

STRUCTURAL CALCULATIONS
100% CONSTRUCTION DOCUMENTS - 04/17/07

Of

THE HALL OF JUSTICE
Los Angeles, California

VOLUME I

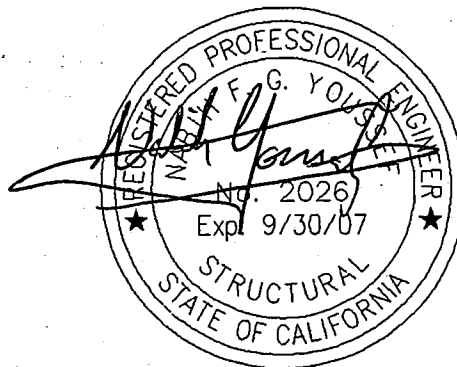
Prepared for:

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NYA Job # 05121



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DEPT. PUBLIC WORKS
PROJECT MANAGEMENT DIVISION II

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A: Response to Previous Design Review Comments

County of Los Angeles
 Department of Public Works
 Architectural Engineering Division

Design Review Comments

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 Date: April 9, 2007 E-mail: sumerani@ladpw.org

Signature of Reviewer _____

Comments for STRUCTURAL Plans dated February 8, 2007.

Note: Engineer is requested to return a copy of these comments with responses indicating how the comments have been resolved, revised plans, calculations, and other supporting documents when resubmitting for approval.

| No. | Ref. To Plans/Specs | Comments | Resolutions |
|----------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| 100DD-01 | General | 100% DD Design Review Comments For Historical Buildings, structural evaluation and design shall be performed in accordance with Chapter 34, Division II, of the 2002 LACBC and State Historical Building Code (SHBC). It should be specified as such on Drawing S1.00. | See Code section on revised drawing S1.00. |
| 100DD-02 | Calculations-Design Basis | Section 3.3: Site-specific response spectrum should be consistent with the geotechnical report prepared by Converse Consultants and based on a 10% probability of exceedance in 50 years with a damping ratio of 5% unless justified otherwise. | The noted response spectrum has been used. |
| 100DD-04 | Calculations-Design Basis | Section 4.3: Would the material tested strengths provided by Twining | The material strengths per the Twining test data were used in |

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| | | <p>Laboratories be used for the new retrofit? The material properties between drawings and calculations should be consistent.</p> | <p>the design. The data shown under Existing Structural Properties on S1.00 have been updated to reflect the test data.</p> |
| 100DD-07 | Calculations- Part E and F | <p>Pier horizontal and vertical reinforcement should be consistent between calculations and drawings. Verify and revise drawings as needed.</p> | <p>The drawings have been revised.</p> |
| 100DD-08 | Calculations- Part F | <p>Will the wall design be revised to eliminate design inadequacies as identified in ETABS output?</p> | <p>The drawings and calculations have been revised. Note that for typical wall piers, edge reinforcing has been detailed based on the simplified (conservative) pier section design output from ETABS. Where the wall piers were overstressed using this method, the actual reinforcing was input into ETABS and the capacity ratios were calculated using axial/moment interaction diagrams calculated by ETABS. (See Section H of Volume I). Also note that the wall pier shear design is based on the spreadsheet presented in Section G of Volume I, not the ETABS design.</p> |
| 100DD-09 | Calculations- | <p>It appears that several of the spandrel beam shear demand</p> | <p>Beam widths and concrete</p> |

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| Part G | exceeds $4\sqrt{f'c}$ and need to be designed as coupling beams per Section 1921.6.10 of LACBC. Verify and revise as needed. | strengths have been revised such that only one beam exceeds the limit by more than 8 percent. This beam has been provided with diagonal bars. See revised drawings and calculations (Volume I Section J). |
| 100DD-10 | Calculations-Part I | Foundation reinforcement has been revised. Note that the required reinforcing per the SAFE analysis is the total required including the existing foundation reinforcing and is based on $f_y = 42$ ksi. The required new reinforcing is calculated by subtracting the existing reinforcing from the required reinforcing per SAFE and multiplying the net area by 42/60. See calculations in Volume II Section E. |
| 100DD-11 | Drawing S1.00 | See revised drawings. |
| 100DD-12 | Drawing S1.00 | See Code section on S1.00. |
| 100DD-13 | Drawing S1.00 | See revised drawings. |

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| | name/designation wherever applicable. | | |
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| 100DD-14 | Drawing S1.00 | Foundations: Should the geotechnical report and soil properties be specified based on the report prepared by Converse Consultant dated May 5, 2003? | The design properties of the soil per the soil report are indicated in Foundation Notes 4 and 5. |
| 100DD-15 | Drawing S1.00 | Adhesive and Expansion Anchors: Add a note instructing the Contractor to avoid interference between new dowels/anchors and existing reinforcement/embedment. Drawings and specifications should require the Contractor to be solely responsible for locating the existing rebar prior to drilling, surface preparation, and proper installation of new dowels. | See note 3 under Adhesive and Expansion Anchor notes on S1.00. |
| 100DD-16 | Drawing S1.00 | Pre-Engineered Structures: Add a note to the list of deferred submittals, "The deferred submittals items shall be submitted to the architect or engineer of record who shall review and approve them, and forward them to the building official with a notation indicating that the deferred submittal documents have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the building official. Provide ample time for the building official to review the documents." | See note 5 under Pre-Engineered Structures notes on S1.00. |
| 100DD-17 | Drawing S1.00 | Concrete: Do all existing concrete surfaces that would receive new concrete need to be roughened to full amplitude or as specified on drawings? | Existing wall surfaces need not be roughened. See revised Concrete note 9 on S1.00. |
| 100DD-18 | Drawing S1.00 | Structural Steel: 1. Add a note, "Steel fabrication shall be done in a shop of an | See Structural Steel Note 1 on S1.00. |

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| | | <p>approved fabricator holding a Certificate of Approval from the City of Los Angeles or equal." A Certificate of Fabrication from the shop performing the welding or a report from a County of Los Angeles Certified Special Inspector must be furnished to the job inspector prior to framing approval.</p> <p>2. All field welding shall be performed by a certified welder and continuously inspected.</p> | |
| 100DD-19 | Drawing S1.00 | <p>Structural Allowance: Provide more complete criteria for crack repair of damaged structural components.</p> | See revised notes on S1.00. |
| 100DD-20 | Drawing S1.00A | <p>Add a list of the existing drawings that will be provided to the Contractor for use during construction.</p> | See Existing Building Drawings notes on S1.00A. The note has been revised. |
| 100DD-21 | Drawing S1.00A | <p>Welding, Note 4: Should CVN of "20 ft-lbs at zero degrees" be changed to "20 ft-lbs at minus twenty degrees" to comply with the Section 7.3(a) of ANSI/AISC 341-02 (Seismic Provisions)?</p> | |
| 100DD-22 | Drawing S1.00A | <p>Will notes and specifications be provided on fiberwrap and fiberwrap included in the list of deferred submittals?</p> | See Fibrous Reinforcing System notes on S1.00A and new specification section 03240. |
| 100DD-23 | Drawing (D) S2.XX | <p>1. Will the full extent of wall demolition and framing (including end connections to the supporting columns and beams) be defined? 2. Will new opening sizes and locations be provided on drawing? 3. Will hollow-clay tiles be removed and indicated as such on demolition drawings? Provide adequate supports to those historical walls that remain for out-of-plane forces.</p> | <p>1. See revised drawings. 2. See architectural demolition drawings for dimensions. 3. Metal stud backing per 11/S4.11 has been added at HCT walls to remain.</p> |

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| 100DD-24 | Drawings S3.01 to 3.05 | Would the use of proprietary epoxy dowels help reduce the embedment length requirements? | Due to the close spacing of the dowels, the bar development length has been indicated for the embedment to ensure full development of the bar tension capacity. See revised drawings and calculations. |
| 100DD-27 | Drawing S4.00 | Detail 3: Check the adequacy of bottom reinforcement at Line 1 and 12 and revise detail as needed. | See revised drawings and calculations. |
| 100DD-28 | Drawing S4.02 | Detail 13: The interface connection between the underside of existing slab and the new reinforced concrete wall must be detailed to prevent the formation of weak shear plane caused by the shrinkage of concrete. Revise detail as required. | See revised details showing a grout space. |
| 100DD-29 | General | Will calculations be provided to check the existing columns and walls at eleventh and thirteenth floor and determine strengthening requirements if needed? | Existing column have been checked using RAM. See calculation Volume II Section C. Note that built up section properties have been entered into RAM data base for existing columns without a close modern shape with similar properties. See Section D for calculations of column strengthening. |
| 100DD-30 | General | Will calculations be provided for the design of existing URM strong back, exterior stone / terra cotta, penthouse and equipment anchorage? | See Volume II Section G pages 1-3 for calculations for URM strong backs. See Volume II Section G Page 4 |

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| 100DD-31 | General | Will calculations be provided for the design of new/modified floor framing? | for calculations for strong/terra cotta anchorage. See Volume I Section J for penthouse lateral analysis. See Volume II Section A for penthouse gravity framing. See Volume I Section A for new beam design/existing beam check. See Volume II Section B for existing beam strengthening. |
| | | | |
| 50CD-01 | Drawing S1.00 | Concrete Note 1: Should a concrete strength of 8000 psi be used for new walls located above tenth floor instead of eleventh floor to be consistent with Section G of calculations? | The note will be revised. |
| 50CD-02 | Drawing S1.00 | Pre-Engineered Structures: I understand light gage steel, stairs, and equipment support systems are a part of this package. Provide appropriate notes, plans, and details for these systems. Architectural Drawings HA6.02 to 6.05 refer to structural drawings for masonry anchors and light gage steel stud framing. | See detail 1, 9, and 11/S4.11 for light gage framing used to brace URM/HCT walls. See architectural drawings for typical light gage framing details. The penthouse stair framing is shown in partial plans on S2.17. Refer to architectural drawings for details. Refer to mechanical drawings for equipment anchorage. (Note that most mechanical equipment will be installed in a future phase.) |

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| 50CD-03 | Drawings S1.00 and 1.00A | Number notes in General, Concrete, and Welding sections. | See revised drawings. |
| 50CD-04 | Drawing S1.00A | Cladding Pinning Notes: Will masonry anchor testing procedure and acceptance criteria be provided? | See Anchor Testing notes on S1.00A. |
| 50CD-05 | Drawing S1.02 | <ol style="list-style-type: none"> 1. Field welding symbol should be added where applicable. 2. Detail 3: Indicate the need for shoring to alert the contractor. 3. Detail 8: Specify plate size and concrete encasement at columns. The end condition of plates at top and bottom of column should be provided. 4. Consider providing horizontal short slotted holes for bolted connections to join new steel to the existing. | <ol style="list-style-type: none"> 1. The determination of what welds can/should be performed in the shop has been left to the contractor. |
| 50CD-06 | Drawing S1.03 | Would negative reinforcement be provided in composite decks over steel beams to prevent cracks during service condition? | See detail 15/S1.03. |
| 50CD-07 | Drawing (D) SX.XX | <ol style="list-style-type: none"> 1. The legends should be consistent between structural and architectural drawings and show demolition legends on structural drawings. 2. The structural demolition including removal of ramps, stairs, and openings should be consistent with architectural drawings for size, location, and extent. 3. Add demolition notes and details as necessary to cover all conditions including full/partial demolition of slabs and beams, demolition sequence, and shoring requirements. | <ol style="list-style-type: none"> 1. See legend on demo plans. 2. See revised plans. 3. See notes on demo drawings. |
| 50CD-08 | Drawing (D) S2.00 | Show demolished slab-on-grade at perimeter walls to allow expansion of foundation and slab replacement. | See revised drawing. |
| 50CD-09 | Drawing S2.00 | <ol style="list-style-type: none"> 1. Coordinate with Architectural Drawing A2.00 to locate new elevator pit between Lines G and H and fill an adjacent | <ol style="list-style-type: none"> 1. See revised drawing. 2. The new wall passes over |

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| | | elevator pit. 2. Provide opening in new wall to align with the existing utility door at Line A. 3. Show footing for new Stair #4. | the existing opening. See elevation on S3.03. |
| 50CD-10 | Drawing S2.01 to S2.14 | 1. Specify new beam TOS elevation (to ensure finished floor elevations match the existing floor), metal studs, and camber as required. 2. Provide details at various interface locations to connect new deck and framing to existing steel and walls. 3. Coordinate structural plans with architectural and demolition drawings. 4. Verify the constructibility of stair ties at Stair # A and B, and revise Detail 4/S4.11 as needed. | 1. TOS has not been specified since the exact as-built elevations are not known. The new steel shall be located as required to match the new and existing top of slab. 2. See details 2-4/S1.02, 12/S1.03, 14-17/S4.03, 15/S4.11. |
| 50CD-11 | Drawing S2.01 to S2.14 | Would details be provided to connect new concrete shear walls to the existing columns to properly engage columns for stability check? Will column splice and base plates be checked for uplift capacities? | Existing column loads have been conservatively ignored in the design of the new shear walls. That is, the new wall reinforcing has been sized for tension without relying on transfer of load to the existing columns. |
| 50CD-12 | Drawing S2.01 to S2.14 | Would fiberwrap be effective to limit damage to both sides of URM light court walls during out-of-plane loads? | The fiber wrap will prevent the URM from falling into the stair way. |
| 50CD-13 | Drawing S2.11 | Demolished elements including Stair #3 and 5 should not be shown on final drawings. | See revised drawing. |
| 50CD-14 | Drawing S2.12 | More complete details should be shown for hangers that are located in four corners of the building. | |
| 50CD-15 | Drawing | Add sections and details to provide structural information on | See detail 7/S4.03. |

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| | S2.15 | parapet steel framing. | |
| 50CD-16 | Drawing S2.15 | Check the adequacy of the existing roof framing for new mechanical room loads. | |
| 50CD-17 | Drawing S2.16 | Coordinate roof access, and column locations with the architectural drawings. | See revised drawings. |
| 50CD-18 | Drawing S2.16 | Provide braced frame elevations to specify member sizes, and connections and details. | See elevations on S2.16. |
| 50CD-19 | Drawing S3.01 to S3.05 | Show pockets at the existing steel beams and provide details at interface between new walls and encased steel beams. | Showing pockets on these elevations at each existing beam would make the reinforcing callouts shown on the elevations illegible. Detail 18/S4.03 referenced on the elevations has been added to the interface between the new wall and existing beams. |
| 50CD-20 | Drawing S4.03 | Check the adequacy of shallow anchors to transfer diaphragm shear into drag beams. | See Volume I Section L page 22. |
| 50CD-21 | Drawing S4.11 | Provide more complete information, particularly in Detail 1 and 6. | |



B: Design Basis and Methodology

DESIGN BASIS AND METHODOLOGY

95% CONSTRUCTION DOCUMENTS - 4/17/07

Of

THE HALL OF JUSTICE

Los Angeles, California

Prepared for:

Nadel Architects, Inc.
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1. PROJECT BACKGROUND

1.1 Building Description

The existing Hall of Justice building is located in downtown Los Angeles, California at 211 West Temple Street. The existing building was designed in 1923 by the Mechanical Department of the County of Los Angeles and constructed in 1925. The height of the building is approximately 175'-4" to the roof level and 193'-5" to the top of the canopy. The building has 14 stories, includes a basement level and has a roof penthouse. The plan dimensions of the building are approximately 225'-2" in the north to south direction and 181'-2" in the east to west direction. The building has two interior light courts that are approximately 45' by 88' in dimension and begin at the 2nd level.

The proposed development of the building is to remain the same as the existing occupancy category (Class 'A' Office Building). The development of the building will include removal of the jail cells at the 10th through 13th floor levels including the floor slabs at the 11th and 13th levels allowing for story heights at the 10th and 12th levels to be increased from 9'-6" to 19'-0".

2. EXISTING STRUCTURE DESCRIPTION

2.1 Existing Gravity Load Carrying System

The typical existing gravity frame system includes concrete encased steel beams and columns. The beams are either built up sections fabricated of steel plates and angles or standardized rolled flanged steel sections that were commonly used in 1925. The columns are built up sections fabricated of steel plates and angles. The plates and angles of the built up sections are typically connected by steel rivets commonly used at the time of construction. The concrete encasement of the steel beams and columns serves as the fireproofing. The steel beams and columns support the reinforced concrete floor slabs that range in thicknesses from 4" to 7".

2.2 Existing Lateral Load Carrying System

The existing vertical lateral force resisting system consists of 8" reinforced concrete wall piers around the perimeter of the structure unreinforced masonry walls around the perimeter of the interior light courts. The 8" wall piers are coupled by exterior steel spandrel beams; however the connection of the beam to pier does not have the required strength and ductility to transfer moments to the wall piers and has been assumed to have limited fixity. The existing steel frame beams are riveted at both the top and bottom flanges with clip angles to the face of the steel columns and also provide a limited amount of stiffness; however the stiffness contribution of the steel

frame is substantially less than the concrete and URM wall elements. The reinforced concrete floor slabs transfer the inertial seismic loads to the vertical lateral force resisting system through bearing on the existing steel columns and shear friction of the slab dowels to the exterior concrete walls.

2.3 Existing Foundation System

The foundation system consists of 3'-6" thick perimeter concrete retaining walls sitting on strip footings and isolated pad footings below all steel columns at the basement level.

3. RETROFIT DESIGN BASIS AND METHODOLOGY

3.1 Required Performance Objectives

The primary function of the seismic goals is to establish performance objectives for evaluation of the existing building and design of the seismic strengthening system. The seismic goals, as outlined below, are intended to meet both life safety and damage mitigation objectives of the County of Los Angeles for the Los Angeles County Hall of Justice Building.

1. Insure stability (prevent collapse) of the structural system during the maximum capable earthquake.
2. Prevent falling hazards, which pose a significant life safety hazard.
3. Insure safe means of egress from the building.
4. Insure that life safety systems remain operable.
5. Maintain integrity and limit damage to the building exterior façade.
6. Limit damage to the historic interior fabric, building contents, fixtures, etc.

3.2 General

The design of the new strengthening system shall conform to the regulations of the County of Los Angeles 2002 Building.

3.3 LACBC 2002 Minimum Code Requirements

1. LACBC 2002 Code Minimum Base Shear:
 - a. Seismic Zone 4
 - b. Seismic source type: B
 - c. Soil Profile Type: S_c
 - d. Near-Source Factors: $N_a = 1.0$, $N_v = 1.1$
 - e. Seismic Coefficients: $C_a = 0.40$, $C_v = 0.63$
 - f. Seismic Importance Factor: $I = 1.0$
 - g. Ductility Factor: $R = 5.5$

(Retrofitted Walls as Non-Bearing Wall System. Existing Steel Frame to be used as primary gravity load carrying system)

- h. Seismic Dead Load of Building, $W = 110,000$ kips (Dead loads to be confirmed with field verification of material densities)

Code equations for the static lateral base shear force:

$$T_{\text{method a}} = C_t(h_n)^{3/4} = 0.02(175'-4'')^{3/4} = 0.96 \text{ sec}$$

$$T_{\text{method b}} = 1.25 \text{ sec}$$

$$V_{\text{static}} = \frac{C_v I}{RT} W = \frac{(0.63)(1.0)}{(5.5)(1.25)} W = (0.0916)W \quad \leftarrow \text{Governs static load}$$

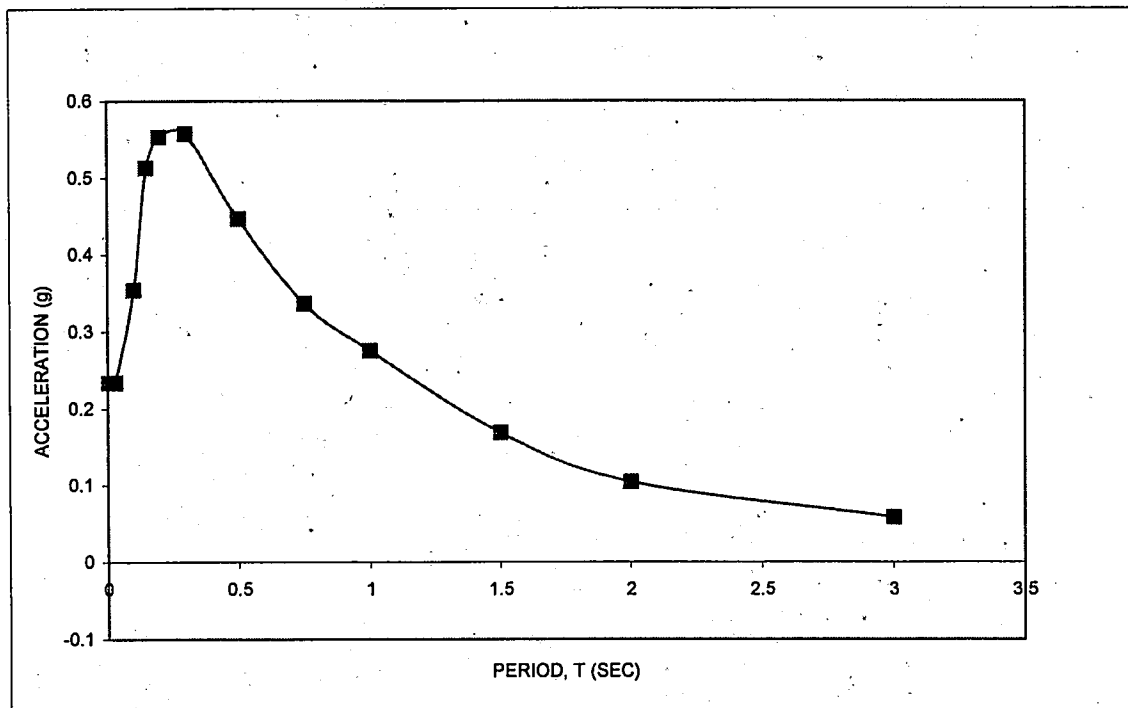
$$V_{\text{static}} < \frac{2.5C_a I}{R} W = \frac{2.5(0.40)(1.0)}{(5.5)} W = (0.182)W$$

$$V_{\text{static}} > .11C_a I W = .11(0.40)(1.0)W = (0.044)W$$

$$V_{\text{static}} > \frac{0.8ZN_v I}{R} W = \frac{0.8(.4)(1.1)(1.0)}{5.5} W = (0.064)W$$

$$V_{\text{static}} = (0.0916)110,000 \text{ kips} = 10,076 \text{ kips}$$

Dynamic response spectrum analysis is performed using acceleration response spectra generated from velocity spectra provided in the geotechnical report. The response spectra are plotted in the following graph:



Site Specific Acceleration Spectra per Geotechnical Report

1. Wind Design:
 - a. Basic Wind Speed: 70 mph
 - b. Exposure Category: B

2. Superimposed Live Loads:
 - a. Roof – 20 psf
 - b. Office Floors – 50 psf
 - c. Assembly Area: 100 psf

3.4 Local Faults

Southern California is traversed by several active faults that are capable of producing moderate to large magnitude earthquakes. Figure 3.1 shows the major faults affecting the property. The principal faults are **Hollywood, Raymond, Newport-Inglewood, Elysian Park and Verdugo**. The historical data available on each of these faults was reviewed.

Table 3.1 - Major Active Faults Affecting the Site

| Fault | Maximum Credible Earthquake Magnitude (Richter Scale) | Recurrence Interval (Years) | Distance to Site (miles) |
|----------------------------------------------|-------------------------------------------------------|-----------------------------|--------------------------|
| San Andreas- (San Bernardino segment) | 7.3 6.4 | 433 626 | 36 4.2 |
| Hollywood | 6.5 | 1541 | 5.1 |
| Raymond | 6.9 | 1006 | 6.3 |
| Newport-Inglewood | 6.7 | 549 | 6.9 |
| Elysian Park | 6.7 | 1608 | 7.2 |
| Verdugo | | | |

Reference: Fault Activity Map of California, State of California and Peak Acceleration from Maximum Credible Earthquakes in California, CalTrans.

Although the subject-building site may experience moderate ground shaking from earthquakes on a number of fault segments, the fault segment that is likely to generate the strongest ground shaking is the **Hollywood Fault Segment**. Such an earthquake is

likely to result in a Modified Mercalli Intensity (MMI) ranging between VII to VIII (7 ~ 8) at the building site

Based on an increased knowledge of ground motions caused by earthquakes, currently adopted building codes have established values for strength and displacement that exceed the capacity of the current building configuration as evident by damage sustained during past earthquakes and as could be expected to occur during future earthquakes. The current building configuration does not have a well-developed system to meet the code-based values for strength and displacement.

4. ANALYSIS OF EXISTING STRUCTURE AND PROPOSED RETROFIT SCHEME

4.1 Seismic Performance of Existing Lateral System

Although the existing lateral force resisting system is inherently redundant, it is evident that the existing wall and slab elements do not meet the current code level strength, ductility, and detailing requirements. The primary lateral resistance in the existing structural system is offered by the exterior 8" concrete wall piers, which are coupled by the exterior steel spandrel beams. The 8" wall pier centerline is eccentric to the centerline of the steel spandrel beam with the inside face of the wall typically aligning with the outside edge of the steel beam flange. The existing concrete wall piers are typically connected to the diaphragm with #3@16+/-"O.C. slab dowels; however the pier is only bonded to the side of the concrete encased steel beam with unreinforced concrete.

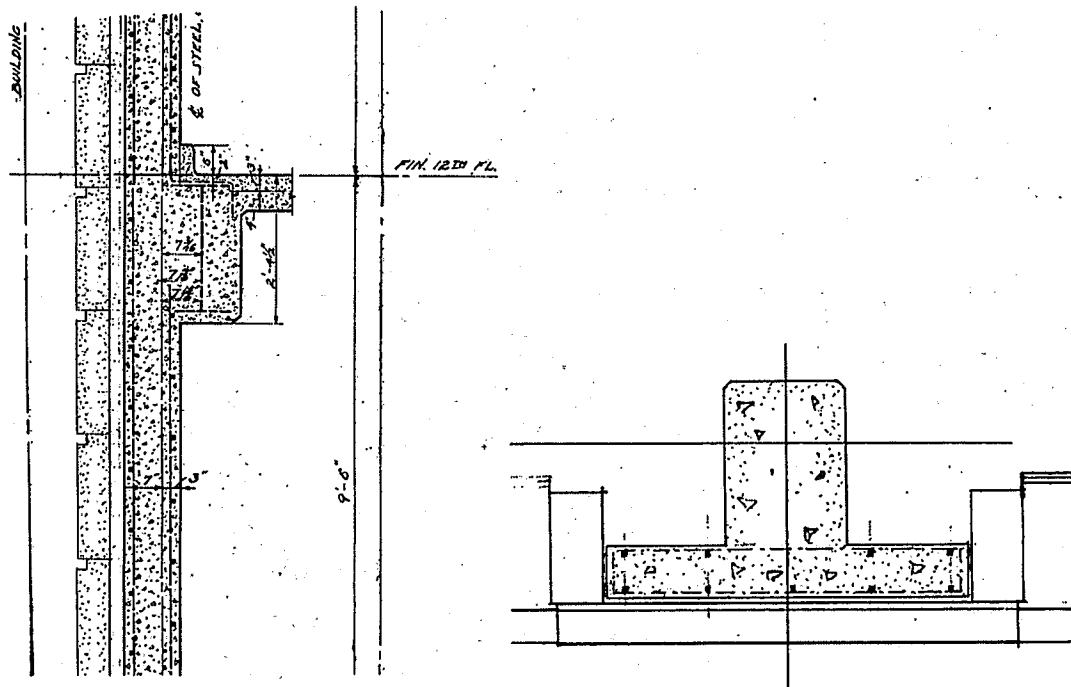
The concrete connection has very little rotational capacity and ductility to transfer moment between the concrete pier and concrete encased beam; with torsional fracture occurring in the unreinforced concrete, at an interstory drift of 0.25%+/-, thus decoupling the pier and spandrel beam in flexure. The #3 slab dowels provide the primary vertical and lateral support to the concrete pier after debonding of the concrete to the steel beam. The decoupled piers behave as slender concrete walls cantilevering from the ground to the roof, offering very little stiffness with little ability to control the drift in the building. The unreinforced masonry infills in the light court also offer significant initial stiffness to the building; but after cyclic loading and drifts in excess of 0.5% will crack with a significant loss in strength and stiffness. Redistribution of seismic force to the existing steel frames will occur after the loss of strength and stiffness in the existing wall elements with interstory drifts exceeding 2%; causing the existing stone veneer and other secondary structural systems to exceed their failure limit states.

4.2 New shear Wall Strengthening

The proposed seismic strengthening consists of new shear walls from the basement to roof at the exterior corners of the building, with the vertical wall piers coupled by new concrete spandrel beams to form a cantilever wall system. The thickness of the walls varies from 18" at the first floor to 14" at the top of the building. As mentioned in the previous section, the existing building lateral resisting system (exterior 8" wall piers and interior light court URM walls) has very little stiffness and lateral capacity after interstory drift levels have exceeded 0.5%; thus the new shear walls will be designed to resist 100% of the design base shear. The new shear walls will also provide enough stiffness to limit the interstory ratios to 1.0%+/- (acceptable drift performance level after the exterior stone backing systems and interior URM walls are strengthened).

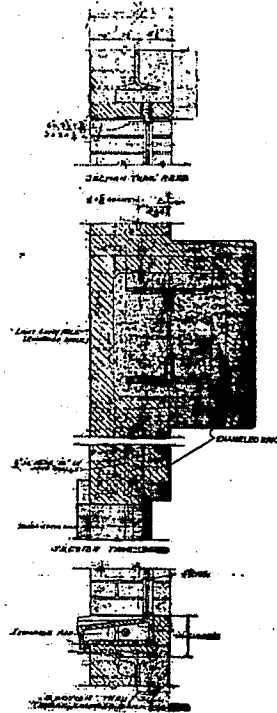
Exterior Stone Cladding System

The existing 8" concrete piers will act as a concrete panel veneer backing system with interstory deformation capabilities in excess of 1%. The existing stone panels will be anchored to the 8" concrete piers using Helifix anchors to insure a reliable connection between the stone and the concrete.



URM Walls

The URM in the light courts will also be treated as a veneer and strengthened with a strong back tube system and/or glass fiber backing system. This will allow the URM to exceed lateral deformations of 1.0%, without becoming a falling hazard.



Existing Steel Frame:

The existing steel frame system in the building consists of built-up wide flange columns with wide flange beams riveted to the columns with clip angles at the top and bottom flanges. This type of connection will behave similar to a partially restrained (partially rigid) moment connection with limited rotational fixity. The stiffness contribution of the steel frame system however will be very low (less than 10%) with respect to the new shear wall system.

Foundations

The existing foundations will be verified to meet the strength objectives required to transfer the seismic forces from the new shear wall system to the bearing strata below. The new shear wall strengthening will be epoxy doveled into the existing basement walls and foundation walls below. This will allow the shear walls to engage the foundations through the entire perimeter of the building by coupling the basement walls as deep beams. The basement walls will be strengthened where required. The existing continuous wall footings will be expanded to reduce bearing pressure under gravity and seismic loads to the allowable soil bearing pressure per the geotechnical report.

4.3 Structural Analysis and Computer Modeling Techniques

Existing and New Material Properties used for Design and Analysis:

| | |
|-----------------------------------------------------------------------|-----------|
| Typical Exterior 8" Concrete (145#/ft ³) Wall Panels..... | 3,200psi |
| Typical 4"-7" Concrete (130#/ft ³) Slabs..... | 3,200psi |
| All Other Concrete (130#/ft ³)..... | 3,200psi |
| Existing A15 Billet Steel Reinforcing Bars..... | 42,000psi |
| ASTM A9 Structural Steel Yield Strength..... | 30,000psi |
| ASTM A9 Structural Rivet Steel Yield Strength..... | 25,000psi |
| New Lightweight Concrete (110#/ft ³) Slabs..... | 3,000psi |
| New Concrete (150#/ft ³) Shear Walls and Drag Beams | |
| Above Tenth Floor..... | 6,000psi |
| Below Tenth Floor..... | 8,000psi |
| All Other New Concrete (150#/ft ³)..... | 4,000psi |
| New Reinforcing Steel – A615-Grade 60..... | 60,000psi |
| New Weldable Reinforcing Steel-A706 -Grade 60..... | 60,000psi |

Computer Modeling and Material Assumptions

In order to assess the performance of the strengthened building, a computer model of the building has been developed using ETABS V8.5



C: Load / Mass Criteria

Hall of Justice
Load / Mass Criteria

Average concrete weight from Twining Laboratories reports

Floors (slab, beams and cols.) 138 pcf
Walls 130 pcf

(E) Typical Floor

| | Gravity Load | | |
|----------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| 1" fill | 12 | 12 | 12 |
| 15"-42.9# beam@7'4" | 25 | 25 | 25 |
| 18"-75.6# girder@15' | 18 | 18 | 18 |
| Columns | 15 | 0 | 15 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 139.5 | 124.5 | 129.5 |
| Used | 140 | 125 | 130 |
| Mass | | | 4.037 |
| LL | 50 psf | | |

(E) Typical Floor Corridor

| | Gravity Load | | |
|----------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| 3" fill | 35 | 35 | 35 |
| 15"-42.9# beam@7'4" | 25 | 25 | 25 |
| 18"-75.6# girder@15' | 18 | 18 | 18 |
| Columns | 15 | 0 | 15 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 162.5 | 147.5 | 152.5 |
| Used | 163 | 148 | 153 |
| Mass | | | 4.752 |
| LL | 100 psf | | |

(E) Levels 10 thru 14 cells

| | Gravity Load | | |
|----------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| 3" fill | 35 | 35 | 35 |
| 15"-42.9# beam@5'-6" | 34 | 34 | 34 |
| 20"-85# girder@15' | 18 | 18 | 18 |
| Columns | 15 | 0 | 15 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 171.3 | 156.3 | 161.3 |
| Used | 172 | 157 | 162 |
| Mass | | | 5.031 |
| LL | 50 psf | | |

(N) Roof

| | Gravity Load | | |
|-------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| (N) Roofing | 10 | 10 | 10 |
| 15"-60.8# beam@8' | 26 | 26 | 26 |
| RT-32 @ 16.5' | 25 | 25 | 25 |
| Columns | 7.5 | 0 | 8 |
| Partitions | 0 | 0 | 5 |
| CME | 4 | 4 | 4 |
| Total | 118.5 | 111.0 | 123.5 |
| Used | 120 | 115 | 124 |
| Mass | | | 3.851 |
| LL | 20 psf | | |

(E) Roof Canopy

| | Gravity Load | | |
|---------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| Metal Roof | 3 | 3 | 3 |
| Steel framing | 52 | 52 | 52 |
| Total | 101 | 101 | 101 |
| Factor | 1.4 | 1.4 | 1.4 |
| Total | 141.4 | 141.4 | 141.4 |
| Used | 142 | 142 | 142 |
| Mass | | | 4.41 |
| LL | 12 psf | | |

(E) Roof w/brick

| | Gravity Load | | |
|-------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| 2.5" Brick | 31 | 31 | 31 |
| 15"-60.8# beam@8' | 26 | 26 | 26 |
| RT-32 @ 16.5' | 25 | 25 | 25 |
| Columns | 7.5 | 0 | 8 |
| Partitions | 0 | 0 | 5 |
| CME | 4 | 4 | 4 |
| Total | 139.7 | 132.2 | 144.7 |
| Used | 140 | 133 | 145 |
| LL | 50 psf | | |

Canopy mass was applied over 17' horizontal projection.
Canopy is at 45 degrees so mass/dead load was increased by 1.4.

Hall of Justice
Load / Mass Criteria

(E) Concrete wall @ roof canopy

| | |
|---------|-----------|
| 4" wall | 43 psf |
| Height | 11 ft |
| Total | 476.7 plf |
| Mass | 14.8 |

(E) Elev #10 Machine Room

| | Gravity Load | | |
|--------------------|--------------|-------|-------|
| | Cols | Floor | Mass |
| | {psf} | {psf} | {psf} |
| 4" slab | 46 | 46 | 46 |
| 10"-25.4# bm.@5.5' | 21 | 21 | 21 |
| 10"-25.4# gir.@11' | 11 | 11 | 11 |
| Columns | 6 | 0 | 6 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 108.2 | 102.2 | 98.2 |
| Used | 109 | 103 | 100 |
| LL | 50 psf | | |

(E) Elev #10 Penthouse Roof

| | Gravity Load | | |
|--------------------|--------------|-------|-------|
| | Cols | Floor | Mass |
| | {psf} | {psf} | {psf} |
| 5" avg slab | 58 | 58 | 58 |
| 10"-25.4# bm.@5.5' | 21 | 21 | 21 |
| 10"-25.4# gir.@11' | 11 | 11 | 11 |
| Columns | 3 | 0 | 3 |
| Partitions | 0 | 0 | 5 |
| CME | 4 | 4 | 4 |
| Total | 96.7 | 93.7 | 101.7 |
| Used | 97 | 94 | 107 |
| LL | 20 psf | | |

(E) Elev #1 Machine Room

| | Gravity Load | | |
|---------------------|--------------|-------|-------|
| | Cols | Floor | Mass |
| | {psf} | {psf} | {psf} |
| 4" slab | 46 | 46 | 46 |
| 12"-40.8# bm.@5.5' | 28 | 28 | 28 |
| 12"-31.8# gir.@5.5' | 26 | 26 | 26 |
| Columns | 6 | 0 | 6 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 130.0 | 124.0 | 120.0 |
| Used | 130 | 124 | 122 |
| LL | 50 psf | | |

(E) Tank Room Above Elev #1

| | Gravity Load | | |
|---------------------|--------------|-------|-------|
| | Cols | Floor | Mass |
| | {psf} | {psf} | {psf} |
| 4" slab | 46 | 46 | 46 |
| 12"-50# bm.@3' | 54 | 54 | 54 |
| 18"-75.6# gir.@5.5' | 48 | 48 | 48 |
| Columns | 6 | 0 | 6 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 178.5 | 172.5 | 168.5 |
| Used | 179 | 173 | 170 |
| LL | 150 psf | | |

(E) Elev #9 Penthouse Roof

| | Gravity Load | | |
|---------------------|--------------|-------|-------|
| | Cols | Floor | Mass |
| | {psf} | {psf} | {psf} |
| 5" avg slab | 58 | 58 | 58 |
| 12"-40.8# bm.@5.5' | 28 | 28 | 28 |
| 10"-25.4# gir.@5.5' | 21 | 21 | 21 |
| Columns | 3 | 0 | 3 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 133.8 | 130.8 | 123.8 |
| Used | 134 | 131 | 129 |
| LL | 20 psf | | |

(E) Elev #1 Penthouse Roof

| | Gravity Load | | |
|-------------------|--------------|-------|-------|
| | Cols | Floor | Mass |
| | {psf} | {psf} | {psf} |
| 5" avg slab | 58 | 58 | 58 |
| 7"-15.3# bm.@5.5' | 14 | 14 | 14 |
| 7"-15.3# bm.@11' | 7 | 7 | 7 |
| Columns | 3 | 0 | 3 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| Total | 105.5 | 102.5 | 95.5 |
| Used | 106 | 103 | 100 |
| LL | 20 psf | | |

Level 9 Court and Jury Room HCT to remain
6" HCT Wall 28 psf

Hall of Justice
Load / Mass Criteria
(N) Penthouse Roof

| | Gravity Load | | |
|--------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 3" deck + 2.5" LWC | 39 | 39 | 39 |
| beams | 7 | 7 | 7 |
| columns | 1 | 0 | 1 |
| partitions | 0 | 0 | 5 |
| roofing | 10 | 10 | 10 |
| CME | 4 | 4 | 4 |
| misc | 6 | 6 | 6 |
| Total | 67.0 | 66.0 | 72.0 |
| Used | 70 | 70 | 75 |
| Mass | | | 2.329 |
| LL | 20 psf | | |

(N) Elev Machine Room

| | Gravity Load | | |
|--------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 3" deck + 2.5" LWC | 39 | 39 | 39 |
| beams | 7 | 7 | 7 |
| columns | 1 | 0 | 1 |
| partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| misc | 6 | 6 | 6 |
| Total | 77.0 | 76.0 | 67.0 |
| Used | 80 | 80 | 70 |
| Mass | | | 2.174 |
| LL | 50 psf | | |

(N) Floor

| | Gravity Load | | |
|------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 2" deck + 4" LWC | 51 | 51 | 51 |
| 1" fill | 13 | 13 | 13 |
| beams | 7 | 7 | 7 |
| columns | 1 | 0 | 1 |
| partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| misc | 6 | 6 | 6 |
| Total | 101.3 | 100.3 | 91.3 |
| Used | 105 | 105 | 95 |
| Mass | | | 2.95 |
| LL | 50 psf | | |

(N) Roof (metal deck)

| | Gravity {psf} | Mass {psf} | RAM {psf} |
|-------------------------|------------------|---------------|--------------|
| Metal Deck | 4 | 4 | 4 |
| CME | 4 | 4 | 4 |
| beams | 5 | 5 | 0 |
| columns | 1 | 1 | 0 |
| roofing | 9 | 9 | 9 |
| partitions | 0 | 5 | 0 |
| misc | 2 | 2 | 2 |
| Total | 25 | 30 | 19 |
| Used | 25 | 30 | 20 |
| LL reducible code level | 20 | | |

(E) Typical Floor + Built Up Slab at Level 1

| | Gravity Load | | |
|----------------------|---------------|----------------|---------------|
| | Cols {psf} | Floor {psf} | Mass {psf} |
| 4" slab | 46 | 46 | 46 |
| 1" fill | 12 | 12 | 12 |
| 15"-42.9# beam@7'4" | 25 | 25 | 25 |
| 18"-75.6# girder@15' | 18 | 18 | 18 |
| Columns | 15 | 0 | 15 |
| Partitions | 20 | 20 | 10 |
| CME | 4 | 4 | 4 |
| 4" LWC slab | 38 | 38 | 38 |
| Total | 177.9 | 162.9 | 167.9 |
| Used | 178 | 163 | 168 |
| Mass | | | 5.217 |
| LL | 100 psf | | |

Cladding at (N) Penthouse

| | |
|----------|---------|
| Cladding | 10 psf |
| Height | 30 ft |
| Total | 300 plf |

Hall of Justice
Load / Mass Criteria
Mass 9.317

(N) Light court parapet
4" brick 40 psf
stud wall 10 psf
Total 50 psf
Used 50 psf
Height 5 ft
Total 250 plf
Mass 7.764

Hall of Justice

Average concrete weight from Twining Laboratories reports

Floors

| Location | Unit Wt. {pcf} |
|-------------------------------------|-------------------|
| Level 4, Room 442 South Floor | 140.6 |
| Level 12, Room 1216 Southwest Floor | 134.1 |
| Level 14, Room 1429 Northwest Floor | 133.7 |
| Level 1, Room 114 East Floor | 135.5 |
| 3rd Floor Ceiling | 138.2 |
| Level 9, Room 949 East Floor | 141 |
| Average Used | 137.2 138 |

Walls

| Location | Unit Wt. {pcf} |
|--------------------------------|-------------------|
| Basement B51 North Wall | 142.2 |
| Basement B42 West Wall | 137.3 |
| First Floor Wall | 100.4 |
| Level 2, Room 207 South Wall | 138.5 |
| Level 4, Room 442 South Wall | 134.9 |
| Level 6, Room 669 North Wall | 136.1 |
| Level 8, Room 839 West Wall | 134.7 |
| Level 10, Room 1027 North Wall | 135 |
| Level 12, Room 1216 West Wall | 133.7 |
| Level 14, Room 1427 West Wall | 132.6 |
| 2nd Floor Wall | 109.5 |
| 12th Floor Wall (Stair #23) | 102.1 |
| Average Used | 128.1 130 |

Hall of Justice
Column Mass

| Shape | Notes | H (ft) | Web | | | Angles (4) | | | Steel prop | | | Conc covers | | | Conc prop | | | Conc Total | | | | |
|------------|--------|--------|--------|---------|--------|------------|--------|---------|------------|-----------------------|----------|-------------|----------|----------|-----------|--------|-----------------------|------------|-----------|----------|-------|---------|
| | | | d (in) | tw (in) | l (in) | w (in) | t (in) | bf (in) | d (in) | As (in ²) | wt (plf) | side (in) | top (in) | bot (in) | w (in) | d (in) | Ac (in ²) | wt (pcf) | plf (plf) | wt (lbs) | | |
| Col 152 | 1 to 3 | 30 | 13.5 | 0.75 | 7 | 3.5 | 0.75 | 14.8 | 13.5 | 39.4 | 134 | 2 | 2 | 2 | 18.8 | 17.5 | 289 | 138 | 277 | 411 | 12321 | |
| Col 152 | 3 to 5 | 28.3 | 13.5 | 0.5 | 6 | 3.5 | 0.5 | 12.5 | 13.5 | 24.8 | 84.2 | 2 | 2 | 2 | 16.5 | 17.5 | 264 | 138 | 253 | 337 | 9526 | |
| Col 152 | 5 to 7 | 23.7 | 13.5 | 0.38 | 4 | 3 | 0.38 | 8.38 | 13.5 | 15 | 51 | 2 | 2 | 2 | 12.4 | 17.5 | 202 | 138 | 193 | 244 | 5780 | |
| Totals | | 81.9 | | | | | | | | | | | | | | | | | | | 27627 | |
| Average wt | | | | | | | | | | | | | | | | | | | | | | 337 plf |
| # stories | | | | | | | | | | | | | | | | | | | | | | 6 |
| Average H | | | | | | | | | | | | | | | | | | | | | | 13.7 ft |

Deduct 6" for slab thickness

| Shape | Notes | H (ft) | Web | | | Angles (4) | | | Cover Pls | | | Steel prop | | | Conc covers | | | Conc prop | | | Conc Total | | |
|------------|----------|--------|--------|---------|--------|------------|--------|---------|-----------|-----------------------|----------|------------|----------|----------|-------------|--------|-----------------------|-----------|-----------|----------|------------|---------|--|
| | | | d (in) | tw (in) | l (in) | w (in) | t (in) | bf (in) | d (in) | As (in ²) | wt (plf) | side (in) | top (in) | bot (in) | w (in) | d (in) | Ac (in ²) | wt (pcf) | plf (plf) | wt (lbs) | | | |
| Col 98 | 1 to 3 | 30 | 13.5 | 0.75 | 6 | 3.5 | 0.75 | 14 | 1.19 | 14 | 15.9 | 69.6 | 237 | 2 | 2 | 18 | 19.9 | 288 | 138 | 276 | 513 | 15391 | |
| Col 98 | 3 to 5 | 28.3 | 13.5 | 0.75 | 6 | 3.5 | 0.75 | 14 | 0.75 | 14 | 15 | 57.4 | 195 | 2 | 2 | 18 | 19 | 285 | 138 | 273 | 468 | 13221 | |
| Col 98 | 5 to 7 | 23.7 | 13.5 | 0.75 | 6 | 3.5 | 0.75 | 14 | 0.44 | 14 | 14.4 | 48.6 | 165 | 2 | 2 | 18 | 18.4 | 282 | 138 | 270 | 436 | 10315 | |
| Col 98 | 7 to 10 | 37.9 | 13.5 | 0.5 | 6 | 3.5 | 0.56 | 14 | 0.63 | 14 | 14.8 | 44.4 | 151 | 2 | 2 | 18 | 18.8 | 293 | 138 | 281 | 432 | 16375 | |
| Col 98 | 10 to RF | 54.6 | 13.5 | 0.5 | 6 | 3.5 | 0.56 | 0 | 0 | 12.5 | 13.5 | 26.9 | 91.4 | 2 | 2 | 16.5 | 17.5 | 262 | 138 | 251 | 342 | 18688 | |
| Totals | | 174 | | | | | | | | | | | | | | | | | | | | 73990 | |
| Average wt | | | | | | | | | | | | | | | | | | | | | | 424 plf | |
| # stories | | | | | | | | | | | | | | | | | | | | | | 14 | |
| Average H | | | | | | | | | | | | | | | | | | | | | | 12.5 ft | |

Deduct 6" for slab thickness

Weight

| | | | |
|----------------|--------------------|------|-----|
| Col 152 (H-11) | 11.5' over 22'x15' | 11.7 | psf |
| Col 98 | 12' over 22'x13.6' | 17.0 | psf |
| Avg | | 14.4 | psf |

Penthouse Columns

| Shape | Notes | H (ft) | Web | | | Angles (4) | | | Steel prop | | | Conc covers | | | Conc prop | | | Conc Total | | | | |
|---------|--------|--------|--------|---------|--------|------------|--------|---------|------------|-----------------------|----------|-------------|----------|----------|-----------|--------|-----------------------|------------|-----------|----------|------|----------------------|
| | | | d (in) | tw (in) | l (in) | w (in) | t (in) | bf (in) | d (in) | As (in ²) | wt (plf) | side (in) | top (in) | bot (in) | w (in) | d (in) | Ac (in ²) | wt (pcf) | plf (plf) | wt (lbs) | | |
| Col.120 | 1 to 3 | 13.5 | 13.5 | 0.38 | 5 | 3 | 0.38 | 10.4 | 13.5 | 16.5 | 56.1 | 2 | 2 | 2 | 14.4 | 17.5 | 235 | 138 | 225 | 281 | 3799 | |
| Weight | | | | | | | | | | | | | | | | | | | | | | 281 plf |
| Area | | | | | | | | | | | | | | | | | | | | | | 45.4 ft ² |
| Weight | | | | | | | | | | | | | | | | | | | | | | 5.5 psf |

11'2" x 16.5' / 2

Hall of Justice
Column Mass

Column inside exterior façade stone column

| Shape | Notes | H {ft} | Steel prop bf {in} | d {in} | As {in^2} | wt {plf} | Conc covers side {in} | top {in} | bot {in} | w {in} | Conc prop d {in} | Ac {in^2} | wt {pcf} | Conc wt {plf} | Total wt {lbs} |
|------------|----------|-----------|-----------------------|-------------------|-----------|----------|--------------------------|----------|----------|--------|---------------------|-----------|----------|------------------|-------------------|
| Col 265 | 11 to 14 | 28.5 | 2C-6"-15.5# | and 2 C PI 10x5/8 | 8.5 | 29.6 | 101 | 2 | 2 | 2 | 14 | 12.5 | 145 | 138 | 240 |
| Average wt | | 240 | plf | | | | | | | | | | | | 6839 |

Collonade Columns

| | |
|---------------|-----------------------------|
| Outer diam | 4 ft |
| Inner diam | 3.08 ft |
| Area | 5.1 ft^2 |
| Weight | 165 pcf |
| Weight | 841 plf |
| Stone + Steel | 1081 plf |
| Weight | 30.8 kips |
| Mass each end | 15.4 kips |
| | Applied to levels 14 and 10 |

Hall of Justice

Beam and girder mass

| Shape | Notes | Steel prop | | | Conc covers | | | Conc prop | | | Conc | | | Total | | |
|-----------|----------|------------|--------|-----------|-------------|-----------|----------|-----------|--------|--------|-----------|----------|----------|----------|----------|----------|
| | | bf {in} | d {in} | As {in^2} | wt {plf} | side {in} | top {in} | bot {in} | w {in} | d {in} | Ac {in^2} | wt {pcf} | wt {plf} | wt {plf} | wt {plf} | wt {plf} |
| 15'-42.9# | Typ | 5.5 | 15 | 12.48 | 42.9 | 2 | 0 | 2 | 9.5 | 17 | 149 | 138 | 143 | 186 | 495 | |
| 18'-75.6# | Typ | 7 | 18 | 22.04 | 75.6 | 2 | 0 | 2 | 11 | 20 | 198 | 138 | 190 | 265 | 494 | |
| 20'-85# | 10 to 14 | 6.8 | 20 | 25 | 85 | 2 | -3 | 2 | 10.8 | 19 | 192.7 | 138 | 185 | 270 | 490 | |
| 15'-60.8# | Roof | 6 | 15 | 17.68 | 60.8 | 2 | 0 | 2 | 10 | 17 | 152.3 | 138 | 146 | 207 | 495 | |
| 10'-25.4# | PH | 4.66 | 10 | 7.47 | 25.4 | 2 | 0 | 2 | 8.66 | 12 | 96.45 | 138 | 92.4 | 118 | 490 | |
| 12'-31.8# | PH | 5 | 12 | 9.35 | 31.8 | 2 | 0 | 2 | 9 | 14 | 116.7 | 138 | 112 | 144 | 490 | |
| 12'-40.8# | PH | 5.25 | 12 | 12 | 40.8 | 2 | 0 | 2 | 9.25 | 14 | 117.5 | 138 | 113 | 153 | 490 | |
| 12'-50# | PH | 5.5 | 12 | 14.7 | 50 | 2 | 0 | 2 | 9.5 | 14 | 118.3 | 138 | 113 | 163 | 490 | |
| 7'-15.3# | PH | 3.66 | 7 | 4.5 | 15.3 | 2 | 0 | 2 | 7.66 | 9 | 64.44 | 138 | 61.8 | 77.1 | 490 | |

Roof Truss

| Shape | l {in} | Angles (2) | | w {in} | t {in} | gap {in} | As {in^2} | wt {plf} | Conc covers | | | Conc prop | | | Conc | | | Total | | |
|-----------|--------|------------|--------|--------|--------|----------|-----------|----------|-------------|----------|----------|-----------|--------|-----------|----------|-----------|----------|----------|----------|----------|
| | | w {in} | t {in} | | | | | | side {in} | top {in} | bot {in} | w {in} | d {in} | Ac {in^2} | wt {pcf} | wt {plf} | wt {plf} | wt {plf} | wt {plf} | wt {plf} |
| Bot chord | 5 | 3.5 | 0.38 | 0.5 | 6.09 | 20.7 | 2 | 2 | 2 | 14.5 | 7.5 | 103 | 138 | 98.4 | 119 | 1 | 31 | 3732 | | |
| Top chord | 5 | 3.5 | 0.44 | 0.5 | 7.05 | 24 | 2 | 0 | 2 | 14.5 | 5.5 | 72.7 | 138 | 69.7 | 93.7 | 1 | 31 | 2935 | | |
| Vert | 3 | 3 | 0.31 | 0.5 | 3.55 | 12.1 | 2 | 2 | 2 | 10.5 | 7 | 69.9 | 138 | 67 | 79.1 | 3 | 5.9 | 1404 | | |
| Diag | 4 | 3 | 0.31 | 0.5 | 4.18 | 14.2 | 2 | 2 | 2 | 12.5 | 7 | 83.3 | 138 | 79.8 | 94.1 | 2 | 10 | 1881 | | |
| Diag | 6 | 4 | 0.5 | 0.5 | 9.5 | 32.3 | 2 | 2 | 2 | 16.5 | 8 | 123 | 138 | 117 | 150 | 2 | 10 | 2994 | | |
| Total | | | | | | | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | | | 12947 lbs | | | | |
| w | | | | | | | | | | | | | | | | 31.33 ft | | | | |
| | | | | | | | | | | | | | | | | 413.2 plf | | | | |

Hall of Justice
Exterior (E) Concrete Walls and Stone Veneer

Stone Veneer 165 pcf Distribute 11th and 13th floor mass to floors above and below
Window wt 10 psf

| Level | Start | End | Story H (ft) | Total | | Window | | Conc Wall | | | | Stone Veneer | | | Total wt | | Mass | | ETABS | | |
|----------------------|-------|------|--------------|-------------|-------------|--------|-------------|-------------|-----------|---------------|--------|--------------|-----------|---------------|----------|----------|-----------|--------------|-------------|-------|------------|
| | | | | Length (ft) | Area (ft^2) | H (ft) | Length (ft) | Area (ft^2) | Wt (kips) | Area t (ft^2) | t (in) | Wt (pcf) | Wt (kips) | Area t (ft^2) | t (in) | Wt (pcf) | Wt (kips) | Total (kips) | Total (plf) | Level | Mass (plf) |
| Line 1 | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 225 | 2925 | 0 | 0 | 0 | 2925 | 36 | 130 | 1141 | 2925 | 0 | 0 | 0 | 1141 | 5070 | 2 | 3783 | 117 | |
| 2 | 3 | 17 | 225 | 3825 | 9.417 | 85 | 800 | 8 | 3025 | 9 | 130 | 295 | 3025 | 6 | 165 | 250 | 552 | 2455 | | | |
| Line 12 (Line 1 sim) | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 225 | 2925 | 6.083 | 85 | 517 | 5 | 2408 | 9 | 130 | 235 | 2408 | 6 | 165 | 199 | 439 | 1949 | 2 | 2202 | 68 |
| 2 | 3 | 17 | 225 | 3825 | 9.417 | 85 | 800 | 8 | 3025 | 9 | 130 | 295 | 3025 | 6 | 165 | 250 | 552 | 2455 | 3 | 2388 | 74 |
| 3 | 4 | 15 | 225 | 3375 | 6.083 | 91 | 554 | 6 | 2821 | 9 | 130 | 275 | 2821 | 6 | 165 | 233 | 513 | 2282 | 4 | 2270 | 70 |
| 4 | 5 | 13.3 | 225 | 2981 | 8.667 | 91 | 789 | 8 | 2193 | 9 | 130 | 214 | 2193 | 9.5 | 165 | 286 | 508 | 2258 | 5 | 2096 | 65 |
| 5 | 6 | 11.8 | 225 | 2663 | 8.667 | 91 | 789 | 8 | 1874 | 9 | 130 | 183 | 1874 | 9.5 | 165 | 245 | 435 | 1935 | 6 | 2012 | 62 |
| 6 | 7 | 11.8 | 225 | 2663 | 6.917 | 91 | 629 | 6 | 2033 | 9 | 130 | 198 | 2033 | 9.5 | 165 | 266 | 470 | 2089 | 7 | 2475 | 77 |
| 7 | 8 | 15.6 | 225 | 3506 | 7.875 | 91 | 717 | 7 | 2790 | 9 | 130 | 272 | 2790 | 9.5 | 165 | 364 | 644 | 2880 | 8 | 2449 | 76 |
| 8 | 9 | 12.3 | 225 | 2775 | 8.792 | 91 | 800 | 8 | 1975 | 9 | 130 | 193 | 1975 | 9.5 | 165 | 258 | 459 | 2038 | 9 | 2229 | 69 |
| 9 | 10 | 11 | 225 | 2475 | 4.583 | 91 | 417 | 4 | 2058 | 9 | 130 | 201 | 2058 | 12 | 165 | 340 | 544 | 2419 | 10 | 1883 | 58 |
| 10 | 11 | 9.5 | 225 | 2138 | 4.5 | 106.7 | 480 | 5 | 1658 | 9 | 130 | 162 | 1658 | 6 | 165 | 137 | 303 | 1347 | 11 | 1247 | 39 |
| 11 | 12 | 9.5 | 225 | 2138 | 7 | 106.7 | 747 | 7 | 1391 | 9 | 130 | 136 | 1391 | 6 | 165 | 115 | 258 | 1146 | 12 | 1146 | 38 |
| 12 | 13 | 9.5 | 225 | 2138 | 7 | 106.7 | 747 | 7 | 1391 | 9 | 130 | 136 | 1391 | 6 | 165 | 115 | 258 | 1146 | 13 | 1146 | 38 |
| 13 | 14 | 9.5 | 225 | 2138 | 7 | 106.7 | 747 | 7 | 1391 | 9 | 130 | 136 | 1391 | 6 | 165 | 115 | 258 | 1146 | 14 | 2528 | 78 |
| 14 | RF | 16.6 | 225 | 3731 | 4.75 | 84 | 399 | 4 | 3332 | 9 | 130 | 325 | 3332 | 12 | 165 | 550 | 879 | 3905 | RF | 1853 | 61 |
| Line P (Line A sim) | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 181 | 2353 | 6.083 | 66.33 | 404 | 4 | 1949 | 9 | 130 | 190 | 1949 | 6 | 165 | 181 | 355 | 1961 | 2 | 2217 | 69 |
| 2 | 3 | 17 | 181 | 3077 | 9.417 | 66.33 | 625 | 6 | 2452 | 9 | 130 | 239 | 2452 | 6 | 165 | 202 | 448 | 2473 | 3 | 2384 | 74 |
| 3 | 4 | 15 | 181 | 2715 | 6.083 | 71 | 432 | 4 | 2283 | 9 | 130 | 223 | 2283 | 6 | 165 | 188 | 415 | 2294 | 4 | 2288 | 71 |
| 4 | 5 | 13.3 | 181 | 2398 | 8.667 | 71 | 615 | 6 | 1783 | 9 | 130 | 174 | 1783 | 9.5 | 165 | 233 | 413 | 2281 | 5 | 2120 | 68 |
| 5 | 6 | 11.8 | 181 | 2142 | 8.667 | 71 | 615 | 6 | 1527 | 9 | 130 | 149 | 1527 | 9.5 | 165 | 199 | 354 | 1958 | 6 | 2033 | 63 |
| 6 | 7 | 11.8 | 181 | 2142 | 6.917 | 71 | 491 | 5 | 1651 | 9 | 130 | 161 | 1651 | 9.5 | 165 | 216 | 381 | 2108 | 7 | 2494 | 77 |
| 7 | 8 | 15.6 | 181 | 2821 | 7.875 | 71 | 559 | 6 | 2261 | 9 | 130 | 220 | 2261 | 9.5 | 165 | 295 | 521 | 2681 | 8 | 2471 | 77 |
| 8 | 9 | 12.3 | 181 | 2232 | 8.792 | 71 | 624 | 6 | 1608 | 9 | 130 | 157 | 1608 | 9.5 | 165 | 210 | 373 | 2061 | 9 | 2247 | 70 |
| 9 | 10 | 11 | 181 | 1991 | 4.583 | 71 | 325 | 3 | 1668 | 9 | 130 | 162 | 1668 | 12 | 165 | 275 | 440 | 2434 | 10 | 1897 | 59 |
| 10 | 11 | 9.5 | 181 | 1720 | 4.5 | 82.67 | 372 | 4 | 1348 | 9 | 130 | 131 | 1348 | 6 | 165 | 111 | 246 | 1361 | 11 | 1284 | 39 |
| 11 | 12 | 9.5 | 181 | 1720 | 7 | 82.67 | 579 | 6 | 1141 | 9 | 130 | 111 | 1141 | 6 | 165 | 94 | 211 | 1167 | 12 | 1167 | 38 |
| 12 | 13 | 9.5 | 181 | 1720 | 7 | 82.67 | 579 | 6 | 1141 | 9 | 130 | 111 | 1141 | 6 | 165 | 94 | 211 | 1167 | 13 | 1167 | 38 |
| 13 | 14 | 9.5 | 181 | 1720 | 7 | 82.67 | 579 | 6 | 1141 | 9 | 130 | 111 | 1141 | 6 | 165 | 94 | 211 | 1167 | 14 | 2543 | 79 |
| 14 | RF | 16.6 | 181 | 3002 | 4.75 | 65.33 | 310 | 3 | 2691 | 9 | 130 | 282 | 2691 | 12 | 165 | 444 | 710 | 3920 | RF | 1960 | 61 |
| Line A | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 181 | 2353 | 0 | 0 | 0 | 0 | 2353 | 36 | 130 | 918 | 2353 | 0 | 0 | 0 | 918 | 5070 | 2 | 3772 | 117 |
| 2 | 3 | 17 | 181 | 3077 | 9.417 | 66.33 | 625 | 6 | 2452 | 9 | 130 | 239 | 2452 | 6 | 165 | 202 | 448 | 2473 | | | |

Hall of Justice
Masonry Walls At Light Court

13" Masonry wall 130 psf Distribute 11th and 13th floor mass to floors above and below
Window wt 10 psf

| Level | Story | Total | Total | Window | Total wt | | Mass | | ETABS | All Walls Total | | | | |
|-----------------|-------|-------|--------|--------|----------|--------|--------|--------|-------|-----------------|-------|--------|--------|--------|
| Start | End | H | Length | Area | H | Length | Area | Total | Total | Level | Mass | Mass | wt | Mass |
| | | {ft} | {ft} | {ft^2} | {ft} | {ft} | {ft^2} | {kips} | {plf} | | {plf} | {kips} | {kips} | {kips} |
| Line J (M same) | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 88 | 1144 | 5.167 | 48.67 | 251 | 119 | 1347 | 2 | 1607 | 50 | 727 | 864 |
| 2 | 3 | 17 | 88 | 1496 | 5.167 | 48.67 | 251 | 164 | 1867 | 3 | 1737 | 54 | 1001 | 933 |
| 3 | 4 | 15 | 88 | 1320 | 5.167 | 48.67 | 251 | 141 | 1607 | 4 | 1493 | 46 | 864 | 804 |
| 4 | 5 | 13.3 | 88 | 1166 | 5.167 | 48.67 | 251 | 121 | 1380 | 5 | 1288 | 40 | 744 | 695 |
| 5 | 6 | 11.8 | 88 | 1041 | 5.167 | 48.67 | 251 | 105 | 1195 | 6 | 1195 | 37 | 647 | 647 |
| 6 | 7 | 11.8 | 88 | 1041 | 5.167 | 48.67 | 251 | 105 | 1195 | 7 | 1439 | 45 | 647 | 775 |
| 7 | 8 | 15.6 | 88 | 1371 | 5.167 | 48.67 | 251 | 148 | 1683 | 8 | 1472 | 46 | 904 | 792 |
| 8 | 9 | 12.3 | 88 | 1085 | 5.167 | 48.67 | 251 | 111 | 1260 | 9 | 1174 | 36 | 681 | 635 |
| 9 | 10 | 11 | 88 | 968 | 5.167 | 48.67 | 251 | 96 | 1087 | 10 | 1009 | 31 | 589 | 543 |
| 10 | 11 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 11 | 930 | 29 | 497 | 497 |
| 11 | 12 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 12 | 930 | 29 | 497 | 497 |
| 12 | 13 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 13 | 930 | 29 | 497 | 497 |
| 13 | 14 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 14 | 1366 | 42 | 497 | 727 |
| 14 | RF | 16.6 | 88 | 1459 | 6.5 | 40 | 260 | 159 | 1801 | RF | 901 | 28 | 958 | 479 |
| | | | | | | | | | | | | | 9385 | |
| Line D | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 88 | 1144 | 5.167 | 40.92 | 211 | 123 | 1402 | 2 | 1662 | 52 | | |
| 2 | 3 | 17 | 88 | 1496 | 5.167 | 40.92 | 211 | 169 | 1922 | 3 | 1792 | 56 | | |
| 3 | 4 | 15 | 88 | 1320 | 5.167 | 40.92 | 211 | 146 | 1662 | 4 | 1548 | 48 | | |
| 4 | 5 | 13.3 | 88 | 1166 | 5.167 | 40.92 | 211 | 126 | 1434 | 5 | 1342 | 42 | | |
| 5 | 6 | 11.8 | 88 | 1041 | 5.167 | 40.92 | 211 | 110 | 1250 | 6 | 1250 | 39 | | |
| 6 | 7 | 11.8 | 88 | 1041 | 5.167 | 40.92 | 211 | 110 | 1250 | 7 | 1494 | 46 | | |
| 7 | 8 | 15.6 | 88 | 1371 | 5.167 | 40.92 | 211 | 153 | 1738 | 8 | 1526 | 47 | | |
| 8 | 9 | 12.3 | 88 | 1085 | 5.167 | 40.92 | 211 | 116 | 1315 | 9 | 1228 | 38 | | |
| 9 | 10 | 11 | 88 | 968 | 5.167 | 40.92 | 211 | 100 | 1142 | 10 | 1069 | 33 | | |
| 10 | 11 | 9.5 | 88 | 836 | 5.583 | 31.42 | 175 | 88 | 996 | 11 | 996 | 31 | | |
| 11 | 12 | 9.5 | 88 | 836 | 5.583 | 31.42 | 175 | 88 | 996 | 12 | 996 | 31 | | |
| 12 | 13 | 9.5 | 88 | 836 | 5.583 | 31.42 | 175 | 88 | 996 | 13 | 996 | 31 | | |
| 13 | 14 | 9.5 | 88 | 836 | 5.583 | 31.42 | 175 | 88 | 996 | 14 | 1437 | 45 | | |
| 14 | RF | 16.6 | 88 | 1459 | 6.5 | 31.42 | 204 | 165 | 1877 | RF | 939 | 29 | | |
| Line G | | | | | | | | | | | | | | |
| 1 | 2 | 13 | 88 | 1144 | 5.167 | 43.83 | 226 | 122 | 1381 | 2 | 1641 | 51 | | |
| 2 | 3 | 17 | 88 | 1496 | 5.167 | 43.83 | 226 | 167 | 1901 | 3 | 1771 | 55 | | |
| 3 | 4 | 15 | 88 | 1320 | 5.167 | 43.83 | 226 | 144 | 1641 | 4 | 1527 | 47 | | |
| 4 | 5 | 13.3 | 88 | 1166 | 5.167 | 43.83 | 226 | 124 | 1414 | 5 | 1322 | 41 | | |
| 5 | 6 | 11.8 | 88 | 1041 | 5.167 | 43.83 | 226 | 108 | 1230 | 6 | 1230 | 38 | | |
| 6 | 7 | 11.8 | 88 | 1041 | 5.167 | 43.83 | 226 | 108 | 1230 | 7 | 1473 | 46 | | |
| 7 | 8 | 15.6 | 88 | 1371 | 5.167 | 43.83 | 226 | 151 | 1717 | 8 | 1506 | 47 | | |
| 8 | 9 | 12.3 | 88 | 1085 | 5.167 | 43.83 | 226 | 114 | 1295 | 9 | 1208 | 38 | | |
| 9 | 10 | 11 | 88 | 968 | 5.167 | 43.83 | 226 | 99 | 1121 | 10 | 1026 | 32 | | |
| 10 | 11 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 11 | 930 | 29 | | |
| 11 | 12 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 12 | 930 | 29 | | |
| 12 | 13 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 13 | 930 | 29 | | |
| 13 | 14 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 14 | 1366 | 42 | | |
| 14 | RF | 16.6 | 88 | 1459 | 6.5 | 40 | 260 | 159 | 1801 | RF | 901 | 28 | | |

Hall of Justice
Masonry Walls At Light Court

13" Masonry wall 130 psf Distribute 11th and 13th floor mass to floors above and below
Window wt 10 psf

| Level | Story | Total Length | Total Area | Window H | Window Length | Window Area | Total wt Total | Mass Level | Mass | ETABS Mass | All Walls Total wt | Total Mass |
|-------|-------|--------------|------------|----------|---------------|-------------|----------------|------------|-------|------------|--------------------|------------|
| Start | End | {ft} | {ft^2} | {ft} | {ft} | {ft^2} | {kips} {plf} | | {plf} | | {kips} | {kips} |

| | | | | | | | | | | | | |
|------------|----|------|----|------|-------|-------|-----|-----|------|----|------|----|
| Line 4 W&E | | | | | | | | | | | | |
| 1 | 2 | 13 | 88 | 1144 | 5.167 | 48.67 | 251 | 119 | 1347 | 2 | 1607 | 50 |
| 2 | 3 | 17 | 88 | 1496 | 5.167 | 48.67 | 251 | 164 | 1867 | 3 | 1737 | 54 |
| 3 | 4 | 15 | 88 | 1320 | 5.167 | 48.67 | 251 | 141 | 1607 | 4 | 1493 | 46 |
| 4 | 5 | 13.3 | 88 | 1166 | 5.167 | 48.67 | 251 | 121 | 1380 | 5 | 1288 | 40 |
| 5 | 6 | 11.8 | 88 | 1041 | 5.167 | 48.67 | 251 | 105 | 1195 | 6 | 1195 | 37 |
| 6 | 7 | 11.8 | 88 | 1041 | 5.167 | 48.67 | 251 | 105 | 1195 | 7 | 1439 | 45 |
| 7 | 8 | 15.6 | 88 | 1371 | 5.167 | 48.67 | 251 | 148 | 1683 | 8 | 1472 | 46 |
| 8 | 9 | 12.3 | 88 | 1085 | 5.167 | 48.67 | 251 | 111 | 1260 | 9 | 1174 | 36 |
| 9 | 10 | 11 | 88 | 968 | 5.167 | 48.67 | 251 | 98 | 1087 | 10 | 1009 | 31 |
| 10 | 11 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 11 | 930 | 29 |
| 11 | 12 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 12 | 930 | 29 |
| 12 | 13 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 13 | 930 | 29 |
| 13 | 14 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 14 | 1366 | 42 |
| 14 | RF | 16.6 | 88 | 1459 | 6.5 | 40 | 260 | 159 | 1801 | RF | 901 | 28 |

| | | | | | | | | | | | | |
|------------|----|------|----|------|-------|------|-----|-----|------|----|------|----|
| Line 9 W&E | | | | | | | | | | | | |
| 1 | 2 | 13 | 88 | 1144 | 5.167 | 36.5 | 189 | 126 | 1433 | 2 | 1693 | 53 |
| 2 | 3 | 17 | 88 | 1496 | 5.167 | 36.5 | 189 | 172 | 1953 | 3 | 1823 | 57 |
| 3 | 4 | 15 | 88 | 1320 | 5.167 | 36.5 | 189 | 149 | 1693 | 4 | 1579 | 49 |
| 4 | 5 | 13.3 | 88 | 1166 | 5.167 | 36.5 | 189 | 129 | 1465 | 5 | 1373 | 43 |
| 5 | 6 | 11.8 | 88 | 1041 | 5.167 | 36.5 | 189 | 113 | 1281 | 6 | 1281 | 40 |
| 6 | 7 | 11.8 | 88 | 1041 | 5.167 | 36.5 | 189 | 113 | 1281 | 7 | 1525 | 47 |
| 7 | 8 | 15.6 | 88 | 1371 | 5.167 | 36.5 | 189 | 156 | 1769 | 8 | 1557 | 48 |
| 8 | 9 | 12.3 | 88 | 1085 | 5.167 | 36.5 | 189 | 118 | 1346 | 9 | 1260 | 39 |
| 9 | 10 | 11 | 88 | 968 | 5.167 | 36.5 | 189 | 103 | 1173 | 10 | 1052 | 33 |
| 10 | 11 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 11 | 930 | 29 |
| 11 | 12 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 12 | 930 | 29 |
| 12 | 13 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 13 | 930 | 29 |
| 13 | 14 | 9.5 | 88 | 836 | 5.583 | 40 | 223 | 82 | 930 | 14 | 1366 | 42 |
| 14 | RF | 16.6 | 88 | 1459 | 6.5 | 40 | 260 | 159 | 1801 | RF | 901 | 28 |

6.5" concrete wall at light court stairs 105pcf = 57psf

| | | | | | | | | | | | | |
|----|----|------|-------|-----|---|---|---|----|-----|----|-----|----|
| 1 | 2 | 13 | 42.83 | 557 | 0 | 0 | 0 | 32 | 741 | 2 | 855 | 27 |
| 2 | 3 | 17 | 42.83 | 728 | 0 | 0 | 0 | 42 | 969 | 3 | 912 | 28 |
| 3 | 4 | 15 | 42.83 | 642 | 0 | 0 | 0 | 37 | 855 | 4 | 805 | 25 |
| 4 | 5 | 13.3 | 42.83 | 567 | 0 | 0 | 0 | 32 | 755 | 5 | 715 | 22 |
| 5 | 6 | 11.8 | 42.83 | 507 | 0 | 0 | 0 | 29 | 675 | 6 | 675 | 21 |
| 6 | 7 | 11.8 | 42.83 | 507 | 0 | 0 | 0 | 29 | 675 | 7 | 781 | 24 |
| 7 | 8 | 15.6 | 42.83 | 667 | 0 | 0 | 0 | 38 | 888 | 8 | 796 | 25 |
| 8 | 9 | 12.3 | 42.83 | 528 | 0 | 0 | 0 | 30 | 703 | 9 | 665 | 21 |
| 9 | 10 | 11 | 42.83 | 471 | 0 | 0 | 0 | 27 | 627 | 10 | 584 | 18 |
| 10 | 11 | 9.5 | 42.83 | 407 | 0 | 0 | 0 | 23 | 542 | 11 | 542 | 17 |
| 11 | 12 | 9.5 | 42.83 | 407 | 0 | 0 | 0 | 23 | 542 | 12 | 542 | 17 |
| 12 | 13 | 9.5 | 42.83 | 407 | 0 | 0 | 0 | 23 | 542 | 13 | 542 | 17 |
| 13 | 14 | 9.5 | 42.83 | 407 | 0 | 0 | 0 | 23 | 542 | 14 | 743 | 23 |
| 14 | RF | 16.6 | 42.83 | 710 | 0 | 0 | 0 | 40 | 945 | RF | 473 | 15 |



D: Seismic Load

Hall of Justice

Static Base Shear Calculation per 1630.2

| Level | Dia | Story | | | | X-dir | Y-dir | X-dir | Y-dir |
|--------|-----|----------------|-----------|-------------|-----------------|-------|-------|-------------|-------------|
| | | Height {in} | h {in} | w {kips} | w*h {kip-in} | F/V | F/V | F {kips} | F {kips} |
| RF | All | 199 | 2105 | 9293 | 19562780 | 0.23 | 0.23 | 2355 | 2355 |
| L14 | All | 114 | 1906 | 10206 | 19452984 | 0.14 | 0.14 | 1461 | 1461 |
| L13 | All | 114 | 1792 | 314 | 561927 | 0.00 | 0.00 | 42 | 42 |
| L12 | All | 114 | 1678 | 8736 | 14659548 | 0.11 | 0.11 | 1101 | 1101 |
| L11 | All | 114 | 1564 | 719 | 1123751 | 0.01 | 0.01 | 84 | 84 |
| L10 | All | 132 | 1450 | 10220 | 14818662 | 0.11 | 0.11 | 1113 | 1113 |
| L9 | All | 148 | 1318 | 8005 | 10550567 | 0.08 | 0.08 | 793 | 793 |
| L8 | All | 187 | 1170 | 9075 | 10618277 | 0.08 | 0.08 | 798 | 798 |
| L7 | All | 142 | 983 | 8865 | 8714272 | 0.06 | 0.06 | 655 | 655 |
| L6 | All | 142 | 841 | 8190 | 6887979 | 0.05 | 0.05 | 517 | 517 |
| L5 | All | 159 | 699 | 8360 | 5843818 | 0.04 | 0.04 | 439 | 439 |
| L4 | All | 180 | 540 | 9055 | 4889665 | 0.04 | 0.04 | 367 | 367 |
| L3 | All | 204 | 360 | 9494 | 3417978 | 0.03 | 0.03 | 257 | 257 |
| L2 | All | 156 | 156 | 9620 | 1500707 | 0.01 | 0.01 | 113 | 113 |
| Totals | | 2105 | | 110153 | 122602915 | 1 | 1 | 10095 | 10095 |
| | | 1403.3 | | | | | | | |

UBC97 CODE Static Base Shear Calc.

Soil profile type Sc (6.8km from type B fault)

X-direction

Non Bearing Conc Shear Walls

| Equation | Force V/W | Drift V/W |
|----------------------------------|--------------|--------------|
| Cv= 0.63 Ct= 0.02 eq'n 30-4 | 0.092 | 0.085 trial |
| Nv= 1.128 hn= 175 ft eq'n 30-5 | 0.182 | 0.182 max |
| I= 1 Ta= 0.96 sec eq'n 30-6 | 0.044 | N/A min1 |
| R= 5.5 Tb= 1.35 sec eq'n 30-7 | 0.066 | 0.066 min2 |
| Ca= 0.4 Tmax= 1.25 sec final V/W | 0.092 | 0.085 |
| Na= 1 T= 1.25 sec V= | 10095 | 9371 kips |
| Z= 0.4 Ft/V= | 0.088 | |
| | Ft | 886 |

Y-direction

Non Bearing Conc Shear Walls

| Equation | Force V/W | Drift V/W |
|----------------------------------|--------------|--------------|
| Cv= 0.63 Ct= 0.02 eq'n 30-4 | 0.092 | 0.084 trial |
| Nv= 1.128 hn= 175 ft eq'n 30-5 | 0.182 | 0.182 max |
| I= 1 Ta= 0.96 sec eq'n 30-6 | 0.044 | N/A min1 |
| R= 5.5 Tb= 1.37 sec eq'n 30-7 | 0.066 | 0.066 min2 |
| Ca= 0.4 Tmax= 1.25 sec final V/W | 0.092 | 0.084 |
| Na= 1 T= 1.25 sec V= | 10095 | 9234 kips |
| Z= 0.4 Ft/V= | 0.088 | |
| | Ft | 886 |

In ETABS X-direction dynamic load case is called SPECX

In ETABS Y-direction dynamic load case is called SPECY

ETABS load combo DX = SPECX scaled to 100% of static base shear

ETABS load combo DY = SPECY scaled to 100% of static base shear

For design dynamic force is scaled to 80% of static base shear using a .8 load factor

Hall of Justice
Diaphragm Forces

| X-Direction | | | | | | | | | | | ETABS | | | |
|-------------|--------|--------|--------|--------|--------|--------|-----------|-----------|--------|--------|-----------|--------|-------|--------|
| Level | wp | F | w | Σw | ΣF | Fp/wp | Max Fp/wp | Min Fp/wp | Fp/wp | Fp | Load Case | A | Fp | Fp/F |
| | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | | {ft^2} | {psf} | {kips} |
| RF | 9293 | 2355 | 9293 | 9293 | 2355 | 0.25 | 0.40 | 0.20 | 0.25 | 2355 | | | | 0.92 |
| L14 | 10206 | 1461 | 10206 | 19500 | 3816 | 0.20 | 0.40 | 0.20 | 0.20 | 2041 | L14DIAX | | | |
| L12 | 8736 | 1101 | 8736 | 28550 | 4960 | 0.17 | 0.40 | 0.20 | 0.20 | 1747 | L12DIAX | | | |
| L10 | 10220 | 1113 | 10220 | 39488 | 6157 | 0.16 | 0.40 | 0.20 | 0.20 | 2044 | L10DIAX | | | |
| L9 | 8005 | 793 | 8005 | 47493 | 6950 | 0.15 | 0.40 | 0.20 | 0.20 | 1601 | L9DIAX | | | |
| L8 | 9075 | 798 | 9075 | 56568 | 7747 | 0.14 | 0.40 | 0.20 | 0.20 | 1815 | L8DIAX | | | |
| L7 | 8865 | 655 | 8865 | 65433 | 8402 | 0.13 | 0.40 | 0.20 | 0.20 | 1773 | L7DIAX | | | |
| L6 | 8190 | 517 | 8190 | 73623 | 8919 | 0.12 | 0.40 | 0.20 | 0.20 | 1638 | L6DIAX | | | |
| L5 | 8360 | 439 | 8360 | 81984 | 9358 | 0.11 | 0.40 | 0.20 | 0.20 | 1672 | L5DIAX | | | |
| L4 | 9055 | 367 | 9055 | 91039 | 9725 | 0.11 | 0.40 | 0.20 | 0.20 | 1811 | L4DIAX | | | |
| L3 | 9494 | 257 | 9494 | 100533 | 9982 | 0.10 | 0.40 | 0.20 | 0.20 | 1899 | L3DIAX | | | |
| L2 | 9620 | 113 | 9620 | 110153 | 10095 | 0.09 | 0.40 | 0.20 | 0.20 | 1924 | L2DIAX | 33650 | 57.2 | |
| | 110153 | 10095 | | | | | | | | | | | | 22527 |

| Y-Direction | | | | | | | | | | | ETABS | | | |
|-------------|--------|--------|--------|--------|--------|--------|-----------|-----------|--------|--------|-----------|--------|-------|--------|
| Level | wp | F | w | Σw | ΣF | Fp/wp | Max Fp/wp | Min Fp/wp | Fp/wp | Fp | Load Case | A | Fp | Fp/F |
| | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | {kips} | | {ft^2} | {psf} | {kips} |
| RF | 9293 | 2355 | 9293 | 9293 | 2355 | 0.25 | 0.40 | 0.20 | 0.25 | 2355 | | | | 0.94 |
| L14 | 10206 | 1461 | 10206 | 19500 | 3816 | 0.20 | 0.40 | 0.20 | 0.20 | 2041 | L14DIAY | | | |
| L12 | 8736 | 1101 | 8736 | 28550 | 4960 | 0.17 | 0.40 | 0.20 | 0.20 | 1747 | L12DIAY | | | |
| L10 | 10220 | 1113 | 10220 | 39488 | 6157 | 0.16 | 0.40 | 0.20 | 0.20 | 2044 | L10DIAY | | | |
| L9 | 8005 | 793 | 8005 | 47493 | 6950 | 0.15 | 0.40 | 0.20 | 0.20 | 1601 | L9DIAY | | | |
| L8 | 9075 | 798 | 9075 | 56568 | 7747 | 0.14 | 0.40 | 0.20 | 0.20 | 1815 | L8DIAY | | | |
| L7 | 8865 | 655 | 8865 | 65433 | 8402 | 0.13 | 0.40 | 0.20 | 0.20 | 1773 | L7DIAY | | | |
| L6 | 8190 | 517 | 8190 | 73623 | 8919 | 0.12 | 0.40 | 0.20 | 0.20 | 1638 | L6DIAY | | | |
| L5 | 8360 | 439 | 8360 | 81984 | 9358 | 0.11 | 0.40 | 0.20 | 0.20 | 1672 | L5DIAY | | | |
| L4 | 9055 | 367 | 9055 | 91039 | 9725 | 0.11 | 0.40 | 0.20 | 0.20 | 1811 | L4DIAY | | | |
| L3 | 9494 | 257 | 9494 | 100533 | 9982 | 0.10 | 0.40 | 0.20 | 0.20 | 1899 | L3DIAY | | | |
| L2 | 9620 | 113 | 9620 | 110153 | 10095 | 0.09 | 0.40 | 0.20 | 0.20 | 1924 | L2DIAY | 33650 | 57.2 | |
| | 110153 | 10095 | | | | | | | | | | | | 22527 |

I= 1
Ca= 0.40

The ETABS model was loaded with the diaphragm loads at each level under separate load cases. The Roof dynamic load is used to determine the diaphragm shear at the Roof.

In addition to determine diaphragm forces due to change in stiffness of the lateral system the following static load cases were created:

| Load case | Description |
|-----------------------|-----------------------------------------------------|
| L14TX THRU L2TX | X-direction loading of dynamic load above level L14 |
| L14TY THRU L2TY | Y-direction loading of dynamic load above level L14 |

Load is applied above the level being checked to determine how forces transfer at that level.

V = dynamic story shears from ETABS

F = equivalent static distribution of force based on dynamic load

X-Direction

| Level | Load | V {kips} | F {kips} | L14TX {kips} | L12TX {kips} | L10TX {kips} | L9TX {kips} | L8TX {kips} | L7TX {kips} | L6TX {kips} | L5TX {kips} | L4TX {kips} | L3TX {kips} | L2TX {kips} | |
|-------|--------|-------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|
| RF | DX MAX | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | 2565 | |
| L14 | DX MAX | 4182 | 1617 | | 1617 | 1617 | 1617 | 1617 | 1617 | 1617 | 1617 | 1617 | 1617 | 1617 | |
| L12 | DX MAX | 4773 | 591 | | | 591 | 591 | 591 | 591 | 591 | 591 | 591 | 591 | 591 | |
| L10 | DX MAX | 5437 | 664 | | | | 664 | 664 | 664 | 664 | 664 | 664 | 664 | 664 | |
| L9 | DX MAX | 6036 | 598 | | | | | 598 | 598 | 598 | 598 | 598 | 598 | 598 | |
| L8 | DX MAX | 6665 | 630 | | | | | | 630 | 630 | 630 | 630 | 630 | 630 | |
| L7 | DX MAX | 7238 | 573 | | | | | | | 573 | 573 | 573 | 573 | 573 | |
| L6 | DX MAX | 7798 | 560 | | | | | | | | 560 | 560 | 560 | 560 | |
| L5 | DX MAX | 8363 | 565 | | | | | | | | | 565 | 565 | 565 | |
| L4 | DX MAX | 8926 | 563 | | | | | | | | | | 563 | 563 | |
| L3 | DX MAX | 9458 | 532 | | | | | | | | | | | 532 | |
| L2 | DX MAX | 10042 | 583 | | | | | | | | | | | | |
| | | | | 10042 | 2565 | 4182 | 4773 | 5437 | 6036 | 6665 | 7238 | 7798 | 8363 | 8926 | 9458 |

Y-Direction

| Level | Load | V {kips} | F {kips} | L14TY {kips} | L12TY {kips} | L10TY {kips} | L9TY {kips} | L8TY {kips} | L7TY {kips} | L6TY {kips} | L5TY {kips} | L4TY {kips} | L3TY {kips} | L2TY {kips} | |
|-------|--------|-------------|-------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|
| RF | DY MAX | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | 2514 | |
| L14 | DY MAX | 4124 | 1611 | | 1611 | 1611 | 1611 | 1611 | 1611 | 1611 | 1611 | 1611 | 1611 | 1611 | |
| L12 | DY MAX | 4701 | 577 | | | 577 | 577 | 577 | 577 | 577 | 577 | 577 | 577 | 577 | |
| L10 | DY MAX | 5281 | 580 | | | | 580 | 580 | 580 | 580 | 580 | 580 | 580 | 580 | |
| L9 | DY MAX | 5832 | 551 | | | | | 551 | 551 | 551 | 551 | 551 | 551 | 551 | |
| L8 | DY MAX | 6459 | 627 | | | | | | 627 | 627 | 627 | 627 | 627 | 627 | |
| L7 | DY MAX | 7080 | 621 | | | | | | | 621 | 621 | 621 | 621 | 621 | |
| L6 | DY MAX | 7673 | 593 | | | | | | | | 593 | 593 | 593 | 593 | |
| L5 | DY MAX | 8235 | 562 | | | | | | | | | 562 | 562 | 562 | |
| L4 | DY MAX | 8799 | 564 | | | | | | | | | | 564 | 564 | |
| L3 | DY MAX | 9299 | 500 | | | | | | | | | | | 500 | |
| L2 | DY MAX | 10010 | 711 | | | | | | | | | | | | |
| | | | | 10010 | 2514 | 4124 | 4701 | 5281 | 5832 | 6459 | 7080 | 7673 | 8235 | 8799 | 9299 |

Hall of Justice

Mass excluded from wp for diaphragm load

| X-direction | | | | | | | Stone | | | | | | | | | |
|----------------------|--------|----------|--------|-------|--------|----------|--------|--------|---------|--------|-------|--------|--------|--------|-------|--------|
| Level | Total | Note | Length | Mass | Mass | Note | Mass | Cols. | Note | Length | Mass | Mass | Note | Area | Mass | Mass |
| | {kips} | | {ft^2} | {plf} | {kips} | | {kips} | {kips} | | {ft^2} | {plf} | {kips} | | {ft^2} | {psf} | {kips} |
| Elevation 1 (12 sim) | | | | | | | | | | | | | | | | |
| RF | 1114 | (E) Wall | 225 | 1953 | 439 | (N) Wall | 69 | | 4" wall | 216 | 477 | 103 | Canopy | 3539 | 142 | 503 |
| L14 | 1054 | (E) Wall | 225 | 3099 | 697 | (N) Wall | 126 | 231 | | | | | | | | |
| L12 | 619 | (E) Wall | 225 | 2343 | 527 | (N) Wall | 92 | | | | | | | | | |
| L10 | 1090 | (E) Wall | 225 | 2507 | 564 | (N) Wall | 295 | 231 | | | | | | | | |
| L9 | 800 | (E) Wall | 225 | 2229 | 502 | (N) Wall | 298 | | | | | | | | | |
| L8 | 946 | (E) Wall | 225 | 2449 | 551 | (N) Wall | 395 | | | | | | | | | |
| L7 | 913 | (E) Wall | 225 | 2475 | 557 | (N) Wall | 356 | | | | | | | | | |
| L6 | 762 | (E) Wall | 225 | 2012 | 453 | (N) Wall | 310 | | | | | | | | | |
| L5 | 791 | (E) Wall | 225 | 2096 | 472 | (N) Wall | 319 | | | | | | | | | |
| L4 | 923 | (E) Wall | 225 | 2270 | 511 | (N) Wall | 412 | | | | | | | | | |
| L3 | 986 | (E) Wall | 225 | 2368 | 533 | (N) Wall | 453 | | | | | | | | | |
| L2 | 1306 | (E) Wall | 225 | 3763 | 847 | (N) Wall | 226 | | (N)Bsm | 159 | 1463 | 233 | | | | |

Elev 12

| | | | | | | | | | | | | | | | | |
|----|-----|----------|-----|------|-----|----------|-----|--|--|--|--|--|--|--|--|--|
| L2 | 948 | (E) Wall | 225 | 2202 | 495 | (N) Wall | 453 | | | | | | | | | |
|----|-----|----------|-----|------|-----|----------|-----|--|--|--|--|--|--|--|--|--|

Y-direction

| Y-direction | | | | | | | Stone | | | | | | | | | |
|---------------------|--------|----------|--------|-------|--------|----------|--------|--------|---------|--------|-------|--------|---------|--------|-------|--------|
| Level | Total | Note | Length | Mass | Mass | Note | Mass | Cols. | Note | Length | Mass | Mass | Note | Area | Mass | Mass |
| | {kips} | | {ft^2} | {plf} | {kips} | | {kips} | {kips} | | {ft^2} | {plf} | {kips} | | {ft^2} | {psf} | {kips} |
| Elevation A (P sim) | | | | | | | | | | | | | | | | |
| RF | 901 | (E) Wall | 181 | 1953 | 353 | (N) Wall | 69 | | 4" wall | 172 | 477 | 82 | Canopy | 2791 | 142 | 396 |
| L14 | 856 | (E) Wall | 181 | 3099 | 561 | (N) Wall | 126 | 169 | | | | | | | | |
| L12 | 516 | (E) Wall | 181 | 2343 | 424 | (N) Wall | 92 | | | | | | | | | |
| L10 | 918 | (E) Wall | 181 | 2507 | 454 | (N) Wall | 295 | 169 | | | | | | | | |
| L9 | 701 | (E) Wall | 181 | 2229 | 403 | (N) Wall | 298 | | | | | | | | | |
| L8 | 838 | (E) Wall | 181 | 2449 | 443 | (N) Wall | 395 | | | | | | | | | |
| L7 | 804 | (E) Wall | 181 | 2475 | 448 | (N) Wall | 356 | | | | | | | | | |
| L6 | 674 | (E) Wall | 181 | 2012 | 364 | (N) Wall | 310 | | | | | | | | | |
| L5 | 698 | (E) Wall | 181 | 2096 | 379 | (N) Wall | 319 | | | | | | | | | |
| L4 | 823 | (E) Wall | 181 | 2270 | 411 | (N) Wall | 412 | | | | | | | | | |
| L3 | 881 | (E) Wall | 181 | 2368 | 429 | (N) Wall | 453 | | | | | | | | | |
| L2 | 1081 | (E) Wall | 68.6 | 2217 | 152 | (N) Wall | 340 | | (N)Bsm | 112.6 | 1463 | 165 | (E)Bsmt | 112.6 | 3772 | 425 |

Elev P

| | | | | | | | | | | | | | | | | |
|----|-----|----------|-----|------|-----|----------|-----|--|--|--|--|--|--|--|--|--|
| L2 | 854 | (E) Wall | 181 | 2217 | 401 | (N) Wall | 453 | | | | | | | | | |
|----|-----|----------|-----|------|-----|----------|-----|--|--|--|--|--|--|--|--|--|

MODAL PERIODS AND FREQUENCIES

| MODE NUMBER | PERIOD (TIME) | FREQUENCY (CYCLES/TIME) | CIRCULAR FREQ (RADIAN/TIME) |
|-------------|---------------|-------------------------|-----------------------------|
| Mode 1 | 1.36034 | 0.73511 | 4.61882 |
| Mode 2 | 1.34184 | 0.74525 | 4.68253 |
| Mode 3 | 0.83879 | 1.19219 | 7.49077 |
| Mode 4 | 0.70286 | 1.42275 | 8.93941 |
| Mode 5 | 0.68882 | 1.45177 | 9.12171 |
| Mode 6 | 0.68836 | 1.45274 | 9.12782 |
| Mode 7 | 0.61010 | 1.63908 | 10.29867 |
| Mode 8 | 0.53869 | 1.85637 | 11.66389 |
| Mode 9 | 0.43621 | 2.29246 | 14.40394 |
| Mode 10 | 0.43032 | 2.32387 | 14.60132 |
| Mode 11 | 0.40749 | 2.45407 | 15.41936 |
| Mode 12 | 0.40692 | 2.45751 | 15.44098 |
| Mode 13 | 0.30885 | 3.23780 | 20.34371 |
| Mode 14 | 0.27826 | 3.59373 | 22.58004 |
| Mode 15 | 0.22467 | 4.45100 | 27.96646 |
| Mode 16 | 0.20487 | 4.88118 | 30.66938 |
| Mode 17 | 0.17430 | 5.73710 | 36.04727 |
| Mode 18 | 0.15541 | 6.43473 | 40.43061 |
| Mode 19 | 0.09699 | 10.31081 | 64.78472 |
| Mode 20 | 0.09278 | 10.77839 | 67.72262 |

Ty
Tx

MODAL PARTICIPATING MASS RATIOS

| MODE NUMBER | X-TRANS %MASS <SUM> | Y-TRANS %MASS <SUM> | Z-TRANS %MASS <SUM> | RX-ROTN %MASS <SUM> | RY-ROTN %MASS <SUM> | RZ-ROTN %MASS <SUM> |
|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Mode 1 | 29.42 < 29> | 34.84 < 35> | 0.00 < 0> | 52.00 < 52> | 43.75 < 44> | 0.64 < 1> |
| Mode 2 | 35.17 < 65> | 29.26 < 64> | 0.00 < 0> | 43.76 < 96> | 52.57 < 96> | 0.04 < 1> |
| Mode 3 | 0.05 < 65> | 0.17 < 64> | 0.00 < 0> | 0.46 < 96> | 0.15 < 96> | 65.01 < 66> |
| Mode 4 | 0.00 < 65> | 0.00 < 64> | 0.00 < 0> | 0.00 < 96> | 0.00 < 96> | 0.02 < 66> |
| Mode 5 | 0.00 < 65> | 0.00 < 64> | 0.00 < 0> | 0.00 < 96> | 0.00 < 96> | 0.01 < 66> |
| Mode 6 | 0.00 < 65> | 0.00 < 64> | 0.00 < 0> | 0.00 < 96> | 0.00 < 96> | 0.13 < 66> |
| Mode 7 | 0.00 < 65> | 0.00 < 64> | 0.00 < 0> | 0.00 < 96> | 0.00 < 96> | 0.01 < 66> |
| Mode 8 | 0.00 < 65> | 0.00 < 64> | 0.00 < 0> | 0.00 < 96> | 0.00 < 96> | 0.02 < 66> |
| Mode 9 | 0.05 < 65> | 18.17 < 82> | 0.00 < 0> | 3.09 < 99> | 0.01 < 96> | 0.01 < 66> |
| Mode 10 | 16.69 < 81> | 0.05 < 82> | 0.00 < 0> | 0.01 < 99> | 2.79 < 99> | 0.00 < 66> |
| Mode 11 | 0.34 < 82> | 0.06 < 83> | 0.00 < 0> | 0.01 < 99> | 0.06 < 99> | 0.00 < 66> |
| Mode 12 | 0.08 < 82> | 0.30 < 83> | 0.00 < 0> | 0.05 < 99> | 0.01 < 99> | 0.00 < 66> |
| Mode 13 | 0.07 < 82> | 0.00 < 83> | 0.00 < 0> | 0.00 < 99> | 0.01 < 99> | 0.61 < 66> |
| Mode 14 | 0.00 < 82> | 0.28 < 83> | 0.00 < 0> | 0.00 < 99> | 0.00 < 99> | 1.75 < 68> |
| Mode 15 | 0.18 < 82> | 9.90 < 93> | 0.00 < 0> | 0.31 <100> | 0.01 < 99> | 0.04 < 68> |
| Mode 16 | 10.40 < 92> | 0.19 < 93> | 0.00 < 0> | 0.01 <100> | 0.41 <100> | 0.02 < 68> |
| Mode 17 | 0.05 < 93> | 2.83 < 96> | 0.00 < 0> | 0.17 <100> | 0.01 <100> | 0.15 < 68> |
| Mode 18 | 2.76 < 95> | 0.10 < 96> | 0.00 < 0> | 0.00 <100> | 0.08 <100> | 0.00 < 68> |
| Mode 19 | 0.03 < 95> | 3.05 < 99> | 0.00 < 0> | 0.06 <100> | 0.00 <100> | 1.05 < 70> |
| Mode 20 | 3.82 < 99> | 0.03 < 99> | 0.00 < 0> | 0.00 <100> | 0.10 <100> | 0.98 < 71> |

LOADING COMBINATIONS

| COMBO | COMBO TYPE | CASE | CASE TYPE | SCALE FACTOR |
|-------|---------------|-------|--------------|-----------------|
| DX | ADD | SPECX | Spectra | 0.5367 |
| DY | ADD | SPECY | Spectra | 0.5283 |

Hall of Justice
5% Accidental Torsion

Torsion is applied at center of mass in ETABS model
V = Scaled Dynamic Story Shear DX and DY
F = Equivalent Floor Loading for V
A = Amplification Factor

X-direction (ETABS load cases TORX)

| Level | Load | V {kips} | F {kips} | L {in} | .05L {in} | TORX Mz {k-in} |
|-------|--------|-------------|-------------|-----------|--------------|----------------------|
| RF | DX MAX | 2565 | 2565 | 2174 | 109 | 278849 |
| L14 | DX MAX | 4182 | 1617 | 2174 | 109 | 175741 |
| L13 | DX MAX | 4212 | 30 | 2174 | 109 | 3268 |
| L12 | DX MAX | 4773 | 561 | 2174 | 109 | 60937 |
| L11 | DX MAX | 4818 | 45 | 2174 | 109 | 4944 |
| L10 | DX MAX | 5437 | 619 | 2174 | 109 | 67281 |
| L9 | DX MAX | 6036 | 598 | 2174 | 109 | 65053 |
| L8 | DX MAX | 6665 | 630 | 2174 | 109 | 68448 |
| L7 | DX MAX | 7238 | 573 | 2174 | 109 | 62248 |
| L6 | DX MAX | 7798 | 560 | 2174 | 109 | 60875 |
| L5 | DX MAX | 8363 | 565 | 2174 | 109 | 61386 |
| L4 | DX MAX | 8926 | 563 | 2174 | 109 | 61246 |
| L3 | DX MAX | 9458 | 532 | 2174 | 109 | 57837 |
| L2 | DX MAX | 10042 | 583 | 2174 | 109 | 63399 |

10042

Load at second floor applied as point loads
pts 131 484

Y-direction (ETABS load cases TORY)

| Level | Load | V {kips} | F {kips} | L {in} | .05L {in} | TORY Mz {k-in} |
|-------|--------|-------------|-------------|-----------|--------------|----------------------|
| RF | DY MAX | 2514 | 2514 | 2702 | 135 | 339616 |
| L14 | DY MAX | 4124 | 1611 | 2702 | 135 | 217591 |
| L13 | DY MAX | 4155 | 31 | 2702 | 135 | 4161 |
| L12 | DY MAX | 4701 | 546 | 2702 | 135 | 73759 |
| L11 | DY MAX | 4741 | 40 | 2702 | 135 | 5362 |
| L10 | DY MAX | 5281 | 540 | 2702 | 135 | 72999 |
| L9 | DY MAX | 5832 | 551 | 2702 | 135 | 74408 |
| L8 | DY MAX | 6459 | 627 | 2702 | 135 | 84690 |
| L7 | DY MAX | 7080 | 621 | 2702 | 135 | 83925 |
| L6 | DY MAX | 7673 | 593 | 2702 | 135 | 80152 |
| L5 | DY MAX | 8235 | 562 | 2702 | 135 | 75910 |
| L4 | DY MAX | 8799 | 564 | 2702 | 135 | 76145 |
| L3 | DY MAX | 9299 | 500 | 2702 | 135 | 67599 |
| L2 | DY MAX | 10010 | 711 | 2702 | 135 | 96006 |

10010

Load at second floor applied as point loads

C E N T E R S O F C U M U L A T I V E M A S S & C E N T E R S O F R I G I D I T Y

| STORY LEVEL | DIAPHRAGM NAME | /-----CENTER OF MASS-----// | | | ---CENTER OF RIGIDITY---/ | |
|----------------|-------------------|-----------------------------|------------|------------|---------------------------|------------|
| | | MASS | ORDINATE-X | ORDINATE-Y | ORDINATE-X | ORDINATE-Y |
| RF | D1 | 23.9825 | 1355.968 | 1096.240 | | |
| L14 | D1 | 50.2827 | 1354.180 | 1091.406 | | |
| L12 | D1 | 72.8145 | 1353.776 | 1090.042 | | |
| L10 | D1 | 98.8459 | 1353.614 | 1089.008 | | |
| L9 | D1 | 119.1937 | 1357.171 | 1092.717 | | |
| L8 | D1 | 142.1210 | 1356.035 | 1091.577 | | |
| L7 | D1 | 164.6228 | 1355.396 | 1090.989 | | |
| L6 | D1 | 185.4343 | 1355.139 | 1090.478 | | |
| L5 | D1 | 206.6919 | 1354.929 | 1090.063 | | |
| L4 | D1 | 229.5294 | 1353.848 | 1089.707 | | |
| L3 | D1 | 253.4268 | 1352.387 | 1089.287 | | |

S T O R Y F O R C E S

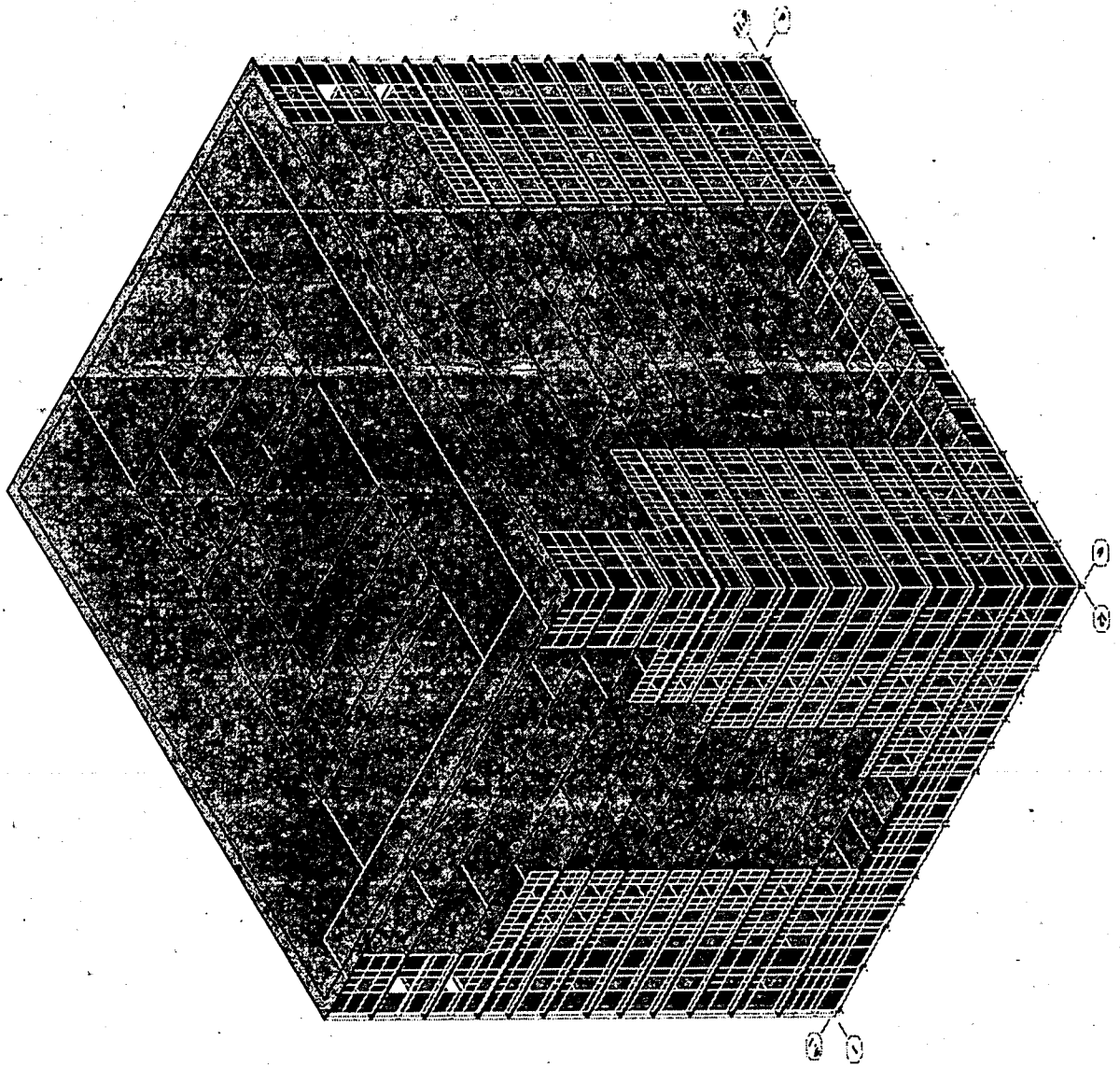
| STORY | LOAD | LOCATION | P | VX | VY | T | MX | MY |
|-------|--------|----------|------|----------|----------|--------------|--------------|--------------|
| RF | DX Max | Top | 0.00 | 2565.31 | 201.33 | 2731142.975 | 0.000 | 0.000 |
| | | Bottom | 0.00 | 2565.31 | 201.33 | 2731142.975 | 40064.399 | 510495.704 |
| RF | DX Min | Top | 0.00 | -2565.31 | -201.33 | -2731142.975 | 0.000 | 0.000 |
| | | Bottom | 0.00 | -2565.31 | -201.33 | -2731142.975 | -40064.399 | -510495.704 |
| RF | DY Max | Top | 0.00 | 188.07 | 2513.81 | 3788363.588 | 0.000 | 0.000 |
| | | Bottom | 0.00 | 188.07 | 2513.81 | 3788363.588 | 500248.380 | 37425.618 |
| RF | DY Min | Top | 0.00 | -188.07 | -2513.81 | -3788363.59 | 0.000 | 0.000 |
| | | Bottom | 0.00 | -188.07 | -2513.81 | -3788363.59 | -500248.380 | -37425.618 |
| L14 | DX Max | Top | 0.00 | 4182.06 | 312.52 | 4393334.353 | 40064.399 | 510495.704 |
| | | Bottom | 0.00 | 4182.06 | 312.52 | 4393334.353 | 74222.953 | 980906.660 |
| L14 | DX Min | Top | 0.00 | -4182.06 | -312.52 | -4393334.35 | -40064.399 | -510495.704 |
| | | Bottom | 0.00 | -4182.06 | -312.52 | -4393334.35 | -74222.953 | -980906.660 |
| L14 | DY Max | Top | 0.00 | 301.45 | 4124.40 | 6167149.187 | 500248.380 | 37425.618 |
| | | Bottom | 0.00 | 301.45 | 4124.40 | 6167149.187 | 964833.365 | 70338.054 |
| L14 | DY Min | Top | 0.00 | -301.45 | -4124.40 | -6167149.19 | -500248.380 | -37425.618 |
| | | Bottom | 0.00 | -301.45 | -4124.40 | -6167149.19 | -964833.365 | -70338.054 |
| L13 | DX Max | Top | 0.00 | 4212.12 | 314.43 | 4422144.785 | 74222.953 | 980906.660 |
| | | Bottom | 0.00 | 4212.12 | 314.43 | 4422144.785 | 109408.243 | 1458313.474 |
| L13 | DX Min | Top | 0.00 | -4212.12 | -314.43 | -4422144.79 | -74222.953 | -980906.660 |
| | | Bottom | 0.00 | -4212.12 | -314.43 | -4422144.79 | -109408.243 | -1458313.474 |
| L13 | DY Max | Top | 0.00 | 303.76 | 4155.20 | 6211971.615 | 964833.365 | 70338.054 |
| | | Bottom | 0.00 | 303.76 | 4155.20 | 6211971.615 | 1436075.085 | 104295.371 |
| L13 | DY Min | Top | 0.00 | -303.76 | -4155.20 | -6211971.61 | -964833.365 | -70338.054 |
| | | Bottom | 0.00 | -303.76 | -4155.20 | -6211971.61 | -1436075.085 | -104295.371 |
| L12 | DX Max | Top | 0.00 | 4772.72 | 403.20 | 5027640.350 | 109408.243 | 1458313.474 |
| | | Bottom | 0.00 | 4772.72 | 403.20 | 5027640.350 | 148957.376 | 1969328.013 |
| L12 | DX Min | Top | 0.00 | -4772.72 | -403.20 | -5027640.35 | -109408.243 | -1458313.474 |
| | | Bottom | 0.00 | -4772.72 | -403.20 | -5027640.35 | -148957.376 | -1969328.013 |
| L12 | DY Max | Top | 0.00 | 397.12 | 4701.16 | 6947360.160 | 1436075.085 | 104295.371 |
| | | Bottom | 0.00 | 397.12 | 4701.16 | 6947360.160 | 1943073.389 | 144336.624 |
| L12 | DY Min | Top | 0.00 | -397.12 | -4701.16 | -6947360.16 | -1436075.085 | -104295.371 |
| | | Bottom | 0.00 | -397.12 | -4701.16 | -6947360.16 | -1943073.389 | -144336.624 |
| L11 | DX Max | Top | 0.00 | 4818.20 | 412.01 | 5077395.148 | 148957.376 | 1969328.013 |
| | | Bottom | 0.00 | 4818.20 | 412.01 | 5077395.148 | 192090.845 | 2496512.694 |
| L11 | DX Min | Top | 0.00 | -4818.20 | -412.01 | -5077395.15 | -148957.376 | -1969328.013 |
| | | Bottom | 0.00 | -4818.20 | -412.01 | -5077395.15 | -192090.845 | -2496512.694 |
| L11 | DY Max | Top | 0.00 | 406.27 | 4740.85 | 7010109.925 | 1943073.389 | 144336.624 |
| | | Bottom | 0.00 | 406.27 | 4740.85 | 7010109.925 | 2464754.362 | 187496.894 |
| L11 | DY Min | Top | 0.00 | -406.27 | -4740.85 | -7010109.93 | -1943073.389 | -144336.624 |
| | | Bottom | 0.00 | -406.27 | -4740.85 | -7010109.93 | -2464754.362 | -187496.894 |
| L10 | DX Max | Top | 0.00 | 5437.16 | 535.44 | 5789356.681 | 192090.845 | 2496512.694 |
| | | Bottom | 0.00 | 5437.16 | 535.44 | 5789356.681 | 254156.615 | 3122348.643 |
| L10 | DX Min | Top | 0.00 | -5437.16 | -535.44 | -5789356.68 | -192090.845 | -2496512.694 |
| | | Bottom | 0.00 | -5437.16 | -535.44 | -5789356.68 | -254156.615 | -3122348.643 |
| L10 | DY Max | Top | 0.00 | 516.84 | 5281.18 | 7815464.949 | 2464754.362 | 187496.894 |
| | | Bottom | 0.00 | 516.84 | 5281.18 | 7815464.949 | 3079041.766 | 249439.747 |
| L10 | DY Min | Top | 0.00 | -516.84 | -5281.18 | -7815464.95 | -2464754.362 | -187496.894 |
| | | Bottom | 0.00 | -516.84 | -5281.18 | -7815464.95 | -3079041.766 | -249439.747 |
| L9 | DX Max | Top | 0.00 | 6035.62 | 608.04 | 6465076.279 | 254156.615 | 3122348.643 |
| | | Bottom | 0.00 | 6035.62 | 608.04 | 6465076.279 | 337105.457 | 3878317.373 |
| L9 | DX Min | Top | 0.00 | -6035.62 | -608.04 | -6465076.28 | -254156.615 | -3122348.643 |
| | | Bottom | 0.00 | -6035.62 | -608.04 | -6465076.28 | -337105.457 | -3878317.37 |
| L9 | DY Max | Top | 0.00 | 585.40 | 5831.94 | 8660483.426 | 3079041.766 | 249439.747 |

S T O R Y F O R C E S

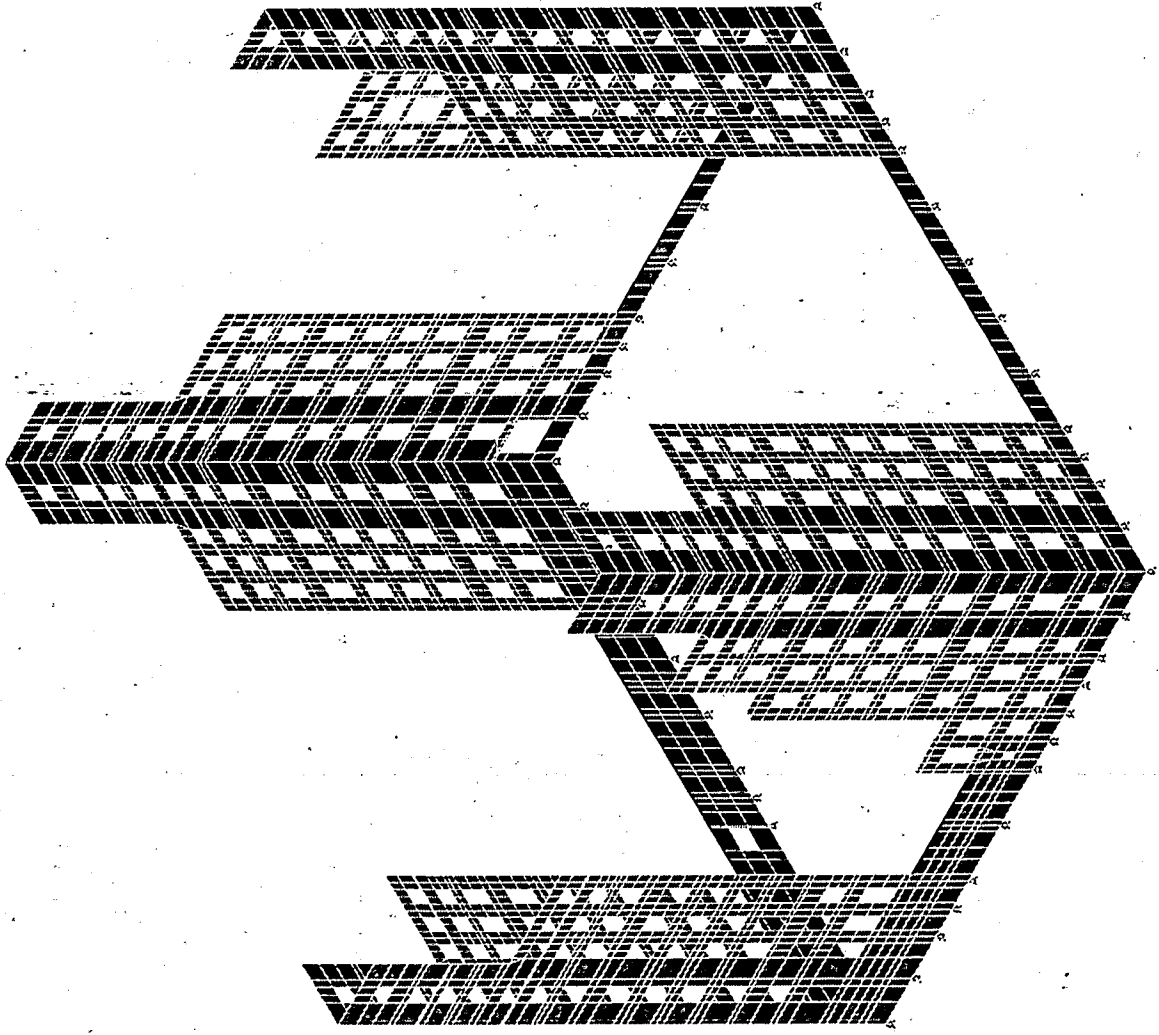
| STORY | LOAD | LOCATION | P | VX | VY | T | MX | MY |
|-------|--------|----------|------|----------|----------|--------------|--------------|--------------|
| | | Bottom | 0.00 | 585.40 | 5831.94 | 8660483.426 | 3812076.704 | 330744.208 |
| L9 | DY Min | Top | 0.00 | -585.40 | -5831.94 | -8660483.43 | -3079041.766 | -249439.747 |
| | | Bottom | 0.00 | -585.40 | -5831.94 | -8660483.43 | -3812076.70 | -330744.208 |
| L8 | DX Max | Top | 0.00 | 6665.32 | 649.22 | 7139059.918 | 337105.457 | 3878317.373 |
| | | Bottom | 0.00 | 6665.32 | 649.22 | 7139059.918 | 454867.665 | 4927815.282 |
| L8 | DX Min | Top | 0.00 | -6665.32 | -649.22 | -7139059.92 | -337105.457 | -3878317.37 |
| | | Bottom | 0.00 | -6665.32 | -649.22 | -7139059.92 | -454867.665 | -4927815.28 |
| L8 | DY Max | Top | 0.00 | 636.60 | 6458.81 | 9535694.439 | 3812076.704 | 330744.208 |
| | | Bottom | 0.00 | 636.60 | 6458.81 | 9535694.439 | 4821450.764 | 445896.473 |
| L8 | DY Min | Top | 0.00 | -636.60 | -6458.81 | -9535694.44 | -3812076.70 | -330744.208 |
| | | Bottom | 0.00 | -636.60 | -6458.81 | -9535694.44 | -4821450.76 | -445896.473 |
| L7 | DX Max | Top | 0.00 | 7237.98 | 671.97 | 7755788.815 | 454867.665 | 4927815.282 |
| | | Bottom | 0.00 | 7237.98 | 671.97 | 7755788.815 | 548841.124 | 5791566.257 |
| L7 | DX Min | Top | 0.00 | -7237.98 | -671.97 | -7755788.82 | -454867.665 | -4927815.28 |
| | | Bottom | 0.00 | -7237.98 | -671.97 | -7755788.82 | -548841.124 | -5791566.26 |
| L7 | DY Max | Top | 0.00 | 670.64 | 7080.02 | 10328963.542 | 4821450.764 | 445896.473 |
| | | Bottom | 0.00 | 670.64 | 7080.02 | 10328963.542 | 5654360.056 | 538815.726 |
| L7 | DY Min | Top | 0.00 | -670.64 | -7080.02 | -10328963.54 | -4821450.76 | -445896.473 |
| | | Bottom | 0.00 | -670.64 | -7080.02 | -10328963.54 | -5654360.06 | -538815.726 |
| L6 | DX Max | Top | 0.00 | 7798.01 | 697.32 | 8371492.238 | 548841.124 | 5791566.257 |
| | | Bottom | 0.00 | 7798.01 | 697.32 | 8371492.238 | 645410.035 | 6716453.718 |
| L6 | DX Min | Top | 0.00 | -7798.01 | -697.32 | -8371492.24 | -548841.124 | -5791566.26 |
| | | Bottom | 0.00 | -7798.01 | -697.32 | -8371492.24 | -645410.035 | -6716453.72 |
| L6 | DY Max | Top | 0.00 | 692.63 | 7673.30 | 11100529.902 | 5654360.056 | 538815.726 |
| | | Bottom | 0.00 | 692.63 | 7673.30 | 11100529.902 | 6553179.706 | 634823.179 |
| L6 | DY Min | Top | 0.00 | -692.63 | -7673.30 | -11100529.90 | -5654360.06 | -538815.726 |
| | | Bottom | 0.00 | -692.63 | -7673.30 | -11100529.90 | -6553179.71 | -634823.179 |
| L5 | DX Max | Top | 0.00 | 8362.74 | 721.04 | 8998228.111 | 645410.035 | 6716453.718 |
| | | Bottom | 0.00 | 8362.74 | 721.04 | 8998228.111 | 756290.880 | 7829949.819 |
| L5 | DX Min | Top | 0.00 | -8362.74 | -721.04 | -8998228.11 | -645410.035 | -6716453.72 |
| | | Bottom | 0.00 | -8362.74 | -721.04 | -8998228.11 | -756290.880 | -7829949.82 |
| L5 | DY Max | Top | 0.00 | 710.25 | 8235.18 | 11855550.110 | 6553179.706 | 634823.179 |
| | | Bottom | 0.00 | 710.25 | 8235.18 | 11855550.110 | 7642975.686 | 744320.640 |
| L5 | DY Min | Top | 0.00 | -710.25 | -8235.18 | -11855550.11 | -6553179.71 | -634823.179 |
| | | Bottom | 0.00 | -710.25 | -8235.18 | -11855550.11 | -7642975.69 | -744320.640 |
| L4 | DX Max | Top | 0.00 | 8926.18 | 750.91 | 9628137.635 | 756290.880 | 7829949.819 |
| | | Bottom | 0.00 | 8926.18 | 750.91 | 9628137.635 | 885032.647 | 9189986.698 |
| L4 | DX Min | Top | 0.00 | -8926.18 | -750.91 | -9628137.64 | -756290.880 | -7829949.82 |
| | | Bottom | 0.00 | -8926.18 | -750.91 | -9628137.64 | -885032.647 | -9189986.70 |
| L4 | DY Max | Top | 0.00 | 756.02 | 8798.80 | 12589955.022 | 7642975.686 | 744320.640 |
| | | Bottom | 0.00 | 756.02 | 8798.80 | 12589955.022 | 8979930.954 | 870836.934 |
| L4 | DY Min | Top | 0.00 | -756.02 | -8798.80 | -12589955.02 | -7642975.69 | -744320.640 |
| | | Bottom | 0.00 | -756.02 | -8798.80 | -12589955.02 | -8979930.95 | -870836.934 |
| L3 | DX Max | Top | 0.00 | 9458.26 | 798.13 | 10231396.726 | 885032.647 | 9189986.698 |
| | | Bottom | 0.00 | 9458.26 | 798.13 | 10231396.726 | 1035067.332 | 10847270.086 |
| L3 | DX Min | Top | 0.00 | -9458.26 | -798.13 | -10231396.73 | -885032.647 | -9189986.70 |
| | | Bottom | 0.00 | -9458.26 | -798.13 | -10231396.73 | -1035067.332 | -10847270.09 |
| L3 | DY Max | Top | 0.00 | 787.73 | 9299.16 | 13266936.164 | 8979930.954 | 870836.934 |
| | | Bottom | 0.00 | 787.73 | 9299.16 | 13266936.164 | 10613199.093 | 1018936.339 |
| L3 | DY Min | Top | 0.00 | -787.73 | -9299.16 | -13266936.16 | -8979930.95 | -870836.934 |
| | | Bottom | 0.00 | -787.73 | -9299.16 | -13266936.16 | -10613199.09 | -1018936.339 |
| L2 | DX Max | Top | 0.00 | 10041.51 | 894.69 | 10951136.311 | 1035067.332 | 10847270.086 |
| | | Bottom | 0.00 | 10041.51 | 894.69 | 10951136.311 | 1154046.238 | 12187764.054 |

