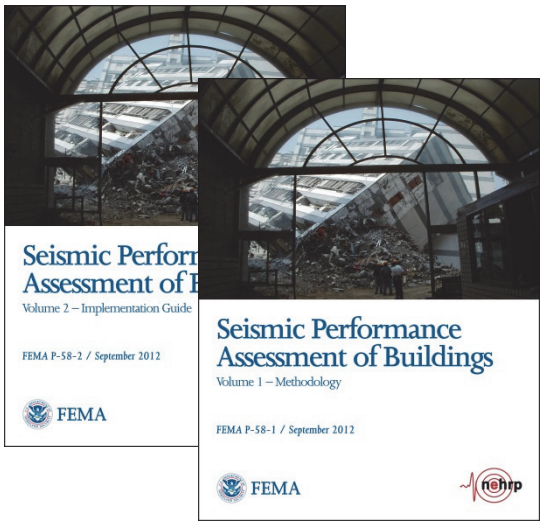

Background Document

FEMA P-58/BD-3.7.17

Development of Fundamental Period Adjustment Factors for Buildings in Low-to-Moderate Seismic Excitation

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Background Documentation

FEMA P-58 Background Documents are a series of reports documenting the technical background and source information for key aspects of the FEMA P-58 methodology and its implementation. This report was developed over the course of the 5-year ATC-58-2 Project funded under FEMA Contract HSFE60-12-C-0243.

Background Documents were developed by consultants, serving at various levels within the project hierarchy, reporting the results of: (1) decisions on technical development protocols; (2) focused studies on the development of key aspects of the methodology; (3) documentation of recommended procedures; and (4) collection of available data for the development of structural and nonstructural fragilities. They were initially intended to serve as a record of the technical state-of-knowledge at the time they were produced, and as resources for the development of the eventual project reports. As such, they represent a snapshot in time, and may, or may not, match the technical content, recommended procedures, or data incorporated into the final methodology and its implementation.

This Background Document is intended for the purpose of providing supplemental knowledge to users of the FEMA P-58 methodology. Information contained herein has not been independently verified for accuracy as a stand-alone document, and may have been superseded in its final implementation within the methodology. Specifically in the case of certain nonstructural component fragilities, the NISTIR fragility classification numbering scheme was modified over the course of the project, and the fragility classification number assigned in this document might be different from numbers assigned in the final fragility database. Users of information in this document assume all liability arising from such use.

Notice

Cover photograph – Collapsed building viewed through the archway of an adjacent building, 1999 Chi-Chi, Taiwan earthquake (courtesy of Farzad Naeim, Farzad Naeim, Inc).

Contents

Summary

Estimation of the economic loss of a building due to seismic excitation is usually carried out using a computational model of the building's structural system that rarely includes all sources of lateral stiffness. The goal of this research project is to increase the accuracy of estimates of a building's performance at low-to-moderate seismic ground shaking levels. The primary objectives of this project are to: (1) identify and quantify the dependence of lateral stiffness of structural systems to intensity of seismic ground shaking; and (2) quantify stiffness adjustment factors by which lateral stiffness of building models-developed based on conventional methods-may be modified to represent the dependency of lateral stiffness to seismic ground shaking intensity.

This report provides a practical approach in adjusting the fundamental period and lateral stiffness of the computational model of a building's structural system, which aid in further research that will provide a more realistic estimation of seismic loss is possible. To that end, we have utilized a database of instrumented buildings that have experienced ground shaking in past earthquakes in California– through California Strong Motion Instrumentation Program (CSMIP) – and estimated their natural periods through System Identification, and conventional analysis methods used in industry.

In this research, a comprehensive set of instrumented buildings were selected to be analyzed and used to quantify their dependence on lateral stiffness. Seven buildings were selected, which were comprised of the following lateral force resisting systems:

1. Reinforced Concrete Shear Walls (RCW)
2. Reinforced Concrete Moment Resisting Frames (RCMRF)
3. Steel Moment Resisting Frames (SMRF)

Table 1: List of Buildings

No.	CSMIP ID	Name	Floors above	Floors below	# of Sensors	Plan Shape	Primary VSFRS
1	54388	Bishop - 2-story Office Bldg.	2	0	13	Rectangular	SMRF[4]
2	12299	Palm Springs - 4-story Hospital	4	1	13	Rectangular	SMRF
3	12284	Palm Desert - 4-story Office Bldg.	4	0	9	Rectangular	RCW
4	24463	Los Angeles 5-story Warehouse	5	1	13	Rectangular	RCMRF[5]
5	23287	San Bernardino - 6-story Hotel	6	0	9	Rectangular	RCW
6	24571	Pasadena - 9-story Commercial Bldg.	9	1	15	Rectangular	RCMRF
7	24322	Sherman Oaks 13-story Commercial Bldg.	13	2	15	Rectangular	RCMRF

System Identification was performed for each structural system to identify the natural period of each structure while experiencing low-to-high seismic shaking levels. In addition, the natural period of each structural system was provided through use of a computational model, ETABS. The natural periods provided through system identification and the computational model were then compared to identify the discrepancy in the natural periods given for each structure. From this comparison, adjustment factors were created for the natural periods based on the ratio of the natural period provided through system identification to the natural period provided through the computational model (T_{SID}/T_{ETABS}).

From the analysis performed on the seven buildings, it was concluded that the stiffness resulting from nonstructural elements contributed to the natural period of the building during low-to-moderate ground shaking. These low-to-moderate shaking levels were designated by utilizing earthquake records with a Peak Ground Acceleration less than 0.2g. Furthermore, it was determined that the more accurately sources of stiffness of the building are designated in the computational model, the more accurate the natural period.

There are several factors that lead to a difference between the period derived from a computational model and that of the actual period identified during low-to-moderate ground shaking. It was determined that the absence of nonstructural elements and other attachments (e.g., partitions and cladding, etc.) from the computational models can result in a longer fundamental period for the structure. Alternatively, if concrete cracking and foundation flexibility is not taken into account in the computational model, the resultant period will be shorter than that of the actual identified period of the building. As a result, the period provided through the analysis of the computational model must be adjusted to take these elements into account.

From the analysis performed for each building using system identification and the computational model, the comparison of natural periods led to the derivation of the adjustment factors. The adjustment factors were compared for each of the lateral force resisting system types and a generalized adjustment was determined. It is recommended that the following stiffness adjustment factors be applied to the following structural systems:

- Reinforced Concrete Shear Walls – 0.9 T_{ETABS}
- Reinforced Concrete Moment Resisting Frames – 0.7 T_{ETABS}
- Steel Moment Resisting Frames – 0.6 T_{ETABS}

Background

The current studies on enhancing performance-based earthquake engineering are focusing on the accurate estimation of loss due to low-to-moderate ground shaking. Currently, the conventional methods being used to estimate loss in a building do not include the participation of additional sources of stiffness. Current modeling techniques only take into consideration the stiffness of the building due to its structural components (i.e., beams, columns, walls, and braces). Because all sources of stiffness are not accounted for in the structural analysis of a building, the estimated losses to that structure are inaccurately depicted.

The purpose of this research is to provide a practical approach in adjusting the fundamental period and lateral stiffness of the computational model of a building's structural system, which aid in further research that will provide a more realistic estimation of seismic loss. To that end, we have utilized a database of instrumented buildings that have experienced ground shaking in past earthquakes in California– through CSMIP –and estimated their natural periods through System Identification, and conventional analysis methods used in industry. The natural periods were then compared to identify adjustment factors.

Summary of the Procedure

System Identification

The seven buildings selected for this research were instrumented and the data recorded from each seismic event were gathered through the California Strong Motion Instrumentation Program. All ground motions recorded at each site were selected for the implementation of system identification. Knowing the building properties and the acceleration data from each building, system identification was implemented to identify the natural period of the each building during each seismic event in both the transverse and longitudinal direction of the building. In the case of this research, a Single Input Multiple Output method was used. The Structural Modal Identification Toolsuite (SMIT) was used to perform this analysis and provided four methods of system identification. The four methods included:

- Eigensystem Realization Algorithm with the Observer/Kalman filter – Input Output method (ERA-OKID-IO)
- Auto-Regressive model with Exogenous terms (ARX)
- System Realization using Information Matrix method (SRIM)
- Numerical algorithms for Subspace State Space System Identification – Input Output method (N4SID-IO)

Using information regarding the building geometry, sensor location, and acceleration records, the periods were identified in SMIT. The natural periods identified through each method were then compared and averaged to derive the identified period to be used for each seismic event.

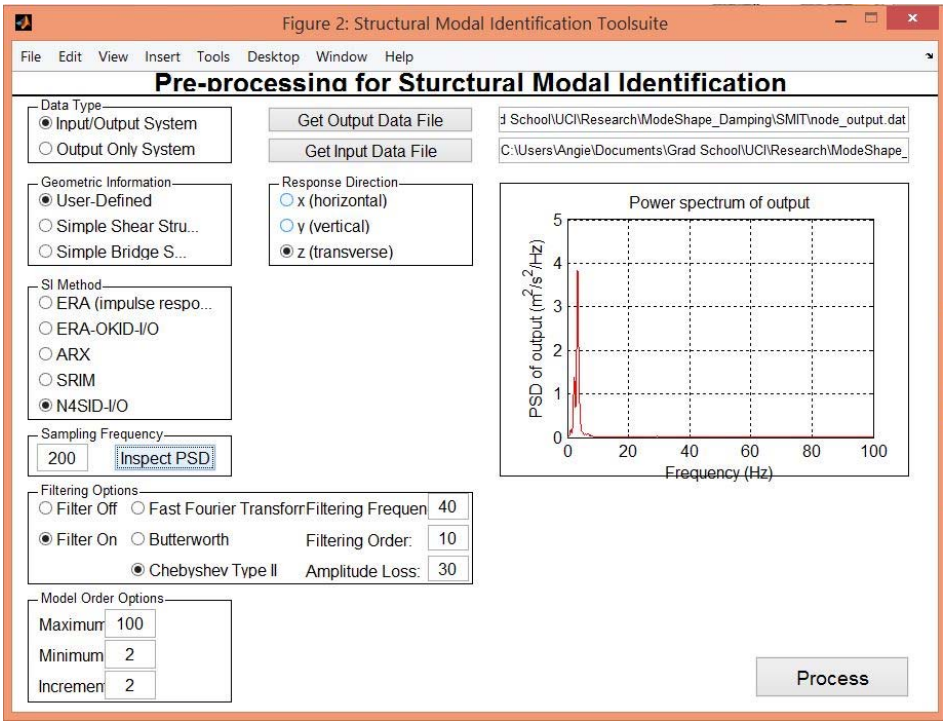


Figure 1: SMIT Pre-Processing Interface

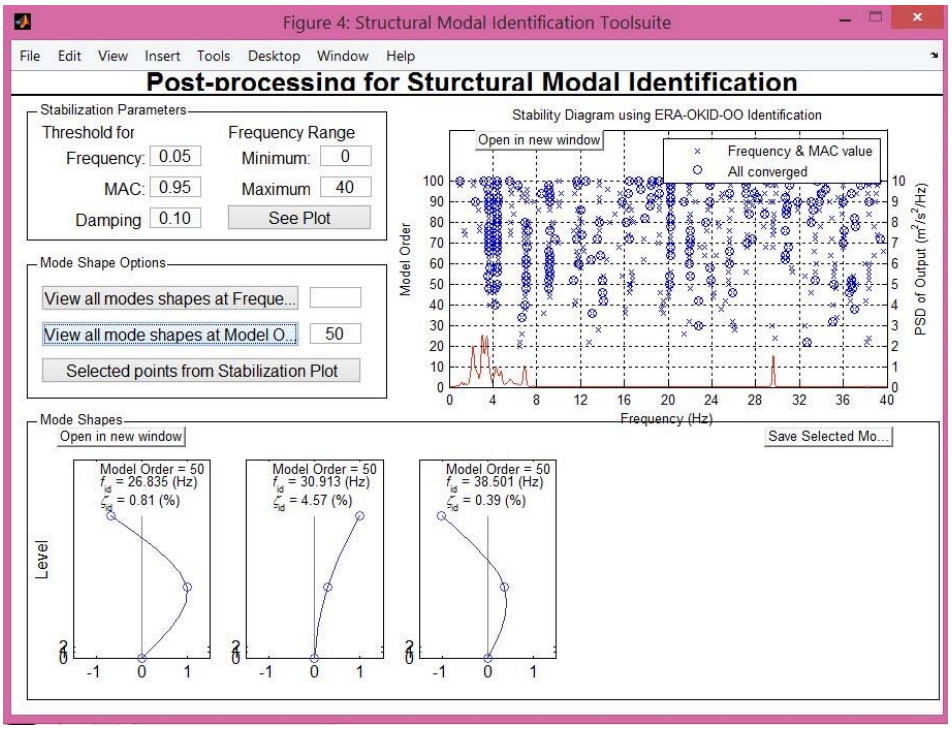


Figure 2: SMIT Post-Processing Interface

Computational Model

A computational model of each building was created in ETABS using the drawings provided by CSMIP. The following loading assumptions were made for each building:

Table 2: Loading Assumptions

Building Use:	Additional Dead Load:	Cladding Load:
Office	25 psf	25 psf
Hospital	40 psf	25 psf
Warehouse	50 psf	25 psf

In addition, for each building type, different stiffness properties were applied to each building to evaluate their impact to the natural period. The following stiffness properties were applied to each of the building types:

- Reinforced Concrete Walls

  Table 3: RCW Stiffness Properties

Beams:	Columns:	Walls:
0.3 I_g	0.3 I_g	0.35 I_g
0.35 I_g	0.35 I_g	0.5 I_g
0.5 I_g	0.5 I_g	0.75 I_g
0.7 I_g	0.7 I_g	1.0 I_g
	0.9 I_g	
	1.0 I_g	

- Reinforced Concrete Moment Resisting Frames

  Table 4: RCMRF Stiffness Properties

Beams:	Columns:	Walls:
0.3 I_g	0.30 I_g	0.35 I_g
0.35 I_g	0.35 I_g	1.0 I_g
0.5 I_g	0.5 I_g	
0.7 I_g	0.7 I_g	
	0.9 I_g	
	1.0 I_g	

- Steel Moment Resisting Frame

Table 5: SMRF Stiffness Properties

Panel Zone Offset
0
0.5
1.0

Building Model Details

Reinforced Concrete Walls:

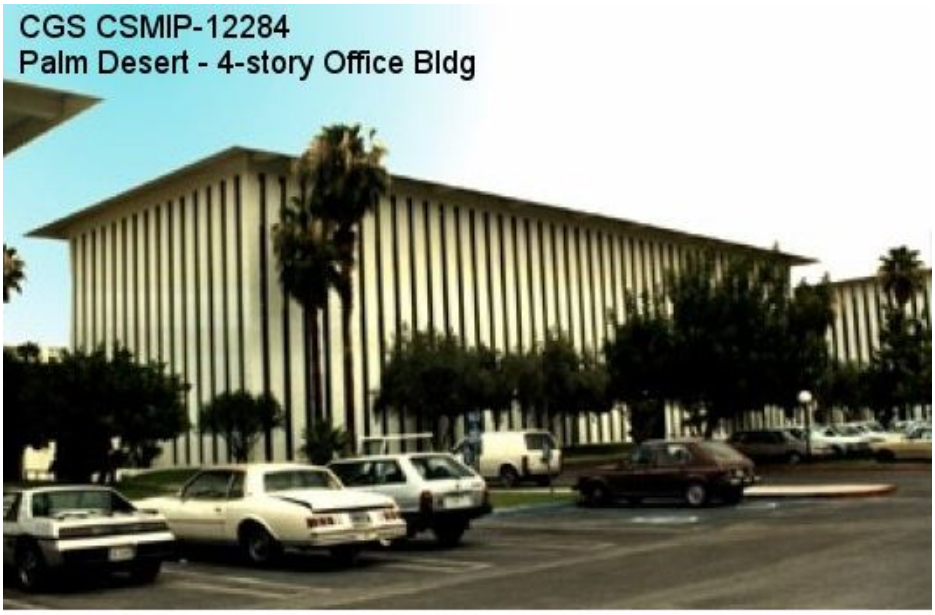


Figure 3: Station 12284

Station 12284: Palm Desert 4-story Office Building

- Vertical Load Carrying (Gravity) System – Precast concrete slabs supported by precast beams and columns.
- Lateral Force Resisting System – Precast element system of walls, beams, and columns in conjunction with reinforced concrete walls around the elevator and staircases.
- Assumptions:
    - Building modeled with pinned column base.
    - Based on precast connection drawings, beam-column connections were modeled as moment resisting connections.
- Natural periods were determined in using the following scenarios:
    - American Concrete Institute (ACI) and the Los Angeles Tall Building Structural Design Council (LATBSDC) values were used to determine the stiffness properties where both the gravity and lateral systems' elements maintained the original Young's modulus values dependent on the specified material type.

- ACI and LATBSDC values were used to determine the stiffness properties where the walls of the lateral system maintained the original Young's modulus value. However, the modulus of the beams and columns in the gravity system was multiplied by a factor of 0.001 to determine how much of the gravity-only element system participates in the determination of the period.

Figure 4: Station 23287

Station 23287: San Bernardino 6-story Hotel

- Vertical Load Carrying (Gravity) System – Precast concrete floor panels with reinforced concrete walls in the longitudinal and transverse direction. In addition, there are columns placed only on the first floor to provide additional support to the gravity system in addition to the walls.
- Lateral Force Resisting System – Reinforced concrete walls in the longitudinal and transverse directions.
- Assumptions:
  - Building modeled with pinned column base.
- Natural periods were determined in using the following scenarios:
  - ACI and LATBSDC values were used to determine the stiffness properties, where both the gravity and lateral systems' elements maintained the original Young's modulus values dependent on the specified material type.
  - ACI and LATBSDC values were used to determine the stiffness properties where the walls of the lateral system maintained the original Young's modulus value. However, the modulus of the columns in the gravity system was multiplied by a factor of 0.001 to determine how much of the gravity-only element system participates in the determination of the period.

Reinforced Concrete Moment Resisting Frames

Figure 5: Station 24322

Station 24322: Sherman Oaks 13-story Commercial Building

- Vertical Load Carrying (Gravity) System – Concrete slabs supported by concrete beams and columns.
- Lateral Force Resisting System – Concrete moment frames in both the longitudinal and transverse directions for the upper stories with concrete shear walls in the basement.
- Assumptions:
    - Only the frame elements of the lateral system were modeled in ETABS. As a result, the stiffness of the beams and columns of the gravity system could not be reduced to determine additional participation of gravity system to the period.
    - Building modeled with pinned column base.
    - Instead of modeling intermediate beams, the volume of the concrete beams was included in the depth of the concrete slab.
- Natural periods were determined in using the following scenario:
    - ACI and LATBSDC values were used to determine the stiffness properties where both the gravity and lateral systems' elements maintained the original Young's modulus values dependent on the specified material type.

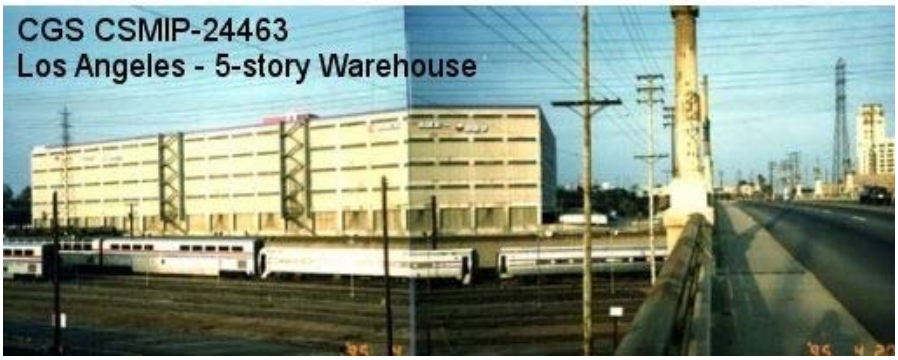


Figure 6: Station 24463

Station 24463: Los Angeles 5-story Warehouse

- Vertical Load Carrying (Gravity) System – Concrete flat slabs with drop panels supported by concrete columns
- Lateral Force Resisting System – Reinforced concrete moment frame with concrete shear walls in the basement
- Assumptions:
    - Since gravity system is comprised of flat slabs with drop panels, where the beams and slabs were monolithically poured, it was assumed that the beams in gravity system had moment resisting connections along with the exterior beams in the frame.
    - Building modeled from ground surface level and up with fixed column base.
- Natural periods were determined in using the following scenarios:
    - ACI and LATBSDC values were used to determine the stiffness properties where both the gravity and lateral systems' elements maintained the original Young's modulus values dependent on the specified material type.
    - ACI and LATBSDC values were used to determine the stiffness properties where lateral system's elements maintained the original Young's modulus value. However, the modulus of the beams and columns in the gravity system was multiplied by a factor of 0.001 to determine how much of the gravity-only element system participates in the determination of the period.

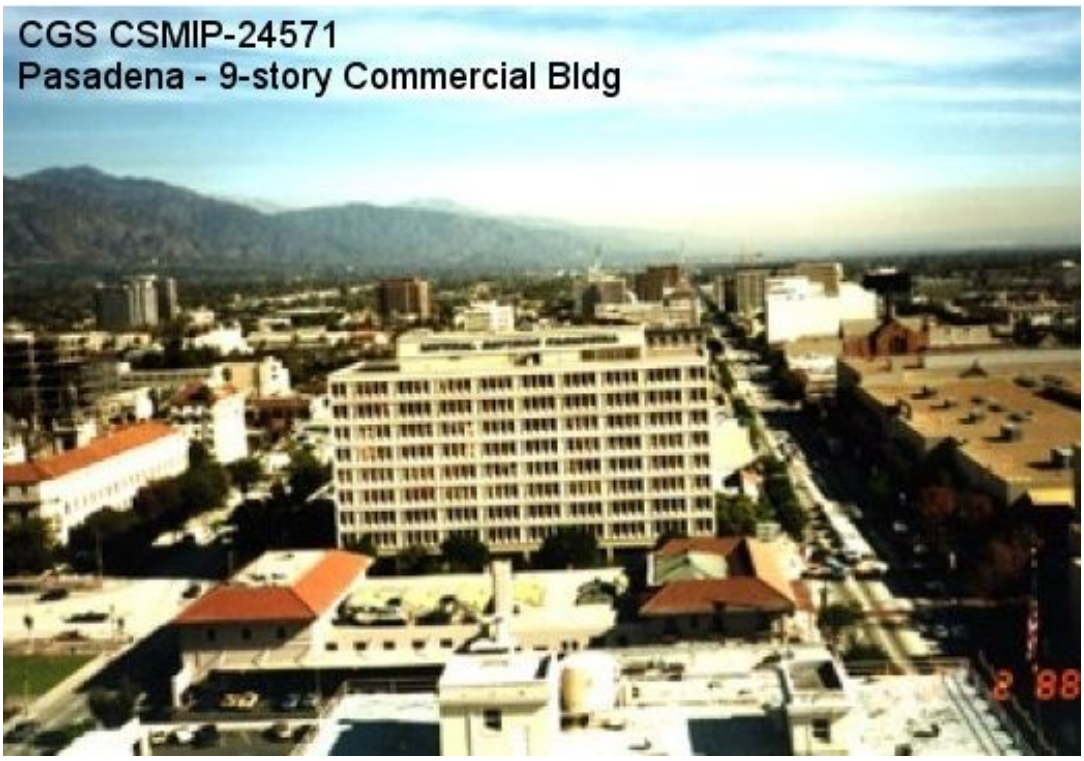


Figure 7: Figure 24571

Station 24571: Pasadena 9-story Commercial Building

- Vertical Load Carrying (Gravity) System – Concrete flat slabs with drop panels supported by concrete columns
- Lateral Force Resisting System – Reinforced concrete slab-column system providing moment resistance with beam-column system at the core of each floor.
- Assumptions:
    - Since gravity system is comprised of flat slabs with drop panels, where the beams and slabs were monolithically poured, it was assumed that the beams in gravity system had moment resisting connections along with the exterior beams in the frame.
    - Building modeled with pinned column base.
- Natural periods were determined in using the following scenarios:
    - ACI and LATBSDC values were used to determine the stiffness properties where both the gravity and lateral systems' elements maintained the original Young's modulus values dependent on the specified material type.
    - ACI and LATBSDC values were used to determine the stiffness properties where lateral system's elements maintained the original Young's modulus value. However, the modulus of the beams and columns in the gravity system was multiplied by a factor of 0.001 to determine how much of the gravity-only element system participates in the determination of the period.

Steel Moment Resisting Frames

Figure 8: Station 12299

Station 12299: Palm Springs 4-story Hospital

- Vertical Load Carrying (Gravity) System – Reinforced concrete slabs are supported by the steel frame. Steel columns encased in concrete carry load between the basement level and first floor.
- Lateral Force Resisting System – Steel moment frames
- Assumptions:
    - Building modeled with pinned column base.
- Natural periods were determined in using the following scenarios:
    - Analysis was performed for three different scenarios, where the panel zone length offset values were set at 0, 0.5, and 1. Also, all elements in both the lateral and gravity systems maintained their original Young's modulus values dependent on the specified material type.
    - Analysis was performed for three different scenarios, where the panel zone length offset values were set at 0, 0.5, and 1. Also, all elements in both the lateral system maintained their original Young's modulus values dependent on the specified material type. However, the Young's modulus of the gravity elements with fully pinned connections were multiplied by a factor of 0.001 to determine how much of the gravity-only element system participates in the determination of the period.

Figure 9: Station 54388

Station 54388: Bishop 2-story Office Building

- Vertical Load Carrying (Gravity) System – Composite floor system that is supported by steel columns, trusses, and joists.
- Lateral Force Resisting System – In the transverse direction, steel columns and trusses are connected to provide moment resisting frames. In the longitudinal direction, steel rod x-bracing is placed along exterior walls.
- Assumptions:
    - Building modeled with pinned column base.
- Natural periods were determined in using the following scenarios:
    - Analysis was performed for three different scenarios, where the panel zone length offset values were set at 0, 0.5, and 1. Also, all elements in both the lateral and gravity systems maintained their original Young's modulus values dependent on the specified material type.
    - Analysis was performed for three different scenarios, where the panel zone length offset values were set at 0, 0.5, and 1. Also, all elements in both the lateral system maintained their original Young's modulus values dependent on the specified material type. However, the Young's modulus of the gravity elements with fully pinned connections were multiplied by a factor of 0.001 to determine how much of the gravity-only element system participates in the determination of the period.

Comparison of Natural Periods

The natural periods provided through system identification and the computational model were then compared to identify the discrepancy in the natural periods given for each structure. From this comparison, adjustment factors were created for the natural periods and stiffness based on the ratio of the natural period provided through system identification to the natural period provided through the computational model (T_{SID}/T_{ETABS}). The following equation was used to identify the adjustment factor's relationship to both the natural periods and stiffness:

$$Adjustment\ Factor = \frac{T_{SID}}{T_{ETABS}} = \sqrt{\frac{k_{ETABS}}{k_{SID}}}$$

Data Analysis

For the purpose of this analysis the following stiffness properties based on the American Concrete Institute and Los Angeles Tall Building Structural Design Council manuals were utilized for the derivation of the adjustment factors:

- Reinforced Concrete Walls

Table 6: RCW Analysis Stiffness Properties

	ACI:	LATBSDC:
Walls:	0.35 I_g	0.75 I_g
Beams:	0.35 I_g	0.7 I_g
Columns:	0.7 I_g	0.9 I_g

- Reinforced Concrete Moment Resisting Frames

Table 7: RCMRF Analysis Stiffness Properties

	ACI:	LATBSDC:
Basement Walls:	1.0 I_g	1.0 I_g
Beams:	0.35 I_g	0.7 I_g
Columns:	0.7 I_g	0.9 I_g

- Steel Moment Resisting Frames

Table 8: SMRF Analysis Stiffness Properties

Panel Zone Offset:
0
0.5
1.0

The natural periods derived by system identification (T_{SID}) and the computation model (T_{ETABS}) were compared and the adjustment factor is based on the ratio, T_{SID} to T_{ETABS}. When comparing the adjustment factors provided through the use of ACI stiffness properties and the LATBSDC, it was determined that the ACI properties are representative of what is generally used for conventional design regardless of the region in the United States. As a result, the adjustment factors provided through the use of ACI will be solely used to determine the applicable adjustment factors for each structural system.

Analysis of Reinforced Concrete Walls

Table 9: RCW Analysis LATBSDC vs. ACI (With Participation of Both Lateral and Gravity System)

	LATBSDC			ACI		
Station	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**
12284	0.51	Transverse	1.12	0.65	Transverse	0.87
23287	0.262	Longitudinal	1.70	0.291	Longitudinal	1.53

Table 10: RCW Analysis LATBSDC vs. ACI (Without Participation of Gravity System)

	LATBSDC			ACI		
Station	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**
12284	0.55	Transverse	1.03	0.74	Transverse	0.76
23287	0.264	Longitudinal	1.68	0.294	Longitudinal	1.51

Each building was analyzed to determine the level of participation that the gravity system plays in the determination of the natural period of each building. In the case of Station 23287, the walls resist loading in both the lateral and vertical direction. In addition, there are columns placed only on the first floor to provide additional support to the gravity system in addition to the walls. As seen in Table 9 and 10, the reduction in stiffness of the columns (gravity-only elements) in Station 23287 cause only an insignificant increase in the period (T_{ETABS}).

In the case of Station 12284, the walls provide most of the lateral resistance. However, the beam-column frame also provides some lateral resistance with its moment connections. Ignoring the stiffness of these elements causes an increase in the estimated natural period, however, it is unknown if one can assume that these elements do not participate in the lateral stiffness of the structure. In moving forward, the natural period found that includes both the participation of walls and frame (Table 9) will be used to determine the adjustment factor.

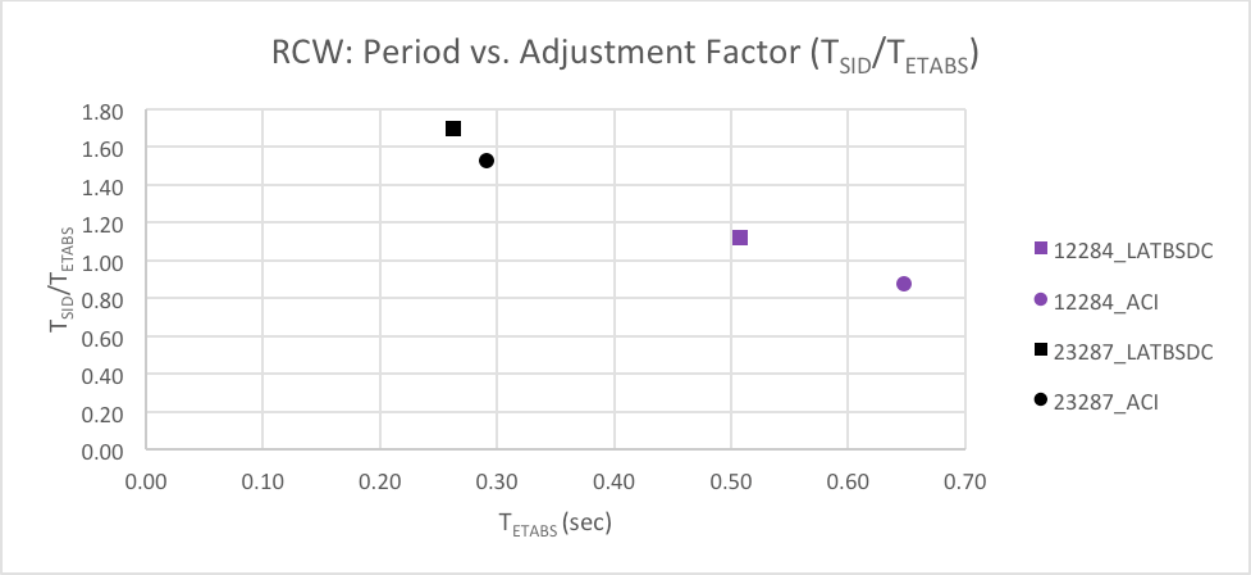


Figure 10: RCW Analysis

Based on Figure 10, the adjustment factor for Station 12284 ranges from 0.90 and 1.10. However, the adjustment factor for Station 23287 ranges from 1.50 to 1.70. The computational model for Station 23287 is providing a larger period than the period identified through system identification, while the periods provided for Station 12284 are very similar. Even though both buildings have the same structural system type, there is an inconsistency in how well the computational model depicts the natural period of the RCW building.

Stations 12284 and 23287 are both comprised of concrete shear walls, but there is a dissimilarity in the amount of walls that is considered within the computational model. Station 12284 is an office building whose perimeter is comprised of concrete walls with only a minimal number of concrete shear walls within the building that are designated in the model. The interior walls modeled for the building are only for the elevator shaft and two staircases. Alternatively, Station 23287 is a hotel whose interior walls and/or partition walls are mostly comprised of concrete walls, which are also designated in the computational model. With this information, the natural period provided through the model can be explained.

A computational model, such as ETABS, considers the base of a concrete wall as a fixed support. Furthermore, as the number of concrete walls that are designated in the computational model increases, the stiffness of the building will proportionally increase. The increase in stiffness causes the natural period obtained in the computational model to be lower. Whereas, in actuality a building with shear walls experiences base flexibility while experiencing ground shaking, and the assumption of a fixed base does not apply. As a result, the actual building will be influenced by base flexibility and cause the natural period obtained through system identification to be longer.

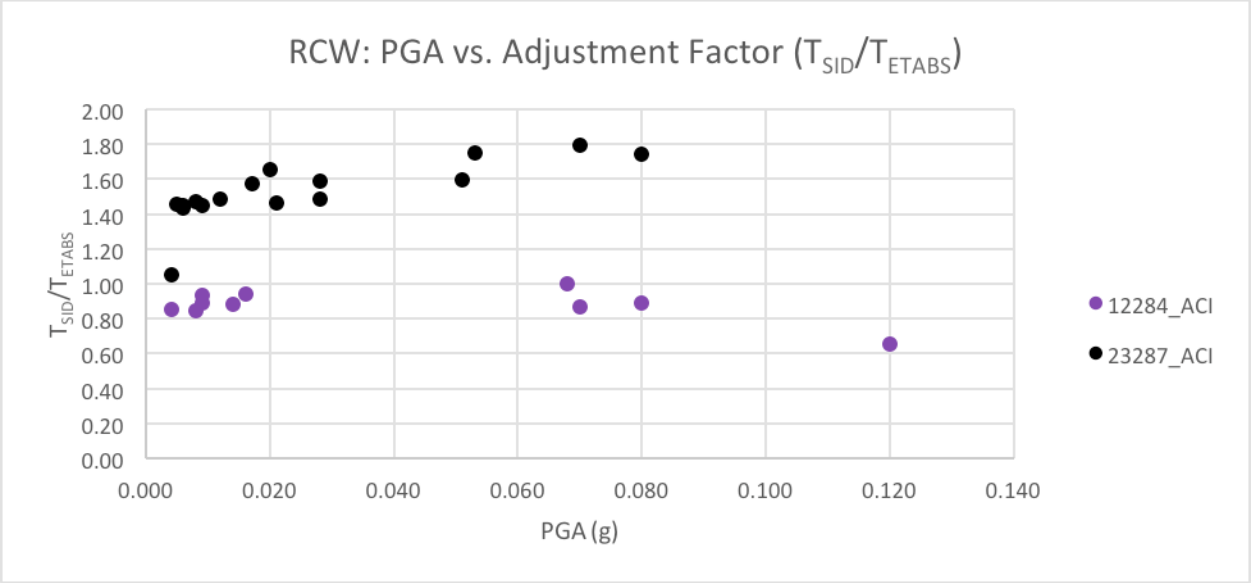


Figure 11 RCW: Peak Ground Acceleration vs. Adjustment Factor

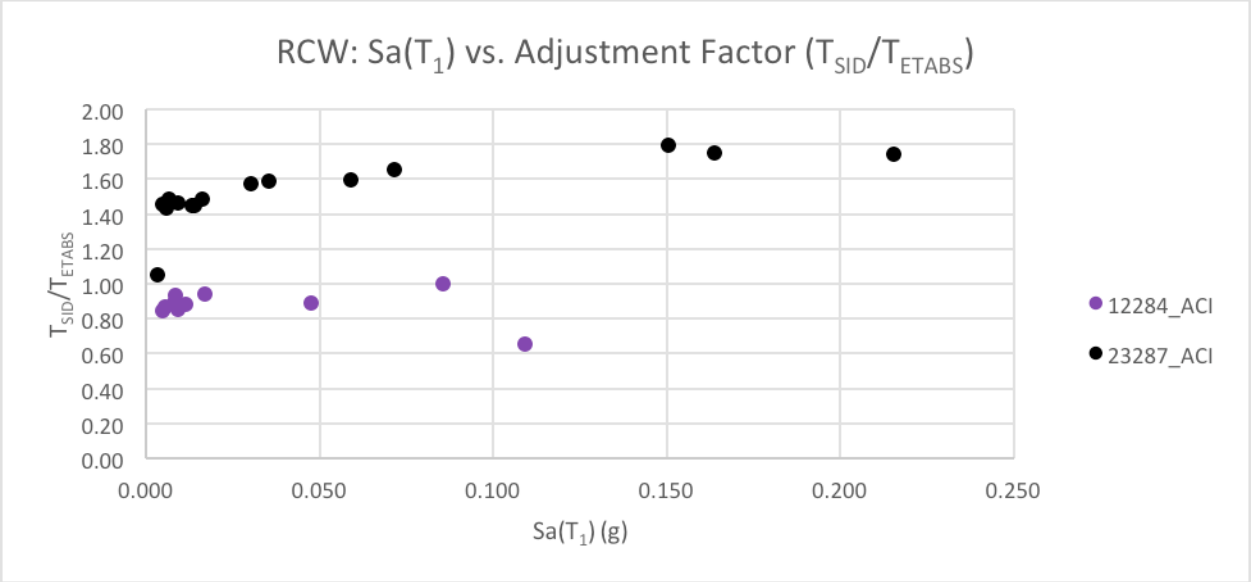


Figure 12 RCW: Spectral Acceleration vs. Adjustment Factor

Furthermore, the comparison of the adjustment factors for Stations 12284 and 23287 to the intensity measures (IM) of each seismic event, Peak Ground Acceleration (PGA) and Spectral Acceleration, illustrate that there is a generally steady progression of the adjustment factor increase with the increase of the IM. Since there were not any seismic events with a PGA above 0.2g at Station 12284, the building's response to high ground shaking was not obtainable, as shown in the Figure 11 and 12. Alternatively, there was one event where its PGA was greater than 0.2g for Station 23287 which does not provide an adequate difference in adjustment factor in the range of moderate-to-high ground shaking.

For Station 12284, it was determined that the average adjustment factor is 0.90 for most seismic events with PGA under 0.2g. In addition, for Station 23287 the average adjustment factor is 1.6. Currently, most conventional shear wall buildings are being designed to have minimal shear walls. Therefore, Station 23287 is not a typical building and its corresponding data will not be used in the derivation of the adjustment factor for RCMRFs. Consequently, it is recommended that all RCW buildings have an adjustment factor of 0.9.

Reinforced Concrete Moment Resisting Frames

Table 11: RCMRF Analysis LATBSDC vs. ACI (With Participation of Both Lateral and Gravity System)

	LATBSDC			ACI		
Station	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/TETABS)**	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**
24322	2.70	Transverse	0.98	3.44	Transverse	0.76
24463	1.83	Longitudinal	0.57	2.15	Longitudinal	0.49
24571	2.05	Transverse	0.79	2.30	Transverse	0.70

Table 12: RCMRF Analysis LATBSDC vs. ACI (Without Participation of Gravity System)

	LATBSDC			ACI		
Station	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**	**Period (T_{ETABS})**	**Direction**	**Ratio (T_{SID}/T_{ETABS})**
24322	2.70	Transverse	0.98	3.44	Transverse	0.76
24463	3.84	Longitudinal	0.27	3.85	Longitudinal	0.27
24571	2.21	Transverse	0.73	2.47	Transverse	0.66

Each building was analyzed to determine the level of participation that the gravity system plays in the determination of the natural period of each building. In the case of Station 24322, the gravity system did not have any participation in the determination of the period because only the lateral resisting frames were modeled in ETABS originally.

Station 24463 is comprised of a large number of structural elements that could be attributed to the gravity system. As seen in Table 11, the period is 1.83 and 2.15 seconds for the LATBSDC and ACI scenarios, respectively, if we assume all the elements are part of lateral load resisting system. However, the reduction in stiffness of so called gravity columns causes a large reduction in the overall stiffness of the structure, causing the natural period to become significantly longer. The period is determined to be 3.84 and 3.85 seconds, for the LATBSDC and ACI scenarios, respectively. With this outcome, and considering the dynamics of the system, we can only come to the understanding that the so called gravity columns, along with the flat slab, provide some moment resisting capacity. As a result, the

participation of the stiffness of the interior columns must be included to determine an accurate natural period for the structure.

In the case of Station 24571, it was determined that the inclusion of the gravity elements does not make a significant difference in the determination of the natural period provided through analysis when the number of gravity columns does not exceed the number of columns designed for lateral resisting behavior. As seen in Table 11, the original period is 2.05 and 2.30 seconds for the LATBSDC and ACI scenarios, respectively. The reduction in stiffness of such a small number of the gravity beams and columns causes a small reduction in the overall stiffness of the structure and small effect on the period. As seen in Table 12, the period is determined to be 2.21 and 2.47 seconds, for the LATBSDC and ACI scenarios, respectively. Because this is the case, we can only come to the understanding that the gravity beams and columns, along with the flat slab, provides some moment resisting capacity due to the monolithically poured elements. However, since the participation of the stiffness of gravity design elements is low, the inclusion of such a minimal number of gravity element do not necessarily need to be included to determine an accurate natural period for the structure.

Furthermore, the participation of the gravity elements in the determination of the natural period is significant if the number of gravity elements exceeds the number of lateral resisting elements, where the gravity system still provides some moment resisting capacity. As a result, the natural periods provided in Table 11 must be used for the further analysis of the RCMRF buildings.

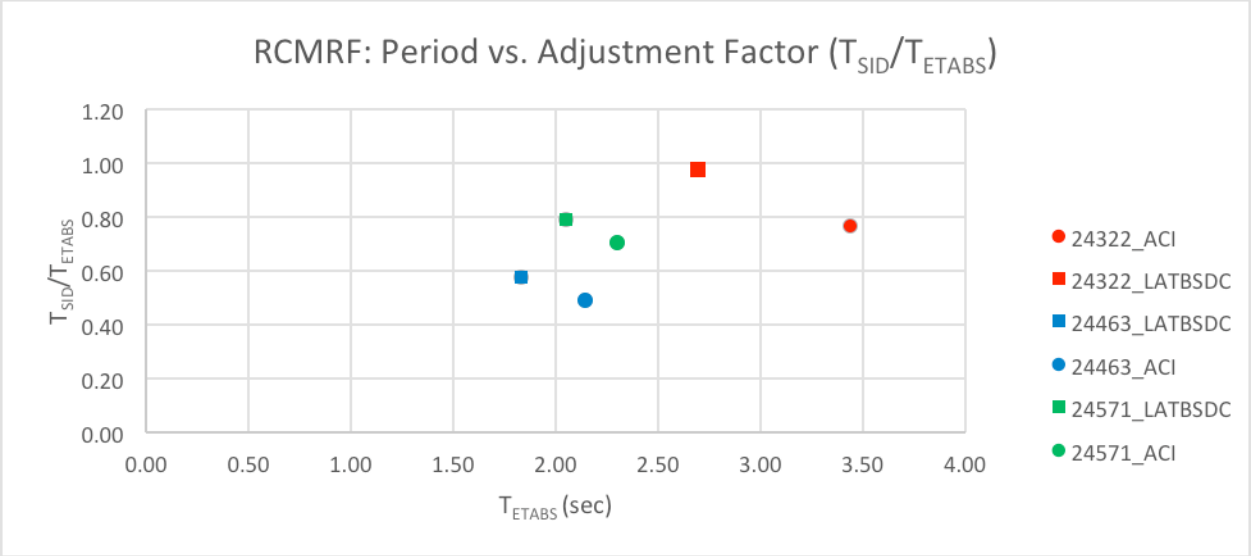


Figure 13: RCMRF Analysis

Based on Figure 13, the adjustment factor for Stations 24463 and 24571 ranges from 0.50 and 0.80. However, the adjustment factor for Station 24322 ranges from 0.75 to 1.00. Consequently, the natural period provided by the computational model for Station 24322 is more closely related to the natural period identified through system identification.

In looking at Station 24322 in comparison to Stations 24463 and 24571, Station 24322 is a moment frame with glass and minimal cladding on the exterior of the building. Alternatively, Stations 24571 and 24463 have heavier precast concrete panels for cladding. In the computational models, the cladding is only designated as additional loading with no added stiffness. In actuality, the exterior cladding and other attachments provides additional stiffness to the structure, where its participation causes the identification a lower natural period at low-to-moderate ground shaking. As a result, the computational model for buildings with minimal infill and exterior attachments will have natural periods closer to that of the identified period where this participation is not a factor.

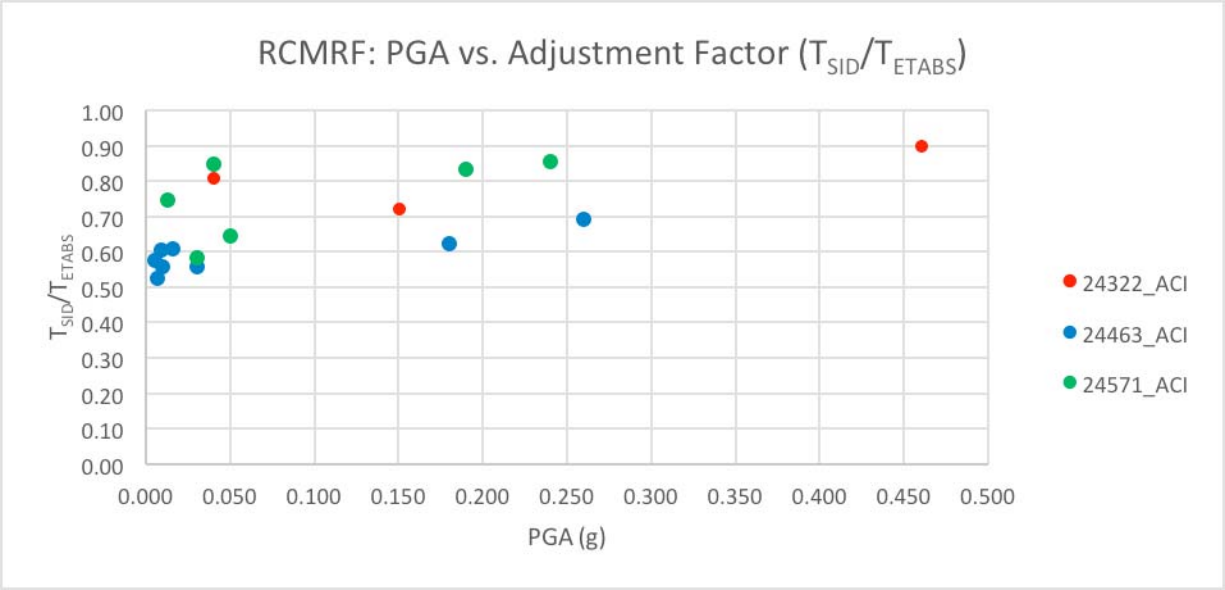


Figure 14: RCMRF: Peak Ground Acceleration vs. Adjustment Factor

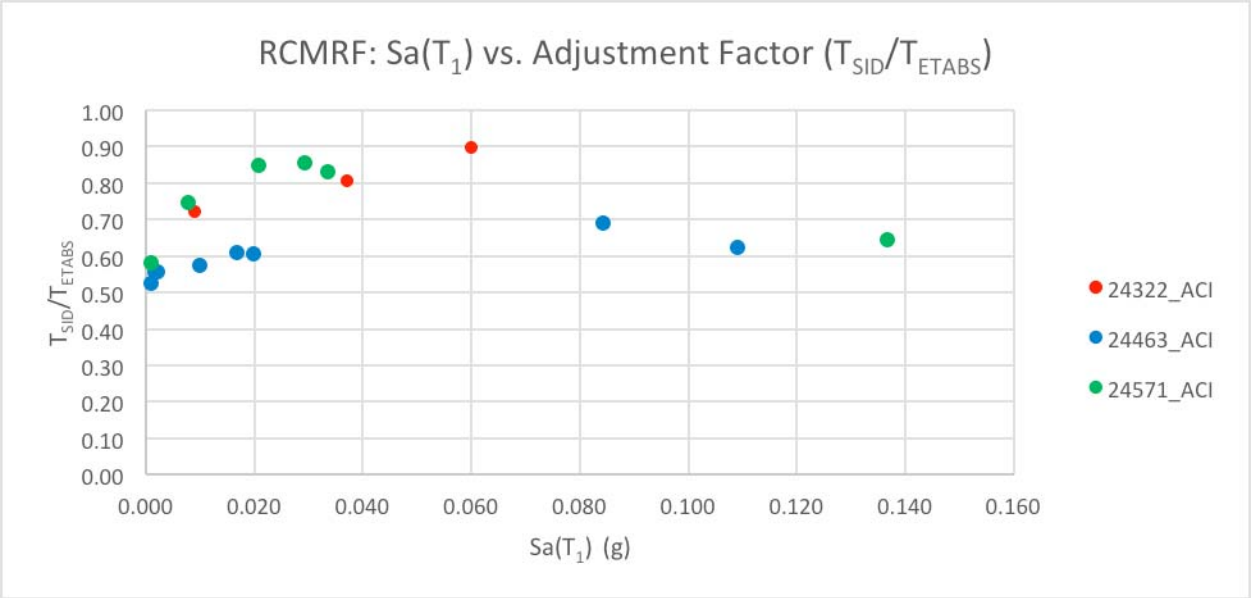


Figure 15 RCMRF: Spectral Acceleration vs. Adjustment Factor

The comparison of the adjustment factors for Stations 24322, 24463, and 24571 to the intensity measures (IM) of each seismic event, Peak Ground Acceleration (PGA) and Spectral Acceleration, illustrate that there is a generally steady progression of the adjustment factor increase with the increase of the IM. Generally, as the IM increases, the actual period of the building approaches the period given in the computational model. As shown in the Figure 14 and 15, the adjustment factor approaches 1 for IMs greater than 0.2g.

After reviewing the adjustment factors provided for Stations 24463, 24322, and 24571 with respect to each seismic event, it was determined that the averaged adjustment factor is 0.7 for seismic events from low to moderate intensity. As a result, it is recommended that an adjustment factor or 0.7 be used for all reinforced concrete moment frames regardless of the amount of attachments.

Steel Moment Resisting Frames

Table 13: SMRF Analysis Panel Zone Offset = 0 (With Participation of Both Lateral and Gravity System)

	Panel Zone Offset = 0		
Station	Period (T_{ETABS})	Direction	Ratio (T_{SID}/T_{ETABS})
12299	1.10	Transverse	0.57
54388	1.15	Transverse	0.23

Table 14: SMRF Analysis Panel Zone Offset = 0.5 (With Participation of Both Lateral and Gravity System)

	Panel Zone Offset = 0.5		
Station	Period (T_{ETABS})	Direction	Ratio (T_{SID}/T_{ETABS})
12299	1.011	Transverse	0.62
54388	1.146	Transverse	0.23

Table 15: SMRF Analysis Panel Zone Offset = 1 (With Participation of Both Lateral and Gravity System)

	Panel Zone Offset = 1		
Station	Period (T_{ETABS})	Direction	Ratio (T_{SID}/T_{ETABS})
12299	0.94	Transverse	0.67
54388	1.15	Transverse	0.23

Table 16: SMRF Analysis Panel Zone Offset = 0 (Without Participation of Gravity System)

	Panel Zone Offset = 0		
Station	Period (T_{ETABS})	Direction	Ratio (T_{SID}/T_{ETABS})
12299	1.13	Transverse	0.56
54388	1.15	Transverse	0.23

Table 17: SMRF Analysis Panel Zone Offset = 0.5 (Without Participation of Gravity System)

	Panel Zone Offset = 0.5		
Station	Period (T_{ETABS})	Direction	Ratio (T_{SID}/T_{ETABS})
12299	1.048	Transverse	0.60
54388	1.146	Transverse	0.23

Table 18: SMRF Analysis Panel Zone Offset = 1 (Without Participation of Gravity System)

	Panel Zone Offset = 1		
Station	Period (T_{ETABS})	Direction	Ratio (T_{SID}/T_{ETABS})
12299	0.97	Transverse	0.65
54388	1.15	Transverse	0.23

Each building was analyzed to determine the level of participation that the gravity system plays in the determination of the natural period of each building. In the case of Stations 12299 and 54388, the gravity elements or the elements with fully pinned connections, were found to not participate much in the determination of the natural period. As a result, the values of the periods with the participation of the stiffness of the gravity system shown in Tables 13, 14, and 15 have less than five percent difference in the period as opposed to the analysis excluding the participation of the gravity elements in Tables 15, 16, and 17. It was determined that the participation of the gravity system is insignificant. As a result, the natural periods provided in Tables 12-15 will be used for the further analysis of the SMRF buildings.

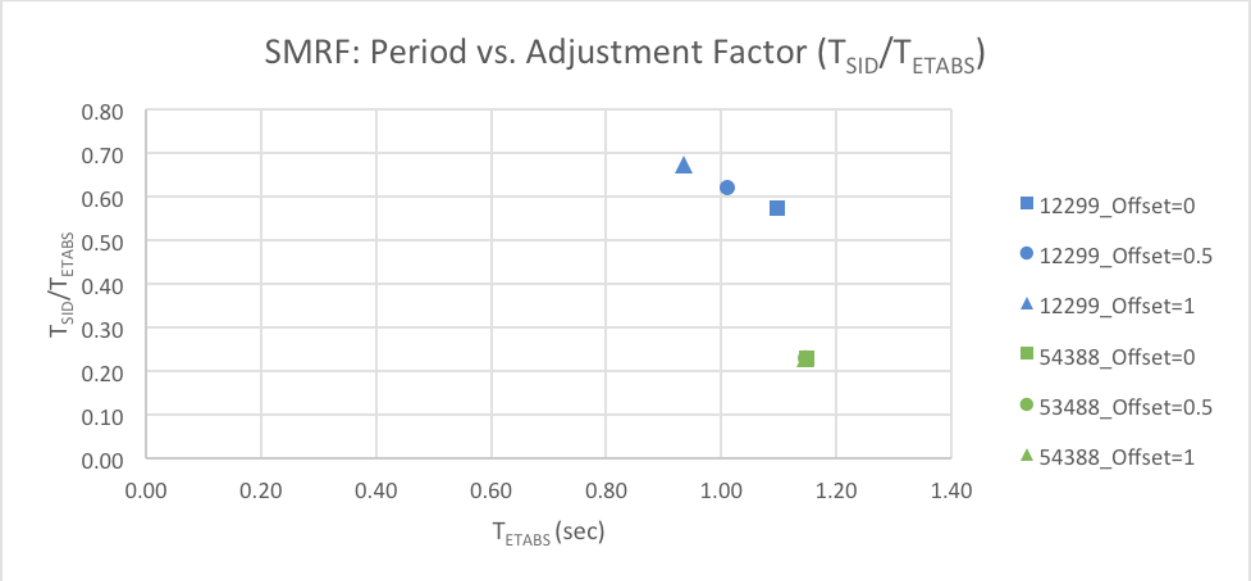


Figure 16: SMRF Analysis

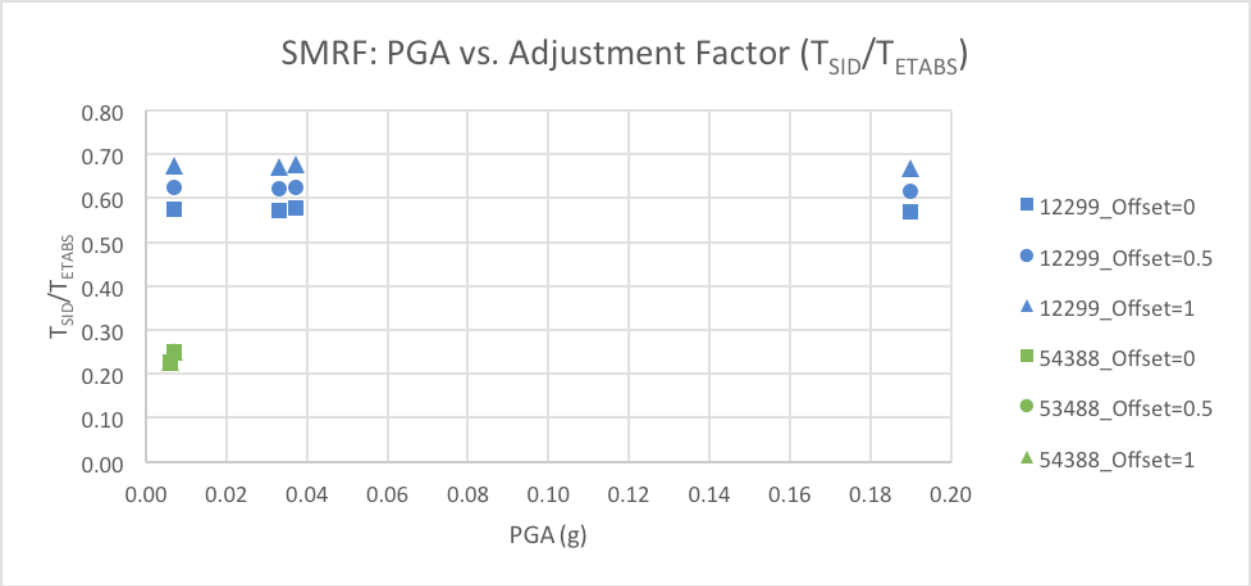


Figure 17 SMRF: Peak Ground Acceleration vs. Adjustment Factor

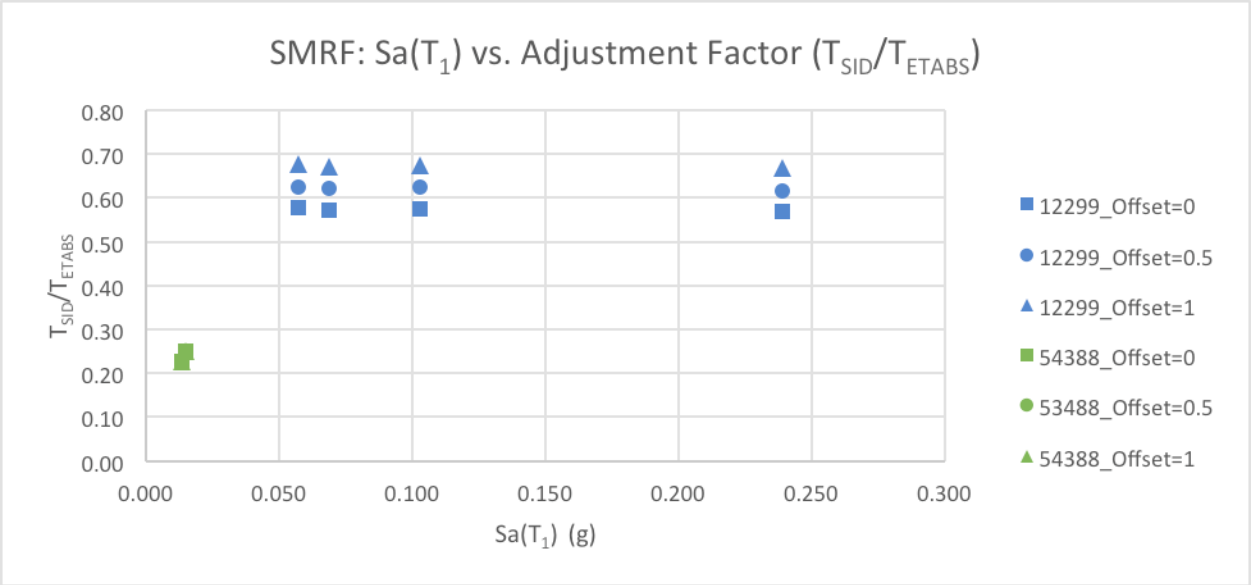


Figure 18 SMRF: Spectral Acceleration vs. Adjustment Factor

Based on Figure 16, the adjustment factor for Station 12299 ranges from 0.50 and 0.70. However, the adjustment factor for Station 54388 remains at 0.23 even with the variance of the stiffness properties. In the case of Station 12299, the period identified through system identification is more closely related to the period provided in the computational model. Station 12299 is a typical SMRF where the lateral force resisting elements are the beams and columns. On the other hand, Station 54388 is a SMRF with rigid truss beams at each floor level. Because Station 54388 is not a typical SMRF, the adjustment factor of 0.23 will be considered an outlier.

The comparison of the adjustment factors for Station 12299 to the intensity measures (IM) of each seismic event, Peak Ground Acceleration (PGA) and Spectral Acceleration, illustrate that the adjustment factor is constant even with the increase in IM. Therefore, it is recommended that a stiffness adjustment factor of 0.6 be used for typical steel moment frames.

Conclusion

From the analysis performed on the seven buildings, it was concluded that the stiffness resulting from nonstructural elements contributed to the natural period of the building during low-to-moderate ground shaking. Furthermore, it was determined that the more accurately sources of stiffness of the building are designated in the computational model, the more accurate the natural period.

There are several factors that lead to a difference between the period derived from a computational model and that of the actual period identified during low-to-moderate ground shaking. It was determined that the absence of nonstructural elements and other attachments (e.g., partitions and cladding, etc.) from the computational models can result in a longer fundamental period for the structure. Alternatively, if concrete cracking and foundation flexibility is not taken into account in the computational model, the resultant period will be shorter than that of the actual identified period of the building. As a result, the period provided through the analysis of the computational model must be adjusted to take these elements into account.

In the interest of this research study, a generalized adjustment factor was generated for each structural system based on the average of adjustment factors for conventional designs. As a result, the application of an adjustment factor to natural period provided in computational models are necessary to achieve an accurate depiction of the economic loss a building will experience during low-to-moderate ground shaking. It is recommended that the following adjustment factors be used:

Table 19: Summary of Adjustment Factors

System	RCW	RCMRF	SMRF
Adjustment Factors for T_{ETABS}	0.9 T_{ETABS}	0.7 T_{ETABS}	0.6 T_{ETABS}

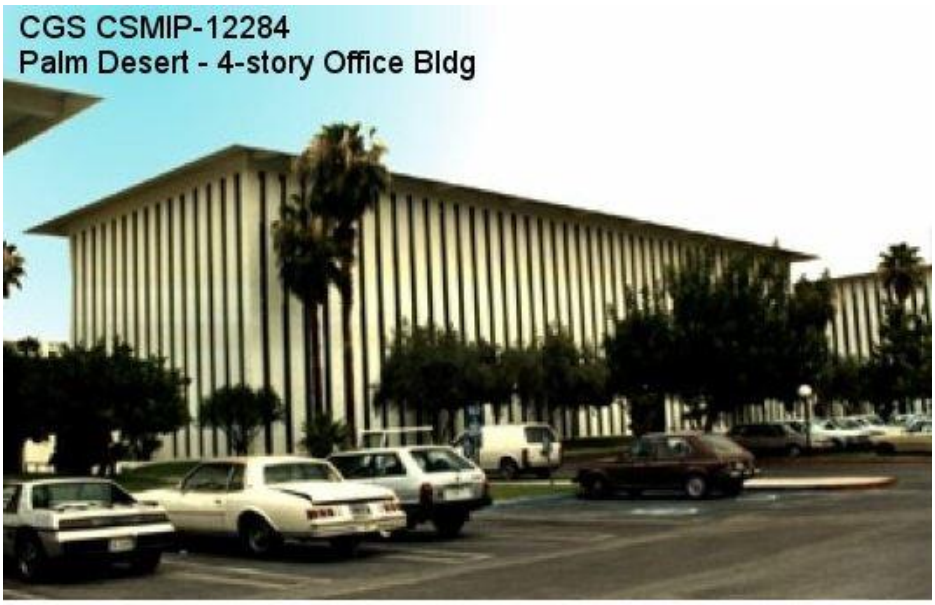
Addendum

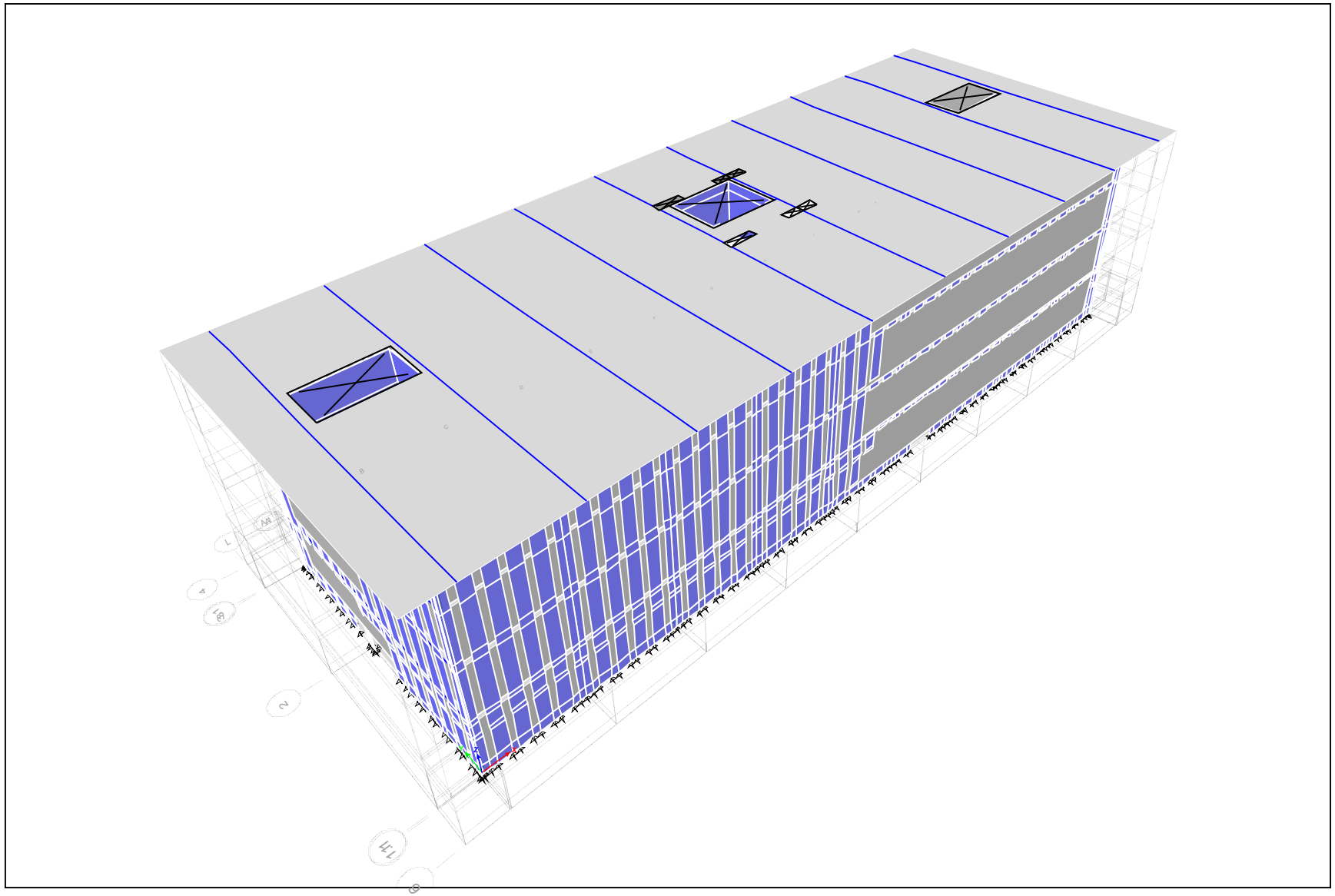
Station 12284

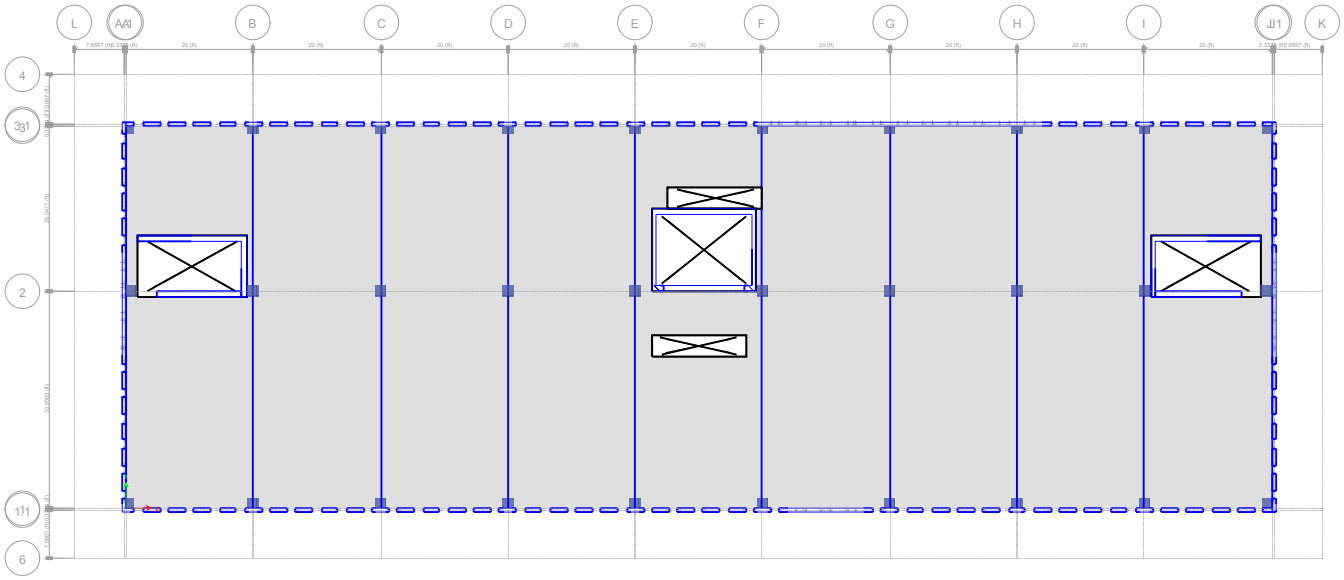
Building: Palm Desert - 4-story Office Bldg

Building Type: Precast element system in conjunction with RC walls around elevator near center of plan and around stairs at each end wall.

