zone factor	= 0.36 (ZONE 5) (IS: 1893:2002)
WIND SPEED	=44m/s (IS: 875:1987)
Bearing Capacity of soil	= 200 KN/m^2
Type of Construction	= Framed Structure

SHEAR WALL

Shear dividers are vertical components of the level power opposing framework. Shear dividers are built to counter the impacts of parallel load following up on a structure. In private development, shear dividers are straight outside dividers that ordinarily shape a crate which gives the majority of the sidelong help

for the building. At the point when shear dividers are outlined and built appropriately, and they will have the quality and firmness to oppose the level powers.

ROLE OF SHEAR WALL

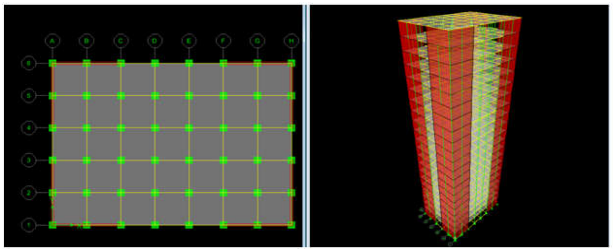
For the most part shear dividers are the auxiliary vertical part for the most part gave to oppose sidelong load due breeze or quake. Strengthened solid shear dividers give high in plane firmness and quality to the structures toward their introduction of shear dividers, which is significantly lessens the horizontal influence of the structures and in this manner controls harm of the structure and its components. Since shear dividers predominantly conveys extensive even load because of quake or wind powers, the toppling impacts are more in the structure in some cases. Propositions shear divider likewise oppose some portion of gravity stack alongside the sidelong load. The course of action of shear divider in the arrangement is critical to accomplish the required solidness and diminish impacts of wind in structures for the framework.

PURPOSEOFCONSTRUCTINGSHEARWALLS

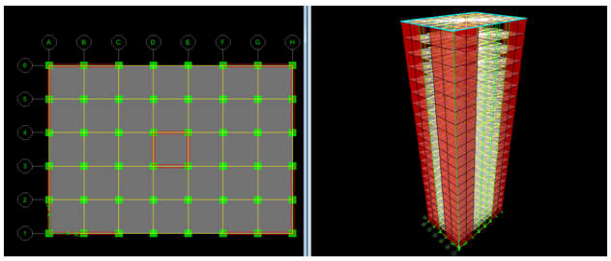
Shear dividers are not just intended to oppose gravity/vertical burdens (because of its self-weight and other living/moving burdens), however they are additionally intended for horizontal heaps of tremors/wind. The dividers are fundamentally incorporated with rooftops/floors (stomachs) and other sidelong dividers running crosswise over at right edges, along these lines giving the three dimensional security for the building structures. Shear divider auxiliary frameworks are more steady. Since, their supporting region (add up to cross-sectional territory of all shear dividers) with reference to add up to plans region of building, is nearly more, not at all like on account of RCC surrounded structures. Shear dividers are brisk in development, as the strategy embraced to build is cementing the individuals utilizing formwork. Shear dividers needn't bother with any additional putting or completing as the divider itself gives such an abnormal state of exactness, that it doesn't require putting.

IV.CONSTRUCTION OF SHEAR WALLS STRUCTURAL MODELS

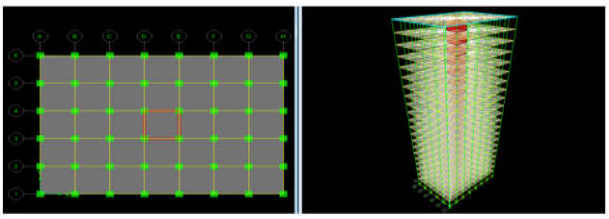
SHEAR WALL AT CORNER



SHEAR WALL AT CORNERAND LIFT



SHEAR WALL AT LIFT

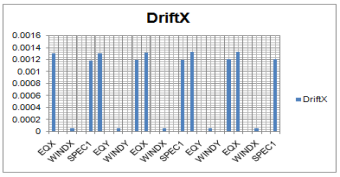


IV.RESULTS AND ANALYSIS

SHEAR WALL AT CORNER

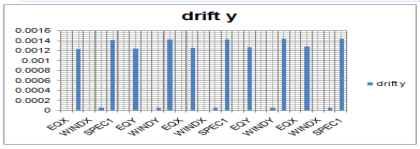
Story Drift X

Story	Load	DriftX
STORY21	EQX	0.001303
STORY21	EQY	0.000005
STORY21	WINDX	0.000048
STORY21	WINDY	0
STORY21	SPEC1	0.001186
STORY20	EQX	0.001313
STORY20	EQY	0.000003
STORY20	WINDX	0.000049
STORY20	WINDY	0
STORY20	SPEC1	0.001195
STORY19	EQX	0.001322
STORY19	EQY	0.000003
STORY19	WINDX	0.000049
STORY19	WINDY	0
STORY19	SPEC1	0.001202
STORY18	EQX	0.00133
STORY18	EQY	0.000003
STORY18	WINDX	0.00005
STORY18	WINDY	0
STORY18	SPEC1	0.001207
STORY17	EQX	0.001334
STORY17	EQY	0.000003
STORY17	WINDX	0.00005
STORY17	WINDY	0
STORY17	SPEC1	0.001209



Drift y

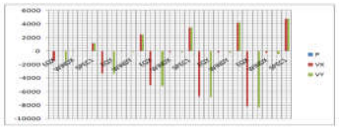
Story	Load	drift y
STORY21	EQX	0.000004
STORY21	EQY	0.001242
STORY21	WINDX	0
STORY21	WINDY	0.000063
STORY21	SPEC1	0.001414
STORY20	EQX	0.000002
STORY20	EQY	0.001254
STORY20	WINDX	0
STORY20	WINDY	0.000064
STORY20	SPEC1	0.001426
STORY19	EQX	0.000002
STORY19	EQY	0.001264
STORY19	WINDX	0
STORY19	WINDY	0.000065
STORY19	SPEC1	0.001435
STORY18	EQX	0.000002
STORY18	EQY	0.001273
STORY18	WINDX	0
STORY18	WINDY	0.000065
STORY18	SPEC1	0.001442
STORY17	EQX	0.000002
STORY17	EQY	0.00128
STORY17	WINDX	0
STORY17	WINDY	0.000066
STORY17	SPEC1	0.001445