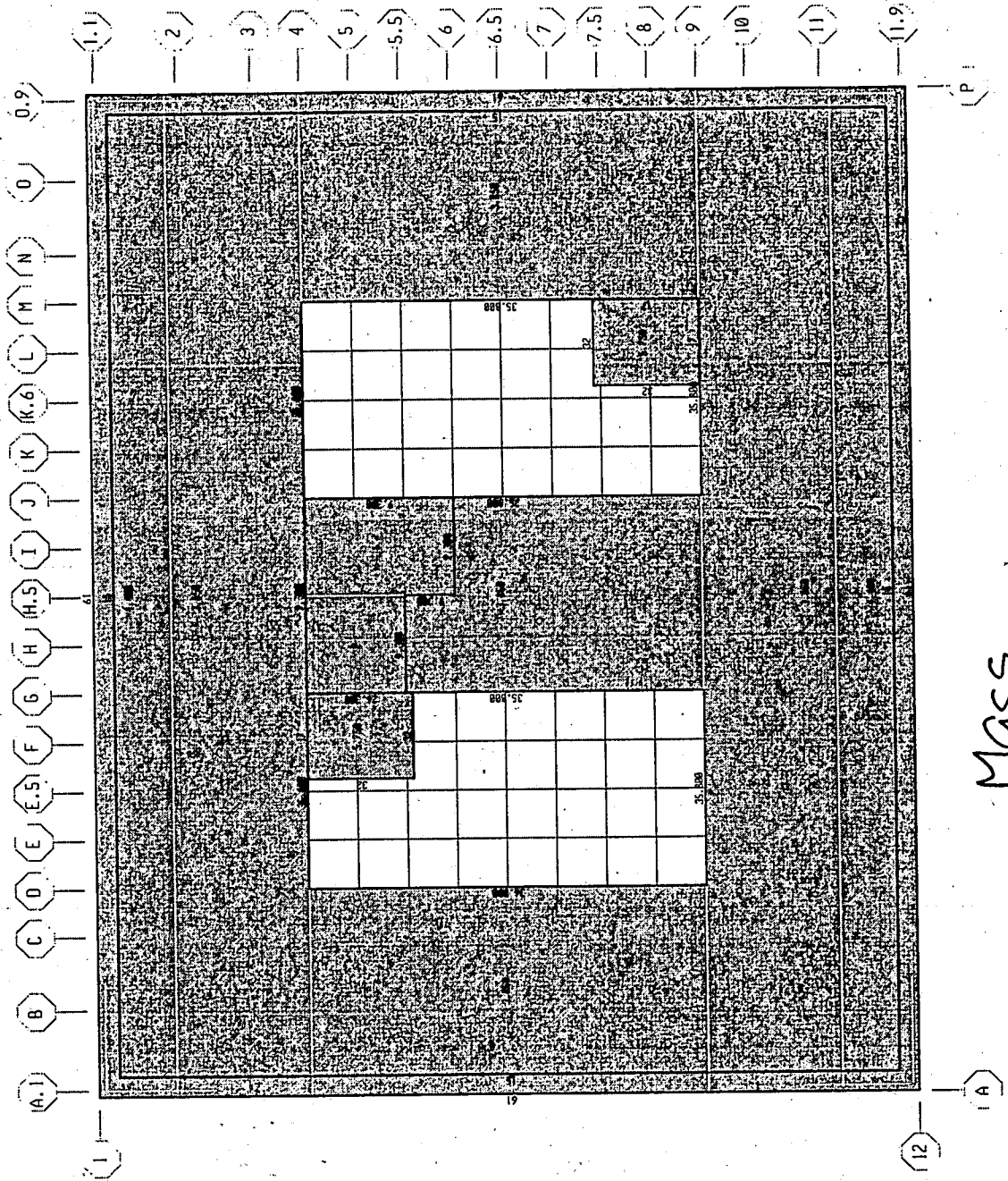
S T O R Y F O R C E S

| STORY | LOAD | LOCATION | P | VX | VY | T | MX | MY |
|-------|--------|----------|------|-----------|-----------|--------------|---------------|--------------|
| L2 | DX Min | Top | 0.00 | -10041.51 | -894.69 | -10951136.31 | -1035067.332 | -10847270.09 |
| | | Bottom | 0.00 | -10041.51 | -894.69 | -10951136.31 | -1154046.238 | -12187764.05 |
| L2 | DY Max | Top | 0.00 | 883.05 | 10009.79 | 14023474.36 | 410613199.09 | 1018936.339 |
| | | Bottom | 0.00 | 883.05 | 10009.79 | 14023474.36 | 4111937012.38 | 1135325.815 |
| L2 | DY Min | Top | 0.00 | -883.05 | -10009.79 | -14023474.36 | -10613199.09 | -1018936.339 |
| | | Bottom | 0.00 | -883.05 | -10009.79 | -14023474.36 | -11937012.38 | -1135325.815 |
| L1 | DX Max | Top | 0.00 | 10093.78 | 911.68 | 10994265.81 | 71154046.238 | 12187764.05 |
| | | Bottom | 0.00 | 10093.78 | 911.68 | 10994265.81 | 1220144.09 | 312931399.83 |
| L1 | DX Min | Top | 0.00 | -10093.78 | -911.68 | -10994265.82 | -1154046.238 | -12187764.05 |
| | | Bottom | 0.00 | -10093.78 | -911.68 | -10994265.82 | -1220144.09 | -12931399.84 |
| L1 | DY Max | Top | 0.00 | 896.26 | 10094.57 | 14107733.24 | 011937012.38 | 1135325.815 |
| | | Bottom | 0.00 | 896.26 | 10094.57 | 14107733.24 | 012673268.67 | 1199990.376 |
| L1 | DY Min | Top | 0.00 | -896.26 | -10094.57 | -14107733.24 | -11937012.38 | -1135325.815 |
| | | Bottom | 0.00 | -896.26 | -10094.57 | -14107733.24 | -12673268.68 | -1199990.376 |

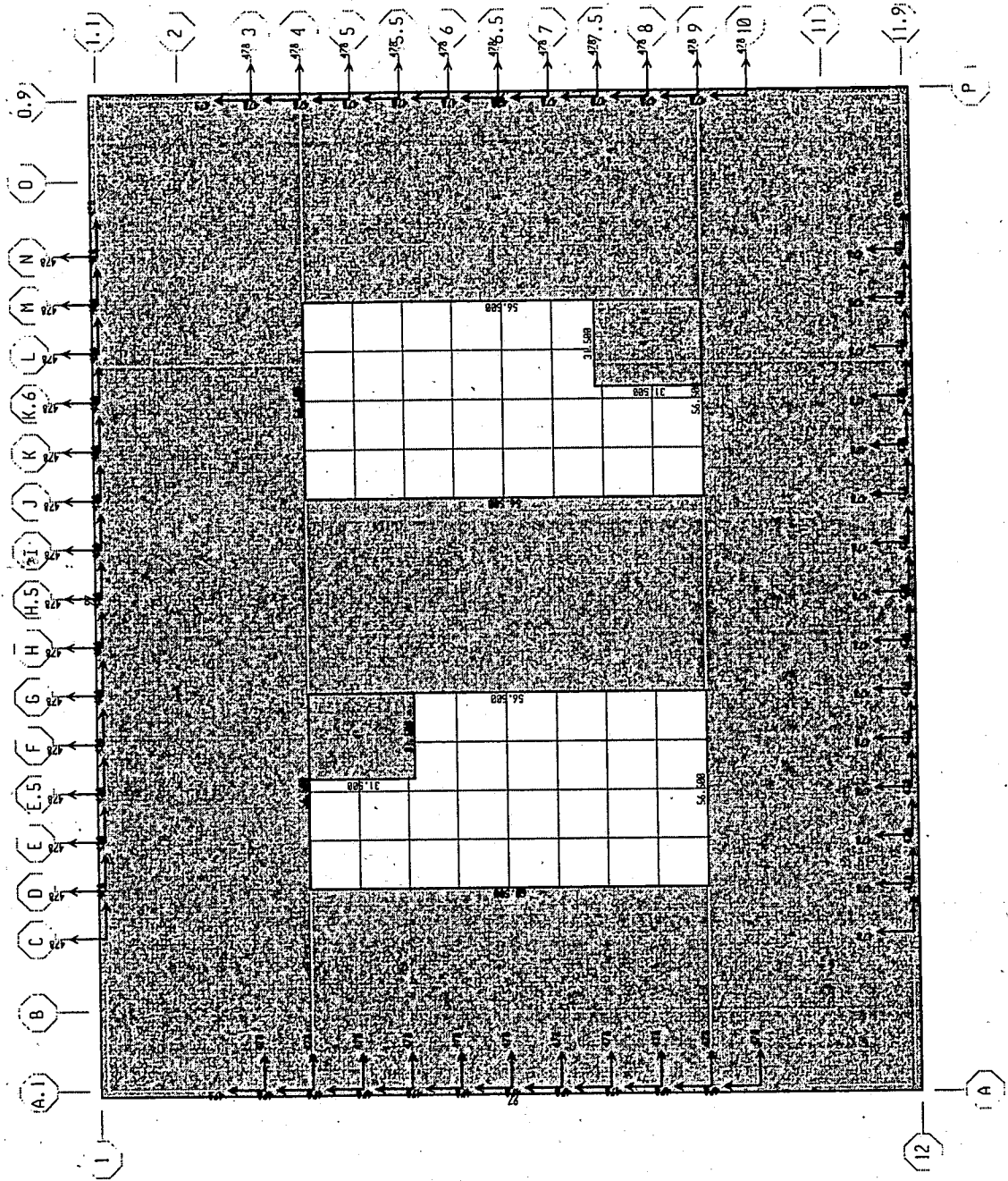


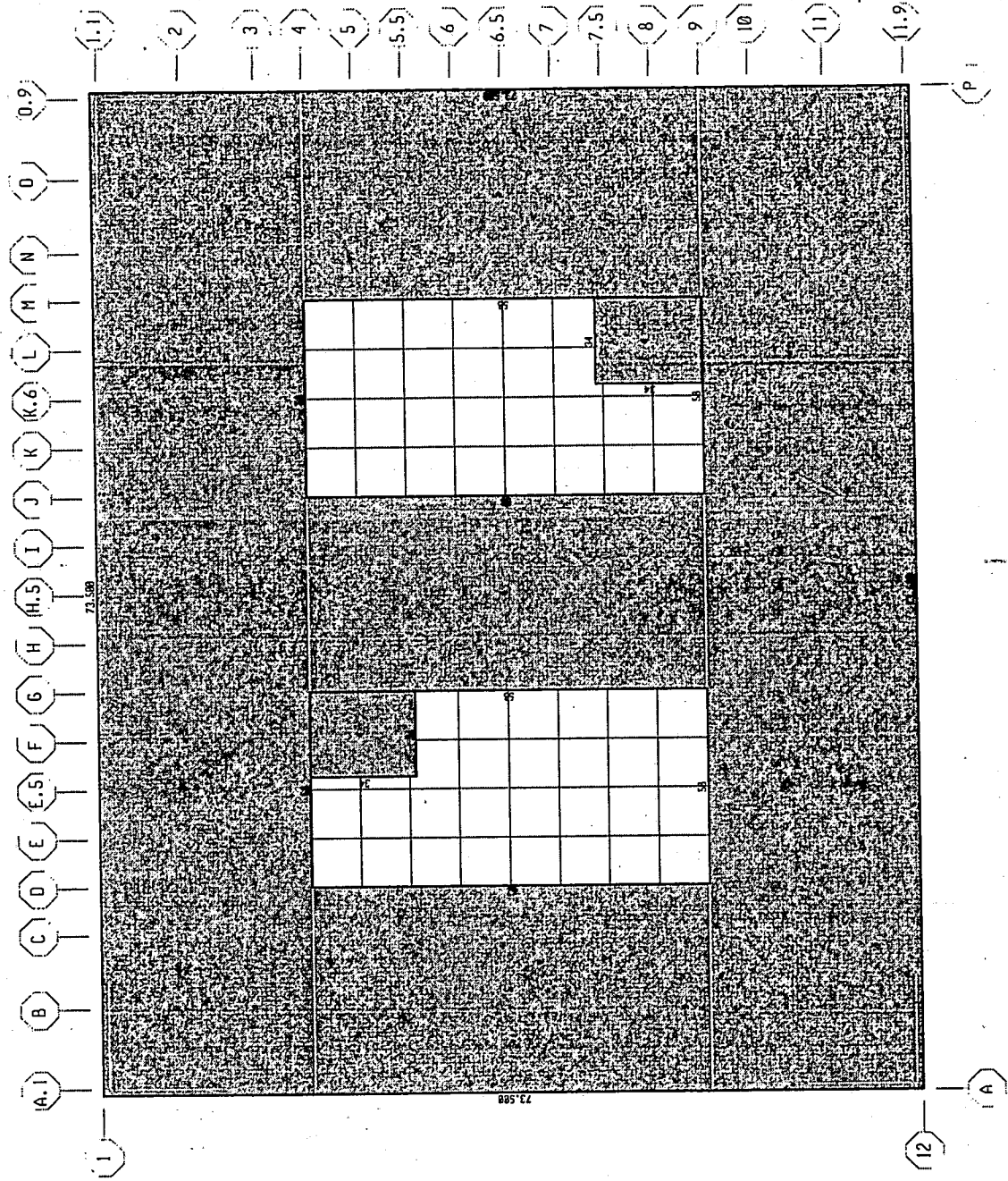
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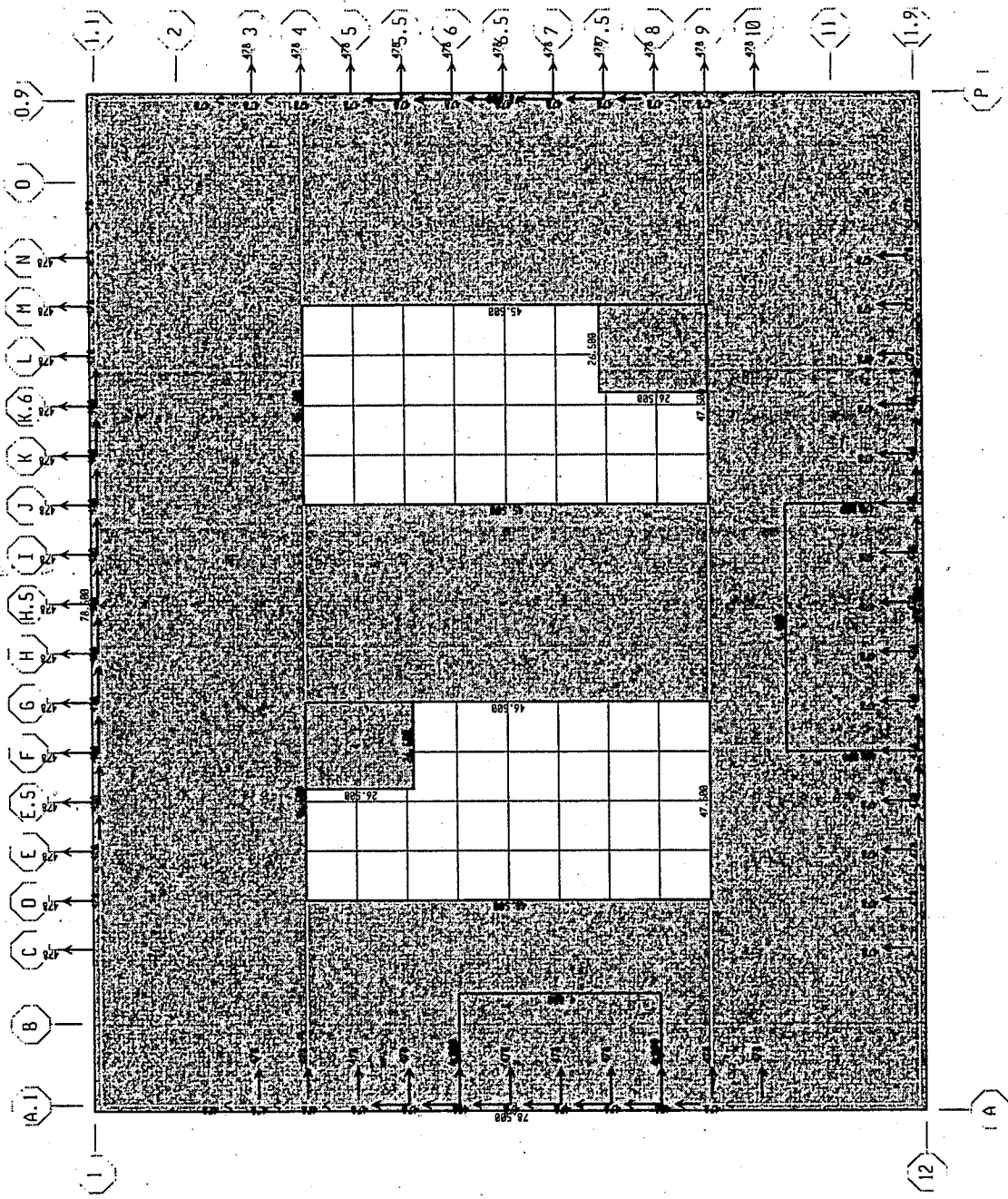


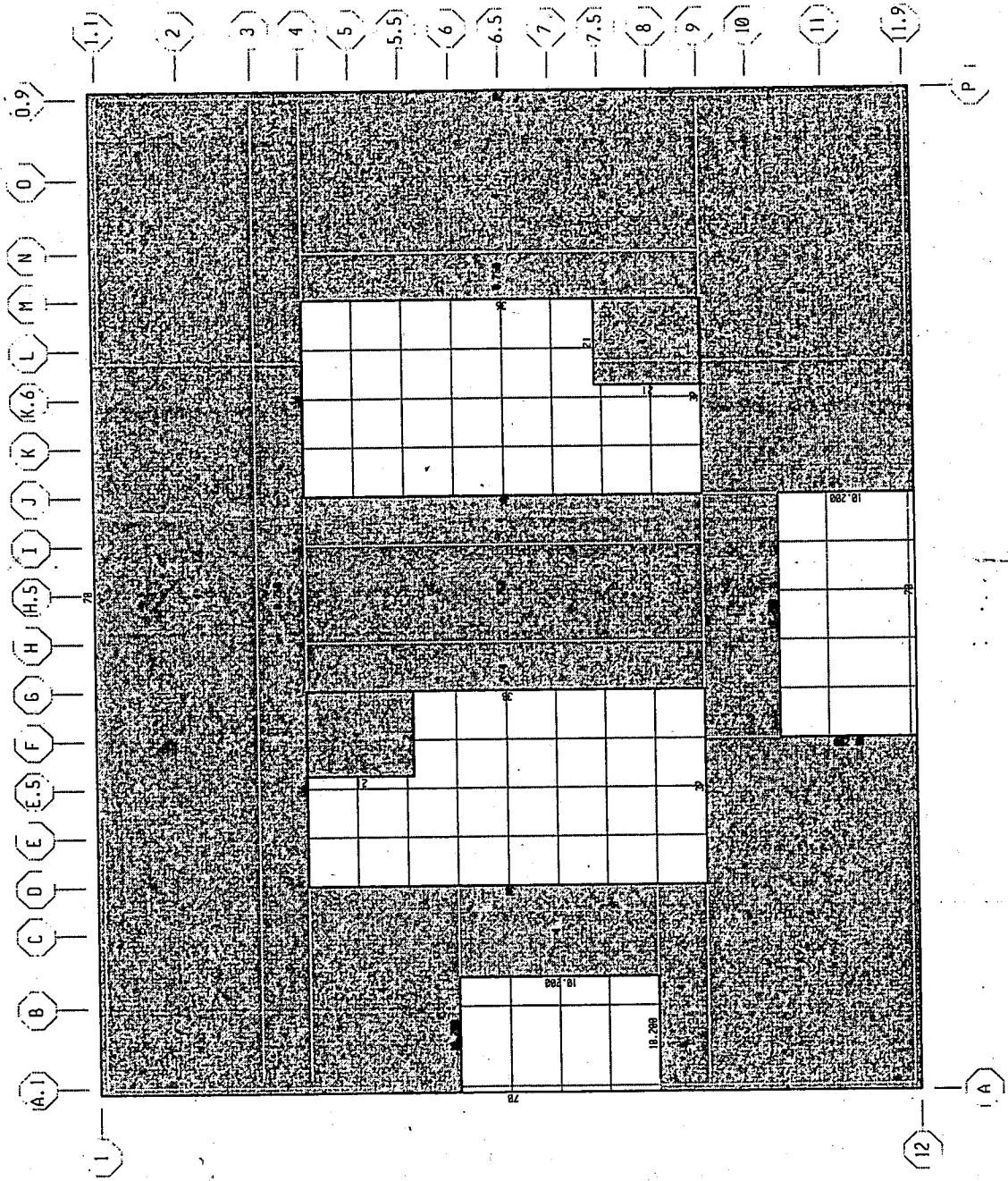


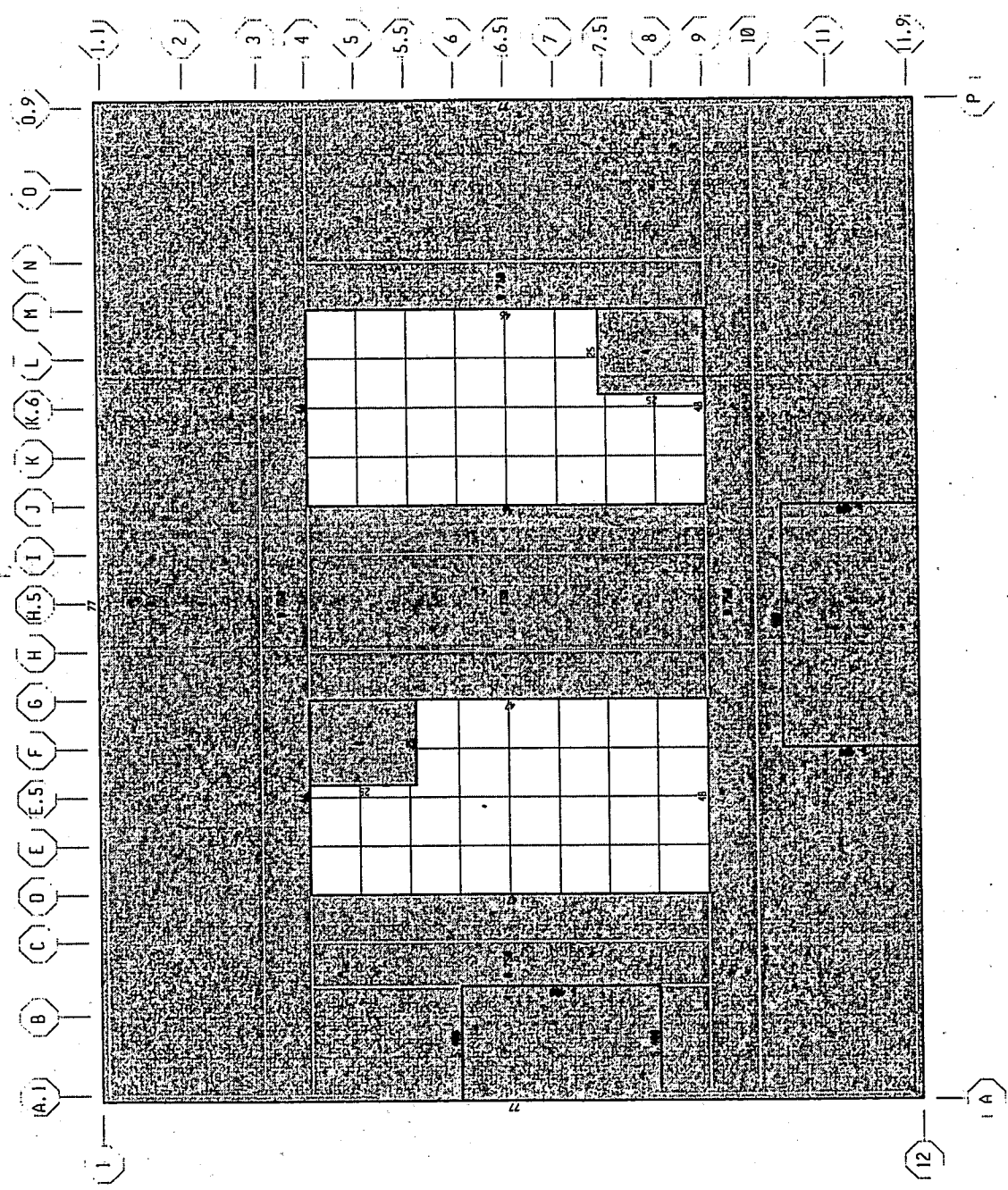
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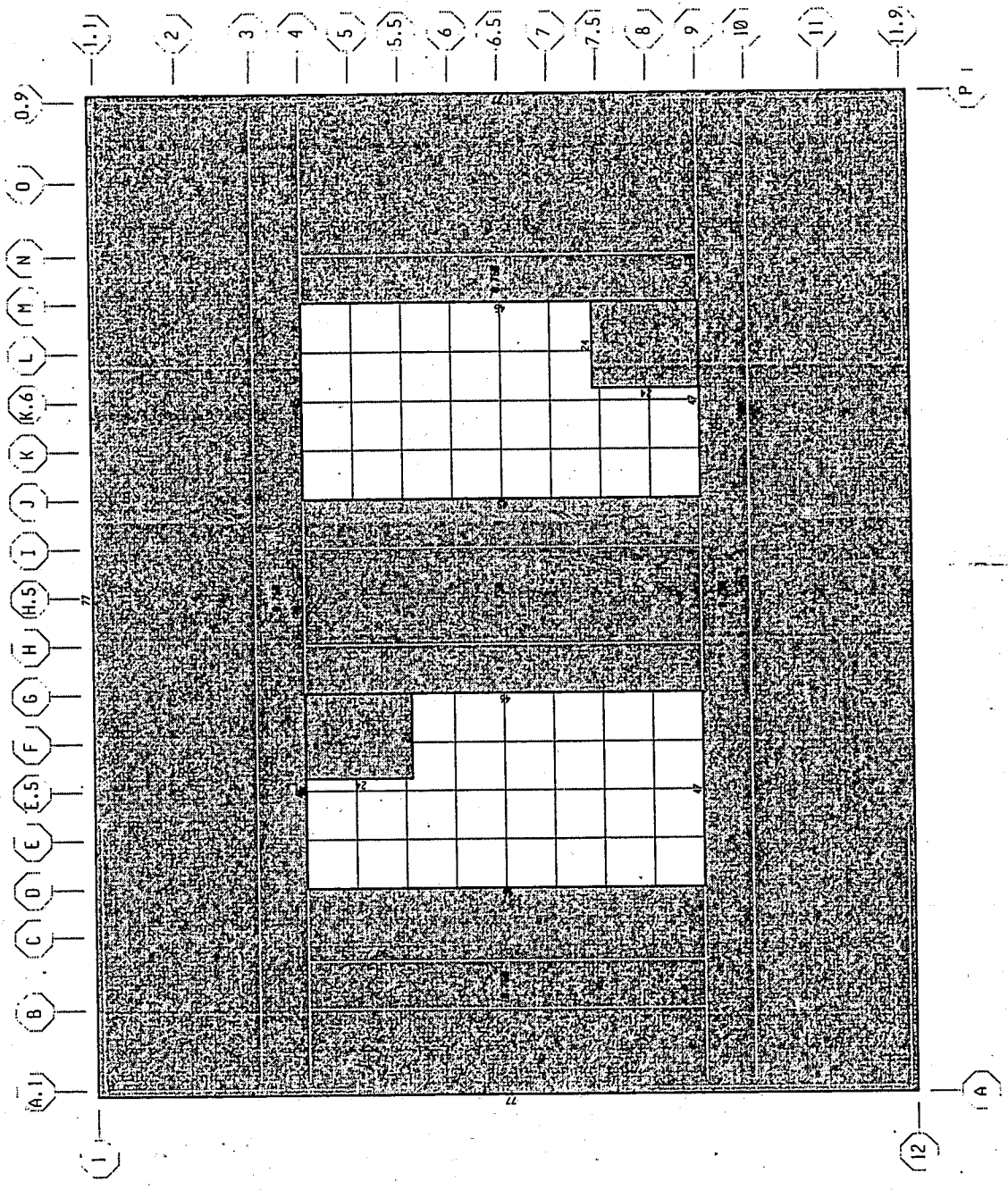


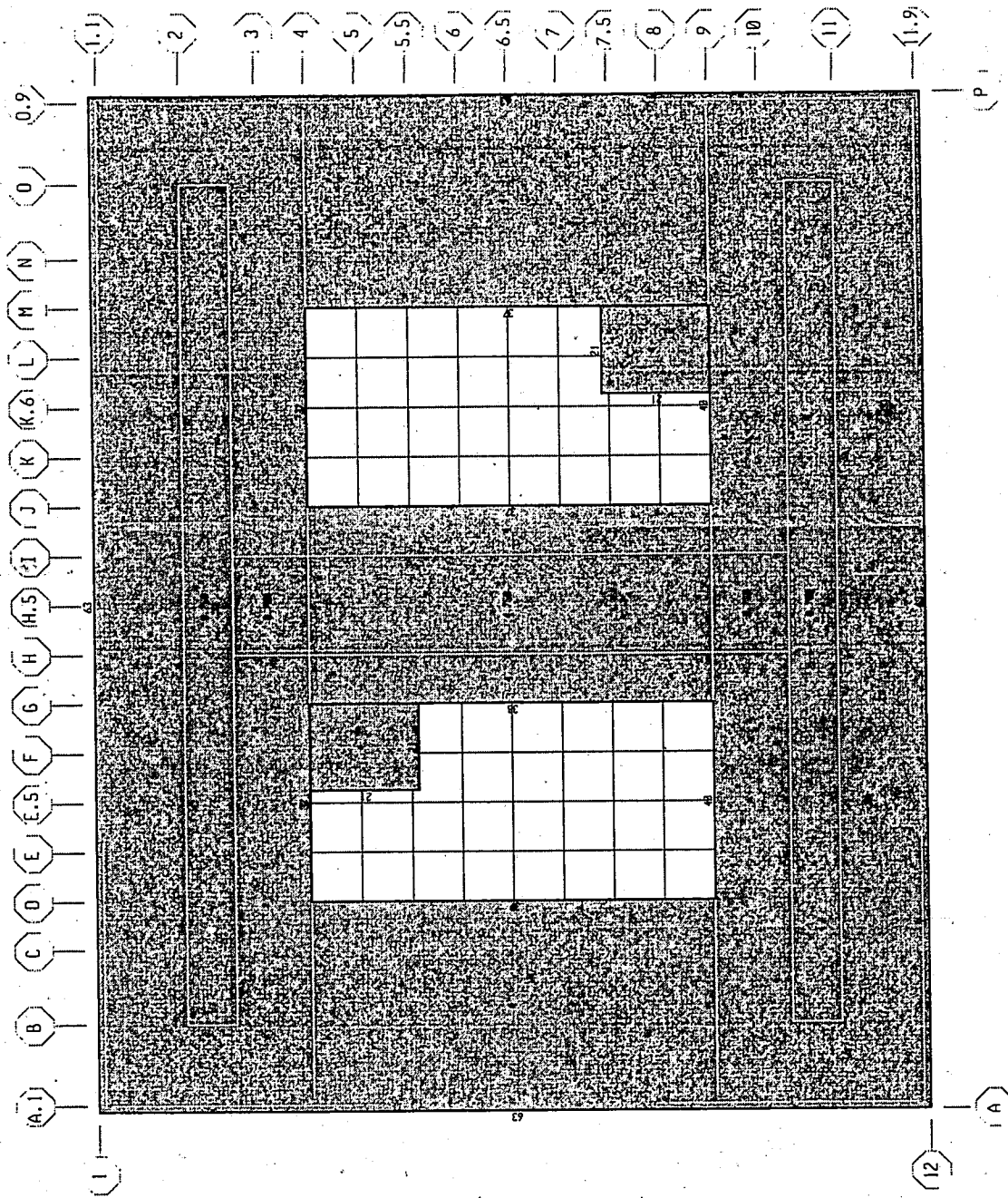


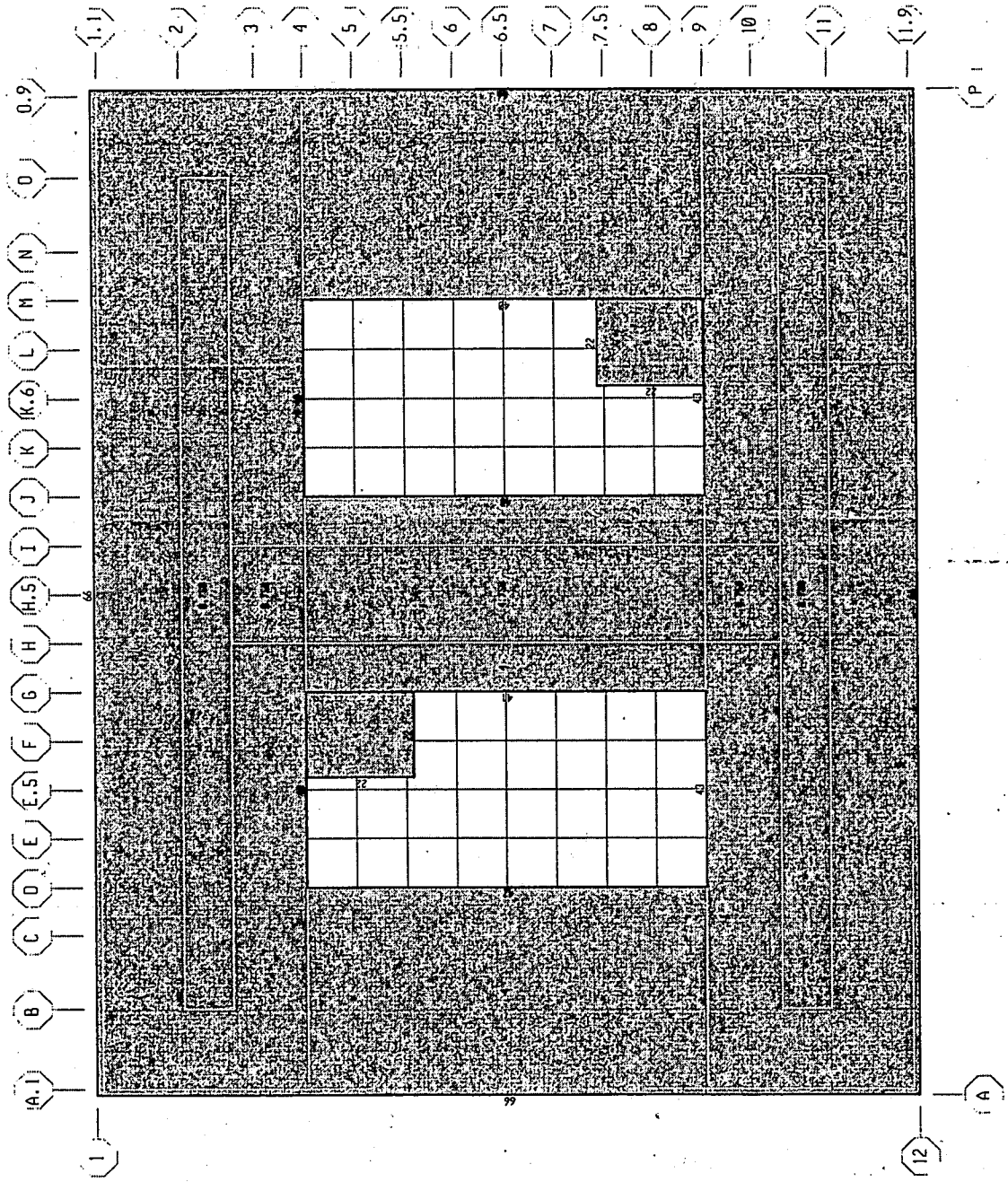


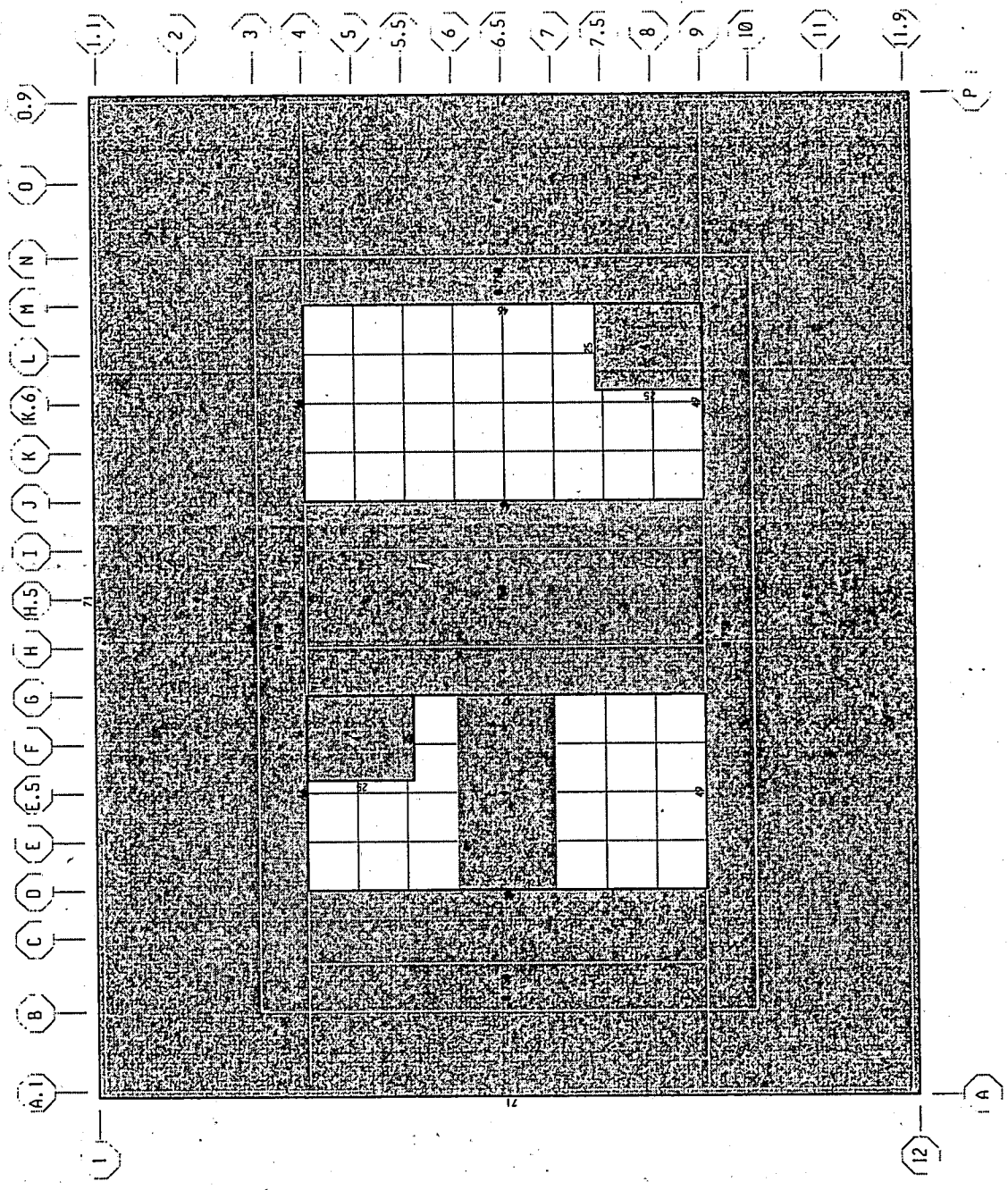


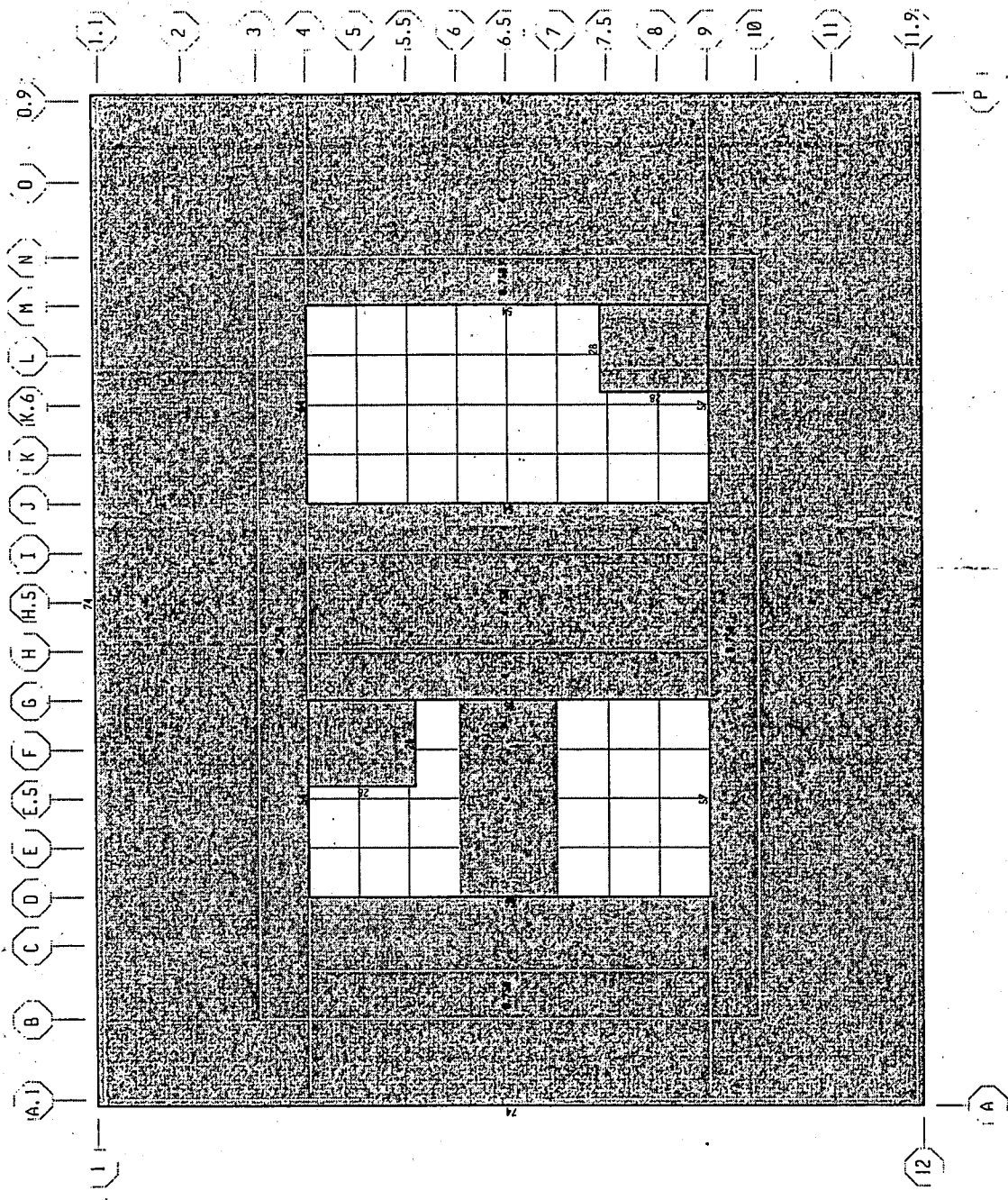


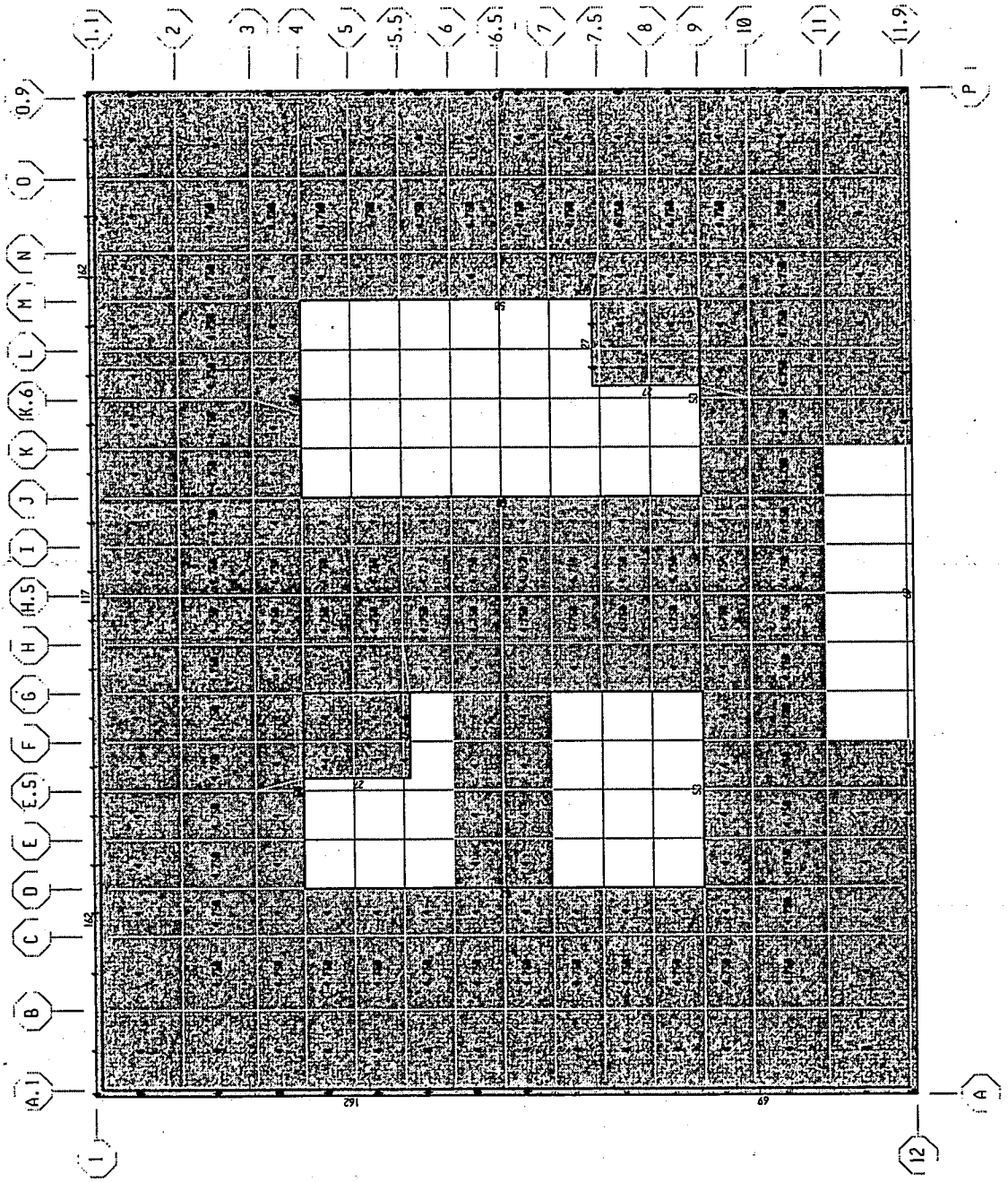


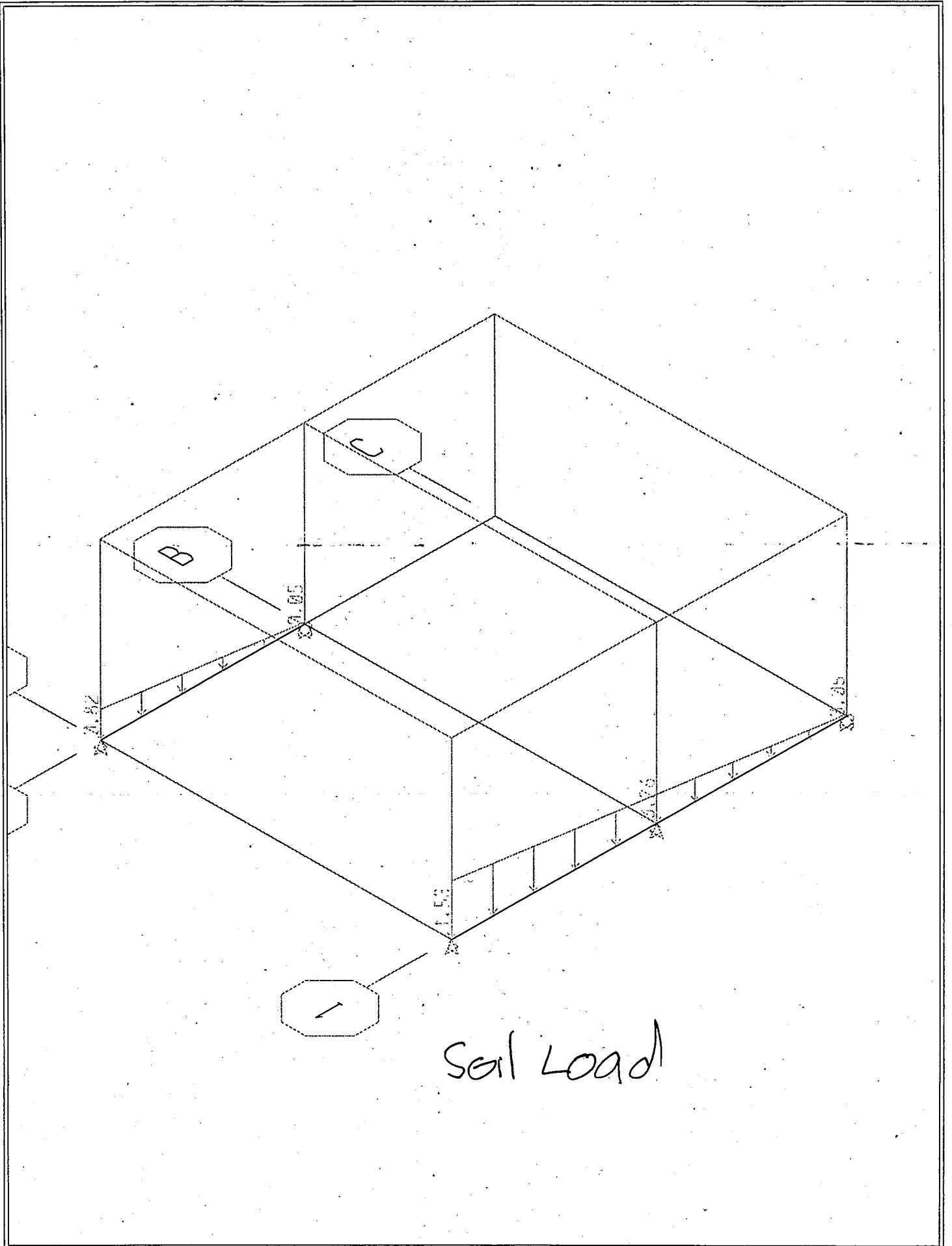


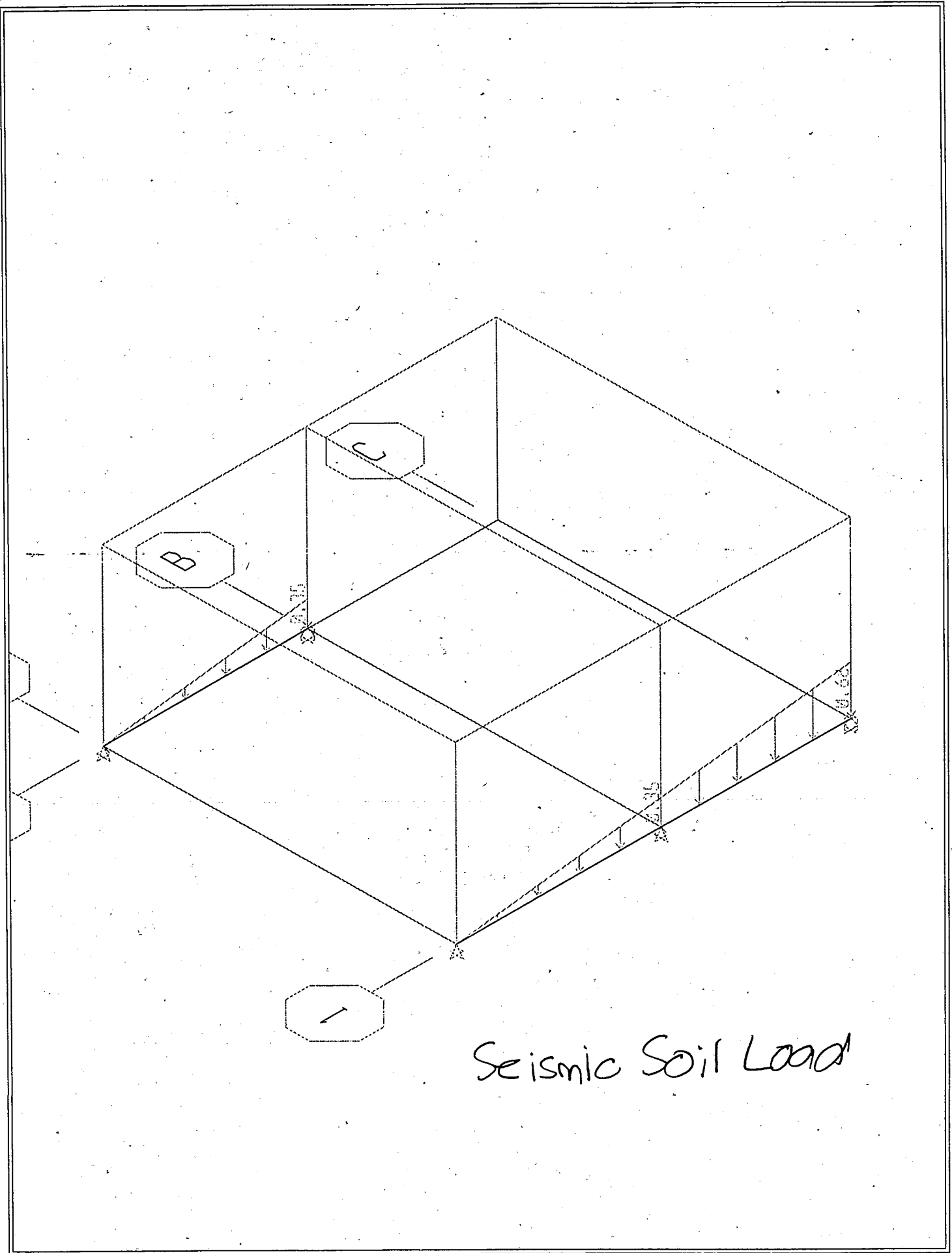


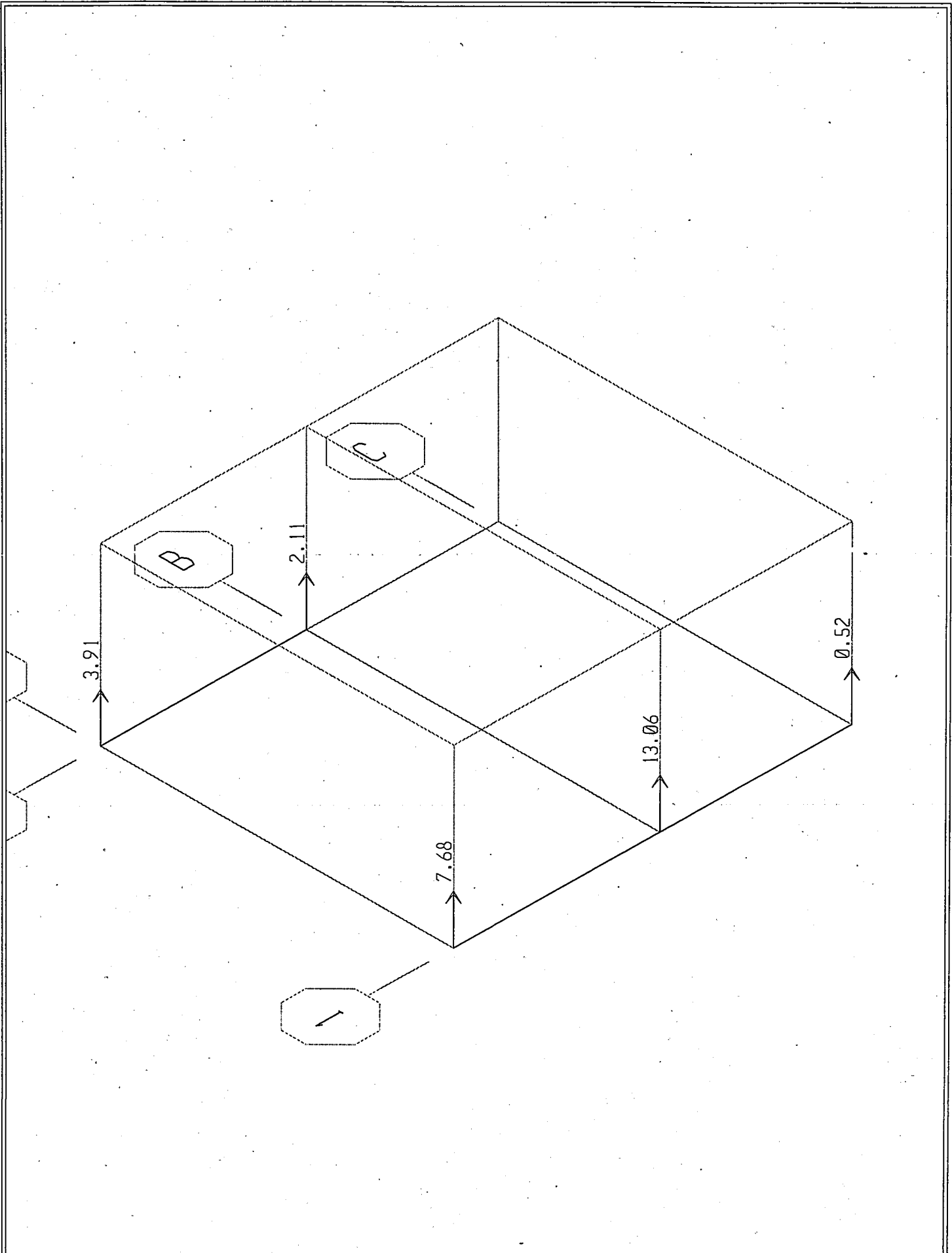


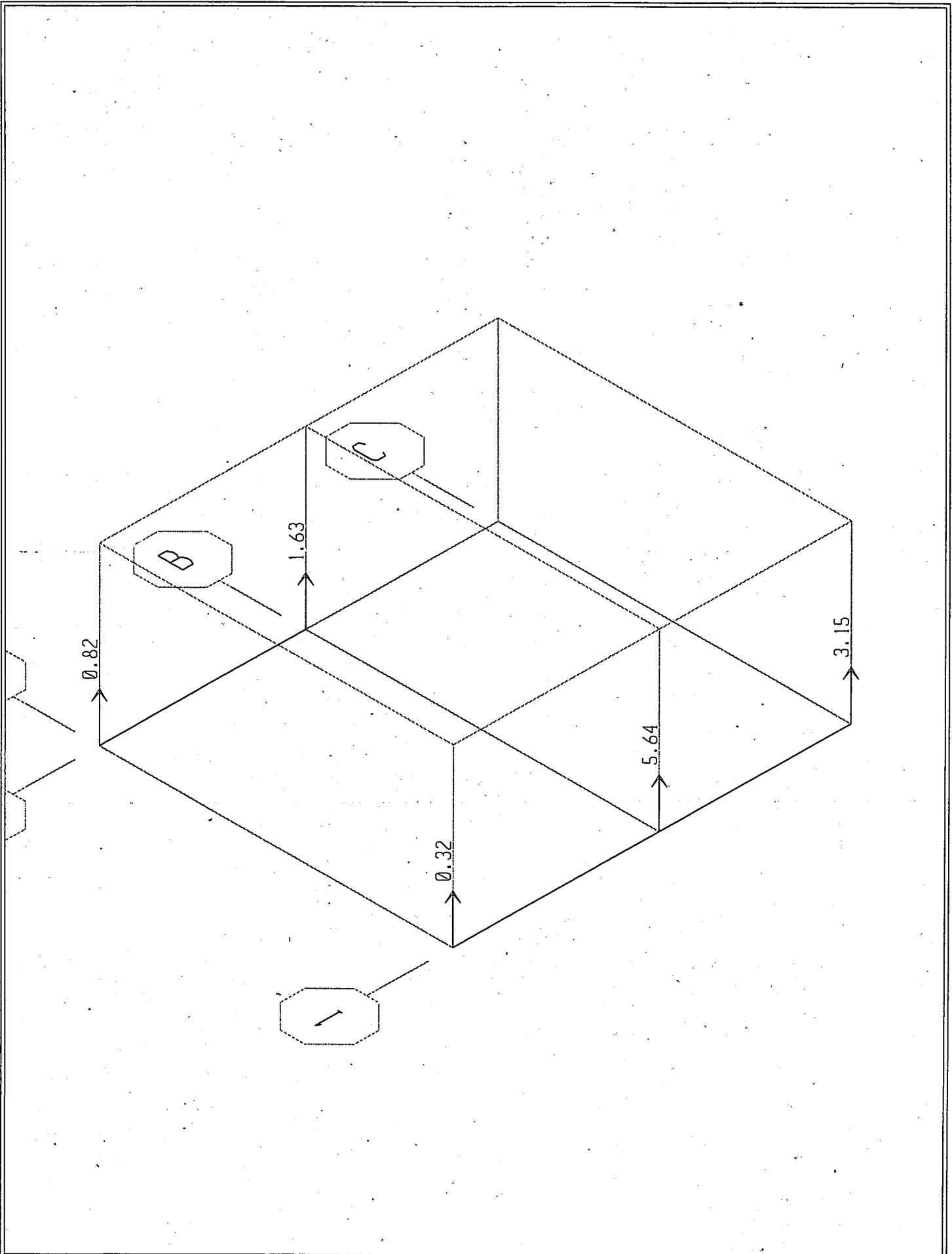


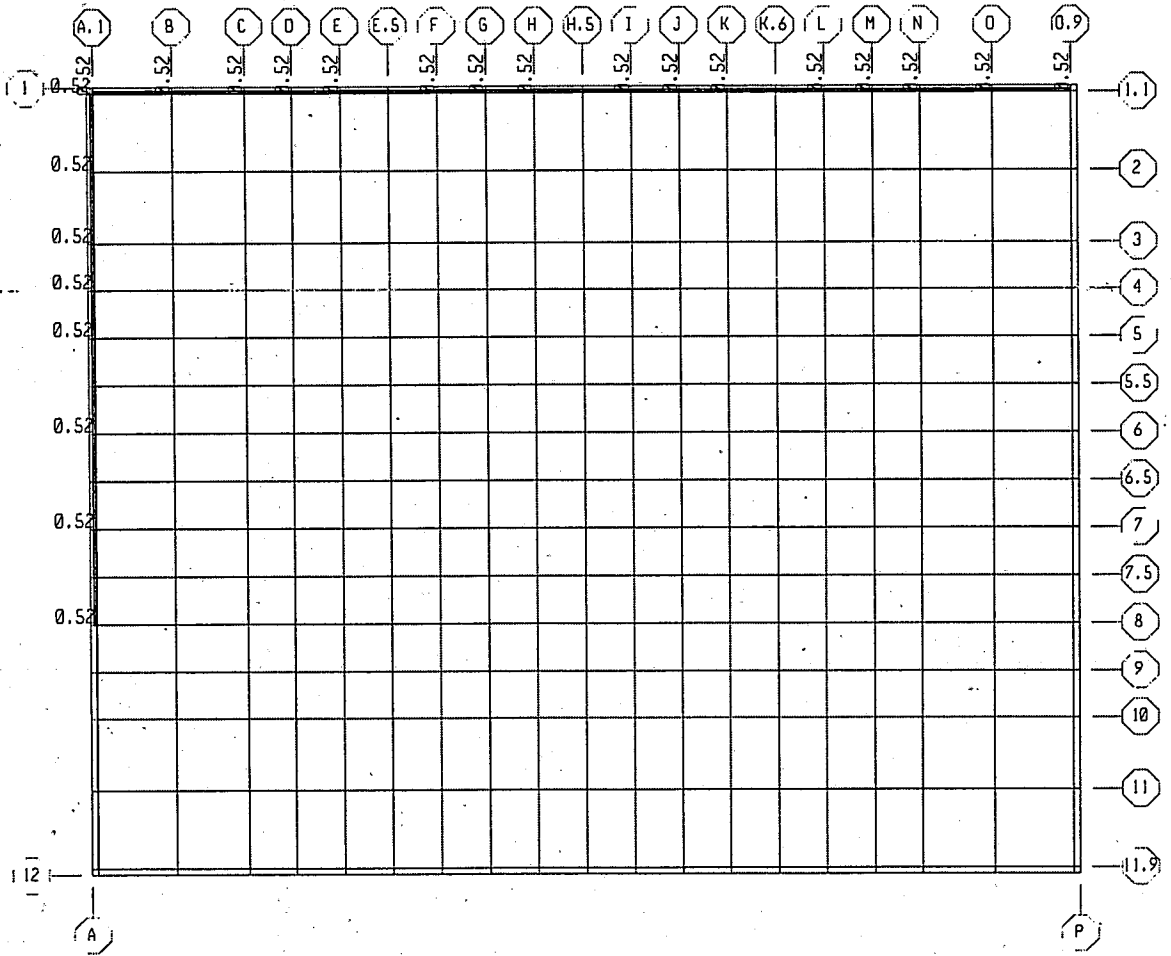


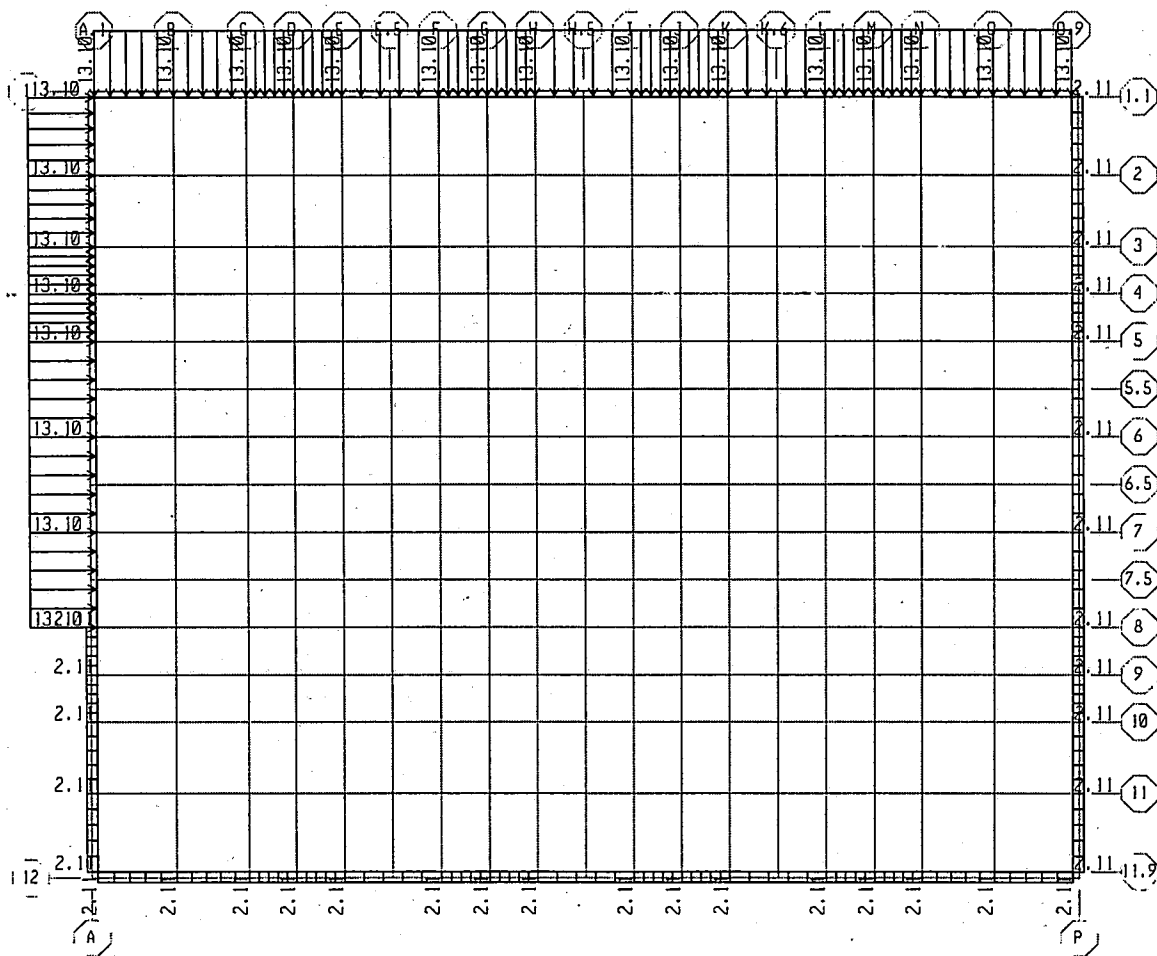


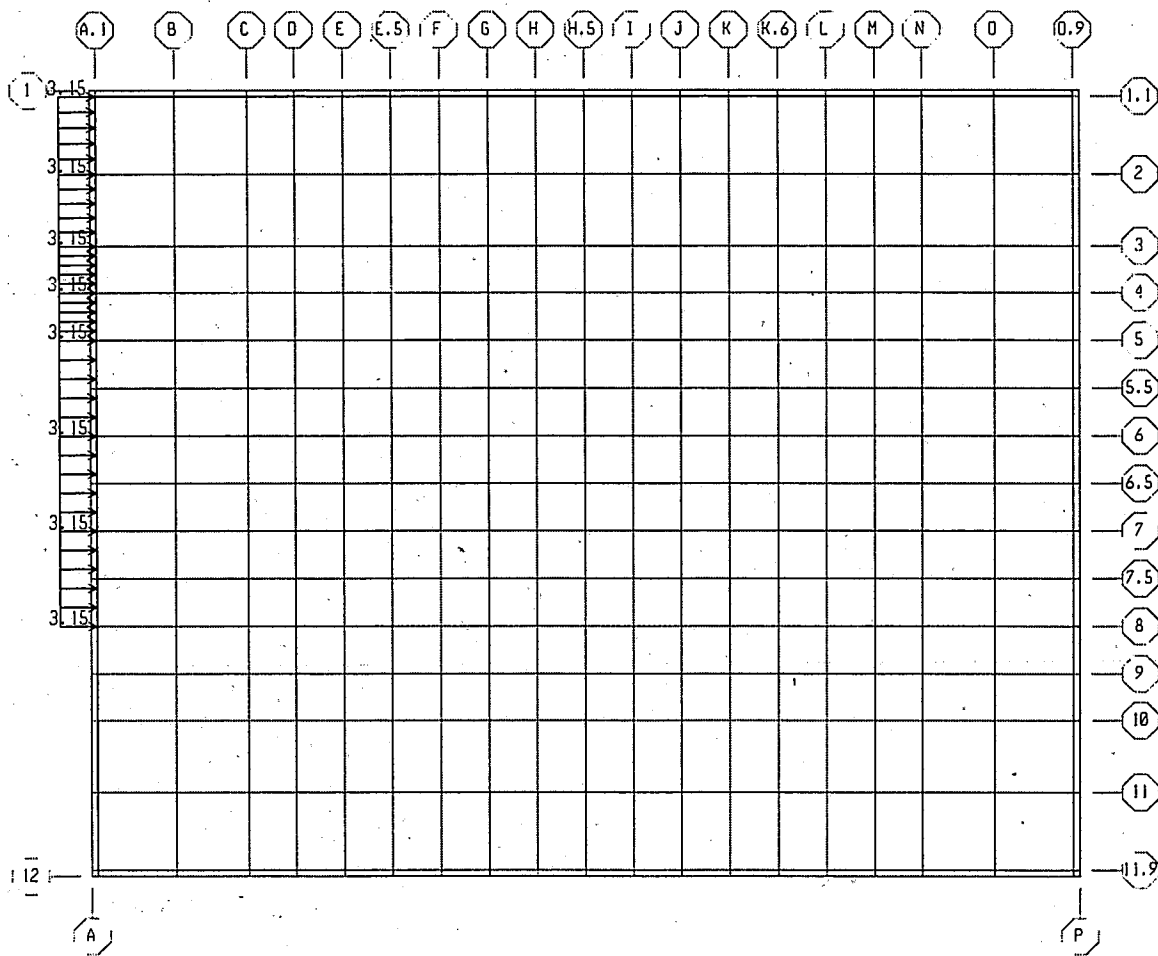


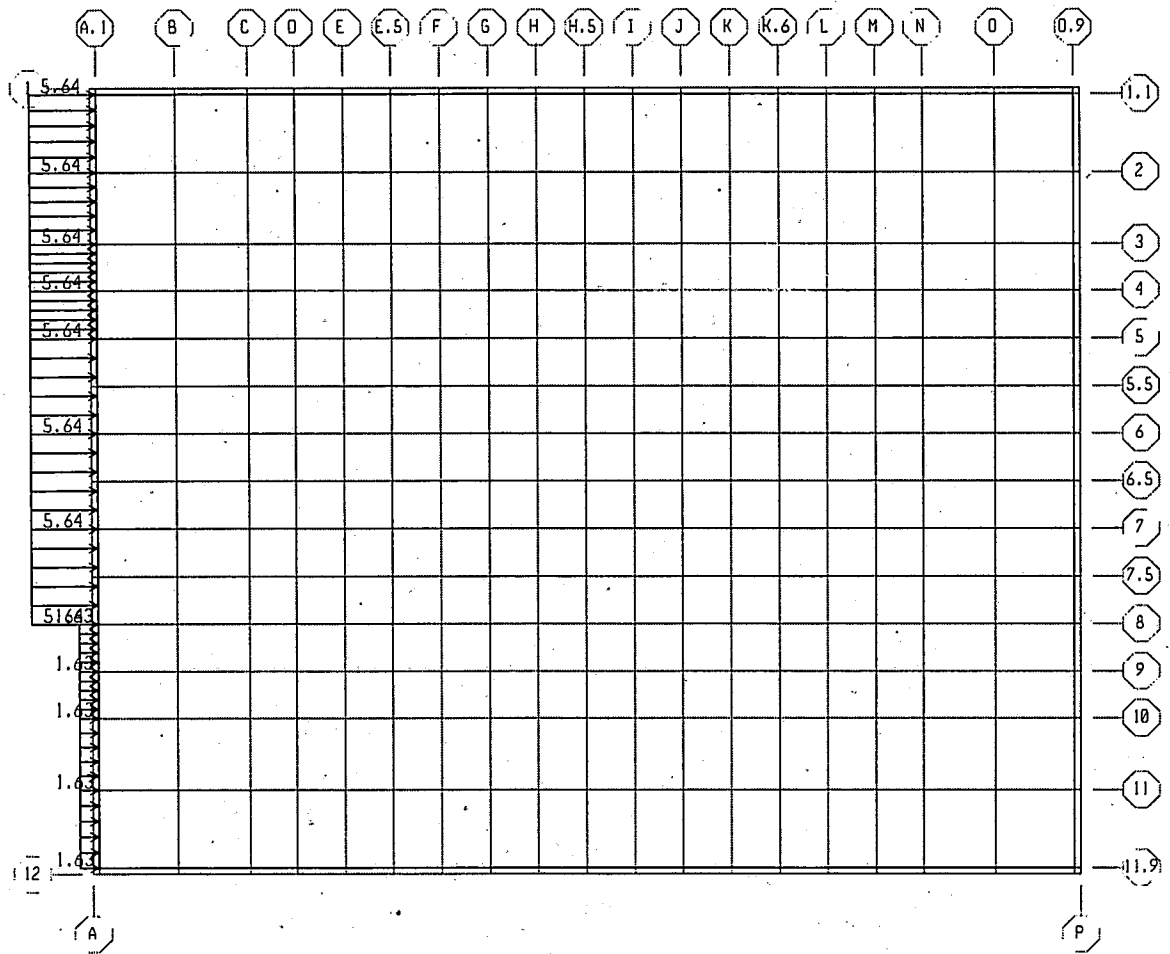


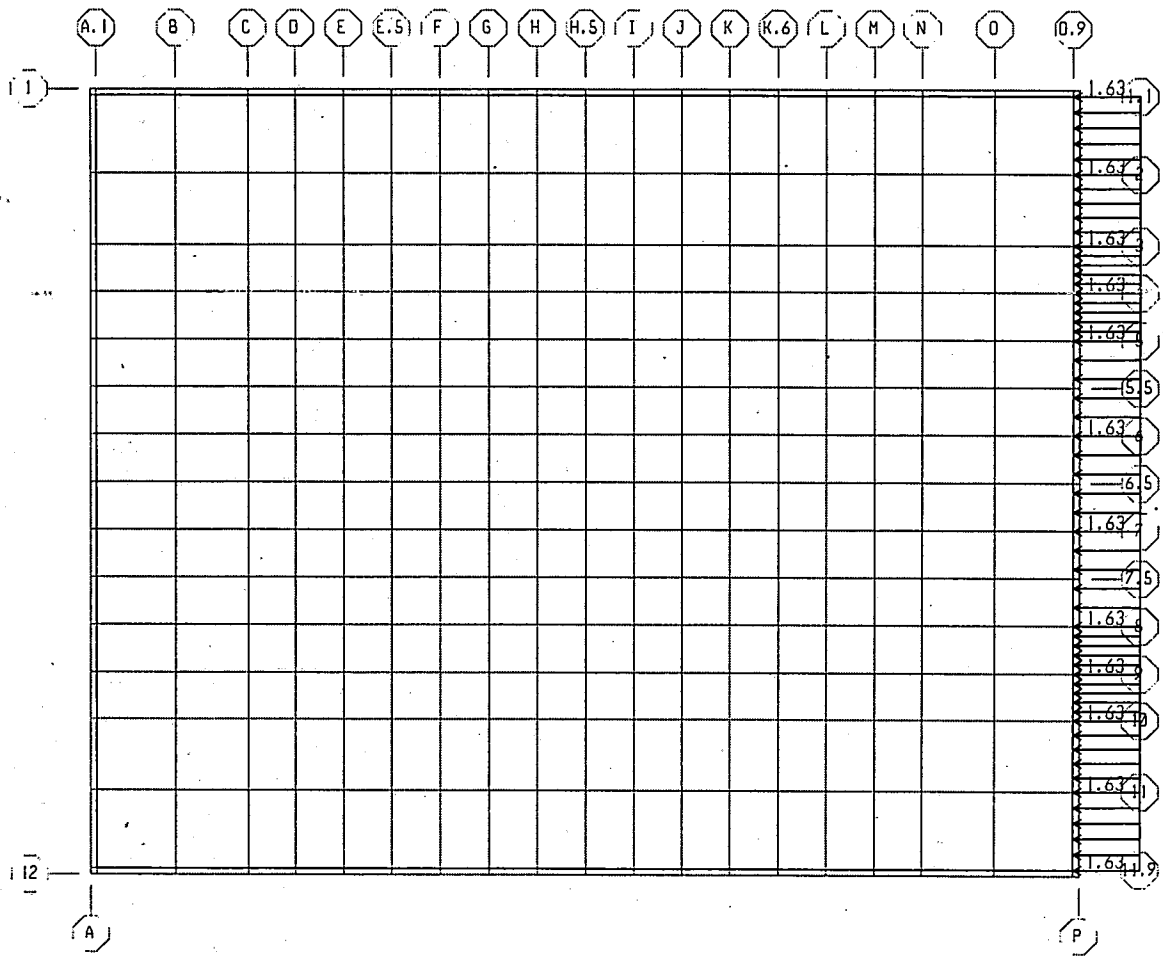


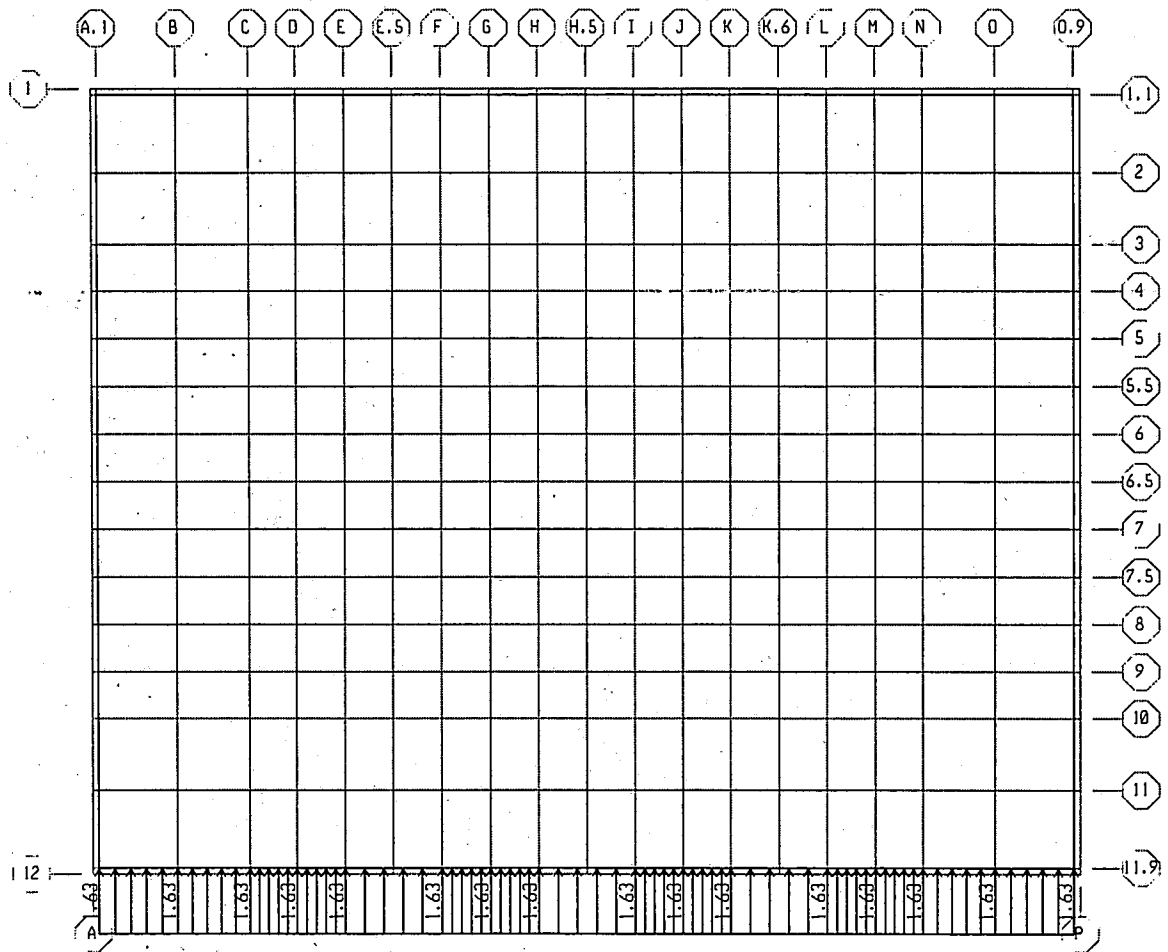


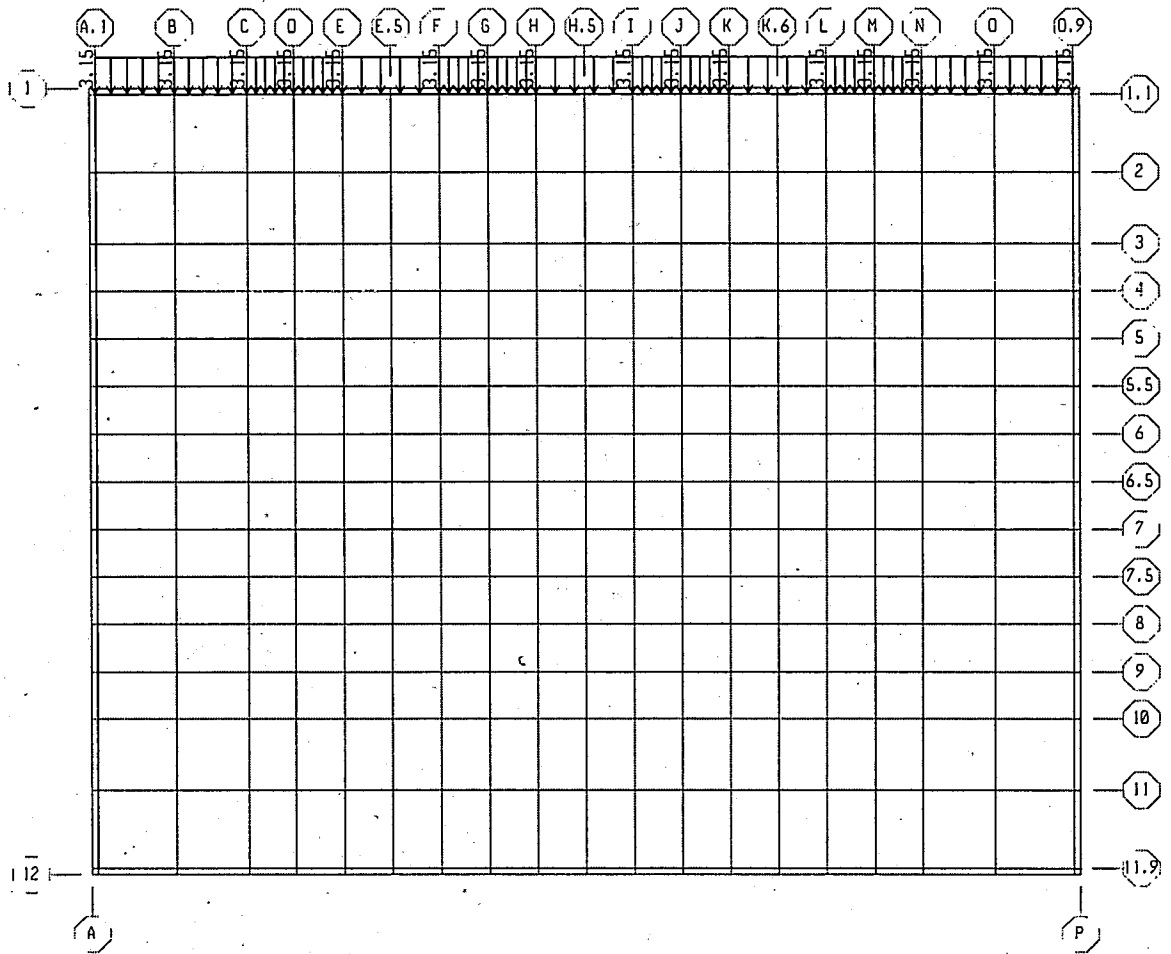


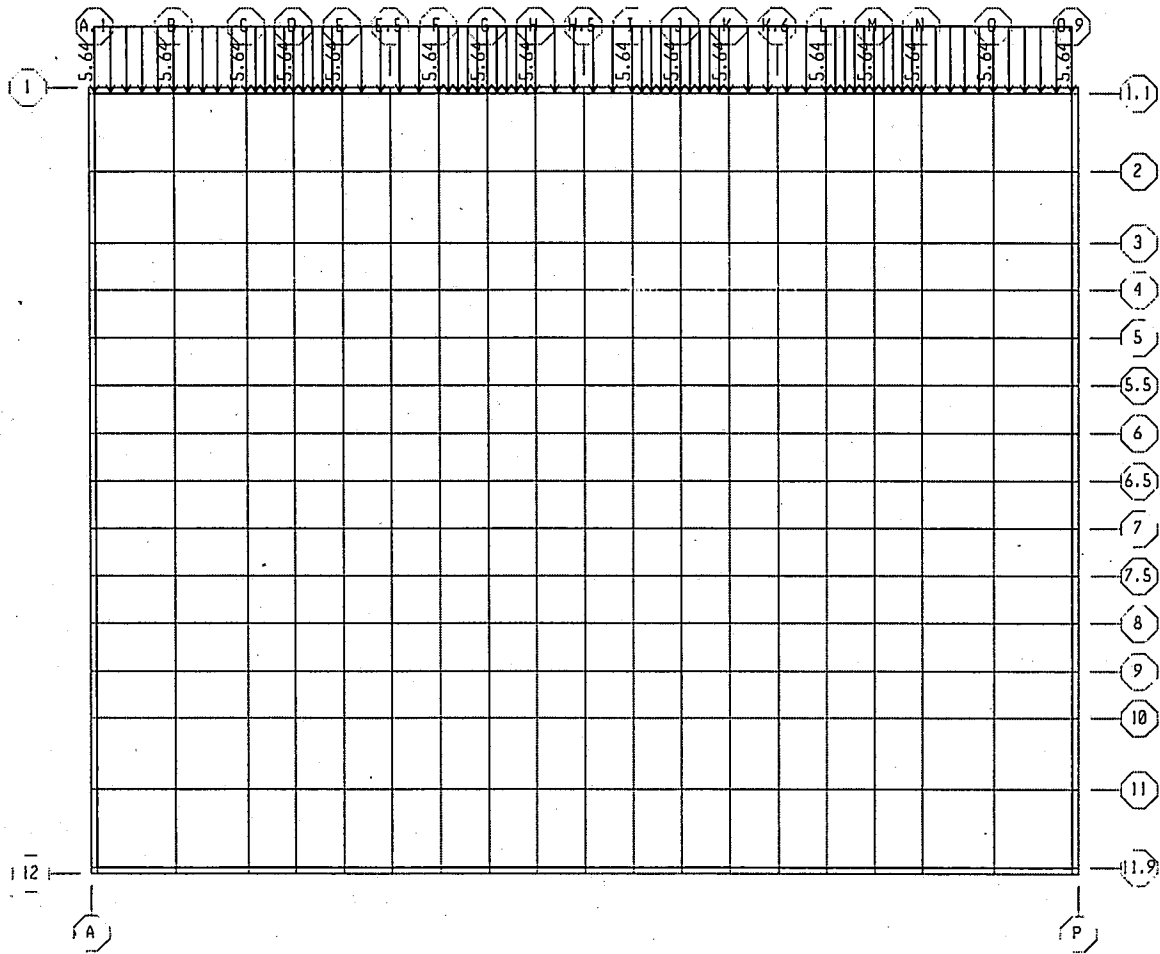


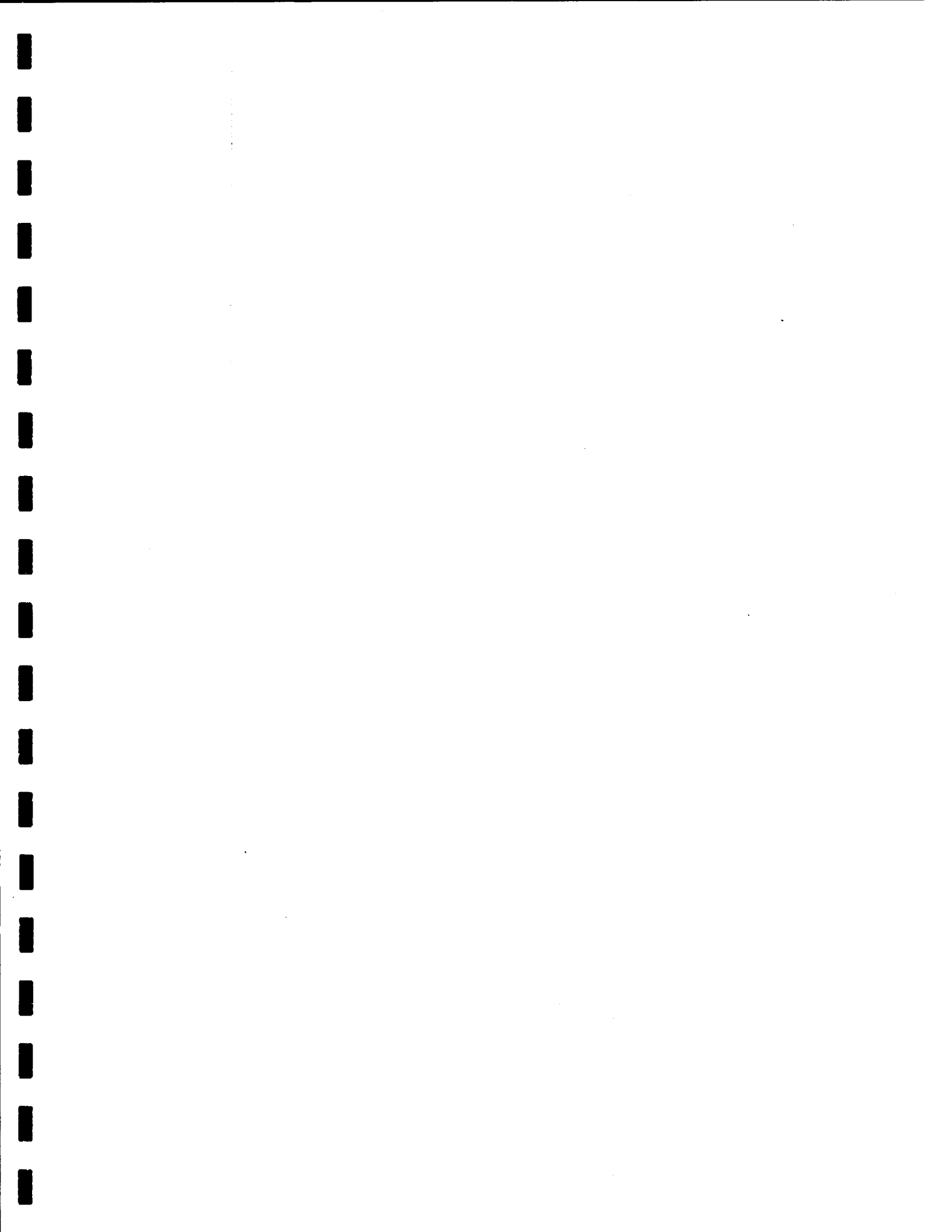




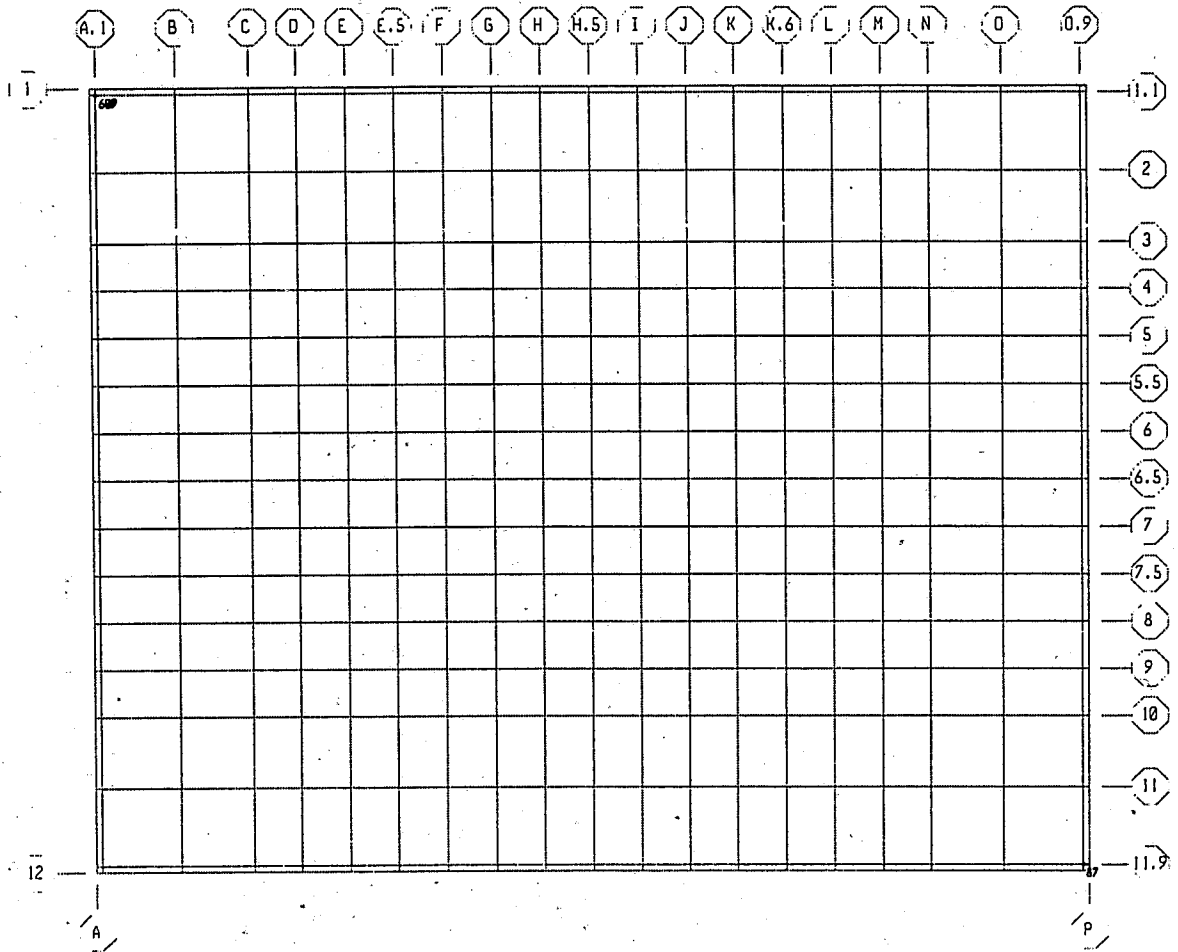








E: Torsional Irregularity and Drift Check



LOADING COMBINATIONS

| COMBO | COMBO TYPE | CASE | CASE TYPE | SCALE FACTOR |
|-------|---------------|-------|--------------|-----------------|
| DX | ADD | SPECX | Spectra | 0.5367 |
| DY | ADD | SPECY | Spectra | 0.5283 |

POINT DISPLACEMENTS

| STORY | POINT | LOAD | UX | UY | UZ | RX | RY | RZ |
|-------|-------|--------|---------|---------|---------|----------|----------|----------|
| RF | 87 | DX Max | 3.0789 | 0.3332 | 0.2934 | 0.00023 | 0.00232 | 0.00010 |
| RF | 87 | DX Min | -3.0789 | -0.3332 | -0.2934 | -0.00023 | -0.00232 | -0.00010 |
| RF | 87 | DY Max | 0.3430 | 3.1402 | 0.2694 | 0.00237 | 0.00023 | 0.00017 |
| RF | 87 | DY Min | -0.3430 | -3.1402 | -0.2694 | -0.00237 | -0.00023 | -0.00017 |
| RF | 609 | DX Max | 2.8838 | 0.2965 | 0.2936 | 0.00021 | 0.00221 | 0.00010 |
| RF | 609 | DX Min | -2.8838 | -0.2965 | -0.2936 | -0.00021 | -0.00221 | -0.00010 |
| RF | 609 | DY Max | 0.3247 | 2.7252 | 0.2855 | 0.00213 | 0.00022 | 0.00017 |
| RF | 609 | DY Min | -0.3247 | -2.7252 | -0.2855 | -0.00213 | -0.00022 | -0.00017 |
| L14 | 87 | DX Max | 2.6453 | 0.2895 | 0.2947 | 0.00024 | 0.00249 | 0.00009 |
| L14 | 87 | DX Min | -2.6453 | -0.2895 | -0.2947 | -0.00024 | -0.00249 | -0.00009 |
| L14 | 87 | DY Max | 0.2988 | 2.6978 | 0.2711 | 0.00255 | 0.00025 | 0.00015 |
| L14 | 87 | DY Min | -0.2988 | -2.6978 | -0.2711 | -0.00255 | -0.00025 | -0.00015 |
| L14 | 609 | DX Max | 2.4715 | 0.2558 | 0.2951 | 0.00022 | 0.00238 | 0.00009 |
| L14 | 609 | DX Min | -2.4715 | -0.2558 | -0.2951 | -0.00022 | -0.00238 | -0.00009 |
| L14 | 609 | DY Max | 0.2817 | 2.3283 | 0.2869 | 0.00229 | 0.00023 | 0.00015 |
| L14 | 609 | DY Min | -0.2817 | -2.3283 | -0.2869 | -0.00229 | -0.00023 | -0.00015 |
| L13 | 87 | DX Max | 2.3724 | 0.2618 | 0.2961 | 0.00038 | 0.00333 | 0.00067 |
| L13 | 87 | DX Min | -2.3724 | -0.2618 | -0.2961 | -0.00038 | -0.00333 | -0.00067 |
| L13 | 87 | DY Max | 0.2710 | 2.4199 | 0.2728 | 0.00337 | 0.00042 | 0.00098 |
| L13 | 87 | DY Min | -0.2710 | -2.4199 | -0.2728 | -0.00337 | -0.00042 | -0.00098 |
| L13 | 609 | DX Max | 2.2117 | 0.2298 | 0.2967 | 0.00029 | 0.00319 | 0.00069 |
| L13 | 609 | DX Min | -2.2117 | -0.2298 | -0.2967 | -0.00029 | -0.00319 | -0.00069 |
| L13 | 609 | DY Max | 0.2543 | 2.0785 | 0.2884 | 0.00307 | 0.00029 | 0.00086 |
| L13 | 609 | DY Min | -0.2543 | -2.0785 | -0.2884 | -0.00307 | -0.00029 | -0.00086 |
| L12 | 87 | DX Max | 2.1043 | 0.2342 | 0.2820 | 0.00034 | 0.00285 | 0.00008 |
| L12 | 87 | DX Min | -2.1043 | -0.2342 | -0.2820 | -0.00034 | -0.00285 | -0.00008 |
| L12 | 87 | DY Max | 0.2434 | 2.1475 | 0.2588 | 0.00291 | 0.00037 | 0.00013 |
| L12 | 87 | DY Min | -0.2434 | -2.1475 | -0.2588 | -0.00291 | -0.00037 | -0.00013 |
| L12 | 609 | DX Max | 1.9568 | 0.2036 | 0.2826 | 0.00025 | 0.00273 | 0.00008 |
| L12 | 609 | DX Min | -1.9568 | -0.2036 | -0.2826 | -0.00025 | -0.00273 | -0.00008 |
| L12 | 609 | DY Max | 0.2269 | 1.8338 | 0.2745 | 0.00261 | 0.00025 | 0.00013 |
| L12 | 609 | DY Min | -0.2269 | -1.8338 | -0.2745 | -0.00261 | -0.00025 | -0.00013 |
| L11 | 87 | DX Max | 1.8764 | 0.2100 | 0.2670 | 0.00023 | 0.00211 | 0.00097 |
| L11 | 87 | DX Min | -1.8764 | -0.2100 | -0.2670 | -0.00023 | -0.00211 | -0.00097 |
| L11 | 87 | DY Max | 0.2192 | 1.9163 | 0.2443 | 0.00217 | 0.00024 | 0.00124 |
| L11 | 87 | DY Min | -0.2192 | -1.9163 | -0.2443 | -0.00217 | -0.00024 | -0.00124 |
| L11 | 609 | DX Max | 1.7411 | 0.1810 | 0.2676 | 0.00019 | 0.00201 | 0.00092 |
| L11 | 609 | DX Min | -1.7411 | -0.1810 | -0.2676 | -0.00019 | -0.00201 | -0.00092 |
| L11 | 609 | DY Max | 0.2034 | 1.6270 | 0.2599 | 0.00192 | 0.00020 | 0.00102 |
| L11 | 609 | DY Min | -0.2034 | -1.6270 | -0.2599 | -0.00192 | -0.00020 | -0.00102 |
| L10 | 87 | DX Max | 1.6750 | 0.1881 | 0.2507 | 0.00022 | 0.00168 | 0.00006 |
| L10 | 87 | DX Min | -1.6750 | -0.1881 | -0.2507 | -0.00022 | -0.00168 | -0.00006 |
| L10 | 87 | DY Max | 0.1975 | 1.7115 | 0.2288 | 0.00172 | 0.00023 | 0.00011 |
| L10 | 87 | DY Min | -0.1975 | -1.7115 | -0.2288 | -0.00172 | -0.00023 | -0.00011 |
| L10 | 609 | DX Max | 1.5514 | 0.1606 | 0.2514 | 0.00016 | 0.00158 | 0.00006 |
| L10 | 609 | DX Min | -1.5514 | -0.1606 | -0.2514 | -0.00016 | -0.00158 | -0.00006 |
| L10 | 609 | DY Max | 0.1824 | 1.4454 | 0.2443 | 0.00154 | 0.00015 | 0.00011 |
| L10 | 609 | DY Min | -0.1824 | -1.4454 | -0.2443 | -0.00154 | -0.00015 | -0.00011 |
| L9 | 87 | DX Max | 1.4810 | 0.1661 | 0.2371 | 0.00033 | 0.00168 | 0.00006 |
| L9 | 87 | DX Min | -1.4810 | -0.1661 | -0.2371 | -0.00033 | -0.00168 | -0.00006 |
| L9 | 87 | DY Max | 0.1762 | 1.5118 | 0.2167 | 0.00173 | 0.00034 | 0.00010 |
| L9 | 87 | DY Min | -0.1762 | -1.5118 | -0.2167 | -0.00173 | -0.00034 | -0.00010 |
| L9 | 609 | DX Max | 1.3705 | 0.1407 | 0.2380 | 0.00020 | 0.00157 | 0.00006 |
| L9 | 609 | DX Min | -1.3705 | -0.1407 | -0.2380 | -0.00020 | -0.00157 | -0.00006 |
| L9 | 609 | DY Max | 0.1623 | 1.2693 | 0.2314 | 0.00155 | 0.00020 | 0.00010 |
| L9 | 609 | DY Min | -0.1623 | -1.2693 | -0.2314 | -0.00155 | -0.00020 | -0.00010 |
| L8 | 87 | DX Max | 1.2623 | 0.1410 | 0.2254 | 0.00018 | 0.00150 | 0.00005 |
| L8 | 87 | DX Min | -1.2623 | -0.1410 | -0.2254 | -0.00018 | -0.00150 | -0.00005 |
| L8 | 87 | DY Max | 0.1515 | 1.2856 | 0.2062 | 0.00156 | 0.00018 | 0.00009 |
| L8 | 87 | DY Min | -0.1515 | -1.2856 | -0.2062 | -0.00156 | -0.00018 | -0.00009 |
| L8 | 609 | DX Max | 1.1662 | 0.1190 | 0.2266 | 0.00014 | 0.00141 | 0.00005 |
| L8 | 609 | DX Min | -1.1662 | -0.1190 | -0.2266 | -0.00014 | -0.00141 | -0.00005 |
| L8 | 609 | DY Max | 0.1389 | 1.0722 | 0.2192 | 0.00135 | 0.00015 | 0.00009 |
| L8 | 609 | DY Min | -0.1389 | -1.0722 | -0.2192 | -0.00135 | -0.00015 | -0.00009 |

POINT DISPLACEMENTS

| STORY | POINT | LOAD | UX | UY | UZ | RX | RY | RZ |
|-------|-------|--------|---------|---------|---------|----------|----------|----------|
| L7 | 87 | DX Max | 1.0001 | 0.1112 | 0.2102 | 0.00027 | 0.00169 | 0.00004 |
| L7 | 87 | DX Min | -1.0001 | -0.1112 | -0.2102 | -0.00027 | -0.00169 | -0.00004 |
| L7 | 87 | DY Max | 0.1216 | 1.0169 | 0.1922 | 0.00170 | 0.00028 | 0.00007 |
| L7 | 87 | DY Min | -0.1216 | -1.0169 | -0.1922 | -0.00170 | -0.00028 | -0.00007 |
| L7 | 609 | DX Max | 0.9201 | 0.0945 | 0.2117 | 0.00018 | 0.00161 | 0.00004 |
| L7 | 609 | DX Min | -0.9201 | -0.0945 | -0.2117 | -0.00018 | -0.00161 | -0.00004 |
| L7 | 609 | DY Max | 0.1104 | 0.8407 | 0.2031 | 0.00150 | 0.00017 | 0.00007 |
| L7 | 609 | DY Min | -0.1104 | -0.8407 | -0.2031 | -0.00150 | -0.00017 | -0.00007 |
| L6 | 87 | DX Max | 0.7966 | 0.0900 | 0.1969 | 0.00026 | 0.00176 | 0.00003 |
| L6 | 87 | DX Min | -0.7966 | -0.0900 | -0.1969 | -0.00026 | -0.00176 | -0.00003 |
| L6 | 87 | DY Max | 0.1000 | 0.8133 | 0.1800 | 0.00174 | 0.00028 | 0.00006 |
| L6 | 87 | DY Min | -0.1000 | -0.8133 | -0.1800 | -0.00174 | -0.00028 | -0.00006 |
| L6 | 609 | DX Max | 0.7276 | 0.0757 | 0.1987 | 0.00019 | 0.00168 | 0.00003 |
| L6 | 609 | DX Min | -0.7276 | -0.0757 | -0.1987 | -0.00019 | -0.00168 | -0.00003 |
| L6 | 609 | DY Max | 0.0894 | 0.6614 | 0.1890 | 0.00155 | 0.00019 | 0.00006 |
| L6 | 609 | DY Min | -0.0894 | -0.6614 | -0.1890 | -0.00155 | -0.00019 | -0.00006 |
| L5 | 87 | DX Max | 0.5994 | 0.0704 | 0.1787 | 0.00027 | 0.00166 | 0.00003 |
| L5 | 87 | DX Min | -0.5994 | -0.0704 | -0.1787 | -0.00027 | -0.00166 | -0.00003 |
| L5 | 87 | DY Max | 0.0801 | 0.6182 | 0.1637 | 0.00164 | 0.00027 | 0.00005 |
| L5 | 87 | DY Min | -0.0801 | -0.6182 | -0.1637 | -0.00164 | -0.00027 | -0.00005 |
| L5 | 609 | DX Max | 0.5406 | 0.0579 | 0.1805 | 0.00019 | 0.00159 | 0.00003 |
| L5 | 609 | DX Min | -0.5406 | -0.0579 | -0.1805 | -0.00019 | -0.00159 | -0.00003 |
| L5 | 609 | DY Max | 0.0699 | 0.4881 | 0.1708 | 0.00146 | 0.00018 | 0.00005 |
| L5 | 609 | DY Min | -0.0699 | -0.4881 | -0.1708 | -0.00146 | -0.00018 | -0.00005 |
| L4 | 87 | DX Max | 0.4021 | 0.0511 | 0.1490 | 0.00010 | 0.00105 | 0.00002 |
| L4 | 87 | DX Min | -0.4021 | -0.0511 | -0.1490 | -0.00010 | -0.00105 | -0.00002 |
| L4 | 87 | DY Max | 0.0610 | 0.4236 | 0.1365 | 0.00103 | 0.00011 | 0.00004 |
| L4 | 87 | DY Min | -0.0610 | -0.4236 | -0.1365 | -0.00103 | -0.00011 | -0.00004 |
| L4 | 609 | DX Max | 0.3540 | 0.0408 | 0.1506 | 0.00010 | 0.00099 | 0.00002 |
| L4 | 609 | DX Min | -0.3540 | -0.0408 | -0.1506 | -0.00010 | -0.00099 | -0.00002 |
| L4 | 609 | DY Max | 0.0510 | 0.3158 | 0.1415 | 0.00090 | 0.00012 | 0.00004 |
| L4 | 609 | DY Min | -0.0510 | -0.3158 | -0.1415 | -0.00090 | -0.00012 | -0.00004 |
| L3 | 87 | DX Max | 0.2416 | 0.0347 | 0.1154 | 0.00015 | 0.00088 | 0.00002 |
| L3 | 87 | DX Min | -0.2416 | -0.0347 | -0.1154 | -0.00015 | -0.00088 | -0.00002 |
| L3 | 87 | DY Max | 0.0447 | 0.2674 | 0.1063 | 0.00090 | 0.00018 | 0.00003 |
| L3 | 87 | DY Min | -0.0447 | -0.2674 | -0.1063 | -0.00090 | -0.00018 | -0.00003 |
| L3 | 609 | DX Max | 0.2041 | 0.0282 | 0.1166 | 0.00008 | 0.00084 | 0.00002 |
| L3 | 609 | DX Min | -0.2041 | -0.0282 | -0.1166 | -0.00008 | -0.00084 | -0.00002 |
| L3 | 609 | DY Max | 0.0351 | 0.1827 | 0.1089 | 0.00075 | 0.00008 | 0.00003 |
| L3 | 609 | DY Min | -0.0351 | -0.1827 | -0.1089 | -0.00075 | -0.00008 | -0.00003 |
| L2 | 87 | DX Max | 0.0923 | 0.0147 | 0.0715 | 0.00013 | 0.00073 | 0.00019 |
| L2 | 87 | DX Min | -0.0923 | -0.0147 | -0.0715 | -0.00013 | -0.00073 | -0.00019 |
| L2 | 87 | DY Max | 0.0179 | 0.1073 | 0.0681 | 0.00082 | 0.00016 | 0.00014 |
| L2 | 87 | DY Min | -0.0179 | -0.1073 | -0.0681 | -0.00082 | -0.00016 | -0.00014 |
| L2 | 609 | DX Max | 0.0634 | 0.0120 | 0.0673 | 0.00015 | 0.00049 | 0.00017 |
| L2 | 609 | DX Min | -0.0634 | -0.0120 | -0.0673 | -0.00015 | -0.00049 | -0.00017 |
| L2 | 609 | DY Max | 0.0145 | 0.0573 | 0.0629 | 0.00051 | 0.00015 | 0.00014 |
| L2 | 609 | DY Min | -0.0145 | -0.0573 | -0.0629 | -0.00051 | -0.00015 | -0.00014 |
| L1 | 87 | DX Max | 0.0164 | 0.0105 | 0.0301 | 0.00005 | 0.00033 | 0.00006 |
| L1 | 87 | DX Min | -0.0164 | -0.0105 | -0.0301 | -0.00005 | -0.00033 | -0.00006 |
| L1 | 87 | DY Max | 0.0122 | 0.0212 | 0.0292 | 0.00038 | 0.00004 | 0.00009 |
| L1 | 87 | DY Min | -0.0122 | -0.0212 | -0.0292 | -0.00038 | -0.00004 | -0.00009 |
| L1 | 609 | DX Max | 0.0116 | 0.0051 | 0.0337 | 0.00009 | 0.00021 | 0.00002 |
| L1 | 609 | DX Min | -0.0116 | -0.0051 | -0.0337 | -0.00009 | -0.00021 | -0.00002 |
| L1 | 609 | DY Max | 0.0035 | 0.0104 | 0.0315 | 0.00021 | 0.00009 | 0.00001 |
| L1 | 609 | DY Min | -0.0035 | -0.0104 | -0.0315 | -0.00021 | -0.00009 | -0.00001 |
| BASE | 87 | DX Max | 0.0000 | 0.0000 | 0.0000 | 0.00031 | 0.00010 | 0.00003 |
| BASE | 87 | DX Min | 0.0000 | 0.0000 | 0.0000 | -0.00031 | -0.00010 | -0.00003 |
| BASE | 87 | DY Max | 0.0000 | 0.0000 | 0.0000 | 0.00007 | 0.00031 | 0.00004 |
| BASE | 87 | DY Min | 0.0000 | 0.0000 | 0.0000 | -0.00007 | -0.00031 | -0.00004 |
| BASE | 609 | DX Max | 0.0000 | 0.0000 | 0.0000 | 0.00029 | 0.00013 | 0.00002 |
| BASE | 609 | DX Min | 0.0000 | 0.0000 | 0.0000 | -0.00029 | -0.00013 | -0.00002 |
| BASE | 609 | DY Max | 0.0000 | 0.0000 | 0.0000 | 0.00014 | 0.00026 | 0.00003 |
| BASE | 609 | DY Min | 0.0000 | 0.0000 | 0.0000 | -0.00014 | -0.00026 | -0.00003 |

Hall of Justice
 Check For Torsional Irregularity per CBC table 16-M Item 1 (adding torsion)
 Displacements are based of loads before amplification

Dynamic force scaled to 100% of static base shear

| X-direction Level Point | Displacement | | ETABS Displacement | | Total Drift {in} | Total Drift {in} | Max Drift {in} | Avg Drift {in} | Max/Avg Drift | Irrig? | Factor | Drift Check T > 0.7sec | | | Drift ratio scaled by DriftV/Force V Force V {kips} | Drift V {kips} | Δm | | | | | | |
|----------------------------|--------------|--------------|--------------------|--------------|---------------------|---------------------|-------------------|-------------------|------------------|--------|--------|---------------------------|-----|---------------|--------------------------------------------------------------|----------------------|------|--------|-------|-------|------|--------|--|
| | DX {in} | TORX {in} | DX {in} | TORX {in} | | | | | | | | H | R | Drift {in} | | | | Δm | Limit | | | | |
| Roof | | | | | | | | | | | | | | | | | | | | | | | |
| RF | 609 | 2.88 | -0.09 | 2.79 | 0.40 | 87 | 3.08 | 0.10 | 3.18 | 0.45 | 0.42 | 1.06 | NO | 1.00 | 199 | 5.5 | 0.45 | 0.0087 | 0.02 | 10077 | 9286 | 0.0080 | |
| L14 | 609 | 2.47 | -0.08 | 2.40 | | 87 | 2.65 | 0.09 | 2.74 | | | | | | | | | | | | | | |
| 14th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L14 | 609 | 2.47 | -0.08 | 2.40 | 0.50 | 87 | 2.65 | 0.09 | 2.74 | 0.56 | 0.53 | 1.06 | NO | 1.00 | 228 | 5.5 | 0.56 | 0.0095 | 0.02 | 10077 | 9286 | 0.0087 | |
| L12 | 609 | 1.96 | -0.06 | 1.90 | | 87 | 2.10 | 0.07 | 2.18 | | | | | | | | | | | | | | |
| 12th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L12 | 609 | 1.96 | -0.06 | 1.90 | 0.39 | 87 | 2.10 | 0.07 | 2.18 | 0.44 | 0.42 | 1.06 | NO | 1.00 | 228 | 5.5 | 0.44 | 0.0075 | 0.02 | 10077 | 9286 | 0.0069 | |
| L10 | 609 | 1.55 | -0.05 | 1.51 | | 87 | 1.68 | 0.06 | 1.73 | | | | | | | | | | | | | | |
| 10th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L10 | 609 | 1.55 | -0.05 | 1.51 | 0.18 | 87 | 1.68 | 0.06 | 1.73 | 0.20 | 0.19 | 1.07 | NO | 1.00 | 132 | 5.5 | 0.20 | 0.0058 | 0.02 | 10077 | 9286 | 0.0054 | |
| L9 | 609 | 1.37 | -0.04 | 1.33 | | 87 | 1.48 | 0.05 | 1.53 | | | | | | | | | | | | | | |
| 9th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L9 | 609 | 1.37 | -0.04 | 1.33 | 0.20 | 87 | 1.48 | 0.05 | 1.53 | 0.23 | 0.21 | 1.07 | NO | 1.00 | 148 | 5.5 | 0.23 | 0.0059 | 0.02 | 10077 | 9286 | 0.0054 | |
| L8 | 609 | 1.17 | -0.03 | 1.13 | | 87 | 1.26 | 0.04 | 1.30 | | | | | | | | | | | | | | |
| 8th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L8 | 609 | 1.17 | -0.03 | 1.13 | 0.24 | 87 | 1.26 | 0.04 | 1.30 | 0.27 | 0.25 | 1.06 | NO | 1.00 | 187 | 5.5 | 0.27 | 0.0056 | 0.02 | 10077 | 9286 | 0.0051 | |
| L7 | 609 | 0.92 | -0.03 | 0.89 | | 87 | 1.00 | 0.03 | 1.03 | | | | | | | | | | | | | | |
| 7th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L7 | 609 | 0.92 | -0.03 | 0.89 | 0.19 | 87 | 1.00 | 0.03 | 1.03 | 0.21 | 0.20 | 1.06 | NO | 1.00 | 142 | 5.5 | 0.21 | 0.0057 | 0.02 | 10077 | 9286 | 0.0053 | |
| L6 | 609 | 0.73 | -0.02 | 0.71 | | 87 | 0.80 | 0.03 | 0.82 | | | | | | | | | | | | | | |
| 6th Floor | | | | | | | | | | | | | | | | | | | | | | | |
| L6 | 609 | 0.73 | -0.02 | 0.71 | 0.18 | 87 | 0.80 | 0.03 | 0.82 | 0.20 | 0.19 | 1.06 | NO | 1.00 | 142 | 5.5 | 0.20 | 0.0055 | 0.02 | 10077 | 9286 | 0.0051 | |
| L5 | 609 | 0.54 | -0.02 | 0.53 | | 87 | 0.60 | 0.02 | 0.62 | | | | | | | | | | | | | | |
| 5th Floor | | | | | | | | | | | | | | | | | | | | | | | |
| L5 | 609 | 0.54 | -0.02 | 0.53 | 0.18 | 87 | 0.60 | 0.02 | 0.62 | 0.20 | 0.19 | 1.06 | NO | 1.00 | 159 | 5.5 | 0.20 | 0.0049 | 0.02 | 10077 | 9286 | 0.0045 | |
| L4 | 609 | 0.35 | -0.01 | 0.34 | | 87 | 0.40 | 0.01 | 0.42 | | | | | | | | | | | | | | |
| 4th Floor | | | | | | | | | | | | | | | | | | | | | | | |
| L4 | 609 | 0.35 | -0.01 | 0.34 | 0.15 | 87 | 0.40 | 0.01 | 0.42 | 0.17 | 0.16 | 1.06 | NO | 1.00 | 180 | 5.5 | 0.17 | 0.0035 | 0.02 | 10077 | 9286 | 0.0033 | |
| L3 | 609 | 0.20 | -0.01 | 0.20 | | 87 | 0.24 | 0.01 | 0.25 | | | | | | | | | | | | | | |
| 3rd Floor | | | | | | | | | | | | | | | | | | | | | | | |
| L3 | 609 | 0.20 | -0.01 | 0.20 | 0.14 | 87 | 0.24 | 0.01 | 0.25 | 0.16 | 0.15 | 1.06 | NO | 1.00 | 204 | 5.5 | 0.16 | 0.0029 | 0.02 | 10077 | 9286 | 0.0027 | |
| L2 | 609 | 0.06 | 0.00 | 0.06 | | 87 | 0.09 | 0.00 | 0.10 | | | | | | | | | | | | | | |
| 2nd Floor | | | | | | | | | | | | | | | | | | | | | | | |
| L2 | 609 | 0.06 | 0.00 | 0.06 | 0.05 | 87 | 0.09 | 0.00 | 0.10 | 0.08 | 0.06 | 1.22 | YES | 1.03 | 156 | 5.5 | 0.08 | 0.0019 | 0.02 | 10077 | 9286 | 0.0018 | |
| L1 | 609 | 0.01 | 0.00 | 0.01 | | 87 | 0.02 | 0.00 | 0.02 | | | | | | | | | | | | | | |

5

Dynamic force scaled to 100% of static base shear

| Hall of Justice | | Check For Torsional Irregularity per CBC table 16-M Item 1 (adding torsion) | | | | | | | | | | Dynamic force scaled to 100% of static base shear | | | | | | | | | | | |
|-----------------|----------------------|-----------------------------------------------------------------------------|------------|------------|------------|----------------------|--------------|------------|------------|------------|----------------|---------------------------------------------------|---------|--------|--------|--------|------|------------|--------|--------------|----------------|--------------|--------|
| Y-direction | | Displacement | | | | | Displacement | | | | | Max Avg | | | | | Amp. | | | | | | |
| Level | Displacement DY (in) | TORY (in) | Total (in) | Drift (in) | Drift (in) | Displacement DY (in) | TORY (in) | Total (in) | Drift (in) | Drift (in) | Max Drift (in) | Avg Drift (in) | Max/Avg | Irreg? | Factor | H (in) | R | Drift (in) | Δm | Limit (kips) | Force V (kips) | Drift V (in) | Δm |
| Roof | 609 | 2.73 | -0.13 | 2.59 | 0.38 | 87 | 3.14 | 0.16 | 3.30 | 0.46 | 0.46 | 0.42 | 1.10 | NO | 1.00 | 199 | 5.5 | 0.46 | 0.0090 | 0.02 | 10077 | 9151 | 0.0082 |
| | 609 | 2.33 | -0.11 | 2.22 | | 87 | 2.70 | 0.14 | 2.84 | | | | | | | | | | | | | | |
| 14th floor | 609 | 2.33 | -0.11 | 2.22 | 0.47 | 87 | 2.70 | 0.14 | 2.84 | 0.58 | 0.58 | 0.52 | 1.11 | NO | 1.00 | 228 | 5.5 | 0.58 | 0.0098 | 0.02 | 10077 | 9151 | 0.0089 |
| | 609 | 1.83 | -0.09 | 1.75 | | 87 | 2.15 | 0.11 | 2.26 | | | | | | | | | | | | | | |
| 12th floor | 609 | 1.83 | -0.09 | 1.75 | 0.37 | 87 | 2.15 | 0.11 | 2.26 | 0.46 | 0.46 | 0.41 | 1.11 | NO | 1.00 | 228 | 5.5 | 0.46 | 0.0077 | 0.02 | 10077 | 9151 | 0.0070 |
| | 609 | 1.45 | -0.07 | 1.38 | | 87 | 1.71 | 0.09 | 1.80 | | | | | | | | | | | | | | |
| 10th floor | 609 | 1.45 | -0.07 | 1.38 | 0.17 | 87 | 1.71 | 0.09 | 1.80 | 0.21 | 0.21 | 0.19 | 1.11 | NO | 1.00 | 132 | 5.5 | 0.21 | 0.0061 | 0.02 | 10077 | 9151 | 0.0055 |
| | 609 | 1.27 | -0.06 | 1.21 | | 87 | 1.51 | 0.08 | 1.59 | | | | | | | | | | | | | | |
| 9th floor | 609 | 1.27 | -0.06 | 1.21 | 0.19 | 87 | 1.51 | 0.08 | 1.59 | 0.24 | 0.24 | 0.21 | 1.12 | NO | 1.00 | 148 | 5.5 | 0.24 | 0.0062 | 0.02 | 10077 | 9151 | 0.0056 |
| | 609 | 1.07 | -0.05 | 1.02 | | 87 | 1.29 | 0.07 | 1.35 | | | | | | | | | | | | | | |
| 8th floor | 609 | 1.07 | -0.05 | 1.02 | 0.22 | 87 | 1.29 | 0.07 | 1.35 | 0.28 | 0.28 | 0.25 | 1.12 | NO | 1.00 | 187 | 5.5 | 0.28 | 0.0058 | 0.02 | 10077 | 9151 | 0.0053 |
| | 609 | 0.84 | -0.04 | 0.80 | | 87 | 1.02 | 0.05 | 1.07 | | | | | | | | | | | | | | |
| 7th floor | 609 | 0.84 | -0.04 | 0.80 | 0.17 | 87 | 1.02 | 0.05 | 1.07 | 0.21 | 0.21 | 0.19 | 1.11 | NO | 1.00 | 142 | 5.5 | 0.21 | 0.0058 | 0.02 | 10077 | 9151 | 0.0053 |
| | 609 | 0.66 | -0.03 | 0.63 | | 87 | 0.81 | 0.04 | 0.86 | | | | | | | | | | | | | | |
| 6th Floor | 609 | 0.66 | -0.03 | 0.63 | 0.16 | 87 | 0.81 | 0.04 | 0.86 | 0.20 | 0.20 | 0.18 | 1.11 | NO | 1.00 | 142 | 5.5 | 0.20 | 0.0056 | 0.02 | 10077 | 9151 | 0.0050 |
| | 609 | 0.49 | -0.02 | 0.47 | | 87 | 0.62 | 0.03 | 0.65 | | | | | | | | | | | | | | |
| 5th Floor | 609 | 0.49 | -0.02 | 0.47 | 0.16 | 87 | 0.62 | 0.03 | 0.65 | 0.20 | 0.20 | 0.18 | 1.11 | NO | 1.00 | 159 | 5.5 | 0.20 | 0.0050 | 0.02 | 10077 | 9151 | 0.0045 |
| | 609 | 0.32 | -0.01 | 0.30 | | 87 | 0.42 | 0.02 | 0.45 | | | | | | | | | | | | | | |
| 4th Floor | 609 | 0.32 | -0.01 | 0.30 | 0.13 | 87 | 0.42 | 0.02 | 0.45 | 0.16 | 0.16 | 0.15 | 1.13 | NO | 1.00 | 180 | 5.5 | 0.16 | 0.0035 | 0.02 | 10077 | 9151 | 0.0032 |
| | 609 | 0.18 | -0.01 | 0.18 | | 87 | 0.27 | 0.02 | 0.28 | | | | | | | | | | | | | | |
| 3rd Floor | 609 | 0.18 | -0.01 | 0.18 | 0.12 | 87 | 0.27 | 0.02 | 0.28 | 0.17 | 0.17 | 0.14 | 1.17 | NO | 1.00 | 204 | 5.5 | 0.17 | 0.0032 | 0.02 | 10077 | 9151 | 0.0029 |
| | 609 | 0.06 | 0.00 | 0.06 | | 87 | 0.11 | 0.01 | 0.11 | | | | | | | | | | | | | | |
| 2nd Floor | 609 | 0.06 | 0.00 | 0.06 | 0.05 | 87 | 0.11 | 0.01 | 0.11 | 0.09 | 0.09 | 0.07 | 1.33 | YES | 1.23 | 156 | 5.5 | 0.09 | 0.0022 | 0.02 | 10077 | 9151 | 0.0020 |
| | 609 | 0.01 | 0.00 | 0.01 | | 87 | 0.02 | 0.00 | 0.02 | | | | | | | | | | | | | | |