Number of floors with Sensors: 3



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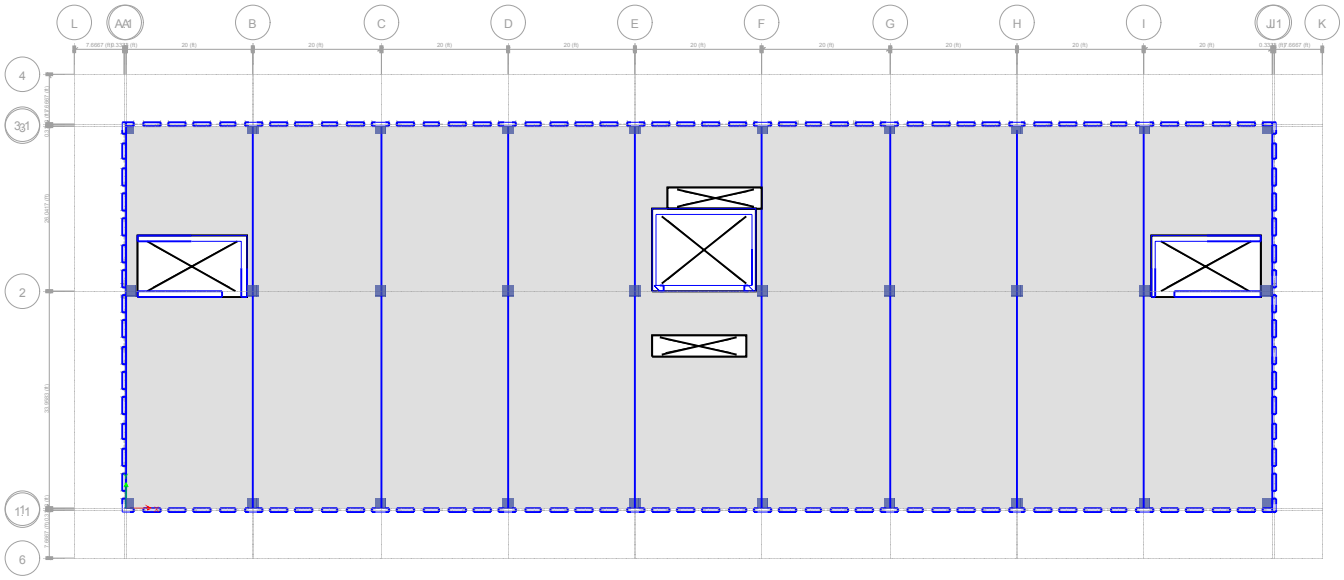
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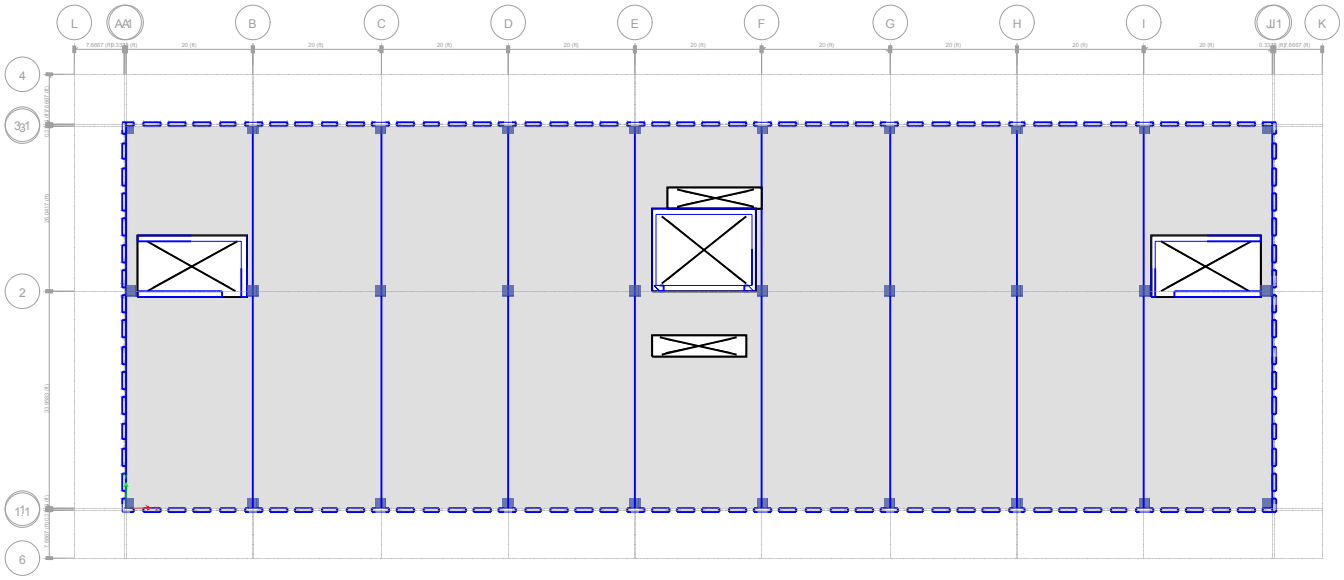
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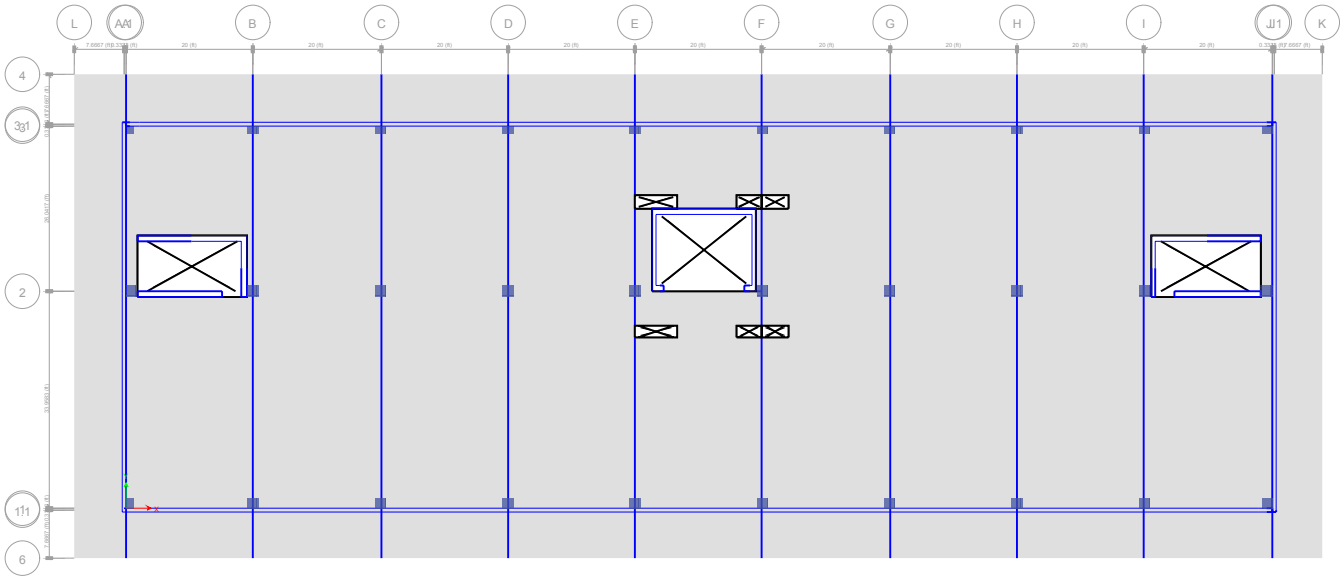
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	X-DIRECTION																Z-DIRECTION															
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SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	22	2.191	0.46	5.16	22	9.347	0.11	4.55									22	1.79	0.56	3.77	22	7.066	0.14	5.11								
	30	2.194	0.46	4.37	32	9.365	0.11	4.31									30	1.793	0.56	4.19	30	7.118	0.14	4.42								
	40	2.205	0.45	4.61	48	9.484	0.11	2.89									40	1.788	0.56	4.3	42	7.173	0.14	4.27								
	50	2.203	0.45	4.89	50	9.481	0.11	2.9									50	1.791	0.56	4	50	7.142	0.14	4.47								
	60	2.2	0.45	4.72	64	9.416	0.11	3.03									60	1.788	0.56	4.34	64	7.158	0.14	4.52								
	70	2.176	0.46	5.49	70	9.371	0.11	2.98									70	1.77	0.56	4.04	70	7.15	0.14	4.81								
	80	2.189	0.46	4.87	80	9.417	0.11	3.45									82	1.797	0.56	3.99	80	7.058	0.14	4.27								
	90	2.192	0.46	4.94	94	9.417	0.11	3.84									90	1.79	0.56	4.86	94	7.147	0.14	4.31								
	98	2.216	0.45	6.06	100	9.448	0.11	3.98									100	1.788	0.56	4.68	100	7.18	0.14	4.06								
Summary		2.20	0.46	5.01		9.42	0.11	3.55										1.79	0.56	4.24		7.13	0.14	4.47								
				4.13-6.06				2.47-4.55												3.77-4.86				3.95-5.11								
ARX	12	2.191	0.46	4.48	14	9.459	0.11	4.29									12	1.791	0.56	4.25	10	6.969	0.14	4.24								
	20	2.185	0.46	3.67	22	9.412	0.11	4.33									20	1.792	0.56	4.21	24	7.08	0.14	3.7								
	30	2.183	0.46	4.29	32	9.362	0.11	4.67									30	1.788	0.56	4.19	30	7.132	0.14	3.94								
	40	2.161	0.46	4.9	46	9.497	0.11	3.35									40	1.786	0.56	4.37	40	7.104	0.14	3.52								
	50	2.127	0.47	6.86	48	9.5	0.11	3.09									50	1.781	0.56	4.72	62	7.057	0.14	4.2								
	60	2.185	0.46	4.61	60	9.493	0.11	2.83									60	1.784	0.56	4.6	72	6.987	0.14	3.33								
	70	2.183	0.46	4.26	72	9.394	0.11	2.62									70	1.745	0.57	9.4	80	7	0.14	2.95								
	80	2.185	0.46	4.37	80	9.405	0.11	3.53									80	1.619	0.62	8.22	96	6.909	0.14	4.64								
	90	2.184	0.46	4.17	94	9.313	0.11	1.53									90	1.785	0.56	3.85												
	100	2.183	0.46	3.9	100	9.338	0.11	1.52									100	1.781	0.56	4.03												
Summary		2.18	0.46	4.55		9.42	0.11	3.18										1.77	0.57	5.18		7.03	0.14	3.82								
				3.67-9.57				1.47-4.67												3.85-9.83				2.95-5.26								
SRIM	14	2.192	0.46	4.2	6	9.282	0.11	2.99									12	1.791	0.56	4.25	14	7.133	0.14	2.8								
	20	2.181	0.46	4.01	38	9.383	0.11	1.6									20	1.792	0.56	4.21	32	7.177	0.14	1.62								
	30	2.183	0.46	4.79	40	9.211	0.11	1.38									30	1.788	0.56	4.19	50	7.062	0.14	2.15								
	42	2.193	0.46	3.99	56	9.346	0.11	0.96									40	1.786	0.56	4.37	70	7.096	0.14	0.82								
	54	2.183	0.46	3.8	84	9.32	0.11	1.36									50	1.781	0.56	4.72	80	7.165	0.14	1.15								
	60	2.18	0.46	4.03	90	9.316	0.11	1.36									60	1.784	0.56	4.6	96	7.082	0.14	0.71								
	72	2.055	0.49	4.88	44	9.404	0.11	1.83									70	1.745	0.57	9.4	42	7.24	0.14	2.61								
	80	2.196	0.46	3.39	54	9.466	0.11	0.97									80	1.619	0.62	8.22	52	7.114	0.14	1.42								
	94	2.158	0.46	3.57	74	9.422	0.11	0.65									90	1.785	0.56	3.85	74	7.162	0.14	1.92								
	100	2.17	0.46	4.29	84	9.444	0.11	0.36									100	1.781	0.56	4.03	86	7.282	0.14	1.37								
Summary		2.17	0.46	4.10		9.36	0.11	1.35										1.77	0.57	5.18		7.15	0.14	1.66								
				3.39-4.88				.36-2.99												3.85-9.83				.71-2.8								
N4SID-IO	16	2.198	0.45	5.14	14	9.436	0.11	4.28									16	1.806	0.55	5.25	16	7.061	0.14	5.96								
	20	2.186	0.46	5.01	20	9.424	0.11	4.08									22	1.795	0.56	4.48	24	7.101	0.14	4.53								
	36	2.181	0.46	4.97	32	9.381	0.11	4.51									30	1.787	0.56	4.97	30	7.146	0.14	4.68								
	40	2.185	0.46	4.66	46	9.498	0.11	3.21									40	1.782	0.56	5.09	44	7.112	0.14	3.98								
	50	2.184	0.46	4.87	56	9.497	0.11	3.06									50	1.786	0.56	4.99	50	7.078	0.14	4.85								
	60	2.175	0.46	4.35	62	9.557	0.10	2.83									60	1.786	0.56	4.63	60	7.174	0.14	4.12								
	70	2.176	0.46	4.88	78	9.445	0.11	3.37									70	1.783	0.56	4.55	70	7.2	0.14	6.18								
	80	2.181	0.46	4.58	82	9.486	0.11	4.31									80	1.783	0.56	4.78	80	7.154	0.14	5.05								
	90	2.184	0.46	3.97													90	1.782	0.56	5.1	88	7.159	0.14	4.54								
	100	2.183	0.46	4.56													100	1.786	0.56	4.65	100	7.135	0.14	3.17								
Summary		2.18	0.46	4.70		9.47	0.11	3.71										1.79	0.56	4.85		7.13	0.14	4.71								
				3.97-5.14				2.61-4.51												4.48-5.25				3.15-6.18								
Average		2.181331	0.458497	4.589306		9.414606	0.106224	2.944007										1.776583	0.563153	4.864528		7.111374	0.140635	3.662278								

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SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	22	2.108	0.47	4.38	16	9.115	0.11	6.23									26	1.724	0.58	4.82	24	6.731	0.15	3.56								
	32	2.124	0.47	5.85	26	9.174	0.11	3.83									32	1.751	0.57	3.67	30	6.723	0.15	3.81								
	40	2.113	0.47	4.85	36	9.068	0.11	4.26									44	1.754	0.57	4.43	40	6.76	0.15	3.27								
	50	2.12	0.47	4.58	46	9.05	0.11	4.9									50	1.746	0.57	4.97	50	6.772	0.15	4.04								
	60	2.112	0.47	4.77	58	9.011	0.11	4.81									60	1.735	0.58	5.24	58	6.819	0.15	4.16								
	70	2.115	0.47	5.18	62	9.012	0.11	4.43									70	1.734	0.58	4.27	80	6.988	0.14	2.12								
	80	2.079	0.48	4.72	100	9.003	0.11	3.54									80	1.728	0.58	5	90	6.974	0.14	2.61								
	90	2.113	0.47	3.86													90	1.726	0.58	5.04	100	6.983	0.14	2.49								
	100	2.113	0.47	3.67													100	1.726	0.58	5.14												
Summary		2.11	0.47	4.65		9.06	0.11	4.57										1.74	0.58	4.73		6.84	0.15	3.26								
				3.67-5.58				3.54-6.23												3.64-5.24				2.48-4.16								
ARX	16	2.114	0.47	4.17	14	9.07	0.11	6.1									16	1.756	0.57	4.62	14	6.702	0.15	3.77								
	20	2.112	0.47	4.02	20	9.044	0.11	4.64									20	1.754	0.57	4.41	20	6.749	0.15	3.17								
	32	2.121	0.47	3.09	32	9.061	0.11	4.7									30	1.748	0.57	4.49	30	6.727	0.15	3.12								
	40	2.152	0.46	3.8	42	9.045	0.11	4.12									40	1.739	0.58	4.41	42	6.734	0.15	4.42								
	52	2.134	0.47	5.87	50	8.935	0.11	4.17									50	1.738	0.58	4.28	54	6.771	0.15	5.64								
	60	2.145	0.47	1.61	64	8.917	0.11	3.85									60	1.735	0.58	4.52	66	6.946	0.14	3.17								
	70	2.168	0.46	4.89	74	8.925	0.11	3.63									70	1.723	0.58	4.42	76	6.959	0.14	2.42								
	80	2.104	0.48	4.14	88	9.093	0.11	3.15									80	1.717	0.58	4.45	86	6.953	0.14	2.3								
	90	2.099	0.48	4.22	90	9.09	0.11	3.38									90	1.702	0.59	4.45	96	6.971	0.14	2.31								
	100	2.109	0.47	4.35													100	1.67	0.60	5.45	100	6.979	0.14	1.82								
Summary		2.13	0.47	4.02		9.02	0.11	4.19										1.73	0.58	4.55		6.85	0.15	3.21								
				1.61-5.87				3.15-6.1												4.23-5.45				1.82-5.64								
SRIM	16	2.114	0.47	4.17	12	9.058	0.11	4.32									10	1.747	0.57	3.97	8	6.686	0.15	2.84								
	20	2.112	0.47	4.02	20	9.089	0.11	4.73									20	1.735	0.58	4.59	14	6.687	0.15	2.87								
	32	2.121	0.47	3.09	44	9.12	0.11	2.7									30	1.725	0.58	4.2	16	6.753	0.15	2.95								
	40	2.152	0.46	3.8	50	9.148	0.11	1.35									40	1.72	0.58	4.17	20	6.709	0.15	2.42								
	52	2.134	0.47	5.87	62	9.033	0.11	5.45									50	1.701	0.59	4.28	68	6.703	0.15	2.15								
	60	2.145	0.47	1.61	76	9.114	0.11	1.1									62	1.768	0.57	4.04	72	6.608	0.15	1.54								
	70	2.168	0.46	4.89	84	9.103	0.11	0.5									72	1.752	0.57	3.93	82	6.763	0.15	1.43								
	80	2.104	0.48	4.14	90	9.108	0.11	4.67									80	1.753	0.57	4.05	88	6.719	0.15	2.1								
	90	2.099	0.48	4.22													90	1.735	0.58	4.39	94	6.615	0.15	0.92								
	100	2.109	0.47	4.35													100	1.714	0.58	5.02	96	6.623	0.15	0.88								
Summary		2.13	0.47	4.02		9.10	0.11	3.10										1.74	0.58	4.26		6.69	0.15	2.01								
				1.61-9.68				.5-4.73												3.93-5.02				.88-2.95								
N4SID-IO	14	2.163	0.46	7.09	22	9.097	0.11	4.99									20	1.762	0.57	5.64	18	6.726	0.15	4.44								
	20	2.132	0.47	4.84	30	9.053	0.11	4.91									30	1.755	0.57	5.23	20	6.738	0.15	4.24								
	30	2.111	0.47	3.78	40	8.978	0.11	4.84									40	1.741	0.57	5.21	30	6.751	0.15	4.32								
	40	2.138	0.47	5.93	50	8.975	0.11	4.21									50	1.737	0.58	5.54	42	6.765	0.15	9.29								
	50	2.138	0.47	6.15	60	8.942	0.11	4.07									60	1.727	0.58	5.86	56	7.082	0.14	3.62								
	62	2.144	0.47	4.95	80	8.939	0.11	2.26									70	1.734	0.58	6.01	64	6.989	0.14	4.75								
	70	2.14	0.47	4.57	92	8.947	0.11	4.12									80	1.72	0.58	5.89	76	7.03	0.14	1.64								
	80	2.099	0.48	4.73	100	8.944	0.11	3.89									90	1.72	0.58	5.81	86	6.92	0.14	3.91								
	90	2.095	0.48	4.72													100	1.725	0.58	5.72	96	6.934	0.14	3.45								
	100	2.106	0.47	4.42																												
Summary		2.13	0.47	5.12		8.98	0.11	2.26-4.99										1.74	0.58	5.08-6.01		6.88	0.15	1.64-9.29								
				3.78-7.09																												
Average		2.122244	0.471244	4.450278		9.040714	0.110617	2.966815										1.733717	0.576862	3.386278	0	6.815279	0.146782	2.120375								

BorregoSprings_12Jun2010

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	22	2.108	0.47	4.38	16	9.115	0.11	6.23									26	1.724	0.58	4.82	24	6.731	0.15	3.56								
	32	2.124	0.47	5.85	26	9.174	0.11	3.83									32	1.751	0.57	3.67	30	6.723	0.15	3.81								
	40	2.113	0.47	4.85	36	9.068	0.11	4.26									44	1.754	0.57	4.43	40	6.76	0.15	3.27								
	50	2.12	0.47	4.58	46	9.05	0.11	4.9									50	1.746	0.57	4.97	50	6.772	0.15	4.04								
	60	2.112	0.47	4.77	58	9.011	0.11	4.81									60	1.735	0.58	5.24	58	6.819	0.15	4.16								
	70	2.115	0.47	5.18	62	9.012	0.11	4.43									70	1.734	0.58	4.27	80	6.988	0.14	2.12								
	80	2.079	0.48	4.72	100	9.003	0.11	3.54									80	1.728	0.58	5	90	6.974	0.14	2.61								
	90	2.113	0.47	3.86													90	1.726	0.58	5.04	100	6.983	0.14	2.49								
	100	2.113	0.47	3.67													100	1.726	0.58	5.14												
Summary		2.11	0.47	4.65		9.06	0.11	4.57										1.74	0.58	4.73		6.84	0.15	3.26								
				3.67-5.58				3.54-6.23												3.64-5.24				2.48-4.16								
ARX	16	2.114	0.47	4.17	14	9.07	0.11	6.1									16	1.756	0.57	4.62	14	6.702	0.15	3.77								
	20	2.112	0.47	4.02	20	9.044	0.11	4.64									20	1.754	0.57	4.41	20	6.749	0.15	3.17								
	32	2.121	0.47	3.09	32	9.061	0.11	4.7									30	1.748	0.57	4.49	30	6.727	0.15	3.12								
	40	2.152	0.46	3.8	42	9.045	0.11	4.12									40	1.739	0.58	4.41	42	6.734	0.15	4.42								
	52	2.134	0.47	5.87	50	8.935	0.11	4.17									50	1.738	0.58	4.28	54	6.771	0.15	5.64								
	60	2.145	0.47	1.61	64	8.917	0.11	3.85									60	1.735	0.58	4.52	66	6.946	0.14	3.17								
	70	2.168	0.46	4.89	74	8.925	0.11	3.63									70	1.723	0.58	4.42	76	6.959	0.14	2.42								
	80	2.104	0.48	4.14	88	9.093	0.11	3.15									80	1.717	0.58	4.45	86	6.953	0.14	2.3								
	90	2.099	0.48	4.22	90	9.09	0.11	3.38									90	1.702	0.59	4.45	96	6.971	0.14	2.31								
	100	2.109	0.47	4.35													100	1.67	0.60	5.45	100	6.979	0.14	1.82								
Summary		2.13	0.47	4.02		9.02	0.11	4.19										1.73	0.58	4.55		6.85	0.15	3.21								
				1.61-5.87				3.15-6.1												4.23-5.45				1.82-5.64								
SRIM	16	2.114	0.47	4.17	12	9.058	0.11	4.32									10	1.747	0.57	3.97	8	6.686	0.15	2.84								
	20	2.112	0.47	4.02	20	9.089	0.11	4.73									20	1.735	0.58	4.59	14	6.687	0.15	2.87								
	32	2.121	0.47	3.09	44	9.12	0.11	2.7									30	1.725	0.58	4.2	16	6.753	0.15	2.95								
	40	2.152	0.46	3.8	50	9.148	0.11	1.35									40	1.72	0.58	4.17	20	6.709	0.15	2.42								
	52	2.134	0.47	5.87	62	9.033	0.11	5.45									50	1.701	0.59	4.28	68	6.703	0.15	2.15								
	60	2.145	0.47	1.61	76	9.114	0.11	1.1									62	1.768	0.57	4.04	72	6.608	0.15	1.54								
	70	2.168	0.46	4.89	84	9.103	0.11	0.5									72	1.752	0.57	3.93	82	6.763	0.15	1.43								
	80	2.104	0.48	4.14	90	9.108	0.11	4.67									80	1.753	0.57	4.05	88	6.719	0.15	2.1								
	90	2.099	0.48	4.22													90	1.735	0.58	4.39	94	6.615	0.15	0.92								
	100	2.109	0.47	4.35													100	1.714	0.58	5.02	96	6.623	0.15	0.88								
Summary		2.13	0.47	4.02		9.10	0.11	3.10										1.74	0.58	4.26		6.69	0.15	2.01								
				1.61-9.68				.5-4.73												3.93-5.02				.88-2.95								
N4SID-IO	14	2.163	0.46	7.09	22	9.097	0.11	4.99									20	1.762	0.57	5.64	18	6.726	0.15	4.44								
	20	2.132	0.47	4.84	30	9.053	0.11	4.91									30	1.755	0.57	5.23	20	6.738	0.15	4.24								
	30	2.111	0.47	3.78	40	8.978	0.11	4.84									40	1.741	0.57	5.21	30	6.751	0.15	4.32								
	40	2.138	0.47	5.93	50	8.975	0.11	4.21									50	1.737	0.58	5.54	42	6.765	0.15	9.29								
	50	2.138	0.47	6.15	60	8.942	0.11	4.07									60	1.727	0.58	5.86	56	7.082	0.14	3.62								
	62	2.144	0.47	4.95	80	8.939	0.11	2.26									70	1.734	0.58	6.01	64	6.989	0.14	4.75								
	70	2.14	0.47	4.57	92	8.947	0.11	4.12									80	1.72	0.58	5.89	76	7.03	0.14	1.64								
	80	2.099	0.48	4.73	100	8.944	0.11	3.89									90	1.72	0.58	5.81	86	6.92	0.14	3.91								
	90	2.095	0.48	4.72													100	1.725	0.58	5.72	96	6.934	0.14	3.45								
	100	2.106	0.47	4.42																												
Summary		2.13	0.47	5.12		8.98	0.11	4.16										1.74	0.58	5.66		6.88	0.15	4.41								
				3.78-7.09				2.26-4.99												5.08-6.01				1.64-9.29								
Average		2.122244	0.471244	4.450278		9.040714	0.110617	4.007128										1.733717	0.576862	4.800444	0	6.815279	0.146782	3.222042								

	Calexico_04Apr2010																													
	X-DIRECTION																Z-DIRECTION													
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	1.916	0.52	6.52	20	9.121	0.11	3.67									12	1.543	0.65	5.72	10	6.414	0.16	4.74								
	26	1.933	0.52	7.45	56	9.098	0.11	6.59									22	1.545	0.65	6.57	18	6.434	0.16	4.73								
	36	1.925	0.52	7.87	70	9.194	0.11	1.3									32	1.533	0.65	5.65	26	6.498	0.15	3.72								
	46	1.933	0.52	7.29	84	9.098	0.11	1.74									42	1.534	0.65	5.23	32	6.491	0.15	3.62								
	56	1.938	0.52	7.18	88	9.119	0.11	2.24									50	1.551	0.64	5.49	46	6.418	0.16	2.9								
	66	1.872	0.53	7.55	90	9.138	0.11	2.12									62	1.554	0.64	5.76	56	6.341	0.16	2.88								
	80	1.952	0.51	7.76													72	1.561	0.64	6.01	66	6.312	0.16	2.52								
	90	1.977	0.51	7.28													82	1.555	0.64	5.69	76	6.317	0.16	2.44								
	94	1.99	0.50	5.43													94	1.579	0.63	5.59												
																	100	1.578	0.63	5.17												
Summary		1.94	0.52	7.15		9.13	0.11	2.94										1.55	0.64	5.69		6.40	0.16	3.44								
				5.43-9.07				1.3-6.59												4.49-7.25				2.06-4.74								
ARX	8	1.91	0.52	5.74	20	9.212	0.11	4.55									10	1.544	0.65	5.5	10	6.415	0.16	4.79								
	16	1.893	0.53	6.01	26	9.234	0.11	4.98									20	1.546	0.65	4.44	34	6.494	0.15	2.99								
	26	1.989	0.50	6.58	50	9.131	0.11	2.25									30	1.552	0.64	4.74	40	6.46	0.15	2.56								
	38	1.6	0.63	9.39	56	9.212	0.11	2.64									42	1.519	0.66	9.46	52	6.343	0.16	2.64								
	46	1.806	0.55	4.79	66	9.115	0.11	2.83									50	1.561	0.64	5.28	60	6.319	0.16	2.72								
	56	1.767	0.57	4.06	76	9.142	0.11	1.47									60	1.54	0.65	5.03	70	6.339	0.16	1.76								
	68	1.733	0.58	4.28	84	9.122	0.11	1.54									72	1.564	0.64	5.31	80	6.369	0.16	3.4								
	74	1.738	0.58	4.01	94	9.108	0.11	1.66									80	1.572	0.64	5.82	90	6.49	0.15	1.38								
	86	1.732	0.58	3.23	100	9.284	0.11	0.87									92	1.545	0.65	5.49	100	6.471	0.15	1.15								
	96	1.725	0.58	2.82													100	1.55	0.65	4.49												
Summary		1.79	0.56	5.09		9.17	0.11	2.53										1.55	0.65	5.56		6.41	0.16	2.60								
				2.62-9.39				.87-4.98												4.25-9.96				1.15-9.66								
SRIM	4	1.917	0.52	5.01	24	8.595	0.12	1.73									6	1.535	0.65	5.78	8	6.37	0.16	3.45								
	10	1.906	0.52	6.18	34	8.686	0.12	0.93									16	1.551	0.64	4.99	16	6.27	0.16	4.38								
	20	1.926	0.52	5.64	44	8.681	0.12	0.73									26	1.498	0.67	6.3	26	6.355	0.16	2.42								
	34	1.948	0.51	4.56	54	8.628	0.12	3.85									36	1.464	0.68	0.86	30	6.363	0.16	2.39								
	44	2.011	0.50	2.77	62	8.535	0.12	0.92									44	1.564	0.64	2.78	40	6.278	0.16	1.38								
	52	1.994	0.50	2.59	72	8.592	0.12	0.58									52	1.555	0.64	4.61	50	6.289	0.16	2.93								
	66	2.003	0.50	1.54	82	8.685	0.12	0.24									64	1.541	0.65	4.31	68	6.237	0.16	1.08								
	72	2.055	0.49	1.14	90	8.689	0.12	0.31									76	1.463	0.68	2.99	78	6.3	0.16	2.55								
	84	1.992	0.50	1.43	98	8.663	0.12	0.26									86	1.572	0.64	4.73	86	6.272	0.16	0.34								
	94	1.98	0.51	1.43													96	1.527	0.65	5.24	94	6.228	0.16	1.16								
Summary		1.97	0.51	3.23		8.64	0.12	1.06										1.53	0.66	4.26		6.30	0.16	2.21								
				.97-6.18				.24-3.85												.86-5.78				.34-4.38								
N4SID-IO	10	1.928	0.52	6.66	8	8.901	0.11	7.83									12	1.562	0.64	6.81	12	6.429	0.16	4.77								
	16	1.919	0.52	7.54	10	8.953	0.11	8.29									22	1.536	0.65	5.88	22	6.456	0.15	4.89								
	26	1.823	0.55	7.93	28	8.884	0.11	8.3									32	1.537	0.65	5.14	36	6.448	0.16	4.47								
	32	1.955	0.51	9.62	42	8.85	0.11	3.99									42	1.552	0.64	5.44	44	6.434	0.16	2.65								
	40	1.966	0.51	7.51	50	8.824	0.11	1.62									52	1.552	0.64	5.73	54	6.391	0.16	3.21								
	52	1.992	0.50	8.19	62	8.723	0.11	1.19									62	1.555	0.64	5.75	66	6.31	0.16	3.94								
	66	1.717	0.58	5.37	72	8.682	0.12	0.88									72	1.556	0.64	5.81	74	6.347	0.16	2.42								
	78	1.723	0.58	3.47	82	8.632	0.12	1.24									82	1.564	0.64	5.73	84	6.438	0.16	1.74								
	86	1.734	0.58	4.27	94	8.63	0.12	0.66									92	1.569	0.64	6.23	94	6.385	0.16	2.79								
	96	1.724	0.58	3.21	100	8.689	0.12	0.67									100	1.559	0.64	6.86												
Summary		1.85	0.54	6.38		8.78	0.11	3.47										1.55	0.64	5.94		6.40	0.16	3.43								
				3.21-9.86				.66-8.29												4.93-6.81				1.56-4.89								
Average		1.886983	0.531812	5.461194		8.929367	0.11207	2.500917										1.54595	0.64702	5.36025		6.378665	0.156795	2.920438								

	Calexico_30Dec2009																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	2.329	0.43	4.32	28	9.664	0.10	5.28									22	1.797	0.56	3.88	16	7.006	0.14	4.08								
	26	2.295	0.44	4.84	38	9.642	0.10	2.75									32	1.81	0.55	4	26	7.035	0.14	3.53								
	36	2.309	0.43	5.42	48	9.672	0.10	2.68									42	1.808	0.55	4.62	36	7.042	0.14	4.06								
	46	2.327	0.43	4.49	58	9.757	0.10	2.52									52	1.806	0.55	4.79	46	6.988	0.14	3.28								
	56	2.302	0.43	5.16	62	9.763	0.10	2.38									62	1.816	0.55	4.83	66	7.029	0.14	4.78								
	66	2.289	0.44	4.83													72	1.813	0.55	4.74	88	6.915	0.14	5.55								
	76	2.29	0.44	4.68													82	1.807	0.55	4.59	92	6.984	0.14	6								
	86	2.287	0.44	4.76													92	1.806	0.55	4.78	100	6.989	0.14	2.33								
	96	2.296	0.44	5.06													100	1.81	0.55	4.59												
	100	2.297	0.44	4.7																												
Summary		2.30	0.43	4.83														1.81	0.55	4.54												
				4.32-5.42				2.32-5.28												3.43-4.97				2.33-6								
ARX	10	2.282	0.44	4.67	28	9.592	0.10	5.41									10	1.807	0.55	4.3	14	6.97	0.14	4.28								
	20	2.299	0.43	4.77	32	9.589	0.10	3.08									20	1.81	0.55	4.28	20	6.967	0.14	3.66								
	40	2.298	0.44	4.41	40	9.618	0.10	2.8									30	1.808	0.55	4.26	38	6.92	0.14	4.26								
	50	2.292	0.44	4.15	48	9.636	0.10	3.02									40	1.803	0.55	4.54	44	6.906	0.14	3.3								
	60	2.285	0.44	4.12	60	9.551	0.10	4.18									50	1.813	0.55	4.5	54	6.841	0.15	3.55								
	70	2.231	0.45	9.38	72	9.652	0.10	3.69									60	1.809	0.55	4.52	84	6.899	0.14	3.58								
	80	2.284	0.44	4.16	78	9.696	0.10	3.25									70	1.806	0.55	4.21	100	6.952	0.14	2.05								
	90	2.277	0.44	3.98													80	1.81	0.55	4.71												
	100	2.269	0.44	3.63													90	1.761	0.57	5.32												
																	100	1.827	0.55	3.78												
Summary		2.28	0.44	4.81		9.62	0.10	3.63										1.81	0.55	4.44		6.92	0.14	3.53								
				3.54-9.8				2.72-8.01												3.78-5.32				2.05-4.28								
SRIM	6	2.292	0.44	4.28	24	9.702	0.10	2.46									10	1.807	0.55	4.3	34	7.089	0.14	2.2								
	16	2.309	0.43	4.37	30	9.74	0.10	1.93									20	1.81	0.55	4.28	48	6.929	0.14	1.07								
	26	2.303	0.43	4.19	36	9.756	0.10	1.75									30	1.808	0.55	4.26	58	7.019	0.14	1.16								
	68	2.298	0.44	5.89	58	9.882	0.10	1.12									40	1.803	0.55	4.54	66	7.033	0.14	0.81								
	46	2.281	0.44	4.12	60	9.82	0.10	1.07									50	1.813	0.55	4.5	70	6.967	0.14	1.58								
	56	2.292	0.44	3.44	90	9.792	0.10	1.36									60	1.809	0.55	4.52	96	7.032	0.14	0.62								
	64	2.305	0.43	5.28	96	9.82	0.10	0.84									70	1.806	0.55	4.21												
	72	2.276	0.44	4.15	100	9.803	0.10	0.69									80	1.81	0.55	4.71												
	82	2.294	0.44	3.78													90	1.761	0.57	5.32												
	92	2.29	0.44	3.72													100	1.827	0.55	3.78												
Summary		2.29	0.44	4.32		9.79	0.10	1.40										1.81	0.55	4.44		7.01	0.14	1.24								
				2.96-5.89				.69-2.46												3.78-5.32				.62-2.2								
N4SID-IO	18	2.312	0.43	4.66	22	9.61	0.10	5.16									16	1.818	0.55	4.76	20	7.024	0.14	4.87								
	28	2.314	0.43	5.02	24	9.604	0.10	5.08									26	1.814	0.55	4.53	30	7.03	0.14	4.14								
	38	2.296	0.44	4.46	44	9.697	0.10	3.28									36	1.81	0.55	5	40	6.98	0.14	4.25								
	48	2.307	0.43	4.47	48	9.671	0.10	4.15									46	1.817	0.55	5.12	52	7.062	0.14	5.2								
	58	2.293	0.44	4.46	50	9.565	0.10	4.13									56	1.807	0.55	4.84	76	6.901	0.14	4.5								
	68	2.293	0.44	4.47	76	9.585	0.10	3.48									66	1.813	0.55	5.13	90	6.953	0.14	5.39								
	78	2.293	0.44	4.45													76	1.816	0.55	5.77												
	88	2.287	0.44	4.45													86	1.811	0.55	5.47												
	98	2.284	0.44	4.74													96	1.823	0.55	4.98												
																	100	1.821	0.55	4.52												
Summary		2.30	0.44	4.58		9.62	0.10	4.21										1.82	0.55	5.01		6.99	0.14	4.73								
				4.24-5.02				3.48-5.16												4.52-5.77				3.97-5.2								
Average		2.293358	0.436064	4.632833		7.257629	0.077512	2.312173										1.808478	0.552978	4.607889		5.231327	0.107534	2.372679								

	chinohills_29jul2008																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	2.2	0.45	4.73	12	9.08	0.11	6.52									20	1.772	0.56	3.65	16	6.893	0.15	4.27								
	26	2.182	0.46	4.78	16	9.124	0.11	6.45									30	1.765	0.57	3.72	28	6.864	0.15	5.2								
	36	2.175	0.46	4.66	26	9.08	0.11	6.13									40	1.757	0.57	4.17	32	6.94	0.14	4.61								
	46	2.184	0.46	5.09	32	9.048	0.11	5.53									50	1.758	0.57	4.09	40	6.885	0.15	4.01								
	56	2.194	0.46	5	60	8.2	0.12	4.56									60	1.754	0.57	4.81	48	6.941	0.14	4.27								
	66	2.19	0.46	4.44	74	8.197	0.12	4.57									70	1.752	0.57	4.49	52	7.008	0.14	4.88								
	76	2.179	0.46	4.72	84	8.112	0.12	3.27									80	1.752	0.57	4.53	64	7.057	0.14	2.52								
	86	2.183	0.46	4.82	94	8.12	0.12	3.37									90	1.762	0.57	4.41	74	7.107	0.14	4.85								
	90	2.187	0.46	4.7													100	1.76	0.57	4.54	94	7.036	0.14	2.33								
	100	2.195	0.46	4.15																												
Summary		2.19	0.46	4.71		7.66	0.10	4.49										1.76	0.57	4.27		6.97	0.14	4.10								
				4.15-5.1				3.27-6.52												3.17-4.81				2.33-4.88								
ARX	10	2.192	0.46	4.44	8	9.058	0.11	9.58									12	1.763	0.57	3.79	10	6.768	0.15	4.94								
	20	2.191	0.46	4.36	18	9.102	0.11	5.85									22	1.758	0.57	3.86	20	6.813	0.15	4.64								
	30	2.198	0.45	4.63	26	9.087	0.11	5.7									32	1.758	0.57	3.76	28	6.854	0.15	4.02								
	40	2.182	0.46	5.33	32	9.134	0.11	5.54									42	1.758	0.57	4.1	34	6.926	0.14	4.4								
	50	2.2	0.45	3.98	40	9.264	0.11	5.29									52	1.749	0.57	4.27	40	6.955	0.14	3.42								
	60	2.186	0.46	4.22	50	9.253	0.11	3.33									62	1.755	0.57	4.4	50	7.003	0.14	3.58								
	70	2.18	0.46	4.93	60	9.342	0.11	2.56									72	1.778	0.56	3.85	60	7.038	0.14	2.77								
	80	2.183	0.46	5	70	9.319	0.11	1.86									82	1.77	0.56	4.18	84	6.958	0.14	2.97								
	92	2.049	0.49	9.92	80	9.328	0.11	1.84									92	1.76	0.57	4.02	90	7.034	0.14	2.63								
	100	2.198	0.45	4.66	94	9.299	0.11	1.74									100	1.75	0.57	4.25	100	7.045	0.14	1.99								
Summary		2.18	0.46	5.15		9.22	0.11	4.33										1.76	0.57	4.05		6.94	0.14	3.54								
				3.98-9.92				1.39-9.58												3.61-5.02				1.99-4.94								
SRIM	6	2.175	0.46	4.83	14	9.085	0.11	4.01									8	1.747	0.57	3.67	10	6.824	0.15	3.78								
	10	2.202	0.45	5	24	9.221	0.11	4.66									18	1.749	0.57	4.12	30	6.816	0.15	6.56								
	20	2.143	0.47	4.69	36	9.3	0.11	1.55									26	1.764	0.57	4.33	42	6.886	0.15	1.71								
	28	2.196	0.46	4.27	50	9.117	0.11	1.41									36	1.775	0.56	3.17	54	6.943	0.14	2.97								
	40	2.192	0.46	2.95	56	9.21	0.11	2.6									46	1.736	0.58	3.43	60	6.926	0.14	0.84								
	54	2.211	0.45	3.72	64	9.259	0.11	0.39									56	1.74	0.57	3.81	78	6.848	0.15	1.93								
	60	2.185	0.46	4.33	74	9.135	0.11	1.06									66	1.679	0.60	2.56	82	6.985	0.14	1.45								
	70	2.166	0.46	3.68	82	9.273	0.11	0.4									84	1.771	0.56	3.71	90	6.83	0.15	1.37								
	82	2.228	0.45	6.55	94	9.26	0.11	0.24									90	1.733	0.58	4.75												
	90	2.181	0.46	3.9													100	1.781	0.56	3.38												
Summary		2.19	0.46	4.39		9.21	0.11	1.81										1.75	0.57	3.69		6.88	0.15	2.58								
				1.8-6.55				.24-4.66												.99-4.75				.93-6.56								
N4SID-IO	18	2.208	0.45	4.96	20	9.078	0.11	6.61									16	1.779	0.56	4.66	12	6.786	0.15	6.41								
	20	2.201	0.45	5.03	30	9.093	0.11	7.87									26	1.759	0.57	4.74	22	6.805	0.15	5.18								
	30	2.208	0.45	5.2	42	9.037	0.11	9.28									36	1.755	0.57	4.64	32	6.857	0.15	4.54								
	40	2.209	0.45	5.21	58	8.92	0.11	9.83									46	1.753	0.57	5.03	40	6.942	0.14	4.04								
	50	2.21	0.45	4.86	84	8.956	0.11	8.08									56	1.755	0.57	4.5	50	6.931	0.14	4.27								
	58	2.195	0.46	5.17	94	8.98	0.11	7.07									66	1.757	0.57	4.49	58	6.915	0.14	4.89								
	68	2.196	0.46	5.11	100	9.093	0.11	5.28									76	1.757	0.57	4.65	74	7.077	0.14	2.83								
	80	2.197	0.46	4.75													86	1.757	0.57	4.73	80	7.02	0.14	2.95								
	90	2.201	0.45	4.74													96	1.763	0.57	4.88	90	6.994	0.14	2.01								
	100	2.192	0.46	4.79													100	1.758	0.57	4.85	98	6.98	0.14	2.1								
Summary		2.20	0.45	4.98		9.02	0.11	7.72										1.76	0.57	4.72		6.93	0.14	3.92								
				4.71-5.39				5.28-9.83												4.42-5.03				2.01-6.41								
Average		2.1881	0.457087	4.8075		8.777507	0.107843	4.587091										1.756453	0.569379	4.181444		6.930615	0.14431	3.534674								

	Ocotillo_10Apr2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	18	2.047	0.49	4.77	16	8.77	0.11	5.27									22	1.675	0.60	4.19	22	6.469	0.15	4.52								
	24	2.033	0.49	5.07	26	8.808	0.11	4.67									30	1.682	0.59	4.09	32	6.521	0.15	4.66								
	30	2.021	0.49	5.28	36	8.78	0.11	4.66									40	1.669	0.60	5.87	40	6.514	0.15	4.58								
	40	2.014	0.50	5.87	46	8.827	0.11	5.12									50	1.645	0.61	6.14	48	6.469	0.15	5								
	50	2.006	0.50	6.19	54	8.776	0.11	4.65									60	1.645	0.61	6.28	56	6.307	0.16	6.31								
	60	2.049	0.49	6.83	74	8.803	0.11	4.28									70	1.64	0.61	6.31	80	6.307	0.16	7.68								
	70	2.046	0.49	5.17	82	8.784	0.11	5.58									80	1.644	0.61	5.55	86	6.444	0.16	7.44								
	80	2.035	0.49	5.91													90	1.642	0.61	6.64												
	92	2.027	0.49	6.35													100	1.614	0.62	7.35												
	100	2.011	0.50	6.5																												
Summary		2.03	0.49	5.79		8.79	0.11	4.89										1.65	0.61	5.82		6.43	0.16	5.74								
				4.77-6.83				4.28-5.58												4.09-7.35				4.52-7.68								
ARX	10	2.028	0.49	5.02	8	8.849	0.11	6.85									12	1.668	0.60	4.4	10	6.496	0.15	3.83								
	18	2.019	0.50	4.88	14	8.804	0.11	4.5									20	1.669	0.60	4.47	20	6.516	0.15	4.65								
	30	2.027	0.49	4.6	20	8.837	0.11	4.41									30	1.664	0.60	4.47	28	6.552	0.15	3.07								
	42	2.027	0.49	4.37	30	8.792	0.11	4.14									40	1.66	0.60	4.17	34	6.8	0.15	3.68								
	50	2.029	0.49	4.33	40	8.859	0.11	5.44									50	1.66	0.60	4.45	42	6.855	0.15	3.74								
	60	1.991	0.50	4.31	50	8.718	0.11	3.92									60	1.665	0.60	4.89	50	6.796	0.15	2.67								
	70	1.981	0.50	4.26	72	8.881	0.11	3.43									70	1.697	0.59	4.62	62	6.754	0.15	2.47								
	82	2.003	0.50	3.45	94	8.898	0.11	6.76									82	1.582	0.63	6.35	72	6.71	0.15	3.32								
	90	2.003	0.50	3.23													90	1.669	0.60	3.6	90	6.891	0.15	4.82								
	100	2	0.50	3.26													100	1.662	0.60	3.88												
Summary		2.01	0.50	4.17		8.83	0.11	4.93										1.66	0.60	4.53		6.71	0.15	3.58								
				3.15-5.13				3.92-6.85												3.28-8.7				2.38-4.65								
SRIM	12	2.033	0.49	4.39	6	8.867	0.11	3.68									12	1.658	0.60	4.26	8	6.393	0.16	4.1								
	20	2.017	0.50	4.14	22	8.709	0.11	4.31									20	1.653	0.60	3.99	28	6.437	0.16	4.21								
	32	2.017	0.50	4.05	32	8.716	0.11	4.55									30	1.647	0.61	4.27	70	6.406	0.16	1.76								
	38	2.007	0.50	4.47	68	8.724	0.11	1.72									40	1.613	0.62	4.28	78	6.366	0.16	0.87								
	46	2.056	0.49	4.33	70	8.787	0.11	0.61									54	1.572	0.64	5.16	84	6.453	0.15	1.56								
	54	2.001	0.50	3.32	80	8.848	0.11	0.38									64	1.646	0.61	3.36	92	6.422	0.16	1.02								
	66	1.997	0.50	3.59	90	8.742	0.11	0.63									74	1.654	0.60	4.23	94	6.367	0.16	1.02								
	80	1.993	0.50	4.65	96	8.772	0.11	0.84									80	1.637	0.61	4.22	100	6.392	0.16	0.75								
	90	1.98	0.51	3.38													90	1.627	0.61	3.69												
	96	2.023	0.49	3.35													100	1.599	0.63	6.99												
Summary		2.01	0.50	3.97		8.77	0.11	2.09										1.63	0.61	4.45		6.40	0.16	1.91								
				2.54-4.47				.36-4.55												3.22-6.99				.75-4.21								
N4SID-IO	16	2.043	0.49	6.07	8	8.88	0.11	9.27									16	1.691	0.59	5.99	28	6.539	0.15	4.43								
	26	2.025	0.49	5.15	18	8.883	0.11	5.56									26	1.672	0.60	5.11	32	6.658	0.15	5.02								
	36	2.006	0.50	6.65	28	8.817	0.11	5.22									36	1.657	0.60	5.13	42	6.674	0.15	6.66								
	46	1.95	0.51	7.21	38	8.738	0.11	5.32									46	1.647	0.61	5.39	60	6.65	0.15	4.8								
	58	1.994	0.50	6.13	48	8.808	0.11	5.46									56	1.658	0.60	4.96	70	6.665	0.15	5.08								
	66	1.982	0.50	5.26	60	8.77	0.11	4.31									66	1.66	0.60	5.03	76	6.693	0.15	5.09								
	76	1.987	0.50	5.11	96	8.892	0.11	1.95									76	1.665	0.60	5.17	86	6.683	0.15	3.83								
	84	1.99	0.50	4.87													86	1.668	0.60	5.46												
	96	1.984	0.50	4.67													98	1.665	0.60	4.38												
	100	1.994	0.50	3.97																												
Summary		2.00	0.50	5.51		8.83	0.11	5.30										1.66	0.60	5.18		6.65	0.15	4.99								
				3.97-7.21				1.95-9.27												4.38-6.63				3.83-6.66								
Average		2.0119	0.497106	4.86025		8.804951	0.113577	4.302455										1.651411	0.605695	4.994861		6.549248	0.152778	4.055789								

	Ocotillo_14Jun2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	12	2.019	0.50	5.45	14	8.744	0.11	5.46									12	1.663	0.60	3.88	10	6.502	0.15	5.04								
	20	2.014	0.50	5.79	18	8.677	0.12	5.34									20	1.653	0.60	4.41	20	6.542	0.15	4.45								
	30	2.021	0.49	5.69	28	8.603	0.12	5.1									30	1.649	0.61	4.77	26	6.542	0.15	4.76								
	40	2.008	0.50	5.74	54	9.091	0.11	1.75									40	1.662	0.60	5.34	52	6.553	0.15	5.41								
	50	2.01	0.50	5.01	62	9.065	0.11	2.18									50	1.658	0.60	5.21	62	6.595	0.15	2.87								
	62	2.013	0.50	4.62	72	9.086	0.11	2.55									62	1.656	0.60	5.07	72	6.509	0.15	2.55								
	68	2.031	0.49	4.62	90	9.066	0.11	0.9									70	1.661	0.60	5.51	82	6.545	0.15	2.52								
	84	2.044	0.49	2.6													80	1.662	0.60	5.4	94	6.575	0.15	1.52								
	90	2.031	0.49	5.54													92	1.665	0.60	5.34												
																	100	1.657	0.60	5.51												
Summary		2.02	0.49	5.01		8.90	0.11	3.33										1.66	0.60	5.04		6.55	0.15	3.64								
				2.6-6.6				.9-5.46												3.85-5.98				1.52-5.41								
ARX	10	2.023	0.49	4.9	12	8.672	0.12	4.61									8	1.656	0.60	4.32	8	6.512	0.15	4.48								
	22	1.989	0.50	5.17	20	8.509	0.12	5.41									18	1.653	0.60	4.39	18	6.512	0.15	4.27								
	32	2.017	0.50	4.13	30	8.663	0.12	4.04									28	1.64	0.61	4.78	26	6.591	0.15	5.1								
	42	2.025	0.49	4.38	50	8.571	0.12	1.88									38	1.583	0.63	6.2	42	6.475	0.15	5.34								
	52	2.024	0.49	3.67	62	8.565	0.12	2.12									48	1.654	0.60	4.78	56	6.544	0.15	4.43								
	62	2.018	0.50	3.99	78	8.574	0.12	1.57									56	1.656	0.60	7.15	66	6.522	0.15	2.93								
	72	2.008	0.50	3.18	80	8.564	0.12	1.63									68	1.546	0.65	5.07	76	6.42	0.16	3.59								
	82	2.013	0.50	2.99	92	8.662	0.12	2.09									78	1.646	0.61	4.31	88	6.435	0.16	2.15								
	92	2.015	0.50	1.98	100	5.656	0.18	1.21									88	1.615	0.62	4.38	98	6.525	0.15	1.41								
																	98	1.562	0.64	5.87												
Summary		2.01	0.50	3.82		8.27	0.12	2.73										1.62	0.62	5.13		6.50	0.15	3.74								
				1.98-5.56				1.21-4.88												3.71-7.15				1.41-5.34								
SRIM	10	2.023	0.49	4.9	6	8.762	0.11	5.23									12	1.643	0.61	4.71	10	11.246	0.09	1.35								
	18	2.021	0.49	5.56	14	8.766	0.11	3.07									20	1.61	0.62	4.13	48	11.145	0.09	1.71								
	30	2.026	0.49	4.14	22	8.61	0.12	2.85									30	1.655	0.60	3.75	56	11.139	0.09	0.29								
	40	2.018	0.50	4.32	34	8.601	0.12	1.98									40	1.63	0.61	3.51	70	11.129	0.09	0.26								
	50	2.031	0.49	3.67	48	8.651	0.12	2.45									52	1.657	0.60	3.64	80	11.3	0.09	0.21								
	62	2.018	0.50	3.99	62	8.765	0.11	1.23									62	1.653	0.60	4.08	86	11.293	0.09	0.31								
	70	2.012	0.50	3.22	74	8.744	0.11	0.43									72	1.58	0.63	2.32	96	11.164	0.09	0.24								
	80	2.009	0.50	2.92	84	8.695	0.12	0.33									78	1.656	0.60	3.82												
	92	2.015	0.50	1.98	96	8.765	0.11	0.58									88	1.673	0.60	1.87												
	100	2.146	0.47	8.42													96	1.631	0.61	3.26												
Summary		2.03	0.49	4.31		8.71	0.11	2.02										1.64	0.61	3.51		11.20	0.09	0.62								
				19.8-8.42				.33-5.23												1.87-4.71				.16-1.71								
N4SID-IO	10	2.033	0.49	5.88	20	8.674	0.12	6.32									10	1.666	0.60	5.41	10	6.493	0.15	5.04								
	20	2.029	0.49	6.7	30	8.558	0.12	3.52									20	1.656	0.60	5.76	20	6.512	0.15	5.06								
	30	2.023	0.49	5.42	42	8.587	0.12	2.33									30	1.662	0.60	5.52	30	6.516	0.15	5.71								
	40	2.012	0.50	5.23	46	8.577	0.12	3.23									40	1.653	0.60	5.53	42	6.53	0.15	5.69								
	50	2.021	0.49	4.74	58	8.501	0.12	2.57									50	1.659	0.60	5.61	50	6.469	0.15	5.73								
	60	2.019	0.50	4.52	70	8.567	0.12	3.05									60	1.655	0.60	5.05	60	6.479	0.15	4.23								
	70	2.01	0.50	4.23	86	8.5	0.12	0.7									70	1.66	0.60	5.69	70	6.433	0.16	3.1								
	80	2.017	0.50	3.61	90	8.534	0.12	1.23									80	1.667	0.60	5.72	80	6.509	0.15	1.41								
	90	2.014	0.50	3.84	96	8.611	0.12	1.92									90	1.659	0.60	6.72	90	6.57	0.15	2.73								
	100	2.012	0.50	3.05													100	1.678	0.60	5.7	96	6.547	0.15	2.49								
Summary		2.02	0.50	4.72		8.57	0.12	2.76										1.66	0.60	5.67		6.51	0.15	4.12								
				3.05-5.97				.7-6.32												4.84-6.72				1.41-6.19								
Average		2.021697	0.49469	4.465444		8.612365	0.116746	2.708651										1.645	0.608102	4.83725		7.689365	0.137382	3.031933								

	PalmSprings86																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	6	2.142	0.47	6.56	28	5.416	0.18	6.74									8	1.792	0.56	4.88	18	5.332	0.19	2.67								
	16	2.175	0.46	5.65	62	5.317	0.19	2.08									18	1.8	0.56	5.31	26	5.314	0.19	1.47								
	28	2.155	0.46	7.83	68	5.305	0.19	1.45									28	1.787	0.56	4.85	38	5.381	0.19	1.15								
	32	2.172	0.46	6.16													38	1.785	0.56	4.77												
	42	2.116	0.47	5.71													48	1.789	0.56	4.35												
	52	2.12	0.47	8.64													56	1.811	0.55	4.02												
	60	2.02	0.50	6.21													66	1.787	0.56	8.11												
	72	2.182	0.46	7.87													78	1.772	0.56	4.64												
	84	2.12	0.47	6.92													82	1.783	0.56	4.94												
	92	2.11	0.47	5.15													96	1.782	0.56	4.13												
Summary		2.13	0.47	6.67		5.35	0.19	3.42										1.79	0.56	5.00		5.34	0.19	1.76								
				5.32-8.64				1.45-6.74												4.13-8.11				1.15-2.67								
ARX	6	2.142	0.47	6.56	44	5.38	0.19	3.26									6	1.803	0.55	5	26	5.321	0.19	2.28								
	16	2.175	0.46	5.65	54	5.319	0.19	1.89									16	1.798	0.56	5.01	34	5.244	0.19	3.98								
	24	2.139	0.47	8.69	64	5.294	0.19	2.05									26	1.782	0.56	4.85	46	5.323	0.19	0.68								
	32	2.172	0.46	6.16	74	5.217	0.19	0.97									36	1.776	0.56	4.36	52	5.323	0.19	0.64								
	42	2.116	0.47	5.71	84	5.231	0.19	0.4									46	1.794	0.56	4.4	82	5.284	0.19	0.24								
	52	2.12	0.47	8.64	90	5.279	0.19	1.11									56	1.796	0.56	4.72	88	5.284	0.19	0.22								
	60	2.02	0.50	6.21	100	5.355	0.19	1.01									66	1.805	0.55	4.45	96	5.282	0.19	0.16								
	72	2.182	0.46	7.87													76	1.803	0.55	3.88												
	84	2.12	0.47	6.92													86	1.82	0.55	4.19												
	92	2.11	0.47	5.15													94	1.721	0.58	1.47												
Summary		2.13	0.47	6.76		5.30	0.19	1.53											0.56			5.29	0.19	1.17								
				5.15-8.69				.4-3.26												1.47-5.31				.16-3.98								
SRIM	6	2.155	0.46	6.11	26	5.149	0.19	0.94									10	1.796	0.56	4.77	30	5.295	0.19	0.18								
	16	2.116	0.47	6.61	36	5.087	0.20	1.05									24	1.787	0.56	5.15	40	5.321	0.19	1.56								
	26	2.093	0.48	5.12	44	5.053	0.20	0.79									30	1.788	0.56	5.39	44	5.285	0.19	0.16								
	36	2.082	0.48	5.11	56	5.181	0.19	0.51									40	1.779	0.56	4.93	60	5.284	0.19	0.29								
	48	2.126	0.47	6.09	68	5.029	0.20	0.92									50	1.791	0.56	4.83	70	5.285	0.19	0.31								
	58	2.049	0.49	7.13	78	5.115	0.20	0.99									60	1.797	0.56	4.7	80	5.293	0.19	0.26								
	66	2.072	0.48	7.98	94	5.001	0.20	0.85									74	1.656	0.60	7.14	90	5.294	0.19	0.17								
	76	2.061	0.49	6.74													80	1.703	0.59	2.27	100	5.298	0.19	0.25								
	88	2.096	0.48	4.44													92	1.718	0.58	1.58												
	98	2.096	0.48	2.9																												
Summary		2.09	0.48	5.82		5.09	0.20	0.86										1.76	0.57	4.53		5.29	0.19	0.40								
				2.9-7.98				.47-1.05												1.47-7.22				.17-1.56								
N4SID-IO	6	2.167	0.46	7.87	32	4.039	0.25	4									14	1.784	0.56	5.82	34	3.502	0.29	3.2								
	16	2.139	0.47	6.71	34	4.063	0.25	4.18									24	1.791	0.56	5.16	38	3.431	0.29	2.51								
	26	2.133	0.47	7.28	82	3.996	0.25	1.1									34	1.777	0.56	5.26	58	3.533	0.28	2.66								
	36	2.093	0.48	8.63	86	4.041	0.25	1.24									44	1.784	0.56	4.84	76	3.435	0.29	4.23								
	48	2.115	0.47	6.41	94	3.924	0.25	2.71									58	1.647	0.61	6.1	84	3.506	0.29	1.93								
	50	2.133	0.47	6.54													64	1.742	0.57	6.37	98	3.499	0.29	3.05								
	68	2.137	0.47	2.69													74	1.776	0.56	4.32												
	70	2.122	0.47	4.69													84	1.769	0.57	3.21												
	80	2.113	0.47	6.63													90	1.774	0.56	4.32												
	92	2.194	0.46	1.26													100	1.79	0.56	4.73												
Summary		2.13	0.47	5.87		4.01	0.25	2.65										1.76	0.57	5.01		3.48	0.29	2.93								
				1.26-8.63				1.1-4.18												3.21-5.82				1.93-4.23								
Average		2.1225	0.471319	6.28		4.935721	0.205432	2.11519										1.327356	0.563707	3.635472		4.853868	0.212996	1.565565								

	SanBernardino_08Jan2009																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	2.248	0.44	6.37	20	9.572	0.10	3.51									20	1.803	0.55	4.2	22	6.997	0.14	3.22								
	26	2.295	0.44	5.58	26	9.563	0.10	5.48									30	1.842	0.54	3.67	30	7	0.14	2.96								
	36	2.292	0.44	4.9	38	9.554	0.10	3.86									40	1.827	0.55	3.49	40	6.939	0.14	3.78								
	46	2.303	0.43	5.93	44	9.594	0.10	3.67									50	1.83	0.55	3.66	60	6.853	0.15	3.2								
	56	2.33	0.43	5.74	58	9.607	0.10	1.5									60	1.828	0.55	4.39	72	6.901	0.14	2.33								
	66	2.311	0.43	4.59													74	1.824	0.55	6.09	80	6.893	0.15	1.36								
	76	2.299	0.43	5.32													76	1.765	0.57	6.36	90	6.869	0.15	1.41								
	86	2.316	0.43	5.98													100	1.835	0.54	4.9	100	6.853	0.15	2.62								
	96	2.333	0.43	6.08																												
	100	2.328	0.43	5.74																												
Summary		2.31	0.43	5.62		9.58	0.10	3.60										1.82	0.55	4.60		6.91	0.14	2.61								
				4.59-6.37				1.5-5.48												3.12-6.36				1.36-3.78								
ARX	12	2.287	0.44	4.58	14	9.614	0.10	4.19									14	1.84	0.54	3.72	10	6.919	0.14	3.19								
	20	2.289	0.44	4.32	26	9.634	0.10	5.56									24	1.839	0.54	3.67	20	6.958	0.14	2.72								
	30	2.288	0.44	5.26	36	9.585	0.10	3.5									34	1.842	0.54	3.55	28	6.944	0.14	2.18								
	40	2.289	0.44	5.52	46	9.618	0.10	3.11									44	1.84	0.54	3.9	40	6.838	0.15	2.11								
	50	2.328	0.43	5.4	56	9.659	0.10	1.96									54	1.834	0.55	4.65	54	6.857	0.15	2.65								
	62	2.333	0.43	4.61	64	9.642	0.10	1.88									64	1.83	0.55	5.82	64	6.994	0.14	2.38								
	70	2.326	0.43	5.14	70	9.699	0.10	2.34									74	1.742	0.57	7.89	74	6.945	0.14	2.62								
	80	2.258	0.44	6.42													84	1.854	0.54	3.39	80	6.894	0.15	1.9								
	92	2.345	0.43	5.63													94	1.862	0.54	3.98	90	6.89	0.15	1.66								
	100	2.289	0.44	6.11													100	1.882	0.53	4.12	94	6.876	0.15	1.52								
Summary		2.30	0.43	5.30		9.64	0.10	3.22										1.84	0.54	4.47		6.91	0.14	2.29								
				3.63-6.98				1.81-5.56												3.1-8.35				1.52-3.19								
SRIM	12	2.246	0.45	5.39	38	9.303	0.11	2.23									14	1.84	0.54	3.72	18	7.668	0.13	4.22								
	22	2.143	0.47	1.9	44	9.339	0.11	1.5									24	1.839	0.54	3.67	80	7.595	0.13	1								
	32	2.273	0.44	3.82	58	9.337	0.11	2.07									34	1.842	0.54	3.55	88	7.542	0.13	1.04								
	42	2.281	0.44	4.48	68	9.233	0.11	0.6									44	1.84	0.54	3.9	98	7.599	0.13	0.56								
	52	2.194	0.46	0.5	72	9.263	0.11	0.51									54	1.834	0.55	4.65	100	7.624	0.13	0.71								
	80	2.205	0.45	3.93	76	9.268	0.11	1.49									64	1.83	0.55	5.82												
					80	9.281	0.11	2.52									74	1.742	0.57	7.89												
					92	9.278	0.11	0.11									84	1.854	0.54	3.39												
																	94	1.862	0.54	3.98												
																	100	1.882	0.53	4.12												
Summary		2.22	0.45	3.34		9.29	0.11	1.38										1.84	0.54	4.47		7.61	0.13	1.51								
				.5-5.39				.11-2.52												3.10-8.35				.56-4.22								
N4SID-IO	14	2.319	0.43	5.13	16	9.608	0.10	4.08									16	1.857	0.54	5.97	18	6.992	0.14	3.33								
	26	2.312	0.43	4.85	26	9.537	0.10	5.27									26	1.838	0.54	4.28	28	6.962	0.14	3.49								
	36	2.335	0.43	4.93	34	9.614	0.10	4.5									36	1.842	0.54	4.23	38	6.976	0.14	3.92								
	46	2.294	0.44	4.67	46	9.669	0.10	4.51									46	1.844	0.54	4.66	46	6.857	0.15	3.24								
	56	2.355	0.42	6.09	64	9.5	0.11	2.93									56	1.851	0.54	4.87	58	6.891	0.15	3								
	66	2.344	0.43	6.08	72	9.698	0.10	4.18									66	1.843	0.54	4.88	64	6.962	0.14	3.51								
	76	2.336	0.43	5.84	80	9.508	0.11	1.31									76	1.849	0.54	4.55	72	6.956	0.14	3.77								
	86	2.335	0.43	5.18	94	9.543	0.10	2.7									86	1.852	0.54	4.44	88	6.944	0.14	2.41								
	96	2.332	0.43	4.87													96	1.854	0.54	4.42	94	6.93	0.14	2.56								
	100	2.326	0.43	4.97													100	1.86	0.54	4.18												
Summary		2.33	0.43	5.26		9.58	0.10	3.69										1.85	0.54	4.65		6.94	0.14	3.25								
				4.67-6.2				1.31-5.84												4.16-5.97				2.41-3.92								
Average		2.290292	0.436844	4.879917		9.521558	0.105049	2.971938										1.835313	0.54501	4.54525		7.092834	0.141229	2.414194								
Overall Average		**2.10**	**0.48**	**5.02**		**8.41**	**0.13**	**2.87**										**1.64**	**0.58**	**4.67**		**6.66**	**0.16**	**2.80**								

Station 12284: ACI and LATBSDC Values - LATERAL AND GRAVITY SYSTEM

Building: **Palm Desert - 4-story Office Bldg**
Building Type: Precast element system in conjunction with RC walls around elevator near center of plan and around stairs at each end wall.
Number of floors with Sensors: 3
Total No. Sensors: 9

Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.35	0.70	0.647	Transverse	0.5658	Transverse	0.87	0.64	Torsional	NA	NA	NA	0.487	Local/Transverse	NA		NA
0.35	0.35	0.90	0.641	Transverse	0.5658	Transverse	0.88	0.635	Torsional	NA	NA	NA	0.486	Local/Transverse	NA		NA
0.35	0.7	0.70	0.634	Transverse	0.5658	Transverse	0.89	0.629	Torsional	NA	NA	NA	0.487	Local/Longitudinal	NA		NA
0.35	0.7	0.90	0.627	Transverse	0.5658	Transverse	0.90	0.623	Torsional	NA	NA	NA	0.486	Local/Transverse	NA		NA
0.75	0.35	0.70	0.531	Torsional	NA	NA	NA	0.518	Transverse	0.5658	Transverse	1.09	0.487	Local/Longitudinal	NA		NA
0.75	0.35	0.90	0.528	Torsional	NA	NA	NA	0.515	Transverse	0.5658	Transverse	1.10	0.486	Local/Transverse	NA		NA
0.75	0.7	0.70	0.525	Torsional	NA	NA	NA	0.511	Transverse	0.5658	Transverse	1.11	0.487	Local/Longitudinal	NA		NA
0.75	0.7	0.90	0.521	Torsional	NA	NA	NA	0.507	Transverse	0.5658	Transverse	1.12	0.486	Local/Longitudinal	NA		NA
		Average	0.58175														

Station 12284: ACI and LATBSDC Values - LATERAL SYSTEM ONLY

Building: **Palm Desert - 4-story Office Bldg**
Building Type: Precast element system in conjunction with RC walls around elevator near center of plan and around stairs at each end wall.
Number of floors with Sensors: 3
Total No. Sensors: 9

Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.35	0.70	0.742	Transverse	0.5658	Transverse	0.76	0.738	Torsional	NA	NA	NA	0.627	Vertical	NA	NA	NA
0.75	0.7	0.90	0.56	Torsional	NA	NA	NA	0.549	Transverse	0.5658	Transverse	1.03	0.522	Longitudinal/Local	NA	NA	NA
		Average	0.040688														

Station 12284

Building: **Palm Desert - 4-story Office Bldg**
Building Type: Precast element system in conjunction with RC walls around elevator near center of plan and around stairs at each end wall.
Number of floors with Sensors: 3
Total No. Sensors: 9

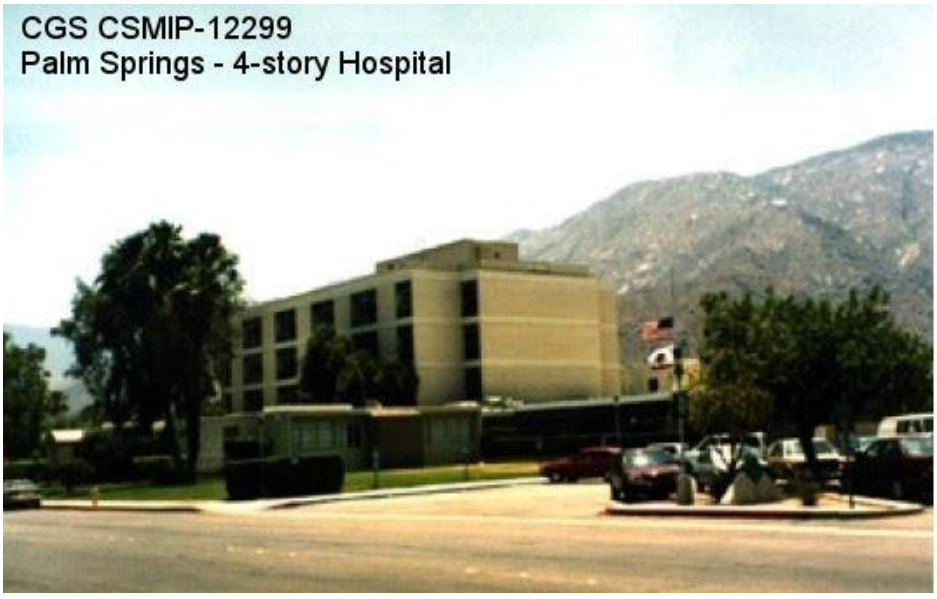
Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.3	0.30	0.67	Transverse	0.57	Transverse	0.85	0.661	Torsional	NA		NA	0.491	Local??	NA		NA
0.35	0.3	0.50	0.658	Transverse	0.57	Transverse	0.86	0.65	Torsional	NA		NA	0.488	Local??	NA		NA
0.35	0.3	0.70	0.649	Transverse	0.57	Transverse	0.87	0.642	Torsional	NA		NA	0.487	Local??	NA		NA
0.35	0.3	1.00	0.641	Transverse	0.57	Transverse	0.88	0.635	Torsional	NA		NA	0.486	Local??	NA		NA
0.5	0.3	0.30	0.604	Torsional	NA		NA	0.601	Transverse	0.57	Transverse	0.94	0.491	Local??	NA		NA
0.5	0.3	0.50	0.595	Torsional	NA		NA	0.591	Transverse	0.57	Transverse	0.96	0.488	Local??	NA		NA
0.5	0.3	0.70	0.59	Torsional	NA		NA	0.585	Transverse	0.57	Transverse	0.97	0.487	Local??	NA		NA
0.5	0.3	1.00	0.584	Torsional	NA		NA	0.579	Transverse	0.57	Transverse	0.98	0.486	Local??	NA		NA
0.75	0.3	0.30	0.543	Torsional	NA		NA	0.53	Transverse	0.57	Transverse	1.07	0.491	Local??	NA		NA
0.75	0.3	0.50	0.536	Torsional	NA		NA	0.523	Transverse	0.57	Transverse	1.08	0.488	Local??	NA		NA
0.75	0.3	0.70	0.532	Torsional	NA		NA	0.519	Transverse	0.57	Transverse	1.09	0.487	Local??	NA		NA
0.75	0.3	1.00	0.528	Torsional	NA		NA	0.515	Transverse	0.57	Transverse	1.10	0.486	Local??	NA		NA
1	0.3	0.30	0.502	Torsional	NA		NA	0.491	Local??			NA	0.484	Transverse	0.58	Transverse	1.20
1	0.3	0.50	0.497	Torsional	NA		NA	0.488	Local??			NA	0.479	Transverse	0.58	Transverse	1.21
1	0.3	0.70	0.493	Torsional	NA		NA	0.487	Local??			NA	0.476	Transverse	0.58	Transverse	1.22
1	0.3	1.00	0.49	Torsional	NA		NA	0.486	Local??			NA	0.473	Transverse	0.58	Transverse	1.23
0.35	0.5	0.30	0.665	Transverse	0.57	Transverse	0.85	0.656	Torsional	NA		NA	0.491	Local??	NA		NA
0.35	0.5	0.50	0.651	Transverse	0.57	Transverse	0.87	0.643	Torsional	NA		NA	0.488	Local??	NA		NA
0.35	0.5	0.70	0.641	Transverse	0.57	Transverse	0.88	0.635	Torsional	NA		NA	0.487	Local??	NA		NA
0.35	0.5	1.00	0.631	Transverse	0.57	Transverse	0.90	0.627	Torsional	NA		NA	0.486	Local??	NA		NA
0.5	0.5	0.30	0.601	Torsional	NA		NA	0.597	Transverse	0.57	Transverse	0.95	0.491	Local??	NA		NA
0.5	0.5	0.50	0.591	Torsional	NA		NA	0.586	Transverse	0.57	Transverse	0.97	0.488	Local??	NA		NA
0.5	0.5	0.70	0.584	Torsional	NA		NA	0.579	Transverse	0.57	Transverse	0.98	0.487	Local??	NA		NA
0.5	0.5	1.00	0.577	Torsional	NA		NA	0.572	Transverse	0.57	Transverse	0.99	0.486	Local??	NA		NA
0.75	0.5	0.30	0.54	Torsional	NA		NA	0.527	Transverse	0.57	Transverse	1.08	0.491	Local/Transverse	NA		NA
0.75	0.5	0.50	0.533	Torsional	NA		NA	0.52	Transverse	0.57	Transverse	1.09	0.488	Local/Transverse	NA		NA
0.75	0.5	0.70	0.528	Torsional	NA		NA	0.515	Transverse	0.57	Transverse	1.10	0.487	Local/Transverse	NA		NA
0.75	0.5	1.00	0.523	Torsional	NA		NA	0.51	Transverse	0.57	Transverse	1.11	0.486	Local/Transverse	NA		NA
1	0.5	0.30	0.5	Torsional	NA		NA	0.491	Local/Transverse			NA	0.482	Transverse	0.58	Transverse	1.20
1	0.5	0.50	0.494	Torsional	NA		NA	0.488	Local/Transverse			NA	0.477	Transverse	0.58	Transverse	1.22
1	0.5	0.70	0.49	Torsional	NA		NA	0.487	Local/Transverse			NA	0.473	Transverse	0.58	Transverse	1.23
1	0.5	1.00	0.486	Torsional	NA		NA	0.486	Local/Transverse			NA	0.469	Transverse	0.58	Transverse	1.24
		Average	0.567094														