Story shear

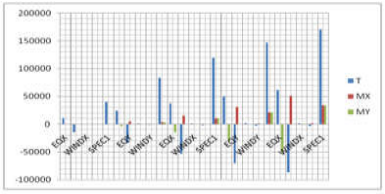
FOR FORCES

Story	Load	Loc	P	VX	VY
STORY21	EQX	Top	0	-1418.56	0
STORY21	EQY	Top	0	0	-1446.37
STORY21	WINDX	Top	0	-29.29	0
STORY21	WINDY	Top	0	0	-41.01
STORY21	SPEC1	Top	0	1155.01	1166.04
STORY20	EQX	Top	0	-3280.63	0
STORY20	EQY	Top	0	0	-3344.27
STORY20	WINDX	Top	0	-87.59	0
STORY20	WINDY	Top	0	0	-122.62
STORY20	SPEC1	Top	0	2458.31	2474.55
STORY19	EQX	Top	0	-5051.95	0
STORY19	EQY	Top	0	0	-5148.67
STORY19	WINDX	Top	0	-145.47	0
STORY19	WINDY	Top	0	0	-203.66
STORY19	SPEC1	Top	0	3469.56	3495.13
STORY18	EQX	Top	0	-6689.44	0
STORY18	EQY	Top	0	0	-6815.87
STORY18	WINDX	Top	0	-202.93	0
STORY18	WINDY	Top	0	0	-284.1
STORY18	SPEC1	Top	0	4207.11	4248.01
STORY17	EQX	Top	0	-8200.31	0
STORY17	EQY	Top	0	0	-8353.26
STORY17	WINDX	Top	0	-259.96	0
STORY17	WINDY	Top	0	0	-363.95
STORY17	SPEC1	Top	0	4736.43	4798.21



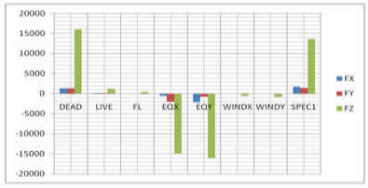
FOR MOMENTS

Story	Load	Loc	T	MX	MY
STORY21	EQX	Top	10479.26	0	0
STORY21	EQY	Top	-14804.4	0	0
STORY21	WINDX	Top	219.674	0	0
STORY21	WINDY	Top	-430.561	0	0
STORY21	SPEC1	Top	39239.19	0	0
STORY20	EQX	Top	24218.74	0	-4444.67
STORY20	EQY	Top	-34196.2	4528.121	0
STORY20	WINDX	Top	656.919	0	-87.87
STORY20	WINDY	Top	-1287.56	123.018	0
STORY20	SPEC1	Top	83449.47	3498.116	3465.018
STORY19	EQX	Top	37503.59	0	-14502.6
STORY19	EQY	Top	-53142.4	14776.95	0
STORY19	WINDX	Top	1091.015	0	-787.043
STORY19	WINDY	Top	-2138.39	490.892	0
STORY19	SPEC1	Top	118850.8	10912.13	10832.46
STORY18	EQX	Top	49784.8	0	-29874.4
STORY18	EQY	Top	-70648	30438.95	0
STORY18	WINDX	Top	1521.974	0	-787.043
STORY18	WINDY	Top	-2983.07	1101.861	0
STORY18	SPEC1	Top	146830.3	21353.59	21203.09
STORY17	EQX	Top	61116.34	0	-50158.7
STORY17	EQY	Top	-86790.6	51102.56	0
STORY17	WINDX	Top	1949.734	0	-1395.83
STORY17	WINDY	Top	-3821.48	1954.166	0
STORY17	SPEC1	Top	170610.1	33968.58	33706.71

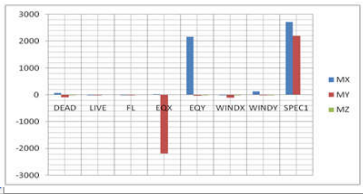


SUPPORT REACTIONS

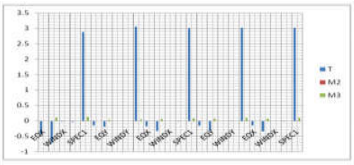
Story	Point	Load	FX	FY	FZ
BASE	1	DEAD	1276.99	1254.93	16037.24
BASE	1	LIVE	101.01	99.44	1187.8
BASE	1	FL	33.67	33.15	395.93
BASE	1	EQX	-590.24	-2096.92	-15006.2
BASE	1	EQY	-2142.93	-782.15	-16108.4
BASE	1	WINDX	-43.84	-84.18	-639.27
BASE	1	WINDY	-118.17	-71.45	-939.39
BASE	1	SPEC1	1731.93	1369.58	13567.56



Story	Point	Load	MX	MY	MZ
BASE	1	DEAD	67.43	-82.35	-0.948
BASE	1	LIVE	-3.242	3.077	0
BASE	1	FL	-1.081	1.026	0
BASE	1	EQX	27.616	-2182.58	10.264
BASE	1	EQY	2163.527	-26.611	-10.187
BASE	1	WINDX	1.457	-97.351	0.457
BASE	1	WINDY	133.272	-2.052	-0.626
BASE	1	SPEC1	2721.666	2195.337	18.501



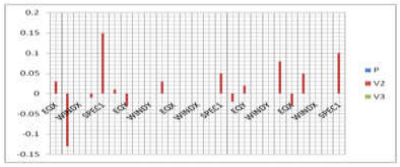
Story	Beam	Load	Loc	T	M2	M3
STORY21	B1	EQX	2.7	-0.442	0	-0.001
STORY21	B1	EQY	2.7	-0.709	0	0.105
STORY21	B1	WINDX	2.7	-0.017	0	0
STORY21	B1	WINDY	2.7	-0.036	0	0.005
STORY21	B1	SPEC1	2.7	2.871	0	0.137
STORY20	B1	EQX	2.7	-0.144	0	-0.002
STORY20	B1	EQY	2.7	-0.196	0	0.035
STORY20	B1	WINDX	2.7	-0.005	0	0
STORY20	B1	WINDY	2.7	-0.01	0	0.002
STORY20	B1	SPEC1	2.7	3.05	0	0.051
STORY19	B1	EQX	2.7	-0.179	0	-0.005
STORY19	B1	EQY	2.7	-0.332	0	0.061
STORY19	B1	WINDX	2.7	-0.007	0	0
STORY19	B1	WINDY	2.7	-0.017	0	0.003
STORY19	B1	SPEC1	2.7	3.009	0	0.084
STORY18	B1	EQX	2.7	-0.151	0	-0.009
STORY18	B1	EQY	2.7	-0.318	0	0.064
STORY18	B1	WINDX	2.7	-0.006	0	0
STORY18	B1	WINDY	2.7	-0.017	0	0.003
STORY18	B1	SPEC1	2.7	3.023	0	0.087
STORY17	B1	EQX	2.7	-0.138	0	-0.012
STORY17	B1	EQY	2.7	-0.338	0	0.072
STORY17	B1	WINDX	2.7	-0.005	0	0
STORY17	B1	WINDY	2.7	-0.018	0	0.003
STORY17	B1	SPEC1	2.7	3.02	0	0.096