Hall of Justice
 Check For Torsional Irregularity per CBC table 16-M Item 1 (adding torsion)
 Displacements are based of loads before amplification

| X-direction | | Dynamic force scaled to 100% of static base shear | | | | | | | | | | Drift Check | | Drift ratio scaled by | | | | | | | | | |
|--------------------|---------|---------------------------------------------------|------------|--------------------|-------|--------------------|-----------|--------------------|------------|--------------------|----------------|--------------------|--------|-----------------------|--------|--------------------|------------|--------|----------------|----------------|------|---------------|--|
| ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | ETABS Displacement | | | | | | | |
| Level Point | DX (in) | TORX (in) | Total (in) | Drift (in) | Point | DX (in) | TORX (in) | Total (in) | Drift (in) | Max Drift (in) | Avg Drift (in) | Max/Avg | Irreg? | Factor | H (in) | R | Drift (in) | Δm | Limit V (kips) | Force V (kips) | Δm | Drift/Force V | |
| Roof | 609 | 2.88 | -0.09 | 2.97 | 0.43 | 87 | 3.08 | 0.10 | 2.97 | 0.42 | 0.43 | 1.01 | NO | 1.00 | 199 | 5.5 | 0.43 | 0.0082 | 0.02 | 10077 | 9286 | 0.0076 | |
| L14 | 609 | 2.47 | -0.08 | 2.55 | | 87 | 2.65 | 0.09 | 2.56 | | | | | | | | | | | | | | |
| 14th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L14 | 609 | 2.47 | -0.08 | 2.55 | 0.53 | 87 | 2.65 | 0.09 | 2.56 | 0.52 | 0.53 | 1.01 | NO | 1.00 | 228 | 5.5 | 0.53 | 0.0090 | 0.02 | 10077 | 9286 | 0.0083 | |
| L12 | 609 | 1.96 | -0.06 | 2.02 | | 87 | 2.10 | 0.07 | 2.03 | | | | | | | | | | | | | | |
| 12th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L12 | 609 | 1.96 | -0.06 | 2.02 | 0.42 | 87 | 2.10 | 0.07 | 2.03 | 0.41 | 0.42 | 1.00 | NO | 1.00 | 228 | 5.5 | 0.42 | 0.0071 | 0.02 | 10077 | 9286 | 0.0065 | |
| L10 | 609 | 1.55 | -0.05 | 1.60 | | 87 | 1.68 | 0.06 | 1.62 | | | | | | | | | | | | | | |
| 10th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L10 | 609 | 1.55 | -0.05 | 1.60 | 0.19 | 87 | 1.68 | 0.06 | 1.62 | 0.19 | 0.19 | 1.00 | NO | 1.00 | 132 | 5.5 | 0.19 | 0.0055 | 0.02 | 10077 | 9286 | 0.0050 | |
| L9 | 609 | 1.37 | -0.04 | 1.41 | | 87 | 1.48 | 0.05 | 1.43 | | | | | | | | | | | | | | |
| 9th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L9 | 609 | 1.37 | -0.04 | 1.41 | 0.21 | 87 | 1.48 | 0.05 | 1.43 | 0.21 | 0.21 | 1.00 | NO | 1.00 | 148 | 5.5 | 0.21 | 0.0055 | 0.02 | 10077 | 9286 | 0.0051 | |
| L8 | 609 | 1.17 | -0.03 | 1.20 | | 87 | 1.26 | 0.04 | 1.22 | | | | | | | | | | | | | | |
| 8th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L8 | 609 | 1.17 | -0.03 | 1.20 | 0.25 | 87 | 1.26 | 0.04 | 1.22 | 0.25 | 0.25 | 1.00 | NO | 1.00 | 187 | 5.5 | 0.25 | 0.0052 | 0.02 | 10077 | 9286 | 0.0048 | |
| L7 | 609 | 0.92 | -0.03 | 0.95 | | 87 | 1.00 | 0.03 | 0.97 | | | | | | | | | | | | | | |
| 7th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L7 | 609 | 0.92 | -0.03 | 0.95 | 0.20 | 87 | 1.00 | 0.03 | 0.97 | 0.20 | 0.20 | 1.00 | NO | 1.00 | 142 | 5.5 | 0.20 | 0.0054 | 0.02 | 10077 | 9286 | 0.0050 | |
| L6 | 609 | 0.73 | -0.02 | 0.75 | | 87 | 0.80 | 0.03 | 0.77 | | | | | | | | | | | | | | |
| 6th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L6 | 609 | 0.73 | -0.02 | 0.75 | 0.19 | 87 | 0.80 | 0.03 | 0.77 | 0.19 | 0.19 | 1.00 | NO | 1.00 | 142 | 5.5 | 0.19 | 0.0052 | 0.02 | 10077 | 9286 | 0.0048 | |
| L5 | 609 | 0.54 | -0.02 | 0.56 | | 87 | 0.60 | 0.02 | 0.58 | | | | | | | | | | | | | | |
| 5th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L5 | 609 | 0.54 | -0.02 | 0.56 | 0.19 | 87 | 0.60 | 0.02 | 0.58 | 0.19 | 0.19 | 1.00 | NO | 1.00 | 159 | 5.5 | 0.19 | 0.0047 | 0.02 | 10077 | 9286 | 0.0043 | |
| L4 | 609 | 0.35 | -0.01 | 0.36 | | 87 | 0.40 | 0.01 | 0.39 | | | | | | | | | | | | | | |
| 4th floor | | | | | | | | | | | | | | | | | | | | | | | |
| L4 | 609 | 0.35 | -0.01 | 0.36 | 0.15 | 87 | 0.40 | 0.01 | 0.39 | 0.16 | 0.15 | 1.00 | NO | 1.00 | 180 | 5.5 | 0.16 | 0.0033 | 0.02 | 10077 | 9286 | 0.0031 | |
| L3 | 609 | 0.20 | -0.01 | 0.21 | | 87 | 0.24 | 0.01 | 0.23 | | | | | | | | | | | | | | |
| 3rd floor | | | | | | | | | | | | | | | | | | | | | | | |
| L3 | 609 | 0.20 | -0.01 | 0.21 | 0.14 | 87 | 0.24 | 0.01 | 0.23 | 0.14 | 0.14 | 1.00 | NO | 1.00 | 204 | 5.5 | 0.14 | 0.0027 | 0.02 | 10077 | 9286 | 0.0025 | |
| L2 | 609 | 0.06 | 0.00 | 0.07 | | 87 | 0.09 | 0.00 | 0.09 | | | | | | | | | | | | | | |
| 2nd floor | | | | | | | | | | | | | | | | | | | | | | | |
| L2 | 609 | 0.06 | 0.00 | 0.07 | 0.05 | 87 | 0.09 | 0.00 | 0.09 | 0.07 | 0.07 | 1.16 | NO | 1.00 | 156 | 5.5 | 0.07 | 0.0018 | 0.02 | 10077 | 9286 | 0.0017 | |
| L1 | 609 | 0.01 | 0.00 | 0.01 | | 87 | 0.02 | 0.00 | 0.02 | | | | | | | | | | | | | | |

Hall of Justice
 Check For Torsional Irregularity per CBC table 16-M Item 1 (adding torsion) Dynamic force scaled to 100% of static base shear
 Displacements are based on loads before amplification

| Level | Y-direction | Displacement | | Displacement | | DY (in) | DY TORY (in) | Total Drift (in) | Max Drift (in) | Avg Drift (in) | Max/Avg | Irreg? | Factor | Amp. | H (in) | R | Drift (in) | Δm | Limit (kips) | Force Drift V (kips) | Δm | |
|------------|-------------|--------------|------------------|------------------|------------|---------|--------------|------------------|----------------|----------------|---------|--------|--------|------|--------|-----|------------|--------|--------------|----------------------|------|------------|
| | | DY (in) | Total Drift (in) | Total Drift (in) | Drift (in) | | | | | | | | | | | | | | | | | Drift (in) |
| Roof | | | | | | | | | | | | | | | | | | | | | | |
| RF | | 2.73 | -0.13 | 2.86 | 0.42 | 87 | 3.14 | 0.16 | 2.98 | 0.42 | 0.42 | 1.00 | NO | 1.00 | 199 | 5.5 | 0.42 | 0.0081 | 0.02 | 10077 | 9151 | 0.0074 |
| L14 | | 2.33 | -0.11 | 2.44 | | 87 | 2.70 | 0.14 | 2.56 | | | | | | | | | | | | | |
| 14th floor | | | | | | | | | | | | | | | | | | | | | | |
| L14 | | 2.33 | -0.11 | 2.44 | 0.52 | 87 | 2.70 | 0.14 | 2.56 | 0.52 | 0.52 | 1.00 | NO | 1.00 | 228 | 5.5 | 0.52 | 0.0088 | 0.02 | 10077 | 9151 | 0.0080 |
| L12 | | 1.83 | -0.09 | 1.92 | | 87 | 2.15 | 0.11 | 2.04 | | | | | | | | | | | | | |
| 12th floor | | | | | | | | | | | | | | | | | | | | | | |
| L12 | | 1.83 | -0.09 | 1.92 | 0.41 | 87 | 2.15 | 0.11 | 2.04 | 0.41 | 0.41 | 1.01 | NO | 1.00 | 228 | 5.5 | 0.41 | 0.0070 | 0.02 | 10077 | 9151 | 0.0063 |
| L10 | | 1.45 | -0.07 | 1.51 | | 87 | 1.71 | 0.09 | 1.62 | | | | | | | | | | | | | |
| 10th floor | | | | | | | | | | | | | | | | | | | | | | |
| L10 | | 1.45 | -0.07 | 1.51 | 0.18 | 87 | 1.71 | 0.09 | 1.62 | 0.18 | 0.19 | 1.02 | NO | 1.00 | 132 | 5.5 | 0.19 | 0.0055 | 0.02 | 10077 | 9151 | 0.0050 |
| L9 | | 1.27 | -0.06 | 1.33 | | 87 | 1.51 | 0.08 | 1.43 | | | | | | | | | | | | | |
| 9th floor | | | | | | | | | | | | | | | | | | | | | | |
| L9 | | 1.27 | -0.06 | 1.33 | 0.21 | 87 | 1.51 | 0.08 | 1.43 | 0.21 | 0.21 | 1.02 | NO | 1.00 | 148 | 5.5 | 0.21 | 0.0056 | 0.02 | 10077 | 9151 | 0.0051 |
| L8 | | 1.07 | -0.05 | 1.12 | | 87 | 1.29 | 0.07 | 1.22 | | | | | | | | | | | | | |
| 8th floor | | | | | | | | | | | | | | | | | | | | | | |
| L8 | | 1.07 | -0.05 | 1.12 | 0.24 | 87 | 1.29 | 0.07 | 1.22 | 0.24 | 0.26 | 1.03 | NO | 1.00 | 187 | 5.5 | 0.26 | 0.0053 | 0.02 | 10077 | 9151 | 0.0048 |
| L7 | | 0.84 | -0.04 | 0.88 | | 87 | 1.02 | 0.05 | 0.96 | | | | | | | | | | | | | |
| 7th floor | | | | | | | | | | | | | | | | | | | | | | |
| L7 | | 0.84 | -0.04 | 0.88 | 0.19 | 87 | 1.02 | 0.05 | 0.96 | 0.19 | 0.19 | 1.01 | NO | 1.00 | 142 | 5.5 | 0.19 | 0.0052 | 0.02 | 10077 | 9151 | 0.0048 |
| L6 | | 0.66 | -0.03 | 0.69 | | 87 | 0.81 | 0.04 | 0.77 | | | | | | | | | | | | | |
| 6th Floor | | | | | | | | | | | | | | | | | | | | | | |
| L6 | | 0.66 | -0.03 | 0.69 | 0.18 | 87 | 0.81 | 0.04 | 0.77 | 0.18 | 0.18 | 1.01 | NO | 1.00 | 142 | 5.5 | 0.18 | 0.0050 | 0.02 | 10077 | 9151 | 0.0046 |
| L5 | | 0.49 | -0.02 | 0.51 | | 87 | 0.62 | 0.03 | 0.58 | | | | | | | | | | | | | |
| 5th Floor | | | | | | | | | | | | | | | | | | | | | | |
| L5 | | 0.49 | -0.02 | 0.51 | 0.18 | 87 | 0.62 | 0.03 | 0.58 | 0.18 | 0.18 | 1.01 | NO | 1.00 | 159 | 5.5 | 0.18 | 0.0045 | 0.02 | 10077 | 9151 | 0.0041 |
| L4 | | 0.32 | -0.01 | 0.33 | | 87 | 0.42 | 0.02 | 0.40 | | | | | | | | | | | | | |
| 4th Floor | | | | | | | | | | | | | | | | | | | | | | |
| L4 | | 0.32 | -0.01 | 0.33 | 0.14 | 87 | 0.42 | 0.02 | 0.40 | 0.14 | 0.14 | 1.03 | NO | 1.00 | 180 | 5.5 | 0.14 | 0.0032 | 0.02 | 10077 | 9151 | 0.0029 |
| L3 | | 0.18 | -0.01 | 0.19 | | 87 | 0.27 | 0.02 | 0.25 | | | | | | | | | | | | | |
| 3rd Floor | | | | | | | | | | | | | | | | | | | | | | |
| L3 | | 0.18 | -0.01 | 0.19 | 0.13 | 87 | 0.27 | 0.02 | 0.25 | 0.13 | 0.14 | 1.07 | NO | 1.00 | 204 | 5.5 | 0.13 | 0.0028 | 0.02 | 10077 | 9151 | 0.0026 |
| L2 | | 0.06 | 0.00 | 0.06 | | 87 | 0.11 | 0.01 | 0.10 | | | | | | | | | | | | | |
| 2nd Floor | | | | | | | | | | | | | | | | | | | | | | |
| L2 | | 0.06 | 0.00 | 0.06 | 0.05 | 87 | 0.11 | 0.01 | 0.10 | 0.05 | 0.06 | 1.25 | YES | 1.09 | 156 | 5.5 | 0.05 | 0.0020 | 0.02 | 10077 | 9151 | 0.0018 |
| L1 | | 0.01 | 0.00 | 0.01 | | 87 | 0.02 | 0.00 | 0.02 | | | | | | | | | | | | | |



F: Lateral Analysis ETABS Files

F.1 Input File

STORY DATA

| STORY | SIMILAR TO | HEIGHT | ELEVATION |
|-------|------------|---------|-----------|
| RF | None | 199.000 | 2189.000 |
| L14 | None | 114.000 | 1990.000 |
| L13 | None | 114.000 | 1876.000 |
| L12 | None | 114.000 | 1762.000 |
| L11 | None | 114.000 | 1648.000 |
| L10 | None | 133.000 | 1534.000 |
| L9 | None | 148.000 | 1420.000 |
| L8 | None | 187.000 | 1254.000 |
| L7 | None | 142.000 | 1087.000 |
| L6 | None | 142.000 | 921.000 |
| L5 | None | 159.000 | 783.000 |
| L4 | None | 180.000 | 624.000 |
| L3 | None | 204.000 | 444.000 |
| L2 | None | 186.000 | 240.000 |
| L1 | None | 84.000 | 84.000 |
| BASE | None | | 0.000 |

COORDINATE SYSTEM LOCATION DATA

| NAME | TYPE | X | Y | ROTATION | SUGGESIZE | VISIBLE |
|--------|-----------|-------|-------|----------|-----------|---------|
| GLOBAL | Cartesian | 0.000 | 0.000 | 0.00000 | 100.000 | Yes |

COORDINATE SYSTEM GRID DATA

| SYSTEM NAME | GRID DIR | GRID ID | GRID TYPE | GRID SIZE | BUBBLE LOC | GRID COORDINATE |
|-------------|----------|---------|------------|-----------|------------|-----------------|
| GLOBAL | X | A | Primary No | | Bottom | 0.000 |
| GLOBAL | X | A.1 | Primary No | | Top | 17.000 |
| GLOBAL | X | B | Primary No | | Top | 232.000 |
| GLOBAL | X | C | Primary No | | Top | 430.000 |
| GLOBAL | X | D | Primary No | | Top | 658.000 |
| GLOBAL | X | E | Primary No | | Top | 691.000 |
| GLOBAL | X | E.5 | Primary No | | Top | 823.000 |
| GLOBAL | X | F | Primary No | | Top | 855.000 |
| GLOBAL | X | G | Primary No | | Top | 1087.000 |
| GLOBAL | X | H | Primary No | | Top | 1219.000 |
| GLOBAL | X | H.5 | Primary No | | Top | 1251.000 |
| GLOBAL | X | I | Primary No | | Top | 1483.000 |
| GLOBAL | X | J | Primary No | | Top | 1615.000 |
| GLOBAL | X | K | Primary No | | Top | 1747.000 |
| GLOBAL | X | K.6 | Primary No | | Top | 1879.000 |
| GLOBAL | X | L | Primary No | | Top | 2011.000 |
| GLOBAL | X | M | Primary No | | Top | 2143.000 |
| GLOBAL | X | N | Primary No | | Top | 2275.000 |
| GLOBAL | X | O | Primary No | | Top | 2407.000 |
| GLOBAL | X | O.9 | Primary No | | Top | 2485.000 |
| GLOBAL | X | P | Primary No | | Bottom | 2702.000 |
| GLOBAL | Y | 12 | Primary No | | Left | 0.000 |
| GLOBAL | Y | 11.9 | Primary No | | Right | 17.000 |
| GLOBAL | Y | 11 | Primary No | | Right | 232.000 |
| GLOBAL | Y | 10 | Primary No | | Right | 430.000 |
| GLOBAL | Y | 9 | Primary No | | Right | 658.000 |
| GLOBAL | Y | 8 | Primary No | | Right | 691.000 |
| GLOBAL | Y | 7.5 | Primary No | | Right | 823.000 |
| GLOBAL | Y | 7 | Primary No | | Right | 855.000 |
| GLOBAL | Y | 6.5 | Primary No | | Right | 1087.000 |
| GLOBAL | Y | 6 | Primary No | | Right | 1219.000 |
| GLOBAL | Y | 5.5 | Primary No | | Right | 1251.000 |
| GLOBAL | Y | 5 | Primary No | | Right | 1483.000 |
| GLOBAL | Y | 4 | Primary No | | Right | 1615.000 |
| GLOBAL | Y | 3 | Primary No | | Right | 1747.000 |
| GLOBAL | Y | 3 | Primary No | | Right | 1943.000 |
| GLOBAL | Y | 1.1 | Primary No | | Right | 2137.000 |
| GLOBAL | Y | 1 | Primary No | | Left | 2174.000 |

MATERIAL PROPERTY DATA

| MATERIAL NAME | MATERIAL TYPE | DESIGN TYPE | MATERIAL DIR/PLANE | MODULUS OF ELASTICITY | POISSON'S RATIO | THERMAL COEFF | SHEAR MODULUS |
|---------------|---------------|-------------|--------------------|-----------------------|-----------------|---------------|---------------|
| STEEL | 1eo | Steel | All | 29000.000 | 0.3000 | 6.5000E-06 | 11153.846 |
| BSMTCMNC | 1eo | Concrete | All | 3122.000 | 0.2000 | 5.5000E-06 | 1300.833 |
| MASONRY | 1eo | None | All | 1.000 | 0.2000 | 6.5000E-06 | 0.417 |
| SLAB | 1eo | Concrete | All | 3122.000 | 0.2000 | 6.5000E-06 | 1300.833 |
| NCMNC | 1eo | Concrete | All | 4415.000 | 0.2000 | 6.5000E-06 | 1839.583 |
| ECMNC | 1eo | Concrete | All | 1.000 | 0.2000 | 6.5000E-06 | 0.417 |
| NBASE | 1eo | Concrete | All | 4415.000 | 0.2000 | 6.5000E-06 | 1839.583 |
| NCMNC | 1eo | Concrete | All | 3098.000 | 0.2000 | 6.5000E-06 | 2124.167 |

MATERIAL PROPERTY MASS AND WEIGHT

| MATERIAL NAME | MASS PER UNIT VOL | WEIGHT PER UNIT VOL |
|---------------|-------------------|---------------------|
| STEEL | 0.0000E+00 | 0.0000E+00 |
| BSMTCMNC | 0.0000E+00 | 0.0000E+00 |
| MASONRY | 0.0000E+00 | 0.0000E+00 |
| SLAB | 0.0000E+00 | 0.0000E+00 |
| NCMNC | 2.2420E-07 | 8.6810E-05 |
| ECMNC | 0.0000E+00 | 0.0000E+00 |
| NBASE | 0.0000E+00 | 0.0000E+00 |
| NCMNC | 2.2420E-07 | 8.6810E-05 |

MATERIAL DESIGN DATA FOR STEEL MATERIALS

| MATERIAL NAME | STEEL FY | STEEL FU | STEEL COST (\$) |
|---------------|----------|----------|-----------------|
| STEEL | 36.000 | 58.000 | 1.00 |

MATERIAL DESIGN DATA FOR CONCRETE MATERIALS

| MATERIAL NAME | LIGHTWEIGHT CONCRETE | CONCRETE FC | REBAR FY | REBAR FYS | LIGHTWT REDUC FACT |
|---------------|----------------------|-------------|----------|-----------|--------------------|
| BSMTCMNC | No | 3.000 | 40.000 | 40.000 | N/A |
| SLAB | No | 3.000 | 60.000 | 60.000 | N/A |
| NCMNC | No | 6.000 | 60.000 | 60.000 | N/A |
| ECMNC | No | 3.000 | 40.000 | 40.000 | N/A |
| NBASE | No | 6.000 | 60.000 | 60.000 | N/A |
| NCMNC | No | 8.000 | 60.000 | 60.000 | N/A |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | MATERIAL NAME | SECTION SHAPE NAME OR NAME IN SECTION DATABASE FILE | CONC COL | CONC BEAM |
|--------------------|---------------|-----------------------------------------------------|----------|-----------|
| M10X12 | STEEL | M10X12 | | |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION DEPTH | FLANGE WIDTH TOP | FLANGE THICK TOP | WEB THICK | FLANGE WIDTH BOT | FLANGE THICK BOT |
|--------------------|---------------|------------------|------------------|-----------|------------------|------------------|
| M10X12 | 9.8700 | 3.9600 | 0.2100 | 0.1900 | 3.9600 | 0.2100 |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION AREA | TORSIONAL CONSTANT | MOMENTS OF INERTIA I33 | I22 | A3 | SHEAR AREA A3 |
|--------------------|--------------|--------------------|------------------------|--------|--------|---------------|
| M10X12 | 3.5400 | 0.0547 | 53.8000 | 2.1800 | 1.8753 | 1.3850 |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION MODULI S33 | S22 | PLASTIC MODULI Z33 | Z22 | RADIUS OF GYRATION R33 | R22 |
|--------------------|--------------------|--------|--------------------|--------|------------------------|--------|
| M10X12 | 10.9017 | 1.1010 | 12.6000 | 1.7400 | 3.8984 | 0.7847 |

FRAME SECTION WEIGHTS AND MASSES

| FRAME SECTION NAME | TOTAL WEIGHT | TOTAL MASS |
|--------------------|--------------|------------|
| M10X12 | 0.0000 | 0.0000 |

SHELL SECTION PROPERTY DATA

| SHELL SECTION | MATERIAL NAME | SHELL TYPE | LOAD DIST ONE WAY | MEMBRANE THICK | BENDING THICK | TOTAL WEIGHT | TOTAL MASS |
|---------------|---------------|------------|-------------------|----------------|---------------|--------------|------------|
| E8 | ECONC | Shell-Thin | No | 8.0000 | 8.0000 | 0.0000 | 0.0000 |
| M8 | MASONRY | Shell-Thin | No | 8.0000 | 8.0000 | 0.0000 | 0.0000 |
| E3 | BSMTCONC | Shell-Thin | No | 36.0000 | 4.0000 | 0.0000 | 0.0000 |
| N25 | NCONC6 | Shell-Thin | No | 25.0000 | 4.0000 | 574.6128 | 1.4840 |
| N18 | NCONC6 | Shell-Thin | No | 18.0000 | 4.0000 | 4602.8779 | 11.8902 |
| SLAB | SLAB | Shell-Thin | No | 4.0000 | 4.0000 | 0.0000 | 0.0000 |
| N30 | NCONC6 | Shell-Thin | No | 30.0000 | 4.0000 | 8155.6103 | 21.0621 |
| N14 | NCONC6 | Shell-Thin | No | 14.0000 | 4.0000 | 667.8731 | 1.7249 |
| N28 | NCONC6 | Shell-Thin | No | 28.0000 | 4.0000 | 249.8250 | 0.6452 |
| N18E3 | NBASE | Shell-Thin | No | 28.0000 | 4.0000 | 0.0000 | 0.0000 |
| N21 | NCONC6 | Shell-Thin | No | 21.0000 | 4.0000 | 503.5091 | 1.2978 |
| N16F3 | NCONC6 | Shell-Thin | No | 16.0000 | 4.0000 | 549.5781 | 1.4194 |

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: 1P3L3

BASIC SECTION DATA

| SECTION TYPE | DESIGN TYPE | DESIGN OR CHECK | BASE MATERIAL | NUMBER SHAPES |
|--------------|-------------|-----------------|---------------|---------------|
| Check | NCONC6 | | J1 | |

POLYGON SHAPE DATA

SHAPE ID MATERIAL REINF NUM POINTS

Shape 1 NCONC6 Yes 4

SHAPE ID CORNER X Y RADIUS

Shape 1 1 64.0000 18.0000 0.0000

Shape 1 2 0.0000 18.0000 0.0000

Shape 1 3 0.0000 0.0000 0.0000

Shape 1 4 64.0000 0.0000 0.0000

LINE PATTERN BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE END BARS BAR SPACING

Shape 4 NCONC6 #10 No 6.0000

Shape 27 NCONC6 #10 No 6.0000

Shape 10 NCONC6 #10 No 6.0000

Shape 31 NCONC6 #10 No 6.0000

SHAPE ID X1 Y1 X2 Y2

Shape 4 3.0000 15.0000 3.0000 3.0000

Shape 27 61.0000 15.0000 61.0000 3.0000

Shape 20 28.0000 15.0000 28.0000 3.0000

Shape 21 16.0000 15.0000 16.0000 3.0000

SINGLE BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE X CENTER Y CENTER

Shape 2 NCONC6 #10 3.0000 3.0000

Shape 3 NCONC6 #10 3.0000 15.0000

Shape 5 NCONC6 #10 8.0000 3.0000

Shape 6 NCONC6 #10 13.0000 3.0000

Shape 7 NCONC6 #10 18.0000 3.0000

Shape 8 NCONC6 #10 23.0000 3.0000

Shape 9 BSMTCONC #10 28.0000 3.0000

Shape 10 NCONC6 #10 33.0000 3.0000

Shape 11 NCONC6 #10 38.0000 3.0000

Shape 12 NCONC6 #10 43.0000 3.0000

Shape 13 NCONC6 #10 48.0000 3.0000

Shape 14 BSMTCONC #10 53.0000 3.0000

Shape 15 NCONC6 #10 58.0000 3.0000

Shape 16 NCONC6 #10 63.0000 3.0000

Shape 17 NCONC6 #10 68.0000 3.0000

Shape 18 NCONC6 #10 73.0000 3.0000

Shape 19 NCONC6 #10 78.0000 3.0000

Shape 20 NCONC6 #10 83.0000 3.0000

Shape 21 NCONC6 #10 88.0000 3.0000

Shape 22 NCONC6 #10 93.0000 3.0000

Shape 23 NCONC6 #10 98.0000 3.0000

Shape 24 NCONC6 #10 103.0000 3.0000

Shape 25 NCONC6 #10 108.0000 3.0000

Shape 26 NCONC6 #10 113.0000 3.0000

Shape 28 NCONC6 #10 118.0000 3.0000

Shape 29 NCONC6 #10 123.0000 3.0000

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: 1P3L3

BASIC SECTION DATA

| SECTION TYPE | DESIGN TYPE | DESIGN OR CHECK | BASE MATERIAL | NUMBER SHAPES |
|--------------|-------------|-----------------|---------------|---------------|
| Check | NCONC6 | | 25 | |

POLYGON SHAPE DATA

SHAPE ID MATERIAL REINF NUM POINTS

Shape 1 NCONC6 No 4

SHAPE ID CORNER X Y RADIUS

Shape 1 1 42.0000 18.0000 0.0000

Shape 1 2 0.0000 18.0000 0.0000

Shape 1 3 0.0000 0.0000 0.0000

Shape 1 4 42.0000 0.0000 0.0000

LINE PATTERN BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE END BARS BAR SPACING

Shape 23 NCONC6 #10 No 6.0000

Shape 23 NCONC6 #10 No 6.0000

Shape 24 NCONC6 #10 No 6.0000

Shape 25 NCONC6 #10 No 6.0000

SHAPE ID X1 Y1 X2 Y2

Shape 22 3.0000 15.0000 3.0000 3.0000

Shape 23 59.0000 15.0000 59.0000 3.0000

Shape 24 23.0000 15.0000 23.0000 3.0000

Shape 25 39.0000 15.0000 39.0000 3.0000

SINGLE BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE X CENTER Y CENTER

Shape 2 NCONC6 #10 3.0000 3.0000

Shape 3 NCONC6 #10 3.0000 15.0000

Shape 4 NCONC6 #10 8.0000 3.0000

Shape 5 NCONC6 #10 13.0000 3.0000

Shape 6 NCONC6 #10 18.0000 3.0000

Shape 7 NCONC6 #10 23.0000 3.0000

Shape 8 NCONC6 #10 28.0000 3.0000

Shape 9 NCONC6 #10 33.0000 3.0000

Shape 10 NCONC6 #10 38.0000 3.0000

Shape 11 NCONC6 #10 43.0000 3.0000

Shape 12 NCONC6 #10 48.0000 3.0000

Shape 13 NCONC6 #10 53.0000 3.0000

Shape 14 NCONC6 #10 58.0000 3.0000

Shape 15 NCONC6 #10 63.0000 3.0000

Shape 16 NCONC6 #10 68.0000 3.0000

Shape 17 NCONC6 #10 73.0000 3.0000

Shape 18 NCONC6 #10 78.0000 3.0000

Shape 19 NCONC6 #10 83.0000 3.0000

Shape 20 NCONC6 #10 88.0000 3.0000

Shape 21 NCONC6 #10 93.0000 3.0000

SINGLE BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE X CENTER Y CENTER

Shape 2 NCONC6 #10 3.0000 3.0000

Shape 3 NCONC6 #10 3.0000 15.0000

Shape 4 NCONC6 #10 8.0000 3.0000

Shape 5 NCONC6 #10 13.0000 3.0000

Shape 6 NCONC6 #10 18.0000 3.0000

Shape 7 NCONC6 #10 23.0000 3.0000

Shape 8 NCONC6 #10 28.0000 3.0000

Shape 9 NCONC6 #10 33.0000 3.0000

Shape 10 NCONC6 #10 38.0000 3.0000

Shape 11 NCONC6 #10 43.0000 3.0000

Shape 12 NCONC6 #10 48.0000 3.0000

Shape 13 NCONC6 #10 53.0000 3.0000

Shape 14 NCONC6 #10 58.0000 3.0000

Shape 15 NCONC6 #10 63.0000 3.0000

Shape 16 NCONC6 #10 68.0000 3.0000

Shape 17 NCONC6 #10 73.0000 3.0000

Shape 18 NCONC6 #10 78.0000 3.0000

Shape 19 NCONC6 #10 83.0000 3.0000

Shape 20 NCONC6 #10 88.0000 3.0000

Shape 21 NCONC6 #10 93.0000 3.0000

SECTION NAME: 1P3L3

BASIC SECTION DATA

| SECTION TYPE | DESIGN TYPE | DESIGN OR CHECK | BASE MATERIAL | NUMBER SHAPES |
|--------------|-------------|-----------------|---------------|---------------|
| Check | NCONC6 | | 25 | |

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: 1P3L3, continued

BASIC SECTION DATA

| SECTION TYPE | DESIGN TYPE | DESIGN OR CHECK | BASE MATERIAL | NUMBER SHAPES |
|--------------|-------------|-----------------|---------------|---------------|
| Check | NCONC6 | | 44 | |

POLYGON SHAPE DATA

SHAPE ID MATERIAL REINF NUM POINTS

Shape 1 NCONC6 No 4

SHAPE ID CORNER X Y RADIUS

Shape 1 1 60.0000 18.0000 0.0000

Shape 1 2 0.0000 18.0000 0.0000

Shape 1 3 0.0000 0.0000 0.0000

Shape 1 4 60.0000 0.0000 0.0000

LINE PATTERN BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE END BARS BAR SPACING

Shape 22 NCONC6 #10 No 6.0000

Shape 23 NCONC6 #10 No 6.0000

Shape 24 NCONC6 #10 No 6.0000

Shape 25 NCONC6 #10 No 6.0000

SHAPE ID X1 Y1 X2 Y2

Shape 22 3.0000 15.0000 3.0000 3.0000

Shape 23 33.0000 15.0000 33.0000 3.0000

Shape 24 37.0000 15.0000 37.0000 3.0000

Shape 25 57.0000 15.0000 57.0000 3.0000

SINGLE BAR SHAPE DATA

SHAPE ID MATERIAL BAR SIZE X CENTER Y CENTER

Shape 2 NCONC6 #10 3.0000 3.0000

Shape 3 NCONC6 #10 3.0000 15.0000

Shape 4 NCONC6 #10 8.0000 3.0000

Shape 5 NCONC6 #10 13.0000 3.0000

Shape 6 NCONC6 #10 18.0000 3.0000

Shape 7 NCONC6 #10 23.0000 3.0000

Shape 8 NCONC6 #10 28.0000 3.0000

Shape 9 NCONC6 #10 33.0000 3.0000

Shape 10 NCONC6 #10 38.0000 3.0000

Shape 11 NCONC6 #10 43.0000 3.0000

Shape 12 NCONC6 #10 48.0000 3.0000

Shape 13 NCONC6 #10 53.0000 3.0000

Shape 14 NCONC6 #10 58.0000 3.0000

Shape 15 NCONC6 #10 63.0000 3.0000

Shape 16 NCONC6 #10 68.0000 3.0000

Shape 17 NCONC6 #10 73.0000 3.0000

Shape 18 NCONC6 #10 78.0000 3.0000

Shape 19 NCONC6 #10 83.0000 3.0000

Shape 20 NCONC6 #10 88.0000 3.0000

Shape 21 NCONC6 #10 93.0000 3.0000

SECTION NAME: 1P3L3

BASIC SECTION DATA

| SECTION TYPE | DESIGN TYPE | DESIGN OR CHECK | BASE MATERIAL | NUMBER SHAPES |
|--------------|-------------|-----------------|---------------|---------------|
| Check | NCONC6 | | 44 | |

POLYGON SHAPE DATA

SHAPE ID MATERIAL REINF NUM POINTS

Shape 1 NCONC6 No 4

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: 1P2L12, continued

POLYGON SHAPE DATA

Table with 5 columns: SHAPE ID, CORNER, X, Y, RADIUS. Rows for Shape 1 corners 1, 2, 3, 4.

LINE PATTERN BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, END BARS, BAR SPACING. Rows for Shape 16, 17, 18.

Table with 5 columns: SHAPE ID, X1, Y1, X2, Y2. Rows for Shape 16, 17, 18.

SINGLE BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Rows for Shape 2 through Shape 44.

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: PP3L10

BASIC SECTION DATA

Table with 5 columns: SECTION TYPE, DESIGN TYPE, DESIGN OR CHECK, BASE MATERIAL, NUMBER SHAPES. Row for Check NCONC6 17.

POLYGON SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, REINF, NUM POINTS. Row for Shape 1 NCONC6 Yes 4.

Table with 5 columns: SHAPE ID, CORNER, X, Y, RADIUS. Rows for Shape 1 corners 1, 2, 3, 4.

SINGLE BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Rows for Shape 2 through Shape 17.

SECTION NAME: PP4L10

BASIC SECTION DATA

Table with 5 columns: SECTION TYPE, DESIGN TYPE, DESIGN OR CHECK, BASE MATERIAL, NUMBER SHAPES. Row for Check NCONC6 21.

POLYGON SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, REINF, NUM POINTS. Row for Shape 1 NCONC6 Yes 4.

Table with 5 columns: SHAPE ID, CORNER, X, Y, RADIUS. Rows for Shape 1 corners 1, 2, 3, 4.

SINGLE BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Rows for Shape 2, 3, 4.

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: PP4L10

SINGLE BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Rows for Shape 5 through Shape 21.

SECTION NAME: ASPL10

BASIC SECTION DATA

Table with 5 columns: SECTION TYPE, DESIGN TYPE, DESIGN OR CHECK, BASE MATERIAL, NUMBER SHAPES. Row for Check NCONC6 21.

POLYGON SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, REINF, NUM POINTS. Row for Shape 1 NCONC6 Yes 4.

Table with 5 columns: SHAPE ID, CORNER, X, Y, RADIUS. Rows for Shape 1 corners 1, 2, 3, 4.

SINGLE BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Rows for Shape 2 through Shape 21.

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: PP3L12

BASIC SECTION DATA

Table with 5 columns: SECTION TYPE, DESIGN TYPE, DESIGN OR CHECK, BASE MATERIAL, NUMBER SHAPES. Row for Check NCONC6 25.

POLYGON SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, REINF, NUM POINTS. Row for Shape 1 NCONC6 Yes 4.

Table with 5 columns: SHAPE ID, CORNER, X, Y, RADIUS. Rows for Shape 1 corners 1, 2, 3, 4.

SINGLE BAR SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Rows for Shape 2 through Shape 25.

SECTION NAME: PP3L12

BASIC SECTION DATA

Table with 5 columns: SECTION TYPE, DESIGN TYPE, DESIGN OR CHECK, BASE MATERIAL, NUMBER SHAPES. Row for Check NCONC6 25.

POLYGON SHAPE DATA

Table with 5 columns: SHAPE ID, MATERIAL, REINF, NUM POINTS. Row for Shape 1 NCONC6 Yes 4.

Table with 5 columns: SHAPE ID, CORNER, X, Y, RADIUS. Rows for Shape 1 corners 1, 2, 3, 4.

SECTION DESIGNER SECTION PROPERTY DATA

SECTION NAME: PPSL2, continued

SINGLE BAR SHAPE DATA

Table with columns: SHAPE ID, MATERIAL, BAR SIZE, X CENTER, Y CENTER. Lists shapes 3 through 25 with their respective material and bar size (e.g., #11, #10).

PIER SECTION PROPERTY DATA

Table with columns: PIER LABEL, STORY LEVEL, MATERIAL NAME, ANGLE, NUM CRS AREA/LINE, WIDTH BOTTOM, THICK BOTTOM, WIDTH TOP, THICK TOP. Lists pier sections 1.1 through 12.11 with various material and geometric properties.

Table with columns: PIER LABEL, STORY LEVEL, MATERIAL NAME, ANGLE, NUM CRS AREA/LINE, WIDTH BOTTOM, THICK BOTTOM, WIDTH TOP, THICK TOP. Continuation of pier section data, listing sections 1.9 through 12.11.

PIER SECTION PROPERTY DATA

Table with columns: PIER LABEL, STORY LEVEL, MATERIAL NAME, ANGLE, NUM CRS AREA/LINE, WIDTH BOTTOM, THICK BOTTOM, WIDTH TOP, THICK TOP. Continuation of pier section data, listing sections 1.9 through 12.11.

PIER SECTION CENTROID DATA

Table with columns: PIER LABEL, STORY LEVEL, CENTROID BOTTOM X, CENTROID BOTTOM Y, CENTROID BOTTOM Z, CENTROID TOP X, CENTROID TOP Y, CENTROID TOP Z. Rows include pier labels 1.7 through 1.11 and 1.2 through 1.7.

PIER SECTION CENTROID DATA

Table with columns: PIER LABEL, STORY LEVEL, CENTROID BOTTOM X, CENTROID BOTTOM Y, CENTROID BOTTOM Z, CENTROID TOP X, CENTROID TOP Y, CENTROID TOP Z. Rows include pier labels 1.8 through 1.11 and 1.2 through 1.7.

Table with columns: Pier Label, Story Level, Centroid Bottom X, Centroid Bottom Y, Centroid Bottom Z, Centroid Top X, Centroid Top Y, Centroid Top Z. Rows include pier labels 1.7 through 1.11 and 1.2 through 1.7.

Table with columns: Pier Label, Story Level, Centroid Bottom X, Centroid Bottom Y, Centroid Bottom Z, Centroid Top X, Centroid Top Y, Centroid Top Z. Rows include pier labels 1.8 through 1.11 and 1.2 through 1.7.

| SPANDREL SECTION PROPERTY DATA | | | | | | | | | |
|--------------------------------|-------------|---------------|-----------------------|-----------------|------------|------------|-------------|-------------|--|
| SPANDREL LABEL | STORY LEVEL | MATERIAL NAME | NUM OBJECTS AREA/LINE | SPANDREL LENGTH | DEPTH LEFT | THICK LEFT | DEPTH RIGHT | THICK RIGHT | |
| S12-2 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| S12-3 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| S12-4 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| S12-5 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| S12-6 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| S12-7 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| S12-8 | L2 | NC0NCE | 4/0 | 74.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SA-1 | L2 | NC0NCE | 4/0 | 74.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SA-2 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SA-3 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SA-4 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-1 | L2 | NC0NCE | 4/0 | 74.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-2 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-3 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-4 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-5 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-6 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-7 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SP-8 | L2 | NC0NCE | 4/0 | 74.000 | 37.0000 | 30.0000 | 37.0000 | 30.0000 | |
| SA-4.1 | L2 | NC0NCE | 4/0 | 68.000 | 74.0000 | 30.0000 | 74.0000 | 30.0000 | |
| SA-4.2 | L2 | NC0NCE | 3/0 | 36.000 | 115.5000 | 25.6883 | 115.5000 | 25.6883 | |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| S1-1 | RP | 124.000 | 2157.000 | 2153.500 | 198.000 | 2157.000 | 2153.500 |
| S1-8 | RP | 2505.000 | 2157.000 | 2153.500 | 2579.000 | 2157.000 | 2153.500 |
| S12-1 | RP | 124.000 | 17.000 | 2153.500 | 198.000 | 17.000 | 2153.500 |
| S12-8 | RP | 2505.000 | 17.000 | 2153.500 | 2579.000 | 17.000 | 2153.500 |
| SA-1 | RP | 17.000 | 124.000 | 2153.500 | 17.000 | 198.000 | 2153.500 |
| SA-8 | RP | 17.000 | 1977.000 | 2153.500 | 17.000 | 2051.000 | 2153.500 |
| SP-1 | RP | 2685.000 | 124.000 | 2153.500 | 2685.000 | 198.000 | 2153.500 |
| SP-8 | RP | 2685.000 | 1977.000 | 2153.500 | 2685.000 | 2051.000 | 2153.500 |
| S1-1 | L14 | 124.000 | 2157.000 | 2012.500 | 198.000 | 2157.000 | 2012.500 |
| S1-8 | L14 | 2505.000 | 2157.000 | 2012.500 | 2579.000 | 2157.000 | 2012.500 |
| S12-1 | L14 | 124.000 | 17.000 | 2012.500 | 198.000 | 17.000 | 2012.500 |
| S12-8 | L14 | 2505.000 | 17.000 | 2012.500 | 2579.000 | 17.000 | 2012.500 |
| SA-1 | L14 | 17.000 | 124.000 | 2012.500 | 17.000 | 198.000 | 2012.500 |
| SA-8 | L14 | 17.000 | 1977.000 | 2012.500 | 17.000 | 2051.000 | 2012.500 |
| SP-1 | L14 | 2685.000 | 124.000 | 2012.500 | 2685.000 | 198.000 | 2012.500 |
| SP-8 | L14 | 2685.000 | 1977.000 | 2012.500 | 2685.000 | 2051.000 | 2012.500 |
| S1-1 | L13 | 124.000 | 2157.000 | 1866.500 | 198.000 | 2157.000 | 1866.500 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| S1-8 | L13 | 2505.000 | 2157.000 | 1866.500 | 2579.000 | 2157.000 | 1866.500 |
| S12-1 | L13 | 124.000 | 17.000 | 1866.500 | 198.000 | 17.000 | 1866.500 |
| S12-8 | L13 | 2505.000 | 17.000 | 1866.500 | 2579.000 | 17.000 | 1866.500 |
| SA-1 | L13 | 17.000 | 124.000 | 1866.500 | 17.000 | 198.000 | 1866.500 |
| SA-8 | L13 | 17.000 | 1977.000 | 1866.500 | 17.000 | 2051.000 | 1866.500 |
| SP-1 | L13 | 2685.000 | 124.000 | 1866.500 | 2685.000 | 198.000 | 1866.500 |
| SP-8 | L13 | 2685.000 | 1977.000 | 1866.500 | 2685.000 | 2051.000 | 1866.500 |
| S1-1 | L12 | 124.000 | 2157.000 | 1758.000 | 198.000 | 2157.000 | 1758.000 |
| S1-8 | L12 | 2505.000 | 2157.000 | 1758.000 | 2579.000 | 2157.000 | 1758.000 |
| S12-1 | L12 | 124.000 | 17.000 | 1758.000 | 198.000 | 17.000 | 1758.000 |
| S12-8 | L12 | 2505.000 | 17.000 | 1758.000 | 2579.000 | 17.000 | 1758.000 |
| SA-1 | L12 | 17.000 | 124.000 | 1758.000 | 17.000 | 198.000 | 1758.000 |
| SA-8 | L12 | 17.000 | 1977.000 | 1758.000 | 17.000 | 2051.000 | 1758.000 |
| SP-1 | L12 | 2685.000 | 124.000 | 1758.000 | 2685.000 | 198.000 | 1758.000 |
| SP-8 | L12 | 2685.000 | 1977.000 | 1758.000 | 2685.000 | 2051.000 | 1758.000 |
| S1-1 | L11 | 124.000 | 2157.000 | 1624.000 | 198.000 | 2157.000 | 1624.000 |
| S1-2 | L11 | 333.000 | 2157.000 | 1624.000 | 401.000 | 2157.000 | 1624.000 |
| S1-3 | L11 | 461.000 | 2157.000 | 1624.000 | 529.000 | 2157.000 | 1624.000 |
| S1-4 | L11 | 591.000 | 2157.000 | 1624.000 | 659.000 | 2157.000 | 1624.000 |
| S1-5 | L11 | 721.000 | 2157.000 | 1624.000 | 789.000 | 2157.000 | 1624.000 |
| S1-6 | L11 | 851.000 | 2157.000 | 1624.000 | 919.000 | 2157.000 | 1624.000 |
| S1-7 | L11 | 981.000 | 2157.000 | 1624.000 | 1049.000 | 2157.000 | 1624.000 |
| S1-8 | L11 | 1111.000 | 2157.000 | 1624.000 | 1179.000 | 2157.000 | 1624.000 |
| S12-1 | L11 | 124.000 | 17.000 | 1624.000 | 198.000 | 17.000 | 1624.000 |
| S12-2 | L11 | 333.000 | 17.000 | 1624.000 | 401.000 | 17.000 | 1624.000 |
| S12-3 | L11 | 461.000 | 17.000 | 1624.000 | 529.000 | 17.000 | 1624.000 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| S12-4 | L11 | 591.000 | 17.000 | 1624.000 | 659.000 | 17.000 | 1624.000 |
| S12-5 | L11 | 2043.000 | 17.000 | 1624.000 | 2111.000 | 17.000 | 1624.000 |
| S12-6 | L11 | 2174.000 | 17.000 | 1624.000 | 2242.000 | 17.000 | 1624.000 |
| S12-7 | L11 | 2301.000 | 17.000 | 1624.000 | 2369.000 | 17.000 | 1624.000 |
| S12-8 | L11 | 2505.000 | 17.000 | 1624.000 | 2579.000 | 17.000 | 1624.000 |
| SA-1 | L11 | 17.000 | 124.000 | 1624.000 | 17.000 | 198.000 | 1624.000 |
| SA-2 | L11 | 17.000 | 333.000 | 1624.000 | 17.000 | 401.000 | 1624.000 |
| SA-3 | L11 | 17.000 | 461.000 | 1624.000 | 17.000 | 529.000 | 1624.000 |
| SA-5 | L11 | 17.000 | 1515.000 | 1624.000 | 17.000 | 1583.000 | 1624.000 |
| SA-8 | L11 | 17.000 | 1646.000 | 1624.000 | 17.000 | 1714.000 | 1624.000 |
| SA-7 | L11 | 17.000 | 1773.000 | 1624.000 | 17.000 | 1841.000 | 1624.000 |
| SA-8 | L11 | 17.000 | 1977.000 | 1624.000 | 17.000 | 2051.000 | 1624.000 |
| SP-1 | L11 | 2685.000 | 124.000 | 1624.000 | 2685.000 | 198.000 | 1624.000 |
| SP-2 | L11 | 2685.000 | 333.000 | 1624.000 | 2685.000 | 401.000 | 1624.000 |
| SP-3 | L11 | 2685.000 | 461.000 | 1624.000 | 2685.000 | 529.000 | 1624.000 |
| SP-4 | L11 | 2685.000 | 591.000 | 1624.000 | 2685.000 | 659.000 | 1624.000 |
| SP-5 | L11 | 2685.000 | 1515.000 | 1624.000 | 2685.000 | 1583.000 | 1624.000 |
| SP-6 | L11 | 2685.000 | 1646.000 | 1624.000 | 2685.000 | 1714.000 | 1624.000 |
| SP-7 | L11 | 2685.000 | 1773.000 | 1624.000 | 2685.000 | 1841.000 | 1624.000 |
| SP-8 | L11 | 2685.000 | 1977.000 | 1624.000 | 2685.000 | 2051.000 | 1624.000 |
| S1-1 | L10 | 124.000 | 2157.000 | 1512.000 | 198.000 | 2157.000 | 1512.000 |
| S1-2 | L10 | 333.000 | 2157.000 | 1512.000 | 401.000 | 2157.000 | 1512.000 |
| S1-3 | L10 | 461.000 | 2157.000 | 1512.000 | 529.000 | 2157.000 | 1512.000 |
| S1-4 | L10 | 591.000 | 2157.000 | 1512.000 | 659.000 | 2157.000 | 1512.000 |
| S1-5 | L10 | 2043.000 | 2157.000 | 1512.000 | 2111.000 | 2157.000 | 1512.000 |
| S1-6 | L10 | 2174.000 | 2157.000 | 1512.000 | 2242.000 | 2157.000 | 1512.000 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| S1-7 | L10 | 2301.000 | 2157.000 | 1512.000 | 2369.000 | 2157.000 | 1512.000 |
| S1-8 | L10 | 2505.000 | 2157.000 | 1512.000 | 2579.000 | 2157.000 | 1512.000 |
| S12-1 | L10 | 124.000 | 17.000 | 1512.000 | 198.000 | 17.000 | 1512.000 |
| S12-2 | L10 | 333.000 | 17.000 | 1512.000 | 401.000 | 17.000 | 1512.000 |
| S12-3 | L10 | 461.000 | 17.000 | 1512.000 | 529.000 | 17.000 | 1512.000 |
| S12-4 | L10 | 591.000 | 17.000 | 1512.000 | 659.000 | 17.000 | 1512.000 |
| S12-5 | L10 | 2043.000 | 17.000 | 1512.000 | 2111.000 | 17.000 | 1512.000 |
| S12-6 | L10 | 2174.000 | 17.000 | 1512.000 | 2242.000 | 17.000 | 1512.000 |
| S12-7 | L10 | 2301.000 | 17.000 | 1512.000 | 2369.000 | 17.000 | 1512.000 |
| S12-8 | L10 | 2505.000 | 17.000 | 1512.000 | 2579.000 | 17.000 | 1512.000 |
| SA-1 | L10 | 17.000 | 124.000 | 1512.000 | 17.000 | 198.000 | 1512.000 |
| SA-2 | L10 | 17.000 | 333.000 | 1512.000 | 17.000 | 401.000 | 1512.000 |
| SA-3 | L10 | 17.000 | 461.000 | 1512.000 | 17.000 | 529.000 | 1512.000 |
| SA-5 | L10 | 17.000 | 1515.000 | 1512.000 | 17.000 | 1583.000 | 1512.000 |
| SA-6 | L10 | 17.000 | 1646.000 | 1512.000 | 17.000 | 1714.000 | 1512.000 |
| SA-7 | L10 | 17.000 | 1773.000 | 1512.000 | 17.000 | 1841.000 | 1512.000 |
| SA-8 | L10 | 17.000 | 1977.000 | 1512.000 | 17.000 | 2051.000 | 1512.000 |
| SP-1 | L10 | 2685.000 | 124.000 | 1512.000 | 2685.000 | 198.000 | 1512.000 |
| SP-2 | L10 | 2685.000 | 333.000 | 1512.000 | 2685.000 | 401.000 | 1512.000 |
| SP-3 | L10 | 2685.000 | 461.000 | 1512.000 | 2685.000 | 529.000 | 1512.000 |
| SP-4 | L10 | 2685.000 | 591.000 | 1512.000 | 2685.000 | 659.000 | 1512.000 |
| SP-5 | L10 | 2685.000 | 1515.000 | 1512.000 | 2685.000 | 1583.000 | 1512.000 |
| SP-6 | L10 | 2685.000 | 1646.000 | 1512.000 | 2685.000 | 1714.000 | 1512.000 |
| SP-7 | L10 | 2685.000 | 1773.000 | 1512.000 | 2685.000 | 1841.000 | 1512.000 |
| SP-8 | L10 | 2685.000 | 1977.000 | 1512.000 | 2685.000 | 2051.000 | 1512.000 |
| S1-1 | L9 | 124.000 | 2157.000 | 1399.000 | 198.000 | 2157.000 | 1399.000 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| S1-2 | L9 | 333.000 | 2157.000 | 1399.000 | 401.000 | 2157.000 | 1399.000 |
| S1-3 | L9 | 461.000 | 2157.000 | 1399.000 | 529.000 | 2157.000 | 1399.000 |
| S1-4 | L9 | 591.000 | 2157.000 | 1399.000 | 659.000 | 2157.000 | 1399.000 |
| S1-5 | L9 | 2043.000 | 2157.000 | 1399.000 | 2111.000 | 2157.000 | 1399.000 |
| S1-6 | L9 | 2174.000 | 2157.000 | 1399.000 | 2242.000 | 2157.000 | 1399.000 |
| S1-7 | L9 | 2301.000 | 2157.000 | 1399.000 | 2369.000 | 2157.000 | 1399.000 |
| S1-8 | L9 | 2505.000 | 2157.000 | 1399.000 | 2579.000 | 2157.000 | 1399.000 |
| S12-1 | L9 | 124.000 | 17.000 | 1399.000 | 198.000 | 17.000 | 1399.000 |
| S12-2 | L9 | 333.000 | 17.000 | 1399.000 | 401.000 | 17.000 | 1399.000 |
| S12-3 | L9 | 461.000 | 17.000 | 1399.000 | 529.000 | 17.000 | 1399.000 |
| S12-4 | L9 | 591.000 | 17.000 | 1399.000 | 659.000 | 17.000 | 1399.000 |
| S12-5 | L9 | 2043.000 | 17.000 | 1399.000 | 2111.000 | 17.000 | 1399.000 |
| S12-6 | L9 | 2174.000 | 17.000 | 1399.000 | 2242.000 | 17.000 | 1399.000 |
| S12-7 | L9 | 2301.000 | 17.000 | 1399.000 | 2369.000 | 17.000 | 1399.000 |
| S12-8 | L9 | 2505.000 | 17.000 | 1399.000 | 2579.000 | 17.000 | 1399.000 |
| SA-1 | L9 | 17.000 | 124.000 | 1399.000 | 17.000 | 198.000 | 1399.000 |
| SA-2 | L9 | 17.000 | 333.000 | 1399.000 | 17.000 | 401.000 | 1399.000 |
| SA-3 | L9 | 17.000 | 461.000 | 1399.000 | 17.000 | 529.000 | 1399.000 |
| SA-5 | L9 | 17.000 | 1515.000 | 1399.000 | 17.000 | 1583.000 | 1399.000 |
| SA-6 | L9 | 17.000 | 1646.000 | 1399.000 | 17.000 | 1714.000 | 1399.000 |
| SA-7 | L9 | 17.000 | 1773.000 | 1399.000 | 17.000 | 1841.000 | 1399.000 |
| SA-8 | L9 | 17.000 | 1977.000 | 1399.000 | 17.000 | 2051.000 | 1399.000 |
| SP-1 | L9 | 2685.000 | 124.000 | 1399.000 | 2685.000 | 198.000 | 1399.000 |
| SP-2 | L9 | 2685.000 | 333.000 | 1399.000 | 2685.000 | 401.000 | 1399.000 |
| SP-3 | L9 | 2685.000 | 461.000 | 1399.000 | 2685.000 | 529.000 | 1399.000 |
| SP-4 | L9 | 2685.000 | 591.000 | 1399.000 | 2685.000 | 659.000 | 1399.000 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| SP-5 | L9 | 2685.000 | 1515.000 | 1399.000 | 2685.000 | 1583.000 | 1399.000 |
| SP-6 | L9 | 2685.000 | 1646.000 | 1399.000 | 2685.000 | 1714.000 | 1399.000 |
| SP-7 | L9 | 2685.000 | 1773.000 | 1399.000 | 2685.000 | 1841.000 | 1399.000 |
| SP-8 | L9 | 2685.000 | 1977.000 | 1399.000 | 2685.000 | 2051.000 | 1399.000 |
| S1-1 | L8 | 124.000 | 2157.000 | 1242.000 | 198.000 | 2157.000 | 1242.000 |
| S1-2 | L8 | 333.000 | 2157.000 | 1242.000 | 401.000 | 2157.000 | 1242.000 |
| S1-3 | L8 | 461.000 | 2157.000 | 1242.000 | 529.000 | 2157.000 | 1242.000 |
| S1-4 | L8 | 591.000 | 2157.000 | 1242.000 | 659.000 | 2157.000 | 1242.000 |
| S1-5 | L8 | 2043.000 | 2157.000 | 1242.000 | 2111.000 | 2157.000 | 1242.000 |
| S1-6 | L8 | 2174.000 | 2157.000 | 1242.000 | 2242.000 | 2157.000 | 1242.000 |
| S1-7 | L8 | 2301.000 | 2157.000 | 1242.000 | 2369.000 | 2157.000 | 1242.000 |
| S1-8 | L8 | 2505.000 | 2157.000 | 1242.000 | 2579.000 | 2157.000 | 1242.000 |
| S12-1 | L8 | 124.000 | 17.000 | 1242.000 | 198.000 | 17.000 | 1242.000 |
| S12-2 | L8 | 333.000 | 17.000 | 1242.000 | 401.000 | 17.000 | 1242.000 |
| S12-3 | L8 | 461.000 | 17.000 | 1242.000 | 529.000 | 17.000 | 1242.000 |
| S12-4 | L8 | 591.000 | 17.000 | 1242.000 | 659.000 | 17.000 | 1242.000 |
| S12-5 | L8 | 2043.000 | 17.000 | 1242.000 | 2111.000 | 17.000 | 1242.000 |
| S12-6 | L8 | 2174.000 | 17.000 | 1242.000 | 2242.000 | 17.000 | 1242.000 |
| S12-7 | L8 | 2301.000 | 17.000 | 1242.000 | 2369.000 | 17.000 | 1242.000 |
| S12-8 | L8 | 2505.000 | 17.000 | 1242.000 | 2579.000 | 17.000 | 1242.000 |
| SA-1 | L8 | 17.000 | 124.000 | 1242.000 | 17.000 | 198.000 | 1242.000 |
| SA-2 | L8 | 17.000 | 333.000 | 1242.000 | 17.000 | 401.000 | 1242.000 |
| SA-3 | L8 | 17.000 | 461.000 | 1242.000 | 17.000 | 529.000 | 1242.000 |
| SA-5 | L8 | 17.000 | 1515.000 | 1242.000 | 17.000 | 1583.000 | 1242.000 |
| SA-6 | L8 | 17.000 | 1646.000 | 1242.000 | 17.000 | 1714.000 | 1242.000 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| SA-7 | L8 | 17.000 | 1773.000 | 1242.000 | 17.000 | 1841.000 | 1242.000 |
| SA-8 | L8 | 17.000 | 1977.000 | 1242.000 | 17.000 | 2051.000 | 1242.000 |
| SP-1 | L8 | 2685.000 | 124.000 | 1242.000 | 2685.000 | 198.000 | 1242.000 |
| SP-2 | L8 | 2685.000 | 333.000 | 1242.000 | 2685.000 | 401.000 | 1242.000 |
| SP-3 | L8 | 2685.000 | 439.000 | 1227.500 | 2685.000 | 530.000 | 1227.500 |
| SP-4 | L8 | 2685.000 | 591.000 | 1242.000 | 2685.000 | 659.000 | 1242.000 |
| SP-5 | L8 | 2685.000 | 1515.000 | 1242.000 | 2685.000 | 1583.000 | 1242.000 |
| SP-6 | L8 | 2685.000 | 1646.000 | 1242.000 | 2685.000 | 1714.000 | 1242.000 |
| SP-7 | L8 | 2685.000 | 1773.000 | 1242.000 | 2685.000 | 1841.000 | 1242.000 |
| SP-8 | L8 | 2685.000 | 1977.000 | 1242.000 | 2685.000 | 2051.000 | 1242.000 |
| SI-1 | L7 | 124.000 | 2157.000 | 1067.500 | 198.000 | 2157.000 | 1067.500 |
| SI-2 | L7 | 333.000 | 2157.000 | 1067.500 | 401.000 | 2157.000 | 1067.500 |
| SI-3 | L7 | 461.000 | 2157.000 | 1067.500 | 529.000 | 2157.000 | 1067.500 |
| SI-4 | L7 | 591.000 | 2157.000 | 1067.500 | 659.000 | 2157.000 | 1067.500 |
| SI-5 | L7 | 2043.000 | 2157.000 | 1067.500 | 2111.000 | 2157.000 | 1067.500 |
| SI-6 | L7 | 2174.000 | 2157.000 | 1067.500 | 2242.000 | 2157.000 | 1067.500 |
| SI-7 | L7 | 2301.000 | 2157.000 | 1067.500 | 2369.000 | 2157.000 | 1067.500 |
| SI-8 | L7 | 2505.000 | 2157.000 | 1067.500 | 2579.000 | 2157.000 | 1067.500 |
| SI2-1 | L7 | 124.000 | 17.000 | 1067.500 | 198.000 | 17.000 | 1067.500 |
| SI2-2 | L7 | 333.000 | 17.000 | 1067.500 | 401.000 | 17.000 | 1067.500 |
| SI2-3 | L7 | 461.000 | 17.000 | 1067.500 | 529.000 | 17.000 | 1067.500 |
| SI2-4 | L7 | 591.000 | 17.000 | 1067.500 | 659.000 | 17.000 | 1067.500 |
| SI2-5 | L7 | 2043.000 | 17.000 | 1067.500 | 2111.000 | 17.000 | 1067.500 |
| SI2-6 | L7 | 2174.000 | 17.000 | 1067.500 | 2242.000 | 17.000 | 1067.500 |
| SI2-7 | L7 | 2301.000 | 17.000 | 1067.500 | 2369.000 | 17.000 | 1067.500 |
| SI2-8 | L7 | 2505.000 | 17.000 | 1067.500 | 2579.000 | 17.000 | 1067.500 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| SA-1 | L7 | 17.000 | 124.000 | 1067.500 | 17.000 | 198.000 | 1067.500 |
| SA-2 | L7 | 17.000 | 333.000 | 1067.500 | 17.000 | 401.000 | 1067.500 |
| SA-3 | L7 | 17.000 | 461.000 | 1067.500 | 17.000 | 529.000 | 1067.500 |
| SA-4 | L7 | 17.000 | 591.000 | 1067.500 | 17.000 | 659.000 | 1067.500 |
| SA-5 | L7 | 17.000 | 1515.000 | 1067.500 | 17.000 | 1583.000 | 1067.500 |
| SA-6 | L7 | 17.000 | 1646.000 | 1067.500 | 17.000 | 1714.000 | 1067.500 |
| SA-7 | L7 | 17.000 | 1773.000 | 1067.500 | 17.000 | 1841.000 | 1067.500 |
| SA-8 | L7 | 17.000 | 1977.000 | 1067.500 | 17.000 | 2051.000 | 1067.500 |
| SP-1 | L7 | 2685.000 | 124.000 | 1067.500 | 2685.000 | 198.000 | 1067.500 |
| SP-2 | L7 | 2685.000 | 333.000 | 1067.500 | 2685.000 | 401.000 | 1067.500 |
| SP-3 | L7 | 2685.000 | 461.000 | 1053.500 | 2685.000 | 529.000 | 1053.500 |
| SP-4 | L7 | 2685.000 | 591.000 | 1067.500 | 2685.000 | 659.000 | 1067.500 |
| SP-5 | L7 | 2685.000 | 1515.000 | 1067.500 | 2685.000 | 1583.000 | 1067.500 |
| SP-6 | L7 | 2685.000 | 1646.000 | 1067.500 | 2685.000 | 1714.000 | 1067.500 |
| SP-7 | L7 | 2685.000 | 1773.000 | 1067.500 | 2685.000 | 1841.000 | 1067.500 |
| SP-8 | L7 | 2685.000 | 1977.000 | 1067.500 | 2685.000 | 2051.000 | 1067.500 |
| SI-1 | L6 | 124.000 | 2157.000 | 922.000 | 198.000 | 2157.000 | 922.000 |
| SI-2 | L6 | 333.000 | 2157.000 | 922.000 | 401.000 | 2157.000 | 922.000 |
| SI-3 | L6 | 461.000 | 2157.000 | 922.000 | 529.000 | 2157.000 | 922.000 |
| SI-4 | L6 | 591.000 | 2157.000 | 922.000 | 659.000 | 2157.000 | 922.000 |
| SI-5 | L6 | 2043.000 | 2157.000 | 922.000 | 2111.000 | 2157.000 | 922.000 |
| SI-6 | L6 | 2174.000 | 2157.000 | 922.000 | 2242.000 | 2157.000 | 922.000 |
| SI-7 | L6 | 2301.000 | 2157.000 | 922.000 | 2369.000 | 2157.000 | 922.000 |
| SI-8 | L6 | 2505.000 | 2157.000 | 922.000 | 2579.000 | 2157.000 | 922.000 |
| SI2-1 | L6 | 124.000 | 17.000 | 922.000 | 198.000 | 17.000 | 922.000 |
| SI2-2 | L6 | 333.000 | 17.000 | 922.000 | 401.000 | 17.000 | 922.000 |
| SI2-3 | L6 | 461.000 | 17.000 | 922.000 | 529.000 | 17.000 | 922.000 |
| SI2-4 | L6 | 591.000 | 17.000 | 922.000 | 659.000 | 17.000 | 922.000 |
| SI2-5 | L6 | 2043.000 | 17.000 | 922.000 | 2111.000 | 17.000 | 922.000 |
| SI2-6 | L6 | 2174.000 | 17.000 | 922.000 | 2242.000 | 17.000 | 922.000 |
| SI2-7 | L6 | 2301.000 | 17.000 | 922.000 | 2369.000 | 17.000 | 922.000 |
| SI2-8 | L6 | 2505.000 | 17.000 | 922.000 | 2579.000 | 17.000 | 922.000 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| SI2-3 | L6 | 461.000 | 17.000 | 922.000 | 529.000 | 17.000 | 922.000 |
| SI2-4 | L6 | 591.000 | 17.000 | 922.000 | 659.000 | 17.000 | 922.000 |
| SI2-5 | L6 | 2043.000 | 17.000 | 922.000 | 2111.000 | 17.000 | 922.000 |
| SI2-6 | L6 | 2174.000 | 17.000 | 922.000 | 2242.000 | 17.000 | 922.000 |
| SI2-7 | L6 | 2301.000 | 17.000 | 922.000 | 2369.000 | 17.000 | 922.000 |
| SI2-8 | L6 | 2505.000 | 17.000 | 922.000 | 2579.000 | 17.000 | 922.000 |
| SA-1 | L6 | 17.000 | 124.000 | 922.000 | 17.000 | 198.000 | 922.000 |
| SA-2 | L6 | 17.000 | 333.000 | 922.000 | 17.000 | 401.000 | 922.000 |
| SA-3 | L6 | 17.000 | 461.000 | 922.000 | 17.000 | 529.000 | 922.000 |
| SA-4 | L6 | 17.000 | 591.000 | 922.000 | 17.000 | 659.000 | 922.000 |
| SA-5 | L6 | 17.000 | 1515.000 | 922.000 | 17.000 | 1583.000 | 922.000 |
| SA-6 | L6 | 17.000 | 1646.000 | 922.000 | 17.000 | 1714.000 | 922.000 |
| SA-7 | L6 | 17.000 | 1773.000 | 922.000 | 17.000 | 1841.000 | 922.000 |
| SA-8 | L6 | 17.000 | 1977.000 | 922.000 | 17.000 | 2051.000 | 922.000 |
| SP-1 | L6 | 2685.000 | 124.000 | 922.000 | 2685.000 | 198.000 | 922.000 |
| SP-2 | L6 | 2685.000 | 333.000 | 922.000 | 2685.000 | 401.000 | 922.000 |
| SP-3 | L6 | 2685.000 | 461.000 | 922.000 | 2685.000 | 529.000 | 922.000 |
| SP-4 | L6 | 2685.000 | 591.000 | 922.000 | 2685.000 | 659.000 | 922.000 |
| SP-5 | L6 | 2685.000 | 1515.000 | 922.000 | 2685.000 | 1583.000 | 922.000 |
| SP-6 | L6 | 2685.000 | 1646.000 | 922.000 | 2685.000 | 1714.000 | 922.000 |
| SP-7 | L6 | 2685.000 | 1773.000 | 922.000 | 2685.000 | 1841.000 | 922.000 |
| SP-8 | L6 | 2685.000 | 1977.000 | 922.000 | 2685.000 | 2051.000 | 922.000 |
| SI-1 | L5 | 124.000 | 2157.000 | 779.500 | 198.000 | 2157.000 | 779.500 |
| SI-2 | L5 | 333.000 | 2157.000 | 779.500 | 401.000 | 2157.000 | 779.500 |
| SI-3 | L5 | 461.000 | 2157.000 | 779.500 | 529.000 | 2157.000 | 779.500 |
| SI-4 | L5 | 591.000 | 2157.000 | 779.500 | 659.000 | 2157.000 | 779.500 |

| SPANDREL SECTION CENTROID DATA | | | | | | | |
|--------------------------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
| SI-5 | L5 | 2043.000 | 2157.000 | 779.500 | 2111.000 | 2157.000 | 779.500 |
| SI-6 | L5 | 2174.000 | 2157.000 | 779.500 | 2242.000 | 2157.000 | 779.500 |
| SI-7 | L5 | 2301.000 | 2157.000 | 779.500 | 2369.000 | 2157.000 | 779.500 |
| SI-8 | L5 | 2505.000 | 2157.000 | 779.500 | 2579.000 | 2157.000 | 779.500 |
| SI2-1 | L5 | 124.000 | 17.000 | 779.500 | 198.000 | 17.000 | 779.500 |
| SI2-2 | L5 | 333.000 | 17.000 | 779.500 | 401.000 | 17.000 | 779.500 |
| SI2-3 | L5 | 461.000 | 17.000 | 779.500 | 529.000 | 17.000 | 779.500 |
| SI2-4 | L5 | 591.000 | 17.000 | 779.500 | 659.000 | 17.000 | 779.500 |
| SI2-5 | L5 | 2043.000 | 17.000 | 779.500 | 2111.000 | 17.000 | 779.500 |
| SI2-6 | L5 | 2174.000 | 17.000 | 779.500 | 2242.000 | 17.000 | 779.500 |
| SI2-7 | L5 | 2301.000 | 17.000 | 779.500 | 2369.000 | 17.000 | 779.500 |
| SI2-8 | L5 | 2505.000 | 17.000 | 779.500 | 2579.000 | 17.000 | 779.500 |
| SA-1 | L5 | 17.000 | 124.000 | 779.500 | 17.000 | 198.000 | 779.500 |
| SA-2 | L5 | 17.000 | 333.000 | 779.500 | 17.000 | 401.000 | 779.500 |
| SA-3 | L5 | 17.000 | 461.000 | 779.500 | 17.000 | 529.000 | 779.500 |
| SA-4 | L5 | 17.000 | 591.000 | 779.500 | 17.000 | 659.000 | 779.500 |
| SA-5 | L5 | 17.000 | 1515.000 | 779.500 | 17.000 | 1583.000 | 779.500 |
| SA-6 | L5 | 17.000 | 1646.000 | 779.500 | 17.000 | 1714.000 | 779.500 |
| SA-7 | L5 | 17.000 | 1773.000 | 779.500 | 17.000 | 1841.000 | 779.500 |
| SA-8 | L5 | 17.000 | 1977.000 | 779.500 | 17.000 | 2051.000 | 779.500 |
| SP-1 | L5 | 2685.000 | 124.000 | 779.500 | 2685.000 | 198.000 | 779.500 |
| SP-2 | L5 | 2685.000 | 333.000 | 779.500 | 2685.000 | 401.000 | 779.500 |
| SP-3 | L5 | 2685.000 | 461.000 | 779.500 | 2685.000 | 529.000 | 779.500 |
| SP-4 | L5 | 2685.000 | 591.000 | 779.500 | 2685.000 | 659.000 | 779.500 |
| SP-5 | L5 | 2685.000 | 1515.000 | 779.500 | 2685.000 | 1583.000 | 779.500 |
| SP-6 | L5 | 2685.000 | 1646.000 | 779.500 | 2685.000 | 1714.000 | 779.500 |

SPANDREL SECTION CENTROID DATA

| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
|----------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SP-7 | L5 | 2685.000 | 1773.000 | 779.500 | 2685.000 | 1841.000 | 779.500 |
| SP-8 | L5 | 2685.000 | 1977.000 | 779.500 | 2685.000 | 2051.000 | 779.500 |
| SI-1 | L4 | 124.000 | 2157.000 | 596.000 | 198.000 | 2157.000 | 596.000 |
| SI-2 | L4 | 333.000 | 2157.000 | 596.000 | 401.000 | 2157.000 | 596.000 |
| SI-3 | L4 | 461.000 | 2157.000 | 596.000 | 529.000 | 2157.000 | 596.000 |
| SI-4 | L4 | 591.000 | 2157.000 | 596.000 | 659.000 | 2157.000 | 596.000 |
| SI-5 | L4 | 2043.000 | 2157.000 | 596.000 | 2111.000 | 2157.000 | 596.000 |
| SI-6 | L4 | 2174.000 | 2157.000 | 596.000 | 2242.000 | 2157.000 | 596.000 |
| SI-7 | L4 | 2301.000 | 2157.000 | 596.000 | 2369.000 | 2157.000 | 596.000 |
| SI-8 | L4 | 2505.000 | 2157.000 | 596.000 | 2579.000 | 2157.000 | 596.000 |
| SI2-1 | L4 | 124.000 | 17.000 | 596.000 | 198.000 | 17.000 | 596.000 |
| SI2-2 | L4 | 333.000 | 17.000 | 596.000 | 401.000 | 17.000 | 596.000 |
| SI2-3 | L4 | 461.000 | 17.000 | 596.000 | 529.000 | 17.000 | 596.000 |
| SI2-4 | L4 | 591.000 | 17.000 | 596.000 | 659.000 | 17.000 | 596.000 |
| SI2-5 | L4 | 2043.000 | 17.000 | 596.000 | 2111.000 | 17.000 | 596.000 |
| SI2-6 | L4 | 2174.000 | 17.000 | 596.000 | 2242.000 | 17.000 | 596.000 |
| SI2-7 | L4 | 2301.000 | 17.000 | 596.000 | 2369.000 | 17.000 | 596.000 |
| SI2-8 | L4 | 2505.000 | 17.000 | 596.000 | 2579.000 | 17.000 | 596.000 |
| SA-1 | L4 | 17.000 | 124.000 | 596.000 | 17.000 | 198.000 | 596.000 |
| SA-2 | L4 | 17.000 | 333.000 | 596.000 | 17.000 | 401.000 | 596.000 |
| SA-3 | L4 | 17.000 | 461.000 | 596.000 | 17.000 | 529.000 | 596.000 |
| SA-4 | L4 | 17.000 | 591.000 | 596.000 | 17.000 | 659.000 | 596.000 |
| SA-5 | L4 | 17.000 | 1515.000 | 596.000 | 17.000 | 1583.000 | 596.000 |
| SA-6 | L4 | 17.000 | 1646.000 | 596.000 | 17.000 | 1714.000 | 596.000 |
| SA-7 | L4 | 17.000 | 1773.000 | 596.000 | 17.000 | 1841.000 | 596.000 |
| SA-8 | L4 | 17.000 | 1977.000 | 596.000 | 17.000 | 2051.000 | 596.000 |

SPANDREL SECTION CENTROID DATA

| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
|----------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SP-1 | L4 | 2685.000 | 124.000 | 596.000 | 2685.000 | 198.000 | 596.000 |
| SP-3 | L4 | 2685.000 | 333.000 | 596.000 | 2685.000 | 401.000 | 596.000 |
| SP-3 | L4 | 2685.000 | 461.000 | 596.000 | 2685.000 | 529.000 | 596.000 |
| SP-4 | L4 | 2685.000 | 591.000 | 596.000 | 2685.000 | 659.000 | 596.000 |
| SP-5 | L4 | 2685.000 | 1515.000 | 596.000 | 2685.000 | 1583.000 | 596.000 |
| SP-6 | L4 | 2685.000 | 1646.000 | 596.000 | 2685.000 | 1714.000 | 596.000 |
| SP-7 | L4 | 2685.000 | 1773.000 | 596.000 | 2685.000 | 1841.000 | 596.000 |
| SP-8 | L4 | 2685.000 | 1977.000 | 596.000 | 2685.000 | 2051.000 | 596.000 |
| SI-1 | L3 | 124.000 | 2157.000 | 428.500 | 198.000 | 2157.000 | 428.500 |
| SI-2 | L3 | 333.000 | 2157.000 | 428.500 | 401.000 | 2157.000 | 428.500 |
| SI-3 | L3 | 461.000 | 2157.000 | 428.500 | 529.000 | 2157.000 | 428.500 |
| SI-4 | L3 | 591.000 | 2157.000 | 428.500 | 659.000 | 2157.000 | 428.500 |
| SI-5 | L3 | 2043.000 | 2157.000 | 428.500 | 2111.000 | 2157.000 | 428.500 |
| SI-6 | L3 | 2174.000 | 2157.000 | 428.500 | 2242.000 | 2157.000 | 428.500 |
| SI-7 | L3 | 2301.000 | 2157.000 | 428.500 | 2369.000 | 2157.000 | 428.500 |
| SI-8 | L3 | 2505.000 | 2157.000 | 428.500 | 2579.000 | 2157.000 | 428.500 |
| SI2-1 | L3 | 124.000 | 17.000 | 428.500 | 198.000 | 17.000 | 428.500 |
| SI2-2 | L3 | 333.000 | 17.000 | 428.500 | 401.000 | 17.000 | 428.500 |
| SI2-3 | L3 | 461.000 | 17.000 | 428.500 | 529.000 | 17.000 | 428.500 |
| SI2-4 | L3 | 591.000 | 17.000 | 428.500 | 659.000 | 17.000 | 428.500 |
| SI2-5 | L3 | 2043.000 | 17.000 | 428.500 | 2111.000 | 17.000 | 428.500 |
| SI2-6 | L3 | 2174.000 | 17.000 | 428.500 | 2242.000 | 17.000 | 428.500 |
| SI2-7 | L3 | 2301.000 | 17.000 | 428.500 | 2369.000 | 17.000 | 428.500 |
| SI2-8 | L3 | 2505.000 | 17.000 | 428.500 | 2579.000 | 17.000 | 428.500 |
| SA-1 | L3 | 17.000 | 124.000 | 428.500 | 17.000 | 198.000 | 428.500 |
| SA-2 | L3 | 17.000 | 333.000 | 428.500 | 17.000 | 401.000 | 428.500 |

SPANDREL SECTION CENTROID DATA

| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
|----------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SA-3 | L3 | 17.000 | 461.000 | 428.500 | 17.000 | 529.000 | 428.500 |
| SA-4 | L3 | 17.000 | 591.000 | 428.500 | 17.000 | 659.000 | 428.500 |
| SA-5 | L3 | 17.000 | 1515.000 | 428.500 | 17.000 | 1583.000 | 428.500 |
| SA-6 | L3 | 17.000 | 1646.000 | 428.500 | 17.000 | 1714.000 | 428.500 |
| SA-7 | L3 | 17.000 | 1773.000 | 428.500 | 17.000 | 1841.000 | 428.500 |
| SA-8 | L3 | 17.000 | 1977.000 | 428.500 | 17.000 | 2051.000 | 428.500 |
| SP-1 | L3 | 2685.000 | 124.000 | 428.500 | 2685.000 | 198.000 | 428.500 |
| SP-2 | L3 | 2685.000 | 333.000 | 428.500 | 2685.000 | 401.000 | 428.500 |
| SP-3 | L3 | 2685.000 | 461.000 | 428.500 | 2685.000 | 529.000 | 428.500 |
| SP-4 | L3 | 2685.000 | 591.000 | 428.500 | 2685.000 | 659.000 | 428.500 |
| SP-5 | L3 | 2685.000 | 1515.000 | 428.500 | 2685.000 | 1583.000 | 428.500 |
| SP-6 | L3 | 2685.000 | 1646.000 | 428.500 | 2685.000 | 1714.000 | 428.500 |
| SP-7 | L3 | 2685.000 | 1773.000 | 428.500 | 2685.000 | 1841.000 | 428.500 |
| SP-8 | L3 | 2685.000 | 1977.000 | 428.500 | 2685.000 | 2051.000 | 428.500 |
| SA-4.1 | L3 | 17.000 | 723.000 | 428.500 | 17.000 | 791.000 | 428.500 |
| SA-4.2 | L3 | 17.000 | 855.000 | 428.500 | 17.000 | 923.000 | 428.500 |
| SI2-1 | L2 | 124.000 | 17.000 | 230.000 | 198.000 | 17.000 | 230.000 |
| SI2-2 | L2 | 333.000 | 17.000 | 230.000 | 401.000 | 17.000 | 230.000 |
| SI2-3 | L2 | 461.000 | 17.000 | 230.000 | 529.000 | 17.000 | 230.000 |
| SI2-4 | L2 | 591.000 | 17.000 | 230.000 | 659.000 | 17.000 | 230.000 |
| SI2-5 | L2 | 2043.000 | 17.000 | 230.000 | 2111.000 | 17.000 | 230.000 |
| SI2-6 | L2 | 2174.000 | 17.000 | 230.000 | 2242.000 | 17.000 | 230.000 |
| SI2-7 | L2 | 2301.000 | 17.000 | 230.000 | 2369.000 | 17.000 | 230.000 |
| SI2-8 | L2 | 2505.000 | 17.000 | 230.000 | 2579.000 | 17.000 | 230.000 |
| SA-1 | L2 | 17.000 | 124.000 | 230.000 | 17.000 | 198.000 | 230.000 |
| SA-2 | L2 | 17.000 | 333.000 | 230.000 | 17.000 | 401.000 | 230.000 |

SPANDREL SECTION CENTROID DATA

| SPANDREL LABEL | STORY LEVEL | CENTROID LEFT X | CENTROID LEFT Y | CENTROID LEFT Z | CENTROID RIGHT X | CENTROID RIGHT Y | CENTROID RIGHT Z |
|----------------|-------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| SA-3 | L2 | 17.000 | 461.000 | 230.000 | 17.000 | 529.000 | 230.000 |
| SA-4 | L2 | 17.000 | 591.000 | 230.000 | 17.000 | 659.000 | 230.000 |
| SP-1 | L2 | 2685.000 | 124.000 | 230.000 | 2685.000 | 198.000 | 230.000 |
| SP-2 | L2 | 2685.000 | 333.000 | 230.000 | 2685.000 | 401.000 | 230.000 |
| SP-3 | L2 | 2685.000 | 461.000 | 230.000 | 2685.000 | 529.000 | 230.000 |
| SP-4 | L2 | 2685.000 | 591.000 | 230.000 | 2685.000 | 659.000 | 230.000 |
| SP-5 | L2 | 2685.000 | 1515.000 | 230.000 | 2685.000 | 1583.000 | 230.000 |
| SP-6 | L2 | 2685.000 | 1646.000 | 230.000 | 2685.000 | 1714.000 | 230.000 |
| SP-7 | L2 | 2685.000 | 1773.000 | 230.000 | 2685.000 | 1841.000 | 230.000 |
| SP-8 | L2 | 2685.000 | 1977.000 | 230.000 | 2685.000 | 2051.000 | 230.000 |
| SA-4.1 | L2 | 17.000 | 723.000 | 230.000 | 17.000 | 791.000 | 230.000 |
| SA-4.2 | L2 | 17.000 | 871.000 | 215.460 | 17.000 | 907.000 | 215.460 |

STATIC LOAD CASES

| STATIC CASE | CASE TYPE | AUTO LAT LOAD | SELF WT MULTIPLIER |
|-------------|-----------|---------------|--------------------|
| DEAD | DEAD | N/A | 1.0000 |
| LIVE | LIVE | N/A | 0.0000 |
| EQSTAT | QUAKE | UBC97 | 0.0000 |
| EQYSTAT | QUAKE | UBC97 | 0.0000 |
| TORX | QUAKE | USER LOADS | 0.0000 |
| TORY | QUAKE | USER LOADS | 0.0000 |
| L14D1AX | QUAKE | USER LOADS | 0.0000 |
| L12D1AX | QUAKE | USER LOADS | 0.0000 |
| L10D1AX | QUAKE | USER LOADS | 0.0000 |
| L8D1AX | QUAKE | USER LOADS | 0.0000 |
| L6D1AX | QUAKE | USER LOADS | 0.0000 |
| L4D1AX | QUAKE | USER LOADS | 0.0000 |
| L2D1AX | QUAKE | USER LOADS | 0.0000 |
| L14D1AY | QUAKE | USER LOADS | 0.0000 |
| L12D1AY | QUAKE | USER LOADS | 0.0000 |
| L10D1AY | QUAKE | USER LOADS | 0.0000 |
| L8D1AY | QUAKE | USER LOADS | 0.0000 |
| L6D1AY | QUAKE | USER LOADS | 0.0000 |
| L4D1AY | QUAKE | USER LOADS | 0.0000 |
| L2D1AY | QUAKE | USER LOADS | 0.0000 |
| L14TY | QUAKE | USER LOADS | 0.0000 |
| L12TY | QUAKE | USER LOADS | 0.0000 |
| L10TY | QUAKE | USER LOADS | 0.0000 |
| L8TY | QUAKE | USER LOADS | 0.0000 |
| L6TY | QUAKE | USER LOADS | 0.0000 |
| L4TY | QUAKE | USER LOADS | 0.0000 |
| L2TY | QUAKE | USER LOADS | 0.0000 |
| L14TX | QUAKE | USER LOADS | 0.0000 |
| L12TX | QUAKE | USER LOADS | 0.0000 |
| L10TX | QUAKE | USER LOADS | 0.0000 |
| L8TX | QUAKE | USER LOADS | 0.0000 |
| L6TX | QUAKE | USER LOADS | 0.0000 |
| L4TX | QUAKE | USER LOADS | 0.0000 |
| L2TX | QUAKE | USER LOADS | 0.0000 |
| L14TY | QUAKE | USER LOADS | 0.0000 |
| L12TY | QUAKE | USER LOADS | 0.0000 |
| L10TY | QUAKE | USER LOADS | 0.0000 |
| L8TY | QUAKE | USER LOADS | 0.0000 |
| L6TY | QUAKE | USER LOADS | 0.0000 |
| L4TY | QUAKE | USER LOADS | 0.0000 |
| L2TY | QUAKE | USER LOADS | 0.0000 |
| SOIL1 | OTHER | N/A | 0.0000 |
| SOIL2 | OTHER | N/A | 0.0000 |
| SOIL3 | OTHER | N/A | 0.0000 |
| SOIL4 | OTHER | N/A | 0.0000 |

RESPONSE SPECTRUM CASES

RESP SPEC CASE: SPECX

BASIC RESPONSE SPECTRUM DATA

| MODAL COMBO | DIRECTION COMBO | MODAL DAMPING | SPECTRUM ANGLE | TYPICAL ECCEN |
|-------------|-----------------|---------------|----------------|---------------|
| CQC | SRSS | 0.0500 | 0.0000 | 0.0000 |

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

| DIRECTION | FUNCTION | SCALE FACT |
|-----------|----------|------------|
| U1 | SITE | 386.4000 |
| U2 | ---- | N/A |
| U3 | ---- | N/A |

RESP SPEC CASE: SPECY

BASIC RESPONSE SPECTRUM DATA

| MODAL COMBO | DIRECTION COMBO | MODAL DAMPING | SPECTRUM ANGLE | TYPICAL ECCEN |
|-------------|-----------------|---------------|----------------|---------------|
| CQC | SRSS | 0.0500 | 0.0000 | 0.0000 |

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

| DIRECTION | FUNCTION | SCALE FACT |
|-----------|----------|------------|
| U1 | ---- | N/A |
| U2 | SITE | 386.4000 |
| U3 | ---- | N/A |

RESP SPEC CASE: UBCX

BASIC RESPONSE SPECTRUM DATA

| MODAL COMBO | DIRECTION COMBO | MODAL DAMPING | SPECTRUM ANGLE | TYPICAL ECCEN |
|-------------|-----------------|---------------|----------------|---------------|
| CQC | SRSS | 0.0500 | 0.0000 | 0.0500 |

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

| DIRECTION | FUNCTION | SCALE FACT |
|-----------|----------|------------|
| U1 | UBC97 | 386.4000 |
| U2 | ---- | N/A |
| U3 | ---- | N/A |

RESP SPEC CASE: UBCY

BASIC RESPONSE SPECTRUM DATA

| MODAL COMBO | DIRECTION COMBO | MODAL DAMPING | SPECTRUM ANGLE | TYPICAL ECCEN |
|-------------|-----------------|---------------|----------------|---------------|
| CQC | SRSS | 0.0500 | 0.0000 | 0.0500 |

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

| DIRECTION | FUNCTION | SCALE FACT |
|-----------|----------|------------|
| U1 | ---- | N/A |
| U2 | UBC97 | 386.4000 |
| U3 | ---- | N/A |

RESPONSE SPECTRUM CASES

RESP SPEC CASE: SPECX

BASIC RESPONSE SPECTRUM DATA

| MODAL COMBO | DIRECTION COMBO | MODAL DAMPING | SPECTRUM ANGLE | TYPICAL ECCEN |
|-------------|-----------------|---------------|----------------|---------------|
| CQC | SRSS | 0.0500 | 0.0000 | 0.0500 |

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

| DIRECTION | FUNCTION | SCALE FACT |
|-----------|----------|------------|
| U1 | SITE | 386.4000 |
| U2 | ---- | N/A |
| U3 | ---- | N/A |

RESP SPEC CASE: SPECY

BASIC RESPONSE SPECTRUM DATA

| MODAL COMBO | DIRECTION COMBO | MODAL DAMPING | SPECTRUM ANGLE | TYPICAL ECCEN |
|-------------|-----------------|---------------|----------------|---------------|
| CQC | SRSS | 0.0500 | 0.0000 | 0.0500 |

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

| DIRECTION | FUNCTION | SCALE FACT |
|-----------|----------|------------|
| U1 | ---- | N/A |
| U2 | SITE | 386.4000 |
| U3 | ---- | N/A |

LOADING COMBINATIONS

| COMBO | COMBO TYPE | CASE | CASE TYPE | SCALE FACTOR |
|--------|------------|-------|-----------|--------------|
| DX | ADD | SPECX | Spectra | 0.5387 |
| DY | ADD | SPECY | Spectra | 0.5383 |
| SW1A | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DX | Combo | 0.8000 |
| | | TORX | Static | 0.8000 |
| | | SOIL1 | Static | 1.4000 |
| SW1B | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DX | Combo | -0.8000 |
| | | TORX | Static | 1.4000 |
| | | SOIL1 | Static | 1.4000 |
| SW1C | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DX | Combo | -0.8000 |
| | | TORX | Static | 0.8000 |
| | | SOIL2 | Static | 1.4000 |
| SW1D | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DX | Combo | -0.8000 |
| | | TORX | Static | 1.4000 |
| | | SOIL2 | Static | 1.4000 |
| SW2A | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DY | Combo | 0.8000 |
| | | TORY | Static | 0.8000 |
| | | SOIL1 | Static | 1.4000 |
| SW2B | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DY | Combo | -0.8000 |
| | | TORY | Static | 0.8000 |
| | | SOIL1 | Static | 1.4000 |
| ENG1 | ADD | SOIL1 | Static | 1.4000 |
| | | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DY | Combo | -0.8000 |
| | | TORY | Static | 0.8000 |
| SW2D | ADD | DEAD | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DY | Combo | -0.8000 |
| | | TORY | Static | 0.8000 |
| | | SOIL1 | Static | 1.4000 |
| COMB1A | ABS | SOIL | Static | 1.4000 |
| | | DX | Combo | 0.8000 |
| | | TORX | Static | 0.8000 |
| COMB1B | ABS | SOIL1 | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DX | Combo | 0.8000 |
| | | TORX | Static | 0.8000 |
| COMB2A | ABS | SOIL2 | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DY | Combo | 0.8000 |
| | | TORY | Static | 0.8000 |
| COMB2B | ABS | SOIL1 | Static | 1.4000 |
| | | SOIL | Static | 1.4000 |
| | | DY | Combo | 0.8000 |
| | | TORY | Static | 0.8000 |
| | | SOIL2 | Static | 1.4000 |

RELEASE ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY LEVEL, LINE ID, LINE TYPE, P, V1, V2, T, M2, M3. Lists release assignments for beam elements across various stories.

LOCAL AXES ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY, LINE, LINETYPE, ANGLE. Lists local axis assignments for beam elements across various stories.

LOCAL AXES ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY, LINE, LINETYPE, ANGLE. Lists local axis assignments for beam elements across various stories.

LOCAL AXES ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY, LINE, LINETYPE, ANGLE. Lists local axis assignments for beam elements across various stories.

LOCAL AXES ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY, LINE, LINETYPE, ANGLE. Lists assignments for stories L5 through L10, including various line types like L1, L135, L14, L44, etc.

LINE MASS ASSIGNMENT (LINE MASS IS A MASS PER UNIT LENGTH)

Table with columns: STORY, LINE, LINETYPE, MASS. Lists mass assignments for stories L5 through L10, including various line types like L1, L135, L14, L44, etc.

LINE MASS ASSIGNMENTS (LINE MASS IS A MASS PER UNIT LENGTH)

Table with columns: STORY, LINE, LINETYPE, MASS. Lists mass assignments for stories L10 through L5, including various line types like L135, L1, L14, L44, etc.

LINE MASS ASSIGNMENTS (LINE MASS IS A MASS PER UNIT LENGTH)

Table with columns: STORY, LINE, LINETYPE, MASS. Lists mass assignments for stories L5 through L10, including various line types like L135, L1, L14, L44, etc.

DISTRIBUTED LOAD ASSIGNMENTS TO LINE OBJECTS

DISTRIBUTED LOAD ASSIGNMENTS TO LINE OBJECTS

Table with columns: LOAD CASE, STORY LEVEL, LINE ID, LOAD TYPE, LOAD DIRECTION, ABSOLUTE DISTANCE A, ABSOLUTE DISTANCE B, LOAD A PER LENGTH, LOAD B PER LENGTH. Contains load assignment data for multiple stories and line objects.

Table with columns: LOAD CASE, STORY LEVEL, LINE ID, LOAD TYPE, LOAD DIRECTION, ABSOLUTE DISTANCE A, ABSOLUTE DISTANCE B, LOAD A PER LENGTH, LOAD B PER LENGTH. Contains load assignment data for multiple stories and line objects.

AREA MASS ASSIGNMENTS (AREA MASS IS A MASS PER UNIT AREA)

AREA MASS ASSIGNMENTS (AREA MASS IS A MASS PER UNIT AREA)

Table with columns: STORY, AREA, AREATYPE, MASS. Lists area mass assignments for various stories and areas.

Table with columns: STORY, AREA, AREATYPE, MASS. Lists area mass assignments for various stories and areas.

AREA MASS ASSIGNMENTS
(AREA MASS IS A MASS PER UNIT AREA)

Table with columns: STORY, AREA, AREATYPE, MASS. Lists mass assignments for floors F39 through F147.

AREA MASS ASSIGNMENTS
(AREA MASS IS A MASS PER UNIT AREA)

Table with columns: STORY, AREA, AREATYPE, MASS. Lists mass assignments for floors F148 through F282.

AREA MASS ASSIGNMENTS
(AREA MASS IS A MASS PER UNIT AREA)

Table with columns: STORY, AREA, AREATYPE, MASS. Lists mass assignments for floors F283 through F371.

AREA MASS ASSIGNMENTS
(AREA MASS IS A MASS PER UNIT AREA)

Table with columns: STORY, AREA, AREATYPE, MASS. Lists mass assignments for floors F372 through F374.



F.2: Element Force File

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include data for various piers (RF) and load locations (e.g., DX MAX, DY MIN, DEAD, TORX, TORY) across multiple stories (1.9 to 12.9).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include data for various piers (RF) and load locations (e.g., DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) across multiple stories (12.11 to 1.11).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include data for various piers (RF) and load locations (e.g., DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) across multiple stories (A-10 to 12.11).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include data for various piers (L14) and load locations (e.g., DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) across multiple stories (L14).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L14) and load types (A-2, TORK, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L14) and load types (A-10, P-9, P-10, 12.11).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L14) and load types (1.9, 12.9, 12.10, 12.11, 12.12, 12.13, 12.14, 12.15, 12.16, 12.17, 12.18, 12.19, 12.20, 12.21, 12.22, 12.23, 12.24, 12.25, 12.26, 12.27, 12.28, 12.29, 12.30, 12.31, 12.32, 12.33, 12.34, 12.35, 12.36, 12.37, 12.38, 12.39, 12.40, 12.41, 12.42, 12.43, 12.44, 12.45, 12.46, 12.47, 12.48, 12.49, 12.50, 12.51, 12.52, 12.53, 12.54, 12.55, 12.56, 12.57, 12.58, 12.59, 12.60, 12.61, 12.62, 12.63, 12.64, 12.65, 12.66, 12.67, 12.68, 12.69, 12.70, 12.71, 12.72, 12.73, 12.74, 12.75, 12.76, 12.77, 12.78, 12.79, 12.80, 12.81, 12.82, 12.83, 12.84, 12.85, 12.86, 12.87, 12.88, 12.89, 12.90, 12.91, 12.92, 12.93, 12.94, 12.95, 12.96, 12.97, 12.98, 12.99, 13.00).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L14) and load types (12.11, 12.12, 12.13, 12.14, 12.15, 12.16, 12.17, 12.18, 12.19, 12.20, 12.21, 12.22, 12.23, 12.24, 12.25, 12.26, 12.27, 12.28, 12.29, 12.30, 12.31, 12.32, 12.33, 12.34, 12.35, 12.36, 12.37, 12.38, 12.39, 12.40, 12.41, 12.42, 12.43, 12.44, 12.45, 12.46, 12.47, 12.48, 12.49, 12.50, 12.51, 12.52, 12.53, 12.54, 12.55, 12.56, 12.57, 12.58, 12.59, 12.60, 12.61, 12.62, 12.63, 12.64, 12.65, 12.66, 12.67, 12.68, 12.69, 12.70, 12.71, 12.72, 12.73, 12.74, 12.75, 12.76, 12.77, 12.78, 12.79, 12.80, 12.81, 12.82, 12.83, 12.84, 12.85, 12.86, 12.87, 12.88, 12.89, 12.90, 12.91, 12.92, 12.93, 12.94, 12.95, 12.96, 12.97, 12.98, 12.99, 13.00).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for levels 1.1.1 to 12.1.3, detailing load locations (Top/Bottom) and various force components.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for levels 1.1.1 to 12.1.3, detailing load locations (Top/Bottom) and various force components.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for levels 1.9 to 12.9, detailing load locations (Top/Bottom) and various force components.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for levels 1.9 to 12.9, detailing load locations (Top/Bottom) and various force components.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for stories L12, L13, and L15, including TORX, TORZ, and DEAD loads.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for stories L12, L13, and L15, including TORX, TORZ, and DEAD loads.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for stories L12, L13, and L15, including TORX, TORZ, and DEAD loads.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for stories L12, L13, and L15, including TORX, TORZ, and DEAD loads.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains data for piers L12, L11, L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 across various load cases like DY MAX, DY MIN, TORX, TORX, TORX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains data for piers L11, L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 across various load cases like DEAD, TORX, TORX, TORX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains data for piers L12, L11, L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 across various load cases like DY MIN, DEAD, TORX, TORX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains data for piers L11, L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 across various load cases like TORX, TORX, TORX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L11.1 through L11.12.4, with load types like TOR, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, and TORX.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L11.1 through L11.12.4, with load types like DX MIN, DY MAX, DY MIN, DEAD, TORX, and TOR.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L11.1 through L11.12.4, with load types like DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, and TOR.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L11.1 through L11.12.4, with load types like DY MAX, DY MIN, DEAD, TORX, TOR, DX MAX, DX MIN, DY MAX, DY MIN, and DEAD.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L10.12.2, L10.12.3, L10.12.4, L10.12.5, L10.12.7, L10.12.8, L10.12.9, L10.12.10, L10.12.11, L10.12.12, L10.12.13, L10.12.14, L10.12.15, L10.12.16, L10.12.17, L10.12.18, L10.12.19, L10.12.20, L10.12.21, L10.12.22, L10.12.23, L10.12.24, L10.12.25, L10.12.26, L10.12.27, L10.12.28, L10.12.29, L10.12.30, L10.12.31, L10.12.32, L10.12.33, L10.12.34, L10.12.35, L10.12.36, L10.12.37, L10.12.38, L10.12.39, L10.12.40, L10.12.41, L10.12.42, L10.12.43, L10.12.44, L10.12.45, L10.12.46, L10.12.47, L10.12.48, L10.12.49, L10.12.50, L10.12.51, L10.12.52, L10.12.53, L10.12.54, L10.12.55, L10.12.56, L10.12.57, L10.12.58, L10.12.59, L10.12.60.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L10.P-3, L10.P-2, L10.P-1, L10.P-4, L10.P-5, L10.P-6, L10.P-7, L10.P-8, L10.P-9, L10.P-10, L10.P-11, L10.P-12, L10.P-13, L10.P-14, L10.P-15, L10.P-16, L10.P-17, L10.P-18, L10.P-19, L10.P-20, L10.P-21, L10.P-22, L10.P-23, L10.P-24, L10.P-25, L10.P-26, L10.P-27, L10.P-28, L10.P-29, L10.P-30, L10.P-31, L10.P-32, L10.P-33, L10.P-34, L10.P-35, L10.P-36, L10.P-37, L10.P-38, L10.P-39, L10.P-40, L10.P-41, L10.P-42, L10.P-43, L10.P-44, L10.P-45, L10.P-46, L10.P-47, L10.P-48, L10.P-49, L10.P-50, L10.P-51, L10.P-52, L10.P-53, L10.P-54, L10.P-55, L10.P-56, L10.P-57, L10.P-58, L10.P-59, L10.P-60.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L10.12.5, L10.12.6, L10.12.7, L10.12.8, L10.12.9, L10.12.10, L10.12.11, L10.12.12, L10.12.13, L10.12.14, L10.12.15, L10.12.16, L10.12.17, L10.12.18, L10.12.19, L10.12.20, L10.12.21, L10.12.22, L10.12.23, L10.12.24, L10.12.25, L10.12.26, L10.12.27, L10.12.28, L10.12.29, L10.12.30, L10.12.31, L10.12.32, L10.12.33, L10.12.34, L10.12.35, L10.12.36, L10.12.37, L10.12.38, L10.12.39, L10.12.40, L10.12.41, L10.12.42, L10.12.43, L10.12.44, L10.12.45, L10.12.46, L10.12.47, L10.12.48, L10.12.49, L10.12.50, L10.12.51, L10.12.52, L10.12.53, L10.12.54, L10.12.55, L10.12.56, L10.12.57, L10.12.58, L10.12.59, L10.12.60.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for piers L10.P-2, L10.P-1, L10.P-3, L10.P-4, L10.P-5, L10.P-6, L10.P-7, L10.P-8, L10.P-9, L10.P-10, L10.P-11, L10.P-12, L10.P-13, L10.P-14, L10.P-15, L10.P-16, L10.P-17, L10.P-18, L10.P-19, L10.P-20, L10.P-21, L10.P-22, L10.P-23, L10.P-24, L10.P-25, L10.P-26, L10.P-27, L10.P-28, L10.P-29, L10.P-30, L10.P-31, L10.P-32, L10.P-33, L10.P-34, L10.P-35, L10.P-36, L10.P-37, L10.P-38, L10.P-39, L10.P-40, L10.P-41, L10.P-42, L10.P-43, L10.P-44, L10.P-45, L10.P-46, L10.P-47, L10.P-48, L10.P-49, L10.P-50, L10.P-51, L10.P-52, L10.P-53, L10.P-54, L10.P-55, L10.P-56, L10.P-57, L10.P-58, L10.P-59, L10.P-60.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 for various pier types like TORX, TORY, DX MAX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 for various pier types like TORX, TORY, DX MAX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L10, L9, L8, L7, L6, L5, L4, L3, L2, L1 for various pier types like DX MAX, DX MIN, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L9, L8, L7, L6, L5, L4, L3, L2, L1 for various pier types like DX MAX, DX MIN, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Contains structural force data for various piers and load locations across multiple stories.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Contains structural force data for various piers and load locations across multiple stories.

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Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Contains structural force data for various piers and load locations across multiple stories.

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Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains structural load data for various piers across multiple stories.

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Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains structural load data for various piers across multiple stories.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Contains structural load data for various piers across multiple stories.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L9 to L1) and load types (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L9 to L1) and load types (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L9 to L1) and load types (TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L8 to L1) and load types (TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (1.5, 1.1, 12.1, 12.2) and load types (DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (12.2, 12.1, 12.3, 12.4) and load types (DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (12.5, A-1, A-2, A-3) and load types (DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (A-3, A-4, A-5, P-1) and load types (DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN).

PIER FORCES

| STORY | PIER | LOAD LOC | F | V2 | V3 | T | H2 | H3 |
|-------|------|------------|---------|---------|-------|--------|---------|------------|
| L8 | P-2 | DEAD | -264.02 | 4.03 | 0.00 | -0.008 | -0.005 | -327.033 |
| | | Top Bottom | -286.38 | 4.03 | 0.00 | -0.008 | -0.005 | 311.935 |
| L8 | P-2 | TORX | -57.00 | 27.49 | 0.00 | 0.163 | -0.073 | -1448.800 |
| | | Top Bottom | -17.00 | 27.49 | 0.00 | 0.163 | -0.073 | 1465.608 |
| L8 | P-2 | TORY | -69.28 | 33.08 | 0.00 | 0.198 | -0.087 | -1743.510 |
| | | Top Bottom | -69.28 | 33.08 | 0.00 | 0.198 | -0.087 | 1763.003 |
| L8 | P-2 | DX MAX | 884.25 | 357.54 | 0.14 | 2.717 | 11.493 | 21166.413 |
| | | Top Bottom | 884.25 | 357.54 | 0.14 | 2.717 | 11.493 | 16767.603 |
| L8 | P-2 | DX MIN | -884.25 | -357.54 | -0.14 | -2.717 | -11.493 | -21166.413 |
| | | Top Bottom | -884.25 | -357.54 | -0.14 | -2.717 | -11.493 | -16767.603 |
| L8 | P-2 | DY MAX | 909.04 | 579.03 | 0.02 | 0.608 | 1.349 | 32000.606 |
| | | Top Bottom | 909.04 | 579.03 | 0.02 | 0.608 | 1.349 | 31698.355 |
| L8 | P-2 | DY MIN | -909.04 | -579.03 | -0.02 | -0.608 | -1.349 | -32000.606 |
| | | Top Bottom | -909.04 | -579.03 | -0.02 | -0.608 | -1.349 | -31698.355 |
| L8 | P-3 | DEAD | -84.36 | 3.23 | 0.00 | 0.001 | -0.001 | -192.910 |
| | | Top Bottom | -84.36 | 3.23 | 0.00 | 0.001 | -0.001 | 148.281 |
| L8 | P-3 | TORX | -22.50 | 8.14 | 0.00 | 0.050 | -0.024 | -482.690 |
| | | Top Bottom | -22.50 | 8.14 | 0.00 | 0.050 | -0.024 | 380.636 |
| L8 | P-3 | TORY | -27.33 | 9.86 | 0.00 | 0.061 | -0.028 | -584.217 |
| | | Top Bottom | -27.33 | 9.86 | 0.00 | 0.061 | -0.028 | 460.653 |
| L8 | P-3 | DX MAX | 253.42 | 70.63 | 0.07 | 0.574 | 5.764 | 4212.636 |
| | | Top Bottom | 253.42 | 70.63 | 0.07 | 0.574 | 5.764 | 3275.689 |
| L8 | P-3 | DX MIN | -253.42 | -70.63 | -0.07 | -0.574 | -5.764 | -4212.636 |
| | | Top Bottom | -253.42 | -70.63 | -0.07 | -0.574 | -5.764 | -3275.689 |
| L8 | P-3 | DY MAX | 450.52 | 170.66 | 0.01 | 0.127 | 0.555 | 10094.714 |
| | | Top Bottom | 450.52 | 170.66 | 0.01 | 0.127 | 0.555 | 8019.234 |
| L8 | P-3 | DY MIN | -450.52 | -170.66 | -0.01 | -0.127 | -0.555 | -10094.714 |
| | | Top Bottom | -450.52 | -170.66 | -0.01 | -0.127 | -0.555 | -8019.234 |
| L8 | P-4 | DEAD | -82.90 | 1.41 | 0.00 | 0.001 | -0.001 | -105.008 |
| | | Top Bottom | -82.90 | 1.41 | 0.00 | 0.001 | -0.001 | 41.347 |
| L8 | P-4 | TORX | -20.08 | 5.76 | 0.00 | 0.057 | -0.019 | -341.897 |
| | | Top Bottom | -20.08 | 5.76 | 0.00 | 0.057 | -0.019 | 248.237 |
| L8 | P-4 | TORY | -24.42 | 6.96 | 0.00 | 0.070 | -0.023 | -437.983 |
| | | Top Bottom | -24.42 | 6.96 | 0.00 | 0.070 | -0.023 | 300.278 |
| L8 | P-4 | DX MAX | 171.45 | 44.22 | 0.09 | 0.857 | 7.489 | 3814.387 |
| | | Top Bottom | 171.45 | 44.22 | 0.09 | 0.857 | 7.489 | 1873.125 |
| L8 | P-4 | DX MIN | -171.45 | -44.22 | -0.09 | -0.857 | -7.489 | -3814.387 |
| | | Top Bottom | -171.45 | -44.22 | -0.09 | -0.857 | -7.489 | -1873.125 |
| L8 | P-4 | DY MAX | 413.42 | 126.49 | 0.01 | 0.152 | 0.771 | 7860.576 |
| | | Top Bottom | 413.42 | 126.49 | 0.01 | 0.152 | 0.771 | 5548.076 |
| L8 | P-4 | DY MIN | -413.42 | -126.49 | -0.01 | -0.152 | -0.771 | -7860.576 |
| | | Top Bottom | -413.42 | -126.49 | -0.01 | -0.152 | -0.771 | -5548.076 |
| L8 | P-5 | DEAD | -97.98 | 3.29 | 0.00 | 0.002 | -0.002 | -297.407 |
| | | Top Bottom | -108.58 | 3.29 | 0.00 | 0.002 | -0.002 | 91.748 |

PIER FORCES

| STORY | PIER | LOAD LOC | F | V2 | V3 | T | H2 | H3 |
|-------|------|------------|---------|---------|-------|--------|---------|------------|
| L8 | P-5 | TORX | -24.13 | 4.42 | 0.00 | 0.088 | -0.046 | -248.527 |
| | | Top Bottom | -24.13 | 4.42 | 0.00 | 0.088 | -0.046 | 219.674 |
| L8 | P-5 | TORY | -29.24 | 5.34 | 0.00 | 0.107 | -0.055 | -300.840 |
| | | Top Bottom | -29.24 | 5.34 | 0.00 | 0.107 | -0.055 | 265.050 |
| L8 | P-5 | DX MAX | 170.03 | 34.52 | 0.12 | 0.772 | 10.944 | 1892.234 |
| | | Top Bottom | 170.03 | 34.52 | 0.12 | 0.772 | 10.944 | 1478.264 |
| L8 | P-5 | DX MIN | -170.03 | -34.52 | -0.12 | -0.772 | -10.944 | -1892.234 |
| | | Top Bottom | -170.03 | -34.52 | -0.12 | -0.772 | -10.944 | -1478.264 |
| L8 | P-5 | DY MAX | 590.88 | 97.80 | 0.01 | 0.192 | 1.079 | 5304.521 |
| | | Top Bottom | 590.88 | 97.80 | 0.01 | 0.192 | 1.079 | 5081.149 |
| L8 | P-5 | DY MIN | -590.88 | -97.80 | -0.01 | -0.192 | -1.079 | -5304.521 |
| | | Top Bottom | -590.88 | -97.80 | -0.01 | -0.192 | -1.079 | -5081.149 |
| L8 | 1.6 | DEAD | -102.17 | -5.98 | 0.00 | 0.001 | 0.013 | 453.905 |
| | | Top Bottom | -112.77 | -5.98 | 0.00 | 0.001 | 0.013 | -177.667 |
| L8 | 1.6 | TORX | -27.81 | -4.39 | 0.00 | 0.088 | -0.052 | -382.528 |
| | | Top Bottom | -27.81 | -4.39 | 0.00 | 0.088 | -0.052 | -182.872 |
| L8 | 1.6 | TORY | -33.73 | -5.31 | 0.00 | 0.107 | -0.063 | -342.157 |
| | | Top Bottom | -33.73 | -5.31 | 0.00 | 0.107 | -0.063 | -220.711 |
| L8 | 1.6 | DX MAX | 692.91 | 107.44 | 0.01 | 0.109 | 0.982 | 6711.760 |
| | | Top Bottom | 692.91 | 107.44 | 0.01 | 0.109 | 0.982 | 4689.778 |
| L8 | 1.6 | DX MIN | -692.91 | -107.44 | -0.01 | -0.109 | -0.982 | -6711.760 |
| | | Top Bottom | -692.91 | -107.44 | -0.01 | -0.109 | -0.982 | -4689.778 |
| L8 | 1.6 | DY MAX | 345.62 | 45.71 | 0.11 | 0.516 | 10.412 | 2934.242 |
| | | Top Bottom | 245.62 | 45.71 | 0.11 | 0.516 | 3.088 | 1911.224 |
| L8 | 1.6 | DY MIN | -345.62 | -45.71 | -0.11 | -0.516 | -10.412 | -2934.242 |
| | | Top Bottom | -245.62 | -45.71 | -0.11 | -0.516 | -3.088 | -1911.224 |
| L8 | 1.7 | DEAD | -108.30 | -8.24 | 0.00 | 0.002 | 0.013 | 479.127 |
| | | Top Bottom | -118.73 | -8.24 | 0.00 | 0.002 | 0.013 | -394.129 |
| L8 | 1.7 | TORX | -27.32 | -11.42 | 0.00 | 0.080 | -0.039 | -444.814 |
| | | Top Bottom | -27.32 | -11.42 | 0.00 | 0.080 | -0.039 | -565.206 |
| L8 | 1.7 | TORY | -33.20 | -13.82 | 0.00 | 0.097 | -0.047 | -780.260 |
| | | Top Bottom | -33.20 | -13.82 | 0.00 | 0.097 | -0.047 | -684.270 |
| L8 | 1.7 | DX MAX | 588.59 | 370.32 | 0.01 | 0.123 | 0.978 | 15014.068 |
| | | Top Bottom | 588.59 | 270.32 | 0.01 | 0.123 | 0.312 | 13640.101 |
| L8 | 1.7 | DX MIN | -588.59 | -370.32 | -0.01 | -0.123 | -0.978 | -15014.068 |
| | | Top Bottom | -588.59 | -270.32 | -0.01 | -0.123 | -0.312 | -13640.101 |
| L8 | 1.7 | DY MAX | 278.94 | 114.70 | 0.11 | 1.203 | 10.121 | 6595.434 |
| | | Top Bottom | 278.94 | 114.70 | 0.11 | 1.203 | 3.254 | 5563.790 |
| L8 | 1.7 | DY MIN | -278.94 | -114.70 | -0.11 | -1.203 | -10.121 | -6595.434 |
| | | Top Bottom | -278.94 | -114.70 | -0.11 | -1.203 | -3.254 | -5563.790 |
| L8 | 1.8 | DEAD | -104.78 | -7.85 | 0.00 | 0.002 | 0.013 | 462.294 |
| | | Top Bottom | -114.55 | -7.85 | 0.00 | 0.002 | 0.013 | -369.903 |
| L8 | 1.8 | TORX | -24.47 | -15.10 | 0.00 | 0.074 | -0.041 | -850.080 |
| | | Top Bottom | -24.47 | -15.10 | 0.00 | 0.074 | -0.041 | -730.137 |

PIER FORCES

| STORY | PIER | LOAD LOC | F | V2 | V3 | T | H2 | H3 |
|-------|------|------------|---------|---------|-------|--------|---------|------------|
| L8 | 1.8 | TORX | -29.74 | -18.28 | 0.00 | 0.090 | -0.049 | 1029.200 |
| | | Top Bottom | -29.74 | -18.28 | 0.00 | 0.090 | -0.049 | -909.256 |
| L8 | 1.8 | DX MAX | 449.14 | 341.45 | 0.01 | 0.130 | 0.744 | 18935.907 |
| | | Top Bottom | 449.14 | 341.45 | 0.01 | 0.130 | 0.259 | 17261.648 |
| L8 | 1.8 | DX MIN | -449.14 | -341.45 | -0.01 | -0.130 | -0.744 | -18935.907 |
| | | Top Bottom | -449.14 | -341.45 | -0.01 | -0.130 | -0.259 | -17261.648 |
| L8 | 1.8 | DY MAX | 315.72 | 161.82 | 0.09 | 0.953 | 9.145 | 9254.524 |
| | | Top Bottom | 315.72 | 161.82 | 0.09 | 0.953 | 2.348 | 7897.285 |
| L8 | 1.8 | DY MIN | -315.72 | -161.82 | -0.09 | -0.953 | -9.145 | -9254.524 |
| | | Top Bottom | -315.72 | -161.82 | -0.09 | -0.953 | -2.348 | -7897.285 |
| L8 | 1.9 | DEAD | -257.54 | -12.09 | 0.00 | -0.008 | 0.027 | 871.482 |
| | | Top Bottom | -279.77 | -12.09 | 0.00 | -0.008 | 0.027 | -505.197 |
| L8 | 1.9 | TORX | -46.58 | -28.06 | 0.00 | 0.164 | -0.091 | 1694.092 |
| | | Top Bottom | -46.58 | -28.06 | 0.00 | 0.164 | -0.091 | -1280.287 |
| L8 | 1.9 | TORY | -56.66 | -33.82 | 0.00 | 0.199 | -0.112 | 2047.209 |
| | | Top Bottom | -56.66 | -33.82 | 0.00 | 0.199 | -0.112 | -1541.333 |
| L8 | 1.9 | DX MAX | 546.21 | 588.16 | 0.01 | 0.278 | 1.112 | 26005.925 |
| | | Top Bottom | 546.21 | 588.16 | 0.01 | 0.278 | 0.419 | 27623.592 |
| L8 | 1.9 | DX MIN | -546.21 | -588.16 | -0.01 | -0.278 | -1.112 | -26005.925 |
| | | Top Bottom | -546.21 | -588.16 | -0.01 | -0.278 | -0.419 | -27623.592 |
| L8 | 1.9 | DY MAX | 843.48 | 428.71 | 0.13 | 2.304 | 11.569 | 27192.618 |
| | | Top Bottom | 843.48 | 428.71 | 0.13 | 2.304 | 4.292 | 18272.510 |
| L8 | 1.9 | DY MIN | -843.48 | -428.71 | -0.13 | -2.304 | -11.569 | -27192.618 |
| | | Top Bottom | -843.48 | -428.71 | -0.13 | -2.304 | -4.292 | -18272.510 |
| L8 | 12.6 | DEAD | -94.95 | -4.73 | 0.00 | 0.001 | 0.013 | 381.168 |
| | | Top Bottom | -107.55 | -4.73 | 0.00 | 0.001 | 0.013 | -120.607 |
| L8 | 12.6 | TORX | 28.17 | 4.44 | 0.00 | 0.088 | 0.052 | -284.751 |
| | | Top Bottom | 28.17 | 4.44 | 0.00 | 0.088 | 0.052 | 186.197 |
| L8 | 12.6 | TORY | 34.14 | 5.37 | 0.00 | 0.107 | -0.063 | -344.895 |
| | | Top Bottom | 34.14 | 5.37 | 0.00 | 0.107 | -0.063 | 254.795 |
| L8 | 12.6 | DX MAX | 725.56 | 110.75 | 0.01 | 0.110 | 0.925 | 6500.389 |
| | | Top Bottom | 725.56 | 110.75 | 0.01 | 0.110 | 0.245 | 4851.924 |
| L8 | 12.6 | DX MIN | -725.56 | -110.75 | -0.01 | -0.110 | -0.925 | -6500.389 |
| | | Top Bottom | -725.56 | -110.75 | -0.01 | -0.110 | -0.245 | -4851.924 |
| L8 | 12.4 | DY MAX | 227.74 | 42.44 | 0. | | | |

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier data for piers A-6 through A-9.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier data for piers A-9 through P-10.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier data for piers P-7 through P-10.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier data for piers 12.11 through 17.1.