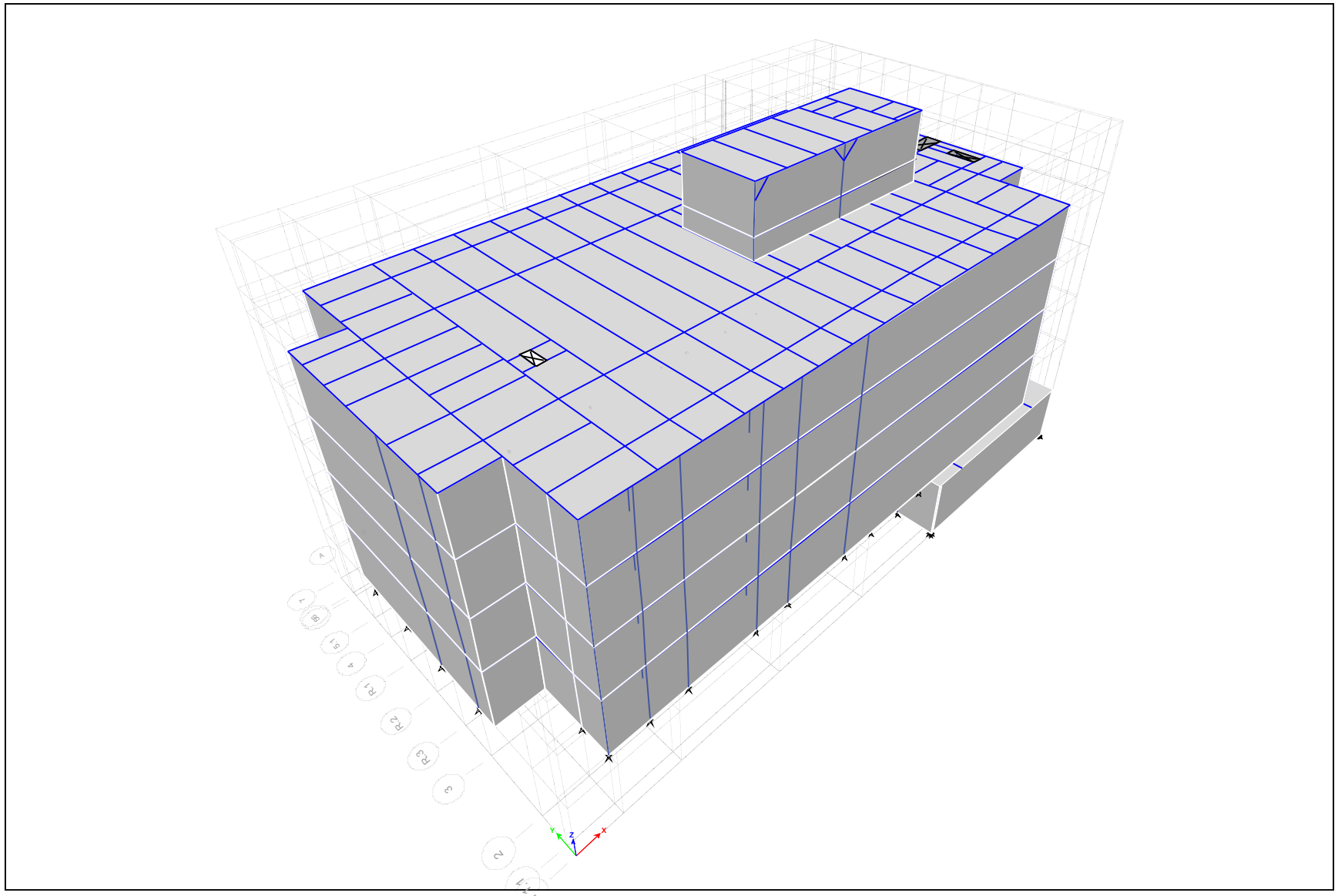
Station 12299

Building: Palm Springs - 4-story Hospital

Building Type: Steel moment frames

Number of floors with Sensors: 4

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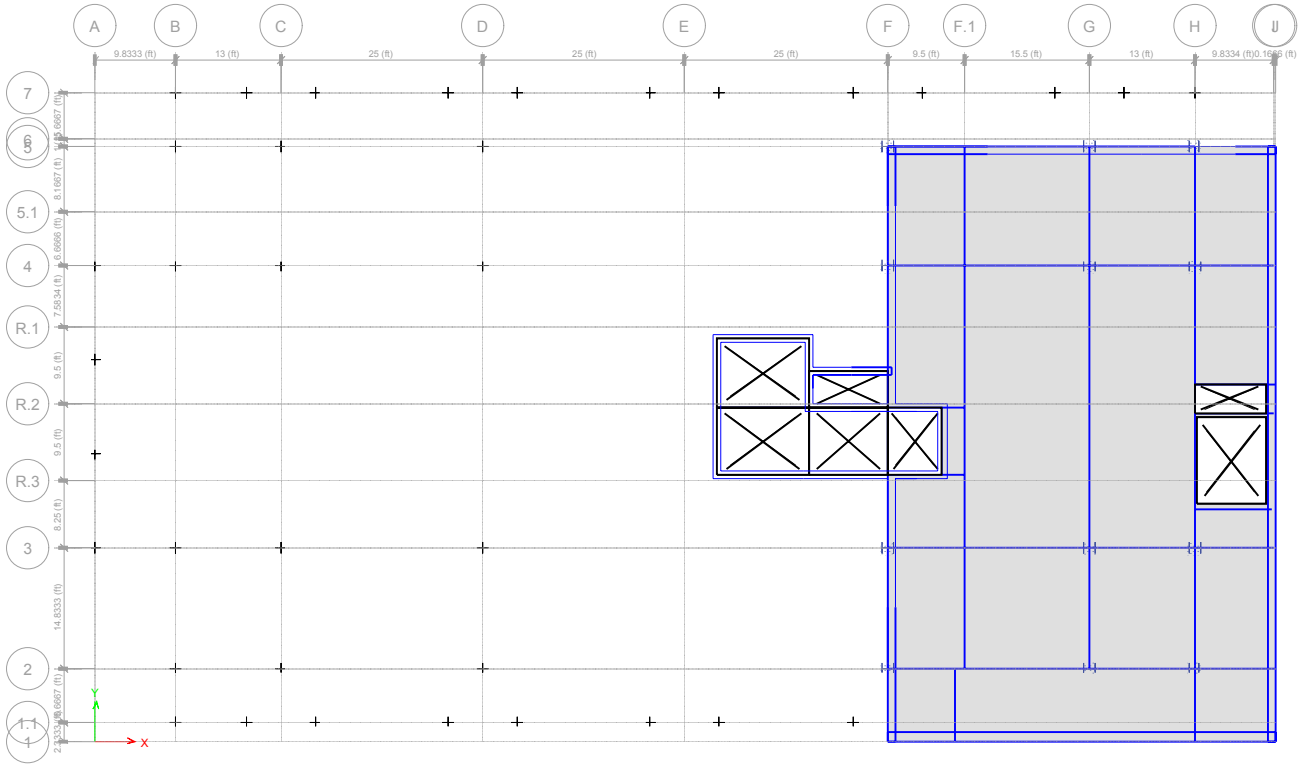
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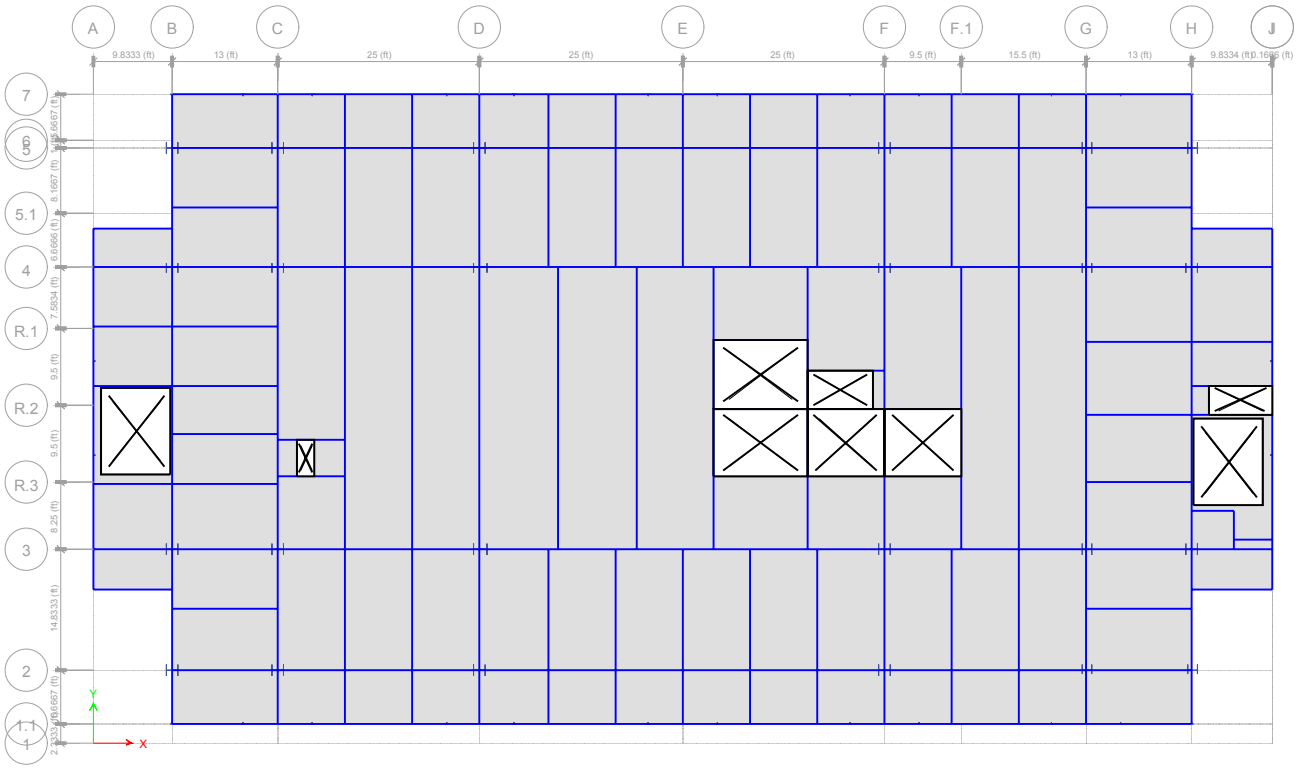
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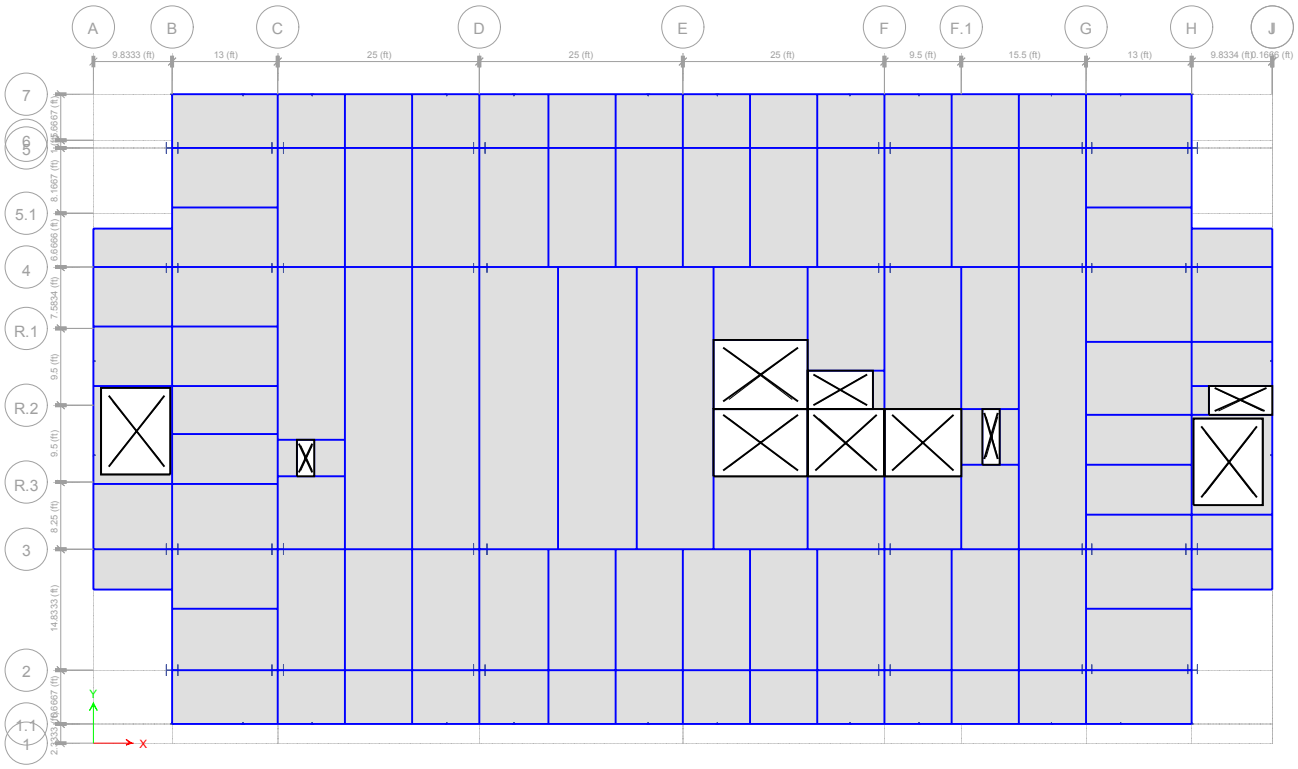
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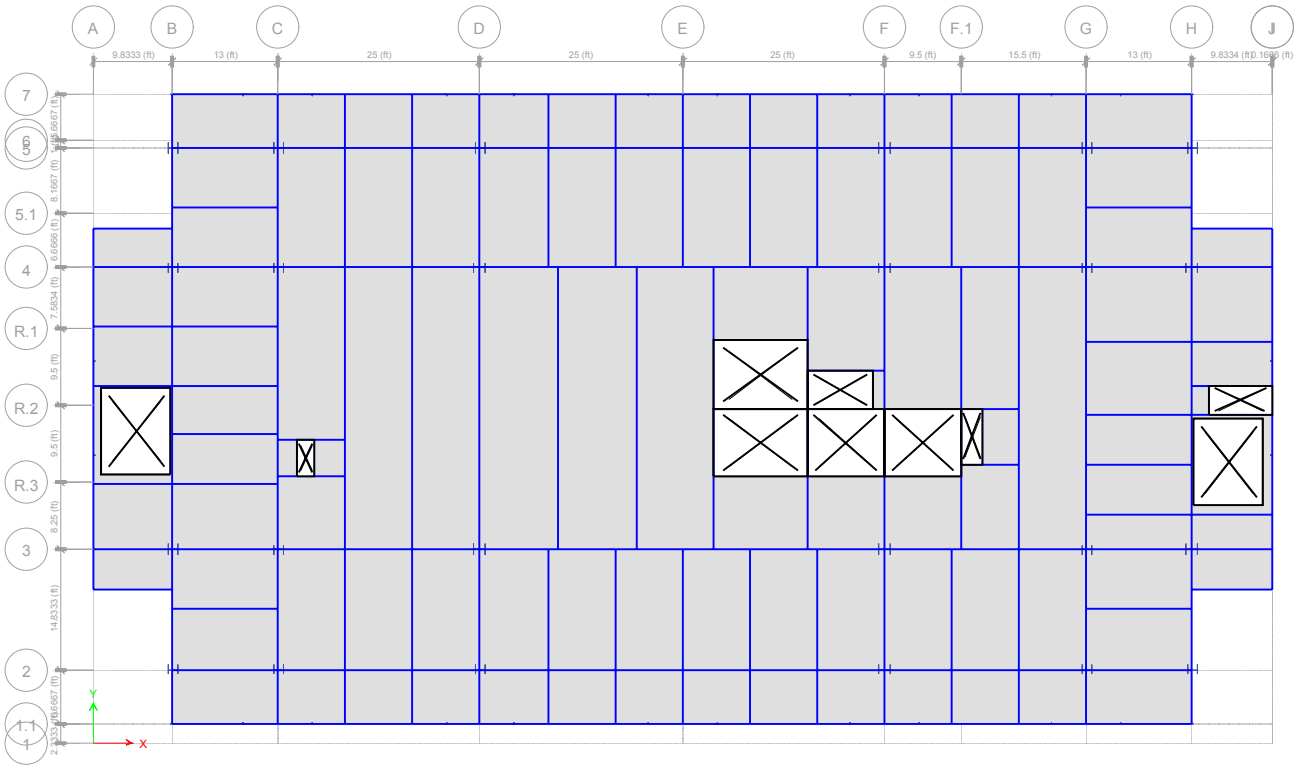
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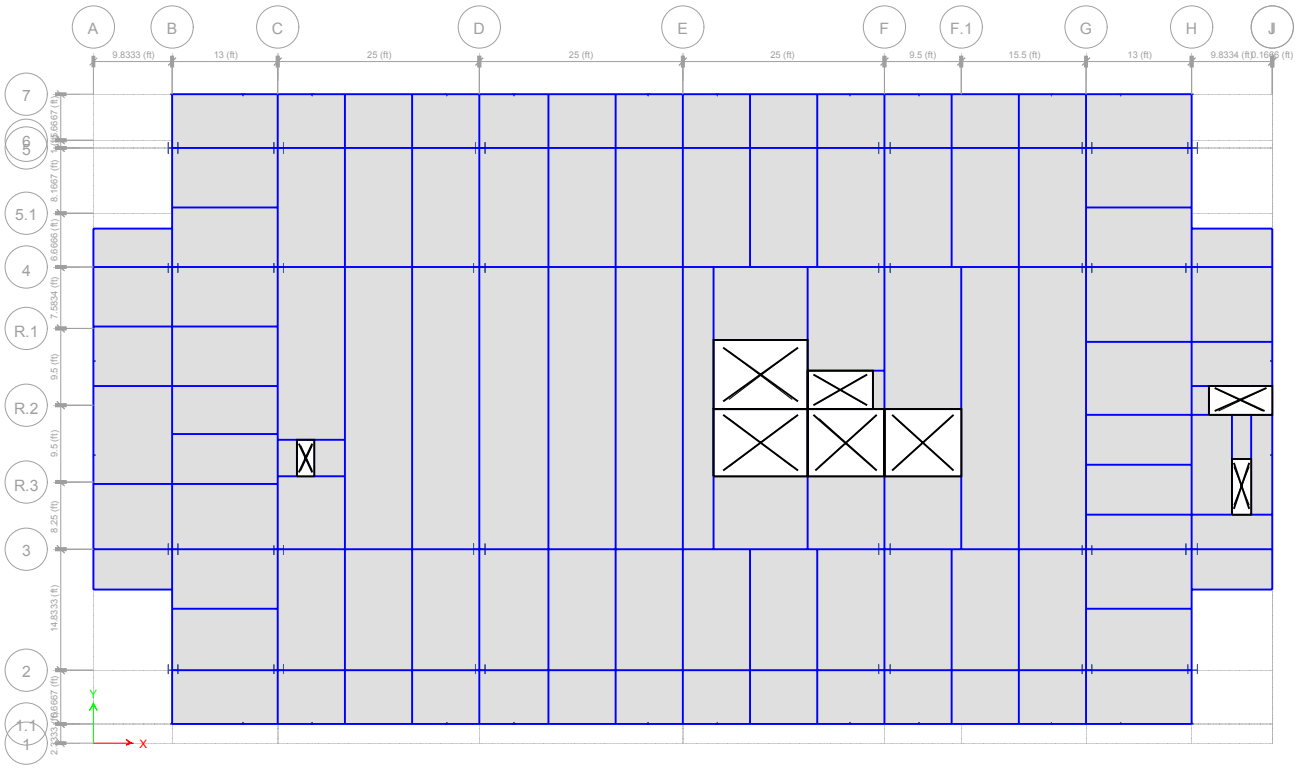
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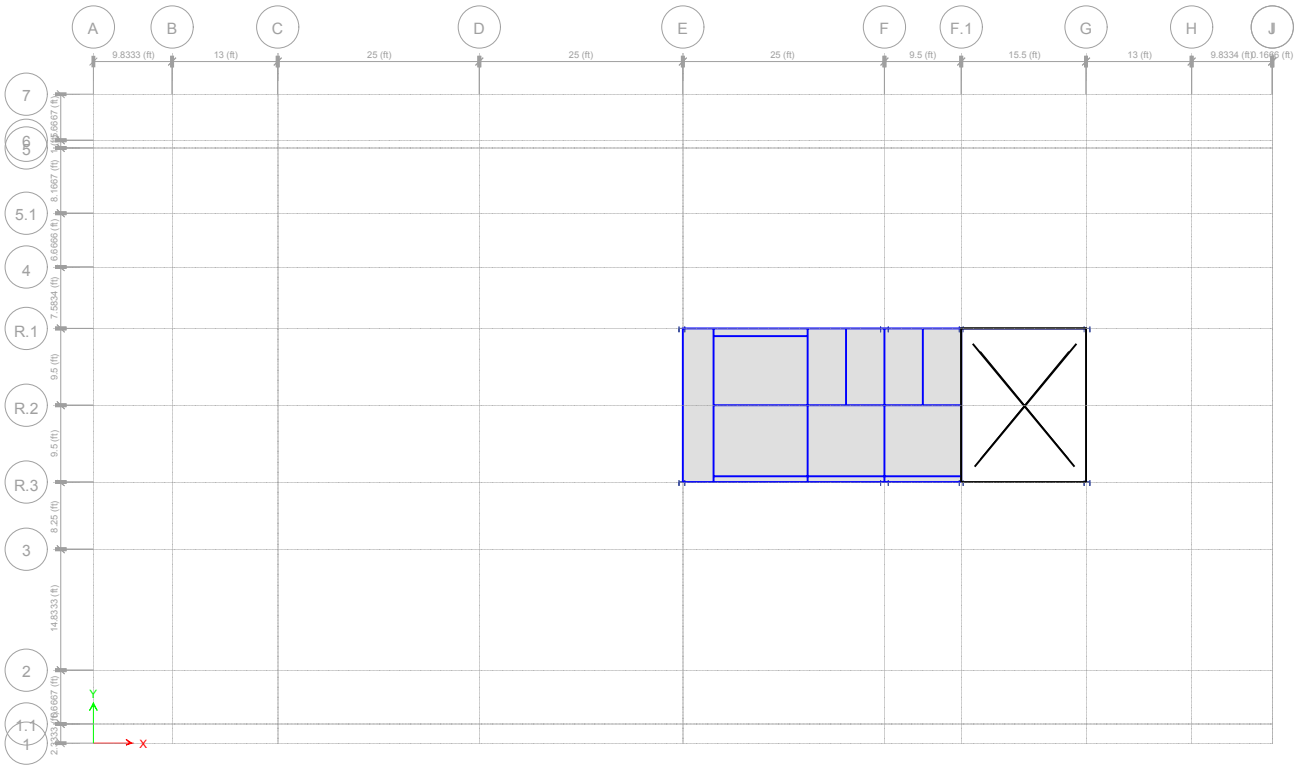
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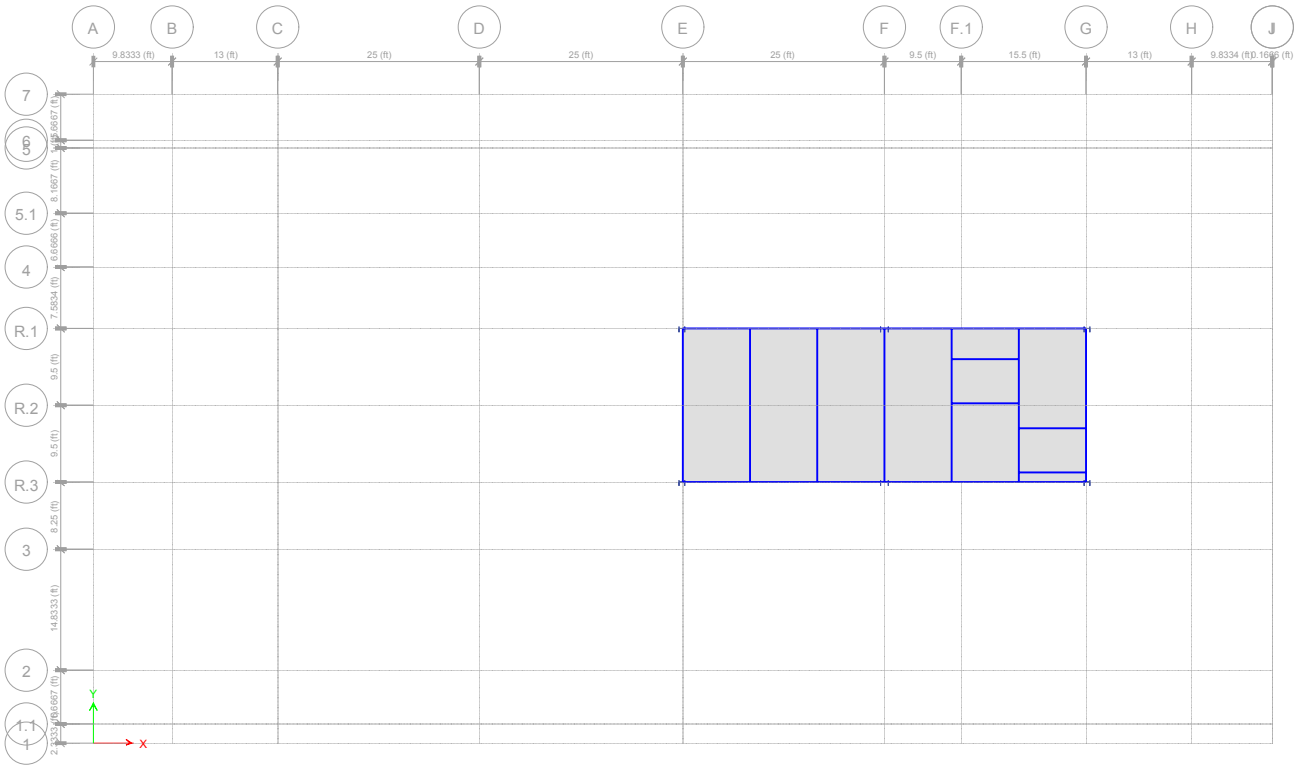
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BorregoSprings_07Jul2010

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	14	1.472	0.68	4.17	20	5.421	0.18	7.64	24	9.641	0.10	6.77					12	1.669	0.60	5.93	20	5.75	0.17	7.76	24	10.361	0.10	6.03				
	20	1.468	0.68	3.96	22	5.484	0.18	7.04	52	9.679	0.10	3.41					20	1.654	0.60	8.05	34	5.735	0.17	7.62	36	10.358	0.10	2.57				
	30	1.467	0.68	3.49	24	5.593	0.18	6.67	60	9.578	0.10	1.61					32	1.569	0.64	3.91	42	5.648	0.18	4.44	48	10.337	0.10	2.4				
	40	1.466	0.68	3.72	26	5.527	0.18	6.03	70	9.585	0.10	1.41					40	1.568	0.64	5.59	54	5.699	0.18	3.94	50	10.391	0.10	2.72				
	50	1.461	0.68	4.09	28	5.457	0.18	6.74	78	9.615	0.10	2.52					50	1.577	0.63	6.33	62	5.719	0.17	3.03	54	10.332	0.10	2.32				
	60	1.465	0.68	4.04	64	5.531	0.18	6.69	80	9.576	0.10	2.23					60	1.587	0.63	4.76	70	5.651	0.18	2.11	64	10.242	0.10	1.48				
	70	1.46	0.68	4.31	66	5.505	0.18	6.27	88	9.508	0.11	1.96					70	1.578	0.63	5.4	82	5.622	0.18	1.03	94	10.4	0.10	0.89				
	80	1.462	0.68	4.13	70	5.408	0.18	8.28	100	9.524	0.10	1.39					80	1.578	0.63	5.51	90	5.697	0.18	1.83	10	9.932	0.10	9.86				
	90	1.466	0.68	4.01	96	5.51	0.18	3.82	40	8.485	0.12	6.98					90	1.579	0.63	5.56	98	5.635	0.18	1.07	78	10.008	0.10	2.32				
	100	1.458	0.69	4.17	100	5.541	0.18	2.67	52	8.578	0.12	6.68					100	1.584	0.63	5.41					80	9.963	0.10	2.4				
Summary		1.46	0.68	4.01		5.50	0.18	6.19		9.38	0.11	3.50						1.59	0.63	5.65		5.68	0.18	3.65		10.23	0.10	3.30				
				3.44-4.22				2.67-8.28				1.34-6.98								3.91-8.41				1.03-9.01				.89-9.86				
ARX	10	1.47	0.68	3.61	14	5.716	0.17	8.45	30	10.551	0.09	2.38					10	1.614	0.62	7.69	18	5.776	0.17	5.09	22	10.351	0.10	3.78				
	20	1.466	0.68	3.8	22	5.723	0.17	6.15	40	10.401	0.10	1.89					20	1.595	0.63	5.16	20	5.737	0.17	5.16	30	10.245	0.10	2.22				
	30	1.453	0.69	3.45	32	5.758	0.17	4.28	60	10.538	0.09	3.8					30	1.603	0.62	6.25	30	5.68	0.18	4.67	40	10.373	0.10	2.27				
	40	1.441	0.69	3.42	42	5.604	0.18	5.79	72	10.544	0.09	1.79					40	1.583	0.63	5.8	40	5.752	0.17	4.72	54	10.207	0.10	0.99				
	50	1.445	0.69	3.81	50	5.794	0.17	3.55	80	10.443	0.10	1.64					50	1.619	0.62	6.38	50	5.68	0.18	4.13	60	10.223	0.10	0.72				
	60	1.443	0.69	4.04	62	5.768	0.17	3.3	90	10.455	0.10	2.97					60	1.602	0.62	5.74	60	5.667	0.18	2.75	66	10.205	0.10	1				
	70	1.441	0.69	3.14	70	5.72	0.17	1.44	98	10.473	0.10	0.81					70	1.582	0.63	4.15	70	5.719	0.17	2.04	80	10.286	0.10	1.12				
	80	1.439	0.69	3.9	80	5.76	0.17	5.52	32	9.676	0.10	7.5					82	1.535	0.65	5.11	80	5.76	0.17	1.73	90	10.333	0.10	1.1				
	90	1.449	0.69	4.3	90	5.719	0.17	0.77	48	9.51	0.11	2.32					90	1.635	0.61	3.01	90	5.697	0.18	1.01								
	100	1.444	0.69	4.74	100	5.725	0.17	0.73	56	9.53	0.10	2.02					100	1.646	0.61	3.26	100	5.695	0.18	1.58								
Summary		1.45	0.69	3.82		5.73	0.17	4.00		10.21	0.10	2.71						1.60	0.62	5.26		5.72	0.17	3.29		10.28	0.10	1.65				
				3.03-4.74				.64-8.45				.81-7.5								2.87-7.69				1.01-5.27				.7-3.78				
SRIM	10	1.462	0.68	3.25	6	5.579	0.18	5.51	16	9.569	0.10	5.32					10	1.589	0.63	4.8	4	5.814	0.17	7.38	10	10.317	0.10	1.96				
	22	1.486	0.67	2.87	36	5.406	0.18	1.54	24	9.493	0.11	3.16					20	1.537	0.65	3.04	16	5.914	0.17	5.92	26	10.232	0.10	1.19				
	30	1.473	0.68	3.73	40	5.443	0.18	2.2	30	9.479	0.11	0.41					32	1.571	0.64	5.99	22	5.935	0.17	3.79	32	10.235	0.10	1.72				
	40	1.441	0.69	2.51	50	5.455	0.18	1.25	40	9.476	0.11	0.76					40	1.593	0.63	1.96	34	5.935	0.17	2.42	38	10.238	0.10	0.73				
	50	1.343	0.74	1.94	60	5.544	0.18	1.09	52	9.533	0.10	0.29					50	1.637	0.61	0.77	52	5.93	0.17	1.15	58	10.334	0.10	1.33				
	60	1.446	0.69	2.53	70	5.523	0.18	2.31	60	9.5	0.11	0.29					62	1.517	0.66	1.46	66	5.972	0.17	0.86	60	10.312	0.10	1.14				
	70	1.476	0.68	3.27	80	5.413	0.18	1.84	70	9.511	0.11	0.15					72	1.542	0.65	2.82	72	5.94	0.17	0.35	70	10.367	0.10	0.43				
	80	1.485	0.67	2.89	90	5.519	0.18	1.1	80	9.552	0.10	1.51					80	1.602	0.62	4.72	80	5.865	0.17	1	84	10.392	0.10	0.59				
	90	1.461	0.68	3.25	100	5.455	0.18	0.61	96	9.499	0.11	0.73					90	1.594	0.63	2.38	90	5.987	0.17	1.22	92	10.359	0.10	0.44				
	96	1.426	0.70	4.23													100	1.623	0.62	1.96	96	5.914	0.17	0.27								
Summary		1.45	0.69	3.05		5.48	0.18	1.94		9.51	0.11	1.40						1.58	0.63	2.99		5.92	0.17	2.44		10.31	0.10	1.06				
				1.06-4.23				.61-5.51				.14-5.32								.52-8.77				.27-7.38				.1-1.96				
N4SID-IO	12	1.483	0.67	4.43	48	5.865	0.17	4.89	18	10.054	0.10	8.91					10	1.642	0.61	9.1	16	5.887	0.17	8.2	32	10.206	0.10	3.71				
	20	1.472	0.68	4.67	52	5.737	0.17	6.92	22	9.935	0.10	4.17					20	1.591	0.63	6.13	20	5.822	0.17	6.52	52	10.372	0.10	1.32				
	30	1.457	0.69	4.63	60	5.766	0.17	2.66	28	10.05	0.10	3.27					30	1.583	0.63	6.47	30	5.753	0.17	5.59	62	10.386	0.10	2.02				
	40	1.451	0.69	4.85	76	5.783	0.17	2.02	40	9.986	0.10	1.58					40	1.587	0.63	5.92	48	5.761	0.17	4.42	70	10.272	0.10	1.94				
	50	1.446	0.69	4.51	80	5.744	0.17	2	50	10.065	0.10	1					50	1.574	0.64	4.95	58	5.875	0.17	1.9	80	10.351	0.10	1.51				
	60	1.428	0.70	5.16	90	5.753	0.17	1.53	60	10.003	0.10	0.72					60	1.586	0.63	8.95	60	5.735	0.17	6.98	86	10.369	0.10	0.95				
	70	1.438	0.70	4.58	100	5.744	0.17	1.7	70	10.041	0.10	1.3					70	1.6	0.63	6.18	72	5.806	0.17	1.62	96	10.382	0.10	0.94				
	90	1.446	0.69	4.47					80	10.03	0.10	0.7					80	1.597	0.63	5.43	88	5.706	0.18	2.39	100	10.395	0.10	1.24				
	100	1.454	0.69	4.52					92	9.965	0.10	1.19					92	1.627	0.61	4.47	96	5.723	0.17	0.92								
									100	10.082	0.10	0.6					100	1.616	0.62	4.35	100	5.86	0.17	1.1								
Summary		1.45	0.69	4.65		5.77	0.17	3.10		10.02	0.10	2.34						1.60	0.62	6.20		5.79	0.17	3.96		10.34	0.10	1.70				
				3.88-5.16				1.31-6.92				.6-8.91								3.63-9.1				.92-7.05				.94-3.71				
Average		1.454069	0.687906	3.880917		5.619644	0.178058	3.806187		9.780636	0.102474	2.488556						1.594125	0.627555	5.02125		5.778425	0.173112	3.333944		10.29036	0.09719	1.92791				

	Calexico_04Apr2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	10	1.512	0.66	4.65													10	1.745	0.57	8.07												
	20	1.513	0.66	5.19													22	1.649	0.61	9.33												
	30	1.48	0.68	4.63													34	1.795	0.56	9.03												
	40	1.444	0.69	4.8													40	1.753	0.57	8.07												
	50	1.471	0.68	5.62													50	1.734	0.58	9.12												
	60	1.46	0.68	6.5													60	1.736	0.58	9.78												
	70	1.488	0.67	6.67													70	1.725	0.58	9.08												
	80	1.475	0.68	5.02													80	1.743	0.57	9.48												
	90	1.481	0.68	8.61													90	1.643	0.61	9.9												
	100	1.469	0.68	6.18													98	1.69	0.59	8.94												
Summary		1.48	0.68	5.79														1.72	0.58	9.08												
				4.43-9.18																7.05-9.9												
ARX	10	1.512	0.66	4.65													10	1.745	0.57	8.07												
	20	1.513	0.66	5.19													22	1.649	0.61	9.33												
	30	1.48	0.68	4.63													34	1.795	0.56	9.03												
	40	1.444	0.69	4.8													40	1.753	0.57	8.07												
	50	1.471	0.68	5.62													50	1.734	0.58	9.12												
	60	1.46	0.68	6.5													60	1.736	0.58	9.78												
	70	1.488	0.67	6.67													70	1.725	0.58	9.08												
	80	1.475	0.68	5.02													80	1.743	0.57	9.48												
	90	1.481	0.68	8.61													90	1.643	0.61	9.9												
	100	1.469	0.68	6.18													98	1.69	0.59	8.94												
Summary		1.48	0.68	5.79														1.72	0.58	9.08												
				4.43-9.18																7.05-9.9												
SRIM	N/A																10	1.745	0.57	8.07												
																	22	1.649	0.61	9.33												
																	34	1.795	0.56	9.03												
																	40	1.753	0.57	8.07												
																	50	1.734	0.58	9.12												
																	60	1.736	0.58	9.78												
																	70	1.725	0.58	9.08												
																	80	1.743	0.57	9.48												
																	90	1.643	0.61	9.9												
																	98	1.69	0.59	8.94												
Summary																		1.72	0.58	9.08												
																				7.05-9.9												
N4SID-IO	12	1.514	0.66	5.88													42	1.241	0.81	9.54												
	20	1.515	0.66	6.94													52	1.244	0.80	5.65												
	30	1.474	0.68	6.32													62	1.283	0.78	6.88												
	40	1.449	0.69	6.93													70	1.269	0.79	4.24												
	50	1.456	0.69	5.82													80	1.289	0.78	4												
	60	1.484	0.67	8.05													96	1.294	0.77	4.06												
	70	1.468	0.68	7.84													100	1.293	0.77	4.6												
	80	1.467	0.68	6.98																												
	92	1.452	0.69	8.24																												
	100	1.438	0.70	6.24																												
Summary		1.47	0.68	6.92														1.27	0.79	5.57												
				5.05-8.41																4-9.54												
Average		1.107575	0.50798	4.6245														1.609296	0.632415	8.201786												

	HectorMine99																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	10	1.455	0.69	4.77	14	4.879	0.20	5.02	24	8.726	0.11	1.96					10	1.607	0.62	8.02	10	5.37	0.19	8.44	24	9.558	0.10	6.86				
	20	1.442	0.69	4.79	20	4.841	0.21	5.97	28	8.728	0.11	1.57					20	1.577	0.63	8.9	24	5.425	0.18	6.53	86	9.648	0.10	0.43				
	30	1.438	0.70	4.33	30	4.884	0.20	5.69	60	8.69	0.12	1.23					30	1.586	0.63	5.78	30	5.403	0.19	6.25	88	9.644	0.10	0.52				
	40	1.437	0.70	4.18	40	4.883	0.20	5.2	66	8.678	0.12	0.6					40	1.569	0.64	4.65	58	5.448	0.18	2.99	90	9.641	0.10	0.62				
	50	1.451	0.69	3.39	50	4.819	0.21	4.79	70	8.666	0.12	0.77					50	1.587	0.63	4.32	62	5.413	0.18	2.72	92	9.651	0.10	0.71				
	60	1.433	0.70	3.89	60	4.827	0.21	3.06	78	8.666	0.12	0.77					60	1.561	0.64	5.87	68	5.373	0.19	4.83	94	9.66	0.10	0.77				
	70	1.433	0.70	4.58	76	4.842	0.21	0.71	80	8.745	0.11	0.59					72	1.547	0.65	6.83	86	5.437	0.18	2.16	96	9.69	0.10	0.81				
	80	1.441	0.69	4.93	88	4.838	0.21	0.7	82	8.733	0.11	0.84					80	1.54	0.65	7.99	94	5.445	0.18	1.18								
	90	1.439	0.69	4.14	90	4.845	0.21	0.76	96	8.757	0.11	0.84					90	1.568	0.64	5.87	100	5.457	0.18	8.24								
	100	1.436	0.70	3.62	100	4.839	0.21	0.49	100	8.743	0.11	0.92					100	1.61	0.62	5.42												
Summary		1.44	0.69	4.26		4.85		3.24		8.71	0.11	1.01						1.58	0.63	6.37		5.42	0.18	4.82		9.64	0.10	1.53				
				3.39-4.94				.49-5.97				.54-1.96								4.32-9.77				1.18-8.84				.43-6.86				
ARX	10	1.448	0.69	4.15	6	4.803	0.21	5.53	18	8.809	0.11	1.84					10	1.575	0.63	7.72	10	5.384	0.19	8.49	54	9.476	0.11	0.93				
	20	1.444	0.69	4.43	16	4.994	0.20	6	20	8.856	0.11	1.97					20	1.581	0.63	5.38	20	5.448	0.18	4.45	58	9.498	0.11	0.82				
	30	1.433	0.70	4.48	24	4.801	0.21	4.5	28	8.937	0.11	1.72					30	1.573	0.64	4.82	30	5.441	0.18	2.52	60	9.515	0.11	0.89				
	40	1.432	0.70	4.17	34	4.873	0.21	3.25	38	8.839	0.11	1.45					40	1.557	0.64	4.75	40	5.308	0.19	2.94	64	9.523	0.11	0.82				
	50	1.427	0.70	3.97	44	4.854	0.21	2.38	40	8.909	0.11	1.17					50	1.666	0.60	5.22	54	5.446	0.18	1.71	76	9.455	0.11	0.22				
	60	1.421	0.70	4.27	50	4.836	0.21	1.32	60	8.94	0.11	1.16					60	1.575	0.63	5.49	62	5.34	0.19	1.89	82	9.466	0.11	0.48				
	70	1.342	0.75	7.19	62	4.855	0.21	0.5	70	8.99	0.11	0.37					70	1.579	0.63	3.6	70	5.38	0.19	1.62	88	9.445	0.11	0.46				
	80	1.411	0.71	7.07	72	4.853	0.21	0.37	82	8.932	0.11	0.35					82	1.536	0.65	3.44	80	5.419	0.18	0.86	90	9.458	0.11	0.44				
	90	1.42	0.70	5.07	82	4.854	0.21	0.42	90	8.924	0.11	0.41					90	1.595	0.63	2.15	90	5.409	0.18	0.91	100	9.531	0.10	0.44				
	100	1.393	0.72	1.29	92	4.939	0.20	4.23	100	8.926	0.11	0.22					100	1.521	0.66	2.77	100	5.397	0.19	0.83								
Summary		1.42	0.71	4.61		4.87	0.21	2.85		8.91	0.11	1.07						1.58	0.63	4.53		5.40	0.19	2.62		9.49	0.11	0.61				
				1.29-8.23				.34-6				.22-1.84								1.91-8.29				.79-9.44				.22-.93				
SRIM	10	1.467	0.68	4.72	6	4.818	0.21	3.54	16	8.719	0.11	1.28					10	1.59	0.63	3.53	12	5.212	0.19	1.5	32	9.986	0.10	0.51				
	22	1.441	0.69	3.77	10	4.882	0.20	3.89	20	8.621	0.12	0.79					20	1.622	0.62	2.82	20	5.211	0.19	1.22	34	9.991	0.10	0.43				
	30	1.451	0.69	3.55	24	4.831	0.21	1.33	30	8.708	0.11	0.83					34	1.596	0.63	1.28	34	5.344	0.19	0.83	54	9.832	0.10	0.14				
	42	1.457	0.69	3.72	30	4.984	0.20	2.46	44	8.667	0.12	0.4					40	1.526	0.66	2.67	40	5.29	0.19	0.68	60	9.837	0.10	0.14				
	50	1.457	0.69	4.81	52	4.89	0.20	2.14	50	8.646	0.12	0.07					50	1.639	0.61	1	50	5.263	0.19	0.27	66	9.836	0.10	0.12				
	60	1.442	0.69	3.36	60	4.981	0.20	0.31	60	8.752	0.11	1.21					60	1.597	0.63	5.55	64	5.374	0.19	7.01	72	9.842	0.10	0.15				
	70	1.382	0.72	0.33	70	4.979	0.20	0.36	70	8.637	0.12	0.1					74	1.523	0.66	3.38	72	5.257	0.19	0.35	80	9.845	0.10	0.13				
	80	1.426	0.70	1.69	80	4.819	0.21	1.58	80	8.631	0.12	0.06					80	1.627	0.61	0.52	80	5.317	0.19	0.67	92	9.864	0.10	0.24				
	90	1.458	0.69	4.44	90	4.845	0.21	0.57	90	8.636	0.12	0.31					90	1.622	0.62	0.33	90	5.287	0.19	0.46	100	9.912	0.10	0.71				
	100	1.353	0.74	0.53	100	4.896	0.20	0.02	100	8.627	0.12	0.09					100	1.689	0.59	0.24	100	5.203	0.19	0.21								
Summary		1.43	0.70	3.09		4.89	0.20	1.62		8.66	0.12	0.51						1.60	0.62	2.13		5.28	0.19	1.32		9.88	0.10	0.29				
				.33-7.5				.02-3.89				.06-3.07								.24-8.59				.21-7.01				.12-.71				
N4SID-IO	10	1.449	0.69	5.43	10	4.8	0.21	6.54	24	8.983	0.11	2.86					10	1.596	0.63	9.65	10	5.433	0.18	8.04	44	10.602	0.09	1.34				
	20	1.438	0.70	5.5	20	4.786	0.21	6.39	46	9.012	0.11	1.75					20	1.576	0.63	7.81	20	5.516	0.18	6.43	46	10.531	0.09	1.29				
	30	1.433	0.70	4.25	30	4.81	0.21	5.36	56	8.975	0.11	0.81					30	1.574	0.64	6.63	30	5.457	0.18	4.64	50	10.648	0.09	1.61				
	40	1.434	0.70	4.64	40	4.821	0.21	4.16	64	8.961	0.11	0.61					40	1.569	0.64	6.36	40	5.451	0.18	2.97	60	10.616	0.09	0.8				
	50	1.429	0.70	4.42	50	4.85	0.21	2.16	70	9	0.11	0.45					50	1.564	0.64	5.24	50	5.421	0.18	3.11	64	10.519	0.10	1				
	60	1.432	0.70	5.08	60	4.75	0.21	1.95	80	8.986	0.11	0.42					60	1.564	0.64	4.83	62	5.486	0.18	1.16	70	10.613	0.09	1.07				
	70	1.412	0.71	4.86	70	4.836	0.21	0.75	90	9.009	0.11	0.42					70	1.627	0.61	7.95	70	5.422	0.18	3.95	74	10.592	0.09	0.45				
	80	1.411	0.71	4.33	82	4.774	0.21	0.98	98	9.011	0.11	0.51					80	1.557	0.64	7.39	80	5.468	0.18	3.56	80	10.588	0.09	0.38				
	90	1.428	0.70	4.15	90	4.763	0.21	0.6									90	1.649	0.61	7.21	90	5.43	0.18	3.87	92	10.628	0.09	0.48				
	100	1.428	0.70	4.73	100	4.836	0.21	0.73									100	1.542	0.65	5.23	100	5.55	0.18	0.77	94	10.626	0.09	0.51				
Summary		1.43	0.70	4.74		4.80	0.21	2.96		8.99	0.11	0.98						1.58	0.63	6.83		5.46	0.18	3.85		10.60	0.09	0.89				
				3.73-6.19				.52-6.54				.3-2.86								4.18-9.65				.77-8.22				.38-1.61				
Average		1.4301	0.699477	4.1755		4.85275	0.154546	2.66775		8.818981	0.11342	0.891938						1.583975	0.63167	4.96525		5.38885	0.185612	3.151889		9.901504	0.101177	0.830274				

PalmSprings86

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	1.338	0.75	6.89	32	4.703	0.21	4.21	54	9.551	0.10	1.11					34	1.665	0.60	7.45	56	5.398	0.19	2.21	36	9.665	0.10	1.27				
	28	1.382	0.72	6.43	38	4.805	0.21	4.33	58	9.544	0.10	1.13					36	1.663	0.60	9.21	78	5.229	0.19	3.74	38	9.639	0.10	1.21				
	30	1.38	0.72	5.77	40	4.842	0.21	4.27	60	9.56	0.10	1.23					68	1.569	0.64	8.4	80	5.246	0.19	1.9	40	9.632	0.10	1.1				
	40	1.383	0.72	6.78	48	4.733	0.21	1.91	62	9.502	0.11	1.39					70	1.587	0.63	7.12	82	5.387	0.19	2.17	42	9.622	0.10	0.95				
	50	1.374	0.73	8.83	76	4.746	0.21	0.79	66	9.584	0.10	2.34					74	1.577	0.63	6.26	86	5.207	0.19	3.42	46	9.683	0.10	1.22				
	64	1.293	0.77	2.88	86	4.753	0.21	3.13	70	9.445	0.11	1.14					76	1.546	0.65	6.71	94	5.377	0.19	0.71	62	9.683	0.10	1.39				
	72	1.311	0.76	7.65	88	4.717	0.21	1.38	72	9.479	0.11	1.01					88	1.558	0.64	4.85	100	5.313	0.19	0.87	64	9.69	0.10	1.19				
	82	1.345	0.74	3.99	90	4.735	0.21	1.39	74	9.525	0.10	0.91					94	1.542	0.65	5.45					70	9.687	0.10	0.97				
	94	1.323	0.76	3.3	92	4.742	0.21	1.39	76	9.561	0.10	1.01					98	1.542	0.65	6.42					76	9.699	0.10	0.57				
					96	4.734	0.21	1.68									100	1.552	0.64	6.68												
Summary		1.35	0.74	5.84		4.75	0.21	2.45		9.53	0.10	1.25						1.58	0.63	6.86		4.64	0.16	1.88		9.67	0.10	1.10				
				2.88-8.83				1.39-4.33				.91-2.34								4.85-9.21				.71-3.42				.57-1.39				
ARX	10	1.36	0.74	4.88	6	4.625	0.22	9.04	10	8.695	0.12	8.6					20	1.713	0.58	5.73	18	5.936	0.17	5.79	12	10.622	0.09	3.94				
	20	1.386	0.72	8.52	16	4.627	0.22	5.25	46	8.612	0.12	1.05					30	1.737	0.58	2.22	30	5.875	0.17	4.96	26	10.67	0.09	1.01				
	32	1.455	0.69	5.91	20	4.771	0.21	4.98	50	8.691	0.12	0.99					34	1.728	0.58	2.89	48	5.97	0.17	2.06	36	10.688	0.09	0.68				
	42	1.351	0.74	9.3	32	4.791	0.21	3.25	60	8.657	0.12	0.72					56	1.657	0.60	6.29	50	5.912	0.17	2.51	42	10.507	0.10	1.25				
	54	1.335	0.75	1.95	42	4.617	0.22	1.93	70	8.672	0.12	0.72					60	1.659	0.60	4.26	60	5.812	0.17	2.17	56	10.679	0.09	0.4				
	60	1.409	0.71	3.5	60	4.69	0.21	6.36	84	8.792	0.11	0.77					70	1.65	0.61	5.13	72	5.892	0.17	8.66	60	10.506	0.10	0.55				
	70	1.441	0.69	2.97	70	4.711	0.21	3.58	90	8.726	0.11	0.34					80	1.694	0.59	2.66	80	5.837	0.17	2.93	70	10.569	0.09	0.77				
	80	1.486	0.67	2.69	82	4.716	0.21	1.75	98	8.75	0.11	0.4					90	1.709	0.59	1.88	90	5.855	0.17	0.96	80	10.516	0.10	0.7				
	90	1.397	0.72	5.02	90	4.686	0.21	1.19									100	1.684	0.59	2.28	100	5.91	0.17	1.98	90	10.627	0.09	0.48				
	100	1.402	0.71	9.08	100	4.663	0.21	1.1																	98	10.629	0.09	0.51				
Summary		1.40	0.71	5.38		4.69	0.21	3.84		8.70	0.11	1.70						1.69	0.59	3.70		5.89	0.17	3.56		10.60	0.09	1.03				
				1.91-9.49				1.1-9.04				.34-8.6								1.88-6.29				.87-8.66				.4-3.94				
SRIM	10	1.384	0.72	6.54	24	4.608	0.22	7.92	34	8.397	0.12	0.92					24	1.547	0.65	8.84	12	5.238	0.19	2.28	24	10.477	0.10	1.36				
	22	1.403	0.71	7.01	32	4.654	0.21	1.35	40	8.35	0.12	0.83					30	1.543	0.65	3.23	26	5.21	0.19	1.13	38	10.512	0.10	0.89				
	32	1.334	0.75	4.19	44	4.661	0.21	0.34	50	8.308	0.12	0.33					40	1.631	0.61	3.58	34	5.199	0.19	0.75	40	10.507	0.10	0.92				
	40	1.387	0.72	2.65	50	4.686	0.21	0.55	62	8.307	0.12	0.33					50	1.672	0.60	3.9	40	5.208	0.19	0.88	50	10.444	0.10	0.5				
	54	1.404	0.71	2.51	60	4.722	0.21	0.65	78	8.2	0.12	0.17					60	1.579	0.63	2.75	50	5.242	0.19	0.92	68	10.454	0.10	0.76				
	60	1.398	0.72	2.29	72	4.698	0.21	0.68	80	8.316	0.12	0.16					74	1.56	0.64	9.39	60	5.187	0.19	1.18	70	10.468	0.10	0.98				
	70	1.316	0.76	4.56	80	4.683	0.21	6.56	86	8.311	0.12	0.15					80	1.655	0.60	3.28	74	5.173	0.19	0.66	88	10.463	0.10	0.66				
	80	1.331	0.75	5.01	90	4.739	0.21	0.49	92	8.312	0.12	0.27					92	1.584	0.63	3.8	82	5.276	0.19	1.9	92	10.489	0.10	0.43				
	90	1.395	0.72	1.22	100	4.72	0.21	0.74	100	8.305	0.12	0.52					100	1.509	0.66	6.37	90	5.258	0.19	2.01	100	10.489	0.10	0.45				
	100	1.374	0.73	4.24																	100	5.201	0.19	0.53								
Summary		1.37	0.73	4.02		4.69	0.21	2.14		8.31	0.12	0.41						1.59	0.63	5.02		5.22	0.19	1.22		10.48	0.10	0.77				
				1.04-8.19				.34-7.92				.15-.95								.33-9.39				.36-2.28				.42-3.11				
N4SID-IO	10	1.37	0.73	7.82	18	5.108	0.20	5.78	34	9.402	0.11	1.93					18	1.699	0.59	9.7	26	5.28	0.19	5.14	32	10.657	0.09	0.74				
	20	1.339	0.75	5.29	20	5.149	0.19	6.33	40	9.496	0.11	1					30	1.557	0.64	6.77	32	5.223	0.19	3.68	34	10.68	0.09	0.63				
	30	1.356	0.74	5.65	30	5.068	0.20	2.62	52	9.498	0.11	0.63					42	1.55	0.65	9.2	44	5.241	0.19	2.15	52	10.641	0.09	1.85				
	40	1.296	0.77	5.85	40	5.104	0.20	4.12	62	9.553	0.10	1.3					52	1.547	0.65	4.94	50	5.146	0.19	3.45	60	10.566	0.09	0.83				
	50	1.347	0.74	4.38	50	5.182	0.19	1.2	70	9.565	0.10	1.17					60	1.542	0.65	5.78	64	5.225	0.19	1.83	72	10.609	0.09	1.67				
	60	1.348	0.74	4.32	62	5.176	0.19	1.34	86	9.419	0.11	0.48					72	1.553	0.64	6.31	70	5.18	0.19	1.48	80	10.603	0.09	1.4				
	70	1.348	0.74	4.51	70	5.096	0.20	0.93	90	9.458	0.11	0.63					80	1.545	0.65	6.18	80	5.168	0.19	0.82	94	10.554	0.09	1.05				
	80	1.353	0.74	4.39	80	5.123	0.20	1.35	98	9.453	0.11	0.26					90	1.557	0.64	6.67	90	5.215	0.19	1.14	98	10.524	0.10	1.08				
	90	1.345	0.74	4.46	90	5.127	0.20	0.99									100	1.535	0.65	5.48	100	5.145	0.19	1.02								
	100	1.265	0.79	9.82	100	5.112	0.20	0.93																								
Summary		1.34	0.75	5.65		5.12	0.20	2.56		9.48	0.11	0.93						1.57	0.64	6.78		5.20	0.19	2.30		10.60	0.09	1.16				
				3.76-9.82				.88-6.33				.26-1.93								2.85-9.7				.82-5.3				.63-1.85				
Average		1.364792	0.733445	5.222139		4.812717	0.208085	2.748056		9.004885	0.111428	1.071215						1.606025	0.623724	5.589028		5.23879	0.179633	2.240097		10.33758	0.096881	1.013535				
Overall Average		**1.34**	**0.66**	**4.48**		**3.82**	**0.14**	**2.31**		**6.90**	**0.08**	**1.11**						**1.60**	**0.63**	**5.94**		**4.10**	**0.13**	**2.18**		**7.63**	**0.07**	**0.94**				

Station 12299 - LATERAL AND GRAVITY SYSTEM

Building: **Palm Springs - 4-story Hospital**
Building Type: **Steel moment frames**
Number of floors with Sensors: 4
Total No. Sensors: 13

Panel Zone Offset = **0**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.097	Transverse	0.63	Transverse	0.57
2	0.875	Torsional		NA	
3	0.859	Longitudinal	0.66	Longitudinal	0.77

Panel Zone Offset = **0.5**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.011	Transverse	0.63	Transverse	0.62
2	0.82	Torsional		NA	
3	0.8	Longitudinal	0.66	Longitudinal	0.82

Panel Zone Offset = **1**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	0.935	Transverse	0.63	Transverse	0.67
2	0.769	Torsional		NA	
3	0.746	Longitudinal	0.66	Longitudinal	0.88

Average 1.014333

Station 12299 - LATERAL SYSTEM ONLY

Building: **Palm Springs - 4-story Hospital**
Building Type: **Steel moment frames**
Number of floors with Sensors: 4
Total No. Sensors: 13

Panel Zone Offset = **0**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.132	Transverse	0.63	Transverse	0.56
2	0.903	Torsional	NA	NA	NA
3	0.877	Longitudinal	0.66	Longitudinal	0.75

Panel Zone Offset = **0.5**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.048	Transverse	0.63	Transverse	0.60
2	0.85	Torsional	NA	NA	NA
3	0.818	Longitudinal	0.66	Longitudinal	0.80

Panel Zone Offset = **1**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	0.973	Transverse	0.63	Transverse	0.65
2	0.8	Torsional	NA	NA	NA
3	0.763	Longitudinal	0.66	Longitudinal	0.86

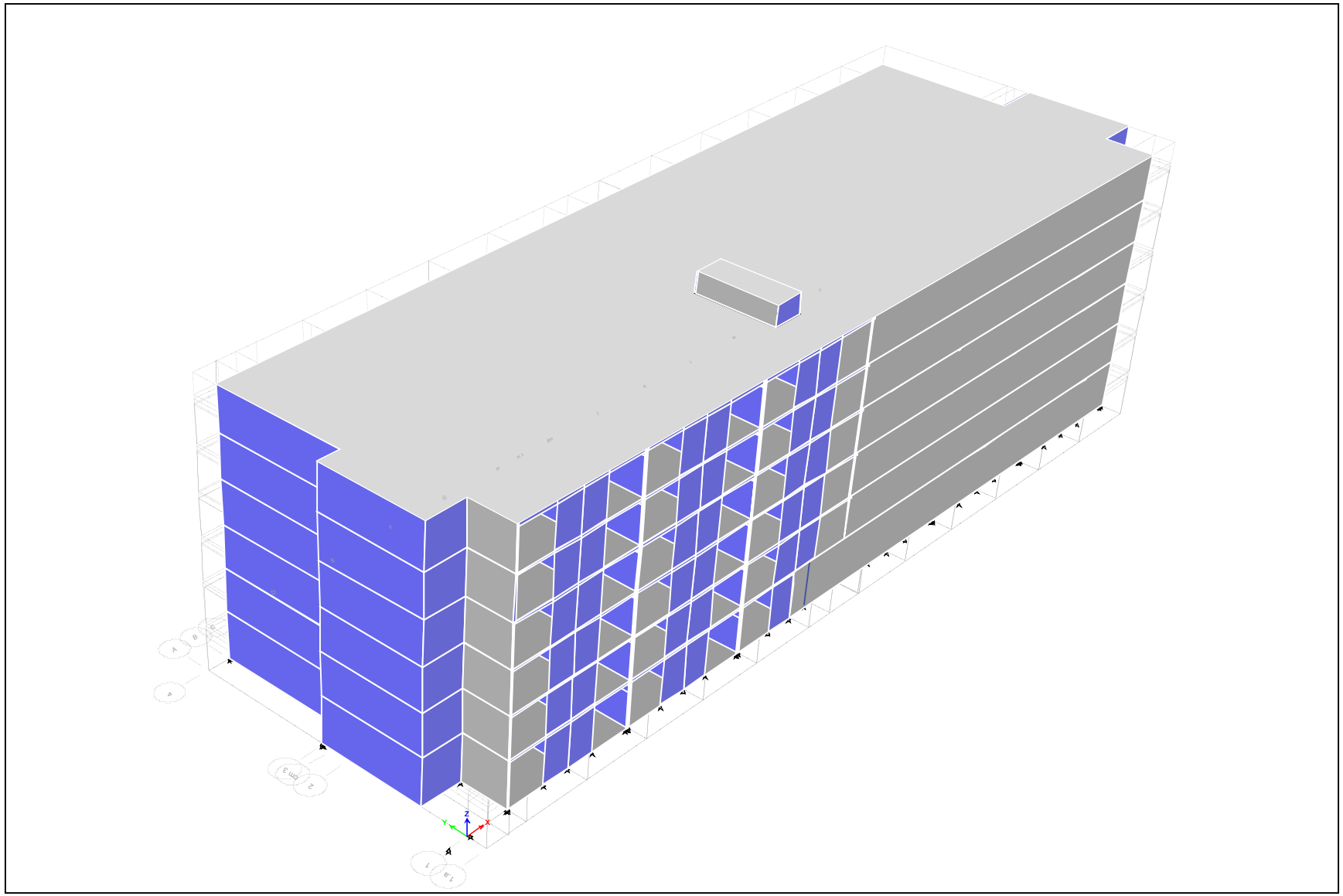
Average 1.051

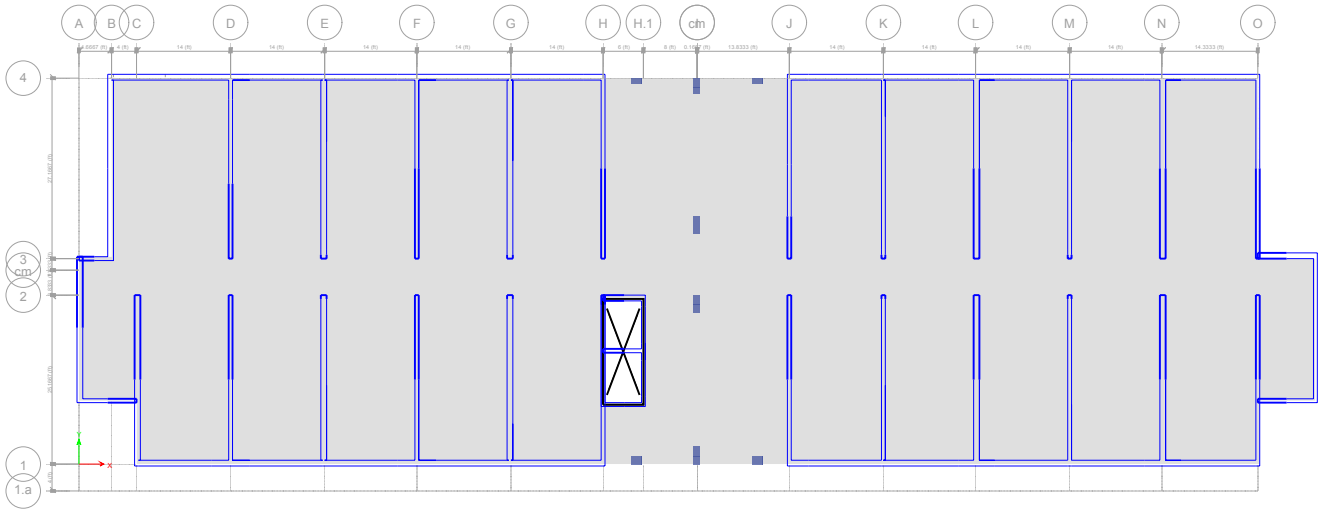
Station 23287

Building: San Bernardino - 6-story Hotel

Building Type: San Bernardino - 6-story Hotel

Number of floors with Sensors: 3

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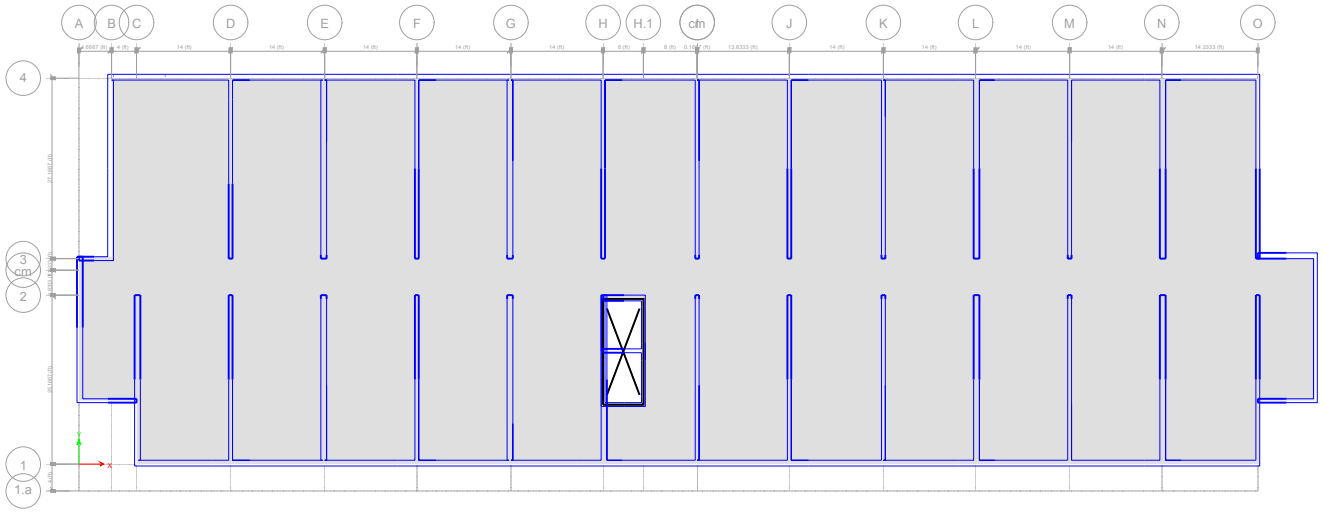
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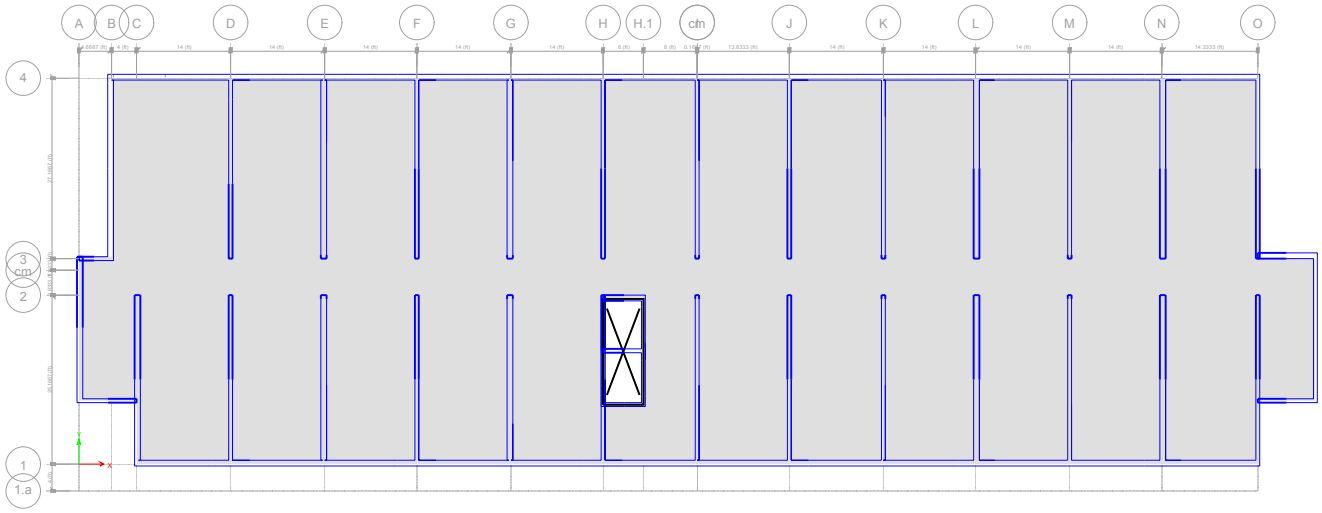
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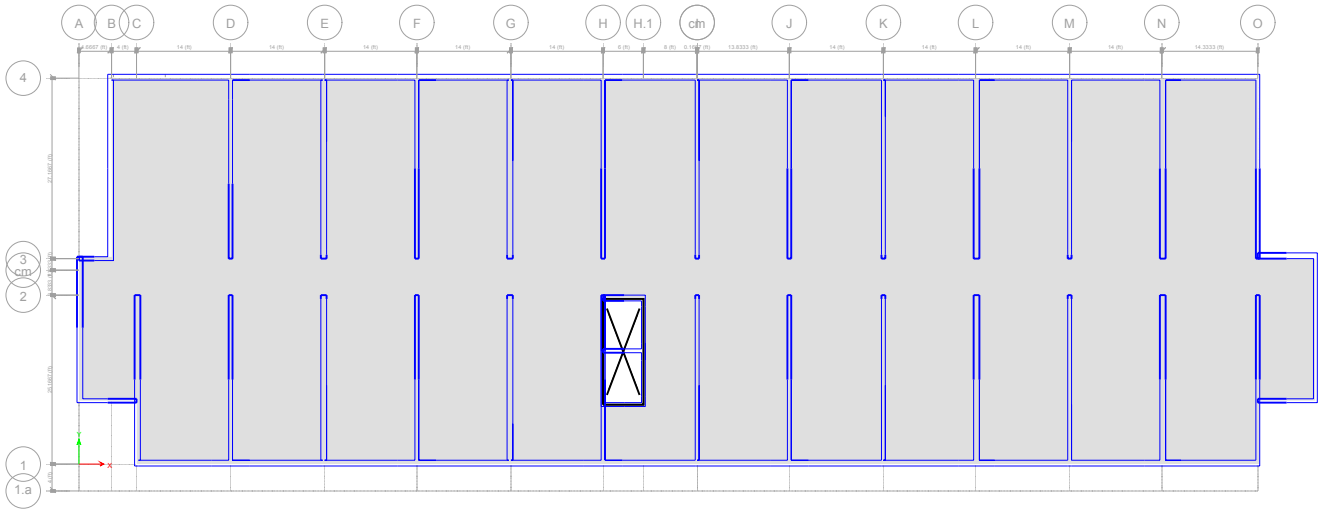
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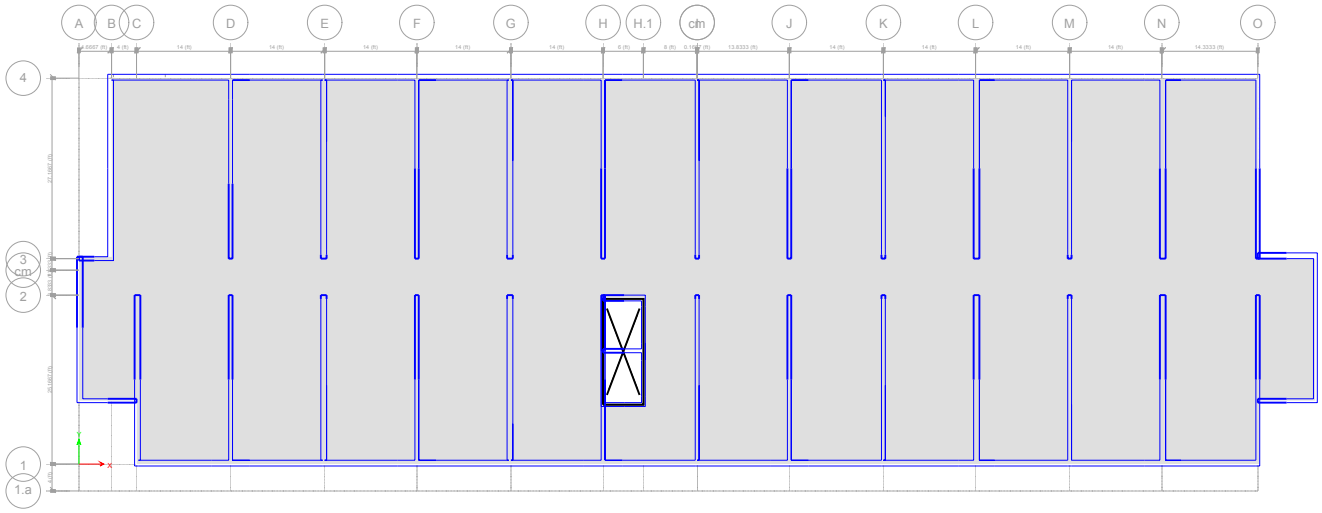
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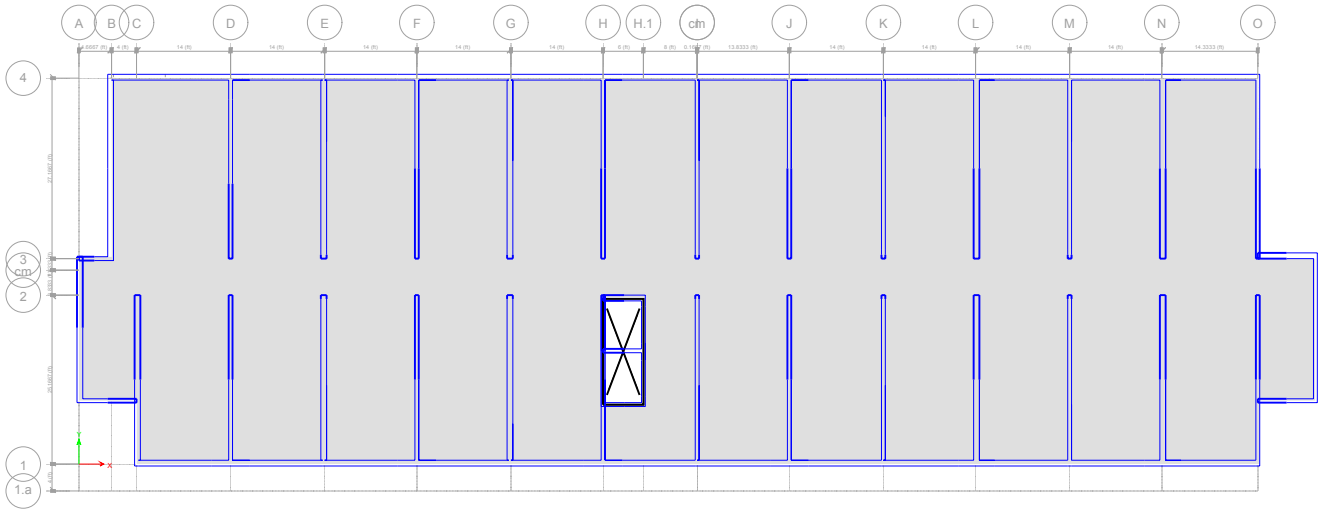
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Banning_11Jan2010