FOR P V2 V3

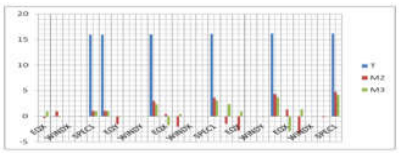
Story	Beam	Load	Loc	P	V2	V3
STORY21	B1	EQX	2.7	0	0.03	0
STORY21	B1	EQY	2.7	0	-0.13	0
STORY21	B1	WINDX	2.7	0	0	0
STORY21	B1	WINDY	2.7	0	-0.01	0
STORY21	B1	SPEC1	2.7	0	0.15	0
STORY20	B1	EQX	2.7	0	0.01	0
STORY20	B1	EQY	2.7	0	-0.03	0
STORY20	B1	WINDX	2.7	0	0	0
STORY20	B1	WINDY	2.7	0	0	0
STORY20	B1	SPEC1	2.7	0	0.03	0
STORY19	B1	EQX	2.7	0	0	0
STORY19	B1	EQY	2.7	0	0	0
STORY19	B1	WINDX	2.7	0	0	0
STORY19	B1	WINDY	2.7	0	0	0
STORY19	B1	SPEC1	2.7	0	0.05	0
STORY18	B1	EQX	2.7	0	-0.02	0
STORY18	B1	EQY	2.7	0	0.02	0
STORY18	B1	WINDX	2.7	0	0	0
STORY18	B1	WINDY	2.7	0	0	0
STORY18	B1	SPEC1	2.7	0	0.08	0
STORY17	B1	EQX	2.7	0	-0.03	0
STORY17	B1	EQY	2.7	0	0.05	0
STORY17	B1	WINDX	2.7	0	0	0
STORY17	B1	WINDY	2.7	0	0	0
STORY17	B1	SPEC1	2.7	0	0.1	0

65



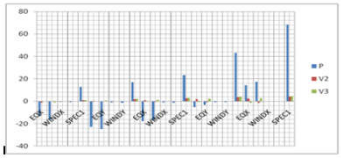
COLUMN FORCES (T M2 M3)

Story	Column	Load	Loc	T	M2	M3
STORY21	C1	EQX	2.6	0.053	-0.28	0.969
STORY21	C1	EQY	2.6	-0.1	0.96	-0.203
STORY21	C1	WINDX	2.6	0.001	-0.021	0.048
STORY21	C1	WINDY	2.6	-0.001	0.069	-0.023
STORY21	C1	SPEC1	2.6	15.923	1.038	0.999
STORY20	C1	EQX	2.6	15.923	1.038	0.999
STORY20	C1	EQY	2.6	-0.074	-1.559	-0.101
STORY20	C1	WINDX	2.6	0	-0.009	-0.023
STORY20	C1	WINDY	2.6	0.001	-0.058	-0.024
STORY20	C1	SPEC1	2.6	15.999	3.007	2.347
STORY19	C1	EQX	2.6	0.039	0.426	-1.704
STORY19	C1	EQY	2.6	-0.075	-2.019	0.473
STORY19	C1	WINDX	2.6	0	0.004	-0.047
STORY19	C1	WINDY	2.6	0.001	-0.079	0.007
STORY19	C1	SPEC1	2.6	16.082	3.633	3.103
STORY18	C1	EQX	2.6	0.038	-1.444	2.363
STORY18	C1	EQY	2.6	-0.075	-2.794	0.929
STORY18	C1	WINDX	2.6	0	0.019	-0.076
STORY18	C1	WINDY	2.6	0.001	-0.122	0.029
STORY18	C1	SPEC1	2.6	16.141	4.333	3.752
STORY17	C1	EQX	2.6	0.038	1.294	-2.872
STORY17	C1	EQY	2.6	-0.075	-3.257	1.366
STORY17	C1	WINDX	2.6	0	0.035	-0.097
STORY17	C1	WINDY	2.6	0.001	-0.153	0.051
STORY17	C1	SPEC1	2.6	16.167	4.748	4.182



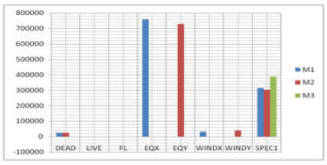
FOR P V2 V3

Story	Column	Load	Loc	P	V2	V3
STORY21	C1	EQX	2.6	-12.89	-1.15	0.24
STORY21	C1	EQY	2.6	-16.26	0.13	-1.13
STORY21	C1	WINDX	2.6	-0.49	-0.05	0.02
STORY21	C1	WINDY	2.6	-0.91	0.02	-0.08
STORY21	C1	SPEC1	2.6	13	0.87	0.89
STORY20	C1	EQX	2.6	-22.65	0.42	-0.1
STORY20	C1	EQY	2.6	-24.8	-0.03	0.69
STORY20	C1	WINDX	2.6	-0.95	0	0.01
STORY20	C1	WINDY	2.6	-1.5	0.02	0.01
STORY20	C1	SPEC1	2.6	17.11	1.91	2.28
STORY19	C1	EQX	2.6	-17.79	1.05	-0.49
STORY19	C1	EQY	2.6	-17.06	-0.52	1.25
STORY19	C1	WINDX	2.6	-0.97	0.02	-0.01
STORY19	C1	WINDY	2.6	-1.32	-0.01	0.03
STORY19	C1	SPEC1	2.6	23.35	2.79	3.14
STORY18	C1	EQX	2.6	-5.24	1.85	-0.89
STORY18	C1	EQY	2.6	-3.2	-0.94	2.04
STORY18	C1	WINDX	2.6	-0.73	0.05	-0.02
STORY18	C1	WINDY	2.6	-0.91	-0.03	0.07
STORY18	C1	SPEC1	2.6	43.06	3.57	3.98
STORY17	C1	EQX	2.6	14.36	2.52	-1.27
STORY17	C1	EQY	2.6	17.29	-1.34	2.72
STORY17	C1	WINDX	2.6	-0.23	0.07	-0.04
STORY17	C1	WINDY	2.6	-0.18	-0.05	0.11
STORY17	C1	SPEC1	2.6	68.4	4.21	4.64

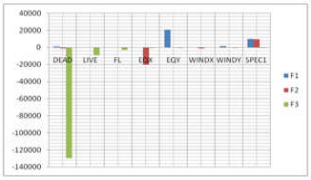


FOR SECTION CUT FORCES(M1 M2 M3)

Section	Load	M1	M2	M3
SCUT1	DEAD	25684.08	24549.58	997.548
SCUT1	LIVE	-4.425	-1.654	-0.002
SCUT1	FL	-1.475	-0.551	-0.001
SCUT1	EQX	760795.3	-3.007	381.861
SCUT1	EQY	-13.399	727853.7	-908.882
SCUT1	WINDX	31161.3	-0.121	0
SCUT1	WINDY	-0.649	41126.72	-0.006
SCUT1	SPEC1	315127	303893.3	388223.2



Section	Load	F1	F2	F3
SCUT1	DEAD	981.47	-988.49	-129867
SCUT1	LIVE	0	0	-9276.15
SCUT1	FL	0	0	-3092.05
SCUT1	EQX	0	-20499.5	1.46
SCUT1	EQY	20828.85	0	2.87
SCUT1	WINDX	0	-1023.1	0.06
SCUT1	WINDY	1434.97	0	0.14
SCUT1	SPEC1	9985.64	9847.49	3.87