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L7 to L1) and load types (TORX, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L7 to L1) and load types (TORX, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L7 to L1) and load types (DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L7 to L1) and load types (DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN).

| STORY | PIER | FORCES | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|-----|---------|---------|-------|--------|--------|------------|
| L7 | A-4 | DY MAX | Top | | 728.15 | 310.78 | 0.00 | 0.157 | 0.261 | 14322.920 |
| | | | Bottom | | 728.15 | 310.78 | 0.00 | 0.157 | 0.261 | 14268.625 |
| L7 | A-4 | DY MIN | Top | | -728.15 | -310.78 | 0.00 | -0.157 | -0.261 | -14322.920 |
| | | | Bottom | | -728.15 | -310.78 | 0.00 | -0.157 | -0.261 | -14268.625 |
| L7 | A-5 | DEAD | Top | | -99.25 | 5.54 | 0.00 | 0.001 | -0.005 | -339.637 |
| | | | Bottom | | -108.45 | 5.54 | 0.00 | 0.001 | -0.007 | 178.680 |
| L7 | A-5 | TORX | Top | | 36.97 | -5.69 | 0.00 | 0.094 | -0.003 | 280.624 |
| | | | Bottom | | 36.97 | -5.69 | 0.00 | 0.094 | -0.001 | -243.207 |
| L7 | A-5 | TORY | Top | | 44.83 | -6.93 | 0.00 | 0.114 | -0.004 | 342.313 |
| | | | Bottom | | 44.83 | -6.93 | 0.00 | 0.114 | 0.015 | -295.282 |
| L7 | A-5 | DX MAX | Top | | 273.25 | 33.15 | 0.03 | 0.265 | 1.568 | 1699.076 |
| | | | Bottom | | 273.25 | 33.15 | 0.03 | 0.265 | 1.728 | 1354.228 |
| L7 | A-5 | DX MIN | Top | | -273.25 | -33.15 | -0.03 | -0.265 | -1.568 | -1699.076 |
| | | | Bottom | | -273.25 | -33.15 | -0.03 | -0.265 | -1.728 | -1354.228 |
| L7 | A-5 | DY MAX | Top | | 817.36 | 119.23 | 0.00 | 0.185 | 0.170 | 5669.289 |
| | | | Bottom | | 817.36 | 119.23 | 0.00 | 0.185 | 0.250 | 5355.913 |
| L7 | A-5 | DY MIN | Top | | -817.36 | -119.23 | 0.00 | -0.185 | -0.170 | -5669.289 |
| | | | Bottom | | -817.36 | -119.23 | 0.00 | -0.185 | -0.250 | -5355.913 |
| L7 | F-1 | DEAD | Top | | -242.80 | -2.45 | 0.00 | 0.055 | 0.359 | 324.789 |
| | | | Bottom | | -258.28 | -2.45 | 0.00 | 0.055 | 0.249 | 99.169 |
| L7 | F-1 | TORX | Top | | -2.30 | 21.04 | 0.00 | 0.104 | -0.018 | -900.367 |
| | | | Bottom | | -2.30 | 21.04 | 0.00 | 0.104 | 0.013 | 1035.251 |
| L7 | F-1 | TORY | Top | | -2.65 | 25.58 | 0.00 | 0.127 | -0.019 | -1098.222 |
| | | | Bottom | | -2.65 | 25.58 | 0.00 | 0.127 | 0.019 | 1254.684 |
| L7 | F-1 | DX MAX | Top | | 623.04 | 254.56 | 0.02 | 1.747 | 1.549 | 10908.827 |
| | | | Bottom | | 623.04 | 254.56 | 0.02 | 1.747 | 1.962 | 12348.645 |
| L7 | F-1 | DX MIN | Top | | -623.04 | -254.56 | -0.02 | -1.747 | -1.549 | -10908.827 |
| | | | Bottom | | -623.04 | -254.56 | -0.02 | -1.747 | -1.962 | -12348.645 |
| L7 | F-1 | DY MAX | Top | | 368.79 | 410.89 | 0.02 | 0.259 | 1.604 | 18667.849 |
| | | | Bottom | | 368.79 | 410.89 | 0.02 | 0.259 | 0.352 | 19873.028 |
| L7 | F-1 | DY MIN | Top | | -368.79 | -410.89 | -0.02 | -0.259 | -1.604 | -18667.849 |
| | | | Bottom | | -368.79 | -410.89 | -0.02 | -0.259 | -0.352 | -19873.028 |
| L7 | F-3 | DEAD | Top | | -308.04 | 4.92 | 0.00 | -0.017 | -0.029 | -203.067 |
| | | | Bottom | | -327.44 | 4.92 | 0.00 | -0.017 | 0.011 | 249.530 |
| L7 | F-3 | TORX | Top | | -53.41 | 30.74 | 0.00 | 0.183 | -0.060 | -1253.236 |
| | | | Bottom | | -53.41 | 30.74 | 0.00 | 0.183 | -0.042 | 1574.955 |
| L7 | F-3 | TORY | Top | | -64.86 | 37.40 | 0.00 | 0.223 | 0.075 | -1533.090 |
| | | | Bottom | | -64.86 | 37.40 | 0.00 | 0.223 | -0.048 | 1907.619 |
| L7 | F-3 | DX MAX | Top | | 906.41 | 238.93 | 0.08 | 0.533 | 5.637 | 9772.371 |
| | | | Bottom | | 906.41 | 238.93 | 0.08 | 0.533 | 3.539 | 12328.284 |
| L7 | F-3 | DX MIN | Top | | -906.41 | -238.93 | -0.08 | -0.533 | -5.637 | -9772.371 |
| | | | Bottom | | -906.41 | -238.93 | -0.08 | -0.533 | -3.539 | -12328.284 |
| L7 | F-3 | DY MAX | Top | | 769.18 | 652.95 | 0.01 | 0.464 | 0.519 | 27669.550 |
| | | | Bottom | | 769.18 | 652.95 | 0.01 | 0.464 | 0.440 | 34300.549 |

| STORY | PIER | FORCES | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|-----|----------|---------|-------|--------|--------|------------|
| L7 | F-3 | DY MIN | Top | | -769.18 | -652.95 | -0.01 | -0.464 | -0.539 | -27669.550 |
| | | | Bottom | | -769.18 | -652.95 | -0.01 | -0.464 | -0.440 | -34300.549 |
| L7 | F-3 | DEAD | Top | | -1124.84 | 14.51 | 0.00 | 0.000 | -0.008 | -917.816 |
| | | | Bottom | | -1211.47 | 14.51 | 0.00 | 0.000 | -0.001 | 417.544 |
| L7 | F-3 | TORX | Top | | -37.10 | 20.87 | 0.00 | 0.079 | -0.011 | -966.050 |
| | | | Bottom | | -37.10 | 20.87 | 0.00 | 0.079 | -0.007 | 953.549 |
| L7 | F-3 | TORY | Top | | -45.02 | 25.36 | 0.00 | 0.097 | 0.014 | -1173.781 |
| | | | Bottom | | -45.02 | 25.36 | 0.00 | 0.097 | -0.007 | 1159.094 |
| L7 | F-3 | DX MAX | Top | | 381.93 | 154.55 | 0.04 | 0.444 | 2.604 | 7664.128 |
| | | | Bottom | | 381.93 | 154.55 | 0.04 | 0.444 | 1.799 | 6563.982 |
| L7 | F-3 | DX MIN | Top | | -381.93 | -154.55 | -0.04 | -0.444 | -2.604 | -7664.128 |
| | | | Bottom | | -381.93 | -154.55 | -0.04 | -0.444 | -1.799 | -6563.982 |
| L7 | F-3 | DY MAX | Top | | 714.21 | 432.73 | 0.00 | 0.151 | 0.254 | 19637.771 |
| | | | Bottom | | 714.21 | 432.73 | 0.00 | 0.151 | 0.174 | 20181.558 |
| L7 | F-3 | DY MIN | Top | | -714.21 | -432.73 | 0.00 | -0.151 | -0.254 | -19637.771 |
| | | | Bottom | | -714.21 | -432.73 | 0.00 | -0.151 | -0.174 | -20181.558 |
| L7 | F-4 | DEAD | Top | | -103.80 | -7.21 | 0.00 | 0.001 | -0.005 | 587.506 |
| | | | Bottom | | -113.71 | -7.21 | 0.00 | 0.001 | -0.002 | -96.244 |
| L7 | F-4 | TORX | Top | | -18.69 | 11.25 | 0.00 | 0.077 | -0.019 | -390.359 |
| | | | Bottom | | -18.69 | 11.25 | 0.00 | 0.077 | -0.007 | 644.911 |
| L7 | F-4 | TORY | Top | | -20.32 | 13.69 | 0.00 | 0.094 | 0.024 | -474.919 |
| | | | Bottom | | -20.32 | 13.69 | 0.00 | 0.094 | -0.006 | 793.795 |
| L7 | F-4 | DX MAX | Top | | 151.26 | 62.52 | 0.05 | 0.460 | 3.043 | 2044.448 |
| | | | Bottom | | 151.26 | 62.52 | 0.05 | 0.460 | 3.016 | 3711.900 |
| L7 | F-4 | DX MIN | Top | | -151.26 | -62.52 | -0.05 | -0.460 | -3.043 | -2044.448 |
| | | | Bottom | | -151.26 | -62.52 | -0.05 | -0.460 | -3.016 | -3711.900 |
| L7 | F-4 | DY MAX | Top | | 341.13 | 251.86 | 0.01 | 0.155 | 0.253 | 8800.888 |
| | | | Bottom | | 341.13 | 251.86 | 0.01 | 0.155 | 0.193 | 14284.837 |
| L7 | F-4 | DY MIN | Top | | -341.13 | -251.86 | -0.01 | -0.155 | -0.253 | -8800.888 |
| | | | Bottom | | -341.13 | -251.86 | -0.01 | -0.155 | -0.193 | -14284.837 |
| L7 | F-5 | DEAD | Top | | -124.63 | 0.13 | 0.00 | 0.000 | -0.005 | -328.639 |
| | | | Bottom | | -133.83 | 0.13 | 0.00 | 0.000 | -0.002 | -116.294 |
| L7 | F-5 | TORX | Top | | -35.51 | 4.76 | 0.00 | 0.094 | -0.001 | -254.900 |
| | | | Bottom | | -35.51 | 4.76 | 0.00 | 0.094 | 0.015 | 183.379 |
| L7 | F-5 | TORY | Top | | -43.07 | 5.80 | 0.00 | 0.115 | -0.001 | -310.922 |
| | | | Bottom | | -43.07 | 5.80 | 0.00 | 0.115 | 0.020 | 222.444 |
| L7 | F-5 | DX MAX | Top | | 241.99 | 23.01 | 0.06 | 0.459 | 3.850 | 1333.248 |
| | | | Bottom | | 241.99 | 23.01 | 0.06 | 0.459 | 1.909 | 792.459 |
| L7 | F-5 | DX MIN | Top | | -241.99 | -23.01 | -0.06 | -0.459 | -3.850 | -1333.248 |
| | | | Bottom | | -241.99 | -23.01 | -0.06 | -0.459 | -1.909 | -792.459 |
| L7 | F-5 | DY MAX | Top | | 820.56 | 108.07 | 0.01 | 0.193 | 0.431 | 5589.086 |
| | | | Bottom | | 820.56 | 108.07 | 0.01 | 0.193 | 0.176 | 4387.253 |
| L7 | F-5 | DY MIN | Top | | -820.56 | -108.07 | -0.01 | -0.193 | -0.431 | -5589.086 |
| | | | Bottom | | -820.56 | -108.07 | -0.01 | -0.193 | -0.176 | -4387.253 |

| STORY | PIER | FORCES | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|-----|---------|---------|-------|--------|--------|-----------|
| L7 | 1.6 | DEAD | Top | | -134.57 | -3.46 | 0.00 | 0.000 | -0.002 | 271.819 |
| | | | Bottom | | -143.77 | -3.46 | 0.00 | 0.000 | -0.009 | -46.793 |
| L7 | 1.6 | TORX | Top | | -37.33 | -4.13 | 0.00 | 0.094 | 0.012 | 217.500 |
| | | | Bottom | | -37.33 | -4.13 | 0.00 | 0.094 | 0.002 | -162.360 |
| L7 | 1.6 | TORY | Top | | -45.27 | -5.03 | 0.00 | 0.115 | 0.014 | 265.257 |
| | | | Bottom | | -45.27 | -5.03 | 0.00 | 0.115 | 0.001 | -197.084 |
| L7 | 1.6 | DX MAX | Top | | 916.78 | 111.15 | 0.01 | 0.108 | 0.418 | 5821.887 |
| | | | Bottom | | 916.78 | 111.15 | 0.01 | 0.108 | 0.201 | 4828.267 |
| L7 | 1.6 | DX MIN | Top | | -916.78 | -111.15 | -0.01 | -0.108 | -0.418 | -5821.887 |
| | | | Bottom | | -916.78 | -111.15 | -0.01 | -0.108 | -0.201 | -4828.267 |
| L7 | 1.6 | DY MAX | Top | | 326.97 | 27.98 | 0.05 | 0.488 | 3.337 | 1534.818 |
| | | | Bottom | | 326.97 | 27.98 | 0.05 | 0.488 | 2.050 | 1044.749 |
| L7 | 1.6 | DY MIN | Top | | -326.97 | -27.98 | -0.05 | -0.488 | -3.337 | -1534.818 |
| | | | Bottom | | -326.97 | -27.98 | -0.05 | -0.488 | -2.050 | -1044.749 |
| L7 | 1.7 | DEAD | Top | | -128.10 | -5.62 | 0.00 | 0.000 | -0.002 | 275.161 |
| | | | Bottom | | -147.16 | -5.62 | 0.00 | 0.000 | -0.010 | -242.187 |
| L7 | 1.7 | TORX | Top | | -33.66 | -10.68 | 0.00 | 0.092 | -0.011 | 489.993 |
| | | | Bottom | | -33.66 | -10.68 | 0.00 | 0.092 | 0.024 | -492.659 |
| L7 | 1.7 | TORY | Top | | -40.91 | -13.00 | 0.00 | 0.099 | -0.014 | 596.638 |
| | | | Bottom | | -40.91 | -13.00 | 0.00 | 0.099 | 0.028 | -599.306 |
| L7 | 1.7 | DX MAX | Top | | 720.12 | 275.21 | 0.01 | 0.087 | 0.428 | 12412.403 |
| | | | Bottom | | 720.12 | 275.21 | 0.01 | 0.087 | 0.229 | 12915.313 |
| L7 | 1. | | | | | | | | | |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|---------|---------|-------|--------|--------|------------|
| L7 | 12.0 | TORY | 32.52 | 16.72 | 0.00 | 0.093 | -0.018 | -764.096 |
| | | Top Bottom | 32.52 | 16.72 | 0.00 | 0.093 | 0.024 | 774.255 |
| L7 | 12.0 | DX MAX | 511.51 | 345.36 | 0.00 | 0.077 | 0.348 | 15601.268 |
| | | Top Bottom | 511.51 | 345.36 | 0.00 | 0.077 | 0.181 | 16175.743 |
| L7 | 12.0 | DX MIN | -511.51 | -345.36 | 0.00 | -0.077 | -0.348 | -15601.268 |
| | | Top Bottom | -511.51 | -345.36 | 0.00 | -0.077 | -0.181 | -16175.743 |
| L7 | 12.0 | DY MAX | 328.40 | 105.30 | 0.03 | 0.148 | 3.112 | 5013.478 |
| | | Top Bottom | 328.40 | 105.30 | 0.03 | 0.148 | 1.922 | 4676.188 |
| L7 | 12.0 | DY MIN | -328.40 | -105.30 | -0.03 | -0.148 | -3.112 | -5013.478 |
| | | Top Bottom | -328.40 | -105.30 | -0.03 | -0.148 | -1.922 | -4676.188 |
| L7 | 12.0 | DEAD | -305.56 | -0.97 | 0.00 | 0.017 | -0.010 | 91.553 |
| | | Top Bottom | -325.11 | -0.97 | 0.00 | 0.017 | 0.013 | 2.211 |
| L7 | 12.0 | TORX | 43.12 | 26.52 | 0.00 | 0.184 | -0.045 | -1114.133 |
| | | Top Bottom | 43.12 | 26.52 | 0.00 | 0.184 | 0.045 | 1232.406 |
| L7 | 12.0 | TORY | 52.40 | 32.26 | 0.00 | 0.224 | -0.057 | -1264.421 |
| | | Top Bottom | 52.40 | 32.26 | 0.00 | 0.224 | 0.077 | 1603.684 |
| L7 | 12.0 | DX MAX | 503.59 | 652.46 | 0.01 | 0.335 | 0.519 | 28657.455 |
| | | Top Bottom | 503.59 | 652.46 | 0.01 | 0.335 | 0.451 | 33009.226 |
| L7 | 12.0 | DX MIN | -503.59 | -652.46 | -0.01 | -0.335 | -0.519 | -28657.455 |
| | | Top Bottom | -503.59 | -652.46 | -0.01 | -0.335 | -0.451 | -33009.226 |
| L7 | 12.0 | DY MAX | 799.88 | 230.85 | 0.07 | 0.460 | 5.542 | 9501.353 |
| | | Top Bottom | 799.88 | 230.85 | 0.07 | 0.460 | 3.665 | 11758.773 |
| L7 | 12.0 | DY MIN | -799.88 | -230.85 | -0.07 | -0.460 | -5.542 | -9501.353 |
| | | Top Bottom | -799.88 | -230.85 | -0.07 | -0.460 | -3.665 | -11758.773 |
| L7 | A-6 | DEAD | -135.95 | -3.84 | 0.00 | 0.000 | 0.001 | 284.351 |
| | | Top Bottom | -145.11 | -3.84 | 0.00 | 0.000 | -0.008 | -69.493 |
| L7 | A-6 | TORX | -40.41 | -4.82 | 0.00 | 0.094 | -0.001 | 255.076 |
| | | Top Bottom | -40.41 | -4.82 | 0.00 | 0.094 | -0.006 | -189.632 |
| L7 | A-6 | TORY | -48.98 | -5.87 | 0.00 | 0.115 | -0.001 | 311.037 |
| | | Top Bottom | -48.98 | -5.87 | 0.00 | 0.115 | -0.008 | -228.999 |
| L7 | A-6 | DX MAX | 247.30 | 20.18 | 0.05 | 0.249 | 3.410 | 1131.051 |
| | | Top Bottom | 247.30 | 20.18 | 0.05 | 0.249 | 1.851 | 736.158 |
| L7 | A-6 | DX MIN | -247.30 | -20.18 | -0.05 | -0.249 | -3.410 | -1131.051 |
| | | Top Bottom | -247.30 | -20.18 | -0.05 | -0.249 | -1.851 | -736.158 |
| L7 | A-6 | DY MAX | 922.03 | 103.70 | 0.01 | 0.196 | 0.421 | 5243.804 |
| | | Top Bottom | 922.03 | 103.70 | 0.01 | 0.196 | 0.250 | 4319.142 |
| L7 | A-6 | DY MIN | -922.03 | -103.70 | -0.01 | -0.196 | -0.421 | -5243.804 |
| | | Top Bottom | -922.03 | -103.70 | -0.01 | -0.196 | -0.250 | -4319.142 |
| L7 | A-7 | DEAD | -137.70 | -6.28 | 0.00 | 0.000 | 0.005 | 305.973 |
| | | Top Bottom | -146.76 | -6.28 | 0.00 | 0.000 | -0.007 | -280.922 |
| L7 | A-7 | TORX | -35.78 | -12.11 | 0.00 | 0.082 | -0.022 | 553.850 |
| | | Top Bottom | -35.78 | -12.11 | 0.00 | 0.082 | 0.016 | -559.998 |
| L7 | A-7 | TORY | -43.47 | -14.73 | 0.00 | 0.099 | -0.027 | 674.320 |
| | | Top Bottom | -43.47 | -14.73 | 0.00 | 0.099 | 0.018 | -681.115 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|--------|------------|
| L7 | A-10 | DX MIN | -598.45 | -249.80 | -0.02 | -1.994 | -1.498 | -10887.856 |
| | | Top Bottom | -598.45 | -249.80 | -0.02 | -1.994 | -2.944 | -12112.620 |
| L7 | A-10 | DY MAX | 477.31 | 390.97 | 0.01 | 0.507 | 3.104 | 18404.461 |
| | | Top Bottom | 477.31 | 390.97 | 0.01 | 0.507 | 0.423 | 18086.461 |
| L7 | A-10 | DY MIN | -477.31 | -390.97 | -0.01 | -0.507 | -3.104 | -18404.461 |
| | | Top Bottom | -477.31 | -390.97 | -0.01 | -0.507 | -0.423 | -18086.461 |
| L7 | P-8 | DEAD | -131.59 | -3.65 | 0.00 | 0.001 | 0.001 | 378.433 |
| | | Top Bottom | -140.79 | -3.65 | 0.00 | 0.001 | 0.002 | -57.745 |
| L7 | P-8 | TORX | 44.25 | 4.77 | 0.00 | 0.094 | -0.001 | -245.112 |
| | | Top Bottom | 44.25 | 4.77 | 0.00 | 0.094 | -0.007 | 193.312 |
| L7 | P-8 | TORY | 53.64 | 5.80 | 0.00 | 0.115 | -0.001 | -398.057 |
| | | Top Bottom | 53.64 | 5.80 | 0.00 | 0.115 | -0.010 | 234.615 |
| L7 | P-8 | DX MAX | 242.89 | 33.28 | 0.05 | 0.251 | 3.411 | 1328.459 |
| | | Top Bottom | 242.89 | 33.28 | 0.05 | 0.251 | 1.841 | 815.977 |
| L7 | P-8 | DX MIN | -242.89 | -33.28 | -0.05 | -0.251 | -3.411 | -1328.459 |
| | | Top Bottom | -242.89 | -33.28 | -0.05 | -0.251 | -1.841 | -815.977 |
| L7 | P-8 | DY MAX | 1027.93 | 108.57 | 0.01 | 0.208 | 0.388 | 5426.597 |
| | | Top Bottom | 1027.93 | 108.57 | 0.01 | 0.208 | 0.293 | 4590.092 |
| L7 | P-8 | DY MIN | -1027.93 | -108.57 | -0.01 | -0.208 | -0.388 | -5426.597 |
| | | Top Bottom | -1027.93 | -108.57 | -0.01 | -0.208 | -0.293 | -4590.092 |
| L7 | P-7 | DEAD | -134.11 | -5.62 | 0.00 | 0.001 | 0.002 | 372.534 |
| | | Top Bottom | -143.16 | -5.62 | 0.00 | 0.001 | 0.005 | -244.786 |
| L7 | P-7 | TORX | 38.31 | 12.43 | 0.00 | 0.082 | -0.022 | 564.656 |
| | | Top Bottom | 38.31 | 12.43 | 0.00 | 0.082 | 0.015 | -578.446 |
| L7 | P-7 | TORY | 46.55 | 15.12 | 0.00 | 0.099 | -0.027 | 687.612 |
| | | Top Bottom | 46.55 | 15.12 | 0.00 | 0.099 | 0.017 | -703.645 |
| L7 | P-7 | DX MAX | 271.59 | 65.94 | 0.05 | 0.289 | 3.558 | 3167.976 |
| | | Top Bottom | 271.59 | 65.94 | 0.05 | 0.289 | 2.027 | 2904.112 |
| L7 | P-7 | DX MIN | -271.59 | -65.94 | -0.05 | -0.289 | -3.558 | -3167.976 |
| | | Top Bottom | -271.59 | -65.94 | -0.05 | -0.289 | -2.027 | -2904.112 |
| L7 | P-7 | DY MAX | 804.04 | 275.75 | 0.01 | 0.155 | 0.449 | 3284.739 |
| | | Top Bottom | 804.04 | 275.75 | 0.01 | 0.155 | 0.264 | 3295.667 |
| L7 | P-7 | DY MIN | -804.04 | -275.75 | -0.01 | -0.155 | -0.449 | -3284.739 |
| | | Top Bottom | -804.04 | -275.75 | -0.01 | -0.155 | -0.264 | -3295.667 |
| L7 | P-8 | DEAD | -128.45 | -4.23 | 0.00 | 0.000 | 0.003 | 207.174 |
| | | Top Bottom | -136.93 | -4.23 | 0.00 | 0.000 | 0.008 | -181.262 |
| L7 | P-8 | TORX | 29.68 | 15.84 | 0.00 | 0.076 | -0.024 | 721.534 |
| | | Top Bottom | 29.68 | 15.84 | 0.00 | 0.076 | 0.017 | -735.387 |
| L7 | P-8 | TORY | 36.05 | 19.27 | 0.00 | 0.093 | -0.030 | 877.844 |
| | | Top Bottom | 36.05 | 19.27 | 0.00 | 0.093 | 0.019 | -894.819 |
| L7 | P-8 | DX MAX | 597.93 | 94.83 | 0.05 | 0.240 | 3.266 | 4510.288 |
| | | Top Bottom | 597.93 | 94.83 | 0.05 | 0.240 | 1.789 | 4198.727 |
| L7 | P-8 | DX MIN | -597.93 | -94.83 | -0.05 | -0.240 | -3.266 | -4510.288 |
| | | Top Bottom | -597.93 | -94.83 | -0.05 | -0.240 | -1.789 | -4198.727 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|---------|---------|-------|--------|--------|------------|
| L7 | A-7 | DX MAX | 271.71 | 69.90 | 0.05 | 0.289 | 3.555 | 2815.422 |
| | | Top Bottom | 271.71 | 69.90 | 0.05 | 0.289 | 2.038 | 2692.191 |
| L7 | A-7 | DX MIN | -271.71 | -69.90 | -0.05 | -0.289 | -3.555 | -2815.422 |
| | | Top Bottom | -271.71 | -69.90 | -0.05 | -0.289 | -2.038 | -2692.191 |
| L7 | A-7 | DY MAX | 717.65 | 258.12 | 0.01 | 0.151 | 0.445 | 11613.513 |
| | | Top Bottom | 717.65 | 258.12 | 0.01 | 0.151 | 0.273 | 12144.413 |
| L7 | A-7 | DY MIN | -717.65 | -258.12 | -0.01 | -0.151 | -0.445 | -11613.513 |
| | | Top Bottom | -717.65 | -258.12 | -0.01 | -0.151 | -0.273 | -12144.413 |
| L7 | A-8 | DEAD | -131.79 | -5.48 | 0.00 | 0.000 | 0.003 | 265.897 |
| | | Top Bottom | -140.27 | -5.48 | 0.00 | 0.000 | -0.007 | -238.552 |
| L7 | A-8 | TORX | -27.23 | -15.18 | 0.00 | 0.074 | -0.034 | 680.225 |
| | | Top Bottom | -27.23 | -15.18 | 0.00 | 0.074 | 0.017 | -766.286 |
| L7 | A-8 | TORY | -33.07 | -18.47 | 0.00 | 0.093 | -0.030 | 839.742 |
| | | Top Bottom | -33.07 | -18.47 | 0.00 | 0.093 | 0.020 | -859.420 |
| L7 | A-8 | DX MAX | 304.55 | 89.87 | 0.05 | 0.239 | 3.265 | 4317.519 |
| | | Top Bottom | 304.55 | 89.87 | 0.05 | 0.239 | 1.800 | 2955.491 |
| L7 | A-8 | DX MIN | -304.55 | -89.87 | -0.05 | -0.239 | -3.265 | -4317.519 |
| | | Top Bottom | -304.55 | -89.87 | -0.05 | -0.239 | -1.800 | -2955.491 |
| L7 | A-8 | DY MAX | 480.95 | 321.04 | 0.00 | 0.140 | 0.389 | 14479.377 |
| | | Top Bottom | 480.95 | 321.04 | 0.00 | 0.140 | 0.230 | 15061.090 |
| L7 | A-8 | DY MIN | -480.95 | -321.04 | 0.00 | -0.140 | -0.389 | -14479.377 |
| | | Top Bottom | -480.95 | -321.04 | 0.00 | -0.140 | -0.230 | -15061.090 |
| L7 | A-9 | DEAD | -301.84 | -5.50 | 0.00 | -0.017 | 0.020 | 183.726 |
| | | Top Bottom | -321.41 | -5.50 | 0.00 | -0.017 | -0.027 | -322.468 |
| L7 | A-9 | TORX | -40.89 | -29.46 | 0.00 | 0.181 | -0.067 | 1300.628 |
| | | Top Bottom | -40.89 | -29.46 | 0.00 | 0.181 | 0.048 | -1409.326 |
| L7 | A-9 | TORY | -49.69 | -35.83 | 0.00 | 0.220 | -0.083 | 1589.798 |
| | | Top Bottom | -49.69 | -35.83 | 0.00 | 0.220 | 0.056 | -1706.259 |
| L7 | A-9 | DX MAX | 791.25 | 311.17 | 0.07 | 0.620 | 5.511 | 8903.059 |
| | | Top Bottom | 791.25 | 311.17 | 0.07 | 0.620 | 3.360 | 10564.646 |
| L7 | A-9 | DX MIN | -791.25 | -311.17 | -0.07 | -0.620 | -5.511 | -8903.059 |
| | | Top Bottom | -791.25 | -311.17 | -0.07 | -0.620 | -3.360 | -10564.646 |
| L7 | A-9 | DY MAX | 442.26 | 601.46 | 0.01 | 0.227 | 0.451 | 26750.253 |
| | | Top Bottom | 442.26 | 601.46 | 0.01 | 0.227 | 0.357 | 30310.698 |
| L7 | A-9 | DY MIN | -442.26 | - | | | | |

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L7 to L6) and load types (DY MIN, DEAD, TORX, etc.).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L6 to L6) and load types (DEAD, TORX, DX MAX, etc.).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L6 to L6) and load types (TORX, TORY, DX MAX, etc.).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L6 to L6) and load types (TORX, TORY, DX MAX, etc.).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for piers A-2, A-3, A-4, and A-5 across various load cases (MAX, MIN, DEAD, TORX, TORY, DX, DY).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for piers A-5, P-1, P-2, and P-3 across various load cases (MAX, MIN, DEAD, TORX, TORY, DX, DY).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for piers P-3, P-4, P-5, and 1.6 across various load cases (MAX, MIN, DEAD, TORX, TORY, DX, DY).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for piers 1.6, 1.7, 1.8, and 1.9 across various load cases (MAX, MIN, DEAD, TORX, TORY, DX, DY).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L4 to L12) and load types (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L4 to L12) and load types (TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L6 to L12) and load types (TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L4 to L12) and load types (DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L6, L5, L4, L3, L2, L1) and piers (P-9, P-10, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and piers (DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and piers (DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and piers (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|---------|------------|
| LS | 12.5 | TORX | -55.03 | 3.88 | 0.00 | 0.087 | -0.046 | -200.124 |
| | | Top Bottom | -55.03 | 3.88 | 0.00 | 0.087 | -0.046 | 234.808 |
| LS | 12.5 | TORY | -66.92 | 4.76 | 0.00 | 0.107 | -0.058 | -245.150 |
| | | Top Bottom | -66.92 | 4.76 | 0.00 | 0.107 | -0.058 | 287.607 |
| LS | 12.5 | DX MAX | 1392.67 | 112.45 | 0.02 | 0.155 | 0.164 | 5447.595 |
| | | Top Bottom | 1392.67 | 112.45 | 0.02 | 0.155 | 1.908 | 7152.256 |
| LS | 12.5 | DX MIN | -1392.67 | -112.45 | -0.02 | -0.155 | -0.164 | -5447.595 |
| | | Top Bottom | -1392.67 | -112.45 | -0.02 | -0.155 | -1.908 | -7152.256 |
| LS | 12.5 | DY MAX | 291.79 | 15.13 | 0.05 | 0.266 | 1.407 | 877.342 |
| | | Top Bottom | 291.79 | 15.13 | 0.05 | 0.266 | 6.264 | 781.217 |
| LS | 12.5 | DY MIN | -291.79 | -15.13 | -0.05 | -0.266 | -1.407 | -877.342 |
| | | Top Bottom | -291.79 | -15.13 | -0.05 | -0.266 | -6.264 | -781.217 |
| LS | A-1 | DEAD | -297.97 | 0.40 | 0.00 | -0.125 | -0.531 | 277.955 |
| | | Top Bottom | -297.97 | 0.40 | 0.00 | -0.125 | -0.531 | 322.951 |
| LS | A-1 | TORX | 14.33 | -30.87 | 0.00 | 0.148 | -0.051 | 1224.490 |
| | | Top Bottom | 14.33 | -30.87 | 0.00 | 0.148 | -0.051 | -2108.438 |
| LS | A-1 | TORY | 17.48 | -37.57 | 0.00 | 0.182 | -0.062 | 1627.025 |
| | | Top Bottom | 17.48 | -37.57 | 0.00 | 0.182 | -0.062 | -2580.873 |
| LS | A-1 | DX MAX | 981.73 | 359.85 | 0.06 | 0.279 | 2.636 | 18558.353 |
| | | Top Bottom | 981.73 | 359.85 | 0.06 | 0.279 | 8.591 | 21780.233 |
| LS | A-1 | DX MIN | -981.73 | -359.85 | -0.06 | -0.279 | -2.636 | -18558.353 |
| | | Top Bottom | -981.73 | -359.85 | -0.06 | -0.279 | -8.591 | -21780.233 |
| LS | A-1 | DY MAX | 487.05 | 538.49 | 0.01 | 0.545 | 0.757 | 22507.852 |
| | | Top Bottom | 487.05 | 538.49 | 0.01 | 0.545 | 1.601 | 38182.057 |
| LS | A-1 | DY MIN | -487.05 | -538.49 | -0.01 | -0.545 | -0.757 | -22507.852 |
| | | Top Bottom | -487.05 | -538.49 | -0.01 | -0.545 | -1.601 | -38182.057 |
| LS | A-2 | DEAD | -372.66 | 4.79 | 0.00 | 0.008 | 0.007 | -310.946 |
| | | Top Bottom | -372.66 | 4.79 | 0.00 | 0.008 | 0.008 | -225.842 |
| LS | A-2 | TORX | 44.24 | -38.69 | 0.00 | 0.166 | -0.071 | 1253.090 |
| | | Top Bottom | 44.24 | -38.69 | 0.00 | 0.166 | -0.071 | -2180.158 |
| LS | A-2 | TORY | 53.77 | -47.37 | 0.00 | 0.204 | -0.087 | 1537.985 |
| | | Top Bottom | 53.77 | -47.37 | 0.00 | 0.204 | -0.087 | -2367.988 |
| LS | A-2 | DX MAX | 936.79 | 396.18 | 0.08 | 0.329 | 3.650 | 12866.866 |
| | | Top Bottom | 936.79 | 396.18 | 0.08 | 0.329 | 11.951 | 20392.197 |
| LS | A-2 | DX MIN | -936.79 | -396.18 | -0.08 | -0.329 | -3.650 | -12866.866 |
| | | Top Bottom | -936.79 | -396.18 | -0.08 | -0.329 | -11.951 | -20392.197 |
| LS | A-2 | DY MAX | 377.88 | 790.68 | 0.02 | 0.358 | 0.407 | 26000.348 |
| | | Top Bottom | 377.88 | 790.68 | 0.02 | 0.358 | 1.859 | 43790.520 |
| LS | A-2 | DY MIN | -377.88 | -790.68 | -0.02 | -0.358 | -0.407 | -26000.348 |
| | | Top Bottom | -377.88 | -790.68 | -0.02 | -0.358 | -1.859 | -43790.520 |
| LS | A-3 | DEAD | -164.57 | 5.91 | 0.00 | 0.000 | 0.002 | -225.547 |
| | | Top Bottom | -164.57 | 5.91 | 0.00 | 0.000 | 0.000 | 336.010 |
| LS | A-3 | TORX | 34.76 | -15.24 | 0.00 | 0.073 | -0.027 | 790.112 |
| | | Top Bottom | 34.76 | -15.24 | 0.00 | 0.073 | -0.027 | -937.045 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|---------|------------|
| LS | P-1 | DX MAX | 1008.02 | 345.72 | 0.08 | 0.263 | 2.599 | 17921.810 |
| | | Top Bottom | 1008.02 | 345.72 | 0.08 | 0.263 | 6.560 | 20938.457 |
| LS | P-1 | DX MIN | -1008.02 | -345.72 | -0.08 | -0.263 | -2.599 | -17921.810 |
| | | Top Bottom | -1008.02 | -345.72 | -0.08 | -0.263 | -6.560 | -20938.457 |
| LS | P-1 | DY MAX | 388.24 | 563.63 | 0.02 | 0.714 | 0.865 | 23149.867 |
| | | Top Bottom | 388.24 | 563.63 | 0.02 | 0.714 | 1.914 | 40365.435 |
| LS | P-1 | DY MIN | -388.24 | -563.63 | -0.02 | -0.714 | -0.865 | -23149.867 |
| | | Top Bottom | -388.24 | -563.63 | -0.02 | -0.714 | -1.914 | -40365.435 |
| LS | P-2 | DEAD | -389.80 | 0.34 | 0.00 | -0.014 | -0.024 | -85.848 |
| | | Top Bottom | -389.80 | 0.34 | 0.00 | -0.014 | 0.115 | -124.459 |
| LS | P-2 | TORX | -52.34 | 38.93 | 0.00 | 0.174 | -0.074 | -1247.997 |
| | | Top Bottom | -52.34 | 38.93 | 0.00 | 0.174 | -0.057 | 3111.498 |
| LS | P-2 | TORY | -63.60 | 47.65 | 0.00 | 0.215 | -0.091 | -1531.183 |
| | | Top Bottom | -63.60 | 47.65 | 0.00 | 0.215 | -0.099 | 3805.148 |
| LS | P-2 | DX MAX | 978.05 | 282.88 | 0.08 | 0.303 | 3.660 | 12357.647 |
| | | Top Bottom | 978.05 | 282.88 | 0.08 | 0.303 | 11.596 | 19249.751 |
| LS | P-2 | DX MIN | -978.05 | -282.88 | -0.08 | -0.303 | -3.660 | -12357.647 |
| | | Top Bottom | -978.05 | -282.88 | -0.08 | -0.303 | -11.596 | -19249.751 |
| LS | P-2 | DY MAX | 638.77 | 829.76 | 0.01 | 0.401 | 0.364 | 26553.524 |
| | | Top Bottom | 638.77 | 829.76 | 0.01 | 0.401 | 1.649 | 47537.732 |
| LS | P-2 | DY MIN | -638.77 | -829.76 | -0.01 | -0.401 | -0.364 | -26553.524 |
| | | Top Bottom | -638.77 | -829.76 | -0.01 | -0.401 | -1.649 | -47537.732 |
| LS | P-3 | DEAD | -167.16 | 1.97 | 0.00 | -0.002 | -0.007 | -133.389 |
| | | Top Bottom | -167.16 | 1.97 | 0.00 | -0.002 | 0.033 | 86.860 |
| LS | P-3 | TORX | -37.14 | 15.86 | 0.00 | 0.074 | -0.032 | -822.998 |
| | | Top Bottom | -37.14 | 15.86 | 0.00 | 0.074 | -0.044 | 943.025 |
| LS | P-3 | TORY | -45.15 | 19.39 | 0.00 | 0.090 | -0.040 | -1018.476 |
| | | Top Bottom | -45.15 | 19.39 | 0.00 | 0.090 | -0.045 | 1153.074 |
| LS | P-3 | DX MAX | 396.91 | 97.82 | 0.04 | 0.087 | 1.522 | 5330.537 |
| | | Top Bottom | 396.91 | 97.82 | 0.04 | 0.087 | 6.147 | 5827.663 |
| LS | P-3 | DX MIN | -396.91 | -97.82 | -0.04 | -0.087 | -1.522 | -5330.537 |
| | | Top Bottom | -396.91 | -97.82 | -0.04 | -0.087 | -6.147 | -5827.663 |
| LS | P-3 | DY MAX | 669.58 | 339.73 | 0.01 | 0.142 | 0.170 | 17703.234 |
| | | Top Bottom | 669.58 | 339.73 | 0.01 | 0.142 | 1.171 | 20347.931 |
| LS | P-3 | DY MIN | -669.58 | -339.73 | -0.01 | -0.142 | -0.170 | -17703.234 |
| | | Top Bottom | -669.58 | -339.73 | -0.01 | -0.142 | -1.171 | -20347.931 |
| LS | P-4 | DEAD | -166.23 | 1.45 | 0.00 | -0.002 | -0.005 | -74.218 |
| | | Top Bottom | -166.23 | 1.45 | 0.00 | -0.002 | 0.018 | 88.210 |
| LS | P-4 | TORX | -40.76 | 12.17 | 0.00 | 0.075 | -0.030 | -811.300 |
| | | Top Bottom | -40.76 | 12.17 | 0.00 | 0.075 | -0.023 | 751.266 |
| LS | P-4 | TORY | -49.58 | 14.89 | 0.00 | 0.092 | -0.039 | -748.050 |
| | | Top Bottom | -49.58 | 14.89 | 0.00 | 0.092 | -0.032 | 919.140 |
| LS | P-4 | DX MAX | 310.44 | 65.19 | 0.03 | 0.062 | 1.480 | 3472.851 |
| | | Top Bottom | 310.44 | 65.19 | 0.03 | 0.062 | 6.576 | 3932.250 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|---------|---------|-------|--------|--------|------------|
| LS | A-3 | TORY | 42.27 | -18.66 | 0.00 | 0.089 | -0.034 | 967.201 |
| | | Top Bottom | 42.27 | -18.66 | 0.00 | 0.089 | -0.118 | -1122.197 |
| LS | A-3 | DX MAX | 404.76 | 96.92 | 0.05 | 0.077 | 1.502 | 5186.552 |
| | | Top Bottom | 404.76 | 96.92 | 0.05 | 0.077 | 6.438 | 5870.214 |
| LS | A-3 | DX MIN | -404.76 | -96.92 | -0.05 | -0.077 | -1.502 | -5186.552 |
| | | Top Bottom | -404.76 | -96.92 | -0.05 | -0.077 | -6.438 | -5870.214 |
| LS | A-3 | DY MAX | 568.15 | 323.94 | 0.01 | 0.152 | 0.219 | 16874.153 |
| | | Top Bottom | 568.15 | 323.94 | 0.01 | 0.152 | 1.525 | 19613.200 |
| LS | A-3 | DY MIN | -568.15 | -323.94 | -0.01 | -0.152 | -0.219 | -16874.153 |
| | | Top Bottom | -568.15 | -323.94 | -0.01 | -0.152 | -1.525 | -19613.200 |
| LS | A-4 | DEAD | -169.11 | 9.28 | 0.00 | 0.000 | 0.002 | -460.567 |
| | | Top Bottom | -169.11 | 9.28 | 0.00 | 0.000 | 0.000 | 578.694 |
| LS | A-4 | TORX | 47.80 | -13.47 | 0.00 | 0.074 | -0.024 | 653.463 |
| | | Top Bottom | 47.80 | -13.47 | 0.00 | 0.074 | -0.023 | 855.470 |
| LS | A-4 | TORY | 58.14 | -16.49 | 0.00 | 0.091 | -0.021 | 799.860 |
| | | Top Bottom | 58.14 | -16.49 | 0.00 | 0.091 | -0.020 | 1046.615 |
| LS | A-4 | DX MAX | 408.92 | 75.92 | 0.05 | 0.088 | 1.510 | 3871.205 |
| | | Top Bottom | 408.92 | 75.92 | 0.05 | 0.088 | 7.115 | 4635.205 |
| LS | A-4 | DX MIN | -408.92 | -75.92 | -0.05 | -0.088 | -1.510 | -3871.205 |
| | | Top Bottom | -408.92 | -75.92 | -0.05 | -0.088 | -7.115 | -4635.205 |
| LS | A-4 | DY MAX | 918.82 | 392.32 | 0.02 | 0.184 | 0.281 | 14001.245 |
| | | Top Bottom | 918.82 | 392.32 | 0.02 | 0.184 | 1.174 | 18750.479 |
| LS | A-4 | DY MIN | -918.82 | -392.32 | -0.02 | -0.184 | -0.281 | -14001.245 |
| | | Top Bottom | -918.82 | -392.32 | -0.02 | -0.184 | -1.174 | -18750.479 |
| LS | A-5 | DEAD | -164.55 | 3.46 | 0.00 | 0.001 | 0.001 | -368.892 |
| | | Top Bottom | -164.55 | 3.46 | 0.00 | 0.001 | 0.000 | 481.709 |
| LS | A-5 | TORX | 63.58 | -5.26 | 0.00 | 0.085 | -0.036 | 284.991 |
| | | Top Bottom | 63.58 | -5.26 | 0.00 | 0.085 | -0.029 | -304.622 |
| LS | A-5 | TORY | 77.33 | -6.45 | 0.00 | 0.104 | -0.022 | 348.897 |
| | | Top Bottom | 77.33 | -6.45 | 0.00 | 0.104 | -0.022 | -373.193 |
| LS | A-5 | DX MAX | 417.61 | 25.64 | 0.05 | 0.405 | 1.620 | 1687.396 |
| | | Top Bottom | 417.61 | 25.64 | 0.05 | 0.405 | 7.156 | 1204.644 |
| LS | A-5 | DX MIN | -417.61 | -25.64 | -0.05 | -0.405 | -1.620 | -1687.396 |
| | | Top Bottom | -417.61 | -25.64 | -0.05 | -0.405 | -7.156 | -1204.644 |
| LS | A-5 | DY MAX | 1337.95 | 116.77 | 0.03 | 0.154 | 0. | |

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and load types (DY MAX, DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and load types (DY MIN, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and load types (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (L5, L4, L3, L2, L1) and load types (TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include P-7, P-8, P-9, P-10 with sub-rows for TORX, DY MAX, DX MAX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include P-10, P-11, P-12 with sub-rows for DX MAX, DY MAX, etc.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15 with various load types.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15 with various load types.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (LA) and piers (A-1, A-2, A-3, A-4, A-5) under different load conditions (DEAD, TORX, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (LA) and piers (A-1, A-2, A-3, A-4, A-5) under different load conditions (DEAD, TORX, DX MAX, DX MIN, DY MAX, DY MIN).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (LA) and piers (A-4, A-5, P-1, P-2, P-3, P-4, P-5) under different load conditions (TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, DEAD).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier forces for various stories (LA) and piers (P-2, P-3, P-4, P-5) under different load conditions (TORX, DX MAX, DX MIN, DY MAX, DY MIN, DEAD, TORX, TORY).

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier types like P-5, P-5, P-5, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN for various stories.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier types like 1-8, 1-8, 1-8, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN for various stories.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier types like 12.7, 12.7, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN for various stories.

PIER FORCES

Table with columns: STORY, PIER, LOAD LOC, P, V2, V3, T, M2, M3. Rows include pier types like A-6, A-6, DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN for various stories.

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|----------|---------|-------|--------|---------|------------|
| L3 | 1.11 | DX MIN | Top | -1024.94 | -419.68 | -0.09 | -3.034 | -1.813 | -23421.039 |
| | | | Bottom | -1024.94 | -419.68 | -0.09 | -3.034 | -9.644 | -26853.860 |
| L3 | 1.11 | DY MAX | Top | 1214.22 | 533.90 | 0.05 | 2.738 | 1.099 | 28499.786 |
| | | | Bottom | 1214.22 | 533.90 | 0.05 | 2.738 | 6.909 | 36751.287 |
| L3 | 1.11 | DY MIN | Top | -1214.22 | -533.90 | -0.05 | -2.738 | -1.099 | -28499.786 |
| | | | Bottom | -1214.22 | -533.90 | -0.05 | -2.738 | -6.909 | -36751.287 |
| L3 | 12.1 | DEAD | Top | -377.84 | 18.98 | 0.00 | 0.076 | 0.252 | -532.348 |
| | | | Bottom | -377.84 | 18.98 | 0.00 | 0.076 | 0.513 | 1821.588 |
| L3 | 12.1 | TORX | Top | -14.11 | 28.98 | 0.00 | 0.131 | -0.035 | -1659.830 |
| | | | Bottom | -14.11 | 28.98 | 0.00 | 0.131 | -0.183 | 1933.454 |
| L3 | 12.1 | TORY | Top | -17.24 | 35.50 | 0.00 | 0.177 | -0.044 | -2035.566 |
| | | | Bottom | -17.24 | 35.50 | 0.00 | 0.177 | -0.214 | 2366.325 |
| L3 | 12.1 | DX MAX | Top | 791.28 | 550.58 | 0.03 | 1.215 | 1.264 | 30640.832 |
| | | | Bottom | 791.28 | 550.58 | 0.03 | 1.215 | 2.623 | 37899.020 |
| L3 | 12.1 | DX MIN | Top | -791.28 | -550.58 | -0.03 | -1.215 | -1.264 | -30640.832 |
| | | | Bottom | -791.28 | -550.58 | -0.03 | -1.215 | -2.623 | -37899.020 |
| L3 | 12.1 | DY MAX | Top | 1093.59 | 127.61 | 0.03 | 2.606 | 1.853 | 6950.037 |
| | | | Bottom | 1093.59 | 127.61 | 0.03 | 2.606 | 3.879 | 8923.487 |
| L3 | 12.1 | DY MIN | Top | -1093.59 | -127.61 | -0.03 | -2.606 | -1.853 | -6950.037 |
| | | | Bottom | -1093.59 | -127.61 | -0.03 | -2.606 | -3.879 | -8923.487 |
| L3 | 12.2 | DEAD | Top | -550.97 | 26.73 | 0.01 | -0.150 | -0.160 | -1474.376 |
| | | | Bottom | -550.97 | 26.73 | 0.01 | -0.150 | 0.478 | 1860.516 |
| L3 | 12.2 | TORX | Top | -63.69 | 38.86 | 0.00 | 0.010 | -0.047 | -2156.209 |
| | | | Bottom | -63.69 | 38.86 | 0.00 | 0.010 | -0.346 | 2662.084 |
| L3 | 12.2 | TORY | Top | -77.62 | 47.49 | 0.00 | -0.007 | -0.056 | -2639.469 |
| | | | Bottom | -77.62 | 47.49 | 0.00 | -0.007 | -0.410 | 3249.860 |
| L3 | 12.2 | DX MAX | Top | 622.97 | 817.59 | 0.09 | 4.458 | 2.121 | 41702.116 |
| | | | Bottom | 622.97 | 817.59 | 0.09 | 4.458 | 6.684 | 60792.749 |
| L3 | 12.2 | DX MIN | Top | -622.97 | -817.59 | -0.09 | -4.458 | -2.121 | -41702.116 |
| | | | Bottom | -622.97 | -817.59 | -0.09 | -4.458 | -6.684 | -60792.749 |
| L3 | 12.2 | DY MAX | Top | 1155.24 | 85.55 | 0.11 | 4.574 | 2.028 | 3955.080 |
| | | | Bottom | 1155.24 | 85.55 | 0.11 | 4.574 | 12.910 | 7021.884 |
| L3 | 12.2 | DY MIN | Top | -1155.24 | -85.55 | -0.11 | -4.574 | -2.028 | -3955.080 |
| | | | Bottom | -1155.24 | -85.55 | -0.11 | -4.574 | -12.910 | -7021.884 |
| L3 | 12.3 | DEAD | Top | -254.19 | 6.64 | 0.00 | -0.034 | -0.052 | -389.302 |
| | | | Bottom | -254.19 | 6.64 | 0.00 | -0.034 | 0.092 | 434.284 |
| L3 | 12.3 | TORX | Top | -47.10 | 13.50 | 0.00 | 0.206 | -0.070 | -821.708 |
| | | | Bottom | -47.10 | 13.50 | 0.00 | 0.206 | -0.021 | 851.856 |
| L3 | 12.3 | TORY | Top | -57.41 | 16.48 | 0.00 | 0.297 | -0.098 | -1003.315 |
| | | | Bottom | -57.41 | 16.48 | 0.00 | 0.297 | 0.011 | 1040.382 |
| L3 | 12.3 | DX MAX | Top | 902.74 | 307.14 | 0.07 | 1.012 | 1.791 | 18609.781 |
| | | | Bottom | 902.74 | 307.14 | 0.07 | 1.012 | 6.959 | 19493.470 |
| L3 | 12.3 | DX MIN | Top | -902.74 | -307.14 | -0.07 | -1.012 | -1.791 | -18609.781 |
| | | | Bottom | -902.74 | -307.14 | -0.07 | -1.012 | -6.959 | -19493.470 |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|----------|---------|-------|--------|---------|------------|
| L3 | A-1 | DY MIN | Top | -829.37 | -327.34 | -0.02 | -2.913 | -1.539 | -18276.929 |
| | | | Bottom | -829.37 | -327.34 | -0.02 | -2.913 | -2.666 | -23824.404 |
| L3 | A-2 | DEAD | Top | -497.64 | 20.93 | -0.01 | 0.109 | 0.176 | -1335.332 |
| | | | Bottom | -497.64 | 20.93 | -0.01 | 0.109 | -0.717 | 1259.856 |
| L3 | A-2 | TORX | Top | 56.30 | -23.86 | 0.00 | 0.057 | 0.084 | 1130.167 |
| | | | Bottom | 56.30 | -23.86 | 0.00 | 0.057 | -0.209 | -1828.813 |
| L3 | A-2 | TORY | Top | 68.65 | -29.29 | 0.00 | 0.057 | 0.095 | 1380.900 |
| | | | Bottom | 68.65 | -29.29 | 0.00 | 0.057 | -0.204 | -2241.323 |
| L3 | A-2 | DX MAX | Top | 1283.03 | 334.34 | 0.15 | 5.432 | 2.409 | 23023.943 |
| | | | Bottom | 1283.03 | 334.34 | 0.15 | 5.432 | 17.063 | 18355.382 |
| L3 | A-2 | DX MIN | Top | -1283.03 | -334.34 | -0.15 | -5.432 | -2.409 | -23023.943 |
| | | | Bottom | -1283.03 | -334.34 | -0.15 | -5.432 | -17.063 | -18355.382 |
| L3 | A-2 | DY MAX | Top | 296.55 | 597.86 | 0.08 | 3.143 | 1.196 | 30480.086 |
| | | | Bottom | 296.55 | 597.86 | 0.08 | 3.143 | 8.625 | 45289.313 |
| L3 | A-2 | DY MIN | Top | -296.55 | -597.86 | -0.08 | -3.143 | -1.196 | -30480.086 |
| | | | Bottom | -296.55 | -597.86 | -0.08 | -3.143 | -8.625 | -45289.313 |
| L3 | A-3 | DEAD | Top | -234.47 | 7.36 | 0.00 | 0.016 | 0.049 | -477.886 |
| | | | Bottom | -234.47 | 7.36 | 0.00 | 0.016 | -0.245 | 434.396 |
| L3 | A-3 | TORX | Top | 41.20 | -9.92 | 0.00 | 0.178 | -0.012 | 611.420 |
| | | | Bottom | 41.20 | -9.92 | 0.00 | 0.178 | 0.087 | -608.038 |
| L3 | A-3 | TORY | Top | 50.22 | -12.03 | 0.00 | 0.256 | -0.031 | 748.076 |
| | | | Bottom | 50.22 | -12.03 | 0.00 | 0.256 | 0.162 | -743.543 |
| L3 | A-3 | DX MAX | Top | 519.97 | 103.84 | 0.12 | 1.319 | 2.407 | 6801.074 |
| | | | Bottom | 519.97 | 103.84 | 0.12 | 1.319 | 12.702 | 6077.459 |
| L3 | A-3 | DX MIN | Top | -519.97 | -103.84 | -0.12 | -1.319 | -2.407 | -6801.074 |
| | | | Bottom | -519.97 | -103.84 | -0.12 | -1.319 | -12.702 | -6077.459 |
| L3 | A-3 | DY MAX | Top | 602.02 | 264.74 | 0.07 | 1.826 | 1.497 | 16370.208 |
| | | | Bottom | 602.02 | 264.74 | 0.07 | 1.826 | 7.384 | 16468.923 |
| L3 | A-3 | DY MIN | Top | -602.02 | -264.74 | -0.07 | -1.826 | -1.497 | -16370.208 |
| | | | Bottom | -602.02 | -264.74 | -0.07 | -1.826 | -7.384 | -16468.923 |
| L3 | A-4 | DEAD | Top | -239.90 | 9.10 | 0.00 | 0.021 | 0.044 | -595.040 |
| | | | Bottom | -239.90 | 9.10 | 0.00 | 0.021 | -0.233 | 532.892 |
| L3 | A-4 | TORX | Top | 54.05 | -10.17 | 0.00 | 0.065 | 0.003 | 612.086 |
| | | | Bottom | 54.05 | -10.17 | 0.00 | 0.065 | 0.110 | -649.230 |
| L3 | A-4 | TORY | Top | 65.85 | -12.41 | 0.00 | -0.113 | -0.008 | 745.034 |
| | | | Bottom | 65.85 | -12.41 | 0.00 | -0.113 | 0.120 | -732.075 |
| L3 | A-4 | DX MAX | Top | 494.04 | 87.31 | 0.14 | 0.819 | 2.350 | 1678.382 |
| | | | Bottom | 494.04 | 87.31 | 0.14 | 0.819 | 15.301 | 5152.181 |
| L3 | A-4 | DX MIN | Top | -494.04 | -87.31 | -0.14 | -0.819 | -2.350 | -1678.382 |
| | | | Bottom | -494.04 | -87.31 | -0.14 | -0.819 | -15.301 | -5152.181 |
| L3 | A-4 | DY MAX | Top | 982.48 | 280.33 | 0.10 | 0.696 | 1.791 | 16889.929 |
| | | | Bottom | 982.48 | 280.33 | 0.10 | 0.696 | 10.060 | 17889.662 |
| L3 | A-4 | DY MIN | Top | -982.48 | -280.33 | -0.10 | -0.696 | -1.791 | -16889.929 |
| | | | Bottom | -982.48 | -280.33 | -0.10 | -0.696 | -10.060 | -17889.662 |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|----------|---------|-------|--------|---------|------------|
| L3 | 12.3 | DY MAX | Top | 431.75 | 33.80 | 0.08 | 1.259 | 1.331 | 1919.301 |
| | | | Bottom | 431.75 | 33.80 | 0.08 | 1.259 | 6.499 | 2299.670 |
| L3 | 12.3 | DY MIN | Top | -431.75 | -33.80 | -0.08 | -1.259 | -1.331 | -1919.301 |
| | | | Bottom | -431.75 | -33.80 | -0.08 | -1.259 | -6.499 | -2299.670 |
| L3 | 12.4 | DEAD | Top | -269.17 | 2.52 | 0.00 | -0.064 | -0.029 | -167.903 |
| | | | Bottom | -269.17 | 2.52 | 0.00 | -0.064 | 0.005 | 144.698 |
| L3 | 12.4 | TORX | Top | -63.24 | 9.95 | 0.00 | -0.105 | -0.052 | -597.295 |
| | | | Bottom | -63.24 | 9.95 | 0.00 | -0.105 | -0.031 | 625.924 |
| L3 | 12.4 | TORY | Top | -77.13 | 12.07 | 0.00 | -0.173 | -0.072 | -724.984 |
| | | | Bottom | -77.13 | 12.07 | 0.00 | -0.173 | -0.005 | 772.214 |
| L3 | 12.4 | DX MAX | Top | 1409.33 | 237.24 | 0.09 | 1.303 | 2.124 | 14069.370 |
| | | | Bottom | 1409.33 | 237.24 | 0.09 | 1.303 | 8.517 | 15378.411 |
| L3 | 12.4 | DX MIN | Top | -1409.33 | -237.24 | -0.09 | -1.303 | -2.124 | -14069.370 |
| | | | Bottom | -1409.33 | -237.24 | -0.09 | -1.303 | -8.517 | -15378.411 |
| L3 | 12.4 | DY MAX | Top | 377.32 | 38.99 | 0.10 | 2.041 | 1.640 | 2325.439 |
| | | | Bottom | 377.32 | 38.99 | 0.10 | 2.041 | 10.476 | 2419.559 |
| L3 | 12.4 | DY MIN | Top | -377.32 | -38.99 | -0.10 | -2.041 | -1.640 | -2325.439 |
| | | | Bottom | -377.32 | -38.99 | -0.10 | -2.041 | -10.476 | -2419.559 |
| L3 | 12.5 | DEAD | Top | -241.71 | 0.39 | 0.00 | -0.082 | -0.019 | -290.044 |
| | | | Bottom | -241.71 | 0.39 | 0.00 | -0.082 | -0.087 | -241.244 |
| L3 | 12.5 | TORX | Top | -75.24 | 4.18 | 0.00 | 0.309 | -0.071 | -310.134 |
| | | | Bottom | -75.24 | 4.18 | 0.00 | 0.309 | 0.030 | 208.084 |
| L3 | 12.5 | TORY | Top | -81.67 | 4.97 | 0.00 | 0.452 | -0.098 | -371.781 |
| | | | Bottom | -81.67 | 4.97 | 0.00 | 0.452 | 0.073 | 245.008 |
| L3 | 12.5 | DX MAX | Top | 1885.97 | 107.10 | 0.09 | 0.824 | 2.271 | 7243.093 |
| | | | Bottom | 1885.97 | 107.10 | 0.09 | 0.824 | 9.211 | 6044.444 |
| L3 | 12.5 | DX MIN | Top | -1885.97 | -107.10 | -0.09 | -0.824 | -2.271 | -7243.093 |
| | | | Bottom | -1885.97 | -107.10 | -0.09 | -0.8 | | |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|---------|------------|
| L3 | P-3 | TORX | -52.41 | 17.70 | 0.00 | 0.157 | -0.054 | -1080.711 |
| | | Top Bottom | -52.41 | 17.70 | 0.00 | 0.157 | 0.267 | 1134.178 |
| L3 | P-3 | TORY | -63.93 | 21.67 | 0.00 | 0.216 | -0.085 | -1323.252 |
| | | Top Bottom | -63.93 | 21.67 | 0.00 | 0.216 | 0.398 | 1364.003 |
| L3 | P-3 | DX MAX | 542.81 | 91.56 | 0.09 | 1.497 | 1.977 | 5932.529 |
| | | Top Bottom | 542.81 | 91.56 | 0.09 | 1.497 | 10.114 | 5424.635 |
| L3 | P-3 | DX MIN | -542.81 | -91.56 | -0.09 | -1.497 | -1.977 | -5932.529 |
| | | Top Bottom | -542.81 | -91.56 | -0.09 | -1.497 | -10.114 | -5424.635 |
| L3 | P-3 | DY MAX | 884.54 | 335.75 | 0.05 | 1.280 | 1.263 | 20387.186 |
| | | Top Bottom | 884.54 | 335.75 | 0.05 | 1.280 | 5.233 | 21255.935 |
| L3 | P-3 | DY MIN | -884.54 | -335.75 | -0.05 | -1.280 | -1.263 | -20387.186 |
| | | Top Bottom | -884.54 | -335.75 | -0.05 | -1.280 | -5.233 | -21255.935 |
| L3 | P-4 | DEAD | -242.64 | -3.01 | 0.00 | -0.040 | -0.034 | 89.051 |
| | | Top Bottom | -242.64 | -3.01 | 0.00 | -0.040 | 0.044 | -160.095 |
| L3 | P-4 | TORX | -68.25 | 12.76 | 0.00 | 0.028 | -0.087 | -779.710 |
| | | Top Bottom | -68.25 | 12.76 | 0.00 | 0.028 | 0.368 | 801.951 |
| L3 | P-4 | TORY | -83.23 | 15.58 | 0.01 | 0.024 | -0.102 | -951.084 |
| | | Top Bottom | -83.23 | 15.58 | 0.01 | 0.024 | 0.531 | 978.158 |
| L3 | P-4 | DX MAX | 512.72 | 52.57 | 0.11 | 1.566 | 3.227 | 3522.724 |
| | | Top Bottom | 512.72 | 52.57 | 0.11 | 1.566 | 12.037 | 2996.290 |
| L3 | P-4 | DX MIN | -512.72 | -52.57 | -0.11 | -1.566 | -3.227 | -3522.724 |
| | | Top Bottom | -512.72 | -52.57 | -0.11 | -1.566 | -12.037 | -2996.290 |
| L3 | P-4 | DY MAX | 1303.08 | 249.82 | 0.06 | 1.194 | 1.355 | 15099.264 |
| | | Top Bottom | 1303.08 | 249.82 | 0.06 | 1.194 | 6.156 | 15907.885 |
| L3 | P-4 | DY MIN | -1303.08 | -249.82 | -0.06 | -1.194 | -1.355 | -15099.264 |
| | | Top Bottom | -1303.08 | -249.82 | -0.06 | -1.194 | -6.156 | -15907.885 |
| L3 | P-5 | DEAD | -232.19 | 0.37 | 0.00 | -0.058 | 0.004 | -237.928 |
| | | Top Bottom | -232.19 | 0.37 | 0.00 | -0.058 | -0.040 | -191.458 |
| L3 | P-5 | TORX | -84.96 | 6.23 | 0.00 | 0.150 | -0.079 | -433.862 |
| | | Top Bottom | -84.96 | 6.23 | 0.00 | 0.150 | 0.453 | 350.559 |
| L3 | P-5 | TORY | -103.52 | 7.64 | 0.01 | 0.208 | -0.135 | -555.315 |
| | | Top Bottom | -103.52 | 7.64 | 0.01 | 0.208 | 0.622 | 422.228 |
| L3 | P-5 | DX MAX | 488.85 | 20.07 | 0.12 | 0.618 | 3.484 | 1744.553 |
| | | Top Bottom | 488.85 | 20.07 | 0.12 | 0.618 | 12.935 | 826.248 |
| L3 | P-5 | DX MIN | -488.85 | -20.07 | -0.12 | -0.618 | -3.484 | -1744.553 |
| | | Top Bottom | -488.85 | -20.07 | -0.12 | -0.618 | -12.935 | -826.248 |
| L3 | P-5 | DY MAX | 1767.68 | 127.43 | 0.07 | 0.777 | 1.503 | 8333.872 |
| | | Top Bottom | 1767.68 | 127.43 | 0.07 | 0.777 | 7.338 | 7474.254 |
| L3 | P-5 | DY MIN | -1767.68 | -127.43 | -0.07 | -0.777 | -1.503 | -8333.872 |
| | | Top Bottom | -1767.68 | -127.43 | -0.07 | -0.777 | -7.338 | -7474.254 |
| L3 | 1.6 | DEAD | -264.87 | -3.61 | 0.00 | 0.017 | 0.049 | 574.929 |
| | | Top Bottom | -277.27 | -3.61 | 0.00 | 0.017 | -0.374 | 126.759 |
| L3 | 1.6 | TORX | -80.52 | -7.80 | 0.00 | 0.251 | -0.037 | 497.428 |
| | | Top Bottom | -80.52 | -7.80 | 0.00 | 0.251 | -0.051 | -470.107 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|---------|------------|
| L3 | 1.6 | TORY | -98.09 | -9.51 | 0.00 | 0.361 | -0.043 | 606.341 |
| | | Top Bottom | -98.09 | -9.51 | 0.00 | 0.361 | -0.077 | -573.284 |
| L3 | 1.6 | DX MAX | 1077.09 | 282.97 | 0.07 | 0.455 | 1.370 | 15698.833 |
| | | Top Bottom | 1077.09 | 282.97 | 0.07 | 0.455 | 6.852 | 16913.178 |
| L3 | 1.6 | DX MIN | -1077.09 | -282.97 | -0.07 | -0.455 | -1.370 | -15698.833 |
| | | Top Bottom | -1077.09 | -282.97 | -0.07 | -0.455 | -6.852 | -16913.178 |
| L3 | 1.6 | DY MAX | 631.06 | 70.19 | 0.31 | 1.006 | 5.712 | 4746.889 |
| | | Top Bottom | 631.06 | 70.19 | 0.31 | 1.006 | 32.330 | 3980.650 |
| L3 | 1.6 | DY MIN | -631.06 | -70.19 | -0.31 | -1.006 | -5.712 | -4746.889 |
| | | Top Bottom | -631.06 | -70.19 | -0.31 | -1.006 | -32.330 | -3980.650 |
| L3 | 1.7 | DEAD | -276.96 | -6.78 | 0.00 | -0.039 | 0.063 | 431.112 |
| | | Top Bottom | -289.17 | -6.78 | 0.00 | -0.039 | -0.351 | -409.967 |
| L3 | 1.7 | TORX | -60.01 | -12.45 | 0.00 | -0.085 | -0.060 | 720.803 |
| | | Top Bottom | -60.01 | -12.45 | 0.00 | -0.085 | 0.004 | -822.691 |
| L3 | 1.7 | TORY | -73.09 | -15.18 | 0.00 | -0.140 | -0.073 | 879.435 |
| | | Top Bottom | -73.09 | -15.18 | 0.00 | -0.140 | -0.004 | -1003.452 |
| L3 | 1.7 | DX MAX | 1306.62 | 403.56 | 0.04 | 0.949 | 1.236 | 23181.664 |
| | | Top Bottom | 1306.62 | 403.56 | 0.04 | 0.949 | 6.492 | 24881.248 |
| L3 | 1.7 | DX MIN | -1306.62 | -403.56 | -0.04 | -0.949 | -1.236 | -23181.664 |
| | | Top Bottom | -1306.62 | -403.56 | -0.04 | -0.949 | -6.492 | -24881.248 |
| L3 | 1.7 | DY MAX | 590.48 | 120.21 | 0.26 | 4.497 | 4.685 | 7415.094 |
| | | Top Bottom | 590.48 | 120.21 | 0.26 | 4.497 | 27.149 | 7495.129 |
| L3 | 1.7 | DY MIN | -590.48 | -120.21 | -0.26 | -4.497 | -4.685 | -7415.094 |
| | | Top Bottom | -590.48 | -120.21 | -0.26 | -4.497 | -27.149 | -7495.129 |
| L3 | 1.8 | DEAD | -264.98 | -9.29 | 0.00 | 0.015 | 0.028 | 581.491 |
| | | Top Bottom | -276.41 | -9.29 | 0.00 | 0.015 | -0.267 | -570.200 |
| L3 | 1.8 | TORX | -46.89 | -12.70 | 0.00 | 0.145 | -0.033 | 774.802 |
| | | Top Bottom | -46.89 | -12.70 | 0.00 | 0.145 | -0.014 | -800.125 |
| L3 | 1.8 | TORY | -57.14 | -15.50 | 0.00 | 0.206 | -0.034 | 846.020 |
| | | Top Bottom | -57.14 | -15.50 | 0.00 | 0.206 | -0.037 | -976.528 |
| L3 | 1.8 | DX MAX | 793.61 | 385.98 | 0.05 | 1.076 | 1.037 | 23298.206 |
| | | Top Bottom | 793.61 | 385.98 | 0.05 | 1.076 | 5.208 | 24577.383 |
| L3 | 1.8 | DX MIN | -793.61 | -385.98 | -0.05 | -1.076 | -1.037 | -23298.206 |
| | | Top Bottom | -793.61 | -385.98 | -0.05 | -1.076 | -5.208 | -24577.383 |
| L3 | 1.8 | DY MAX | 602.68 | 138.33 | 0.19 | 0.538 | 3.437 | 8839.562 |
| | | Top Bottom | 602.68 | 138.33 | 0.19 | 0.538 | 19.978 | 8316.222 |
| L3 | 1.8 | DY MIN | -602.68 | -138.33 | -0.19 | -0.538 | -3.437 | -8839.562 |
| | | Top Bottom | -602.68 | -138.33 | -0.19 | -0.538 | -19.978 | -8316.222 |
| L3 | 1.9 | DEAD | -581.71 | -43.56 | -0.01 | -0.293 | 0.393 | 2680.180 |
| | | Top Bottom | -602.08 | -43.56 | -0.01 | -0.293 | -1.424 | -3720.712 |
| L3 | 1.9 | TORX | -68.28 | -40.61 | 0.00 | -0.037 | -0.110 | 1886.203 |
| | | Top Bottom | -68.28 | -40.61 | 0.00 | -0.037 | 0.145 | -3139.444 |
| L3 | 1.9 | TORY | -83.26 | -49.60 | 0.00 | -0.040 | -0.138 | 2316.846 |
| | | Top Bottom | -83.26 | -49.60 | 0.00 | -0.040 | 0.173 | -3833.331 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|----------|-------|---------|---------|------------|
| L3 | 1.9 | DX MAX | 309.72 | 1119.09 | 0.08 | 4.452 | 1.674 | 48241.921 |
| | | Top Bottom | 309.72 | 1119.09 | 0.08 | 4.452 | 8.792 | 91593.710 |
| L3 | 1.9 | DX MIN | -309.72 | -1119.09 | -0.08 | -4.452 | -1.674 | -48241.921 |
| | | Top Bottom | -309.72 | -1119.09 | -0.08 | -4.452 | -8.792 | -91593.710 |
| L3 | 1.9 | DY MAX | 1414.76 | 520.23 | 0.22 | 11.590 | 3.808 | 30919.236 |
| | | Top Bottom | 1414.76 | 520.23 | 0.22 | 11.590 | 23.854 | 33719.030 |
| L3 | 1.9 | DY MIN | -1414.76 | -520.23 | -0.22 | -11.590 | -3.808 | -30919.236 |
| | | Top Bottom | -1414.76 | -520.23 | -0.22 | -11.590 | -23.854 | -33719.030 |
| L3 | 12.6 | DEAD | -244.40 | 1.28 | 0.00 | 0.060 | 0.008 | 185.033 |
| | | Top Bottom | -256.80 | 1.28 | 0.00 | 0.060 | -0.077 | 343.804 |
| L3 | 12.6 | TORX | 78.65 | 4.18 | 0.00 | 0.238 | 0.051 | -312.283 |
| | | Top Bottom | 78.65 | 4.18 | 0.00 | 0.238 | -0.390 | 206.208 |
| L3 | 12.6 | TORY | 93.27 | 4.97 | 0.00 | 0.346 | 0.077 | -373.963 |
| | | Top Bottom | 93.27 | 4.97 | 0.00 | 0.346 | -0.539 | 242.180 |
| L3 | 12.6 | DX MAX | 1871.40 | 107.78 | 0.09 | 0.801 | 1.886 | 7258.945 |
| | | Top Bottom | 1871.40 | 107.78 | 0.09 | 0.801 | 7.792 | 6112.271 |
| L3 | 12.6 | DX MIN | -1871.40 | -107.78 | -0.09 | -0.801 | -1.886 | -7258.945 |
| | | Top Bottom | -1871.40 | -107.78 | -0.09 | -0.801 | -7.792 | -6112.271 |
| L3 | 12.6 | DY MAX | 535.47 | 33.18 | 0.11 | 0.355 | 2.401 | 2825.266 |
| | | Top Bottom | 535.47 | 33.18 | 0.11 | 0.355 | 11.570 | 1582.236 |
| L3 | 12.6 | DY MIN | -535.47 | -33.18 | -0.11 | -0.355 | -2.401 | -2825.266 |
| | | Top Bottom | -535.47 | -33.18 | -0.11 | -0.355 | -11.570 | -1582.236 |
| L3 | 12.7 | DEAD | -262.38 | 0.94 | 0.00 | 0.060 | -0.033 | -34.592 |
| | | Top Bottom | -274.59 | 0.94 | 0.00 | 0.060 | 0.007 | 81.645 |
| L3 | 12.7 | TORX | 65.84 | 10.31 | 0.00 | -0.011 | 0.027 | -621.112 |
| | | Top Bottom | 65.84 | 10.31 | 0.00 | -0.011 | -0.323 | 657.370 |
| L3 | 12.7 | TORY | 80.31 | 12.51 | 0.00 | -0.038 | 0.046 | -753.546 |
| | | Top Bottom | 80.31 | 12.51 | 0.00 | -0.038 | -0.452 | 797.795 |
| L3 | 12.7 | DX MAX | 1410.49 | 241.48 | 0.07 | 1.637 | 1.502 | 14300.095 |
| | | Top Bottom | 1410.49 | 241.48 | 0.07 | 1.637 | 6.624 | 15676.015 |
| L3 | 12.7 | DX MIN | -1410.49 | -241.48 | -0.07 | -1.637 | -1.502 | -14300.095 |
| | | Top Bottom | -1410.49 | -241.48 | -0.07 | -1.637 | -6.624 | -15676.015 |
| L3 | 12.7 | DY MAX | 565.90 | 78.96 | 0.09 | 2.085 | 1.891 | 9321.558 |
| | | Top Bottom | 565.90 | 78.96 | 0.09 | 2.085 | 10.248 | 4673 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|----------|----------|----------|-------|--------|---------|------------|
| L3 | A-7 | Top | 1256.01 | 361.29 | 0.15 | 1.956 | 3.106 | 20766.681 |
| | | Bottom | 1256.01 | 361.29 | 0.15 | 1.956 | 14.953 | 24059.763 |
| L3 | A-7 | Top | -1256.01 | -361.29 | -0.15 | -1.956 | -3.106 | -20766.681 |
| | | Bottom | -1256.01 | -361.29 | -0.15 | -1.956 | -14.953 | -24059.763 |
| L3 | A-8 | Top | -255.01 | -12.51 | 0.00 | -0.001 | 0.072 | 757.735 |
| | | Bottom | -255.01 | -12.51 | 0.00 | -0.001 | -0.364 | -793.793 |
| L3 | A-8 | Top | -47.47 | -12.49 | 0.00 | 0.114 | -0.039 | 753.850 |
| | | Bottom | -47.47 | -12.49 | 0.00 | 0.114 | 0.375 | -794.528 |
| L3 | A-8 | Top | -57.85 | -15.28 | 0.00 | 0.161 | -0.043 | 923.505 |
| | | Bottom | -57.85 | -15.28 | 0.00 | 0.161 | 0.447 | -971.686 |
| L3 | A-8 | Top | 504.50 | 36.03 | 0.11 | 0.910 | 1.426 | 2369.574 |
| | | Bottom | 504.50 | 36.03 | 0.11 | 0.910 | 12.376 | 2157.795 |
| L3 | A-8 | Top | -504.50 | -36.03 | -0.11 | -0.910 | -1.426 | -2369.574 |
| | | Bottom | -504.50 | -36.03 | -0.11 | -0.910 | -12.376 | -2157.795 |
| L3 | A-8 | Top | 777.03 | 350.20 | 0.13 | 0.818 | 3.068 | 21161.125 |
| | | Bottom | 777.03 | 350.20 | 0.13 | 0.818 | 12.709 | 22280.117 |
| L3 | A-8 | Top | -777.03 | -350.20 | -0.13 | -0.818 | -3.068 | -21161.125 |
| | | Bottom | -777.03 | -350.20 | -0.13 | -0.818 | -12.709 | -22280.117 |
| L3 | A-9 | Top | -528.81 | -42.73 | -0.01 | -0.133 | 0.111 | 3202.355 |
| | | Bottom | -528.81 | -42.73 | -0.01 | -0.133 | -0.863 | -3096.297 |
| L3 | A-9 | Top | -59.01 | -38.28 | 0.01 | 0.016 | -0.071 | 1639.889 |
| | | Bottom | -59.01 | -38.28 | 0.01 | 0.016 | 0.792 | -3107.195 |
| L3 | A-9 | Top | -71.93 | -46.88 | 0.01 | 0.035 | -0.086 | 3010.879 |
| | | Bottom | -71.93 | -46.88 | 0.01 | 0.035 | 0.989 | -3802.254 |
| L3 | A-9 | Top | 1354.36 | 140.92 | 0.18 | 5.691 | 2.149 | 9869.232 |
| | | Bottom | 1354.36 | 140.92 | 0.18 | 5.691 | 21.742 | 8663.666 |
| L3 | A-9 | Top | -1354.36 | -140.92 | -0.18 | -5.691 | -2.149 | -9869.232 |
| | | Bottom | -1354.36 | -140.92 | -0.18 | -5.691 | -21.742 | -8663.666 |
| L3 | A-9 | Top | 397.57 | 1049.80 | 0.15 | 8.438 | 3.233 | 47003.971 |
| | | Bottom | 397.57 | 1049.80 | 0.15 | 8.438 | 15.124 | 84300.216 |
| L3 | A-9 | Top | -397.57 | -1049.80 | -0.15 | -8.438 | -3.233 | -47003.971 |
| | | Bottom | -397.57 | -1049.80 | -0.15 | -8.438 | -15.124 | -84300.216 |
| L3 | A-10 | Top | -347.68 | -35.24 | -0.01 | 0.081 | -0.434 | 715.130 |
| | | Bottom | -347.68 | -35.24 | -0.01 | 0.081 | -1.352 | -7654.668 |
| L3 | A-10 | Top | -8.27 | -28.60 | 0.00 | -0.030 | 0.069 | 1808.547 |
| | | Bottom | -8.27 | -28.60 | 0.00 | -0.030 | 0.458 | -2038.153 |
| L3 | A-10 | Top | -10.09 | -25.04 | 0.01 | -0.067 | -0.086 | 1848.907 |
| | | Bottom | -10.09 | -25.04 | 0.01 | -0.067 | 0.611 | -2495.920 |
| L3 | A-10 | Top | 1287.91 | 353.32 | 0.10 | 4.312 | 2.623 | 18390.695 |
| | | Bottom | 1287.91 | 353.32 | 0.10 | 4.312 | 9.811 | 25464.038 |
| L3 | A-10 | Top | -1287.91 | -353.32 | -0.10 | -4.312 | -2.623 | -18390.695 |
| | | Bottom | -1287.91 | -353.32 | -0.10 | -4.312 | -9.811 | -25464.038 |
| L3 | A-10 | Top | 814.39 | 545.87 | 0.03 | 2.256 | 1.211 | 30937.685 |
| | | Bottom | 814.39 | 545.87 | 0.03 | 2.256 | 4.061 | 38964.001 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|-------|----------|----------|---------|-------|--------|---------|------------|
| L3 | P-9 | Top | -504.54 | -67.50 | 0.01 | 0.209 | -0.191 | 2395.580 |
| | | Bottom | -504.54 | -67.50 | 0.01 | 0.209 | 1.075 | -3974.504 |
| L3 | P-9 | Top | 75.84 | 34.47 | 0.01 | 0.055 | -0.104 | -3262.970 |
| | | Bottom | 75.84 | 34.47 | 0.01 | 0.055 | 0.888 | 2071.265 |
| L3 | P-9 | Top | 92.60 | 42.09 | 0.01 | 0.062 | -0.126 | -2899.248 |
| | | Bottom | 92.60 | 42.09 | 0.01 | 0.062 | 1.085 | 2521.198 |
| L3 | P-9 | Top | 1297.82 | 168.83 | 0.17 | 5.851 | 2.571 | 8994.470 |
| | | Bottom | 1297.82 | 168.83 | 0.17 | 5.851 | 20.005 | 12077.613 |
| L3 | P-9 | Top | -1297.82 | -168.83 | -0.17 | -5.851 | -2.571 | -8994.470 |
| | | Bottom | -1297.82 | -168.83 | -0.17 | -5.851 | -20.005 | -12077.613 |
| L3 | P-9 | Top | 889.73 | 573.63 | 0.18 | 9.428 | 4.256 | 37798.076 |
| | | Bottom | 889.73 | 573.63 | 0.18 | 9.428 | 18.071 | 35202.210 |
| L3 | P-9 | Top | -889.73 | -573.63 | -0.18 | -9.428 | -4.256 | -37798.076 |
| | | Bottom | -889.73 | -573.63 | -0.18 | -9.428 | -18.071 | -35202.210 |
| L3 | P-10 | Top | -250.78 | 53.03 | 0.02 | -0.195 | -0.002 | -1554.575 |
| | | Bottom | -250.78 | 53.03 | 0.02 | -0.195 | 1.847 | 3021.616 |
| L3 | P-10 | Top | -8.38 | 24.53 | 0.01 | -0.134 | -0.080 | -1517.895 |
| | | Bottom | -8.38 | 24.53 | 0.01 | -0.134 | 0.574 | 1523.891 |
| L3 | P-10 | Top | -10.28 | 30.06 | 0.01 | -0.168 | -0.100 | -1860.200 |
| | | Bottom | -10.28 | 30.06 | 0.01 | -0.168 | 0.704 | 1846.871 |
| L3 | P-10 | Top | 835.25 | 96.18 | 0.07 | 5.195 | 2.522 | 7413.647 |
| | | Bottom | 835.25 | 96.18 | 0.07 | 5.195 | 7.523 | 10918.317 |
| L3 | P-10 | Top | -835.25 | -96.18 | -0.07 | -5.195 | -2.522 | -7413.647 |
| | | Bottom | -835.25 | -96.18 | -0.07 | -5.195 | -7.523 | -10918.317 |
| L3 | P-10 | Top | 692.56 | 514.06 | 0.10 | 3.413 | 2.737 | 27400.182 |
| | | Bottom | 692.56 | 514.06 | 0.10 | 3.413 | 9.826 | 36661.708 |
| L3 | P-10 | Top | -692.56 | -514.06 | -0.10 | -3.413 | -2.737 | -27400.182 |
| | | Bottom | -692.56 | -514.06 | -0.10 | -3.413 | -9.826 | -36661.708 |
| L3 | 12.11 | Top | -396.07 | -14.79 | 0.00 | -0.070 | 0.395 | 325.454 |
| | | Bottom | -396.07 | -14.79 | 0.00 | -0.070 | 0.528 | -1508.952 |
| L3 | 12.11 | Top | 14.00 | 37.75 | 0.00 | 0.147 | -0.145 | -2176.121 |
| | | Bottom | 14.00 | 37.75 | 0.00 | 0.147 | 0.231 | 2505.250 |
| L3 | 12.11 | Top | 17.08 | 46.29 | 0.00 | 0.179 | -0.185 | -2470.421 |
| | | Bottom | 17.08 | 46.29 | 0.00 | 0.179 | 0.284 | 3070.089 |
| L3 | 12.11 | Top | 820.66 | 537.39 | 0.03 | 2.309 | 1.186 | 28896.264 |
| | | Bottom | 820.66 | 537.39 | 0.03 | 2.309 | 2.370 | 36993.393 |
| L3 | 12.11 | Top | -820.66 | -537.39 | -0.03 | -2.309 | -1.186 | -28896.264 |
| | | Bottom | -820.66 | -537.39 | -0.03 | -2.309 | -2.370 | -36993.393 |
| L3 | 12.11 | Top | 897.16 | 467.38 | 0.04 | 2.018 | 2.599 | 28087.985 |
| | | Bottom | 897.16 | 467.38 | 0.04 | 2.018 | 4.066 | 29881.459 |
| L3 | 12.11 | Top | -897.16 | -467.38 | -0.04 | -2.018 | -2.599 | -28087.985 |
| | | Bottom | -897.16 | -467.38 | -0.04 | -2.018 | -4.066 | -29881.459 |
| L3 | A-5.1 | Top | -25.74 | 39.36 | 0.00 | -0.003 | -0.037 | -2842.119 |
| | | Bottom | -25.74 | 39.36 | 0.00 | -0.003 | -0.100 | -2038.475 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|----------|----------|---------|-------|--------|---------|------------|
| L3 | A-10 | Top | -834.39 | -545.87 | -0.03 | -2.256 | -1.211 | -30937.685 |
| | | Bottom | -834.39 | -545.87 | -0.03 | -2.256 | -4.461 | -38964.001 |
| L3 | P-6 | Top | -264.65 | -2.74 | 0.00 | 0.077 | -0.008 | 407.554 |
| | | Bottom | -264.65 | -2.74 | 0.00 | 0.077 | 0.145 | 67.722 |
| L3 | P-6 | Top | 89.00 | 5.43 | 0.00 | 0.187 | -0.014 | -398.574 |
| | | Bottom | 89.00 | 5.43 | 0.00 | 0.187 | 0.236 | 275.197 |
| L3 | P-6 | Top | 108.30 | 6.50 | 0.00 | 0.259 | -0.019 | -479.502 |
| | | Bottom | 108.30 | 6.50 | 0.00 | 0.259 | 0.297 | 326.131 |
| L3 | P-6 | Top | 411.48 | 15.69 | 0.13 | 0.282 | 1.584 | 933.493 |
| | | Bottom | 411.48 | 15.69 | 0.13 | 0.282 | 14.208 | 1187.786 |
| L3 | P-6 | Top | -411.48 | -15.69 | -0.13 | -0.282 | -1.584 | -933.493 |
| | | Bottom | -411.48 | -15.69 | -0.13 | -0.282 | -14.208 | -1187.786 |
| L3 | P-6 | Top | 1887.94 | 114.36 | 0.13 | 1.318 | 3.171 | 7875.703 |
| | | Bottom | 1887.94 | 114.36 | 0.13 | 1.318 | 12.793 | 6334.896 |
| L3 | P-6 | Top | -1887.94 | -114.36 | -0.13 | -1.318 | -3.171 | -7875.703 |
| | | Bottom | -1887.94 | -114.36 | -0.13 | -1.318 | -12.793 | -6334.896 |
| L3 | P-7 | Top | -273.27 | -4.24 | 0.00 | 0.077 | -0.058 | 299.793 |
| | | Bottom | -273.27 | -4.24 | 0.00 | 0.077 | 0.265 | -226.592 |
| L3 | P-7 | Top | 74.85 | 12.87 | 0.00 | -0.009 | -0.045 | -771.050 |
| | | Bottom | 74.85 | 12.87 | 0.00 | -0.009 | 0.250 | 825.240 |
| L3 | P-7 | Top | 91.30 | 15.67 | 0.00 | -0.036 | -0.053 | -938.126 |
| | | Bottom | 91.30 | 15.67 | 0.00 | -0.036 | 0.429 | 1004.487 |
| L3 | P-7 | Top | 457.86 | 24.03 | 0.13 | 1.671 | 2.217 | 1421.091 |
| | | Bottom | 457.86 | 24.03 | 0.13 | 1.671 | 14.271 | 1610.288 |
| L3 | P-7 | Top | -457.86 | -24.03 | -0.13 | -1.671 | -2.217 | -1421.091 |
| | | Bottom | -457.86 | -24.03 | -0.13 | -1.671 | -14.271 | -1610.288 |
| L3 | P-7 | Top | 1455.83 | 257.98 | 0.13 | 2.352 | 3.315 | 15345.330 |
| | | Bottom | 1455.83 | 257.98 | 0.13 | 2.352 | 12.979 | 16670.743 |
| L3 | P-7 | Top | -1455.83 | -257.98 | -0.13 | -2.352 | -3.315 | -15345.330 |
| | | Bottom | -1455.83 | -257.98 | -0.13 | -2.352 | -12.979 | -16670.743 |
| L3 | P-8 | Top | -254.90 | -10.05 | 0.00 | 0.030 | -0.096 | 624.772 |
| | | Bottom | -254.90 | -10.05 | 0.00 | 0.030 | 0.390 | -621.266 |
| L3 | P-8 | Top | 48.57 | 15.88 | 0.00 | 0.137 | -0.044 | -844.154 |
| | | Bottom | 48.57 | 15.88 | 0.00 | 0.137 | 0.262 | 1026.400 |
| L3 | P-8 | Top | 5 | | | | | |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|----------|-------|----------|----------|--------------|
| L2 | 1.2 | TORY | 28.74 | -29.34 | 0.01 | 0.122 | -0.027 | 1594.917 |
| | | Top Bottom | 28.74 | -29.34 | 0.01 | 0.122 | 0.527 | -869.552 |
| L2 | 1.2 | DX MAX | 889.34 | 687.53 | 0.08 | 2.540 | 0.820 | 26450.853 |
| | | Top Bottom | 889.34 | 687.53 | 0.08 | 2.540 | 7.218 | 21391.276 |
| L2 | 1.2 | DX MIN | -889.34 | -687.53 | -0.08 | -2.540 | -0.820 | -26450.853 |
| | | Top Bottom | -889.34 | -687.53 | -0.08 | -2.540 | -7.218 | -21391.276 |
| L2 | 1.2 | DY MAX | 111.50 | 86.70 | 0.37 | 2.681 | 6.670 | 4389.088 |
| | | Top Bottom | 111.50 | 86.70 | 0.37 | 2.681 | 36.736 | 2454.242 |
| L2 | 1.2 | DY MIN | -111.50 | -86.70 | -0.37 | -2.681 | -6.670 | -4389.088 |
| | | Top Bottom | -111.50 | -86.70 | -0.37 | -2.681 | -36.736 | -2454.242 |
| L2 | 1.3 | DEAD | -110.44 | -47.01 | 0.04 | -1.525 | 0.593 | 44619.694 |
| | | Top Bottom | -110.44 | -47.01 | 0.04 | -1.525 | 4.082 | 40570.883 |
| L2 | 1.3 | TORX | -34.01 | -49.37 | 0.04 | 1.771 | 1.847 | 21347.233 |
| | | Top Bottom | -34.01 | -49.37 | 0.04 | 1.771 | 4.905 | 17200.154 |
| L2 | 1.3 | TORY | -41.44 | -62.65 | 0.05 | 2.199 | 2.204 | 26112.924 |
| | | Top Bottom | -41.44 | -62.65 | 0.05 | 2.199 | 5.114 | 20850.678 |
| L2 | 1.3 | DX MAX | 922.34 | 1473.73 | 0.41 | 77.911 | 15.844 | 593152.030 |
| | | Top Bottom | 922.34 | 1473.73 | 0.41 | 77.911 | 50.117 | 476953.817 |
| L2 | 1.3 | DX MIN | -922.34 | -1473.73 | -0.41 | -77.911 | -15.844 | -593152.030 |
| | | Top Bottom | -922.34 | -1473.73 | -0.41 | -77.911 | -50.117 | -476953.817 |
| L2 | 1.3 | DY MAX | 290.06 | 324.65 | 3.13 | 68.000 | 122.704 | 149303.137 |
| | | Top Bottom | 290.06 | 324.65 | 3.13 | 68.000 | 395.442 | 122163.023 |
| L2 | 1.3 | DY MIN | -290.06 | -324.65 | -3.13 | -68.000 | -122.704 | -149303.137 |
| | | Top Bottom | -290.06 | -324.65 | -3.13 | -68.000 | -395.442 | -122163.023 |
| L2 | 1.4 | DEAD | -124.24 | -104.77 | 0.08 | 19.594 | -4.101 | 32091.542 |
| | | Top Bottom | -124.24 | -104.77 | 0.08 | 19.594 | 2.926 | 72350.473 |
| L2 | 1.4 | TORX | -285.41 | -73.27 | 0.06 | 7.472 | 1.596 | -18394.724 |
| | | Top Bottom | -285.41 | -73.27 | 0.06 | 7.472 | 6.341 | -24549.501 |
| L2 | 1.4 | TORY | -323.39 | -90.83 | 0.07 | 9.050 | 1.942 | -22344.023 |
| | | Top Bottom | -323.39 | -90.83 | 0.07 | 9.050 | 7.938 | -29957.257 |
| L2 | 1.4 | DX MAX | 2359.50 | 1743.43 | 0.58 | 42.053 | 8.474 | 1202406.518 |
| | | Top Bottom | 2359.50 | 1743.43 | 0.58 | 42.053 | 42.229 | 1218391.970 |
| L2 | 1.4 | DX MIN | -2359.50 | -1743.43 | -0.58 | -42.053 | -8.474 | -1202406.518 |
| | | Top Bottom | -2359.50 | -1743.43 | -0.58 | -42.053 | -42.229 | -1218391.970 |
| L2 | 1.4 | DY MAX | 4636.90 | 1171.08 | 2.26 | 229.612 | 32.380 | 292222.831 |
| | | Top Bottom | 4636.90 | 1171.08 | 2.26 | 229.612 | 208.551 | 211458.237 |
| L2 | 1.4 | DY MIN | -4636.90 | -1171.08 | -2.26 | -229.612 | -32.380 | -292222.831 |
| | | Top Bottom | -4636.90 | -1171.08 | -2.26 | -229.612 | -208.551 | -211458.237 |
| L2 | 12.1 | DEAD | -421.57 | 0.64 | -0.01 | -0.123 | 1.348 | 1904.540 |
| | | Top Bottom | -421.57 | 0.64 | -0.01 | -0.123 | 0.554 | 1957.856 |
| L2 | 12.1 | TORX | -15.37 | 24.45 | 0.00 | 0.028 | -0.129 | -627.832 |
| | | Top Bottom | -15.37 | 24.45 | 0.00 | 0.028 | -0.230 | 1391.417 |
| L2 | 12.1 | TORY | -19.75 | 30.31 | 0.00 | 0.009 | -0.145 | -796.832 |
| | | Top Bottom | -19.75 | 30.31 | 0.00 | 0.009 | -0.296 | 1718.620 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|---------|------------|
| L2 | 12.1 | DX MAX | 794.98 | 499.92 | 0.03 | 2.843 | 3.110 | 14687.695 |
| | | Top Bottom | 794.98 | 499.92 | 0.03 | 2.843 | 2.292 | 27220.204 |
| L2 | 12.1 | DX MIN | -794.98 | -499.92 | -0.03 | -2.843 | -3.110 | -14687.695 |
| | | Top Bottom | -794.98 | -499.92 | -0.03 | -2.843 | -2.292 | -27220.204 |
| L2 | 12.1 | DY MAX | 1294.51 | 86.86 | 0.04 | 3.405 | 4.000 | 2467.093 |
| | | Top Bottom | 1294.51 | 86.86 | 0.04 | 3.405 | 3.752 | 4816.049 |
| L2 | 12.1 | DY MIN | -1294.51 | -86.86 | -0.04 | -3.405 | -4.000 | -2467.093 |
| | | Top Bottom | -1294.51 | -86.86 | -0.04 | -3.405 | -3.752 | -4816.049 |
| L2 | 12.2 | DEAD | -591.84 | 21.44 | -0.01 | 0.403 | 0.203 | 169.536 |
| | | Top Bottom | -591.84 | 21.44 | -0.01 | 0.403 | -0.429 | 1948.784 |
| L2 | 12.2 | TORX | -67.02 | 38.21 | 0.00 | 0.202 | -0.141 | -661.723 |
| | | Top Bottom | -67.02 | 38.21 | 0.00 | 0.202 | -0.206 | 2509.777 |
| L2 | 12.2 | TORY | -81.73 | 47.48 | 0.00 | 0.286 | -0.169 | -829.822 |
| | | Top Bottom | -81.73 | 47.48 | 0.00 | 0.286 | -0.286 | 3100.781 |
| L2 | 12.2 | DX MAX | 654.09 | 751.80 | 0.17 | 7.227 | 5.667 | 13507.861 |
| | | Top Bottom | 654.09 | 751.80 | 0.17 | 7.227 | 8.284 | 53494.901 |
| L2 | 12.2 | DX MIN | -654.09 | -751.80 | -0.17 | -7.227 | -5.667 | -13507.861 |
| | | Top Bottom | -654.09 | -751.80 | -0.17 | -7.227 | -8.284 | -53494.901 |
| L2 | 12.2 | DY MAX | 1160.34 | 94.42 | 0.13 | 6.893 | 8.366 | 3766.402 |
| | | Top Bottom | 1160.34 | 94.42 | 0.13 | 6.893 | 10.088 | 6275.785 |
| L2 | 12.2 | DY MIN | -1160.34 | -94.42 | -0.13 | -6.893 | -8.366 | -3766.402 |
| | | Top Bottom | -1160.34 | -94.42 | -0.13 | -6.893 | -10.088 | -6275.785 |
| L2 | 12.3 | DEAD | -300.03 | 20.24 | 0.00 | 0.028 | 0.037 | -790.478 |
| | | Top Bottom | -300.03 | 20.24 | 0.00 | 0.028 | -0.033 | 897.452 |
| L2 | 12.3 | TORX | -54.76 | 19.87 | 0.00 | -0.162 | 0.003 | -798.084 |
| | | Top Bottom | -54.76 | 19.87 | 0.00 | -0.162 | -0.162 | 851.925 |
| L2 | 12.3 | TORY | -66.82 | 24.67 | 0.00 | -0.256 | 0.024 | -891.102 |
| | | Top Bottom | -66.82 | 24.67 | 0.00 | -0.256 | -0.238 | 1054.269 |
| L2 | 12.3 | DX MAX | 1018.09 | 397.33 | 0.15 | 1.429 | 4.981 | 15624.455 |
| | | Top Bottom | 1018.09 | 397.33 | 0.15 | 1.429 | 7.348 | 17401.911 |
| L2 | 12.3 | DX MIN | -1018.09 | -397.33 | -0.15 | -1.429 | -4.981 | -15624.455 |
| | | Top Bottom | -1018.09 | -397.33 | -0.15 | -1.429 | -7.348 | -17401.911 |
| L2 | 12.3 | DY MAX | 450.53 | 58.22 | 0.11 | 1.284 | 5.755 | 2501.902 |
| | | Top Bottom | 450.53 | 58.22 | 0.11 | 1.284 | 6.392 | 2952.774 |
| L2 | 12.3 | DY MIN | -450.53 | -58.22 | -0.11 | -1.284 | -5.755 | -2501.902 |
| | | Top Bottom | -450.53 | -58.22 | -0.11 | -1.284 | -6.392 | -2952.774 |
| L2 | 12.4 | DEAD | -316.85 | 11.73 | 0.00 | 0.090 | -0.017 | -890.684 |
| | | Top Bottom | -316.85 | 11.73 | 0.00 | 0.090 | 0.033 | 482.192 |
| L2 | 12.4 | TORX | -68.91 | 16.14 | 0.00 | 0.249 | -0.031 | -607.574 |
| | | Top Bottom | -68.91 | 16.14 | 0.00 | 0.249 | -0.098 | 731.719 |
| L2 | 12.4 | TORY | -84.02 | 20.19 | 0.00 | 0.366 | -0.017 | -761.762 |
| | | Top Bottom | -84.02 | 20.19 | 0.00 | 0.366 | -0.154 | 912.912 |
| L2 | 12.4 | DX MAX | 1524.65 | 326.26 | 0.19 | 1.801 | 6.241 | 11841.895 |
| | | Top Bottom | 1524.65 | 326.26 | 0.19 | 1.801 | 9.228 | 15310.144 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|--------|--------|------------|
| L2 | 12.4 | DX MIN | -1524.55 | -326.26 | -0.19 | -1.801 | -6.241 | -11841.895 |
| | | Top Bottom | -1524.55 | -326.26 | -0.19 | -1.801 | -9.228 | -15310.144 |
| L2 | 12.4 | DY MAX | 402.13 | 77.22 | 0.15 | 2.996 | 6.923 | 2960.007 |
| | | Top Bottom | 402.13 | 77.22 | 0.15 | 2.996 | 7.849 | 3479.009 |
| L2 | 12.4 | DY MIN | -402.13 | -77.22 | -0.15 | -2.996 | -6.923 | -2960.007 |
| | | Top Bottom | -402.13 | -77.22 | -0.15 | -2.996 | -7.849 | -3479.009 |
| L2 | 12.5 | DEAD | -296.87 | 2.57 | 0.00 | 0.050 | -0.110 | -663.941 |
| | | Top Bottom | -296.87 | 2.57 | 0.00 | 0.050 | 0.151 | -450.946 |
| L2 | 12.5 | TORX | -89.79 | 7.10 | 0.00 | -0.282 | -0.053 | -348.073 |
| | | Top Bottom | -89.79 | 7.10 | 0.00 | -0.282 | -0.071 | 241.616 |
| L2 | 12.5 | TORY | -109.62 | 9.03 | 0.00 | -0.440 | -0.042 | -438.207 |
| | | Top Bottom | -109.62 | 9.03 | 0.00 | -0.440 | -0.132 | 311.248 |
| L2 | 12.5 | DX MAX | 2147.64 | 139.79 | 0.20 | 1.184 | 6.759 | 6426.643 |
| | | Top Bottom | 2147.64 | 139.79 | 0.20 | 1.184 | 9.971 | 5264.774 |
| L2 | 12.5 | DX MIN | -2147.64 | -139.79 | -0.20 | -1.184 | -6.759 | -6426.643 |
| | | Top Bottom | -2147.64 | -139.79 | -0.20 | -1.184 | -9.971 | -5264.774 |
| L2 | 12.5 | DY MAX | 316.72 | 57.03 | 0.17 | 0.892 | 7.288 | 1963.508 |
| | | Top Bottom | 316.72 | 57.03 | 0.17 | 0.892 | 8.854 | 2019.816 |
| L2 | 12.5 | DY MIN | -316.72 | -57.03 | -0.17 | -0.892 | -7.288 | -1963.508 |
| | | Top Bottom | -316.72 | -57.03 | -0.17 | -0.892 | -8.854 | -2019.816 |
| L2 | A-1 | DEAD | -413.70 | -4.07 | 0.01 | 0.125 | -1.479 | 1851.996 |
| | | Top Bottom | -413.70 | -4.07 | 0.01 | 0.125 | -0.654 | 1614.425 |
| L2 | A-1 | TORX | 20.17 | -15.66 | 0.00 | -0.078 | -0.201 | 393.208 |
| | | Top Bottom | 20.17 | -15.66 | 0.00 | -0.078 | -0.348 | -906.417 |
| L2 | A-1 | TORY | 24.73 | -19.24 | 0.00 | -0.132 | -0.220 | 485.237 |
| | | Top Bottom | 24.73 | -19.24 | 0.00 | -0.132 | -0.448 | -1113.074 |
| L2 | A-1 | DX MAX | 1367.87 | 299.06 | 0.06 | 4.326 | 4.356 | 9416.038 |
| | | Top Bottom | 1367.87 | 299.06 | 0.06 | 4.326 | 6.250 | 15825.239 |
| L2 | A-1 | DX MIN | -1367.87 | -299.06 | -0.06 | -4.326 | -4.356 | -9416.038 |
| | | Top Bottom | -1367.87 | -299.06 | -0.06 | -4.326 | -6.250 | -15825.239 |
| L2 | A-1 | DY MAX | 955.09 | 304.70 | 0.06 | 5.112 | 2.847 | 9246.803 |
| | | Top Bottom | 955.09 | 304.70 | 0.06 | 5.112 | 2.972 | 14615.778 |
| L2 | A-1 | DY MIN | -955 | | | | | |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|------|--------|--------|----------|---------|-------|--------|---------|------------|
| L2 | A-5 | DY MIN | Top | -863.37 | -339.16 | -0.22 | -2.868 | -6.631 | -14695.159 |
| | | | Bottom | -863.37 | -339.16 | -0.22 | -2.868 | -12.070 | -13281.133 |
| L2 | P-1 | DEAD | Top | -447.59 | -4.50 | -0.01 | -0.159 | 1.463 | 2057.516 |
| | | | Bottom | -461.47 | -4.50 | -0.01 | -0.159 | 0.560 | 1693.761 |
| L2 | P-1 | TORY | Top | -15.68 | 37.97 | 0.00 | -0.040 | -0.199 | -1083.197 |
| | | | Bottom | -15.68 | 37.97 | 0.00 | -0.040 | -0.380 | -2034.982 |
| L2 | P-1 | TORY | Top | -19.21 | 46.24 | 0.00 | -0.056 | -0.241 | -1335.762 |
| | | | Bottom | -19.21 | 46.24 | 0.00 | -0.056 | -0.469 | -2501.745 |
| L2 | P-1 | DX MAX | Top | 1405.70 | 315.04 | 0.07 | 5.419 | 4.582 | 9920.822 |
| | | | Bottom | 1405.70 | 315.04 | 0.07 | 5.419 | 7.125 | 14589.633 |
| L2 | P-1 | DX MIN | Top | -1405.70 | -315.04 | -0.07 | -5.419 | -4.582 | -9920.822 |
| | | | Bottom | -1405.70 | -315.04 | -0.07 | -5.419 | -7.125 | -14589.633 |
| L2 | P-1 | DY MAX | Top | 703.33 | 651.09 | 0.05 | 4.371 | 3.980 | 19800.100 |
| | | | Bottom | 703.33 | 651.09 | 0.05 | 4.371 | 4.098 | 24544.770 |
| L2 | P-1 | DY MIN | Top | -703.33 | -651.09 | -0.05 | -4.371 | -3.980 | -19800.100 |
| | | | Bottom | -703.33 | -651.09 | -0.05 | -4.371 | -4.098 | -24544.770 |
| L2 | P-2 | DEAD | Top | -571.65 | -8.43 | -0.01 | 0.482 | 0.183 | 813.145 |
| | | | Bottom | -589.12 | -8.43 | -0.01 | 0.482 | -0.401 | -86.380 |
| L2 | P-2 | TORY | Top | -70.33 | 44.40 | -0.01 | -0.182 | 0.200 | -1174.170 |
| | | | Bottom | -70.33 | 44.40 | -0.01 | -0.182 | -0.900 | -2511.143 |
| L2 | P-2 | TORY | Top | -65.71 | 54.71 | -0.02 | -0.261 | 0.393 | -1434.300 |
| | | | Bottom | -65.71 | 54.71 | -0.02 | -0.261 | -1.164 | -3085.283 |
| L2 | P-2 | DX MAX | Top | 1355.95 | 281.36 | 0.24 | 9.320 | 8.834 | 11912.483 |
| | | | Bottom | 1355.95 | 281.36 | 0.24 | 9.320 | 17.065 | 11677.097 |
| L2 | P-2 | DX MIN | Top | -1355.95 | -281.36 | -0.24 | -9.320 | -8.834 | -11912.483 |
| | | | Bottom | -1355.95 | -281.36 | -0.24 | -9.320 | -17.065 | -11677.097 |
| L2 | P-2 | DY MAX | Top | 679.36 | 825.54 | 0.17 | 8.384 | 5.255 | 22109.788 |
| | | | Bottom | 679.36 | 825.54 | 0.17 | 8.384 | 8.574 | 48427.261 |
| L2 | P-2 | DY MIN | Top | -679.36 | -825.54 | -0.17 | -8.384 | -5.255 | -22109.788 |
| | | | Bottom | -679.36 | -825.54 | -0.17 | -8.384 | -8.574 | -48427.261 |
| L2 | P-3 | DEAD | Top | -293.91 | 25.69 | 0.00 | -0.008 | 0.046 | 826.447 |
| | | | Bottom | -290.91 | 25.69 | 0.00 | -0.008 | -0.039 | 1205.659 |
| L2 | P-3 | TORY | Top | -66.22 | 33.95 | -0.01 | -0.114 | 0.216 | -1002.169 |
| | | | Bottom | -66.22 | 33.95 | -0.01 | -0.114 | -0.609 | -985.875 |
| L2 | P-3 | TORY | Top | -60.90 | 29.49 | -0.01 | -0.169 | 0.214 | -1234.731 |
| | | | Bottom | -60.90 | 29.49 | -0.01 | -0.169 | -0.609 | -1215.598 |
| L2 | P-3 | DX MAX | Top | 638.92 | 153.38 | 0.19 | 2.026 | 6.824 | 6520.589 |
| | | | Bottom | 638.92 | 153.38 | 0.19 | 2.026 | 11.088 | 6206.184 |
| L2 | P-3 | DX MIN | Top | -638.92 | -153.38 | -0.19 | -2.026 | -6.824 | -6520.589 |
| | | | Bottom | -638.92 | -153.38 | -0.19 | -2.026 | -11.088 | -6206.184 |
| L2 | P-3 | DY MAX | Top | 1090.49 | 427.55 | 0.13 | 1.785 | 4.082 | 17897.763 |
| | | | Bottom | 1090.49 | 427.55 | 0.13 | 1.785 | 8.479 | 17854.145 |
| L2 | P-3 | DY MIN | Top | -1090.49 | -427.55 | -0.13 | -1.785 | -4.082 | -17897.763 |
| | | | Bottom | -1090.49 | -427.55 | -0.13 | -1.785 | -8.479 | -17854.145 |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|------|--------|--------|----------|---------|-------|--------|---------|------------|
| L2 | P-4 | DEAD | Top | -287.81 | -10.50 | 0.00 | 0.095 | -0.007 | 185.545 |
| | | | Bottom | -284.81 | -10.50 | 0.00 | 0.095 | 0.019 | -685.994 |
| L2 | P-4 | TORY | Top | -72.65 | 12.51 | -0.01 | 0.101 | 0.233 | -581.099 |
| | | | Bottom | -72.65 | 12.51 | -0.01 | 0.101 | -0.618 | -457.437 |
| L2 | P-4 | TORY | Top | -88.56 | 15.58 | -0.01 | 0.141 | 0.338 | -723.065 |
| | | | Bottom | -88.56 | 15.58 | -0.01 | 0.141 | -0.828 | -569.953 |
| L2 | P-4 | DX MAX | Top | 551.56 | 59.23 | 0.22 | 1.620 | 9.021 | 3198.524 |
| | | | Bottom | 551.56 | 59.23 | 0.22 | 1.620 | 12.072 | 1754.146 |
| L2 | P-4 | DX MIN | Top | -551.56 | -59.23 | -0.22 | -1.620 | -8.021 | -3198.524 |
| | | | Bottom | -551.56 | -59.23 | -0.22 | -1.620 | -15.072 | -1754.146 |
| L2 | P-4 | DY MAX | Top | 1381.47 | 253.20 | 0.13 | 0.837 | 4.273 | 11341.957 |
| | | | Bottom | 1381.47 | 253.20 | 0.13 | 0.837 | 6.763 | 9682.721 |
| L2 | P-4 | DY MIN | Top | -1381.47 | -253.20 | -0.13 | -0.837 | -4.273 | -11341.957 |
| | | | Bottom | -1381.47 | -253.20 | -0.13 | -0.837 | -6.763 | -9682.721 |
| L2 | P-4 | DEAD | Top | -260.65 | 10.67 | 0.00 | -0.015 | -0.056 | -772.693 |
| | | | Bottom | -270.19 | 10.67 | 0.00 | -0.015 | 0.129 | -390.608 |
| L2 | P-5 | TORY | Top | -102.52 | 11.37 | -0.01 | -0.069 | 0.168 | -454.823 |
| | | | Bottom | -102.52 | 11.37 | -0.01 | -0.069 | -0.779 | -683.994 |
| L2 | P-5 | TORY | Top | -125.17 | 14.09 | -0.01 | -0.112 | 0.256 | -687.387 |
| | | | Bottom | -125.17 | 14.09 | -0.01 | -0.112 | -1.061 | -848.841 |
| L2 | P-5 | DX MAX | Top | 598.43 | 59.64 | 0.22 | 0.558 | 6.270 | 3264.909 |
| | | | Bottom | 598.43 | 59.64 | 0.22 | 0.558 | 17.387 | 3244.786 |
| L2 | P-5 | DX MIN | Top | -598.43 | -59.64 | -0.22 | -0.558 | -6.270 | -3264.909 |
| | | | Bottom | -598.43 | -59.64 | -0.22 | -0.558 | -17.387 | -3244.786 |
| L2 | P-5 | DY MAX | Top | 2054.36 | 214.34 | 0.12 | 0.991 | 4.099 | 10202.773 |
| | | | Bottom | 2054.36 | 214.34 | 0.12 | 0.991 | 9.609 | 13164.954 |
| L2 | P-5 | DY MIN | Top | -2054.36 | -214.34 | -0.12 | -0.991 | -4.099 | -10202.773 |
| | | | Bottom | -2054.36 | -214.34 | -0.12 | -0.991 | -9.609 | -13164.954 |
| L2 | 12.6 | DEAD | Top | -275.18 | -1.02 | 0.00 | -0.013 | -0.058 | -599.397 |
| | | | Bottom | -283.48 | -1.02 | 0.00 | -0.013 | 0.122 | -515.023 |
| L2 | 12.6 | TORY | Top | 91.43 | 7.30 | 0.01 | -0.158 | -0.170 | -359.757 |
| | | | Bottom | 91.43 | 7.30 | 0.01 | -0.158 | 0.818 | -245.778 |
| L2 | 12.6 | TORY | Top | 111.62 | 9.28 | 0.02 | -0.261 | -0.248 | -453.353 |
| | | | Bottom | 111.62 | 9.28 | 0.02 | -0.261 | 1.070 | -317.020 |
| L2 | 12.6 | DX MAX | Top | 2134.84 | 139.89 | 0.18 | 1.373 | 5.182 | 6397.406 |
| | | | Bottom | 2134.84 | 139.89 | 0.18 | 1.373 | 8.134 | 5291.906 |
| L2 | 12.6 | DX MIN | Top | -2134.84 | -139.89 | -0.18 | -1.373 | -5.182 | -6397.406 |
| | | | Bottom | -2134.84 | -139.89 | -0.18 | -1.373 | -8.134 | -5291.906 |
| L2 | 12.6 | DY MAX | Top | 632.22 | 53.74 | 0.29 | 1.179 | 8.267 | 2952.582 |
| | | | Bottom | 632.22 | 53.74 | 0.29 | 1.179 | 17.415 | 1578.091 |
| L2 | 12.6 | DY MIN | Top | -632.22 | -53.74 | -0.29 | -1.179 | -8.267 | -2952.582 |
| | | | Bottom | -632.22 | -53.74 | -0.29 | -1.179 | -17.415 | -1578.091 |
| L2 | 12.7 | DEAD | Top | -308.78 | -7.86 | 0.00 | -0.095 | 0.011 | 361.709 |
| | | | Bottom | -316.95 | -7.86 | 0.00 | -0.095 | 0.033 | -290.774 |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|------|--------|--------|----------|---------|-------|--------|---------|------------|
| L2 | 12.7 | TORY | Top | 71.67 | 16.75 | 0.01 | 0.113 | -0.181 | -630.524 |
| | | | Bottom | 71.67 | 16.75 | 0.01 | 0.113 | 0.859 | -759.719 |
| L2 | 12.7 | TORY | Top | 87.40 | 20.97 | 0.02 | 0.172 | -0.257 | -796.881 |
| | | | Bottom | 87.40 | 20.97 | 0.02 | 0.172 | 1.107 | -949.283 |
| L2 | 12.7 | DX MAX | Top | 1523.18 | 328.47 | 0.14 | 2.228 | 4.536 | 11803.634 |
| | | | Bottom | 1523.18 | 328.47 | 0.14 | 2.228 | 7.442 | 15528.416 |
| L2 | 12.7 | DX MIN | Top | -1523.18 | -328.47 | -0.14 | -2.228 | -4.536 | -11803.634 |
| | | | Bottom | -1523.18 | -328.47 | -0.14 | -2.228 | -7.442 | -15528.416 |
| L2 | 12.7 | DY MAX | Top | 620.90 | 126.46 | 0.27 | 2.972 | 7.093 | 5260.401 |
| | | | Bottom | 620.90 | 126.46 | 0.27 | 2.972 | 17.358 | 5244.001 |
| L2 | 12.7 | DY MIN | Top | -620.90 | -126.46 | -0.27 | -2.972 | -7.093 | -5260.401 |
| | | | Bottom | -620.90 | -126.46 | -0.27 | -2.972 | -17.358 | -5244.001 |
| L2 | 12.8 | DEAD | Top | -290.12 | -15.36 | 0.00 | -0.002 | 0.051 | 606.389 |
| | | | Bottom | -297.77 | -15.36 | 0.00 | -0.002 | -0.018 | -648.623 |
| L2 | 12.8 | TORY | Top | 56.64 | 20.26 | 0.01 | -0.120 | -0.159 | -822.867 |
| | | | Bottom | 56.64 | 20.26 | 0.01 | -0.120 | 0.775 | -858.584 |
| L2 | 12.8 | TORY | Top | 69.12 | 25.14 | 0.01 | -0.182 | -0.232 | -1021.557 |
| | | | Bottom | 69.12 | 25.14 | 0.01 | -0.182 | 1.064 | -971.971 |
| L2 | 12.8 | DX MAX | Top | 982.82 | 388.13 | 0.13 | 1.927 | 3.881 | 15352.682 |
| | | | Bottom | 982.82 | 388.13 | 0.13 | 1.927 | 6.164 | 16906.104 |
| L2 | 12.8 | DX MIN | Top | -982.82 | -388.13 | -0.13 | -1.927 | -3.881 | -15352.682 |
| | | | Bottom | -982.82 | -388.13 | -0.13 | -1.927 | -6.164 | -16906.104 |
| L2 | 12.8 | DY MAX | Top | 631.79 | 172.29 | 0.22 | 1.223 | 5.647 | 7453.085 |
| | | | Bottom | 631.79 | 172.29 | 0.22 | 1.223 | 14.762 | 6952.795 |
| L2 | 12.8 | DY MIN | Top | -631.79 | -172.29 | -0.22 | -1.223 | -5.647 | -7453.085 |
| | | | Bottom | -631.79 | -172.29 | -0.22 | -1.223 | -14.762 | -6952.795 |
| L2 | 12.9 | DEAD | Top | -593.78 | -14.18 | -0.01 | -0.406 | 0.183 | -173.584 |
| | | | Bottom | -611.42 | -14.18 | -0.01 | -0.406 | | |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|------------|----------|---------|-------|---------|---------|------------|
| L2 | P-7 | DX MAX | 491.88 | 46.50 | 0.17 | 3.034 | 9.488 | 1760.935 |
| | | Top Bottom | 491.88 | 46.50 | 0.17 | 3.034 | 6.284 | 2137.730 |
| L2 | P-7 | DX MIN | -491.88 | -46.50 | -0.17 | -3.034 | -9.488 | -1760.935 |
| | | Top Bottom | -491.88 | -46.50 | -0.17 | -3.034 | -6.284 | -2137.730 |
| L2 | P-7 | DY MAX | 1563.69 | 427.92 | 0.28 | 3.864 | 9.899 | 16153.948 |
| | | Top Bottom | 1563.69 | 427.92 | 0.28 | 3.864 | 13.032 | 19582.955 |
| L2 | P-7 | DY MIN | -1563.69 | -427.92 | -0.28 | -3.864 | -9.899 | -16153.948 |
| | | Top Bottom | -1563.69 | -427.92 | -0.28 | -3.864 | -13.032 | -19582.955 |
| L2 | P-8 | DEAD | -287.07 | -4.00 | 0.00 | -0.125 | 0.114 | 490.815 |
| | | Top Bottom | -294.72 | -4.00 | 0.00 | -0.125 | -0.295 | 159.647 |
| L2 | P-8 | TORA | 54.75 | 21.25 | 0.00 | -0.083 | 0.172 | -1020.587 |
| | | Top Bottom | 54.75 | 21.25 | 0.00 | -0.083 | -0.152 | 743.152 |
| L2 | P-8 | TORY | 66.72 | 26.28 | 0.00 | -0.125 | 0.199 | -1261.630 |
| | | Top Bottom | 66.72 | 26.28 | 0.00 | -0.125 | -0.178 | 919.888 |
| L2 | P-8 | DX MAX | 526.64 | 39.41 | 0.14 | 1.225 | 6.451 | 2153.257 |
| | | Top Bottom | 526.64 | 39.41 | 0.14 | 1.225 | 4.529 | 1430.452 |
| L2 | P-8 | DX MIN | -526.64 | -39.41 | -0.14 | -1.225 | -6.451 | -2153.257 |
| | | Top Bottom | -526.64 | -39.41 | -0.14 | -1.225 | -4.529 | -1430.452 |
| L2 | P-8 | DY MAX | 924.15 | 409.06 | 0.23 | 1.669 | 8.551 | 19227.643 |
| | | Top Bottom | 924.15 | 409.06 | 0.23 | 1.669 | 10.737 | 14725.679 |
| L2 | P-8 | DY MIN | -924.15 | -409.06 | -0.23 | -1.669 | -8.551 | -19227.643 |
| | | Top Bottom | -924.15 | -409.06 | -0.23 | -1.669 | -10.737 | -14725.679 |
| L2 | P-9 | DEAD | -580.16 | -15.20 | -0.01 | -0.044 | 0.278 | -608.742 |
| | | Top Bottom | -595.85 | -15.20 | -0.01 | -0.044 | -0.916 | -1870.632 |
| L2 | P-9 | TORA | 57.20 | 39.66 | -0.01 | 0.148 | 0.344 | -365.656 |
| | | Top Bottom | 57.20 | 39.66 | -0.01 | 0.148 | -0.301 | 2526.188 |
| L2 | P-9 | TORY | 69.76 | 49.00 | -0.01 | 0.194 | 0.420 | -466.603 |
| | | Top Bottom | 69.76 | 49.00 | -0.01 | 0.194 | -0.370 | 3600.039 |
| L2 | P-9 | DX MAX | 1371.86 | 124.14 | 0.18 | 7.715 | 13.078 | 4631.249 |
| | | Top Bottom | 1371.86 | 124.14 | 0.18 | 7.715 | 5.078 | 6384.771 |
| L2 | P-9 | DX MIN | -1371.86 | -124.14 | -0.18 | -7.715 | -13.078 | -4631.249 |
| | | Top Bottom | -1371.86 | -124.14 | -0.18 | -7.715 | -5.078 | -6384.771 |
| L2 | P-9 | DY MAX | 558.60 | 741.41 | 0.30 | 13.438 | 10.368 | 10594.483 |
| | | Top Bottom | 558.60 | 741.41 | 0.30 | 13.438 | 14.564 | 5729.469 |
| L2 | P-9 | DY MIN | -558.60 | -741.41 | -0.30 | -13.438 | -10.368 | -10594.483 |
| | | Top Bottom | -558.60 | -741.41 | -0.30 | -13.438 | -14.564 | -5729.469 |
| L2 | P-10 | DEAD | -171.96 | 11.64 | 0.00 | 0.032 | -0.057 | -1254.057 |
| | | Top Bottom | -181.77 | 11.64 | 0.00 | 0.032 | -0.102 | 444.715 |
| L2 | P-10 | TORA | 3.20 | 5.17 | 0.00 | 0.149 | 0.105 | -328.287 |
| | | Top Bottom | 3.20 | 5.17 | 0.00 | 0.149 | -0.027 | 426.826 |
| L2 | P-10 | TORY | 3.90 | 6.38 | 0.00 | 0.184 | 0.129 | -405.386 |
| | | Top Bottom | 3.90 | 6.38 | 0.00 | 0.184 | -0.035 | 525.969 |
| L2 | P-10 | DX MAX | 704.47 | 29.48 | 0.02 | 2.406 | 3.804 | 2947.833 |
| | | Top Bottom | 704.47 | 29.48 | 0.02 | 2.406 | 1.017 | 1978.978 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|-------|------------|----------|---------|-------|--------|---------|------------|
| L2 | P-10 | DX MIN | -704.47 | -29.48 | -0.02 | -2.406 | -3.804 | -2947.833 |
| | | Top Bottom | -704.47 | -29.48 | -0.02 | -2.406 | -1.017 | -1978.978 |
| L2 | P-10 | DY MAX | 324.06 | 119.05 | 0.01 | 2.366 | 0.951 | 8381.055 |
| | | Top Bottom | 324.06 | 119.05 | 0.01 | 2.366 | 1.039 | 9003.816 |
| L2 | P-10 | DY MIN | -324.06 | -119.05 | -0.01 | -2.366 | -0.951 | -8381.055 |
| | | Top Bottom | -324.06 | -119.05 | -0.01 | -2.366 | -1.039 | -9003.816 |
| L2 | 12.11 | DEAD | -444.54 | 2.95 | -0.01 | 0.105 | 1.345 | -1991.625 |
| | | Top Bottom | -458.28 | 2.95 | -0.01 | 0.105 | 0.664 | -1738.464 |
| L2 | 12.11 | TORX | 31.75 | 31.72 | 0.00 | -0.049 | 0.230 | -950.397 |
| | | Top Bottom | 31.75 | 31.72 | 0.00 | -0.049 | 0.457 | 1682.164 |
| L2 | 12.11 | TORY | 38.87 | 39.24 | 0.00 | -0.057 | 0.283 | -1180.637 |
| | | Top Bottom | 38.87 | 39.24 | 0.00 | -0.057 | 0.557 | 2075.911 |
| L2 | 12.11 | DX MAX | 826.65 | 493.83 | 0.04 | 4.462 | 3.041 | 14724.758 |
| | | Top Bottom | 826.65 | 493.83 | 0.04 | 4.462 | 2.239 | 26607.566 |
| L2 | 12.11 | DX MIN | -826.65 | -493.83 | -0.04 | -4.462 | -3.041 | -14724.758 |
| | | Top Bottom | -826.65 | -493.83 | -0.04 | -4.462 | -3.239 | -26607.566 |
| L2 | 12.11 | DY MAX | 1322.57 | 381.89 | 0.07 | 4.631 | 3.928 | 12599.818 |
| | | Top Bottom | 1322.57 | 381.89 | 0.07 | 4.631 | 8.725 | 19294.860 |
| L2 | 12.11 | DY MIN | -1322.57 | -381.89 | -0.07 | -4.631 | -3.928 | -12599.818 |
| | | Top Bottom | -1322.57 | -381.89 | -0.07 | -4.631 | -8.725 | -19294.860 |
| L2 | A-5.1 | DEAD | -137.08 | 28.49 | 0.00 | 0.021 | -0.056 | -697.482 |
| | | Top Bottom | -143.07 | 28.49 | 0.00 | 0.021 | -0.053 | 484.808 |
| L2 | A-5.1 | TORX | 30.96 | -14.02 | 0.00 | 0.244 | -0.143 | 169.706 |
| | | Top Bottom | 30.96 | -14.02 | 0.00 | 0.244 | -0.311 | -412.187 |
| L2 | A-5.1 | TORY | 37.61 | -17.25 | -0.01 | 0.269 | -0.187 | 209.696 |
| | | Top Bottom | 37.61 | -17.25 | -0.01 | 0.269 | -0.434 | -510.471 |
| L2 | A-5.1 | DX MAX | 202.03 | 106.15 | 0.41 | 2.531 | 7.674 | 1568.204 |
| | | Top Bottom | 202.03 | 106.15 | 0.41 | 2.531 | 22.847 | 2869.369 |
| L2 | A-5.1 | DX MIN | -202.03 | -106.15 | -0.41 | -2.531 | -7.674 | -1568.204 |
| | | Top Bottom | -202.03 | -106.15 | -0.41 | -2.531 | -22.847 | -2869.369 |
| L2 | A-5.1 | DY MAX | 664.59 | 334.81 | 0.28 | 1.782 | 4.032 | 3224.688 |
| | | Top Bottom | 664.59 | 334.81 | 0.28 | 1.782 | 15.524 | 10796.707 |
| L2 | A-5.1 | DY MIN | -664.59 | -334.81 | -0.28 | -1.782 | -4.032 | -3224.688 |
| | | Top Bottom | -664.59 | -334.81 | -0.28 | -1.782 | -15.524 | -10796.707 |
| L2 | A-5.2 | DEAD | -46.88 | 19.36 | 0.00 | 0.054 | -0.027 | -598.151 |
| | | Top Bottom | -49.99 | 19.36 | 0.00 | 0.054 | 0.028 | 205.422 |
| L2 | A-5.2 | TORX | 15.01 | -7.74 | 0.00 | -0.066 | -0.068 | 215.387 |
| | | Top Bottom | 15.01 | -7.74 | 0.00 | -0.066 | -0.117 | -105.648 |
| L2 | A-5.2 | TORY | 18.29 | -9.58 | 0.00 | -0.099 | -0.088 | 265.703 |
| | | Top Bottom | 18.29 | -9.58 | 0.00 | -0.099 | -0.159 | -131.771 |
| L2 | A-5.2 | DX MAX | 85.34 | 57.74 | 0.15 | 3.570 | 4.402 | 1529.611 |
| | | Top Bottom | 85.34 | 57.74 | 0.15 | 3.570 | 10.036 | 873.025 |
| L2 | A-5.2 | DX MIN | -85.34 | -57.74 | -0.15 | -3.570 | -4.402 | -1529.611 |
| | | Top Bottom | -85.34 | -57.74 | -0.15 | -3.570 | -10.036 | -873.025 |