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	20	2.374	0.42	4.23	12	9.473	0.11	2.36									14	4.559	0.22	6.59	30	18.623	0.05	2.66								
	30	2.386	0.42	5.2	22	9.55	0.10	1.74									30	4.523	0.22	8.18	54	14.585	0.07	1.03								
	40	2.372	0.42	4.96	30	9.565	0.10	1.68									52	4.559	0.22	7.09	58	14.594	0.07	1.01								
	50	2.375	0.42	6.22	40	9.548	0.10	1.89									62	4.41	0.23	6.83	60	14.564	0.07	0.99								
	60	2.369	0.42	6	50	9.587	0.10	2.1									70	4.511	0.22	3.35	72	14.566	0.07	0.6								
	70	2.378	0.42	5.42	64	9.597	0.10	1.78									60	4.395	0.23	6.38	82	14.548	0.07	0.86								
	80	2.375	0.42	5.52	70	9.581	0.10	1.6									76	4.334	0.23	3.56												
	90	2.387	0.42	5.25	86	9.543	0.10	1.8									80	4.327	0.23	3.46												
	100	2.386	0.42	5.67	90	9.572	0.10	1.5									90	4.341	0.23	2.55												
					100	9.501	0.11	1.61									100	4.333	0.23	2.44												
Summary		2.38	0.42	5.39		9.55	0.10	1.81										4.43	0.23	5.04		15.25	0.07	1.19								
				3.68-6.22				1.43-2.36												2.27-8.18				.6-2.66								
ARX	10	2.382	0.42	4.29	10	9.545	0.10	2.04									12	4.584	0.22	6.32	34	14.622	0.07	3.52								
	20	2.383	0.42	3.46	20	9.578	0.10	1.75									30	4.574	0.22	7.49	42	14.569	0.07	2.21								
	30	2.373	0.42	3.95	30	9.557	0.10	1.86									40	4.454	0.22	8.18	60	14.607	0.07	1.16								
	40	2.355	0.42	4.77	42	9.577	0.10	2.26									70	4.405	0.23	4.41	66	14.605	0.07	0.95								
	50	2.309	0.43	5.15	52	9.577	0.10	2.14									56	4.383	0.23	5.93	80	14.626	0.07	0.66								
	60	2.286	0.44	4.28	68	9.591	0.10	1.29									60	4.356	0.23	5.02	82	14.636	0.07	0.7								
	72	2.314	0.43	4.22	70	9.582	0.10	1.31									80	4.24	0.24	6.73	88	14.644	0.07	0.68								
	84	2.302	0.43	6.17	86	9.559	0.10	1.42									90	4.351	0.23	2.23	94	14.666	0.07	0.65								
	92	2.346	0.43	4.5	92	9.585	0.10	1.03									98	4.344	0.23	1.89	96	14.662	0.07	0.65								
	100	2.365	0.42	3.36	100	9.54	0.10	5.16													98	14.654	0.07	0.42								
Summary		2.34	0.43	4.42		9.57	0.10	2.03										4.41	0.23	5.36		14.63	0.07	1.16								
				3.36-6.16				1.03-9.36												1.89-8.18				.65-3.52								
SRIM	12	2.382	0.42	3.52	4	9.521	0.11	1.69									14	4.647	0.22	8.63	14	20.927	0.05	2.85								
	20	2.362	0.42	4.36	22	9.553	0.10	1.66									18	4.631	0.22	4.79	52	20.908	0.05	0.62								
	30	2.314	0.43	4.34	32	9.447	0.11	1.92									80	4.506	0.22	1.91	62	20.85	0.05	0.53								
	40	2.382	0.42	2.63	44	9.503	0.11	1.11									40	4.728	0.21	4.05	72	20.938	0.05	0.46								
	50	2.371	0.42	3.67	60	9.473	0.11	1.28									66	4.807	0.21	2.12	82	20.874	0.05	0.39								
	66	2.38	0.42	2.5	54	9.634	0.10	1.11									78	4.795	0.21	3.04	90	20.939	0.05	0.22								
	70	2.36	0.42	2.81	70	9.648	0.10	1.14									92	4.894	0.20	2.35												
	80	2.346	0.43	1.33	78	9.583	0.10	0.68																								
	94	2.297	0.44	3.93																												
	98	2.37	0.42	2.67																												
Summary		2.36	0.42	3.18		9.55	0.10	1.32										4.72	0.21	3.84		20.91	0.05	0.85								
				1.11-4.36				.68-1.69												1.91-8.63				.22-2.85								
N4SID-IO	14	2.394	0.42	5.26	12	9.56	0.10	2.5									20	4.447	0.22	8.22	32	19.399	0.05	6.29								
	20	2.384	0.42	4.4	20	9.585	0.10	2.05									30	4.421	0.23	8.13	56	19.136	0.05	0.89								
	36	2.383	0.42	4.51	32	9.583	0.10	1.77									40	4.447	0.22	7.51	58	19.084	0.05	0.95								
	40	2.398	0.42	5.23	40	9.567	0.10	2.12									52	4.356	0.23	9.43	72	19.164	0.05	0.34								
	52	2.383	0.42	5.28	50	9.587	0.10	2.06									66	4.36	0.23	4.95	78	19.198	0.05	0.34								
	60	2.392	0.42	5.81	60	9.613	0.10	2.11									76	4.316	0.23	4.1	82	19.192	0.05	0.39								
	70	2.381	0.42	5.76	70	9.609	0.10	2.04													88	19.168	0.05	0.42								
	86	2.383	0.42	5.29	82	9.62	0.10	1.85													92	19.056	0.05	1.74								
	90	2.38	0.42	8.41	90	9.622	0.10	1.91													94	19.101	0.05	1.84								
	100	2.361	0.42	5.14	96	9.616	0.10	1.8													96	19.187	0.05	0.32								
Summary		2.38	0.42	5.51		9.60	0.10	2.02										4.39	0.23	7.06		19.17	0.05	1.35								
				4.21-8.41				1.8-2.5												4.1-9.45				.32-6.29								
Average		2.36495	0.422904	4.621389		9.565563	0.104544	1.794188										4.486477	0.223181	5.324163		17.48757	0.058625	1.137167								

	beaumont_14sep2011_11006189																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	18	2.306	0.43	2.98	18	9.217	0.11	2.76									10	4.543	0.22	8.76	16	20.639	0.05	8.43								
	22	2.324	0.43	1	28	9.234	0.11	2.29									20	4.503	0.22	6.36												
	30	2.316	0.43	3.01	36	9.215	0.11	1.73									36	4.412	0.23	6.64												
	40	2.324	0.43	2.99	46	9.263	0.11	1.14									40	4.449	0.22	5.65												
	50	2.329	0.43	3.46	56	9.243	0.11	1.62									50	4.4	0.23	6.26												
	60	2.317	0.43	3.39	68	9.171	0.11	1.47									64	4.431	0.23	7.9												
	70	2.323	0.43	3.15	78	9.228	0.11	1.19									70	4.483	0.22	9.99												
	80	2.327	0.43	3.1	88	9.224	0.11	1.3									80	4.594	0.22	7.72												
	90	2.327	0.43	3.11	98	9.237	0.11	1.45																								
	100	2.327	0.43	3.53																												
Summary		2.32	0.43	2.97		9.23	0.11	1.66										4.48	0.22	7.41		20.64	0.05	8.43								
				1-3.53				1.19-2.76												5.65-9.99												
ARX	12	2.349	0.43	3.97	10	9.235	0.11	2.38									18	4.464	0.22	5.92	36	14.604	0.07	4.01								
	20	2.335	0.43	3.23	20	9.243	0.11	2.08									20	4.416	0.23	5.72	44	14.767	0.07	3.49								
	30	2.327	0.43	3.56	30	9.259	0.11	1.72									36	4.418	0.23	7.2	52	14.678	0.07	1.91								
	40	2.315	0.43	3.65	40	9.24	0.11	1.59									42	4.326	0.23	4.41	60	14.696	0.07	1.58								
	50	2.321	0.43	2.41	50	9.233	0.11	1.6									50	4.372	0.23	5.93	74	14.714	0.07	1.06								
	60	2.329	0.43	3.18	60	9.206	0.11	1.35									58	4.345	0.23	5.63	80	14.663	0.07	0.96								
	70	2.322	0.43	2.03	70	9.219	0.11	1.08									74	4.308	0.23	4.63	98	14.664	0.07	0.98								
	82	2.344	0.43	2.33	80	9.212	0.11	1.27									92	4.364	0.23	3.57												
	90	2.328	0.43	2.41	90	9.26	0.11	1.44									100	4.425	0.23	2.97												
	100	2.304	0.43	2.41	100	9.284	0.11	1.68																								
Summary		2.33	0.43	2.92		9.24	0.11	1.62										4.38	0.23	5.11		14.68	0.07	2.00								
				2.03-3.97				1.08-2.38												2.97-5.92				.96-3.49								
SRIM	8	2.328	0.43	3.12	4	9.197	0.11	2.06									26	4.336	0.23	2.31	36	21.24	0.05	1.65								
	20	2.314	0.43	3.54	28	9.206	0.11	1.51									34	4.472	0.22	4.66	48	21.259	0.05	1.21								
	30	2.338	0.43	4.04	36	9.248	0.11	3.13									42	4.315	0.23	1.88	76	21.349	0.05	0.5								
	40	2.299	0.43	4.07	46	9.113	0.11	1.67									50	4.417	0.23	3.4	78	21.386	0.05	0.78								
	50	2.293	0.44	3.59	56	9.244	0.11	1.36									64	4.428	0.23	2.82	82	21.274	0.05	5.34								
	60	2.306	0.43	1.87	66	9.134	0.11	1.22									82	4.314	0.23	2.56	88	21.381	0.05	0.27								
	82	2.293	0.44	1.25													86	4.492	0.22	1.23	90	21.381	0.05	0.32								
	90	2.325	0.43	2.95													92	4.354	0.23	2.98	94	21.261	0.05	0.27								
	100	2.259	0.44	2.6													94	4.313	0.23	1.45	100	21.379	0.05	0.28								
																	100	4.44	0.23	3.26												
Summary		2.31	0.43	3.00		9.19	0.11	1.83										4.39	0.23	2.66		21.32	0.05	1.18								
				1.11-3.54				1.2-3.13												1.23-3.26				.27-1.65								
N4SID-IO	18	2.323	0.43	5.9	10	9.211	0.11	2.93																								
	24	2.321	0.43	5.72	22	9.227	0.11	2.3																								
	38	2.315	0.43	4.13	32	9.26	0.11	2.12																								
	42	2.296	0.44	4.88	40	9.235	0.11	2.04																								
	52	2.338	0.43	4.73	50	9.231	0.11	1.65																								
	60	2.279	0.44	3.87	60	9.233	0.11	1.81																								
	82	2.325	0.43	5.4	70	9.215	0.11	1.61																								
	90	2.322	0.43	4.79	80	9.22	0.11	1.53																								
	96	2.308	0.43	3.6	92	9.244	0.11	1.93																								
					100	9.223	0.11	1.8																								
Summary		2.31	0.43	4.78		9.23	0.11	1.97																								
								1.53-3.06																								
Average		2.317406	0.431542	3.418333		9.221278	0.108447	1.769278										4.415658	0.22653	5.057963		18.88202	0.054484	3.869524								

	Beaumont_16Jan2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	22	2.341	0.43	4.93	20	9.559	0.10	1.91									14	4.321	0.23	8.02	46	10.16	0.10	3.14								
	36	2.397	0.42	3.21	30	9.56	0.10	2.01									24	4.356	0.23	6.85												
	40	2.386	0.42	3.53	40	9.571	0.10	1.96									34	4.341	0.23	6.49												
	50	2.395	0.42	3.7	50	9.586	0.10	1.92									44	4.387	0.23	6.44												
	60	2.397	0.42	4.11	62	9.444	0.11	2.67									50	4.443	0.23	4.84												
	70	2.399	0.42	4.53	68	9.566	0.10	2.61									62	4.416	0.23	4.15												
	80	2.418	0.41	4.33	78	9.456	0.11	2.33									78	4.475	0.22	2.6												
	90	2.41	0.41	4.23	86	9.403	0.11	1.49									84	4.499	0.22	4.13												
	100	2.411	0.41	4.24	98	9.419	0.11	2.01									92	4.439	0.23	3.36												
																	100	4.436	0.23	3.19												
Summary		2.39	0.42	4.09		9.51	0.11	2.10										4.41	0.23	3.18-8.02		10.16	0.10	3.14								
				3.43-4.93				1.49-2.67																								
ARX	12	2.399	0.42	3.81	10	9.539	0.10	1.88									10	4.47	0.22	5.66	32	19.116	0.05	3.39								
	20	2.4	0.42	3.76	20	9.581	0.10	1.68									18	4.324	0.23	5.35	46	19.174	0.05	2.29								
	30	2.403	0.42	3.71	30	9.568	0.10	2.03									32	4.413	0.23	5.21	50	19.121	0.05	1.81								
	40	2.402	0.42	3.89	38	9.554	0.10	1.74									40	4.371	0.23	3.83	60	19.143	0.05	0.84								
	50	2.4	0.42	4.35	50	9.494	0.11	6.43									50	4.405	0.23	3.41	72	19.119	0.05	0.74								
	64	2.439	0.41	3.93	66	9.455	0.11	3.48									60	4.404	0.23	3.52	80	19.144	0.05	0.53								
	70	2.42	0.41	3.67	72	9.443	0.11	2.24									70	4.433	0.23	2.64	90	19.164	0.05	0.53								
	80	2.41	0.41	3.72	96	9.402	0.11	1.86									80	4.464	0.22	3.17	100	19.131	0.05	0.37								
	90	2.417	0.41	3.62	100	9.435	0.11	2.01									90	4.5	0.22	3.58												
	100	2.419	0.41	3.65													96	4.494	0.22	4.05												
Summary		2.41	0.41	3.81		9.50	0.11	2.59										4.43	0.23	1.5-5.66		19.14	0.05	0.37-3.39								
				1.71-7.48				1.74-6.43																								
SRIM	10	2.393	0.42	3.81	4	9.532	0.10	1.37									4	4.529	0.22	5.78	26	19.861	0.05	4.51								
	20	2.396	0.42	3.9	8	9.547	0.10	1.26									18	4.47	0.22	3.89	60	19.956	0.05	0.82								
	32	2.351	0.43	4.22	38	9.542	0.10	0.92									28	4.508	0.22	5.44	62	19.934	0.05	1.07								
	40	2.401	0.42	3.06	42	9.569	0.10	2.01									36	4.437	0.23	3.99	78	19.969	0.05	1.01								
	54	2.393	0.42	3.34	50	9.499	0.11	1.41									46	4.474	0.22	2.87	82	19.821	0.05	0.96								
	60	2.427	0.41	4.24	60	9.492	0.11	1.55									60	4.568	0.22	3.74												
	72	2.422	0.41	3.36	92	9.456	0.11	1.61									70	4.471	0.22	3.13												
	80	2.405	0.42	3.49													78	4.472	0.22	2.96												
	98	2.331	0.43	4.4													90	4.46	0.22	2.59												
																	96	4.455	0.22	2.23												
Summary		2.39	0.42	3.76		9.52	0.11	1.45										4.48	0.22	2.23-5.78		19.91	0.05	.96-4.51								
				1.55-5.23				.92-2.23																								
N4SID-IO	16	2.418	0.41	5.37	14	9.567	0.10	2.45									16	4.398	0.23	7.1	30	25.465	0.04	1.13								
	20	2.413	0.41	5.18	20	9.563	0.10	2.14									20	4.372	0.23	7.19	40	25.471	0.04	0.65								
	30	2.396	0.42	3.93	30	9.568	0.10	2.23									30	4.351	0.23	7.2	50	25.449	0.04	0.38								
	40	2.403	0.42	4.27	40	9.576	0.10	2.07									40	4.37	0.23	6.72	62	25.46	0.04	0.23								
	50	2.411	0.41	4.34	52	9.575	0.10	2.56									58	4.4	0.23	6.62	76	25.427	0.04	0.12								
	60	2.457	0.41	7.59	62	9.496	0.11	2.94									64	4.455	0.22	4.89	98	25.42	0.04	0.09								
	70	2.42	0.41	4.82	94	9.564	0.10	3									70	4.43	0.23	4.35	100	25.43	0.04	0.08								
	80	2.387	0.42	7.04													80	4.425	0.23	2.72												
	90	2.402	0.42	4.77													90	4.491	0.22	4.12												
	100	2.404	0.42	4.91													100	4.479	0.22	3.78												
Summary		2.41	0.41	5.22		9.56	0.10	2.48										4.42	0.23	5.47		25.45	0.04	0.38								
				3.93-7.04				2.03-3.27												2.72-7.23				.08-1.13								
Average		2.401972	0.416363	4.220194		9.520472	0.105041	2.156746										4.43515	0.225508	1.36725		18.6633	0.060051	0.880714								

	BorregoSprings_07Jul20103																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	14	1.997	0.50	6.84	14	8.738	0.11	1.83									4	4.368	0.23	5.95	36	9.74	0.10	3.68								
	24	1.971	0.51	6.02	24	8.791	0.11	1.32									10	4.396	0.23	6.23												
	44	1.931	0.52	5.67	30	8.754	0.11	1.48									22	4.371	0.23	7.67												
	54	1.918	0.52	4.53	40	8.704	0.11	1.4									30	4.365	0.23	6.6												
	62	1.931	0.52	5.46	54	8.756	0.11	1.8									44	4.388	0.23	5.21												
	74	1.932	0.52	4.44	72	8.728	0.11	1.61									58	4.465	0.22	5.64												
	84	1.941	0.52	5.27	80	8.738	0.11	2									60	4.366	0.23	5.48												
	90	1.962	0.51	5.61	88	8.714	0.11	1.69									72	4.398	0.23	6.74												
					100	8.776	0.11	3.22									86	4.325	0.23	5.21												
																	94	4.356	0.23	4.4												
Summary		1.95	0.51	5.48		8.74	0.11	1.82										4.38	0.23	5.91		9.74	0.10	3.68								
				4.17-8.01				1.32-3.22												5.21-8.11				3.68								
ARX	4	1.969	0.51	6.01	8	8.822	0.11	1.95									6	4.343	0.23	5.46	48	10.496	0.10	2.38								
	10	1.962	0.51	5.17	14	8.749	0.11	1.8									12	4.344	0.23	7.84	54	10.421	0.10	1.38								
	20	1.935	0.52	3.64	20	8.756	0.11	1.52									20	4.333	0.23	7.23	64	10.471	0.10	0.93								
	36	1.96	0.51	5.04	40	8.783	0.11	1.14									30	4.356	0.23	6.43	86	10.493	0.10	0.7								
	40	1.946	0.51	4.99	50	8.74	0.11	1.41									42	4.378	0.23	5.02	90	10.482	0.10	0.57								
	50	1.978	0.51	7.07	74	8.752	0.11	0.82									48	4.398	0.23	4.49	100	10.482	0.10	0.36								
	60	2.013	0.50	4.6	80	8.805	0.11	2.83									64	4.264	0.23	5.99												
	70	2.024	0.49	3.49	94	8.746	0.11	0.54									70	4.308	0.23	9.35												
	80	2.012	0.50	3.19	98	8.746	0.11	0.52									80	4.323	0.23	3.31												
	90	2.006	0.50	3.05													90	4.349	0.23	3.28												
Summary		1.98	0.51	4.63		8.77	0.11	1.39										4.34	0.23	5.84		10.47	0.10	1.05								
				2.95-7.07				.52-2.83												2.26-9.35				.36-2.38								
SRIM	12	2.007	0.50	3.66	22	8.721	0.11	1.02									40	3.902	0.26	1.82	38	8.174	0.12	0.95								
	20	1.954	0.51	5.2	24	8.778	0.11	0.98									50	3.926	0.25	1.6	42	8.191	0.12	1.34								
	30	1.965	0.51	4.78	26	8.731	0.11	0.99									60	3.997	0.25	1.23	52	8.16	0.12	0.57								
	34	1.929	0.52	5.44	44	8.737	0.11	1.23									76	4.053	0.25	1.24	58	8.126	0.12	0.67								
	62	1.964	0.51	5.52	48	8.731	0.11	58									84	3.96	0.25	0.62	68	8.157	0.12	0.69								
	82	1.961	0.51	4.91	64	8.705	0.11	0.6									92	3.988	0.25	0.61	94	8.124	0.12	0.39								
	92	1.944	0.51	4.71	76	8.702	0.11	0.34									100	3.966	0.25	0.58	96	8.138	0.12	0.42								
	100	1.945	0.51	4.46	92	8.737	0.11	1.1																								
					94	8.692	0.12	0.27																								
Summary		1.96	0.51	4.84		8.73	0.11	7.17										3.97	0.25	1.10		8.15	0.12	0.72								
				1.51-5.52				.27-1.23												.58-1.82				.39-1.34								
N4SID-IO	10	1.983	0.50	6.37	10	8.799	0.11	3.42									10	4.359	0.23	6.44	52	11.176	0.09	1.08								
	22	1.924	0.52	6.03	26	8.755	0.11	1.72									20	4.315	0.23	6.65	54	11.213	0.09	0.98								
	30	1.929	0.52	5.22	34	8.764	0.11	2									30	4.347	0.23	6.75	56	11.174	0.09	0.97								
	40	1.94	0.52	5.8	44	8.761	0.11	1.89									40	4.372	0.23	6.35	58	11.196	0.09	0.99								
	50	1.943	0.51	5.25	52	8.755	0.11	1.34									48	4.391	0.23	5.3	68	11.265	0.09	2.19								
	62	1.962	0.51	5.35	60	8.738	0.11	1.31									64	4.215	0.24	6.38	94	11.181	0.09	0.83								
	70	2.01	0.50	4.54	70	8.727	0.11	1.34									70	4.354	0.23	8.6												
	82	2.016	0.50	4.61	80	8.735	0.11	1.18									84	4.352	0.23	2.19												
	90	2.023	0.49	3.68	96	8.795	0.11	3.12									96	4.259	0.23	2.13												
																	100	4.339	0.23	3.33												
Summary		1.97	0.51	5.21		8.76	0.11	1.92										4.33	0.23	5.41		11.20	0.09	1.17								
				3.57-6.37				1.15-3.42												2.13-8.6				.83-2.19								
Average		1.96425	0.509228	5.036389		8.748917	0.114301	3.075833										4.254996	0.235414	4.56625		9.891964	0.10252	1.65631								

	Calexico_04Apr2010																													
	X-DIRECTION																Z-DIRECTION													
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	2.099	0.48	4.85	6	9.284	0.11	3.46									10	4.374	0.23	6.21	24	16.801	0.06	1.83								
	26	2.094	0.48	7.37	8	9.294	0.11	3.64									22	4.392	0.23	6.52	100	16.742	0.06	0.33								
	36	2.128	0.47	6.65	12	9.219	0.11	3.21									42	4.376	0.23	7.2												
	46	2.118	0.47	6.29	14	9.234	0.11	2.97									50	4.394	0.23	8.14												
	52	2.113	0.47	6.71	84	9.322	0.11	0.13									62	4.35	0.23	1.3												
	66	2.131	0.47	6.31	86	9.321	0.11	0.12									70	4.291	0.23	2.03												
	70	2.119	0.47	6.27	90	9.307	0.11	0.63									82	4.225	0.24	2.12												
	86	1.976	0.51	5.32													96	4.317	0.23	2.76												
	96	1.954	0.51	5.33													100	4.302	0.23	2.41												
	100	1.945	0.51	5.11																												
Summary		2.07	0.48	6.02		9.28	0.11	2.02										4.34	0.23	4.30		16.77	0.06	1.08								
				4.85-7.64				.12-3.64												2.03--8.14				.33-1.83								
ARX	4	2.118	0.47	4.86	10	9.187	0.11	2.82									10	4.374	0.23	6.21	48	9.018	0.11	2.55								
	14	2.107	0.47	5.53	22	9.098	0.11	2.82									22	4.392	0.23	6.52	50	9.05	0.11	2.79								
	24	2.047	0.49	3.92	38	9.019	0.11	2.24									42	4.376	0.23	7.2	86	9.098	0.11	0.94								
	34	2.06	0.49	6.58	40	9.038	0.11	1.84									52	4.382	0.23	7.58	88	9.094	0.11	0.89								
	44	2.004	0.50	4.93	52	9.165	0.11	1.09									62	4.35	0.23	1.3	92	9.074	0.11	0.76								
	58	2.166	0.46	7.32	60	9.07	0.11	1.12									70	4.291	0.23	2.03												
	64	2.153	0.46	8.53	70	9.068	0.11	0.66									82	4.225	0.24	2.12												
	74	2.042	0.49	9.77	80	9.051	0.11	0.87									96	4.317	0.23	2.76												
	84	2.006	0.50	6.14	90	9.049	0.11	0.78									100	4.302	0.23	2.41												
	96	2.026	0.49	4.45	100	9.161	0.11	1.14																								
Summary		2.07	0.48	6.20		9.09	0.11	1.54										4.33	0.23	4.24		9.07	0.11	1.59								
				3.54-9.77				.66-2.82												1.3-7.58				.76-2.79								
SRIM	4	2.117	0.47	4.5	28	9.623	0.10	1.14									12	4.423	0.23	5.08	50	9.541	0.10	0.99								
	14	2.018	0.50	1.98	44	9.608	0.10	0.58									30	4.387	0.23	2.77	64	9.464	0.11	0.27								
	38	2.167	0.46	5.3	52	9.709	0.10	0.67									46	4.465	0.22	1.82	98	9.439	0.11	0.02								
	44	2.023	0.49	3.04	66	9.69	0.10	0.58									56	4.326	0.23	0.77												
	54	2.11	0.47	2.14	74	9.634	0.10	0.93									66	4.454	0.22	1.87												
	62	2.171	0.46	1.25	86	9.759	0.10	1.02									72	4.41	0.23	0.95												
	74	2.166	0.46	1.81	96	9.738	0.10	0.47									82	4.48	0.22	1.12												
	84	2.112	0.47	1.11	100	9.736	0.10	0.28									90	4.499	0.22	0.43												
	92	2.133	0.47	0.68													100	4.34	0.23	0.39												
	100	2.129	0.47	1.89																												
Summary		2.11	0.47	2.37		9.69	0.10	0.71										4.42	0.23	1.69		9.48	0.11	0.43								
				.68-5.3				.28-1.14												.39-5.08				.02-.99								
N4SID-IO	12	2.123	0.47	6.75	6	9.374	0.11	5.01									10	4.385	0.23	6.01	50	9.579	0.10	1.93								
	20	2.068	0.48	7.37	24	9.222	0.11	3.38									24	4.396	0.23	7.02	64	9.69	0.10	1.94								
	30	2.051	0.49	8.33	46	9.358	0.11	1.98									32	4.381	0.23	6.55	60	9.622	0.10	1.96								
	42	2.043	0.49	7.94	50	9.312	0.11	3.45									44	4.346	0.23	4.6	90	9.587	0.10	2								
	52	2.051	0.49	8.14	60	9.256	0.11	2.11									54	4.35	0.23	5.48												
	60	2.059	0.49	8.36	70	9.367	0.11	1.18									62	4.358	0.23	5.62												
	74	2.191	0.46	4.38	80	9.237	0.11	1.3									78	4.359	0.23	3.54												
	90	2.012	0.50	4.93	90	9.268	0.11	1.22																								
	94	2.025	0.49	5.12	100	9.311	0.11	0.81																								
Summary		2.07	0.48	6.81		9.30	0.11	2.27										4.37	0.23	5.55		9.62	0.10	1.96								
				4.38-8.36				.81-5.01												3.54-7.02				1.93-2								
Average		2.081106	0.480944	5.351833		9.34032	0.107123	1.63518										4.364575	0.22916	3.94254		11.23478	0.094837	1.262542								

	chinohills_29jul2008																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	18	2.165	0.46	4.69	12	9.048	0.11	2.12									14	4.27	0.23	7.16	26	15.094	0.07	5.07								
	28	2.155	0.46	5.64	24	9.068	0.11	1.93									24	4.178	0.24	8.61	28	15.034	0.07	4.91								
	38	2.162	0.46	5.46	34	9.039	0.11	2.15									34	4.233	0.24	7.09	94	14.92	0.07	1.22								
	48	2.164	0.46	6.71	48	9.008	0.11	1.94									44	4.221	0.24	5.99												
	58	2.169	0.46	6.65	56	8.997	0.11	2.23									50	4.291	0.23	7.17												
	64	2.148	0.47	5.94	66	8.977	0.11	2.66									66	4.184	0.24	6.7												
	76	2.143	0.47	6.68	76	9.1	0.11	2.09									74	4.127	0.24	6.23												
	84	2.075	0.48	8.45	82	9.001	0.11	2.48									84	4.249	0.24	5.71												
	94	2.103	0.48	5	96	9.075	0.11	2.16									92	4.223	0.24	7.93												
																	100	4.174	0.24	7.36												
Summary		2.14	0.47	6.14		9.03	0.11	2.20										4.22	0.24	7.00		15.02	0.07	3.73								
				4.69-8.45				1.68-2.66												5.71-8.61				1.22-5.07								
ARX	8	2.182	0.46	7	6	9.015	0.11	2.26									14	4.27	0.23	7.16	30	14.862	0.07	3.07								
	18	2.156	0.46	5.1	16	9.085	0.11	1.65									24	4.178	0.24	8.61	44	14.817	0.07	1.34								
	28	2.098	0.48	7.09	28	9.054	0.11	1.91									34	4.233	0.24	7.09	46	14.855	0.07	1.38								
	38	2.003	0.50	8.51	38	8.982	0.11	2.15									44	4.221	0.24	5.99	48	14.848	0.07	1.51								
	48	2.133	0.47	6.22	48	9.025	0.11	1.85									50	4.291	0.23	7.17	52	14.824	0.07	1.43								
	58	2.12	0.47	7.6	58	8.98	0.11	2.23									66	4.184	0.24	6.7	54	14.777	0.07	1.46								
	78	2.116	0.47	6.9	68	8.929	0.11	4.87									74	4.127	0.24	6.23	64	14.776	0.07	0.79								
	80	2.105	0.48	7.52	80	9.08	0.11	1.6									84	4.249	0.24	5.71												
	90	2.14	0.47	9.44													92	4.223	0.24	7.93												
																	100	4.174	0.24	7.36												
Summary		2.12	0.47	7.26		9.02	0.11	2.32										4.22	0.24	7.00		14.82	0.07	1.57								
				5.88-9.44				1.6-4.87												5.99-8.61				.79-3.07								
SRIM	10	2.143	0.47	4.95	16	9.033	0.11	1.81									6	4.029	0.25	4.44	32	14.866	0.07	0.66								
	14	4.111	0.24	6.54	30	8.971	0.11	1.22									18	3.922	0.25	5.1	52	14.827	0.07	0.8								
	44	2.111	0.47	5.43	36	9.036	0.11	1.86									48	4.016	0.25	1.41	86	14.744	0.07	0.58								
	50	2.016	0.50	3.38	44	9.07	0.11	2.32									62	4.097	0.24	2.9	100	14.704	0.07	0.22								
	62	2.126	0.47	2.14	66	8.904	0.11	1.73									70	3.95	0.25	1.21												
	66	2.139	0.47	3.76	76	9.081	0.11	1.82									72	4.055	0.25	2.26												
	78	2.133	0.47	7.67	96	8.935	0.11	1.14																								
	86	2.099	0.48	1.6																												
	94	2.077	0.48	0.95																												
Summary		2.33	0.45	4.05		9.00	0.11	1.70										4.01	0.25	2.89		14.79	0.07	0.57								
				.95-7.67				1.14-2.32												1.21-4.44				.22-.8								
N4SID-IO	16	2.155	0.46	6.14	14	9.049	0.11	2.33									10	4.227	0.24	6.31	24	18.319	0.05	4.32								
	26	2.159	0.46	6.56	24	9.031	0.11	2.28									22	4.198	0.24	8.35	72	18.488	0.05	1.2								
	36	2.161	0.46	7.37	36	9.011	0.11	2.73									32	4.285	0.23	7.95	74	18.418	0.05	1								
	46	2.136	0.47	8.54	42	8.974	0.11	2.91									48	4.11	0.24	9.38	76	18.421	0.05	0.91								
	56	2.132	0.47	7.22	52	9.034	0.11	2.1									60	4.137	0.24	6.45	78	18.456	0.05	0.91								
	66	2.144	0.47	6.68	60	8.979	0.11	1.94									70	4.121	0.24	6.45	98	18.306	0.05	0.39								
	76	2.161	0.46	8.23	70	9.067	0.11	2.09									84	4.193	0.24	6.19												
	80	2.184	0.46	8.25	86	9.049	0.11	2.28									88	4.201	0.24	7.38												
	90	2.104	0.48	7.72	96	9.094	0.11	1.66									100	4.165	0.24	7.2												
	96	2.149	0.47	8.31																												
Summary		2.15	0.47	7.50		9.03	0.11	2.26										4.18	0.24	7.30		18.40	0.05	1.46								
				6.68-8.54				1.66-2.73												1.42-9.38				.39-4.32								
Average		2.184125	0.463563	6.237167		9.022453	0.110838	2.117083										4.155847	0.240764	6.043056		15.75632	0.064011	1.830476								

	devore_28apr2012																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	40	2.2	0.45	3.71	26	9.436	0.11	2.96									24	4.467	0.22	5.77	40	16.133	0.06	4.66								
	50	2.187	0.46	3.46	30	9.426	0.11	2.54									34	4.431	0.23	5.21	42	16.098	0.06	4.76								
	60	2.197	0.46	4.31	40	9.438	0.11	1.87									44	4.431	0.23	6.82	50	16.089	0.06	3.32								
	66	2.197	0.46	4.52	50	9.39	0.11	2.48									54	4.434	0.23	6.1	56	16.137	0.06	2.54								
	100	2.195	0.46	2.58	60	9.397	0.11	1.84									64	4.451	0.22	4.86												
					68	9.462	0.11	2.03									74	4.457	0.22	6.48												
					78	9.424	0.11	2									86	4.438	0.23	6.53												
					82	9.372	0.11	1.41									96	4.447	0.22	6.65												
					90	9.39	0.11	1.53																								
					100	9.447	0.11	2.25																								
Summary		2.20	0.46	3.72		9.42	0.11	2.09										4.44	0.22	6.05		16.11	0.06	3.82								
				2.58-4.64				1.41-2.96												4.86-6.82				2.54-4.76								
ARX	10	2.218	0.45	4.28	10	9.414	0.11	3.27									6	4.495	0.22	6.97	12	19.719	0.05	7.48								
	20	2.222	0.45	4.43	28	9.449	0.11	2.27									16	4.445	0.22	5.08	36	19.813	0.05	2.92								
	30	2.22	0.45	4.4	30	9.455	0.11	2.5									26	4.35	0.23	5.87	48	19.741	0.05	2.27								
	40	2.217	0.45	4.82	40	9.432	0.11	1.87									36	4.459	0.22	6.73	54	19.756	0.05	2.25								
	50	2.173	0.46	5.92	50	9.392	0.11	2.3									46	4.407	0.23	5.61	62	19.79	0.05	1.45								
	60	2.134	0.47	7	58	9.433	0.11	1.62									58	4.493	0.22	4.35	72	19.752	0.05	0.99								
	70	2.129	0.47	7.89	72	9.401	0.11	1.65									66	4.494	0.22	4.11	82	19.71	0.05	0.97								
	82	2.243	0.45	2.71	80	9.41	0.11	1.58									72	4.385	0.23	5.62	92	19.786	0.05	1.42								
	90	2.187	0.46	3.41	90	9.402	0.11	1.69									86	4.346	0.23	5.96												
	100	2.15	0.47	4.15	100	9.331	0.11	5.12									98	4.373	0.23	5.44												
Summary		2.19	0.46	4.90		9.41	0.11	2.39										4.42	0.23	5.57		19.76	0.05	2.47								
				2.51-5.92				1.58-5.12												3.99-7.44				.97-7.48								
SRIM	10	2.209	0.45	4.69	20	9.449	0.11	1.57									14	4.358	0.23	4.55	18	19.477	0.05	1.86								
	20	2.216	0.45	4.59	26	9.36	0.11	2.11									18	4.468	0.22	6.03	50	19.479	0.05	0.9								
	28	2.113	0.47	6.27	36	9.425	0.11	1.18									34	4.487	0.22	3.9	54	19.589	0.05	0.45								
	42	2.195	0.46	3	44	9.381	0.11	1.11									38	4.482	0.22	4.42	60	19.555	0.05	0.56								
	52	2.21	0.45	3.46	58	9.488	0.11	0.92									58	4.417	0.23	4.13	76	19.581	0.05	1.16								
	60	2.157	0.46	3.6	64	9.467	0.11	0.94									68	4.455	0.22	5.13	84	19.551	0.05	0.54								
	84	2.116	0.47	1.62	74	9.323	0.11	1.2									70	4.318	0.23	4.86	88	19.519	0.05	0.16								
	98	2.182	0.46	1.27	84	9.403	0.11	0.67									86	4.336	0.23	5.43												
					88	9.433	0.11	1.48																								
Summary		2.17	0.46	3.56		9.41	0.11	1.24										4.42	0.23	4.81		19.54	0.05	0.80								
				1.27-6.63				.67-1.57												3.9-6.03				.16-1.86								
N4SID-IO	10	2.209	0.45	4.69	14	9.479	0.11	3.23									12	4.466	0.22	6.24	40	19.741	0.05	1.96								
	20	2.216	0.45	4.59	18	9.414	0.11	3.25									24	4.432	0.23	6.44	64	19.856	0.05	1.24								
	28	2.113	0.47	6.27	28	9.461	0.11	3.01									34	4.447	0.22	6.56	66	19.864	0.05	1.36								
	42	2.195	0.46	3	38	9.488	0.11	2.85									46	4.402	0.23	6.38	72	19.859	0.05	1.43								
	52	2.21	0.45	3.46	48	9.448	0.11	2.72									54	4.45	0.22	6.24	84	19.802	0.05	1.07								
	60	2.157	0.46	3.6	56	9.478	0.11	2.73									66	4.422	0.23	5.6	92	19.727	0.05	1.81								
	84	2.116	0.47	1.62	68	9.49	0.11	2.7									76	4.49	0.22	5.64	96	19.735	0.05	1.71								
	86	2.153	0.46	1.79	76	9.409	0.11	2.49									86	4.399	0.23	6.38	98	19.837	0.05	1.85								
	98	2.182	0.46	1.27	86	9.421	0.11	2.29									94	4.466	0.22	6.9	100	19.835	0.05	1.81								
					96	9.457	0.11	2.76									100	4.451	0.22	5.23												
Summary		2.17	0.46	3.37		9.45	0.11	2.80										4.44	0.23	6.16		19.81	0.05	1.58								
				1.27-6.63				2.17-3.45												4.92-6.9				1.07-1.96								
Average		2.182896	0.458224	3.886264		9.424733	0.106106	2.130806										4.431706	0.225672	5.648438		18.80368	0.053587	2.168814								

	Inglewood_17May2009																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	26	2.362	0.42	3.59	18	9.771	0.10	2.31									16	4.556	0.22	7.4	22	20.765	0.05	7.96								
	36	2.38	0.42	3.92	26	9.755	0.10	2.43									18	4.556	0.22	7.55	74	20.687	0.05	2.17								
	46	2.379	0.42	4.58	34	9.765	0.10	2.6									22	4.542	0.22	6.9												
	56	2.376	0.42	4.78	42	9.685	0.10	3.88									24	4.51	0.22	6.88												
	66	2.375	0.42	5.02	74	9.641	0.10	3.08									26	4.501	0.22	7.3												
	76	2.367	0.42	5.04	80	9.723	0.10	3.18									82	4.573	0.22	9.81												
	86	2.366	0.42	5.48	90	9.724	0.10	2.22									84	4.621	0.22	9.6												
	96	2.367	0.42	5.67	100	9.795	0.10	2.39									100	4.652	0.21	4.72												
	100	2.365	0.42	5.44																												
Summary		2.37	0.42	4.84		9.73	0.10	2.76										4.56	0.22	7.52		20.73	0.05	5.07								
				3.52-5.55				2.2-3.88												4.72-9.81				2.17-7.96								
ARX	10	2.394	0.42	4.32	6	9.727	0.10	2.16									26	4.248	0.24	7.29	56	20.634	0.05	2.45								
	20	2.385	0.42	3.72	16	9.73	0.10	2.25									46	4.253	0.24	4.88	66	20.621	0.05	2.03								
	30	2.384	0.42	3.83	26	9.671	0.10	2.38									54	4.192	0.24	5.4	68	20.662	0.05	2.05								
	40	2.374	0.42	3.84	62	9.884	0.10	3.58									66	4.281	0.23	4.06	72	20.674	0.05	1.83								
	50	2.361	0.42	4.23	76	9.79	0.10	2.98									76	4.202	0.24	3.7	74	20.617	0.05	2.01								
	60	2.423	0.41	4.03	86	9.835	0.10	2.28									86	4.245	0.24	3.88	84	20.597	0.05	2.17								
	70	2.396	0.42	3.49	94	9.852	0.10	2.04									96	4.227	0.24	2.15												
	80	2.381	0.42	3.23													100	4.225	0.24	2.33												
	90	2.38	0.42	3.06																												
	100	2.382	0.42	2.95																												
Summary		2.39	0.42	3.67		9.78	0.10	2.52										4.23	0.24	4.21		20.63	0.05	2.09								
				2.95-4.32				2.04-4.04												2.15-7.29				1.83-2.45								
SRIM	6	2.384	0.42	3.35	6	9.722	0.10	1.68									12	4.339	0.23	8.24	14	20.951	0.05	3.74								
	16	2.38	0.42	3.88	12	9.852	0.10	2.32									28	4.216	0.24	3.36	28	20.913	0.05	2.19								
	22	2.347	0.43	3.63	42	9.772	0.10	1.56									60	4.293	0.23	1.12	72	20.803	0.05	0.8								
	30	2.301	0.43	2.56	52	9.792	0.10	1.81									74	4.249	0.24	1.37	82	20.902	0.05	1.02								
	40	2.39	0.42	3.06	62	9.83	0.10	1.45									82	4.228	0.24	1.62	94	20.805	0.05	0.67								
	52	2.386	0.42	2.36	74	9.874	0.10	0.71													96	20.819	0.05	0.67								
	62	2.367	0.42	3.05	82	9.759	0.10	0.99													98	20.813	0.05	0.51								
	74	2.365	0.42	2.86	88	9.885	0.10	1.15																								
	80	2.352	0.43	4.24																												
	90	2.371	0.42	3.76																												
Summary		2.36	0.42	3.28		9.81	0.10	1.46										4.27	0.23	3.14		20.86	0.05	1.37								
				2.17-4.47				.71-2.32												1.12-8.24				.51-3.74								
N4SID-IO	16	2.39	0.42	4.49	8	9.741	0.10	2.91									16	4.49	0.22	6.45	28	20.982	0.05	7.03								
	26	2.394	0.42	4.21	14	9.747	0.10	2.64									22	4.402	0.23	7.83	78	20.801	0.05	1.07								
	36	2.375	0.42	4.8	24	9.81	0.10	3.28									26	4.376	0.23	8.25												
	46	2.369	0.42	5.29	36	9.88	0.10	7.83									32	4.361	0.23	9.81												
	56	2.366	0.42	4.13	64	9.884	0.10	4.55									46	4.161	0.24	4.5												
	68	2.366	0.42	4.41	70	9.766	0.10	4.47									62	4.186	0.24	6												
	76	2.361	0.42	4.26	84	9.868	0.10	3.62									72	4.195	0.24	4.29												
	86	2.384	0.42	4.82	94	9.869	0.10	3.36									86	4.211	0.24	3.12												
	96	2.371	0.42	3.93	100	9.868	0.10	3.03									92	4.191	0.24	3.76												
	100	2.375	0.42	3.51																												
Summary		2.38	0.42	4.39		9.83	0.10	3.97										4.29	0.23	6.00		20.89	0.05	4.05								
				3.51-5.29				2.8-7.83												3.76-9.81				1.07-7.03								
Average		2.374044	0.421246	4.041389		9.788289	0.102168	2.67746										4.337222	0.230826	5.21859		20.77742	0.048131	3.144107								

	Landers92																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	6	1.984	0.50	4.97	10	8.801	0.11	2.99									8	3.95	0.25	8.36	38	9.199	0.11	1.64								
	16	1.975	0.51	6.79	30	8.891	0.11	1.49									18	3.929	0.25	9.11	60	9.127	0.11	1.05								
	26	1.977	0.51	5.66	40	8.866	0.11	2.54									28	3.993	0.25	9.97	76	9.073	0.11	0.55								
	36	1.971	0.51	5.71	58	8.991	0.11	0.52									62	3.951	0.25	3.49	86	9.131	0.11	0.51								
	46	1.986	0.50	5.78	60	8.983	0.11	0.5									74	3.887	0.26	1.92	96	9.076	0.11	0.5								
	58	1.966	0.51	5.25	70	8.977	0.11	0.55									82	3.814	0.26	3.02												
	68	1.986	0.50	6.09	82	8.973	0.11	0.48																								
	74	1.99	0.50	5.9	90	8.939	0.11	0.45																								
	88	1.977	0.51	5.77	100	8.944	0.11	0.29																								
	96	1.988	0.50	5.77																												
Summary		1.98	0.51	5.77		8.93	0.11	1.09										3.92	0.26	5.98		9.12	0.11	0.85								
				4.97-6.79				.29-2.99												1.92-9.97				.5-1.64								
ARX	6	1.989	0.50	5.33	18	8.557	0.12	2.97									8	3.929	0.25	8.3	20	8.621	0.12	3.31								
	16	1.944	0.51	5.39	20	8.562	0.12	2.96									18	3.924	0.25	9.68	38	8.631	0.12	1.84								
	26	1.984	0.50	5.11	30	8.443	0.12	1.21									28	3.949	0.25	7.39	54	8.641	0.12	1.43								
	36	1.803	0.55	6.89	44	8.411	0.12	1.75									34	3.951	0.25	5.87	78	8.544	0.12	0.67								
	48	1.989	0.50	5.58	54	8.456	0.12	2.41									46	3.826	0.26	2.99	96	8.507	0.12	0.33								
	56	1.965	0.51	6.11	60	8.454	0.12	1.49									58	3.849	0.26	2.63												
	68	1.929	0.52	6.23	70	8.429	0.12	0.94									66	3.883	0.26	2.4												
	78	1.877	0.53	5.17	80	8.471	0.12	1.26									78	3.885	0.26	1.74												
	86	1.87	0.53	7.78	90	8.483	0.12	0.69									86	3.955	0.25	2.01												
	96	1.961	0.51	3.08	100	8.525	0.12	0.51									96	3.857	0.26	0.81												
Summary		1.93	0.52	5.67		8.48	0.12	1.62										3.90	0.26	4.38		8.59	0.12	1.52								
				3.08-7.78				.51-2.97												.81-9.68				.33-3.31								
SRIM	6	1.989	0.50	5.33	16	7.825	0.13	1.1									26	3.962	0.25	4.82	NA											
	16	1.944	0.51	5.39	42	7.706	0.13	0.34									32	3.983	0.25	2.16												
	26	1.984	0.50	5.11	62	7.725	0.13	0.25									42	3.979	0.25	1.74												
	34	1.95	0.51	7.42	72	7.713	0.13	0.37									52	3.825	0.26	1.23												
	44	1.991	0.50	6.44	82	7.852	0.13	0.44									64	3.854	0.26	1.34												
	54	1.976	0.51	5.98	92	7.837	0.13	0.45									72	3.945	0.25	1.3												
	64	2.041	0.49	5.76	100	7.814	0.13	0.35									88	3.927	0.25	0.8												
	74	2.006	0.50	3.8													90	3.941	0.25	0.75												
	84	2.004	0.50	3.36													100	3.937	0.25	0.49												
	96	1.961	0.51	3.08																												
Summary		1.98	0.50	5.17		7.78	0.13	0.47										3.93	0.25	1.63												
				3.08-6.44				.25-1.1												.49-4.82												
N4SID-IO	10	1.983	0.50	6.63	14	9.044	0.11	5.4									10	4.023	0.25	9.63	68	9.047	0.11	0.36								
	20	1.967	0.51	6.55	24	8.925	0.11	4.58									20	3.982	0.25	9.31	72	9.043	0.11	0.73								
	30	1.97	0.51	5.65	34	8.935	0.11	1.02									34	4.006	0.25	7.95	74	9.071	0.11	0.67								
	42	1.967	0.51	5.54	42	8.981	0.11	0.39									44	4.036	0.25	3.74	86	9.18	0.11	0.33								
	60	1.975	0.51	5.73	54	9.027	0.11	0.77									62	4.019	0.25	2.91	90	9.172	0.11	0.37								
	70	1.984	0.50	5.56	66	9.001	0.11	0.63									68	4.036	0.25	2	96	9.027	0.11	0.94								
	80	1.977	0.51	6.77	76	8.962	0.11	0.68									82	4.039	0.25	2.78												
	92	2.096	0.48	2.11	84	8.954	0.11	0.65									90	4.012	0.25	2.07												
					94	8.909	0.11	0.59									100	3.984	0.25	1.33												
					100	8.939	0.11	0.33																									
Summary		1.99	0.50	5.57		8.97	0.11	1.50										4.02	0.25	4.64		9.09	0.11	0.57								
				2.11-6.77				.33-5.4												1.33-9.63				.33-.94								
Average		1.971394	0.507529	5.542625		8.53949	0.117491	1.171107										3.9412	0.253796	4.155361		8.933333	0.11203	0.977556								

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	30	2.317	0.43	3.66	22	9.337	0.11	1.7									18	4.444	0.23	4.31	28	19.096	0.05	5.84								
	40	2.288	0.44	3.19	32	9.358	0.11	1.63									24	4.474	0.22	5.83	58	19.19	0.05	2.44								
	50	2.313	0.43	4.82	42	9.381	0.11	1.73									34	4.444	0.23	5.31	76	19.165	0.05	1.06								
	60	2.31	0.43	4.83	56	9.336	0.11	0.84									44	4.395	0.23	5.74	78	19.064	0.05	1.05								
	70	2.313	0.43	5.1	66	9.362	0.11	1.14									52	4.406	0.23	5.38												
	80	2.315	0.43	4.74	76	9.386	0.11	1.03									64	4.454	0.22	4.61												
	90	2.321	0.43	4.49	84	9.364	0.11	1.3									74	4.4	0.23	4.35												
					94	9.356	0.11	1.2									84	4.323	0.23	5.49												
					100	9.378	0.11	1.08									92	4.348	0.23	6.44												
																	100	4.499	0.22	3.36												
Summary		2.31	0.43	4.40		9.36	0.11	1.29										4.42	0.23	5.08		19.13	0.05	2.60								
				3.66-4.91				1.03-1.73												3.36-6.44				1.05-5.84								
ARX	12	2.399	0.42	7.46	10	9.362	0.11	1.71									12	4.484	0.22	5.26	20	20.308	0.05	3.88								
	22	2.325	0.43	4.47	20	9.364	0.11	1.5									20	4.418	0.23	5.24	52	20.45	0.05	3.04								
	32	2.328	0.43	3.56	30	9.375	0.11	1.59									32	4.401	0.23	6.8	54	20.468	0.05	2.84								
	42	2.323	0.43	4.03	40	9.353	0.11	1.38									42	4.457	0.22	4.31	58	20.449	0.05	2.57								
	52	2.325	0.43	4.4	50	9.364	0.11	1.11									50	4.469	0.22	3.79	60	20.457	0.05	2.6								
	62	2.274	0.44	6.69	60	9.378	0.11	1.13									60	4.471	0.22	3.66	76	20.466	0.05	2.07								
	72	2.261	0.44	6.86	70	9.367	0.11	0.9									70	4.451	0.22	3.6												
	80	2.363	0.42	2.2	80	9.356	0.11	0.83									80	4.439	0.23	3.19												
	90	2.348	0.43	2.22	90	9.372	0.11	0.92									92	4.444	0.23	2.8												
	100	2.338	0.43	2.25	100	9.352	0.11	0.86									100	4.451	0.22	2.86												
Summary		2.33	0.43	4.41		9.36	0.11	1.19										4.45	0.22	4.15		20.43	0.05	2.83								
				1.75-7.49				.82-1.71												2.72-8.44				2.07-3.88								
SRIM	12	2.315	0.43	3.41	6	9.36	0.11	1.54									6	4.484	0.22	4.48	34	19.836	0.05	1.6								
	20	2.317	0.43	3.78	10	9.354	0.11	1.51									18	4.325	0.23	4.76	50	19.821	0.05	1.06								
	30	2.311	0.43	4.03	20	9.359	0.11	1.52									28	4.482	0.22	3.33	52	19.827	0.05	1.03								
	42	2.279	0.44	4.72	28	9.343	0.11	1.13									38	4.437	0.23	3.48	68	19.718	0.05	1.21								
	50	2.249	0.44	5.24	44	9.354	0.11	0.92									48	4.452	0.22	3.24	86	19.841	0.05	0.61								
	66	2.318	0.43	2	58	9.347	0.11	0.72									58	4.443	0.23	2.76	92	19.878	0.05	1.13								
	76	2.303	0.43	2.87	68	9.283	0.11	0.54									66	4.445	0.22	2.52	100	19.806	0.05	1.13								
	86	2.287	0.44	3.35	88	9.391	0.11	1.71									78	4.436	0.23	3.72												
	96	2.387	0.42	1.97	92	9.395	0.11	1.13									88	4.468	0.22	3.22												
	100	2.272	0.44	2.65													98	4.408	0.23	3.47												
Summary		2.30	0.43	3.40		9.35	0.11	1.19										4.44	0.23	3.50		19.82	0.05	1.11								
				1.97-5.24				.54-1.54												2.51-5.21				.61-1.6								
N4SID-IO	18	2.382	0.42	9.63	10	9.384	0.11	2.65									16	4.442	0.23	6.15	22	17.667	0.06	7.05								
	28	2.313	0.43	4.95	20	9.369	0.11	1.99									20	4.456	0.22	6.2	100	17.524	0.06	1.3								
	38	2.314	0.43	4.68	30	9.357	0.11	2.03									30	4.426	0.23	6.75												
	48	2.301	0.43	4.99	46	9.339	0.11	1.53									40	4.412	0.23	6.45												
	56	2.312	0.43	4.68	50	9.346	0.11	1.59									50	4.456	0.22	4.77												
	68	2.346	0.43	4.52	60	9.35	0.11	1.47									60	4.44	0.23	4.46												
	78	2.343	0.43	3.8	70	9.343	0.11	1.28									70	4.453	0.22	5.11												
	88	2.323	0.43	3.79	78	9.294	0.11	0.89									80	4.391	0.23	4.11												
	96	2.32	0.43	4.06													90	4.42	0.23	3.53												
	100	2.319	0.43	3.57													100	4.439	0.23	3.06												
Summary		2.33	0.43	4.87		9.35	0.11	1.68										4.43	0.23	5.06		17.60	0.06	4.18								
				3.55-9.63				.89-2.65												3.06-6.75				1.3-7.05								
Average		2.317625	0.43155	4.271821		9.357013	0.106872	1.339326										4.434675	0.225513	4.4475		19.24385	0.052128	2.678958								

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	20	2.262	0.44	4.53	14	9.873	0.10	1.41									30	4.493	0.22	7.25	32	21.095	0.05	6.82								
	32	2.37	0.42	2.88	20	9.82	0.10	1.51									42	4.479	0.22	8.56	42	21.065	0.05	4.49								
	40	2.363	0.42	3.37	30	9.812	0.10	1.19									52	4.469	0.22	8.68	44	21.084	0.05	4.66								
	50	2.347	0.43	3.12	40	9.838	0.10	0.83									64	4.374	0.23	7.38	46	21.022	0.05	4.76								
	60	2.362	0.42	4.03	50	9.836	0.10	0.9									70	4.422	0.23	7.18	92	21.072	0.05	2.16								
	70	2.352	0.43	4.47	60	9.811	0.10	0.8									84	4.391	0.23	7.3	98	20.926	0.05	2.64								
	80	2.358	0.42	4.03	70	9.812	0.10	0.96									90	4.383	0.23	7.43												
	90	2.367	0.42	4.14	80	9.777	0.10	1.1									100	4.412	0.23	6.75												
	100	2.365	0.42	4.02	90	9.765	0.10	1.12																								
					100	9.773	0.10	0.67																								
Summary		2.35	0.43	3.84		9.81	0.10	1.05										4.43	0.23	7.57		21.04	0.05	4.26								
				2.89-4.78				.67-1.51												6.75-8.68				2.16-6.82								
ARX	20	2.262	0.44	4.53	16	9.81	0.10	1.12									10	4.593	0.22	7.38	14	20.795	0.05	7.02								
	32	2.37	0.42	2.88	32	9.864	0.10	1.01									20	4.503	0.22	7.03	16	20.761	0.05	7.71								
	40	2.363	0.42	3.37	40	9.833	0.10	1.05									26	4.416	0.23	6.86	58	20.723	0.05	2.67								
	50	2.347	0.43	3.12	48	9.89	0.10	7.15									50	4.425	0.23	4.83	60	20.609	0.05	2.55								
	60	2.362	0.42	4.03	60	9.798	0.10	0.85									64	4.443	0.23	6.24	66	20.671	0.05	2.4								
	70	2.352	0.43	4.47	70	9.802	0.10	0.95									70	4.418	0.23	5.44	72	20.719	0.05	3.39								
	80	2.358	0.42	4.03	88	9.756	0.10	0.77									78	4.444	0.23	4.72												
	90	2.367	0.42	4.14	90	9.753	0.10	0.76									88	4.527	0.22	4.99												
	100	2.365	0.42	4.02	98	9.743	0.10	0.67									98	4.515	0.22	3.96												
Summary		2.35	0.43	3.84		9.81	0.10	1.59										4.48	0.22	5.72		20.71	0.05	4.29								
				2.88-4.53				.67-7.15												3.79-7.38				2.21-7.71								
SRIM	6	2.366	0.42	3.11	42	10.058	0.10	1.92									10	4.486	0.22	5.75	10	20.652	0.05	4.51								
	10	2.357	0.42	3.71	60	10.038	0.10	0.95									32	4.494	0.22	4.12	26	20.674	0.05	4.15								
	20	2.374	0.42	3.62	72	10.044	0.10	0.76									52	4.491	0.22	2.29	38	20.57	0.05	2.68								
	30	2.355	0.42	4.1	82	10.031	0.10	0.72									72	4.524	0.22	1.85	42	40.595	0.02	2.12								
	40	2.342	0.43	4.51	98	10.021	0.10	1.01									76	4.453	0.22	4.5	56	20.518	0.05	0.86								
	56	2.295	0.44	5.73	100	9.965	0.10	0.79									86	4.549	0.22	1.02	62	20.545	0.05	0.9								
	60	2.282	0.44	4.5													96	4.57	0.22	0.9	70	20.59	0.05	0.84								
	72	2.354	0.42	2.12																	88	20.507	0.05	4.19								
	80	2.356	0.42	2.58																	98	20.597	0.05	0.32								
	92	2.318	0.43	2.83																												
Summary		2.34	0.43	3.68		10.03	0.10	1.03										4.51	0.22	2.92		22.81	0.05	2.29								
				.79-5.73				.67-1.92												.9-5.75				.32-4.51								
N4SID-IO	24	2.396	0.42	4.94	14	9.782	0.10	2.19									14	4.573	0.22	8.14	28	20.334	0.05	3.29								
	30	2.372	0.42	4.2	18	9.8	0.10	1.85									20	4.557	0.22	8.37	38	20.33	0.05	3.57								
	44	2.367	0.42	4.43	28	9.81	0.10	1.23									30	4.473	0.22	8.93	66	20.294	0.05	1.55								
	50	2.361	0.42	4.78	30	9.819	0.10	1.23									46	4.332	0.23	5.96	90	20.217	0.05	1.78								
	60	2.377	0.42	5.01	42	9.722	0.10	1.29									50	4.352	0.23	6.68	96	20.362	0.05	1.23								
	70	2.388	0.42	4.4	52	9.821	0.10	1.28									74	4.363	0.23	6.79												
	80	2.369	0.42	4.33	80	9.738	0.10	1.49									88	4.408	0.23	8.1												
	92	2.368	0.42	4.7	84	9.73	0.10	1.15																								
	100	2.388	0.42	4.1																												
Summary		2.38	0.42	4.54		9.78	0.10	1.46										4.44	0.23	7.57		20.31	0.05	2.28								
				4.1-5.22				1.15-2.19												5.96-8.93				1.23-3.29								
Average		2.353808	0.424917	3.97775		9.855265	0.10148	1.282493										4.462576	0.22414	5.942158		21.21743	0.047742	3.278639								

	LomaLinda_26Feb2013																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	30	2.339	0.43	3.26	16	9.637	0.10	2.02									20	4.358	0.23	4.35	30	21.284	0.05	4.39								
	40	2.345	0.43	3.98	26	9.564	0.10	3.06									32	4.357	0.23	6.66	44	21.205	0.05	2.2								
	50	2.322	0.43	4.27	36	9.69	0.10	3.99									46	4.31	0.23	5.84	56	21.231	0.05	2.62								
	60	2.315	0.43	4.56	46	9.656	0.10	2.9									50	4.302	0.23	6.21												
	70	2.315	0.43	4.57	56	9.655	0.10	2.95									62	4.304	0.23	4.67												
	80	2.327	0.43	4.07	66	9.605	0.10	3.12									72	4.289	0.23	5.59												
	94	2.332	0.43	3.47	72	9.58	0.10	2.19									82	4.296	0.23	6.53												
	100	2.346	0.43	4.31	80	9.677	0.10	2.39									90	4.241	0.24	6.32												
					84	9.682	0.10	2.67									96	4.311	0.23	5.63												
Summary		2.33	0.43	4.06		9.64	0.10	2.81										4.31	0.23	5.76		21.24	0.05	3.07								
				2.94-4.56				2.02-3.99												4.35-6.53				2.2-4.39								
ARX	16	2.341	0.43	3.43	10	9.546	0.10	2.52									22	4.373	0.23	4.38	12	20.321	0.05	7.25								
	26	2.341	0.43	3.64	20	9.61	0.10	2.79									30	4.258	0.23	5.85	70	20.384	0.05	2.93								
	36	2.336	0.43	3.6	36	9.699	0.10	2.89									42	4.333	0.23	8.8	74	20.246	0.05	2.57								
	46	2.337	0.43	4.48	40	9.646	0.10	2.5									50	4.293	0.23	4.75												
	56	2.311	0.43	5.13	52	9.642	0.10	2.09									60	4.29	0.23	4.69												
	66	2.28	0.44	7.26	60	9.523	0.11	3.08									72	4.33	0.23	7.24												
	76	2.256	0.44	9.18	74	9.607	0.10	1.76									84	4.262	0.23	6.87												
	84	2.376	0.42	3.53	82	9.717	0.10	1.28									90	4.271	0.23	5.53												
	94	2.321	0.43	4.92	90	9.738	0.10	0.9																								
	100	2.293	0.44	6.89	100	9.741	0.10	6.32																								
Summary		2.32	0.43	5.21		9.65	0.10	2.61										4.30	0.23	6.01		20.32	0.05	4.25								
				3.43-9.72				.84-6.32												4.35-8.8				2.57-7.25								
SRIM	14	2.347	0.43	3.57	8	9.616	0.10	1.85									16	4.297	0.23	3.54	18	20.835	0.05	2.57								
	24	2.325	0.43	3.68	12	9.56	0.10	2.32									22	4.244	0.24	3.41	26	20.722	0.05	3.53								
	34	2.329	0.43	4.2	18	9.674	0.10	3.37									40	4.288	0.23	3.48	72	20.742	0.05	0.49								
	44	2.293	0.44	3.89	20	9.556	0.10	3.69									58	4.373	0.23	1.89	78	20.774	0.05	1.59								
	54	2.368	0.42	1.44	28	9.545	0.10	1.71									60	4.328	0.23	1.9	80	20.858	0.05	1								
	64	2.348	0.43	2.8	30	9.647	0.10	1.56									76	4.374	0.23	1.53	94	20.845	0.05	0.44								
	72	2.307	0.43	4.91	36	9.607	0.10	1.84									90	4.228	0.24	0.66												
	84	2.31	0.43	3.22	42	9.608	0.10	1.36																								
	94	2.312	0.43	3.63	44	9.64	0.10	1.36																								
	100	2.315	0.43	3.39	70	9.606	0.10	3.03																								
Summary		2.33	0.43	3.47		9.61	0.10	2.21										4.30	0.23	2.34		20.80	0.05	1.60								
				1.4-4.91				1.36-3.69												.66-3.54				.44-3.53								
N4SID-IO	18	2.369	0.42	5.16	18	9.592	0.10	3.25									16	4.449	0.22	7.92	30	21.03	0.05	4.25								
	28	2.343	0.43	4.01	20	9.615	0.10	3.4									20	4.437	0.23	6.7	44	21.139	0.05	2.83								
	36	2.327	0.43	4.81	30	9.604	0.10	3.3									30	4.36	0.23	7.85	60	21.077	0.05	3.29								
	48	2.334	0.43	5.64	40	9.639	0.10	3.29									40	4.344	0.23	8.54	70	21.169	0.05	2.22								
	58	2.352	0.43	4.79	50	9.641	0.10	3.07									50	4.307	0.23	7.46	84	21.139	0.05	1.28								
	68	2.35	0.43	4.38	62	9.539	0.10	3.34									62	4.316	0.23	5.69	94	21.158	0.05	1.1								
	78	2.362	0.42	4.54	70	9.655	0.10	3.51									74	4.33	0.23	5.91												
	80	2.369	0.42	4.65	80	9.548	0.10	2.76									80	4.337	0.23	7.05												
	90	2.358	0.42	6.16	94	9.684	0.10	4.02									92	4.339	0.23	8.99												
	100	2.377	0.42	4.43	100	9.619	0.10	4.27																								
Summary		2.35	0.42	4.86		9.61	0.10	3.42										4.36	0.23	5.18-9.34		21.12	0.05	2.50								
				4.12-6.16				1.19-4.27												5.18-9.34				1.1-4.25								
Average		2.332206	0.428831	4.399313		9.626211	0.103886	2.76325										4.317761	0.231632	3.528398		20.86792	0.047935	2.854583								

	Northridge_17Jan1994																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	8	1.919	0.52	4.45	14	8.499	0.12	3.68									12	4.116	0.24	6.49	NA											
	18	1.895	0.53	6.3	32	8.453	0.12	1.5									24	4.13	0.24	5.25												
	28	1.901	0.53	5.73	44	8.313	0.12	1.6									38	4.2	0.24	5.11												
	38	1.919	0.52	5.85	56	8.334	0.12	0.75									48	4.238	0.24	2.39												
	48	1.912	0.52	5.98	100	8.446	0.12	1.46									56	4.273	0.23	1.87												
	56	1.915	0.52	4.84													66	4.276	0.23	0.97												
	66	1.919	0.52	6.13													78	4.142	0.24	7.2												
	80	1.903	0.53	7.44													86	4.263	0.23	0.7												
	96	1.89	0.53	6.91													96	4.101	0.24	1.11												
	100	1.902	0.53	5.41													100	4.103	0.24	0.96												
Summary		1.91	0.52	5.90		8.41	0.12	1.80										4.18	0.24	3.21												
				4.11-7.44				.75-3.68												.7-7.2												
ARX	6	1.913	0.52	4.83	14	8.484	0.12	3.39									6	4.092	0.24	6.55	18	18.232	0.05	3.96								
	16	1.876	0.53	6.12	32	8.403	0.12	1.5									16	4.133	0.24	6.09	26	18.273	0.05	2.84								
	20	1.914	0.52	5.52	38	8.45	0.12	2.55									22	4.179	0.24	4.93	28	18.282	0.05	2.72								
	30	1.919	0.52	5.52	42	8.49	0.12	1.47									54	4.02	0.25	4.24	38	18.279	0.05	1.87								
	44	1.9	0.53	5.29	52	8.491	0.12	0.98									60	4.026	0.25	3.15	48	18.267	0.05	1.58								
	52	1.945	0.51	4.51	54	8.473	0.12	1.04									68	4.177	0.24	2.91												
	62	1.923	0.52	5.46	68	8.443	0.12	2.18									80	4.163	0.24	2.19												
	74	1.952	0.51	3.24	92	8.376	0.12	0.84									90	4.153	0.24	1.8												
	84	1.947	0.51	2.57	96	8.407	0.12	1.08									100	4.102	0.24	1.82												
	94	1.96	0.51	3.02	100	8.343	0.12	0.12																								
Summary		1.92	0.52	4.61		8.44	0.12	1.52										4.12	0.24	3.74		18.27	0.05	2.59								
				2.7-8.69				.12-3.39												1.56-6.7				1.58-3.96								
SRIM	4	1.92	0.52	4.52	18	7.991	0.13	0.72									8	4.03	0.25	4.44	92	15.508	0.06	0.23								
	20	1.928	0.52	4.44	30	7.971	0.13	0.5									70	3.933	0.25	1.64	94	15.522	0.06	0.22								
	26	1.949	0.51	4.89	42	7.845	0.13	0.63									72	3.992	0.25	6.42	96	15.52	0.06	0.24								
	38	1.962	0.51	4.26	56	7.93	0.13	0.27									78	4.006	0.25	2.22	98	15.526	0.06	0.23								
	56	1.897	0.53	5.37	64	7.939	0.13	0.29									80	4.004	0.25	2.28												
	68	1.984	0.50	2.16	76	7.933	0.13	0.25									82	3.98	0.25	1.1												
	76	1.933	0.52	1.48	86	7.931	0.13	0.35									96	4.032	0.25	2.72												
	84	1.932	0.52	1.35	96	7.925	0.13	0.54									98	3.948	0.25	1.39												
	96	1.872	0.53	1.4													100	3.946	0.25	1.31												
	100	1.859	0.54	1.15																												
Summary		1.92	0.52	3.10		7.93	0.13	0.44										3.99	0.25	2.61		15.52	0.06	0.23								
				1.15-5.64				.25-.72												1.1-6.42				.22-.24								
N4SID-IO	8	1.907	0.52	5.87	12	8.564	0.12	4.54									38	3.384	0.30	9.69	40	9.303	0.11	2.17								
	18	1.904	0.53	6.23	22	8.476	0.12	0.87									52	3.316	0.30	3.91	62	9.393	0.11	1.34								
	28	1.915	0.52	6.05	34	8.462	0.12	0.92									66	3.264	0.31	2.93	74	9.329	0.11	0.71								
	36	1.922	0.52	6.78	58	8.572	0.12	1.03									76	3.292	0.30	1.62	84	9.383	0.11	0.17								
	48	1.922	0.52	6.07	62	8.482	0.12	3.65									86	3.3	0.30	1.94	100	9.383	0.11	0.26								
	56	1.926	0.52	5.25	76	8.542	0.12	0.48									96	3.317	0.30	1.7												
	66	1.917	0.52	4.2	86	8.526	0.12	0.85									100	3.29	0.30	2.19												
	76	1.83	0.55	4.43	96	8.51	0.12	0.81																								
	86	1.916	0.52	4.37																												
	96	1.857	0.54	2.48																												
Summary		1.90	0.53	5.17		8.52	0.12	1.64										3.31	0.30	3.43		9.36	0.11	0.93								
				2.48-6.78				.48-4.54												1.62-9.69				.17-2.17								
Average		1.9144	0.522479	4.69675		8.323719	0.120237	1.350125										3.898744	0.258803	3.246567		14.38127	0.075347	1.251333								

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	2.306	0.43	5.13	22	9.869	0.10	2.25									8	4.683	0.21	8.32	38	10.024	0.10	4.38								
	20	2.347	0.43	2.76	32	9.798	0.10	2.66									16	4.617	0.22	7.09												
	32	2.375	0.42	3.82	40	9.791	0.10	2.76									26	4.465	0.22	7.2												
	40	2.383	0.42	4.15	48	9.73	0.10	2.07									32	4.54	0.22	9.41												
	50	2.384	0.42	4.09	70	9.717	0.10	2.47									42	4.406	0.23	9.24												
	60	2.386	0.42	3.75	78	9.761	0.10	2.63									54	4.431	0.23	7.05												
	70	2.384	0.42	3.52													66	4.466	0.22	7.78												
	80	2.384	0.42	3.78													74	4.445	0.22	4.15												
	90	2.384	0.42	3.9													84	4.48	0.22	4.03												
	100	2.38	0.42	3.83													94	4.514	0.22	4.96												
Summary		2.37	0.42	3.87		9.78	0.10	2.47										4.50	0.22	6.92		10.02	0.10	4.38								
				2.76-5.13				1.82-2.76												3.46-9.41												
ARX	8	2.382	0.42	3.94	10	9.849	0.10	2.16									10	4.528	0.22	5.4	38	15.239	0.07	5.34								
	18	2.386	0.42	3.33	20	9.847	0.10	1.99									22	4.546	0.22	8.17	44	15.107	0.07	5.26								
	28	2.385	0.42	3.56	32	9.742	0.10	2.21									30	4.445	0.22	7.84												
	38	2.397	0.42	6.17	48	9.687	0.10	1.6									46	4.435	0.23	5.7												
	48	2.224	0.45	8.1	50	9.694	0.10	1.47									50	4.429	0.23	4.83												
	58	2.384	0.42	3.1	60	9.738	0.10	1.83									60	4.485	0.22	5.73												
	68	2.375	0.42	3.41	70	9.733	0.10	2.58									70	4.475	0.22	4.01												
	78	2.368	0.42	3.68	82	9.622	0.10	2.36									80	4.507	0.22	3.5												
	88	2.286	0.44	8.16	94	9.645	0.10	2.5									90	4.546	0.22	3.45												
	98	2.374	0.42	3.23													100	4.549	0.22	2.61												
Summary		2.36	0.42	4.67		9.73	0.10	2.08										4.49	0.22	5.12		15.17	0.07	5.30								
				2.99-8.83				1.34-2.58												2.61-8.54				5.26-5.34								
SRIM	10	2.385	0.42	3.08	14	9.849	0.10	1.62									4	4.542	0.22	4.51	58	9.904	0.10	0.24								
	20	2.375	0.42	3.39	30	9.879	0.10	1.37									14	4.564	0.22	4.66	88	9.965	0.10	2.74								
	34	2.347	0.43	2.67	66	9.899	0.10	0.77									52	4.503	0.22	3.39												
	40	2.381	0.42	2.85	70	9.83	0.10	1.04									62	4.587	0.22	3.29												
	48	2.313	0.43	2.7	80	9.882	0.10	1.12									68	4.539	0.22	3.18												
	58	2.395	0.42	3.36	92	9.87	0.10	0.63									82	4.442	0.23	3.02												
	72	2.482	0.40	2.09	100	9.855	0.10	0.73									88	4.596	0.22	1.47												
	84	2.429	0.41	3.36													98	4.593	0.22	1.41												
	98	2.465	0.41	1.93																												
Summary		2.40	0.42	2.83		9.87	0.10	1.04										4.55	0.22	3.12		9.93	0.10	1.49								
				1.93-3.71				.63-1.62												1.41-5.13				.24-2.74								
N4SID-IO	16	2.394	0.42	4.25	20	9.879	0.10	1.97									18	4.497	0.22	8.13	16	9.772	0.10	7.23								
	26	2.393	0.42	4.33	30	9.742	0.10	2.72									26	4.488	0.22	8.64	22	9.74	0.10	7.76								
	36	2.391	0.42	4.29	38	9.724	0.10	2.39									34	4.492	0.22	8.21	28	9.746	0.10	5.35								
	46	2.389	0.42	4.17	60	9.733	0.10	2.99									44	4.464	0.22	7.36	66	9.834	0.10	2.74								
	56	2.394	0.42	4.02	66	9.877	0.10	3.23									54	4.473	0.22	6.14	88	9.879	0.10	1.98								
	66	2.39	0.42	3.83	80	9.844	0.10	2.26									64	4.445	0.22	5.82												
	76	2.392	0.42	3.97	92	9.866	0.10	1.93									76	4.449	0.22	7.26												
	86	2.328	0.43	7.18	100	9.864	0.10	2.31									84	4.416	0.23	5.58												
	96	2.263	0.44	9.17													90	4.412	0.23	3.66												
	100	2.389	0.42	4.28																												
Summary		2.37	0.42	4.95		9.82	0.10	2.48										4.46	0.22	6.76		9.79	0.10	5.01								
				3.83-9.17				1.93-3.23												3.66-8.64				1.98-7.76								
Average		2.374147	0.421366	4.078889		9.797158	0.102077	2.016528										4.501126	0.22221	5.479701		14.97523	0.122811	5.394								

	ontario_20dec2011																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	26	2.476		2.57	18	9.649	0.10	1.59									28	4.491	0.22	7.22	42	18.732	0.05	2.44								
	36	2.457		3.07	28	9.642	0.10	1.78									36	4.46	0.22	5.09	80	18.748	0.05	4.51								
	46	2.46		3.11	38	9.639	0.10	1.8									46	4.498	0.22	4.24												
	58	2.453		3.21	48	9.641	0.10	1.84									66	4.496	0.22	4.7												
	66	2.458		3.05	58	9.64	0.10	1.77									76	4.419	0.23	5.33												
	76	2.459		3	68	9.646	0.10	1.81									86	4.451	0.22	5.06												
	86	2.459		2.48	78	9.621	0.10	1.94									92	4.495	0.22	5.98												
	96	2.468		3.05	86	9.694	0.10	1.88									100	4.324	0.23	1.49												
	100	2.465		3.1	96	9.659	0.10	1.87																								
					100	9.661	0.10	2.11																								
Summary						9.65	0.10	1.84										4.45	0.22	4.89		18.74	0.05	3.48								
				2.41-3.21				1.59-2.11												1.49-7.22				2.44-4.51								
ARX	12	2.486	0.40	3.97	6	9.649	0.10	1.94									12	4.589	0.22	4.9	46	10.438	0.10	4.55								
	22	2.466	0.41	2.82	16	9.642	0.10	1.8									22	4.424	0.23	3.5	56	10.448	0.10	2.76								
	32	2.46	0.41	2.89	26	9.64	0.10	1.77									40	4.468	0.22	3.24	78	10.578	0.09	2.9								
	42	2.459	0.41	2.96	36	9.641	0.10	1.74									50	4.552	0.22	3.42	82	10.566	0.09	2.29								
	52	2.469	0.41	2.69	46	9.643	0.10	1.91									60	4.52	0.22	4.1	84	10.572	0.09	2.27								
	62	2.475	0.40	2.78	56	9.645	0.10	1.66									70	4.528	0.22	7.1												
	72	2.472	0.40	6.4	66	9.664	0.10	2.17									82	4.567	0.22	6.82												
	82	2.455	0.41	5.07	74	9.689	0.10	2.05									100	4.486	0.22	5.39												
	92	2.455	0.41	2.88	84	9.656	0.10	2.31																								
	100	2.446	0.41	2.47	96	9.654	0.10	1.62																								
Summary		2.46	0.41	3.49		9.65	0.10	1.90										4.52	0.22	4.81		10.52	0.10	2.95								
				2.56-6.4				1.57-2.33												2.98-7.1				2.27-4.55								
SRIM	10	2.462	0.41	2.97	6	9.639	0.10	1.54									4	4.687	0.21	5.75	58	10.359	0.10	0.96								
	20	2.46	0.41	2.94	10	9.66	0.10	1.68									8	4.609	0.22	4.52												
	30	2.46	0.41	3.14	20	9.631	0.10	1.69									36	4.636	0.22	8.36												
	40	2.449	0.41	3.57	30	9.633	0.10	1.45									44	4.447	0.22	2.39												
	50	2.438	0.41	3.56	40	9.645	0.10	1.88									62	4.401	0.23	0.52												
	58	2.39	0.42	2.93	54	9.645	0.10	1.49									98	4.578	0.22	2.62												
	70	2.475	0.40	2.57	62	9.662	0.10	1.39																								
	82	2.46	0.41	3.62	80	9.627	0.10	1.22																								
	90	2.435	0.41	3.75	90	9.634	0.10	2.15																								
	94	2.437	0.41	4.24	100	9.583	0.10	1.86																								
Summary		2.45	0.41	3.33		9.64	0.10	1.64										4.56	0.22	4.03		10.36	0.10	0.96								
				1.62-4.24				.79-2.15												.52-8.36												
N4SID-IO	22	2.455	0.41	3.91	10	9.644	0.10	2.58									20	4.466	0.22	6.3	64	10.449	0.10	3.63								
	32	2.451	0.41	3.42	20	9.646	0.10	1.99									32	4.431	0.23	5.53	68	10.451	0.10	3.04								
	42	2.448	0.41	3.54	32	9.638	0.10	2.06									44	4.392	0.23	5.92	70	10.428	0.10	3.02								
	52	2.459	0.41	3.33	40	9.646	0.10	1.88									54	4.458	0.22	3.48	72	10.39	0.10	3.16								
	62	2.461	0.41	3.1	50	9.653	0.10	1.76									60	4.45	0.22	4.71												
	72	2.459	0.41	3.19	60	9.646	0.10	1.7									68	4.401	0.23	5.38												
	82	2.429	0.41	7.63	70	9.671	0.10	1.55									80	4.401	0.23	2.56												
	92	2.462	0.41	3.32	82	9.638	0.10	1.84									100	4.307	0.23	2.92												
	100	2.483	0.40	7.52	90	9.645	0.10	1.83																								
					100	9.654	0.10	1.7																								
Summary		2.46	0.41	4.33		9.65	0.10	1.89										4.41	0.23	4.60		10.43	0.10	3.21								
				2.9-7.63				1.55-2.58												2.56-6.35				3.02-3.63								
Average		1.841808	0.305423	2.787722		9.646375	0.103666	1.815										4.485979	0.223003	4.581042		12.51223	0.085209	2.650375								