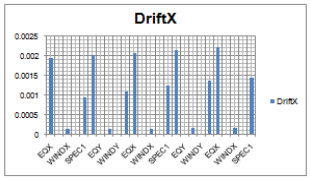


SHEAR WALL AT LIFT

1. Story Drift

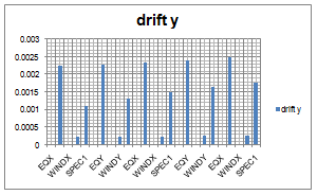
Drift X

Story	Load	DriftX
STORY21	EQX	0.001957
STORY21	EQY	0
STORY21	WINDX	0.000129
STORY21	WINDY	0
STORY21	SPEC1	0.000944
STORY20	EQX	0.002011
STORY20	EQY	0
STORY20	WINDX	0.000132
STORY20	WINDY	0
STORY20	SPEC1	0.001097
STORY19	EQX	0.00207
STORY19	EQY	0
STORY19	WINDX	0.000137
STORY19	WINDY	0
STORY19	SPEC1	0.001239
STORY18	EQX	0.002142
STORY18	EQY	0
STORY18	WINDX	0.000142
STORY18	WINDY	0
STORY18	SPEC1	0.001354
STORY17	EQX	0.00222
STORY17	EQY	0
STORY17	WINDX	0.000149
STORY17	WINDY	0
STORY17	SPEC1	0.001444



FOR DRIFT Y

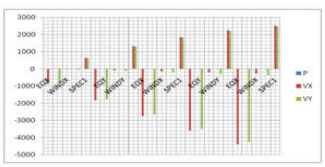
Story	Load	drift y
STORY21	EQX	0
STORY21	EQY	0.002232
STORY21	WINDX	0
STORY21	WINDY	0.000212
STORY21	SPEC1	0.001088
STORY20	EQX	0
STORY20	EQY	0.002283
STORY20	WINDX	0
STORY20	WINDY	0.000217
STORY20	SPEC1	0.001292
STORY19	EQX	0
STORY19	EQY	0.002338
STORY19	WINDX	0
STORY19	WINDY	0.000223
STORY19	SPEC1	0.00148
STORY18	EQX	0
STORY18	EQY	0.002405
STORY18	WINDX	0
STORY18	WINDY	0.000231
STORY18	SPEC1	0.00163
STORY17	EQX	0
STORY17	EQY	0.002475
STORY17	WINDX	0
STORY17	WINDY	0.000239
STORY17	SPEC1	0.001745



2. Story shear

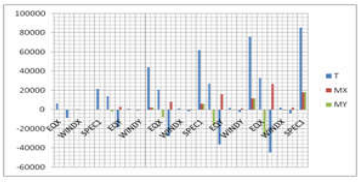
FOR FORCES

Story	Load	Loc	P	VX	VY
STORY21	EQX	Top	0	-852.84	0
STORY21	EQY	Top	0	0	-828.46
STORY21	WINDX	Top	0	-29.29	0
STORY21	WINDY	Top	0	0	-41.01
STORY21	SPEC1	Top	0	637.93	633.29
STORY20	EQX	Top	0	-1825.69	0
STORY20	EQY	Top	0	0	-1773.12
STORY20	WINDX	Top	0	-87.59	0
STORY20	WINDY	Top	0	0	-122.62
STORY20	SPEC1	Top	0	1313.51	1299.48
STORY19	EQX	Top	0	-2738.21	0
STORY19	EQY	Top	0	0	-2660.18
STORY19	WINDX	Top	0	-145.47	0
STORY19	WINDY	Top	0	0	-203.66
STORY19	SPEC1	Top	0	1851.23	1824.58
STORY18	EQX	Top	0	-3593.46	0
STORY18	EQY	Top	0	0	-3492.58
STORY18	WINDX	Top	0	-202.93	0
STORY18	WINDY	Top	0	0	-284.1
STORY18	SPEC1	Top	0	2254.21	2211.95
STORY17	EQX	Top	0	-4394.54	0
STORY17	EQY	Top	0	0	-4273.25
STORY17	WINDX	Top	0	-259.96	0
STORY17	WINDY	Top	0	0	-363.95
STORY17	SPEC1	Top	0	2530.33	2469.85



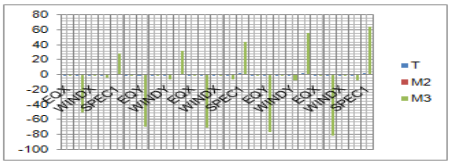
FOR MOMENTS

Story	Load	Loc	T	MX	MY
STORY21	EQX	Top	6396.3	0	0
STORY21	EQY	Top	-8698.82	0	0
STORY21	WINDX	Top	219.674	0	0
STORY21	WINDY	Top	-430.561	0	0
STORY21	SPEC1	Top	21490.95	0	0
STORY20	EQX	Top	13692.69	0	-2612.52
STORY20	EQY	Top	-18617.8	2539.376	0
STORY20	WINDX	Top	656.919	0	-87.87
STORY20	WINDY	Top	-1287.56	123.018	0
STORY20	SPEC1	Top	44136.35	1899.862	1913.789
STORY19	EQX	Top	20536.55	0	-8143.59
STORY19	EQY	Top	-27931.9	7912.738	0
STORY19	WINDX	Top	1091.015	0	-350.637
STORY19	WINDY	Top	-2138.39	490.892	0
STORY19	SPEC1	Top	62082.71	5797.406	5853.376
STORY18	EQX	Top	26950.97	0	-16412.2
STORY18	EQY	Top	-36672.1	15947.28	0
STORY18	WINDX	Top	1521.974	0	-787.043
STORY18	WINDY	Top	-2983.07	1101.861	0
STORY18	SPEC1	Top	75589.6	11266.8	11402.56
STORY17	EQX	Top	32959.05	0	-27246.6
STORY17	EQY	Top	-44869.2	26479.02	0
STORY17	WINDX	Top	1949.734	0	-1395.83
STORY17	WINDY	Top	-3821.48	1954.166	0
STORY17	SPEC1	Top	85330.93	17888.67	18150.73



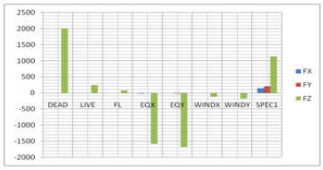
BEAM FORCES (T M2 M3)