PIER FORCES

| STORY | PIER | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|-------|------------|----------|----------|-------|----------|----------|--------------|
| L2 | A-5.2 | DY MAX | 358.78 | 186.76 | 0.13 | 1.324 | 2.380 | 5106.117 |
| | | Top Bottom | 358.78 | 186.76 | 0.13 | 1.324 | 7.878 | 2671.421 |
| L2 | A-5.2 | DY MIN | -358.78 | -186.76 | -0.13 | -1.324 | -2.380 | -5106.117 |
| | | Top Bottom | -358.78 | -186.76 | -0.13 | -1.324 | -7.878 | -2671.421 |
| L1 | 1.1 | DEAD | -1689.95 | 77.80 | -0.01 | -5.381 | 3.235 | -32504.039 |
| | | Top Bottom | -1689.95 | 77.80 | -0.01 | -5.381 | 1.776 | -15969.691 |
| L1 | 1.1 | TORA | 259.58 | -78.06 | -0.02 | -1.435 | 1.799 | -23213.391 |
| | | Top Bottom | 259.58 | -78.06 | -0.02 | -1.435 | -0.066 | -29770.264 |
| L1 | 1.1 | TORY | 316.24 | -96.72 | -0.03 | -1.736 | 2.241 | -28231.987 |
| | | Top Bottom | 316.24 | -96.72 | -0.03 | -1.736 | -0.082 | -36356.030 |
| L1 | 1.1 | DX MAX | 2375.25 | 2103.05 | 0.30 | 43.390 | 29.061 | 1174502.496 |
| | | Top Bottom | 2375.25 | 2103.05 | 0.30 | 43.390 | 5.847 | 327467.734 |
| L1 | 1.1 | DX MIN | -2375.25 | -2103.05 | -0.30 | -43.390 | -29.061 | -1174502.496 |
| | | Top Bottom | -2375.25 | -2103.05 | -0.30 | -43.390 | -5.847 | -327467.734 |
| L1 | 1.1 | DY MAX | 3859.58 | 323.16 | 1.26 | 180.792 | 107.121 | 412029.868 |
| | | Top Bottom | 3859.58 | 323.16 | 1.26 | 180.792 | 6.940 | 396788.491 |
| L1 | 1.1 | DY MIN | -3859.58 | -323.16 | -1.26 | -180.792 | -107.121 | -412029.868 |
| | | Top Bottom | -3859.58 | -323.16 | -1.26 | -180.792 | -6.940 | -396788.491 |
| L1 | 1.3 | DEAD | -213.20 | 8.69 | -0.05 | 0.031 | 4.262 | -3542.556 |
| | | Top Bottom | -213.20 | 8.69 | -0.05 | 0.031 | 0.004 | -2812.719 |
| L1 | 1.3 | TORA | -2.87 | -71.24 | -0.06 | -5.777 | 4.889 | 41556.523 |
| | | Top Bottom | -2.87 | -71.24 | -0.06 | -5.777 | 0.010 | 35572.277 |
| L1 | 1.3 | TORY | -3.50 | -89.46 | -0.07 | -7.175 | 6.088 | 50721.526 |
| | | Top Bottom | -3.50 | -89.46 | -0.07 | -7.175 | 0.012 | 43206.619 |
| L1 | 1.3 | DX MAX | 63.86 | 2094.23 | 0.59 | 95.878 | 49.330 | 1148882.815 |
| | | Top Bottom | 63.86 | 2094.23 | 0.59 | 95.878 | 0.095 | 980283.814 |
| L1 | 1.3 | DX MIN | -63.86 | -2094.23 | -0.59 | -95.878 | -49.330 | -1148882.815 |
| | | Top Bottom | -63.86 | -2094.23 | -0.59 | -95.878 | -0.095 | -980283.814 |
| L1 | 1.3 | DY MAX | 368.05 | 354.87 | 4.52 | 205.421 | 380.260 | 165455.249 |
| | | Top Bottom | 368.05 | 354.87 | 4.52 | 205.421 | 0.654 | 137032.028 |
| L1 | 1.3 | DY MIN | -368.05 | -354.87 | -4.52 | -205.421 | -380.260 | -165455.249 |
| | | Top Bottom | -368.05 | -354.87 | -4.52 | -205.421 | -0.654 | -137032.028 |
| L1 | 1.4 | DEAD | -1903.27 | -107. | | | | |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|----------|----------|-------|----------|----------|--------------|
| L1 | 12.4 | DEAD | Top | -51.80 | -22.81 | 0.00 | 0.155 | -0.113 | 6580.703 |
| | | | Bottom | -51.80 | -22.81 | 0.00 | 0.155 | -0.003 | 4664.945 |
| L1 | 12.4 | TORY | Top | 19.87 | 12.03 | 0.00 | -0.352 | 0.257 | -2536.175 |
| | | | Bottom | 19.87 | 12.03 | 0.00 | -0.352 | 0.013 | -1525.919 |
| L1 | 12.4 | TORY | Top | 24.40 | 14.85 | 0.00 | -0.454 | 0.339 | -3114.333 |
| | | | Bottom | 24.40 | 14.85 | 0.00 | -0.454 | 0.017 | -1866.772 |
| L1 | 12.4 | DX MAX | Top | 445.83 | 268.48 | 0.03 | 4.572 | 3.483 | 7050.951 |
| | | | Bottom | 445.83 | 268.48 | 0.03 | 4.572 | 0.140 | 34669.489 |
| L1 | 12.4 | DX MIN | Top | -445.83 | -268.48 | -0.03 | -4.572 | -3.483 | -7050.951 |
| | | | Bottom | -445.83 | -268.48 | -0.03 | -4.572 | -0.140 | -34669.489 |
| L1 | 12.4 | DY MAX | Top | 134.89 | 74.06 | 0.05 | 6.065 | 4.578 | 17044.560 |
| | | | Bottom | 134.89 | 74.06 | 0.05 | 6.065 | 0.253 | 10847.204 |
| L1 | 12.4 | DY MIN | Top | -134.89 | -74.06 | -0.05 | -6.065 | -4.578 | -17044.560 |
| | | | Bottom | -134.89 | -74.06 | -0.05 | -6.065 | -0.253 | -10847.204 |
| L1 | 12.5 | DEAD | Top | -1945.13 | -16.74 | 0.01 | -0.213 | -3.409 | 4694.893 |
| | | | Bottom | -1945.13 | -16.74 | 0.01 | -0.213 | -3.181 | 4578.423 |
| L1 | 12.5 | TORY | Top | 321.14 | 106.65 | -0.05 | 5.941 | 4.193 | 25949.625 |
| | | | Bottom | 321.14 | 106.65 | -0.05 | 5.941 | 0.213 | 24908.039 |
| L1 | 12.5 | TORY | Top | 392.18 | 132.68 | -0.06 | 7.694 | 5.391 | 31655.133 |
| | | | Bottom | 392.18 | 132.68 | -0.06 | 7.694 | 0.262 | 42960.360 |
| L1 | 12.5 | DX MAX | Top | 4108.20 | 1875.91 | 0.28 | 63.739 | 31.311 | 116434.745 |
| | | | Bottom | 4108.20 | 1875.91 | 0.28 | 63.739 | 4.036 | 129643.634 |
| L1 | 12.5 | DX MIN | Top | -4108.20 | -1875.91 | -0.28 | -63.739 | -31.311 | -116434.745 |
| | | | Bottom | -4108.20 | -1875.91 | -0.28 | -63.739 | -4.036 | -129643.634 |
| L1 | 12.5 | DY MAX | Top | 4549.49 | 1058.76 | 0.94 | 109.454 | 85.818 | 278258.469 |
| | | | Bottom | 4549.49 | 1058.76 | 0.94 | 109.454 | 7.761 | 209382.271 |
| L1 | 12.5 | DY MIN | Top | -4549.49 | -1058.76 | -0.94 | -109.454 | -85.818 | -278258.469 |
| | | | Bottom | -4549.49 | -1058.76 | -0.94 | -109.454 | -7.761 | -209382.271 |
| L1 | A-1 | DEAD | Top | -1969.45 | 107.00 | -0.01 | 0.755 | 2.413 | -184703.873 |
| | | | Bottom | -1969.45 | 107.00 | -0.01 | 0.755 | 1.293 | -179713.702 |
| L1 | A-1 | TORY | Top | 245.27 | -94.60 | 0.03 | 2.707 | -3.444 | -6681.434 |
| | | | Bottom | 245.27 | -94.60 | 0.03 | 2.707 | -0.141 | -14628.209 |
| L1 | A-1 | TORY | Top | 323.39 | -116.73 | 0.04 | 3.853 | -3.620 | -7895.490 |
| | | | Bottom | 323.39 | -116.73 | 0.04 | 3.853 | -0.177 | -17701.114 |
| L1 | A-1 | DX MAX | Top | 4458.61 | 1130.34 | 1.50 | 214.854 | 139.890 | 708848.494 |
| | | | Bottom | 4458.61 | 1130.34 | 1.50 | 214.854 | 7.093 | 819260.338 |
| L1 | A-1 | DX MIN | Top | -4458.61 | -1130.34 | -1.50 | -214.854 | -139.890 | -708848.494 |
| | | | Bottom | -4458.61 | -1130.34 | -1.50 | -214.854 | -7.093 | -819260.338 |
| L1 | A-1 | DY MAX | Top | 2610.24 | 2315.91 | 1.03 | 159.808 | 89.529 | 890709.487 |
| | | | Bottom | 2610.24 | 2315.91 | 1.03 | 159.808 | 5.440 | 1156373.856 |
| L1 | A-1 | DY MIN | Top | -2610.24 | -2315.91 | -1.03 | -159.808 | -89.529 | -890709.487 |
| | | | Bottom | -2610.24 | -2315.91 | -1.03 | -159.808 | -5.440 | -1156373.856 |
| L1 | P-1 | DEAD | Top | -1869.40 | -9.28 | 0.01 | -0.563 | -2.848 | -59208.954 |
| | | | Bottom | -1869.40 | -9.28 | 0.01 | -0.563 | -2.168 | -59904.172 |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|----------|----------|-------|----------|---------|--------------|
| L1 | A-6 | TORY | Top | -12.87 | -75.14 | 0.02 | 0.048 | -1.648 | 12719.409 |
| | | | Bottom | -12.87 | -75.14 | 0.02 | 0.048 | -0.608 | 7408.243 |
| L1 | A-6 | DX MAX | Top | 270.03 | 227.96 | 0.67 | 33.340 | 56.844 | 27478.360 |
| | | | Bottom | 270.03 | 227.96 | 0.67 | 33.340 | 0.184 | 14806.314 |
| L1 | A-6 | DX MIN | Top | -270.03 | -227.96 | -0.67 | -33.340 | -56.844 | -27478.360 |
| | | | Bottom | -270.03 | -227.96 | -0.67 | -33.340 | -0.184 | -14806.314 |
| L1 | A-6 | DY MAX | Top | 200.13 | 1572.84 | 0.74 | 17.405 | 62.230 | 245053.945 |
| | | | Bottom | 200.13 | 1572.84 | 0.74 | 17.405 | 0.221 | 137804.780 |
| L1 | A-6 | DY MIN | Top | -200.13 | -1572.84 | -0.74 | -17.405 | -62.230 | -245053.945 |
| | | | Bottom | -200.13 | -1572.84 | -0.74 | -17.405 | -0.221 | -137804.780 |
| L1 | A-7 | DEAD | Top | -1676.77 | -58.61 | 0.00 | 4.267 | 1.819 | 32366.420 |
| | | | Bottom | -1676.77 | -58.61 | 0.00 | 4.267 | 1.720 | 17442.883 |
| L1 | A-7 | TORY | Top | -252.23 | -72.53 | 0.02 | -1.409 | -1.953 | -28584.413 |
| | | | Bottom | -252.23 | -72.53 | 0.02 | -1.409 | 0.031 | -34674.776 |
| L1 | A-7 | TORY | Top | -307.25 | -89.84 | 0.03 | -1.695 | -2.400 | -34789.125 |
| | | | Bottom | -307.25 | -89.84 | 0.03 | -1.695 | 0.039 | -42335.982 |
| L1 | A-7 | DX MAX | Top | 4315.21 | 477.82 | 0.34 | 80.964 | 30.176 | 41327.035 |
| | | | Bottom | 4315.21 | 477.82 | 0.34 | 80.964 | 7.525 | 37870.485 |
| L1 | A-7 | DX MIN | Top | -4315.21 | -477.82 | -0.34 | -80.964 | -30.176 | -41327.035 |
| | | | Bottom | -4315.21 | -477.82 | -0.34 | -80.964 | -7.525 | -37870.485 |
| L1 | A-7 | DY MAX | Top | 2806.82 | 1993.74 | 0.85 | 101.519 | 71.856 | 1047635.590 |
| | | | Bottom | 2806.82 | 1993.74 | 0.85 | 101.519 | 5.699 | 1182706.060 |
| L1 | A-7 | DY MIN | Top | -2806.82 | -1993.74 | -0.85 | -101.519 | -71.856 | -1047635.590 |
| | | | Bottom | -2806.82 | -1993.74 | -0.85 | -101.519 | -5.699 | -1182706.060 |

PIER FORCES

| STORY | PIER | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|------|--------|--------|----------|----------|-------|---------|---------|--------------|
| L1 | P-1 | TORY | Top | -216.05 | 115.43 | 0.04 | 4.521 | -3.071 | 34414.549 |
| | | | Bottom | -216.05 | 115.43 | 0.04 | 4.521 | -0.093 | 44110.962 |
| L1 | P-1 | TORY | Top | -386.00 | 142.46 | 0.05 | 5.993 | -4.082 | 41943.641 |
| | | | Bottom | -386.00 | 142.46 | 0.05 | 5.993 | -0.116 | 53910.451 |
| L1 | P-1 | DX MAX | Top | 4432.08 | 795.98 | 0.70 | 74.447 | 63.531 | 319473.396 |
| | | | Bottom | 4432.08 | 795.98 | 0.70 | 74.447 | 7.200 | 264904.184 |
| L1 | P-1 | DX MIN | Top | -4432.08 | -795.98 | -0.70 | -74.447 | -63.531 | -319473.396 |
| | | | Bottom | -4432.08 | -795.98 | -0.70 | -74.447 | -7.200 | -264904.184 |
| L1 | P-1 | DY MAX | Top | 4189.09 | 2131.78 | 0.38 | 56.973 | 30.364 | 164784.085 |
| | | | Bottom | 4189.09 | 2131.78 | 0.38 | 56.973 | 3.426 | 1198415.462 |
| L1 | P-1 | DY MIN | Top | -4189.09 | -2131.78 | -0.38 | -56.973 | -30.364 | -164784.085 |
| | | | Bottom | -4189.09 | -2131.78 | -0.38 | -56.973 | -3.426 | -1198415.462 |
| L1 | P-2 | DEAD | Top | -113.17 | -0.80 | 0.00 | 0.305 | 0.199 | 1205.039 |
| | | | Bottom | -113.17 | -0.80 | 0.00 | 0.305 | 0.009 | 1137.893 |
| L1 | P-2 | TORY | Top | -0.57 | 28.94 | 0.00 | -0.626 | -0.386 | -17853.163 |
| | | | Bottom | -0.57 | 28.94 | 0.00 | -0.626 | -0.011 | -15422.433 |
| L1 | P-2 | TORY | Top | -0.48 | 35.62 | 0.01 | -0.858 | -0.502 | -21888.341 |
| | | | Bottom | -0.48 | 35.62 | 0.01 | -0.858 | -0.015 | -18888.100 |
| L1 | P-2 | DX MAX | Top | 180.23 | 70.46 | 0.08 | 11.487 | 6.944 | 41577.201 |
| | | | Bottom | 180.23 | 70.46 | 0.08 | 11.487 | 0.294 | 37273.048 |
| L1 | P-2 | DX MIN | Top | -180.23 | -70.46 | -0.08 | -11.487 | -6.944 | -41577.201 |
| | | | Bottom | -180.23 | -70.46 | -0.08 | -11.487 | -0.294 | -37273.048 |
| L1 | P-2 | DY MAX | Top | 19.83 | 578.04 | 0.07 | 17.693 | 5.807 | 350971.431 |
| | | | Bottom | 19.83 | 578.04 | 0.07 | 17.693 | 0.254 | 302969.704 |
| L1 | P-2 | DY MIN | Top | -19.83 | -578.04 | -0.07 | -17.693 | -5.807 | -350971.431 |
| | | | Bottom | -19.83 | -578.04 | -0.07 | -17.693 | -0.254 | -302969.704 |
| L1 | P-3 | DEAD | Top | -1681.98 | -7.96 | 0.03 | 0.866 | -3.550 | -41720.230 |
| | | | Bottom | -1681.98 | -7.96 | 0.03 | 0.866 | -1.032 | -42398.747 |
| L1 | P-3 | TORY | Top | 284.86 | 84.42 | 0.02 | 0.613 | -1.583 | 44574.186 |
| | | | Bottom | 284.86 | 84.42 | 0.02 | 0.613 | 0.014 | 51665.468 |
| L1 | P-3 | TORY | Top | 347.28 | 104.08 | 0.02 | 0.763 | -1.942 | 54231.665 |
| | | | Bottom | 347.28 | 104.08 | 0.02 | 0.763 | 0.018 | 63214.625 |
| L1 | P-3 | DX MAX | Top | 3449.18 | 188.48 | 0.37 | 56.317 | 39.800 | 314773.218 |
| | | | Bottom | 3449.18 | 188.48 | 0.37 | 56.317 | 4.060 | 214472.213 |
| L1 | P-3 | DX MIN | Top | -3449.18 | -188.48 | -0.37 | -56.317 | -39.800 | -314773.218 |
| | | | Bottom | -3449.18 | -188.48 | -0.37 | -56.317 | -4.060 | -214472.213 |
| L1 | P-3 | DY MAX | Top | 4477.75 | 1654.96 | 0.74 | 90.316 | 62.686 | 1061975.982 |
| | | | Bottom | 4477.75 | 1654.96 | 0.74 | 90.316 | 1.731 | 1177779.010 |
| L1 | P-3 | DY MIN | Top | -4477.75 | -1654.96 | -0.74 | -90.316 | -62.686 | -1061975.982 |
| | | | Bottom | -4477.75 | -1654.96 | -0.74 | -90.316 | -1.731 | -1177779.010 |
| L1 | A-6 | DEAD | Top | -194.21 | -33.85 | -0.02 | -0.020 | -1.439 | 3189.269 |
| | | | Bottom | -194.21 | -33.85 | -0.02 | -0.020 | -0.001 | 523.746 |
| L1 | A-6 | TORY | Top | -10.59 | -60.81 | 0.02 | 0.100 | -1.280 | 11227.732 |
| | | | Bottom | -10.59 | -60.81 | 0.02 | 0.100 | -0.005 | 6119.962 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|-------|---------|-------|---------|--------|------------|
| RF | S12-1 | DEAD | -0.42 | -1.56 | 0.00 | 0.005 | 0.008 | 38.610 |
| | | Left | -0.42 | -1.56 | 0.00 | 0.005 | 0.008 | 38.610 |
| | | Right | -0.43 | 4.83 | 0.00 | 0.004 | 0.002 | -92.268 |
| RF | S12-1 | TORX | -0.45 | 12.07 | 0.00 | -0.188 | -0.084 | 442.484 |
| | | Left | -0.45 | 12.07 | 0.00 | -0.188 | -0.084 | 442.484 |
| | | Right | -0.45 | 12.07 | 0.00 | -0.191 | 0.035 | -450.639 |
| RF | S12-1 | TORY | -0.55 | 14.71 | 0.00 | -0.226 | -0.078 | 539.382 |
| | | Left | -0.55 | 14.71 | 0.00 | -0.226 | -0.078 | 539.382 |
| | | Right | -0.55 | 14.71 | 0.00 | -0.233 | 0.031 | -549.364 |
| RF | S12-1 | DX MAX | 8.32 | 277.00 | 0.04 | 3.110 | 0.953 | 10172.363 |
| | | Left | 8.32 | 277.00 | 0.04 | 3.110 | 0.953 | 10172.363 |
| | | Right | 9.20 | 277.00 | 0.05 | 3.395 | 0.882 | 10293.579 |
| RF | S12-1 | DX MIN | -8.32 | -277.00 | -0.04 | -2.110 | -0.953 | -10172.363 |
| | | Left | -8.32 | -277.00 | -0.04 | -2.110 | -0.953 | -10172.363 |
| | | Right | -9.20 | -277.00 | -0.05 | -2.395 | -0.882 | -10293.579 |
| RF | S12-1 | DY MAX | 6.03 | 187.38 | 0.40 | 20.411 | 7.623 | 6141.078 |
| | | Left | 6.03 | 187.38 | 0.40 | 20.411 | 7.623 | 6141.078 |
| | | Right | 5.97 | 187.38 | 0.43 | 18.293 | 8.575 | 6246.938 |
| RF | S12-1 | DY MIN | -6.03 | -187.38 | -0.40 | -20.411 | -7.623 | -6141.078 |
| | | Left | -6.03 | -187.38 | -0.40 | -20.411 | -7.623 | -6141.078 |
| | | Right | -5.97 | -187.38 | -0.43 | -18.293 | -8.575 | -6246.938 |
| RF | S12-8 | DEAD | -0.43 | -4.58 | 0.00 | -0.006 | 0.001 | -83.090 |
| | | Left | -0.43 | -4.58 | 0.00 | -0.006 | 0.001 | -83.090 |
| | | Right | -0.43 | 1.81 | 0.00 | -0.007 | 0.008 | 19.382 |
| RF | S12-8 | TORX | 0.43 | 11.97 | 0.00 | -0.191 | -0.025 | 446.507 |
| | | Left | 0.43 | 11.97 | 0.00 | -0.191 | -0.025 | 446.507 |
| | | Right | 0.43 | 11.97 | 0.00 | -0.185 | 0.063 | -439.150 |
| RF | S12-8 | TORY | 0.52 | 14.59 | 0.00 | -0.226 | -0.031 | 544.351 |
| | | Left | 0.52 | 14.59 | 0.00 | -0.226 | -0.031 | 544.351 |
| | | Right | 0.52 | 14.59 | 0.00 | -0.226 | 0.078 | -535.244 |
| RF | S12-8 | DX MAX | 8.42 | 272.84 | 0.04 | 2.878 | 0.830 | 10129.744 |
| | | Left | 8.42 | 272.84 | 0.04 | 2.878 | 0.830 | 10129.744 |
| | | Right | 7.54 | 272.84 | 0.05 | 1.696 | 1.027 | 10029.591 |
| RF | S12-8 | DX MIN | -8.42 | -272.84 | -0.04 | -2.878 | -0.830 | -10129.744 |
| | | Left | -8.42 | -272.84 | -0.04 | -2.878 | -0.830 | -10129.744 |
| | | Right | -7.54 | -272.84 | -0.05 | -1.696 | -1.027 | -10029.591 |
| RF | S12-8 | DY MAX | 6.69 | 191.80 | 0.51 | 24.025 | 9.829 | 7153.317 |
| | | Left | 6.69 | 191.80 | 0.51 | 24.025 | 9.829 | 7153.317 |
| | | Right | 6.64 | 191.80 | 0.50 | 22.208 | 8.801 | 7037.521 |
| RF | S12-8 | DY MIN | -6.69 | -191.80 | -0.51 | -24.025 | -9.829 | -7153.317 |
| | | Left | -6.69 | -191.80 | -0.51 | -24.025 | -9.829 | -7153.317 |
| | | Right | -6.64 | -191.80 | -0.50 | -22.208 | -8.801 | -7037.521 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|-------|---------|-------|---------|--------|-----------|
| RF | SA-1 | DEAD | -0.44 | -1.50 | 0.00 | -0.006 | -0.008 | 30.568 |
| | | Left | -0.44 | -1.50 | 0.00 | -0.006 | -0.008 | 30.568 |
| | | Right | -0.44 | 4.88 | 0.00 | -0.007 | -0.001 | -94.498 |
| RF | SA-1 | TORX | 0.47 | -12.13 | 0.00 | -0.181 | -0.058 | -444.554 |
| | | Left | 0.47 | -12.13 | 0.00 | -0.181 | -0.058 | -444.554 |
| | | Right | 0.47 | -12.13 | 0.00 | -0.186 | 0.028 | 453.300 |
| RF | SA-1 | TORY | 0.57 | -14.79 | 0.00 | -0.220 | -0.070 | -541.773 |
| | | Left | 0.57 | -14.79 | 0.00 | -0.220 | -0.070 | -541.773 |
| | | Right | 0.57 | -14.79 | 0.00 | -0.226 | 0.034 | 552.483 |
| RF | SA-1 | DX MAX | 6.94 | 191.55 | 0.47 | 21.048 | 8.453 | 7023.320 |
| | | Left | 6.94 | 191.55 | 0.47 | 21.048 | 8.453 | 7023.320 |
| | | Right | 6.98 | 191.55 | 0.49 | 22.573 | 9.352 | 7149.728 |
| RF | SA-1 | DX MIN | -6.94 | -191.55 | -0.47 | -21.048 | -8.453 | -7023.320 |
| | | Left | -6.94 | -191.55 | -0.47 | -21.048 | -8.453 | -7023.320 |
| | | Right | -6.98 | -191.55 | -0.49 | -22.573 | -9.352 | -7149.728 |
| RF | SA-1 | DY MAX | 7.50 | 247.16 | 0.07 | 2.399 | 1.270 | 9075.053 |
| | | Left | 7.50 | 247.16 | 0.07 | 2.399 | 1.270 | 9075.053 |
| | | Right | 8.25 | 247.16 | 0.06 | 4.982 | 1.073 | 9187.688 |
| RF | SA-1 | DY MIN | -7.50 | -247.16 | -0.07 | -2.399 | -1.270 | -9075.053 |
| | | Left | -7.50 | -247.16 | -0.07 | -2.399 | -1.270 | -9075.053 |
| | | Right | -8.25 | -247.16 | -0.06 | -4.982 | -1.073 | -9187.688 |
| RF | SA-8 | DEAD | -0.43 | -4.76 | 0.00 | 0.005 | -0.001 | -89.845 |
| | | Left | -0.43 | -4.76 | 0.00 | 0.005 | -0.001 | -89.845 |
| | | Right | -0.43 | 1.62 | 0.00 | 0.004 | -0.008 | 26.295 |
| RF | SA-8 | TORX | 0.43 | -12.08 | 0.00 | -0.185 | -0.027 | -450.782 |
| | | Left | 0.43 | -12.08 | 0.00 | -0.185 | -0.027 | -450.782 |
| | | Right | 0.43 | -12.08 | 0.00 | -0.181 | 0.058 | 443.241 |
| RF | SA-8 | TORY | 0.53 | -14.72 | 0.00 | -0.226 | -0.033 | -549.385 |
| | | Left | 0.53 | -14.72 | 0.00 | -0.226 | -0.033 | -549.385 |
| | | Right | 0.53 | -14.72 | 0.00 | -0.221 | 0.071 | 540.151 |
| RF | SA-8 | DX MAX | 6.15 | 177.09 | 0.45 | 19.118 | 8.768 | 6607.274 |
| | | Left | 6.15 | 177.09 | 0.45 | 19.118 | 8.768 | 6607.274 |
| | | Right | 6.21 | 177.09 | 0.44 | 20.075 | 7.914 | 6459.468 |
| RF | SA-8 | DX MIN | -6.15 | -177.09 | -0.45 | -19.118 | -8.768 | -6607.274 |
| | | Left | -6.15 | -177.09 | -0.45 | -19.118 | -8.768 | -6607.274 |
| | | Right | -6.21 | -177.09 | -0.44 | -20.075 | -7.914 | -6459.468 |
| RF | SA-8 | DY MAX | 7.66 | 250.70 | 0.06 | 2.814 | 1.438 | 9307.763 |
| | | Left | 7.66 | 250.70 | 0.06 | 2.814 | 1.438 | 9307.763 |
| | | Right | 6.90 | 250.70 | 0.06 | 2.369 | 1.638 | 9217.183 |
| RF | SA-8 | DY MIN | -7.66 | -250.70 | -0.06 | -2.814 | -1.438 | -9307.763 |
| | | Left | -7.66 | -250.70 | -0.06 | -2.814 | -1.438 | -9307.763 |
| | | Right | -6.90 | -250.70 | -0.06 | -2.369 | -1.638 | -9217.183 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|-------|---------|-------|---------|--------|------------|
| RF | SP-1 | DEAD | -0.42 | -3.19 | 0.00 | 0.005 | 0.008 | 5.370 |
| | | Left | -0.42 | -3.19 | 0.00 | 0.005 | 0.008 | 5.370 |
| | | Right | -0.42 | 4.20 | 0.00 | 0.004 | 0.002 | -68.909 |
| RF | SP-1 | TORX | -0.47 | 11.79 | 0.00 | -0.181 | -0.057 | 431.405 |
| | | Left | -0.47 | 11.79 | 0.00 | -0.181 | -0.057 | 431.405 |
| | | Right | -0.47 | 11.79 | 0.00 | -0.186 | 0.028 | -440.566 |
| RF | SP-1 | TORY | -0.58 | 14.36 | 0.00 | -0.221 | -0.070 | 526.002 |
| | | Left | -0.58 | 14.36 | 0.00 | -0.221 | -0.070 | 526.002 |
| | | Right | -0.58 | 14.36 | 0.00 | -0.227 | 0.034 | -536.972 |
| RF | SP-1 | DX MAX | 6.88 | 182.97 | 0.47 | 20.782 | 8.467 | 6706.245 |
| | | Left | 6.88 | 182.97 | 0.47 | 20.782 | 8.467 | 6706.245 |
| | | Right | 6.89 | 182.97 | 0.49 | 20.253 | 9.349 | 6832.511 |
| RF | SP-1 | DX MIN | -6.88 | -182.97 | -0.47 | -20.782 | -8.467 | -6706.245 |
| | | Left | -6.88 | -182.97 | -0.47 | -20.782 | -8.467 | -6706.245 |
| | | Right | -6.89 | -182.97 | -0.49 | -20.253 | -9.349 | -6832.511 |
| RF | SP-1 | DY MAX | 8.45 | 372.42 | 0.06 | 1.671 | 1.123 | 9998.434 |
| | | Left | 8.45 | 372.42 | 0.06 | 1.671 | 1.123 | 9998.434 |
| | | Right | 9.38 | 372.42 | 0.07 | 3.739 | 0.979 | 10126.404 |
| RF | SP-1 | DY MIN | -8.45 | -372.42 | -0.06 | -1.671 | -1.123 | -9998.434 |
| | | Left | -8.45 | -372.42 | -0.06 | -1.671 | -1.123 | -9998.434 |
| | | Right | -9.38 | -372.42 | -0.07 | -3.739 | -0.979 | -10126.404 |
| RF | SP-8 | DEAD | -0.41 | -4.37 | 0.00 | -0.007 | 0.001 | -75.203 |
| | | Left | -0.41 | -4.37 | 0.00 | -0.007 | 0.001 | -75.203 |
| | | Right | -0.41 | 2.02 | 0.00 | -0.008 | 0.009 | 31.879 |
| RF | SP-8 | TORX | 0.45 | 12.41 | 0.00 | -0.188 | -0.027 | 465.189 |
| | | Left | 0.45 | 12.41 | 0.00 | -0.188 | -0.027 | 465.189 |
| | | Right | 0.45 | 12.41 | 0.00 | -0.182 | 0.058 | -455.235 |
| RF | SP-8 | TORY | 0.55 | 15.13 | 0.00 | -0.227 | -0.033 | 584.491 |
| | | Left | 0.55 | 15.13 | 0.00 | -0.227 | -0.033 | 584.491 |
| | | Right | 0.55 | 15.13 | 0.00 | -0.222 | 0.071 | -554.752 |
| RF | SP-8 | DX MAX | 6.34 | 179.89 | 0.45 | 18.042 | 8.765 | 6713.884 |
| | | Left | 6.34 | 179.89 | 0.45 | 18.042 | 8.765 | 6713.884 |
| | | Right | 6.38 | 179.89 | 0.44 | 20.040 | 7.931 | 6595.554 |
| RF | SP-8 | DX MIN | -6.34 | -179.89 | -0.45 | -18.042 | -8.765 | -6713.884 |
| | | Left | -6.34 | -179.89 | -0.45 | -18.042 | -8.765 | -6713.884 |
| | | Right | -6.38 | -179.89 | -0.44 | -20.040 | -7.931 | -6595.554 |
| RF | SP-8 | DY MAX | 8.86 | 286.01 | 0.06 | 2.706 | 1.087 | 10621.186 |
| | | Left | 8.86 | 286.01 | 0.06 | 2.706 | 1.087 | 10621.186 |
| | | Right | 7.94 | 286.01 | 0.06 | 2.744 | 1.054 | 10509.725 |
| RF | SP-8 | DY MIN | -8.86 | -286.01 | -0.06 | -2.706 | -1.087 | -10621.186 |
| | | Left | -8.86 | -286.01 | -0. | | | |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|---------|---------|------------|
| L14 | S12-1 | DEAD | | | | | | |
| | | Left | -1.65 | -3.24 | 0.00 | -0.006 | 0.039 | 80.985 |
| | | Right | -1.65 | 8.23 | 0.00 | -0.006 | -0.011 | -123.799 |
| L14 | S12-1 | TORX | | | | | | |
| | | Left | -0.90 | 30.03 | 0.00 | -0.160 | -0.051 | 1137.524 |
| | | Right | -0.90 | 30.03 | 0.00 | -0.155 | -0.050 | -1084.245 |
| L14 | S12-1 | TORY | | | | | | |
| | | Left | -1.10 | 34.71 | 0.00 | -0.185 | -0.062 | 1390.448 |
| | | Right | -1.10 | 34.71 | 0.00 | -0.188 | -0.061 | -1329.448 |
| L14 | S12-1 | DX MAX | | | | | | |
| | | Left | 18.77 | 735.93 | 0.05 | 3.276 | 3.460 | 27801.052 |
| | | Right | 19.71 | 735.93 | 0.06 | 3.995 | 3.151 | 26678.882 |
| L14 | S12-1 | DX MIN | | | | | | |
| | | Left | -18.77 | -735.93 | -0.05 | -3.276 | -3.460 | -27801.052 |
| | | Right | -19.71 | -735.93 | -0.06 | -3.995 | -3.151 | -26678.882 |
| L14 | S12-1 | DY MAX | | | | | | |
| | | Left | 12.82 | 285.87 | 0.39 | 29.134 | 11.651 | 10882.084 |
| | | Right | 12.57 | 285.87 | 0.52 | 23.134 | 20.708 | 10271.420 |
| L14 | S12-1 | DY MIN | | | | | | |
| | | Left | -12.82 | -285.87 | -0.39 | -29.134 | -11.651 | -10882.084 |
| | | Right | -12.57 | -285.87 | -0.52 | -23.134 | -20.708 | -10271.420 |
| L14 | S12-8 | DEAD | | | | | | |
| | | Left | -1.65 | -7.43 | 0.00 | 0.001 | -0.011 | -109.892 |
| | | Right | -1.65 | 3.65 | 0.00 | 0.002 | 0.030 | 45.193 |
| L14 | S12-8 | TORX | | | | | | |
| | | Left | 0.86 | 29.88 | 0.00 | -0.155 | 0.050 | 1080.160 |
| | | Right | 0.86 | 29.88 | 0.00 | -0.161 | 0.050 | -1131.052 |
| L14 | S12-8 | TORY | | | | | | |
| | | Left | 1.05 | 34.53 | 0.00 | -0.189 | 0.061 | 1320.408 |
| | | Right | 1.05 | 34.53 | 0.00 | -0.197 | 0.062 | -1302.815 |
| L14 | S12-8 | DX MAX | | | | | | |
| | | Left | 18.62 | 729.78 | 0.06 | 3.403 | 3.758 | 24483.510 |
| | | Right | 17.47 | 729.78 | 0.05 | 3.725 | 3.056 | 23541.189 |
| L14 | S12-8 | DX MIN | | | | | | |
| | | Left | -18.62 | -729.78 | -0.06 | -3.403 | -3.758 | -24483.510 |
| | | Right | -17.47 | -729.78 | -0.05 | -3.725 | -3.056 | -23541.189 |
| L14 | S12-8 | DY MAX | | | | | | |
| | | Left | 14.19 | 342.72 | 0.59 | 25.960 | 23.338 | 12336.476 |
| | | Right | 14.10 | 342.72 | 0.47 | 22.561 | 13.382 | 12027.312 |
| L14 | S12-8 | DY MIN | | | | | | |
| | | Left | -14.19 | -342.72 | -0.59 | -25.960 | -23.338 | -12336.476 |
| | | Right | -14.10 | -342.72 | -0.47 | -22.561 | -13.382 | -12027.312 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|---------|---------|------------|
| L14 | SA-1 | DEAD | | | | | | |
| | | Left | -1.66 | -3.17 | 0.00 | 0.003 | -0.028 | 63.922 |
| | | Right | -1.66 | 8.29 | 0.00 | 0.003 | 0.013 | -125.531 |
| L14 | SA-1 | TORX | | | | | | |
| | | Left | 0.95 | -32.32 | 0.00 | -0.167 | -0.038 | -1222.862 |
| | | Right | -0.95 | -32.32 | 0.00 | -0.162 | -0.041 | 1168.123 |
| L14 | SA-1 | TORY | | | | | | |
| | | Left | 1.16 | -39.53 | 0.00 | -0.203 | -0.047 | -1494.201 |
| | | Right | -1.16 | -39.53 | 0.00 | -0.197 | -0.051 | 1428.381 |
| L14 | SA-1 | DX MAX | | | | | | |
| | | Left | 14.64 | 341.13 | 0.45 | 30.759 | 12.853 | 12980.747 |
| | | Right | 14.71 | 341.13 | 0.57 | 23.698 | 22.177 | 12264.519 |
| L14 | SA-1 | DX MIN | | | | | | |
| | | Left | -14.64 | -341.13 | -0.45 | -30.759 | -12.853 | -12980.747 |
| | | Right | -14.71 | -341.13 | -0.57 | -23.698 | -22.177 | -12264.519 |
| L14 | SA-1 | DY MAX | | | | | | |
| | | Left | 17.09 | 669.39 | 0.06 | 6.483 | 1.949 | 25247.089 |
| | | Right | 17.91 | 669.39 | 0.07 | 6.261 | 3.139 | 24231.918 |
| L14 | SA-1 | DY MIN | | | | | | |
| | | Left | -17.09 | -669.39 | -0.06 | -6.483 | -1.949 | -25247.089 |
| | | Right | -17.91 | -669.39 | -0.07 | -6.261 | -3.139 | -24231.918 |
| L14 | SA-8 | DEAD | | | | | | |
| | | Left | -1.64 | -8.12 | 0.00 | -0.008 | 0.013 | -120.002 |
| | | Right | -1.64 | 3.34 | 0.00 | -0.005 | -0.019 | 54.773 |
| L14 | SA-8 | TORX | | | | | | |
| | | Left | -0.89 | -32.23 | 0.00 | -0.163 | 0.042 | -1165.881 |
| | | Right | -0.89 | -32.23 | 0.00 | -0.167 | 0.039 | 1219.350 |
| L14 | SA-8 | TORY | | | | | | |
| | | Left | -1.08 | -39.41 | 0.00 | -0.198 | 0.051 | -1425.602 |
| | | Right | -1.08 | -39.41 | 0.00 | -0.203 | 0.048 | 1490.961 |
| L14 | SA-8 | DX MAX | | | | | | |
| | | Left | 13.07 | 301.73 | 0.53 | 19.519 | 19.329 | 10846.743 |
| | | Right | 13.10 | 301.73 | 0.41 | 24.488 | 11.491 | 11480.617 |
| L14 | SA-8 | DX MIN | | | | | | |
| | | Left | -13.07 | -301.73 | -0.53 | -19.519 | -19.329 | -10846.743 |
| | | Right | -13.10 | -301.73 | -0.41 | -24.488 | -11.491 | -11480.617 |
| L14 | SA-8 | DY MAX | | | | | | |
| | | Left | 17.05 | 673.40 | 0.07 | 3.993 | 3.234 | 24433.323 |
| | | Right | 16.23 | 673.40 | 0.06 | 4.067 | 2.854 | 25416.676 |
| L14 | SA-8 | DY MIN | | | | | | |
| | | Left | -17.05 | -673.40 | -0.07 | -3.993 | -3.234 | -24433.323 |
| | | Right | -16.23 | -673.40 | -0.06 | -4.067 | -2.854 | -25416.676 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|---------|---------|------------|
| L14 | SP-1 | DEAD | | | | | | |
| | | Left | -1.62 | -4.29 | 0.00 | -0.006 | 0.010 | 20.793 |
| | | Right | -1.62 | 7.18 | 0.00 | -0.005 | -0.012 | -85.912 |
| L14 | SP-1 | TORX | | | | | | |
| | | Left | -0.93 | 31.68 | 0.00 | -0.167 | -0.038 | 1200.249 |
| | | Right | -0.93 | 31.68 | 0.00 | -0.162 | -0.041 | -1144.269 |
| L14 | SP-1 | TORY | | | | | | |
| | | Left | -1.14 | 38.74 | 0.00 | -0.203 | -0.047 | 1467.769 |
| | | Right | -1.14 | 38.74 | 0.00 | -0.197 | -0.051 | -1399.345 |
| L14 | SP-1 | DX MAX | | | | | | |
| | | Left | 14.21 | 322.85 | 0.45 | 27.105 | 12.294 | 12296.012 |
| | | Right | 14.27 | 322.85 | 0.56 | 19.409 | 20.035 | 11596.584 |
| L14 | SP-1 | DX MIN | | | | | | |
| | | Left | -14.21 | -322.85 | -0.45 | -27.105 | -12.294 | -12296.012 |
| | | Right | -14.27 | -322.85 | -0.56 | -19.409 | -20.035 | -11596.584 |
| L14 | SP-1 | DY MAX | | | | | | |
| | | Left | 18.85 | 731.23 | 0.05 | 3.270 | 3.313 | 27434.321 |
| | | Right | 19.84 | 731.23 | 0.04 | 2.905 | 4.200 | 26499.178 |
| L14 | SP-1 | DY MIN | | | | | | |
| | | Left | -18.85 | -731.23 | -0.05 | -3.270 | -3.313 | -27434.321 |
| | | Right | -19.84 | -731.23 | -0.04 | -2.905 | -4.200 | -26499.178 |
| L14 | SP-8 | DEAD | | | | | | |
| | | Left | -1.62 | -7.44 | 0.00 | 0.003 | -0.011 | -95.755 |
| | | Right | -1.62 | 4.03 | 0.00 | 0.004 | 0.039 | 30.781 |
| L14 | SP-8 | TORX | | | | | | |
| | | Left | 0.92 | 32.87 | 0.00 | -0.162 | 0.042 | 1188.464 |
| | | Right | 0.92 | 32.87 | 0.00 | -0.164 | 0.038 | -1243.743 |
| L14 | SP-8 | TORY | | | | | | |
| | | Left | 1.12 | 40.19 | 0.00 | -0.197 | 0.051 | 1453.348 |
| | | Right | 1.12 | 40.19 | 0.00 | -0.202 | 0.049 | -1520.473 |
| L14 | SP-8 | DX MAX | | | | | | |
| | | Left | 13.50 | 310.28 | 0.53 | 19.374 | 19.290 | 11154.250 |
| | | Right | 13.53 | 310.28 | 0.41 | 24.939 | 11.512 | 11805.141 |
| L14 | SP-8 | DX MIN | | | | | | |
| | | Left | -13.50 | -310.28 | -0.53 | -19.374 | -19.290 | -11154.250 |
| | | Right | -13.53 | -310.28 | -0.41 | -24.939 | -11.512 | -11805.141 |
| L14 | SP-8 | DY MAX | | | | | | |
| | | Left | 18.65 | 759.08 | 0.07 | 3.288 | 3.460 | 27533.428 |
| | | Right | 18.65 | 759.08 | 0.06 | 4.277 | 3.405 | 28460.893 |
| L14 | SP-8 | DY MIN | | | | | | |
| | | Left | -18.65 | -759.08 | -0.07 | -3.288 | -3.460 | -27533.428 |
| | | Right | -18.65 | -759.08 | -0.06 | -4.277 | -3.405 | -28460.893 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|--------|--------|-----------|
| L13 | S1-1 | DEAD | | | | | | |
| | | Left | -0.92 | -1.56 | 0.00 | 0.019 | -0.028 | 3.752 |
| | | Right | -0.92 | 2.89 | 0.00 | 0.019 | -0.018 | -45.643 |
| L13 | S1-1 | TORX | | | | | | |
| | | Left | -0.42 | -8.03 | 0.00 | -0.036 | -0.018 | -390.988 |
| | | Right | -0.42 | -8.03 | 0.00 | -0.036 | 0.001 | 303.290 |
| L13 | S1-1 | TORY | | | | | | |
| | | Left | -0.52 | -9.84 | 0.00 | -0.043 | -0.022 | -356.436 |
| | | Right | -0.52 | -9.84 | 0.00 | -0.044 | 0.001 | 371.511 |
| L13 | S1-1 | DX MAX | | | | | | |
| | | Left | 16.10 | 209.46 | 0.09 | 1.166 | 3.113 | 7642.473 |
| | | Right | 15.82 | 209.46 | 0.04 | 0.894 | 3.221 | 7855.664 |
| L13 | S1-1 | DX MIN | | | | | | |
| | | Left | -16.10 | -209.46 | -0.09 | -1.166 | -3.113 | -7642.473 |
| | | | | | | | | |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|-----------|
| L13 | S12-1 | DEAD | Left | -0.91 | -1.56 | 0.00 | -0.021 | 0.037 | 3.603 |
| | | | Right | -0.91 | 2.89 | 0.00 | -0.031 | 0.009 | -45.443 |
| L13 | S12-1 | TORX | Left | 0.44 | 8.11 | 0.00 | -0.034 | -0.017 | 293.823 |
| | | | Right | 0.44 | 8.11 | 0.00 | -0.035 | 0.002 | -308.214 |
| L13 | S12-1 | TORY | Left | 0.53 | 9.93 | 0.00 | -0.042 | -0.021 | 359.886 |
| | | | Right | 0.53 | 9.93 | 0.00 | -0.043 | 0.002 | -375.070 |
| L13 | S12-1 | DX MAX | Left | 16.69 | 218.22 | 0.08 | 0.950 | 4.546 | 7958.942 |
| | | | Right | 16.37 | 218.22 | 0.11 | 0.869 | 3.059 | 8186.985 |
| L13 | S12-1 | DX MIN | Left | -16.69 | -218.22 | -0.08 | -0.950 | -4.546 | -7958.942 |
| | | | Right | -16.37 | -218.22 | -0.11 | -0.869 | -3.059 | -8186.985 |
| L13 | S12-1 | DY MAX | Left | 5.99 | 47.32 | 0.45 | 6.938 | 9.243 | 1881.038 |
| | | | Right | 5.99 | 47.32 | 0.26 | 3.392 | 27.256 | 1821.139 |
| L13 | S12-1 | DY MIN | Left | -5.99 | -47.32 | -0.45 | -6.938 | -9.243 | -1881.038 |
| | | | Right | -5.99 | -47.32 | -0.26 | -3.392 | -27.256 | -1821.139 |
| L13 | S12-8 | DEAD | Left | -0.98 | -2.74 | 0.00 | 0.016 | 0.010 | -40.795 |
| | | | Right | -0.98 | 1.69 | 0.00 | 0.016 | 0.025 | -1.086 |
| L13 | S12-8 | TORX | Left | -0.42 | 8.08 | 0.00 | -0.037 | -0.001 | 305.211 |
| | | | Right | -0.42 | 8.08 | 0.00 | -0.036 | 0.017 | -293.024 |
| L13 | S12-8 | TORY | Left | -0.51 | 9.90 | 0.00 | -0.045 | -0.001 | 373.662 |
| | | | Right | -0.51 | 9.90 | 0.00 | -0.044 | 0.020 | -358.827 |
| L13 | S12-8 | DX MAX | Left | 15.65 | 217.24 | 0.07 | 0.887 | 3.478 | 8146.769 |
| | | | Right | 15.96 | 217.24 | 0.09 | 1.155 | 3.521 | 7926.905 |
| L13 | S12-8 | DX MIN | Left | -15.65 | -217.24 | -0.07 | -0.887 | -3.478 | -8146.769 |
| | | | Right | -15.96 | -217.24 | -0.09 | -1.155 | -3.521 | -7926.905 |
| L13 | S12-8 | DY MAX | Left | 5.75 | 59.96 | 0.29 | 2.473 | 31.181 | 2303.486 |
| | | | Right | 5.77 | 59.96 | 0.74 | 7.229 | 10.201 | 2123.500 |
| L13 | S12-8 | DY MIN | Left | -5.75 | -59.96 | -0.29 | -2.473 | -31.181 | -2303.486 |
| | | | Right | -5.77 | -59.96 | -0.74 | -7.229 | -10.201 | -2123.500 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|-----------|
| L13 | SA-1 | DEAD | Left | -0.83 | -1.52 | 0.00 | 0.019 | -0.037 | 4.908 |
| | | | Right | -0.83 | 3.92 | 0.00 | 0.019 | -0.019 | -48.754 |
| L13 | SA-1 | TORX | Left | -0.53 | -9.22 | 0.00 | -0.040 | -0.017 | -334.876 |
| | | | Right | -0.52 | -9.22 | 0.00 | -0.040 | 0.001 | 347.706 |
| L13 | SA-1 | TORY | Left | -0.65 | -11.30 | 0.00 | -0.049 | -0.020 | -410.307 |
| | | | Right | -0.65 | -11.30 | 0.00 | -0.049 | 0.001 | 426.030 |
| L13 | SA-1 | DX MAX | Left | 6.10 | 59.90 | 0.71 | 7.808 | 8.688 | 2131.955 |
| | | | Right | 6.07 | 59.90 | 0.26 | 3.059 | 26.437 | 2200.575 |
| L13 | SA-1 | DX MIN | Left | -6.10 | -59.90 | -0.71 | -7.808 | -8.688 | -2131.955 |
| | | | Right | -6.07 | -59.90 | -0.26 | -3.059 | -26.437 | -2200.575 |
| L13 | SA-1 | DY MAX | Left | 14.98 | 200.40 | 0.18 | 1.560 | 5.009 | 7311.593 |
| | | | Right | 14.73 | 200.40 | 0.10 | 0.683 | 5.422 | 7516.224 |
| L13 | SA-1 | DY MIN | Left | -14.98 | -200.40 | -0.18 | -1.560 | -5.009 | -7311.593 |
| | | | Right | -14.73 | -200.40 | -0.10 | -0.683 | -5.422 | -7516.224 |
| L13 | SA-8 | DEAD | Left | -0.91 | -2.89 | 0.00 | -0.020 | -0.010 | -44.970 |
| | | | Right | -0.91 | 1.57 | 0.00 | -0.020 | -0.027 | 3.199 |
| L13 | SA-8 | TORX | Left | 0.53 | -9.22 | 0.00 | -0.042 | -0.001 | -347.747 |
| | | | Right | 0.53 | -9.22 | 0.00 | -0.041 | 0.016 | 335.411 |
| L13 | SA-8 | TORY | Left | -0.65 | -11.31 | 0.00 | -0.051 | -0.001 | -426.073 |
| | | | Right | -0.65 | -11.31 | 0.00 | -0.050 | 0.020 | 411.201 |
| L13 | SA-8 | DX MAX | Left | 6.05 | 48.96 | 0.29 | 3.204 | 21.829 | 1884.782 |
| | | | Right | 6.05 | 48.96 | 0.59 | 7.768 | 9.815 | 1739.040 |
| L13 | SA-8 | DX MIN | Left | -6.05 | -48.96 | -0.29 | -3.204 | -21.829 | -1884.782 |
| | | | Right | -6.05 | -48.96 | -0.59 | -7.768 | -9.815 | -1739.040 |
| L13 | SA-8 | DY MAX | Left | 14.96 | 201.91 | 0.11 | 0.600 | 3.878 | 7565.081 |
| | | | Right | 15.22 | 201.91 | 0.09 | 1.231 | 4.926 | 7374.423 |
| L13 | SA-8 | DY MIN | Left | -14.96 | -201.91 | -0.11 | -0.600 | -3.878 | -7565.081 |
| | | | Right | -15.22 | -201.91 | -0.09 | -1.231 | -4.926 | -7374.423 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|-----------|
| L13 | SP-1 | DEAD | Left | -1.01 | -1.83 | 0.00 | -0.019 | 0.026 | -8.180 |
| | | | Right | -1.01 | 2.63 | 0.00 | -0.019 | 0.010 | -35.973 |
| L13 | SP-1 | TORX | Left | 0.63 | 9.07 | 0.00 | -0.040 | -0.016 | 339.328 |
| | | | Right | 0.62 | 9.07 | 0.00 | -0.041 | 0.001 | -341.889 |
| L13 | SP-1 | TORY | Left | 0.77 | 11.12 | 0.00 | -0.049 | -0.020 | 403.563 |
| | | | Right | 0.77 | 11.12 | 0.00 | -0.050 | 0.001 | -418.960 |
| L13 | SP-1 | DX MAX | Left | 8.87 | 55.24 | 0.39 | 7.851 | 10.438 | 1962.883 |
| | | | Right | 8.87 | 55.24 | 0.31 | 2.246 | 21.798 | 2125.003 |
| L13 | SP-1 | DX MIN | Left | -8.87 | -55.24 | -0.39 | -7.851 | -10.438 | -1962.883 |
| | | | Right | -8.87 | -55.24 | -0.31 | -2.246 | -21.798 | -2125.003 |
| L13 | SP-1 | DY MAX | Left | 18.56 | 217.54 | 0.09 | 1.460 | 5.796 | 7934.480 |
| | | | Right | 18.24 | 217.54 | 0.12 | 0.641 | 3.419 | 8163.248 |
| L13 | SP-1 | DY MIN | Left | -18.56 | -217.54 | -0.09 | -1.460 | -5.796 | -7934.480 |
| | | | Right | -18.24 | -217.54 | -0.12 | -0.641 | -3.419 | -8163.248 |
| L13 | SP-8 | DEAD | Left | -0.96 | -2.70 | 0.00 | 0.020 | 0.010 | -38.286 |
| | | | Right | -0.96 | 1.75 | 0.00 | 0.020 | 0.037 | -3.374 |
| L13 | SP-8 | TORX | Left | -0.53 | 9.36 | 0.00 | -0.041 | -0.001 | 352.604 |
| | | | Right | -0.53 | 9.36 | 0.00 | -0.041 | 0.016 | -340.237 |
| L13 | SP-8 | TORY | Left | -0.65 | 11.47 | 0.00 | -0.050 | -0.001 | 431.996 |
| | | | Right | -0.65 | 11.47 | 0.00 | -0.049 | 0.020 | -416.965 |
| L13 | SP-8 | DX MAX | Left | 6.39 | 51.56 | 0.29 | 2.284 | 21.701 | 1981.843 |
| | | | Right | 6.43 | 51.56 | 0.59 | 7.668 | 9.741 | 1833.847 |
| L13 | SP-8 | DX MIN | Left | -6.39 | -51.56 | -0.29 | -2.284 | -21.701 | -1981.843 |
| | | | Right | -6.43 | -51.56 | -0.59 | -7.668 | -9.741 | -1833.847 |
| L13 | SP-8 | DY MAX | Left | 16.14 | 224.40 | 0.10 | 0.857 | 2.716 | 8412.511 |
| | | | Right | 16.45 | 224.40 | 0.11 | 1.443 | 5.695 | 8190.957 |
| L13 | SP-8 | DY MIN | Left | -16.14 | -224.40 | -0.10 | -0.857 | -2.716 | -8412.511 |
| | | | Right | -16.45 | -224.40 | -0.11 | -1.443 | -5.695 | -8190.957 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| L12 | S1-1 | DEAD | Left | -1.76 | 0.22 | 0.00 | 0.008 | -0.041 | 107.190 |
| | | | Right | -1.76 | 8.16 | 0.00 | 0.007 | 0.022 | -202.227 |
| L12 | S1-1 | TORX | Left | 1.45 | -19.03 | 0.00 | -0.022 | 0.022 | -682.564 |
| | | | Right | 1.45 | -19.03 | 0.00 | -0.023 | 0.024 | 724.369 |
| L12 | S1-1 | TORY | Left | 1.78 | -23.29 | 0.00 | -0.039 | 0.027 | -836.778 |
| | | | Right | 1.78 | -23.29 | 0.00 | -0.040 | 0.029 | 886.683 |
| L12 | S1-1 | DX MAX | Left | 28.47 | 481.60 | 0.03 | 4.498 | 1.019 | 16593.231 |
| | | | Right | 28.45 | 481.60 | 0.08 | 4.521 | 3.254 | 17564.147 |
| L12 | S1-1 | DX MIN | Left | -28.47 | -481.60 | -0.03 | -4.498 | -1.019 | -16593.231 |
| | | | Right | -28.45 | -481.60 | -0.08 | -4.521 | -3.254 | -17564.147 |
| L12 | S1-1 | DY MAX | Left | 16.81 | 139.99 | 0.22 | 33.825 | 6.214 | 5016.041 |
| | | | Right | 16.79 | 139.99 | 0.26 | 33.320 | 12.664 | 5343.381 |
| L12 | S1-1 | DY MIN | Left | -16.81 | -139.99 | -0.22 | -33.825 | -6.214 | -5016.041 |
| | | | Right | -16.79 | -139.99 | -0.26 | -33.320 | -12.664 | -5343.381 |
| L12 | S1-8 | DEAD | Left | -1.77 | -8.54 | 0.00 | -0.007 | 0.023 | -217.053 |
| | | | Right | -1.77 | -8.62 | 0.00 | -0.007 | -0.041 | 121.842 |
| L12 | S1-8 | TORX | Left | -1.46 | -19.37 | 0.00 | -0.033 | -0.025 | -737.248 |
| | | | Right | -1.46 | -19.37 | 0.00 | -0.032 | -0.022 | 694.426 |
| L12 | S1-8 | TORY | Left | -1.79 | -23.71 | 0.00 | -0.040 | -0.010 | -802.397 |
| | | | Right | -1.79 | -23.71 | 0.00 | -0.039 | -0.028 | 852.474 |
| L12 | S1-8 | DX MAX | Left | 28.10 | 459.75 | 0.05 | 4.734 | 1.615 | 17484.290 |
| | | | Right | 27.92 | 459.75 | 0.04 | 4.218 | 1.715 | 16536.005 |
| L12 | S1-8 | DX MIN | Left | -28.10 | -459.75 | -0.05 | -4.734 | -1.615 | -17484.290 |
| | | | Right | -27.92 | -459.75 | -0.04 | -4.218 | -1.715 | -16536.005 |
| L12 | S1-8 | DY MAX | Left | 20.47 | 184.18 | 0.44 | 37.523 | 14.209 | 7023.775 |
| | | | Right | 20.45 | 184.18 | 0.29 | 38.628 | 7.558 | 6605.703 |
| L12 | S1-8 | DY MIN | Left | -20.47 | -184.18 | -0.44 | -37.523 | -14.209 | -7023.775 |
| | | | Right | -20.45 | -184.18 | -0.29 | -38.628 | -7.558 | -6605.703 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|-------------------|--------------------------|
| L12 | S12-1 | DEAD | Left Right | -1.76 -1.76 | 0.26 8.18 | 0.00 0.00 | -0.009 -0.009 | 0.043 -0.024 | 108.588 -203.814 |
| L12 | S12-1 | TORX | Left Right | -1.48 -1.48 | 19.29 19.29 | 0.00 0.00 | -0.030 -0.031 | 0.018 0.027 | 492.817 -734.310 |
| L12 | S12-1 | TORY | Left Right | -1.80 -1.80 | 23.61 23.61 | 0.00 0.00 | -0.037 -0.037 | 0.022 0.033 | 848.043 -898.784 |
| L12 | S12-1 | DX MAX | Left Right | 30.10 30.30 | 482.79 482.79 | 0.05 0.05 | 4.086 3.913 | 2.200 2.005 | 17355.776 18269.915 |
| L12 | S12-1 | DX MIN | Left Right | -30.10 -30.30 | -482.79 -482.79 | -0.05 -0.05 | -4.086 -3.913 | -2.200 -2.005 | -17355.776 -18269.915 |
| L12 | S12-1 | DY MAX | Left Right | 16.80 16.79 | 140.71 140.71 | 0.32 0.36 | 32.431 32.837 | 6.057 -12.688 | 5042.436 5370.078 |
| L12 | S12-1 | DY MIN | Left Right | -16.80 -16.79 | -140.71 -140.71 | -0.32 -0.36 | -32.431 -32.837 | -6.057 -12.688 | -5042.436 -5370.078 |
| L12 | S12-8 | DEAD | Left Right | -1.72 -1.72 | -7.59 0.33 | 0.00 0.00 | 0.005 0.005 | -0.024 0.043 | -180.801 87.918 |
| L12 | S12-8 | TORX | Left Right | 1.45 1.45 | 19.16 19.16 | 0.00 0.00 | -0.033 -0.033 | -0.027 -0.020 | 739.213 -688.830 |
| L12 | S12-8 | TORY | Left Right | 1.77 1.77 | 23.45 23.45 | 0.00 0.00 | -0.040 -0.039 | -0.033 -0.025 | 882.414 -842.982 |
| L12 | S12-8 | DX MAX | Left Right | 29.29 29.08 | 477.84 477.84 | 0.06 0.04 | 4.743 4.861 | 1.797 1.455 | 18171.816 17187.171 |
| L12 | S12-8 | DX MIN | Left Right | -29.29 -29.08 | -477.84 -477.84 | -0.06 -0.04 | -4.743 -4.861 | -1.797 -1.455 | -18171.816 -17187.171 |
| L12 | S12-8 | DY MAX | Left Right | 29.84 19.53 | 168.48 168.48 | 0.43 0.28 | 38.019 39.139 | 14.232 7.709 | 6428.008 6039.335 |
| L12 | S12-8 | DY MIN | Left Right | -29.84 -19.53 | -168.48 -168.48 | -0.43 -0.28 | -38.019 -39.139 | -14.232 -7.709 | -6428.008 -6039.335 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|-------------------|--------------------------|
| L12 | SA-1 | DEAD | Left Right | -1.82 -1.82 | 0.47 8.38 | 0.00 0.00 | 0.008 0.008 | -0.042 0.035 | 122.564 -219.869 |
| L12 | SA-1 | TORX | Left Right | 1.55 1.55 | -21.38 -21.38 | 0.00 0.00 | -0.039 -0.039 | 0.013 0.023 | -768.865 813.160 |
| L12 | SA-1 | TORY | Left Right | 1.89 1.89 | -26.18 -26.18 | 0.00 0.00 | -0.047 -0.048 | 0.016 0.028 | -841.562 895.752 |
| L12 | SA-1 | DX MAX | Left Right | 19.78 19.79 | 172.22 172.22 | 0.28 0.44 | 31.097 29.972 | 8.523 15.405 | 8173.749 8570.530 |
| L12 | SA-1 | DX MIN | Left Right | -19.78 -19.79 | -172.22 -172.22 | -0.28 -0.44 | -31.097 -29.972 | -8.523 -15.405 | -8173.749 -8570.530 |
| L12 | SA-1 | DY MAX | Left Right | 27.31 27.49 | 441.33 441.33 | 0.04 0.08 | 7.082 6.723 | 1.559 3.755 | 15860.247 18773.247 |
| L12 | SA-1 | DY MIN | Left Right | -27.31 -27.49 | -441.33 -441.33 | -0.04 -0.08 | -7.082 -6.723 | -1.559 -3.755 | -15860.247 -18773.247 |
| L12 | SA-8 | DEAD | Left Right | -1.70 -1.70 | -8.19 -0.27 | 0.00 0.00 | -0.009 -0.009 | -0.024 -0.012 | -203.907 770.621 |
| L12 | SA-8 | TORX | Left Right | -1.45 -1.45 | -21.41 -21.41 | 0.00 0.00 | -0.040 -0.012 | -0.022 -0.012 | -813.478 770.621 |
| L12 | SA-8 | TORY | Left Right | -1.77 -1.77 | -26.21 -26.21 | 0.00 0.00 | -0.049 -0.015 | -0.037 -0.015 | -898.076 843.853 |
| L12 | SA-8 | DX MAX | Left Right | 16.79 16.80 | 145.07 145.07 | 0.44 0.23 | 26.119 26.359 | 15.775 7.489 | 5531.281 5204.282 |
| L12 | SA-8 | DX MIN | Left Right | -16.79 -16.80 | -145.07 -145.07 | -0.44 -0.23 | -26.119 -26.359 | -15.775 -7.489 | -5531.281 -5204.282 |
| L12 | SA-8 | DY MAX | Left Right | 26.21 26.02 | 447.19 447.19 | 0.06 0.04 | 4.734 4.864 | 2.115 1.241 | 16990.787 16100.223 |
| L12 | SA-8 | DY MIN | Left Right | -26.21 -26.02 | -447.19 -447.19 | -0.06 -0.04 | -4.734 -4.864 | -2.115 -1.241 | -16990.787 -16100.223 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|-------------------|--------------------------|
| L12 | SP-1 | DEAD | Left Right | -1.59 -1.59 | -0.87 7.05 | 0.00 0.00 | -0.008 -0.008 | 0.043 -0.024 | 68.391 -160.113 |
| L12 | SP-1 | TORX | Left Right | -1.60 -1.60 | 20.92 20.92 | 0.00 0.00 | -0.040 -0.040 | 0.014 0.022 | 750.553 -797.347 |
| L12 | SP-1 | TORY | Left Right | -1.95 -1.95 | 25.82 25.82 | 0.00 0.00 | -0.048 -0.049 | 0.017 0.027 | 919.275 -876.486 |
| L12 | SP-1 | DX MAX | Left Right | 19.50 19.52 | 159.75 159.75 | 0.25 0.47 | 24.230 25.946 | 8.022 16.823 | 5713.221 6108.543 |
| L12 | SP-1 | DX MIN | Left Right | -19.50 -19.52 | -159.75 -159.75 | -0.25 -0.47 | -24.230 -25.946 | -8.022 -16.823 | -5713.221 -6108.543 |
| L12 | SP-1 | DY MAX | Left Right | 31.54 31.74 | 476.53 476.53 | 0.05 0.07 | 3.385 3.203 | 2.034 2.734 | 17106.231 18155.811 |
| L12 | SP-1 | DY MIN | Left Right | -31.54 -31.74 | -476.53 -476.53 | -0.05 -0.07 | -3.385 -3.203 | -2.034 -2.734 | -17106.231 -18155.811 |
| L12 | SP-8 | DEAD | Left Right | -1.66 -1.66 | -7.26 0.56 | 0.00 0.00 | 0.008 0.008 | -0.023 0.044 | -179.358 79.314 |
| L12 | SP-8 | TORX | Left Right | 1.47 1.47 | 21.70 21.70 | 0.00 0.00 | -0.040 -0.039 | -0.022 -0.012 | 824.611 -781.034 |
| L12 | SP-8 | TORY | Left Right | 1.80 1.80 | 26.57 26.57 | 0.00 0.00 | -0.048 -0.048 | -0.027 -0.015 | 1009.711 -956.434 |
| L12 | SP-8 | DX MAX | Left Right | 17.01 17.03 | 150.81 150.81 | 0.43 0.24 | 24.215 24.472 | 15.727 7.439 | 5747.935 5412.297 |
| L12 | SP-8 | DX MIN | Left Right | -17.01 -17.03 | -150.81 -150.81 | -0.43 -0.24 | -24.215 -24.472 | -15.727 -7.439 | -5747.935 -5412.297 |
| L12 | SP-8 | DY MAX | Left Right | 29.71 29.52 | 496.13 496.13 | 0.06 0.05 | 2.499 2.782 | 2.359 1.604 | 18851.546 17861.382 |
| L12 | SP-8 | DY MIN | Left Right | -29.71 -29.52 | -496.13 -496.13 | -0.06 -0.05 | -2.499 -2.782 | -2.359 -1.604 | -18851.546 -17861.382 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|--------------------|--------------------|----------------|---------------------|--------------------|--------------------------|
| L11 | S1-1 | DEAD | Left Right | -6.29 -6.29 | -1.23 6.28 | 0.00 0.00 | 0.042 0.042 | -0.045 -0.018 | 65.866 -150.921 |
| L11 | S1-1 | TORX | Left Right | 6.80 6.80 | -13.07 -13.07 | 0.00 0.00 | -0.068 -0.069 | 0.045 0.023 | -493.477 473.609 |
| L11 | S1-1 | TORY | Left Right | 8.32 8.32 | -15.97 -15.97 | 0.00 0.00 | -0.081 -0.084 | 0.055 0.028 | -603.962 578.703 |
| L11 | S1-1 | DX MAX | Left Right | 146.25 146.32 | 276.70 276.70 | 0.21 0.16 | 5.869 3.658 | 8.399 9.815 | 10486.045 9984.869 |
| L11 | S1-1 | DX MIN | Left Right | -146.25 -146.32 | -276.70 -276.70 | -0.21 -0.16 | -5.869 -3.658 | -8.399 -9.815 | -10486.045 -9984.869 |
| L11 | S1-1 | DY MAX | Left Right | 66.82 66.80 | 142.05 142.05 | 0.94 0.46 | 31.322 16.867 | 20.865 9.815 | 5316.580 5195.616 |
| L11 | S1-1 | DY MIN | Left Right | -66.82 -66.80 | -142.05 -142.05 | -0.94 -0.46 | -31.322 -16.867 | -20.865 -9.815 | -5316.580 -5195.616 |
| L11 | S1-2 | DEAD | Left Right | -11.71 -11.71 | 6.82 13.90 | 0.00 0.00 | -0.002 -0.002 | 0.000 0.001 | 354.489 -350.064 |
| L11 | S1-2 | TORX | Left Right | 18.42 18.42 | -14.88 -14.88 | 0.00 0.00 | -0.165 -0.164 | -0.008 0.055 | -569.441 442.352 |
| L11 | S1-2 | TORY | Left Right | 22.51 22.51 | -18.18 -18.18 | 0.00 0.00 | -0.202 -0.204 | -0.010 0.008 | -695.868 540.512 |
| L11 | S1-2 | DX MAX | Left Right | 510.88 510.90 | 385.19 385.19 | 0.18 0.18 | 11.897 11.097 | 6.061 6.416 | 14885.328 13307.572 |
| L11 | S1-2 | DX MIN | Left Right | -510.88 -510.90 | -385.19 -385.19 | -0.18 -0.18 | -11.897 -11.097 | -6.061 -6.416 | -14885.328 -13307.572 |
| L11 | S1-2 | DY MAX | Left Right | 105.24 105.21 | 103.13 103.13 | 1.76 1.24 | 111.134 97.261 | 52.752 61.949 | 3848.535 3164.486 |
| L11 | S1-2 | DY MIN | Left Right | -105.24 -105.21 | -103.13 -103.13 | -1.76 -1.24 | -111.134 -97.261 | -52.752 -61.949 | -3848.535 -3164.486 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|---------------|------------------|------------------|----------------|----------------------|--------------------|------------------------|
| L11 | S1-3 | DEAD | Left Right | -0.59 -0.58 | -2.37 4.72 | 0.00 0.00 | -0.001 -0.002 | 0.000 0.001 | 1.443 -78.937 |
| L11 | S1-3 | TORX | Left Right | 0.49 0.49 | -3.31 -3.31 | 0.00 0.00 | -0.097 -0.099 | -0.007 0.046 | -95.240 123.339 |
| L11 | S1-3 | TORY | Left Right | 0.61 0.61 | -3.92 -3.92 | 0.00 0.00 | -0.119 -0.121 | -0.008 0.056 | -116.067 150.340 |
| L11 | S1-3 | DX MAX | Left Right | 44.41 44.23 | 88.22 88.22 | 0.09 0.09 | 6.210 5.779 | 5.729 5.120 | 2715.763 3281.275 |
| L11 | S1-3 | DX MIN | Left Right | -44.41 -44.32 | -88.22 -88.22 | -0.09 -0.09 | -6.210 -5.779 | -5.729 -5.120 | -2715.763 -3281.275 |
| L11 | S1-3 | DY MAX | Left Right | 18.71 18.73 | 18.80 18.80 | 1.02 1.34 | 96.155 104.217 | 73.752 46.752 | 510.144 776.127 |
| L11 | S1-3 | DY MIN | Left Right | -18.71 -18.73 | -18.80 -18.80 | -1.02 -1.34 | -96.155 -104.217 | -73.752 -46.752 | -510.144 -776.127 |
| L11 | S1-4 | DEAD | Left Right | -0.05 -0.05 | -4.14 3.94 | 0.00 0.00 | -0.001 -0.001 | 0.000 0.001 | -44.211 -3.339 |
| L11 | S1-4 | TORX | Left Right | -3.12 -3.12 | 0.74 0.74 | 0.00 0.00 | -0.052 -0.053 | 0.002 0.038 | 30.245 -29.035 |
| L11 | S1-4 | TORY | Left Right | -2.57 -2.57 | 0.90 0.90 | 0.00 0.00 | -0.064 -0.065 | 0.003 0.048 | 36.645 -24.240 |
| L11 | S1-4 | DX MAX | Left Right | 43.49 43.32 | 9.87 9.87 | 0.12 0.12 | 9.479 8.953 | 4.292 4.033 | 442.582 236.098 |
| L11 | S1-4 | DX MIN | Left Right | -43.49 -43.32 | -9.87 -9.87 | -0.12 -0.12 | -9.479 -8.953 | -4.292 -4.033 | -442.582 -236.098 |
| L11 | S1-4 | DY MAX | Left Right | 22.54 22.55 | 10.26 10.26 | 1.68 1.29 | 127.689 125.850 | 44.439 59.971 | 422.635 322.409 |
| L11 | S1-4 | DY MIN | Left Right | -22.54 -22.55 | -10.26 -10.26 | -1.68 -1.29 | -127.689 -125.850 | -44.439 -59.971 | -422.635 -322.409 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|---------------|------------------|------------------|----------------|----------------------|--------------------|------------------------|
| L11 | S1-5 | DEAD | Left Right | 0.12 0.12 | -2.82 4.27 | 0.00 0.00 | 0.000 0.000 | 0.000 0.000 | 0.407 -48.997 |
| L11 | S1-5 | TORX | Left Right | 2.21 2.21 | 0.80 0.80 | 0.00 0.00 | -0.054 -0.059 | -0.039 -0.003 | 31.802 -32.688 |
| L11 | S1-5 | TORY | Left Right | 2.49 2.49 | 0.97 0.97 | 0.00 0.00 | -0.065 -0.063 | -0.044 -0.003 | 26.389 -39.592 |
| L11 | S1-5 | DX MAX | Left Right | 42.88 43.05 | 10.18 10.18 | 0.12 0.12 | 8.463 9.312 | 3.668 4.852 | 245.222 454.554 |
| L11 | S1-5 | DX MIN | Left Right | -42.88 -43.05 | -10.18 -10.18 | -0.12 -0.12 | -8.463 -9.312 | -3.668 -4.852 | -245.222 -454.554 |
| L11 | S1-5 | DY MAX | Left Right | 27.91 27.93 | 13.20 13.20 | 1.27 1.82 | 132.404 145.400 | 62.504 49.623 | 386.937 517.776 |
| L11 | S1-5 | DY MIN | Left Right | -27.91 -27.93 | -13.20 -13.20 | -1.27 -1.82 | -132.404 -145.400 | -62.504 -49.623 | -386.937 -517.776 |
| L11 | S1-6 | DEAD | Left Right | -0.38 -0.38 | -4.89 2.20 | 0.00 0.00 | 0.000 0.000 | 0.000 0.000 | -85.120 6.081 |
| L11 | S1-6 | TORX | Left Right | -0.44 -0.44 | -3.26 -3.26 | 0.00 0.00 | -0.099 -0.096 | -0.044 0.007 | -129.053 99.343 |
| L11 | S1-6 | TORY | Left Right | -0.55 -0.55 | -4.09 -4.09 | 0.00 0.00 | -0.121 -0.118 | -0.054 0.008 | -157.305 121.087 |
| L11 | S1-6 | DX MAX | Left Right | 44.49 44.79 | 88.84 88.84 | 0.07 0.10 | 6.169 6.926 | 3.328 3.941 | 3310.981 3730.002 |
| L11 | S1-6 | DX MIN | Left Right | -44.49 -44.79 | -88.84 -88.84 | -0.07 -0.10 | -6.169 -6.926 | -3.328 -3.941 | -3310.981 -3730.002 |
| L11 | S1-6 | DY MAX | Left Right | 17.93 17.94 | 26.22 26.22 | 1.26 1.04 | 105.200 96.890 | 50.353 75.498 | 1074.992 717.487 |
| L11 | S1-6 | DY MIN | Left Right | -17.93 -17.94 | -26.22 -26.22 | -1.26 -1.04 | -105.200 -96.890 | -50.353 -75.498 | -1074.992 -717.487 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|---------------|--------------------|--------------------|----------------|---------------------|--------------------|--------------------------|
| L11 | S1-7 | DEAD | Left Right | -11.96 -11.96 | -14.19 -7.11 | 0.00 0.00 | 0.000 0.000 | 0.000 0.000 | -258.953 365.078 |
| L11 | S1-7 | TORX | Left Right | -18.82 -18.82 | -15.23 -15.23 | 0.00 0.00 | -0.164 -0.161 | -0.056 0.006 | -453.072 582.201 |
| L11 | S1-7 | TORY | Left Right | -22.99 -22.99 | -18.42 -18.42 | 0.00 0.00 | -0.201 -0.198 | -0.047 0.009 | -532.573 713.269 |
| L11 | S1-7 | DX MAX | Left Right | 508.78 508.76 | 393.84 393.84 | 0.12 0.11 | 9.148 8.815 | 3.686 5.369 | 11268.434 14822.805 |
| L11 | S1-7 | DX MIN | Left Right | -508.78 -508.76 | -393.84 -393.84 | -0.12 -0.11 | -9.148 -8.815 | -3.686 -5.369 | -11268.434 -14822.805 |
| L11 | S1-7 | DY MAX | Left Right | 144.95 144.94 | 126.90 126.90 | 1.28 1.76 | 96.587 111.163 | 62.813 53.172 | 4178.442 5131.133 |
| L11 | S1-7 | DY MIN | Left Right | -144.95 -144.94 | -126.90 -126.90 | -1.28 -1.76 | -96.587 -111.163 | -62.813 -53.172 | -4178.442 -5131.133 |
| L11 | S1-8 | DEAD | Left Right | -6.37 -6.37 | -7.17 0.54 | 0.00 0.00 | -0.041 -0.042 | -0.018 -0.044 | -149.999 95.120 |
| L11 | S1-8 | TORX | Left Right | -6.86 -6.86 | -13.50 -13.50 | 0.00 0.00 | -0.069 -0.066 | -0.023 -0.045 | -489.470 509.696 |
| L11 | S1-8 | TORY | Left Right | -8.28 -8.28 | -16.50 -16.50 | 0.00 0.00 | -0.085 -0.080 | -0.029 -0.055 | -598.201 622.753 |
| L11 | S1-8 | DX MAX | Left Right | 143.58 143.51 | 275.26 275.26 | 0.16 0.16 | 3.815 4.380 | 6.511 6.496 | 5941.457 10420.688 |
| L11 | S1-8 | DX MIN | Left Right | -143.58 -143.51 | -275.26 -275.26 | -0.16 -0.16 | -3.815 -4.380 | -6.511 -6.496 | -5941.457 -10420.688 |
| L11 | S1-8 | DY MAX | Left Right | 82.73 82.71 | 172.19 172.19 | 0.54 1.03 | 17.219 36.040 | 44.773 24.960 | 6289.987 6451.364 |
| L11 | S1-8 | DY MIN | Left Right | -82.73 -82.71 | -172.19 -172.19 | -0.54 -1.03 | -17.219 -36.040 | -44.773 -24.960 | -6289.987 -6451.364 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|---------------|--------------------|--------------------|----------------|---------------------|--------------------|--------------------------|
| L11 | S12-1 | DEAD | Left Right | -6.22 0.01 | -1.26 6.45 | 0.00 0.00 | -0.049 -0.050 | 0.047 0.019 | 88.561 -123.976 |
| L11 | S12-1 | TORX | Left Right | -6.91 -6.91 | 13.29 13.29 | 0.00 0.00 | -0.062 -0.065 | 0.048 0.022 | 502.020 -481.757 |
| L11 | S12-1 | TORY | Left Right | -8.45 -8.45 | 16.24 16.24 | 0.00 0.00 | -0.076 -0.079 | 0.056 0.028 | 613.379 -588.628 |
| L11 | S12-1 | DX MAX | Left Right | 152.86 152.74 | 294.07 294.07 | 0.12 0.18 | 3.647 3.983 | 7.179 8.075 | 11328.084 10617.921 |
| L11 | S12-1 | DX MIN | Left Right | -152.86 -152.74 | -294.07 -294.07 | -0.12 -0.18 | -3.647 -3.983 | -7.179 -8.075 | -11328.084 -10617.921 |
| L11 | S12-1 | DY MAX | Left Right | 66.51 66.49 | 139.25 139.25 | 0.92 0.46 | 30.891 14.523 | 20.852 38.560 | 5217.063 5095.708 |
| L11 | S12-1 | DY MIN | Left Right | -66.51 -66.49 | -139.25 -139.25 | -0.92 -0.46 | -30.891 -14.523 | -20.852 -38.560 | -5217.063 -5095.708 |
| L11 | S12-2 | DEAD | Left Right | -11.79 -11.79 | 6.89 13.97 | 0.00 0.00 | -0.002 -0.002 | 0.001 0.001 | 327.081 -352.011 |
| L11 | S12-2 | TORX | Left Right | -18.82 -18.82 | 15.17 15.17 | 0.00 0.00 | -0.165 -0.166 | -0.008 0.055 | 580.775 -450.905 |
| L11 | S12-2 | TORY | Left Right | -22.99 -22.99 | 18.54 18.54 | 0.00 0.00 | -0.202 -0.204 | -0.010 0.068 | 709.652 -520.916 |
| L11 | S12-2 | DX MAX | Left Right | 529.61 529.64 | 401.07 401.07 | 0.12 0.12 | 9.707 9.182 | 5.342 3.325 | 15489.427 11781.287 |
| L11 | S12-2 | DX MIN | Left Right | -529.61 -529.64 | -401.07 -401.07 | -0.12 -0.12 | -9.707 -9.182 | -5.342 -3.325 | -15489.427 -11781.287 |
| L11 | S12-2 | DY MAX | Left Right | 104.69 104.67 | 102.49 102.49 | 1.75 1.23 | 110.798 96.827 | 52.328 61.841 | 3825.103 3145.932 |
| L11 | S12-2 | DY MIN | Left Right | -104.69 -104.67 | -102.49 -102.49 | -1.75 -1.23 | -110.798 -96.827 | -52.328 -61.841 | -3825.103 -3145.932 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|--------|-------|----------|---------|-----------|
| L11 | S12-3 | DEAD | Left | -0.57 | -3.34 | 0.00 | -0.001 | 0.000 | 2.131 |
| | | | Right | -0.57 | 4.74 | 0.00 | -0.002 | 0.001 | -79.389 |
| L11 | S12-3 | TORX | Left | -0.51 | 3.29 | 0.00 | -0.097 | -0.007 | 87.728 |
| | | | Right | -0.51 | 3.29 | 0.00 | -0.099 | 0.044 | -126.257 |
| L11 | S12-3 | TORY | Left | -0.64 | 4.01 | 0.00 | -0.119 | -0.058 | 119.891 |
| | | | Right | -0.64 | 4.01 | 0.00 | -0.121 | 0.056 | -152.800 |
| L11 | S12-3 | DX MAX | Left | 44.24 | 91.63 | 0.08 | 5.641 | 3.134 | 2814.869 |
| | | | Right | 44.15 | 91.63 | 0.04 | 4.399 | 4.895 | 2414.039 |
| L11 | S12-3 | DX MIN | Left | -44.24 | -91.63 | -0.08 | -5.641 | -3.134 | -2814.869 |
| | | | Right | -44.15 | -91.63 | -0.04 | -4.399 | -4.895 | -2414.039 |
| L11 | S12-3 | DY MAX | Left | 17.98 | 18.47 | 1.02 | 94.171 | 73.597 | 500.839 |
| | | | Right | 18.00 | 18.47 | 1.24 | 104.247 | 66.400 | 763.408 |
| L11 | S12-3 | DY MIN | Left | -17.98 | -18.47 | -1.02 | -94.171 | -73.597 | -500.839 |
| | | | Right | -18.00 | -18.47 | -1.24 | -104.247 | -66.400 | -763.408 |
| L11 | S12-4 | DEAD | Left | -0.03 | -4.18 | 0.00 | -0.001 | 0.001 | -44.718 |
| | | | Right | -0.03 | 2.93 | 0.00 | -0.001 | 0.000 | -2.948 |
| L11 | S12-4 | TORX | Left | 2.16 | -0.75 | 0.00 | -0.052 | 0.003 | -30.888 |
| | | | Right | 2.16 | -0.75 | 0.00 | -0.053 | 0.038 | 20.375 |
| L11 | S12-4 | TORY | Left | 2.63 | -0.91 | 0.00 | -0.064 | 0.003 | -37.883 |
| | | | Right | 2.63 | -0.91 | 0.00 | -0.065 | 0.046 | 24.533 |
| L11 | S12-4 | DX MAX | Left | 46.27 | 10.78 | 0.11 | 7.753 | 4.303 | 480.249 |
| | | | Right | 46.09 | 10.78 | 0.11 | 7.544 | 4.200 | 260.492 |
| L11 | S12-4 | DX MIN | Left | -46.27 | -10.78 | -0.11 | -7.753 | -4.303 | -480.249 |
| | | | Right | -46.09 | -10.78 | -0.11 | -7.544 | -4.200 | -260.492 |
| L11 | S12-4 | DY MAX | Left | 21.89 | 10.66 | 1.68 | 137.260 | 44.344 | 411.151 |
| | | | Right | 21.90 | 10.66 | 1.29 | 125.421 | 59.807 | 313.593 |
| L11 | S12-4 | DY MIN | Left | -21.89 | -10.66 | -1.68 | -137.260 | -44.344 | -411.151 |
| | | | Right | -21.90 | -10.66 | -1.29 | -125.421 | -59.807 | -313.593 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|--------|-------|----------|---------|-----------|
| L11 | S12-5 | DEAD | Left | -0.20 | -3.93 | 0.00 | 0.000 | 0.000 | -2.648 |
| | | | Right | -0.20 | 4.16 | 0.00 | -0.000 | 0.000 | -44.463 |
| L11 | S12-5 | TORX | Left | -2.19 | -0.77 | 0.00 | -0.054 | -0.038 | -20.878 |
| | | | Right | -2.19 | -0.77 | 0.00 | -0.052 | -0.003 | 31.615 |
| L11 | S12-5 | TORY | Left | -2.45 | -0.93 | 0.00 | -0.065 | -0.064 | -25.264 |
| | | | Right | -2.45 | -0.93 | 0.00 | -0.063 | -0.003 | 38.311 |
| L11 | S12-5 | DX MAX | Left | 45.58 | 10.97 | 0.14 | 10.252 | 4.339 | 265.270 |
| | | | Right | 45.76 | 10.97 | 0.15 | 10.620 | 5.446 | 488.002 |
| L11 | S12-5 | DX MIN | Left | -45.58 | -10.97 | -0.14 | -10.252 | -4.339 | -265.270 |
| | | | Right | -45.76 | -10.97 | -0.15 | -10.620 | -5.446 | -488.002 |
| L11 | S12-5 | DY MAX | Left | 25.64 | 12.19 | 1.38 | 132.918 | 62.705 | 354.851 |
| | | | Right | 25.64 | 12.19 | 1.83 | 145.914 | 49.516 | 474.737 |
| L11 | S12-5 | DY MIN | Left | -25.64 | -12.19 | -1.38 | -132.918 | -62.705 | -354.851 |
| | | | Right | -25.64 | -12.19 | -1.83 | -145.914 | -49.516 | -474.737 |
| L11 | S12-6 | DEAD | Left | -0.27 | -4.43 | 0.00 | 0.000 | 0.000 | -8.711 |
| | | | Right | -0.27 | 2.65 | 0.00 | 0.000 | 0.001 | -8.361 |
| L11 | S12-6 | TORX | Left | 0.54 | 3.40 | 0.00 | -0.099 | -0.046 | 129.991 |
| | | | Right | 0.54 | 3.40 | 0.00 | -0.096 | 0.007 | -100.941 |
| L11 | S12-6 | TORY | Left | 0.67 | -4.14 | 0.00 | -0.121 | -0.028 | 158.447 |
| | | | Right | 0.67 | -4.14 | 0.00 | -0.118 | 0.008 | -123.010 |
| L11 | S12-6 | DX MAX | Left | 44.86 | 92.65 | 0.06 | 4.267 | 6.094 | 3452.949 |
| | | | Right | 44.96 | 92.65 | 0.09 | 5.425 | 5.038 | 2844.550 |
| L11 | S12-6 | DX MIN | Left | -44.86 | -92.65 | -0.06 | -4.267 | -6.094 | -3452.949 |
| | | | Right | -44.96 | -92.65 | -0.09 | -5.425 | -5.038 | -2844.550 |
| L11 | S12-6 | DY MAX | Left | 16.68 | 24.21 | 1.36 | 105.288 | 50.701 | 987.056 |
| | | | Right | 16.69 | 24.21 | 1.04 | 96.669 | 75.675 | 662.071 |
| L11 | S12-6 | DY MIN | Left | -16.68 | -24.21 | -1.36 | -105.288 | -50.701 | -987.056 |
| | | | Right | -16.69 | -24.21 | -1.04 | -96.669 | -75.675 | -662.071 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|----------|---------|------------|
| L11 | S12-7 | DEAD | Left | -10.28 | -13.01 | 0.00 | 0.000 | 0.001 | -324.842 |
| | | | Right | -10.28 | -13.01 | 0.00 | 0.000 | 0.001 | 319.197 |
| L11 | S12-7 | TORX | Left | 18.93 | 15.20 | 0.00 | -0.164 | -0.054 | 451.515 |
| | | | Right | 18.93 | 15.20 | 0.00 | -0.161 | 0.006 | -582.194 |
| L11 | S12-7 | TORY | Left | 23.13 | 18.57 | 0.00 | -0.201 | -0.067 | 551.674 |
| | | | Right | 23.13 | 18.57 | 0.00 | -0.198 | 0.008 | -711.404 |
| L11 | S12-7 | DX MAX | Left | 527.44 | 398.75 | 0.17 | 11.568 | 5.333 | 11710.467 |
| | | | Right | 527.41 | 398.75 | 0.18 | 12.180 | 6.582 | 15404.304 |
| L11 | S12-7 | DX MIN | Left | -527.44 | -398.75 | -0.17 | -11.568 | -5.333 | -11710.467 |
| | | | Right | -527.41 | -398.75 | -0.18 | -12.180 | -6.582 | -15404.304 |
| L11 | S12-7 | DY MAX | Left | 132.94 | 125.52 | 1.29 | 96.892 | 62.881 | 3833.137 |
| | | | Right | 132.93 | 125.52 | 1.77 | 111.357 | 52.561 | 4702.539 |
| L11 | S12-7 | DY MIN | Left | -132.94 | -125.52 | -1.29 | -96.892 | -62.881 | -3833.137 |
| | | | Right | -132.93 | -125.52 | -1.77 | -111.357 | -52.561 | -4702.539 |
| L11 | S12-8 | DEAD | Left | -6.02 | -5.99 | 0.00 | 0.045 | 0.018 | -107.248 |
| | | | Right | -6.02 | 1.73 | 0.00 | 0.044 | 0.046 | 50.746 |
| L11 | S12-8 | TORX | Left | 6.80 | 13.16 | 0.00 | -0.068 | -0.034 | 476.896 |
| | | | Right | 6.80 | 13.16 | 0.00 | -0.065 | -0.046 | -496.920 |
| L11 | S12-8 | TORY | Left | 8.32 | 16.08 | 0.00 | -0.083 | -0.030 | 582.754 |
| | | | Right | 8.32 | 16.08 | 0.00 | -0.079 | -0.057 | -607.203 |
| L11 | S12-8 | DX MAX | Left | 149.52 | 288.58 | 0.16 | 3.638 | 9.365 | 10418.458 |
| | | | Right | 149.44 | 288.58 | 0.21 | 5.897 | 7.196 | 10931.002 |
| L11 | S12-8 | DX MIN | Left | -149.52 | -288.58 | -0.16 | -3.638 | -9.365 | -10418.458 |
| | | | Right | -149.44 | -288.58 | -0.21 | -5.897 | -7.196 | -10931.002 |
| L11 | S12-8 | DY MAX | Left | 77.79 | 156.55 | 0.56 | 17.645 | 45.641 | 5719.052 |
| | | | Right | 77.78 | 156.55 | 1.11 | 36.548 | 25.124 | 5865.263 |
| L11 | S12-8 | DY MIN | Left | -77.79 | -156.55 | -0.56 | -17.645 | -45.641 | -5719.052 |
| | | | Right | -77.78 | -156.55 | -1.11 | -36.548 | -25.124 | -5865.263 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|---------|------------|
| L11 | SA-1 | DEAD | Left | -6.72 | -0.85 | 0.00 | 0.046 | -0.045 | 84.110 |
| | | | Right | -6.72 | 6.86 | 0.00 | 0.045 | -0.019 | -136.129 |
| L11 | SA-1 | TORX | Left | 7.27 | -14.17 | 0.00 | -0.060 | 0.034 | -536.007 |
| | | | Right | 7.27 | -14.17 | 0.00 | -0.063 | 0.016 | 572.892 |
| L11 | SA-1 | TORY | Left | 8.89 | -17.33 | 0.00 | -0.073 | 0.044 | -655.248 |
| | | | Right | 8.89 | -17.33 | 0.00 | -0.076 | 0.019 | 626.993 |
| L11 | SA-1 | DX MAX | Left | 79.40 | 165.05 | 0.76 | 25.785 | 36.173 | 6184.190 |
| | | | Right | 79.41 | 165.05 | 0.75 | 25.456 | 32.789 | 6028.618 |
| L11 | SA-1 | DX MIN | Left | -79.40 | -165.05 | -0.76 | -25.785 | -36.173 | -6184.190 |
| | | | Right | -79.41 | -165.05 | -0.75 | -25.456 | -32.789 | -6028.618 |
| L11 | SA-1 | DY MAX | Left | 137.52 | 268.33 | 0.13 | 3.156 | 15.400 | 10172.358 |
| | | | Right | 137.58 | 268.33 | 0.32 | 7.702 | 5.191 | 9680.022 |
| L11 | SA-1 | DY MIN | Left | -137.52 | -268.33 | -0.13 | -3.156 | -15.400 | -10172.358 |
| | | | Right | -137.58 | -268.33 | -0.32 | -7.702 | -5.191 | -9680.022 |
| L11 | SA-3 | DEAD | Left | -14.30 | 7.64 | 0.00 | 0.000 | 0.000 | 390.846 |
| | | | Right | -14.20 | 14.73 | 0.00 | -0.001 | 0.000 | -169.811 |
| L11 | SA-3 | TORX | Left | 20.54 | -16.62 | 0.00 | -0.122 | 0.005 | -635.509 |
| | | | Right | 20.54 | -16.62 | 0.00 | -0.124 | 0.050 | 494.421 |
| L11 | SA-3 | TORY | Left | 35.11 | -20.32 | 0.00 | -0.149 | 0.006 | -777.009 |
| | | | Right | 35.11 | -20.32 | 0.00 | -0.151 | 0.061 | 604.445 |
| L11 | SA-3 | DX MAX | Left | 134.85 | 195.75 | 1.18 | 84.746 | 51.074 | 4707.794 |
| | | | Right | 134.97 | 195.75 | 0.89 | 78.795 | 47.418 | 3842.318 |
| L11 | SA-3 | DX MIN | Left | -134.85 | -195.75 | -1.18 | -84.746 | -51.074 | -4707.794 |
| | | | Right | -134.97 | -195.75 | -0.89 | -78.795 | -47.418 | -3842.318 |
| L11 | SA-2 | DY MAX | Left | 468.65 | 366.41 | 0.21 | 10.202 | 5.148 | 14098.416 |
| | | | Right | 468.67 | 366.41 | 0.06 | 6.892 | 11.656 | 10827.108 |
| L11 | SA-2 | DY MIN | Left | -468.65 | -366.41 | -0.21 | -10.202 | -5.148 | -14098.416 |
| | | | Right | -468.67 | -366.41 | -0.06 | -6.892 | -11.656 | -10827.108 |

| SPANDREL FORCES | | | | | | | | | | | | |
|-----------------|----------|----------|--------|--------|-------|----------|---------|-----------|--------|--|--|--|
| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 | | | | |
| L11 | SA-3 | DEAD | | | | | | | | | | |
| | | Left | -2.23 | -2.26 | 0.00 | 0.000 | 0.000 | 0.000 | 14.254 | | | |
| | | Right | -2.23 | 4.82 | 0.00 | -0.001 | 0.000 | -72.652 | | | | |
| L11 | SA-3 | TORX | | | | | | | | | | |
| | | Left | 1.71 | -2.44 | 0.00 | -0.057 | 0.004 | -72.487 | | | | |
| | | Right | 1.71 | -2.44 | 0.00 | -0.059 | 0.040 | 92.597 | | | | |
| L11 | SA-3 | TORY | | | | | | | | | | |
| | | Left | 2.10 | -2.98 | 0.00 | -0.070 | 0.005 | -88.757 | | | | |
| | | Right | 2.10 | -2.98 | 0.00 | -0.072 | 0.049 | 112.153 | | | | |
| L11 | SA-3 | DX MAX | | | | | | | | | | |
| | | Left | 4.48 | 11.71 | 1.41 | 107.970 | 46.040 | 322.917 | | | | |
| | | Right | 4.50 | 11.71 | 1.32 | 100.283 | 45.353 | 479.353 | | | | |
| L11 | SA-3 | DX MIN | | | | | | | | | | |
| | | Left | -4.48 | -11.71 | -1.41 | -107.970 | -46.040 | -322.917 | | | | |
| | | Right | -4.50 | -11.71 | -1.32 | -100.283 | -45.353 | -479.353 | | | | |
| L11 | SA-3 | DY MAX | | | | | | | | | | |
| | | Left | 46.87 | 60.49 | 0.25 | 16.768 | 10.473 | 1867.222 | | | | |
| | | Right | 46.89 | 60.49 | 0.26 | 16.884 | 8.458 | 2245.733 | | | | |
| L11 | SA-3 | DY MIN | | | | | | | | | | |
| | | Left | -46.87 | -60.49 | -0.25 | -16.768 | -10.473 | -1867.222 | | | | |
| | | Right | -46.89 | -60.49 | -0.26 | -16.884 | -8.458 | -2245.733 | | | | |
| L11 | SA-5 | DEAD | | | | | | | | | | |
| | | Left | 0.00 | -3.87 | 0.00 | 0.000 | 0.000 | -1.312 | | | | |
| | | Right | 0.00 | 4.21 | 0.00 | 0.000 | 0.000 | -46.818 | | | | |
| L11 | SA-5 | TORX | | | | | | | | | | |
| | | Left | 2.28 | 0.75 | 0.00 | -0.048 | -0.035 | 19.820 | | | | |
| | | Right | 2.28 | 0.75 | 0.00 | -0.048 | -0.001 | -31.060 | | | | |
| L11 | SA-5 | TORY | | | | | | | | | | |
| | | Left | 2.77 | 0.90 | 0.00 | -0.059 | -0.043 | 23.938 | | | | |
| | | Right | 2.77 | 0.90 | 0.00 | -0.058 | -0.001 | -37.590 | | | | |
| L11 | SA-5 | DX MAX | | | | | | | | | | |
| | | Left | 23.00 | 11.57 | 1.11 | 123.133 | 60.704 | 339.810 | | | | |
| | | Right | 22.99 | 11.57 | 1.61 | 136.779 | 32.905 | 446.461 | | | | |
| L11 | SA-5 | DX MIN | | | | | | | | | | |
| | | Left | -23.00 | -11.57 | -1.11 | -123.133 | -60.704 | -339.810 | | | | |
| | | Right | -22.99 | -11.57 | -1.61 | -136.779 | -32.905 | -446.461 | | | | |
| L11 | SA-5 | DY MAX | | | | | | | | | | |
| | | Left | 45.71 | 10.95 | 0.06 | 2.717 | 1.572 | 266.602 | | | | |
| | | Right | 45.85 | 10.95 | 0.05 | 3.672 | 2.282 | 484.592 | | | | |
| L11 | SA-5 | DY MIN | | | | | | | | | | |
| | | Left | -45.71 | -10.95 | -0.06 | -2.717 | -1.572 | -266.602 | | | | |
| | | Right | -45.85 | -10.95 | -0.05 | -3.672 | -2.282 | -484.592 | | | | |

| SPANDREL FORCES | | | | | | | | | | | | |
|-----------------|----------|----------|---------|---------|-------|----------|---------|------------|--|--|--|--|
| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 | | | | |
| L11 | SA-6 | DEAD | | | | | | | | | | |
| | | Left | -0.55 | -4.85 | 0.00 | -0.001 | 0.000 | -82.502 | | | | |
| | | Right | -0.55 | 2.23 | 0.00 | -0.001 | 0.000 | 5.472 | | | | |
| L11 | SA-6 | TORX | | | | | | | | | | |
| | | Left | -0.90 | -3.79 | 0.00 | -0.088 | -0.040 | -144.164 | | | | |
| | | Right | -0.90 | -3.79 | 0.00 | -0.087 | 0.009 | 112.315 | | | | |
| L11 | SA-6 | TORY | | | | | | | | | | |
| | | Left | -1.13 | -4.62 | 0.00 | -0.108 | -0.049 | -175.726 | | | | |
| | | Right | -1.13 | -4.62 | 0.00 | -0.108 | 0.011 | 128.097 | | | | |
| L11 | SA-6 | DX MAX | | | | | | | | | | |
| | | Left | 18.46 | 19.83 | 1.44 | 107.361 | 10.381 | 819.327 | | | | |
| | | Right | 18.44 | 19.83 | 0.86 | 95.228 | 77.867 | 535.736 | | | | |
| L11 | SA-6 | DX MIN | | | | | | | | | | |
| | | Left | -18.46 | -19.83 | -1.44 | -107.361 | -10.381 | -819.327 | | | | |
| | | Right | -18.44 | -19.83 | -0.86 | -95.228 | -77.867 | -535.736 | | | | |
| L11 | SA-6 | DY MAX | | | | | | | | | | |
| | | Left | 41.55 | 90.04 | 0.09 | 8.187 | 4.214 | 3249.770 | | | | |
| | | Right | 41.65 | 90.04 | 0.12 | 9.247 | 3.282 | 2772.021 | | | | |
| L11 | SA-6 | DY MIN | | | | | | | | | | |
| | | Left | -41.55 | -90.04 | -0.09 | -8.187 | -4.214 | -3249.770 | | | | |
| | | Right | -41.65 | -90.04 | -0.12 | -9.247 | -3.282 | -2772.021 | | | | |
| L11 | SA-7 | DEAD | | | | | | | | | | |
| | | Left | -11.89 | -13.28 | 0.00 | -0.001 | -0.001 | -352.039 | | | | |
| | | Right | -11.89 | -6.20 | 0.00 | -0.002 | 0.000 | 357.802 | | | | |
| L11 | SA-7 | TORX | | | | | | | | | | |
| | | Left | -21.35 | -16.91 | 0.00 | -0.142 | -0.047 | -800.987 | | | | |
| | | Right | -21.35 | -16.91 | 0.00 | -0.140 | 0.005 | 649.148 | | | | |
| L11 | SA-7 | TORY | | | | | | | | | | |
| | | Left | -26.10 | -20.67 | 0.00 | -0.174 | -0.058 | -612.292 | | | | |
| | | Right | -26.10 | -20.67 | 0.00 | -0.172 | 0.006 | 792.443 | | | | |
| L11 | SA-7 | DX MAX | | | | | | | | | | |
| | | Left | 108.67 | 106.48 | 1.05 | 94.003 | 67.454 | 3270.276 | | | | |
| | | Right | 108.68 | 106.48 | 1.85 | 115.210 | 42.092 | 3971.890 | | | | |
| L11 | SA-7 | DX MIN | | | | | | | | | | |
| | | Left | -108.67 | -106.48 | -1.05 | -94.005 | -67.454 | -3270.276 | | | | |
| | | Right | -108.68 | -106.48 | -1.85 | -115.210 | -42.092 | -3971.890 | | | | |
| L11 | SA-7 | DY MAX | | | | | | | | | | |
| | | Left | 501.58 | 377.66 | 0.10 | 8.534 | 4.124 | 11085.785 | | | | |
| | | Right | 501.56 | 377.66 | 0.11 | 9.147 | 5.904 | 14594.712 | | | | |
| L11 | SA-7 | DY MIN | | | | | | | | | | |
| | | Left | -501.58 | -377.66 | -0.10 | -8.534 | -4.124 | -11085.785 | | | | |
| | | Right | -501.56 | -377.66 | -0.11 | -9.147 | -5.904 | -14594.712 | | | | |

| SPANDREL FORCES | | | | | | | | | | | | |
|-----------------|----------|----------|---------|---------|-------|---------|---------|------------|--|--|--|--|
| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 | | | | |
| L11 | SA-8 | DEAD | | | | | | | | | | |
| | | Left | -6.28 | -6.57 | 0.00 | -0.047 | -0.019 | -126.971 | | | | |
| | | Right | -6.28 | 1.14 | 0.00 | -0.048 | -0.045 | 74.021 | | | | |
| L11 | SA-8 | TORX | | | | | | | | | | |
| | | Left | -7.27 | -14.20 | 0.00 | -0.063 | -0.015 | -512.342 | | | | |
| | | Right | -7.27 | -14.20 | 0.00 | -0.061 | -0.035 | 538.822 | | | | |
| L11 | SA-8 | TORY | | | | | | | | | | |
| | | Left | -8.89 | -17.36 | 0.00 | -0.077 | -0.018 | -626.289 | | | | |
| | | Right | -8.89 | -17.36 | 0.00 | -0.075 | -0.043 | 659.647 | | | | |
| L11 | SA-8 | DX MAX | | | | | | | | | | |
| | | Left | 69.74 | 142.12 | 0.61 | 18.625 | 31.189 | 5211.509 | | | | |
| | | Right | 69.76 | 142.12 | 0.71 | 24.922 | 29.812 | 5379.852 | | | | |
| L11 | SA-8 | DX MIN | | | | | | | | | | |
| | | Left | -69.74 | -142.12 | -0.61 | -18.625 | -31.189 | -5211.509 | | | | |
| | | Right | -69.76 | -142.12 | -0.71 | -24.922 | -29.812 | -5379.852 | | | | |
| L11 | SA-8 | DY MAX | | | | | | | | | | |
| | | Left | 140.52 | 274.49 | 0.22 | 4.896 | 5.448 | 9876.582 | | | | |
| | | Right | 140.44 | 274.49 | 0.17 | 4.012 | 10.107 | 10432.052 | | | | |
| L11 | SA-8 | DY MIN | | | | | | | | | | |
| | | Left | -140.52 | -274.49 | -0.22 | -4.896 | -5.448 | -9876.582 | | | | |
| | | Right | -140.44 | -274.49 | -0.17 | -4.012 | -10.107 | -10432.052 | | | | |
| L11 | SP-1 | DEAD | | | | | | | | | | |
| | | Left | -5.79 | -3.36 | 0.00 | -0.046 | 0.046 | 26.412 | | | | |
| | | Right | -5.79 | 5.25 | 0.00 | -0.047 | 0.018 | -83.284 | | | | |
| L11 | SP-1 | TORX | | | | | | | | | | |
| | | Left | -7.64 | 12.77 | 0.00 | -0.061 | 0.036 | 484.425 | | | | |
| | | Right | -7.64 | 12.77 | 0.00 | -0.064 | 0.015 | -460.222 | | | | |
| L11 | SP-1 | TORY | | | | | | | | | | |
| | | Left | -9.24 | 15.62 | 0.00 | -0.075 | 0.044 | 592.625 | | | | |
| | | Right | -9.24 | 15.62 | 0.00 | -0.078 | 0.018 | -562.190 | | | | |
| L11 | SP-1 | DX MAX | | | | | | | | | | |
| | | Left | 78.89 | 144.49 | 0.72 | 25.279 | 31.952 | 5496.285 | | | | |
| | | Right | 78. | | | | | | | | | |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|--------|-------|----------|---------|-----------|
| L11 | SP-4 | DEAD | Left | 0.44 | -3.35 | 0.00 | 0.000 | 0.000 | -11.051 |
| | | | Right | 0.44 | 3.73 | 0.00 | -0.001 | 0.001 | -23.887 |
| L11 | SP-4 | TORS | Left | 5.25 | -1.71 | 0.00 | -0.047 | -0.001 | -64.675 |
| | | | Right | 5.25 | -1.71 | 0.00 | -0.048 | -0.001 | 51.311 |
| L11 | SP-4 | TORS | Left | 6.38 | -2.06 | 0.00 | -0.057 | -0.002 | -78.291 |
| | | | Right | 6.38 | -2.06 | 0.00 | -0.059 | -0.004 | 62.097 |
| L11 | SP-4 | DX MAX | Left | 50.45 | 20.00 | 1.67 | 140.031 | 35.418 | 749.815 |
| | | | Right | 50.43 | 20.00 | 1.18 | 126.192 | 62.511 | 610.740 |
| L11 | SP-4 | DX MIN | Left | -50.45 | -20.00 | -1.67 | -140.031 | -35.418 | -749.815 |
| | | | Right | -50.43 | -20.00 | -1.18 | -126.192 | -62.511 | -610.740 |
| L11 | SP-4 | DY MAX | Left | 114.11 | 33.35 | 0.14 | 10.487 | 3.981 | 1376.247 |
| | | | Right | 115.92 | 33.35 | 0.11 | 9.879 | 4.412 | 956.825 |
| L11 | SP-4 | DY MIN | Left | -114.11 | -33.35 | -0.14 | -10.487 | -3.981 | -1376.247 |
| | | | Right | -115.92 | -33.35 | -0.11 | -9.879 | -4.412 | -956.825 |
| L11 | SP-5 | DEAD | Left | -0.23 | -2.87 | 0.00 | 0.000 | 0.000 | -3.970 |
| | | | Right | -0.23 | 4.12 | 0.00 | 0.000 | 0.000 | -43.091 |
| L11 | SP-5 | TORS | Left | -2.37 | -0.82 | 0.00 | -0.048 | -0.035 | -21.813 |
| | | | Right | -2.37 | -0.82 | 0.00 | -0.048 | -0.041 | 33.645 |
| L11 | SP-5 | TORS | Left | -2.88 | -0.89 | 0.00 | -0.059 | -0.043 | -24.382 |
| | | | Right | -2.88 | -0.89 | 0.00 | -0.058 | -0.051 | 40.734 |
| L11 | SP-5 | DX MAX | Left | 23.06 | 11.23 | 1.10 | 122.539 | 60.449 | 328.510 |
| | | | Right | 23.06 | 11.23 | 1.61 | 136.180 | 32.603 | 434.846 |
| L11 | SP-5 | DX MIN | Left | -23.06 | -11.23 | -1.10 | -122.539 | -60.449 | -328.510 |
| | | | Right | -23.06 | -11.23 | -1.61 | -136.180 | -32.603 | -434.846 |
| L11 | SP-5 | DY MAX | Left | 50.79 | 12.97 | 0.15 | 12.320 | 5.708 | 321.769 |
| | | | Right | 50.86 | 12.97 | 0.16 | 12.711 | 4.989 | 547.263 |
| L11 | SP-5 | DY MIN | Left | -50.79 | -12.97 | -0.15 | -12.320 | -5.708 | -321.769 |
| | | | Right | -50.86 | -12.97 | -0.16 | -12.711 | -4.989 | -547.263 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|----------|---------|------------|
| L11 | SP-6 | DEAD | Left | -0.61 | -4.58 | 0.00 | -0.001 | 0.000 | -73.151 |
| | | | Right | -0.61 | 2.51 | 0.00 | -0.001 | 0.000 | -2.840 |
| L11 | SP-6 | TORS | Left | 0.86 | 3.90 | 0.00 | -0.088 | -0.040 | 148.509 |
| | | | Right | 0.86 | 3.90 | 0.00 | -0.087 | 0.009 | -114.793 |
| L11 | SP-6 | TORS | Left | 1.07 | 4.76 | 0.00 | -0.108 | -0.048 | 181.035 |
| | | | Right | 1.07 | 4.76 | 0.00 | -0.106 | 0.011 | -142.339 |
| L11 | SP-6 | DX MAX | Left | 17.33 | 20.91 | 1.43 | 107.250 | 30.145 | 856.267 |
| | | | Right | 17.31 | 20.91 | 0.86 | 95.213 | 77.575 | 571.662 |
| L11 | SP-6 | DX MIN | Left | -17.33 | -20.91 | -1.43 | -107.250 | -30.145 | -856.267 |
| | | | Right | -17.31 | -20.91 | -0.86 | -95.213 | -77.575 | -571.662 |
| L11 | SP-6 | DY MAX | Left | 43.36 | 98.25 | 0.11 | 5.173 | 6.195 | 3665.175 |
| | | | Right | 43.49 | 98.25 | 0.07 | 5.840 | 6.187 | 3014.440 |
| L11 | SP-6 | DY MIN | Left | -43.36 | -98.25 | -0.11 | -5.173 | -6.195 | -3665.175 |
| | | | Right | -43.49 | -98.25 | -0.07 | -5.840 | -6.187 | -3014.440 |
| L11 | SP-7 | DEAD | Left | -10.79 | -13.12 | 0.00 | -0.001 | 0.000 | -326.643 |
| | | | Right | -10.79 | -6.04 | 0.00 | -0.001 | 0.001 | 324.628 |
| L11 | SP-7 | TORS | Left | 21.75 | 17.23 | 0.00 | -0.142 | -0.047 | 510.495 |
| | | | Right | 21.75 | 17.23 | 0.00 | -0.140 | 0.005 | -681.308 |
| L11 | SP-7 | TORS | Left | 26.59 | 21.06 | 0.00 | -0.174 | -0.058 | 623.917 |
| | | | Right | 26.59 | 21.06 | 0.00 | -0.172 | 0.006 | -808.311 |
| L11 | SP-7 | DX MAX | Left | 115.44 | 111.07 | 1.04 | 95.628 | 67.197 | 3401.698 |
| | | | Right | 115.44 | 111.07 | 1.84 | 114.903 | 41.884 | 4152.746 |
| L11 | SP-7 | DX MIN | Left | -115.44 | -111.07 | -1.04 | -95.628 | -67.197 | -3401.698 |
| | | | Right | -115.44 | -111.07 | -1.84 | -114.903 | -41.884 | -4152.746 |
| L11 | SP-7 | DY MAX | Left | 548.97 | 416.13 | 0.22 | 14.922 | 9.590 | 12220.619 |
| | | | Right | 548.96 | 416.13 | 0.27 | 18.143 | 7.268 | 14086.335 |
| L11 | SP-7 | DY MIN | Left | -548.97 | -416.13 | -0.22 | -14.922 | -9.590 | -12220.619 |
| | | | Right | -548.96 | -416.13 | -0.27 | -18.143 | -7.268 | -14086.335 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|---------|------------|
| L11 | SP-8 | DEAD | Left | -5.99 | -5.49 | 0.00 | 0.047 | 0.020 | -87.438 |
| | | | Right | -5.99 | 2.22 | 0.00 | 0.047 | 0.046 | 32.221 |
| L11 | SP-8 | TORS | Left | 7.39 | 14.39 | 0.00 | -0.062 | -0.015 | 518.456 |
| | | | Right | 7.39 | 14.39 | 0.00 | -0.061 | -0.035 | -545.569 |
| L11 | SP-8 | TORS | Left | 9.04 | 17.58 | 0.00 | -0.077 | -0.018 | 634.106 |
| | | | Right | 9.04 | 17.58 | 0.00 | -0.074 | -0.042 | -666.995 |
| L11 | SP-8 | DX MAX | Left | 70.90 | 147.21 | 0.62 | 15.927 | 30.812 | 5260.463 |
| | | | Right | 70.91 | 147.21 | 0.70 | 24.840 | 30.142 | 5533.213 |
| L11 | SP-8 | DX MIN | Left | -70.90 | -147.21 | -0.62 | -15.927 | -30.812 | -5260.463 |
| | | | Right | -70.91 | -147.21 | -0.70 | -24.840 | -30.142 | -5533.213 |
| L11 | SP-8 | DY MAX | Left | 157.45 | 304.92 | 0.30 | 6.017 | 9.533 | 10972.784 |
| | | | Right | 157.38 | 304.92 | 0.18 | 5.254 | 14.729 | 11596.178 |
| L11 | SP-8 | DY MIN | Left | -157.45 | -304.92 | -0.30 | -6.017 | -9.533 | -10972.784 |
| | | | Right | -157.38 | -304.92 | -0.18 | -5.254 | -14.729 | -11596.178 |
| L10 | S1-1 | DEAD | Left | -4.09 | -1.35 | 0.00 | 0.048 | -0.102 | 74.100 |
| | | | Right | -4.09 | 9.83 | 0.00 | 0.044 | 0.041 | -239.574 |
| L10 | S1-1 | TORS | Left | 0.66 | -9.52 | 0.00 | -0.087 | 0.000 | -355.747 |
| | | | Right | 0.66 | -9.52 | 0.00 | -0.070 | 0.034 | 348.682 |
| L10 | S1-1 | TORS | Left | 0.81 | -11.47 | 0.00 | -0.081 | 0.001 | -428.660 |
| | | | Right | 0.81 | -11.47 | 0.00 | -0.086 | 0.041 | 420.021 |
| L10 | S1-1 | DX MAX | Left | 3.02 | 192.27 | 0.06 | 3.271 | 2.307 | 7206.003 |
| | | | Right | 2.33 | 192.27 | 0.08 | 2.111 | 2.945 | 7007.391 |
| L10 | S1-1 | DX MIN | Left | -3.02 | -192.27 | -0.06 | -3.271 | -2.307 | -7206.003 |
| | | | Right | -2.33 | -192.27 | -0.08 | -2.111 | -2.945 | -7007.391 |
| L10 | S1-1 | DY MAX | Left | 19.52 | 206.11 | 0.42 | 19.312 | 10.030 | 7589.828 |
| | | | Right | 19.51 | 206.11 | 0.48 | 14.184 | 15.819 | 7664.803 |
| L10 | S1-1 | DY MIN | Left | -19.52 | -206.11 | -0.42 | -19.312 | -10.030 | -7589.828 |
| | | | Right | -19.51 | -206.11 | -0.48 | -14.184 | -15.819 | -7664.803 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| L10 | S1-2 | DEAD | Left | -1.07 | 11.56 | 0.00 | -0.002 | 0.001 | 534.652 |
| | | | Right | -1.07 | 21.83 | 0.00 | -0.002 | 0.001 | -600.535 |
| L10 | S1-2 | TORS | Left | -1.53 | -23.36 | 0.00 | -0.089 | 0.001 | -834.762 |
| | | | Right | -1.53 | -23.36 | 0.00 | -0.092 | 0.022 | 733.795 |
| L10 | S1-2 | TORS | Left | -1.86 | -28.43 | 0.00 | -0.108 | 0.006 | -1015.908 |
| | | | Right | -1.86 | -28.43 | 0.00 | -0.112 | 0.037 | 917.332 |
| L10 | S1-2 | DX MAX | Left | 42.30 | 541.18 | 0.07 | 3.121 | 1.835 | 19445.575 |
| | | | Right | 42.06 | 541.18 | 0.05 | 3.896 | 1.538 | 17331.828 |
| L10 | S1-2 | DX MIN | Left | -42.30 | -541.18 | -0.07 | -3.121 | -1.835 | -19445.575 |
| | | | Right | -42.06 | -541.18 | -0.05 | -3.896 | -1.538 | -17331.828 |
| L10 | S1-2 | DY MAX | Left | 10.74 | 207.43 | 0.45 | 24.602 | 15.707 | 7332.625 |
| | | | Right | 10.77 | 207.43 | 0.47 | 23.915 | 18.868 | 6787.174 |
| L10 | S1-2 | DY MIN | Left | -10.74 | -207.43 | -0.45 | -24.602 | -15.707 | -7332.625 |
| | | | Right | -10.77 | -207.43 | -0.47 | -23.915 | -18.868 | -6787.174 |
| L10 | S1-3 | DEAD | Left | -2.08 | 6.04 | 0.00 | -0.001 | 0.001 | 322.227 |
| | | | Right | -2.08 | 16.31 | 0.00 | -0.001 | 0.001 | -437.635 |
| L10 | S1-3 | TORS | Left | 1.24 | -16.98 | 0.00 | -0.080 | -0.008 | -566.343 |
| | | | Right | 1.24 | -16.98 | 0.00 | -0.083 | 0.022 | 388.439 |
| L10 | S1-3 | TORS | Left | 1.50 | -20.66 | 0.00 | -0.098 | -0.010 | -699.026 |
| | | | Right | 1.51 | -20.66 | 0.00 | -0.101 | 0.027 | 715.847 |
| L10 | S1-3 | DX MAX | Left | 24.82 | 425.89 | 0.05 | 2.317 | 1.479 | 14307.156 |
| | | | Right | 24.95 | 425.89 | 0.06 | 1.203 | 2.055 | 14649.901 |
| L10 | S1-3 | DX MIN | Left | -24.82 | -425.89 | -0.05 | -2.317 | -1.479 | -14307.156 |
| | | | Right | -24.95 | -425.89 | -0.06 | -1.203 | -2.055 | -14649.901 |
| L10 | S1-3 | DY MAX | Left | 13.19 | 128.11 | 0.49 | 25.774 | 19.727 | 4208.448 |
| | | | Right | 13.16 | 128.11 | 0.43 | 28.783 | 16.962 | 4503.956 |
| L10 | S1-3 | DY MIN | Left | -13.19 | -128.11 | -0.49 | -25.774 | -19.727 | -4208.448 |
| | | | Right | -13.16 | -128.11 | -0.43 | -28.783 | -16.962 | -4503.956 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|--------------------|------------------------|
| L10 | S12-4 | DEAD | Left Right | -1.64 -1.64 | 2.49 12.96 | 0.00 0.00 | -0.001 -0.001 | 0.001 0.001 | 208.471 -323.713 |
| L10 | S12-4 | TORX | Left Right | -1.19 -1.19 | 8.66 8.66 | 0.00 0.00 | -0.088 -0.070 | -0.011 0.025 | 277.102 -312.072 |
| L10 | S12-4 | TORY | Left Right | -1.45 -1.45 | 10.54 10.54 | 0.00 0.00 | -0.083 -0.084 | -0.013 0.031 | 337.159 -379.740 |
| L10 | S12-4 | DX MAX | Left Right | 29.99 30.14 | 239.33 239.33 | 0.06 0.05 | 1.772 2.563 | 2.069 1.908 | 7701.715 8569.465 |
| L10 | S12-4 | DX MIN | Left Right | -29.99 -30.14 | -239.33 -239.33 | -0.06 -0.05 | -1.772 -2.563 | -2.069 -1.908 | -7701.715 -8569.465 |
| L10 | S12-4 | DY MAX | Left Right | 9.12 9.10 | 59.31 59.31 | 0.57 0.45 | 32.987 37.275 | 16.522 21.018 | 1844.753 2120.733 |
| L10 | S12-4 | DY MIN | Left Right | -9.12 -9.10 | -59.31 -59.31 | -0.57 -0.45 | -32.987 -37.275 | -16.522 -21.018 | -1844.753 -2120.733 |
| L10 | S12-5 | DEAD | Left Right | -1.80 -1.50 | -11.75 -1.48 | 0.00 0.00 | 0.000 -0.001 | 0.000 0.001 | -280.520 169.196 |
| L10 | S12-5 | TORX | Left Right | 1.17 1.17 | 8.75 8.75 | 0.00 0.00 | -0.071 -0.068 | -0.026 0.010 | 314.546 -280.137 |
| L10 | S12-5 | TORY | Left Right | 1.42 1.42 | 10.64 10.64 | 0.00 0.00 | -0.086 -0.083 | -0.032 0.013 | 382.798 -340.898 |
| L10 | S12-5 | DX MAX | Left Right | 29.09 28.95 | 237.33 237.33 | 0.04 0.06 | 3.053 2.436 | 1.019 2.011 | 8488.137 7648.783 |
| L10 | S12-5 | DX MIN | Left Right | -29.09 -28.95 | -237.33 -237.33 | -0.04 -0.06 | -3.053 -2.436 | -1.019 -2.011 | -8488.137 -7648.783 |
| L10 | S12-5 | DY MAX | Left Right | 10.67 10.64 | 69.91 69.91 | 0.48 0.45 | 40.375 34.291 | 22.896 17.363 | 2538.576 2214.946 |
| L10 | S12-5 | DY MIN | Left Right | -10.67 -10.64 | -69.91 -69.91 | -0.48 -0.45 | -40.375 -34.291 | -22.896 -17.363 | -2538.576 -2214.946 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|--------------------|--------------------------|
| L10 | S12-6 | DEAD | Left Right | -2.09 -2.09 | -14.59 -4.32 | 0.00 0.00 | 0.000 -0.001 | 0.001 0.001 | -379.815 263.298 |
| L10 | S12-6 | TORX | Left Right | 1.37 1.37 | 17.69 17.69 | 0.00 0.00 | -0.083 -0.079 | -0.023 0.008 | 814.170 -588.804 |
| L10 | S12-6 | TORY | Left Right | 1.66 1.66 | 21.52 21.52 | 0.00 0.00 | -0.101 -0.097 | -0.028 0.009 | 747.212 -716.412 |
| L10 | S12-6 | DX MAX | Left Right | 29.72 29.57 | 445.43 445.43 | 0.05 0.04 | 1.032 1.047 | 2.143 1.847 | 15360.102 14925.669 |
| L10 | S12-6 | DX MIN | Left Right | -29.72 -29.57 | -445.43 -445.43 | -0.05 -0.04 | -1.032 -1.047 | -2.143 -1.847 | -15360.102 -14925.669 |
| L10 | S12-6 | DY MAX | Left Right | 15.93 15.90 | 153.62 153.62 | 0.51 0.54 | 28.998 26.954 | 18.059 20.274 | 5402.281 5043.217 |
| L10 | S12-6 | DY MIN | Left Right | -15.93 -15.90 | -153.62 -153.62 | -0.51 -0.54 | -28.998 -26.954 | -18.059 -20.274 | -5402.281 -5043.217 |
| L10 | S12-7 | DEAD | Left Right | -1.28 -1.28 | -19.76 -9.49 | 0.00 0.00 | -0.001 -0.003 | 0.001 0.005 | -524.442 460.173 |
| L10 | S12-7 | TORX | Left Right | -1.48 -1.48 | 23.98 23.98 | 0.00 0.00 | -0.092 -0.088 | -0.023 -0.005 | 772.487 -858.285 |
| L10 | S12-7 | TORY | Left Right | -2.04 -2.04 | 29.19 29.19 | 0.00 0.00 | -0.112 -0.107 | -0.028 -0.006 | 940.117 -1044.577 |
| L10 | S12-7 | DX MAX | Left Right | 45.15 45.41 | 563.51 563.51 | 0.04 0.04 | 3.105 3.856 | 1.783 3.856 | 18030.940 34984.503 |
| L10 | S12-7 | DX MIN | Left Right | -45.15 -45.41 | -563.51 -563.51 | -0.04 -0.04 | -3.105 -3.856 | -1.783 -3.856 | -18030.940 -34984.503 |
| L10 | S12-7 | DY MAX | Left Right | 13.24 13.29 | 238.69 238.69 | 0.57 0.48 | 23.412 27.004 | 18.589 27.004 | 7775.419 8454.856 |
| L10 | S12-7 | DY MIN | Left Right | -13.24 -13.29 | -238.69 -238.69 | -0.57 -0.48 | -23.412 -27.004 | -18.589 -27.004 | -7775.419 -8454.856 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|--------------------|------------------------|
| L10 | S12-8 | DEAD | Left Right | -4.15 -4.15 | -9.69 -1.69 | 0.00 0.00 | 0.043 0.042 | -0.040 0.108 | -227.893 60.752 |
| L10 | S12-8 | TORX | Left Right | 0.59 0.59 | 9.60 9.60 | 0.00 0.00 | -0.071 -0.066 | -0.034 0.002 | 350.844 -359.695 |
| L10 | S12-8 | TORY | Left Right | 0.73 0.73 | 11.57 11.57 | 0.00 0.00 | -0.087 -0.081 | -0.044 0.002 | 422.699 -433.307 |
| L10 | S12-8 | DX MAX | Left Right | 2.74 3.52 | 202.51 202.51 | 0.05 0.06 | 2.823 2.432 | 1.975 1.740 | 7375.392 7597.062 |
| L10 | S12-8 | DX MIN | Left Right | -2.74 -3.52 | -202.51 -202.51 | -0.05 -0.06 | -2.823 -2.432 | -1.975 -1.740 | -7375.392 -7597.062 |
| L10 | S12-8 | DY MAX | Left Right | 20.11 20.13 | 210.86 210.86 | 0.56 0.56 | 19.313 20.069 | 16.766 11.562 | 7821.389 7782.689 |
| L10 | S12-8 | DY MIN | Left Right | -20.11 -20.13 | -210.86 -210.86 | -0.56 -0.56 | -19.313 -20.069 | -16.766 -11.562 | -7821.389 -7782.689 |
| L10 | SA-1 | DEAD | Left Right | -4.01 -4.01 | 0.33 11.51 | 0.00 0.00 | 0.048 0.044 | -0.102 0.042 | 138.059 -300.193 |
| L10 | SA-1 | TORX | Left Right | 0.55 0.55 | -9.08 -9.08 | 0.00 0.00 | -0.062 -0.066 | -0.009 0.033 | -341.099 330.890 |
| L10 | SA-1 | TORY | Left Right | 0.68 0.68 | -10.91 -10.91 | 0.00 0.00 | -0.076 -0.091 | -0.010 0.040 | -409.982 397.685 |
| L10 | SA-1 | DX MAX | Left Right | 20.57 20.58 | 229.40 229.40 | 0.52 0.54 | 17.466 15.218 | 13.231 14.016 | 8464.792 8511.021 |
| L10 | SA-1 | DX MIN | Left Right | -20.57 -20.58 | -229.40 -229.40 | -0.52 -0.54 | -17.466 -15.218 | -13.231 -14.016 | -8464.792 -8511.021 |
| L10 | SA-1 | DY MAX | Left Right | 2.57 2.04 | 193.63 193.63 | 0.10 0.09 | 1.984 3.201 | 3.579 2.404 | 7273.054 7043.895 |
| L10 | SA-1 | DY MIN | Left Right | -2.57 -2.04 | -193.63 -193.63 | -0.10 -0.09 | -1.984 -3.201 | -3.579 -2.404 | -7273.054 -7043.895 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|---------------|------------------|--------------------|----------------|--------------------|--------------------|--------------------------|
| L10 | SA-2 | DEAD | Left Right | -0.62 -0.62 | 15.47 25.74 | 0.00 0.00 | -0.001 -0.002 | 0.001 0.001 | 676.231 -724.644 |
| L10 | SA-2 | TORX | Left Right | -1.41 -1.41 | -25.28 -25.28 | 0.00 0.00 | -0.082 -0.085 | 0.000 0.022 | -900.517 819.266 |
| L10 | SA-2 | TORY | Left Right | -1.71 -1.71 | -30.77 -30.77 | 0.00 0.00 | -0.099 -0.103 | 0.000 0.027 | -1096.102 995.915 |
| L10 | SA-2 | DX MAX | Left Right | 11.53 11.48 | 248.09 248.09 | 0.55 0.45 | 20.151 25.493 | 14.518 12.711 | 8758.170 8111.159 |
| L10 | SA-2 | DX MIN | Left Right | -11.53 -11.48 | -248.09 -248.09 | -0.55 -0.45 | -20.151 -25.493 | -14.518 -12.711 | -8758.170 -8111.159 |
| L10 | SA-2 | DY MAX | Left Right | 24.41 24.21 | 531.89 531.89 | 0.67 0.06 | 1.793 2.414 | 0.954 1.608 | 19019.038 17147.092 |
| L10 | SA-2 | DY MIN | Left Right | -24.41 -24.21 | -531.89 -531.89 | -0.67 -0.06 | -1.793 -2.414 | -0.954 -1.608 | -19019.038 -17147.092 |
| L10 | SA-3 | DEAD | Left Right | -1.54 -1.54 | 10.16 20.43 | 0.00 0.00 | 0.000 -0.001 | 0.001 0.001 | 449.682 -570.170 |
| L10 | SA-3 | TORX | Left Right | 1.15 1.15 | -16.70 -16.70 | 0.00 0.00 | -0.070 -0.079 | -0.009 0.024 | -558.947 576.534 |
| L10 | SA-3 | TORY | Left Right | 1.40 1.40 | -20.32 -20.32 | 0.00 0.00 | -0.085 -0.088 | -0.011 0.022 | -680.289 701.724 |
| L10 | SA-3 | DX MAX | Left Right | 13.46 13.49 | 144.23 144.23 | 0.52 0.54 | 29.755 27.824 | 12.527 18.766 | 4761.251 5046.051 |
| L10 | SA-3 | DX MIN | Left Right | -13.46 -13.49 | -144.23 -144.23 | -0.52 -0.54 | -29.755 -27.824 | -12.527 -18.766 | -4761.251 -5046.051 |
| L10 | SA-3 | DY MAX | Left Right | 22.94 22.95 | 370.66 370.66 | 0.03 0.09 | 5.200 3.152 | 1.559 2.458 | 12424.951 12724.485 |
| L10 | SA-3 | DY MIN | Left Right | -22.94 -22.95 | -370.66 -370.66 | -0.03 -0.09 | -5.200 -3.152 | -1.559 -2.458 | -12424.951 -12724.485 |

| SPANDREL FORCES | | | | | | | | | |
|-----------------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| L10 | SA-5 | DEAD | Left | -1.62 | -12.76 | 0.00 | 0.000 | 0.001 | -316.636 |
| | | | Right | -1.62 | -9.49 | 0.00 | -0.001 | 0.001 | 201.769 |
| L10 | SA-5 | TORX | Left | -1.27 | -9.72 | 0.00 | -0.069 | -0.034 | -349.096 |
| | | | Right | -1.27 | -9.72 | 0.00 | -0.069 | 0.012 | 311.781 |
| L10 | SA-5 | TORY | Left | -1.55 | -11.82 | 0.00 | -0.094 | -0.030 | -424.744 |
| | | | Right | -1.55 | -11.82 | 0.00 | -0.093 | 0.015 | 379.315 |
| L10 | SA-5 | DX MAX | Left | 9.16 | 57.90 | 0.52 | 16.421 | 22.220 | 2107.952 |
| | | | Right | 9.17 | 57.90 | 0.57 | 16.423 | 16.198 | 1929.827 |
| L10 | SA-5 | DX MIN | Left | -9.16 | -57.90 | -0.52 | -16.421 | -22.220 | -2107.952 |
| | | | Right | -9.17 | -57.90 | -0.57 | -16.423 | -16.198 | -1929.827 |
| L10 | SA-5 | DY MAX | Left | 28.78 | 241.93 | 0.05 | 1.088 | 2.502 | 8640.393 |
| | | | Right | 28.69 | 241.93 | 0.05 | 1.708 | 2.365 | 7808.963 |
| L10 | SA-5 | DY MIN | Left | -28.78 | -241.93 | -0.05 | -1.088 | -2.502 | -8640.393 |
| | | | Right | -28.69 | -241.93 | -0.05 | -1.708 | -2.365 | -7808.963 |
| L10 | SA-6 | DEAD | Left | -2.18 | -16.59 | 0.00 | -0.001 | 0.001 | -448.465 |
| | | | Right | -2.18 | -6.32 | 0.00 | -0.001 | 0.001 | 320.349 |
| L10 | SA-6 | TORX | Left | -1.44 | -19.31 | 0.00 | -0.080 | -0.021 | -669.413 |
| | | | Right | -1.44 | -19.31 | 0.00 | -0.078 | 0.011 | 643.906 |
| L10 | SA-6 | TORY | Left | -1.75 | -23.49 | 0.00 | -0.097 | -0.025 | -814.560 |
| | | | Right | -1.75 | -23.49 | 0.00 | -0.095 | 0.013 | 783.315 |
| L10 | SA-6 | DX MAX | Left | 14.38 | 130.29 | 0.48 | 29.141 | 14.589 | 4594.847 |
| | | | Right | 14.40 | 130.29 | 0.52 | 26.656 | 20.526 | 4265.878 |
| L10 | SA-6 | DX MIN | Left | -14.38 | -130.29 | -0.48 | -29.141 | -14.589 | -4594.847 |
| | | | Right | -14.40 | -130.29 | -0.52 | -26.656 | -20.526 | -4265.878 |
| L10 | SA-6 | DY MAX | Left | 27.96 | 443.08 | 0.08 | 1.250 | 2.599 | 15281.239 |
| | | | Right | 27.86 | 443.08 | 0.04 | 3.284 | 1.517 | 14864.073 |
| L10 | SA-6 | DY MIN | Left | -27.96 | -443.08 | -0.08 | -1.250 | -2.599 | -15281.239 |
| | | | Right | -27.86 | -443.08 | -0.04 | -3.284 | -1.517 | -14864.073 |

| SPANDREL FORCES | | | | | | | | | |
|-----------------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| L10 | SA-7 | DEAD | Left | -1.00 | -21.77 | 0.00 | 0.000 | 0.001 | -597.590 |
| | | | Right | -1.00 | -11.90 | 0.00 | 0.000 | 0.001 | 533.839 |
| L10 | SA-7 | TORX | Left | 1.84 | -25.83 | 0.00 | -0.088 | -0.020 | -831.069 |
| | | | Right | 1.84 | -25.83 | 0.00 | -0.088 | 0.000 | 525.658 |
| L10 | SA-7 | TORY | Left | 2.24 | -31.44 | 0.00 | -0.107 | -0.024 | -1011.226 |
| | | | Right | 2.24 | -31.44 | 0.00 | -0.105 | 0.000 | 1124.279 |
| L10 | SA-7 | DX MAX | Left | 11.09 | 208.73 | 0.46 | 23.641 | 19.747 | 6814.897 |
| | | | Right | 11.08 | 208.73 | 0.51 | 20.443 | 15.241 | 7379.494 |
| L10 | SA-7 | DX MIN | Left | -11.09 | -208.73 | -0.46 | -23.641 | -19.747 | -6814.897 |
| | | | Right | -11.08 | -208.73 | -0.51 | -20.443 | -15.241 | -7379.494 |
| L10 | SA-7 | DY MAX | Left | 45.85 | 558.92 | 0.07 | 1.859 | 1.673 | 17885.560 |
| | | | Right | 46.01 | 558.92 | 0.06 | 3.687 | 1.167 | 20218.883 |
| L10 | SA-7 | DY MIN | Left | -45.85 | -558.92 | -0.07 | -1.859 | -1.673 | -17885.560 |
| | | | Right | -46.01 | -558.92 | -0.06 | -3.687 | -1.167 | -20218.883 |
| L10 | SA-8 | DEAD | Left | -3.98 | -9.82 | 0.00 | -0.045 | 0.041 | -237.761 |
| | | | Right | -3.98 | 1.26 | 0.00 | -0.045 | -0.102 | 75.240 |
| L10 | SA-8 | TORX | Left | -0.50 | -6.91 | 0.00 | -0.067 | -0.032 | -324.182 |
| | | | Right | -0.50 | -6.91 | 0.00 | -0.064 | 0.010 | 335.504 |
| L10 | SA-8 | TORY | Left | -0.61 | -10.71 | 0.00 | -0.082 | -0.039 | -389.279 |
| | | | Right | -0.61 | -10.71 | 0.00 | -0.078 | 0.011 | 403.016 |
| L10 | SA-8 | DX MAX | Left | 19.26 | 197.15 | 0.54 | 13.032 | 16.574 | 7324.619 |
| | | | Right | 19.27 | 197.15 | 0.48 | 19.670 | 12.574 | 7266.619 |
| L10 | SA-8 | DX MIN | Left | -19.26 | -197.15 | -0.54 | -13.032 | -16.574 | -7324.619 |
| | | | Right | -19.27 | -197.15 | -0.48 | -19.670 | -12.574 | -7266.619 |
| L10 | SA-8 | DY MAX | Left | 2.04 | 197.53 | 0.09 | 3.085 | 2.131 | 7173.870 |
| | | | Right | 2.07 | 197.53 | 0.10 | 2.419 | 2.832 | 7431.843 |
| L10 | SA-8 | DY MIN | Left | -2.04 | -197.53 | -0.09 | -3.085 | -2.131 | -7173.870 |
| | | | Right | -2.07 | -197.53 | -0.10 | -2.419 | -2.832 | -7431.843 |

| SPANDREL FORCES | | | | | | | | | |
|-----------------|----------|--------|-------|---------|---------|-------|---------|---------|------------|
| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| L10 | SP-1 | DEAD | Left | -4.27 | -3.18 | 0.00 | -0.044 | 0.105 | 40.663 |
| | | | Right | -4.27 | 9.00 | 0.00 | -0.045 | -0.040 | -211.656 |
| L10 | SP-1 | TORX | Left | -0.65 | 6.69 | 0.00 | -0.062 | -0.008 | 251.777 |
| | | | Right | -0.65 | 6.69 | 0.00 | -0.067 | 0.032 | -243.518 |
| L10 | SP-1 | TORY | Left | -0.80 | 8.02 | 0.00 | -0.077 | -0.059 | 301.588 |
| | | | Right | -0.80 | 8.02 | 0.00 | -0.083 | 0.039 | -281.673 |
| L10 | SP-1 | DX MAX | Left | 21.21 | 203.35 | 0.49 | 30.158 | 12.894 | 7483.193 |
| | | | Right | 21.22 | 203.35 | 0.57 | 13.585 | 17.261 | 7565.943 |
| L10 | SP-1 | DX MIN | Left | -21.21 | -203.35 | -0.49 | -30.158 | -12.894 | -7483.193 |
| | | | Right | -21.22 | -203.35 | -0.57 | -13.585 | -17.261 | -7565.943 |
| L10 | SP-1 | DY MAX | Left | 5.50 | 181.28 | 0.09 | 2.283 | 2.347 | 6797.399 |
| | | | Right | 4.99 | 181.28 | 0.09 | 2.486 | 1.738 | 6599.901 |
| L10 | SP-1 | DY MIN | Left | -5.50 | -181.28 | -0.09 | -2.283 | -2.347 | -6797.399 |
| | | | Right | -4.99 | -181.28 | -0.09 | -2.486 | -1.738 | -6599.901 |
| L10 | SP-2 | DEAD | Left | 0.06 | 1.98 | 0.00 | 0.001 | 0.001 | 223.513 |
| | | | Right | 0.06 | 12.25 | 0.00 | 0.000 | 0.001 | -240.198 |
| L10 | SP-2 | TORX | Left | 6.68 | 18.68 | 0.00 | -0.084 | 0.001 | 752.942 |
| | | | Right | 6.68 | 18.68 | 0.00 | -0.087 | 0.020 | -517.503 |
| L10 | SP-2 | TORY | Left | 8.11 | 22.74 | 0.00 | -0.103 | 0.001 | 916.091 |
| | | | Right | 8.11 | 22.74 | 0.00 | -0.106 | 0.020 | -630.020 |
| L10 | SP-2 | DX MAX | Left | 55.19 | 177.32 | 0.52 | 28.271 | 15.291 | 6973.623 |
| | | | Right | 55.16 | 177.32 | 0.47 | 28.422 | 17.572 | 5085.451 |
| L10 | SP-2 | DX MIN | Left | -55.19 | -177.32 | -0.52 | -28.271 | -15.291 | -6973.623 |
| | | | Right | -55.16 | -177.32 | -0.47 | -28.422 | -17.572 | -5085.451 |
| L10 | SP-2 | DY MAX | Left | 158.14 | 427.15 | 0.05 | 4.498 | 1.075 | 17279.545 |
| | | | Right | 157.87 | 427.15 | 0.08 | 2.623 | 1.994 | 17768.749 |
| L10 | SP-2 | DY MIN | Left | -158.14 | -427.15 | -0.05 | -4.498 | -1.075 | -17279.545 |
| | | | Right | -157.87 | -427.15 | -0.08 | -2.623 | -1.994 | -17768.749 |

| SPANDREL FORCES | | | | | | | | | |
|-----------------|----------|--------|-------|---------|---------|-------|---------|---------|------------|
| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| L10 | SP-3 | DEAD | Left | 2.28 | 4.00 | 0.00 | 0.000 | 0.001 | 315.796 |
| | | | Right | 2.28 | 14.37 | 0.00 | -0.001 | 0.001 | -205.509 |
| L10 | SP-3 | TORX | Left | -0.21 | 19.58 | 0.00 | -0.077 | 0.004 | 671.903 |
| | | | Right | -0.21 | 19.58 | 0.00 | -0.079 | 0.014 | -659.799 |
| L10 | SP-3 | TORY | Left | -0.25 | 23.80 | 0.00 | -0.094 | 0.005 | 816.614 |
| | | | Right | -0.25 | 23.80 | 0.00 | -0.097 | 0.017 | -801.660 |
| L10 | SP-3 | DX MAX | Left | 8.28 | 153.78 | 0.55 | 32.593 | 24.570 | 5168.838 |
| | | | Right | 8.29 | 153.78 | 0.48 | 34.650 | 21.235 | 5287.503 |
| L10 | SP-3 | DX MIN | Left | -8.28 | -153.78 | -0.55 | -32.593 | -24.570 | -5168.838 |
| | | | Right | -8.29 | -153.78 | -0.48 | -34.650 | -21.235 | -5287.503 |
| L10 | SP-3 | DY MAX | Left | 2.55 | 454.66 | 0.06 | 2.124 | 2.421 | 15664.812 |
| | | | Right | 2.46 | 454.66 | 0.06 | 2.019 | 2.610 | 15247.633 |
| L10 | SP-3 | DY MIN | Left | -2.55 | -454.66 | -0.06 | -2.124 | -2.421 | -15664.812 |
| | | | Right | -2.46 | -454.66 | -0.06 | -2.019 | -2.610 | -15247.633 |
| L10 | SP-4 | DEAD | Left | -5.10 | 3.24 | 0.00 | -0.001 | 0.001 | 180.768 |
| | | | Right | -5.10 | 13.41 | 0.00 | -0.003 | 0.001 | -395.825 |
| L10 | SP-4 | TORX | Left | -6.29 | 7.49 | 0.00 | -0.074 | -0.013 | 163.010 |
| | | | Right | -6.29 | 7.49 | 0.00 | -0.076 | 0.025 | -146.171 |
| L10 | SP-4 | TORY | Left | -7.64 | 9.11 | 0.00 | -0.090 | -0.016 | 199.568 |
| | | | Right | -7.64 | 9.11 | 0.00 | -0.092 | 0.030 | -421.146 |
| L10 | SP-4 | DX MAX | Left | 52.06 | 55.23 | 0.57 | 36.126 | 14.541 | 1115.250 |
| | | | Right | 52.09 | 55.23 | 0.57 | 39.003 | 23.030 | 2641.352 |
| L10 | SP-4 | DX MIN | Left | -52.06 | -55.23 | -0.57 | -36.126 | -14.541 | -1115.250 |
| | | | Right | -52.09 | -55.23 | -0.57 | -39.003 | -23.030 | -2641.352 |
| L10 | SP-4 | DY MAX | Left | 145.47 | 196.26 | 0.07 | 2.107 | 1.812 | 4573.341 |
| | | | Right | 145.69 | 196.26 | 0.04 | 3.527 | 2.017 | 8778.155 |
| L10 | SP-4 | DY MIN | Left | -145.47 | -196.26 | -0.07 | -2.107 | -1.812 | -4573.341 |
| | | | Right | -145.69 | -196.26 | -0.04 | -3.527 | -2.017 | -8778.155 |