	Redlands_13Feb2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	18	2.007	0.50	8.71	12	9.317	0.11	2.45									20	4.408	0.23	6.37	58	10.446	0.10	5.63								
	26	2.168	0.46	3.99	22	9.359	0.11	3.05									28	4.354	0.23	6.01	60	10.407	0.10	5.38								
	36	2.198	0.45	4.45	32	9.362	0.11	2.26									36	4.361	0.23	4.82												
	46	2.176	0.46	4.56	42	9.336	0.11	3.03									40	4.422	0.23	4.2												
	56	2.177	0.46	5.88	52	9.373	0.11	2.57									48	4.398	0.23	3.44												
	60	2.191	0.46	6.65	64	9.263	0.11	2.66									60	4.36	0.23	3.47												
	76	2.2	0.45	4.72	80	9.264	0.11	4.66									70	4.386	0.23	2.54												
	86	2.191	0.46	5.28	84	9.391	0.11	3.94									80	4.347	0.23	2.77												
	90	2.193	0.46	5.82													90	4.379	0.23	3.15												
																	96	4.328	0.23	3.47												
Summary		2.17	0.46	5.56		9.33	0.11	3.08										4.37	0.23	4.02		10.43	0.10	5.51								
				3.99-8.71				2.23-4.66												2.54-6.37				5.38-5.63								
ARX	14	2.227	0.45	5.01	6	9.34	0.11	2.45									4	4.396	0.23	6.98	26	9.203	0.11	3.08								
	24	2.213	0.45	4.93	16	9.357	0.11	1.86									10	4.389	0.23	5.57	36	9.186	0.11	3.08								
	34	2.191	0.46	5.74	24	9.361	0.11	1.98									20	4.359	0.23	6.77	44	9.275	0.11	1.44								
	44	2.163	0.46	4.83	40	9.335	0.11	1.79									30	4.413	0.23	4.17	48	9.295	0.11	1.11								
	54	2.178	0.46	5.41	50	9.297	0.11	2.88									40	4.386	0.23	3.33	50	9.284	0.11	1.14								
	62	2.205	0.45	3.33	60	9.329	0.11	2.62									50	4.375	0.23	7.85	68	9.213	0.11	1.03								
	74	2.207	0.45	3.46	66	9.342	0.11	2.24									60	4.385	0.23	2.58												
	86	2.164	0.46	3.17													72	4.397	0.23	2.47												
	96	2.171	0.46	3.47													80	4.39	0.23	3.32												
																	90	4.374	0.23	3.61												
Summary		2.19	0.46	4.37		9.34	0.11	2.26										4.39	0.23	4.67		9.24	0.11	1.81								
				3.17-7.63				1.7-3.06												2.36-7.85				1.03-3.08								
SRIM	16	2.149	0.47	5	10	9.332	0.11	1.86									4	4.396	0.23	5.01	38	10.007	0.10	1.28								
	30	2.044	0.49	4.18	28	9.359	0.11	1.67									20	4.392	0.23	2.84	60	9.974	0.10	1.52								
	40	2.197	0.46	2.7	34	9.322	0.11	2.04									32	4.372	0.23	2.67	72	9.99	0.10	0.51								
	56	2.14	0.47	2.17	42	9.579	0.10	0.34									54	4.389	0.23	3.23	78	10.05	0.10	0.89								
	68	2.052	0.49	1.47	62	9.51	0.11	0.23									58	4.394	0.23	2.38	84	10.01	0.10	0.41								
	74	2.181	0.46	1.97	72	9.575	0.10	1.87									78	4.396	0.23	3.87	90	10.017	0.10	0.43								
	84	2.151	0.46	1.68	88	9.555	0.10	2.66									86	4.406	0.23	3.78	92	10.027	0.10	0.61								
	98	2.167	0.46	3.62	98	9.558	0.10	2.82									96	4.364	0.23	3.9												
Summary		2.14	0.47	2.85		9.47	0.11	1.69										4.39	0.23	3.46		10.01	0.10	0.81								
				1.47-5				.23-2.82												2.38-5.01				.41-1.52								
N4SID-IO	18	2.251	0.44	7	8	9.339	0.11	3.63									10	4.403	0.23	6.97	44	14.913	0.07	1.64								
	28	2.21	0.45	5.92	14	9.399	0.11	2.97									20	4.415	0.23	6.52	48	14.9	0.07	1.02								
	38	2.193	0.46	6.43	24	9.339	0.11	3.01									28	4.394	0.23	5.23	50	14.868	0.07	1.04								
	42	2.158	0.46	5.87	34	9.32	0.11	2.4									42	4.358	0.23	4.2	52	14.88	0.07	1.05								
	56	2.137	0.47	7.25	44	9.386	0.11	2.19									50	4.357	0.23	3.95	56	14.896	0.07	0.98								
	68	2.194	0.46	6.12	58	9.317	0.11	2.65									60	4.335	0.23	3.31	60	14.881	0.07	0.75								
	78	2.143	0.47	6.64	66	9.33	0.11	3.37									70	4.371	0.23	3.8												
	88	2.159	0.46	4.49	72	9.423	0.11	2.85									78	4.342	0.23	3.52												
	100	2.121	0.47	2.17	86	9.457	0.11	1.32									90	4.387	0.23	2.78												
					100	9.487	0.11	1.39									100	4.365	0.23	2.96												
Summary		2.17	0.46	5.77		9.38	0.11	2.58										4.37	0.23	4.32		14.89	0.07	1.08								
				2.17-7.25				1.32-7.55												2.78-6.97				.75-1.64								
Average		2.166726	0.461775	4.637188		9.380965	0.106608	2.400438										4.380506	0.22829	4.11825		11.14239	0.09279	2.301369								
Overall Average		**2.20**	**0.44**	**4.45**	**0.00**	**9.32**	**0.11**	**1.97**										**4.33**	**0.23**	**4.54**	**0.00**	**15.92**	**0.07**	**2.33**								

Station 23287: ACI and LATBSDC Values - LATERAL AND GRAVITY SYSTEM

Building: **San Bernardino - 6-story Hotel**
Building Type: RC walls, in both directions
Number of floors with Sensors: 3
Total No. Sensors: 9

Cracking		Mode 1					Mode 2					Mode 3				
		ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.70	0.291	Longitudinal	0.44	Longitudinal	1.53	0.154	Transverse	0.23	Transverse	1.50	0.129	Torsional	NA	NA	NA
0.35	0.90	0.29	Longitudinal	0.44	Longitudinal	1.53	0.154	Transverse	0.23	Transverse	1.50	0.129	Torsional	NA	NA	NA
0.75	0.70	0.262	Longitudinal	0.44	Longitudinal	1.70	0.125	Transverse	0.23	Transverse	1.85	0.114	Local??	NA	NA	NA
0.75	0.90	0.262	Longitudinal	0.44	Longitudinal	1.70	0.125	Transverse	0.23	Transverse	1.85	0.114	Local??	NA	NA	NA
	Average	0.069063														

Station 23287: ACI and LATBSDC Values - LATERAL SYSTEM ONLY

Building: **San Bernardino - 6-story Hotel**
Building Type: RC walls, in both directions
Number of floors with Sensors: 3
Total No. Sensors: 9

Cracking		Mode 1					Mode 2					Mode 3				
		ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.70	0.294	Longitudinal	0.44	Longitudinal	1.51	0.157	Transverse	0.23	Transverse	1.47	0.129	Torsional	NA	NA	NA
0.75	0.90	0.264	Longitudinal	0.44	Longitudinal	1.68	0.127	Transverse	0.23	Transverse	1.82	0.121	Local	NA	NA	NA
	Average	0.034875														

Station 23287

Building: **San Bernardino - 6-story Hotel**
Building Type: RC walls, in both directions
Number of floors with Sensors: 3
Total No. Sensors: 9

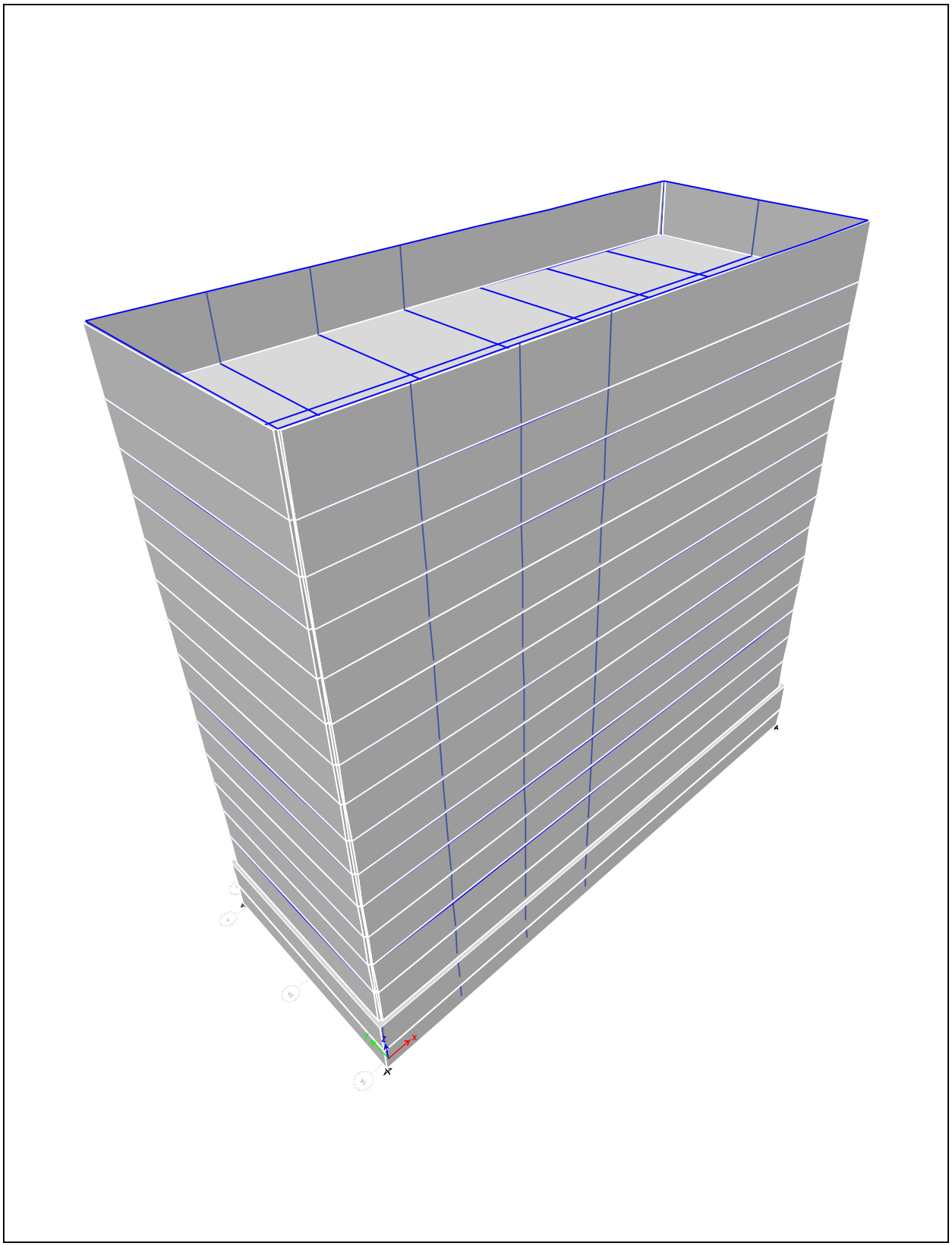
Cracking		Mode 1					Mode 2					Mode 3				
		ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.30	0.297	Longitudinal	0.45	Longitudinal	1.52	0.161	Transverse	0.23	Transverse	1.44	0.134	Torsioanal		NA	NA
0.35	0.50	0.297	Longitudinal	0.45	Longitudinal	1.52	0.161	Transverse	0.23	Transverse	1.44	0.134	Torsioanal		NA	NA
0.35	0.70	0.296	Longitudinal	0.45	Longitudinal	1.52	0.161	Transverse	0.23	Transverse	1.44	0.134	Torsioanal		NA	NA
0.35	1.00	0.296	Longitudinal	0.45	Longitudinal	1.52	0.161	Transverse	0.23	Transverse	1.44	0.134	Torsioanal		NA	NA
0.5	0.30	0.277	Longitudinal	0.45	Longitudinal	1.63	0.139	Transverse	0.23	Transverse	1.67	0.118	Torsioanal		NA	NA
0.5	0.50	0.277	Longitudinal	0.45	Longitudinal	1.63	0.139	Transverse	0.23	Transverse	1.67	0.118	Torsioanal		NA	NA
0.5	0.70	0.277	Longitudinal	0.45	Longitudinal	1.63	0.139	Transverse	0.23	Transverse	1.67	0.118	Torsioanal		NA	NA
0.5	1.00	0.277	Longitudinal	0.45	Longitudinal	1.63	0.139	Transverse	0.23	Transverse	1.67	0.118	Torsioanal		NA	NA
0.75	0.30	0.262	Longitudinal	0.45	Longitudinal	1.72	0.125	Transverse	0.23	Transverse	1.85	0.115	Local??		NA	NA
0.75	0.50	0.262	Longitudinal	0.45	Longitudinal	1.72	0.125	Transverse	0.23	Transverse	1.85	0.115	Local??		NA	NA
0.75	0.70	0.262	Longitudinal	0.45	Longitudinal	1.72	0.125	Transverse	0.23	Transverse	1.85	0.114	Local??		NA	NA
0.75	1.00	0.262	Longitudinal	0.45	Longitudinal	1.72	0.125	Transverse	0.23	Transverse	1.85	0.114	Local??		NA	NA
1	0.30	0.251	Longitudinal	0.45	Longitudinal	1.80	0.116	Transverse	0.23	Transverse	2.00	0.115	Local??		NA	NA
1	0.50	0.251	Longitudinal	0.45	Longitudinal	1.80	0.116	Transverse	0.23	Transverse	2.00	0.115	Local??		NA	NA
1	0.70	0.251	Longitudinal	0.45	Longitudinal	1.80	0.116	Transverse	0.23	Transverse	2.00	0.114	Local??		NA	NA
1	1.00	0.251	Longitudinal	0.45	Longitudinal	1.80	0.116	Transverse	0.23	Transverse	2.00	0.114	Local??		NA	NA
	Average	0.271625														

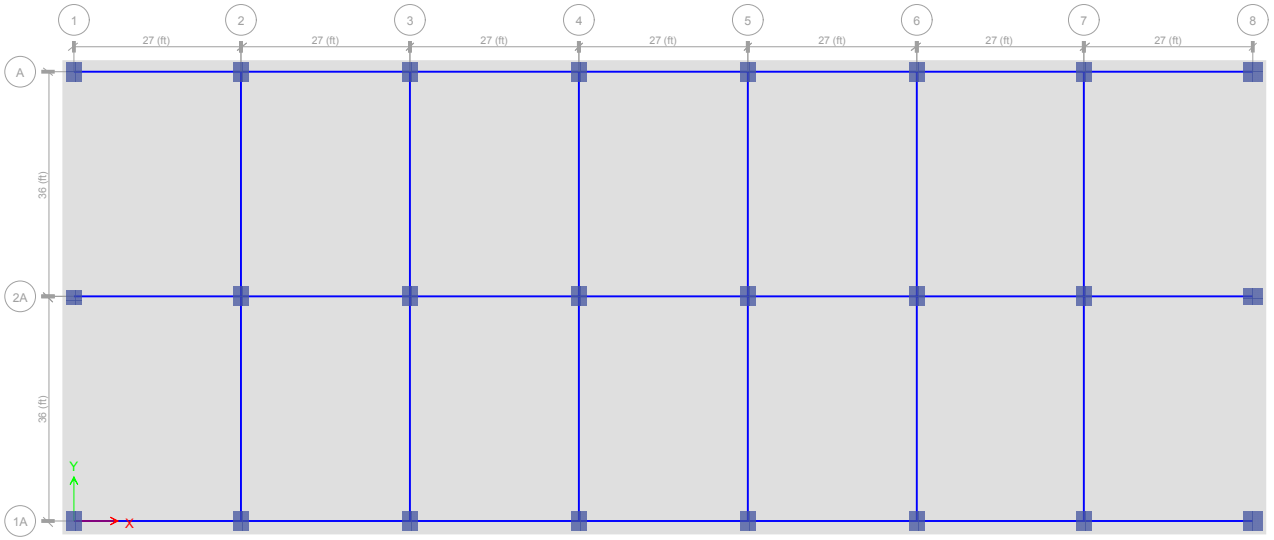
Station 24322

Building: Sherman Oaks - 13-story Commercial Bldg

Building Type: Moment resisting concrete frames in both directions for the upper stories; concrete shear walls in the basements.

Number of floors with Sensors: 5

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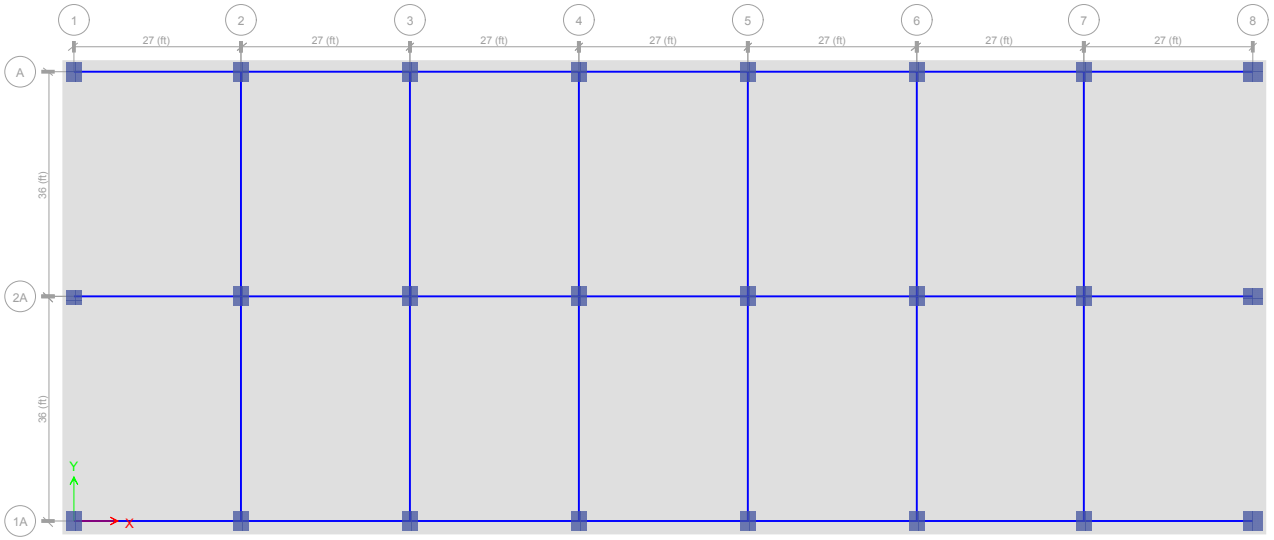
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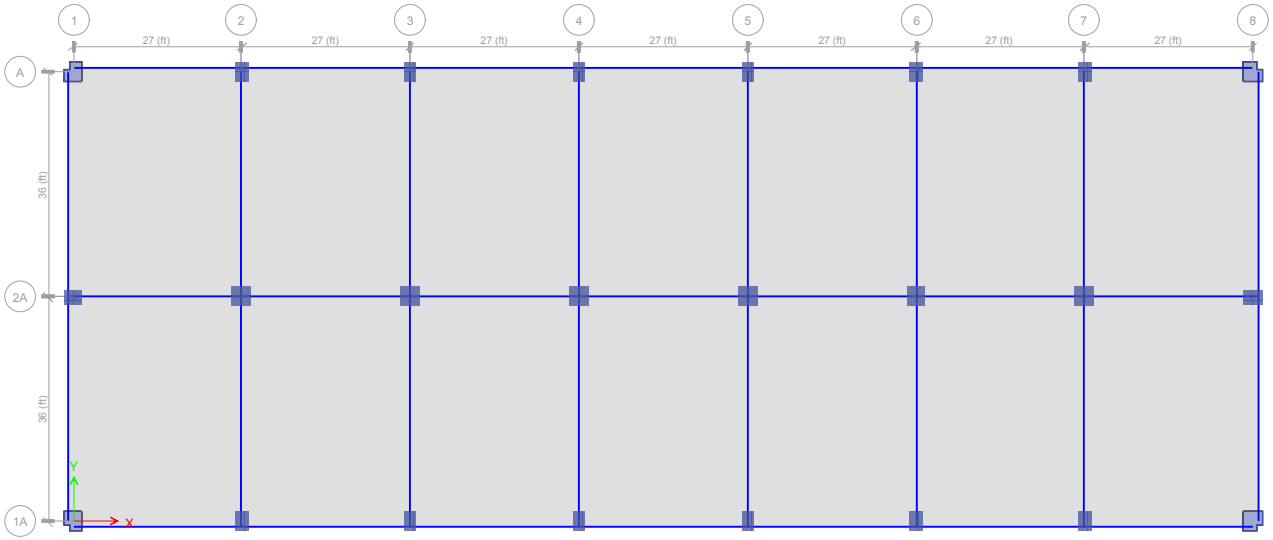
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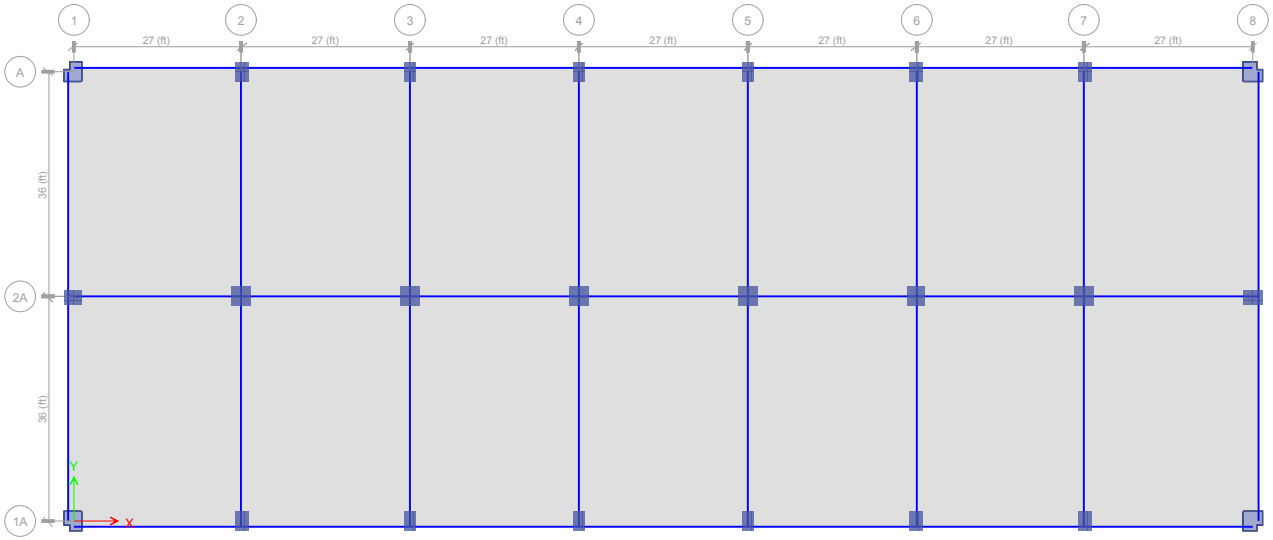
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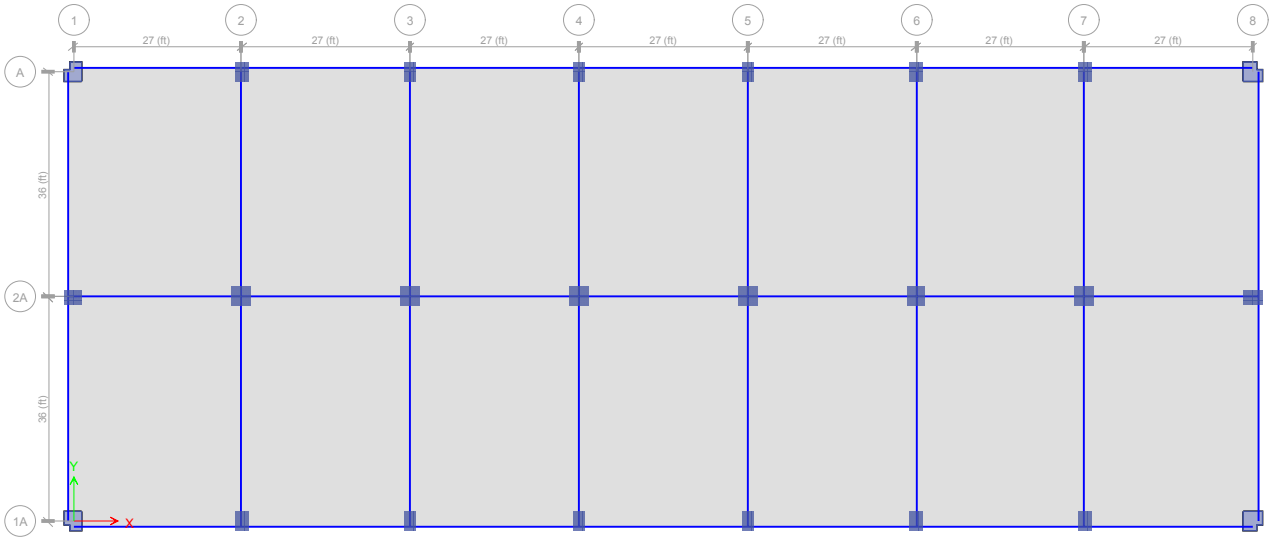
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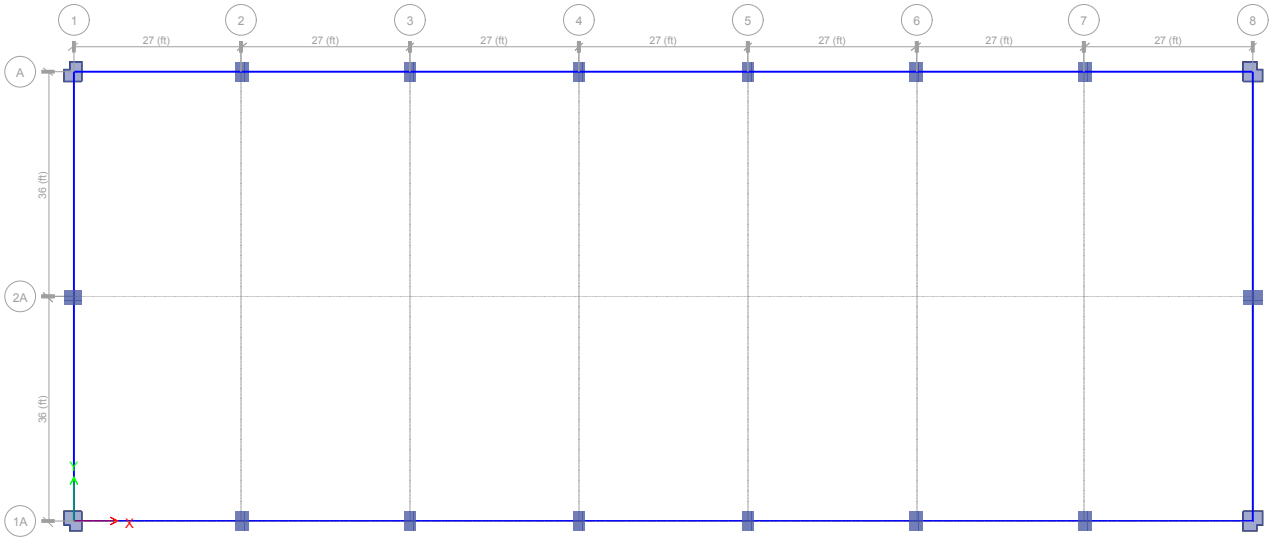
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	Calexico_04Apr2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	30	0.656	1.52	2.75	26	2.195	0.46	3.84	24	3.891	0.26	2.35	90	4.18	0.24	5.75	38	0.653	1.53	2.59	36	2.053	0.49	2.39	32	3.423	0.29	2.3	64	7.283	0.14	0.87
	40	0.66	1.52	3.01	36	2.194	0.46	3.6	34	3.878	0.26	3.04	94	4.236	0.24	4.19	48	0.653	1.53	2.48	46	2.053	0.49	2.53	40	3.412	0.29	2.79	66	7.284	0.14	0.82
	50	0.657	1.52	3.28	52	2.198	0.45	3.54	44	3.871	0.26	3.21	98	4.237	0.24	4.77	58	0.654	1.53	2.25	56	2.055	0.49	3.03	50	3.419	0.29	2.61	76	7.299	0.14	0.8
	60	0.656	1.52	3.47	56	2.2	0.45	3.49	54	3.878	0.26	3.37					68	0.653	1.53	2.02	66	2.053	0.49	2.92	60	3.422	0.29	2.53	78	7.293	0.14	0.86
	70	0.657	1.52	3.49	76	2.2	0.45	3.3	64	3.864	0.26	3.22					78	0.655	1.53	2.15	78	2.058	0.49	2.24	70	3.426	0.29	2.27	88	7.288	0.14	0.95
	80	0.658	1.52	3.56	86	2.199	0.45	3.47	74	3.855	0.26	3.35					88	0.656	1.52	2.03	88	2.051	0.49	2.11	80	3.417	0.29	2.31				
	90	0.659	1.52	3.51	96	2.198	0.45	3.89	88	3.844	0.26	2.44					98	0.656	1.52	2.14	98	2.048	0.49	1.94	90	3.431	0.29	2.7				
Summary		0.66	1.52	3.30		2.20	0.46	3.59		3.87	0.26	3.00		4.22	0.24	4.90		0.65	1.53	2.24		2.05	0.49	2.45		3.42	0.29	2.50		7.29	0.14	0.86
																4.19-5.75				2.01-2.59				1.94-3.11							.8-.95
ARX	10	0.657	1.52	3.17	10	2.202	0.45	3.33	10	3.875	0.26	3.09	48	4.1	0.24	5.84	10	0.653	1.53	2.02	10	2.05	0.49	2.61	40	2.929	0.34	9.68	10	3.41	0.29	2.7
	20	0.657	1.52	3.09	20	2.201	0.45	3.36	20	3.887	0.26	3.12	70	4.262	0.23	5.19	20	0.653	1.53	1.95	20	2.053	0.49	2.46	48	2.92	0.34	5.3	20	3.411	0.29	2.41
	30	0.657	1.52	3.12	30	2.195	0.46	3.17	32	3.876	0.26	3.05	100	4.182	0.24	3.36	30	0.653	1.53	1.95	30	2.051	0.49	2.48	60	2.984	0.34	5.38	30	3.416	0.29	2.39
	40	0.654	1.53	3.05	40	2.149	0.47	2.65	42	3.858	0.26	2.92					40	0.653	1.53	1.93	40	2.056	0.49	2.86	70	2.942	0.34	5.33	40	3.415	0.29	2.25
	50	0.653	1.53	2.69	50	2.239	0.45	3.56	52	3.854	0.26	2.85					50	0.653	1.53	1.86	50	2.053	0.49	2.24	84	3.071	0.33	1.96	50	3.422	0.29	2.21
	60	0.654	1.53	3.03	60	2.157	0.46	2.66	60	3.84	0.26	2.9					60	0.651	1.54	1.98	60	2.054	0.49	1.85	90	2.929	0.34	3.02	60	3.423	0.29	2.28
	70	0.51	1.96	2.54	70	2.168	0.46	2.98	70	3.876	0.26	2.57					70	0.645	1.55	2.17	70	2.051	0.49	1.97	98	2.923	0.34	2.54	76	3.482	0.29	3.3
	80	0.647	1.55	2.5	82	2.165	0.46	2.75	80	3.837	0.26	1.91					80	0.655	1.53	3.92	80	2.034	0.49	3.66					80	3.468	0.29	3.04
	90	0.647	1.55	2.6	92	2.196	0.46	3.1	90	3.768	0.27	1.94					90	0.628	1.59	6.18	90	2.008	0.50	3.43					94	3.487	0.29	2.31
	100	0.647	1.55	2.27	100	2.214	0.45	5.91	100	3.764	0.27	2.01					100	0.614	1.63	7.2	100	1.994	0.50	3.74					100	3.479	0.29	3.04
Summary		0.64	1.58	2.81		2.19	0.46	3.35		3.84	0.26	2.64		4.18	0.24	4.80		0.65	1.55	3.12		2.04	0.49	2.73		2.96	0.34	4.74		3.44	0.29	2.59
				2.27-7.81				2.65-5.91				1.91-3.87				3.36-5.84				1.86-7.2				2.46-4.15				1.96-9.68				2.11-3.04
SRIM	10	0.653	1.53	2.9	12	2.189	0.46	1.97	12	3.769	0.27	2.11	26	4.195	0.24	0.65	10	0.653	1.53	1.74	12	2.04	0.49	1.79	14	3.263	0.31	2.01	24	3.655	0.27	1.19
	22	0.655	1.53	2.47	20	2.01	0.50	0.33	20	3.869	0.26	1.87	34	4.146	0.24	0.72	20	0.67	1.49	1.7	22	2.093	0.48	2.88	30	3.236	0.31	1.46	70	3.748	0.27	0.45
	32	0.67	1.49	2.83	36	2.103	0.48	2.4	30	3.783	0.26	1.36	52	4.122	0.24	0.72	32	0.659	1.52	2.4	30	2.042	0.49	2.31	48	3.281	0.30	6.61	78	3.766	0.27	0.48
	42	0.664	1.51	3.35	40	2.07	0.48	1.01	44	3.809	0.26	1.08	56	4.01	0.25	0.11	40	0.653	1.53	2.16	40	1.955	0.51	0.41	60	3.128	0.32	0.74	82	3.763	0.27	0.39
	52	0.658	1.52	2.09	52	2.171	0.46	1.65	50	3.798	0.26	1.42	88	4.072	0.25	1.24	50	0.653	1.53	1.81	50	2.025	0.49	0.96	70	3.212	0.31	0.25	84	3.763	0.27	0.39
	62	0.55	1.82	2.32	60	2.147	0.47	0.53	64	3.77	0.27	0.66	92	4.167	0.24	0.3	60	0.651	1.54	1.75	62	2.002	0.50	0.48	80	3.123	0.32	0.31	88	3.771	0.27	0.44
	70	0.629	1.59	1.63	74	2.113	0.47	0.46	70	3.774	0.26	0.45	98	4.026	0.25	0.42	70	0.62	1.61	1.86	72	2.032	0.49	1.82	90	3.198	0.31	0.28	92	3.627	0.28	0.2
	80	0.626	1.60	1.7	80	2.045	0.49	0.83	82	3.821	0.26	0.31					80	0.663	1.51	1.02	82	2.042	0.49	1.77	98	3.17	0.32	0.55	96	3.63	0.28	0.27
	90	0.597	1.68	3.19	90	2.099	0.48	1.06	94	3.833	0.26	2.05					90	0.651	1.54	2.36	92	2.057	0.49	0.34					98	3.628	0.28	0.26
	100	0.657	1.52	0.75	100	2.066	0.48	1.01									96	0.635	1.57	1.8	98	2.026	0.49	1.3					100	3.633	0.28	0.26
Summary		0.64	1.58	2.32		2.10	0.48	1.13		3.80	0.26	1.26		4.11	0.24	0.59		0.65		1.86		2.03	0.49	1.41		3.20	0.31	1.53		3.70	0.27	0.43
				.75-3.38				.46-1.65				.31-2.11				.11-1.24				.66-2.36				.34-2.38				.28-6.61				.26-1.19
N4SID-IO	10	0.663	1.51	4.19	24	2.2	0.45	3.68	26	3.885	0.26	3.03	34	5.405	0.19	1.59	16	0.654	1.53	2.23	12	2.059	0.49	2.78	42	3.126	0.32	3.6	22	3.416	0.29	2.62
	20	0.658	1.52	3.38	34	2.186	0.46	4.1	36	3.864	0.26	3.06	38	5.381	0.19	2.28	20	0.654	1.53	2.19	22	2.05	0.49	2.81	68	3.042	0.33	3.17	30	3.417	0.29	2.39
	30	0.658	1.52	3.22	44	2.163	0.46	3.82	46	3.838	0.26	2.93	46	5.311	0.19	2.29	30	0.655	1.53	1.94	32	2.052	0.49	2.83	72	3.067	0.33	2.52	40	3.419	0.29	2.37
	40	0.644	1.55	3.91	54	2.176	0.46	3.33	56	3.866	0.26	3.24	54	5.347	0.19	2.37	40	0.654	1.53	2.2	42	2.052	0.49	2.98	80	3.042	0.33	5.98	50	3.427	0.29	2.57
	50	0.649	1.54	3.32	64	2.151	0.46	3.96	66	3.874	0.26	3.14	64	5.347	0.19	1.73	50	0.652	1.53	2.36	52	2.05	0.49	2.66	86	3.188	0.31	3.52	60	3.424	0.29	2.36
	60	0.649	1.54	3.22	74	2.049	0.49	2.58	86	3.808	0.26	1.96					60	0.651	1.54	2.35	62	2.048	0.49	2.44	88	3.167	0.32	3.8	70	3.424	0.29	2.45
	70	0.662	1.51	3.68	82	2.243	0.45	7.86	96	3.855	0.26	2.39					70	0.65	1.54	2.58	70	2.047	0.49	2.57	96	3.056	0.33	1.81	80	3.419	0.29	2.6
	80	0.649	1.54	2.87	96	2.185	0.46	3.41									80	0.649	1.54	2.29	80	2.047	0.49	2.29					90	3.399	0.29	2.18
	90	0.646	1.55	2.78													90	0.649	1.54	2.5	90	2.046	0.49	2.77					98	3.384	0.30	2.45
	100	0.646	1.55	2.34													100	0.648	1.54	2.28	100	2.057	0.49	2.66								
Summary		0.65	1.53	3.29		2.17	0.46	4.09		3.86	0.26	2.82		5.36	0.19	2.05		0.65	1.53	2.29		2.05	0.49	2.68		3.10	0.32	3.49		3.41	0.29	2.44
				2.34-4.19				2.58-7.86				1.87-3.03				1.59-2.29				1.72-2.58				2.29-7.1				1.81-5.98				2.18-2.62
Average		0.646043	1.551737	2.928929		2.164185	0.462373	3.038625		3.842704	0.26026	2.42781		4.465657	0.226651	3.086571		0.650621	1.153054	2.376286		2.0439	0.489318	2.316607		3.169487	0.316474	3.06442		4.460858	0.247789	1.582333

	Chatsworth_09Aug2007																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	28	0.712	1.40	3.69	28	2.334	0.43	2.79	70	3.494	0.29	2.61	NA				34	0.672	1.49	3.1	36	2.11	0.47	2.65	84	2.652	0.38	4.67	36	3.478	0.29	3.4
	38	0.71	1.41	3.1	38	2.339	0.43	2.73	94	3.528	0.28	0.78					40	0.671	1.49	2.52	46	2.114	0.47	2.48	90	2.691	0.37	4	46	3.544	0.28	2.63
	48	0.714	1.40	3	48	2.332	0.43	2.92	40	3.746	0.27	6.7					50	0.669	1.49	2.28	56	2.113	0.47	2.29	94	2.67	0.37	5.83	52	3.51	0.28	3.18
	58	0.713	1.40	2.95	58	2.338	0.43	3.04	90	3.724	0.27	7.68					60	0.671	1.49	2.39	66	2.116	0.47	2.16	96	2.596	0.39	5.54	62	3.496	0.29	2.63
	68	0.714	1.40	3.04	68	2.337	0.43	3.12	32	3.993	0.25	5.97					70	0.671	1.49	2.74	76	2.11	0.47	2.29					72	3.527	0.28	2.29
	78	0.715	1.40	3.53	78	2.335	0.43	2.94	48	4.092	0.24	3.87					82	0.671	1.49	3.09	86	2.114	0.47	3					82	3.528	0.28	1.7
	88	0.717	1.39	3.09	88	2.335	0.43	2.99	50	4.072	0.25	4.2					90	0.676	1.48	2.94	96	2.12	0.47	3.34					92	3.534	0.28	1.46
	98	0.716	1.40	2.9	98	2.326	0.43	3.1	52	4.095	0.24	4.02					96	0.676	1.48	3.58	100	2.11	0.47	2.9					96	3.537	0.28	1.52
Summary		0.71	1.40	3.16		2.33		2.95		3.84	0.26	4.48						0.67	1.49	2.83		2.11	0.47	2.64		2.65	0.38	5.01		3.52	0.28	2.35
				2.69-3.69				2.66-3.1				5.61-7.68								2.05-3.53				2.07-3.34				4-5.83				1.41-3.4
ARX	18	0.713	1.40	3.02	42	2.111	0.47	4.66	24	3.652	0.27	4.45	10	4.074	0.25	3.41	18	0.673	1.49	2.52	12	2.116	0.47	2.62	40	3.088	0.32	7.1	44	3.853	0.26	7
	28	0.713	1.40	2.92	50	2.124	0.47	7.28	34	3.661	0.27	3.29	14	4.075	0.25	3.79	28	0.673	1.49	2.4	22	2.11	0.47	2.39	58	2.913	0.34	8.74	48	3.805	0.26	4.91
	38	0.725	1.38	8.8	62	2.132	0.47	2.65	42	3.793	0.26	2.73	56	3.947	0.25	8.2	38	0.671	1.49	2.43	32	2.113	0.47	2.27	60	3.008	0.33	5.83	54	3.868	0.26	4.14
	48	0.715	1.40	3.24	10	2.333	0.43	2.88	52	3.682	0.27	3.66	88	3.986	0.25	1.76	48	0.669	1.49	2.27	42	2.11	0.47	2.31	66	3.071	0.33	1.22	56	3.881	0.26	3.79
	58	0.861	1.16	8.76	20	2.344	0.43	2.63	72	3.763	0.27	2.81					58	0.667	1.50	2.44	52	2.113	0.47	2.18	72	3.076	0.33	1.05	74	3.752	0.27	2.38
	68	0.715	1.40	3.53	30	2.333	0.43	2.84	76	3.674	0.27	3.67					68	0.655	1.53	4.84	62	2.094	0.48	2.98	88	2.924	0.34	4.74	76	3.71	0.27	2.96
	78	0.718	1.39	3.36	40	2.332	0.43	2.73	84	3.791	0.26	2.02					78	0.655	1.53	4.84	72	2.114	0.47	2.34	98	3.079	0.32	1.14	78	3.706	0.27	3.35
	90	0.719	1.39	2.8	50	2.338	0.43	3.32	96	3.639	0.27	1.89					86	0.678	1.47	1.99	82	2.092	0.48	2.47					80	3.749	0.27	2.89
	98	0.718	1.39	2.96	60	2.337	0.43	2.84									98	0.678	1.47	2.32	92	2.118	0.47	2.14					84	3.77	0.27	2
					74	2.344	0.43	2.83									100	0.676	1.48	2.71	100	2.091	0.48	2.09					92	3.792	0.26	2.48
Summary		0.73	1.37	4.38		2.27	0.44	3.47		3.71	0.27	3.07		4.02	0.25	4.29		0.67	1.49	3.60		2.11	0.47	2.38		3.02	0.33	4.26		3.79	0.26	3.59
				2.77-9.73				2.03-7.28				1.7-4.45				1.76-8.2				1.99-9.71				2.09-3.04				1.05-8.74				2.0-7.0
SRIM	8	0.713	1.40	2.85	30	2.28	0.44	2.74	20	4.057	0.25	1.29	34	4.297	0.23	0.32	10	0.672	1.49	2.21	10	2.112	0.47	2.02	6	3.474	0.29	1.91	28	3.644	0.27	0.48
	18	0.713	1.40	3.42	58	2.284	0.44	2.58	34	4.016	0.25	1.14	56	4.365	0.23	0.36	20	0.67	1.49	2.19	24	2.104	0.48	2.18	26	3.397	0.29	0.67	36	2.593	0.39	0.33
	28	0.7	1.43	3.52	6	2.333	0.43	2.43	44	3.953	0.25	0.61	64	4.308	0.23	0.14	30	0.668	1.50	1.67	30	2.079	0.48	2.35	46	3.42	0.29	0.88	38	3.59	0.28	0.16
	38	0.716	1.40	2.49	16	2.31	0.43	2.49	60	3.958	0.25	0.76	70	4.309	0.23	0.23	40	0.671	1.49	1.27	40	2.113	0.47	1.94	56	3.397	0.29	0.31	40	3.608	0.28	0.18
	48	0.717	1.39	3.13	32	2.379	0.42	2.62	70	4.097	0.24	1.27	78	4.307	0.23	0.24	52	0.674	1.48	1.69	50	2.107	0.47	1.93	66	3.31	0.30	0.3	42	3.675	0.27	0.37
	58	0.716	1.40	2.67	50	2.316	0.43	1.95	80	3.996	0.25	0.22	80	4.309	0.23	0.25	60	0.674	1.48	2.02	60	2.109	0.47	2.03	78	3.48	0.29	0.31	68	3.637	0.27	0.16
	68	0.717	1.39	2.71	60	2.31	0.43	2.86	90	3.944	0.25	0.68					70	0.675	1.48	1.94	70	2.119	0.47	1.65	86	3.324	0.30	0.72	90	3.593	0.28	0.06
	78	0.717	1.39	3.24	70	2.324	0.43	0.41	98	3.979	0.25	2.11					80	0.675	1.48	1.97	84	2.108	0.47	1.57	96	3.405	0.29	0.26				
	88	0.715	1.40	3.65	92	2.341	0.43	2.85									90	0.676	1.48	2.2	90	2.112	0.47	1.37								
	98	0.715	1.40	3.58	96	2.346	0.43	3									98	0.674	1.48	2.39	100	2.104	0.48	1.31								
Summary		0.71	1.40	3.13		2.32	0.43	2.39		4.00	0.25	1.01		4.32	0.23	0.26		0.67	1.49	1.96		2.11	0.47	1.84		3.40	0.29	0.67		3.48	0.29	0.25
				2.31-4.08				.23-3.88				.16-2.11				.14-.58				1.09-2.39				0.45-2.35				.3-1.91				.06-.48
N4SID-IO	20	0.72	1.39	5.75	16	2.336	0.43	3.48	18	3.873	0.26	9.58	40	4.232	0.24	3.54	22	0.679	1.47	3.86	16	2.107	0.47	3.59	42	3.399	0.29	8.31	30	3.503	0.29	2.43
	30	0.715	1.40	3.84	24	2.332	0.43	3.24	32	3.823	0.26	9.58	42	4.253	0.24	3.51	32	0.674	1.48	2.85	26	2.103	0.48	2.75	80	3.347	0.30	3.18	52	3.62	0.28	5.38
	40	0.715	1.40	3.59	34	2.333	0.43	2.95	60	3.988	0.25	8.63	88	4.228	0.24	4.03	42	0.671	1.49	3.37	36	2.11	0.47	2.33	90	3.375	0.30	3.21	60	3.577	0.28	6.64
	52	0.717	1.39	3.88	44	2.328	0.43	3.2	74	3.937	0.25	3.48	92	4.384	0.23	3.33	52	0.671	1.49	3.45	46	2.108	0.47	2.65					74	3.591	0.28	6.39
	60	0.716	1.40	3.79	54	2.333	0.43	3.24	84	3.922	0.25	2.15	100	4.307	0.23	3.58	62	0.661	1.51	3.25	56	2.112	0.47	2.57					84	3.532	0.28	4.27
	70	0.719	1.39	3.45	62	2.331	0.43	3.47	90	3.88	0.26	2.41					78	0.669	1.49	3.1	66	2.105	0.48	2.69					92	3.567	0.28	2.85
	80	0.713	1.40	3.27	72	2.331	0.43	3.06	100	3.925	0.25	2.42					80	0.668	1.50	3.41	76	2.107	0.47	2.49					56	3.726	0.27	7.62
	92	0.714	1.40	3.44	82	2.325	0.43	3.51									90	0.727	1.38	9.72	86	2.103	0.48	3.61					72	3.875	0.26	1.83
	100	0.713	1.40	3.67	92	2.335	0.43	2.95									100	0.678	1.47	3.13	98	2.102	0.48	2.48					86	3.821	0.26	3.43
Summary		0.72	1.40	3.62		2.33	0.43	3.23		3.91	0.26	5.46		4.28	0.23	3.60		0.68	1.48	4.02		2.11	0.47	2.80		3.37	0.30	4.90		3.65	0.27	4.54
				3.26-5.75				2.76-3.57				2-9.58				3.33-4.03				3.79-9.72				2.31-3.59				3.18-8.31				1.83-7.62
Average		0.719138	1.391888	3.570354		2.315289	0.325105	3.011521		3.864183	0.259274	3.504509		3.154283	0.178532	2.036167		0.67302	1.486183	3.098889		2.108377	0.474305	2.412076		3.112376	0.324667	3.71		3.607693	0.278593	2.6819

	chinohills_29jul2008																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	34	0.666	1.50	3.71	28	2.164	0.46	3.25	54	3.223	0.31	4.46	30	3.813	0.26	6.72	40	0.643	1.56	2.03	34	2.005	0.50	3.14	72	2.722	0.37	4.13	38	3.269	0.31	3.95
	44	0.666	1.50	3.28	38	2.166	0.46	4.33	56	3.279	0.30	5.16	40	3.892	0.26	4.63	44	0.643	1.56	2.05	44	2.019	0.50	3.07	88	2.83	0.35	1.29	46	3.261	0.31	4.56
	54	0.664	1.51	3.31	48	2.165	0.46	5.2	58	3.267	0.31	4.43	50	3.865	0.26	5.71	54	0.643	1.56	1.6	54	2.022	0.49	3.65					52	3.284	0.30	4.19
	64	0.667	1.50	3.41	58	2.158	0.46	4.65	80	3.249	0.31	6.7	60	3.86	0.26	5.84	58	0.644	1.55	1.97	64	2.027	0.49	3.26					62	3.277	0.31	3.7
	74	0.665	1.50	3.43	68	2.161	0.46	4.74	84	3.203	0.31	5.4	38	3.901	0.26	4.77	64	0.642	1.56	2	74	2.021	0.49	2.88					72	3.271	0.31	2.85
	84	0.662	1.51	3.41	78	2.172	0.46	5.27	86	3.23	0.31	5.5	80	4.016	0.25	3.62	68	0.642	1.56	2.19	86	2.021	0.49	3					82	3.266	0.31	2.85
	94	0.66	1.52	3.65	84	2.15	0.47	4.88					92	4.002	0.25	4.95	74	0.642	1.56	2.23	94	2.028	0.49	3.05					92	3.262	0.31	3.01
	100	0.66	1.52	3.81									100	4.088	0.24	2.33	78	0.641	1.56	2.48	100	2.019	0.50	3.25					100	3.254	0.31	3.38
																	84	0.642	1.56	2.45												
																	94	0.642	1.56	2.63												
Summary		0.66	1.51	3.50		2.16	0.46	4.62		3.24	0.31	5.28		3.93	0.25	4.82		0.64	1.56	2.16		2.02	0.49	3.16		2.78	0.36	2.71		3.27	0.31	3.56
				3.22-4.09				4.18-5.27				4.43-5.5				2.33-6.72				1.6-2.63				2.43-3.26				1.29-4.13				2.48-4.68
ARX	12	0.667	1.50	4.01	10	2.159	0.46	3.62	50	3.165	0.32	9.6	6	3.872	0.26	6.09	20	0.645	1.55	2.24	10	2.013	0.50	2.65	24	3.017	0.33	9.5	24	3.301	0.30	3.36
	22	0.666	1.50	3.65	22	2.171	0.46	4.06	66	3.28	0.30	7.12	16	3.94	0.25	4.98	30	0.645	1.55	2.17	20	2.017	0.50	3.02	28	2.93	0.34	8.95	60	3.457	0.29	7.08
	32	0.666	1.50	3.57	32	2.154	0.46	3.84	76	3.103	0.32	6.4	26	3.916	0.26	4.62	40	0.644	1.55	2.2	30	2.023	0.49	3.23	62	2.991	0.33	4.28	64	3.425	0.29	6.25
	42	0.664	1.51	3.62	42	2.189	0.46	5.36	86	3.117	0.32	4.01	52	3.991	0.25	1.41	52	0.644	1.55	2.41	40	2.019	0.50	3.36	68	3.092	0.32	3	70	3.33	0.30	4.22
	52	0.664	1.51	3.7	52	2.165	0.46	3.19	96	3.192	0.31	3.37	66	3.974	0.25	1.67	60	0.654	1.53	3.89	50	2.034	0.49	3.18	72	2.985	0.34	2.38	74	3.312	0.30	4.16
	62	0.661	1.51	3.92	62	2.164	0.46	3.94	34	2.575	0.39	9.83	88	3.934	0.25	2.49	70	0.649	1.54	2.88	60	2.034	0.49	3.47	78	3.098	0.32	2.51	80	3.309	0.30	5.22
	72	0.657	1.52	3.79	72	2.167	0.46	2.17	52	2.594	0.39	6.52	96	3.905	0.26	3.21	80	0.679	1.47	4.89	70	2.014	0.50	6.12	82	2.996	0.33	3.55	86	3.323	0.30	3.11
	84	0.658	1.52	4.39	82	2.157	0.46	2.02	64	2.668	0.37	3.64	54	4.25	0.24	3.54	90	0.668	1.50	3.34	80	2.036	0.49	2.95	86	2.999	0.33	2.35	90	3.337	0.30	2.69
	92	0.704	1.42	5.89	90	2.179	0.46	4.64	76	2.6	0.38	3.62	74	4.209	0.24	4.41	100	0.663	1.51	4.46	92	2.029	0.49	2.26	92	2.996	0.33	2.01	94	3.46	0.29	2.6
	100	0.685	1.46	5.8	100	2.168	0.46	1.95	86	2.679	0.37	1.28	80	4.236	0.24	1.65					100	2.057	0.49	2.55	96	3.003	0.33	1.86	98	3.378	0.30	6.03
Summary		0.67	1.49	4.23		2.17	0.46	3.48		2.90	0.35	5.54		4.02	0.25	3.41		0.65	1.53	3.16		2.03	0.49	3.28		3.01	0.33	4.04		3.36	0.30	4.47
				3.32-5.8				1.95-5.71				1.2-9.83				1.31-6.09				2.15-8.17				1.89-6.12				1.86-9.5				2.07-7.08
SRIM	10	0.665	1.50	3.48	6	2.175	0.46	3.7	12	3.779	0.26	3.36	24	4.271	0.23	0.34	10	0.645	1.55	2.17	12	1.934	0.52	4.42	10	3.241	0.31	2.02	18	3.439	0.29	2.26
	20	0.659	1.52	3.25	14	2.24	0.45	3.31	24	3.77	0.27	3.68	26	4.293	0.23	0.32	20	0.644	1.55	2.19	20	2.007	0.50	2.29	18	3.238	0.31	3.55	34	3.386	0.30	2.68
	30	0.658	1.52	3.19	26	2.169	0.46	3.45	30	3.777	0.26	3.13	62	4.205	0.24	0.45	30	0.643	1.56	2.23	32	1.936	0.52	0.78	32	3.296	0.30	1.83	42	3.407	0.29	1.63
	42	0.669	1.49	2.84	36	2.174	0.46	2.63	40	3.652	0.27	3.12	76	4.198	0.24	0.35	40	0.639	1.56	1.87	40	1.923	0.52	1.39	36	3.255	0.31	2.37	52	3.353	0.30	2.6
	50	0.666	1.50	3.3	46	2.113	0.47	2.68	50	3.757	0.27	3.12	78	4.201	0.24	0.35	50	0.646	1.55	1.75	60	2.014	0.50	2.69	46	3.256	0.31	1.67	90	3.355	0.30	0.77
	60	0.662	1.51	3.14	56	2.171	0.46	2.97	74	3.764	0.27	0.87	82	4.147	0.24	0.22	60	0.646	1.55	1.85	68	2.04	0.49	1.87	58	3.27	0.31	2.59	98	3.358	0.30	1.22
	72	0.668	1.50	2.07	62	2.163	0.46	3.55	84	3.798	0.26	0.21	96	4.282	0.23	0.53	70	0.661	1.51	1.09	76	2.031	0.49	3.49	68	3.223	0.31	1.01	36	3.587	0.28	0.67
	78	0.668	1.50	2.74	72	2.295	0.44	1.38	94	3.666	0.27	0.14					80	0.652	1.53	1.79	80	1.945	0.51	1.2	70	3.246	0.31	1.97	48	3.673	0.27	0.59
	94	0.666	1.50	3.01	80	2.177	0.46	3.26	98	3.699	0.27	3.82					96	0.646	1.55	1.38	90	2.034	0.49	1.95	80	3.166	0.32	0.27	52	3.56	0.28	0.43
	98	0.66	1.52	3.07	96	2.161	0.46	3.78													96	2.02	0.50	3.03	90	3.177	0.31	0.43	96	3.687	0.27	0.42
Summary		0.66	1.51	3.01		2.18	0.46	3.07		3.74	0.27	2.38		4.23	0.24	0.37		0.65	1.55	1.81		1.99	0.50	2.31		3.24	0.31	1.77		3.48	0.29	1.33
				2.07-3.78				.71-3.7				.14-4.01				.22-.53				.68-2.92				.85-4.42				.27-3.55				.42-2.6
N4SID-IO	16	0.676	1.48	5.57	12	2.159	0.46	4.03	36	3.793	0.26	7.03	32	4.117	0.24	6.02	20	0.649	1.54	3.39	14	2.013	0.50	3.37	58	2.932	0.34	3.06	12	3.253	0.31	4.9
	26	0.666	1.50	4.13	22	2.164	0.46	4.52	46	3.775	0.26	6.19	48	4.115	0.24	2.21	30	0.645	1.55	2.89	20	2.018	0.50	3.07	66	2.964	0.34	1.23	20	3.278	0.31	4.19
	36	0.666	1.50	3.96	32	2.153	0.46	4.28	58	3.777	0.26	4.41	50	4.195	0.24	2.43	40	0.645	1.55	2.43	30	2.018	0.50	3.53	70	2.974	0.34	1.96	30	3.272	0.31	4.29
	46	0.664	1.51	4.31	40	2.152	0.46	4.32	66	3.78	0.26	2.92	56	4.159	0.24	2.22	50	0.644	1.55	2.64	40	2.018	0.50	3.46	86	2.954	0.34	1.38	40	3.285	0.30	5.09
	56	0.664	1.51	4.49	52	2.151	0.46	3.84	76	3.738	0.27	6.03	98	4.192	0.24	1.72	60	0.645	1.55	2.72	50	2.03	0.49	3.48	90	3.009	0.33	3.08	50	3.291	0.30	4.5
	66	0.664	1.51	4.49	62	2.161	0.46	3.67	86	3.706	0.27	2.5					70	0.645	1.55	2.76	64	2.041	0.49	5.02	96	3.095	0.32	2.45	60	3.346	0.30	3.82
	74	0.66	1.52	4.38	72	2.158	0.46	3.27	96	3.745	0.27	3.06					80	0.645	1.55	2.65	70	2.03	0.49	3.5	100	3.067	0.33	7.1	70	3.241	0.31	4.09
	86	0.662	1.51	4.77	82	2.157	0.46	2.89	100	3.733	0.27	3.21					90	0.645	1.55	2.68	84	2.034	0.49	3.64					86	3.293	0.30	6.5
	96	0.663	1.51	4.58	92	2.167	0.46	2.79									98	0.644	1.55	2.64	92	1.924	0.52	4.22					92	3.32	0.30	3.13
	100	0.662	1.51	4.7	100	2.17	0.46	3.17													100	2.04	0.49	3.67					98	3.338	0.30	2.5
Summary		0.66	1.50	4.54		2.16	0.46	3.68		3.76	0.27	3.54		4.16	0.24	2.92		0.65	1.55	2.76		2.02	0.50	3.70		3.00	0.33	2.89		3.29	0.30	4.30
				3.95-5.57				2.89-4.7				2.41-9.7				1.72-6.02				2.43-6.64				2.88-7.05				.99-7.1				2.5-6.5
Average		0.665438	1.502972	3.820563		2.168146	0.461288	3.711286		3.408808	0.297635	4.183083						0.647267	1.545193	2.474083		2.013213	0.49685	3.112125	0	3.005696	0.333779	2.853571				

	Encino_17mar2014_15476961																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	32	0.67	1.49	3.64	32	2.105	0.48	5.36	34	3.725	0.27	2.56	86	4.412	0.23	1.64	50	0.635	1.57	2.91	34	1.942	0.51	3.52	94	2.234	0.45	1.57	38	3.119	0.32	3.77
	42	0.666	1.50	3.81	44	2.148	0.47	3.08	36	3.768	0.27	2.48					60	0.633	1.58	2.58	40	1.939	0.52	4.18	96	2.225	0.45	1.81	40	3.12	0.32	3.49
	50	0.688	1.45	3.64	52	2.125	0.47	3.34	42	3.722	0.27	3.12					70	0.626	1.60	2.71	50	1.947	0.51	4.24	100	2.214	0.45	1.33	44	3.109	0.32	3.51
	60	0.676	1.48	4.45	60	2.098	0.48	2.99	46	3.744	0.27	3.73					80	0.626	1.60	2.35	56	1.948	0.51	4.15					50	3.128	0.32	4.7
	72	0.686	1.46	3.76	70	2.111	0.47	3.29	50	3.737	0.27	3.02					90	0.629	1.59	2.44	72	1.94	0.52	2.69					54	3.149	0.32	4.77
	86	0.696	1.44	3.09	80	2.107	0.47	3.34	52	3.728	0.27	3.23					100	0.627	1.59	2.68	82	1.956	0.51	2.94					60	3.131	0.32	6.3
	94	0.6	1.67	6.51	90	2.12	0.47	4.06	62	3.744	0.27	4.12									90	1.955	0.51	2.86					62	3.15	0.32	5.85
					98	2.169	0.46	4.28	54	3.746	0.27	4.35									98	1.957	0.51	2.95					68	3.101	0.32	6.67
									66	3.765	0.27	4.57																				
Summary		0.67	1.50	4.13		2.12	0.47	3.72		3.74	0.27	3.46		4.41	0.23	1.64		0.63	1.59	2.61		1.95	0.51	3.44		2.22	0.45	1.57		3.13	0.32	4.88
				3.09-6.51				2.99-5.36				2.48-4.57								2.23-2.91				2.69-4.52				1.33-1.81				3.49-6.3
ARX	30	0.667	1.50	3.43	10	2.122	0.47	3.99	40	3.383	0.30	4.49	42	4.426	0.23	3.34	22	0.634	1.58	2.49	12	1.95	0.51	2.96	10	3.076	0.33	7.57	80	4.296	0.23	1.39
	40	0.665	1.50	3.07	20	2.133	0.47	4.03	62	3.328	0.30	2.72	56	4.431	0.23	3.25	30	0.633	1.58	2.39	20	1.947	0.51	3.56	22	3.095	0.32	4.81	90	4.302	0.23	0.9
	50	0.661	1.51	3.23	30	2.097	0.48	5.26	64	3.367	0.30	2.85	62	4.483	0.22	1.91	40	0.632	1.58	2.34	34	1.844	0.54	8.05	32	3.073	0.33	5.85	94	4.299	0.23	0.89
	62	0.66	1.52	2.24	40	2.14	0.47	3.68	66	3.301	0.30	2.67	70	4.448	0.22	2.46	50	0.634	1.58	2.43	38	1.988	0.50	2.42	40	3.038	0.33	4.26	100	4.299	0.23	1.28
	74	0.677	1.48	1.54	56	2.131	0.47	3	70	3.34	0.30	3.18	74	4.395	0.23	5.23	60	0.634	1.58	2.54	42	1.979	0.51	6.57	52	3.147	0.32	1.37				
	78	0.685	1.46	1.84	60	2.146	0.47	3.22	72	3.36	0.30	2.56	84	4.303	0.23	2.8	70	0.634	1.58	2.98	50	1.923	0.52	4.88	60	3.111	0.32	5.59				
	88	0.687	1.46	2.23	70	2.119	0.47	2.86	74	3.373	0.30	2.78	86	4.308	0.23	2.68	80	0.677	1.48	2.43	60	1.944	0.51	3.58	70	3.155	0.32	1.56				
	90	0.661	1.51	6.25	80	2.133	0.47	2.7	80	3.358	0.30	2.06	96	4.474	0.22	1.32	90	0.633	1.58	4.59	72	1.928	0.52	3.39	80	3.101	0.32	2.33				
	98	0.663	1.51	7.56	88	2.115	0.47	3.8	82	3.361	0.30	1.97	100	4.486	0.22	1.62	100	0.638	1.57	5.4	80	1.921	0.52	3.07	92	3.073	0.33	1.3				
					98	2.126	0.47	3.25	84	3.359	0.30	1.89									94	1.91	0.52	2.81	100	3.061	0.33	1.63				
Summary		0.67	1.49	3.49		2.13	0.47	3.58		3.35	0.30	2.72		4.42	0.23	2.73		0.64	1.57	3.07		1.93	0.52	4.13		3.09	0.32	3.63		4.30	0.23	1.12
				1.03-7.56				2.7-8.62				1.89-4.49				1.32-5.71				2.43-4.59				2.81-8.05				1.3-7.57				.89-1.39
SRIM	8	0.67	1.49	3.89	62	1.941	0.52	1.07	4	3.638	0.27	4.18	24	4.386	0.23	1.88	12	0.634	1.58	2.27	6	1.953	0.51	2.99	10	3.062	0.33	4.17	12	6.841	0.15	1.42
	18	0.667	1.50	2.85	70	1.943	0.51	0.71	32	3.699	0.27	3.87	26	4.416	0.23	2.07	20	0.634	1.58	2.18	20	1.945	0.51	2.98	40	2.985	0.34	3.81	44	6.947	0.14	0.7
	20	0.668	1.50	2.75	78	2.065	0.48	3.98	40	3.696	0.27	3.66	36	4.44	0.23	1.07	32	0.631	1.58	4	32	1.94	0.52	3.5	50	3.051	0.33	1.15	50	6.931	0.14	1.09
	32	0.677	1.48	4.88	72	2.068	0.48	0.85	46	3.505	0.29	0.71	44	4.423	0.23	1.1	40	0.629	1.59	3.35	64	2.011	0.50	0.23	58	3.05	0.33	1.15	64	6.942	0.14	0.8
	40	0.665	1.50	4.74	90	2.087	0.48	4.61	54	3.506	0.29	0.73	70	4.426	0.23	0.61	50	0.63	1.59	3.59	68	2.041	0.49	2	66	3.059	0.33	0.74	70	6.931	0.14	0.9
	50	0.655	1.53	6.24	94	2.002	0.50	0.94	60	3.62	0.28	1.09	76	4.436	0.23	0.72	60	0.627	1.59	5.45	70	2.047	0.49	1.98	70	3.04	0.33	1.38	86	6.99	0.14	0.06
	66	0.667	1.50	0.73	96	2.008	0.50	0.99	68	3.605	0.28	0.77	80	4.443	0.23	0.76	70	0.623	1.61	4.95	80	2.057	0.49	2.15	80	3.055	0.33	1.17	96	6.914	0.14	0.52
	78	0.645	1.55	5.45	100	2.037	0.49	1.59	78	3.592	0.28	0.76	84	4.446	0.22	0.67	82	0.615	1.63	5.09	90	2.013	0.50	0.3	90	3.038	0.33	0.86	98	6.917	0.14	0.59
	90	0.658	1.52	6.82					86	3.593	0.28	0.75	90	4.357	0.23	0.1	88	0.62	1.61	4.43	98	2.027	0.49	1.77	98	3.078	0.32	1.4				
	100	0.653	1.53	6.56					90	3.588	0.28	0.8					100	0.654	1.53	1.41												
Summary		0.66	1.51	4.49		2.02	0.50	1.84		3.60	0.28	1.73		4.42	0.23	1.00		0.63	1.59	3.67		2.00	0.50	1.79		3.05	0.33	1.76		6.93	0.14	0.76
				.73-7.1				.71-4.61				.71-4.18				.1-2.07				1.13-5.7				.23-3.06				.74-4.17				.06-1.42
N4SID-IO	24	0.671	1.49	7.85	14	2.105	0.48	4.21	38	3.488	0.29	7.13	22	3.805	0.26	3.52	24	0.64	1.56	6.05	16	1.947	0.51	4.1	28	3.119	0.32	5.6	20	3.977	0.25	8.78
	30	0.668	1.50	5.15	20	2.137	0.47	4.56	60	3.354	0.30	4.08	30	3.806	0.26	3.2	34	0.633	1.58	4.12	24	1.951	0.51	4.59	34	3.125	0.32	6.48	46	4.094	0.24	3.63
	48	0.657	1.52	3.53	26	2.128	0.47	4.52	66	3.302	0.30	5.52	42	3.824	0.26	3	40	0.632	1.58	3.73	32	1.95	0.51	3.82	40	3.168	0.32	6.94	92	4.087	0.24	1.22
	52	0.662	1.51	4.25	36	2.135	0.47	4.85	72	3.368	0.30	4.04	50	3.831	0.26	2.87	50	0.632	1.58	3.47	40	1.981	0.50	3.95	52	3.174	0.32	3.84				
	68	0.67	1.49	4.91	40	2.146	0.47	4.72	76	3.31	0.30	4.2	58	3.835	0.26	2.49	62	0.634	1.58	3.56	52	1.99	0.50	4.49	60	3.026	0.33	6.01				
	72	0.664	1.51	5.43	60	2.131	0.47	3.69	88	3.361	0.30	2.82	64	3.848	0.26	2.11	70	0.637	1.57	3.42	62	1.903	0.53	3.29	72	3.047	0.33	4.05				
	82	0.681	1.47	4.13	70	2.14	0.47	3.37	90	3.391	0.29	3.08	74	3.865	0.26	1.57	80	0.637	1.57	3.96	70	1.955	0.51	3.56	82	3.057	0.33	4.32				
	90	0.672	1.49	3.08	80	2.126	0.47	3.29	98	3.343	0.30	2.29	80	3.857	0.26	1.7	92	0.633	1.58	3.04	84	1.914	0.52	4.35	90	3.18	0.31	1.52				
	96	0.674	1.48	3.83	92	2.125	0.47	3.27	100	3.357	0.30	2.24	92	3.85	0.26	2.08	100	0.639	1.56	3.22	92	1.908	0.52	2.28	100	3.05	0.33	2.09				
					96	2.129	0.47	3.45					98	3.835	0.26	2.75																
Summary		0.67	1.50	4.68		2.13	0.47	3.99		3.36	0.30	3.93		3.84	0.26	2.53		0.64	1.57	3.84		1.94	0.51	3.83		3.11	0.32	4.54		4.05	0.25	4.54
				3.08-7.85				3.1-4.72				2.19-7.13				1.57-3.52				2.91-6.05				2.28-4.64				1.52-6.94				1.22-8.78
Average		0.667423	1.499319	4.197948		2.099538	0.476641	3.283		3.515772	0.285094	2.961694		4.270983	0.235028	1.975306		0.633258	1.579483	3.297583		1.957378	0.511126	3.296451		2.867222	0.355841	2.873694		4.601042	0.235925	2.825208