Story	Beam	Load	Loc	T	M2	M3
STORY21	B1	EQX	2.7	-0.064	0	-0.914
STORY21	B1	EQY	2.7	-0.025	0	-50.447
STORY21	B1	WINDX	2.7	-0.004	0	-0.063
STORY21	B1	WINDY	2.7	-0.003	0	-4.562
STORY21	B1	SPEC1	2.7	0.638	0	27.968
STORY20	B1	EQX	2.7	-0.026	0	-1.227
STORY20	B1	EQY	2.7	-0.012	0	-70.549
STORY20	B1	WINDX	2.7	-0.002	0	-0.085
STORY20	B1	WINDY	2.7	-0.001	0	-6.426
STORY20	B1	SPEC1	2.7	1.069	0	31.497
STORY19	B1	EQX	2.7	-0.033	0	-1.154
STORY19	B1	EQY	2.7	-0.014	0	-71.37
STORY19	B1	WINDX	2.7	-0.002	0	-0.08
STORY19	B1	WINDY	2.7	-0.001	0	-6.534
STORY19	B1	SPEC1	2.7	1.677	0	44.474
STORY18	B1	EQX	2.7	-0.031	0	-1.149
STORY18	B1	EQY	2.7	-0.014	0	-76.649
STORY18	B1	WINDX	2.7	-0.002	0	-0.08
STORY18	B1	WINDY	2.7	-0.001	0	-7.082
STORY18	B1	SPEC1	2.7	2.153	0	55.832
STORY17	B1	EQX	2.7	-0.031	0	-1.123
STORY17	B1	EQY	2.7	-0.014	0	-82.069
STORY17	B1	WINDX	2.7	-0.002	0	-0.078
STORY17	B1	WINDY	2.7	-0.001	0	-7.674
STORY17	B1	SPEC1	2.7	2.516	0	64.412

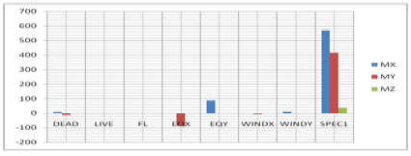


SUPPORT REACTIONS

Story	Point	Load	FX	FY	FZ
BASE	1	DEAD	-1.25	0.49	2005.44
BASE	1	LIVE	0.46	0.47	251.21
BASE	1	FL	0.15	0.16	83.74
BASE	1	EQX	-20.25	-0.02	-1577.46
BASE	1	EQY	-0.03	-20.09	-1675.7
BASE	1	WINDX	-1.69	0	-112.85
BASE	1	WINDY	0	-2.39	-171.55
BASE	1	SPEC1	153.33	210.66	1139.66

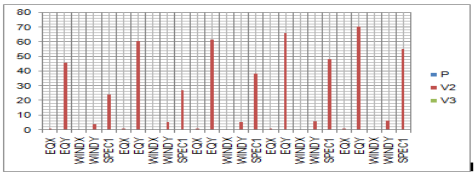


Story	Point	Load	MX	MY	MZ
BASE	1	DEAD	6.326	-13.279	-1.202
BASE	1	LIVE	-0.49	0.484	0
BASE	1	FL	-0.163	0.161	0
BASE	1	EQX	0.02	-86.749	0
BASE	1	EQY	87.853	-0.035	0
BASE	1	WINDX	0.001	-7.006	0
BASE	1	WINDY	10.101	-0.004	0
BASE	1	SPEC1	568.096	415.593	35.844



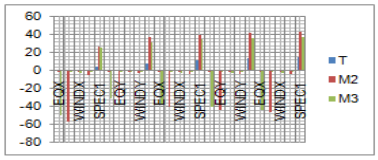
FOR P V2 V3

Story	Beam	Load	Loc	P	V2	V3
STORY21	B1	EQX	2.7	0	0.82	0
STORY21	B1	EQY	2.7	0	45.87	0
STORY21	B1	WINDX	2.7	0	0.06	0
STORY21	B1	WINDY	2.7	0	4.16	0
STORY21	B1	SPEC1	2.7	0	24.27	0
STORY20	B1	EQX	2.7	0	1.05	0
STORY20	B1	EQY	2.7	0	60.54	0
STORY20	B1	WINDX	2.7	0	0.07	0
STORY20	B1	WINDY	2.7	0	5.52	0
STORY20	B1	SPEC1	2.7	0	27.28	0
STORY19	B1	EQX	2.7	0	0.99	0
STORY19	B1	EQY	2.7	0	61.67	0
STORY19	B1	WINDX	2.7	0	0.07	0
STORY19	B1	WINDY	2.7	0	5.65	0
STORY19	B1	SPEC1	2.7	0	38.59	0
STORY18	B1	EQX	2.7	0	0.98	0
STORY18	B1	EQY	2.7	0	66.09	0
STORY18	B1	WINDX	2.7	0	0.07	0
STORY18	B1	WINDY	2.7	0	6.11	0
STORY18	B1	SPEC1	2.7	0	48.23	0
STORY17	B1	EQX	2.7	0	0.96	0
STORY17	B1	EQY	2.7	0	70.72	0
STORY17	B1	WINDX	2.7	0	0.07	0
STORY17	B1	WINDY	2.7	0	6.62	0
STORY17	B1	SPEC1	2.7	0	55.55	0



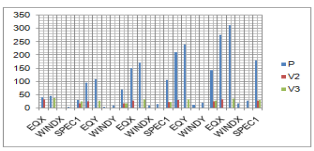
COLUMN FORCES(T M2 M3)

Story	Column	Load	Loc	T	M2	M3
STORY21	C1	EQX	2.6	0	-1.056	-50.585
STORY21	C1	EQY	2.6	0	-57.336	-1.766
STORY21	C1	WINDX	2.6	0	-0.073	-3.16
STORY21	C1	WINDY	2.6	0	-5.217	-0.176
STORY21	C1	SPEC1	2.6	4.443	26.433	25.054
STORY20	C1	EQX	2.6	0	-0.482	-31.258
STORY20	C1	EQY	2.6	0	-34.063	-0.868
STORY20	C1	WINDX	2.6	0	-0.033	-1.996
STORY20	C1	WINDY	2.6	0	-3.151	-0.086
STORY20	C1	SPEC1	2.6	7.747	37.397	32.079
STORY19	C1	EQX	2.6	0	-0.592	-37.903
STORY19	C1	EQY	2.6	0	-41.329	-1.028
STORY19	C1	WINDX	2.6	0	-0.041	-2.454
STORY19	C1	WINDY	2.6	0	-3.87	-0.102
STORY19	C1	SPEC1	2.6	10.801	40.35	35.265
STORY18	C1	EQX	2.6	0	-0.559	-40.871
STORY18	C1	EQY	2.6	0	-43.915	-0.978
STORY18	C1	WINDX	2.6	0	-0.039	-2.701
STORY18	C1	WINDY	2.6	0	-4.185	-0.097
STORY18	C1	SPEC1	2.6	13.154	42.026	36.69
STORY17	C1	EQX	2.6	0	-0.551	-44.092
STORY17	C1	EQY	2.6	0	-46.957	-0.963
STORY17	C1	WINDX	2.6	0	-0.038	-2.97
STORY17	C1	WINDY	2.6	0	-4.553	-0.096
STORY17	C1	SPEC1	2.6	14.957	42.967	37.641