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L10 SP-5 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, SP-6 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L10 SP-7 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, SP-8 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L9 S1-1 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, S1-2 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L9 S1-3 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN, S1-4 DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|-------|---------|-------|---------|--------|------------|
| L9 | S1-5 | DEAD | Left | -1.28 | -10.72 | 0.00 | -0.001 | 0.000 | -268.285 |
| | | | Right | -1.28 | -3.28 | 0.00 | -0.001 | 0.000 | 207.856 |
| L9 | S1-5 | TORX | Left | -0.40 | -8.48 | 0.00 | -0.055 | 0.000 | -288.040 |
| | | | Right | -0.40 | -8.48 | 0.00 | -0.054 | 0.007 | 290.749 |
| L9 | S1-5 | TORY | Left | -0.48 | -10.29 | 0.00 | -0.066 | 0.000 | -346.945 |
| | | | Right | -0.48 | -10.29 | 0.00 | -0.066 | 0.008 | 352.668 |
| L9 | S1-5 | DX MAX | Left | 9.74 | 206.35 | 0.03 | 0.657 | 0.435 | 6962.885 |
| | | | Right | 9.74 | 206.35 | 0.03 | 0.674 | 0.291 | 7058.591 |
| L9 | S1-5 | DX MIN | Left | -9.74 | -206.35 | -0.03 | -0.657 | -0.435 | -6962.885 |
| | | | Right | -9.74 | -206.35 | -0.03 | -0.674 | -0.291 | -7058.591 |
| L9 | S1-5 | DY MAX | Left | 3.84 | 76.07 | 0.40 | 11.021 | 7.795 | 2562.641 |
| | | | Right | 3.82 | 76.07 | 0.37 | 11.522 | 6.140 | 2409.943 |
| L9 | S1-5 | DY MIN | Left | -3.84 | -76.07 | -0.40 | -11.021 | -7.795 | -2562.641 |
| | | | Right | -3.82 | -76.07 | -0.37 | -11.522 | -6.140 | -2409.943 |
| L9 | S1-6 | DEAD | Left | -1.61 | -12.88 | 0.00 | -0.001 | 0.000 | -344.323 |
| | | | Right | -1.61 | -5.44 | 0.00 | -0.001 | 0.000 | 278.573 |
| L9 | S1-6 | TORX | Left | -0.43 | -13.49 | 0.00 | -0.051 | -0.001 | -456.548 |
| | | | Right | -0.43 | -13.49 | 0.00 | -0.051 | 0.007 | 460.694 |
| L9 | S1-6 | TORY | Left | -0.52 | -16.37 | 0.00 | -0.062 | -0.001 | -553.934 |
| | | | Right | -0.52 | -16.37 | 0.00 | -0.062 | 0.009 | 558.973 |
| L9 | S1-6 | UX MAX | Left | 9.16 | 309.84 | 0.03 | 0.627 | 0.308 | 10499.446 |
| | | | Right | 9.21 | 309.84 | 0.03 | 0.525 | 0.364 | 10569.925 |
| L9 | S1-6 | UX MIN | Left | -9.16 | -309.84 | -0.03 | -0.627 | -0.308 | -10499.446 |
| | | | Right | -9.21 | -309.84 | -0.03 | -0.525 | -0.364 | -10569.925 |
| L9 | S1-6 | DY MAX | Left | 5.08 | 131.74 | 0.39 | 8.392 | 6.277 | 4451.084 |
| | | | Right | 5.06 | 131.74 | 0.38 | 8.443 | 5.853 | 4506.980 |
| L9 | S1-6 | DY MIN | Left | -5.08 | -131.74 | -0.39 | -8.392 | -6.277 | -4451.084 |
| | | | Right | -5.06 | -131.74 | -0.38 | -8.443 | -5.853 | -4506.980 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|-----------|
| L9 | S1-7 | DEAD | Left | -1.97 | -12.37 | 0.00 | 0.000 | 0.000 | -332.690 |
| | | | Right | -1.97 | -4.93 | 0.00 | 0.000 | 0.000 | -0.001 |
| L9 | S1-7 | TORX | Left | -0.40 | -13.70 | 0.00 | -0.051 | 0.000 | -469.870 |
| | | | Right | -0.40 | -13.70 | 0.00 | -0.050 | 0.007 | 461.599 |
| L9 | S1-7 | TORY | Left | -0.49 | -16.40 | 0.00 | -0.061 | 0.000 | -569.352 |
| | | | Right | -0.49 | -16.40 | 0.00 | -0.061 | 0.009 | 559.181 |
| L9 | S1-7 | DX MAX | Left | 7.14 | 287.50 | 0.03 | 0.747 | 0.384 | 9874.059 |
| | | | Right | 7.22 | 287.50 | 0.03 | 0.637 | 0.477 | 9675.422 |
| L9 | S1-7 | DX MIN | Left | -7.14 | -287.50 | -0.03 | -0.747 | -0.384 | -9874.059 |
| | | | Right | -7.22 | -287.50 | -0.03 | -0.637 | -0.477 | -9675.422 |
| L9 | S1-7 | DY MAX | Left | 6.09 | 153.42 | 0.39 | 7.342 | 5.966 | 5252.484 |
| | | | Right | 6.08 | 153.42 | 0.39 | 7.214 | 5.718 | 5190.131 |
| L9 | S1-7 | DY MIN | Left | -6.09 | -153.42 | -0.39 | -7.342 | -5.966 | -5252.484 |
| | | | Right | -6.08 | -153.42 | -0.39 | -7.214 | -5.718 | -5190.131 |
| L9 | S1-8 | DEAD | Left | -2.77 | -7.58 | 0.00 | -0.024 | 0.058 | -180.518 |
| | | | Right | -2.77 | 0.51 | 0.00 | -0.027 | 0.098 | 80.490 |
| L9 | S1-8 | TORX | Left | -0.56 | -6.16 | 0.00 | -0.032 | -0.005 | -234.517 |
| | | | Right | -0.56 | -6.16 | 0.00 | -0.032 | 0.019 | 221.229 |
| L9 | S1-8 | TORY | Left | -0.68 | -7.37 | 0.00 | -0.039 | -0.006 | -280.590 |
| | | | Right | -0.68 | -7.37 | 0.00 | -0.039 | 0.023 | 264.601 |
| L9 | S1-8 | DX MAX | Left | 4.81 | 129.85 | 0.03 | 0.772 | 0.461 | 4899.882 |
| | | | Right | 4.47 | 129.85 | 0.04 | 0.748 | 0.497 | 4707.471 |
| L9 | S1-8 | DX MIN | Left | -4.81 | -129.85 | -0.03 | -0.772 | -0.461 | -4899.882 |
| | | | Right | -4.47 | -129.85 | -0.04 | -0.748 | -0.497 | -4707.471 |
| L9 | S1-8 | DY MAX | Left | 12.63 | 123.35 | 0.43 | 5.620 | 7.134 | 4688.263 |
| | | | Right | 12.41 | 123.35 | 0.43 | 5.124 | 6.919 | 4439.117 |
| L9 | S1-8 | DY MIN | Left | -12.63 | -123.35 | -0.43 | -5.620 | -7.134 | -4688.263 |
| | | | Right | -12.41 | -123.35 | -0.43 | -5.124 | -6.919 | -4439.117 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L9 | S12-1 | DEAD | Left | -2.72 | -1.44 | 0.00 | -0.031 | 0.083 | 46.338 |
| | | | Right | -2.72 | 6.63 | 0.00 | -0.031 | -0.057 | -145.134 |
| L9 | S12-1 | TORX | Left | -0.56 | 5.80 | 0.00 | -0.033 | -0.016 | 207.905 |
| | | | Right | -0.56 | 5.80 | 0.00 | -0.034 | 0.006 | -221.092 |
| L9 | S12-1 | TORY | Left | -0.68 | 6.93 | 0.00 | -0.040 | -0.020 | 248.384 |
| | | | Right | -0.68 | 6.93 | 0.00 | -0.041 | 0.008 | -264.247 |
| L9 | S12-1 | DX MAX | Left | 5.35 | 142.94 | 0.04 | 0.593 | 0.731 | -5172.752 |
| | | | Right | 5.67 | 142.94 | 0.04 | 0.528 | 0.810 | 5403.130 |
| L9 | S12-1 | DX MIN | Left | -5.35 | -142.94 | -0.04 | -0.593 | -0.731 | -5172.752 |
| | | | Right | -5.67 | -142.94 | -0.04 | -0.528 | -0.810 | -5403.130 |
| L9 | S12-1 | DY MAX | Left | 11.16 | 96.23 | 0.38 | 4.274 | 5.975 | 3458.074 |
| | | | Right | 11.15 | 96.23 | 0.37 | 5.190 | 5.806 | 3662.808 |
| L9 | S12-1 | DY MIN | Left | -11.16 | -96.23 | -0.38 | -4.274 | -5.975 | -3458.074 |
| | | | Right | -11.15 | -96.23 | -0.37 | -5.190 | -5.806 | -3662.808 |
| L9 | S12-2 | DEAD | Left | -1.96 | 4.23 | 0.00 | 0.000 | 0.000 | 230.593 |
| | | | Right | -1.96 | 11.67 | 0.00 | 0.000 | 0.000 | -309.480 |
| L9 | S12-2 | TORX | Left | -0.41 | 13.54 | 0.00 | -0.050 | -0.005 | 456.050 |
| | | | Right | -0.41 | 13.54 | 0.00 | -0.050 | 0.021 | -464.391 |
| L9 | S12-2 | TORY | Left | -0.50 | 16.40 | 0.00 | -0.060 | -0.006 | 552.281 |
| | | | Right | -0.50 | 16.40 | 0.00 | -0.061 | 0.021 | -562.639 |
| L9 | S12-2 | DX MAX | Left | 7.86 | 309.52 | 0.04 | 0.716 | 0.537 | 10421.419 |
| | | | Right | 7.78 | 309.52 | 0.03 | 0.822 | 0.447 | 10625.545 |
| L9 | S12-2 | DX MIN | Left | -7.86 | -309.52 | -0.04 | -0.716 | -0.537 | -10421.419 |
| | | | Right | -7.78 | -309.52 | -0.03 | -0.822 | -0.447 | -10625.545 |
| L9 | S12-2 | DY MAX | Left | 5.07 | 113.95 | 0.35 | 7.246 | 4.785 | 3849.627 |
| | | | Right | 5.06 | 113.95 | 0.35 | 6.921 | 5.415 | 3894.858 |
| L9 | S12-2 | DY MIN | Left | -5.07 | -113.95 | -0.35 | -7.246 | -4.785 | -3849.627 |
| | | | Right | -5.06 | -113.95 | -0.35 | -6.921 | -5.415 | -3894.858 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|--------|------------|
| L9 | S12-3 | DEAD | Left | -1.58 | 4.88 | 0.00 | 0.000 | 0.000 | 259.037 |
| | | | Right | -1.58 | 12.30 | 0.00 | -0.001 | 0.000 | -324.561 |
| L9 | S12-3 | TORX | Left | -0.41 | 13.36 | 0.00 | -0.051 | -0.006 | 456.020 |
| | | | Right | -0.41 | 13.36 | 0.00 | -0.051 | 0.002 | -451.823 |
| L9 | S12-3 | TORY | Left | -0.50 | 16.21 | 0.00 | -0.062 | -0.007 | 554.231 |
| | | | Right | -0.50 | 16.21 | 0.00 | -0.062 | 0.003 | -548.156 |
| L9 | S12-3 | DX MAX | Left | 9.45 | 328.28 | 0.03 | 0.427 | 0.426 | 11209.594 |
| | | | Right | 9.40 | 328.28 | 0.03 | 0.512 | 0.436 | 11113.746 |
| L9 | S12-3 | DX MIN | Left | -9.45 | -328.28 | -0.03 | -0.427 | -0.426 | -11209.594 |
| | | | Right | -9.40 | -328.28 | -0.03 | -0.512 | -0.436 | -11113.746 |
| L9 | S12-3 | DY MAX | Left | 4.01 | 94.16 | 0.34 | 9.215 | 5.373 | 3224.549 |
| | | | Right | 3.99 | 94.16 | 0.34 | 8.715 | 6.090 | 3178.064 |
| L9 | S12-3 | DY MIN | Left | -4.01 | -94.16 | -0.34 | -9.215 | -5.373 | -3224.549 |
| | | | Right | -3.99 | -94.16 | -0.34 | -8.715 | -6.090 | -3178.064 |
| L9 | S12-4 | DEAD | Left | -1.28 | 3.07 | 0.00 | 0.000 | 0.000 | 200.524 |
| | | | Right | -1.28 | 10.51 | 0.00 | 0.000 | 0.000 | -261.460 |
| L9 | S12-4 | TORX | Left | -0.40 | 8.48 | 0.00 | -0.055 | -0.005 | 390.399 |
| | | | Right | -0.40 | 8.48 | 0.00 | -0.055 | 0.001 | -286.099 |
| L9 | S12-4 | TORY | Left | -0.49 | 10.28 | 0.00 | -0.066 | -0.006 | 352.221 |
| | | | Right | -0.49 | 10.28 | 0.00 | -0.067 | 0.002 | -346.993 |
| L9 | S12-4 | DX MAX | Left | 10.55 | 219.19 | 0.03 | 0.564 | 0.396 | 7503.209 |
| | | | Right | 10.55 | 219.19 | 0.03 | 0.549 | 0.451 | 7403.241 |
| L9 | S12-4 | DX MIN | Left | -10.55 | -219.19 | -0.03 | -0.564 | -0.396 | -7503.209 |
| | | | Right | -10.55 | -219.19 | -0.03 | -0.549 | -0.451 | -7403.241 |
| L9 | S12-4 | DY MAX | Left | 3.10 | 54.26 | 0.35 | 10.953 | 5.885 | 1859.205 |
| | | | Right | 3.09 | 54.26 | 0.37 | 10.546 | 7.182 | 1830.528 |
| L9 | S12-4 | DY MIN | Left | -3.10 | -54.26 | -0.35 | -10.953 | -5.885 | -1859.205 |
| | | | Right | -3.09 | -54.26 | -0.37 | -10.546 | -7.182 | -1830.528 |

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include stories S12-5 to S12-6 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include stories S12-7 to S12-8 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include stories SA-1 to SA-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include stories SA-3 to SA-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|-------|---------|-------|--------|--------|------------|
| L9 | SA-6 | DEAD | Left | -1.58 | -12.43 | 0.00 | -0.001 | 0.000 | -335.990 |
| | | | Right | -1.58 | -5.20 | 0.00 | -0.001 | 0.000 | 370.301 |
| L9 | SA-6 | TORX | Left | -0.46 | -14.48 | 0.00 | -0.032 | -0.002 | -490.354 |
| | | | Right | -0.46 | -14.48 | 0.00 | -0.032 | -0.002 | 494.328 |
| L9 | SA-6 | TORY | Left | -0.54 | -17.56 | 0.00 | -0.043 | -0.002 | -594.856 |
| | | | Right | -0.54 | -17.56 | 0.00 | -0.043 | -0.002 | 599.478 |
| L9 | SA-6 | DX MAX | Left | 4.15 | 102.69 | 0.37 | 9.917 | 6.169 | 3469.069 |
| | | | Right | 4.17 | 102.69 | 0.36 | 9.394 | 5.742 | 3515.065 |
| L9 | SA-6 | DX MIN | Left | -4.15 | -102.69 | -0.37 | -9.917 | -6.169 | -3469.069 |
| | | | Right | -4.17 | -102.69 | -0.36 | -9.394 | -5.742 | -3515.065 |
| L9 | SA-6 | DY MAX | Left | 9.45 | 322.34 | 0.04 | 0.888 | 0.515 | 10927.600 |
| | | | Right | 9.52 | 322.34 | 0.05 | 0.659 | 0.673 | 10991.463 |
| L9 | SA-6 | DY MIN | Left | -9.45 | -322.34 | -0.04 | -0.888 | -0.515 | -10927.600 |
| | | | Right | -9.52 | -322.34 | -0.05 | -0.659 | -0.673 | -10991.463 |
| L9 | SA-7 | DEAD | Left | -1.97 | -11.83 | 0.00 | 0.000 | 0.000 | -315.694 |
| | | | Right | -1.97 | -4.39 | 0.00 | 0.000 | 0.000 | 235.860 |
| L9 | SA-7 | TORX | Left | -0.40 | -14.29 | 0.00 | -0.051 | -0.001 | -490.324 |
| | | | Right | -0.40 | -14.29 | 0.00 | -0.051 | -0.001 | 481.226 |
| L9 | SA-7 | TORY | Left | -0.49 | -17.30 | 0.00 | -0.043 | -0.001 | -593.664 |
| | | | Right | -0.49 | -17.30 | 0.00 | -0.043 | -0.001 | 582.465 |
| L9 | SA-7 | DX MAX | Left | 5.31 | 132.53 | 0.37 | 6.209 | 5.772 | 4194.829 |
| | | | Right | 5.32 | 132.53 | 0.36 | 6.690 | 4.959 | 4126.311 |
| L9 | SA-7 | DX MIN | Left | -5.31 | -132.53 | -0.37 | -6.209 | -5.772 | -4194.829 |
| | | | Right | -5.32 | -132.53 | -0.36 | -6.690 | -4.959 | -4126.311 |
| L9 | SA-7 | DY MAX | Left | 6.47 | 203.76 | 0.05 | 0.779 | 0.755 | 10418.222 |
| | | | Right | 6.58 | 203.76 | 0.05 | 0.617 | 0.806 | 10237.020 |
| L9 | SA-7 | DY MIN | Left | -6.47 | -203.76 | -0.05 | -0.779 | -0.755 | -10418.222 |
| | | | Right | -6.58 | -203.76 | -0.05 | -0.617 | -0.806 | -10237.020 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|-----------|
| L9 | SA-8 | DEAD | Left | -2.69 | -6.64 | 0.00 | -0.028 | 0.058 | -145.216 |
| | | | Right | -2.69 | 1.45 | 0.00 | -0.028 | -0.058 | 46.778 |
| L9 | SA-8 | TORX | Left | -0.49 | -5.34 | 0.00 | -0.033 | -0.008 | -203.433 |
| | | | Right | -0.48 | -5.34 | 0.00 | -0.033 | -0.008 | 191.416 |
| L9 | SA-8 | TORY | Left | -0.59 | -6.34 | 0.00 | -0.040 | -0.010 | -241.910 |
| | | | Right | -0.59 | -6.34 | 0.00 | -0.040 | -0.010 | 227.473 |
| L9 | SA-8 | DX MAX | Left | 10.92 | 101.57 | 0.39 | 4.771 | 5.972 | 3955.425 |
| | | | Right | 10.93 | 101.57 | 0.40 | 3.769 | 6.198 | 3660.553 |
| L9 | SA-8 | DX MIN | Left | -10.92 | -101.57 | -0.39 | -4.771 | -5.972 | -3955.425 |
| | | | Right | -10.93 | -101.57 | -0.40 | -3.769 | -6.198 | -3660.553 |
| L9 | SA-8 | DY MAX | Left | 4.41 | 133.56 | 0.07 | 0.790 | 1.164 | 5043.462 |
| | | | Right | 4.32 | 133.56 | 0.07 | 0.782 | 1.154 | 4939.541 |
| L9 | SA-8 | DY MIN | Left | -4.41 | -133.56 | -0.07 | -0.790 | -1.164 | -5043.462 |
| | | | Right | -4.32 | -133.56 | -0.07 | -0.782 | -1.154 | -4939.541 |
| L9 | SP-1 | DEAD | Left | -2.81 | -3.23 | 0.00 | -0.039 | 0.087 | 17.744 |
| | | | Right | -2.81 | 5.87 | 0.00 | -0.039 | -0.059 | -117.075 |
| L9 | SP-1 | TORX | Left | -0.54 | 4.75 | 0.00 | -0.032 | -0.017 | 170.002 |
| | | | Right | -0.55 | 4.75 | 0.00 | -0.032 | -0.017 | -181.805 |
| L9 | SP-1 | TORY | Left | -0.46 | 5.64 | 0.00 | -0.039 | -0.021 | 201.511 |
| | | | Right | -0.46 | 5.64 | 0.00 | -0.039 | -0.021 | -215.621 |
| L9 | SP-1 | DX MAX | Left | 12.02 | 106.94 | 0.42 | 3.822 | 6.524 | 3849.403 |
| | | | Right | 12.04 | 106.94 | 0.41 | 4.845 | 6.326 | 4063.981 |
| L9 | SP-1 | DX MIN | Left | -12.02 | -106.94 | -0.42 | -3.822 | -6.524 | -3849.403 |
| | | | Right | -12.04 | -106.94 | -0.41 | -4.845 | -6.326 | -4063.981 |
| L9 | SP-1 | DY MAX | Left | 5.82 | 133.37 | 0.06 | 0.576 | 1.127 | 4833.988 |
| | | | Right | 6.04 | 133.37 | 0.06 | 0.469 | 1.197 | 5033.440 |
| L9 | SP-1 | DY MIN | Left | -5.82 | -133.37 | -0.06 | -0.576 | -1.127 | -4833.988 |
| | | | Right | -6.04 | -133.37 | -0.06 | -0.469 | -1.197 | -5033.440 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L9 | SP-2 | DEAD | Left | -1.55 | 0.14 | 0.00 | 0.000 | 0.001 | 95.098 |
| | | | Right | -1.55 | 7.58 | 0.00 | -0.001 | 0.000 | -147.114 |
| L9 | SP-2 | TORX | Left | 0.29 | 13.21 | 0.00 | -0.054 | -0.005 | 442.069 |
| | | | Right | 0.29 | 13.21 | 0.00 | -0.054 | -0.002 | -456.075 |
| L9 | SP-2 | TORY | Left | 0.24 | 15.99 | 0.00 | -0.065 | -0.007 | 534.927 |
| | | | Right | 0.34 | 15.99 | 0.00 | -0.069 | -0.003 | -552.145 |
| L9 | SP-2 | DX MAX | Left | 2.40 | 127.76 | 0.38 | 9.532 | 5.192 | 4301.948 |
| | | | Right | 2.37 | 127.76 | 0.39 | 9.544 | 6.526 | 4385.854 |
| L9 | SP-2 | DX MIN | Left | -2.40 | -127.76 | -0.38 | -9.532 | -5.192 | -4301.948 |
| | | | Right | -2.37 | -127.76 | -0.38 | -9.544 | -6.526 | -4385.854 |
| L9 | SP-2 | DY MAX | Left | 9.74 | 291.04 | 0.05 | 1.111 | 0.743 | 9726.663 |
| | | | Right | 9.24 | 291.04 | 0.04 | 1.297 | 0.527 | 10054.082 |
| L9 | SP-2 | DY MIN | Left | -9.74 | -291.04 | -0.05 | -1.111 | -0.743 | -9726.663 |
| | | | Right | -9.24 | -291.04 | -0.04 | -1.297 | -0.527 | -10054.082 |
| L9 | SP-3 | DEAD | Left | 1.58 | -1.75 | 0.00 | -0.001 | 0.000 | 3.779 |
| | | | Right | -6.99 | 5.19 | 0.00 | 0.000 | 0.000 | -84.277 |
| L9 | SP-3 | TORX | Left | 9.29 | 3.91 | 0.00 | -0.040 | -0.011 | 95.355 |
| | | | Right | -10.25 | 3.91 | 0.00 | -0.038 | 0.007 | -100.348 |
| L9 | SP-3 | TORY | Left | 11.26 | 4.74 | 0.00 | -0.048 | -0.013 | 120.457 |
| | | | Right | -12.42 | 4.74 | 0.00 | -0.046 | 0.009 | -121.659 |
| L9 | SP-3 | DX MAX | Left | 72.87 | 31.20 | 0.18 | 5.020 | 3.601 | 790.859 |
| | | | Right | 82.45 | 31.20 | 0.16 | 5.598 | 3.248 | 806.250 |
| L9 | SP-3 | DX MIN | Left | -72.87 | -31.20 | -0.18 | -5.020 | -3.601 | -790.859 |
| | | | Right | -82.45 | -31.20 | -0.16 | -5.598 | -3.248 | -806.250 |
| L9 | SP-3 | DY MAX | Left | 209.66 | 88.02 | 0.02 | 0.451 | 0.277 | 2238.268 |
| | | | Right | 229.86 | 88.02 | 0.02 | 0.245 | 0.339 | 2258.075 |
| L9 | SP-3 | DY MIN | Left | -209.66 | -88.02 | -0.02 | -0.451 | -0.277 | -2238.268 |
| | | | Right | -229.86 | -88.02 | -0.02 | -0.245 | -0.339 | -2258.075 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|--------|-----------|
| L9 | SP-4 | DEAD | Left | -1.26 | 4.94 | 0.00 | 0.000 | 0.000 | 275.060 |
| | | | Right | -1.26 | 12.38 | 0.00 | -0.001 | 0.000 | -314.003 |
| L9 | SP-4 | TORX | Left | -0.79 | 11.31 | 0.00 | -0.053 | -0.008 | 397.539 |
| | | | Right | -0.79 | 11.31 | 0.00 | -0.053 | -0.002 | -371.240 |
| L9 | SP-4 | TORY | Left | -0.95 | 13.71 | 0.00 | -0.064 | -0.009 | 482.272 |
| | | | Right | -0.95 | 13.71 | 0.00 | -0.065 | -0.003 | -450.284 |
| L9 | SP-4 | DX MAX | Left | 6.24 | 97.07 | 0.37 | 11.743 | 6.582 | 3073.065 |
| | | | Right | 6.27 | 97.07 | 0.39 | 11.408 | 7.245 | 2847.519 |
| L9 | SP-4 | DX MIN | Left | -6.24 | -97.07 | -0.37 | -11.743 | -6.582 | -3073.065 |
| | | | Right | -6.27 | -97.07 | -0.39 | -11.408 | -7.245 | -2847.519 |
| L9 | SP-4 | DY MAX | Left | 18.53 | 268.44 | 0.03 | 0.856 | 0.429 | 9418.534 |
| | | | Right | 18.63 | 268.44 | 0.04 | 0.750 | 0.578 | 8835.332 |
| L9 | SP-4 | DY MIN | Left | -18.53 | -268.44 | -0.03 | -0.856 | -0.429 | -9418.534 |
| | | | Right | -18.63 | -268.44 | -0.04 | -0.750 | -0.578 | -8835.332 |
| L9 | SP-5 | DEAD | Left | -1.23 | -9.73 | 0.00 | -0.001 | 0.000 | -234.739 |
| | | | Right | -1.23 | -2.39 | 0.00 | -0.001 | 0.000 | 175.884 |
| L9 | SP-5 | TORX | Left | 0.44 | 9.80 | 0.00 | -0.055 | -0.001 | 330.547 |
| | | | Right | 0.44 | 9.80 | 0.00 | -0.055 | -0.005 | -326.091 |
| L9 | SP-5 | TORY | Left | 0.53 | 11.89 | 0.00 | -0.067 | -0.001 | 400.781 |
| | | | Right | 0.53 | 11.89 | 0.00 | -0.067 | -0.006 | -407.516 |
| L9 | SP-5 | DX MAX | Left | 3.19 | 58.69 | 0.38 | 10.733 | 7.190 | 1977.566 |
| | | | Right | 3.19 | 58.69 | 0.36 | 11.031 | 6.028 | 2013.159 |
| L9 | SP-5 | DX MIN | Left | -3.19 | -58.69 | -0.38 | -10.733 | -7.190 | -1977.566 |
| | | | Right | -3.19 | -58.69 | -0.36 | -11.031 | -6.028 | -2013.159 |
| L9 | SP-5 | DY MAX | Left | 11.17 | 238.97 | 0.04 | 0.875 | 0.425 | 8066.713 |
| | | | Right | 11.17 | 238.97 | 0.04 | 1.023 | 0.388 | 8182.809 |
| L9 | SP-5 | DY MIN | Left | -11.17 | -238.97 | -0.04 | -0.875 | -0.425 | -8066.713 |
| | | | Right | -11.19 | -238.97 | -0.04 | -1.023 | -0.388 | -8182.809 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L9 | SP-6 | DEAD | Left | -1.56 | -11.22 | 0.00 | -0.001 | 0.000 | -288.323 |
| | | | Right | -1.56 | -11.22 | 0.00 | -0.001 | 0.000 | -288.323 |
| L9 | SP-6 | TORX | Left | 0.46 | 15.45 | 0.00 | -0.053 | -0.002 | 523.076 |
| | | | Right | 0.46 | 15.45 | 0.00 | -0.053 | 0.006 | -527.755 |
| L9 | SP-6 | TORY | Left | 0.56 | 18.74 | 0.00 | -0.063 | -0.002 | 636.417 |
| | | | Right | 0.56 | 18.74 | 0.00 | -0.063 | 0.007 | -640.096 |
| L9 | SP-6 | DX MAX | Left | 4.28 | 102.45 | 0.37 | 8.914 | 6.170 | 3461.409 |
| | | | Right | 4.28 | 102.45 | 0.36 | 9.391 | 5.739 | 3505.266 |
| L9 | SP-6 | DX MIN | Left | -4.28 | -102.45 | -0.37 | -8.914 | -6.170 | -3461.409 |
| | | | Right | -4.28 | -102.45 | -0.36 | -9.391 | -5.739 | -3505.266 |
| L9 | SP-6 | DY MAX | Left | 10.41 | 257.75 | 0.04 | 0.628 | 0.460 | 12124.166 |
| | | | Right | 10.48 | 257.75 | 0.05 | 0.463 | 0.508 | 12202.372 |
| L9 | SP-6 | DY MIN | Left | -10.41 | -257.75 | -0.04 | -0.628 | -0.460 | -12124.166 |
| | | | Right | -10.48 | -257.75 | -0.05 | -0.463 | -0.508 | -12202.372 |
| L9 | SP-7 | DEAD | Left | -1.94 | -10.28 | 0.00 | -0.001 | 0.000 | -262.709 |
| | | | Right | -1.94 | -10.28 | 0.00 | -0.001 | 0.001 | 183.503 |
| L9 | SP-7 | TORX | Left | 0.42 | 15.33 | 0.00 | -0.051 | -0.001 | 525.905 |
| | | | Right | 0.42 | 15.33 | 0.00 | -0.051 | 0.005 | -516.263 |
| L9 | SP-7 | TORY | Left | 0.52 | 18.56 | 0.00 | -0.062 | -0.001 | 636.910 |
| | | | Right | 0.52 | 18.56 | 0.00 | -0.062 | 0.007 | -625.175 |
| L9 | SP-7 | DX MAX | Left | 5.30 | 121.15 | 0.37 | 6.290 | 5.770 | 4148.592 |
| | | | Right | 5.30 | 121.15 | 0.36 | 6.673 | 4.960 | 4089.647 |
| L9 | SP-7 | DX MIN | Left | -5.30 | -121.15 | -0.37 | -6.290 | -5.770 | -4148.592 |
| | | | Right | -5.30 | -121.15 | -0.36 | -6.673 | -4.960 | -4089.647 |
| L9 | SP-7 | DY MAX | Left | 7.60 | 240.28 | 0.05 | 1.820 | 0.368 | 11673.820 |
| | | | Right | 7.71 | 240.28 | 0.06 | 1.558 | 0.367 | 11472.758 |
| L9 | SP-7 | DY MIN | Left | -7.60 | -240.28 | -0.05 | -1.820 | -0.368 | -11673.820 |
| | | | Right | -7.71 | -240.28 | -0.06 | -1.558 | -0.367 | -11472.758 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|------------|
| L9 | SP-8 | DEAD | Left | -2.66 | -5.33 | 0.00 | 0.030 | -0.058 | -95.513 |
| | | | Right | -2.66 | -5.33 | 0.00 | 0.030 | 0.087 | -95.765 |
| L9 | SP-8 | TORX | Left | 0.51 | 6.12 | 0.00 | -0.032 | -0.008 | 333.152 |
| | | | Right | 0.51 | 6.12 | 0.00 | -0.031 | 0.019 | -219.776 |
| L9 | SP-8 | TORY | Left | 0.62 | 7.30 | 0.00 | -0.039 | -0.010 | 378.061 |
| | | | Right | 0.62 | 7.30 | 0.00 | -0.038 | 0.023 | -261.971 |
| L9 | SP-8 | DX MAX | Left | 10.74 | 98.89 | 0.39 | 4.772 | 5.974 | 3784.526 |
| | | | Right | 10.75 | 98.89 | 0.40 | 3.771 | 6.193 | 3562.098 |
| L9 | SP-8 | DX MIN | Left | -10.74 | -98.89 | -0.39 | -4.772 | -5.974 | -3784.526 |
| | | | Right | -10.75 | -98.89 | -0.40 | -3.771 | -6.193 | -3562.098 |
| L9 | SP-8 | DY MAX | Left | 5.76 | 157.90 | 0.07 | 0.468 | 1.377 | 5964.103 |
| | | | Right | 5.50 | 157.90 | 0.07 | 0.738 | 1.390 | 5718.598 |
| L9 | SP-8 | DY MIN | Left | -5.76 | -157.90 | -0.07 | -0.468 | -1.377 | -5964.103 |
| | | | Right | -5.50 | -157.90 | -0.07 | -0.738 | -1.390 | -5718.598 |
| L8 | SI-1 | DEAD | Left | -9.39 | -3.18 | 0.00 | -0.046 | -0.205 | 49.471 |
| | | | Right | -9.39 | -3.18 | 0.00 | -0.046 | 0.083 | -300.169 |
| L8 | SI-1 | TORX | Left | 1.02 | -24.17 | 0.00 | -0.072 | 0.009 | -897.970 |
| | | | Right | 1.02 | -24.17 | 0.00 | -0.074 | 0.034 | 890.574 |
| L8 | SI-1 | TORY | Left | 1.24 | -28.97 | 0.00 | -0.087 | 0.010 | -1074.249 |
| | | | Right | 1.24 | -28.97 | 0.00 | -0.090 | 0.041 | 1067.540 |
| L8 | SI-1 | DX MAX | Left | 3.65 | 557.84 | 0.06 | 0.736 | 1.155 | 20808.357 |
| | | | Right | 3.89 | 557.84 | 0.06 | 0.762 | 0.965 | 20463.639 |
| L8 | SI-1 | DX MIN | Left | -3.65 | -557.84 | -0.06 | -0.736 | -1.155 | -20808.357 |
| | | | Right | -3.89 | -557.84 | -0.06 | -0.762 | -0.965 | -20463.639 |
| L8 | SI-1 | DY MAX | Left | 28.03 | 331.65 | 0.59 | 8.716 | 9.931 | 12261.156 |
| | | | Right | 28.03 | 331.65 | 0.59 | 8.801 | 10.258 | 12382.019 |
| L8 | SI-1 | DY MIN | Left | -28.03 | -331.65 | -0.59 | -8.716 | -9.931 | -12261.156 |
| | | | Right | -28.03 | -331.65 | -0.59 | -8.801 | -10.258 | -12382.019 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L8 | SI-2 | DEAD | Left | -6.98 | 1.47 | 0.00 | -0.002 | -0.006 | 249.281 |
| | | | Right | -6.98 | 15.99 | 0.00 | -0.003 | -0.004 | -344.294 |
| L8 | SI-2 | TORX | Left | -0.82 | -25.71 | 0.00 | -0.088 | 0.006 | -1010.171 |
| | | | Right | -0.82 | -25.71 | 0.00 | -0.090 | 0.026 | 736.189 |
| L8 | SI-2 | TORY | Left | -0.98 | -31.08 | 0.00 | -0.107 | 0.008 | -1221.986 |
| | | | Right | -0.98 | -31.08 | 0.00 | -0.109 | 0.031 | 892.289 |
| L8 | SI-2 | DX MAX | Left | 24.37 | 591.77 | 0.05 | 0.821 | 0.770 | 23401.048 |
| | | | Right | 23.89 | 591.77 | 0.05 | 0.624 | 0.817 | 16840.736 |
| L8 | SI-2 | DX MIN | Left | -24.37 | -591.77 | -0.05 | -0.821 | -0.770 | -23401.048 |
| | | | Right | -23.89 | -591.77 | -0.05 | -0.624 | -0.817 | -16840.736 |
| L8 | SI-2 | DY MAX | Left | 8.32 | 202.76 | 0.53 | 6.126 | 8.603 | 7794.854 |
| | | | Right | 8.29 | 202.76 | 0.53 | 8.216 | 8.661 | 5993.677 |
| L8 | SI-2 | DY MIN | Left | -8.32 | -202.76 | -0.53 | -6.126 | -8.603 | -7794.854 |
| | | | Right | -8.29 | -202.76 | -0.53 | -8.216 | -8.661 | -5993.677 |
| L8 | SI-3 | DEAD | Left | -6.37 | 3.41 | 0.00 | -0.002 | -0.004 | 274.519 |
| | | | Right | -6.37 | 18.13 | 0.00 | -0.003 | -0.003 | -464.529 |
| L8 | SI-3 | TORX | Left | 2.41 | -20.01 | 0.00 | -0.089 | 0.003 | -619.198 |
| | | | Right | 2.41 | -20.01 | 0.00 | -0.089 | 0.022 | 741.223 |
| L8 | SI-3 | TORY | Left | 2.93 | -24.23 | 0.00 | -0.107 | 0.004 | -769.929 |
| | | | Right | 2.93 | -24.23 | 0.00 | -0.108 | 0.027 | 897.512 |
| L8 | SI-3 | DX MAX | Left | 49.61 | 484.44 | 0.05 | 0.653 | 0.785 | 15189.260 |
| | | | Right | 49.77 | 484.44 | 0.05 | 0.545 | 0.815 | 17749.007 |
| L8 | SI-3 | DX MIN | Left | -49.61 | -484.44 | -0.05 | -0.653 | -0.785 | -15189.260 |
| | | | Right | -49.77 | -484.44 | -0.05 | -0.545 | -0.815 | -17749.007 |
| L8 | SI-3 | DY MAX | Left | 23.05 | 132.28 | 0.54 | 6.485 | 8.491 | 3934.025 |
| | | | Right | 23.02 | 132.28 | 0.53 | 9.013 | 8.165 | 5069.938 |
| L8 | SI-3 | DY MIN | Left | -23.05 | -132.28 | -0.54 | -6.485 | -8.491 | -3934.025 |
| | | | Right | -23.02 | -132.28 | -0.53 | -9.013 | -8.165 | -5069.938 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L8 | SI-4 | DEAD | Left | -5.07 | 1.58 | 0.00 | -0.001 | -0.004 | 214.015 |
| | | | Right | -5.07 | 16.11 | 0.00 | -0.002 | -0.004 | -387.478 |
| L8 | SI-4 | TORX | Left | 2.41 | -11.21 | 0.00 | -0.081 | 0.001 | -318.180 |
| | | | Right | 2.41 | -11.21 | 0.00 | -0.082 | 0.021 | 444.189 |
| L8 | SI-4 | TORY | Left | 2.92 | -13.55 | 0.00 | -0.098 | 0.001 | -384.467 |
| | | | Right | 2.92 | -13.55 | 0.00 | -0.100 | 0.026 | 516.893 |
| L8 | SI-4 | DX MAX | Left | 56.74 | 285.05 | 0.04 | 0.599 | 0.780 | 8184.201 |
| | | | Right | 56.90 | 285.05 | 0.04 | 0.580 | 0.802 | 11183.878 |
| L8 | SI-4 | DX MIN | Left | -56.74 | -285.05 | -0.04 | -0.599 | -0.780 | -8184.201 |
| | | | Right | -56.90 | -285.05 | -0.04 | -0.580 | -0.802 | -11183.878 |
| L8 | SI-4 | DY MAX | Left | 17.80 | 65.25 | 0.54 | 7.360 | 8.207 | 1779.782 |
| | | | Right | 17.78 | 65.25 | 0.53 | 8.309 | 8.608 | 2459.269 |
| L8 | SI-4 | DY MIN | Left | -17.80 | -65.25 | -0.54 | -7.360 | -8.207 | -1779.782 |
| | | | Right | -17.78 | -65.25 | -0.53 | -8.309 | -8.608 | -2459.269 |
| L8 | SI-5 | DEAD | Left | -5.23 | -14.83 | 0.00 | -0.001 | -0.003 | -616.589 |
| | | | Right | -5.23 | -2.21 | 0.00 | -0.002 | -0.002 | 234.116 |
| L8 | SI-5 | TORX | Left | -2.44 | -11.50 | 0.00 | -0.083 | -0.019 | -453.603 |
| | | | Right | -2.44 | -11.50 | 0.00 | -0.081 | 0.001 | 329.208 |
| L8 | SI-5 | TORY | Left | -2.96 | -13.90 | 0.00 | -0.101 | -0.022 | -548.372 |
| | | | Right | -2.96 | -13.90 | 0.00 | -0.098 | 0.002 | 396.650 |
| L8 | SI-5 | DX MAX | Left | 55.08 | 280.45 | 0.04 | 0.447 | 0.821 | 10944.202 |
| | | | Right | 54.93 | 280.45 | 0.04 | 0.643 | 0.778 | 8122.794 |
| L8 | SI-5 | DX MIN | Left | -55.08 | -280.45 | -0.04 | -0.447 | -0.821 | -10944.202 |
| | | | Right | -54.93 | -280.45 | -0.04 | -0.643 | -0.778 | -8122.794 |
| L8 | SI-5 | DY MAX | Left | 24.97 | 107.50 | 0.54 | 8.594 | 8.539 | 4205.165 |
| | | | Right | 24.93 | 107.50 | 0.54 | 7.552 | 8.451 | 3084.275 |
| L8 | SI-5 | DY MIN | Left | -24.97 | -107.50 | -0.54 | -8.594 | -8.539 | -4205.165 |
| | | | Right | -24.93 | -107.50 | -0.54 | -7.552 | -8.451 | -3084.275 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L8 | S1-6 | DEAD | Left | -8.67 | -19.77 | 0.00 | -0.001 | -0.003 | -522.457 |
| | | | Right | -6.67 | -5.25 | 0.00 | -0.002 | -0.002 | 318.346 |
| L8 | S1-6 | TORX | Left | -2.64 | -20.47 | 0.00 | -0.090 | -0.020 | -773.914 |
| | | | Right | -2.64 | -20.47 | 0.00 | -0.087 | -0.001 | 621.507 |
| L8 | S1-6 | TORY | Left | -3.20 | -25.03 | 0.00 | -0.109 | -0.024 | -937.287 |
| | | | Right | -3.20 | -25.03 | 0.00 | -0.106 | -0.001 | 765.006 |
| L8 | S1-6 | DX MAX | Left | 51.78 | 476.95 | 0.04 | 0.410 | 0.787 | 17636.951 |
| | | | Right | 51.65 | 476.95 | 0.04 | 0.695 | 0.736 | 14792.628 |
| L8 | S1-6 | DX MIN | Left | -51.78 | -476.95 | -0.04 | -0.410 | -0.787 | -17636.951 |
| | | | Right | -51.65 | -476.95 | -0.04 | -0.695 | -0.736 | -14792.628 |
| L8 | S1-6 | DY MAX | Left | 31.77 | 201.58 | 0.55 | 8.968 | 8.479 | 7723.772 |
| | | | Right | 31.73 | 201.58 | 0.56 | 8.869 | 8.908 | 5983.873 |
| L8 | S1-6 | DY MIN | Left | -31.77 | -201.58 | -0.55 | -8.968 | -8.479 | -7723.772 |
| | | | Right | -31.73 | -201.58 | -0.56 | -8.869 | -8.908 | -5983.873 |
| L8 | S1-7 | DEAD | Left | -6.80 | -18.44 | 0.00 | 0.000 | -0.003 | -419.702 |
| | | | Right | -6.80 | -4.12 | 0.00 | -0.001 | -0.005 | 354.215 |
| L8 | S1-7 | TORX | Left | 0.91 | -26.57 | 0.00 | -0.090 | -0.023 | -758.902 |
| | | | Right | 0.91 | -26.57 | 0.00 | -0.087 | -0.004 | 1047.773 |
| L8 | S1-7 | TORY | Left | 1.09 | -32.13 | 0.00 | -0.109 | -0.028 | -917.734 |
| | | | Right | 1.09 | -32.13 | 0.00 | -0.106 | -0.005 | 1287.241 |
| L8 | S1-7 | DX MAX | Left | 34.90 | 577.35 | 0.04 | 0.515 | 0.768 | 16310.597 |
| | | | Right | 35.38 | 577.35 | 0.04 | 0.678 | 0.717 | 22951.257 |
| L8 | S1-7 | DX MIN | Left | -34.90 | -577.35 | -0.04 | -0.515 | -0.768 | -16310.597 |
| | | | Right | -35.38 | -577.35 | -0.04 | -0.678 | -0.717 | -22951.257 |
| L8 | S1-7 | DY MAX | Left | 7.76 | 296.74 | 0.55 | 8.018 | 9.121 | 8643.804 |
| | | | Right | 7.84 | 296.74 | 0.55 | 8.071 | 8.955 | 11524.340 |
| L8 | S1-7 | DY MIN | Left | -7.76 | -296.74 | -0.55 | -8.018 | -9.121 | -8643.804 |
| | | | Right | -7.84 | -296.74 | -0.55 | -8.071 | -8.955 | -11524.340 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|------------|
| L8 | S1-8 | DEAD | Left | -9.48 | -18.72 | 0.00 | 0.048 | 0.084 | -525.312 |
| | | | Right | -9.48 | -2.93 | 0.00 | 0.047 | -0.005 | 376.368 |
| L8 | S1-8 | TORX | Left | -1.08 | -26.32 | 0.00 | -0.071 | -0.031 | -970.890 |
| | | | Right | -1.08 | -26.32 | 0.00 | -0.067 | -0.010 | 974.570 |
| L8 | S1-8 | TORY | Left | -1.31 | -31.59 | 0.00 | -0.086 | -0.037 | -1165.287 |
| | | | Right | -1.31 | -31.59 | 0.00 | -0.082 | -0.011 | 1172.035 |
| L8 | S1-8 | DX MAX | Left | 3.89 | 541.75 | 0.05 | 0.574 | 0.924 | 19879.943 |
| | | | Right | 3.56 | 541.75 | 0.05 | 0.738 | 1.036 | 20206.055 |
| L8 | S1-8 | DX MIN | Left | -3.89 | -541.75 | -0.05 | -0.574 | -0.924 | -19879.943 |
| | | | Right | -3.56 | -541.75 | -0.05 | -0.738 | -1.036 | -20206.055 |
| L8 | S1-9 | DY MAX | Left | 30.24 | 456.86 | 0.41 | 6.319 | 10.643 | 14911.407 |
| | | | Right | 30.22 | 456.86 | 0.41 | 6.319 | 10.416 | 14894.046 |
| L8 | S1-9 | DY MIN | Left | -30.24 | -456.86 | -0.41 | -6.319 | -10.643 | -14911.407 |
| | | | Right | -30.22 | -456.86 | -0.41 | -6.319 | -10.416 | -14894.046 |
| L8 | S12-1 | DEAD | Left | -9.25 | -0.54 | 0.00 | 0.043 | 0.191 | 146.932 |
| | | | Right | -9.25 | 15.24 | 0.00 | 0.042 | -0.089 | -397.493 |
| L8 | S12-1 | TORX | Left | -1.01 | 24.59 | 0.00 | -0.071 | 0.008 | 913.860 |
| | | | Right | -1.01 | 24.59 | 0.00 | -0.074 | 0.034 | -905.965 |
| L8 | S12-1 | TORY | Left | -1.23 | 29.49 | 0.00 | -0.087 | 0.009 | 1095.698 |
| | | | Right | -1.23 | 29.49 | 0.00 | -0.090 | 0.042 | -1086.274 |
| L8 | S12-1 | DX MAX | Left | 4.57 | 589.04 | 0.06 | 0.807 | 1.008 | 21973.410 |
| | | | Right | 4.77 | 589.04 | 0.06 | 0.593 | 1.026 | 21607.811 |
| L8 | S12-1 | DX MIN | Left | -4.57 | -589.04 | -0.06 | -0.807 | -1.008 | -21973.410 |
| | | | Right | -4.77 | -589.04 | -0.06 | -0.593 | -1.026 | -21607.811 |
| L8 | S12-1 | DY MAX | Left | 37.64 | 321.23 | 0.58 | 8.710 | 9.959 | 11876.916 |
| | | | Right | 37.63 | 321.23 | 0.59 | 5.904 | 10.248 | 11955.957 |
| L8 | S12-1 | DY MIN | Left | -37.64 | -321.23 | -0.58 | -8.710 | -9.959 | -11876.916 |
| | | | Right | -37.63 | -321.23 | -0.59 | -5.904 | -10.248 | -11955.957 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L8 | S12-2 | DEAD | Left | -6.90 | 2.40 | 0.00 | 0.000 | -0.003 | 285.952 |
| | | | Right | -6.90 | 16.92 | 0.00 | -0.001 | -0.004 | -371.205 |
| L8 | S12-2 | TORX | Left | 0.85 | 28.21 | 0.00 | -0.088 | 0.006 | 1029.922 |
| | | | Right | 0.85 | 28.21 | 0.00 | -0.090 | 0.026 | -752.074 |
| L8 | S12-2 | TORY | Left | 1.02 | 31.69 | 0.00 | -0.107 | 0.007 | 1245.415 |
| | | | Right | 1.02 | 31.69 | 0.00 | -0.109 | 0.031 | -909.283 |
| L8 | S12-2 | DX MAX | Left | 34.48 | 612.69 | 0.05 | 0.701 | 0.775 | 24221.848 |
| | | | Right | 33.95 | 612.69 | 0.05 | 0.626 | 0.816 | 17442.740 |
| L8 | S12-2 | DX MIN | Left | -34.48 | -612.69 | -0.05 | -0.701 | -0.775 | -24221.848 |
| | | | Right | -33.95 | -612.69 | -0.05 | -0.626 | -0.816 | -17442.740 |
| L8 | S12-2 | DY MAX | Left | 8.30 | 196.81 | 0.53 | 6.132 | 8.401 | 7565.303 |
| | | | Right | 8.27 | 196.81 | 0.53 | 8.202 | 8.463 | 5818.520 |
| L8 | S12-2 | DY MIN | Left | -8.30 | -196.81 | -0.53 | -6.132 | -8.401 | -7565.303 |
| | | | Right | -8.27 | -196.81 | -0.53 | -8.202 | -8.463 | -5818.520 |
| L8 | S12-3 | DEAD | Left | -6.43 | 4.07 | 0.00 | -0.003 | -0.004 | 287.031 |
| | | | Right | -6.43 | 18.59 | 0.00 | -0.002 | -0.003 | -482.515 |
| L8 | S12-3 | TORX | Left | -2.46 | 20.41 | 0.00 | -0.088 | 0.003 | 831.672 |
| | | | Right | -2.46 | 20.41 | 0.00 | -0.089 | 0.022 | -755.931 |
| L8 | S12-3 | TORY | Left | -2.98 | 24.71 | 0.00 | -0.108 | 0.004 | 765.111 |
| | | | Right | -2.98 | 24.71 | 0.00 | -0.108 | 0.026 | -915.404 |
| L8 | S12-3 | DX MAX | Left | 52.35 | 498.12 | 0.05 | 0.645 | 0.776 | 15593.853 |
| | | | Right | 52.52 | 498.12 | 0.05 | 0.529 | 0.808 | 18274.728 |
| L8 | S12-3 | DX MIN | Left | -52.35 | -498.12 | -0.05 | -0.645 | -0.776 | -15593.853 |
| | | | Right | -52.52 | -498.12 | -0.05 | -0.529 | -0.808 | -18274.728 |
| L8 | S12-3 | DY MAX | Left | 22.45 | 129.11 | 0.54 | 6.484 | 8.494 | 3839.901 |
| | | | Right | 22.43 | 129.11 | 0.53 | 9.015 | 8.168 | 4941.634 |
| L8 | S12-3 | DY MIN | Left | -22.45 | -129.11 | -0.54 | -6.484 | -8.494 | -3839.901 |
| | | | Right | -22.43 | -129.11 | -0.53 | -9.015 | -8.168 | -4941.634 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L8 | S12-4 | DEAD | Left | -5.13 | 2.02 | 0.00 | -0.001 | -0.004 | 226.557 |
| | | | Right | -5.13 | 16.54 | 0.00 | -0.002 | -0.004 | -404.522 |
| L8 | S12-4 | TORX | Left | -2.46 | 11.46 | 0.00 | -0.081 | 0.001 | 325.443 |
| | | | Right | -2.46 | 11.46 | 0.00 | -0.082 | 0.021 | -454.697 |
| L8 | S12-4 | TORY | Left | -2.98 | 13.86 | 0.00 | -0.098 | 0.001 | 393.313 |
| | | | Right | -2.98 | 13.86 | 0.00 | -0.100 | 0.026 | -348.920 |
| L8 | S12-4 | DX MAX | Left | 59.23 | 293.54 | 0.04 | 0.638 | 0.787 | 8431.901 |
| | | | Right | 59.40 | 293.54 | 0.04 | 0.492 | 0.812 | 11525.315 |
| L8 | S12-4 | DX MIN | Left | -59.23 | -293.54 | -0.04 | -0.638 | -0.787 | -8431.901 |
| | | | Right | -59.40 | -293.54 | -0.04 | -0.492 | -0.812 | -11525.315 |
| L8 | S12-4 | DY MAX | Left | 17.31 | 63.48 | 0.54 | 7.245 | 8.209 | 1732.081 |
| | | | Right | 17.29 | 63.48 | 0.53 | 8.214 | 8.008 | 2586.010 |
| L8 | S12-4 | DY MIN | Left | -17.31 | -63.48 | -0.54 | -7.245 | -8.209 | -1732.081 |
| | | | Right | -17.29 | -63.48 | -0.53 | -8.214 | -8.008 | -2586.010 |
| L8 | S12-5 | DEAD | Left | -4.77 | -14.21 | 0.00 | -0.001 | -0.003 | -313.687 |
| | | | Right | -4.77 | 0.31 | 0.00 | -0.002 | -0.002 | 158.970 |
| L8 | S12-5 | TORX | Left | 2.45 | 11.63 | 0.00 | -0.083 | -0.018 | 458.469 |
| | | | Right | 2.45 | 11.63 | 0.00 | -0.081 | 0.001 | -332.530 |
| L8 | S12-5 | TORY | Left | 2.97 | 14.06 | 0.00 | -0.101 | -0.022 | 554.359 |
| | | | Right | 2.97 | 14.06 | 0.00 | -0.098 | 0.002 | -461.947 |
| L8 | S12-5 | DX MAX | Left | 57.63 | 291.22 | 0.04 | 0.588 | 0.795 | 11373.592 |
| | | | Right | 57.67 | 291.22 | 0.04 | 0.547 | 0.785 | 8426.266 |
| L8 | S12-5 | DX MIN | Left | -57.63 | -291.22 | -0.04 | -0.588 | -0.795 | -11373.592 |
| | | | Right | -57.67 | -291.22 | -0.04 | -0.547 | -0.785 | -8426.266 |
| L8 | S12-5 | DY MAX | Left | 22.98 | 99.61 | 0.54 | 8.582 | 8.543 | 3985.326 |
| | | | Right | 22.94 | 99.61 | 0.56 | 7.568 | 8.651 | 2788.146 |
| L8 | S12-5 | DY MIN | Left | -22.98 | -99.61 | -0.54 | -8.582 | -8.543 | -3985.326 |
| | | | Right | -22.94 | -99.61 | -0.56 | -7.568 | -8.651 | -2788.146 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|--------|--------|------------|
| L8 | S12-6 | DEAD | -6.24 | -15.30 | 0.00 | -0.001 | -0.003 | -164.898 |
| | | Left | -6.24 | -0.77 | 0.00 | -0.002 | -0.002 | 181.501 |
| L8 | S12-6 | TORX | 2.61 | 20.80 | 0.00 | -0.090 | -0.020 | 777.960 |
| | | Left | 2.61 | 20.80 | 0.00 | -0.087 | -0.001 | -626.749 |
| L8 | S12-6 | TORY | 3.16 | 25.20 | 0.00 | -0.109 | -0.024 | 942.271 |
| | | Left | 3.16 | 25.20 | 0.00 | -0.106 | -0.003 | -771.444 |
| L8 | S12-6 | DX MAX | 54.71 | 495.06 | 0.04 | 0.439 | 0.807 | 18329.842 |
| | | Left | 54.53 | 495.06 | 0.04 | 0.452 | 0.784 | 15330.900 |
| L8 | S12-6 | DX MIN | -54.71 | -495.06 | -0.04 | -0.439 | -0.807 | -18329.842 |
| | | Left | -54.53 | -495.06 | -0.04 | -0.452 | -0.784 | -15330.900 |
| L8 | S12-6 | DY MAX | 29.02 | 185.30 | 0.55 | 8.968 | 8.479 | 7094.925 |
| | | Left | 28.99 | 185.30 | 0.56 | 8.849 | 8.207 | 5505.495 |
| L8 | S12-6 | DY MIN | -29.02 | -185.30 | -0.55 | -8.968 | -8.479 | -7094.925 |
| | | Left | -28.99 | -185.30 | -0.56 | -8.849 | -8.207 | -5505.495 |
| L8 | S12-7 | DEAD | -7.32 | -12.51 | 0.00 | -0.002 | -0.003 | -245.087 |
| | | Left | -7.32 | 2.01 | 0.00 | -0.003 | 0.001 | 111.886 |
| L8 | S12-7 | TORX | -0.99 | 26.56 | 0.00 | -0.090 | -0.023 | 757.163 |
| | | Left | -0.99 | 26.56 | 0.00 | -0.087 | -0.004 | -1048.655 |
| L8 | S12-7 | TORY | -1.19 | 32.12 | 0.00 | -0.109 | -0.028 | 915.651 |
| | | Left | -1.19 | 32.12 | 0.00 | -0.105 | -0.005 | -1269.366 |
| L8 | S12-7 | DX MAX | 36.03 | 603.78 | 0.04 | 0.461 | 0.786 | 17085.172 |
| | | Left | 36.55 | 603.78 | 0.04 | 0.456 | 0.703 | 13992.143 |
| L8 | S12-7 | DX MIN | -36.03 | -603.78 | -0.04 | -0.461 | -0.786 | -17085.172 |
| | | Left | -36.55 | -603.78 | -0.04 | -0.456 | -0.703 | -13992.143 |
| L8 | S12-7 | DY MAX | 7.89 | 371.95 | 0.55 | 8.030 | 9.121 | 7910.137 |
| | | Left | 7.95 | 371.95 | 0.55 | 8.664 | 8.936 | 10582.444 |
| L8 | S12-7 | DY MIN | -7.89 | -371.95 | -0.55 | -8.030 | -9.121 | -7910.137 |
| | | Left | -7.95 | -371.95 | -0.55 | -8.664 | -8.936 | -10582.444 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|--------|---------|------------|
| L8 | S12-8 | DEAD | -9.53 | -11.67 | 0.00 | -0.052 | -0.091 | -264.269 |
| | | Left | -9.53 | 4.13 | 0.00 | -0.052 | 0.203 | 12.544 |
| L8 | S12-8 | TORX | 0.95 | 25.32 | 0.00 | -0.075 | -0.033 | 933.432 |
| | | Left | 0.95 | 25.32 | 0.00 | -0.071 | -0.004 | -939.958 |
| L8 | S12-8 | TORY | 1.15 | 30.37 | 0.00 | -0.091 | -0.040 | 1119.644 |
| | | Left | 1.15 | 30.37 | 0.00 | -0.086 | -0.004 | -1127.427 |
| L8 | S12-8 | DX MAX | 4.35 | 376.42 | 0.05 | 0.478 | 0.894 | 21150.439 |
| | | Left | 4.03 | 376.42 | 0.05 | 0.478 | 0.974 | 21496.665 |
| L8 | S12-8 | DX MIN | -4.35 | -376.42 | -0.05 | -0.478 | -0.894 | -21150.439 |
| | | Left | -4.03 | -376.42 | -0.05 | -0.478 | -0.974 | -21496.665 |
| L8 | S12-8 | DY MAX | 27.73 | 414.04 | 0.61 | 8.327 | 10.673 | 15324.148 |
| | | Left | 27.72 | 414.04 | 0.61 | 8.277 | 10.390 | 15314.729 |
| L8 | S12-8 | DY MIN | -27.73 | -414.04 | -0.61 | -8.327 | -10.673 | -15324.148 |
| | | Left | -27.72 | -414.04 | -0.61 | -8.277 | -10.390 | -15314.729 |
| L8 | SA-1 | DEAD | -9.14 | -3.12 | 0.00 | -0.046 | -0.198 | 53.410 |
| | | Left | -9.14 | 12.69 | 0.00 | -0.046 | 0.086 | -300.186 |
| L8 | SA-1 | TORX | 0.92 | -23.30 | 0.00 | -0.071 | 0.001 | -866.609 |
| | | Left | 0.92 | -23.30 | 0.00 | -0.073 | 0.030 | 857.908 |
| L8 | SA-1 | TORY | 1.12 | -27.87 | 0.00 | -0.088 | 0.000 | -1034.342 |
| | | Left | 1.12 | -27.87 | 0.00 | -0.089 | 0.037 | 1025.988 |
| L8 | SA-1 | DX MAX | 28.19 | 400.55 | 0.58 | 8.342 | 10.002 | 14820.543 |
| | | Left | 28.21 | 400.55 | 0.59 | 8.119 | 10.162 | 14820.645 |
| L8 | SA-1 | DX MIN | -28.19 | -400.55 | -0.58 | -8.342 | -10.002 | -14820.543 |
| | | Left | -28.21 | -400.55 | -0.59 | -8.119 | -10.162 | -14820.645 |
| L8 | SA-1 | DY MAX | 2.93 | 525.75 | 0.07 | 0.866 | 1.201 | 19619.908 |
| | | Left | 3.19 | 525.75 | 0.07 | 0.897 | 1.184 | 19278.025 |
| L8 | SA-1 | DY MIN | -2.93 | -525.75 | -0.07 | -0.866 | -1.201 | -19619.908 |
| | | Left | -3.19 | -525.75 | -0.07 | -0.897 | -1.184 | -19278.025 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|--------|--------|------------|
| L8 | SA-2 | DEAD | -6.10 | 5.16 | 0.00 | -0.002 | -0.002 | 409.113 |
| | | Left | -6.10 | 19.69 | 0.00 | -0.002 | 0.001 | -435.416 |
| L8 | SA-2 | TORX | -0.64 | -27.35 | 0.00 | -0.087 | 0.002 | -1070.378 |
| | | Left | -0.64 | -27.35 | 0.00 | -0.088 | 0.021 | 789.235 |
| L8 | SA-2 | TORY | -0.75 | -33.05 | 0.00 | -0.105 | 0.002 | -1293.603 |
| | | Left | -0.75 | -33.05 | 0.00 | -0.107 | 0.026 | 953.668 |
| L8 | SA-2 | DX MAX | 6.87 | 265.80 | 0.54 | 5.746 | 8.475 | 10228.524 |
| | | Left | 6.85 | 265.80 | 0.53 | 6.475 | 8.378 | 7845.927 |
| L8 | SA-2 | DX MIN | -6.87 | -265.80 | -0.54 | -5.746 | -8.475 | -10228.524 |
| | | Left | -6.85 | -265.80 | -0.53 | -6.475 | -8.378 | -7845.927 |
| L8 | SA-2 | DY MAX | 38.35 | 568.31 | 0.05 | 0.738 | 0.860 | 22358.322 |
| | | Left | 37.73 | 568.31 | 0.06 | 0.473 | 0.912 | 16279.861 |
| L8 | SA-2 | DY MIN | -38.35 | -568.31 | -0.05 | -0.738 | -0.860 | -22358.322 |
| | | Left | -37.73 | -568.31 | -0.06 | -0.473 | -0.912 | -16279.861 |
| L8 | SA-3 | DEAD | -4.37 | 8.70 | 0.00 | -0.002 | 0.000 | 569.379 |
| | | Left | -4.37 | 33.22 | 0.00 | -0.002 | 0.001 | -516.631 |
| L8 | SA-3 | TORX | 2.26 | -21.06 | 0.00 | -0.089 | 0.000 | -709.449 |
| | | Left | 2.26 | -21.06 | 0.00 | -0.090 | 0.017 | 725.701 |
| L8 | SA-3 | TORY | 2.74 | -25.50 | 0.00 | -0.108 | 0.000 | -859.417 |
| | | Left | 2.74 | -25.50 | 0.00 | -0.110 | 0.021 | 874.722 |
| L8 | SA-3 | DX MAX | 25.79 | 173.67 | 0.56 | 5.473 | 8.354 | 5627.693 |
| | | Left | 25.62 | 173.67 | 0.50 | 6.168 | 7.642 | 4192.584 |
| L8 | SA-3 | DX MIN | -25.79 | -173.67 | -0.56 | -5.473 | -8.354 | -5627.693 |
| | | Left | -25.82 | -173.67 | -0.50 | -6.168 | -7.642 | -4192.584 |
| L8 | SA-3 | DY MAX | 41.57 | 445.78 | 0.05 | 0.441 | 0.857 | 15147.980 |
| | | Left | 41.75 | 445.78 | 0.05 | 0.791 | 0.816 | 15160.105 |
| L8 | SA-3 | DY MIN | -41.57 | -445.78 | -0.05 | -0.441 | -0.857 | -15147.980 |
| | | Left | -41.75 | -445.78 | -0.05 | -0.791 | -0.816 | -15160.105 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|----------|--------|---------|-------|--------|--------|------------|
| L8 | SA-4 | DEAD | -4.07 | 24.15 | 0.00 | -0.051 | 0.000 | 1282.470 |
| | | Left | -4.07 | 40.67 | 0.00 | -0.052 | 0.001 | -989.162 |
| L8 | SA-4 | TORX | 2.61 | -19.94 | 0.00 | -0.086 | -0.009 | -747.732 |
| | | Left | 2.61 | -19.94 | 0.00 | -0.087 | 0.027 | 608.255 |
| L8 | SA-4 | TORY | 3.16 | -24.16 | 0.00 | -0.104 | -0.011 | -906.069 |
| | | Left | 3.16 | -24.16 | 0.00 | -0.105 | 0.032 | 737.045 |
| L8 | SA-4 | DX MAX | 33.26 | 152.58 | 0.55 | 9.764 | 8.125 | 5569.917 |
| | | Left | 33.30 | 152.58 | 0.53 | 7.395 | 7.478 | 4805.989 |
| L8 | SA-4 | DX MIN | -33.26 | -152.58 | -0.55 | -9.764 | -8.125 | -5569.917 |
| | | Left | -33.30 | -152.58 | -0.53 | -7.395 | -7.478 | -4805.989 |
| L8 | SA-4 | DY MAX | 55.21 | 454.57 | 0.05 | 0.705 | 0.774 | 17246.679 |
| | | Left | 55.38 | 454.57 | 0.05 | 0.871 | 0.709 | 13678.541 |
| L8 | SA-4 | DY MIN | -55.21 | -454.57 | -0.05 | -0.705 | -0.774 | -17246.679 |
| | | Left | -55.38 | -454.57 | -0.05 | -0.871 | -0.709 | -13678.541 |
| L8 | SA-5 | DEAD | -5.24 | -17.69 | 0.00 | -0.001 | 0.001 | -448.082 |
| | | Left | -5.24 | -3.17 | 0.00 | -0.002 | 0.001 | 261.274 |
| L8 | SA-5 | TORX | -2.55 | -11.88 | 0.00 | -0.082 | -0.016 | -468.022 |
| | | Left | -2.55 | -11.88 | 0.00 | -0.081 | 0.004 | 340.020 |
| L8 | SA-5 | TORY | -3.09 | -14.35 | 0.00 | -0.099 | -0.019 | -565.193 |
| | | Left | -3.09 | -14.35 | 0.00 | -0.098 | 0.005 | 410.474 |
| L8 | SA-5 | DX MAX | 19.56 | 81.15 | 0.53 | 8.400 | 7.968 | 3266.769 |
| | | Left | 19.58 | 81.15 | 0.53 | 7.199 | 8.183 | 2252.484 |
| L8 | SA-5 | DX MIN | -19.56 | -81.15 | -0.53 | -8.400 | -7.968 | -3266.769 |
| | | Left | -19.58 | -81.15 | -0.53 | -7.199 | -8.183 | -2252.484 |
| L8 | SA-5 | DY MAX | 55.94 | 275.90 | 0.05 | 0.651 | 1.018 | 10775.749 |
| | | Left | 55.84 | 275.90 | 0.05 | 0.713 | 0.984 | 7982.422 |
| L8 | SA-5 | DY MIN | -55.94 | -275.90 | -0.05 | -0.651 | -1.018 | -10775.749 |
| | | Left | -55.84 | -275.90 | -0.05 | -0.713 | -0.984 | -7982.422 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L8 | SA-8 | DEAD | Left | -6.60 | -20.41 | 0.00 | -0.001 | 0.001 | -560.203 |
| | | | Right | -6.60 | -6.09 | 0.00 | -0.002 | 0.001 | 347.513 |
| L8 | SA-6 | TORX | Left | -2.67 | -21.58 | 0.00 | -0.089 | -0.017 | -604.220 |
| | | | Right | -2.67 | -21.58 | 0.00 | -0.088 | 0.002 | 633.418 |
| L8 | SA-6 | TORY | Left | -3.24 | -26.12 | 0.00 | -0.108 | -0.021 | -973.350 |
| | | | Right | -3.24 | -26.12 | 0.00 | -0.106 | 0.002 | 803.107 |
| L8 | SA-6 | DX MAX | Left | 25.92 | 155.86 | 0.52 | 8.645 | 8.153 | 6005.248 |
| | | | Right | 25.94 | 155.86 | 0.53 | 6.746 | 8.425 | 4594.884 |
| L8 | SA-6 | DX MIN | Left | -25.92 | -155.86 | -0.52 | -8.645 | -8.153 | -6005.248 |
| | | | Right | -25.94 | -155.86 | -0.53 | -6.746 | -8.425 | -4594.884 |
| L8 | SA-6 | DY MAX | Left | 52.52 | 469.09 | 0.06 | 0.565 | 1.056 | 17370.598 |
| | | | Right | 52.39 | 469.09 | 0.06 | 0.566 | 0.978 | 14524.582 |
| L8 | SA-6 | DY MIN | Left | -52.52 | -469.09 | -0.06 | -0.565 | -1.056 | -17370.598 |
| | | | Right | -52.39 | -469.09 | -0.06 | -0.566 | -0.978 | -14524.582 |
| L8 | SA-7 | DEAD | Left | -6.57 | -19.17 | 0.00 | 0.000 | 0.001 | -431.728 |
| | | | Right | -6.57 | -4.85 | 0.00 | -0.001 | 0.000 | 378.204 |
| L8 | SA-7 | TORX | Left | 0.95 | -26.75 | 0.00 | -0.089 | -0.030 | -761.371 |
| | | | Right | 0.95 | -26.75 | 0.00 | -0.088 | -0.001 | 1037.672 |
| L8 | SA-7 | TORY | Left | 1.13 | -32.31 | 0.00 | -0.108 | -0.028 | -919.470 |
| | | | Right | 1.13 | -32.31 | 0.00 | -0.106 | -0.001 | 1277.701 |
| L8 | SA-7 | DX MAX | Left | 7.37 | 236.04 | 0.52 | 7.441 | 8.532 | 6898.279 |
| | | | Right | 7.37 | 236.04 | 0.52 | 6.474 | 8.349 | 9153.384 |
| L8 | SA-7 | DX MIN | Left | -7.37 | -236.04 | -0.52 | -7.441 | -8.532 | -6898.279 |
| | | | Right | -7.37 | -236.04 | -0.52 | -6.474 | -8.349 | -9153.384 |
| L8 | SA-7 | DY MAX | Left | 33.97 | 570.07 | 0.07 | 0.663 | 1.053 | 16095.815 |
| | | | Right | 34.43 | 570.07 | 0.06 | 0.665 | 0.985 | 22671.291 |
| L8 | SA-7 | DY MIN | Left | -33.97 | -570.07 | -0.07 | -0.663 | -1.053 | -16095.815 |
| | | | Right | -34.43 | -570.07 | -0.06 | -0.665 | -0.985 | -22671.291 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|------------|
| L8 | SA-8 | DEAD | Left | -9.37 | -17.73 | 0.00 | 0.045 | 0.087 | -487.469 |
| | | | Right | -9.37 | -1.93 | 0.00 | 0.045 | -0.199 | 246.164 |
| L8 | SA-8 | TORX | Left | -0.86 | -22.83 | 0.00 | -0.074 | -0.030 | -840.378 |
| | | | Right | -0.86 | -22.83 | 0.00 | -0.072 | 0.001 | 849.071 |
| L8 | SA-8 | TORY | Left | -1.05 | -27.28 | 0.00 | -0.090 | -0.036 | -1004.355 |
| | | | Right | -1.05 | -27.28 | 0.00 | -0.087 | 0.002 | 1014.727 |
| L8 | SA-8 | DX MAX | Left | 27.22 | 377.81 | 0.57 | 5.974 | 8.813 | 13883.473 |
| | | | Right | 27.23 | 377.81 | 0.56 | 8.309 | 8.640 | 13975.799 |
| L8 | SA-8 | DX MIN | Left | -27.22 | -377.81 | -0.57 | -5.974 | -8.813 | -13883.473 |
| | | | Right | -27.23 | -377.81 | -0.56 | -8.309 | -8.640 | -13975.799 |
| L8 | SA-8 | DY MAX | Left | 3.09 | 528.66 | 0.08 | 1.095 | 1.379 | 19387.688 |
| | | | Right | 2.65 | 528.66 | 0.08 | 0.936 | 1.517 | 19735.335 |
| L8 | SA-8 | DY MIN | Left | -3.09 | -528.66 | -0.08 | -1.095 | -1.379 | -19387.688 |
| | | | Right | -2.65 | -528.66 | -0.08 | -0.936 | -1.517 | -19735.335 |
| L8 | SP-1 | DEAD | Left | -9.85 | -4.25 | 0.00 | 0.048 | 0.206 | 3.389 |
| | | | Right | -9.85 | 11.56 | 0.00 | 0.048 | -0.088 | -267.067 |
| L8 | SP-1 | TORX | Left | -1.33 | 26.04 | 0.00 | -0.070 | 0.003 | 959.323 |
| | | | Right | -1.33 | 26.04 | 0.00 | -0.073 | 0.029 | -968.037 |
| L8 | SP-1 | TORY | Left | -1.63 | 31.18 | 0.00 | -0.086 | 0.003 | 1148.133 |
| | | | Right | -1.63 | 31.18 | 0.00 | -0.089 | 0.026 | -1158.982 |
| L8 | SP-1 | DX MAX | Left | 31.22 | 399.54 | 0.58 | 8.489 | 9.983 | 14706.543 |
| | | | Right | 31.24 | 399.54 | 0.59 | 6.272 | 10.127 | 14860.490 |
| L8 | SP-1 | DX MIN | Left | -31.22 | -399.54 | -0.58 | -8.489 | -9.983 | -14706.543 |
| | | | Right | -31.24 | -399.54 | -0.59 | -6.272 | -10.127 | -14860.490 |
| L8 | SP-1 | DY MAX | Left | 12.38 | 590.84 | 0.07 | 0.833 | 1.194 | 21864.837 |
| | | | Right | 12.54 | 590.84 | 0.07 | 0.862 | 1.105 | 21848.374 |
| L8 | SP-1 | DY MIN | Left | -12.38 | -590.84 | -0.07 | -0.833 | -1.194 | -21864.837 |
| | | | Right | -12.54 | -590.84 | -0.07 | -0.862 | -1.105 | -21848.374 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L8 | SP-2 | DEAD | Left | -5.28 | -2.09 | 0.00 | -0.000 | 0.002 | 159.015 |
| | | | Right | -5.28 | 12.43 | 0.00 | -0.001 | 0.000 | -192.413 |
| L8 | SP-2 | TORX | Left | 5.84 | 19.04 | 0.00 | -0.090 | 0.003 | 980.431 |
| | | | Right | 5.84 | 19.04 | 0.00 | -0.092 | 0.024 | -314.433 |
| L8 | SP-2 | TORY | Left | 7.06 | 23.00 | 0.00 | -0.109 | 0.003 | 1184.729 |
| | | | Right | 7.06 | 23.00 | 0.00 | -0.112 | 0.029 | -379.960 |
| L8 | SP-2 | DX MAX | Left | 42.53 | 180.40 | 0.54 | 7.026 | 8.673 | 8844.668 |
| | | | Right | 42.50 | 180.40 | 0.53 | 7.404 | 8.910 | 3427.734 |
| L8 | SP-2 | DX MIN | Left | -42.53 | -180.40 | -0.54 | -7.026 | -8.673 | -8844.668 |
| | | | Right | -42.50 | -180.40 | -0.53 | -7.404 | -8.910 | -3427.734 |
| L8 | SP-2 | DY MAX | Left | 133.39 | 397.96 | 0.05 | 0.941 | 0.842 | 20694.748 |
| | | | Right | 132.99 | 397.96 | 0.06 | 0.591 | 0.907 | 6419.509 |
| L8 | SP-2 | DY MIN | Left | -133.39 | -397.96 | -0.05 | -0.941 | -0.842 | -20694.748 |
| | | | Right | -132.99 | -397.96 | -0.06 | -0.591 | -0.907 | -6419.509 |
| L8 | SP-3 | DEAD | Left | -9.36 | -3.56 | 0.00 | -0.001 | 0.000 | 31.334 |
| | | | Right | -9.36 | 11.78 | 0.00 | -0.003 | 0.000 | -199.130 |
| L8 | SP-3 | TORX | Left | 10.43 | 11.93 | 0.00 | -0.075 | -0.015 | 289.635 |
| | | | Right | -15.96 | 11.93 | 0.00 | -0.078 | 0.019 | -335.154 |
| L8 | SP-3 | TORY | Left | 12.65 | 14.45 | 0.00 | -0.090 | -0.019 | 351.035 |
| | | | Right | -19.33 | 14.45 | 0.00 | -0.095 | 0.023 | -406.014 |
| L8 | SP-3 | DX MAX | Left | 71.64 | 91.25 | 0.04 | 2.467 | 1.519 | 2142.187 |
| | | | Right | 129.81 | 91.25 | 0.04 | 2.332 | 1.373 | 2651.089 |
| L8 | SP-3 | DX MIN | Left | -71.64 | -91.25 | -0.04 | -2.467 | -1.519 | -2142.187 |
| | | | Right | -129.81 | -91.25 | -0.04 | -2.332 | -1.373 | -2651.089 |
| L8 | SP-3 | DY MAX | Left | 332.57 | 259.48 | 0.00 | 0.213 | 0.097 | 6349.570 |
| | | | Right | 341.87 | 259.48 | 0.00 | 0.202 | 0.178 | 7236.990 |
| L8 | SP-3 | DY MIN | Left | -332.57 | -259.48 | 0.00 | -0.213 | -0.097 | -6349.570 |
| | | | Right | -341.87 | -259.48 | 0.00 | -0.202 | -0.178 | -7236.990 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L8 | SP-4 | DEAD | Left | -6.00 | -4.98 | 0.00 | -0.002 | 0.000 | -79.344 |
| | | | Right | -6.00 | 9.55 | 0.00 | -0.002 | 0.001 | -334.769 |
| L8 | SP-4 | TORX | Left | -6.42 | 7.05 | 0.00 | -0.084 | -0.005 | 8.391 |
| | | | Right | -6.42 | 7.05 | 0.00 | -0.085 | 0.016 | -470.600 |
| L8 | SP-4 | TORY | Left | -7.78 | 8.50 | 0.00 | -0.102 | -0.006 | 8.959 |
| | | | Right | -7.78 | 8.50 | 0.00 | -0.104 | 0.019 | -568.829 |
| L8 | SP-4 | DX MAX | Left | 50.72 | 47.58 | 0.53 | 7.169 | 8.489 | 232.425 |
| | | | Right | 50.75 | 47.58 | 0.53 | 8.184 | 8.405 | 3424.172 |
| L8 | SP-4 | DX MIN | Left | -50.72 | -47.58 | -0.53 | -7.169 | -8.489 | -232.425 |
| | | | Right | -50.75 | -47.58 | -0.53 | -8.184 | -8.405 | -3424.172 |
| L8 | SP-4 | DY MAX | Left | 139.23 | 164.66 | 0.05 | 0.649 | 0.860 | 676.805 |
| | | | Right | 139.50 | 164.66 | 0.05 | 0.694 | 0.861 | 10412.055 |
| L8 | SP-4 | DY MIN | Left | -139.23 | -164.66 | -0.05 | -0.649 | -0.860 | -676.805 |
| | | | Right | -139.50 | -164.66 | -0.05 | -0.694 | -0.861 | -10412.055 |
| L8 | SP-5 | DEAD | Left | -4.93 | -15.97 | 0.00 | -0.001 | 0.001 | -380.145 |
| | | | Right | -4.93 | 1.45 | 0.00 | -0.002 | 0.001 | 231.891 |
| L8 | SP-5 | TORX | Left | 2.85 | 14.12 | 0.00 | -0.082 | -0.016 | 554.984 |
| | | | Right | 2.85 | 14.12 | 0.00 | -0.081 | 0.004 | -405.366 |
| L8 | SP-5 | TORY | Left | 3.45 | 17.06 | 0.00 | -0.099 | -0.019 | 470.588 |
| | | | Right | 3.45 | 17.06 | 0.00 | -0.098 | 0.005 | -489.285 |
| L8 | SP-5 | DX MAX | Left | 18.77 | 72.99 | 0.53 | 8.396 | 7.947 | 2948.883 |
| | | | Right | 18.77 | 72.99 | 0.53 | 7.181 | 8.184 | 2015.595 |
| L8 | SP-5 | DX MIN | Left | -18.77 | -72.99 | -0.53 | -8.396 | -7.947 | -2948.883 |
| | | | Right | -18.77 | -72.99 | -0.53 | -7.181 | -8.184 | -2015.595 |
| L8 | SP-5 | DY MAX | Left | 63.65 | 320.38 | 0.05 | 0.945 | 0.954 | 12517.645 |
| | | | Right | 63.48 | 320.38 | 0.05 | 0.534 | 0.992 | 9064.414 |
| L8 | SP-5 | DY MIN | Left | -63.65 | -320.38 | -0.05 | -0.945 | -0.954 | -12517.645 |
| | | | Right | -63.48 | -320.38 | -0.05 | -0.534 | -0.992 | -9064.414 |

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SP-6 DEAD, SP-6 TORX, SP-6 TORY, SP-6 DX MAX, SP-6 DX MIN, SP-6 DY MAX, SP-6 DY MIN, SP-7 DEAD, SP-7 TORX, SP-7 TORY, SP-7 DX MAX, SP-7 DX MIN, SP-7 DY MAX, SP-7 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SP-8 DEAD, SP-8 TORX, SP-8 TORY, SP-8 DX MAX, SP-8 DX MIN, SP-8 DY MAX, SP-8 DY MIN, S1-1 DEAD, S1-1 TORX, S1-1 TORY, S1-1 DX MAX, S1-1 DX MIN, S1-1 DY MAX, S1-1 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include S1-2 DEAD, S1-2 TORX, S1-2 TORY, S1-2 DX MAX, S1-2 DX MIN, S1-2 DY MAX, S1-2 DY MIN, S1-3 DEAD, S1-3 TORX, S1-3 TORY, S1-3 DX MAX, S1-3 DX MIN, S1-3 DY MAX, S1-3 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include S1-4 DEAD, S1-4 TORX, S1-4 TORY, S1-4 DX MAX, S1-4 DX MIN, S1-4 DY MAX, S1-4 DY MIN, S1-5 DEAD, S1-5 TORX, S1-5 TORY, S1-5 DX MAX, S1-5 DX MIN, S1-5 DY MAX, S1-5 DY MIN.

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L7 | S1-6 | DEAD | Left | -4.85 | -13.24 | 0.00 | -0.001 | 0.000 | -324.049 |
| | | | Right | -4.85 | -3.50 | 0.00 | -0.001 | 0.000 | 244.567 |
| L7 | S1-6 | TORG | Left | -1.11 | -15.87 | 0.00 | -0.058 | 0.001 | -546.277 |
| | | | Right | -1.11 | -15.87 | 0.00 | -0.059 | 0.000 | 533.874 |
| L7 | S1-6 | TORY | Left | -1.35 | -19.27 | 0.00 | -0.071 | 0.002 | -663.218 |
| | | | Right | -1.35 | -19.27 | 0.00 | -0.071 | 0.000 | 646.970 |
| L7 | S1-6 | DX MAX | Left | 21.73 | 380.55 | 0.04 | 0.087 | 0.617 | 13102.430 |
| | | | Right | 21.75 | 380.55 | 0.04 | 0.104 | 0.628 | 12775.732 |
| L7 | S1-6 | DX MIN | Left | -21.73 | -380.55 | -0.04 | -0.087 | -0.617 | -13102.430 |
| | | | Right | -21.75 | -380.55 | -0.04 | -0.104 | -0.628 | -12775.732 |
| L7 | S1-6 | DY MAX | Left | 13.56 | 144.47 | 0.46 | 0.915 | 6.829 | 4989.034 |
| | | | Right | 13.54 | 144.47 | 0.46 | 0.913 | 6.778 | 4834.933 |
| L7 | S1-6 | DY MIN | Left | -13.56 | -144.47 | -0.46 | -0.915 | -6.829 | -4989.034 |
| | | | Right | -13.54 | -144.47 | -0.46 | -0.913 | -6.778 | -4834.933 |
| L7 | S1-7 | DEAD | Left | -5.63 | -11.84 | 0.00 | -0.001 | 0.001 | -266.443 |
| | | | Right | -5.63 | -3.12 | 0.00 | -0.001 | -0.002 | 208.623 |
| L7 | S1-7 | TORG | Left | -0.98 | -18.81 | 0.00 | -0.059 | 0.002 | -612.539 |
| | | | Right | -0.98 | -18.81 | 0.00 | -0.059 | 0.001 | 666.467 |
| L7 | S1-7 | TORY | Left | -1.19 | -25.82 | 0.00 | -0.072 | 0.002 | -743.056 |
| | | | Right | -1.19 | -25.82 | 0.00 | -0.072 | 0.001 | 808.417 |
| L7 | S1-7 | DX MAX | Left | 13.53 | 436.68 | 0.04 | 0.099 | 0.630 | 14204.049 |
| | | | Right | 13.39 | 436.68 | 0.04 | 0.113 | 0.645 | 15490.869 |
| L7 | S1-7 | DX MIN | Left | -13.53 | -436.68 | -0.04 | -0.099 | -0.630 | -14204.049 |
| | | | Right | -13.39 | -436.68 | -0.04 | -0.113 | -0.645 | -15490.869 |
| L7 | S1-7 | DY MAX | Left | 15.58 | 194.55 | 0.46 | 0.771 | 6.757 | 6305.911 |
| | | | Right | 15.56 | 194.55 | 0.46 | 0.691 | 6.798 | 6923.585 |
| L7 | S1-7 | DY MIN | Left | -15.58 | -194.55 | -0.46 | -0.771 | -6.757 | -6305.911 |
| | | | Right | -15.56 | -194.55 | -0.46 | -0.691 | -6.798 | -6923.585 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L7 | S1-8 | DEAD | Left | -6.30 | -10.02 | 0.00 | -0.037 | 0.117 | -229.170 |
| | | | Right | -6.30 | 0.58 | 0.00 | -0.037 | -0.184 | 119.867 |
| L7 | S1-8 | TORG | Left | -0.49 | -18.70 | 0.00 | -0.041 | 0.000 | -701.580 |
| | | | Right | -0.49 | -18.70 | 0.00 | -0.041 | -0.001 | 682.091 |
| L7 | S1-8 | TORY | Left | -0.60 | -22.64 | 0.00 | -0.049 | 0.000 | -869.830 |
| | | | Right | -0.60 | -22.64 | 0.00 | -0.049 | -0.001 | 825.919 |
| L7 | S1-8 | DX MAX | Left | 4.17 | 404.32 | 0.05 | 0.328 | 0.837 | 15142.445 |
| | | | Right | 4.07 | 404.32 | 0.05 | 0.340 | 0.849 | 14777.089 |
| L7 | S1-8 | DX MIN | Left | -4.17 | -404.32 | -0.05 | -0.328 | -0.837 | -15142.445 |
| | | | Right | -4.07 | -404.32 | -0.05 | -0.340 | -0.849 | -14777.089 |
| L7 | S1-8 | DY MAX | Left | 16.28 | 265.47 | 0.51 | 0.474 | 8.399 | 9978.114 |
| | | | Right | 16.27 | 265.47 | 0.51 | 0.484 | 8.420 | 9466.777 |
| L7 | S1-8 | DY MIN | Left | -16.28 | -265.47 | -0.51 | -0.474 | -8.399 | -9978.114 |
| | | | Right | -16.27 | -265.47 | -0.51 | -0.484 | -8.420 | -9466.777 |
| L7 | S12-1 | DEAD | Left | -6.27 | -3.01 | 0.00 | -0.036 | 0.182 | 30.597 |
| | | | Right | -6.27 | 7.59 | 0.00 | -0.036 | -0.112 | -139.021 |
| L7 | S12-1 | TORG | Left | -0.41 | 17.81 | 0.00 | -0.040 | 0.011 | 649.344 |
| | | | Right | -0.41 | 17.81 | 0.00 | -0.040 | -0.002 | -668.241 |
| L7 | S12-1 | TORY | Left | -0.50 | 21.55 | 0.00 | -0.049 | 0.013 | 785.876 |
| | | | Right | -0.50 | 21.55 | 0.00 | -0.048 | -0.003 | -808.875 |
| L7 | S12-1 | DX MAX | Left | 3.50 | 426.68 | 0.04 | 0.237 | 1.081 | 15583.762 |
| | | | Right | 3.56 | 426.68 | 0.04 | 0.242 | 1.097 | 15991.211 |
| L7 | S12-1 | DX MIN | Left | -3.50 | -426.68 | -0.04 | -0.237 | -1.081 | -15583.762 |
| | | | Right | -3.56 | -426.68 | -0.04 | -0.242 | -1.097 | -15991.211 |
| L7 | S12-1 | DY MAX | Left | 15.15 | 193.40 | 0.46 | 0.456 | 7.435 | 7037.247 |
| | | | Right | 15.14 | 193.40 | 0.46 | 0.463 | 7.436 | 7274.353 |
| L7 | S12-1 | DY MIN | Left | -15.15 | -193.40 | -0.46 | -0.456 | -7.435 | -7037.247 |
| | | | Right | -15.14 | -193.40 | -0.46 | -0.463 | -7.436 | -7274.353 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L7 | S12-2 | DEAD | Left | -5.55 | 0.54 | 0.00 | -0.001 | 0.004 | 151.919 |
| | | | Right | -5.55 | 10.28 | 0.00 | -0.001 | 0.001 | -215.878 |
| L7 | S12-2 | TORG | Left | -0.94 | 18.47 | 0.00 | -0.059 | -0.007 | 653.335 |
| | | | Right | -0.94 | 18.47 | 0.00 | -0.059 | -0.007 | -602.645 |
| L7 | S12-2 | TORY | Left | -1.14 | 22.40 | 0.00 | -0.072 | -0.009 | 792.349 |
| | | | Right | -1.14 | 22.40 | 0.00 | -0.072 | -0.008 | -730.944 |
| L7 | S12-2 | DX MAX | Left | 14.80 | 453.52 | 0.05 | 0.111 | 0.808 | 16062.999 |
| | | | Right | 14.94 | 453.52 | 0.05 | 0.108 | 0.798 | 14776.875 |
| L7 | S12-2 | DX MIN | Left | -14.80 | -453.52 | -0.05 | -0.111 | -0.808 | -16062.999 |
| | | | Right | -14.94 | -453.52 | -0.05 | -0.108 | -0.798 | -14776.875 |
| L7 | S12-2 | DY MAX | Left | 12.65 | 120.90 | 0.43 | 0.456 | 6.283 | 4652.999 |
| | | | Right | 12.64 | 120.90 | 0.43 | 0.434 | 6.272 | 4248.511 |
| L7 | S12-2 | DY MIN | Left | -12.65 | -120.90 | -0.43 | -0.456 | -6.283 | -4652.999 |
| | | | Right | -12.64 | -120.90 | -0.43 | -0.434 | -6.272 | -4248.511 |
| L7 | S12-3 | DEAD | Left | -4.79 | 2.51 | 0.00 | -0.001 | 0.002 | 213.433 |
| | | | Right | -4.79 | 12.25 | 0.00 | -0.001 | 0.002 | -288.536 |
| L7 | S12-3 | TORG | Left | -1.10 | 15.45 | 0.00 | -0.059 | -0.005 | 527.747 |
| | | | Right | -1.10 | 15.45 | 0.00 | -0.059 | -0.006 | -536.184 |
| L7 | S12-3 | TORY | Left | -1.33 | 18.99 | 0.00 | -0.071 | -0.006 | 640.695 |
| | | | Right | -1.33 | 18.99 | 0.00 | -0.071 | -0.008 | -650.917 |
| L7 | S12-3 | DX MAX | Left | 23.54 | 390.54 | 0.05 | 0.098 | 0.777 | 13166.444 |
| | | | Right | 23.53 | 390.54 | 0.05 | 0.089 | 0.774 | 12390.332 |
| L7 | S12-3 | DX MIN | Left | -23.54 | -390.54 | -0.05 | -0.098 | -0.777 | -13166.444 |
| | | | Right | -23.53 | -390.54 | -0.05 | -0.089 | -0.774 | -12390.332 |
| L7 | S12-3 | DY MAX | Left | 10.14 | 93.53 | 0.43 | 0.674 | 6.343 | 3143.118 |
| | | | Right | 10.13 | 93.53 | 0.43 | 0.632 | 6.435 | 3217.345 |
| L7 | S12-3 | DY MIN | Left | -10.14 | -93.53 | -0.43 | -0.674 | -6.343 | -3143.118 |
| | | | Right | -10.13 | -93.53 | -0.43 | -0.632 | -6.435 | -3217.345 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|-----------|
| L7 | S12-4 | DEAD | Left | -4.00 | 3.98 | 0.00 | -0.001 | 0.002 | 205.335 |
| | | | Right | -4.00 | 13.32 | 0.00 | -0.001 | 0.002 | -297.140 |
| L7 | S12-4 | TORG | Left | -1.02 | 9.46 | 0.00 | -0.057 | -0.005 | 312.992 |
| | | | Right | -1.02 | 9.46 | 0.00 | -0.057 | -0.006 | -328.999 |
| L7 | S12-4 | TORY | Left | -1.23 | 11.47 | 0.00 | -0.070 | -0.006 | 381.029 |
| | | | Right | -1.23 | 11.47 | 0.00 | -0.070 | -0.008 | -399.239 |
| L7 | S12-4 | DX MAX | Left | 24.93 | 245.15 | 0.05 | 0.079 | 0.752 | 8138.805 |
| | | | Right | 24.89 | 245.15 | 0.05 | 0.068 | 0.740 | 8531.239 |
| L7 | S12-4 | DX MIN | Left | -24.93 | -245.15 | -0.05 | -0.079 | -0.752 | -8138.805 |
| | | | Right | -24.89 | -245.15 | -0.05 | -0.068 | -0.740 | -8531.239 |
| L7 | S12-4 | DY MAX | Left | 7.34 | 50.97 | 0.43 | 0.644 | 6.477 | 1689.092 |
| | | | Right | 7.32 | 50.97 | 0.43 | 0.695 | 6.444 | 1777.156 |
| L7 | S12-4 | DY MIN | Left | -7.34 | -50.97 | -0.43 | -0.644 | -6.477 | -1689.092 |
| | | | Right | -7.32 | -50.97 | -0.43 | -0.695 | -6.444 | -1777.156 |
| L7 | S12-5 | DEAD | Left | -3.86 | -10.59 | 0.00 | -0.001 | 0.001 | -236.718 |
| | | | Right | -3.86 | -0.95 | 0.00 | -0.001 | 0.000 | 152.478 |
| L7 | S12-5 | TORG | Left | 1.03 | 9.61 | 0.00 | -0.057 | 0.001 | 333.586 |
| | | | Right | 1.03 | 9.61 | 0.00 | -0.057 | 0.000 | -320.028 |
| L7 | S12-5 | TORY | Left | 1.25 | 11.67 | 0.00 | -0.069 | 0.001 | 404.878 |
| | | | Right | 1.25 | 11.67 | 0.00 | -0.070 | 0.000 | -398.420 |
| L7 | S12-5 | DX MAX | Left | 24.73 | 243.29 | 0.04 | 0.066 | 0.600 | 8445.231 |
| | | | Right | 24.76 | 243.29 | 0.04 | 0.076 | 0.610 | 8098.929 |
| L7 | S12-5 | DX MIN | Left | -24.73 | -243.29 | -0.04 | -0.066 | -0.600 | -8445.231 |
| | | | Right | -24.76 | -243.29 | -0.04 | -0.076 | -0.610 | -8098.929 |
| L7 | S12-5 | DY MAX | Left | 9.82 | 74.84 | 0.45 | 0.703 | 6.764 | 2600.338 |
| | | | Right | 9.81 | 74.84 | 0.46 | 0.674 | 6.812 | 2498.502 |
| L7 | S12-5 | DY MIN | Left | -9.82 | -74.84 | -0.45 | -0.703 | -6.764 | -2600.338 |
| | | | Right | -9.81 | -74.84 | -0.46 | -0.674 | -6.812 | -2498.502 |

S P A N D R E L F O R C E S

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L7, SA-2, SA-3, SA-4, SA-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

S P A N D R E L F O R C E S

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L7, SA-1, SA-2, SA-3, SA-4, SA-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

S P A N D R E L F O R C E S

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L7, SA-2, SA-3, SA-4, SA-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

S P A N D R E L F O R C E S

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include L7, SA-4, SA-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L7 | SA-6 | DEAD | Left | -4.82 | -14.20 | 0.00 | -0.001 | 0.000 | -357.003 |
| | | | Right | -4.82 | -4.46 | 0.00 | -0.001 | 0.000 | 277.389 |
| L7 | SA-6 | TORS | Left | -1.13 | -17.02 | 0.00 | -0.059 | 0.003 | -585.504 |
| | | | Right | -1.13 | -17.02 | 0.00 | -0.059 | 0.002 | 571.939 |
| L7 | SA-6 | TORS | Left | -1.37 | -20.66 | 0.00 | -0.071 | 0.004 | -710.607 |
| | | | Right | -1.36 | -20.66 | 0.00 | -0.071 | 0.003 | 694.171 |
| L7 | SA-6 | DX MAX | Left | 11.11 | 110.87 | 0.44 | 0.834 | 6.543 | 3932.026 |
| | | | Right | 11.12 | 110.87 | 0.44 | 0.728 | 6.496 | 3707.065 |
| L7 | SA-6 | DX MIN | Left | -11.11 | -110.87 | -0.44 | -0.834 | -6.543 | -3932.026 |
| | | | Right | -11.12 | -110.87 | -0.44 | -0.728 | -6.496 | -3707.065 |
| L7 | SA-6 | DY MAX | Left | 22.08 | 361.75 | 0.04 | 0.154 | 0.639 | 12448.177 |
| | | | Right | 22.11 | 361.75 | 0.04 | 0.166 | 0.649 | 12151.269 |
| L7 | SA-6 | DY MIN | Left | -22.08 | -361.75 | -0.04 | -0.154 | -0.639 | -12448.177 |
| | | | Right | -22.11 | -361.75 | -0.04 | -0.166 | -0.649 | -12151.269 |
| L7 | SA-7 | DEAD | Left | -5.56 | -12.52 | 0.00 | -0.001 | 0.000 | -287.483 |
| | | | Right | -5.56 | -2.78 | 0.00 | -0.001 | -0.002 | 332.690 |
| L7 | SA-7 | TORS | Left | -0.92 | -19.63 | 0.00 | -0.059 | 0.004 | -640.135 |
| | | | Right | -0.92 | -19.63 | 0.00 | -0.059 | 0.004 | 694.921 |
| L7 | SA-7 | TORS | Left | -1.12 | -23.80 | 0.00 | -0.072 | 0.004 | -776.176 |
| | | | Right | -1.12 | -23.80 | 0.00 | -0.072 | 0.004 | 842.527 |
| L7 | SA-7 | DX MAX | Left | 13.48 | 134.08 | 0.44 | 0.823 | 6.426 | 4892.457 |
| | | | Right | 13.49 | 134.08 | 0.44 | 0.724 | 6.467 | 4684.924 |
| L7 | SA-7 | DX MIN | Left | -13.48 | -134.08 | -0.44 | -0.823 | -6.426 | -4892.457 |
| | | | Right | -13.49 | -134.08 | -0.44 | -0.724 | -6.467 | -4684.924 |
| L7 | SA-7 | DY MAX | Left | 13.05 | 414.37 | 0.05 | 0.157 | 0.680 | 13489.563 |
| | | | Right | 12.92 | 414.37 | 0.05 | 0.172 | 0.695 | 14689.329 |
| L7 | SA-7 | DY MIN | Left | -13.05 | -414.37 | -0.05 | -0.157 | -0.680 | -13489.563 |
| | | | Right | -12.92 | -414.37 | -0.05 | -0.172 | -0.695 | -14689.329 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L7 | SA-8 | DEAD | Left | -6.21 | -9.54 | 0.00 | -0.037 | 0.116 | -211.252 |
| | | | Right | -6.21 | 1.06 | 0.00 | -0.037 | -0.183 | 102.403 |
| L7 | SA-8 | TORS | Left | -0.33 | -18.07 | 0.00 | -0.041 | 0.002 | -677.715 |
| | | | Right | -0.33 | -18.07 | 0.00 | -0.041 | 0.009 | 659.177 |
| L7 | SA-8 | TORS | Left | -0.41 | -21.85 | 0.00 | -0.050 | -0.002 | -819.623 |
| | | | Right | -0.41 | -21.85 | 0.00 | -0.050 | 0.011 | 797.257 |
| L7 | SA-8 | DX MAX | Left | 14.81 | 225.69 | 0.48 | 0.910 | 7.891 | 8480.090 |
| | | | Right | 14.81 | 225.69 | 0.48 | 0.395 | 7.830 | 8220.724 |
| L7 | SA-8 | DX MIN | Left | -14.81 | -225.69 | -0.48 | -0.910 | -7.891 | -8480.090 |
| | | | Right | -14.81 | -225.69 | -0.48 | -0.395 | -7.830 | -8220.724 |
| L7 | SA-8 | DY MAX | Left | 4.40 | 382.57 | 0.06 | 0.370 | 0.956 | 14327.128 |
| | | | Right | 4.35 | 382.57 | 0.06 | 0.283 | 1.070 | 13983.538 |
| L7 | SA-8 | DY MIN | Left | -4.40 | -382.57 | -0.06 | -0.370 | -0.956 | -14327.128 |
| | | | Right | -4.35 | -382.57 | -0.06 | -0.283 | -1.070 | -13983.538 |
| L7 | SP-1 | DEAD | Left | -6.50 | -5.48 | 0.00 | -0.037 | 0.191 | -67.954 |
| | | | Right | -6.50 | 4.91 | 0.00 | -0.037 | -0.119 | -39.024 |
| L7 | SP-1 | TORS | Left | -0.57 | 18.99 | 0.00 | -0.041 | 0.006 | 693.897 |
| | | | Right | -0.57 | 18.99 | 0.00 | -0.041 | 0.001 | -711.323 |
| L7 | SP-1 | TORS | Left | -0.70 | 22.97 | 0.00 | -0.050 | -0.007 | 839.472 |
| | | | Right | -0.70 | 22.97 | 0.00 | -0.050 | 0.002 | -860.493 |
| L7 | SP-1 | DX MAX | Left | 16.80 | 231.21 | 0.50 | 0.389 | 8.210 | 8425.297 |
| | | | Right | 16.81 | 231.21 | 0.50 | 0.500 | 8.265 | 8684.351 |
| L7 | SP-1 | DX MIN | Left | -16.80 | -231.21 | -0.50 | -0.389 | -8.210 | -8425.297 |
| | | | Right | -16.81 | -231.21 | -0.50 | -0.500 | -8.265 | -8684.351 |
| L7 | SP-1 | DY MAX | Left | 3.24 | 407.74 | 0.07 | 0.176 | 1.107 | 14917.836 |
| | | | Right | 3.24 | 407.74 | 0.07 | 0.193 | 1.143 | 15255.586 |
| L7 | SP-1 | DY MIN | Left | -3.24 | -407.74 | -0.07 | -0.176 | -1.107 | -14917.836 |
| | | | Right | -3.24 | -407.74 | -0.07 | -0.193 | -1.143 | -15255.586 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L7 | SP-2 | DEAD | Left | -4.51 | 2.59 | 0.00 | -0.001 | 0.003 | 272.624 |
| | | | Right | -4.51 | 12.33 | 0.00 | -0.001 | 0.001 | -234.286 |
| L7 | SP-2 | TORS | Left | -0.89 | 22.58 | 0.00 | -0.055 | -0.003 | 801.350 |
| | | | Right | -0.89 | 22.58 | 0.00 | -0.054 | -0.001 | -734.022 |
| L7 | SP-2 | TORS | Left | -1.08 | 27.39 | 0.00 | -0.066 | -0.004 | 971.984 |
| | | | Right | -1.08 | 27.39 | 0.00 | -0.066 | -0.002 | -890.515 |
| L7 | SP-2 | DX MAX | Left | 12.78 | 184.07 | 0.45 | 0.492 | 6.751 | 6622.206 |
| | | | Right | 12.80 | 184.07 | 0.45 | 0.600 | 6.585 | 5894.288 |
| L7 | SP-2 | DX MIN | Left | -12.78 | -184.07 | -0.45 | -0.492 | -6.751 | -6622.206 |
| | | | Right | -12.80 | -184.07 | -0.45 | -0.600 | -6.585 | -5894.288 |
| L7 | SP-2 | DY MAX | Left | 13.28 | 470.11 | 0.05 | 0.153 | 0.804 | 16649.256 |
| | | | Right | 13.28 | 470.11 | 0.05 | 0.147 | 0.798 | 15318.056 |
| L7 | SP-2 | DY MIN | Left | -13.28 | -470.11 | -0.05 | -0.153 | -0.804 | -16649.256 |
| | | | Right | -13.28 | -470.11 | -0.05 | -0.147 | -0.798 | -15318.056 |
| L7 | SP-3 | DEAD | Left | -5.48 | -0.87 | 0.00 | 0.000 | 0.000 | -3.438 |
| | | | Right | -5.48 | 3.91 | 0.00 | 0.000 | 0.000 | -106.793 |
| L7 | SP-3 | TORS | Left | -1.59 | 7.99 | 0.00 | -0.036 | -0.009 | 261.478 |
| | | | Right | -1.59 | 7.99 | 0.00 | -0.036 | 0.010 | -281.627 |
| L7 | SP-3 | TORS | Left | -1.93 | 9.70 | 0.00 | -0.043 | -0.011 | 317.697 |
| | | | Right | -1.93 | 9.70 | 0.00 | -0.044 | 0.013 | -342.147 |
| L7 | SP-3 | DX MAX | Left | 16.19 | 51.88 | 0.27 | 3.677 | 4.156 | 1663.204 |
| | | | Right | 16.20 | 51.88 | 0.25 | 3.305 | 3.947 | 1865.086 |
| L7 | SP-3 | DX MIN | Left | -16.19 | -51.88 | -0.27 | -3.677 | -4.156 | -1663.204 |
| | | | Right | -16.20 | -51.88 | -0.25 | -3.305 | -3.947 | -1865.086 |
| L7 | SP-3 | DY MAX | Left | 31.11 | 171.76 | 0.03 | 0.235 | 6.464 | 8551.630 |
| | | | Right | 31.14 | 171.76 | 0.03 | 0.398 | 6.443 | 6026.240 |
| L7 | SP-3 | DY MIN | Left | -31.11 | -171.76 | -0.03 | -0.235 | -6.464 | -8551.630 |
| | | | Right | -31.14 | -171.76 | -0.03 | -0.398 | -6.443 | -6026.240 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|-----------|
| L7 | SP-4 | DEAD | Left | -3.05 | -2.85 | 0.00 | 0.000 | 0.001 | 79.611 |
| | | | Right | -3.05 | 6.89 | 0.00 | 0.000 | 0.001 | -57.433 |
| L7 | SP-4 | TORS | Left | -0.97 | 11.38 | 0.00 | -0.055 | -0.003 | 410.620 |
| | | | Right | -0.97 | 11.38 | 0.00 | -0.055 | -0.002 | -283.207 |
| L7 | SP-4 | TORS | Left | -1.18 | 13.81 | 0.00 | -0.067 | -0.004 | 499.252 |
| | | | Right | -1.18 | 13.81 | 0.00 | -0.067 | -0.002 | -440.676 |
| L7 | SP-4 | DX MAX | Left | 8.22 | 72.30 | 0.45 | 0.603 | 6.491 | 2443.903 |
| | | | Right | 8.24 | 72.30 | 0.45 | 0.573 | 6.723 | 2272.903 |
| L7 | SP-4 | DX MIN | Left | -8.22 | -72.30 | -0.45 | -0.603 | -6.491 | -2443.903 |
| | | | Right | -8.24 | -72.30 | -0.45 | -0.573 | -6.723 | -2272.903 |
| L7 | SP-4 | DY MAX | Left | 22.23 | 249.02 | 0.05 | 0.121 | 0.683 | 8935.874 |
| | | | Right | 22.23 | 249.02 | 0.05 | 0.109 | 0.691 | 7998.841 |
| L7 | SP-4 | DY MIN | Left | -22.23 | -249.02 | -0.05 | -0.121 | -0.683 | -8935.874 |
| | | | Right | -22.23 | -249.02 | -0.05 | -0.109 | -0.691 | -7998.841 |
| L7 | SP-5 | DEAD | Left | -3.92 | -12.48 | 0.00 | -0.001 | 0.000 | -302.213 |
| | | | Right | -3.92 | -2.74 | 0.00 | -0.001 | 0.000 | 215.092 |
| L7 | SP-5 | TORS | Left | 1.20 | 11.41 | 0.00 | -0.057 | 0.003 | 396.085 |
| | | | Right | 1.20 | 11.41 | 0.00 | -0.057 | 0.002 | -380.025 |
| L7 | SP-5 | TORS | Left | 1.45 | 13.85 | 0.00 | -0.070 | 0.004 | 490.506 |
| | | | Right | 1.45 | 13.85 | 0.00 | -0.070 | 0.002 | -461.021 |
| L7 | SP-5 | DX MAX | Left | 8.04 | 60.03 | 0.44 | 0.723 | 6.562 | 2087.237 |
| | | | Right | 8.04 | 60.03 | 0.44 | 0.655 | 6.584 | 1994.797 |
| L7 | SP-5 | DX MIN | Left | -8.04 | -60.03 | -0.44 | -0.723 | -6.562 | -2087.237 |
| | | | Right | -8.04 | -60.03 | -0.44 | -0.655 | -6.584 | -1994.797 |
| L7 | SP-5 | DY MAX | Left | 27.29 | 251.74 | 0.04 | 0.120 | 0.604 | 8736.724 |
| | | | Right | 27.23 | 251.74 | 0.04 | 0.127 | 0.611 | 8282.027 |
| L7 | SP-5 | DY MIN | Left | -27.29 | -251.74 | -0.04 | -0.120 | -0.604 | -8736.724 |
| | | | Right | -27.23 | -251.74 | -0.04 | -0.127 | -0.611 | -8282.027 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L6 | S12-6 | DEAD | Left | -5.09 | -7.70 | 0.00 | 0.001 | 0.001 | -149.643 |
| | | | Right | -5.09 | 1.51 | 0.00 | 0.001 | 0.000 | 60.539 |
| L6 | S12-6 | TORX | Left | 1.21 | 14.67 | 0.00 | -0.057 | -0.006 | 507.167 |
| | | | Right | 1.21 | 14.67 | 0.00 | -0.057 | -0.001 | -490.492 |
| L6 | S12-6 | TORY | Left | 1.47 | 17.90 | 0.00 | -0.069 | -0.008 | 618.475 |
| | | | Right | 1.47 | 17.90 | 0.00 | -0.069 | -0.001 | -598.537 |
| L6 | S12-6 | DX MAX | Left | 25.25 | 376.67 | 0.04 | 0.130 | 0.543 | 13004.370 |
| | | | Right | 25.22 | 376.67 | 0.04 | 0.111 | 0.540 | 12408.108 |
| L6 | S12-6 | DX MIN | Left | -25.25 | -376.67 | -0.04 | -0.130 | -0.543 | -13004.370 |
| | | | Right | -25.22 | -376.67 | -0.04 | -0.111 | -0.540 | -12408.108 |
| L6 | S12-6 | DY MAX | Left | 12.87 | 98.93 | 0.27 | 1.193 | 5.647 | 3427.777 |
| | | | Right | 12.86 | 98.93 | 0.28 | 1.098 | 5.681 | 3299.264 |
| L6 | S12-6 | DY MIN | Left | -12.87 | -98.93 | -0.27 | -1.193 | -5.647 | -3427.777 |
| | | | Right | -12.86 | -98.93 | -0.28 | -1.098 | -5.681 | -3299.264 |
| L6 | S12-7 | DEAD | Left | -5.95 | -5.23 | 0.00 | 0.000 | 0.000 | -76.204 |
| | | | Right | -5.95 | 3.97 | 0.00 | 0.000 | 0.002 | -27.397 |
| L6 | S12-7 | TORX | Left | 0.69 | 17.69 | 0.00 | -0.058 | -0.007 | 579.919 |
| | | | Right | 0.69 | 17.69 | 0.00 | -0.058 | -0.003 | -623.854 |
| L6 | S12-7 | TORY | Left | 0.84 | 21.58 | 0.00 | -0.071 | -0.008 | 707.393 |
| | | | Right | 0.84 | 21.58 | 0.00 | -0.070 | -0.003 | -759.832 |
| L6 | S12-7 | DX MAX | Left | 10.29 | 447.95 | 0.04 | 0.140 | 0.552 | 14652.466 |
| | | | Right | 10.46 | 447.95 | 0.04 | 0.116 | 0.555 | 15806.276 |
| L6 | S12-7 | DX MIN | Left | -10.29 | -447.95 | -0.04 | -0.140 | -0.552 | -14652.466 |
| | | | Right | -10.46 | -447.95 | -0.04 | -0.116 | -0.555 | -15806.276 |
| L6 | S12-7 | DY MAX | Left | 11.59 | 129.67 | 0.38 | 1.150 | 5.672 | 4277.538 |
| | | | Right | 11.58 | 129.67 | 0.38 | 1.129 | 5.778 | 4529.752 |
| L6 | S12-7 | DY MIN | Left | -11.59 | -129.67 | -0.38 | -1.150 | -5.672 | -4277.538 |
| | | | Right | -11.58 | -129.67 | -0.38 | -1.129 | -5.778 | -4529.752 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L6 | S12-8 | DEAD | Left | -7.05 | -5.15 | 0.00 | 0.012 | -0.138 | -87.920 |
| | | | Right | -7.05 | 4.87 | 0.00 | 0.012 | 0.205 | -57.516 |
| L6 | S12-8 | TORX | Left | 0.56 | 19.64 | 0.00 | -0.022 | -0.010 | 734.224 |
| | | | Right | 0.56 | 19.64 | 0.00 | -0.022 | 0.002 | -719.473 |
| L6 | S12-8 | TORY | Left | 0.67 | 23.96 | 0.00 | -0.027 | -0.013 | 895.395 |
| | | | Right | 0.67 | 23.96 | 0.00 | -0.026 | 0.003 | -877.414 |
| L6 | S12-8 | DX MAX | Left | 2.75 | 456.02 | 0.04 | 0.359 | 0.808 | 16990.164 |
| | | | Right | 2.45 | 456.02 | 0.04 | 0.411 | 0.815 | 16754.231 |
| L6 | S12-8 | DX MIN | Left | -2.75 | -456.02 | -0.04 | -0.359 | -0.808 | -16990.164 |
| | | | Right | -2.45 | -456.02 | -0.04 | -0.411 | -0.815 | -16754.231 |
| L6 | S12-8 | DY MAX | Left | 17.00 | 204.14 | 0.42 | 1.060 | 7.130 | 7665.967 |
| | | | Right | 16.99 | 204.14 | 0.42 | 1.060 | 7.015 | 7440.043 |
| L6 | S12-8 | DY MIN | Left | -17.00 | -204.14 | -0.42 | -1.060 | -7.130 | -7665.967 |
| | | | Right | -16.99 | -204.14 | -0.42 | -1.060 | -7.015 | -7440.043 |
| L6 | SA-1 | DEAD | Left | -6.71 | -4.85 | 0.00 | 0.017 | -0.196 | -58.493 |
| | | | Right | -6.71 | 5.17 | 0.00 | 0.017 | 0.135 | -68.034 |
| L6 | SA-1 | TORX | Left | 0.49 | -21.58 | 0.00 | -0.024 | -0.006 | -790.846 |
| | | | Right | 0.49 | -21.58 | 0.00 | -0.025 | 0.000 | 806.408 |
| L6 | SA-1 | TORY | Left | 0.59 | -26.33 | 0.00 | -0.020 | -0.007 | -864.648 |
| | | | Right | 0.59 | -26.33 | 0.00 | -0.020 | 0.012 | 883.616 |
| L6 | SA-1 | DX MAX | Left | 17.81 | 217.27 | 0.43 | 1.811 | 7.164 | 7913.357 |
| | | | Right | 17.81 | 217.27 | 0.43 | 1.166 | 7.277 | 8164.631 |
| L6 | SA-1 | DX MIN | Left | -17.81 | -217.27 | -0.43 | -1.811 | -7.164 | -7913.357 |
| | | | Right | -17.81 | -217.27 | -0.43 | -1.166 | -7.277 | -8164.631 |
| L6 | SA-1 | DY MAX | Left | 2.86 | 421.14 | 0.06 | 0.447 | 1.090 | 13467.592 |
| | | | Right | 2.89 | 421.14 | 0.06 | 0.447 | 1.000 | 12495.289 |
| L6 | SA-1 | DY MIN | Left | -2.86 | -421.14 | -0.06 | -0.447 | -1.090 | -13467.592 |
| | | | Right | -2.89 | -421.14 | -0.06 | -0.447 | -1.000 | -12495.289 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L6 | SA-2 | DEAD | Left | -5.48 | 0.40 | 0.00 | -0.001 | -0.001 | 128.402 |
| | | | Right | -5.48 | 9.61 | 0.00 | -0.001 | 0.002 | -212.217 |
| L6 | SA-2 | TORX | Left | 0.68 | -21.10 | 0.00 | -0.058 | -0.001 | -743.795 |
| | | | Right | 0.68 | -21.10 | 0.00 | -0.059 | 0.006 | 691.233 |
| L6 | SA-2 | TORY | Left | 0.82 | -25.75 | 0.00 | -0.071 | -0.001 | -807.474 |
| | | | Right | 0.82 | -25.75 | 0.00 | -0.071 | 0.007 | 843.279 |
| L6 | SA-2 | DX MAX | Left | 12.11 | 145.23 | 0.39 | 1.142 | 5.936 | 5091.235 |
| | | | Right | 12.11 | 145.23 | 0.39 | 1.211 | 5.815 | 4784.102 |
| L6 | SA-2 | DX MIN | Left | -12.11 | -145.23 | -0.39 | -1.142 | -5.936 | -5091.235 |
| | | | Right | -12.11 | -145.23 | -0.39 | -1.211 | -5.815 | -4784.102 |
| L6 | SA-2 | DY MAX | Left | 9.94 | 436.42 | 0.04 | 0.178 | 0.661 | 15393.058 |
| | | | Right | 9.75 | 436.42 | 0.04 | 0.151 | 0.650 | 14282.528 |
| L6 | SA-2 | DY MIN | Left | -9.94 | -436.42 | -0.04 | -0.178 | -0.661 | -15393.058 |
| | | | Right | -9.75 | -436.42 | -0.04 | -0.151 | -0.650 | -14282.528 |
| L6 | SA-3 | DEAD | Left | -4.54 | 5.84 | 0.00 | 0.000 | 0.001 | 311.283 |
| | | | Right | -4.54 | 15.05 | 0.00 | 0.000 | 0.001 | -398.927 |
| L6 | SA-3 | TORX | Left | 1.21 | -19.01 | 0.00 | -0.057 | -0.005 | -636.752 |
| | | | Right | 1.21 | -19.01 | 0.00 | -0.057 | 0.005 | 653.646 |
| L6 | SA-3 | TORY | Left | 1.47 | -23.18 | 0.00 | -0.070 | -0.006 | -779.070 |
| | | | Right | 1.47 | -23.18 | 0.00 | -0.070 | 0.006 | 797.219 |
| L6 | SA-3 | DX MAX | Left | 12.77 | 120.23 | 0.40 | 1.172 | 5.990 | 4029.408 |
| | | | Right | 12.76 | 120.23 | 0.37 | 1.172 | 5.671 | 4146.242 |
| L6 | SA-3 | DX MIN | Left | -12.77 | -120.23 | -0.40 | -1.172 | -5.990 | -4029.408 |
| | | | Right | -12.76 | -120.23 | -0.37 | -1.172 | -5.671 | -4146.242 |
| L6 | SA-3 | DY MAX | Left | 29.12 | 395.04 | 0.04 | 0.161 | 0.605 | 13391.941 |
| | | | Right | 22.16 | 395.04 | 0.04 | 0.153 | 0.573 | 13570.113 |
| L6 | SA-3 | DY MIN | Left | -29.12 | -395.04 | -0.04 | -0.161 | -0.605 | -13391.941 |
| | | | Right | -22.16 | -395.04 | -0.04 | -0.153 | -0.573 | -13570.113 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|-----------|
| L6 | SA-4 | DEAD | Left | -4.12 | 8.78 | 0.00 | 0.000 | 0.001 | 245.002 |
| | | | Right | -4.12 | 15.98 | 0.00 | 0.000 | 0.001 | -428.435 |
| L6 | SA-4 | TORX | Left | 1.47 | -13.53 | 0.00 | -0.056 | -0.001 | -651.419 |
| | | | Right | 1.47 | -13.53 | 0.00 | -0.056 | 0.004 | 468.719 |
| L6 | SA-4 | TORY | Left | 1.79 | -16.91 | 0.00 | -0.088 | -0.001 | -550.481 |
| | | | Right | 1.79 | -16.91 | 0.00 | -0.089 | 0.005 | 571.432 |
| L6 | SA-4 | DX MAX | Left | 11.91 | 77.17 | 0.39 | 1.185 | 5.823 | 2571.626 |
| | | | Right | 11.92 | 77.17 | 0.39 | 1.183 | 5.777 | 2675.626 |
| L6 | SA-4 | DX MIN | Left | -11.91 | -77.17 | -0.39 | -1.185 | -5.823 | -2571.626 |
| | | | Right | -11.92 | -77.17 | -0.39 | -1.183 | -5.777 | -2675.626 |
| L6 | SA-4 | DY MAX | Left | 30.31 | 282.45 | 0.04 | 0.147 | 0.534 | 9422.747 |
| | | | Right | 30.37 | 282.45 | 0.04 | 0.153 | 0.521 | 9783.470 |
| L6 | SA-4 | DY MIN | Left | -30.31 | -282.45 | -0.04 | -0.147 | -0.534 | -9422.747 |
| | | | Right | -30.37 | -282.45 | -0.04 | -0.153 | -0.521 | -9783.470 |
| L6 | SA-5 | DEAD | Left | -4.75 | -10.63 | 0.00 | 0.000 | 0.001 | -249.381 |
| | | | Right | -4.75 | -1.42 | 0.00 | -0.001 | 0.001 | 160.277 |
| L6 | SA-5 | TORX | Left | -1.39 | -10.63 | 0.00 | -0.056 | -0.005 | -370.225 |
| | | | Right | -1.39 | -10.63 | 0.00 | -0.056 | 0.001 | 352.885 |
| L6 | SA-5 | TORY | Left | -1.68 | -12.98 | 0.00 | -0.068 | -0.006 | -451.971 |
| | | | Right | -1.68 | -12.98 | 0.00 | -0.068 | 0.001 | 430.816 |
| L6 | SA-5 | DX MAX | Left | 9.62 | 42.26 | 0.38 | 1.164 | 5.638 | 1479.210 |
| | | | Right | 9.63 | 42.26 | 0.38 | 1.121 | 5.671 | 1394.267 |
| L6 | SA-5 | DX MIN | Left | -9.62 | -42.26 | -0.38 | -1.164 | -5.638 | -1479.210 |
| | | | Right | -9.63 | -42.26 | -0.38 | -1.121 | -5.671 | -1394.267 |
| L6 | SA-5 | DY MAX | Left | 29.22 | 229.43 | 0.04 | 0.173 | 0.670 | 7978.311 |
| | | | Right | 29.18 | 229.43 | 0.04 | 0.163 | 0.673 | 7621.771 |
| L6 | SA-5 | DY MIN | Left | -29.22 | -229.43 | -0.04 | -0.173 | -0.670 | -7978.311 |
| | | | Right | -29.19 | -229.43 | -0.04 | -0.163 | -0.673 | -7621.771 |

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SA-6 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) and SA-7 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) for Left and Right side forces.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SA-8 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) and SP-1 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) for Left and Right side forces.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SP-2 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) and SP-3 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) for Left and Right side forces.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SP-4 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) and SP-5 (DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN) for Left and Right side forces.