	Landers92																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	30	0.391	2.56	4.07	22	1.385	0.72	5.41	30	2.427	0.41	8.46	36	3.276	0.31	4.64	28	0.366	2.73	4.41	22	1.312	0.76	5.9	22	2.35	0.43	6.46	34	3.017	0.33	5
	40	0.391	2.56	3.38	30	1.389	0.72	7.11	48	2.479	0.40	4.91	40	3.278	0.31	3.44	32	0.362	2.76	4.8	34	1.317	0.76	6.07	26	2.339	0.43	5.79	36	3.015	0.33	5.02
	44	0.393	2.54	3.41	40	1.358	0.74	6.23	78	2.411	0.41	5.14	98	3.2	0.31	0.64	42	0.363	2.75	5.72	42	1.311	0.76	6.07	38	2.303	0.43	3.82	40	3.011	0.33	3.25
	58	0.397	2.52	7.61	50	1.354	0.74	6.05	82	2.413	0.41	4.43	100	3.2	0.31	0.66	54	0.356	2.81	5.07	48	1.305	0.77	5.31	66	2.285	0.44	6.79	42	3.016	0.33	3.11
	60	0.398	2.51	7.67	60	1.322	0.76	5.26	96	2.376	0.42	3.21					62	0.357	2.80	8.17	64	1.306	0.77	5.01	70	2.356	0.42	6.56	46	2.99	0.33	4.06
	70	0.395	2.53	6.55	70	1.333	0.75	4.11	98	2.358	0.42	3.06					72	0.35	2.86	5.71	74	1.32	0.76	4.53	74	2.257	0.44	3.32	62	3.054	0.33	2.42
	80	0.393	2.54	6.75	74	1.314	0.76	3.95									80	0.354	2.82	3.8	82	1.317	0.76	4.49					82	3.042	0.33	1.81
																	90	0.355	2.82	2.4	92	1.318	0.76	6.39					90	3.062	0.33	1.2
																	96	0.358	2.79	2.86	100	1.303	0.77	6.64					92	3.058	0.33	1.25
																													96	3.048	0.33	1.01
Summary		0.39	2.54	5.63		1.35	0.74	5.45		2.41	0.41	4.87		3.24	0.31	2.35		0.36	2.79	4.77		1.31	0.76	5.60		2.32	0.43	5.46		3.03	0.33	2.81
				3.17-8.4				3.95-7.63				3.06-8.46				.64-4.64				2.4-8.17				4.49-6.64				3.32-6.79				1.01-5.02
ARX	10	0.39	2.56	4.76	10	1.385	0.72	6.24	8	2.549	0.39	4.21	42	3.316	0.30	1.16	10	0.362	2.76	5.16	10	1.298	0.77	5.87	10	2.336	0.43	5.56	16	2.943	0.34	7.33
	20	0.385	2.60	5.18	20	1.383	0.72	6.37	16	2.541	0.39	5.04	50	3.309	0.30	0.88	20	0.359	2.79	4.43	24	1.311	0.76	5.62	34	2.233	0.45	8.24	22	3.007	0.33	5.06
	30	0.383	2.61	5.8	36	1.364	0.73	6.71	34	2.427	0.41	3.24	60	3.321	0.30	0.65	30	0.358	2.79	3.98	32	1.31	0.76	4.82	36	2.265	0.44	8.15	32	3.018	0.33	2.86
	42	0.38	2.63	6.03	40	1.336	0.75	5.47	40	2.593	0.39	3.07	74	3.319	0.30	2.76	40	0.358	2.79	3.71	40	1.322	0.76	5.09	48	2.231	0.45	5.02	48	3.057	0.33	1.95
	50	0.379	2.64	5.64	52	1.325	0.75	4.24	50	2.59	0.39	1.82	78	3.235	0.31	2.35	50	0.359	2.79	3.27	52	1.304	0.77	5.74	52	2.234	0.45	3.93	52	3.053	0.33	1.45
	60	0.376	2.66	5.34	54	1.32	0.76	4.48	62	2.586	0.39	1.8	88	3.34	0.30	0.99	60	0.358	2.79	3.06	64	1.301	0.77	7.94	60	2.252	0.44	3.52	58	3.044	0.33	1.99
	72	0.371	2.70	5.16	64	1.32	0.76	2.78	70	2.443	0.41	4.79	90	3.334	0.30	0.99	72	0.359	2.79	3.14	70	1.273	0.79	5.99	72	2.273	0.44	1.26	60	3.026	0.33	2.07
	82	0.369	2.71	5.29	82	1.241	0.81	5.72	80	2.572	0.39	2.52	100	3.301	0.30	0.84	80	0.359	2.79	3.16	80	1.317	0.76	3.05	82	2.358	0.42	5.75	70	3.056	0.33	2.17
	92	0.373	2.68	7.83	86	1.317	0.76	8.15	88	2.575	0.39	1.46					90	0.361	2.77	3.35	92	1.326	0.75	3.33	88	2.303	0.43	8.04	98	3.02	0.33	0.73
	100	0.381	2.62	7.48	96	1.223	0.82	5.49	100	2.426	0.41	0.68					100	0.362	2.76	2.96	100	1.323	0.76	2.85	96	2.226	0.45	6.05	100	3.017	0.33	0.72
Summary		0.38	2.64	5.85		1.32	0.76	5.57		2.53	0.40	2.86		3.31	0.30	1.33		0.36	2.78	3.62		1.31	0.76	5.03		2.27	0.44	5.55		3.02	0.33	2.63
				4.76-7.48				2.78-6.71				.68-5.04				.84-2.97				2.96-5.16				1.94-7.94				1.26-8.15				.72-5.06
SRIM	8	0.385	2.60	5.49	4	1.363	0.73	4.34	18	2.384	0.42	2.9	12	3.267	0.31	0.68	6	0.359	2.79	4.68	12	1.3	0.77	4.41	12	2.248	0.44	4.81	34	3.04	0.33	0.84
	16	0.381	2.62	5.46	50	1.393	0.72	1.58	30	2.35	0.43	1.57	16	3.318	0.30	1.04	12	0.359	2.79	3.28	20	1.369	0.73	1.5	22	2.272	0.44	2.48	40	2.999	0.33	1.09
	24	0.383	2.61	4.88	62	1.283	0.78	1.03	40	2.337	0.43	1.79	42	3.31	0.30	0.76	20	0.361	2.77	2.84	30	1.34	0.75	2.18	32	2.307	0.43	3.43	70	3.02	0.33	1.31
	36	0.368	2.72	6.58	72	1.25	0.80	1.5	64	2.209	0.45	0.76	54	3.343	0.30	0.65	30	0.361	2.77	3.18	42	1.311	0.76	5.3	42	2.371	0.42	0.73	78	3.021	0.33	0.14
	44	0.38	2.63	6.24	80	1.222	0.82	2.87	72	2.319	0.43	0.58	64	3.388	0.30	0.62	40	0.365	2.74	3.89	58	1.302	0.77	5.19	64	2.258	0.44	0.71	86	3.006	0.33	0.6
	52	0.384	2.60	3.11	86	1.227	0.81	4.03	86	2.288	0.44	1.7	70	3.334	0.30	0.5	52	0.367	2.72	3.36	60	1.299	0.77	5.03	70	2.315	0.43	0.11				
	72	0.377	2.65	6.23	88	1.385	0.72	9.05	98	2.29	0.44	1.96	86	3.327	0.30	0.93	60	0.366	2.73	3.6	72	1.302	0.77	5.53	80	2.36	0.42	0.57				
	82	0.37	2.70	5.45									88	3.318	0.30	0.95	70	0.366	2.73	2.7	84	1.323	0.76	2.67	92	2.327	0.43	0.81				
	96	0.385	2.60	4.17													80	0.366	2.73	2.86	90	1.217	0.82	3.27	100	2.282	0.44	4.89				
	100	0.39	2.56	4.53													90	0.362	2.76	2.59	100	1.296	0.77	4.27								
Summary		0.38	2.63	5.21		1.30	0.77	3.49		2.31	0.43	1.61		3.33	0.30	0.77		0.36	2.75	3.30		1.31	0.77	3.94		2.30	0.43	1.85		3.02	0.33	0.80
								1.03-9.24				.58-1.79				.5-1.04				2.18-4.68				1.5-7.78				.11-4.89				.6-1.31
N4SID-IO	10	0.395	2.53	7	10	1.391	0.72	7.05	36	2.415	0.41	4.06	46	3.222	0.31	2.48	12	0.367	2.72	6.76	10	1.306	0.77	6.4	26	2.318	0.43	5.47	24	3.092	0.32	3.21
	22	0.388	2.58	6.19	18	1.44	0.69	7.14	46	2.393	0.42	3.51	48	3.322	0.30	1.46	22	0.36	2.78	4.66	20	1.317	0.76	6.45	32	2.221	0.45	4.33	96	2.91	0.34	1.61
	30	0.385	2.60	6.87	32	1.483	0.67	5.92	48	2.391	0.42	5.54	60	3.213	0.31	1.62	30	0.361	2.77	4.5	30	1.312	0.76	6.42	36	2.259	0.44	6.05				
	40	0.379	2.64	6.09	50	1.496	0.67	6.23	56	2.326	0.43	3.24	98	3.378	0.30	1.18	40	0.358	2.79	4.42	42	1.313	0.76	5.17	40	2.263	0.44	6.22				
	50	0.376	2.66	7.14	58	1.5	0.67	3.92	66	2.376	0.42	3.1					50	0.357	2.80	3.66	50	1.288	0.78	4.32	46	2.264	0.44	5.81				
	60	0.371	2.70	5.29	64	1.428	0.70	5.2	74	2.41	0.41	2.73					60	0.357	2.80	3.86	70	1.294	0.77	7.14	58	2.229	0.45	5.04				
	76	0.373	2.68	7.09	74	1.306	0.77	3.6	78	2.426	0.41	1.87					70	0.358	2.79	3.71	78	1.317	0.76	4.79	90	2.368	0.42	2.2				
	80	0.374	2.67	5.91	90	1.369	0.73	3.25	84	2.429	0.41	1.43					80	0.36	2.78	4.09	84	1.305	0.77	6.28	98	2.231	0.45	2.75				
	92	0.372	2.69	5.72	92	1.442	0.69	4.18	92	2.41	0.41	1.27					92	0.36	2.78	4.03												
	98	0.368	2.72	2.78													98	0.36	2.78	4.5												
Summary		0.38	2.65	6.01		1.43	0.70	5.17		2.40	0.42	2.97		3.28	0.30	1.69		0.36	2.78	4.42		1.31	0.77	5.87		2.27	0.44	4.73		3.00	0.33	2.41
				2.78-7.60				3.25-7.49				1.27-4.06				1.18-2.48				3.63-6.76				2.2-7.14				2.2-6.22				1.61-3.21
Average		0.382775	2.613953	5.676821		1.350933	0.742368	4.915496		2.4123	0.415141	3.078032		3.289313	0.304103	1.530938		0.360097	2.777326	4.027528		1.308253	0.764578	5.10934		2.289917	0.436879	4.399104		3.0184	0.331399	2.163

	Northridge_17Jan1994																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	26	0.339	2.95	5.91	24	1.19	0.84	8.51	30	2.189	0.46	6.12	68	2.557	0.39	8.01	34	0.325	3.08	5.2	28	1.085	0.92	9.17	34	1.939	0.52	1.92	66	2.387	0.42	3.32
	30	0.341	2.93	4.95	28	1.174	0.85	8.46	40	2.146	0.47	6.76	80	2.476	0.40	2.64	40	0.324	3.09	3.68	30	1.088	0.92	8.38	40	1.96	0.51	3.45				
	42	0.339	2.95	4.92	30	1.174	0.85	9.28	46	2.098	0.48	7.53					50	0.323	3.10	4.28	40	1.078	0.93	9.17	48	1.976	0.51	3.3				
	54	0.338	2.96	5.47	44	1.128	0.89	8.53	60	2.023	0.49	2.16					60	0.322	3.11	5.2	52	1.049	0.95	7.51	54	1.977	0.51	3.2				
	60	0.336	2.98	5.05	78	1.161	0.86	6.06	74	2.091	0.48	2.63					70	0.324	3.09	3.7	62	1.06	0.94	9	60	1.98	0.51	2.92				
	70	0.338	2.96	5.2	84	1.151	0.87	6.65	88	2.153	0.46	8.58					80	0.324	3.09	4.47	70	1.049	0.95	5.88	70	1.956	0.51	3.45				
	80	0.335	2.99	5.83	90	1.176	0.85	8.31	98	2.11	0.47	3.15					90	0.322	3.11	4.01	82	1.047	0.96	7.21	80	1.961	0.51	3.03				
	90	0.335	2.99	5.83	100	1.014	0.99	3.91									100	0.32	3.13	4	84	1.043	0.96	6.51	88	1.984	0.50	4.5				
	100	0.333	3.00	5.31																												
Summary		0.34	2.97	5.39		1.15	0.87	7.46		2.12	0.47	5.28		2.52	0.40	5.33		0.32	3.10	4.32		1.06	0.94	7.85		1.97	0.51	3.22		2.39	0.42	3.32
				4.17-5.9				3.91-9.28				2.16-6.76				2.64-8.01				3.38-5.04				6.51-9.17				1.92-4.5				
ARX	12	0.34	2.94	6.59	18	1.18	0.85	8.26	30	2.17	0.46	4.9	24	2.566	0.39	8.1	16	0.326	3.07	5.02	10	1.074	0.93	7.99	10	2	0.50	6.57	36	2.27	0.44	5.31
	20	0.339	2.95	5.61	26	1.197	0.84	8.61	40	2.061	0.49	3.3	26	2.499	0.40	7.39	20	0.325	3.08	4.84	20	1.076	0.93	7.15	20	1.968	0.51	3.76	52	2.378	0.42	2.52
	30	0.339	2.95	5.63	32	1.095	0.91	8.73	52	2.11	0.47	4.3	44	2.511	0.40	2.45	30	0.326	3.07	4.34	28	1.05	0.95	8.51	30	1.964	0.51	3.72	78	2.353	0.42	2.38
	40	0.337	2.97	6.49	36	1.083	0.92	7.42	58	2.152	0.46	1.7	58	2.218	0.45	2.07	40	0.323	3.10	4.33	40	1.056	0.95	6.4	42	1.913	0.52	2.87	100	2.317	0.43	1.96
	50	0.332	3.01	8.41	44	1.195	0.84	3.43	66	2.141	0.47	1.67	64	2.534	0.39	1.18	50	0.323	3.10	3.98	50	1.033	0.97	6.98	56	1.936	0.52	2.47				
	60	0.317	3.15	6.74	50	1.028	0.97	5.54	84	2.131	0.47	0.8	80	2.448	0.41	1.18	60	0.336	2.98	4.07	60	1.073	0.93	5.8	60	1.918	0.52	2.46				
	70	0.333	3.00	5.2	60	1.182	0.85	3.78	96	2.184	0.46	2.96	94	2.519	0.40	1.1	70	0.324	3.09	4.63	70	1.042	0.96	7.88	72	1.953	0.51	6.42				
	80	0.33	3.03	6.12	66	1.19	0.84	4.08	100	2.149	0.47	2.8	96	2.417	0.41	5.24	82	0.321	3.12	3.28	82	1.093	0.91	2.35	82	1.981	0.50	2.31				
	90	0.31	3.23	4.56	82	1.009	0.99	1.94					98	2.464	0.41	0.69	90	0.322	3.11	3.28	90	1.039	0.96	4.33	94	1.94	0.52	3.1				
	100	0.321	3.12	4.26	98	1.1	0.91	6.27									10	0.323	3.10	3.84	98	1.074	0.93	3.87	98	2.037	0.49	3.1				
Summary		0.33	3.03	5.96		1.13	0.89	5.81		2.14	0.47	2.80		2.46	0.41	3.27		0.32	3.08	4.16		1.06	0.94	6.13		1.96	0.51	3.68		2.33	0.43	3.04
				4.13-7.37				1.94-8.61				.8-4.9				.69-8.1				3.19-5.19				1.8-8.34							1.96-5.31
SRIM	10	0.339	2.95	5.16	6	1.184	0.84	6.63	28	2.076	0.48	3.04	10	2.528	0.40	2.74	10	0.325	3.08	4.09	8	1.051	0.95	7.03	22	1.935	0.52	1.58	36	2.325	0.43	1.46
	18	0.334	2.99	3.66	24	1.161	0.86	6.51	34	2.118	0.47	1.45	24	2.497	0.40	0.58	20	0.315	3.17	4.1	18	1.079	0.93	5.57	42	1.919	0.52	0.96	42	2.322	0.43	1.97
	28	0.339	2.95	7.31	30	1.099	0.91	4.15	42	2.023	0.49	0.86	32	2.516	0.40	0.89	30	0.322	3.11	3.32	22	1.06	0.94	6.93	52	1.681	0.59	0.9	52	2.346	0.43	1.81
	40	0.341	2.93	4.87	40	1.164	0.86	6.39	58	2.122	0.47	0.69	40	2.418	0.41	1.14	40	0.319	3.13	3.89	48	1.008	0.99	1.8	60	1.673	0.60	1.22	60	2.336	0.43	1.81
	50	0.333	3.00	6.45	54	1.043	0.96	1.11	60	2.126	0.47	0.69	52	2.528	0.40	0.9	48	0.362	2.76	3.05	56	1.03	0.97	6.38	70	1.788	0.56	0.66	66	2.303	0.43	1.87
	56	0.341	2.93	8.07	60	1.189	0.84	2.53	68	2.154	0.46	1.31	60	2.454	0.41	0.73	60	0.321	3.12	3.59	60	1.009	0.99	1.24	82	1.747	0.57	1.28	86	2.254	0.44	1.16
	66	0.307	3.26	2.01	70	1.078	0.93	1.68	74	2.154	0.46	1.28	70	2.466	0.41	0.78	68	0.299	3.34	2.74	72	1.04	0.96	1.49	88	1.756	0.57	2.08	90	2.352	0.43	1.2
	72	0.317	3.15	2	82	1.121	0.89	1.53	86	2.151	0.46	1.13	80	2.465	0.41	0.91	78	0.32	3.13	3.66	80	1.026	0.97	2.91	94	1.723	0.58	1.77	94	2.356	0.42	1.29
	82	0.34	2.94	7.3	90	1.121	0.89	1.48	98	2.117	0.47	2.89	86	2.557	0.39	0.74	80	0.323	3.10	3.7	90	0.971	1.03	0.72	100	1.659	0.60	1.76				
					100	1.133	0.88	1.31					96	2.467	0.41	0.94	92	0.322	3.11	3.56	100	1.011	0.99	1.84								
Summary		0.33	3.01	5.20		1.13	0.89	3.33		2.12	0.47	1.48		2.49	0.40	1.04		0.32	3.10	3.57		1.03	0.97	3.59		1.76	0.57	1.36		2.32	0.43	1.57
				2-8.07				1.11-6.63				1.13-4.26				.73-2.74				2.77-4.09				.72-7.03				.9-2.08				1.2-1.97
N4SID-IO	18	0.344	2.91	8.73	12	1.189	0.84	9.48	10	2.189	0.46	9.53	38	2.494	0.40	3.31	20	0.339	2.95	9.88	12	1.609	0.62	9.48	12	2.023	0.49	7.92	60	2.257	0.44	2.74
	22	0.342	2.92	7.12	20	1.154	0.87	9.47	26	2.193	0.46	6.61	42	2.501	0.40	2.59	30	0.327	3.06	5.79	18	1.061	0.94	9.4	22	1.977	0.51	4.61	62	2.235	0.45	3.09
	30	0.341	2.93	6.43	34	1.202	0.83	5.97	38	2.112	0.47	4.43	44	2.51	0.40	2.7	40	0.326	3.07	5.41	30	1.026	0.97	9.98	30	1.964	0.51	3.75	64	2.358	0.42	2.65
	40	0.34	2.94	6.39	44	1.183	0.85	5.61	40	2.084	0.48	5.22	46	2.503	0.40	2.59	50	0.322	3.11	5.11	40	1.047	0.96	6.27	42	1.993	0.50	5.83	66	2.342	0.43	2.7
	50	0.338	2.96	5.76	50	1.188	0.84	4.83	58	2.139	0.47	3.22	48	2.509	0.40	2.61	60	0.32	3.13	4.24	52	1.062	0.94	5.34	50	1.983	0.50	4.47	72	2.307	0.43	5.55
	64	0.334	2.99	5.26	60	1.169	0.86	5.63	60	2.127	0.47	3.21	56	2.45	0.41	3.9	70	0.321	3.12	3.94	60	1.058	0.95	4.6	60	1.946	0.51	4.17	78	2.288	0.44	4.28
	70	0.334	2.99	5.95	66	1.297	0.77	3.82	74	2.115	0.47	6.12	58	2.516	0.40	1.01	80	0.32	3.13	4.09	70	1.051	0.95	3.17	74	1.957	0.51	4.72	84	2.25	0.44	3.31
	80	0.334	2.99	6.42	84	1.203	0.83	4.3	80	2.09	0.48	3.38	92	2.511	0.40	0.83	92	0.321	3.12	3.34	84	1.007	0.99	6.84	86	1.975	0.51	2.82	94	2.328	0.43	4.52
	92	0.331	3.02	5.98					90	2.187	0.46	2.38					100	0.321	3.12	3.85	90	1.002	1.00	7.28	92	1.965	0.51	2.84				
	100	0.336	2.98	6.64					98	2.068	0.48	1.91									98	1.007	0.99	6.45	100	2.024	0.49	1				
Summary		0.34	2.96	6.47		1.20	0.84	6.14		2.13	0.47	4.60		2.50	0.40	2.44		0.32	3.09	5.07		1.09	0.93	6.88		1.98	0.50	4.21		2.30	0.44	3.61
				5.56-8.73				3.82-9.48				1.75-9.53				.83-3.9				3.34-9.88				3.17-9.48				1-7.92				2.65-5.55
Average		0.334161	2.994621	5.754472		1.149831	0.871162	5.685125		2.124758	0.470842	3.540672		2.492338	0.40148	3.017292		0.323703	3.091188	4.280181		1.061219	0.947259	6.112938		1.91822	0.522973	3.117229		2.334094	0.428608	2.884688

	Whittier87																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	54	0.437	2.29	4.59	24	1.481	0.68	7.16	22	2.659	0.38	6.88	54	2.996	0.33	8.26	26	0.405	2.47	4	22	1.37	0.73	5.77	38	1.973	0.51	2.54	50	2.393	0.42	7.21
	68	0.446	2.24	5.6	28	1.482	0.67	7.61	24	2.677	0.37	7.07	74	3.047	0.33	0.92	36	0.405	2.47	2.77	30	1.356	0.74	6.23	46	1.959	0.51	2.35	52	2.386	0.42	7.16
	70	0.448	2.23	5.64	32	1.494	0.67	7.67	28	2.685	0.37	7.31	90	3.073	0.33	2.07	44	0.401	2.49	1.63	40	1.353	0.74	6.36	52	1.958	0.51	1.91	62	2.363	0.42	6.23
	72	0.443	2.26	5.46	40	1.513	0.66	8.98	44	2.592	0.39	8.36					70	0.396	2.53	4.11	50	1.356	0.74	5.36	72	1.945	0.51	0.9	64	2.365	0.42	5.22
	80	0.442	2.26	6.05	54	1.548	0.65	2.93	54	2.607	0.38	4.64					80	0.399	2.51	4.13	62	1.377	0.73	5.63	78	1.948	0.51	0.78	78	2.374	0.42	7.72
	84	0.442	2.26	4.39	84	1.554	0.64	6.76	56	2.577	0.39	5.16					86	0.402	2.49	4.31	70	1.374	0.73	4.75	80	1.949	0.51	0.85	82	2.397	0.42	8.41
	90	0.44	2.27	2	92	1.541	0.65	8.47									94	0.401	2.49	4.73	82	1.369	0.73	5.14	94	1.962	0.51	0.72				
					96	1.523	0.66	7.73									98	0.398	2.51	3.64	92	1.353	0.74	4.4								
																					100	1.353	0.74	5.62								
Summary		0.44	2.26	4.82		1.52	0.66	7.16		2.63	0.38	6.57		3.04	0.33	3.75		0.40	2.49	3.67		1.36	0.73	5.47		1.96	0.51	1.44		2.38	0.42	6.99
				2-6.05				2.93-8.98				4.64-8.36				.92-8.26				1.63-4.31				4.4-6.36				.72-2.54				5.22-8.41
ARX	18	0.453	2.21	5.66	10	1.482	0.67	6.86	30	1.846	0.54	8.08	8	2.642	0.38	7.18	20	0.408	2.45	3.63	10	1.366	0.73	5.93	40	2.162	0.46	7.18	16	2.383	0.42	6.63
	26	0.449	2.23	5.32	30	1.582	0.63	4.62	46	1.84	0.54	4.74	12	2.631	0.38	7.03	30	0.406	2.46	3.72	22	1.355	0.74	5.36	52	2.113	0.47	5.34	26	2.38	0.42	6.04
	38	0.441	2.27	4.11	46	1.408	0.71	4.25	50	1.803	0.55	3.12	26	2.647	0.38	2.44	40	0.404	2.48	4.03	30	1.353	0.74	4.97	60	2.124	0.47	2.36	44	2.418	0.41	2.96
	40	0.44	2.27	4.01	50	1.424	0.70	3.9	56	1.803	0.55	3.16	56	2.604	0.38	1.56	52	0.407	2.46	4.1	38	1.351	0.74	5.24	70	2.13	0.47	1.94	84	2.478	0.40	1.95
	50	0.444	2.25	5.79	60	1.538	0.65	6.1	66	1.829	0.55	2.45	70	2.602	0.38	1.33	60	0.405	2.47	4.02	46	1.364	0.73	3.78	84	2.135	0.47	1.15	90	2.401	0.42	0.47
	60	0.45	2.22	6.25	66	1.539	0.65	4.03	72	1.833	0.55	2.22	82	2.616	0.38	0.73	64	0.404	2.48	3.68	50	1.362	0.73	4.29	90	2.153	0.46	2.85				
	66	0.35	2.86	3.76	76	1.452	0.69	4.19	82	1.847	0.54	1.96	86	2.546	0.39	1.03	84	0.401	2.49	2.03	60	1.347	0.74	2.95	100	2.174	0.46	1.35				
					84	1.585	0.63	1.65	88	1.974	0.51	5.28	90	2.616	0.38	0.68	90	0.4	2.50	2.64	72	1.251	0.80	2.49								
					90	1.558	0.64	3.49	94	1.827	0.55	1.37	98	2.601	0.38	2.54	100	0.391	2.56	3.65	80	1.255	0.80	2.3								
					94	1.508	0.66	2.95													92	1.309	0.76	3.98								
Summary		0.43	2.33	4.99		1.51	0.66	4.20		1.84	0.54	3.60		2.61	0.38	2.72		0.40	2.48	3.50		1.33	0.75	4.13		2.14	0.47	3.17		2.41	0.41	3.61
				3.79-5.79				1.65-6.86				1.96-8.08				.68-7.18				2.03-4.90				2.3-5.93				1.15-7.18				.47-6.63
SRIM	10	0.449	2.23	4.85	30	1.423	0.70	1.58	34	2.122	0.47	2.57	6	2.65	0.38	5.46	10	0.406	2.46	3.74	12	1.36	0.74	4.92	22	1.954	0.51	0.28	36	2.509	0.40	0.91
	18	0.448	2.23	5.43	40	1.525	0.66	1.81	44	2.135	0.47	0.74	12	2.645	0.38	4.89	18	0.404	2.48	3.34	18	1.355	0.74	6.55	42	2.029	0.49	2.15	38	2.632	0.38	0.47
	48	0.335	2.99	6.06	52	1.505	0.66	2.02	64	2.125	0.47	0.94	30	2.684	0.37	5.74	36	0.405	2.47	2.72	28	1.215	0.82	2.66	52	2.011	0.50	2.55	42	2.631	0.38	0.51
	56	0.356	2.81	6.52	64	1.509	0.66	1.43	70	2.208	0.45	0.91	46	2.617	0.38	1.05	40	0.405	2.47	2.77	46	1.293	0.77	1.13	60	1.976	0.51	1.9	50	2.621	0.38	0.86
	66	0.434	2.30	3.77	70	1.535	0.65	1.32	80	2.291	0.44	7.32	60	2.607	0.38	0.87	60	0.398	2.51	5.59	62	1.287	0.78	0.48	70	1.9	0.53	3.22	66	2.511	0.40	0.48
	70	0.435	2.30	3.96	80	1.528	0.65	1.2	92	2.114	0.47	0.93	66	2.521	0.40	0.68	64	0.391	2.56	5.22	66	1.391	0.72	3.98	82	2.047	0.49	2.39	70	2.651	0.38	0.95
	78	0.437	2.29	3.35	86	1.571	0.64	3.7	96	2.23	0.45	2.15	70	2.606	0.38	0.66	94	0.406	2.46	2.15	74	1.391	0.72	6.28	92	1.943	0.51	1.21	76	2.614	0.38	0.41
	86	0.438	2.28	3.47	88	1.531	0.65	2.17	100	2.129	0.47	5.19	74	2.525	0.40	0.5	100	0.408	2.45	2.2	82	1.353	0.74	0.44	98	2.039	0.49	1.43	80	2.613	0.38	0.5
	90	0.439	2.28	3.71									76	2.525	0.40	0.51					94	1.399	0.71	6.41					86	2.586	0.39	2.89
	100	0.44	2.27	4.33									100	2.603	0.38	2.3					100	1.289	0.78	0.56					90	2.613	0.38	0.43
Summary		0.42	2.40	4.55		1.52	0.66	1.90		2.17	0.46	2.59		2.60	0.39	2.27		0.40	2.48	3.47		1.33	0.75	3.34		1.99	0.50	1.89		2.60	0.39	0.84
				3.35-6.52				1.2-2.17				.66-7.32				.5-5.46				2.2-5.59				.41-6.41				.28-2.39				.41-2.89
N4SID-IO	20	0.453	2.21	7.22	10	1.47	0.68	7.79	8	2.606	0.38	8.9	46	3.249	0.31	1.8	20	0.411	2.43	5.65	16	1.361	0.73	6.76	10	2.368	0.42	8.06	30	2.765	0.36	7.24
	22	0.451	2.22	6.81	20	1.509	0.66	8.74	16	2.656	0.38	7.68	70	3.146	0.32	1.31	30	0.406	2.46	4.65	20	1.35	0.74	6.85	26	2.395	0.42	5.99	74	2.648		2.98
	26	0.444	2.25	6.39	30	1.565	0.64	8.05	48	2.664	0.38	9.08	74	3.277	0.31	1.79	40	0.404	2.48	4.6	30	1.353	0.74	5.8	36	2.229	0.45	7.97	80	2.736		1.83
	28	0.446	2.24	6.28	60	1.556	0.64	5.81	54	2.627	0.38	3.48	76	3.248	0.31	1.74	50	0.403	2.48	4.75	40	1.35	0.74	6.25	48	2.389	0.42	2.62	86	2.722		3.56
	30	0.446	2.24	6.05	68	1.487	0.67	7.27	60	2.573	0.39	1.33	78	3.22	0.31	1.77	60	0.397	2.52	4.74	52	1.363	0.73	4.61	62	2.335	0.43	3.2	88	2.798		2.47
	32	0.446	2.24	6.5	82	1.482	0.67	7.15	62	2.601	0.38	1.46	82	3.17	0.32	3.22	72	0.403	2.48	4.39	60	1.359	0.74	5.22	72	2.394	0.42	3.15	90	2.763		2
	36	0.447	2.24	6.14	90	1.526	0.66	4.69	74	2.572	0.39	1.91	88	3.194	0.31	2.46	80	0.403	2.48	4.49	70	1.388	0.72	5.73	82	2.265	0.44	4.1	92	2.649		2.01
	38	0.449	2.23	6.43	92	1.555	0.64	7.25	82	2.584	0.39	1.14	96	3.168	0.32	1.51	90	0.405	2.47	4.18	82	1.366	0.73	5.1	88	2.302	0.43	5.11	94	2.668		1.81
	66	0.447	2.24	5.59	100	1.536	0.65	3.24	90	2.637	0.38	9.98	98	3.213	0.31	1.87	98	0.402	2.49	4.48	88	1.39	0.72	4.26					96	2.692		1.7
	70	0.448	2.23	4.4					96	2.569	0.39	6.73									98	1.329	0.75	2.73					98	2.716		1.88
Summary		0.45	2.23	6.18		1.52	0.66	6.67		2.61	0.38	5.17		3.21	0.31	1.94		0.40	2.48	4.66		1.36	0.73	5.33		2.33	0.43	5.03		2.72		2.75
								3.24-8.74				1.04-9.98				1.31-3.22				4.18-5.65				2.73-6.76				2.62-8.64				1.7-7.24
Average		0.43595	2.30518	5.132571		1.515285	0.66047	4.984264		2.313913	0.441772	4.482632		2.864519	0.352185	2.670389		0.402604	2.484127	3.822535		1.346958	0.743085	4.568583		2.104964	0.477569	2.879777		2.526367	0.304987	3.547667
Overall Average		**0.55**	**1.98**	**4.44**		**1.82**	**0.57**	**4.09**		**3.07**	**0.35**	**3.45**		**2.93**	**0.24**	**2.05**		**0.53**	**2.02**	**3.34**		**1.69**	**0.63**	**3.85**		**2.64**	**0.40**	**3.27**		**2.94**	**0.26**	**2.24**

Station 24322: ACI and LATBSDC Values - LATERAL AND GRAVITY SYSTEM

Building: **Sherman Oaks - 13-story Commercial Bldg**
Building Type: Moment resisting concrete frames in both directions for the upper stories; concrete shear walls in the basements.
Number of floors with Sensors: 5
Total No. Sensors: 15

Cracking		Mode 1					Mode 2					Mode 3				
		ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.70	3.439	Transverse	2.63	Transverse	0.76	3.378	Torsional	NA	NA	NA	3.034	Longitudinal	2.46	Longitudinal	0.81
0.35	0.90	3.365	Transverse	2.63		0.78	3.283	Torsional	NA	NA	NA	2.942	Longitudinal	2.46	Longitudinal	0.84
0.7	0.70	2.842	Torsional	NA	NA	NA	2.771	Transverse	2.63	Transverse	0.95	2.557	Longitudinal	2.46	Longitudinal	0.96
0.7	0.90	2.746	Torsional	NA	NA	NA	2.697	Transverse	2.63	Transverse	0.98	2.466	Longitudinal	2.46	Longitudinal	1.00
	Average	1.549														

Station 24322: ACI and LATBSDC Values - LATERAL SYSTEM ONLY

Building: Sherman Oaks - 13-story Commercial Bldg
Building Type: Moment resisting concrete frames in both directions for the upper stories; concrete shear walls in the basements.
Number of floors with Sensors: 5
Total No. Sensors: 15

Cracking		Mode 1					Mode 2					Mode 3				
		ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.70	3.439	Transverse	2.63	Transverse	0.76	3.378	Torsional	NA	NA	NA	3.034	Longitudinal	2.46	Longitudinal	0.81
0.7	0.90	2.746	Torsional	NA	NA	NA	2.697	Transverse	2.63	Transverse	0.98	2.466	Longitudinal	2.46	Longitudinal	1.00
	Average	0.773125														

Station 24322

Building: **Sherman Oaks - 13-story Commercial Bldg**
Building Type: **Moment resisting concrete frames in both directions for the upper stories; concrete shear walls in the basements.**
Number of floors with Sensors: 5
Total No. Sensors: 15

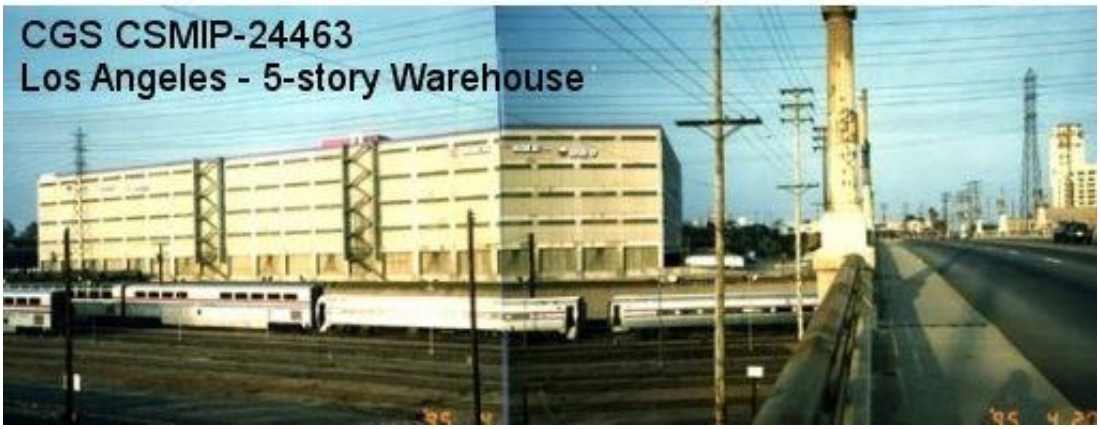
Cracking		Mode 1					Mode 2					Mode 3				
		ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.3	0.30	3.391	Transverse	2.78	Transverse	0.82	3.922	Torsional		NA	NA	3.571	Longitudinal	2.64	Longitudinal	0.74
0.3	0.50	3.721	Transverse	2.78	Transverse	0.75	3.655	Torsional		NA	NA	3.298	Longitudinal	2.64	Longitudinal	0.80
0.3	0.70	3.608	Transverse	2.78	Transverse	0.77	3.51	Torsional		NA	NA	3.155	Longitudinal	2.64	Longitudinal	0.84
0.3	1.00	3.503	Transverse	2.78	Transverse	0.79	3.378	Torsional		NA	NA	3.027	Longitudinal	2.64	Longitudinal	0.87
0.5	0.30	3.516	Torsional		NA	NA	3.405	Transverse	2.78	Transverse	0.82	3.2	Longitudinal	2.64	Longitudinal	0.82
0.5	0.50	3.237	Torsional		NA	NA	3.188	Transverse	2.78	Transverse	0.87	2.919	Longitudinal	2.64	Longitudinal	0.90
0.5	0.70	3.091	Torsional		NA	NA	3.074	Transverse	2.78	Transverse	0.91	2.775	Longitudinal	2.64	Longitudinal	0.95
0.5	1.00	2.975	Transverse	2.78	Transverse	0.94	2.956	Torsional		NA	NA	2.649	Longitudinal	2.64	Longitudinal	1.00
	Average	3.38025														

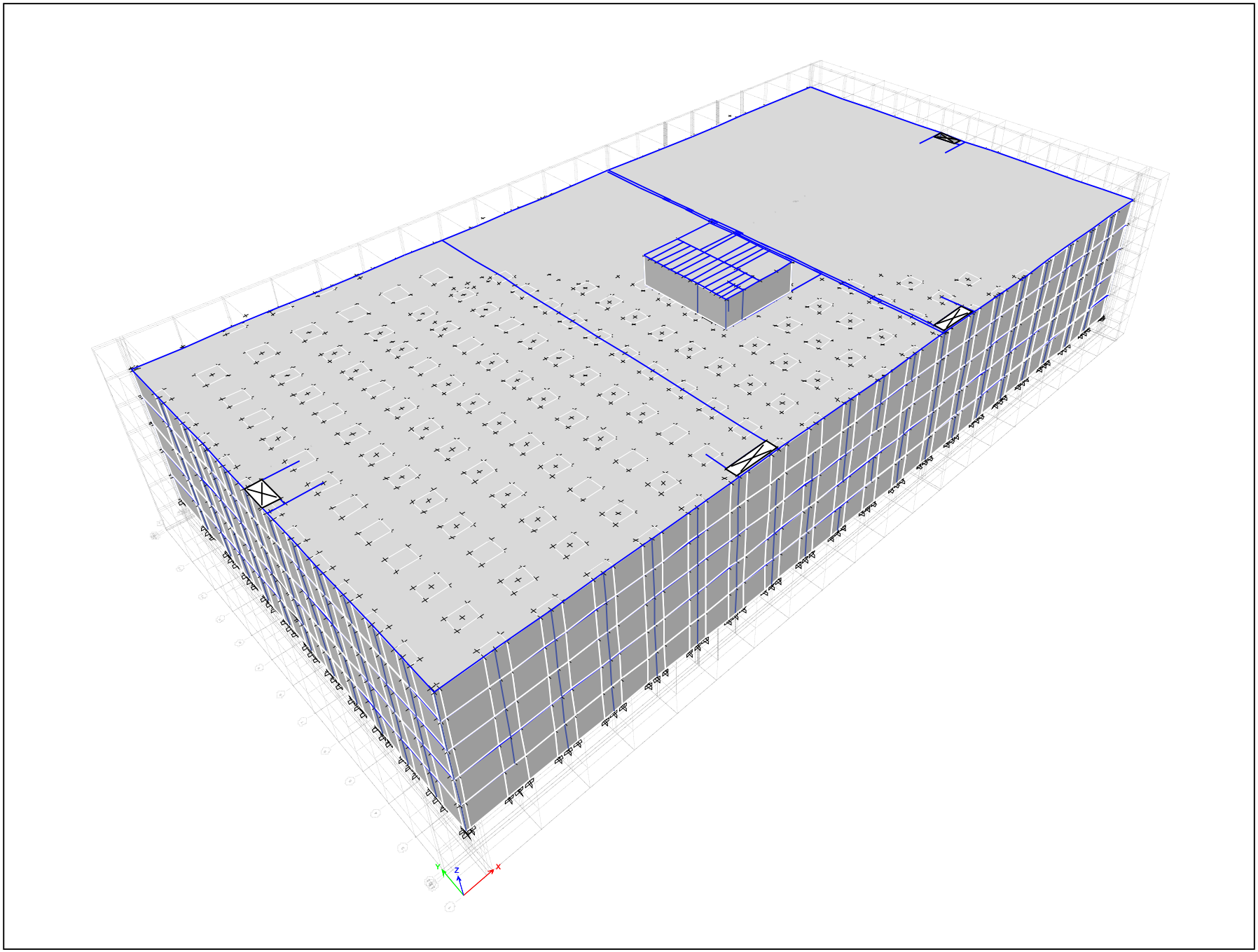
Station 24463

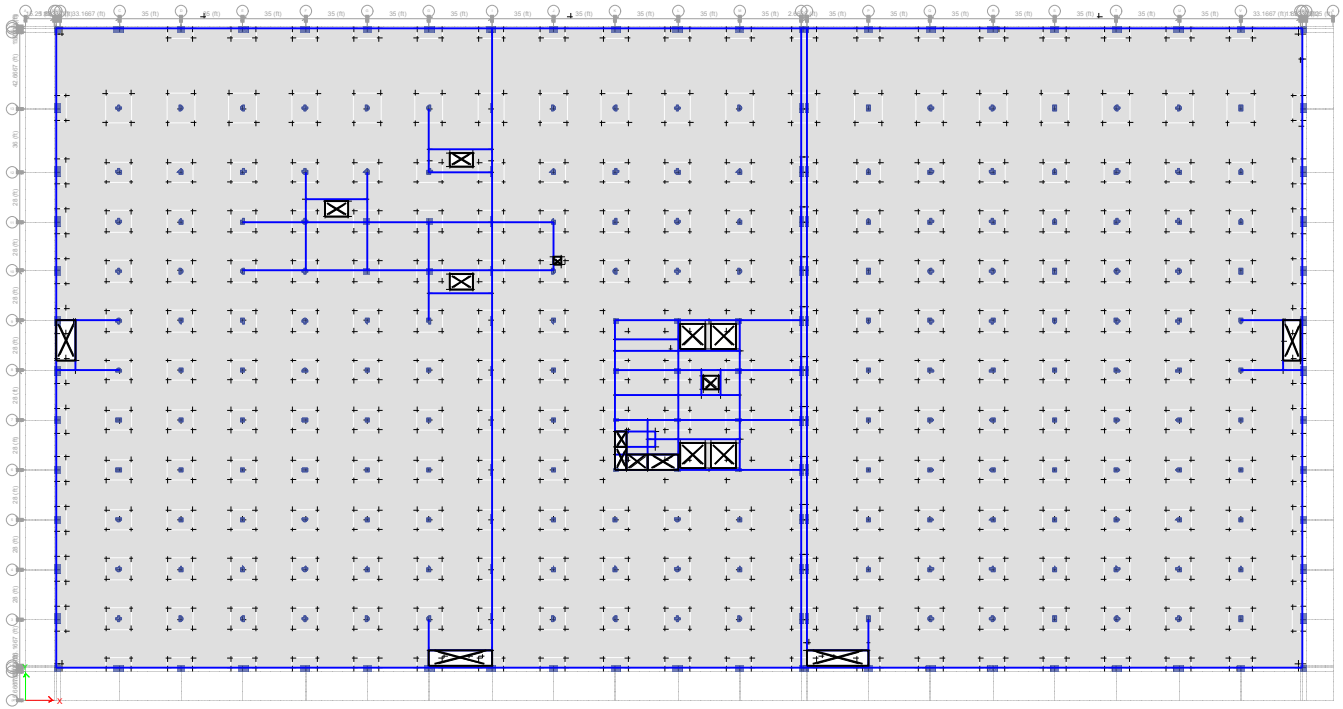
Building: Los Angeles - 5 Story Warehouse

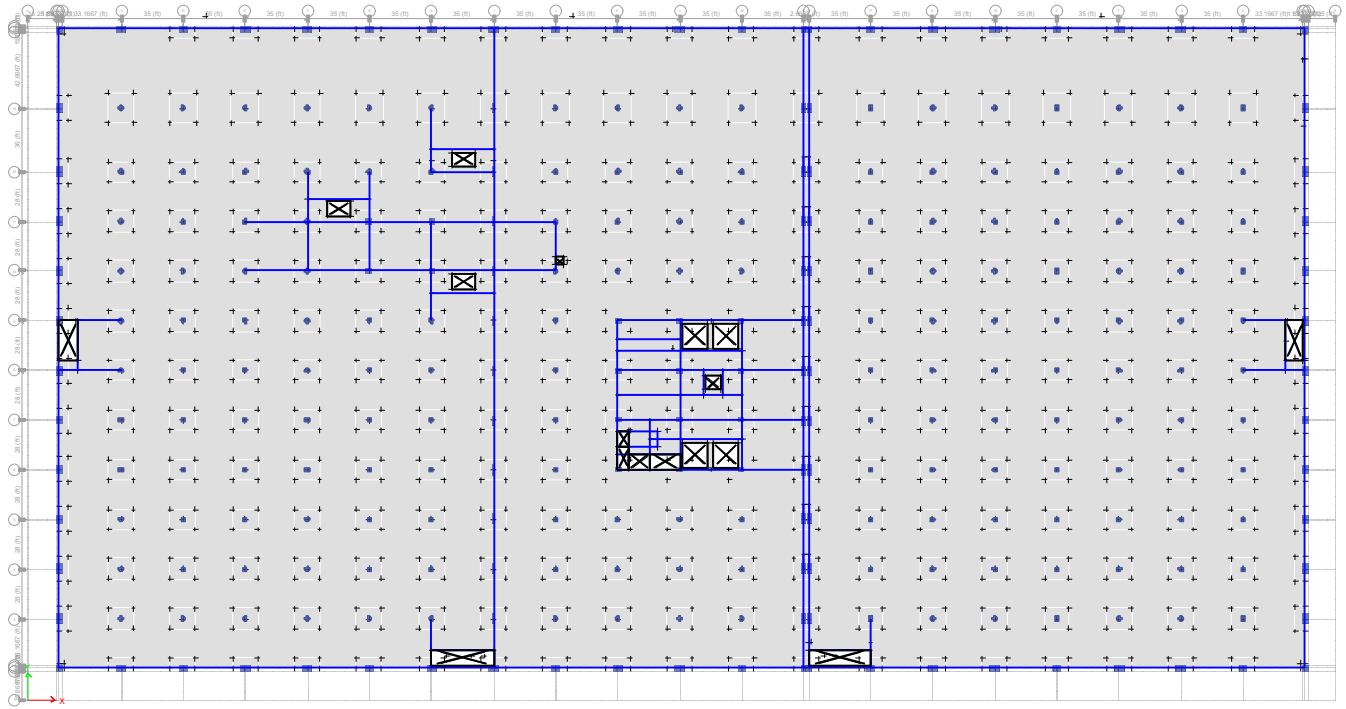
Building Type: Ductile reinforced concrete perimeter frame and basement shear walls

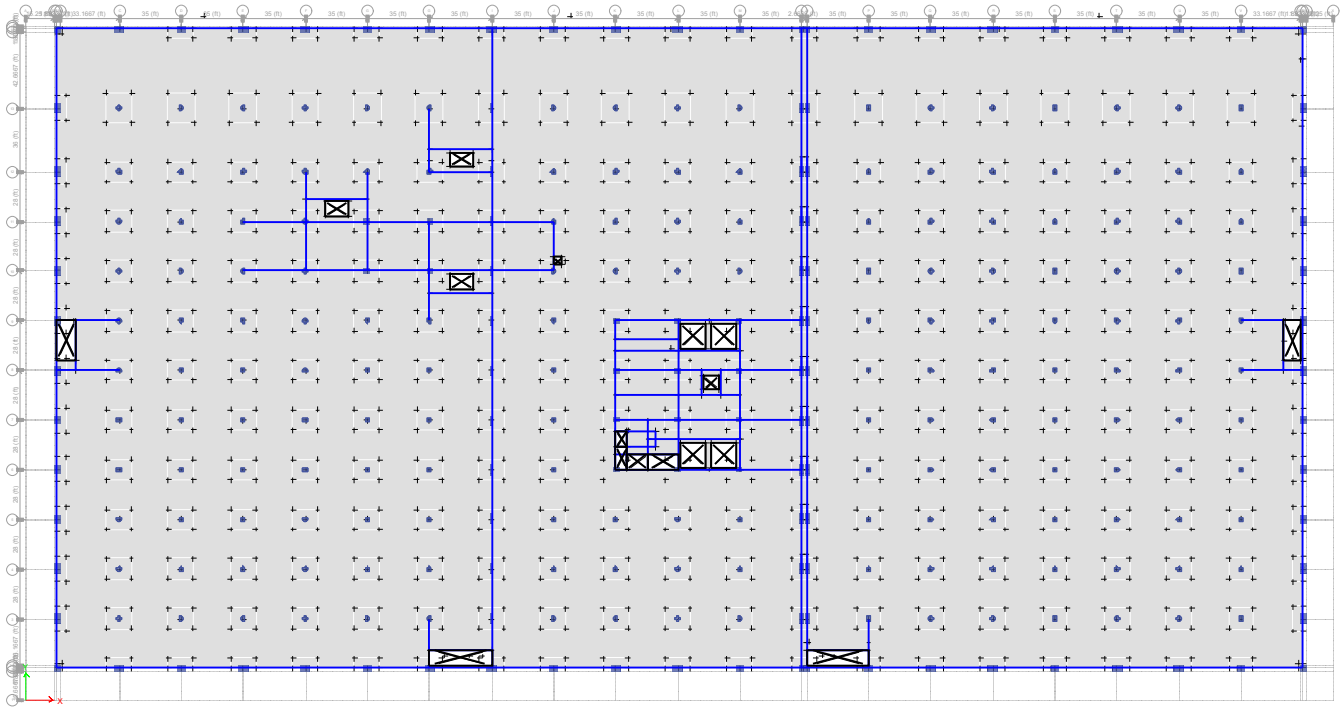
Number of floors with Sensors: 4

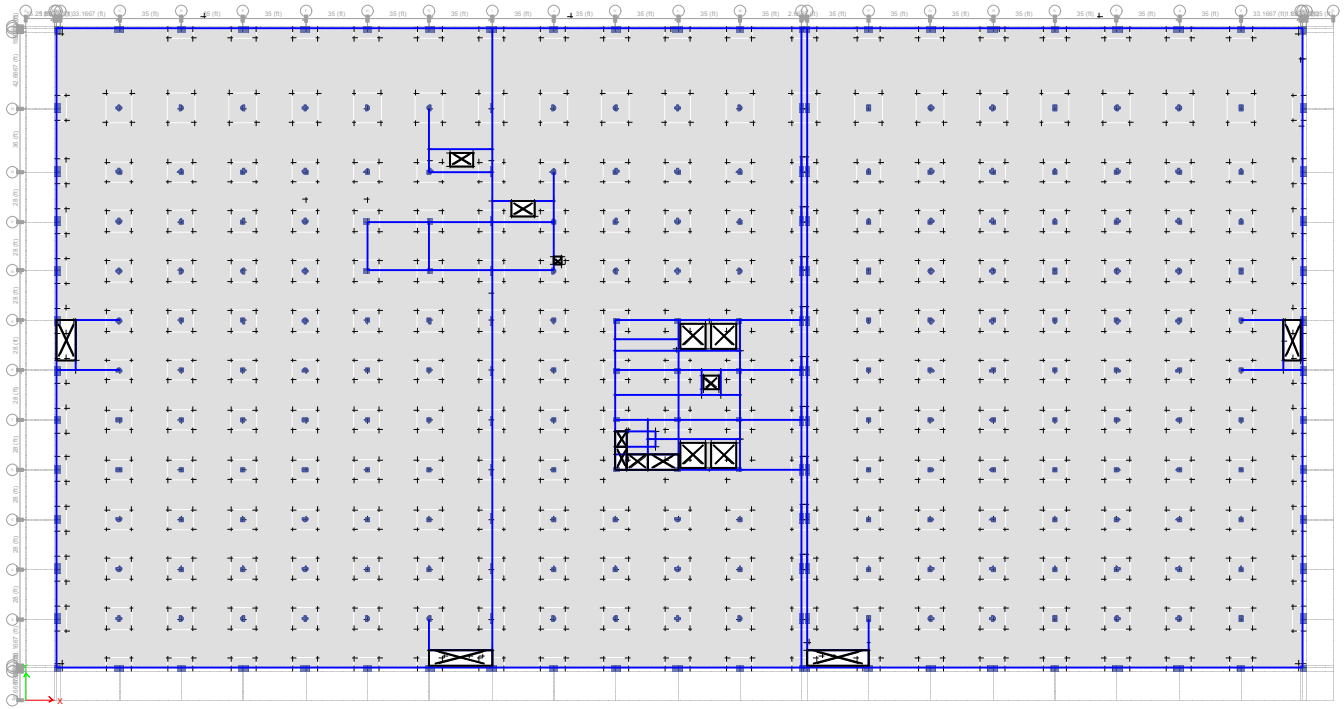


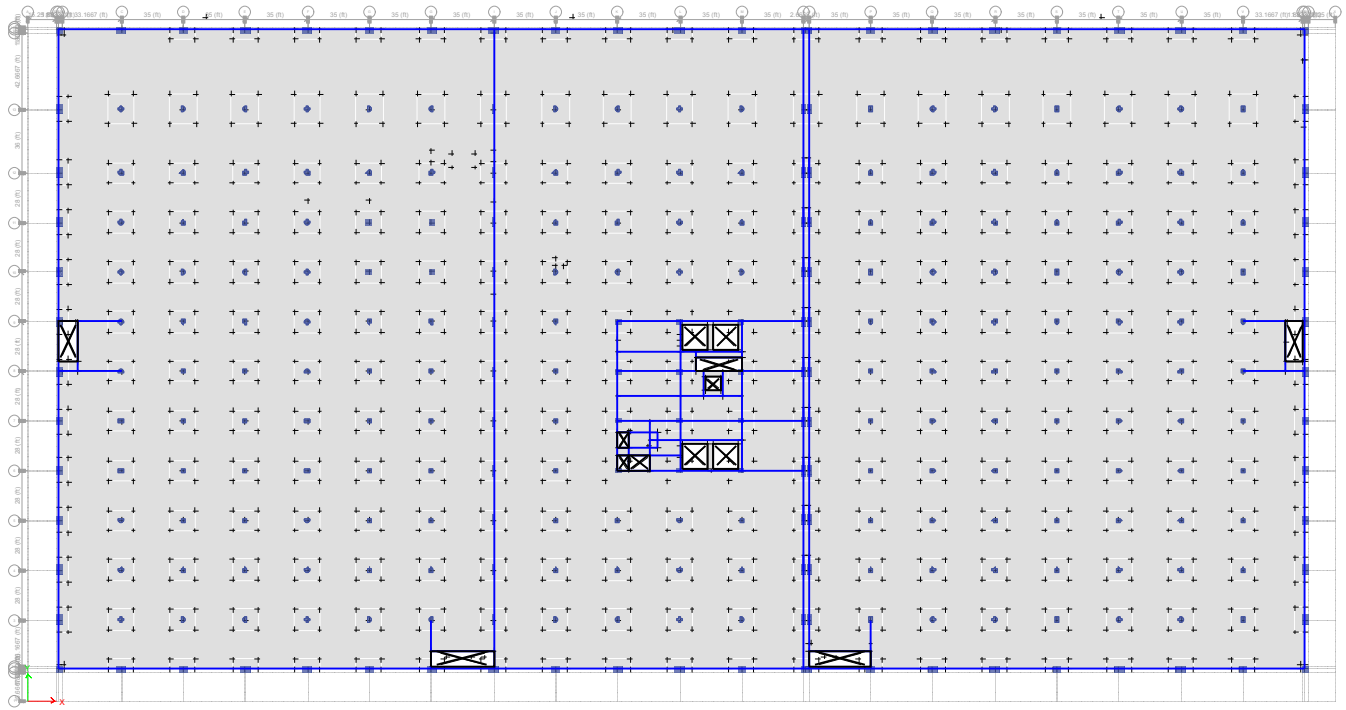

Y
Z
X

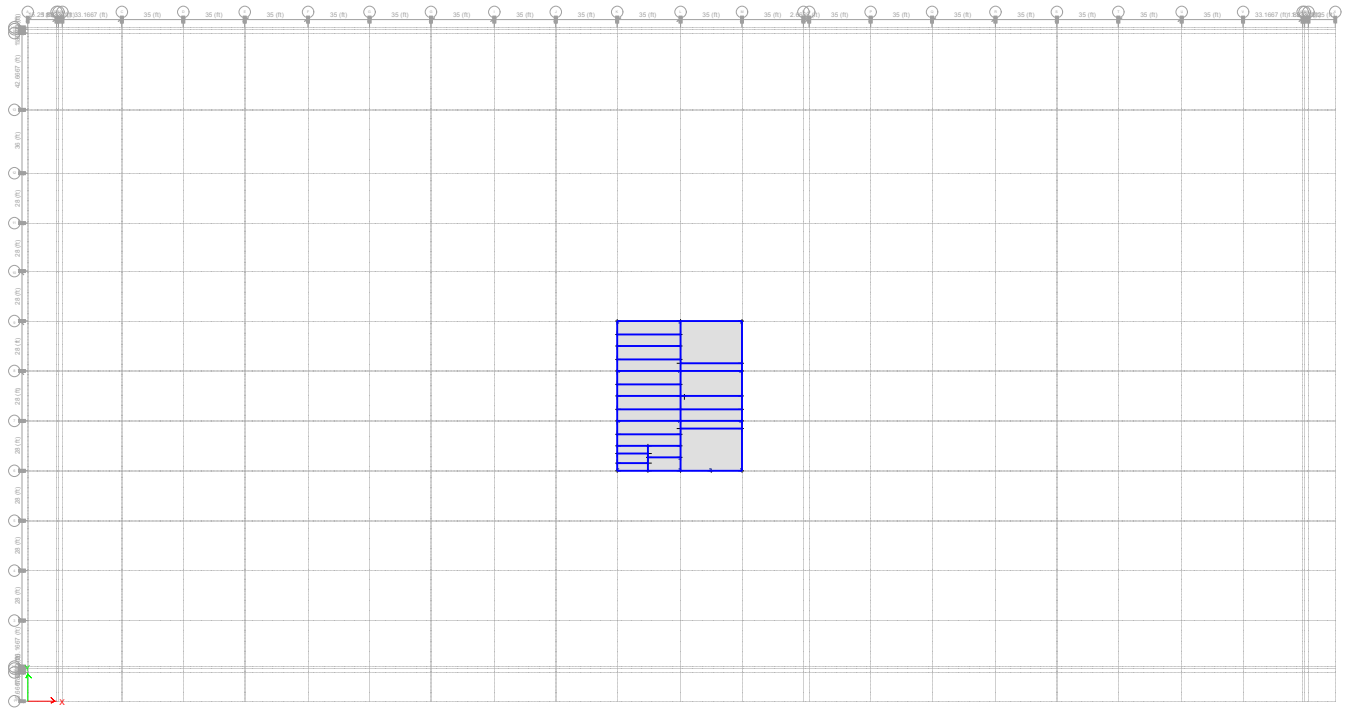












24463_5Story_LA_Warehouse_1_0.7_0.9_BmTee.EDB Plan View - Penthouse - Z = 163.5 (ft)

BorregoSprings_07Jul2010

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	48	0.81	1.23	6.37	46	2.538	0.39	7.49	34	8.086	0.12	7.27					58	0.73	1.37	9.65	56	2.257	0.44	9.53	58	5.565	0.18	6.94				
	50	0.808	1.24	5.87	50	2.525	0.40	7.29	46	7.978	0.13	4.75					62	0.741	1.35	7.08	58	2.266	0.44	8.4	56	5.709	0.18	5.99				
	60	0.812	1.23	7.47	60	2.492	0.40	8.87	50	8.007	0.12	4.63					66	0.736	1.36	6.3	64	2.263	0.44	9.43	76	5.712	0.18	8.01				
	70	0.812	1.23	6.17	70	2.518	0.40	9.77	60	8.087	0.12	5.41					70	0.736	1.36	5.78	66	2.271	0.44	9.1								
	80	0.81	1.23	5.35	80	2.527	0.40	8.54	68	7.96	0.13	4.64					76	0.733	1.36	4.9	68	2.277	0.44	9.67								
	90	0.807	1.24	5.01	96	2.459	0.41	7.88	32	8.314	0.12	7.58					80	0.732	1.37	4.41	96	2.383	0.42	8.32								
	100	0.804	1.24	5	100	2.481	0.40	8.69	36	8.23	0.12	7.78					86	0.738	1.36	3.56	98	2.341	0.43	9.49								
									38	8.224	0.12	8.8					90	0.74	1.35	3.57												
									40	8.213	0.12	8.62					96	0.742	1.35	3.67												
																	100	0.742	1.35	4.07												
Summary		0.81	1.24	5.89		2.51	0.40	8.36		8.12	0.12	6.61						0.74	1.36	5.30		2.29	0.44	9.13		5.66	0.18	6.98				
				4.95-7.47				7.09-9.77				4.10-7.27								3.56-9.65				8.32-9.67				6.94-8.01				
ARX	20	0.814	1.23	6.3	12	2.536	0.39	7.1	26	8.054	0.12	6.23					24	0.76	1.32	5.4	26	2.232	0.45	9.64	50	8.358	0.12	5.42				
	30	0.813	1.23	5.42	20	2.518	0.40	8.33	28	8.09	0.12	5.59					30	0.762	1.31	5.88	30	2.233	0.45	9.34	70	8.351	0.12	3.15				
	40	0.814	1.23	5.29	34	2.57	0.39	7.29	30	8.103	0.12	5.28					40	0.755	1.32	5.33	48	2.32	0.43	8.93	78	8.458	0.12	3.29				
	50	0.813	1.23	5.49	40	2.516	0.40	7.41	32	8.075	0.12	5.48					50	0.757	1.32	5.17	52	2.334	0.43	9.81	88	8.484	0.12	2.7				
	60	0.813	1.23	4.92	50	2.472	0.40	6.93	84	8.177	0.12	5.23					60	0.753	1.33	4.91	60	2.291	0.44	9.65	94	8.468	0.12	2.77				
	70	0.813	1.23	5.13	62	2.481	0.40	6.34	80	3.7	0.27	7.25					70	0.748	1.34	4.62	78	2.351	0.43	7.92	96	8.444	0.12	2.62				
	80	0.81	1.23	5.37	70	2.512	0.40	5.61	82	3.662	0.27	7.65					80	0.747	1.34	4.71	82	2.338	0.43	7.04								
	90	0.808	1.24	5.52	80	2.515	0.40	4.82	88	3.719	0.27	9.45					90	0.747	1.34	5	90	2.384	0.42	6.77								
	100	0.808	1.24	5.83	92	2.489	0.40	4.61	98	3.705	0.27	5.51					100	0.745	1.34	4.97	96	2.387	0.42	7								
					100	2.563	0.39	7.72																								
Summary		0.81	1.23	5.47		2.52	0.40	6.62		6.14	0.19	6.41						0.75	1.33	5.11		2.32	0.43	8.46		8.43	0.12	3.33				
				4.92-6.3				4.61-8.76				5.23-9.45								4.51-6.06				6.77-9.92				2.62-5.42				
SRIM	12	0.814	1.23	5.46	6	2.498	0.40	4.73	40	3.697	0.27	1.4					10	0.755	1.32	4.67	18	2.278	0.44	6.86	50	7.811	0.13	0.51				
	22	0.816	1.23	4.05	16	2.407	0.42	8.22	60	3.524	0.28	1.62					20	0.748	1.34	4.58	32	2.226	0.45	7.13	70	7.776	0.13	0.24				
	30	0.807	1.24	5.02	22	2.457	0.41	3.66	74	3.554	0.28	1.24					30	0.742	1.35	4.62	42	2.363	0.42	3.28	72	7.82	0.13	0.24				
	42	0.798	1.25	8.61	32	2.414	0.41	5.96	76	3.631	0.28	1.19					40	0.743	1.35	4.89	50	2.291	0.44	8.3	78	7.82	0.13	0.35				
	54	0.818	1.22	3.85	42	2.382	0.42	0.85	78	3.597	0.28	1.17					54	0.719	1.39	6.06	60	2.238	0.45	4.75	84	7.831	0.13	0.5				
	60	0.795	1.26	6.85	54	2.386	0.42	8.31	86	3.69	0.27	0.94					62	0.72	1.39	5.56	70	2.218	0.45	4.8	90	7.792	0.13	0.28				
	72	0.795	1.26	5.91	68	2.436	0.41	3.15	100	3.693	0.27	0.37					72	0.753	1.33	2.91	80	2.351	0.43	1.14								
	80	0.816	1.23	4.1	72	2.466	0.41	7.18									84	0.742	1.35	4.73	90	2.297	0.44	8.04								
	92	0.814	1.23	7.1	82	2.477	0.40	2.76									90	0.737	1.36	4.53	100	2.329	0.43	1.51								
	100	0.804	1.24	4.37	96	2.458	0.41	1.84									100	0.77	1.30	2.39												
Summary		0.81	1.24	5.53		2.44	0.41	4.67		3.63	0.28	1.13						0.74	1.35	4.49		2.29	0.44	5.09		7.81	0.13	0.35				
				2.21-8.61				.47-8.31				.37-1.62								1.29-6.06				1.14-8.3				.24-.51				
N4SID-IO	22	0.819	1.22	7.33	14	2.578	0.39	9.5	58	3.555	0.28	6.68					26	0.775	1.29	8.58	78	3.347	0.30	8.96	78	6.634	0.15	4.94				
	30	0.815	1.23	6.39	26	2.555	0.39	8.96	76	3.57	0.28	3.69					30	0.775	1.29	8.48	80	3.338	0.30	7.74	84	6.642	0.15	4.52				
	40	0.82	1.22	6.77	30	2.549	0.39	8.28	84	3.639	0.27	4.25					40	0.762	1.31	7.45	82	3.273	0.31	8.54	86	6.646	0.15	4.72				
	50	0.813	1.23	6.36	40	2.538	0.39	9.87	86	3.621	0.28	3.95					50	0.757	1.32	6.53	84	3.242	0.31	7.36	88	6.603	0.15	4.01				
	60	0.812	1.23	5.99	50	2.515	0.40	8.49	88	3.603	0.28	3.73					60	0.752	1.33	5.49	86	3.226	0.31	8.36	90	6.511	0.15	4.25				
	70	0.811	1.23	6.35	60	2.489	0.40	7.09	90	3.582	0.28	3.38					70	0.747	1.34	5.02	92	3.205	0.31	5.28								
	80	0.806	1.24	6.55	72	2.484	0.40	4.26	92	3.537	0.28	3.7					80	0.743	1.35	4.73	100	3.209	0.31	1.65								
	90	0.808	1.24	6.76	80	2.465	0.41	5.99	94	3.584	0.28	4.6					90	0.745	1.34	5.53												
	100	0.813	1.23	6.54	100	2.486	0.40	5.42	100	3.612	0.28	4.2					100	0.744	1.34	5.5												
Summary		0.81	1.23	6.56		2.52	0.40	7.54		3.59	0.28	4.24						0.76	1.32	6.37		3.26	0.31	6.84		6.61	0.15	4.49				
				5.76-7.33				4.26-9.87				3.38-6.68								4.71-9.17				1.65-8.96				4.01-4.94				
Average		0.810369	1.234064	5.864468		2.49467	0.400997	6.795857		5.370171	0.21661	4.597937						0.747031	1.339011	5.317694		2.540909	0.402855	7.380317		7.126175	0.143685	3.786583				

	Calexico_04Apr2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	28	0.771	1.30	4.36	28	2.369	0.42	6.83	60	4.354	0.23	7.24					34	0.687	1.46	5.52	30	2.147	0.47	6.28	82	4.967	0.20	2.85				
	30	0.773	1.29	4.36	30	2.373	0.42	6.64	88	4.28	0.23	5.62					40	0.683	1.46	5.31	46	2.218	0.45	6.64	88	4.958	0.20	3.35				
	40	0.771	1.30	4.35	42	2.329	0.43	5.54	40	12.163	0.08	3.57					50	0.691	1.45	5.3	50	2.195	0.46	5.54	90	5.02	0.20	3.33				
	52	0.772	1.30	5.13	50	2.338	0.43	6.27	52	12.138	0.08	1.83					60	0.692	1.45	5.19	60	2.233	0.45	4.53	32	5.504	0.18	9.78				
	60	0.772	1.30	5.29	60	2.297	0.44	5.66	60	12.132	0.08	1.45					70	0.694	1.44	5.46	70	2.238	0.45	4.23	78	5.481	0.18	3.3				
	70	0.772	1.30	5.22	70	2.384	0.42	8.5	70	12.148	0.08	1.16					80	0.696	1.44	5.85	80	2.258	0.44	4.09	40	6.062	0.16	7.18				
	80	0.772	1.30	4.82	80	2.256	0.44	4.66	82	12.132	0.08	1.05					90	0.698	1.43	5.96	90	2.255	0.44	3.91								
	90	0.774	1.29	4.61	86	2.202	0.45	3.77	86	12.095	0.08	0.74									94	2.246	0.45	4.16								
	96	0.781	1.28	5.09	96	2.239	0.45	3.68	96	12.085	0.08	0.54																				
					100	2.233	0.45	3.13																								
Summary		0.77	1.29	4.80		2.30	0.43	5.47		10.39	0.12	2.58						0.69	1.45	5.51		2.22	0.45	4.92		5.33	0.19	3.72				
				4.15-5.23				3.13-8.6				.54-7.24								5.03-6.05				3.53-6.64				3.3-9.78				
ARX	12	0.775	1.29	4.7	10	2.361	0.42	6.3	36	3.601	0.28	7.12					10	0.711	1.41	5.89	10	2.103	0.48	9.74	32	13.668	0.07	4.46				
	20	0.775	1.29	4.44	20	2.365	0.42	5.63	62	3.602	0.28	3.92					20	0.706	1.42	5.59	24	2.197	0.46	8.95	42	13.524	0.07	2.56				
	30	0.775	1.29	4.53	32	2.331	0.43	5.42	64	3.591	0.28	3.77					30	0.702	1.42	5	30	2.216	0.45	8.53	64	13.564	0.07	1.47				
	40	0.775	1.29	4.75	42	2.331	0.43	4.42	74	3.605	0.28	2.77					40	0.702	1.42	4.84	40	2.245	0.45	5.2	70	13.627	0.07	1.12				
	50	0.776	1.29	4.66	50	2.298	0.44	4.97	78	3.602	0.28	2.2					50	0.704	1.42	5.04	50	2.213	0.45	4.88	76	13.644	0.07	0.99				
	64	0.782	1.28	4.18	60	2.317	0.43	3.89	80	3.604	0.28	2.2					60	0.7	1.43	6.43	60	2.238	0.45	3.87	80	13.644	0.07	1.2				
	70	0.781	1.28	4.01	70	2.298	0.44	3.52	84	3.609	0.28	2.45					70	0.688	1.45	5.89	70	2.252	0.44	3.44	84	13.67	0.07	1.05				
	78	0.782	1.28	4.39	80	2.291	0.44	3.92	100	3.619	0.28	1.68					80	0.678	1.47	6.26	82	2.204	0.45	2.83	92	13.689	0.07	0.86				
	88	0.788	1.27	4.86	90	2.288	0.44	4.29									90	0.726	1.38	5.16	90	2.195	0.46	2.73	98	13.596	0.07	0.87				
	90	0.791	1.26	4.72													100	0.625	1.60	8.34	100	2.208	0.45	2.24								
Summary		0.78	1.28	4.52		2.32	0.43	4.71		3.60	0.28	3.26						0.69	1.44	5.84		2.21	0.45	5.24		13.63	0.07	1.62				
				4.01-4.89				3.33-6.86				1.68-7.12								4.62-8.34				2.24-9.74				.86-4.46				
SRIM	10	0.777	1.29	4.44	12	2.337	0.43	3.67	30	3.693	0.27	0.97					12	0.702	1.42	4.19	14	2.236	0.45	1.66	46	6.705	0.15	0.8				
	28	0.777	1.29	4.97	30	2.238	0.45	0.87	34	3.583	0.28	1.05					20	0.708	1.41	5.37	22	2.281	0.44	1.67	54	6.778	0.15	1.03				
	44	0.782	1.28	5.98	40	2.346	0.43	1.76	36	3.534	0.28	1.02					30	0.671	1.49	3.73	30	2.192	0.46	1.73	64	6.784	0.15	0.33				
	50	0.774	1.29	5.33	52	2.361	0.42	0.48	42	3.58	0.28	0.39					40	0.705	1.42	2.41	40	2.191	0.46	1.94	66	6.788	0.15	0.37				
	62	0.748	1.34	1.68	64	2.243	0.45	2.39	50	3.591	0.28	0.31					50	0.602	1.66	6.6	50	2.126	0.47	1.1	68	6.766	0.15	0.41				
	76	0.709	1.41	1.73	70	2.238	0.45	1.21	68	3.6	0.28	0.16					60	0.731	1.37	4.83	60	2.223	0.45	2.24	70	6.756	0.15	0.44				
	86	0.716	1.40	1.4	80	2.285	0.44	3.07	78	3.662	0.27	0.83					70	0.706	1.42	2.2	72	2.216	0.45	0.8	76	6.789	0.15	0.5				
	90	0.73	1.37	0.69	92	2.328	0.43	2.5	100	3.664	0.27	0.66					80	0.703	1.42	5.39	80	2.212	0.45	0.34								
	98	0.758	1.32	5.88	100	2.392	0.42	0.36									90	0.675	1.48	1.98	90	2.227	0.45	0.43								
																	100	0.701	1.43	5.55	100	2.242	0.45	0.64								
Summary		0.75	1.33	3.57		2.31	0.43	1.81		3.61	0.28	0.67						0.69	1.45	4.23		2.21	0.45	1.26		6.77	0.15	0.55				
				.69-5.98				.36-3.67				.31-1.05								1.61-7.56				.34-2.48				.33-1.03				
N4SID-IO	14	0.778	1.29	5.38	10	2.372	0.42	6.86	14	7.89	0.13	6.07					14	0.737	1.36	8.5	36	2.224	0.45	5.76	44	13.551	0.07	0.42				
	20	0.779	1.28	5.12	22	2.374	0.42	6.46	40	7.841	0.13	2.71					22	0.74	1.35	6.97	40	2.205	0.45	5.29	64	13.577	0.07	0.93				
	30	0.778	1.29	4.89	30	2.36	0.42	5.73	70	7.738	0.13	1.08					30	0.703	1.42	5.97	50	2.199	0.45	4.16	66	13.664	0.07	1.03				
	40	0.776	1.29	5.37	42	2.327	0.43	5.06	78	7.721	0.13	0.68					40	0.701	1.43	6.01	68	2.205	0.45	3.65	68	13.628	0.07	0.96				
	50	0.777	1.29	5.26	50	2.421	0.41	7.66	80	7.725	0.13	0.67					50	0.699	1.43	5.84	70	2.21	0.45	3.82	76	13.648	0.07	0.5				
	60	0.777	1.29	4.86	60	2.305	0.43	4.84	98	7.729	0.13	0.37					60	0.699	1.43	6.03	80	2.207	0.45	4.16	80	13.653	0.07	0.44				
	70	0.778	1.29	5.03	70	2.307	0.43	6.07	66	3.672	0.27	2.42					70	0.724	1.38	7.33	90	2.208	0.45	3.31	86	13.659	0.07	0.33				
	80	0.783	1.28	4.93	86	2.485	0.40	2.37	78	3.642	0.27	1.33					80	0.699	1.43	6.12	100	2.209	0.45	1.87	94	13.673	0.07	0.5				
	92	0.793	1.26	4.75	92	2.315	0.43	6.46	92	3.619	0.28	0.59					90	0.703	1.42	5.74												
	100	0.793	1.26	4.66	98	2.482	0.40	6.44									100	0.705	1.42	5.88												
Summary		0.78	1.28	5.03		2.37	0.42	5.80		6.40	0.18	1.77						0.71	1.41	6.44		2.21	0.45	4.00		13.63	0.07	0.64				
				4.56-9.21				2.37-9.35				.37-6.07								5.53-8.5				1.87-9.2				.33-1.03				
Average		0.771661	1.296661	4.47975		2.326089	0.430205	4.445472		6.001708	0.211777	2.071042						0.696793	1.437005	5.505214		2.213456	0.451887	3.85525		9.838827	0.120774	1.634196				