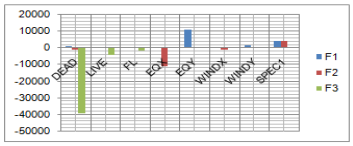
FOR P V2 V3

Story	Column	Load	Loc	P	V2	V3
STORY21	C1	EQX	2.6	41.03	35.19	0.77
STORY21	C1	EQY	2.6	47.24	1.31	40.27
STORY21	C1	WINDX	2.6	2.56	2.19	0.05
STORY21	C1	WINDY	2.6	4.3	0.13	3.65
STORY21	C1	SPEC1	2.6	31.64	19.37	26.33
STORY20	C1	EQX	2.6	95.72	25.69	0.47
STORY20	C1	EQY	2.6	109.61	0.84	28.76
STORY20	C1	WINDX	2.6	5.99	1.61	0.03
STORY20	C1	WINDY	2.6	10	0.08	2.62
STORY20	C1	SPEC1	2.6	70.82	18.03	18.74
STORY19	C1	EQX	2.6	151.84	29.36	0.53
STORY19	C1	EQY	2.6	173.01	0.92	32.79
STORY19	C1	WINDX	2.6	9.54	1.85	0.04
STORY19	C1	WINDY	2.6	15.82	0.09	3
STORY19	C1	SPEC1	2.6	107.24	22.72	24.41
STORY18	C1	EQX	2.6	212.46	31.67	0.51
STORY18	C1	EQY	2.6	240.82	0.89	34.93
STORY18	C1	WINDX	2.6	13.41	2.02	0.04
STORY18	C1	WINDY	2.6	22.1	0.09	3.24
STORY18	C1	SPEC1	2.6	143.35	26.07	28.73
STORY17	C1	EQX	2.6	277.86	34.42	0.5
STORY17	C1	EQY	2.6	313.22	0.87	37.6
STORY17	C1	WINDX	2.6	17.64	2.23	0.03
STORY17	C1	WINDY	2.6	28.89	0.09	3.53
STORY17	C1	SPEC1	2.6	179.37	28.39	31.59

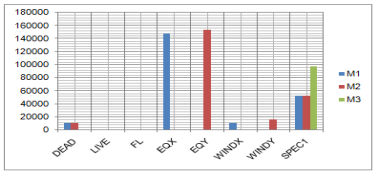


SECTION CUT FORCES

Section	Load	F1	F2	F3
SCUT1	DEAD	902.96	-911.81	-39494.5
SCUT1	LIVE	0	0	-4350.18
SCUT1	FL	0	0	-1450.06
SCUT1	EQX	0	-11061.1	0
SCUT1	EQY	10886.81	0	0
SCUT1	WINDX	0	-941.28	0
SCUT1	WINDY	1321.04	0	0
SCUT1	SPEC1	4248.86	4326.51	0



Section	Load	M1	M2	M3
SCUT1	DEAD	10934.06	11016.95	552.427
SCUT1	LIVE	0	0	0
SCUT1	FL	0	0	0
SCUT1	EQX	148609.1	0	0
SCUT1	EQY	0	153958.1	0
SCUT1	WINDX	11518.74	0	0
SCUT1	WINDY	0	16998.34	0
SCUT1	SPEC1	52569.54	52923.78	97745.86

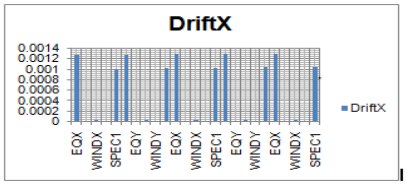


SHEAR WALL AT CORNER AND LIFT

1. Story Drift

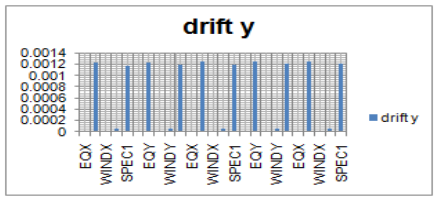
Drift X

Story	Load	DriftX
STORY21	EQX	0.00128
STORY21	EQY	0
STORY21	WINDX	0.000044
STORY21	WINDY	0
STORY21	SPEC1	0.001017
STORY20	EQX	0.001289
STORY20	EQY	0
STORY20	WINDX	0.000044
STORY20	WINDY	0
STORY20	SPEC1	0.001026
STORY19	EQX	0.001298
STORY19	EQY	0
STORY19	WINDX	0.000045
STORY19	WINDY	0
STORY19	SPEC1	0.001034
STORY18	EQX	0.001305
STORY18	EQY	0
STORY18	WINDX	0.000045
STORY18	WINDY	0
STORY18	SPEC1	0.001041
STORY17	EQX	0.00131
STORY17	EQY	0
STORY17	WINDX	0.000045
STORY17	WINDY	0
STORY17	SPEC1	0.001045



DRIFT Y

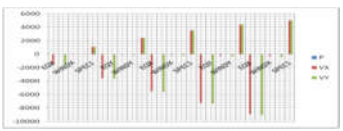
Story	Load	drift y
STORY21	EQX	0
STORY21	EQY	0.001234
STORY21	WINDX	0
STORY21	WINDY	0.000059
STORY21	SPEC1	0.001188
STORY20	EQX	0
STORY20	EQY	0.001244
STORY20	WINDX	0
STORY20	WINDY	0.000059
STORY20	SPEC1	0.001199
STORY19	EQX	0
STORY19	EQY	0.001253
STORY19	WINDX	0
STORY19	WINDY	0.00006
STORY19	SPEC1	0.00121
STORY18	EQX	0
STORY18	EQY	0.001262
STORY18	WINDX	0
STORY18	WINDY	0.00006
STORY18	SPEC1	0.001219
STORY17	EQX	0
STORY17	EQY	0.001268
STORY17	WINDX	0
STORY17	WINDY	0.000061
STORY17	SPEC1	0.001224



2. Story shear

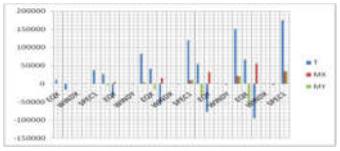
FOR FORCES

Story	Load	Loc	P	VX	VY
STORY21	EQX	Top	0	-1510.13	0
STORY21	EQY	Top	0	0	-1532.7
STORY21	WINDX	Top	0	-29.29	0
STORY21	WINDY	Top	0	0	-41.01
STORY21	SPEC1	Top	0	1099.16	1102.64
STORY20	EQX	Top	0	-3571.54	0
STORY20	EQY	Top	0	0	-3623.68
STORY20	WINDX	Top	0	-87.59	0
STORY20	WINDY	Top	0	0	-122.62
STORY20	SPEC1	Top	0	2434.27	2445.47
STORY19	EQX	Top	0	-5480.96	0
STORY19	EQY	Top	0	0	-5559.81
STORY19	WINDX	Top	0	-145.47	0
STORY19	WINDY	Top	0	0	-203.66
STORY19	SPEC1	Top	0	3522.51	3544.03
STORY18	EQX	Top	0	-7246.15	0
STORY18	EQY	Top	0	0	-7348.99
STORY18	WINDX	Top	0	-202.93	0
STORY18	WINDY	Top	0	0	-284.1
STORY18	SPEC1	Top	0	4376.72	4410.9
STORY17	EQX	Top	0	-8874.87	0
STORY17	EQY	Top	0	0	-8999.11
STORY17	WINDX	Top	0	-259.96	0
STORY17	WINDY	Top	0	0	-363.95
STORY17	SPEC1	Top	0	5019.57	5068.37