SPANDREL FORCES

Table with 10 columns: STORY, SPANDREL, LOAD, LOC, F, V2, V3, T, M2, M3. Rows include SP-6 DEAD, SP-6 TORX, SP-6 TORY, SP-6 DX MAX, SP-6 DX MIN, SP-6 DY MAX, SP-6 DY MIN, SP-7 DEAD, SP-7 TORX, SP-7 TORY, SP-7 DX MAX, SP-7 DX MIN, SP-7 DY MAX, SP-7 DY MIN.

SPANDREL FORCES

Table with 10 columns: STORY, SPANDREL, LOAD, LOC, F, V2, V3, T, M2, M3. Rows include SP-8 DEAD, SP-8 TORX, SP-8 TORY, SP-8 DX MAX, SP-8 DX MIN, SP-8 DY MAX, SP-8 DY MIN, S1-1 DEAD, S1-1 TORX, S1-1 TORY, S1-1 DX MAX, S1-1 DX MIN, S1-1 DY MAX, S1-1 DY MIN.

SPANDREL FORCES

Table with 10 columns: STORY, SPANDREL, LOAD, LOC, F, V2, V3, T, M2, M3. Rows include S1-2 DEAD, S1-2 TORX, S1-2 TORY, S1-2 DX MAX, S1-2 DX MIN, S1-2 DY MAX, S1-2 DY MIN, S1-3 DEAD, S1-3 TORX, S1-3 TORY, S1-3 DX MAX, S1-3 DX MIN, S1-3 DY MAX, S1-3 DY MIN.

SPANDREL FORCES

Table with 10 columns: STORY, SPANDREL, LOAD, LOC, F, V2, V3, T, M2, M3. Rows include S1-4 DEAD, S1-4 TORX, S1-4 TORY, S1-4 DX MAX, S1-4 DX MIN, S1-4 DY MAX, S1-4 DY MIN, S1-5 DEAD, S1-5 TORX, S1-5 TORY, S1-5 DX MAX, S1-5 DX MIN, S1-5 DY MAX, S1-5 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for stories S1-6 through S1-7 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for stories S1-8 through S12-1 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for stories S12-2 through S12-3 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include data for stories S12-4 through S12-5 with various load types like DEAD, TORX, TORY, DX MAX, DX MIN, DY MAX, DY MIN.

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L5 | SA-4 | DEAD | Left | -6.04 | -10.43 | 0.00 | 0.001 | -0.002 | -250.742 |
| | | | Right | -6.04 | -1.39 | 0.00 | 0.001 | -0.002 | 150.638 |
| L5 | SA-4 | TORX | Left | -1.58 | -15.76 | 0.00 | -0.054 | -0.003 | -548.882 |
| | | | Right | -1.58 | -15.76 | 0.00 | -0.054 | 0.004 | 522.799 |
| L5 | SA-4 | TORY | Left | -1.92 | -19.28 | 0.00 | -0.066 | -0.004 | -671.316 |
| | | | Right | -1.92 | -19.28 | 0.00 | -0.066 | 0.004 | 639.467 |
| L5 | SA-6 | DX MAX | Left | 12.94 | 69.98 | 0.35 | 1.264 | 5.339 | 2456.929 |
| | | | Right | 12.95 | 69.98 | 0.35 | 1.213 | 5.345 | 2301.627 |
| L5 | SA-6 | DX MIN | Left | -12.94 | -69.98 | -0.35 | -1.264 | -5.339 | -2456.929 |
| | | | Right | -12.95 | -69.98 | -0.35 | -1.213 | -5.345 | -2301.627 |
| L5 | SA-6 | DY MAX | Left | 29.18 | 341.85 | 0.07 | 0.226 | 0.981 | 11884.542 |
| | | | Right | 29.11 | 341.85 | 0.07 | 0.302 | 0.990 | 11360.625 |
| L5 | SA-6 | DY MIN | Left | -29.18 | -341.85 | -0.07 | -0.226 | -0.981 | -11884.542 |
| | | | Right | -29.11 | -341.85 | -0.07 | -0.302 | -0.990 | -11360.625 |
| L5 | SA-7 | DEAD | Left | -6.86 | -6.40 | 0.00 | 0.002 | -0.001 | -189.535 |
| | | | Right | -6.86 | 0.43 | 0.00 | 0.002 | -0.003 | 78.595 |
| L5 | SA-7 | TORX | Left | -0.31 | -20.22 | 0.00 | -0.052 | -0.003 | -656.628 |
| | | | Right | -0.31 | -20.22 | 0.00 | -0.052 | 0.000 | 710.100 |
| L5 | SA-7 | TORY | Left | -0.37 | -24.73 | 0.00 | -0.064 | -0.003 | -803.224 |
| | | | Right | -0.37 | -24.73 | 0.00 | -0.064 | 0.000 | 878.520 |
| L5 | SA-7 | DX MAX | Left | 11.68 | 108.00 | 0.35 | 1.241 | 5.287 | 2475.935 |
| | | | Right | 11.69 | 108.00 | 0.35 | 1.240 | 5.466 | 2722.286 |
| L5 | SA-7 | DX MIN | Left | -11.68 | -108.00 | -0.35 | -1.241 | -5.287 | -2475.935 |
| | | | Right | -11.69 | -108.00 | -0.35 | -1.240 | -5.466 | -2722.286 |
| L5 | SA-7 | DY MAX | Left | 9.97 | 430.78 | 0.07 | 0.230 | 1.068 | 13957.857 |
| | | | Right | 10.37 | 430.78 | 0.08 | 0.374 | 1.126 | 15324.082 |
| L5 | SA-7 | DY MIN | Left | -9.97 | -430.78 | -0.07 | -0.230 | -1.068 | -13957.857 |
| | | | Right | -10.37 | -430.78 | -0.08 | -0.374 | -1.126 | -15324.082 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L5 | SA-8 | DEAD | Left | -7.57 | -7.27 | 0.01 | -0.009 | 0.147 | -181.322 |
| | | | Right | -7.57 | 2.46 | 0.01 | -0.009 | -0.232 | 20.592 |
| L5 | SA-8 | TORX | Left | -0.47 | -23.05 | 0.00 | -0.032 | -0.006 | -864.308 |
| | | | Right | -0.47 | -23.05 | 0.00 | -0.031 | 0.005 | 841.536 |
| L5 | SA-8 | TORY | Left | -0.82 | -28.21 | 0.00 | -0.039 | -0.007 | -1057.548 |
| | | | Right | -0.82 | -28.21 | 0.00 | -0.038 | 0.006 | 1029.704 |
| L5 | SA-8 | DX MAX | Left | 21.56 | 195.13 | 0.38 | 1.276 | 6.479 | 7400.616 |
| | | | Right | 21.56 | 195.13 | 0.38 | 1.622 | 6.518 | 7039.513 |
| L5 | SA-8 | DX MIN | Left | -21.56 | -195.13 | -0.38 | -1.276 | -6.479 | -7400.616 |
| | | | Right | -21.56 | -195.13 | -0.38 | -1.622 | -6.518 | -7039.513 |
| L5 | SA-8 | DY MAX | Left | 3.47 | 454.80 | 0.10 | 0.410 | 1.629 | 16978.087 |
| | | | Right | 3.28 | 454.80 | 0.10 | 0.465 | 1.692 | 16676.300 |
| L5 | SA-8 | DY MIN | Left | -3.47 | -454.80 | -0.10 | -0.410 | -1.629 | -16978.087 |
| | | | Right | -3.28 | -454.80 | -0.10 | -0.465 | -1.692 | -16676.300 |
| L5 | SP-1 | DEAD | Left | -7.86 | -5.53 | 0.01 | -0.009 | 0.241 | -92.790 |
| | | | Right | -7.86 | 4.29 | 0.01 | -0.009 | -0.154 | -47.901 |
| L5 | SP-1 | TORX | Left | -0.81 | 22.73 | 0.00 | -0.035 | -0.002 | 828.551 |
| | | | Right | -0.81 | 22.73 | 0.00 | -0.035 | 0.007 | -833.408 |
| L5 | SP-1 | TORY | Left | -0.99 | 27.81 | 0.00 | -0.043 | -0.003 | 1013.950 |
| | | | Right | -0.99 | 27.81 | 0.00 | -0.044 | 0.008 | -1044.323 |
| L5 | SP-1 | DX MAX | Left | 22.87 | 203.88 | 0.40 | 1.576 | 6.785 | 7347.744 |
| | | | Right | 22.87 | 203.88 | 0.40 | 1.344 | 6.785 | 7739.353 |
| L5 | SP-1 | DX MIN | Left | -22.87 | -203.88 | -0.40 | -1.576 | -6.785 | -7347.744 |
| | | | Right | -22.87 | -203.88 | -0.40 | -1.344 | -6.785 | -7739.353 |
| L5 | SP-1 | DY MAX | Left | 3.55 | 472.49 | 0.05 | 0.254 | 0.902 | 17307.582 |
| | | | Right | 3.66 | 472.49 | 0.05 | 0.208 | 0.864 | 17655.610 |
| L5 | SP-1 | DY MIN | Left | -3.55 | -472.49 | -0.05 | -0.254 | -0.902 | -17307.582 |
| | | | Right | -3.66 | -472.49 | -0.05 | -0.208 | -0.864 | -17655.610 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L5 | SP-2 | DEAD | Left | -6.65 | -2.39 | 0.00 | 0.003 | 0.004 | 19.295 |
| | | | Right | -6.65 | 6.44 | 0.00 | 0.003 | 0.001 | -124.286 |
| L5 | SP-2 | TORX | Left | -0.29 | 22.34 | 0.00 | -0.057 | 0.002 | 792.218 |
| | | | Right | -0.29 | 22.34 | 0.00 | -0.058 | 0.006 | -726.132 |
| L5 | SP-2 | TORY | Left | -0.35 | 27.32 | 0.00 | -0.071 | 0.003 | 969.788 |
| | | | Right | -0.35 | 27.32 | 0.00 | -0.071 | 0.008 | -887.491 |
| L5 | SP-2 | DX MAX | Left | 11.22 | 140.77 | 0.37 | 1.245 | 5.636 | 4967.824 |
| | | | Right | 11.22 | 140.77 | 0.36 | 1.207 | 5.455 | 4604.521 |
| L5 | SP-2 | DX MIN | Left | -11.22 | -140.77 | -0.37 | -1.245 | -5.636 | -4967.824 |
| | | | Right | -11.22 | -140.77 | -0.36 | -1.207 | -5.455 | -4604.521 |
| L5 | SP-2 | DY MAX | Left | 10.52 | 478.45 | 0.04 | 0.162 | 0.551 | 17012.487 |
| | | | Right | 10.06 | 478.45 | 0.04 | 0.195 | 0.541 | 15519.912 |
| L5 | SP-2 | DY MIN | Left | -10.52 | -478.45 | -0.04 | -0.162 | -0.551 | -17012.487 |
| | | | Right | -10.06 | -478.45 | -0.04 | -0.195 | -0.541 | -15519.912 |
| L5 | SP-3 | DEAD | Left | -5.48 | -1.36 | 0.00 | 0.003 | 0.002 | 50.983 |
| | | | Right | -5.48 | 7.67 | 0.00 | 0.003 | 0.001 | -162.400 |
| L5 | SP-3 | TORX | Left | -1.49 | 20.47 | 0.00 | -0.057 | 0.000 | 682.407 |
| | | | Right | -1.49 | 20.47 | 0.00 | -0.058 | 0.007 | -702.220 |
| L5 | SP-3 | TORY | Left | -1.81 | 24.99 | 0.00 | -0.070 | 0.000 | 832.281 |
| | | | Right | -1.81 | 24.99 | 0.00 | -0.071 | 0.009 | -866.012 |
| L5 | SP-3 | DX MAX | Left | 15.41 | 150.03 | 0.38 | 1.299 | 5.648 | 3979.821 |
| | | | Right | 15.41 | 150.03 | 0.35 | 1.245 | 5.378 | 4192.104 |
| L5 | SP-3 | DX MIN | Left | -15.41 | -150.03 | -0.38 | -1.299 | -5.648 | -3979.821 |
| | | | Right | -15.41 | -150.03 | -0.35 | -1.245 | -5.378 | -4192.104 |
| L5 | SP-3 | DY MAX | Left | 28.47 | 438.39 | 0.03 | 0.158 | 0.521 | 14639.747 |
| | | | Right | 28.54 | 438.39 | 0.03 | 0.176 | 0.499 | 15170.192 |
| L5 | SP-3 | DY MIN | Left | -28.47 | -438.39 | -0.03 | -0.158 | -0.521 | -14639.747 |
| | | | Right | -28.54 | -438.39 | -0.03 | -0.176 | -0.499 | -15170.192 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|-----------|
| L5 | SP-4 | DEAD | Left | -4.68 | -3.50 | 0.00 | 0.003 | 0.001 | -0.041 |
| | | | Right | -4.68 | 5.53 | 0.00 | 0.003 | 0.001 | -69.261 |
| L5 | SP-4 | TORX | Left | -1.71 | 11.29 | 0.00 | -0.034 | 0.000 | 375.185 |
| | | | Right | -1.71 | 11.29 | 0.00 | -0.034 | 0.007 | -392.135 |
| L5 | SP-4 | TORY | Left | -2.09 | 13.81 | 0.00 | -0.066 | 0.000 | 459.213 |
| | | | Right | -2.09 | 13.81 | 0.00 | -0.066 | 0.008 | -480.203 |
| L5 | SP-4 | DX MAX | Left | 11.61 | 52.78 | 0.36 | 1.234 | 5.520 | 1757.142 |
| | | | Right | 11.62 | 52.78 | 0.36 | 1.300 | 5.493 | 1832.054 |
| L5 | SP-4 | DX MIN | Left | -11.61 | -52.78 | -0.36 | -1.234 | -5.520 | -1757.142 |
| | | | Right | -11.62 | -52.78 | -0.36 | -1.304 | -5.493 | -1832.054 |
| L5 | SP-4 | DY MAX | Left | 35.78 | 254.21 | 0.03 | 0.147 | 0.499 | 8444.615 |
| | | | Right | 35.87 | 254.21 | 0.03 | 0.162 | 0.497 | 8840.871 |
| L5 | SP-4 | DY MIN | Left | -35.78 | -254.21 | -0.03 | -0.147 | -0.499 | -8444.615 |
| | | | Right | -35.87 | -254.21 | -0.03 | -0.162 | -0.497 | -8840.871 |
| L5 | SP-5 | DEAD | Left | -5.13 | -9.51 | 0.00 | -0.003 | 0.001 | -211.868 |
| | | | Right | -5.13 | 0.48 | 0.00 | -0.003 | 0.002 | 127.916 |
| L5 | SP-5 | TORX | Left | 1.80 | 10.16 | 0.00 | -0.034 | -0.003 | 354.832 |
| | | | Right | 1.80 | 10.16 | 0.00 | -0.034 | 0.004 | -335.782 |
| L5 | SP-5 | TORY | Left | 2.19 | 12.44 | 0.00 | -0.066 | -0.004 | 434.653 |
| | | | Right | 2.19 | 12.44 | 0.00 | -0.066 | 0.004 | -411.376 |
| L5 | SP-5 | DX MAX | Left | 10.69 | 42.78 | 0.35 | 1.292 | 5.344 | 1499.498 |
| | | | Right | 10.69 | 42.78 | 0.35 | 1.188 | 5.346 | 1409.215 |
| L5 | SP-5 | DX MIN | Left | -10.69 | -42.78 | -0.35 | -1.292 | -5.344 | -1499.498 |
| | | | Right | -10.69 | -42.78 | -0.35 | -1.188 | -5.346 | -1409.215 |
| L5 | SP-5 | DY MAX | Left | 38.35 | 236.55 | 0.06 | 0.251 | 0.983 | 8254.780 |
| | | | Right | 38.37 | 236.55 | 0.06 | 0.244 | 0.986 | 7829.412 |
| L5 | SP-5 | DY MIN | Left | -38.35 | -236.55 | -0.06 | -0.251 | -0.983 | -8254.780 |
| | | | Right | -38.37 | -236.55 | -0.06 | -0.244 | -0.986 | -7829.412 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | S1-6 | DEAD | Left | -17.39 | -19.12 | 0.00 | -0.007 | 0.005 | -592.740 |
| | | | Right | -17.39 | -2.83 | 0.00 | -0.008 | 0.005 | 163.437 |
| L4 | S1-6 | TORX | Left | -5.28 | -22.83 | 0.00 | -0.077 | -0.035 | -859.227 |
| | | | Right | -5.28 | -22.83 | 0.00 | -0.073 | -0.017 | 693.265 |
| L4 | S1-6 | TORY | Left | -6.44 | -27.95 | 0.00 | -0.095 | -0.043 | -1051.718 |
| | | | Right | -6.44 | -27.95 | 0.00 | -0.090 | -0.031 | 849.779 |
| L4 | S1-6 | DX MAX | Left | 106.68 | 657.43 | 0.07 | 1.888 | 1.062 | 24134.117 |
| | | | Right | 106.68 | 657.43 | 0.07 | 1.896 | 1.058 | 20562.232 |
| L4 | S1-6 | DX MIN | Left | -106.68 | -657.43 | -0.07 | -1.888 | -1.062 | -24134.117 |
| | | | Right | -106.68 | -657.43 | -0.07 | -1.896 | -1.058 | -20562.232 |
| L4 | S1-6 | DY MAX | Left | 56.51 | 192.81 | 0.58 | 16.069 | 9.230 | 7433.537 |
| | | | Right | 56.50 | 192.81 | 0.58 | 16.296 | 9.220 | 5478.600 |
| L4 | S1-6 | DY MIN | Left | -56.51 | -192.81 | -0.58 | -16.069 | -9.230 | -7433.537 |
| | | | Right | -56.50 | -192.81 | -0.58 | -16.296 | -9.220 | -5478.600 |
| L4 | S1-7 | DEAD | Left | -18.17 | -21.84 | 0.00 | -0.004 | 0.006 | -858.333 |
| | | | Right | -18.17 | -5.63 | 0.00 | -0.005 | -0.009 | 279.616 |
| L4 | S1-7 | TORX | Left | 0.48 | -26.79 | 0.00 | -0.075 | -0.038 | -895.291 |
| | | | Right | 0.48 | -26.79 | 0.00 | -0.071 | -0.019 | 1072.479 |
| L4 | S1-7 | TORY | Left | 0.61 | -35.25 | 0.00 | -0.080 | -0.047 | -1083.723 |
| | | | Right | 0.61 | -35.25 | 0.00 | -0.084 | -0.022 | 1313.536 |
| L4 | S1-7 | DX MAX | Left | 66.17 | 761.69 | 0.07 | 1.846 | 1.083 | 28930.786 |
| | | | Right | 66.69 | 761.69 | 0.07 | 1.971 | 1.086 | 28931.487 |
| L4 | S1-7 | DX MIN | Left | -66.17 | -761.69 | -0.07 | -1.846 | -1.083 | -28930.786 |
| | | | Right | -66.69 | -761.69 | -0.07 | -1.971 | -1.086 | -28931.487 |
| L4 | S1-7 | DY MAX | Left | 19.51 | 276.95 | 0.57 | 16.069 | 9.184 | 8831.409 |
| | | | Right | 19.54 | 276.95 | 0.58 | 16.308 | 9.238 | 10002.664 |
| L4 | S1-7 | DY MIN | Left | -19.51 | -276.95 | -0.57 | -16.069 | -9.184 | -8831.409 |
| | | | Right | -19.54 | -276.95 | -0.58 | -16.308 | -9.238 | -10002.664 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| L4 | S1-8 | DEAD | Left | -20.71 | -37.49 | 0.01 | 0.188 | 0.092 | -1321.811 |
| | | | Right | -20.71 | -19.76 | 0.01 | 0.187 | -0.308 | 788.534 |
| L4 | S1-8 | TORX | Left | -1.49 | -38.79 | 0.00 | -0.070 | -0.039 | -1438.430 |
| | | | Right | -1.49 | -38.79 | 0.00 | -0.064 | -0.054 | 1431.951 |
| L4 | S1-8 | TORY | Left | -1.82 | -47.54 | 0.00 | -0.085 | -0.048 | -1762.734 |
| | | | Right | -1.82 | -47.54 | 0.00 | -0.078 | -0.065 | 1754.935 |
| L4 | S1-8 | DX MAX | Left | 28.35 | 778.42 | 0.08 | 2.347 | 1.432 | 28230.299 |
| | | | Right | 28.63 | 778.42 | 0.08 | 2.427 | 1.459 | 29434.551 |
| L4 | S1-8 | DX MIN | Left | -28.35 | -778.42 | -0.08 | -2.347 | -1.432 | -28230.299 |
| | | | Right | -28.63 | -778.42 | -0.08 | -2.427 | -1.459 | -29434.551 |
| L4 | S1-8 | DY MAX | Left | 54.80 | 533.67 | 0.63 | 17.603 | 10.936 | 20131.119 |
| | | | Right | 54.80 | 533.67 | 0.64 | 18.005 | 11.501 | 19261.757 |
| L4 | S1-8 | DY MIN | Left | -54.80 | -533.67 | -0.63 | -17.603 | -10.936 | -20131.119 |
| | | | Right | -54.80 | -533.67 | -0.64 | -18.005 | -11.501 | -19261.757 |
| L4 | S12-1 | DEAD | Left | -20.80 | -3.79 | 0.01 | 0.100 | 0.250 | -95.434 |
| | | | Right | -20.90 | 13.84 | 0.01 | 0.099 | -0.108 | -470.786 |
| L4 | S12-1 | TORX | Left | -1.27 | 37.02 | 0.00 | -0.054 | 0.055 | 1369.053 |
| | | | Right | -1.27 | 37.02 | 0.00 | -0.057 | 0.042 | -1370.358 |
| L4 | S12-1 | TORY | Left | -1.54 | 45.36 | 0.00 | -0.065 | 0.068 | 1677.516 |
| | | | Right | -1.54 | 45.36 | 0.00 | -0.069 | 0.052 | -1678.945 |
| L4 | S12-1 | DX MAX | Left | 23.75 | 887.17 | 0.09 | 2.819 | 1.683 | 33370.417 |
| | | | Right | 23.37 | 887.17 | 0.09 | 2.406 | 1.553 | 32266.224 |
| L4 | S12-1 | DX MIN | Left | -23.75 | -887.17 | -0.09 | -2.819 | -1.683 | -33370.417 |
| | | | Right | -23.37 | -887.17 | -0.09 | -2.406 | -1.553 | -32266.224 |
| L4 | S12-1 | DY MAX | Left | 49.67 | 426.37 | 0.70 | 19.555 | 12.292 | 15491.287 |
| | | | Right | 49.66 | 426.37 | 0.69 | 19.209 | 11.866 | 16066.271 |
| L4 | S12-1 | DY MIN | Left | -49.67 | -426.37 | -0.70 | -19.555 | -12.292 | -15491.287 |
| | | | Right | -49.66 | -426.37 | -0.69 | -19.209 | -11.866 | -16066.271 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | S12-2 | DEAD | Left | -18.09 | -0.89 | 0.00 | -0.015 | 0.002 | 46.821 |
| | | | Right | -18.09 | 15.40 | 0.00 | -0.018 | -0.001 | -446.951 |
| L4 | S12-2 | TORX | Left | 0.39 | 28.14 | 0.00 | -0.060 | 0.030 | 1044.853 |
| | | | Right | 0.39 | 28.14 | 0.00 | -0.062 | 0.039 | -848.853 |
| L4 | S12-2 | TORY | Left | 0.50 | 34.47 | 0.00 | -0.069 | 0.033 | 1279.944 |
| | | | Right | 0.50 | 34.47 | 0.00 | -0.071 | 0.047 | -1083.678 |
| L4 | S12-2 | DX MAX | Left | 66.69 | 762.32 | 0.08 | 1.552 | 1.219 | 28955.080 |
| | | | Right | 66.07 | 762.32 | 0.08 | 1.898 | 1.206 | 22970.787 |
| L4 | S12-2 | DX MIN | Left | -66.69 | -762.32 | -0.08 | -1.552 | -1.219 | -28955.080 |
| | | | Right | -66.07 | -762.32 | -0.08 | -1.898 | -1.206 | -22970.787 |
| L4 | S12-2 | DY MAX | Left | 18.19 | 182.65 | 0.61 | 17.218 | 9.694 | 6692.717 |
| | | | Right | 18.19 | 182.65 | 0.61 | 16.765 | 9.652 | 5730.824 |
| L4 | S12-2 | DY MIN | Left | -18.19 | -182.65 | -0.61 | -17.218 | -9.694 | -6692.717 |
| | | | Right | -18.19 | -182.65 | -0.61 | -16.765 | -9.652 | -5730.824 |
| L4 | S12-3 | DEAD | Left | -16.01 | 1.99 | 0.00 | -0.020 | 0.001 | 167.915 |
| | | | Right | -16.01 | 16.28 | 0.00 | -0.021 | -0.001 | -521.398 |
| L4 | S12-3 | TORX | Left | -4.86 | 22.23 | 0.00 | -0.069 | 0.017 | 684.385 |
| | | | Right | -4.86 | 22.23 | 0.00 | -0.070 | 0.035 | -857.204 |
| L4 | S12-3 | TORY | Left | -5.92 | 27.21 | 0.00 | -0.082 | 0.022 | 838.200 |
| | | | Right | -5.92 | 27.21 | 0.00 | -0.084 | 0.044 | -1012.344 |
| L4 | S12-3 | DX MAX | Left | 107.49 | 611.01 | 0.07 | 2.330 | 1.148 | 19082.882 |
| | | | Right | 107.69 | 611.01 | 0.07 | 1.915 | 1.157 | 22456.936 |
| L4 | S12-3 | DX MIN | Left | -107.49 | -611.01 | -0.07 | -2.330 | -1.148 | -19082.882 |
| | | | Right | -107.69 | -611.01 | -0.07 | -1.915 | -1.157 | -22456.936 |
| L4 | S12-3 | DY MAX | Left | 42.35 | 104.63 | 0.60 | 17.025 | 9.624 | 2932.327 |
| | | | Right | 42.33 | 104.63 | 0.60 | 16.786 | 9.624 | 4194.524 |
| L4 | S12-3 | DY MIN | Left | -42.35 | -104.63 | -0.60 | -17.025 | -9.624 | -2932.327 |
| | | | Right | -42.33 | -104.63 | -0.60 | -16.786 | -9.624 | -4194.524 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | S12-4 | DEAD | Left | -14.09 | 1.14 | 0.00 | -0.018 | 0.001 | 154.566 |
| | | | Right | -14.09 | 17.43 | 0.00 | -0.019 | -0.001 | -474.946 |
| L4 | S12-4 | TORX | Left | -5.44 | 10.32 | 0.00 | -0.063 | 0.006 | 369.330 |
| | | | Right | -5.44 | 10.32 | 0.00 | -0.065 | 0.028 | -432.258 |
| L4 | S12-4 | TORY | Left | -6.65 | 12.68 | 0.00 | -0.076 | 0.006 | 331.006 |
| | | | Right | -6.65 | 12.68 | 0.00 | -0.077 | 0.033 | -531.068 |
| L4 | S12-4 | DX MAX | Left | 133.35 | 312.09 | 0.07 | 2.116 | 1.124 | 8487.947 |
| | | | Right | 133.59 | 312.09 | 0.07 | 1.958 | 1.118 | 12737.814 |
| L4 | S12-4 | DX MIN | Left | -133.35 | -312.09 | -0.07 | -2.116 | -1.124 | -8487.947 |
| | | | Right | -133.59 | -312.09 | -0.07 | -1.958 | -1.118 | -12737.814 |
| L4 | S12-4 | DY MAX | Left | 34.74 | 54.11 | 0.60 | 14.859 | 9.619 | 1314.683 |
| | | | Right | 34.72 | 54.11 | 0.60 | 14.799 | 9.469 | 2370.199 |
| L4 | S12-4 | DY MIN | Left | -34.74 | -54.11 | -0.60 | -14.859 | -9.619 | -1314.683 |
| | | | Right | -34.72 | -54.11 | -0.60 | -14.799 | -9.469 | -2370.199 |
| L4 | S12-5 | DEAD | Left | -13.00 | -13.41 | 0.00 | 0.017 | -0.001 | -318.741 |
| | | | Right | -13.00 | 3.88 | 0.00 | 0.016 | 0.001 | 39.048 |
| L4 | S12-5 | TORX | Left | 5.58 | 10.63 | 0.00 | -0.061 | -0.028 | -445.549 |
| | | | Right | 5.58 | 10.63 | 0.00 | -0.057 | -0.006 | -277.446 |
| L4 | S12-5 | TORY | Left | 6.83 | 13.07 | 0.00 | -0.072 | -0.033 | -547.490 |
| | | | Right | 6.83 | 13.07 | 0.00 | -0.068 | -0.008 | -341.058 |
| L4 | S12-5 | DX MAX | Left | 131.34 | 309.09 | 0.07 | 1.883 | 1.028 | 12569.263 |
| | | | Right | 131.10 | 309.09 | 0.07 | 1.823 | 1.045 | 8442.586 |
| L4 | S12-5 | DX MIN | Left | -131.34 | -309.09 | -0.07 | -1.883 | -1.028 | -12569.263 |
| | | | Right | -131.10 | -309.09 | -0.07 | -1.823 | -1.045 | -8442.586 |
| L4 | S12-5 | DY MAX | Left | 44.16 | 71.59 | 0.58 | 16.097 | 9.125 | 3101.767 |
| | | | Right | 44.14 | 71.59 | 0.58 | 16.234 | 9.251 | 1787.913 |
| L4 | S12-5 | DY MIN | Left | -44.16 | -71.59 | -0.58 | -16.097 | -9.125 | -3101.767 |
| | | | Right | -44.14 | -71.59 | -0.58 | -16.234 | -9.251 | -1787.913 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | S12-6 | DEAD | Left | -15.41 | -11.47 | 0.00 | 0.018 | 0.000 | -278.487 |
| | | | Right | -15.41 | 4.83 | 0.00 | 0.017 | 0.001 | -52.729 |
| L4 | S12-6 | TORX | Left | 5.25 | 23.33 | 0.00 | -0.058 | -0.033 | 878.057 |
| | | | Right | 5.25 | 23.33 | 0.00 | -0.054 | -0.015 | -710.557 |
| L4 | S12-6 | TORY | Left | 6.39 | 38.57 | 0.00 | -0.069 | -0.041 | 1072.278 |
| | | | Right | 6.39 | 28.57 | 0.00 | -0.064 | -0.018 | -870.334 |
| L4 | S12-6 | DX MAX | Left | 111.29 | 610.93 | 0.07 | 1.951 | 1.048 | 32619.809 |
| | | | Right | 111.08 | 610.93 | 0.07 | 1.859 | 1.054 | 18914.485 |
| L4 | S12-6 | DX MIN | Left | -111.29 | -610.93 | -0.07 | -1.951 | -1.048 | -32619.809 |
| | | | Right | -111.08 | -610.93 | -0.07 | -1.859 | -1.054 | -18914.485 |
| L4 | S12-6 | DY MAX | Left | 51.23 | 173.77 | 0.58 | 15.821 | 9.212 | 6711.966 |
| | | | Right | 51.23 | 173.77 | 0.58 | 16.457 | 9.194 | 5104.942 |
| L4 | S12-6 | DY MIN | Left | -51.23 | -173.77 | -0.58 | -15.821 | -9.212 | -6711.966 |
| | | | Right | -51.23 | -173.77 | -0.58 | -16.457 | -9.194 | -5104.942 |
| L4 | S12-7 | DEAD | Left | -19.18 | -7.28 | 0.00 | 0.014 | 0.000 | -207.667 |
| | | | Right | -19.18 | 9.02 | 0.00 | 0.013 | 0.002 | -266.923 |
| L4 | S12-7 | TORX | Left | -0.72 | 39.98 | 0.00 | -0.045 | -0.039 | 926.203 |
| | | | Right | -0.72 | 39.98 | 0.00 | -0.041 | -0.020 | -118.564 |
| L4 | S12-7 | TORY | Left | -0.91 | 36.72 | 0.00 | -0.050 | -0.047 | 1126.659 |
| | | | Right | -0.91 | 36.72 | 0.00 | -0.044 | -0.025 | -1370.250 |
| L4 | S12-7 | DX MAX | Left | 69.72 | 758.05 | 0.07 | 1.953 | 1.093 | 22823.952 |
| | | | Right | 70.33 | 758.05 | 0.07 | 2.021 | 1.111 | 28911.449 |
| L4 | S12-7 | DX MIN | Left | -69.72 | -758.05 | -0.07 | -1.953 | -1.093 | -22823.952 |
| | | | Right | -70.33 | -758.05 | -0.07 | -2.021 | -1.111 | -28911.449 |
| L4 | S12-7 | DY MAX | Left | 16.90 | 255.29 | 0.57 | 15.423 | 9.192 | 8086.888 |
| | | | Right | 16.92 | 255.29 | 0.58 | 16.613 | 9.249 | 9280.520 |
| L4 | S12-7 | DY MIN | Left | -16.90 | -255.29 | -0.57 | -15.423 | -9.192 | -8086.888 |
| | | | Right | -16.92 | -255.29 | -0.58 | -16.613 | -9.249 | -9280.520 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| L4 | S12-8 | DEAD | Left | -21.55 | -7.44 | -0.01 | -0.103 | -0.112 | -240.626 |
| | | | Right | -21.55 | 10.29 | -0.01 | -0.104 | 0.366 | -346.281 |
| L4 | S12-8 | TORX | Left | 1.09 | 40.71 | 0.00 | -0.043 | -0.043 | 1503.186 |
| | | | Right | 1.09 | 40.71 | 0.00 | -0.038 | -0.034 | -1509.015 |
| L4 | S12-8 | TORY | Left | 1.33 | 49.88 | 0.00 | -0.049 | -0.052 | 1841.787 |
| | | | Right | 1.33 | 49.88 | 0.00 | -0.042 | -0.041 | -1849.072 |
| L4 | S12-8 | DX MAX | Left | 24.66 | 876.56 | 0.08 | 2.276 | 1.404 | 31877.130 |
| | | | Right | 25.01 | 876.56 | 0.08 | 2.427 | 1.527 | 32975.036 |
| L4 | S12-8 | DX MIN | Left | -24.66 | -876.56 | -0.08 | -2.276 | -1.404 | -31877.130 |
| | | | Right | -25.01 | -876.56 | -0.08 | -2.427 | -1.527 | -32975.036 |
| L4 | S12-8 | DY MAX | Left | 47.43 | 496.53 | 0.63 | 17.283 | 10.954 | 18623.116 |
| | | | Right | 47.42 | 496.53 | 0.64 | 18.257 | 11.216 | 18111.518 |
| L4 | S12-8 | DY MIN | Left | -47.43 | -496.53 | -0.63 | -17.283 | -10.954 | -18623.116 |
| | | | Right | -47.42 | -496.53 | -0.64 | -18.257 | -11.216 | -18111.518 |
| L4 | SA-1 | DEAD | Left | -20.18 | -9.89 | -0.01 | -0.305 | -0.353 | -313.000 |
| | | | Right | -20.18 | 7.84 | -0.01 | -0.306 | 0.111 | -237.444 |
| L4 | SA-1 | TORX | Left | 0.55 | 42.40 | 0.00 | -0.055 | 0.022 | -1578.854 |
| | | | Right | 0.55 | 42.40 | 0.00 | -0.060 | 0.039 | 1558.522 |
| L4 | SA-1 | TORY | Left | 0.66 | -51.96 | 0.00 | -0.065 | 0.028 | -1925.177 |
| | | | Right | 0.66 | -51.96 | 0.00 | -0.070 | 0.048 | 1910.216 |
| L4 | SA-1 | DX MAX | Left | 49.35 | 520.95 | 0.63 | 18.280 | 11.200 | 18994.318 |
| | | | Right | 49.35 | 520.95 | 0.62 | 18.943 | 10.829 | 19557.468 |
| L4 | SA-1 | DX MIN | Left | -49.35 | -520.95 | -0.63 | -18.280 | -11.200 | -18994.318 |
| | | | Right | -49.35 | -520.95 | -0.62 | -18.943 | -10.829 | -19557.468 |
| L4 | SA-1 | DY MAX | Left | 27.45 | 758.84 | 0.09 | 2.527 | 1.569 | 28523.842 |
| | | | Right | 27.16 | 758.84 | 0.09 | 2.279 | 1.466 | 27459.398 |
| L4 | SA-1 | DY MIN | Left | -27.45 | -758.84 | -0.09 | -2.527 | -1.569 | -28523.842 |
| | | | Right | -27.16 | -758.84 | -0.09 | -2.279 | -1.466 | -27459.398 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|-------|--------|---------|-------|---------|--------|------------|
| L4 | SA-2 | DEAD | Left | -14.95 | 0.91 | 0.00 | 0.006 | 0.000 | 171.280 |
| | | | Right | -14.95 | 17.20 | 0.00 | 0.005 | 0.003 | -444.462 |
| L4 | SA-2 | TORX | Left | -2.59 | -34.24 | 0.00 | -0.055 | 0.011 | -1315.934 |
| | | | Right | -2.59 | -34.24 | 0.00 | -0.059 | 0.033 | 1012.047 |
| L4 | SA-2 | TORY | Left | -3.20 | -41.94 | 0.00 | -0.062 | 0.013 | -1412.218 |
| | | | Right | -3.20 | -41.94 | 0.00 | -0.067 | 0.039 | 1239.702 |
| L4 | SA-2 | DX MAX | Left | 12.33 | 279.10 | 0.57 | 16.609 | 9.069 | 10310.034 |
| | | | Right | 12.29 | 279.10 | 0.56 | 15.052 | 9.991 | 8669.698 |
| L4 | SA-2 | DX MIN | Left | -12.33 | -279.10 | -0.57 | -16.609 | -9.069 | -10310.034 |
| | | | Right | -12.29 | -279.10 | -0.56 | -15.052 | -9.991 | -8669.698 |
| L4 | SA-2 | DY MAX | Left | 86.11 | 718.95 | 0.07 | 2.259 | 1.149 | 27924.159 |
| | | | Right | 85.62 | 718.95 | 0.07 | 2.108 | 1.157 | 20941.028 |
| L4 | SA-2 | DY MIN | Left | -86.11 | -718.95 | -0.07 | -2.259 | -1.149 | -27924.159 |
| | | | Right | -85.62 | -718.95 | -0.07 | -2.108 | -1.157 | -20941.028 |
| L4 | SA-3 | DEAD | Left | -12.30 | 10.73 | 0.00 | 0.008 | 0.003 | 545.315 |
| | | | Right | -12.30 | 27.01 | 0.00 | 0.007 | 0.003 | -737.208 |
| L4 | SA-3 | TORX | Left | 4.25 | -29.89 | 0.00 | -0.063 | 0.010 | -969.286 |
| | | | Right | 4.25 | -29.89 | 0.00 | -0.066 | 0.028 | 1063.149 |
| L4 | SA-3 | TORY | Left | 5.18 | -36.60 | 0.00 | -0.079 | 0.012 | -1166.827 |
| | | | Right | 5.18 | -36.60 | 0.00 | -0.079 | 0.035 | 1301.719 |
| L4 | SA-3 | DX MAX | Left | 45.74 | 211.23 | 0.59 | 17.022 | 9.170 | 6185.703 |
| | | | Right | 45.76 | 211.23 | 0.54 | 14.541 | 8.707 | 7779.528 |
| L4 | SA-3 | DX MIN | Left | -45.74 | -211.23 | -0.59 | -17.022 | -9.170 | -6185.703 |
| | | | Right | -45.76 | -211.23 | -0.54 | -14.541 | -8.707 | -7779.528 |
| L4 | SA-3 | DY MAX | Left | 67.64 | 660.39 | 0.08 | 2.225 | 1.209 | 21751.225 |
| | | | Right | 67.83 | 660.39 | 0.07 | 2.096 | 1.152 | 23145.737 |
| L4 | SA-3 | DY MIN | Left | -67.64 | -660.39 | -0.08 | -2.225 | -1.209 | -21751.225 |
| | | | Right | -67.83 | -660.39 | -0.07 | -2.096 | -1.152 | -23145.737 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | H2 | H3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | SA-4 | DEAD | Left | -22.41 | 29.10 | 0.00 | 0.002 | 0.003 | 851.329 |
| | | | Right | -22.41 | 45.39 | 0.00 | 0.001 | 0.005 | -1681.178 |
| L4 | SA-4 | TORX | Left | 11.55 | -28.70 | 0.00 | -0.062 | 0.000 | -737.331 |
| | | | Right | 11.55 | -28.70 | 0.00 | -0.064 | 0.019 | 1214.943 |
| L4 | SA-4 | TORY | Left | 14.09 | -35.10 | 0.00 | -0.073 | -0.001 | -902.023 |
| | | | Right | 14.09 | -35.10 | 0.00 | -0.076 | 0.022 | 1484.914 |
| L4 | SA-4 | DX MAX | Left | 76.51 | 172.04 | 0.56 | 16.535 | 8.863 | 4328.366 |
| | | | Right | 76.52 | 172.04 | 0.56 | 14.972 | 8.735 | 7370.348 |
| L4 | SA-4 | DX MIN | Left | -76.51 | -172.04 | -0.56 | -16.535 | -8.863 | -4328.366 |
| | | | Right | -76.52 | -172.04 | -0.56 | -14.972 | -8.735 | -7370.348 |
| L4 | SA-4 | DY MAX | Left | 241.21 | 641.72 | 0.08 | 2.251 | 1.228 | 18710.203 |
| | | | Right | 241.54 | 641.72 | 0.08 | 2.401 | 1.233 | 26924.042 |
| L4 | SA-4 | DY MIN | Left | -241.21 | -641.72 | -0.08 | -2.251 | -1.228 | -18710.203 |
| | | | Right | -241.54 | -641.72 | -0.08 | -2.401 | -1.233 | -26924.042 |
| L4 | SA-5 | DEAD | Left | -14.17 | -17.81 | 0.00 | -0.005 | 0.003 | -480.464 |
| | | | Right | -14.17 | -1.22 | 0.00 | -0.006 | 0.003 | 162.967 |
| L4 | SA-5 | TORX | Left | -5.86 | -12.37 | 0.00 | -0.065 | -0.022 | -508.198 |
| | | | Right | -5.86 | -12.37 | 0.00 | -0.064 | -0.022 | 325.282 |
| L4 | SA-5 | TORY | Left | -7.16 | -15.18 | 0.00 | -0.080 | -0.026 | -620.628 |
| | | | Right | -7.16 | -15.18 | 0.00 | -0.079 | -0.001 | 411.474 |
| L4 | SA-5 | DX MAX | Left | 38.83 | 58.99 | 0.55 | 15.202 | 8.757 | 2604.060 |
| | | | Right | 38.85 | 58.99 | 0.55 | 15.724 | 8.860 | 1414.320 |
| L4 | SA-5 | DX MIN | Left | -38.83 | -58.99 | -0.55 | -15.202 | -8.757 | -2604.060 |
| | | | Right | -38.85 | -58.99 | -0.55 | -15.724 | -8.860 | -1414.320 |
| L4 | SA-5 | DY MAX | Left | 115.41 | 287.41 | 0.11 | 3.250 | 1.810 | 11472.242 |
| | | | Right | 115.42 | 287.41 | 0.12 | 3.152 | 1.862 | 8644.312 |
| L4 | SA-5 | DY MIN | Left | -115.41 | -287.41 | -0.11 | -3.250 | -1.810 | -11472.242 |
| | | | Right | -115.42 | -287.41 | -0.12 | -3.152 | -1.862 | -8644.312 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | SA-6 | DEAD | Left | -16.64 | -21.21 | 0.00 | -0.005 | 0.004 | -670.713 |
| | | | Right | -16.64 | -21.21 | 0.00 | -0.005 | 0.003 | 285.837 |
| L4 | SA-6 | TORX | Left | -5.69 | -25.65 | 0.00 | -0.079 | -0.028 | -963.098 |
| | | | Right | -5.69 | -25.65 | 0.00 | -0.078 | -0.010 | 780.868 |
| L4 | SA-6 | TORY | Left | -6.93 | -31.41 | 0.00 | -0.098 | -0.025 | -1179.267 |
| | | | Right | -6.93 | -31.41 | 0.00 | -0.096 | -0.013 | 956.595 |
| L4 | SA-6 | DX MAX | Left | 49.18 | 125.66 | 0.55 | 15.123 | 8.817 | 5058.059 |
| | | | Right | 49.20 | 125.66 | 0.55 | 15.729 | 8.814 | 3495.819 |
| L4 | SA-6 | DX MIN | Left | -49.18 | -125.66 | -0.55 | -15.123 | -8.817 | -5058.059 |
| | | | Right | -49.20 | -125.66 | -0.55 | -15.729 | -8.814 | -3495.819 |
| L4 | SA-6 | DY MAX | Left | 102.70 | 593.04 | 0.12 | 3.773 | 1.992 | 21845.333 |
| | | | Right | 102.51 | 593.04 | 0.12 | 3.172 | 1.996 | 18473.450 |
| L4 | SA-6 | DY MIN | Left | -102.70 | -593.04 | -0.12 | -3.773 | -1.992 | -21845.333 |
| | | | Right | -102.51 | -593.04 | -0.12 | -3.172 | -1.996 | -18473.450 |
| L4 | SA-7 | DEAD | Left | -17.46 | -20.53 | 0.00 | -0.002 | 0.004 | -599.765 |
| | | | Right | -17.46 | -20.53 | 0.00 | -0.003 | 0.003 | 242.519 |
| L4 | SA-7 | TORX | Left | 1.24 | -32.33 | 0.00 | -0.083 | -0.032 | -879.924 |
| | | | Right | 1.24 | -32.33 | 0.00 | -0.082 | -0.012 | 1211.692 |
| L4 | SA-7 | TORY | Left | 1.55 | -39.48 | 0.00 | -0.100 | -0.039 | -1199.967 |
| | | | Right | 1.55 | -39.48 | 0.00 | -0.098 | -0.014 | 1484.238 |
| L4 | SA-7 | DX MAX | Left | 17.79 | 219.95 | 0.55 | 15.133 | 8.790 | 4914.299 |
| | | | Right | 17.77 | 219.95 | 0.55 | 15.684 | 8.828 | 3045.258 |
| L4 | SA-7 | DX MIN | Left | -17.79 | -219.95 | -0.55 | -15.133 | -8.790 | -4914.299 |
| | | | Right | -17.77 | -219.95 | -0.55 | -15.684 | -8.828 | -3045.258 |
| L4 | SA-7 | DY MAX | Left | 58.29 | 699.42 | 0.13 | 4.313 | 2.061 | 21018.684 |
| | | | Right | 58.83 | 699.42 | 0.13 | 3.141 | 1.992 | 26531.446 |
| L4 | SA-7 | DY MIN | Left | -58.29 | -699.42 | -0.13 | -4.313 | -2.061 | -21018.684 |
| | | | Right | -58.83 | -699.42 | -0.13 | -3.141 | -1.992 | -26531.446 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| L4 | SA-8 | DEAD | Left | -21.27 | -14.15 | 0.01 | 0.082 | 0.114 | -493.139 |
| | | | Right | -21.27 | 3.98 | 0.01 | 0.080 | -0.357 | -101.905 |
| L4 | SA-8 | TORX | Left | -0.48 | -41.48 | 0.00 | -0.078 | -0.036 | -1522.952 |
| | | | Right | -0.48 | -41.48 | 0.00 | -0.076 | -0.018 | 1546.702 |
| L4 | SA-8 | TORY | Left | -0.59 | -50.83 | 0.00 | -0.096 | -0.044 | -1866.001 |
| | | | Right | -0.59 | -50.83 | 0.00 | -0.093 | -0.023 | 1895.193 |
| L4 | SA-8 | DX MAX | Left | 53.91 | 515.45 | 0.61 | 17.022 | 10.498 | 19430.774 |
| | | | Right | 53.92 | 515.45 | 0.61 | 17.222 | 10.853 | 18718.132 |
| L4 | SA-8 | DX MIN | Left | -53.91 | -515.45 | -0.61 | -17.022 | -10.498 | -19430.774 |
| | | | Right | -53.92 | -515.45 | -0.61 | -17.222 | -10.853 | -18718.132 |
| L4 | SA-8 | DY MAX | Left | 30.95 | 760.57 | 0.17 | 5.307 | 2.870 | 27475.575 |
| | | | Right | 31.24 | 760.57 | 0.17 | 4.134 | 2.945 | 28792.720 |
| L4 | SA-8 | DY MIN | Left | -30.95 | -760.57 | -0.17 | -5.307 | -2.870 | -27475.575 |
| | | | Right | -31.24 | -760.57 | -0.17 | -4.134 | -2.945 | -28792.720 |
| L4 | SP-1 | DEAD | Left | -21.48 | -13.08 | 0.01 | 0.106 | 0.368 | -484.291 |
| | | | Right | -21.48 | 3.78 | 0.01 | 0.105 | -0.115 | -105.666 |
| L4 | SP-1 | TORX | Left | -0.90 | 42.14 | 0.00 | -0.037 | 0.024 | 1565.205 |
| | | | Right | -0.90 | 42.14 | 0.00 | -0.042 | 0.037 | -1553.212 |
| L4 | SP-1 | TORY | Left | -1.09 | 51.61 | 0.00 | -0.041 | 0.029 | 1816.956 |
| | | | Right | -1.10 | 51.61 | 0.00 | -0.046 | 0.046 | -1901.290 |
| L4 | SP-1 | DX MAX | Left | 51.73 | 517.65 | 0.63 | 18.187 | 11.289 | 19850.059 |
| | | | Right | 51.73 | 517.65 | 0.62 | 17.032 | 10.836 | 19457.839 |
| L4 | SP-1 | DX MIN | Left | -51.73 | -517.65 | -0.63 | -18.187 | -11.289 | -19850.059 |
| | | | Right | -51.73 | -517.65 | -0.62 | -17.032 | -10.836 | -19457.839 |
| L4 | SP-1 | DY MAX | Left | 19.95 | 812.52 | 0.08 | 2.549 | 1.531 | 30539.002 |
| | | | Right | 19.52 | 812.52 | 0.09 | 2.247 | 1.443 | 29573.459 |
| L4 | SP-1 | DY MIN | Left | -19.95 | -812.52 | -0.08 | -2.549 | -1.531 | -30539.002 |
| | | | Right | -19.52 | -812.52 | -0.09 | -2.247 | -1.443 | -29573.459 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | SP-2 | DEAD | Left | -18.05 | -7.84 | 0.00 | -0.013 | 0.001 | -231.343 |
| | | | Right | -18.05 | 8.44 | 0.00 | -0.014 | -0.002 | -231.108 |
| L4 | SP-2 | TORX | Left | 1.89 | 37.33 | 0.00 | -0.039 | 0.013 | 1408.013 |
| | | | Right | 1.89 | 37.33 | 0.00 | -0.042 | 0.033 | -1130.893 |
| L4 | SP-2 | TORY | Left | 2.32 | 45.69 | 0.00 | -0.041 | 0.016 | 1723.163 |
| | | | Right | 2.32 | 45.69 | 0.00 | -0.045 | 0.038 | -1383.499 |
| L4 | SP-2 | DX MAX | Left | 11.18 | 288.89 | 0.57 | 16.432 | 9.092 | 10669.002 |
| | | | Right | 11.15 | 288.89 | 0.56 | 15.338 | 9.009 | 8976.078 |
| L4 | SP-2 | DX MIN | Left | -11.18 | -288.89 | -0.57 | -16.432 | -9.092 | -10669.002 |
| | | | Right | -11.15 | -288.89 | -0.56 | -15.338 | -9.009 | -8976.078 |
| L4 | SP-2 | DY MAX | Left | 69.48 | 771.17 | 0.07 | 2.342 | 1.164 | 29434.803 |
| | | | Right | 68.93 | 771.17 | 0.07 | 1.919 | 1.162 | 22992.797 |
| L4 | SP-2 | DY MIN | Left | -69.48 | -771.17 | -0.07 | -2.342 | -1.164 | -29434.803 |
| | | | Right | -68.93 | -771.17 | -0.07 | -1.919 | -1.162 | -22992.797 |
| L4 | SP-3 | DEAD | Left | -15.09 | -5.20 | 0.00 | -0.016 | 0.000 | -71.892 |
| | | | Right | -15.09 | 11.09 | 0.00 | -0.017 | -0.001 | -271.597 |
| L4 | SP-3 | TORX | Left | -5.49 | 31.72 | 0.00 | -0.051 | 0.007 | 991.462 |
| | | | Right | -5.49 | 31.72 | 0.00 | -0.054 | 0.026 | -1165.407 |
| L4 | SP-3 | TORY | Left | -6.69 | 38.80 | 0.00 | -0.060 | 0.008 | 1213.247 |
| | | | Right | -6.69 | 38.80 | 0.00 | -0.063 | 0.032 | -1425.248 |
| L4 | SP-3 | DX MAX | Left | 51.46 | 204.92 | 0.59 | 16.760 | 9.158 | 6206.662 |
| | | | Right | 51.47 | 204.92 | 0.54 | 14.792 | 8.752 | 7864.712 |
| L4 | SP-3 | DX MIN | Left | -51.46 | -204.92 | -0.59 | -16.760 | -9.158 | -6206.662 |
| | | | Right | -51.47 | -204.92 | -0.54 | -14.792 | -8.752 | -7864.712 |
| L4 | SP-3 | DY MAX | Left | 103.59 | 660.75 | 0.08 | 3.263 | 1.180 | 20787.305 |
| | | | Right | 103.78 | 660.75 | 0.07 | 1.882 | 1.141 | 24124.518 |
| L4 | SP-3 | DY MIN | Left | -103.59 | -660.75 | -0.08 | -3.263 | -1.180 | -20787.305 |
| | | | Right | -103.78 | -660.75 | -0.07 | -1.882 | -1.141 | -24124.518 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | SP-4 | DEAD | Left | -32.01 | -4.47 | 0.00 | -0.015 | 0.000 | -8.428 |
| | | | Right | -32.01 | 11.82 | 0.00 | -0.016 | -0.002 | -8.504 |
| L4 | SP-4 | TORX | Left | -6.44 | 14.35 | 0.00 | -0.059 | 0.000 | 379.185 |
| | | | Right | -6.44 | 14.35 | 0.00 | -0.062 | 0.021 | -596.480 |
| L4 | SP-4 | TORY | Left | -7.87 | 17.61 | 0.00 | -0.073 | 0.000 | 465.476 |
| | | | Right | -7.87 | 17.61 | 0.00 | -0.075 | 0.025 | -731.724 |
| L4 | SP-4 | DX MAX | Left | 46.80 | 92.06 | 0.56 | 15.796 | 8.991 | 2311.457 |
| | | | Right | 46.81 | 92.06 | 0.56 | 15.875 | 8.868 | 3948.850 |
| L4 | SP-4 | DX MIN | Left | -46.80 | -92.06 | -0.56 | -15.796 | -8.991 | -2311.457 |
| | | | Right | -46.81 | -92.06 | -0.56 | -15.875 | -8.869 | -3948.850 |
| L4 | SP-4 | DY MAX | Left | 130.84 | 317.24 | 0.08 | 2.317 | 1.200 | 8572.856 |
| | | | Right | 131.07 | 317.24 | 0.08 | 2.115 | 1.189 | 12996.095 |
| L4 | SP-4 | DY MIN | Left | -130.84 | -317.24 | -0.08 | -2.317 | -1.200 | -8572.856 |
| | | | Right | -131.07 | -317.24 | -0.08 | -2.115 | -1.189 | -12996.095 |
| L4 | SP-5 | DEAD | Left | -14.10 | -18.24 | 0.00 | 0.024 | -0.003 | -506.669 |
| | | | Right | -14.10 | -1.95 | 0.00 | 0.023 | -0.001 | 179.598 |
| L4 | SP-5 | TORX | Left | 6.18 | 11.74 | 0.00 | -0.060 | -0.022 | 489.145 |
| | | | Right | 6.18 | 11.74 | 0.00 | -0.059 | -0.002 | -109.296 |
| L4 | SP-5 | TORY | Left | 7.56 | 14.43 | 0.00 | -0.074 | -0.027 | 601.129 |
| | | | Right | 7.56 | 14.43 | 0.00 | -0.073 | -0.002 | -180.265 |
| L4 | SP-5 | DX MAX | Left | 39.35 | 59.82 | 0.55 | 15.244 | 8.764 | 2635.497 |
| | | | Right | 39.36 | 59.82 | 0.55 | 15.659 | 8.876 | 1435.020 |
| L4 | SP-5 | DX MIN | Left | -39.35 | -59.82 | -0.55 | -15.244 | -8.764 | -2635.497 |
| | | | Right | -39.36 | -59.82 | -0.55 | -15.659 | -8.876 | -1435.020 |
| L4 | SP-5 | DY MAX | Left | 127.93 | 277.80 | 0.12 | 3.184 | 1.777 | 11338.714 |
| | | | Right | 127.70 | 277.80 | 0.12 | 3.285 | 1.778 | 7546.483 |
| L4 | SP-5 | DY MIN | Left | -127.93 | -277.80 | -0.12 | -3.184 | -1.777 | -11338.714 |
| | | | Right | -127.70 | -277.80 | -0.12 | -3.285 | -1.778 | -7546.483 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|---------|--------|------------|
| L4 | SP-6 | DEAD | Left | -15.26 | -22.42 | 0.00 | 0.036 | -0.003 | -646.142 |
| | | | Right | -15.26 | -6.12 | 0.00 | 0.025 | 0.000 | 324.189 |
| L4 | SP-6 | TORX | Left | 6.18 | 25.59 | 0.00 | -0.068 | -0.029 | 970.331 |
| | | | Right | 6.18 | 25.59 | 0.00 | -0.067 | -0.010 | -769.809 |
| L4 | SP-6 | TORY | Left | 7.54 | 31.33 | 0.00 | -0.084 | -0.035 | 1187.747 |
| | | | Right | 7.54 | 31.33 | 0.00 | -0.082 | -0.012 | -942.955 |
| L4 | SP-6 | DX MAX | Left | 49.51 | 134.59 | 0.55 | 15.206 | 8.810 | 5281.499 |
| | | | Right | 49.51 | 134.59 | 0.55 | 15.646 | 8.811 | 3774.582 |
| L4 | SP-6 | DX MIN | Left | -49.51 | -134.59 | -0.55 | -15.206 | -8.810 | -5281.499 |
| | | | Right | -49.51 | -134.59 | -0.55 | -15.646 | -8.811 | -3774.582 |
| L4 | SP-6 | DY MAX | Left | 120.14 | 564.01 | 0.13 | 3.211 | 1.862 | 21196.536 |
| | | | Right | 119.89 | 564.01 | 0.13 | 3.692 | 1.862 | 17146.872 |
| L4 | SP-6 | DY MIN | Left | -120.14 | -564.01 | -0.13 | -3.211 | -1.862 | -21196.536 |
| | | | Right | -119.89 | -564.01 | -0.13 | -3.692 | -1.862 | -17146.872 |
| L4 | SP-7 | DEAD | Left | -18.43 | -18.31 | 0.00 | 0.018 | -0.003 | -491.587 |
| | | | Right | -18.42 | -0.02 | 0.00 | 0.017 | 0.001 | 83.391 |
| L4 | SP-7 | TORX | Left | -1.09 | 33.25 | 0.00 | -0.074 | -0.032 | 1013.854 |
| | | | Right | -1.09 | 33.25 | 0.00 | -0.072 | -0.011 | -1244.984 |
| L4 | SP-7 | TORY | Left | -1.36 | 40.72 | 0.00 | -0.089 | -0.039 | 1241.402 |
| | | | Right | -1.36 | 40.72 | 0.00 | -0.087 | -0.013 | -1527.639 |
| L4 | SP-7 | DX MAX | Left | 18.33 | 226.09 | 0.55 | 15.191 | 8.798 | 7157.653 |
| | | | Right | 18.33 | 226.09 | 0.55 | 15.610 | 8.804 | 6219.840 |
| L4 | SP-7 | DX MIN | Left | -18.33 | -226.09 | -0.55 | -15.191 | -8.798 | -7157.653 |
| | | | Right | -18.33 | -226.09 | -0.55 | -15.610 | -8.804 | -6219.840 |
| L4 | SP-7 | DY MAX | Left | 64.71 | 725.72 | 0.13 | 3.134 | 2.035 | 21665.598 |
| | | | Right | 65.35 | 725.72 | 0.13 | 4.261 | 2.105 | 17671.606 |
| L4 | SP-7 | DY MIN | Left | -64.71 | -725.72 | -0.13 | -3.134 | -2.035 | -21665.598 |
| | | | Right | -65.35 | -725.72 | -0.13 | -4.261 | -2.105 | -17671.606 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|---------|---------|------------|
| L4 | SP-8 | DEAD | Left | -18.63 | -5.80 | -0.01 | -0.100 | -0.105 | -131.610 |
| | | | Right | -18.63 | 11.93 | -0.01 | -0.101 | 0.373 | -348.502 |
| L4 | SP-8 | TORX | Left | 0.29 | 49.34 | 0.00 | -0.083 | -0.025 | 1806.479 |
| | | | Right | 0.29 | 49.34 | 0.00 | -0.080 | -0.015 | -1844.533 |
| L4 | SP-8 | TORY | Left | 0.35 | 60.48 | 0.00 | -0.102 | -0.042 | 2214.364 |
| | | | Right | 0.35 | 60.48 | 0.00 | -0.098 | -0.018 | -2240.945 |
| L4 | SP-8 | DX MAX | Left | 42.16 | 541.58 | 0.61 | 17.012 | 10.496 | 30091.902 |
| | | | Right | 42.17 | 541.58 | 0.61 | 17.232 | 10.828 | 19988.440 |
| L4 | SP-8 | DX MIN | Left | -42.16 | -541.58 | -0.61 | -17.012 | -10.496 | -30091.902 |
| | | | Right | -42.17 | -541.58 | -0.61 | -17.232 | -10.828 | -19988.440 |
| L4 | SP-8 | DY MAX | Left | 25.20 | 987.86 | 0.17 | 4.245 | 2.834 | 35899.484 |
| | | | Right | 25.65 | 987.86 | 0.17 | 5.261 | 2.890 | 37187.495 |
| L4 | SP-8 | DY MIN | Left | -25.20 | -987.86 | -0.17 | -4.245 | -2.834 | -35899.484 |
| | | | Right | -25.65 | -987.86 | -0.17 | -5.261 | -2.890 | -37187.495 |
| L3 | SI-1 | DEAD | Left | -12.32 | 29.28 | -0.01 | -0.184 | -0.366 | 1282.682 |
| | | | Right | -12.32 | 44.04 | -0.01 | -0.188 | 0.091 | -1441.336 |
| L3 | SI-1 | TORX | Left | 2.05 | -30.67 | 0.00 | 0.000 | 0.023 | -1102.517 |
| | | | Right | 2.05 | -30.67 | 0.00 | -0.001 | -0.024 | 1168.908 |
| L3 | SI-1 | TORY | Left | 2.50 | -37.51 | 0.00 | 0.000 | 0.039 | -1348.501 |
| | | | Right | 2.50 | -37.51 | 0.00 | -0.002 | -0.031 | 1437.062 |
| L3 | SI-1 | DX MAX | Left | 27.26 | 769.47 | 0.10 | 1.930 | 1.589 | 27547.138 |
| | | | Right | 27.47 | 769.47 | 0.10 | 1.416 | 1.654 | 29387.566 |
| L3 | SI-1 | DX MIN | Left | -27.26 | -769.47 | -0.10 | -1.930 | -1.589 | -27547.138 |
| | | | Right | -27.47 | -769.47 | -0.10 | -1.416 | -1.654 | -29387.566 |
| L3 | SI-1 | DY MAX | Left | 29.07 | 329.38 | 0.55 | 9.228 | 9.265 | 8402.426 |
| | | | Right | 29.08 | 329.38 | 0.54 | 8.578 | 8.901 | 8573.603 |
| L3 | SI-1 | DY MIN | Left | -29.07 | -329.38 | -0.55 | -9.228 | -9.265 | -8402.426 |
| | | | Right | -29.08 | -329.38 | -0.54 | -8.578 | -8.901 | -8573.603 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L3 | SI-2 | DEAD | Left | -13.67 | 16.88 | 0.00 | 0.011 | -0.039 | 710.264 |
| | | | Right | -13.68 | 30.14 | 0.00 | 0.011 | -0.027 | -887.722 |
| L3 | SI-2 | TORX | Left | -0.67 | -24.70 | 0.00 | -0.038 | -0.013 | -912.306 |
| | | | Right | -0.67 | -24.70 | 0.00 | -0.039 | -0.001 | 767.264 |
| L3 | SI-2 | TORY | Left | -0.85 | -30.19 | 0.00 | -0.050 | -0.016 | -1115.018 |
| | | | Right | -0.82 | -30.19 | 0.00 | -0.051 | 0.002 | 937.623 |
| L3 | SI-2 | DX MAX | Left | 74.53 | 752.28 | 0.08 | 1.492 | 1.296 | 28277.219 |
| | | | Right | 73.95 | 752.28 | 0.08 | 1.396 | 1.303 | 22873.984 |
| L3 | SI-2 | DX MIN | Left | -74.53 | -752.28 | -0.08 | -1.492 | -1.296 | -28277.219 |
| | | | Right | -73.95 | -752.28 | -0.08 | -1.396 | -1.303 | -22873.984 |
| L3 | SI-2 | DY MAX | Left | 34.25 | 84.74 | 0.46 | 7.166 | 6.852 | 2930.473 |
| | | | Right | 34.23 | 84.74 | 0.47 | 8.417 | 7.368 | 2875.547 |
| L3 | SI-2 | DY MIN | Left | -34.25 | -84.74 | -0.46 | -7.166 | -6.852 | -2930.473 |
| | | | Right | -34.23 | -84.74 | -0.47 | -8.417 | -7.368 | -2875.547 |
| L3 | SI-3 | DEAD | Left | -16.01 | 10.81 | 0.00 | 0.000 | -0.025 | 417.281 |
| | | | Right | -16.01 | 24.09 | 0.00 | 0.000 | -0.025 | -769.046 |
| L3 | SI-3 | TORX | Left | 4.45 | -18.11 | 0.00 | -0.022 | -0.039 | -563.481 |
| | | | Right | 4.45 | -18.11 | 0.00 | -0.022 | -0.028 | 668.079 |
| L3 | SI-3 | TORY | Left | 5.43 | -22.13 | 0.00 | -0.032 | -0.051 | -688.422 |
| | | | Right | 5.43 | -22.13 | 0.00 | -0.023 | -0.039 | 816.093 |
| L3 | SI-3 | DX MAX | Left | 102.69 | 580.77 | 0.08 | 0.974 | 1.151 | 18380.924 |
| | | | Right | 103.90 | 580.77 | 0.08 | 1.484 | 1.241 | 21105.664 |
| L3 | SI-3 | DX MIN | Left | -102.69 | -580.77 | -0.08 | -0.974 | -1.151 | -18380.924 |
| | | | Right | -102.90 | -580.77 | -0.08 | -1.484 | -1.241 | -21105.664 |
| L3 | SI-3 | DY MAX | Left | 30.65 | 54.66 | 0.47 | 7.055 | 7.363 | 1888.694 |
| | | | Right | 30.64 | 54.66 | 0.47 | 8.283 | 7.924 | 2046.442 |
| L3 | SI-3 | DY MIN | Left | -30.65 | -54.66 | -0.47 | -7.055 | -7.363 | -1888.694 |
| | | | Right | -30.64 | -54.66 | -0.47 | -8.283 | -7.924 | -2046.442 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L3 | SI-4 | DEAD | Left | -12.90 | 7.48 | 0.00 | 0.008 | -0.030 | 248.878 |
| | | | Right | -12.90 | 20.76 | 0.00 | 0.006 | -0.032 | -611.284 |
| L3 | SI-4 | TORX | Left | 4.82 | -13.84 | 0.00 | -0.045 | -0.017 | -415.165 |
| | | | Right | 4.82 | -13.84 | 0.00 | -0.045 | 0.015 | 523.026 |
| L3 | SI-4 | TORY | Left | 5.88 | -17.02 | 0.00 | -0.054 | -0.018 | -506.780 |
| | | | Right | 5.88 | -17.02 | 0.00 | -0.055 | 0.026 | 650.448 |
| L3 | SI-4 | DX MAX | Left | 131.70 | 477.49 | 0.07 | 1.282 | 1.098 | 14387.234 |
| | | | Right | 131.95 | 477.49 | 0.07 | 1.184 | 1.187 | 18096.137 |
| L3 | SI-4 | DX MIN | Left | -131.70 | -477.49 | -0.07 | -1.282 | -1.098 | -14387.234 |
| | | | Right | -131.95 | -477.49 | -0.07 | -1.184 | -1.187 | -18096.137 |
| L3 | SI-4 | DY MAX | Left | 19.96 | 49.70 | 0.47 | 6.796 | 7.394 | 1524.890 |
| | | | Right | 19.96 | 49.70 | 0.47 | 8.526 | 7.864 | 1856.708 |
| L3 | SI-4 | DY MIN | Left | -19.96 | -49.70 | -0.47 | -6.796 | -7.394 | -1524.890 |
| | | | Right | -19.96 | -49.70 | -0.47 | -8.526 | -7.864 | -1856.708 |
| L3 | SI-5 | DEAD | Left | -12.17 | -33.54 | 0.00 | -0.005 | -0.032 | -344.760 |
| | | | Right | -12.17 | -0.26 | 0.00 | -0.006 | -0.030 | 124.659 |
| L3 | SI-5 | TORX | Left | -4.96 | -34.73 | 0.00 | -0.050 | -0.033 | -561.412 |
| | | | Right | -4.96 | -14.73 | 0.00 | -0.048 | 0.004 | 440.279 |
| L3 | SI-5 | TORY | Left | -6.05 | -17.99 | 0.00 | -0.062 | -0.051 | -685.471 |
| | | | Right | -6.05 | -17.99 | 0.00 | -0.059 | 0.001 | 537.701 |
| L3 | SI-5 | DX MAX | Left | 129.74 | 488.59 | 0.05 | 0.959 | 1.074 | 18460.643 |
| | | | Right | 129.50 | 488.59 | 0.05 | 0.858 | 0.923 | 14768.009 |
| L3 | SI-5 | DX MIN | Left | -129.74 | -488.59 | -0.05 | -0.959 | -1.074 | -18460.643 |
| | | | Right | -129.50 | -488.59 | -0.05 | -0.858 | -0.923 | -14768.009 |
| L3 | SI-5 | DY MAX | Left | 43.74 | 131.53 | 0.50 | 8.776 | 8.527 | 5021.867 |
| | | | Right | 43.74 | 131.53 | 0.50 | 7.402 | 8.055 | 3922.020 |
| L3 | SI-5 | DY MIN | Left | -43.74 | -131.53 | -0.50 | -8.776 | -8.527 | -5021.867 |
| | | | Right | -43.74 | -131.53 | -0.50 | -7.402 | -8.055 | -3922.020 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L3 | S1-6 | DEAD | Left | -16.41 | -17.38 | 0.00 | 0.002 | -0.016 | -539.013 |
| | | | Right | -16.41 | -4.00 | 0.00 | 0.002 | -0.033 | 184.496 |
| L3 | S1-6 | TORS | Left | -4.78 | -18.85 | 0.00 | -0.039 | 0.017 | -693.813 |
| | | | Right | -4.78 | -18.85 | 0.00 | -0.039 | 0.031 | 574.177 |
| L3 | S1-6 | TORS | Left | -5.89 | -32.79 | 0.00 | -0.045 | 0.028 | -867.733 |
| | | | Right | -5.89 | -32.79 | 0.00 | -0.045 | 0.041 | 701.897 |
| L3 | S1-6 | DX MAX | Left | 103.80 | 572.47 | 0.08 | 1.145 | 1.097 | 20943.028 |
| | | | Right | 103.57 | 572.47 | 0.08 | 0.920 | 0.953 | 19799.331 |
| L3 | S1-6 | DX MIN | Left | -103.80 | -572.47 | -0.08 | -1.145 | -1.097 | -20943.028 |
| | | | Right | -103.57 | -572.47 | -0.08 | -0.920 | -0.953 | -19799.331 |
| L3 | S1-6 | DY MAX | Left | 52.86 | 178.43 | 0.51 | 8.858 | 8.552 | 6758.954 |
| | | | Right | 52.84 | 178.43 | 0.50 | 7.443 | 8.033 | 5374.539 |
| L3 | S1-6 | DY MIN | Left | -52.86 | -178.43 | -0.51 | -8.858 | -8.552 | -6758.954 |
| | | | Right | -52.84 | -178.43 | -0.50 | -7.443 | -8.033 | -5374.539 |
| L3 | S1-7 | DEAD | Left | -16.01 | -24.11 | 0.00 | 0.095 | -0.088 | -221.904 |
| | | | Right | -16.01 | -10.93 | 0.00 | 0.094 | -0.028 | 460.019 |
| L3 | S1-7 | TORS | Left | 0.77 | -25.13 | 0.00 | -0.070 | -0.012 | -777.193 |
| | | | Right | 0.77 | -25.13 | 0.00 | -0.067 | 0.005 | 931.373 |
| L3 | S1-7 | TORS | Left | 0.95 | -30.71 | 0.00 | -0.091 | -0.020 | -949.956 |
| | | | Right | 0.95 | -30.71 | 0.00 | -0.087 | 0.006 | 1138.593 |
| L3 | S1-7 | DX MAX | Left | 78.17 | 717.82 | 0.08 | 1.123 | 1.134 | 21658.405 |
| | | | Right | 78.73 | 717.82 | 0.08 | 0.925 | 0.916 | 27148.341 |
| L3 | S1-7 | DX MIN | Left | -78.17 | -717.82 | -0.08 | -1.123 | -1.134 | -21658.405 |
| | | | Right | -78.73 | -717.82 | -0.08 | -0.925 | -0.916 | -27148.341 |
| L3 | S1-7 | DY MAX | Left | 15.08 | 281.50 | 0.51 | 9.032 | 8.215 | 8790.173 |
| | | | Right | 15.11 | 281.50 | 0.50 | 7.505 | 7.719 | 10352.826 |
| L3 | S1-7 | DY MIN | Left | -15.08 | -281.50 | -0.51 | -9.032 | -8.215 | -8790.173 |
| | | | Right | -15.11 | -281.50 | -0.50 | -7.505 | -7.719 | -10352.826 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|---------|------------|
| L3 | S1-8 | DEAD | Left | -13.39 | -56.98 | 0.01 | -0.359 | 0.199 | -1945.007 |
| | | | Right | -13.39 | -42.42 | 0.01 | -0.359 | -0.442 | 1729.063 |
| L3 | S1-8 | TORS | Left | -2.13 | -31.28 | 0.00 | 0.007 | 0.022 | -1186.230 |
| | | | Right | -2.13 | -31.28 | 0.00 | 0.010 | -0.037 | 1128.055 |
| L3 | S1-8 | TORS | Left | -2.80 | -38.26 | 0.00 | 0.006 | 0.029 | -1451.173 |
| | | | Right | -2.80 | -38.26 | 0.00 | 0.011 | -0.047 | 1380.080 |
| L3 | S1-8 | DX MAX | Left | 27.63 | 662.92 | 0.07 | 2.645 | 1.197 | 21408.251 |
| | | | Right | 26.95 | 662.92 | 0.07 | 2.511 | 1.339 | 23714.920 |
| L3 | S1-8 | DX MIN | Left | -27.63 | -662.92 | -0.07 | -2.645 | -1.197 | -21408.251 |
| | | | Right | -26.95 | -662.92 | -0.07 | -2.511 | -1.339 | -23714.920 |
| L3 | S1-8 | DY MAX | Left | 41.24 | 488.01 | 0.58 | 9.499 | 8.741 | 18351.416 |
| | | | Right | 41.22 | 488.01 | 0.58 | 9.339 | 10.275 | 17761.124 |
| L3 | S1-8 | DY MIN | Left | -41.24 | -488.01 | -0.58 | -9.499 | -8.741 | -18351.416 |
| | | | Right | -41.22 | -488.01 | -0.58 | -9.339 | -10.275 | -17761.124 |
| L3 | S12-1 | DEAD | Left | -15.55 | 14.49 | 0.01 | 0.108 | 0.378 | 649.341 |
| | | | Right | -15.55 | 28.94 | 0.01 | 0.108 | -0.116 | -957.642 |
| L3 | S12-1 | TORS | Left | -1.74 | 32.11 | 0.00 | -0.013 | 0.013 | 1164.863 |
| | | | Right | -1.74 | 32.11 | 0.00 | -0.014 | 0.004 | -1211.442 |
| L3 | S12-1 | TORS | Left | -2.12 | 39.32 | 0.00 | -0.018 | 0.015 | 1426.562 |
| | | | Right | -2.12 | 39.32 | 0.00 | -0.018 | 0.005 | -1483.032 |
| L3 | S12-1 | DX MAX | Left | 6.70 | 678.64 | 0.09 | 1.299 | 1.488 | 24758.090 |
| | | | Right | 7.41 | 678.64 | 0.10 | 2.039 | 1.892 | 25453.966 |
| L3 | S12-1 | DX MIN | Left | -6.70 | -678.64 | -0.09 | -1.299 | -1.488 | -24758.090 |
| | | | Right | -7.41 | -678.64 | -0.10 | -2.039 | -1.892 | -25453.966 |
| L3 | S12-1 | DY MAX | Left | 36.91 | 172.09 | 0.50 | 7.887 | 8.623 | 6107.026 |
| | | | Right | 36.89 | 172.09 | 0.50 | 7.969 | 8.492 | 6630.764 |
| L3 | S12-1 | DY MIN | Left | -36.91 | -172.09 | -0.50 | -7.887 | -8.623 | -6107.026 |
| | | | Right | -36.89 | -172.09 | -0.50 | -7.969 | -8.492 | -6630.764 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | S12-2 | DEAD | Left | -14.87 | 4.67 | 0.00 | 0.045 | 0.030 | 358.524 |
| | | | Right | -14.87 | 17.95 | 0.00 | 0.045 | 0.011 | -510.578 |
| L3 | S12-2 | TORS | Left | 0.75 | 25.73 | 0.00 | -0.081 | 0.059 | 950.649 |
| | | | Right | 0.75 | 25.73 | 0.00 | -0.092 | 0.037 | -789.299 |
| L3 | S12-2 | TORS | Left | 0.94 | 31.48 | 0.00 | -0.124 | 0.014 | 1162.992 |
| | | | Right | 0.94 | 31.48 | 0.00 | -0.125 | 0.054 | -977.447 |
| L3 | S12-2 | DX MAX | Left | 50.80 | 612.95 | 0.07 | 0.881 | 1.192 | 22781.308 |
| | | | Right | 50.14 | 612.95 | 0.09 | 2.149 | 1.708 | 18894.671 |
| L3 | S12-2 | DX MIN | Left | -50.80 | -612.95 | -0.07 | -0.881 | -1.192 | -22781.308 |
| | | | Right | -50.14 | -612.95 | -0.08 | -2.149 | -1.708 | -18894.671 |
| L3 | S12-2 | DY MAX | Left | 32.44 | 66.15 | 0.44 | 6.244 | 6.597 | 3274.992 |
| | | | Right | 32.41 | 66.15 | 0.44 | 7.359 | 6.837 | 3274.241 |
| L3 | S12-2 | DY MIN | Left | -32.44 | -66.15 | -0.44 | -6.244 | -6.597 | -3274.992 |
| | | | Right | -32.41 | -66.15 | -0.44 | -7.359 | -6.837 | -3274.241 |
| L3 | S12-3 | DEAD | Left | -14.25 | 1.81 | 0.00 | 0.044 | 0.020 | 150.819 |
| | | | Right | -14.25 | 15.10 | 0.00 | 0.044 | -0.003 | -424.102 |
| L3 | S12-3 | TORS | Left | -4.20 | 18.62 | 0.00 | -0.047 | -0.024 | 585.237 |
| | | | Right | -4.20 | 18.62 | 0.00 | -0.047 | 0.000 | -660.591 |
| L3 | S12-3 | TORS | Left | -5.11 | 22.74 | 0.00 | -0.057 | -0.034 | 714.991 |
| | | | Right | -5.11 | 22.74 | 0.00 | -0.059 | -0.003 | -831.198 |
| L3 | S12-3 | DX MAX | Left | 89.01 | 466.91 | 0.07 | 0.789 | 1.381 | 14857.891 |
| | | | Right | 89.21 | 466.91 | 0.09 | 1.709 | 1.803 | 16988.413 |
| L3 | S12-3 | DX MIN | Left | -89.01 | -466.91 | -0.07 | -0.789 | -1.381 | -14857.891 |
| | | | Right | -89.21 | -466.91 | -0.08 | -1.709 | -1.803 | -16988.413 |
| L3 | S12-3 | DY MAX | Left | 28.45 | 44.43 | 0.44 | 6.516 | 4.890 | 1374.200 |
| | | | Right | 28.44 | 44.43 | 0.44 | 7.247 | 7.075 | 1641.047 |
| L3 | S12-3 | DY MIN | Left | -28.45 | -44.43 | -0.44 | -6.516 | -4.890 | -1374.200 |
| | | | Right | -28.44 | -44.43 | -0.44 | -7.247 | -7.075 | -1641.047 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | S12-4 | DEAD | Left | -10.87 | -4.07 | 0.00 | 0.045 | 0.018 | 8.872 |
| | | | Right | -10.87 | 9.21 | 0.00 | 0.045 | -0.019 | -168.029 |
| L3 | S12-4 | TORS | Left | -3.99 | 9.99 | 0.00 | -0.055 | 0.015 | 303.688 |
| | | | Right | -3.99 | 9.99 | 0.00 | -0.055 | 0.069 | -375.340 |
| L3 | S12-4 | TORS | Left | -4.82 | 12.07 | 0.00 | -0.068 | 0.025 | 367.857 |
| | | | Right | -4.82 | 12.07 | 0.00 | -0.069 | 0.102 | -453.061 |
| L3 | S12-4 | DX MAX | Left | 97.13 | 370.64 | 0.06 | 0.756 | 1.388 | 8264.569 |
| | | | Right | 97.33 | 370.64 | 0.07 | 1.539 | 1.878 | 10133.081 |
| L3 | S12-4 | DX MIN | Left | -97.13 | -370.64 | -0.06 | -0.756 | -1.388 | -8264.569 |
| | | | Right | -97.33 | -370.64 | -0.07 | -1.539 | -1.878 | -10133.081 |
| L3 | S12-4 | DY MAX | Left | 21.61 | 37.94 | 0.44 | 6.474 | 6.914 | 1127.964 |
| | | | Right | 21.59 | 37.94 | 0.44 | 7.322 | 6.990 | 1468.983 |
| L3 | S12-4 | DY MIN | Left | -21.61 | -37.94 | -0.44 | -6.474 | -6.914 | -1127.964 |
| | | | Right | -21.59 | -37.94 | -0.44 | -7.322 | -6.990 | -1468.983 |
| L3 | S12-5 | DEAD | Left | -9.88 | -4.75 | 0.00 | -0.037 | -0.012 | -3.233 |
| | | | Right | -9.88 | 8.53 | 0.00 | -0.037 | 0.017 | -133.639 |
| L3 | S12-5 | TORS | Left | 4.05 | 10.17 | 0.00 | -0.069 | -0.070 | 380.845 |
| | | | Right | 4.05 | 10.17 | 0.00 | -0.067 | -0.009 | -310.441 |
| L3 | S12-5 | TORS | Left | 4.90 | 12.28 | 0.00 | -0.098 | -0.103 | 459.433 |
| | | | Right | 4.90 | 12.28 | 0.00 | -0.085 | -0.017 | -375.807 |
| L3 | S12-5 | DX MAX | Left | 95.43 | 370.94 | 0.05 | 1.011 | 1.094 | 10100.274 |
| | | | Right | 95.23 | 370.94 | 0.05 | 0.987 | 0.827 | 8318.074 |
| L3 | S12-5 | DX MIN | Left | -95.43 | -370.94 | -0.05 | -1.011 | -1.094 | -10100.274 |
| | | | Right | -95.23 | -370.94 | -0.05 | -0.987 | -0.827 | -8318.074 |
| L3 | S12-5 | DY MAX | Left | 33.08 | 75.95 | 0.47 | 7.822 | 7.821 | 2907.292 |
| | | | Right | 33.06 | 75.95 | 0.46 | 6.714 | 7.122 | 2257.074 |
| L3 | S12-5 | DY MIN | Left | -33.08 | -75.95 | -0.47 | -7.822 | -7.821 | -2907.292 |
| | | | Right | -33.06 | -75.95 | -0.46 | -6.714 | -7.122 | -2257.074 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | S12-6 | DEAD | Left | -13.51 | -8.86 | 0.00 | -0.033 | -0.002 | -200.341 |
| | | | Right | -13.51 | 4.43 | 0.00 | -0.034 | 0.018 | -49.699 |
| L3 | S12-6 | TORX | Left | 4.56 | 19.33 | 0.00 | -0.078 | -0.019 | 713.554 |
| | | | Right | 4.56 | 19.33 | 0.00 | -0.076 | 0.018 | -601.172 |
| L3 | S12-6 | TORY | Left | 5.55 | 23.62 | 0.00 | -0.098 | -0.025 | 871.435 |
| | | | Right | 5.55 | 23.62 | 0.00 | -0.095 | 0.023 | -724.455 |
| L3 | S12-6 | DX MAX | Left | 91.95 | 466.84 | 0.05 | 1.078 | 1.149 | 17006.541 |
| | | | Right | 91.75 | 466.84 | 0.05 | 0.842 | 0.926 | 14732.617 |
| L3 | S12-6 | DX MIN | Left | -91.95 | -466.84 | -0.05 | -1.078 | -1.149 | -17006.541 |
| | | | Right | -91.75 | -466.84 | -0.05 | -0.842 | -0.926 | -14732.617 |
| L3 | S12-6 | DY MAX | Left | 44.24 | 151.59 | 0.48 | 6.531 | 7.894 | 5699.620 |
| | | | Right | 44.24 | 151.59 | 0.48 | 6.557 | 7.483 | -4609.627 |
| L3 | S12-6 | DY MIN | Left | -44.24 | -151.59 | -0.48 | -6.531 | -7.894 | -5699.620 |
| | | | Right | -44.24 | -151.59 | -0.48 | -6.557 | -7.483 | 4609.627 |
| L3 | S12-7 | DEAD | Left | -15.85 | -9.85 | 0.00 | -0.032 | 0.011 | -264.925 |
| | | | Right | -15.85 | -9.85 | 0.00 | -0.033 | 0.028 | -47.794 |
| L3 | S12-7 | TORX | Left | -0.92 | 27.13 | 0.00 | -0.127 | -0.037 | 839.490 |
| | | | Right | -0.92 | 27.12 | 0.00 | -0.124 | 0.017 | -1004.178 |
| L3 | S12-7 | TORY | Left | -1.14 | 33.17 | 0.00 | -0.164 | -0.054 | 1027.061 |
| | | | Right | -1.14 | 33.17 | 0.00 | -0.161 | 0.021 | -1229.735 |
| L3 | S12-7 | DX MAX | Left | 52.85 | 808.59 | 0.06 | 1.342 | 1.028 | 18676.637 |
| | | | Right | 53.49 | 808.59 | 0.05 | 1.112 | 0.875 | 22702.729 |
| L3 | S12-7 | DX MIN | Left | -52.85 | -808.59 | -0.06 | -1.342 | -1.028 | -18676.637 |
| | | | Right | -53.49 | -808.59 | -0.05 | -1.112 | -0.875 | -22702.729 |
| L3 | S12-7 | DY MAX | Left | 13.83 | 240.11 | 0.48 | 8.532 | 7.673 | 7556.254 |
| | | | Right | 13.87 | 240.11 | 0.48 | 8.164 | 7.134 | -8771.568 |
| L3 | S12-7 | DY MIN | Left | -13.83 | -240.11 | -0.48 | -8.532 | -7.673 | -7556.254 |
| | | | Right | -13.87 | -240.11 | -0.48 | -8.164 | -7.134 | 8771.568 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | S12-8 | DEAD | Left | -15.87 | -21.84 | -0.01 | -0.132 | -0.122 | -693.840 |
| | | | Right | -15.87 | -7.39 | -0.01 | -0.133 | 0.293 | 387.445 |
| L3 | S12-8 | TORX | Left | 1.57 | 37.30 | 0.00 | -0.060 | -0.006 | 1400.966 |
| | | | Right | 1.57 | 37.30 | 0.00 | -0.057 | 0.019 | -1359.424 |
| L3 | S12-8 | TORY | Left | 1.90 | 45.70 | 0.00 | -0.082 | -0.009 | 1719.922 |
| | | | Right | 1.90 | 45.70 | 0.00 | -0.078 | 0.022 | -1663.787 |
| L3 | S12-8 | DX MAX | Left | 7.79 | 672.92 | 0.07 | 1.495 | 1.263 | 25230.852 |
| | | | Right | 6.93 | 672.92 | 0.07 | 1.194 | 1.372 | 24557.898 |
| L3 | S12-8 | DX MIN | Left | -7.79 | -672.92 | -0.07 | -1.495 | -1.263 | -25230.852 |
| | | | Right | -6.93 | -672.92 | -0.07 | -1.194 | -1.372 | -24557.898 |
| L3 | S12-8 | DY MAX | Left | 38.75 | 443.26 | 0.55 | 9.033 | 9.324 | 16704.783 |
| | | | Right | 38.72 | 443.26 | 0.54 | 7.936 | 8.593 | 16096.519 |
| L3 | S12-8 | DY MIN | Left | -38.75 | -443.26 | -0.55 | -9.033 | -9.324 | -16704.783 |
| | | | Right | -38.72 | -443.26 | -0.54 | -7.936 | -8.593 | -16096.519 |
| L3 | SA-1 | DEAD | Left | -14.84 | 7.16 | -0.01 | -0.090 | -0.371 | 384.033 |
| | | | Right | -14.84 | 21.62 | -0.01 | -0.090 | 0.113 | -680.823 |
| L3 | SA-1 | TORX | Left | 1.08 | -25.33 | 0.00 | -0.030 | -0.031 | -917.951 |
| | | | Right | 1.09 | -25.32 | 0.00 | -0.033 | 0.002 | 955.443 |
| L3 | SA-1 | TORY | Left | 1.31 | -31.10 | 0.00 | -0.042 | -0.040 | -1128.070 |
| | | | Right | 1.31 | -31.10 | 0.00 | -0.045 | 0.004 | 1173.220 |
| L3 | SA-1 | DX MAX | Left | 43.44 | 396.52 | 0.51 | 7.334 | 8.680 | 14309.163 |
| | | | Right | 43.65 | 396.52 | 0.53 | 9.059 | 9.186 | 15033.501 |
| L3 | SA-1 | DX MIN | Left | -43.44 | -396.52 | -0.51 | -7.334 | -8.680 | -14309.163 |
| | | | Right | -43.65 | -396.52 | -0.53 | -9.059 | -9.186 | -15033.501 |
| L3 | SA-1 | DY MAX | Left | 6.87 | 485.79 | 0.08 | 1.718 | 1.332 | 17699.640 |
| | | | Right | 7.31 | 485.79 | 0.09 | 1.503 | 1.484 | 18242.309 |
| L3 | SA-1 | DY MIN | Left | -6.87 | -485.79 | -0.08 | -1.718 | -1.332 | -17699.640 |
| | | | Right | -7.31 | -485.79 | -0.09 | -1.503 | -1.484 | -18242.309 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | SA-2 | DEAD | Left | -12.82 | 3.63 | 0.00 | -0.025 | -0.029 | 240.414 |
| | | | Right | -12.82 | 16.91 | 0.00 | -0.025 | 0.024 | -458.029 |
| L3 | SA-2 | TORX | Left | -0.65 | -21.42 | 0.00 | -0.104 | -0.004 | -786.960 |
| | | | Right | -0.65 | -21.42 | 0.00 | -0.108 | 0.024 | 669.532 |
| L3 | SA-2 | TORY | Left | -0.82 | -26.25 | 0.00 | -0.140 | -0.001 | -944.775 |
| | | | Right | -0.82 | -26.25 | 0.00 | -0.142 | 0.039 | 820.166 |
| L3 | SA-2 | DX MAX | Left | 14.53 | 222.33 | 0.46 | 5.717 | 7.327 | 8069.414 |
| | | | Right | 14.48 | 222.33 | 0.47 | 8.905 | 7.917 | 7049.791 |
| L3 | SA-2 | DX MIN | Left | -14.53 | -222.33 | -0.46 | -5.717 | -7.327 | -8069.414 |
| | | | Right | -14.48 | -222.33 | -0.47 | -8.905 | -7.917 | -7049.791 |
| L3 | SA-2 | DY MAX | Left | 54.94 | 515.46 | 0.07 | 1.821 | 1.117 | 19308.663 |
| | | | Right | 54.48 | 515.46 | 0.07 | 1.829 | 1.281 | 15739.117 |
| L3 | SA-2 | DY MIN | Left | -54.94 | -515.46 | -0.07 | -1.821 | -1.117 | -19308.663 |
| | | | Right | -54.48 | -515.46 | -0.07 | -1.829 | -1.281 | -15739.117 |
| L3 | SA-3 | DEAD | Left | -11.90 | 7.97 | 0.00 | -0.011 | -0.024 | 376.925 |
| | | | Right | -11.90 | 21.25 | 0.00 | -0.011 | -0.014 | -616.719 |
| L3 | SA-3 | TORX | Left | 3.42 | -19.33 | 0.00 | -0.058 | -0.028 | -624.423 |
| | | | Right | 3.42 | -19.33 | 0.00 | -0.060 | 0.009 | 689.903 |
| L3 | SA-3 | TORY | Left | 4.17 | -23.64 | 0.00 | -0.073 | -0.035 | -763.871 |
| | | | Right | 4.17 | -23.64 | 0.00 | -0.075 | -0.001 | 843.870 |
| L3 | SA-3 | DX MAX | Left | 38.51 | 161.06 | 0.48 | 6.569 | 7.786 | 5060.010 |
| | | | Right | 38.53 | 161.06 | 0.45 | 7.965 | 7.867 | 5991.966 |
| L3 | SA-3 | DX MIN | Left | -38.51 | -161.06 | -0.48 | -6.569 | -7.786 | -5060.010 |
| | | | Right | -38.53 | -161.06 | -0.45 | -7.965 | -7.867 | -5991.966 |
| L3 | SA-3 | DY MAX | Left | 57.10 | 475.00 | 0.06 | 1.740 | 0.965 | 15528.492 |
| | | | Right | 57.24 | 475.00 | 0.06 | 1.799 | 1.234 | 16766.638 |
| L3 | SA-3 | DY MIN | Left | -57.10 | -475.00 | -0.06 | -1.740 | -0.965 | -15528.492 |
| | | | Right | -57.24 | -475.00 | -0.06 | -1.799 | -1.234 | -16766.638 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L3 | SA-4 | DEAD | Left | -4.63 | 6.34 | 0.00 | -0.002 | -0.022 | 591.462 |
| | | | Right | -4.63 | 19.63 | 0.00 | -0.003 | -0.025 | -291.549 |
| L3 | SA-4 | TORX | Left | 0.89 | -14.27 | 0.00 | -0.054 | 0.009 | -588.050 |
| | | | Right | 0.89 | -14.27 | 0.00 | -0.055 | 0.033 | 382.124 |
| L3 | SA-4 | TORY | Left | 1.09 | -17.43 | 0.00 | -0.069 | 0.019 | -716.043 |
| | | | Right | 1.09 | -17.43 | 0.00 | -0.071 | 0.052 | 487.057 |
| L3 | SA-4 | DX MAX | Left | 18.85 | 110.69 | 0.45 | 5.723 | 7.879 | 4129.898 |
| | | | Right | 18.87 | 110.69 | 0.47 | 9.033 | 8.555 | 3414.743 |
| L3 | SA-4 | DX MIN | Left | -18.85 | -110.69 | -0.45 | -5.723 | -7.879 | -4129.898 |
| | | | Right | -18.87 | -110.69 | -0.47 | -9.033 | -8.555 | -3414.743 |
| L3 | SA-4 | DY MAX | Left | 13.36 | 378.85 | 0.06 | 2.217 | 1.124 | 14996.633 |
| | | | Right | 13.86 | 378.85 | 0.06 | 2.186 | 1.443 | 10874.979 |
| L3 | SA-4 | DY MIN | Left | -13.36 | -378.85 | -0.06 | -2.217 | -1.124 | -14996.633 |
| | | | Right | -13.86 | -378.85 | -0.06 | -2.186 | -1.443 | -10874.979 |
| L3 | SA-5 | DEAD | Left | -12.81 | -19.47 | 0.00 | 0.002 | -0.028 | -562.489 |
| | | | Right | -12.81 | -6.19 | 0.00 | 0.002 | -0.030 | 310.163 |
| L3 | SA-5 | TORX | Left | -5.29 | -15.10 | 0.00 | -0.047 | -0.005 | -574.656 |
| | | | Right | -5.29 | -15.10 | 0.00 | -0.046 | 0.024 | 451.903 |
| L3 | SA-5 | TORY | Left | -6.45 | -18.47 | 0.00 | -0.054 | -0.012 | -703.796 |
| | | | Right | -6.45 | -18.47 | 0.00 | -0.054 | 0.026 | 552.888 |
| L3 | SA-5 | DX MAX | Left | 23.89 | 40.32 | 0.48 | 8.456 | 7.729 | 1525.751 |
| | | | Right | 23.89 | 40.32 | 0.48 | 6.525 | 7.000 | 1218.948 |
| L3 | SA-5 | DX MIN | Left | -23.89 | -40.32 | -0.48 | -8.456 | -7.729 | -1525.751 |
| | | | Right | -23.89 | -40.32 | -0.48 | -6.525 | -7.000 | -1218.948 |
| L3 | SA-5 | DY MAX | Left | 117.60 | 458.50 | 0.06 | 1.270 | 1.630 | 16175.360 |
| | | | Right | 117.28 | 458.50 | 0.06 | 1.373 | 1.167 | 12957.563 |
| L3 | SA-5 | DY MIN | Left | -117.60 | -458.50 | -0.06 | -1.270 | -1.630 | -16175.360 |
| | | | Right | -117.28 | -458.50 | -0.06 | -1.373 | -1.167 | -12957.563 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | SA-6 | DEAD | Left | -16.17 | -22.39 | 0.00 | 0.014 | -0.021 | -714.470 |
| | | | Right | -16.17 | -9.11 | 0.00 | 0.014 | -0.027 | 356.719 |
| L3 | SA-6 | TORK | Left | -4.97 | -19.49 | 0.00 | -0.030 | 0.027 | -723.679 |
| | | | Right | -4.97 | -19.49 | 0.00 | -0.029 | 0.041 | 601.976 |
| L3 | SA-6 | TORY | Left | -6.06 | -23.84 | 0.00 | -0.033 | 0.036 | -884.389 |
| | | | Right | -6.06 | -23.84 | 0.00 | -0.032 | 0.053 | 726.784 |
| L3 | SA-6 | DX MAX | Left | 26.50 | 63.82 | 0.48 | 7.980 | 7.659 | 2495.067 |
| | | | Right | 26.51 | 63.82 | 0.48 | 6.962 | 7.405 | 1855.281 |
| L3 | SA-6 | DX MIN | Left | -26.50 | -63.82 | -0.48 | -7.980 | -7.659 | -2495.067 |
| | | | Right | -26.51 | -63.82 | -0.48 | -6.962 | -7.405 | -1855.281 |
| L3 | SA-6 | DY MAX | Left | 97.55 | 512.44 | 0.07 | 1.267 | 1.626 | 18781.961 |
| | | | Right | 97.34 | 512.44 | 0.07 | 1.245 | 1.173 | 16058.545 |
| L3 | SA-6 | DY MIN | Left | -97.55 | -512.44 | -0.07 | -1.267 | -1.626 | -18781.961 |
| | | | Right | -97.34 | -512.44 | -0.07 | -1.245 | -1.173 | -16058.545 |
| L3 | SA-7 | DEAD | Left | -13.95 | -27.22 | 0.00 | 0.007 | -0.028 | -796.523 |
| | | | Right | -13.95 | -13.94 | 0.00 | 0.006 | -0.041 | 602.462 |
| L3 | SA-7 | TORK | Left | 0.84 | -25.39 | 0.00 | -0.038 | 0.006 | -787.753 |
| | | | Right | 0.84 | -25.39 | 0.00 | -0.038 | 0.020 | 939.010 |
| L3 | SA-7 | TORY | Left | 1.05 | -31.10 | 0.00 | -0.050 | 0.003 | -964.401 |
| | | | Right | 1.05 | -31.10 | 0.00 | -0.049 | 0.025 | 1159.055 |
| L3 | SA-7 | DX MAX | Left | 31.13 | 113.69 | 0.48 | 6.208 | 7.400 | 2848.241 |
| | | | Right | 31.17 | 113.69 | 0.47 | 6.738 | 7.047 | 2897.282 |
| L3 | SA-7 | DX MIN | Left | -31.13 | -113.69 | -0.48 | -6.208 | -7.400 | -2848.241 |
| | | | Right | -31.17 | -113.69 | -0.47 | -6.738 | -7.047 | -2897.282 |
| L3 | SA-7 | DY MAX | Left | 69.41 | 650.88 | 0.07 | 1.828 | 1.435 | 19700.684 |
| | | | Right | 68.96 | 650.88 | 0.08 | 2.097 | 1.059 | 24553.615 |
| L3 | SA-7 | DY MIN | Left | -69.41 | -650.88 | -0.07 | -1.828 | -1.435 | -19700.684 |
| | | | Right | -68.96 | -650.88 | -0.08 | -2.097 | -1.059 | -24553.615 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | SA-8 | DEAD | Left | -12.12 | -39.14 | 0.01 | 0.191 | 0.094 | -1256.427 |
| | | | Right | -12.12 | -24.68 | 0.01 | 0.180 | -0.281 | 1104.912 |
| L3 | SA-8 | TORK | Left | -1.78 | -30.03 | 0.00 | -0.014 | 0.025 | -1144.896 |
| | | | Right | -1.78 | -30.03 | 0.00 | -0.013 | -0.026 | 1077.413 |
| L3 | SA-8 | TORY | Left | -2.17 | -36.80 | 0.00 | -0.019 | 0.032 | -1402.883 |
| | | | Right | -2.17 | -36.80 | 0.00 | -0.018 | -0.009 | 1220.589 |
| L3 | SA-8 | DX MAX | Left | 32.38 | 299.28 | 0.52 | 8.332 | 8.720 | 11203.619 |
| | | | Right | 32.38 | 299.28 | 0.52 | 8.304 | 9.025 | 10944.924 |
| L3 | SA-8 | DX MIN | Left | -32.38 | -299.28 | -0.52 | -8.332 | -8.720 | -11203.619 |
| | | | Right | -32.38 | -299.28 | -0.52 | -8.304 | -9.025 | -10944.924 |
| L3 | SA-8 | DY MAX | Left | 24.89 | 658.60 | 0.09 | 1.724 | 1.528 | 25175.045 |
| | | | Right | 24.23 | 658.60 | 0.10 | 2.861 | 1.627 | 23555.928 |
| L3 | SA-8 | DY MIN | Left | -24.89 | -658.60 | -0.09 | -1.724 | -1.528 | -25175.045 |
| | | | Right | -24.23 | -658.60 | -0.10 | -2.861 | -1.627 | -23555.928 |
| L3 | SP-1 | DEAD | Left | -14.92 | -0.13 | 0.01 | 0.123 | 0.294 | 126.266 |
| | | | Right | -14.92 | 14.32 | 0.01 | 0.122 | -0.123 | -198.795 |
| L3 | SP-1 | TORK | Left | -1.22 | 40.49 | 0.00 | -0.068 | 0.017 | 1482.267 |
| | | | Right | -1.22 | 40.49 | 0.00 | -0.071 | 0.015 | -1514.264 |
| L3 | SP-1 | TORY | Left | -1.47 | 49.71 | 0.00 | -0.096 | 0.019 | 1920.202 |
| | | | Right | -1.47 | 49.71 | 0.00 | -0.099 | 0.022 | -1958.550 |
| L3 | SP-1 | DX MAX | Left | 39.31 | 375.05 | 0.51 | 7.461 | 9.789 | 13585.616 |
| | | | Right | 39.32 | 375.05 | 0.52 | 8.076 | 9.080 | 14168.924 |
| L3 | SP-1 | DX MIN | Left | -39.31 | -375.05 | -0.51 | -7.461 | -9.789 | -13585.616 |
| | | | Right | -39.32 | -375.05 | -0.52 | -8.076 | -9.080 | -14168.924 |
| L3 | SP-1 | DY MAX | Left | 5.01 | 700.29 | 0.08 | 1.133 | 1.619 | 25685.313 |
| | | | Right | 5.42 | 700.29 | 0.09 | 1.912 | 1.665 | 26128.615 |
| L3 | SP-1 | DY MIN | Left | -5.01 | -700.29 | -0.08 | -1.133 | -1.618 | -25685.313 |
| | | | Right | -5.42 | -700.29 | -0.09 | -1.912 | -1.665 | -26128.615 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L3 | SP-2 | DEAD | Left | -16.47 | -6.79 | 0.00 | 0.041 | 0.033 | -192.233 |
| | | | Right | -16.47 | 6.49 | 0.00 | 0.040 | 0.013 | -182.184 |
| L3 | SP-2 | TORK | Left | 1.73 | 34.19 | 0.00 | -0.125 | -0.011 | 1265.411 |
| | | | Right | 1.73 | 34.19 | 0.00 | -0.126 | 0.043 | -1059.674 |
| L3 | SP-2 | TORY | Left | 2.16 | 41.90 | 0.00 | -0.163 | -0.012 | 1551.228 |
| | | | Right | 2.15 | 41.90 | 0.00 | -0.165 | 0.062 | -1299.051 |
| L3 | SP-2 | DX MAX | Left | 17.84 | 315.31 | 0.46 | 6.102 | 7.147 | 7701.282 |
| | | | Right | 17.63 | 315.31 | 0.47 | 6.424 | 7.077 | 6941.163 |
| L3 | SP-2 | DX MIN | Left | -17.84 | -315.31 | -0.46 | -6.102 | -7.147 | -7701.282 |
| | | | Right | -17.63 | -315.31 | -0.47 | -6.424 | -7.077 | -6941.163 |
| L3 | SP-2 | DY MAX | Left | 57.95 | 656.92 | 0.06 | 0.981 | 1.069 | 24444.481 |
| | | | Right | 57.33 | 656.92 | 0.07 | 1.916 | 1.354 | 20222.499 |
| L3 | SP-2 | DY MIN | Left | -57.95 | -656.92 | -0.06 | -0.981 | -1.069 | -24444.481 |
| | | | Right | -57.33 | -656.92 | -0.07 | -1.916 | -1.354 | -20222.499 |
| L3 | SP-3 | DEAD | Left | -12.15 | -6.01 | 0.00 | 0.036 | 0.020 | -76.821 |
| | | | Right | -12.15 | 7.28 | 0.00 | 0.035 | -0.001 | -120.063 |
| L3 | SP-3 | TORK | Left | -4.55 | 24.54 | 0.00 | -0.088 | -0.009 | 782.447 |
| | | | Right | -4.55 | 24.54 | 0.00 | -0.088 | 0.033 | -685.817 |
| L3 | SP-3 | TORY | Left | -5.54 | 30.01 | 0.00 | -0.109 | -0.009 | 957.327 |
| | | | Right | -5.54 | 30.01 | 0.00 | -0.111 | 0.045 | -1089.283 |
| L3 | SP-3 | DX MAX | Left | 39.03 | 139.55 | 0.48 | 6.983 | 7.716 | 4317.154 |
| | | | Right | 39.03 | 139.55 | 0.45 | 7.484 | 7.697 | 5104.601 |
| L3 | SP-3 | DX MIN | Left | -39.03 | -139.55 | -0.48 | -6.983 | -7.716 | -4317.154 |
| | | | Right | -39.03 | -139.55 | -0.45 | -7.484 | -7.697 | -5104.601 |
| L3 | SP-3 | DY MAX | Left | 81.90 | 486.54 | 0.06 | 0.917 | 1.200 | 15616.649 |
| | | | Right | 82.08 | 486.54 | 0.06 | 1.500 | 1.402 | 17462.403 |
| L3 | SP-3 | DY MIN | Left | -81.90 | -486.54 | -0.06 | -0.917 | -1.200 | -15616.649 |
| | | | Right | -82.08 | -486.54 | -0.06 | -1.500 | -1.402 | -17462.403 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L3 | SP-4 | DEAD | Left | -10.23 | -7.62 | 0.00 | 0.036 | 0.019 | -122.970 |
| | | | Right | -10.23 | 5.66 | 0.00 | 0.035 | -0.010 | -56.267 |
| L3 | SP-4 | TORK | Left | -5.11 | 14.42 | 0.00 | -0.070 | 0.015 | 433.965 |
| | | | Right | -5.11 | 14.42 | 0.00 | -0.072 | 0.022 | -546.530 |
| L3 | SP-4 | TORY | Left | -6.20 | 17.55 | 0.00 | -0.087 | 0.025 | 529.001 |
| | | | Right | -6.20 | 17.55 | 0.00 | -0.088 | 0.090 | -664.590 |
| L3 | SP-4 | DX MAX | Left | 33.44 | 66.57 | 0.46 | 6.696 | 7.596 | 9151.502 |
| | | | Right | 33.45 | 66.57 | 0.47 | 7.689 | 7.816 | 2561.162 |
| L3 | SP-4 | DX MIN | Left | -33.44 | -66.57 | -0.46 | -6.696 | -7.596 | -9151.502 |
| | | | Right | -33.45 | -66.57 | -0.47 | -7.689 | -7.816 | -2561.162 |
| L3 | SP-4 | DY MAX | Left | 101.31 | 295.78 | 0.06 | 0.874 | 1.115 | 8943.034 |
| | | | Right | 101.50 | 295.78 | 0.06 | 1.311 | 1.373 | 11166.558 |
| L3 | SP-4 | DY MIN | Left | -101.31 | -295.78 | -0.06 | -0.874 | -1.115 | -8943.034 |
| | | | Right | -101.50 | -295.78 | -0.06 | -1.311 | -1.373 | -11166.558 |
| L3 | SP-5 | DEAD | Left | -11.89 | -12.31 | 0.00 | -0.047 | 0.001 | -291.647 |
| | | | Right | -11.89 | 11.17 | 0.00 | -0.047 | 0.036 | 80.294 |
| L3 | SP-5 | TORK | Left | 4.69 | 12.40 | 0.00 | -0.062 | -0.010 | 465.257 |
| | | | Right | 4.69 | 12.40 | 0.00 | -0.062 | 0.033 | -379.056 |
| L3 | SP-5 | TORY | Left | 5.67 | 15.03 | 0.00 | -0.072 | 0.017 | 562.740 |
| | | | Right | 5.67 | 15.03 | 0.00 | -0.071 | 0.026 | -458.970 |
| L3 | SP-5 | DX MAX | Left | 27.82 | 29.21 | 0.45 | 7.755 | 7.085 | 1124.244 |
| | | | Right | 27.64 | 29.21 | 0.45 | 6.749 | 6.938 | 814.636 |
| L3 | SP-5 | DX MIN | Left | -27.82 | -29.21 | -0.45 | -7.755 | -7.085 | -1124.244 |
| | | | Right | -27.64 | -29.21 | -0.45 | -6.749 | -6.938 | -814.636 |
| L3 | SP-5 | DY MAX | Left | 96.31 | 247.54 | 0.06 | 1.447 | 1.652 | 10000.038 |
| | | | Right | 96.17 | 247.54 | 0.06 | 1.090 | 1.307 | 8191.590 |
| L3 | SP-5 | DY MIN | Left | -96.31 | -247.54 | -0.06 | -1.447 | -1.652 | -10000.038 |
| | | | Right | -96.17 | -247.54 | -0.06 | -1.090 | -1.307 | -8191.590 |

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SP-6 DEAD, SP-6 TORX, SP-6 TORY, SP-6 DX MAX, SP-6 DX MIN, SP-6 DY MAX, SP-6 DY MIN, SP-7 DEAD, SP-7 TORX, SP-7 TORY, SP-7 DX MAX, SP-7 DX MIN, SP-7 DY MAX, SP-7 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SP-8 DEAD, SP-8 TORX, SP-8 TORY, SP-8 DX MAX, SP-8 DX MIN, SP-8 DY MAX, SP-8 DY MIN, SA-4.1 DEAD, SA-4.1 TORX, SA-4.1 TORY, SA-4.1 DX MAX, SA-4.1 DX MIN, SA-4.1 DY MAX, SA-4.1 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include SA-4.2 DEAD, SA-4.2 TORX, SA-4.2 TORY, SA-4.3 DX MAX, SA-4.3 DX MIN, SA-4.3 DY MAX, SA-4.3 DY MIN, S12-1 DEAD, S12-1 TORX, S12-1 TORY, S12-1 DX MAX, S12-1 DX MIN, S12-1 DY MAX, S12-1 DY MIN.

SPANDREL FORCES

Table with columns: STORY, SPANDREL, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include S12-2 DEAD, S12-2 TORX, S12-2 TORY, S12-2 DX MAX, S12-2 DX MIN, S12-2 DY MAX, S12-2 DY MIN, S12-3 DEAD, S12-3 TORX, S12-3 TORY, S12-3 DX MAX, S12-3 DX MIN, S12-3 DY MAX, S12-3 DY MIN.