	Encino_17mar2014_15476961																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	50	0.857	1.17	6.21	44	2.479	0.40	8.51	34	23.17	0.04	6.21					48	0.863	1.16	5.84	48	2.217	0.45	7.05	50	5.625	0.18	9.86				
	56	0.852	1.17	7.26	50	2.488	0.40	7.51	40	23.234	0.04	4.35					50	0.831	1.20	6.41	50	2.248	0.44	7.43	54	5.654	0.18	8.93				
	60	0.854	1.17	7.88	60	2.483	0.40	6.75									56	0.819	1.22	7.3	62	2.311	0.43	4.46	62	5.687	0.18	7.62				
	66	0.856	1.17	7.75	70	2.475	0.40	6.12									60	0.817	1.22	6.18	70	2.36	0.42	5.53	64	5.664	0.18	6.95				
	70	0.846	1.18	7.39	80	2.485	0.40	6.33									68	0.824	1.21	4.46	76	2.355	0.42	4.92	66	13.294	0.08	2.63				
	76	0.837	1.19	6.68	90	2.482	0.40	6.55									70	0.824	1.21	4.16	80	2.337	0.43	5.83	70	13.314	0.08	2.5				
	80	0.835	1.20	6.17	100	2.484	0.40	6.68									76	0.82	1.22	4.3	86	2.371	0.42	7.48	80	13.262	0.08	1.59				
	86	0.829	1.21	5.48													80	0.821	1.22	3.9	92	2.378	0.42	7	88	13.297	0.08	1.38				
	90	0.843	1.19	5.98													90	0.823	1.22	4.54	96	2.35	0.43	6.82	94	13.318	0.08	0.96				
	98	0.842	1.19	4.66													100	0.818	1.22	4.49					100	13.358	0.07	0.92				
Summary		0.85	1.18	6.55		2.48	0.40	6.92		23.20	0.04	5.28						0.83	1.21	5.16		2.33	0.43	6.28		10.25	0.12	4.33				
				4.61-8.15				5.94-8.51				4.35-6.21								3.9-7.3				4.46-7.48				.92-9.86				
ARX	36	0.877	1.14	9.84	12	2.504	0.40	5.96	46	3.66	0.27	9.91					34	0.849	1.18	8.28	14	2.424	0.41	5.55	28	13.345	0.07	5.86				
	40	0.859	1.16	8.18	20	2.507	0.40	5.34	48	3.614	0.28	9.59					40	0.835	1.20	6.47	20	2.39	0.42	4.76	50	13.455	0.07	3.87				
	50	0.844	1.18	6.88	30	2.484	0.40	5.63	66	3.613	0.28	5.34					50	0.829	1.21	5.65	30	2.328	0.43	4.43	54	13.432	0.07	3.04				
	60	0.852	1.17	6.19	44	2.546	0.39	6.9	68	3.574	0.28	5.67					60	0.83	1.20	4.76	40	2.323	0.43	5.6	60	13.496	0.07	2.38				
	70	0.852	1.17	5.36	52	2.562	0.39	6.57	70	3.543	0.28	5.9					70	0.823	1.22	4.46	52	2.39	0.42	4.7	70	13.457	0.07	2.02				
	82	0.845	1.18	4.35	60	2.497	0.40	7.18	86	3.699	0.27	6.49					80	0.822	1.22	4.37	64	2.366	0.42	4.28	72	13.433	0.07	1.88				
	92	0.82	1.22	3.83	78	2.592	0.39	4.33									90	0.823	1.22	4.22	70	2.354	0.42	4.23	76	13.408	0.07	1.92				
	100	0.846	1.18	4.79	80	2.578	0.39	4.42									100	0.822	1.22	4.34	80	2.378	0.42	4.47	78	13.4	0.07	1.74				
					90	2.529	0.40	5.96													90	2.373	0.42	2.78	88	13.397	0.07	1.74				
																					100	2.376	0.42	2.9	96	13.447	0.07	1.53				
Summary		0.85	1.18	6.18		2.53	0.39	5.81		3.62	0.28	7.15						0.83	1.21	5.32		2.37	0.42	4.37		13.43	0.07	2.60				
				3.83-9.84				4.42-7.6				5.34-9.91								4.17-8.28				2.49-5.85				1.53-5.86				
SRIM	30	0.853	1.17	5.36	10	2.453	0.41	5.26	26	3.572	0.28	3.99					8	0.837	1.19	6.28	24	2.378	0.42	2.08	46	13.549	0.07	0.17				
	42	0.858	1.17	4.23	20	2.531	0.40	3.72	42	3.572	0.28	2.71					18	0.81	1.23	3.5	40	2.354	0.42	2.78	56	13.51	0.07	0.49				
	58	0.85	1.18	5.98	30	2.414	0.41	4.07	68	3.516	0.28	1.7					26	0.827	1.21	3.65	50	2.381	0.42	2.07	66	13.532	0.07	0.24				
	62	0.849	1.18	6.69	44	2.599	0.38	3.24	84	3.618	0.28	1.76					36	0.815	1.23	3.87	56	2.393	0.42	1.84	68	13.534	0.07	0.23				
	70	0.872	1.15	1.26	52	2.593	0.39	2.61	86	3.666	0.27	1.67					46	0.82	1.22	3.94	66	2.379	0.42	3.6	70	13.529	0.07	0.26				
	80	0.815	1.23	6.15	62	2.573	0.39	1.67									56	0.819	1.22	3.93	70	2.439	0.41	1.94	72	13.537	0.07	0.3				
	96	0.8	1.25	4.86	74	2.561	0.39	2									60	0.822	1.22	4.05	76	2.48	0.40	0.67								
	100	0.827	1.21	3.69	82	2.547	0.39	1.18									76	0.802	1.25	5.93	80	2.329	0.43	0.85								
					98	2.55	0.39	1.08									82	0.802	1.25	1.75	90	2.413	0.41	1.03								
					100	2.414	0.41	4.1									90	0.801	1.25	5.67	96	2.442	0.41	0.86								
Summary		0.84	1.19	4.78		2.52	0.40	2.89		3.59	0.28	2.37						0.82	1.23	4.26		2.40	0.42	1.77		13.53	0.07	0.28				
				1.03-9.52				1.08-5.26				1.67-3.99								1.65-6.28				.67-3.6				.17-.49				
N4SID-IO	54	0.849	1.18	9.18	14	2.513	0.40	8.07	92	3.574	0.28	6.58					40	0.827	1.21	7.91	16	2.393	0.42	9.92	42	13.429	0.07	3.34				
	70	0.844	1.18	8.77	22	2.499	0.40	6.86	94	3.596	0.28	6.97					50	0.826	1.21	6.79	24	2.37	0.42	6.46	56	13.486	0.07	1.33				
	76	0.84	1.19	7.43	30	2.464	0.41	7	96	3.698	0.27	6.95					60	0.822	1.22	6.12	30	2.342	0.43	6.19	60	13.422	0.07	1.8				
	84	0.777	1.29	9.91	40	2.496	0.40	7.28	100	3.654	0.27	4.16					70	0.82	1.22	5.47	42	2.349	0.43	5.9	80	13.473	0.07	2.25				
	88	0.78	1.28	8.85	50	2.509	0.40	7.46									80	0.82	1.22	5.26	50	2.393	0.42	7.18	96	13.579	0.07	1.59				
	90	0.835	1.20	6.43	62	2.532	0.39	6.26									90	0.819	1.22	5.37	66	2.362	0.42	3.49								
	96	0.774	1.29	7.26	72	2.559	0.39	8.21									100	0.817	1.22	5.95	70	2.362	0.42	4.29								
	100	0.841	1.19	5.61	82	2.532	0.39	5.87													80	2.377	0.42	3.87								
					90	2.533	0.39	6.02													90	2.35	0.43	4.01								
					100	2.559	0.39	5.01													100	2.358	0.42	3.39								
Summary		0.82	1.23	7.93		2.52	0.40	6.80		3.63	0.28	6.17						0.82	1.22	6.12		2.37	0.42	5.47		13.48	0.07	2.06				
				5.55-9.91				5.01-8.33				4.16-6.97								4.74-7.91				3.36-9.92				1.33-3.34				
Average		0.838119	1.194221	6.35775		2.514652	0.397796	5.607107		8.509617	0.218452	5.24025						0.823049	1.215209	5.214509		2.364956	0.423005	4.473		12.67098	0.084592	2.318917				

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	28	0.77	1.30	6.52	26	2.266	0.44	6.34	40	3.276	0.31	8.53					48	0.431	2.32	5.84	48	1.109	0.90	7.05	50	2.813	0.36	9.86				
	30	0.766	1.31	7.13	32	2.279	0.44	5.11	50	3.314	0.30	6.63					50	0.416	2.40	6.41	50	1.124	0.89	7.43	54	2.827	0.35	8.93				
	40	0.77	1.30	5.51	40	2.291	0.44	6.93	62	3.366	0.30	4.41					60	0.409	2.44	6.18	62	1.156	0.87	4.46	60	2.865	0.35	7.04				
	50	0.764	1.31	5.1	52	2.293	0.44	7.19	64	3.353	0.30	4.31					70	0.412	2.43	4.16	70	1.18	0.85	5.53	62	2.844	0.35	7.62				
	60	0.762	1.31	5.81	58	2.297	0.44	8.49	66	3.379	0.30	4.65					80	0.411	2.43	3.9	80	1.169	0.86	5.83	64	2.832	0.35	6.95				
	70	0.767	1.30	6.26	68	2.269	0.44	7.93	70	3.38	0.30	4.1					90	0.411	2.43	4.54	92	1.189	0.84	7	40	6.564	0.15	3.56				
	82	0.747	1.34	8.18	72	2.279	0.44	6.55	80	3.354	0.30	6.22					100	0.409	2.44	4.49	98	1.173	0.85	6.42	54	6.592	0.15	5.07				
	90	0.774	1.29	7.92	80	2.295	0.44	6.52	86	3.352	0.30	3.85													66	6.647	0.15	2.63				
	100	0.76	1.32	7.13	92	2.222	0.45	3.69	94	3.312	0.30	3.44													70	6.657	0.15	2.5				
					100	2.223	0.45	4.75	96	3.248	0.31	3.16													80	6.631	0.15	1.59				
Summary		0.76	1.31	6.62		2.27	0.44	6.35		3.33	0.30	4.93						0.41	2.42	5.07		1.16	0.86	6.25		4.73	0.25	5.58				
				4.87-8.18				3.69-8.49				3.16-8.53								3.9-6.41				4.46-7.43								
ARX	18	0.773	1.29	5.46	14	2.272	0.44	5	24	3.495	0.29	8.34					34	0.425	2.35	8.28	14	1.212	0.83	5.55	50	6.728	0.15	3.87				
	20	0.775	1.29	5.49	20	2.306	0.43	5.18	28	3.558	0.28	9.13					40	0.417	2.40	6.47	20	1.195	0.84	4.76	60	6.748	0.15	2.38				
	30	0.776	1.29	5.39	28	2.325	0.43	4.43	32	3.505	0.29	7.63					50	0.415	2.41	5.65	30	1.164	0.86	4.43	70	6.728	0.15	2.02				
	40	0.775	1.29	5.69	42	2.345	0.43	4.25	40	3.416	0.29	6.91					60	0.415	2.41	4.76	40	1.161	0.86	5.6	82	6.608	0.15	2.07				
	50	0.675	1.48	9.13	54	2.233	0.45	3.5	66	3.456	0.29	4.6					70	0.412	2.43	4.46	52	1.195	0.84	4.7	96	6.723	0.15	1.53				
	60	0.77	1.30	7.19	62	2.209	0.45	3.47	72	3.432	0.29	4.97					80	0.411	2.43	4.37	64	1.183	0.85	4.28	100	6.634	0.15	1.18				
	74	0.752	1.33	8.08	70	2.205	0.45	4.28	88	3.454	0.29	2.9					90	0.411	2.43	4.22	70	1.177	0.85	4.23								
	88	0.718	1.39	4.41	80	2.344	0.43	3.73	94	3.472	0.29	2.49					100	0.411	2.43	4.34	80	1.189	0.84	4.47								
	92	0.72	1.39	3.98	90	2.332	0.43	3.54	98	3.483	0.29	1.87									90	1.187	0.84	2.49								
	100	0.792	1.26	5.09	100	2.395	0.42	3.34													100	1.188	0.84	2.9								
Summary		0.75	1.33	5.99		2.30	0.44	4.07		3.47	0.29	5.43						0.41	2.41	5.32		1.19	0.84	4.34		6.69	0.15	2.18				
				3.98-9.13				3.3-9.61				1.87-9.13								.17-8.28				2.49-7.7				1.18-3.87			
SRIM	8	0.769	1.30	5.77	8	2.286	0.44	4.84	26	3.112	0.32	3.62					8	0.419	2.39	6.28	24	1.032	0.97	6.45	46	6.628	0.15	0.31				
	18	0.775	1.29	5.65	14	2.29	0.44	4.05	36	3.175	0.31	1.16					18	0.405	2.47	3.5	32	1.069	0.94	5.99	56	6.755	0.15	0.49				
	26	0.766	1.31	5.91	18	2.222	0.45	5.47	46	3.1	0.32	1.17					20	0.408	2.45	4.03	40	1.177	0.85	2.78	66	6.766	0.15	0.24				
	40	0.791	1.26	1.94	38	2.337	0.43	5.68	54	3.062	0.33	0.31					36	0.408	2.45	3.87	50	1.191	0.84	2.07	68	6.767	0.15	0.23				
	50	0.782	1.28	4.71	46	2.316	0.43	0.58	62	3.182	0.31	1.16					46	0.41	2.44	3.94	64	1.055	0.95	4.21	70	6.765	0.15	0.26				
	60	0.771	1.30	5.73	50	2.26	0.44	6.96	72	3.036	0.33	0.45					56	0.41	2.44	3.93	72	1.186	0.84	2.68	72	6.769	0.15	0.3				
	72	0.766	1.31	4.76	62	2.262	0.44	6.49	84	3.014	0.33	1.75					62	0.411	2.43	4.05	80	1.165	0.86	0.85	88	6.624	0.15	0.1				
	80	0.77	1.30	6.14	70	2.324	0.43	0.49	96	3.033	0.33	0.27					76	0.401	2.49	5.93	90	1.018	0.98	3.96								
	92	0.765	1.31	7.16	82	2.302	0.43	0.45	100	3.134	0.32	0.67					82	0.401	2.49	1.75	100	1.024	0.98	1.95								
	98	0.764	1.31	5.41	96	2.334	0.43	0.34									90	0.401	2.49	5.67												
Summary		0.77	1.30	5.32		2.29	0.44	3.54		3.09	0.32	1.17						0.41	2.46	4.30		1.10	0.91	3.44		6.72	0.15	0.28				
				1.89-7.16				.34-5.68				.27-3.62								1.65-6.28				.85-6.45				.1-.49			
N4SID-IO	22	0.777	1.29	6.35	12	2.298	0.44	6.96	38	3.34	0.30	4.97					40	0.414	2.42	7.91	16	1.197	0.84	9.92	42	6.715	0.15	3.34				
	30	0.775	1.29	6.3	24	2.337	0.43	6.72	44	3.316	0.30	5.63					46	0.417	2.40	7.19	24	1.185	0.84	6.46	60	6.711	0.15	1.8				
	40	0.773	1.29	6.71	30	2.29	0.44	6.41	92	3.37	0.30	4.56					50	0.413	2.42	6.79	30	1.171	0.85	6.19	65	6.698	0.15	1.6				
	50	0.775	1.29	6.87	40	2.235	0.45	4.29	96	3.287	0.30	3.31					52	0.412	2.43	7.28	42	1.175	0.85	5.9	70	6.737	0.15	2.25				
	60	0.783	1.28	6.53	50	2.387	0.42	5.93									60	0.411	2.43	6.12	50	1.196	0.84	7.18	90	6.62	0.15	0.76				
	72	0.789	1.27	5.73	58	2.234	0.45	5.97									64	0.411	2.43	5.05	66	1.181	0.85	3.49	96	6.789	0.15	1.59				
	82	0.785	1.27	6.62	72	2.236	0.45	5.53									70	0.41	2.44	5.47	70	1.181	0.85	4.29								
	90	0.71	1.41	5.98	82	2.254	0.44	4.9									80	0.41	2.44	5.26	80	1.189	0.84	3.87								
	10	0.787	1.27	5.98	90	2.388	0.42	4									90	0.409	2.44	5.37	90	1.175	0.85	4.01								
					94	2.241	0.45	7.58									100	0.409	2.44	5.95	100	1.179	0.85	3.39								
Summary		0.77	1.30	6.34		2.29	0.44	5.83		3.33	0.30	4.62						0.41	2.43	6.24		1.18	0.85	5.47		6.71	0.15	1.89				
				5.55-9.52				4.29-7.58				3.31-5.63								4.74-7.91				3.36-9.92				.76-3.34			
Average		0.765403	1.307765	6.066972		2.287825	0.437292	4.9465		3.307607	0.302917	4.036875						0.411942	2.428018	5.231759		1.156758	0.866346	4.873623		6.214639	0.174737	2.478929				

	Northridge_17Jan1994																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	0.69	1.45	5.78	14	2.152	0.46	6.73	70	2.702	0.37	3.73					24	0.604	1.66	6.28	16	1.915	0.52	4.82	40	6.43	0.16	6.23				
	20	0.689	1.45	5.55	22	2.175	0.46	6.71	72	2.672	0.37	3.63					34	0.618	1.62	3	22	1.928	0.52	6.14	54	8.916	0.11	0.97				
	30	0.687	1.46	5.5	34	2.2	0.45	4.52	74	2.67	0.37	3.42					40	0.622	1.61	2.98	30	1.926	0.52	6.67	84	8.81	0.11	1.04				
	40	0.687	1.46	5.52	48	2.186	0.46	6.57	76	2.67	0.37	3.14					50	0.624	1.60	3.22	44	1.913	0.52	5.64	88	8.975	0.11	0.03				
	50	0.686	1.46	5.41	56	2.212	0.45	6.38	78	2.646	0.38	3.14					64	0.627	1.59	3.87	52	1.897	0.53	5.26	94	8.811	0.11	0.5				
	60	0.688	1.45	5.41	64	2.206	0.45	4.92	82	2.64	0.38	3.36					74	0.62	1.61	3.07	60	1.942	0.51	7.57	100	8.81	0.11	0.45				
	70	0.689	1.45	5.09	70	2.126	0.47	5.74	92	2.633	0.38	2.78					80	0.62	1.61	3.64	72	1.898	0.53	5.77								
	80	0.688	1.45	4.92	80	2.154	0.46	4.72									90	0.621	1.61	3.58	80	1.921	0.52	5.14								
	90	0.689	1.45	5.72	94	2.27	0.44	2.94									100	0.619	1.62	3.96	90	1.989	0.50	4.17								
	98	0.688	1.45	6																	100	1.86	0.54	4.11								
Summary		0.69	1.45	5.49		2.19	0.46	5.47		2.66	0.38	3.31						0.62	1.61	3.73		1.92	0.52	5.53		8.46	0.12	1.54				
				4.92-6.26				2.94-6.73				2.78-3.63								3-6.28				4.11-7.57				.45-6.23				
ARX	10	0.691	1.45	5.71	10	2.168	0.46	5.82	34	2.732	0.37	5.68					10	0.638	1.57	5.15	10	1.916	0.52	6.88	64	8.806	0.11	0.54				
	20	0.686	1.46	5.31	20	2.187	0.46	3.98	42	2.744	0.36	3.31					20	0.627	1.59	4.23	20	1.928	0.52	6.05	66	8.8	0.11	0.54				
	30	0.625	1.60	1.98	34	2.158	0.46	7.14	54	2.795	0.36	1.88					30	0.626	1.60	3.52	32	1.907	0.52	4.89	70	8.824	0.11	0.39				
	40	0.62	1.61	1.63	42	2.176	0.46	7.17	66	2.746	0.36	5.51					40	0.624	1.60	3.51	40	1.899	0.53	3.59	80	8.859	0.11	0.21				
	50	0.619	1.62	1.44	50	2.069	0.48	5.41	70	2.697	0.37	2.26					50	0.618	1.62	3.61	52	1.837	0.54	6.61	92	8.892	0.11	0.35				
	60	0.695	1.44	5.16	64	2.143	0.47	4.42	80	2.729	0.37	2.91					60	0.619	1.62	3.87	60	1.869	0.54	6.9	96	8.84	0.11	0.35				
	70	0.656	1.52	7.79	72	2.083	0.48	4.2	90	2.705	0.37	1.82					72	0.62	1.61	3.45	70	1.808	0.55	3.54	98	8.989	0.11	0.81				
	80	0.696	1.44	4.91	80	2.099	0.48	2.49	100	2.664	0.38	1.4					80	0.617	1.62	3.19	80	1.917	0.52	1.93								
	92	0.666	1.50	6.47	90	2.069	0.48	1.5									90	0.613	1.63	3.15	90	1.922	0.52	0.97								
					100	2.122	0.47	1.15									100	0.616	1.62	3.47	100	1.962	0.51	3.04								
Summary		0.66	1.51	4.49		2.13	0.47	4.33		2.73	0.37	3.10						0.62	1.61	3.72		1.90	0.53	4.44		8.86	0.11	0.46				
				1.44-9.66				1.15-7.32				1.4-5.68								2.94-5..53				.97-7.16				.21-.81				
SRIM	10	0.688	1.45	5.31	10	2.15	0.47	6.7	34	2.925	0.34	1.07					10	0.625	1.60	3.17	10	1.879	0.53	5.88	28	8.573	0.12	0.24				
	20	0.686	1.46	5.41	18	2.124	0.47	5.55	42	2.921	0.34	1.17					20	0.62	1.61	3.5	22	1.858	0.54	1.13	30	8.571	0.12	0.23				
	30	0.691	1.45	4.41	26	2.106	0.47	3.06	52	2.913	0.34	0.6					30	0.617	1.62	2.85	38	1.895	0.53	0.57	32	8.568	0.12	0.26				
	40	0.699	1.43	3.52	34	2.097	0.48	5	58	2.921	0.34	0.57					40	0.69	1.45	1.2	48	1.966	0.51	1.26	34	8.571	0.12	0.27				
	46	0.696	1.44	2.2	50	2.19	0.46	5.17	60	2.918	0.34	0.38					50	0.616	1.62	2.4	50	1.805	0.55	3.03	38	8.571	0.12	0.27				
	68	0.556	1.80	0.98	66	2.186	0.46	2.21	68	2.918	0.34	0.28					60	0.627	1.59	4	60	1.948	0.51	0.68	40	8.565	0.12	0.26				
	80	0.644	1.55	5.91	70	2.025	0.49	1.2	84	2.912	0.34	0.54					70	0.612	1.63	1.99	70	1.86	0.54	0.92	44	8.556	0.12	0.35				
	90	0.637	1.57	5.31	80	2.085	0.48	0.5	90	2.905	0.34	0.81					80	0.628	1.59	3.57	80	1.949	0.51	1.75	46	8.563	0.12	0.32				
	100	0.697	1.43	1.01	96	2.103	0.48	0.56	100	2.914	0.34	0.44					90	0.628	1.59	3.08	90	1.943	0.51	0.57	94	8.474	0.12	0.96				
					100	2.104	0.48	0.43									100	0.605	1.65	0.67	100	1.886	0.53	0.92								
Summary		0.67	1.51	3.78		2.12	0.47	3.04		2.92	0.34	0.65						0.63	1.60	2.64		1.90	0.53	1.67		8.56	0.12	0.35				
				.98-5.91				.43-6.7				.44-1.17								.44-3.74				.57-6.33				.23-.96				
N4SID-IO	12	0.695	1.44	7.02	10	2.174	0.46	7.13	32	3.036	0.33	4.89					12	0.648	1.54	8.94	12	1.921	0.52	7.68	46	5.74	0.17	1.57				
	20	0.686	1.46	6.02	20	2.181	0.46	5.57	72	2.911	0.34	1.39					22	0.625	1.60	6.19	20	1.922	0.52	6.57	50	5.76	0.17	1.02				
	30	0.687	1.46	6.26	30	2.195	0.46	7.72	74	2.947	0.34	1.43					32	0.619	1.62	4.4	32	1.92	0.52	7.13	56	5.769	0.17	0.96				
	40	0.688	1.45	5.96	44	2.181	0.46	6.95	80	3.025	0.33	2.22					40	0.62	1.61	3.84	42	1.905	0.52	7.8	58	5.761	0.17	1.01				
	50	0.69	1.45	5.98	52	2.15	0.47	6.63	84	2.936	0.34	1.15					50	0.618	1.62	4.4	50	1.894	0.53	5.99	62	5.808	0.17	0.76				
	60	0.693	1.44	6.03	60	2.144	0.47	6.79	90	2.924	0.34	1.29					60	0.621	1.61	4.54	66	1.936	0.52	3.68	68	5.766	0.17	1.28				
	70	0.689	1.45	6.06	70	2.13	0.47	6.88	92	3.066	0.33	2.82					70	0.619	1.62	4.21	70	1.908	0.52	5.45	94	5.765	0.17	0.67				
	82	0.689	1.45	6.79	80	2.174	0.46	6.6	100	2.919	0.34	0.96					80	0.617	1.62	4.18	82	1.95	0.51	7.5	50	8.606	0.12	0.87				
	90	0.688	1.45	6.52	90	2.187	0.46	2.3									90	0.669	1.49	4.48	90	1.89	0.53	3.13	60	8.608	0.12	0.56				
	100	0.705	1.42	6.48	96	2.177	0.46	2.65									100	0.618	1.62	4.96	98	1.922	0.52	4.67	76	8.616	0.12	0.59				
Summary		0.69	1.45	6.31		2.17	0.46	5.92		2.97	0.34	2.02						0.63	1.59	5.01		1.92	0.52	5.96		6.62	0.16	0.93				
				5.63-7.46				2.3-7.72				.96-4.89								3.84-8.94				2.15-7.8				.53-1.57				
Average		0.676664	1.481152	5.018833		2.150119	0.465326	4.6895		2.818798	0.355551	2.270099						0.623861	1.603783	3.776333		1.907775	0.524391	4.4		8.123507	0.126479	0.818123				

	Whittier87																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	16	0.736	1.36	4.57	14	2.3	0.43	8.23	98	3.101	0.32	0.55					18	0.694	1.44	7.38	20	2.136	0.47	9.8	56	6.69	0.15	0.32				
	20	0.733	1.36	5.08	18	2.263	0.44	7.58									20	0.693	1.44	7.16	32	2.266	0.44	4.3	62	6.664	0.15	0.71				
	30	0.738	1.36	5.92	20	2.263	0.44	8.19									30	0.683	1.46	4.41	54	2.161	0.46	7.25	64	6.617	0.15	0.75				
	42	0.75	1.33	5.82	24	2.27	0.44	7.19									42	0.684	1.46	3.59	62	2.201	0.45	7	70	6.61	0.15	0.69				
	50	0.751	1.33	6.34	32	2.314	0.43	7.21									50	0.687	1.46	4.02	66	2.169	0.46	8.67								
	60	0.751	1.33	6.41	38	2.264	0.44	7.22									60	0.689	1.45	4.4	80	2.126	0.47	2.88								
	70	0.751	1.33	6.99	40	2.291	0.44	7.91									70	0.686	1.46	4.15	94	2.256	0.44	4.24								
	82	0.758	1.32	6.38	44	2.246	0.45	8.94									80	0.684	1.46	4.18	100	2.237	0.45	4.21								
	88	0.751	1.33	7.62	74	2.274	0.44	4.74									94	0.699	1.43	4.16												
Summary		0.75	1.34	6.13		2.28	0.44	7.47		3.10	0.32	0.55						0.69	1.45	4.83		2.19	0.46	6.04		6.65	0.15	0.62				
				4.57-7.62				4.74-8.94												3.59-7.94				2.76-9.8				.32-.75				
ARX	10	0.753	1.33	5.94	10	2.282	0.44	7.66	34	3.307	0.30	3.91					26	0.693	1.44	3.74	24	2.213	0.45	8.28	42	9.475	0.11	1.28				
	20	0.751	1.33	6.77	24	2.339	0.43	6.5	42	3.26	0.31	1.87					30	0.694	1.44	2.93	32	2.258	0.44	2.43	48	9.53	0.10	0.41				
	30	0.749	1.34	7.07	30	2.335	0.43	7.7	52	3.264	0.31	2.13					42	0.698	1.43	3.85	52	2.232	0.45	5.37	52	9.532	0.10	0.27				
	40	0.753	1.33	6.81	40	2.354	0.42	5.07	56	3.286	0.30	2.22					50	0.7	1.43	2.94	52	2.28	0.44	2.09	58	9.532	0.10	0.19				
	50	0.752	1.33	5.46	50	2.378	0.42	2.25	64	3.331	0.30	1.21					62	0.552	1.81	9.5	72	2.11	0.47	3.96	64	9.524	0.10	0.34				
	62	0.754	1.33	4.67	60	2.391	0.42	4.15	72	3.325	0.30	0.97					72	0.507	1.97	5.61	80	2.176	0.46	6.03	72	9.588	0.10	0.35				
	70	0.752	1.33	3.47	72	2.355	0.42	8.38	78	3.321	0.30	0.79					80	0.694	1.44	3.89	90	2.147	0.47	1.72	78	9.511	0.11	0.29				
	82	0.753	1.33	2.73	82	2.327	0.43	2.33	80	3.318	0.30	1.17					94	0.697	1.43	5.54	100	2.235	0.45	4.15	82	9.51	0.11	0.26				
	92	0.764	1.31	2.1	90	2.317	0.43	2.2	92	3.321	0.30	1.37					100	0.696	1.44	5.24					90	9.517	0.11	0.39				
	100	0.773	1.29	6.89	98	2.332	0.43	2.73	100	3.309	0.30	2.44													100	9.512	0.11	0.4				
Summary		0.76	1.32	5.19		2.34	0.43	4.90		3.30	0.30	1.81						0.66		4.80		2.21	0.45	4.25		9.52	0.11	0.42				
				2.1-7.89				2.08-8.38				.79-3.91								2.93-9.5				1.72-8.28				.19-1.28				
SRIM	10	0.754	1.33	5.87	10	2.213	0.45	5.8	28	3.106	0.32	0.42					14	0.689	1.45	4.61	30	2.069	0.48	1.78	54	6.869	0.15	0.27				
	20	0.744	1.34	6.25	20	2.253	0.44	4.39	42	3.299	0.30	1.25					24	0.694	1.44	3.89	52	1.976	0.51	0.25	56	6.746	0.15	0.21				
	32	0.757	1.32	4.21	44	2.198	0.45	1.69	50	3.283	0.30	1.41					34	0.69	1.45	2.63	56	2.053	0.49	2.19	60	6.877	0.15	0.3				
	42	0.707	1.41	9.63	50	2.17	0.46	2.04	60	3.289	0.30	1.53					40	0.7	1.43	5.94	70	1.957	0.51	0.86	62	6.742	0.15	0.23				
	52	0.677	1.48	3.5	64	2.194	0.46	2.47	70	3.3	0.30	1.08					52	0.7	1.43	4.91	78	2.011	0.50	3.74	64	6.74	0.15	0.23				
	60	0.769	1.30	6.44	72	2.243	0.45	0.9	80	3.224	0.31	0.94					56	0.693	1.44	4.94	80	1.999	0.50	6.01	66	6.736	0.15	0.26				
	70	0.669	1.49	2.56	80	2.154	0.46	1.54	86	3.126	0.32	1.41					74	0.533	1.88	2.35	90	1.965	0.51	1.55	76	6.708	0.15	0.93				
	80	0.753	1.33	2.9	92	2.141	0.47	1.99	98	3.258	0.31	1.01					84	0.543	1.84	3.29	94	1.954	0.51	1.31	84	6.723	0.15	0.42				
	92	0.761	1.31	3.55	100	2.269	0.44	1.29	100	3.276	0.31	2.42					90	0.539	1.86	3.69	100	1.948	0.51	0.89	88	6.893	0.15	0.42				
																									98	6.824	0.15	0.68				
Summary		0.73	1.37	4.99		2.20	0.45	2.46		3.24	0.31	1.27						0.64	1.58	4.03		1.99	0.50	2.06		6.79	0.15	0.40				
				1.55-9.63				9-6.7				.42-2.42								1.5-5.12				.25-6.01								
N4SID-IO	16	0.75	1.33	7.06	10	2.298	0.44	8.73	44	3.265	0.31	3.69					24	0.686	1.46	6.49	42	2.294	0.44	2.91	46	7.564	0.13	1.32				
	20	0.747	1.34	6.96	20	2.261	0.44	7.82	54	3.26	0.31	1.92					30	0.686	1.46	5.05	50	2.294	0.44	6.54	48	7.578	0.13	1.48				
	30	0.748	1.34	7.33	30	2.301	0.43	9.63	56	3.239	0.31	2.15					40	0.685	1.46	4.39	58	2.19	0.46	8.42	50	7.508	0.13	1.53				
	42	0.75	1.33	7.93	40	2.399	0.42	7.5	66	3.229	0.31	2.15					50	0.691	1.45	4.26	62	2.276	0.44	2	52	7.529	0.13	1.59				
	50	0.747	1.34	6.84	52	2.311	0.43	6.35	68	3.226	0.31	1.79					60	0.691	1.45	4.61	74	2.161	0.46	4.44	74	7.428	0.13	0.99				
	60	0.75	1.33	5.99	60	2.145	0.47	5.4	70	3.213	0.31	1.78					70	0.699	1.43	3.85	76	2.199	0.45	3.68	88	7.546	0.13	0.39				
	70	0.75	1.33	5.46	72	2.35	0.43	4.75	82	3.271	0.31	4.11					80	0.711	1.41	3.97	80	2.288	0.44	1.97								
	80	0.727	1.38	5.77	80	2.214	0.45	3.15	86	3.251	0.31	1.79					90	0.704	1.42	5.31	86	2.191	0.46	7.9								
	92	0.783	1.28	7.8	92	2.373	0.42	3.62	90	3.257	0.31	2.04					100	0.723	1.38	4.06	92	2.103	0.48	3.15								
	98	0.787	1.27	4.23	100	2.369	0.42	6.69	94	3.242	0.31	1.57									94	2.298	0.44	4.22								
Summary		0.75	1.33	6.54		2.30	0.43	6.36		3.25	0.31	2.30						0.70	1.43	4.67		2.23	0.45	4.52		7.53	0.13	1.22				
				4.23-7.8				2.97-9.98				1.57-4.11								3.23-6.49				2-8.42				.39-1.59				
Average		0.747047	1.339888	5.710889		2.280775	0.438844	5.296361		3.222653	0.310516	1.482861						0.671861	1.116458	4.581389		2.155555	0.46515	4.221236		7.619913	0.133941	0.661792				

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	68	0.846	1.18	7.36	86	2.51	0.40	7.47	50	3.478	0.29	7.48					72	0.868	1.15	4.5	88	3.765	0.27	5.53	88	4.411	0.23	9.29				
	70	0.837	1.19	8.04	98	2.529	0.40	7.98	52	3.41	0.29	7.85					74	0.867	1.15	4.96	90	3.722	0.27	6.17	90	4.454	0.22	9.41				
	78	0.86	1.16	3.63	100	2.558	0.39	8.82	62	3.407	0.29	6.65					78	0.863	1.16	5.7	96	3.775	0.26	6.02	94	4.491	0.22	9.95				
	92	0.843	1.19	4.27					64	3.397	0.29	7.29					80	0.854	1.17	5.97	98	3.703	0.27	6.91								
	94	0.837	1.19	3.78					74	3.477	0.29	5.7					82	0.856	1.17	5.84	100	3.715	0.27	6.65								
	98	0.862	1.16	3.26					90	3.492	0.29	7.47					96	0.846	1.18	4.26												
	100	0.873	1.15	3.61					96	3.47	0.29	4.27					100	0.845	1.18	5.14												
									98	3.43	0.29	4.49																				
Summary		0.85	1.18	4.85		2.53	0.39	8.09		3.45	0.29	6.40						0.86	1.17	5.20		3.74	0.27	6.26		4.45	0.22	9.55				
				3.26-8.04				7.47-8.82				4.29-7.85								4.26-5.84				5.53-6.91				9.29-9.95				
ARX	84	0.849	1.18	6.07	32	2.564	0.39	5.75	56	6.254	0.16	4.24					58	0.866	1.15	8.12	78	3.506	0.29	6.13	16	5.435	0.18	7.59				
	86	0.849	1.18	5.62	44	2.566	0.39	8.73	58	6.254	0.16	4.42					60	0.854	1.17	7.1	80	3.479	0.29	5.93	78	5.497	0.18	4.17				
	88	0.847	1.18	5.17	50	2.53	0.40	8.35	60	6.179	0.16	4.61					64	0.851	1.18	6.15	82	3.445	0.29	6.55	82	5.531	0.18	3.48				
	90	0.844	1.18	5.16	62	2.561	0.39	4.99	72	6.178	0.16	3.42					70	0.851	1.18	5.27	84	3.483	0.29	5.94	84	5.538	0.18	3.34				
	92	0.839	1.19	5.64	70	2.573	0.39	6.35	74	6.154	0.16	3.13					80	0.853	1.17	4.38	86	3.478	0.29	6.93	86	5.548	0.18	2.95				
	94	0.834	1.20	5.39	80	2.562	0.39	6.78	78	6.111	0.16	3.38					86	0.853	1.17	4.27	96	3.532	0.28	5.78	90	5.558	0.18	2.53				
	96	0.832	1.20	4.84	96	2.591	0.39	4.83	80	6.134	0.16	3					90	0.854	1.17	4.68												
	98	0.831	1.20	4.83	100	2.577	0.39	4.74	94	6.133	0.16	1.81																				
	100	0.828	1.21	4.76					98	6.155	0.16	1.83																				
									100	6.163	0.16	1.72																				
Summary		0.84	1.19	5.28		2.57	0.39	6.32		6.17	0.16	3.16						0.85	1.17	5.71		3.49	0.29	6.21		5.52	0.18	4.01				
				4.76-6.07				4.74-8.73				1.72-4.61								4.27-8.12				5.78-6.93				2.53-7.59				
SRIM	32	0.848	1.18	2.7	14	2.53	0.40	5.89	22	8.13	0.12	0.4					70	0.825	1.21	4.29	48	3.294	0.30	1.9	46	5.107	0.20	5.42				
	40	0.818	1.22	1.46	28	2.591	0.39	1.97	24	8.2	0.12	0.74					72	0.84	1.19	3.97	50	3.277	0.31	2.4	56	5.188	0.19	0.49				
	50	0.807	1.24	3.18	34	2.574	0.39	2.98	50	8.215	0.12	1.14					86	0.798	1.25	3.45	70	3.122	0.32	1.71	60	5.014	0.20	0.99				
	62	0.872	1.15	4.7	70	2.45	0.41	2.53	54	8.217	0.12	1.6					88	0.822	1.22	3.56	80	3.176	0.31	0.94	76	5.197	0.19	1.24				
	70	0.733	1.36	1.81	72	2.503	0.40	2.1	82	8.271	0.12	1.85					96	0.732	1.37	2.75	84	3.176	0.31	0.93								
	82	0.87	1.15	4.19	82	2.504	0.40	1.43	92	8.258	0.12	0.43					98	0.729	1.37	2.61	98	3.253	0.31	0.71								
	88	0.877	1.14	3.27	92	2.597	0.39	2.26	100	8.26	0.12	0.6									100	3.284	0.30	1.11								
	100	0.834	1.20	2.74																												
Summary		0.83	1.21	3.01		2.54	0.39	2.74		8.22	0.12	0.97						0.79	1.27	3.44		3.23	0.31	1.39		5.13	0.20	2.04				
				1.46-4.19				1.43-5.89				.4-1.85								2.61-4.29				.71-2.4				.49-5.42				
N4SID-IO	66	0.896	1.12	6.92	34	2.531	0.40	6.17	34	8.293	0.12	2.61					46	2.622	0.38	7.57	84	3.265	0.31	8.8	40	5.589	0.18	5.92				
	68	0.875	1.14	6.49	40	2.52	0.40	6.17	36	8.241	0.12	2.72					62	2.54	0.39	7.35	86	3.362	0.30	8.66	62	5.684	0.18	4.39				
	76	0.772	1.30	9.04	50	2.559	0.39	8.38	40	8.16	0.12	3.12					68	2.637	0.38	7.24	90	3.359	0.30	9.19	84	5.61	0.18	3				
	78	0.786	1.27	9.94	60	2.573	0.39	6.92	92	8.108	0.12	1.46					72	2.646	0.38	5.73	92	3.273	0.31	9.41	86	5.611	0.18	3.07				
	80	0.787	1.27	9.67	70	2.584	0.39	5.71	100	8.256	0.12	2.11					76	2.658	0.38	4.6	100	3.248	0.31	8.77	92	5.627	0.18	2.64				
					92	2.589	0.39	6.63	86	6.166	0.16	2.07					80	2.669	0.37	4.85												
					98	2.594	0.39	6.15	90	6.141	0.16	1.53					84	2.689	0.37	4.94												
					100	2.587	0.39	7	92	6.168	0.16	1.4					90	2.662	0.38	4.88												
									96	6.121	0.16	0.97					96	2.653	0.38	4.83												
									100	6.111	0.16	0.83					100	2.64	0.38	4.43												
Summary		0.82	1.22	8.41		2.57	0.39	6.64		7.18	0.14	1.88						2.64	0.38	5.64		3.30	0.30	8.97		5.62	0.18	3.80				
				6.49-9.94				5.64-9.58				.83-3.12								4.42-8.17				8.66-9.41				2.64-5.94				
Average		0.836485	1.19784	5.385951		2.550132	0.392212	5.945848		6.253674	0.179071	3.100929						1.286043	0.996048	4.996512		3.437642	0.291883	5.704429		5.180133	0.194696	4.84975				

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	60	0.899	1.11	6.48	44	2.683	0.37	7.04	44	8.374	0.12	4.21					50	0.879	1.14	9.42	46	2.435	0.41	5.42	66	4.249	0.24	9.08				
	68	0.895	1.12	5.93	50	2.668	0.37	7.65	48	8.291	0.12	5.34					54	0.86	1.16	7.1	58	2.587	0.39	7.64	76	4.276	0.23	9.46				
	70	0.895	1.12	5.84	60	2.665	0.38	8.29	50	8.282	0.12	5.62					66	0.845	1.18	5.6	70	2.571	0.39	7.03	42	11.604	0.09	5.17				
	76	0.896	1.12	4.68	70	2.608	0.38	8.7	62	8.212	0.12	5.4					70	0.839	1.19	5.94	76	2.508	0.40	5.33	66	11.648	0.09	3.37				
	80	0.9	1.11	4.54	76	2.657	0.38	9.83	74	8.271	0.12	3.28					76	0.846	1.18	5.25	80	2.515	0.40	5.58	74	11.675	0.09	1.88				
	86	0.895	1.12	4.27	98	2.69	0.37	9.37	88	8.279	0.12	1.6					80	0.842	1.19	5.09	86	2.532	0.39	5.59	76	11.673	0.09	2				
	90	0.892	1.12	4.59	100	2.615	0.38	9.61	96	8.325	0.12	1.83					86	0.842	1.19	5	90	2.541	0.39	6.85	78	11.636	0.09	2.01				
	96	0.891	1.12	4.65					100	8.319	0.12	2.34					90	0.838	1.19	4.74	96	2.533	0.39	6.39	82	11.654	0.09	1.86				
	100	0.892	1.12	4.44													94	0.833	1.20	5.23					92	11.674	0.09	1.41				
																	100	0.831	1.20	5.34												
Summary		0.90	1.12	5.05		2.66	0.38	8.64		8.29	0.12	3.70						0.85	1.18	5.87		2.53	0.40	6.23		10.01	0.12	4.03				
				4.18-6.48				7.04-9.83				1.6-5.62								4.74-9.42				5.27-7.64				1.41-9.46				
ARX	46	0.92	1.09	9.13	14	2.715	0.37	5.22	42	11.91	0.08	2.04					38	0.876	1.14	8.53	12	2.5	0.40	7.06	24	6.841	0.15	7.42				
	50	0.911	1.10	7.35	20	2.68	0.37	6.01	44	11.887	0.08	2.38					40	0.872	1.15	7.64	20	2.443	0.41	7.54	40	6.812	0.15	6.94				
	60	0.9	1.11	6.34	30	2.615	0.38	5.56	60	11.823	0.08	2.02					50	0.862	1.16	5.63	30	2.412	0.41	6.63	66	6.89	0.15	5.27				
	72	0.901	1.11	5.9	46	2.76	0.36	5.29	82	11.922	0.08	0.97					60	0.853	1.17	4.26	40	2.409	0.42	7.99	78	6.853	0.15	4.03				
	80	0.914	1.09	5.63	50	2.725	0.37	5.45	88	11.926	0.08	1.03					70	0.854	1.17	3.59	54	2.457	0.41	8.05	86	6.807	0.15	4.63				
	90	0.9	1.11	5.09	60	2.673	0.37	5.42	90	11.958	0.08	1.27					80	0.853	1.17	3.31	68	2.497	0.40	5.88	20	11.81	0.08	7.03				
	100	0.895	1.12	4.76	70	2.751	0.36	3.75	100	11.96	0.08	0.73					90	0.852	1.17	3.16	70	2.491	0.40	6.55	34	11.738	0.09	5.63				
					80	2.736	0.37	6.77									100	0.853	1.17	2.81	80	2.47	0.40	8.52	46	11.816	0.08	5.22				
					92	2.777	0.36	6.9													96	2.435	0.41	8	54	11.856	0.08	3.63				
																					100	2.436	0.41	7.9	84	11.881	0.08	0.93				
Summary		0.91	1.10	6.31		2.71	0.37	5.60		11.91	0.08	1.49						0.86	1.16	4.87		2.46	0.41	7.41		9.33	0.12	5.07				
				4.8-9.13				3.75				.73-2.38								2.18-8.53				5.88-8.99				.93-7.42				
SRIM	16	0.914	1.09	6.28	10	2.614	0.38	4.13	58	3.507	0.29	4.01					28	0.853	1.17	3.03	12	2.382	0.42	6.4	16	6.989	0.14	2.96				
	20	0.903	1.11	5.08	30	2.641	0.38	3.71	72	3.645	0.27	1.75					30	0.853	1.17	3.24	18	2.449	0.41	6.83	32	6.957	0.14	1.43				
	30	0.903	1.11	4.93	44	2.53	0.40	1.86	76	3.583	0.28	1.23					40	0.849	1.18	2.16	28	2.321	0.43	4.78	42	6.883	0.15	0.56				
	40	0.897	1.11	4.4	50	2.614	0.38	4.47	78	3.682	0.27	1.3					52	0.853	1.17	4.13	44	2.415	0.41	6.27	50	6.975	0.14	1.17				
	50	0.898	1.11	4.62	62	2.599	0.38	3.02	96	3.635	0.28	0.6					68	0.855	1.17	2.77	50	2.406	0.42	1.62	54	6.964	0.14	1.37				
	60	0.89	1.12	4.95	70	2.576	0.39	3.23									78	0.851	1.18	3.41	60	2.416	0.41	5.22	74	6.929	0.14	0.73				
	70	0.888	1.13	5.35	82	2.64	0.38	4.86									82	0.856	1.17	4.62	70	2.492	0.40	2.36	80	6.867	0.15	1.47				
	80	0.884	1.13	5.02	90	2.583	0.39	2.27									92	0.851	1.18	2.64	78	2.385	0.42	0.86	90	6.83	0.15	0.39				
	90	0.876	1.14	4.86	100	2.55	0.39	1.93									100	0.879	1.14	2.06	94	2.359	0.42	5.61	100	6.944	0.14	0.42				
	100	0.869	1.15	4.41																	100	2.448	0.41	4.19								
Summary		0.89	1.12	4.99		2.59	0.39	3.28		3.61	0.28	1.78						0.86	1.17	3.12		2.41	0.42	4.41		6.93	0.14	1.17				
				4.4-6.28				1.86-4.86				.6-4.01								2.06-4.64				.66-6.83				.39-2.96				
N4SID-IO	56	0.878	1.14	7.62	18	2.71	0.37	7.41	58	3.952	0.25	8.97					40	0.871	1.15	9.67	22	2.464	0.41	8.18	24	6.888	0.15	6.56				
	60	0.878	1.14	7.07	20	2.697	0.37	7.83	68	3.952	0.25	9.59					44	0.852	1.17	8.02	30	2.418	0.41	8.74	26	6.883	0.15	7.69				
	70	0.883	1.13	5.61	30	2.632	0.38	8.67									54	0.849	1.18	6.07	40	2.458	0.41	8.31	62	6.811	0.15	8.9				
	82	0.881	1.14	5.39	40	2.605	0.38	8.84									62	0.855	1.17	5.83	50	2.466	0.41	7.22								
	86	0.798	1.25	9.82	50	2.654	0.38	9.81									55	0.85	1.18	5	64	2.478	0.40	6.8								
	92	0.866	1.15	6.5	60	2.665	0.38	9.48									70	0.853	1.17	5.47	72	2.497	0.40	7.78								
	96	0.875	1.14	6.84	70	2.701	0.37	6.99									80	0.846	1.18	4.8	80	2.476	0.40	8.24								
					80	2.714	0.37	7.01									90	0.848	1.18	4.49	92	2.457	0.41	5.31								
					90	2.726	0.37	6.56									100	0.851	1.18	3.72	96	2.474	0.40	5.57								
					100	2.734	0.37	6.18																								
Summary		0.87	1.16	6.98		2.68	0.37	7.88		3.95	0.25	9.28						0.85	1.17	5.90		2.47	0.41	7.35		6.86	0.15	7.72				
				5.27-9.82				5.76-9.98				8.97-9.59								3.72-9.67				4.31-9.28				6.56-8.9				
Average		0.889657	1.124753	5.832381		2.66193	0.375854	6.347913		6.942203	0.183653	4.062982						0.853302	1.172112	4.937924		2.463846	0.406084	6.351188		8.28185	0.131106	4.49575				
Overall Average		**0.79**	**1.27**	**5.59**		**2.41**	**0.42**	**5.51**		**5.30**	**0.25**	**3.36**						**0.76**	**1.41**	**4.95**		**2.28**	**0.48**	**5.16**		**8.13**	**0.14**	**2.63**				

Station 24463: ACI and LATBSDC Values - LATERAL AND GRAVITY SYSTEM

Building: Los Angeles - 5 Story Warehouse
Building Type: Ductile reinforced concrete perimeter frame and basement shear walls.
Number of floors with Sensors: 4
Total No. Sensors: 13

Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
1	0.7	0.90	1.759	Longitudinal	1.05	Longitudinal	0.60	1.554	Transverse	1.23	Transverse	0.79	1.362	Torsional	NA		NA
1	0.35	0.70	2.077	Longitudinal	1.05	Longitudinal	0.51	1.831	Transverse	1.23	Transverse	0.67	1.635	Torsional	NA		NA
		Average	0.4795														

Station 24463: ACI and LATBSDC Values - LATERAL SYSTEM ONLY

Building: **Los Angeles - 5 Story Warehouse**
Building Type: **Ductile reinforced concrete perimeter frame and basement shear walls.**
Number of floors with Sensors: 4
Total No. Sensors: 13

Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
1	0.7	0.90	3.84	Longitudinal	1.05	Longitudinal	0.27	3.384	Vertical/Longitudinal	NA	NA	NA	2.737	Vertical/Transverse	NA	NA	NA
1	0.35	0.70	3.85	Longitudinal	1.05	Longitudinal	0.27	3.448	Vertical/Longitudinal	NA	NA	NA	2.75	Vertical/Transverse	NA	NA	NA
		Average	0.96125														

Station 24463

Building: Los Angeles - 5 Story Warehouse
Building Type: Ductile reinforced concrete perimeter frame and basement shear walls.
Number of floors with Sensors: 4
Total No. Sensors: 13

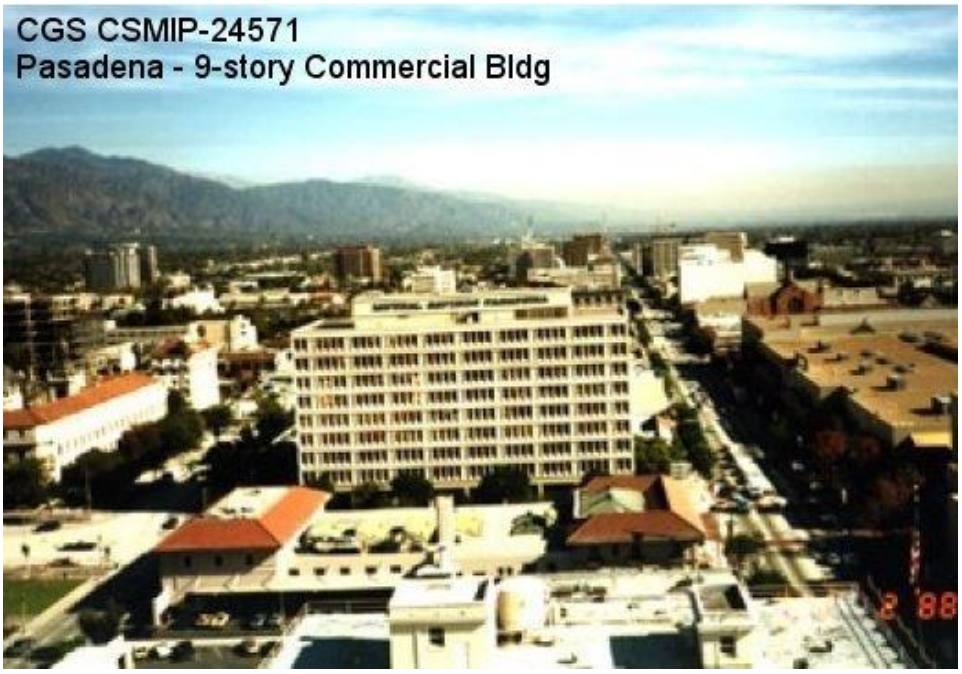
Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Wall	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.3	0.30	2.786	Longitudinal	1.27	Longitudinal	0.46	2.447	Transverse	1.46	Transverse	0.60	2.163	Torsional	NA		NA
0.35	0.3	0.50	2.449	Longitudinal	1.27	Longitudinal	0.52	2.141	Transverse	1.46	Transverse	0.68	1.891	Torsional	NA		NA
0.35	0.3	0.70	2.28	Longitudinal	1.27	Longitudinal	0.56	1.988	Transverse	1.46	Transverse	0.74	1.756	Torsional	NA		NA
0.35	0.3	1.00	2.134	Longitudinal	1.27	Longitudinal	0.60	1.858	Transverse	1.46	Transverse	0.79	1.64	Torsional	NA		NA
0.35	0.5	0.30	2.645	Longitudinal	1.27	Longitudinal	0.48	2.322	Transverse	1.46	Transverse	0.63	2.035	Torsional	NA		NA
0.35	0.5	0.50	2.289	Longitudinal	1.27	Longitudinal	0.56	1.998	Transverse	1.46	Transverse	0.73	1.745	Torsional	NA		NA
0.35	0.5	0.70	2.111	Longitudinal	1.27	Longitudinal	0.60	1.836	Transverse	1.46	Transverse	0.80	1.601	Torsional	NA		NA
0.35	0.5	1.00	1.96	Longitudinal	1.27	Longitudinal	0.65	1.7	Transverse	1.46	Transverse	0.86	1.478	Torsional	NA		NA
		Average	2.33175														

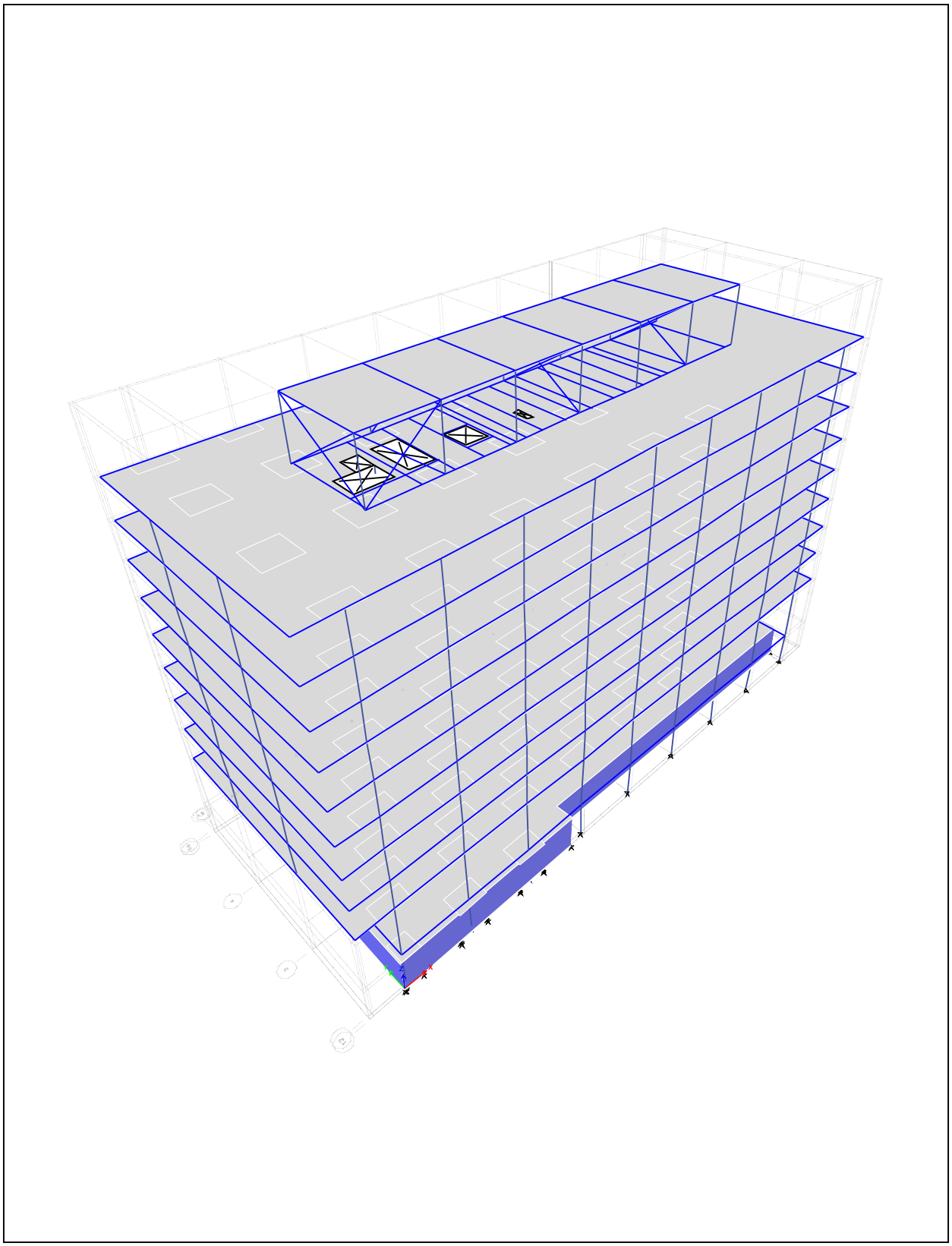
Station 24571

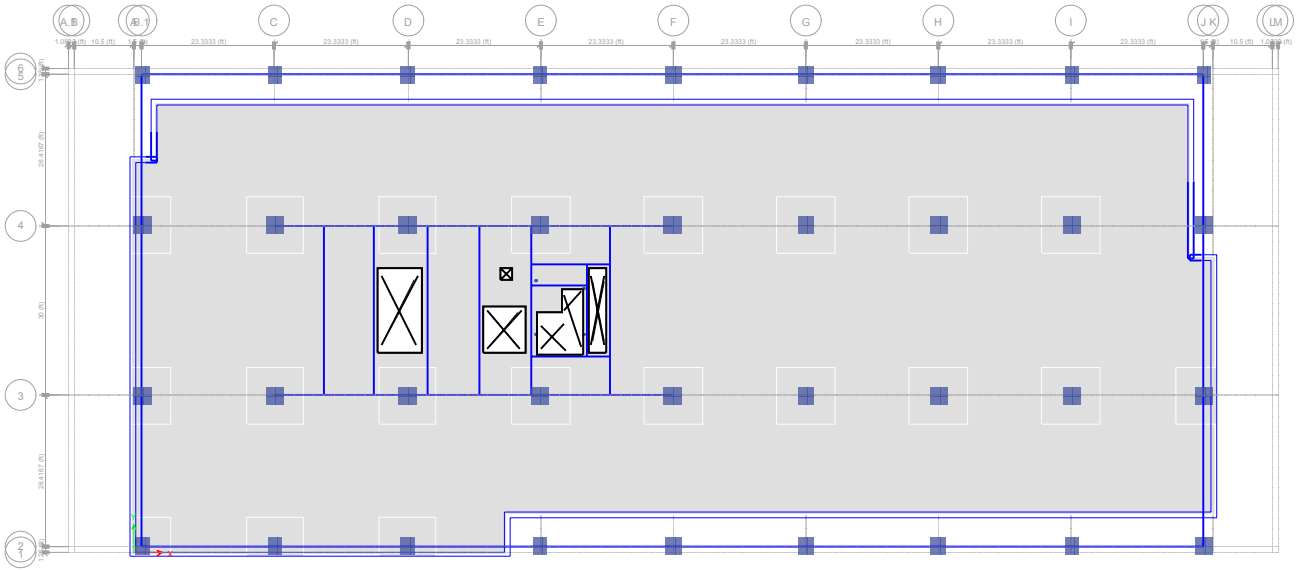
Building: Pasadena - 9-story Commercial Bldg

Building Type: Reinforced concrete slab-column system providing moment resistance; beam-column system at the core of each floor

Number of floors with Sensors: 5



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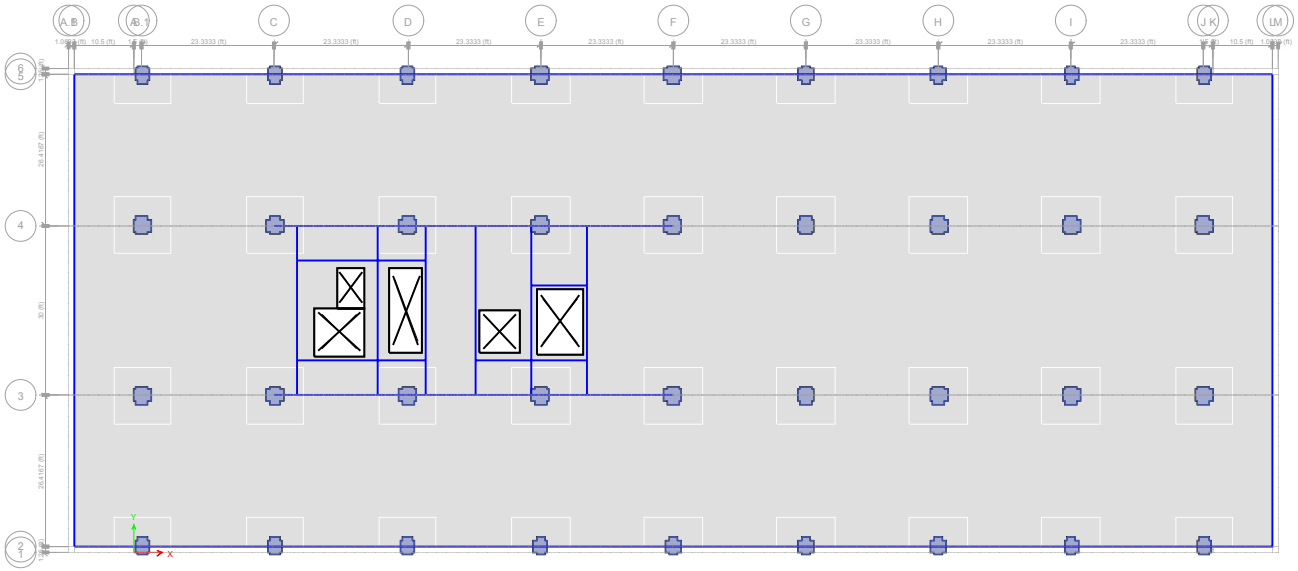
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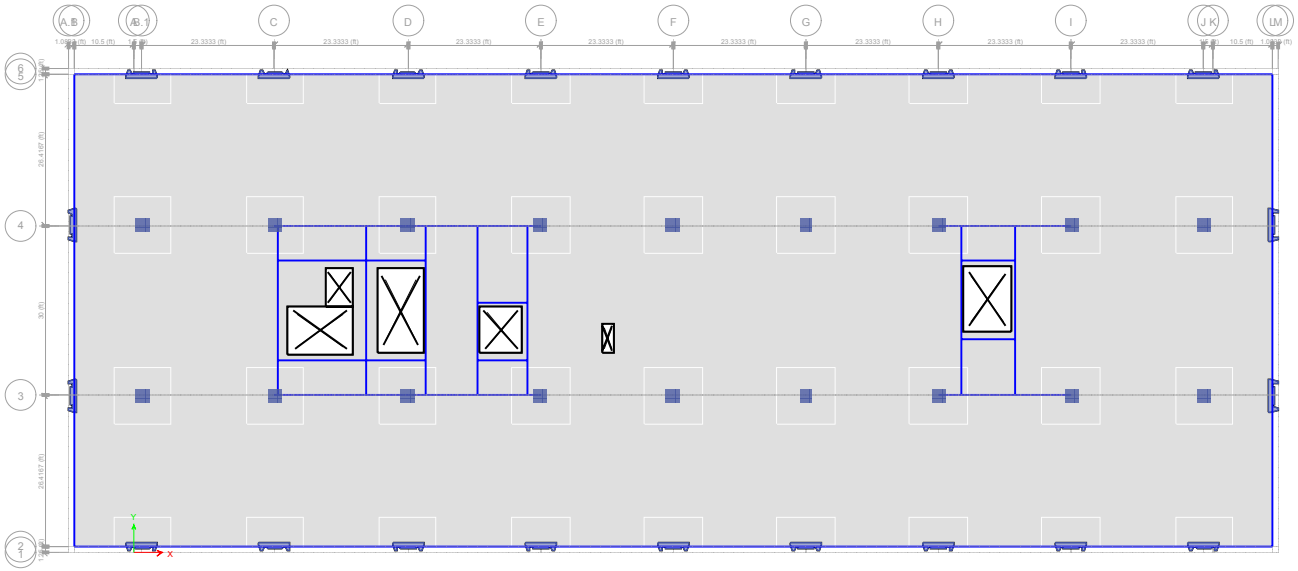
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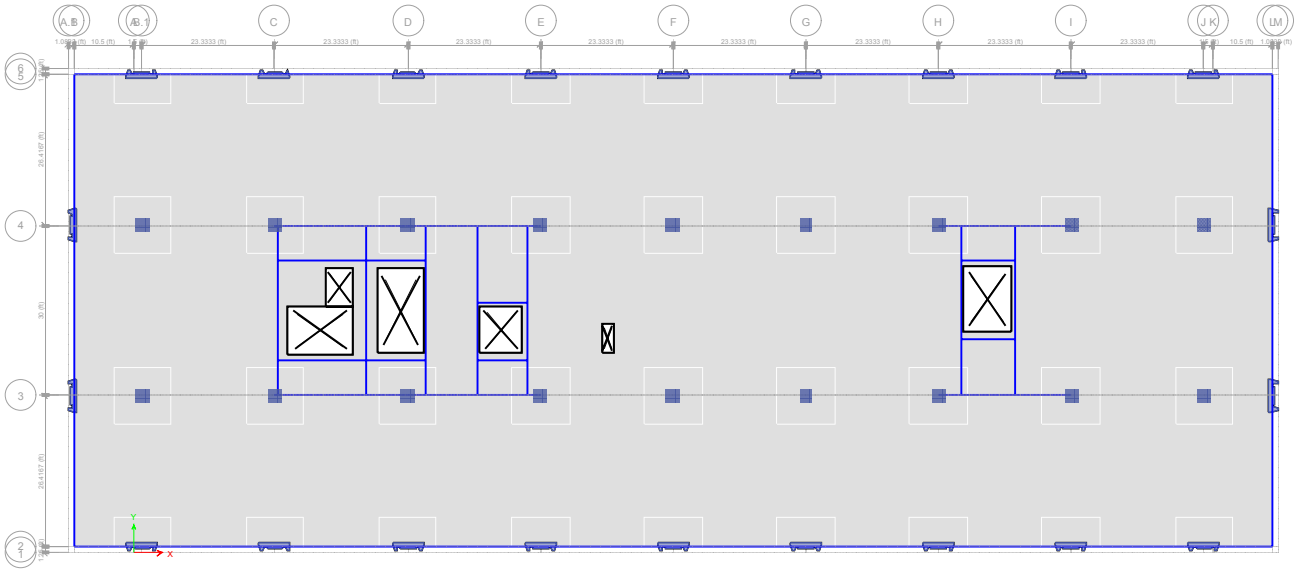
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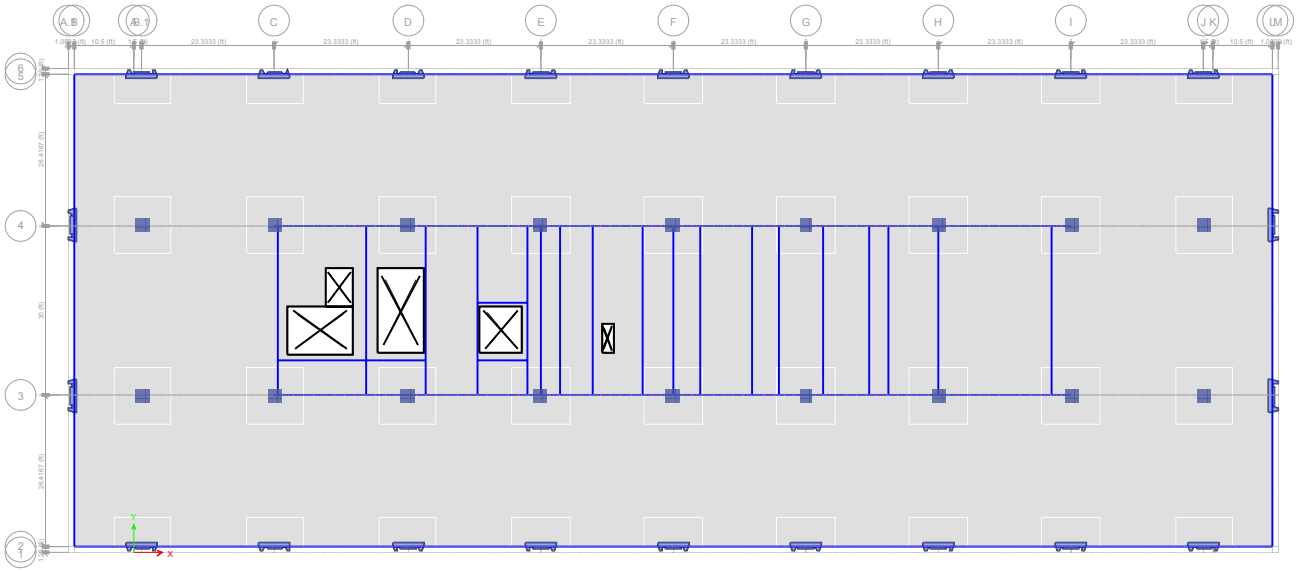
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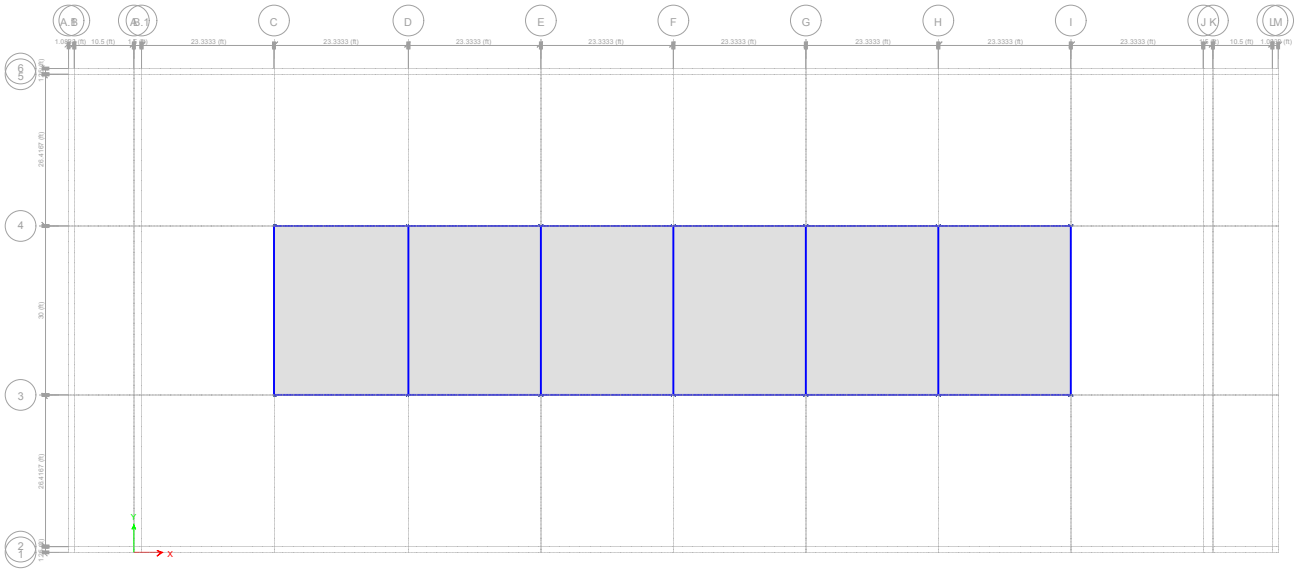
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	BigBear92																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	32	0.799	1.25	3.05	66	4.544	0.22	3.65									30	0.482	2.07	2.24	28	1.95	0.51	4.07	30	3.299	0.30	7.81				
	40	0.801	1.25	2.59	80	4.549	0.22	2.17									58	0.524	1.91	2.55	30	1.933	0.52	3.96	34	3.205	0.31	5.44				
	50	0.8	1.25	3.07	82	4.555	0.22	2.18									60	0.531	1.88	2.56	40	1.898	0.53	5.08	40	3.245	0.31	7.18				
	60	0.801	1.25	3.47	84	4.535	0.22	2.26									70	0.51	1.96	4.18	50	1.914	0.52	5.88	62	3.28	0.30	7.74				
	70	0.803	1.25	3.51	86	4.568	0.22	2.13									80	0.503	1.99	3.57	62	1.902	0.53	7.4	64	3.3	0.30	7.38				
	80	0.799	1.25	3.88													90	0.507	1.97	3.39	70	1.852	0.54	8.89	66	3.284	0.30	7.19				
	94	0.797	1.25	3.2													100	0.507	1.97	4.09	82	1.914	0.52	9.3	68	3.279	0.30	7.84				
	100	0.795	1.26	3.05																	90	1.925	0.52	7.02	70	3.248	0.31	7.91				
																					100	1.929	0.52	6.86	72	3.226	0.31	8.35				
Summary		0.80	1.25	3.23		4.55	0.22	2.48										0.51	1.97	3.23		1.91	0.52	6.50		3.26	0.31	7.43				
				2.59-3.88				2.13-3.65												2.24-4.18				3.96-8.89				5.44-8.35				
ARX	12	0.802	1.25	2.71	18	5.605	0.18	6.11									16	0.605	1.65	5.43	10	2.043	0.49	9.64	18	3.32	0.30	6.44				
	20	0.801	1.25	2.71	20	5.613	0.18	6.4									28	0.549	1.82	9.62	28	1.901	0.53	5.24	20	3.319	0.30	5.99				
	30	0.803	1.25	2.75	30	5.527	0.18	5.52									34	0.528	1.89	6.46	30	1.906	0.52	5.41	30	3.282	0.30	5.79				
	40	0.799	1.25	2.79	56	5.591	0.18	4.07									40	0.52	1.92	5.22	40	1.913	0.52	6.12	40	3.309	0.30	5.14				
	50	0.889	1.12	4.63	96	5.61	0.18	2.94									50	0.514	1.95	4.59	52	1.953	0.51	5.26	50	3.241	0.31	5.62				
	60	0.799	1.25	2.56	72	5.8	0.17	2.13									60	0.511	1.96	4.24	62	1.989	0.50	6.5	58	3.213	0.31	4.93				
	70	0.797	1.25	2.63	86	5.785	0.17	1.37									70	0.509	1.96	4.08	70	1.995	0.50	5.64	82	3.284	0.30	4.13				
	80	0.796	1.26	2.87	90	5.795	0.17	1.43									80	0.507	1.97	4.46	82	2.098	0.48	7.13	90	3.287	0.30	2.58				
	90	0.797	1.25	2.83													90	0.507	1.97	4.12	90	1.964	0.51	6.19	98	3.273	0.31	2.24				
	100	0.797	1.25	2.53													100	0.505	1.98	4.15	98	1.951	0.51	4.17								
Summary		0.81	1.24	2.90		5.67	0.18	3.75										0.53	1.91	5.24		1.97	0.51	6.13		3.28	0.30	4.76				
1ST MODE ALSO SHOWN AT 2.8				2.51-4.63				1.37-6.11												4.06-9.62				4.17-9.72				2.12-6.44				
SRIM	6	0.802	1.25	2.73	8	5.602	0.18	3.6									14	0.51	1.96	3.63	12	1.959	0.51	4.88	10	3.296	0.30	4.87				
	10	0.805	1.24	2.66	14	5.664	0.18	1.85									22	0.509	1.96	3.94	32	1.91	0.52	3.61	24	3.279	0.30	4.66				
	20	0.799	1.25	2.46	36	5.664	0.18	1.02									30	0.504	1.98	4.1	44	1.932	0.52	1.96	36	3.29	0.30	4.43				
	38	0.803	1.25	2.37	48	5.57	0.18	0.73									40	0.502	1.99	4.07	54	1.861	0.54	3.97	40	3.272	0.31	1.53				
	40	0.803	1.25	2.35	50	5.622	0.18	0.48									52	0.515	1.94	3.45	64	1.972	0.51	0.99	58	3.234	0.31	1.46				
	50	0.803	1.25	2.12	60	5.613	0.18	0.62									60	0.512	1.95	3.64	70	1.817	0.55	0.93	62	3.21	0.31	2.2				
	62	0.849	1.18	0.4	76	5.623	0.18	0.45									72	0.5	2.00	4.69	80	1.848	0.54	2.94	72	3.306	0.30	1.87				
	70	0.801	1.25	2.64	82	5.578	0.18	0.35									80	0.487	2.05	4.17	90	1.907	0.52	3.19	80	3.276	0.31	0.35				
	80	0.805	1.24	2.91	90	5.617	0.18	0.06									92	0.509	1.96	3.85	100	1.941	0.52	0.38	96	3.223	0.31	0.94				
	90	0.807	1.24	2.24	98	5.535	0.18	0.14									96	0.511	1.96	3.54												
Summary		0.81	1.24	2.29		5.61	0.18	0.93										0.51	1.98	3.91		1.91	0.53	2.54		3.27	0.31	2.48				
				.4-2.91				.16-3.6												2.25-7.76				.38-4.88				.35-4.87				
N4SID-IO	16	0.809	1.24	3.34	30	5.539	0.18	5.69									36	0.541	1.85	7.48	22	1.89	0.53	5.8	22	3.294	0.30	6.4				
	20	0.811	1.23	3.19	38	5.539	0.18	6.87									40	0.53	1.89	7.62	30	1.902	0.53	6.29	30	3.267	0.31	7.21				
	32	0.803	1.25	3.29	52	5.43	0.18	2.5									50	0.517	1.93	6.55	40	1.904	0.53	6.62	40	3.313	0.30	7.46				
	40	0.799	1.25	3.39	62	5.424	0.18	6.69									60	0.51	1.96	5.27	50	1.908	0.52	6.49	52	3.233	0.31	5.58				
	50	0.798	1.25	3.09	70	5.447	0.18	3.5									70	0.503	1.99	5.08	60	1.938	0.52	7.87	72	3.341	0.30	5.95				
	60	0.795	1.26	2.9	80	5.514	0.18	2.88									80	0.506	1.98	5.29	70	1.925	0.52	8.75	88	3.227	0.31	5.96				
	70	0.797	1.25	2.77	86	5.462	0.18	4.77									90	0.505	1.98	4.85	84	1.91	0.52	8.21								
	80	0.797	1.25	3.17	100	5.534	0.18	1.91									100	0.502	1.99	4.8	90	1.805	0.55	6.55								
	90	0.798	1.25	2.79																	100	1.93	0.52	6.92								
	100	0.797	1.25	2.59																												
Summary		0.80	1.25	3.05		5.49	0.18	4.35										0.51	1.95	5.87		1.90	0.53	7.06		3.28	0.31	6.43				
				2.59-3.45				1.91-6.69												4.72-7.62				5.74-8.75				5.16-7.87				
Average		0.803869	1.244439	2.867125		5.327719	0.18923	2.876375										0.513698	1.949263	4.559554		1.922714	0.520491	5.555		3.272014	0.305659	5.273611				