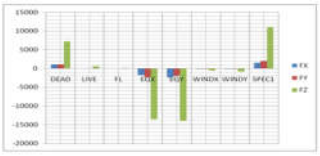
FOR MOMENTS

Story	Load	Loc	T	MX	MY
STORY21	EQX	Top	11325.97	0	0
STORY21	EQY	Top	-16093.3	0	0
STORY21	WINDX	Top	219.674	0	0
STORY21	WINDY	Top	-430.561	0	0
STORY21	SPEC1	Top	37368.27	0	0
STORY20	EQX	Top	26786.52	0	-4800.39
STORY20	EQY	Top	-38048.6	4868.09	0
STORY20	WINDX	Top	656.919	0	-87.87
STORY20	WINDY	Top	-1287.56	123.018	0
STORY20	SPEC1	Top	82910.86	3307.928	3297.474
STORY19	EQX	Top	41107.19	0	-15785
STORY19	EQY	Top	-58378	16009.13	0
STORY19	WINDX	Top	1091.015	0	-350.637
STORY19	WINDY	Top	-2138.39	490.892	0
STORY19	SPEC1	Top	120340.4	10641.65	10597.61
STORY18	EQX	Top	54346.13	0	-32497.9
STORY18	EQY	Top	-77164.4	32958.56	0
STORY18	WINDX	Top	1521.974	0	-787.043
STORY18	WINDY	Top	-2983.07	1101.861	0
STORY18	SPEC1	Top	150399.6	21261.5	21152.95
STORY17	EQX	Top	66561.5	0	-54506.3
STORY17	EQY	Top	-94490.7	55275.52	0
STORY17	WINDX	Top	1949.734	0	-1395.83
STORY17	WINDY	Top	-3821.48	1954.166	0
STORY17	SPEC1	Top	174491.8	34456.29	34245.23

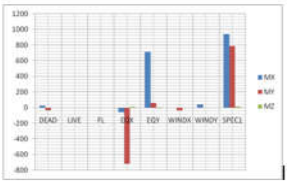


SUPPORT REACTIONS

Story	Point	Load	FX	FY	FZ
BASE	1	DEAD	1117.44	1111.13	7280.82
BASE	1	LIVE	89.35	88.86	564.18
BASE	1	FL	29.78	29.62	188.06
BASE	1	EQX	-1778.85	-2303.21	-13530.5
BASE	1	EQY	-2361.07	-1893.78	-14025.3
BASE	1	WINDX	-78.68	-87.4	-536.15
BASE	1	WINDY	-123.8	-114.88	-766.95
BASE	1	SPEC1	1516.8	2000.04	11128.75

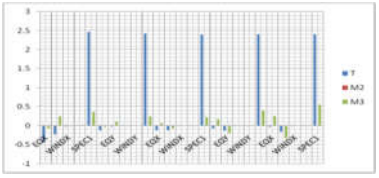


Story	Point	Load	MX	MY	MZ
BASE	1	DEAD	26.815	-32.657	-0.951
BASE	1	LIVE	-0.42	0.462	0
BASE	1	FL	-0.14	0.154	0
BASE	1	EQX	-59.763	-713.766	9.786
BASE	1	EQY	712.662	60.431	-9.709
BASE	1	WINDX	-2.702	-30.564	0.402
BASE	1	WINDY	42.34	3.785	-0.554
BASE	1	SPEC1	944.876	787.519	16.344



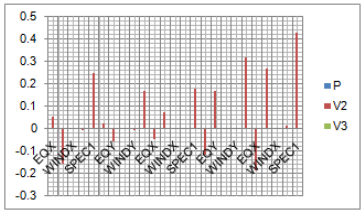
BEAM FORCES (T,M2,M3)

Story	Beam	Load	Loc	T	M2	M3
STORY21	B1	EQX	2.7	-0.414	0	-0.072
STORY21	B1	EQY	2.7	-0.226	0	0.244
STORY21	B1	WINDX	2.7	-0.015	0	-0.004
STORY21	B1	WINDY	2.7	-0.01	0	0.015
STORY21	B1	SPEC1	2.7	2.47	0	0.363
STORY20	B1	EQX	2.7	-0.116	0	-0.03
STORY20	B1	EQY	2.7	-0.022	0	0.105
STORY20	B1	WINDX	2.7	-0.005	0	-0.003
STORY20	B1	WINDY	2.7	0	0	0.009
STORY20	B1	SPEC1	2.7	2.427	0	0.244
STORY19	B1	EQX	2.7	-0.118	0	0.068
STORY19	B1	EQY	2.7	-0.117	0	-0.073
STORY19	B1	WINDX	2.7	-0.005	0	0
STORY19	B1	WINDY	2.7	-0.005	0	0.001
STORY19	B1	SPEC1	2.7	2.399	0	0.226
STORY18	B1	EQX	2.7	-0.068	0	0.166
STORY18	B1	EQY	2.7	-0.128	0	-0.201
STORY18	B1	WINDX	2.7	-0.003	0	0.003
STORY18	B1	WINDY	2.7	-0.005	0	-0.005
STORY18	B1	SPEC1	2.7	2.403	0	0.401
STORY17	B1	EQX	2.7	-0.03	0	0.262
STORY17	B1	EQY	2.7	-0.162	0	-0.328
STORY17	B1	WINDX	2.7	-0.002	0	0.006
STORY17	B1	WINDY	2.7	-0.007	0	-0.011
STORY17	B1	SPEC1	2.7	2.404	0	0.55



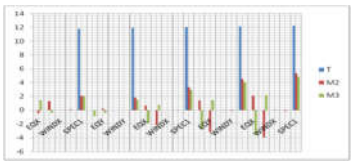
FOR P V2 V3

Story	Beam	Load	Loc	P	V2	V3
STORY21	B1	EQX	2.7	0	0.05	0
STORY21	B1	EQY	2.7	0	-0.16	0
STORY21	B1	WINDX	2.7	0	0	0
STORY21	B1	WINDY	2.7	0	-0.01	0
STORY21	B1	SPEC1	2.7	0	0.25	0
STORY20	B1	EQX	2.7	0	0.02	0
STORY20	B1	EQY	2.7	0	-0.06	0
STORY20	B1	WINDX	2.7	0	0	0
STORY20	B1	WINDY	2.7	0	-0.01	0
STORY20	B1	SPEC1	2.7	0	0.17	0
STORY19	B1	EQX	2.7	0	-0.05	0
STORY19	B1	EQY	2.7	0	0.07	0
STORY19	B1	WINDX	2.7	0	0	0
STORY19	B1	WINDY	2.7	0	0	0
STORY19	B1	SPEC1	2.7	0	0.18	0
STORY18	B1	EQX	2.7	0	-0.12	0
STORY18	B1	EQY	2.7	0	0.17	0
STORY18	B1	WINDX	2.7	0	0	0
STORY18	B1	WINDY	2.7	0	0	0
STORY18	B1	SPEC1	2.7	0	0.32	0
STORY17	B1	EQX	2.7	0	-0.19	0
STORY17	B1	EQY	2.7	0	0.27	0
STORY17	B1	WINDX	2.7	0	0	0
STORY17	B1	WINDY	2.7	0	0.01	0
STORY17	B1	SPEC1	2.7	0	0.43	0