	Calexico_04Apr2010																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	32	0.566	1.77	9.26	28	2.009	0.50	6.72	50	3.678	0.27	7.03					32	0.566	1.77	9.26	28	2.009	0.50	6.72	32	3.489	0.29	4.98				
	48	0.552	1.81	8.71	30	2.018	0.50	7.22	62	3.594	0.28	6.88					48	0.552	1.81	8.71	30	2.018	0.50	7.22	40	3.423	0.29	6.43				
	52	0.558	1.79	6.26	40	2.034	0.49	5.98	64	3.559	0.28	7.43					52	0.558	1.79	6.26	40	2.034	0.49	5.98	44	3.37	0.30	7.35				
	60	0.56	1.79	5.38	50	2.054	0.49	5.34	66	3.587	0.28	7.68					60	0.56	1.79	5.38	50	2.054	0.49	5.34	92	3.306	0.30	5.62				
	70	0.563	1.78	4.26	60	2.037	0.49	4.78	68	3.543	0.28	8.33					70	0.563	1.78	4.26	60	2.037	0.49	4.78	50	3.678	0.27	7.03				
	80	0.566	1.77	4.48	70	2.046	0.49	4.24	72	3.667	0.27	7.03					80	0.566	1.77	4.48	70	2.046	0.49	4.24	62	3.594	0.28	6.88				
	90	0.567	1.76	4.18	80	2.037	0.49	4.99	74	3.692	0.27	6.57					90	0.567	1.76	4.18	80	2.037	0.49	4.99	68	3.543	0.28	8.33				
	100	0.569	1.76	4.4	90	2.042	0.49	4.6	94	3.699	0.27	4.58					100	0.569	1.76	4.4	90	2.042	0.49	4.6	72	3.667	0.27	7.21				
	68	0.892	1.12	5.21	96	2.057	0.49	4.37									68	0.892	1.12	5.21	96	2.057	0.49	4.37	94	3.699	0.27	4.58				
	90	0.862	1.16	5.86													90	0.862	1.16	5.86												
Summary		0.63	1.65	5.80		2.04	0.49	5.36		3.63		6.94						0.63	1.65	5.80		2.04	0.49	5.36		3.53	0.28	6.49				
				4.4-9.26				4.24-7.22				4.58-8.33								4.15-9.26				4.24-7.22				4.58-8.33				
ARX	10	0.579	1.73	6.72	10	2.073	0.48	6.66	10	3.483	0.29	7.46					12	0.58	1.72	7.31	10	2.073	0.48	6.66	10	3.483	0.29	7.46				
	22	0.574	1.74	6.78	20	2.045	0.49	4.52	20	3.478	0.29	5.12					22	0.574	1.74	6.78	20	2.045	0.49	4.52	18	3.495	0.29	4.86				
	30	0.568	1.76	5.55	30	2.046	0.49	3.7	62	3.317	0.30	4.09					32	0.568	1.76	5.26	30	2.046	0.49	3.7	20	3.478	0.29	5.12				
	40	0.569	1.76	4.39	40	2.04	0.49	3.3	74	3.495	0.29	5.26					42	0.569	1.76	4.39	40	2.04	0.49	3.3	62	3.317	0.30	4.09				
	50	0.57	1.75	4.09	50	2.03	0.49	3.22	78	3.334	0.30	4.08					52	0.57	1.75	4.09	50	2.03	0.49	3.22	76	3.352	0.30	4.37				
	60	0.571	1.75	4.3	60	2.052	0.49	3.31	80	3.323	0.30	3.64					62	0.57	1.75	4.31	60	2.052	0.49	3.31	82	3.331	0.30	3.44				
	70	0.571	1.75	4.47	68	2.037	0.49	3.37	84	3.314	0.30	3.47					72	0.571	1.75	4.48	70	2.046	0.49	3.45	84	3.314	0.30	3.47				
	80	0.571	1.75	4.86	80	1.959	0.51	6.59	98	3.351	0.30	2.67					82	0.571	1.75	4.86	80	2.059	0.49	2.82	98	3.351	0.30	2.67				
	90	0.579	1.73	5.51	90	2.074	0.48	2.71									92	0.582	1.72	5.58	90	2.074	0.48	2.71								
	100	0.58	1.72	5.15	98	2.082	0.48	2.12									100	0.58	1.72	5.15	100	2.079	0.48	2.1								
Summary		0.57	1.74	5.18		2.04	0.49	3.95		3.39	0.30	4.47						0.57	1.74	5.22		2.05	0.49	3.58		3.39	0.30	4.44				
				4.01-7.83				2.12-9.53				2.67-7.46								4.09-7.68				2.1-9.53				2.67-7.46				
SRIM	10	0.566	1.77	5.31	8	2.04	0.49	4.12	16	3.47	0.29	4.84					10	0.566	1.77	5.31	8	2.04	0.49	4.12	16	3.47	0.29	4.84				
	20	0.57	1.75	4.56	18	2.028	0.49	3.72	24	3.479	0.29	5.41					20	0.57	1.75	4.56	18	2.028	0.49	3.72	24	3.479	0.29	5.41				
	32	0.516	1.94	4.56	38	2.007	0.50	3.92	52	3.382	0.30	1.87					32	0.516	1.94	4.56	38	2.007	0.50	3.92	38	3.58	0.28	2.34				
	42	0.566	1.77	5	40	2.079	0.48	0.86	60	3.492	0.29	1.71					42	0.566	1.77	5	40	2.079	0.48	0.86	44	3.555	0.28	1.61				
	50	0.566	1.77	5.1	50	2.061	0.49	1.44	74	3.495	0.29	2.65					50	0.566	1.77	5.1	50	2.061	0.49	1.44	54	3.415	0.29	1.6				
	60	0.557	1.80	4.73	66	2.018	0.50	2.11	82	3.38	0.30	0.61					60	0.557	1.80	4.73	64	2.057	0.49	0.89	66	3.495	0.29	2.65				
	70	0.573	1.75	3.31	72	2.042	0.49	2.54	96	3.488	0.29	0.53					70	0.573	1.75	3.31	72	2.042	0.49	2.54	76	3.511	0.28	4.43				
	80	0.56	1.79	3.5	82	2.134	0.47	1.41									80	0.56	1.79	3.5	82	2.134	0.47	1.41	84	3.573	0.28	1.01				
	14	0.852	1.17	2.95	92	2.097	0.48	1									96	0.559	1.79	5.35	92	2.097	0.48	1	96	3.488	0.29	0.53				
	34	0.92	1.09	2.65													14	0.852	1.17	2.95												
Summary		0.62	1.66	4.17		2.06	0.49	2.35		3.46	0.29	2.52						0.59	1.73	4.44		2.06	0.49	2.21		3.51	0.29	2.71				
				.87-5.31				.86-4.27				.53-5.41								2.95-5.35								.53-5.41				
N4SID-IO	26	0.589	1.70	7.42	14	2.024	0.49	6.74	18	3.504	0.29	6.14					26	0.589	1.70	7.42	14	2.024	0.49	6.74	34	3.733	0.27	7.56				
	32	0.571	1.75	6.29	24	2.039	0.49	5.53	20	3.505	0.29	6.56					32	0.58	1.72	6.29	20	2.037	0.49	6	48	3.714	0.27	4.43				
	42	0.569	1.76	4.98	34	2.038	0.49	4.61	42	3.665	0.27	7.68					40	0.569	1.76	4.98	30	2.046	0.49	5.04	56	3.722	0.27	5.77				
	52	0.568	1.76	4.56	44	2.031	0.49	4	54	3.682	0.27	5.54					50	0.568	1.76	4.56	40	2.042	0.49	4.26	66	3.803	0.26	4.49				
	62	0.57	1.75	4.79	54	2.045	0.49	4.1	64	3.547	0.28	5.81					60	0.57	1.75	4.59	50	2.064	0.48	4.33	74	3.716	0.27	4.08				
	46	0.912	1.10	7.44	66	2.052	0.49	4.13	72	3.58	0.28	3.62					70	0.569	1.76	4.92	60	2.052	0.49	3.95	86	3.852	0.26	5.53				
	56	0.861	1.16	6.8	74	2.028	0.49	6.42									80	0.568	1.76	4.94	70	2.062	0.48	4.17	94	3.715	0.27	4.66				
	66	0.853	1.17	6.46	84	2.09	0.48	4.26									90	0.568	1.76	5.09	82	2.078	0.48	4.57								
	74	0.923	1.08	4.77	94	1.991	0.50	4.48									100	0.573	1.75	5.79	92	2.113	0.47	2.57								
	84	0.859	1.16	4.53	100	1.924	0.52	3.49													100	2.098	0.48	2.77								
Summary		0.73	1.44	5.80		2.03	0.49	4.78		3.58	0.28	5.89						0.57	1.75	5.40		2.06	0.49	4.44		3.75	0.27	5.22				
				4.48-7.44				3.49-6.74				3.62-9.02								4.56-7.89				2.57-6.74				3.54-7.56				
Average		0.6377	1.623185	5.23825		2.040833	0.490144	4.108167		3.512473	0.216072	4.955952						0.590042	1.717144	5.213944		2.053417	0.487074	3.897528		3.544515	0.282667	4.713869				

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	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	24	0.815	1.23	5.31	60	4.744	0.21	6.65									62	0.506	1.98	3	34	1.922	0.52	5.68	40	0.494	2.02	6.42				
	34	0.782	1.28	3.02	80	4.794	0.21	3.99									74	0.497	2.01	2.36	40	1.879	0.53	7.99	58	0.515	1.94	2.71				
	44	0.774	1.29	2.22	82	4.817	0.21	3.47									82	2.494	0.40	3.1	54	1.922	0.52	8.15	62	0.515	1.94	3.07				
	54	0.771	1.30	3.09	84	4.863	0.21	3.6									92	0.496	2.02	3.27	60	1.891	0.53	7.11	72	0.509	1.96	4.07				
	64	0.776	1.29	4.49													100	0.493	2.03	4.14	70	1.827	0.55	7.86	82	0.505	1.98	4.17				
	74	0.772	1.30	7.91													56	0.804	1.24	8.58	80	1.886	0.53	6.14	92	0.504	1.98	3.93				
	84	0.764	1.31	5.49													66	0.81	1.23	8.47	90	1.919	0.52	6.55	100	0.504	1.98	3.95				
	94	0.75	1.33	2.96													82	0.824	1.21	2.44	98	1.884	0.53	5.11								
	100	0.742	1.35	4.29													90	0.783	1.28	3.66												
																	98	0.772	1.30	2.64												
Summary		0.77	1.30	4.31		4.80	0.21	4.43										0.85	1.47	4.17		1.89	0.53	6.82		0.51	1.97	4.05				
				2.22-7.91				3.47-6.65												2.44-8.58				5.11-8.44				2.71-6.54				
ARX	10	0.783	1.28	3.06	10	5.341	0.19	8.2									40	0.532	1.88	7.92	20	1.896	0.53	10	36	0.537	1.86	9.03				
	20	0.781	1.28	3.16	22	5.367	0.19	4.24									52	0.513	1.95	3.52	34	1.913	0.52	8.35	40	0.528	1.89	7.77				
	30	0.776	1.29	3.2	32	5.326	0.19	4.32									64	0.508	1.97	2.65	40	1.84	0.54	7.34	50	0.512	1.95	5.2				
	40	0.772	1.30	3.26	62	5.477	0.18	3.3									70	0.505	1.98	3.23	56	1.9	0.53	6.94	60	0.508	1.97	3.92				
	50	0.781	1.28	9.48	66	5.447	0.18	2.17									80	0.502	1.99	4.22	60	1.898	0.53	7.32	70	0.507	1.97	3.67				
	62	0.755	1.32	2.82	70	5.437	0.18	1.9									90	0.501	2.00	4.28	70	1.88	0.53	7.62	80	0.507	1.97	3.64				
	70	0.783	1.28	3.86	76	5.421	0.18	1.47									40	0.816	1.23	7.3	80	1.878	0.53	6.54	90	0.504	1.98	3.6				
	80	0.785	1.27	3.45	80	5.421	0.18	1.61									60	0.778	1.29	3.07	90	1.885	0.53	1.885	100	0.503	1.99	3.82				
	90	0.789	1.27	6.96	98	5.377	0.19	1.92									70	0.774	1.29	3.11	100	1.884	0.53	5.04								
	100	0.781	1.28	7.14													80	0.77	1.30	3.23												
Summary		0.78	1.28	4.64		5.40	0.19	3.24										0.62	1.69	4.25		1.89	0.53	6.78		0.51	1.95	5.08				
				1.8-9.48				1.42-8.2												3.06-7.92				5.04-10				3.59-9.03				
SRIM	14	0.767	1.30	2.42	36	3.943	0.25	0.18									34	0.778	1.29	2.16	18	1.852	0.54	3.78	20	0.507	1.97	3.35				
	28	0.768	1.30	2.4	40	5.196	0.19	0.2									44	0.772	1.30	2.49	20	1.773	0.56	4.03	40	0.502	1.99	2.88				
	34	0.76	1.32	1.67	50	5.294	0.19	0.44									52	0.762	1.31	2.11	30	1.879	0.53	4.89	52	0.487	2.05	2.3				
	52	0.697	1.43	2.93	60	5.166	0.19	0.24									56	0.838	1.19	2.05	46	1.1887	0.84	4.49	72	0.504	1.98	2.37				
	60	0.777	1.29	2.33	68	5.155	0.19	0.37									74	0.796	1.26	5.55	60	1.767	0.57	4.62	80	0.504	1.98	2.01				
	70	0.751	1.33	2.72	80	5.25	0.19	0.73									84	0.795	1.26	1.93	68	1.822	0.55	2.68	20	0.807	1.24	2.53				
	82	0.729	1.37	2.14	90	5.173	0.19	0.17									96	0.74	1.35	1.38	88	1.852	0.54	2.73	30	0.806	1.24	1.58				
	90	0.719	1.39	2.4																	90	1.871	0.53	2.97	40	0.796	1.26	2.27				
	100	0.741	1.35	2																	94	1.742	0.57	1.33	60	0.722	1.39	1.34				
																									70	0.797	1.25	2.08				
Summary		0.75	1.34	2.33		5.03	0.20	0.33										0.78	1.28	2.52		1.75	0.58	3.50		0.64	1.64	2.27				
				1.06-2.72				.17-.73												1.38-5.55				1.33-4.98				1.12-4.95				
N4SID-IO	12	0.792	1.26	4.02	14	5.394	0.19	9.41									38	0.824	1.21	4.03	26	1.905	0.52	8.97	40	0.531	1.88	8.79				
	20	0.797	1.25	2.96	32	5.227	0.19	3.76									48	0.79	1.27	3.49	30	1.899	0.53	9.72	52	0.518	1.93	6				
	30	0.782	1.28	3.92	40	5.358	0.19	6.37									58	0.785	1.27	4.95	42	1.876	0.53	9.79	60	0.505	1.98	5.34				
	40	0.761	1.31	4.67	50	5.282	0.19	2.7									68	0.769	1.30	5.79	62	1.904	0.53	6.71	70	0.499	2.00	4.94				
	50	0.87	1.15	8.34	64	5.351	0.19	2.09									78	0.769	1.30	5.79	70	1.909	0.52	6.69	80	0.5	2.00	5.11				
	60	0.754	1.33	5.01	74	5.25	0.19	1.66									88	0.779	1.28	4.85	80	1.895	0.53	5.09	40	0.868	1.15	3.65				
	70	0.746	1.34	4.27	80	5.254	0.19	1.54									98	0.766	1.31	5.26	90	1.913	0.52	5.72	52	0.792	1.26	3.67				
	80	0.769	1.30	4.78	90	5.271	0.19	1.95									48	0.516	1.94	5.8	100	1.89	0.53	5.15	62	0.784	1.28	6.46				
	90	0.803	1.25	7.01	98	5.236	0.19	2.65									60	0.502	1.99	3.47					72	0.79	1.27	4.67				
	100	0.77	1.30	5.91													70	0.496	2.02	4.17					80	0.795	1.26	4.48				
Summary		0.78	1.28	5.09		5.29	0.19	3.57										0.70	1.49	4.76		1.90	0.53	7.23		0.66	1.60	5.31				
				2.96-7.43				1.41-9.41												3.19-5.79				4.6-9.86				2.3-8.79				
Average		0.770056	1.300283	4.092833		5.130696	0.195802	2.891756										0.7376	1.481082	3.925821		1.85644	0.542027	6.08441		0.580305	1.790283	4.177241				

	Northridge_17Jan1994																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	26	0.767	1.30	3.25	40	5.326	0.19	2.34	56	14.033	0.07	1.75					42	0.439	2.28	9.87	32	1.672	0.60	4.34	34	2.947	0.34	7.91				
	36	0.77	1.30	3.12	56	5.257	0.19	1.49	62	13.928	0.07	0.67					46	0.46	2.17	8.23	42	1.708	0.59	6.28	48	2.955	0.34	9.67				
	46	0.765	1.31	2.17	58	5.246	0.19	1.55	100	14.009	0.07	0.22					62	0.467	2.14	1.87	50	1.697	0.59	6.03	58	2.978	0.34	7.66				
	56	0.765	1.31	1.72	60	5.247	0.19	1.44									70	0.474	2.11	2.3	60	1.692	0.59	6.35	68	2.975	0.34	4.37				
	66	0.767	1.30	1.91	66	5.273	0.19	1.84									76	0.475	2.11	3.42	70	1.673	0.60	6.16	78	2.961	0.34	4.51				
	76	0.77	1.30	1.88	70	5.261	0.19	1.29									82	0.476	2.10	4.28	80	1.666	0.60	5.36	88	2.989	0.33	3.65				
	86	0.773	1.29	2.05	72	5.267	0.19	1.29									86	0.473	2.11	3.88	90	1.668	0.60	5.16	98	3.001	0.33	2.95				
	96	0.771	1.30	2.38	80	5.257	0.19	1.52									90	0.473	2.11	3.71	98	1.676	0.60	4.73	100	3.002	0.33	3.19				
	100	0.773	1.29	2.25	86	5.258	0.19	1.04									96	0.472	2.12	3.76												
																	100	0.473	2.11	3.55												
Summary		0.77	1.30	2.30		5.27	0.19	1.53		13.99	0.07	0.88						0.47	2.14	4.49		1.68	0.59	5.55		2.98	0.34	5.49				
				1.78-3.69				1.04-2.34												1.87-9.87				4.22-6.67				3.19-7.19				
ARX	14	0.771	1.30	2.96	30	5.244	0.19	2.8	36	18.58	0.05	0.53					16	0.521	1.92	7.75	16	1.693	0.59	6.02	14	2.958	0.34	9.5				
	20	0.77	1.30	2.78	40	5.211	0.19	5.2	48	18.555	0.05	0.7					26	0.521	1.92	9.1	26	1.684	0.59	4.8	20	2.962	0.34	6.76				
	30	0.771	1.30	2.78	52	5.202	0.19	1.37	58	18.613	0.05	0.5					36	0.497	2.01	7.99	36	1.669	0.60	4.81	28	2.995	0.33	6.26				
	40	0.77	1.30	3.01	70	5.268	0.19	1.08	68	18.577	0.05	0.17					46	0.483	2.07	5.11	46	1.66	0.60	4.87	40	2.956	0.34	5.73				
	50	0.766	1.31	3.93	78	5.287	0.19	0.79	78	18.646	0.05	0.93					56	0.478	2.09	4.28	56	1.646	0.61	4.16	50	2.965	0.34	4.07				
	60	0.762	1.31	3.31	80	5.286	0.19	0.8	96	18.593	0.05	0.13					66	0.475	2.11	3.66	66	1.638	0.61	3.08	60	2.975	0.34	3.45				
	70	0.76	1.32	3.25					100	18.593	0.05	0.08					46	0.806	1.24	4.17	76	1.584	0.63	6.53	72	2.994	0.33	3.15				
	80	0.76	1.32	3.58													56	0.785	1.27	2.49	88	1.674	0.60	4.46	82	2.92	0.34	3.71				
	90	0.759	1.32	3.31													76	0.754	1.33	2.11	98	1.596	0.63	3.14	92	3.015	0.33	4.69				
	100	0.76	1.32	3.18													86	0.763	1.31	1.43					100	3.035	0.33	4.73				
Summary		0.76	1.31	3.21		5.25	0.19	2.01		18.59	0.05	0.43						0.61	1.73	4.81		1.65	0.61	4.65		2.98	0.34	5.21				
				2.78-4.03				.8-5.2				.08-.93								1.43-9.1				3-6.87				3.12-9.5				
SRIM	6	0.769	1.30	2.71	18	5.174	0.19	0.34	12	11.99	0.08	0.22					10	0.527	1.90	8.53	10	1.682	0.59	4.74	10	3.001	0.33	6.45				
	16	0.835	1.20	0.5	20	5.134	0.19	0.36	46	12.083	0.08	0.16					22	0.473	2.11	3.9	16	1.677	0.60	4.55	18	3.02	0.33	5.08				
	26	0.762	1.31	2.77	30	5.216	0.19	0.55	80	12.046	0.08	0.22					30	0.474	2.11	3.39	32	1.681	0.59	4.37	28	2.987	0.33	3.11				
	36	0.758	1.32	2.77	34	5.231	0.19	3	84	12.059	0.08	0.28					40	0.475	2.11	3.48	44	1.676	0.60	6.25	34	2.993	0.33	1.65				
	46	0.762	1.31	2.56	48	5.181	0.19	0.04	94	11.935	0.08	0.79					50	0.475	2.11	3.49	50	1.671	0.60	5.1	42	2.977	0.34	3.7				
	56	0.734	1.36	2.93	64	5.186	0.19	0.57									62	0.475	2.11	3.9	66	1.66	0.60	4.99	54	2.905	0.34	1.21				
	66	0.811	1.23	0.29	74	5.288	0.19	0.28									70	0.473	2.11	3.76	72	1.632	0.61	3.37	82	3.013	0.33	0.45				
	76	0.782	1.28	1.28	80	5.224	0.19	0.55									80	0.473	2.11	3.75	80	1.681	0.59	4.54	88	2.914	0.34	2.17				
	86	0.764	1.31	2.14	90	5.284	0.19	0.41									90	0.471	2.12	3.96	94	1.645	0.61	5.67	90	2.924	0.34	3.18				
	96	0.765	1.31	3.01	100	5.29	0.19	0.34									100	0.472	2.12	3.83												
Summary		0.77	1.29	2.10		5.22	0.19	0.64		12.02	0.08	0.33						0.48	2.09	4.20		1.67	0.60	4.84		2.97	0.34	3.00				
				.29-3.27				.04-3				.16-.79								3.23-8.53				2.3-5.1				.45-6.45				
N4SID-IO	16	0.776	1.29	4.15	18	5.289	0.19	6.4	40	11.975	0.08	0.74					50	0.482	2.07	8.24	16	1.682	0.59	7.65	20	2.932	0.34	8.21				
	20	0.776	1.29	3.54	46	5.203	0.19	1.7	62	12.059	0.08	1.43					62	0.473	2.11	5.02	26	1.678	0.60	5.58	30	2.944	0.34	6.9				
	30	0.772	1.30	3.54	52	5.221	0.19	1.99	70	12.029	0.08	1					70	0.47	2.13	4.6	36	1.674	0.60	6.06	40	2.919	0.34	6.03				
	40	0.769	1.30	3.89	60	5.207	0.19	1.95	100	12.02	0.08	0.17					80	0.471	2.12	4.56	48	1.668	0.60	6.16	54	2.927	0.34	5.75				
	50	0.769	1.30	4.28	74	5.263	0.19	1.04									90	0.471	2.12	4.61	56	1.669	0.60	6.86	72	2.987	0.33	3.33				
	60	0.761	1.31	4.8	80	5.268	0.19	0.95									48	0.832	1.20	5.85	66	1.628	0.61	6.11	80	3.025	0.33	4.33				
	70	0.817	1.22	6.25	94	5.271	0.19	0.26									68	0.774	1.29	4.03	76	1.652	0.61	5.33	92	2.969	0.34	2.23				
	80	0.751	1.33	4.9	96	5.275	0.19	0.26									74	0.768	1.30	3.42	86	1.669	0.60	5.16	100	2.952	0.34	2.11				
	90	0.814	1.23	4.81	100	5.268	0.19	0.4									86	0.768	1.30	3.71	96	1.615	0.62	4.87								
	100	0.816	1.23	4.54													96	0.773	1.29	3.6	100	1.631	0.61	5.1								
Summary		0.78	1.28	4.47		5.25	0.19	1.66		12.02	0.08	0.84						0.63	1.70	4.76		1.66	0.60	5.89		2.96	0.34	4.86				
				3.45-7.86				.26-1.99												3.42-8.24				4.52-7.65				2.11-8.3				
Average		0.77255	1.295188	3.019583		5.246978	0.190597	1.461278		14.1568	0.072908	0.620821						0.545875	1.912549	4.56475		1.663664	0.601241	5.233424		2.970205	0.33672	4.63875				

SierraMadre91

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	30	0.805	1.24	3.26	44	5.083	0.20	4.72	78	19.164	0.05	0.64					62	0.502	1.99	7.55	42	1.838	0.54	7.63	38	0.517	1.93	4.74				
	40	0.802	1.25	3.44	58	5.061	0.20	5.29	80	19.185	0.05	0.65					72	0.501	2.00	3.72	44	1.815	0.55	7.88	60	0.525	1.90	2.1				
	50	0.797	1.25	2.8					82	19.178	0.05	0.6					82	0.509	1.96	4.38	46	1.801	0.56	7.46	62	0.521	1.92	1.96				
	60	0.801	1.25	2.86													94	0.5	2.00	3.9	48	1.814	0.55	7.32	78	0.517	1.93	3.68				
	70	0.802	1.25	3.84													98	0.503	1.99	4.12					82	0.508	1.97	3.41				
	80	0.796	1.26	2.19																					86	0.502	1.99	3.03				
	92	0.795	1.26	2.98																					94	0.495	2.02	2.99				
	98	0.806	1.24	3.35																												
Summary		0.80	1.25	3.09		5.07	0.20	5.01		19.18	0.05	0.63						0.50	1.99	4.73		1.82	0.55	7.57		0.51	1.95	3.13				
				2.19-4.17				4.72-5.29				.6-.65								3.72-7.55				7.32-7.88				2.1-4.74				
ARX	10	0.809	1.24	2.85	12	5.138	0.19	6.17	38	13.931	0.07	1.02					38	0.516	1.94	9.23	68	0.802	1.25	0.91	28	0.554	1.81	8.59				
	20	0.81	1.23	2.48	46	5.149	0.19	1.68	80	14.031	0.07	0.54					48	0.503	1.99	5.19	70	0.769	1.30	8.65	30	0.551	1.81	8.26				
	30	0.812	1.23	2.39	52	5.262	0.19	3.79	100	14.09	0.07	0.54					58	0.504	1.98	4.79	72	0.783	1.28	9.34	40	0.533	1.88	6.82				
	40	0.81	1.23	2.85	58	5.209	0.19	3.44									68	0.504	1.98	4.8	74	0.816	1.23	9.81	50	0.519	1.93	4.73				
	50	0.808	1.24	3.32	62	5.132	0.19	0.79									78	0.511	1.96	4.04	90	0.82	1.22	4.21	62	0.512	1.95	4.09				
	60	0.804	1.24	3.31	68	5.179	0.19	4.92									88	0.512	1.95	4.98	94	0.809	1.24	5.46	70	0.511	1.96	4.25				
	70	0.822	1.22	2.9	70	5.12	0.20	0.73									96	0.514	1.95	6.29					80	0.509	1.96	4.67				
	80	0.809	1.24	3.38	74	5.131	0.19	0.69																	90	0.511	1.96	4.98				
	90	0.894	1.12	3.75																					98	0.511	1.96	4.63				
	100	0.821	1.22	2.86																												
Summary		0.82	1.22	3.01		5.17	0.19	2.78		14.02	0.07	0.70						0.51	1.96	5.62		0.80	1.25	6.40		0.52	1.91	5.67				
				2.3-7.31				.69-6.17.				54-1.02								4.04-9.23				.91-9.34				4.09-8.59				
SRIM	20	0.809	1.24	2.55	30	5.867	0.17	0.48	40	13.254	0.08	0.52					10	0.565	1.77	6.24	66	14.845	0.07	0.41	16	0.541	1.85	5.01				
	34	0.789	1.27	3.41	44	5.762	0.17	0.89	54	13.242	0.08	0.64					20	0.517	1.93	7.01	70	14.831	0.07	0.49	20	0.521	1.92	3.75				
	40	0.813	1.23	2.38	52	5.776	0.17	0.87	60	13.285	0.08	0.68					32	0.508	1.97	4.72	80	14.718	0.07	0.58	30	0.508	1.97	4.23				
	50	0.815	1.23	3.74	60	5.838	0.17	1.33	70	13.198	0.08	1					42	0.51	1.96	4.02	90	14.705	0.07	0.38	48	0.513	1.95	5.67				
	60	0.813	1.23	3.16	70	5.818	0.17	0.82	80	13.198	0.08	0.63					50	0.509	1.96	5.1	98	14.714	0.07	0.5	58	0.502	1.99	4.35				
	68	0.812	1.23	2.74	76	5.843	0.17	0.71	90	13.219	0.08	0.6					62	0.504	1.98	4.81					36	0.802	1.25	2.42				
	80	0.864	1.16	0.9	90	5.842	0.17	0.65	100	13.222	0.08	0.61					82	0.507	1.97	7					56	0.824	1.21	0.33				
	90	0.81	1.23	2.68	98	5.834	0.17	0.6									96	0.515	1.94	5.32					66	0.789	1.27	5.86				
	100	0.815	1.23	3.05													100	0.513	1.95	5.33					80	0.831	1.20	1.26				
																									90	0.845	1.18	1.64				
Summary		0.82	1.23	2.73		5.82	0.17	0.79		13.23	0.08	0.67						0.52	1.94	5.51		14.76	0.07	0.47		0.67	1.58	3.45				
				.6-3.58				.6-1.33				.52-1								1.88-7.01				.38-.69				.33-8.82				
N4SID-IO	16	0.81	1.23	3.55	34	5.005	0.20	4.39	40	12.986	0.08	1.17					56	0.503	1.99	7.27	38	10.557	0.09	1.89	42	0.54	1.85	9.77				
	30	0.811	1.23	3.16	40	4.926	0.20	3.4	86	13.018	0.08	0.53					60	0.5	2.00	6.13	42	10.445	0.10	1.74	54	0.516	1.94	6.47				
	40	0.807	1.24	3.32	42	4.943	0.20	3.22									70	0.503	1.99	5.99	44	10.454	0.10	1.86	62	0.512	1.95	4.86				
	54	0.807	1.24	3.2	76	4.981	0.20	6.89									76	0.506	1.98	5.48	50	10.415	0.10	1.51	70	0.508	1.97	5.43				
	60	0.792	1.26	9.47													80	0.507	1.97	4.71	66	10.475	0.10	1.4	84	0.506	1.98	4.98				
	72	0.808	1.24	2.79													86	0.505	1.98	5.07	72	10.477	0.10	1.94	44	0.843	1.19	6.25				
	80	0.814	1.23	2.18													90	0.508	1.97	4.86	80	10.425	0.10	1.28	56	0.785	1.27	7.95				
	92	0.809	1.24	2.12													96	0.521	1.92	8.56	86	10.46	0.10	0.8	66	0.824	1.21	2.73				
	100	0.815	1.23	2.56													100	0.499	2.00	5.9	90	10.463	0.10	1.49	72	0.818	1.22	1.3				
																									82	0.772	1.30	5.32				
Summary		0.81	1.24	3.59		4.96	0.20	4.48		13.00	0.08	0.85						0.51	1.98	6.00		10.46	0.10	1.55		0.66	1.59	5.51				
				2.18-9.47				3.22-6.89				.53-1.17								4.71-7.27				.8-1.94				1.3-9.77				
Average		0.811017	1.233575	3.106972		5.255813	0.191002	3.2625		14.85654	0.068996	0.712143						0.508591	1.967066	5.463341		6.960719	0.491154	3.996681		0.591397	1.758223	4.439222				

WhittierNarrows_16Mar2010

	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	28	0.952	1.05	3.12	20	3.142	0.32	4.35	82	5.417	0.18	9.49					62	0.622	1.61	3.68	30	2.132	0.47	3.65	46	7.97	0.13	4.92				
	30	0.951	1.05	3.05	30	3.148	0.32	4.46									66	0.627	1.59	4.09	40	2.121	0.47	6.12								
	46	0.949	1.05	3.02	40	3.147	0.32	4.82									72	0.623	1.61	4.31	50	2.131	0.47	3.78								
	50	0.941	1.06	1.27	50	3.148	0.32	4.32									76	0.628	1.59	4.31	60	2.142	0.47	3.89								
	60	0.934	1.07	2.11	64	3.147	0.32	3.9									80	0.631	1.58	4.13	70	2.139	0.47	3.9								
	70	0.944	1.06	2.25	70	3.177	0.31	4.14									86	0.631	1.58	4.41	80	2.145	0.47	3.8								
	80	0.951	1.05	2.39	80	3.163	0.32	4.21									96	0.627	1.59	4.08	92	2.141	0.47	3.21								
	90	0.952	1.05	3.39	92	3.149	0.32	3.54									100	0.623	1.61	3.42	100	2.159	0.46	3.85								
	100	0.958	1.04	2.35	100	3.174	0.32	2.81																								
Summary		0.95	1.05	2.55		3.16	0.32	4.06		5.42	0.18	9.49						0.63	1.60	4.05		2.14	0.47	4.03		7.97	0.13	4.92				
				1.27-4.24				2.81-4.99												3.42-4.31				3.21-6.12								
ARX	18	0.949	1.05	3.06	10	3.159	0.32	4.61	44	4.644	0.22	2.5					58	0.958	1.04	2.92	22	2.148	0.47	3.76	22	9.461	0.11	3.11				
	28	0.95	1.05	2.26	20	3.125	0.32	6.03	48	4.615	0.22	1.89					68	0.954	1.05	2.65	32	2.153	0.46	3.59	42	9.477	0.11	2.98				
	38	0.955	1.05	2.28	30	3.183	0.31	5.21	54	4.603	0.22	1.43					78	0.933	1.07	2.74	42	2.161	0.46	3.13	58	9.461	0.11	1.04				
	46	0.96	1.04	2.51	40	3.148	0.32	5.34	58	4.614	0.22	1.11					86	0.919	1.09	4.23	54	2.197	0.46	3.83	68	9.444	0.11	1.15				
	56	0.928	1.08	6.09	52	3.215	0.31	5.13	60	4.611	0.22	1.2					96	0.936	1.07	2.22	64	2.199	0.45	1.92	76	9.512	0.11	0.71				
	66	0.973	1.03	0.75	62	3.23	0.31	4.7	78	4.58	0.22	0.57					98	0.933	1.07	2.15	72	2.208	0.45	7.57	100	9.518	0.11	0.54				
	76	0.972	1.03	0.74	70	3.248	0.31	3.85	50	5.972	0.17	1.99									82	2.114	0.47	5.48								
	86	0.971	1.03	0.94	80	3.124	0.32	5.09	62	5.928	0.17	3.22									94	2.207	0.45	0.74								
	96	0.97	1.03	0.8	88	3.204	0.31	1.6	74	6.043	0.17	1.11																				
					98	3.241	0.31	1.76	90	6.042	0.17	0.72																				
Summary		0.96	1.04	2.16		3.19	0.31	4.33		5.17	0.20	1.57						0.94	1.07	2.82		2.17	0.46	3.75		9.48	0.11	1.59				
				.74-6.09				1.04-7.9				.52-3.22								2.15-6.83				.64-6.7				.71-3.11				
SRIM	10	0.953	1.05	2.05	4	3.17	0.32	4.03	54	6.265	0.16	1.02					46	0.949	1.05	1.87	12	2.176	0.46	3.89	14	5.516	0.18	2.63				
	20	0.954	1.05	1.95	18	3.128	0.32	1.45	60	6.322	0.16	1.02					58	0.95	1.05	0.95	20	2.16	0.46	3.41	32	5.497	0.18	2.94				
	32	0.946	1.06	4.79	32	3.12	0.32	5.09	66	6.366	0.16	3.47					66	0.948	1.05	0.65	32	2.157	0.46	4.72	34	5.549	0.18	2.95				
	40	0.947	1.06	4.17	40	3.171	0.32	5.12	70	6.216	0.16	0.18					72	0.948	1.05	0.58	46	2.192	0.46	0.65	36	5.482	0.18	2.77				
	50	0.933	1.07	5.65	74	3.139	0.32	6.01	74	6.314	0.16	1.61					82	0.95	1.05	0.38	54	2.156	0.46	2.59	38	5.493	0.18	2.93				
	64	0.904	1.11	5.72	88	3.15	0.32	1.02	82	6.211	0.16	0.31					92	0.922	1.08	1.85	84	2.197	0.46	0.49	46	5.501	0.18	2.55				
	72	0.946	1.06	4	96	3.1	0.32	0.59	88	6.305	0.16	1.02					96	0.924	1.08	1.39	92	2.102	0.48	1.74	48	5.498	0.18	2.77				
	80	0.94	1.06	5.71	100	3.127	0.32	7.86	96	6.226	0.16	0.27									98	2.182	0.46	4.68	54	5.502	0.18	2.81				
	92	0.932	1.07	5.98																					56	5.5	0.18	2.72				
Summary		0.94	1.06	4.45		3.14	0.32	3.90		6.28		1.11						0.94	1.06	1.10		2.17	0.46	2.77		5.50	0.18	2.79				
				.1-6.07				.59-7.86				.18-3.47								.38-1.87				.49-4.72				2.55-2.93				
N4SID-IO	20	0.936	1.07	7.34	12	3.132	0.32	6.26	44	4.519	0.22	2.51					56	0.603	1.66	9.68	28	2.105	0.48	4.7	18	9.552	0.10	4.23				
	30	0.933	1.07	3.65	20	3.152	0.32	5.21	48	4.513	0.22	2.63					64	0.599	1.67	9.66	50	2.13	0.47	3.38	30	9.424	0.11	2.52				
	42	0.95	1.05	3.15	32	3.187	0.31	4.69	58	4.525	0.22	3.16					70	0.624	1.60	8.46	56	2.142	0.47	3.38	44	9.598	0.10	1.55				
	58	0.952	1.05	3	42	3.22	0.31	5.46	68	4.579	0.22	1.47					74	0.623	1.61	7.97	60	2.132	0.47	3.13	56	9.594	0.10	1.11				
	66	0.931	1.07	4.13	50	3.228	0.31	4.73	76	4.567	0.22	0.8					80	0.609	1.64	6.91	64	2.144	0.47	3.28	66	9.446	0.11	1.98				
	82	0.967	1.03	2.43	60	3.205	0.31	0.9	88	4.685	0.21	2.98					84	0.617	1.62	5.68	70	2.146	0.47	2.77	74	9.504	0.11	0.61				
	94	0.961	1.04	2.26	70	3.249	0.31	3.84	92	4.567	0.22	0.57					90	0.616	1.62	7.17	76	2.163	0.46	3.43	96	9.506	0.11	0.6				
	100	0.965	1.04	2.47	80	3.267	0.31	4.11									94	0.62	1.61	7.9	86	2.184	0.46	2.97	100	9.439	0.11	0.83				
					90	3.256	0.31	2.57									100	0.624	1.60	6.44	92	2.187	0.46	2.38								
					100	3.286	0.30	2.72													98	2.183	0.46	2.55								
Summary		0.95	1.05	3.55		3.22	0.31	4.05		4.57	0.22	2.02						0.62	1.63	7.76		2.15	0.46	3.20		9.51	0.11	1.68				
				2.26-8.32				.85-8.53				.57-3.16								5.68-9.68				2.55-4.7				.57-4.23				
Average		0.948872	1.054127	3.177326		3.174756	0.315052	4.08459		5.356331	0.150132	3.548411						0.780476	1.337538	3.932783		2.157244	0.463636	3.436438		8.115233	0.129458	2.74316				
Overall Average		**0.79**	**1.29**	**3.58**		**4.36**	**0.26**	**3.11**		**6.31**	**0.08**	**1.64**						**0.61**	**1.73**	**4.61**		**2.77**	**0.52**	**4.70**		**3.18**	**0.77**	**4.33**				

Station 24571: ACI and LATBSDC Values - LATERAL AND GRAVITY SYSTEM

Building: Pasadena - 9-story Commercial Bldg
Building Type: Reinforced concrete slab-column system providing moment resistance; beam-column system at the core of each floor
Number of floors with Sensors:5
Total No. Sensors: 15

Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Walls	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
1	0.35	0.70	2.297	Transverse	1.62	Transverse	0.71	1.723	Torsional	NA	NA	NA	1.598	Torsional/Longitudinal	1.31	Longitudinal	0.82
1	0.7	0.90	2.045	Transverse	1.62	Transverse	0.79	1.497	Torsional	NA	NA	NA	1.381	Torsional/Longitudinal	1.31	Longitudinal	0.95
		Average	0.54275														

Station 24571: ACI and LATBSDC Values - LATERAL SYSTEM ONLY

Building: Pasadena - 9-story Commercial Bldg
Building Type: Reinforced concrete slab-column system providing moment resistance; beam-column system at the core of each floor
Number of floors with Sensors:5
Total No. Sensors: 15

Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Walls	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
1	0.35	0.70	2.474	Transverse	1.62	Transverse	0.66	1.852	Torsional/Longi	NA	NA	NA	1.68	Torsional	NA	NA	NA
1	0.7	0.90	2.207	Transverse	1.62	Transverse	0.73	1.625	Torsional/Longitudinal	NA	NA	NA	1.464	Torsional	NA	NA	NA
		Average	0.585125														

Station 24571

Building: Pasadena - 9-story Commercial Bldg
Building Type: Reinforced concrete slab-column system providing moment resistance; beam-column system at the core of each floor
Number of floors with Sensors:5
Total No. Sensors: 15

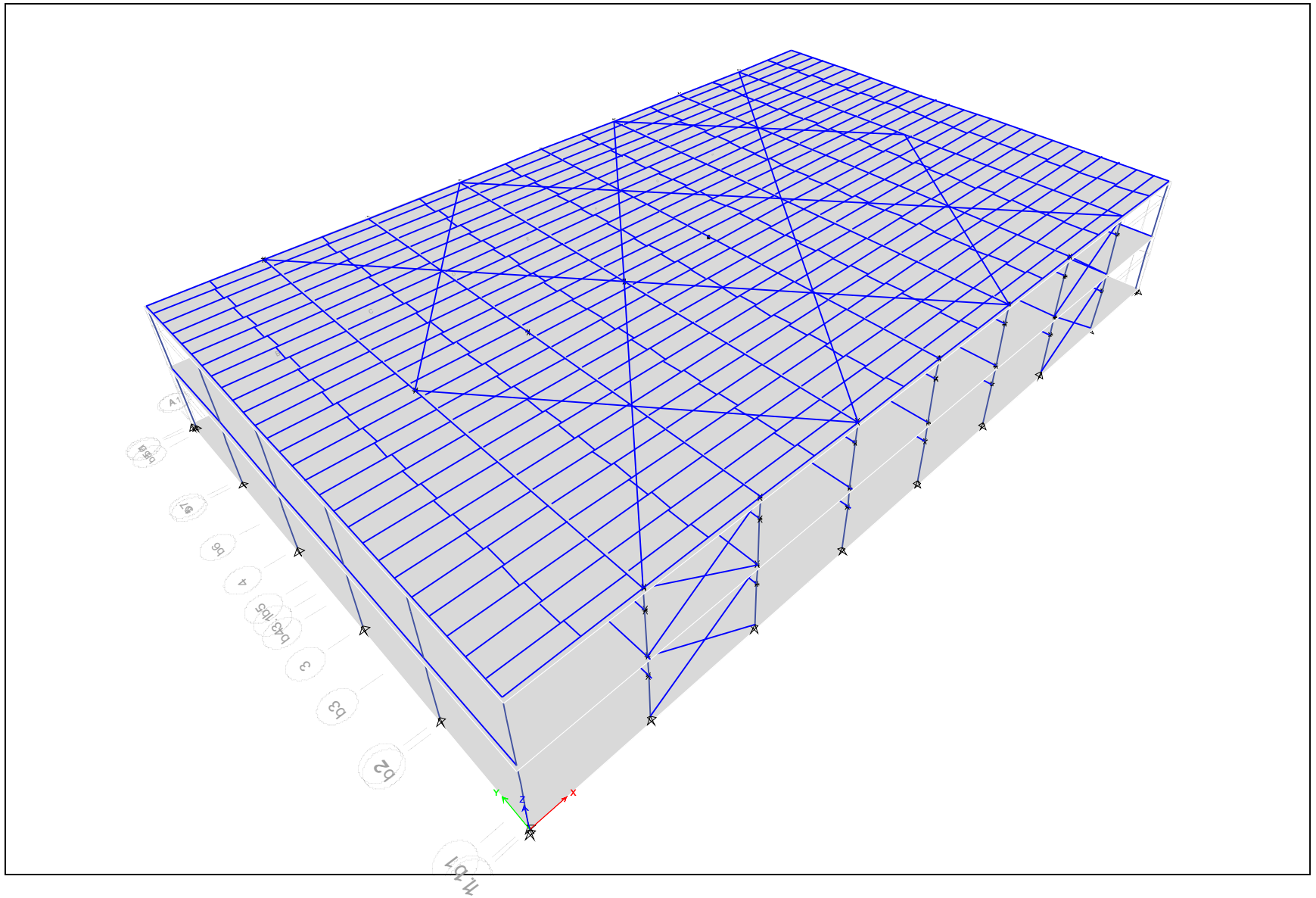
Cracking			Mode 1					Mode 2					Mode 3				
			ETABS		System ID		Ratio:	ETABS		System ID		Ratio:	ETABS		System ID		Ratio:
Walls	Beam	Column	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS	Period	Direction	Period	Direction	System ID / ETABS
0.35	0.3	0.30	2.776	Transverse	1.78	Transverse	0.64	2.235	Longitudinal/Torsional	1.20	Longitudinal	0.54	2.046	Torsional		NA	NA
0.35	0.3	0.50	2.486	Transverse	1.78	Transverse	0.71	19.22	Longitudinal/Torsional	1.20	Longitudinal	0.06	1.774	Torsional		NA	NA
0.35	0.3	0.70	2.335	Transverse	1.78	Transverse	0.76	1.754	Longitudinal/Torsional	1.20	Longitudinal	0.69	1.631	Torsional		NA	NA
0.35	0.3	1.00	2.201	Transverse	1.78	Transverse	0.81	1.605	Longitudinal/Torsional	1.20	Longitudinal	0.75	1.505	Torsional		NA	NA
0.35	0.5	0.30	2.669	Transverse	1.78	Transverse	0.67	2.153	Longitudinal/Torsional	1.20	Longitudinal	0.56	1.964	Torsional		NA	NA
0.35	0.5	0.50	2.375	Transverse	1.78	Transverse	0.75	1.834	Longitudinal/Torsional	1.20	Longitudinal	0.66	1.682	Torsional		NA	NA
0.35	0.5	0.70	2.221	Transverse	1.78	Transverse	0.80	1.661	Longitudinal/Torsional	1.20	Longitudinal	0.72	1.532	Torsional		NA	NA
0.35	0.5	1.00	2.086	Transverse	1.78	Transverse	0.85	1.506	Longitudinal/Torsional	1.20	Longitudinal	0.80	1.399	Torsional		NA	NA
		Average	2.393625														

Station 54388

Building: Bishop - 2-story Office Bldg

Building Type: Transverse direction: steel columns and trusses connected to provide moment resistant frames. Longitudinal direction: steel rod x-bracing in exterior walls

Number of floors with Sensors: 3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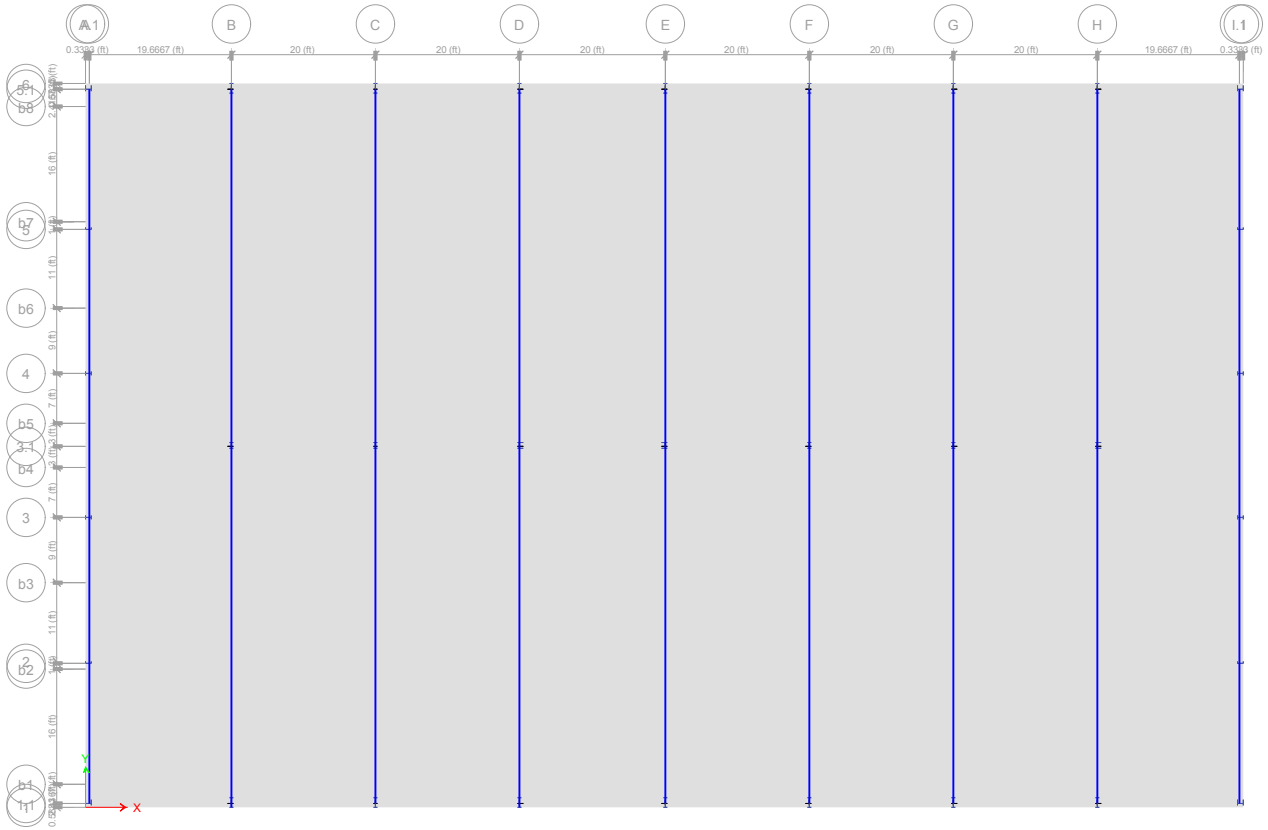
B7
B6
4
B4
B5
3
B3
B2
1
B1


A.1
B
C
D
E
F
G
H
I.1
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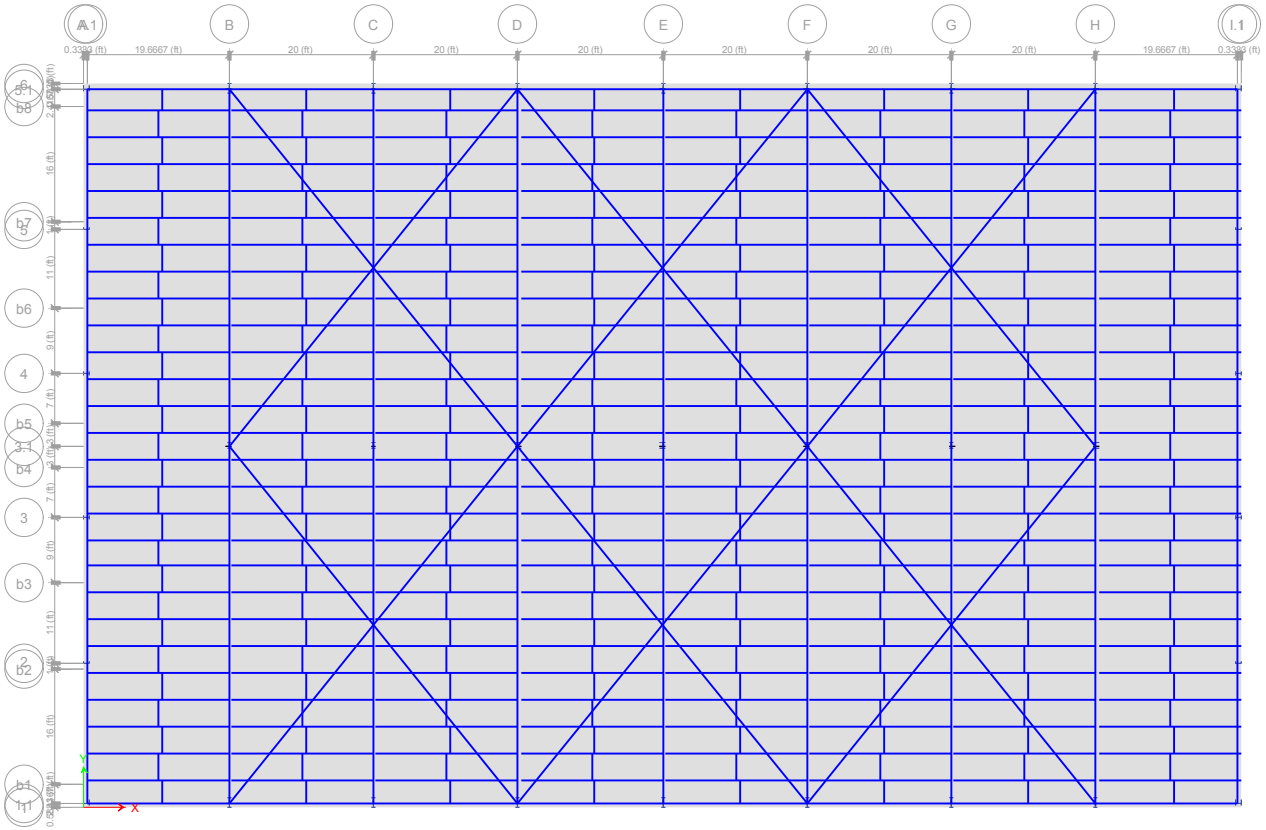
19.6667 (ft)
20 (ft)
20 (ft)
20 (ft)
20 (ft)
20 (ft)
20 (ft)
19.6667 (ft)
0.3333 (ft)
b8
16 (ft)
b7
11 (ft)
b6
9 (ft)
4
7 (ft)
b5
3.1
b4
7 (ft)
3
9 (ft)
b3
11 (ft)
2
b2
16 (ft)
b1
1.1
Y
X


A.1
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0.3333 (ft)
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19.6667 (ft)
0.3333 (ft)
b8
16 (ft)
b7
5
11 (ft)
b6
9 (ft)
4
7 (ft)
b5
3.1
b4
7 (ft)
3
9 (ft)
b3
11 (ft)
2
b2
16 (ft)
b1
1.1
Y
X

	QualeysCamp_18Sep2004_event2																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	30	4.336	0.23	4.74	24	9.038	0.11	3.76									10	3.869	0.26	9.1	28	6.401	0.16	8.03								
	38	4.241	0.24	4.12	34	9.103	0.11	3									24	3.895	0.26	9.96	32	6.433	0.16	5.43								
	46	4.268	0.23	5.8	36	9.125	0.11	2.94									48	3.898	0.26	3.36	48	6.453	0.15	1.71								
	60	4.317	0.23	3.42	38	9.06	0.11	2.6									50	3.891	0.26	3.07	50	6.366	0.16	2								
	70	4.272	0.23	2.7	40	9.176	0.11	2.47									58	3.891	0.26	3.75	62	6.397	0.16	2.91								
	80	4.284	0.23	2.75	44	9.099	0.11	2.84									62	3.9	0.26	4.05	70	6.447	0.16	2.42								
	90	4.274	0.23	2.69	92	9.198	0.11	1.46									64	3.8	0.26	4.92	80	6.43	0.16	2.83								
	100	4.242	0.24	3.23	94	9.189	0.11	1.45									70	3.891	0.26	3.35	90	6.403	0.16	2.15								
					96	9.185	0.11	1.28									80	3.839	0.26	2.84	100	6.413	0.16	2.57								
					100	9.152	0.11	1.67									100	3.854	0.26	1.29												
Summary		4.28	0.23	3.68		9.13	0.11	2.35										3.87	0.26	4.57		6.42	0.16	3.34								
				2.6-5.8				1.28-3.76												1.29-9.96				1.71-8.03								
ARX	14	4.273	0.23	4.94	24	6.876	0.15	3.17									14	3.899	0.26	8.89	20	6.207	0.16	7								
	22	4.324	0.23	4.33	32	6.806	0.15	3.23									20	3.898	0.26	6.5	26	6.268	0.16	6.02								
	30	4.299	0.23	3.87	42	6.841	0.15	3.56									38	3.886	0.26	3.54	30	6.239	0.16	4.26								
	40	4.297	0.23	3.47	52	6.838	0.15	3.35									48	3.861	0.26	5.12	36	6.309	0.16	5.23								
	50	4.301	0.23	3.8	60	6.792	0.15	3.19									58	3.888	0.26	5.11	40	6.399	0.16	3.89								
	62	4.293	0.23	2.42	70	6.892	0.15	3.32									66	3.849	0.26	2.51	44	6.385	0.16	3.42								
	70	4.282	0.23	2.67	80	6.812	0.15	3									70	3.808	0.26	9.33	52	6.399	0.16	2.6								
	80	4.276	0.23	2.27	90	6.722	0.15	7.26									80	3.839	0.26	2.27	56	6.399	0.16	2.47								
	90	4.293	0.23	1.85	100	6.843	0.15	1.36									90	3.731	0.27	4.63	96	6.296	0.16	2.1								
	100	4.261	0.23	1.74													100	3.745	0.27	2.67	100	6.28	0.16	2.46								
Summary		4.29	0.23	3.14		6.82	0.15	3.49										3.84	0.26	5.06		6.32	0.16	3.95								
				1.74-5.15				1.29-7.26												1.85-9.91				2.1-7								
SRIM	8	4.266	0.23	3.99	14	6.901	0.14	1.54									8	3.897	0.26	8.18	22	6.303	0.16	2.49								
	14	4.279	0.23	3.18	44	6.815	0.15	1.52									10	3.856	0.26	7.42	32	6.482	0.15	4.14								
	28	4.332	0.23	2.69	50	6.981	0.14	0.8									36	3.724	0.27	1.48	48	6.379	0.16	2.32								
	32	4.314	0.23	2.24	54	6.888	0.15	1.77									60	3.818	0.26	8.5	50	6.405	0.16	2.45								
	42	4.271	0.23	2.73	64	6.819	0.15	0.28									68	3.859	0.26	0.72	60	6.442	0.16	0.49								
	50	4.349	0.23	2.04	76	6.929	0.14	0.52									72	3.788	0.26	1.75	74	6.376	0.16	2.38								
	62	4.349	0.23	2.23	82	6.862	0.15	0.41									76	3.868	0.26	6.9	84	6.405	0.16	0.43								
	72	4.307	0.23	2.83	84	6.872	0.15	0.43									80	3.831	0.26	9.01	96	6.429	0.16	0.51								
	80	4.332	0.23	3.41													92	3.761	0.27	0.97												
	90	4.307	0.23	2.38													100	3.746	0.27	0.95												
Summary		4.31	0.23	2.77		6.88	0.15	0.91										3.81	0.26	4.59		6.40	0.16	1.90								
				.24-3.99				.28-1.77												.8-9.01				.43-4.14								
N4SID-IO	16	4.308	0.23	7.29	22	6.857	0.15	4.22									22	3.854	0.26	7.57	18	6.309	0.16	6.52								
	20	4.296	0.23	6.22	26	6.898	0.14	3.39									46	3.899	0.26	5.98	34	6.364	0.16	4.16								
	30	4.303	0.23	4.81	30	6.922	0.14	4.13									50	3.875	0.26	4.72	42	6.371	0.16	3.18								
	40	4.287	0.23	3.84	34	6.869	0.15	3.99									60	3.837	0.26	3.92	54	6.448	0.16	2.91								
	50	4.332	0.23	4.74	42	6.809	0.15	5.02									70	3.846	0.26	3.85	62	6.431	0.16	3.3								
	62	4.251	0.24	3.17	56	6.955	0.14	7.08									80	3.861	0.26	3.35	74	6.371	0.16	2.64								
	70	4.234	0.24	3.63	62	6.846	0.15	7.25									90	3.851	0.26	3.46	88	6.456	0.15	2.53								
	82	4.265	0.23	2.08	64	6.885	0.15	6.76									100	3.844	0.26	3.3	94	6.478	0.15	2.05								
	90	4.288	0.23	4.45	96	6.999	0.14	1.57													98	6.449	0.16	2.22								
	96	4.277	0.23	3.89	100	6.966	0.14	1.3																								
Summary		4.28	0.23	4.41		6.90	0.14	4.47										3.86	0.26	4.52		6.41	0.16	3.28								
				2.08-8.36				1.3-7.25												2.98-8.28				2.05-6.52								
Average		4.290963	0.233059	3.500313		7.435285	0.136562	2.805021										3.846594	0.260013	4.6831875		6.386292	0.156602	3.116007								

	TonopahJnctn_00402688																															
	X-DIRECTION																Z-DIRECTION															
	Mode 1				Mode 2				Mode 3				Mode 4				Mode 1				Mode 2				Mode 3				Mode 4			
SI Method	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping	Model Order	Frequency	Period	Damping
ERA-OKID-IO	98	3.19	0.31	3.46	26	7.965	0.13	9.75									96	3.259	0.31	3.61	26	7.965	0.13	9.75								
					62	7.868	0.13	5.74									98	3.19	0.31	3.46	62	7.868	0.13	5.74								
					98	7.935	0.13	3.21													98	7.935	0.13	3.21								
Summary		3.19	0.31	3.46		7.92	0.13	6.23										3.22	0.31	3.54		7.92	0.13	6.23								
								3.21-9.75												3.46-3.61				3.21-9.75								
ARX	42	3.977	0.25	9.89	38	7.638	0.13	7.64									42	3.977	0.25	9.89	34	7.791	0.13	8.94								
	50	3.877	0.26	9.22	40	7.633	0.13	7.55									50	3.877	0.26	9.22	36	7.703	0.13	7.5								
	60	3.949	0.25	8.12	42	7.69	0.13	7.05									60	3.949	0.25	8.12	38	7.638	0.13	7.64								
	70	3.976	0.25	8.94	44	7.575	0.13	6.15									70	3.976	0.25	8.94	40	7.633	0.13	7.55								
	80	3.945	0.25	7.32	48	7.557	0.13	4.97									80	3.945	0.25	7.32	52	7.672	0.13	5.11								
	86	3.928	0.25	4.53	50	7.566	0.13	4.99									86	3.928	0.25	4.53	56	7.653	0.13	4.57								
	92	3.85	0.26	5.61	56	7.653	0.13	4.57									92	3.85	0.26	5.61	58	7.69	0.13	4.33								
	96	3.806	0.26	6.79	60	7.67	0.13	4.97									96	3.806	0.26	6.79	60	7.67	0.13	4.97								
					66	7.608	0.13	6.26													66	7.608	0.13	6.26								
Summary		3.91	0.26	7.55	94	7.621	0.13	6.21										3.91	0.26	7.55	94	7.621	0.13	6.21								
				4.53-9.89				4.33-7.64												4.53-9.89				4.33-8.94								
SRIM	22	3.608	0.28	9.34	26	7.544	0.13	4.01									22	3.608	0.28	9.34	26	7.544	0.13	4.01								
	48	3.699	0.27	9.69	34	7.508	0.13	5.15									26	3.594	0.28	6.21	28	7.567	0.13	4.11								
	50	3.7	0.27	9.22	38	7.567	0.13	3.97									30	3.511	0.28	6.25	34	7.508	0.13	5.15								
	56	3.687	0.27	7.09	50	7.414	0.13	2.78									48	3.699	0.27	9.69	36	7.532	0.13	4.46								
	60	3.708	0.27	9.85	62	7.593	0.13	2.58									50	3.7	0.27	9.22	38	7.567	0.13	3.97								
	74	3.683	0.27	9.53	66	7.577	0.13	1.82									56	3.687	0.27	7.09	50	7.414	0.13	2.78								
	76	3.648	0.27	9.82	80	7.4	0.14	1.57									64	3.575	0.28	9.33	62	7.593	0.13	2.58								
	90	3.711	0.27	9.71	88	7.477	0.13	1.12									74	3.683	0.27	9.53	66	7.577	0.13	1.82								
	96	3.609	0.28	4.15													92	3.575	0.28	8.44	80	7.4	0.14	1.57								
																	96	3.609	0.28	4.15	88	7.477	0.13	1.12								
Summary		3.67	0.27	8.71		7.51	0.13	2.88										3.62	0.28	7.93		7.52	0.13	3.16								
				4.15-9.85				1.12-5.15												4.15-9.69				1.12-5.15								
N4SID-IO	64	4.359	0.23	7.66	40	7.237	0.14	9.17									64	4.359	0.23	7.66	40	7.237	0.14	9.17								
	68	4.282	0.23	5.59	46	7.373	0.14	6.58									68	4.282	0.23	5.59	46	7.373	0.14	6.58								
	72	4.209	0.24	4.85	52	7.344	0.14	5.91									72	4.209	0.24	4.85	52	7.344	0.14	5.91								
	76	4.271	0.23	4.01	54	7.381	0.14	6.41									76	4.271	0.23	4.01	54	7.381	0.14	6.41								
	78	4.234	0.24	3.63	56	7.275	0.14	7.89									78	4.234	0.24	3.63	56	7.275	0.14	7.89								
	82	4.228	0.24	4.08													82	4.228	0.24	4.08												
	88	4.332	0.23	6.96													88	4.332	0.23	6.96												
	52	2.079	0.48	8.76													52	2.079	0.48	8.76												
	64	2.033	0.49	3.23													64	2.033	0.49	3.23												
	74	2.03	0.49	7.65													74	2.03	0.49	7.65												
Summary		3.61	0.31	5.64		7.32	0.14	7.19										3.61	0.31	5.64		7.32	0.14	7.19								
				3.63-8.76				6.41-9.17												3.63-8.76				6.41-9.17								
Average		3.595439	0.287938	6.341403		7.593942	0.131798	5.584083										3.59195	0.288031	6.163625		7.607617	0.131563	5.722583								
Overall Average		**3.94**	**0.26**	**4.92**		**7.51**	**0.13**	**4.19**										**3.72**	**0.27**	**5.42**		**7.00**	**0.14**	**4.42**								

Station 54388 - LATERAL AND GRAVITY SYSTEM

Building: **Bishop - 2-story Office Bldg**

Building Type: **Transverse direction: steel columns and trusses connected to provide moment resistant frames. Longitudinal direction: steel rod x-bracing in exterior walls**

Number of floors with Sensors: 3

Total No. Sensors: 12

Panel Zone Offset = **0**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.147	Local/Transverse	0.26	Transverse	0.23
2	0.997	Local/Transverse	0.26	Transverse	0.27
3	0.936	Longitudinal	0.25	Longitudinal	0.27

Panel Zone Offset = **0.5**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.146	Local/Transverse	0.26	Transverse	0.23
2	0.997	Local/Transverse	0.26	Transverse	0.27
3	0.927	Local/Transverse	0.26	Transverse	0.29

Panel Zone Offset = **1**

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.146	Local/Transverse	0.26	Transverse	0.23
2	0.996	Local/Transverse	0.26	Transverse	0.27
3	0.927	Local/Transverse	0.26	Transverse	0.29

Station 54388 - LATERAL SYSTEM ONLY

Building: **Bishop - 2-story Office Bldg**

Building Type: **Transverse direction: steel columns and trusses connected to provide moment resistant frames. Longitudinal direction: steel rod x-bracing in exterior walls**

Number of floors with Sensors: 3

Total No. Sensors: 12

Panel Zone Offset = 0

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.147	Local/Transverse	0.26	Transverse	0.23
2	0.997	Local/Transverse	0.26	Transverse	0.27
3	0.934	Local/Transverse	0.26	Transverse	0.28

Panel Zone Offset = 0.5

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.146	Local/Transverse	0.26	Transverse	0.23
2	0.997	Local/Transverse	0.26	Transverse	0.27
3	0.927	Local/Transverse	0.26	Transverse	0.29

Panel Zone Offset = 1

	ETABS		System ID		Ratio
Mode	Period	Direction	Period	Direction	System ID / ETABS
1	1.146	Local/Transverse	0.26	Transverse	0.23
2	0.996	Local/Transverse	0.26	Transverse	0.27
3	0.927	Local/Transverse	0.26	Transverse	0.29