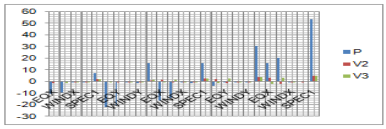
COLUMN FORCES (T,M2,M3)

Story	Column	Load	Loc	T	M2	M3
STORY21	C1	EQX	2.6	0	-0.455	1.432
STORY21	C1	EQY	2.6	0	1.282	-0.379
STORY21	C1	WINDX	2.6	0	-0.03	0.066
STORY21	C1	WINDY	2.6	0	0.085	-0.039
STORY21	C1	SPEC1	2.6	11.837	2.102	2.012
STORY20	C1	EQX	2.6	0	-0.048	-0.879
STORY20	C1	EQY	2.6	0	0.182	-0.459
STORY20	C1	WINDX	2.6	0	-0.018	-0.008
STORY20	C1	WINDY	2.6	0	-0.023	-0.022
STORY20	C1	SPEC1	2.6	11.956	1.851	1.49
STORY19	C1	EQX	2.6	0	0.672	-1.87
STORY19	C1	EQY	2.6	0	-2.18	0.751
STORY19	C1	WINDX	2.6	0	0.005	-0.041
STORY19	C1	WINDY	2.6	0	-0.071	0.01
STORY19	C1	SPEC1	2.6	12.07	3.339	2.919
STORY18	C1	EQX	2.6	0	1.377	-2.848
STORY18	C1	EQY	2.6	0	-3.176	1.468
STORY18	C1	WINDX	2.6	0	0.028	-0.076
STORY18	C1	WINDY	2.6	0	-0.121	0.043
STORY18	C1	SPEC1	2.6	12.17	4.51	4.056
STORY17	C1	EQX	2.6	0	2.073	-3.595
STORY17	C1	EQY	2.6	0	-3.951	2.173
STORY17	C1	WINDX	2.6	0	0.052	-0.106
STORY17	C1	WINDY	2.6	0	-0.164	0.076
STORY17	C1	SPEC1	2.6	12.247	5.348	4.887



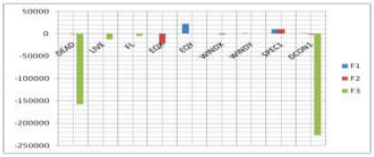
FOR P V2 V3

Story	Column	Load	Loc	P	V2	V3
STORY21	C1	EQX	2.6	-10.47	-1.5	0.34
STORY21	C1	EQY	2.6	-9.25	0.28	-1.34
STORY21	C1	WINDX	2.6	-0.39	-0.07	0.03
STORY21	C1	WINDY	2.6	-0.48	0.03	-0.09
STORY21	C1	SPEC1	2.6	7.13	1.96	2.06
STORY20	C1	EQX	2.6	-21.77	0.33	-0.12
STORY20	C1	EQY	2.6	-21.03	-0.18	0.51
STORY20	C1	WINDX	2.6	-0.87	-0.01	0.01
STORY20	C1	WINDY	2.6	-1.17	0.01	-0.01
STORY20	C1	SPEC1	2.6	15.97	1.21	1.37
STORY19	C1	EQX	2.6	-16.35	1.28	-0.77
STORY19	C1	EQY	2.6	-14.2	-0.85	1.49
STORY19	C1	WINDX	2.6	-0.85	0.02	-0.01
STORY19	C1	WINDY	2.6	-1.08	-0.02	0.03
STORY19	C1	SPEC1	2.6	16.04	2.58	2.79
STORY18	C1	EQX	2.6	-3.68	2.31	-1.41
STORY18	C1	EQY	2.6	-0.23	-1.5	2.52
STORY18	C1	WINDX	2.6	-0.62	0.05	-0.03
STORY18	C1	WINDY	2.6	-0.69	-0.05	0.08
STORY18	C1	SPEC1	2.6	30.6	3.76	4.02
STORY17	C1	EQX	2.6	15.83	3.25	-2.04
STORY17	C1	EQY	2.6	20.54	-2.13	3.46
STORY17	C1	WINDX	2.6	-0.16	0.08	-0.05
STORY17	C1	WINDY	2.6	0	-0.08	0.13
STORY17	C1	SPEC1	2.6	53.45	4.71	5.01

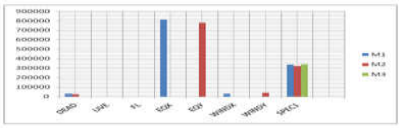


SECTION CUT FORCES

Section	Load	F1	F2	F3
SCUT1	DEAD	986	-992.13	-157796
SCUT1	LIVE	0	0	-12462.2
SCUT1	FL	0	0	-4154.07
SCUT1	EQX	0	-22233.9	0
SCUT1	EQY	22506.84	0	0
SCUT1	WINDX	0	-1027.5	0
SCUT1	WINDY	1440.76	0	0
SCUT1	SPEC1	10401.64	10285.95	0
SCUT1	DCON1	1380.4	-1388.99	-226729



Section	Load	M1	M2	M3
SCUT1	DEAD	29296.8	26064.83	998.339
SCUT1	LIVE	0	0	0
SCUT1	FL	0	0	0
SCUT1	EQX	810120.5	0	0
SCUT1	EQY	0	777789.4	0
SCUT1	WINDX	30690.21	0	0
SCUT1	WINDY	0	40802.02	0
SCUT1	SPEC1	335168.2	323597.6	343055.5



V.CONCLUSIONS

From the present examination and the outcomes got it tends to be finished up as following:

1) In medium tall structures (ie more prominent than 10 stories) arrangement of shear dividers is observed to be compelling in upgrading the general seismic limit qualities of the structure.

2) From the correlation of story float esteems it very well may be seen that most extreme decrease in float esteems is acquired when shear dividers are given at corners of the building .

3) Lateral dislodging esteems acquired from static technique for investigation demonstrate that shear divider arrangement along longitudinal and transverse bearings are viable in lessening the uprooting esteems in similar ways. Reaction range investigation results gives a more practical conduct of structure reaction and henceforth it tends to be seen that the relocation esteems in both X and Y headings are minimum in show with shear divider in center and corners when contrasted with every single other model.

4) The fortification necessity in segment is influenced by the area and introduction of neighboring shear dividers and segments ,ie arrangement along weaker or more grounded pivot for the structure under thought. In spite of the fact that the interest is shifting ,it could be seen that the segments arranged close to center territory demonstrate a decrease in steel necessity up to 44.6% when shear divider is given at the center and 34.7% when shear divider is situated at center and corner of the structure.

5) Push over examination results gives an understanding into the execution of structures in post versatile range which in this manner helps in surveying the shortcoming and conceivable disappointment components of structure which isn't conceivable when utilizing equal static and reaction range strategy for investigation .This could be valuable in redressing the inconvenient impacts in the plan organize itself or for receiving reasonable retrofitting strategies if there should be an occurrence of post tremor seismic risk estimation

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