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | F | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L2 | S12-4 | DEAD | Left | -4.13 | -3.02 | 0.00 | 0.010 | -0.009 | 54.683 |
| | | | Right | -1.79 | 10.16 | 0.00 | -0.016 | -0.045 | -210.901 |
| L2 | S12-4 | TORX | Left | 1.07 | 14.45 | -0.01 | -0.040 | 0.396 | 432.282 |
| | | | Right | -1.27 | 14.47 | 0.00 | -0.080 | 0.446 | -525.800 |
| L2 | S12-4 | TORY | Left | 1.72 | 17.94 | -0.01 | -0.055 | 0.451 | 535.397 |
| | | | Right | -1.42 | 17.96 | 0.00 | -0.113 | 0.974 | -451.684 |
| L2 | S12-4 | DX MAX | Left | 40.93 | 310.75 | 0.06 | 0.539 | 1.948 | 9424.709 |
| | | | Right | 40.39 | 311.07 | 0.07 | 0.853 | 2.245 | 11298.491 |
| L2 | S12-4 | DX MIN | Left | -40.93 | -310.75 | -0.06 | -0.539 | -1.948 | -9424.709 |
| | | | Right | -40.39 | -311.07 | -0.07 | -0.853 | -2.245 | -11298.491 |
| L2 | S12-4 | DY MAX | Left | 71.84 | 73.57 | 0.14 | 0.836 | 1.173 | 2105.580 |
| | | | Right | 28.49 | 73.56 | 0.07 | 1.586 | 6.212 | 2493.758 |
| L2 | S12-4 | DY MIN | Left | -71.84 | -72.57 | -0.14 | -0.836 | -1.173 | -2105.580 |
| | | | Right | -28.49 | -72.56 | -0.07 | -1.586 | -6.212 | -2493.758 |
| L2 | S12-5 | DEAD | Left | -1.23 | -6.08 | 0.00 | 0.012 | -0.024 | -42.347 |
| | | | Right | -3.89 | 7.09 | 0.00 | -0.003 | 0.014 | -70.243 |
| L2 | S12-5 | TORX | Left | 1.22 | 14.79 | -0.01 | -0.035 | -0.433 | 534.708 |
| | | | Right | -1.20 | 14.77 | 0.00 | -0.077 | -0.112 | -444.444 |
| L2 | S12-5 | TORY | Left | 1.35 | 18.26 | -0.01 | -0.054 | -0.666 | 662.818 |
| | | | Right | -1.91 | 18.24 | -0.01 | -0.103 | -0.179 | -550.540 |
| L2 | S12-5 | DX MAX | Left | 41.40 | 312.14 | 0.06 | 0.893 | 3.272 | 11269.858 |
| | | | Right | 37.23 | 311.85 | 0.06 | 0.261 | 2.174 | 9530.919 |
| L2 | S12-5 | DX MIN | Left | -41.40 | -312.14 | -0.06 | -0.893 | -3.272 | -11269.858 |
| | | | Right | -37.23 | -311.85 | -0.06 | -0.261 | -2.174 | -9530.919 |
| L2 | S12-5 | DY MAX | Left | 21.46 | 104.55 | 0.03 | 1.498 | 5.261 | 3821.689 |
| | | | Right | 30.34 | 104.42 | 0.14 | 1.171 | 0.992 | 3141.824 |
| L2 | S12-5 | DY MIN | Left | -21.46 | -104.55 | -0.03 | -1.498 | -5.261 | -3821.689 |
| | | | Right | -30.34 | -104.42 | -0.14 | -1.171 | -0.992 | -3141.824 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | F | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L2 | S12-6 | DEAD | Left | -12.39 | -15.03 | 0.00 | 0.011 | -0.062 | -359.145 |
| | | | Right | -6.89 | -1.84 | 0.00 | 0.017 | -0.048 | -159.234 |
| L2 | S12-6 | TORX | Left | 5.16 | 20.62 | -0.01 | -0.005 | 0.165 | 728.572 |
| | | | Right | 1.12 | 20.60 | 0.00 | -0.088 | 0.205 | -630.299 |
| L2 | S12-6 | TORY | Left | 6.19 | 25.43 | -0.01 | -0.005 | 0.247 | 898.239 |
| | | | Right | 1.03 | 25.43 | 0.00 | -0.117 | 0.459 | -777.449 |
| L2 | S12-6 | DX MAX | Left | 109.98 | 431.64 | 0.07 | 0.455 | 3.639 | 15235.930 |
| | | | Right | 53.71 | 431.30 | 0.03 | 0.564 | 2.269 | 13369.014 |
| L2 | S12-6 | DX MIN | Left | -109.98 | -431.64 | -0.07 | -0.455 | -3.639 | -15235.930 |
| | | | Right | -53.71 | -431.30 | -0.03 | -0.564 | -2.269 | -13369.014 |
| L2 | S12-6 | DY MAX | Left | 47.77 | 161.43 | 0.05 | 0.908 | 2.472 | 5797.889 |
| | | | Right | 24.19 | 161.45 | 0.06 | 1.122 | 2.425 | 4894.659 |
| L2 | S12-6 | DY MIN | Left | -47.77 | -161.43 | -0.05 | -0.908 | -2.472 | -5797.889 |
| | | | Right | -24.19 | -161.45 | -0.06 | -1.122 | -2.425 | -4894.659 |
| L2 | S12-7 | DEAD | Left | -13.72 | -23.43 | 0.00 | 0.064 | 0.007 | -592.486 |
| | | | Right | -14.27 | -10.48 | 0.00 | 0.046 | -0.003 | 570.456 |
| L2 | S12-7 | TORX | Left | 5.93 | 28.95 | 0.00 | 0.688 | -0.197 | 870.458 |
| | | | Right | 2.76 | 28.95 | 0.00 | 0.004 | -0.038 | -1063.114 |
| L2 | S12-7 | TORY | Left | 7.09 | 35.47 | 0.00 | 0.109 | -0.297 | 1071.681 |
| | | | Right | 2.01 | 35.47 | 0.00 | 0.004 | -0.049 | -1308.745 |
| L2 | S12-7 | DX MAX | Left | 122.54 | 564.93 | 0.04 | 1.613 | 3.559 | 17037.333 |
| | | | Right | 72.81 | 565.02 | 0.02 | 0.283 | 4.314 | 20736.059 |
| L2 | S12-7 | DX MIN | Left | -122.54 | -564.93 | -0.04 | -1.613 | -3.559 | -17037.333 |
| | | | Right | -72.81 | -565.02 | -0.02 | -0.283 | -4.314 | -20736.059 |
| L2 | S12-7 | DY MAX | Left | 58.95 | 258.27 | 0.04 | 2.577 | 4.144 | 7799.649 |
| | | | Right | 44.92 | 258.28 | 0.07 | 0.883 | 3.656 | 3549.931 |
| L2 | S12-7 | DY MIN | Left | -58.95 | -258.27 | -0.04 | -2.577 | -4.144 | -7799.649 |
| | | | Right | -44.92 | -258.28 | -0.07 | -0.883 | -3.656 | -3549.931 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | F | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L2 | S12-8 | DEAD | Left | -8.31 | -9.42 | 0.01 | 0.012 | 0.149 | -183.182 |
| | | | Right | -15.90 | 4.85 | -0.01 | -0.059 | 0.267 | 53.258 |
| L2 | S12-8 | TORX | Left | 7.56 | 35.58 | 0.00 | -0.091 | -0.051 | 1304.272 |
| | | | Right | 1.49 | 35.57 | 0.00 | -0.135 | -0.151 | -1263.048 |
| L2 | S12-8 | TORY | Left | 9.24 | 43.82 | 0.00 | -0.108 | -0.071 | 1605.828 |
| | | | Right | 1.69 | 43.81 | 0.00 | -0.161 | -0.210 | -1555.144 |
| L2 | S12-8 | DX MAX | Left | 129.36 | 629.89 | 0.03 | 0.780 | 3.256 | 22761.820 |
| | | | Right | 12.10 | 629.92 | 0.03 | 1.490 | 4.718 | 22491.242 |
| L2 | S12-8 | DX MIN | Left | -129.36 | -629.89 | -0.03 | -0.780 | -3.256 | -22761.820 |
| | | | Right | -12.10 | -629.92 | -0.03 | -1.490 | -4.718 | -22491.242 |
| L2 | S12-8 | DY MAX | Left | 81.14 | 369.43 | 0.04 | 1.699 | 1.993 | 13786.758 |
| | | | Right | 46.86 | 369.28 | 0.05 | 2.123 | 4.494 | 13032.743 |
| L2 | S12-8 | DY MIN | Left | -81.14 | -369.43 | -0.04 | -1.699 | -1.993 | -13786.758 |
| | | | Right | -46.86 | -369.28 | -0.05 | -2.123 | -4.494 | -13032.743 |
| L2 | SA-1 | DEAD | Left | -14.02 | -4.41 | -0.01 | -0.102 | -0.247 | 68.959 |
| | | | Right | -7.39 | 9.86 | 0.01 | -0.040 | -0.087 | -156.895 |
| L2 | SA-1 | TORX | Left | 3.09 | -17.58 | 0.00 | -0.142 | -0.017 | -621.817 |
| | | | Right | 4.67 | -17.58 | 0.00 | -0.091 | -0.041 | 650.918 |
| L2 | SA-1 | TORY | Left | 2.51 | -21.60 | 0.00 | -0.176 | -0.037 | -764.188 |
| | | | Right | 5.64 | -21.61 | 0.00 | -0.104 | -0.072 | 799.960 |
| L2 | SA-1 | DX MAX | Left | 51.89 | 395.56 | 0.06 | 2.148 | 2.378 | 10451.193 |
| | | | Right | 79.83 | 395.70 | 0.02 | 2.237 | 1.972 | 11090.192 |
| L2 | SA-1 | DX MIN | Left | -51.89 | -395.56 | -0.06 | -2.148 | -2.378 | -10451.193 |
| | | | Right | -79.83 | -395.70 | -0.02 | -2.237 | -1.972 | -11090.192 |
| L2 | SA-1 | DY MAX | Left | 21.79 | 425.93 | 0.05 | 0.604 | 2.501 | 15247.810 |
| | | | Right | 84.79 | 425.87 | 0.03 | 0.920 | 2.588 | 15327.765 |
| L2 | SA-1 | DY MIN | Left | -21.79 | -425.93 | -0.05 | -0.604 | -2.501 | -15247.810 |
| | | | Right | -84.79 | -425.87 | -0.03 | -0.920 | -2.588 | -15327.765 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | F | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L2 | SA-2 | DEAD | Left | -15.85 | 12.84 | 0.00 | 0.032 | 0.025 | 664.784 |
| | | | Right | -14.11 | 25.98 | 0.00 | 0.060 | 0.013 | -670.222 |
| L2 | SA-2 | TORX | Left | 3.93 | -16.10 | 0.00 | 0.015 | 0.174 | -590.015 |
| | | | Right | 4.61 | -16.10 | 0.00 | 0.024 | 0.210 | 495.700 |
| L2 | SA-2 | TORY | Left | 4.64 | -19.76 | 0.00 | 0.025 | 0.254 | -724.092 |
| | | | Right | 5.52 | -19.76 | 0.00 | 0.030 | 0.317 | 608.324 |
| L2 | SA-2 | DX MAX | Left | 51.18 | 212.32 | 0.11 | 1.734 | 2.124 | 7851.326 |
| | | | Right | 56.89 | 212.32 | 0.02 | 2.395 | 3.445 | 6482.033 |
| L2 | SA-2 | DX MIN | Left | -51.18 | -212.32 | -0.11 | -1.734 | -2.124 | -7851.326 |
| | | | Right | -56.89 | -212.32 | -0.02 | -2.395 | -3.445 | -6482.033 |
| L2 | SA-2 | DY MAX | Left | 86.21 | 421.39 | 0.08 | 1.453 | 3.060 | 15481.104 |
| | | | Right | 101.31 | 421.33 | 0.02 | 0.954 | 1.825 | 12811.115 |
| L2 | SA-2 | DY MIN | Left | -86.21 | -421.39 | -0.08 | -1.453 | -3.060 | -15481.104 |
| | | | Right | -101.31 | -421.33 | -0.02 | -0.954 | -1.825 | -12811.115 |
| L2 | SA-3 | DEAD | Left | -11.52 | 4.21 | 0.00 | -0.033 | 0.009 | 374.692 |
| | | | Right | -14.08 | 19.27 | 0.00 | 0.009 | 0.038 | -468.303 |
| L2 | SA-3 | TORX | Left | 4.27 | -12.68 | 0.00 | -0.075 | -0.252 | -427.972 |
| | | | Right | 5.17 | -12.68 | 0.00 | -0.029 | -0.224 | 424.238 |
| L2 | SA-3 | TORY | Left | 5.10 | -15.58 | 0.00 | -0.101 | -0.541 | -525.326 |
| | | | Right | 6.28 | -15.59 | -0.01 | -0.033 | -0.336 | 520.978 |
| L2 | SA-3 | DX MAX | Left | 42.80 | 134.37 | 0.11 | 1.495 | 1.098 | 4323.894 |
| | | | Right | 55.54 | 134.46 | 0.05 | 1.369 | 1.008 | 4679.428 |
| L2 | SA-3 | DX MIN | Left | -42.80 | -134.37 | -0.11 | -1.495 | -1.098 | -4323.894 |
| | | | Right | -55.54 | -134.46 | -0.05 | -1.369 | -1.008 | -4679.428 |
| L2 | SA-3 | DY MAX | Left | 97.55 | 349.59 | 0.13 | 1.549 | 1.675 | 11709.253 |
| | | | Right | 114.93 | 349.66 | 0.05 | 1.638 | 4.845 | 11781.478 |
| L2 | SA-3 | DY MIN | Left | -97.55 | -349.59 | -0.13 | -1.549 | -1.675 | -11709.253 |
| | | | Right | -114.93 | -349.66 | -0.05 | -1.638 | -4.845 | -11781.478 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L2 | SA-4 | DEAD | Left | -11.27 | 12.01 | 0.00 | -0.045 | -0.013 | 545.212 |
| | | | Right | 8.90 | 24.20 | 0.00 | 0.021 | 0.018 | -672.717 |
| L2 | SA-4 | TORX | Left | 4.66 | -15.31 | 0.00 | -0.042 | 0.198 | -530.243 |
| | | | Right | 4.07 | -15.33 | 0.00 | -0.077 | 0.401 | 515.106 |
| L2 | SA-4 | TORY | Left | 5.59 | -19.78 | -0.01 | -0.053 | 0.294 | -649.979 |
| | | | Right | 4.97 | -19.81 | 0.00 | -0.107 | 0.412 | 631.519 |
| L2 | SA-4 | DX MAX | Left | 39.87 | 122.51 | 0.13 | 2.048 | 2.192 | 4106.055 |
| | | | Right | 40.35 | 122.66 | 0.05 | 1.424 | 1.338 | 4216.956 |
| L2 | SA-4 | DX MIN | Left | -39.87 | -122.51 | -0.12 | -2.048 | -2.192 | -4106.055 |
| | | | Right | -40.35 | -122.66 | -0.05 | -1.424 | -1.338 | -4216.956 |
| L2 | SA-4 | DY MAX | Left | 116.64 | 407.36 | 0.11 | 1.904 | 2.734 | 14072.696 |
| | | | Right | 105.62 | 407.75 | 0.04 | 1.349 | 1.189 | 13460.533 |
| L2 | SA-4 | DY MIN | Left | -116.64 | -407.36 | -0.11 | -1.904 | -2.734 | -14072.696 |
| | | | Right | -105.62 | -407.75 | -0.04 | -1.349 | -1.189 | -13460.533 |
| L2 | SP-1 | DEAD | Left | -12.01 | 8.80 | 0.01 | 0.073 | 0.255 | -133.951 |
| | | | Right | -7.05 | 5.48 | -0.01 | -0.009 | 0.114 | -65.025 |
| L2 | SP-1 | TORX | Left | 1.23 | 42.53 | 0.00 | -0.119 | 0.130 | 1505.701 |
| | | | Right | -7.28 | 42.54 | 0.00 | -0.065 | 0.029 | -1550.207 |
| L2 | SP-1 | TORY | Left | 1.73 | 52.29 | 0.00 | -0.139 | 0.183 | 1851.230 |
| | | | Right | -8.86 | 52.20 | 0.00 | -0.071 | 0.036 | -1905.847 |
| L2 | SP-1 | DX MAX | Left | 34.96 | 287.43 | 0.05 | 2.061 | 5.128 | 10044.742 |
| | | | Right | 74.51 | 287.29 | 0.04 | 2.119 | 2.142 | 10790.656 |
| L2 | SP-1 | DX MIN | Left | -34.96 | -287.43 | -0.05 | -2.061 | -5.128 | -10044.742 |
| | | | Right | -74.51 | -287.29 | -0.04 | -2.119 | -2.142 | -10790.656 |
| L2 | SP-1 | DY MAX | Left | 53.21 | 755.96 | 0.04 | 1.523 | 3.875 | 36828.373 |
| | | | Right | 123.75 | 756.02 | 0.02 | 0.796 | 2.980 | 27297.564 |
| L2 | SP-1 | DY MIN | Left | -53.21 | -755.96 | -0.04 | -1.523 | -3.875 | -36828.373 |
| | | | Right | -123.75 | -756.02 | -0.02 | -0.796 | -2.980 | -27297.564 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L2 | SP-2 | DEAD | Left | -16.51 | 8.95 | 0.00 | -0.041 | 0.006 | 546.966 |
| | | | Right | -15.21 | 21.47 | 0.00 | -0.080 | 0.006 | -491.925 |
| L2 | SP-2 | TORX | Left | -1.90 | 35.74 | 0.00 | 0.006 | -0.011 | 1226.416 |
| | | | Right | -5.27 | 35.73 | 0.00 | 0.082 | 0.114 | -1045.178 |
| L2 | SP-2 | TORY | Left | -2.04 | 43.92 | 0.00 | 0.009 | -0.020 | 1629.474 |
| | | | Right | -8.26 | 43.90 | 0.00 | 0.105 | 0.174 | -1308.427 |
| L2 | SP-2 | DX MAX | Left | 31.85 | 211.20 | 0.07 | 1.239 | 4.872 | 7899.132 |
| | | | Right | 49.72 | 211.15 | 0.03 | 2.194 | 4.776 | 6293.068 |
| L2 | SP-2 | DX MIN | Left | -31.85 | -211.20 | -0.07 | -1.239 | -4.872 | -7899.132 |
| | | | Right | -49.72 | -211.15 | -0.03 | -2.194 | -4.776 | -6293.068 |
| L2 | SP-2 | DY MAX | Left | 64.81 | 651.15 | 0.03 | 0.548 | 4.186 | 24047.018 |
| | | | Right | 96.89 | 650.90 | 0.03 | 1.491 | 2.950 | 19440.514 |
| L2 | SP-2 | DY MIN | Left | -64.81 | -651.15 | -0.03 | -0.548 | -4.186 | -24047.018 |
| | | | Right | -96.89 | -650.90 | -0.03 | -1.491 | -2.950 | -19440.514 |
| L2 | SP-3 | DEAD | Left | -2.40 | -1.32 | 0.00 | -0.007 | -0.037 | 80.395 |
| | | | Right | -7.10 | 11.87 | 0.00 | -0.013 | -0.059 | -232.503 |
| L2 | SP-3 | TORX | Left | -0.43 | 21.95 | 0.00 | -0.081 | -0.233 | 673.203 |
| | | | Right | -3.48 | 21.97 | 0.00 | -0.03 | -0.108 | -787.339 |
| L2 | SP-3 | TORY | Left | -0.23 | 26.97 | 0.00 | -0.105 | -0.350 | 826.938 |
| | | | Right | -4.07 | 26.99 | -0.01 | -0.002 | -0.154 | -266.623 |
| L2 | SP-3 | DX MAX | Left | 15.99 | 111.73 | 0.09 | 1.137 | 1.877 | 3350.536 |
| | | | Right | 29.07 | 111.89 | 0.08 | 1.141 | 4.115 | 4058.619 |
| L2 | SP-3 | DX MIN | Left | -15.99 | -111.73 | -0.09 | -1.137 | -1.877 | -3350.536 |
| | | | Right | -29.07 | -111.89 | -0.08 | -1.141 | -4.115 | -4058.619 |
| L2 | SP-3 | DY MAX | Left | 67.82 | 415.20 | 0.07 | 0.804 | 1.121 | 15795.137 |
| | | | Right | 74.58 | 415.61 | 0.07 | 0.921 | 4.034 | 14855.296 |
| L2 | SP-3 | DY MIN | Left | -67.82 | -415.20 | -0.07 | -0.804 | -1.121 | -15795.137 |
| | | | Right | -74.58 | -415.61 | -0.07 | -0.921 | -4.034 | -14855.296 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|--------|---------|-------|--------|--------|------------|
| L2 | SP-4 | DEAD | Left | -8.88 | 9.28 | 0.00 | 0.014 | 0.040 | -34.311 |
| | | | Right | -4.91 | 3.73 | 0.00 | -0.017 | -0.036 | 118.043 |
| L2 | SP-4 | TORX | Left | -0.75 | 17.56 | 0.00 | -0.027 | 0.002 | 563.881 |
| | | | Right | -2.56 | 17.56 | 0.00 | -0.014 | 0.185 | -609.800 |
| L2 | SP-4 | TORY | Left | -0.51 | 21.66 | 0.00 | -0.041 | 0.010 | 694.435 |
| | | | Right | -2.90 | 21.66 | -0.01 | -0.025 | 0.294 | -751.917 |
| L2 | SP-4 | DX MAX | Left | 15.10 | 73.45 | 0.10 | 0.752 | 1.768 | 2371.558 |
| | | | Right | 19.08 | 73.48 | 0.01 | 0.870 | 4.811 | 2523.803 |
| L2 | SP-4 | DX MIN | Left | -15.10 | -73.45 | -0.10 | -0.752 | -1.768 | -2371.558 |
| | | | Right | -19.08 | -73.48 | -0.01 | -0.870 | -4.811 | -2523.803 |
| L2 | SP-4 | DY MAX | Left | 85.70 | 340.64 | 0.04 | 0.811 | 2.684 | 10894.278 |
| | | | Right | 66.73 | 340.72 | 0.04 | 0.838 | 3.328 | 11824.859 |
| L2 | SP-4 | DY MIN | Left | -85.70 | -340.64 | -0.04 | -0.811 | -2.684 | -10894.278 |
| | | | Right | -66.73 | -340.72 | -0.04 | -0.838 | -3.328 | -11824.859 |
| L2 | SP-5 | DEAD | Left | -1.45 | -14.55 | 0.00 | 0.025 | -0.055 | -291.052 |
| | | | Right | -3.27 | -1.40 | 0.00 | -0.011 | 0.026 | 266.287 |
| L2 | SP-5 | TORX | Left | 3.11 | 19.75 | 0.00 | -0.035 | -0.362 | 713.788 |
| | | | Right | -0.53 | 19.72 | 0.00 | -0.018 | -0.076 | -589.768 |
| L2 | SP-5 | TORY | Left | 3.60 | 24.39 | 0.00 | -0.057 | -0.546 | 881.305 |
| | | | Right | -1.10 | 24.36 | -0.01 | -0.032 | -0.119 | -726.502 |
| L2 | SP-5 | DX MAX | Left | 39.21 | 39.53 | 0.08 | 1.406 | 4.386 | 1430.673 |
| | | | Right | 48.35 | 39.51 | 0.12 | 0.651 | 1.712 | 1111.155 |
| L2 | SP-5 | DX MIN | Left | -39.21 | -39.53 | -0.08 | -1.406 | -4.386 | -1430.673 |
| | | | Right | -48.35 | -39.51 | -0.12 | -0.651 | -1.712 | -1111.155 |
| L2 | SP-5 | DY MAX | Left | 72.04 | 383.64 | 0.11 | 1.401 | 3.704 | 13868.157 |
| | | | Right | 77.89 | 383.28 | 0.09 | 1.405 | 4.574 | 14444.286 |
| L2 | SP-5 | DY MIN | Left | -72.04 | -383.64 | -0.11 | -1.401 | -3.704 | -13868.157 |
| | | | Right | -77.89 | -383.28 | -0.09 | -1.405 | -4.574 | -14444.286 |

SPANDREL FORCES

| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| L2 | SP-6 | DEAD | Left | -18.07 | -22.30 | 0.00 | 0.000 | -0.075 | -683.214 |
| | | | Right | -12.67 | -9.10 | 0.00 | 0.039 | -0.091 | 339.055 |
| L2 | SP-6 | TORX | Left | 9.91 | 26.29 | 0.00 | -0.040 | 0.057 | 945.629 |
| | | | Right | 4.12 | 26.25 | 0.00 | -0.094 | 0.254 | -780.034 |
| L2 | SP-6 | TORY | Left | 11.98 | 32.36 | 0.00 | -0.055 | 0.098 | 1163.078 |
| | | | Right | 4.70 | 32.32 | -0.01 | -0.158 | 0.395 | -960.339 |
| L2 | SP-6 | DX MAX | Left | 56.98 | 47.28 | 0.07 | 0.750 | 2.894 | 1753.493 |
| | | | Right | 57.74 | 47.19 | 0.07 | 0.822 | 2.837 | 1257.031 |
| L2 | SP-6 | DX MIN | Left | -56.98 | -47.28 | -0.07 | -0.750 | -2.894 | -1753.493 |
| | | | Right | -57.74 | -47.19 | -0.07 | -0.822 | -2.837 | -1257.031 |
| L2 | SP-6 | DY MAX | Left | 186.11 | 504.50 | 0.11 | 0.411 | 4.004 | 18096.220 |
| | | | Right | 108.43 | 504.03 | 0.05 | 0.850 | 1.217 | 11068.747 |
| L2 | SP-6 | DY MIN | Left | -186.11 | -504.50 | -0.11 | -0.411 | -4.004 | -18096.220 |
| | | | Right | -108.43 | -504.03 | -0.05 | -0.850 | -1.217 | -11068.747 |
| L2 | SP-7 | DEAD | Left | -6.69 | -18.54 | 0.00 | 0.059 | 0.007 | -485.164 |
| | | | Right | -13.26 | -5.41 | 0.00 | 0.064 | 0.025 | 391.943 |
| L2 | SP-7 | TORX | Left | 10.42 | 32.40 | 0.00 | -0.038 | -0.257 | 896.634 |
| | | | Right | 5.33 | 32.42 | 0.00 | -0.067 | -0.117 | -1252.804 |
| L2 | SP-7 | TORY | Left | 12.60 | 39.84 | 0.00 | -0.051 | -0.372 | 1161.716 |
| | | | Right | 6.20 | 39.86 | -0.01 | -0.087 | -0.156 | -1539.774 |
| L2 | SP-7 | DX MAX | Left | 56.54 | 61.00 | 0.06 | 1.288 | 3.598 | 1929.374 |
| | | | Right | 64.23 | 61.01 | 0.06 | 1.000 | 3.144 | 2353.706 |
| L2 | SP-7 | DX MIN | Left | -56.54 | -61.00 | -0.06 | -1.288 | -3.598 | -1929.374 |
| | | | Right | -64.23 | -61.01 | -0.06 | -1.000 | -3.144 | -2353.706 |
| L2 | SP-7 | DY MAX | Left | 137.01 | 616.07 | 0.09 | 2.187 | 4.369 | 16928.746 |
| | | | Right | 108.26 | 616.42 | 0.05 | 0.471 | 5.540 | 23667.085 |
| L2 | SP-7 | DY MIN | Left | -137.01 | -616.07 | -0.09 | -2.187 | -4.369 | -16928.746 |
| | | | Right | -108.26 | -616.42 | -0.05 | -0.471 | -5.540 | -23667.085 |

| S P A N D R E L F O R C E S | | | | | | | | | |
|-----------------------------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| L2 | SP-8 | DEAD | Left | 25.85 | -39.61 | 0.00 | 0.223 | -0.023 | -751.125 |
| | | | Right | -1.73 | -22.67 | 0.00 | -0.034 | -0.084 | 928.670 |
| L2 | SP-8 | TORX | Left | -5.89 | 13.79 | 0.00 | 0.021 | -0.071 | 417.464 |
| | | | Right | 15.08 | 13.82 | 0.00 | -0.103 | -0.051 | -440.495 |
| L2 | SP-8 | TORY | Left | -3.54 | 16.92 | 0.00 | 0.028 | -0.090 | 512.528 |
| | | | Right | 18.44 | 16.96 | 0.00 | -0.127 | -0.066 | -540.316 |
| L2 | SP-8 | DX MAX | Left | 71.59 | 132.42 | 0.02 | 0.659 | 2.221 | 3198.813 |
| | | | Right | 84.01 | 112.89 | 0.02 | 1.540 | 2.010 | 3891.082 |
| L2 | SP-8 | DX MIN | Left | -71.59 | -112.42 | -0.02 | -0.659 | -2.221 | -3198.813 |
| | | | Right | -84.01 | -112.88 | -0.02 | -1.540 | -2.010 | -3891.082 |
| L2 | SP-8 | DY MAX | Left | 24.00 | 212.88 | 0.01 | 0.780 | 2.160 | 6552.265 |
| | | | Right | 277.31 | 212.38 | 0.02 | 1.358 | 2.860 | 6618.623 |
| L2 | SP-8 | DY MIN | Left | -24.00 | -212.88 | -0.01 | -0.780 | -2.160 | -6552.265 |
| | | | Right | -277.31 | -212.38 | -0.02 | -1.358 | -2.860 | -6618.623 |
| L2 | SA-4.1 | DEAD | Left | -14.94 | 41.44 | 0.00 | -0.003 | -0.037 | 1594.740 |
| | | | Right | -12.32 | 54.60 | 0.00 | 0.033 | 0.003 | -1710.516 |
| L2 | SA-4.1 | TORX | Left | 8.67 | -30.08 | 0.00 | -0.118 | -0.442 | -1015.358 |
| | | | Right | 7.34 | -30.09 | -0.01 | -0.068 | -0.226 | 1049.613 |
| L2 | SA-4.1 | TORY | Left | 11.78 | -34.81 | 0.00 | -0.161 | -0.482 | -1241.969 |
| | | | Right | 9.04 | -34.83 | -0.01 | -0.086 | -0.347 | 1283.804 |
| L2 | SA-4.1 | DX MAX | Left | 61.76 | 187.79 | 0.18 | 2.627 | 0.973 | 6275.058 |
| | | | Right | 54.69 | 187.85 | 0.02 | 2.617 | 6.535 | 6553.115 |
| L2 | SA-4.1 | DX MIN | Left | -61.76 | -187.79 | -0.18 | -2.627 | -0.973 | -6275.058 |
| | | | Right | -54.69 | -187.85 | -0.02 | -2.617 | -6.535 | -6553.115 |
| L2 | SA-4.1 | DY MAX | Left | 240.74 | 725.01 | 0.15 | 2.326 | 2.450 | 24496.934 |
| | | | Right | 185.97 | 725.21 | 0.05 | 2.345 | 5.379 | 25274.697 |
| L2 | SA-4.1 | DY MIN | Left | -240.74 | -725.01 | -0.15 | -2.326 | -2.450 | -24496.934 |
| | | | Right | -185.97 | -725.21 | -0.05 | -2.345 | -5.379 | -25274.697 |

| S P A N D R E L F O R C E S | | | | | | | | | |
|-----------------------------|----------|--------|-------|---------|---------|-------|--------|--------|------------|
| STORY | SPANDREL | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| L2 | SA-4.2 | DEAD | Left | -27.06 | 45.40 | 0.00 | -0.069 | 0.004 | 376.965 |
| | | | Right | -27.06 | 54.67 | 0.00 | -0.069 | 0.010 | -1524.202 |
| L2 | SA-4.2 | TORX | Left | 19.03 | -29.61 | 0.00 | -0.130 | 0.405 | -301.037 |
| | | | Right | 19.03 | -29.61 | 0.00 | -0.130 | 0.533 | 764.860 |
| L2 | SA-4.2 | TORY | Left | 33.27 | -36.37 | -0.01 | -0.186 | 0.403 | -371.937 |
| | | | Right | 33.27 | -36.37 | -0.01 | -0.186 | 0.799 | 937.535 |
| L2 | SA-4.2 | DX MAX | Left | 103.77 | 181.38 | 0.13 | 3.528 | 8.677 | 1860.107 |
| | | | Right | 103.77 | 181.38 | 0.13 | 3.528 | 4.611 | 4750.850 |
| L2 | SA-4.2 | DX MIN | Left | -103.77 | -181.38 | -0.13 | -3.528 | -8.677 | -1860.107 |
| | | | Right | -103.77 | -181.38 | -0.13 | -3.528 | -4.611 | -4750.850 |
| L2 | SA-4.2 | DY MAX | Left | 480.34 | 725.04 | 0.08 | 3.401 | 2.999 | 8105.448 |
| | | | Right | 480.34 | 725.04 | 0.08 | 3.401 | 4.074 | 18035.999 |
| L2 | SA-4.2 | DY MIN | Left | -480.34 | -725.04 | -0.08 | -3.401 | -2.999 | -8105.448 |
| | | | Right | -480.34 | -725.04 | -0.08 | -3.401 | -4.074 | -18035.999 |



F.3: Reaction File

LOADING COMBINATIONS

| COMBO | COMBO TYPE | CASE | CASE TYPE | SCALE FACTOR |
|-------|------------|-------|-----------|--------------|
| DX | ADD | SPECX | Spectra | 0.5367 |
| DY | ADD | SPECY | Spectra | 0.5283 |

SUPPORT REACTIONS

| STORY | POINT | LOAD | FX | FY | FZ | MX | MY | MZ |
|-------|-------|--------|---------|----------|----------|-------|-------|-------|
| BASE | 23 | DEAD | 101.80 | 102.48 | 654.09 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | TORX | -11.60 | 3.42 | -14.09 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | TORY | -14.54 | 4.25 | -17.65 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | SOILX1 | -3.82 | -21.37 | 43.06 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | SOILX2 | 1.52 | 0.73 | -2.03 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | SOILY1 | 5.64 | -16.37 | -16.09 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | SOILY2 | 25.49 | 30.52 | 56.77 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | DX Max | 444.03 | 150.15 | 1816.92 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | DX Min | -150.15 | -1816.92 | -444.03 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | DY Max | 277.75 | 355.65 | 1912.87 | 0.000 | 0.000 | 0.000 |
| BASE | 23 | DY Min | -277.75 | -355.65 | -1912.87 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | DEAD | -36.21 | -0.01 | 592.40 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | TORX | -24.47 | 0.00 | 55.29 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | TORY | -30.54 | 0.00 | 67.37 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | SOIL | -34.71 | 0.07 | 9.53 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | SOILX1 | -59.18 | 0.07 | -0.85 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | SOILX2 | 2.89 | 0.01 | -0.07 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | SOILY1 | -16.92 | -0.17 | 1.08 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | SOILY2 | 41.82 | 0.03 | 12.95 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | DX Max | 413.30 | 0.08 | 271.38 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | DX Min | -133.30 | -0.08 | -271.38 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | DY Max | 186.50 | 0.14 | 1308.31 | 0.000 | 0.000 | 0.000 |
| BASE | 27 | DY Min | -186.50 | -0.14 | -1308.31 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | DEAD | -63.06 | 0.00 | 433.68 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | TORX | -32.36 | 0.00 | 74.75 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | TORY | -40.16 | 0.00 | 91.18 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | SOIL | -22.63 | 0.19 | 1.44 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | SOILX1 | -52.84 | 0.09 | -4.11 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | SOILX2 | 11.06 | -0.18 | -0.46 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | SOILY1 | -11.06 | -0.18 | -0.46 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | SOILY2 | 44.57 | 0.04 | 9.08 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | DX Max | 579.04 | 0.13 | 1292.57 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | DX Min | -179.04 | -0.13 | -1292.57 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | DY Max | 110.85 | 0.12 | 682.02 | 0.000 | 0.000 | 0.000 |
| BASE | 32 | DY Min | -110.85 | -0.12 | -682.02 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | DEAD | -4.96 | 0.00 | 327.03 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | TORX | -15.97 | 0.00 | 93.30 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | TORY | -19.08 | 0.12 | 0.96 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | SOIL | -44.54 | 0.05 | 0.85 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | SOILX1 | 2.79 | 0.01 | -0.14 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | SOILX2 | -7.07 | -0.16 | 1.12 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | SOILY1 | 37.90 | 0.03 | 1.63 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | SOILY2 | 37.90 | 0.03 | 1.63 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | DX Max | 250.26 | -0.13 | 1665.61 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | DX Min | -250.26 | 0.13 | -1665.61 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | DY Max | 64.41 | 0.12 | 352.83 | 0.000 | 0.000 | 0.000 |
| BASE | 36 | DY Min | -64.41 | -0.12 | -352.83 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | DEAD | -35.42 | 0.00 | 308.17 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | TORX | -14.56 | 0.00 | 98.03 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | TORY | -17.99 | 0.00 | 120.13 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | SOIL | -29.33 | 0.21 | 2.28 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | SOILX1 | -41.72 | 0.09 | 25.54 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | SOILX2 | 4.12 | -0.75 | -0.00 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | SOILY1 | 27.00 | -0.18 | -2.16 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | SOILY2 | 27.00 | -0.18 | -2.16 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | DX Max | 304.70 | 0.15 | 2249.73 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | DX Min | -304.70 | -0.15 | -2249.73 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | DY Max | 42.73 | 0.13 | 309.00 | 0.000 | 0.000 | 0.000 |
| BASE | 40 | DY Min | -42.73 | -0.13 | -309.00 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | DEAD | -22.37 | 0.00 | 13.84 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | TORX | -10.37 | 0.00 | 5.79 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | TORY | -12.80 | 0.00 | 7.14 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | SOIL | -8.30 | 0.05 | 0.31 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | SOILX1 | -41.33 | 0.01 | 3.14 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | SOILX2 | 6.27 | 0.01 | 0.78 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | SOILY1 | -4.29 | -0.06 | 1.11 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | SOILY2 | 22.10 | 0.03 | -5.75 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | DX Max | 234.72 | 0.02 | 130.83 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | DX Min | -234.72 | -0.02 | -130.83 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | DY Max | 29.41 | 0.01 | 16.15 | 0.000 | 0.000 | 0.000 |
| BASE | 46 | DY Min | -29.41 | -0.01 | -16.15 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | DEAD | 2.25 | 0.00 | -1.30 | 0.000 | 0.000 | 0.000 |

SUPPORT REACTIONS

SUPPORT REACTIONS

| STORY | POINT | LOAD | FX | FY | FZ | KX | KY | KZ | STORY | POINT | LOAD | FX | FY | FZ | KX | KY | KZ |
|-------|-------|--------|---------|-------|----------|-------|-------|-------|-------|-------|--------|---------|---------|----------|-------|-------|-------|
| BASE | 52 | TORX | 0.27 | 0.00 | -0.32 | 0.000 | 0.000 | 0.000 | BASE | 83 | TORY | -41.90 | 0.02 | -86.49 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | TORY | 0.31 | 0.00 | -0.39 | 0.000 | 0.000 | 0.000 | BASE | 83 | SOIL1 | -11.53 | -0.01 | -0.00 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | SOIL1 | -32.74 | 0.07 | -1.79 | 0.000 | 0.000 | 0.000 | BASE | 83 | SOILX1 | -24.53 | 0.02 | -0.75 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | SOILX1 | -6.79 | 0.03 | 0.85 | 0.000 | 0.000 | 0.000 | BASE | 83 | SOILY1 | 26.35 | 0.07 | 1.90 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | SOILX2 | 8.79 | 0.05 | 0.85 | 0.000 | 0.000 | 0.000 | BASE | 83 | SOILZ1 | 16.64 | -0.07 | 0.82 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | SOILY1 | -2.57 | -0.05 | 1.08 | 0.000 | 0.000 | 0.000 | BASE | 83 | DX Max | 403.53 | 0.00 | 24.02 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | SOILY2 | 6.14 | 0.03 | -4.05 | 0.000 | 0.000 | 0.000 | BASE | 83 | DY Min | -248.67 | -0.07 | -248.67 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | DX Max | 10.92 | 0.01 | 7.89 | 0.000 | 0.000 | 0.000 | BASE | 83 | DX Max | 403.53 | 0.00 | 24.02 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | DX Min | -10.92 | -0.01 | -7.89 | 0.000 | 0.000 | 0.000 | BASE | 83 | DY Min | -248.67 | -0.07 | -248.67 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | DY Max | 1.63 | 0.02 | 1.53 | 0.000 | 0.000 | 0.000 | BASE | 83 | DX Max | 538.95 | 0.28 | 1512.59 | 0.000 | 0.000 | 0.000 |
| BASE | 52 | DY Min | -1.63 | -0.02 | -1.53 | 0.000 | 0.000 | 0.000 | BASE | 83 | DY Min | -538.95 | -0.28 | -1512.59 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | DEAD | -2.27 | 0.00 | -1.22 | 0.000 | 0.000 | 0.000 | BASE | 87 | DEAD | -110.11 | 115.67 | 706.73 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | TORX | 0.32 | 0.00 | 0.35 | 0.000 | 0.000 | 0.000 | BASE | 87 | TORX | -18.84 | -18.84 | -18.84 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | TORY | 0.38 | 0.00 | 0.43 | 0.000 | 0.000 | 0.000 | BASE | 87 | TORY | -23.27 | -23.27 | -23.27 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | SOIL | -50.87 | 0.05 | -1.69 | 0.000 | 0.000 | 0.000 | BASE | 87 | SOIL | -14.34 | 19.24 | -22.95 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | SOILX1 | -25.27 | 0.02 | 2.22 | 0.000 | 0.000 | 0.000 | BASE | 87 | SOILX1 | -3.74 | 13.46 | -11.42 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | SOILX2 | 11.68 | 0.01 | 1.03 | 0.000 | 0.000 | 0.000 | BASE | 87 | SOILY1 | 15.27 | -8.87 | -11.78 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | SOILY1 | 2.48 | -0.05 | 1.08 | 0.000 | 0.000 | 0.000 | BASE | 87 | SOILY2 | 9.50 | -16.74 | -16.24 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | SOILY2 | 16.36 | 0.03 | -4.08 | 0.000 | 0.000 | 0.000 | BASE | 87 | DX Max | 447.72 | 157.02 | 1854.59 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | DX Max | -16.62 | -0.01 | 7.94 | 0.000 | 0.000 | 0.000 | BASE | 87 | DX Min | -447.72 | -157.02 | -1854.59 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | DX Min | 10.62 | 0.01 | -7.94 | 0.000 | 0.000 | 0.000 | BASE | 87 | DY Max | 112.86 | 532.90 | 1804.02 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | DY Max | -7.00 | -0.01 | 2.64 | 0.000 | 0.000 | 0.000 | BASE | 87 | DY Min | -112.86 | -532.90 | -1804.02 | 0.000 | 0.000 | 0.000 |
| BASE | 58 | DY Min | 19.73 | 0.00 | 12.40 | 0.000 | 0.000 | 0.000 | BASE | 102 | DEAD | -0.01 | -33.39 | 553.58 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | DEAD | -10.45 | 0.00 | -5.88 | 0.000 | 0.000 | 0.000 | BASE | 102 | TORX | 14.33 | 14.33 | 14.33 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | TORX | -12.90 | 0.00 | -7.25 | 0.000 | 0.000 | 0.000 | BASE | 102 | TORY | -17.72 | -17.72 | -17.72 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | TORY | -54.02 | 0.04 | 0.79 | 0.000 | 0.000 | 0.000 | BASE | 102 | SOIL | -11.90 | -11.90 | -11.90 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | SOIL | -19.36 | 0.02 | 1.41 | 0.000 | 0.000 | 0.000 | BASE | 102 | SOILX1 | -37.49 | -5.98 | 0.000 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | SOILX1 | 4.17 | -0.02 | 1.63 | 0.000 | 0.000 | 0.000 | BASE | 102 | SOILX2 | 0.00 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | SOILX2 | -18.71 | 0.03 | -3.84 | 0.000 | 0.000 | 0.000 | BASE | 102 | SOILY1 | -28.39 | 1.09 | 0.46 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | SOILY1 | 233.27 | 0.02 | 130.19 | 0.000 | 0.000 | 0.000 | BASE | 102 | SOILY2 | 53.04 | -28.39 | 1.94 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | SOILY2 | -130.19 | -0.02 | -130.19 | 0.000 | 0.000 | 0.000 | BASE | 102 | DX Max | 459.04 | 459.04 | 1496.14 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | DX Max | 63.95 | 0.01 | 38.61 | 0.000 | 0.000 | 0.000 | BASE | 102 | DX Min | -459.04 | -459.04 | -1496.14 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | DX Min | -63.95 | -0.01 | -38.61 | 0.000 | 0.000 | 0.000 | BASE | 102 | DY Max | 302.61 | 302.61 | 302.61 | 0.000 | 0.000 | 0.000 |
| BASE | 64 | DY Max | 32.59 | 0.00 | 285.78 | 0.000 | 0.000 | 0.000 | BASE | 120 | DEAD | -45.85 | 601.17 | -219.71 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | DEAD | -14.93 | 0.01 | -132.67 | 0.000 | 0.000 | 0.000 | BASE | 120 | TORX | -34.59 | -34.59 | -34.59 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | TORX | -46.40 | 0.05 | -9.29 | 0.000 | 0.000 | 0.000 | BASE | 120 | TORY | -42.69 | -42.69 | -42.69 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | TORY | -14.76 | 0.04 | -10.35 | 0.000 | 0.000 | 0.000 | BASE | 120 | SOIL | 39.36 | 3.11 | 0.000 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | SOIL | 14.75 | 0.06 | 3.36 | 0.000 | 0.000 | 0.000 | BASE | 120 | SOILX1 | 0.94 | 0.94 | 0.94 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | SOILX1 | 6.87 | -0.18 | 0.95 | 0.000 | 0.000 | 0.000 | BASE | 120 | SOILX2 | -21.54 | -21.54 | -21.54 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | SOILX2 | -23.56 | 0.04 | -8.05 | 0.000 | 0.000 | 0.000 | BASE | 120 | SOILY1 | -11.36 | -11.36 | -11.36 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | SOILY1 | 303.92 | 0.14 | 2239.08 | 0.000 | 0.000 | 0.000 | BASE | 120 | SOILY2 | 1582.02 | 1582.02 | 1582.02 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | SOILY2 | -303.92 | -0.14 | -2239.08 | 0.000 | 0.000 | 0.000 | BASE | 120 | DX Max | -474.75 | -474.75 | -474.75 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | DX Max | 110.65 | 0.25 | 703.42 | 0.000 | 0.000 | 0.000 | BASE | 120 | DX Min | 474.75 | 474.75 | 474.75 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | DX Min | -110.65 | -0.25 | -703.42 | 0.000 | 0.000 | 0.000 | BASE | 120 | DY Max | 516.70 | 516.70 | 516.70 | 0.000 | 0.000 | 0.000 |
| BASE | 70 | DY Max | 1.86 | 0.00 | 312.50 | 0.000 | 0.000 | 0.000 | BASE | 141 | DEAD | -56.86 | -56.86 | -56.86 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | DEAD | -13.04 | 0.01 | -78.65 | 0.000 | 0.000 | 0.000 | BASE | 141 | TORX | 18.95 | 18.95 | 18.95 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | TORX | -38.75 | 0.02 | -3.09 | 0.000 | 0.000 | 0.000 | BASE | 141 | TORY | -41.32 | -41.32 | -41.32 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | TORY | -12.96 | 0.03 | -3.54 | 0.000 | 0.000 | 0.000 | BASE | 141 | SOIL | -2.28 | -2.28 | -2.28 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | SOIL | 14.40 | 0.05 | 1.04 | 0.000 | 0.000 | 0.000 | BASE | 141 | SOILX1 | -34.18 | -34.18 | -34.18 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | SOILX1 | -27.32 | -0.15 | 0.76 | 0.000 | 0.000 | 0.000 | BASE | 141 | SOILX2 | 0.00 | 0.97 | 0.29 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | SOILX2 | 243.41 | 0.11 | 1665.51 | 0.000 | 0.000 | 0.000 | BASE | 141 | SOILY1 | -19.38 | -19.38 | -19.38 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | SOILY1 | -243.41 | -0.11 | -1665.51 | 0.000 | 0.000 | 0.000 | BASE | 141 | SOILY2 | 1.50 | 1.50 | 1.50 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | SOILY2 | 121.36 | 0.24 | 674.14 | 0.000 | 0.000 | 0.000 | BASE | 141 | DX Max | 895.85 | 895.85 | 895.85 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | DX Max | -121.36 | -0.24 | -674.14 | 0.000 | 0.000 | 0.000 | BASE | 141 | DX Min | -895.85 | -895.85 | -895.85 | 0.000 | 0.000 | 0.000 |
| BASE | 74 | DX Min | 58.03 | 0.00 | 428.16 | 0.000 | 0.000 | 0.000 | BASE | 159 | DY Max | 745.99 | 745.99 | 745.99 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | DEAD | -45.88 | 0.01 | -80.15 | 0.000 | 0.000 | 0.000 | BASE | 159 | DY Min | -745.99 | -745.99 | -745.99 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | TORX | -35.12 | 0.03 | -2.88 | 0.000 | 0.000 | 0.000 | BASE | 159 | TORX | -402.21 | -402.21 | -402.21 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | TORY | -16.36 | 0.03 | -2.88 | 0.000 | 0.000 | 0.000 | BASE | 159 | TORY | 83.48 | 83.48 | 83.48 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | SOIL | 10.78 | -0.18 | 0.49 | 0.000 | 0.000 | 0.000 | BASE | 159 | SOIL | -43.68 | -43.68 | -43.68 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | SOILX1 | -27.97 | 0.03 | 14.69 | 0.000 | 0.000 | 0.000 | BASE | 159 | SOILX1 | 49.96 | 6.93 | 0.000 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | SOILX2 | 573.86 | 0.12 | 1267.34 | 0.000 | 0.000 | 0.000 | BASE | 159 | SOILX2 | 0.96 | 0.96 | 0.96 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | SOILY1 | -573.86 | -0.12 | -1267.34 | 0.000 | 0.000 | 0.000 | BASE | 159 | SOILY1 | -9.48 | -9.48 | -9.48 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | SOILY2 | 376.67 | 0.28 | 970.64 | 0.000 | 0.000 | 0.000 | BASE | 159 | SOILY2 | -28.94 | -28.94 | -28.94 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | DX Max | -376.67 | -0.28 | -970.64 | 0.000 | 0.000 | 0.000 | BASE | 159 | DX Max | 905.46 | 905.46 | 905.46 | 0.000 | 0.000 | 0.000 |
| BASE | 78 | DX Min | 36.90 | -0.01 | 608.20 | 0.000 | 0.000 | 0.000 | BASE | 159 | DX Min | -282.39 | -282.39 | -282.39 | 0.000 | 0.000 | 0.000 |
| BASE | 83 | DEAD | -33.72 | 0.01 | -70.86 | 0.000 | 0.000 | 0.000 | BASE | 170 | DEAD | -11.78 | -11.78 | -11.78 | 0.000 | 0.000 | 0.000 |
| BASE | 83 | TORX | 11.21 | 0.00 | 49.28 | 0.000 | 0.000 | 0.000 | BASE | 170 | TORX | -49.28 | -49.28 | -49.28 | 0.000 | 0.000 | 0.000 |
| BASE | 83 | TORY | 11.85 | 0.01 | -60.28 | 0.000 | 0.000 | 0.000 | BASE | 170 | TORY | 11.85 | 11.85 | 11.85 | 0.000 | 0.000 | 0.000 |

SUPPORT REACTIONS

| STORY | POINT | LOAD | FX | FY | FZ | KX | MY | MZ | STORY | POINT | LOAD | FX | FY | FZ | KX | MY | MZ |
|-------|-------|--------|---------|---------|----------|-------|-------|-------|-------|-------|--------|---------|-------|----------|-------|-------|-------|
| BASE | 529 | SOILX2 | 0.14 | 5.33 | 1.33 | 0.000 | 0.000 | 0.000 | BASE | 613 | SOILV1 | 7.49 | -0.01 | 0.77 | 0.000 | 0.000 | 0.000 |
| BASE | 529 | SOILV1 | -0.02 | -9.28 | 0.16 | 0.000 | 0.000 | 0.000 | BASE | 613 | SOILV2 | -77.38 | 0.47 | -16.52 | 0.000 | 0.000 | 0.000 |
| BASE | 529 | SOILV2 | -0.05 | 30.43 | 1.82 | 0.000 | 0.000 | 0.000 | BASE | 613 | DX Max | 330.41 | -0.07 | 194.56 | 0.000 | 0.000 | 0.000 |
| BASE | 529 | DX Max | 0.11 | 29.93 | 484.05 | 0.000 | 0.000 | 0.000 | BASE | 613 | DY Max | 317.54 | 0.20 | 1453.25 | 0.000 | 0.000 | 0.000 |
| BASE | 529 | DX Min | -0.11 | 29.93 | 484.05 | 0.000 | 0.000 | 0.000 | BASE | 613 | DY Min | -317.54 | -0.20 | -1453.25 | 0.000 | 0.000 | 0.000 |
| BASE | 529 | DY Max | -0.19 | -275.00 | -1596.35 | 0.000 | 0.000 | 0.000 | BASE | 618 | DEAD | -55.01 | 0.00 | 395.66 | 0.000 | 0.000 | 0.000 |
| BASE | 529 | DY Min | 0.19 | 275.00 | 1596.35 | 0.000 | 0.000 | 0.000 | BASE | 618 | TORX | 27.51 | 0.01 | -70.46 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | DEAD | 0.00 | 51.20 | 395.04 | 0.000 | 0.000 | 0.000 | BASE | 618 | TORY | -85.77 | 0.01 | -85.77 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | TORX | 0.01 | 19.57 | 71.61 | 0.000 | 0.000 | 0.000 | BASE | 618 | SOIL | -18.90 | 1.12 | -18.90 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | TORY | -0.01 | 24.18 | 87.19 | 0.000 | 0.000 | 0.000 | BASE | 618 | SOILX1 | -91.95 | -0.01 | -0.03 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | SOIL | -0.86 | 219.66 | -15.42 | 0.000 | 0.000 | 0.000 | BASE | 618 | SOILX2 | 2.22 | -0.02 | 1.10 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | SOILX1 | -0.48 | 45.04 | 4.02 | 0.000 | 0.000 | 0.000 | BASE | 618 | SOILV1 | -61.52 | 0.51 | -10.07 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | SOILX2 | -0.48 | 45.04 | 4.02 | 0.000 | 0.000 | 0.000 | BASE | 618 | SOILV2 | 505.11 | -0.09 | 1208.93 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | SOILV1 | 0.13 | 112.26 | 8.09 | 0.000 | 0.000 | 0.000 | BASE | 618 | DX Max | 505.11 | -0.09 | 1208.93 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | SOILV2 | 0.13 | 112.26 | 8.09 | 0.000 | 0.000 | 0.000 | BASE | 618 | DX Min | 505.11 | -0.09 | 1208.93 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | DX Max | -0.11 | -218.60 | 891.65 | 0.000 | 0.000 | 0.000 | BASE | 618 | DY Max | 162.31 | 0.35 | 782.47 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | DX Min | 0.11 | 218.60 | -891.65 | 0.000 | 0.000 | 0.000 | BASE | 618 | DY Min | -162.31 | -0.35 | -782.47 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | DY Max | -0.25 | -471.18 | -1079.90 | 0.000 | 0.000 | 0.000 | BASE | 622 | DEAD | -38.42 | 0.00 | 302.60 | 0.000 | 0.000 | 0.000 |
| BASE | 538 | DY Min | 0.25 | 471.18 | 1079.90 | 0.000 | 0.000 | 0.000 | BASE | 622 | TORX | 27.51 | 0.01 | -70.46 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | DEAD | 0.01 | 79.13 | 435.63 | 0.000 | 0.000 | 0.000 | BASE | 622 | TORY | -85.77 | 0.01 | -85.77 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | TORX | 0.00 | -80.48 | -1.61 | 0.000 | 0.000 | 0.000 | BASE | 622 | SOIL | -157.76 | 1.12 | 12.49 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | TORY | -0.01 | 160.47 | 2.25 | 0.000 | 0.000 | 0.000 | BASE | 622 | SOILX1 | -74.10 | -0.10 | -0.44 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | SOIL | -0.32 | 160.47 | 2.25 | 0.000 | 0.000 | 0.000 | BASE | 622 | SOILX2 | 3.15 | -0.01 | -0.44 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | SOILX1 | -0.02 | 9.50 | 0.33 | 0.000 | 0.000 | 0.000 | BASE | 622 | SOILV1 | -47.49 | 0.44 | 3.75 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | SOILX2 | 0.16 | 9.50 | 0.33 | 0.000 | 0.000 | 0.000 | BASE | 622 | SOILV2 | 471.57 | -0.09 | 1632.91 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | SOILV1 | -0.02 | -9.58 | 0.71 | 0.000 | 0.000 | 0.000 | BASE | 622 | DX Max | -471.57 | -0.09 | 1632.91 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | SOILV2 | -0.10 | 114.35 | 4.34 | 0.000 | 0.000 | 0.000 | BASE | 622 | DX Min | -471.57 | -0.09 | 1632.91 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | DX Max | 0.11 | 203.51 | 857.59 | 0.000 | 0.000 | 0.000 | BASE | 622 | DY Max | 18.31 | 0.35 | -454.36 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | DX Min | -0.11 | -203.51 | -857.59 | 0.000 | 0.000 | 0.000 | BASE | 622 | DY Min | -18.31 | -0.35 | 454.36 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | DY Max | -0.21 | -591.83 | -1278.79 | 0.000 | 0.000 | 0.000 | BASE | 626 | DEAD | 18.13 | 0.01 | 262.66 | 0.000 | 0.000 | 0.000 |
| BASE | 556 | DY Min | 0.21 | 591.83 | 1278.79 | 0.000 | 0.000 | 0.000 | BASE | 626 | TORX | -22.47 | 0.01 | -92.26 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | DEAD | -0.01 | 33.53 | 495.86 | 0.000 | 0.000 | 0.000 | BASE | 626 | TORY | -146.84 | 1.69 | 34.01 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | TORX | 0.00 | 12.28 | 45.93 | 0.000 | 0.000 | 0.000 | BASE | 626 | SOIL | -70.38 | -0.14 | 23.53 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | TORY | -0.01 | 15.30 | 55.91 | 0.000 | 0.000 | 0.000 | BASE | 626 | SOILX1 | 3.95 | -0.02 | 0.97 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | SOIL | -0.77 | 325.61 | 11.82 | 0.000 | 0.000 | 0.000 | BASE | 626 | SOILX2 | 5.76 | 0.66 | 16.28 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | SOILX1 | -0.45 | 63.98 | 6.72 | 0.000 | 0.000 | 0.000 | BASE | 626 | SOILV1 | -490.20 | 0.12 | 1950.79 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | SOILX2 | 0.00 | -1.10 | 0.70 | 0.000 | 0.000 | 0.000 | BASE | 626 | SOILV2 | 71.93 | -0.12 | -1950.79 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | SOILV1 | -0.02 | -10.65 | 0.30 | 0.000 | 0.000 | 0.000 | BASE | 626 | DX Max | -71.93 | 0.58 | 315.16 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | SOILV2 | 0.02 | 10.65 | 0.30 | 0.000 | 0.000 | 0.000 | BASE | 626 | DX Min | -71.93 | 0.58 | 315.16 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | DX Max | 0.15 | 387.87 | 1586.39 | 0.000 | 0.000 | 0.000 | BASE | 632 | DEAD | -62.54 | 0.01 | 63.35 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | DX Min | -0.05 | -387.44 | -1586.39 | 0.000 | 0.000 | 0.000 | BASE | 632 | TORX | 25.32 | 0.00 | -21.21 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | DY Max | -0.15 | -351.47 | -222.72 | 0.000 | 0.000 | 0.000 | BASE | 632 | TORY | -21.21 | 0.00 | 21.21 | 0.000 | 0.000 | 0.000 |
| BASE | 573 | DY Min | 0.15 | 351.47 | 222.72 | 0.000 | 0.000 | 0.000 | BASE | 632 | SOIL | -61.38 | 1.46 | -61.38 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | DEAD | 0.01 | -65.93 | 479.55 | 0.000 | 0.000 | 0.000 | BASE | 632 | SOILX1 | 4.86 | -0.03 | 1.12 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | TORX | 0.01 | -9.81 | -22.02 | 0.000 | 0.000 | 0.000 | BASE | 632 | SOILX2 | 3.90 | -0.03 | -0.02 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | TORY | -0.01 | 12.34 | -26.82 | 0.000 | 0.000 | 0.000 | BASE | 632 | SOILV1 | -34.89 | 0.55 | 2.49 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | SOIL | -0.80 | 248.43 | 24.54 | 0.000 | 0.000 | 0.000 | BASE | 632 | SOILV2 | 722.30 | -0.10 | 607.53 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | SOILX1 | -0.15 | 15.99 | 2.31 | 0.000 | 0.000 | 0.000 | BASE | 632 | DX Max | 722.30 | -0.10 | 607.53 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | SOILX2 | 0.02 | -10.14 | 0.89 | 0.000 | 0.000 | 0.000 | BASE | 632 | DX Min | 722.30 | -0.10 | 607.53 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | SOILV1 | -0.02 | -10.14 | 0.89 | 0.000 | 0.000 | 0.000 | BASE | 632 | DY Max | 86.71 | 0.53 | 72.02 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | SOILV2 | 0.08 | 82.21 | 1137.35 | 0.000 | 0.000 | 0.000 | BASE | 632 | DY Min | -86.71 | -0.53 | -72.02 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | DX Max | -0.08 | -82.21 | -1137.35 | 0.000 | 0.000 | 0.000 | BASE | 635 | DEAD | -2.20 | 0.01 | 6.02 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | DX Min | 0.08 | 82.21 | 1137.35 | 0.000 | 0.000 | 0.000 | BASE | 635 | TORX | 3.44 | 0.01 | -4.12 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | DY Max | -0.16 | -292.02 | -345.79 | 0.000 | 0.000 | 0.000 | BASE | 635 | TORY | -4.12 | 0.01 | 4.12 | 0.000 | 0.000 | 0.000 |
| BASE | 591 | DY Min | 0.16 | 292.02 | 345.79 | 0.000 | 0.000 | 0.000 | BASE | 635 | SOIL | -73.09 | 1.52 | 15.72 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | DEAD | 99.26 | -101.30 | 548.67 | 0.000 | 0.000 | 0.000 | BASE | 635 | SOILX1 | -42.36 | -0.07 | 6.10 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | TORX | 4.99 | 6.20 | -6.60 | 0.000 | 0.000 | 0.000 | BASE | 635 | SOILX2 | 5.05 | -0.02 | -0.44 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | TORY | -6.27 | 7.73 | -8.06 | 0.000 | 0.000 | 0.000 | BASE | 635 | SOILV1 | 2.08 | -0.02 | 0.44 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | SOIL | -182.01 | 185.91 | -202.60 | 0.000 | 0.000 | 0.000 | BASE | 635 | SOILV2 | 118.92 | 0.33 | 128.62 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | SOILX1 | -71.47 | 38.36 | -86.76 | 0.000 | 0.000 | 0.000 | BASE | 635 | DX Max | -118.92 | -0.08 | -128.62 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | SOILX2 | 1.79 | -0.79 | 2.66 | 0.000 | 0.000 | 0.000 | BASE | 635 | DX Min | -118.92 | -0.08 | -128.62 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | SOILV1 | -4.08 | -5.54 | 6.52 | 0.000 | 0.000 | 0.000 | BASE | 635 | DY Max | -32.25 | 0.52 | 24.72 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | SOILV2 | 47.90 | 82.33 | -113.05 | 0.000 | 0.000 | 0.000 | BASE | 635 | DY Min | 32.25 | -0.52 | -24.72 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | DX Max | -503.99 | -278.20 | -2208.50 | 0.000 | 0.000 | 0.000 | BASE | 638 | DEAD | -1.82 | 0.01 | -5.29 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | DX Min | 503.99 | 278.20 | 2208.50 | 0.000 | 0.000 | 0.000 | BASE | 638 | TORX | 1.82 | 0.01 | 5.29 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | DY Max | -291.34 | 454.56 | -2065.82 | 0.000 | 0.000 | 0.000 | BASE | 638 | TORY | -1.82 | 0.01 | -5.29 | 0.000 | 0.000 | 0.000 |
| BASE | 609 | DY Min | 291.34 | -454.56 | 2065.82 | 0.000 | 0.000 | 0.000 | BASE | 638 | SOIL | 1.85 | 0.01 | 2.12 | 0.000 | 0.000 | 0.000 |
| BASE | 613 | DEAD | -41.71 | 0.01 | 498.76 | 0.000 | 0.000 | 0.000 | BASE | 638 | SOILX1 | -53.44 | 0.01 | 2.12 | 0.000 | 0.000 | 0.000 |
| BASE | 613 | TORX | 17.20 | 0.00 | -65.09 | 0.000 | 0.000 | 0.000 | BASE | 638 | SOILX2 | 6.91 | -0.05 | -0.44 | 0.000 | 0.000 | 0.000 |
| BASE | 613 | TORY | -316.86 | 0.94 | 3.97 | 0.000 | 0.000 | 0.000 | BASE | 638 | SOILV1 | 0.88 | -0.04 | -0.95 | 0.000 | 0.000 | 0.000 |
| BASE | 613 | SOIL | -121.65 | 4.31 | 0.21 | 0.000 | 0.000 | 0.000 | BASE | 638 | SOILV2 | 0.88 | -0.04 | -0.95 | 0.000 | 0.000 | 0.000 |
| BASE | 613 | SOILX1 | 3.05 | -0.01 | 0.21 | 0.000 | 0.000 | 0.000 | BASE | 638 | DX Max | 0.88 | -0.04 | -0.95 | 0.000 | 0.000 | 0.000 |
| BASE | 613 | SOILX2 | -0.01 | 0.21 | 0.21 | | | | | | | | | | | | |

SUPPORT REACTIONS

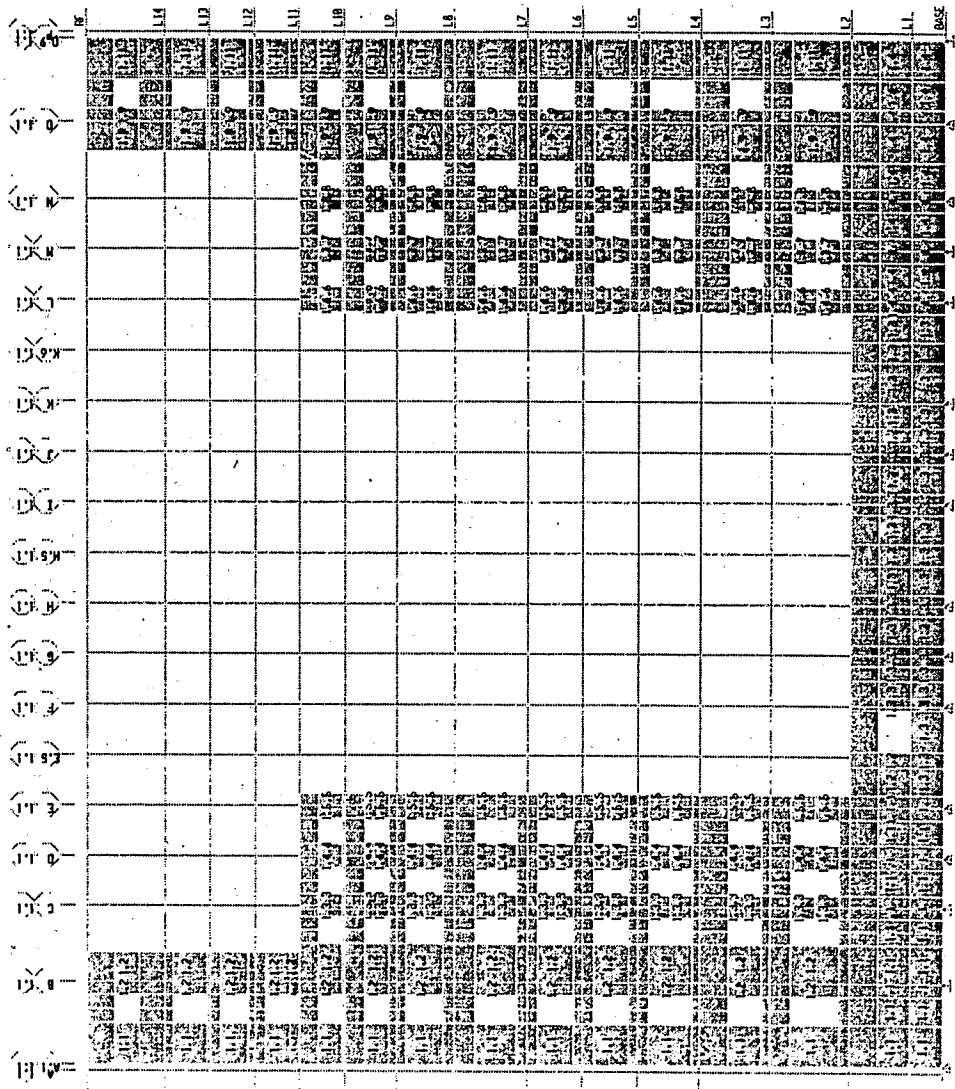
SUPPORT REACTIONS

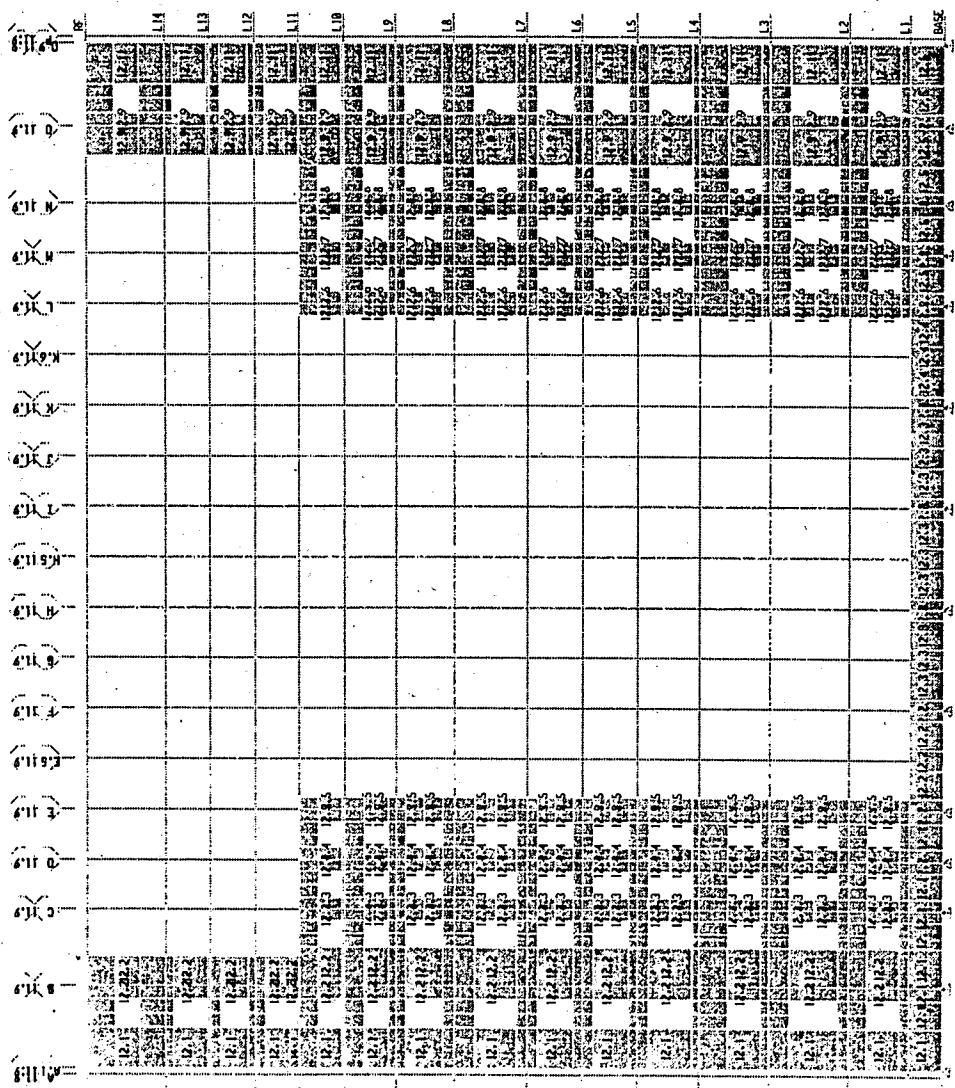
| STORY | POINT | LOAD | FX | FY | FZ | KX | KY | KZ | STORY | POINT | LOAD | FX | FY | FZ | KX | KY | KZ | | |
|-------|-------|--------|---------|-------|----------|-------|-------|-------|-----------|------------|--------|----------|-----------|------------------|---------------|-------------|--------------|-------------|------|
| BASE | 638 | SOILV2 | -10.54 | 0.73 | 12.14 | 0.000 | 0.000 | 0.000 | BASE | 668 | DEAD | 82.92 | 0.03 | 609.41 | 0.000 | 0.000 | 0.000 | | |
| BASE | 638 | DX Max | 100.47 | 0.11 | 58.01 | 0.000 | 0.000 | 0.000 | BASE | 668 | TORX | 16.28 | 0.02 | 56.43 | 0.000 | 0.000 | 0.000 | | |
| BASE | 638 | DX Min | -100.47 | -0.11 | -58.01 | 0.000 | 0.000 | 0.000 | BASE | 668 | TORY | 20.20 | 0.02 | 68.74 | 0.000 | 0.000 | 0.000 | | |
| BASE | 638 | DY Max | 22.93 | -0.79 | 33.64 | 0.000 | 0.000 | 0.000 | BASE | 668 | SOIL | 2.86 | 1.32 | 2.86 | 0.000 | 0.000 | 0.000 | | |
| BASE | 638 | DY Min | -22.93 | -0.79 | -33.64 | 0.000 | 0.000 | 0.000 | BASE | 668 | SOIL1 | -15.53 | -0.01 | 5.94 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | DEAD | -1.99 | 0.01 | -6.43 | 0.000 | 0.000 | 0.000 | BASE | 668 | SOIL2 | 24.37 | -0.07 | 0.46 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | TORX | 1.97 | 0.01 | 1.06 | 0.000 | 0.000 | 0.000 | BASE | 668 | SOILV1 | 72.80 | -0.44 | -8.27 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | TORY | 25.29 | 0.01 | 1.35 | 0.000 | 0.000 | 0.000 | BASE | 668 | DX Max | 329.17 | 0.13 | 521.47 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | SOIL | -35.29 | 2.22 | 8.14 | 0.000 | 0.000 | 0.000 | BASE | 668 | DX Min | -521.47 | -0.13 | -521.47 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | SOIL1 | -34.66 | -0.07 | 0.73 | 0.000 | 0.000 | 0.000 | BASE | 668 | DY Max | 506.62 | 0.47 | 1525.98 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | SOIL2 | 8.37 | -0.06 | 2.10 | 0.000 | 0.000 | 0.000 | BASE | 668 | DY Min | -506.62 | -0.47 | -1525.98 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | SOILV1 | -0.87 | -0.04 | -0.94 | 0.000 | 0.000 | 0.000 | BASE | 672 | DEAD | -118.39 | -30.64 | 532.60 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | SOILV2 | 0.06 | 0.72 | 11.94 | 0.000 | 0.000 | 0.000 | BASE | 672 | TORX | 3.84 | -10.26 | 7.25 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | DX Max | 101.48 | 0.10 | 44.94 | 0.000 | 0.000 | 0.000 | BASE | 672 | TORY | 3.84 | 131.17 | 7.25 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | DX Min | -101.48 | -0.10 | -44.94 | 0.000 | 0.000 | 0.000 | BASE | 672 | SOIL | -10.41 | -3.17 | -120.33 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | DY Max | 19.63 | 0.81 | 26.45 | 0.000 | 0.000 | 0.000 | BASE | 672 | SOIL1 | 14.54 | 8.87 | 19.06 | 0.000 | 0.000 | 0.000 | | |
| BASE | 644 | DY Min | -19.63 | -0.81 | -26.45 | 0.000 | 0.000 | 0.000 | BASE | 672 | SOIL2 | -3.89 | -5.04 | -13.98 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | DEAD | 4.37 | 0.01 | 9.48 | 0.000 | 0.000 | 0.000 | BASE | 672 | SOILV1 | 40.24 | -73.01 | -76.38 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | TORX | 6.37 | 0.01 | 6.55 | 0.000 | 0.000 | 0.000 | BASE | 672 | SOILV2 | 508.50 | 83.74 | 2046.09 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | TORY | 8.13 | 0.01 | 7.99 | 0.000 | 0.000 | 0.000 | BASE | 672 | DX Max | -508.50 | -83.74 | -2046.09 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | SOIL | -8.03 | 1.64 | 13.41 | 0.000 | 0.000 | 0.000 | BASE | 672 | DX Min | 153.58 | 248.37 | 1139.41 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | SOIL1 | -4.96 | -0.03 | 0.62 | 0.000 | 0.000 | 0.000 | BASE | 672 | DY Max | -153.58 | -248.37 | -1139.41 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | SOIL2 | 2.08 | -0.02 | -0.62 | 0.000 | 0.000 | 0.000 | BASE | 672 | DY Min | 118.39 | 30.64 | -532.60 | 0.000 | 0.000 | 0.000 | | |
| BASE | 647 | SOILV1 | 11.72 | 0.52 | 13.63 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | DEAD | -0.60 | 0.59 | 15303.9016081375 | -934.20718043 | 74 | 1460.299 | | |
| BASE | 647 | SOILV2 | 202.28 | 0.07 | 197.43 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | TORX | 765.288 | -0.68 | 0.00 | 765.288 | -457.985 | -1088647.211 | | |
| BASE | 647 | DX Max | -202.28 | -0.07 | -197.43 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | TORY | 937.148 | -0.84 | 0.00 | 937.148 | -563.664 | -1349338.413 | | |
| BASE | 647 | DX Min | 47.61 | 0.57 | 50.25 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 647 | DY Max | -47.61 | -0.57 | -50.25 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 650 | DEAD | 55.12 | 0.01 | 51.31 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 650 | TORX | 32.50 | 0.02 | 28.50 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 650 | TORY | 35.63 | 2.06 | 6.26 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | -9568469.25 | |
| BASE | 650 | SOIL | -35.42 | -0.04 | 3.77 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | 10324.27 | -4315.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| BASE | 650 | SOIL1 | 11.93 | -0.07 | -0.92 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 4847.10 | -10689.81 | -10689.81 | -41284.09 | -45831091.4 | 59665588.7 | 5986765.759 | |
| BASE | 650 | SOIL2 | 1.92 | -0.03 | 0.14 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | -0.60 | 0.59 | 15303.9016081375 | -934.20718043 | 74 | 1460.299 | | |
| BASE | 650 | SOILV1 | 25.52 | 0.65 | 6.45 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | TORX | 765.288 | -0.68 | 0.00 | 765.288 | -457.985 | -1088647.211 | | |
| BASE | 650 | SOILV2 | 736.34 | 0.11 | 651.84 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | TORY | 937.148 | -0.84 | 0.00 | 937.148 | -563.664 | -1349338.413 | | |
| BASE | 650 | DX Max | -736.34 | -0.11 | -651.84 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 650 | DX Min | 200.85 | -0.78 | 182.20 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 650 | DY Max | -200.85 | -0.78 | -182.20 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 650 | DY Min | 41.57 | 0.01 | 243.82 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 655 | DEAD | 19.41 | 0.01 | 72.72 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | -9568469.25 | |
| BASE | 655 | TORX | 24.04 | 0.02 | 88.66 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 655 | TORY | 33.85 | 2.14 | 8.66 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 655 | SOIL | -21.44 | -0.02 | -5.80 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 655 | SOIL1 | 13.12 | -0.03 | 0.78 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 655 | SOIL2 | 3.90 | 0.65 | 7.12 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | -9568469.25 | |
| BASE | 655 | SOILV1 | 509.40 | 0.14 | 1818.07 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 655 | SOILV2 | -509.40 | -0.14 | -1818.07 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 655 | DX Max | 189.18 | 0.75 | 653.19 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 655 | DX Min | -189.18 | -0.75 | -653.19 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 655 | DY Max | 36.38 | 0.00 | 305.49 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | -9568469.25 | |
| BASE | 655 | DY Min | -36.38 | -0.00 | -305.49 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 659 | DEAD | 41.12 | 0.01 | 47.11 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 659 | TORX | 48.16 | 1.35 | 3.07 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 659 | TORY | 17.47 | -0.01 | -2.67 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 659 | SOIL | -17.47 | -0.01 | -2.67 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | -9568469.25 | |
| BASE | 659 | SOIL1 | 14.04 | -0.06 | 1.01 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 659 | SOIL2 | -5.20 | -0.02 | 0.03 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 659 | SOILV1 | 39.03 | 0.40 | -1.45 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 659 | SOILV2 | -418.78 | -0.11 | 1527.32 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 659 | DX Max | 781.13 | 0.44 | -781.13 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | -9568469.25 | |
| BASE | 659 | DX Min | -781.13 | -0.44 | 781.13 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL | -1406.41 | 2559.66 | 0.00 | -233364.227 | -128169.930 | 5460776.916 | | |
| BASE | 659 | DY Max | 227.87 | -0.44 | -781.13 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL1 | 1166.06 | -0.14 | 0.00 | 53.440 | -158264.493 | 1561988.469 | | |
| BASE | 659 | DY Min | -227.87 | 0.44 | 781.13 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOIL2 | 290.74 | 0.00 | 0.00 | 304.41 | 2448.0 | 0.201 | -489703.667 | |
| BASE | 663 | DEAD | 66.95 | 0.00 | 431.59 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV1 | 1862.48 | 0.29 | 0.00 | -274333.072 | 49.972 | 2642961.064 | | |
| BASE | 663 | TORX | 21.21 | 0.01 | 71.05 | 0.000 | 0.000 | 0.000 | Summation | 0, 0, Base | SOILV2 | 1092.24 | 0.29 | 0.00 | 44600.06 | 49093620.39 | -59274175.6 | | |

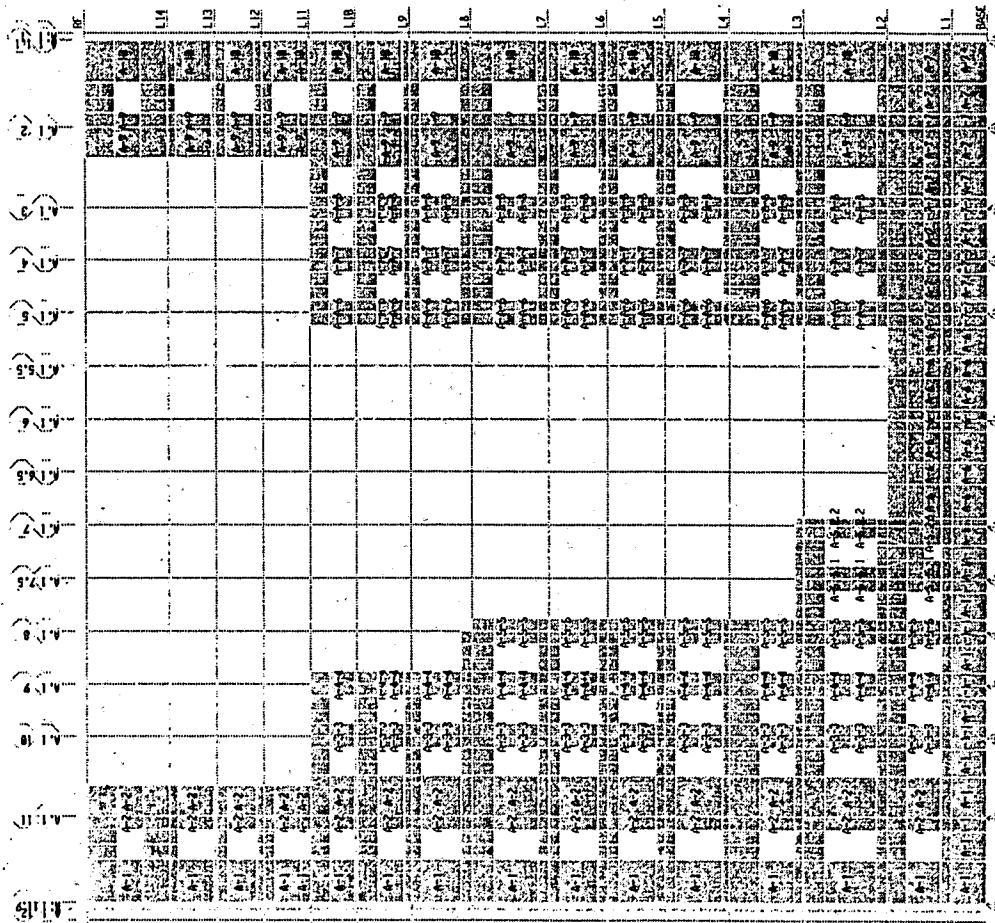


G: Shear Wall Pier Shear Design

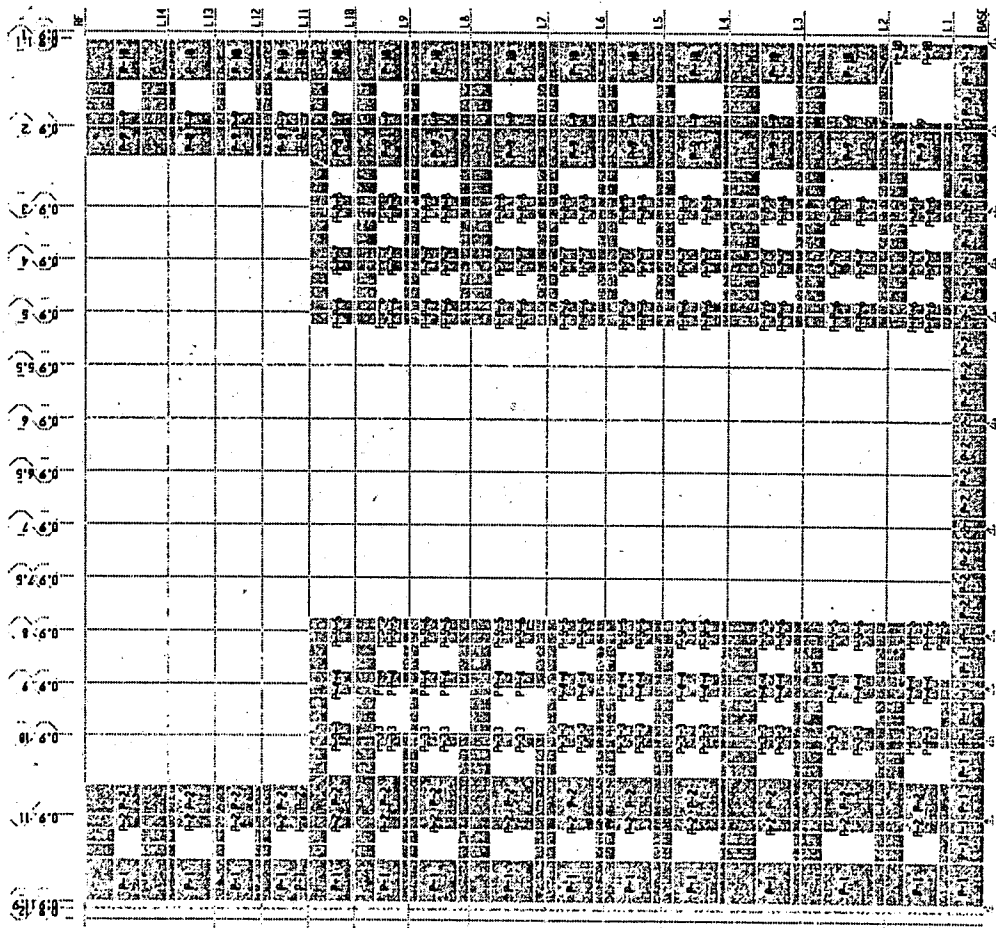
ETABS







ETABS



Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

E = max(DX+TORX, DY+TORY)

DX,Y = ETABS load combo for response spectrum scaled to 100% of static base shear

TORX,Y = ETABS load case for 5% accidental torsion

$\Phi V_n = .6Acv(\alpha_c \cdot f_c^{.5} + \rho_h \cdot f_y)$

| ETABS | | | | | | | | | | | | | | | Line Sum | Vu/ | Vu/ | Vu/ | Vu/ | Vu/ | |
|-------|------|----|------|------|--------------------|-------|------------|------|--------------------|-------|----|--------|------------|------------|---------------------------|--------------------------|---------------------------|--------------------|--------|--------|-------------------------|
| Level | Pier | t | hw | Acv | fc | Vu | α_c | Type | As | #rows | s | Rho | ΦV_n | ΦV_n | $\Phi 10A \cdot f_c^{.5}$ | $\Phi 8A \cdot f_c^{.5}$ | $\Phi 10A \cdot f_c^{.5}$ | Acv | Vu | Vu/ | $\Phi 8 \cdot f_c^{.5}$ |
| | | | {in} | {in} | {in ² } | {psi} | {kips} | | {in ² } | | | | {kips} | {kips} | {kips} | | | {in ² } | {kips} | {kips} | {kips} |
| RF | 1.1 | 14 | 107 | 1498 | 8000 | 297 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 360 | 0.83 | 804 | 0.46 | 0.37 | | | | |
| RF | 1.2 | 14 | 111 | 1554 | 8000 | 226 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.61 | 834 | 0.34 | 0.27 | 3052 | 523 | 0.17 | 0.43 |
| RF | 1.9 | 14 | 112 | 1568 | 8000 | 229 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.61 | 841 | 0.34 | 0.27 | | | | |
| RF | 1.11 | 14 | 106 | 1484 | 8000 | 301 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 356 | 0.84 | 796 | 0.47 | 0.38 | 3052 | 530 | 0.17 | 0.43 |
| RF | 12.1 | 14 | 107 | 1498 | 8000 | 315 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 360 | 0.88 | 804 | 0.49 | 0.39 | | | | |
| RF | 12.2 | 14 | 111 | 1554 | 8000 | 239 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.64 | 834 | 0.36 | 0.29 | 3052 | 554 | 0.18 | 0.43 |
| RF | 12.9 | 14 | 112 | 1568 | 8000 | 236 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.63 | 841 | 0.35 | 0.28 | | | | |
| RF | 12.1 | 14 | 106 | 1484 | 8000 | 308 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 356 | 0.88 | 796 | 0.48 | 0.39 | 3052 | 543 | 0.18 | 0.43 |
| RF | A-1 | 14 | 107 | 1498 | 8000 | 284 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 360 | 0.79 | 804 | 0.44 | 0.35 | | | | |
| RF | A-2 | 14 | 111 | 1554 | 8000 | 216 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.58 | 834 | 0.32 | 0.26 | 3052 | 500 | 0.16 | 0.43 |
| RF | A-9 | 14 | 112 | 1568 | 8000 | 219 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.58 | 841 | 0.33 | 0.26 | | | | |
| RF | A-10 | 14 | 106 | 1484 | 8000 | 288 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 356 | 0.81 | 796 | 0.45 | 0.36 | 3052 | 507 | 0.17 | 0.43 |
| RF | P-1 | 14 | 107 | 1498 | 8000 | 312 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 360 | 0.87 | 804 | 0.48 | 0.39 | | | | |
| RF | P-2 | 14 | 111 | 1554 | 8000 | 237 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.64 | 834 | 0.36 | 0.28 | 3052 | 549 | 0.18 | 0.43 |
| RF | P-9 | 14 | 112 | 1568 | 8000 | 249 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.66 | 841 | 0.37 | 0.30 | | | | |
| RF | P-10 | 14 | 106 | 1484 | 8000 | 327 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 356 | 0.92 | 796 | 0.51 | 0.41 | 3052 | 576 | 0.19 | 0.43 |
| L14 | 1.1 | 14 | 107 | 1498 | 8000 | 546 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 585 | 0.93 | 804 | 0.85 | 0.68 | | | | |
| L14 | 1.2 | 14 | 111 | 1554 | 8000 | 309 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.83 | 834 | 0.46 | 0.37 | 3052 | 855 | 0.28 | 0.43 |
| L14 | 1.9 | 14 | 112 | 1568 | 8000 | 314 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.83 | 841 | 0.47 | 0.37 | | | | |
| L14 | 1.11 | 14 | 106 | 1484 | 8000 | 542 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 579 | 0.94 | 796 | 0.85 | 0.68 | 3052 | 856 | 0.28 | 0.43 |
| L14 | 12.1 | 14 | 107 | 1498 | 8000 | 575 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 585 | 0.98 | 804 | 0.89 | 0.72 | | | | |
| L14 | 12.2 | 14 | 111 | 1554 | 8000 | 321 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.86 | 834 | 0.48 | 0.38 | 3052 | 896 | 0.29 | 0.43 |
| L14 | 12.9 | 14 | 112 | 1568 | 8000 | 324 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.86 | 841 | 0.48 | 0.39 | | | | |
| L14 | 12.1 | 14 | 106 | 1484 | 8000 | 563 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 579 | 0.97 | 796 | 0.88 | 0.71 | 3052 | 887 | 0.29 | 0.43 |
| L14 | A-1 | 14 | 107 | 1498 | 8000 | 531 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 585 | 0.91 | 804 | 0.83 | 0.66 | | | | |
| L14 | A-2 | 14 | 111 | 1554 | 8000 | 302 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.81 | 834 | 0.45 | 0.36 | 3052 | 832 | 0.27 | 0.43 |
| L14 | A-9 | 14 | 112 | 1568 | 8000 | 306 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.81 | 841 | 0.45 | 0.36 | | | | |
| L14 | A-10 | 14 | 106 | 1484 | 8000 | 524 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 579 | 0.91 | 796 | 0.82 | 0.66 | 3052 | 830 | 0.27 | 0.43 |
| L14 | P-1 | 14 | 107 | 1498 | 8000 | 587 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 585 | 1.00 | 804 | 0.91 | 0.73 | | | | |
| L14 | P-2 | 14 | 111 | 1554 | 8000 | 325 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.87 | 834 | 0.49 | 0.39 | 3052 | 912 | 0.30 | 0.43 |
| L14 | P-9 | 14 | 112 | 1568 | 8000 | 338 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.90 | 841 | 0.50 | 0.40 | | | | |
| L14 | P-10 | 14 | 106 | 1484 | 8000 | 593 | 2 | H5 | 0.44 | 2 | 6 | 0.0105 | 719 | 0.82 | 796 | 0.93 | 0.74 | 3052 | 931 | 0.30 | 0.43 |
| L13 | 1.1 | 14 | 107 | 1498 | 8000 | 561 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 585 | 0.96 | 804 | 0.87 | 0.70 | | | | |
| L13 | 1.2 | 14 | 111 | 1554 | 8000 | 299 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.80 | 834 | 0.45 | 0.36 | 3052 | 859 | 0.28 | 0.43 |
| L13 | 1.9 | 14 | 112 | 1568 | 8000 | 304 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.81 | 841 | 0.45 | 0.36 | | | | |
| L13 | 1.11 | 14 | 106 | 1484 | 8000 | 556 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 579 | 0.96 | 796 | 0.87 | 0.70 | 3052 | 860 | 0.28 | 0.43 |
| L13 | 12.1 | 14 | 107 | 1498 | 8000 | 590 | 2 | H5 | 0.44 | 2 | 6 | 0.0105 | 726 | 0.81 | 804 | 0.92 | 0.73 | | | | |
| L13 | 12.2 | 14 | 111 | 1554 | 8000 | 310 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.83 | 834 | 0.46 | 0.37 | 3052 | 901 | 0.30 | 0.43 |
| L13 | 12.9 | 14 | 112 | 1568 | 8000 | 314 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.83 | 841 | 0.47 | 0.37 | | | | |
| L13 | 12.1 | 14 | 106 | 1484 | 8000 | 578 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 579 | 1.00 | 796 | 0.91 | 0.73 | 3052 | 892 | 0.29 | 0.43 |
| L13 | A-1 | 14 | 107 | 1498 | 8000 | 545 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 585 | 0.93 | 804 | 0.85 | 0.68 | | | | |
| L13 | A-2 | 14 | 111 | 1554 | 8000 | 292 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.78 | 834 | 0.44 | 0.35 | 3052 | 837 | 0.27 | 0.43 |
| L13 | A-9 | 14 | 112 | 1568 | 8000 | 295 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.78 | 841 | 0.44 | 0.35 | | | | |
| L13 | A-10 | 14 | 106 | 1484 | 8000 | 539 | 2 | H4 | 0.44 | 2 | 8 | 0.0079 | 579 | 0.93 | 796 | 0.85 | 0.68 | 3052 | 834 | 0.27 | 0.43 |
| L13 | P-1 | 14 | 107 | 1498 | 8000 | 604 | 2 | H5 | 0.44 | 2 | 6 | 0.0105 | 726 | 0.83 | 804 | 0.94 | 0.75 | | | | |
| L13 | P-2 | 14 | 111 | 1554 | 8000 | 313 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 373 | 0.84 | 834 | 0.47 | 0.38 | 3052 | 917 | 0.30 | 0.43 |
| L13 | P-9 | 14 | 112 | 1568 | 8000 | 327 | 2 | H1 | 0.31 | 2 | 12 | 0.0037 | 377 | 0.87 | 841 | 0.49 | 0.39 | | | | |
| L13 | P-10 | 14 | 106 | 1484 | 8000 | 608 | 2 | H5 | 0.44 | 2 | 6 | 0.0105 | 719 | 0.85 | 796 | 0.95 | 0.76 | 3052 | 935 | 0.31 | 0.43 |
| L12 | 1.1 | 18 | 107 | 1926 | 8000 | 336 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 505 | 0.67 | 1034 | 0.41 | 0.33 | | | | |
| L12 | 1.2 | 18 | 111 | 1998 | 8000 | 648 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 654 | 0.99 | 1072 | 0.75 | 0.60 | 3924 | 984 | 0.25 | 0.43 |
| L12 | 1.9 | 18 | 112 | 2016 | 8000 | 648 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 660 | 0.98 | 1082 | 0.75 | 0.60 | | | | |
| L12 | 1.11 | 18 | 106 | 1908 | 8000 | 334 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 501 | 0.67 | 1024 | 0.41 | 0.33 | 3924 | 982 | 0.25 | 0.43 |
| L12 | 12.1 | 18 | 107 | 1926 | 8000 | 357 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 505 | 0.71 | 1034 | 0.43 | 0.35 | | | | |
| L12 | 12.2 | 18 | 111 | 1998 | 8000 | 674 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 801 | 0.84 | 1072 | 0.79 | 0.63 | 3924 | 1031 | 0.26 | 0.43 |
| L12 | 12.9 | 18 | 112 | 2016 | 8000 | 672 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 808 | 0.83 | 1082 | 0.78 | 0.62 | | | | |
| L12 | 12.1 | 18 | 106 | 1908 | 8000 | 344 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 501 | 0.69 | 1024 | 0.42 | 0.34 | 3924 | 1016 | 0.26 | 0.43 |
| L12 | A-1 | 18 | 107 | 1926 | 8000 | 323 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 505 | 0.64 | 1034 | 0.39 | 0.31 | | | | |
| L12 | A-2 | 18 | 111 | 1998 | 8000 | 620 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 654 | 0.95 | 1072 | 0.72 | 0.58 | 3924 | 944 | 0.24 | 0.43 |
| L12 | A-9 | 18 | 112 | 2016 | 8000 | 643 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 660 | 0.97 | 1082 | 0.74 | 0.59 | | | | |
| L12 | A-10 | 18 | 106 | 1908 | 8000 | 328 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 501 | 0.66 | 1024 | 0.40 | 0.32 | 3924 | 972 | 0.25 | 0.43 |
| L12 | P-1 | 18 | 107 | 1926 | 8000 | 336 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 505 | 0.66 | 1034 | 0.41 | 0.32 | | | | |
| L12 | P-2 | 18 | 111 | 1998 | 8000 | 689 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 801 | 0.86 | 1072 | 0.80 | 0.64 | 3924 | 1025 | 0.26 | 0.43 |
| L12 | P-9 | 18 | 112 | 2016 | 8000 | 706 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 808 | 0.87 | 1082 | 0.82 | 0.65 | | | | |
| L12 | P-10 | 18 | 106 | 1908 | 8000 | 364 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 501 | 0.73 | 1024 | 0.44 | 0.36 | 3924 | 1070 | 0.27 | 0.43 |
| L11 | 1.1 | 18 | 107 | 1926 | 8000 | 224 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 406 | 0.55 | 1034 | 0.27 | 0.22 | | | | |
| L11 | 1.2 | 18 | 135 | 2430 | 8000 | 349 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | | | | | | | | | |

Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

E = max(DX+TORX, DY+TORY)

DX,Y = ETABS load combo for response spectrum scaled to 100% of static base shear

TORX,Y = ETABS load case for 5% accidental torsion

$\Phi V_n = .6A_{cv}(\alpha_c \cdot f_c^{.5} + \rho_h \cdot f_y)$

| ETABS | | | | | | | | | | | | Vu/ | Vu/ | Vu/ | Line Sum | Vu/ | | | | | | |
|-------|------|------|------|--------------------|-------|--------|------------|------|--------------------|-------|----|--------|------------|------------|---------------------------|--------------------------|---------------------------|--------------------|--------|--------|-------------------------|------|
| Level | Pier | t | lw | Acv | fc | Vu | α_c | Type | As | #rows | s | Rho | ΦV_n | ΦV_n | $\Phi 10A \cdot f_c^{.5}$ | $\Phi 8A \cdot f_c^{.5}$ | $\Phi 10A \cdot f_c^{.5}$ | Acv | Vu | Acv | $\Phi 8 \cdot f_c^{.5}$ | |
| | | (in) | (in) | (in ²) | (psi) | (kips) | | | (in ²) | (in) | | | (kips) | (kips) | (kips) | (kips) | (kips) | (in ²) | (kips) | (kips) | (ksi) | |
| L11 | | 1.4 | 18 | 62 | 1116 | 8000 | 70 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 235 | 0.30 | 599 | 0.15 | 0.12 | | | | |
| L11 | | 1.5 | 18 | 64 | 1152 | 8000 | 36 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.15 | 618 | 0.07 | 0.06 | 7704 | 1068 | 0.14 | 0.43 |
| L11 | | 1.6 | 18 | 64 | 1152 | 8000 | 36 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.15 | 618 | 0.07 | 0.06 | | | | |
| L11 | | 1.7 | 18 | 63 | 1134 | 8000 | 70 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 239 | 0.29 | 609 | 0.14 | 0.12 | | | | |
| L11 | | 1.8 | 18 | 59 | 1062 | 8000 | 387 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 426 | 0.91 | 570 | 0.85 | 0.68 | | | | |
| L11 | | 1.9 | 18 | 136 | 2448 | 8000 | 349 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 516 | 0.68 | 1314 | 0.33 | 0.27 | | | | |
| L11 | | 1.11 | 18 | 106 | 1908 | 8000 | 225 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 402 | 0.58 | 1024 | 0.27 | 0.22 | 7704 | 1067 | 0.14 | 0.43 |
| L11 | | 12.1 | 18 | 107 | 1926 | 8000 | 240 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 406 | 0.59 | 1034 | 0.29 | 0.23 | | | | |
| L11 | | 12.2 | 18 | 135 | 2430 | 8000 | 367 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 512 | 0.72 | 1304 | 0.35 | 0.28 | | | | |
| L11 | | 12.3 | 18 | 60 | 1080 | 8000 | 404 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 433 | 0.93 | 580 | 0.87 | 0.70 | | | | |
| L11 | | 12.4 | 18 | 62 | 1116 | 8000 | 72 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 235 | 0.31 | 599 | 0.15 | 0.12 | | | | |
| L11 | | 12.5 | 18 | 64 | 1152 | 8000 | 38 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.16 | 618 | 0.08 | 0.06 | 7704 | 1122 | 0.15 | 0.43 |
| L11 | | 12.6 | 18 | 64 | 1152 | 8000 | 38 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.16 | 618 | 0.08 | 0.06 | | | | |
| L11 | | 12.7 | 18 | 63 | 1134 | 8000 | 73 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 239 | 0.30 | 609 | 0.15 | 0.12 | | | | |
| L11 | | 12.8 | 18 | 59 | 1062 | 8000 | 402 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 426 | 0.94 | 570 | 0.88 | 0.71 | | | | |
| L11 | | 12.9 | 18 | 136 | 2448 | 8000 | 362 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 516 | 0.70 | 1314 | 0.34 | 0.28 | | | | |
| L11 | | 12.1 | 18 | 106 | 1908 | 8000 | 230 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 402 | 0.57 | 1024 | 0.28 | 0.22 | 7704 | 1104 | 0.14 | 0.43 |
| L11 | A-1 | 18 | 107 | 1926 | 8000 | 215 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 406 | 0.53 | 1034 | 0.26 | 0.21 | | | | | |
| L11 | A-2 | 18 | 135 | 2430 | 8000 | 345 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 512 | 0.67 | 1304 | 0.33 | 0.26 | | | | | |
| L11 | A-3 | 18 | 60 | 1080 | 8000 | 356 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 433 | 0.82 | 580 | 0.77 | 0.61 | | | | | |
| L11 | A-4 | 18 | 62 | 1116 | 8000 | 39 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 235 | 0.17 | 599 | 0.08 | 0.07 | 6552 | 955 | 0.15 | 0.43 | |
| L11 | A-6 | 18 | 64 | 1152 | 8000 | 39 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.16 | 618 | 0.08 | 0.06 | | | | | |
| L11 | A-7 | 18 | 63 | 1134 | 8000 | 71 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 239 | 0.30 | 609 | 0.15 | 0.12 | | | | | |
| L11 | A-8 | 18 | 59 | 1062 | 8000 | 389 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 426 | 0.92 | 570 | 0.85 | 0.68 | | | | | |
| L11 | A-9 | 18 | 136 | 2448 | 8000 | 343 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 516 | 0.66 | 1314 | 0.33 | 0.26 | | | | | |
| L11 | A-10 | 18 | 106 | 1908 | 8000 | 218 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 402 | 0.54 | 1024 | 0.27 | 0.21 | 7704 | 1059 | 0.14 | 0.43 | |
| L11 | P-1 | 18 | 107 | 1926 | 8000 | 210 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 406 | 0.52 | 1034 | 0.25 | 0.20 | | | | | |
| L11 | P-2 | 18 | 135 | 2430 | 8000 | 240 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 512 | 0.47 | 1304 | 0.23 | 0.18 | | | | | |
| L11 | P-3 | 18 | 60 | 1080 | 8000 | 504 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 591 | 0.85 | 580 | 1.09 | 0.87 | | | | | |
| L11 | P-4 | 18 | 62 | 1116 | 8000 | 181 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 235 | 0.77 | 599 | 0.38 | 0.30 | | | | | |
| L11 | P-5 | 18 | 64 | 1152 | 8000 | 98 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.40 | 618 | 0.20 | 0.16 | 7704 | 1232 | 0.16 | 0.43 | |
| L11 | P-6 | 18 | 64 | 1152 | 8000 | 43 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 243 | 0.18 | 618 | 0.09 | 0.07 | | | | | |
| L11 | P-7 | 18 | 63 | 1134 | 8000 | 76 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 239 | 0.32 | 609 | 0.16 | 0.13 | | | | | |
| L11 | P-8 | 18 | 59 | 1062 | 8000 | 426 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 581 | 0.73 | 570 | 0.94 | 0.75 | | | | | |
| L11 | P-9 | 18 | 136 | 2448 | 8000 | 381 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 516 | 0.74 | 1314 | 0.36 | 0.29 | | | | | |
| L11 | P-10 | 18 | 106 | 1908 | 8000 | 240 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 402 | 0.60 | 1024 | 0.29 | 0.23 | 7704 | 1166 | 0.15 | 0.43 | |
| L10 | | 1.1 | 18 | 107 | 1926 | 6000 | 253 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.67 | 895 | 0.35 | 0.28 | | | | |
| L10 | | 1.2 | 18 | 135 | 2430 | 6000 | 314 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.66 | 1129 | 0.35 | 0.28 | | | | |
| L10 | | 1.3 | 18 | 60 | 1080 | 6000 | 421 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 576 | 0.73 | 502 | 1.05 | 0.84 | | | | |
| L10 | | 1.4 | 18 | 62 | 1116 | 6000 | 372 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 431 | 0.86 | 519 | 0.90 | 0.72 | | | | |
| L10 | | 1.5 | 18 | 64 | 1152 | 6000 | 174 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.77 | 535 | 0.41 | 0.33 | 7704 | 1533 | 0.20 | 0.37 |
| L10 | | 1.6 | 18 | 64 | 1152 | 6000 | 172 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.76 | 535 | 0.40 | 0.32 | | | | |
| L10 | | 1.7 | 18 | 63 | 1134 | 6000 | 373 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 438 | 0.85 | 527 | 0.89 | 0.71 | | | | |
| L10 | | 1.8 | 18 | 59 | 1062 | 6000 | 411 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 566 | 0.73 | 494 | 1.04 | 0.83 | | | | |
| L10 | | 1.9 | 18 | 136 | 2448 | 6000 | 349 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.73 | 1138 | 0.38 | 0.31 | | | | |
| L10 | | 1.11 | 18 | 106 | 1908 | 6000 | 255 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.68 | 887 | 0.36 | 0.29 | 7704 | 1561 | 0.20 | 0.37 |
| L10 | | 12.1 | 18 | 107 | 1926 | 6000 | 257 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.68 | 895 | 0.36 | 0.29 | | | | |
| L10 | | 12.2 | 18 | 135 | 2430 | 6000 | 332 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.70 | 1129 | 0.37 | 0.29 | | | | |
| L10 | | 12.3 | 18 | 60 | 1080 | 6000 | 443 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 576 | 0.77 | 502 | 1.10 | 0.88 | | | | |
| L10 | | 12.4 | 18 | 62 | 1116 | 6000 | 389 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 431 | 0.90 | 519 | 0.94 | 0.75 | | | | |
| L10 | | 12.5 | 18 | 64 | 1152 | 6000 | 182 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.81 | 535 | 0.43 | 0.34 | 7704 | 1604 | 0.21 | 0.37 |
| L10 | | 12.6 | 18 | 64 | 1152 | 6000 | 181 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.80 | 535 | 0.42 | 0.34 | | | | |
| L10 | | 12.7 | 18 | 63 | 1134 | 6000 | 392 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 438 | 0.90 | 527 | 0.93 | 0.74 | | | | |
| L10 | | 12.8 | 18 | 59 | 1062 | 6000 | 433 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 566 | 0.77 | 494 | 1.10 | 0.88 | | | | |
| L10 | | 12.9 | 18 | 136 | 2448 | 6000 | 320 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.67 | 1138 | 0.35 | 0.28 | | | | |
| L10 | | 12.1 | 18 | 106 | 1908 | 6000 | 252 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.67 | 887 | 0.36 | 0.28 | 7704 | 1578 | 0.20 | 0.37 |
| L10 | A-1 | 18 | 107 | 1926 | 6000 | 208 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.55 | 895 | 0.29 | 0.23 | | | | | |
| L10 | A-2 | 18 | 135 | 2430 | 6000 | 342 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.72 | 1129 | 0.38 | 0.30 | | | | | |
| L10 | A-3 | 18 | 60 | 1080 | 6000 | 409 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.98 | 502 | 1.02 | 0.81 | | | | | |
| L10 | A-4 | 18 | 62 | 1116 | 6000 | 212 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.97 | 519 | 0.51 | 0.41 | 6552 | 1171 | 0.18 | 0.37 | |
| L10 | A-6 | 18 | 64 | 1152 | 6000 | 187 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.82 | 535 | 0.44 | 0.35 | | | | | |
| L10 | A-7 | 18 | 63 | 1134 | 6000 | 400 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 438 | 0.91 | 527 | 0.95 | 0.76 | | | | | |
| L10 | A-8 | 18 | 59 | 1062 | 6000 | 442 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 566 | 0.78 | 494 | 1.12 | 0.90 | | | | | |
| L10 | A-9 | 18 | 136 | 2448 | 6000 | 353 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.73 | 1138 | 0.39 | 0.31 | | | | | |
| L10 | A-10 | 18 | 106 | 1908 | 6000 | 201 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.54 | 887 | 0.28 | 0.23 | 7704 | 1583 | 0.21 | 0.37 | |
| L10 | P-1 | 18 | 107 | 1926 | 6000 | 257 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.68 | 895 | 0.36 | 0.29 | | | | | |
| L10 | P-2 | 18 | 135 | 2430 | 6000 | 300 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.63 | 1129</ | | | | | | | |

Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

E = max(DX+TORX, DY+TORY)

DX,Y = ETABS load combo for response spectrum scaled to 100% of static base shear

TORX,Y = ETABS load case for 5% accidental torsion

$$\Phi V_n = .6 A_c v (\alpha_c f_c' + \rho_h f_y)$$

| ETABS | | | | | | | | | | | | | | | Line Sum | Vu/ | | Φ8*f _c ^{.5} | | | |
|-------|------|------|------|--------------------|----------------|----------------|----------------|------|--------------------|-------|----|--------|-----------------|---------------------------------|-----------------------------------|--------------------------------------------------|-----------------------------------|---------------------------------|----------------|--------|---------------------------------|
| Level | Pier | t | hw | A _c v | f _c | V _u | α _c | Type | A _s | #rows | s | Rho | ΦV _n | V _u /ΦV _n | Φ10A*f _c ^{.5} | V _u /Φ8A*f _c ^{.5} | Φ10A*f _c ^{.5} | A _c v | V _u | Vu/ | Φ8*f _c ^{.5} |
| | | {in} | {in} | {in ² } | {psi} | {kips} | | | {in ² } | {in} | | | {kips} | | {kips} | | {in ² } | {kips} | {kips} | {kips} | {kips} |
| L8 | A-1 | 18 | 107 | 1928 | 6000 | 267 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.71 | 895 | 0.37 | 0.30 | | | | |
| L8 | A-2 | 18 | 135 | 2430 | 6000 | 471 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.99 | 1129 | 0.52 | 0.42 | | | | |
| L8 | A-3 | 18 | 60 | 1080 | 6000 | 288 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.85 | 502 | 0.72 | 0.57 | | | | |
| L8 | A-4 | 18 | 62 | 1116 | 6000 | 292 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.83 | 519 | 0.70 | 0.56 | | | | |
| L8 | A-5 | 18 | 64 | 1152 | 6000 | 205 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.91 | 535 | 0.48 | 0.38 | 7704 | 1523 | 0.20 | 0.37 |
| L8 | A-6 | 18 | 64 | 1152 | 6000 | 86 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.38 | 535 | 0.20 | 0.16 | | | | |
| L8 | A-7 | 18 | 63 | 1134 | 6000 | 219 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.98 | 527 | 0.52 | 0.42 | | | | |
| L8 | A-8 | 18 | 59 | 1062 | 6000 | 279 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.84 | 494 | 0.71 | 0.56 | | | | |
| L8 | A-9 | 18 | 136 | 2448 | 6000 | 472 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.98 | 1138 | 0.52 | 0.41 | | | | |
| L8 | A-10 | 18 | 106 | 1908 | 6000 | 267 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.71 | 887 | 0.38 | 0.30 | 7704 | 1322 | 0.17 | 0.37 |
| L8 | P-1 | 18 | 107 | 1928 | 6000 | 320 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.85 | 895 | 0.45 | 0.36 | | | | |
| L8 | P-2 | 18 | 135 | 2430 | 6000 | 491 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 527 | 0.93 | 1129 | 0.54 | 0.43 | | | | |
| L8 | P-3 | 18 | 38 | 684 | 6000 | 145 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 148 | 0.98 | 318 | 0.57 | 0.46 | | | | |
| L8 | P-4 | 18 | 41 | 738 | 6000 | 107 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 145 | 0.74 | 343 | 0.39 | 0.31 | | | | |
| L8 | P-5 | 18 | 64 | 1152 | 6000 | 83 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.37 | 535 | 0.19 | 0.15 | 6930 | 1145 | 0.17 | 0.37 |
| L8 | P-6 | 18 | 64 | 1152 | 6000 | 103 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | | | | |
| L8 | P-7 | 18 | 63 | 1134 | 6000 | 255 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.91 | 527 | 0.60 | 0.48 | | | | |
| L8 | P-8 | 18 | 59 | 1062 | 6000 | 324 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.98 | 494 | 0.82 | 0.66 | | | | |
| L8 | P-9 | 18 | 136 | 2448 | 6000 | 594 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.98 | 1138 | 0.65 | 0.52 | | | | |
| L8 | P-10 | 18 | 106 | 1908 | 6000 | 359 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.96 | 887 | 0.51 | 0.40 | 7704 | 1634 | 0.21 | 0.37 |
| L7 | 1.1 | 18 | 107 | 1928 | 6000 | 362 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.96 | 895 | 0.51 | 0.40 | | | | |
| L7 | 1.2 | 18 | 135 | 2430 | 6000 | 545 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.90 | 1129 | 0.60 | 0.48 | | | | |
| L7 | 1.3 | 18 | 60 | 1080 | 6000 | 293 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.87 | 502 | 0.73 | 0.58 | | | | |
| L7 | 1.4 | 18 | 62 | 1116 | 6000 | 231 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 242 | 0.95 | 519 | 0.56 | 0.44 | | | | |
| L7 | 1.5 | 18 | 64 | 1152 | 6000 | 94 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.18 | 7704 | 1524 | 0.20 | 0.37 |
| L7 | 1.6 | 18 | 64 | 1152 | 6000 | 92 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | | | | |
| L7 | 1.7 | 18 | 63 | 1134 | 6000 | 229 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.93 | 527 | 0.54 | 0.43 | | | | |
| L7 | 1.8 | 18 | 59 | 1062 | 6000 | 285 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.86 | 494 | 0.72 | 0.58 | | | | |
| L7 | 1.9 | 18 | 136 | 2448 | 6000 | 535 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.88 | 1138 | 0.59 | 0.47 | | | | |
| L7 | 1.11 | 18 | 106 | 1908 | 6000 | 353 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.94 | 887 | 0.50 | 0.40 | 7704 | 1494 | 0.19 | 0.37 |
| L7 | 12.1 | 18 | 107 | 1928 | 6000 | 369 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.98 | 895 | 0.51 | 0.41 | | | | |
| L7 | 12.2 | 18 | 135 | 2430 | 6000 | 545 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.90 | 1129 | 0.60 | 0.48 | | | | |
| L7 | 12.3 | 18 | 60 | 1080 | 6000 | 292 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.86 | 502 | 0.73 | 0.58 | | | | |
| L7 | 12.4 | 18 | 62 | 1116 | 6000 | 229 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 242 | 0.95 | 519 | 0.55 | 0.44 | | | | |
| L7 | 12.5 | 18 | 64 | 1152 | 6000 | 93 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | 7704 | 1527 | 0.20 | 0.37 |
| L7 | 12.6 | 18 | 64 | 1152 | 6000 | 92 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | | | | |
| L7 | 12.7 | 18 | 63 | 1134 | 6000 | 230 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.94 | 527 | 0.55 | 0.44 | | | | |
| L7 | 12.8 | 18 | 59 | 1062 | 6000 | 287 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.87 | 494 | 0.73 | 0.58 | | | | |
| L7 | 12.9 | 18 | 136 | 2448 | 6000 | 543 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.90 | 1138 | 0.60 | 0.48 | | | | |
| L7 | 12.1 | 18 | 106 | 1908 | 6000 | 358 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.96 | 887 | 0.51 | 0.40 | 7704 | 1512 | 0.20 | 0.37 |
| L7 | A-1 | 18 | 107 | 1928 | 6000 | 338 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.89 | 895 | 0.47 | 0.38 | | | | |
| L7 | A-2 | 18 | 135 | 2430 | 6000 | 516 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 527 | 0.98 | 1129 | 0.57 | 0.46 | | | | |
| L7 | A-3 | 18 | 60 | 1080 | 6000 | 296 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.88 | 502 | 0.74 | 0.59 | | | | |
| L7 | A-4 | 18 | 62 | 1116 | 6000 | 263 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.95 | 519 | 0.63 | 0.51 | | | | |
| L7 | A-5 | 18 | 64 | 1152 | 6000 | 101 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | 7704 | 1514 | 0.20 | 0.37 |
| L7 | A-6 | 18 | 64 | 1152 | 6000 | 88 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.39 | 535 | 0.20 | 0.16 | | | | |
| L7 | A-7 | 18 | 63 | 1134 | 6000 | 219 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.98 | 527 | 0.52 | 0.41 | | | | |
| L7 | A-8 | 18 | 59 | 1062 | 6000 | 272 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.82 | 494 | 0.69 | 0.55 | | | | |
| L7 | A-9 | 18 | 136 | 2448 | 6000 | 511 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 531 | 0.96 | 1138 | 0.56 | 0.45 | | | | |
| L7 | A-10 | 18 | 106 | 1908 | 6000 | 334 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.89 | 887 | 0.47 | 0.38 | 7704 | 1424 | 0.18 | 0.37 |
| L7 | P-1 | 18 | 107 | 1928 | 6000 | 350 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.93 | 895 | 0.49 | 0.39 | | | | |
| L7 | P-2 | 18 | 135 | 2430 | 6000 | 553 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.92 | 1129 | 0.61 | 0.49 | | | | |
| L7 | P-3 | 18 | 60 | 1080 | 6000 | 367 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.88 | 502 | 0.91 | 0.73 | | | | |
| L7 | P-4 | 18 | 62 | 1116 | 6000 | 213 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.97 | 519 | 0.51 | 0.41 | | | | |
| L7 | P-5 | 18 | 64 | 1152 | 6000 | 91 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.40 | 535 | 0.21 | 0.17 | 7704 | 1574 | 0.20 | 0.37 |
| L7 | P-6 | 18 | 64 | 1152 | 6000 | 92 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.40 | 535 | 0.21 | 0.17 | | | | |
| L7 | P-7 | 18 | 63 | 1134 | 6000 | 233 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.95 | 527 | 0.55 | 0.44 | | | | |
| L7 | P-8 | 18 | 59 | 1062 | 6000 | 294 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.88 | 494 | 0.74 | 0.60 | | | | |
| L7 | P-9 | 18 | 136 | 2448 | 6000 | 554 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.91 | 1138 | 0.61 | 0.49 | | | | |
| L7 | P-10 | 18 | 106 | 1908 | 6000 | 372 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.99 | 887 | 0.52 | 0.42 | 7704 | 1544 | 0.20 | 0.37 |
| L6 | 1.1 | 18 | 107 | 1928 | 6000 | 393 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 418 | 0.94 | 895 | 0.55 | 0.44 | | | | |
| L6 | 1.2 | 18 | 135 | 2430 | 6000 | 578 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.96 | 1129 | 0.64 | 0.51 | | | | |
| L6 | 1.3 | 18 | 60 | 1080 | 6000 | 323 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.96 | 502 | 0.80 | 0.64 | | | | |
| L6 | 1.4 | 18 | 62 | 1116 | 6000 | 248 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.90 | 519 | 0.60 | 0.48 | | | | |
| L6 | 1.5 | 18 | 64 | 1152 | 6000 | 103 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.46 | 535 | 0.24 | 0.19 | 7704 | 1646 | 0.21 | 0.37 |
| L6 | 1.6 | 18 | 64 | 1152 | 6000 | 102 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | | | | |
| L6 | 1.7 | 18 | 63 | 1134 | 6000 | 247 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.88 | 527 | 0.58 | 0.47 | | | | |

Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

E = max(DX+TORX, DY+TORY)

DX,Y = ETABS load combo for response spectrum scaled to 100% of static base shear

TORX,Y = ETABS load case for 5% accidental torsion

$\phi V_n = .6 A_c v (\alpha_c f_c^{.5} + \rho_h f_y)$

| Level | Pier | t | hw | Acv | fc | Vu | α_c | Type | As | #rows | s | Rho | ϕV_n | Vu/ ϕV_n | Vu/ $\phi 10A^*f_c^{.5}$ | Vu/ $\phi 8A^*f_c^{.5}$ | Vu/ $\phi 10A^*f_c^{.5}$ | Line Sum | | Vu/ Acv | $\phi 8^*f_c^{.5}$ |
|-------|------|----|------|--------|-------|--------|------------|------|--------|-------|------|--------|------------|-------------------|-----------------------------|----------------------------|-----------------------------|----------|--------|------------|--------------------|
| | | | | | | | | | | | | | | | | | | Acv | Vu | | |
| | | | {in} | {in^2} | {psi} | {kips} | | | {in^2} | | {in} | | {kips} | | {kips} | | | {in^2} | {kips} | {kips} | {kips} |
| L6 | 1.8 | 18 | 59 | 1062 | 6000 | 313 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.94 | 494 | 0.79 | 0.63 | | | | |
| L6 | 1.9 | 18 | 136 | 2448 | 6000 | 566 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.93 | 1138 | 0.62 | 0.50 | | | | |
| L6 | 1.11 | 18 | 106 | 1908 | 6000 | 383 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 414 | 0.92 | 887 | 0.54 | 0.43 | 7704 | 1611 | 0.21 | 0.37 |
| L6 | 12.1 | 18 | 107 | 1926 | 6000 | 398 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 418 | 0.95 | 895 | 0.56 | 0.45 | | | | |
| L6 | 12.2 | 18 | 135 | 2430 | 6000 | 575 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.95 | 1129 | 0.64 | 0.51 | | | | |
| L6 | 12.3 | 18 | 60 | 1080 | 6000 | 318 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.94 | 502 | 0.79 | 0.63 | | | | |
| L6 | 12.4 | 18 | 62 | 1116 | 6000 | 244 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.88 | 519 | 0.59 | 0.47 | | | | |
| L6 | 12.5 | 18 | 64 | 1152 | 6000 | 102 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | 7704 | 1638 | 0.21 | 0.37 |
| L6 | 12.6 | 18 | 64 | 1152 | 6000 | 102 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | | | | |
| L6 | 12.7 | 18 | 63 | 1134 | 6000 | 245 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.87 | 527 | 0.58 | 0.47 | | | | |
| L6 | 12.8 | 18 | 59 | 1062 | 6000 | 314 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.95 | 494 | 0.80 | 0.64 | | | | |
| L6 | 12.9 | 18 | 136 | 2448 | 6000 | 575 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.95 | 1138 | 0.63 | 0.50 | | | | |
| L6 | 12.1 | 18 | 106 | 1908 | 6000 | 387 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 414 | 0.94 | 887 | 0.55 | 0.44 | 7704 | 1623 | 0.21 | 0.37 |
| L6 | A-1 | 18 | 107 | 1926 | 6000 | 369 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.98 | 895 | 0.52 | 0.41 | | | | |
| L6 | A-2 | 18 | 135 | 2430 | 6000 | 554 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.92 | 1129 | 0.61 | 0.49 | | | | |
| L6 | A-3 | 18 | 60 | 1080 | 6000 | 328 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.97 | 502 | 0.82 | 0.65 | | | | |
| L6 | A-4 | 18 | 62 | 1116 | 6000 | 264 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.95 | 519 | 0.64 | 0.51 | | | | |
| L6 | A-5 | 18 | 64 | 1152 | 6000 | 122 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.54 | 535 | 0.28 | 0.23 | 7704 | 1636 | 0.21 | 0.37 |
| L6 | A-6 | 18 | 64 | 1152 | 6000 | 97 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.43 | 535 | 0.23 | 0.18 | | | | |
| L6 | A-7 | 18 | 63 | 1134 | 6000 | 236 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.84 | 527 | 0.56 | 0.45 | | | | |
| L6 | A-8 | 18 | 59 | 1062 | 6000 | 301 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.91 | 494 | 0.76 | 0.61 | | | | |
| L6 | A-9 | 18 | 136 | 2448 | 6000 | 544 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.90 | 1138 | 0.60 | 0.48 | | | | |
| L6 | A-10 | 18 | 106 | 1908 | 6000 | 366 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.98 | 887 | 0.52 | 0.41 | 7704 | 1545 | 0.20 | 0.37 |
| L6 | P-1 | 18 | 107 | 1926 | 6000 | 381 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 418 | 0.91 | 895 | 0.53 | 0.43 | | | | |
| L6 | P-2 | 18 | 135 | 2430 | 6000 | 577 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.96 | 1129 | 0.64 | 0.51 | | | | |
| L6 | P-3 | 18 | 60 | 1080 | 6000 | 374 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.90 | 502 | 0.93 | 0.75 | | | | |
| L6 | P-4 | 18 | 62 | 1116 | 6000 | 304 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.87 | 519 | 0.73 | 0.59 | | | | |
| L6 | P-5 | 18 | 64 | 1152 | 6000 | 95 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.42 | 535 | 0.22 | 0.18 | 7704 | 1732 | 0.22 | 0.37 |
| L6 | P-6 | 18 | 64 | 1152 | 6000 | 99 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 228 | 0.44 | 535 | 0.23 | 0.19 | | | | |
| L6 | P-7 | 18 | 63 | 1134 | 6000 | 243 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.86 | 527 | 0.58 | 0.46 | | | | |
| L6 | P-8 | 18 | 59 | 1062 | 6000 | 314 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.77 | 494 | 0.80 | 0.64 | | | | |
| L6 | P-9 | 18 | 136 | 2448 | 6000 | 583 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.96 | 1138 | 0.64 | 0.51 | | | | |
| L6 | P-10 | 18 | 106 | 1908 | 6000 | 401 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 414 | 0.97 | 887 | 0.57 | 0.45 | 7704 | 1640 | 0.21 | 0.37 |
| L5 | 1.1 | 18 | 107 | 1926 | 6000 | 487 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 603 | 0.81 | 895 | 0.68 | 0.54 | | | | |
| L5 | 1.2 | 18 | 135 | 2430 | 6000 | 711 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.93 | 1129 | 0.79 | 0.63 | | | | |
| L5 | 1.3 | 18 | 60 | 1080 | 6000 | 271 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.80 | 502 | 0.67 | 0.54 | | | | |
| L5 | 1.4 | 18 | 62 | 1116 | 6000 | 213 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.97 | 519 | 0.51 | 0.41 | | | | |
| L5 | 1.5 | 18 | 64 | 1152 | 6000 | 98 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.43 | 535 | 0.23 | 0.18 | 7704 | 1779 | 0.23 | 0.37 |
| L5 | 1.6 | 18 | 64 | 1152 | 6000 | 96 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.42 | 535 | 0.22 | 0.18 | | | | |
| L5 | 1.7 | 18 | 63 | 1134 | 6000 | 213 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.95 | 527 | 0.50 | 0.40 | | | | |
| L5 | 1.8 | 18 | 59 | 1062 | 6000 | 259 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.78 | 494 | 0.66 | 0.52 | | | | |
| L5 | 1.9 | 18 | 136 | 2448 | 6000 | 684 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.89 | 1138 | 0.75 | 0.60 | | | | |
| L5 | 1.11 | 18 | 106 | 1908 | 6000 | 467 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.78 | 887 | 0.66 | 0.53 | 7704 | 1719 | 0.22 | 0.37 |
| L5 | 12.1 | 18 | 107 | 1926 | 6000 | 494 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 603 | 0.82 | 895 | 0.69 | 0.55 | | | | |
| L5 | 12.2 | 18 | 135 | 2430 | 6000 | 696 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.92 | 1129 | 0.77 | 0.62 | | | | |
| L5 | 12.3 | 18 | 60 | 1080 | 6000 | 262 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.78 | 502 | 0.65 | 0.52 | | | | |
| L5 | 12.4 | 18 | 62 | 1116 | 6000 | 206 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.94 | 519 | 0.50 | 0.40 | | | | |
| L5 | 12.5 | 18 | 64 | 1152 | 6000 | 93 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | 7704 | 1752 | 0.23 | 0.37 |
| L5 | 12.6 | 18 | 64 | 1152 | 6000 | 93 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | | | | |
| L5 | 12.7 | 18 | 63 | 1134 | 6000 | 209 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.94 | 527 | 0.50 | 0.40 | | | | |
| L5 | 12.8 | 18 | 59 | 1062 | 6000 | 257 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.77 | 494 | 0.65 | 0.52 | | | | |
| L5 | 12.9 | 18 | 136 | 2448 | 6000 | 698 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.91 | 1138 | 0.77 | 0.61 | | | | |
| L5 | 12.1 | 18 | 106 | 1908 | 6000 | 484 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.81 | 887 | 0.68 | 0.55 | 7704 | 1741 | 0.23 | 0.37 |
| L5 | A-1 | 18 | 107 | 1926 | 6000 | 462 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 478 | 0.97 | 895 | 0.65 | 0.52 | | | | |
| L5 | A-2 | 18 | 135 | 2430 | 6000 | 672 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.88 | 1129 | 0.74 | 0.59 | | | | |
| L5 | A-3 | 18 | 60 | 1080 | 6000 | 275 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.81 | 502 | 0.68 | 0.55 | | | | |
| L5 | A-4 | 18 | 62 | 1116 | 6000 | 247 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.89 | 519 | 0.60 | 0.48 | | | | |
| L5 | A-5 | 18 | 64 | 1152 | 6000 | 99 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.44 | 535 | 0.23 | 0.18 | 7704 | 1755 | 0.23 | 0.37 |
| L5 | A-6 | 18 | 64 | 1152 | 6000 | 93 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | | | | |
| L5 | A-7 | 18 | 63 | 1134 | 6000 | 204 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.73 | 527 | 0.48 | 0.39 | | | | |
| L5 | A-8 | 18 | 59 | 1062 | 6000 | 248 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.75 | 494 | 0.63 | 0.50 | | | | |
| L5 | A-9 | 18 | 136 | 2448 | 6000 | 676 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.88 | 1138 | 0.74 | 0.59 | | | | |
| L5 | A-10 | 18 | 106 | 1908 | 6000 | 458 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 473 | 0.97 | 887 | 0.65 | 0.52 | 7704 | 1679 | 0.22 | 0.37 |
| L5 | P-1 | 18 | 107 | 1926 | 6000 | 482 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 603 | 0.80 | 895 | 0.67 | 0.54 | | | | |
| L5 | P-2 | 18 | 135 | 2430 | 6000 | 704 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.93 | 1129 | 0.78 | 0.62 | | | | |
| L5 | P-3 | 18 | 60 | 1080 | 6000 | 288 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.85 | 502 | 0.72 | 0.57 | | | | |
| L5 | P-4 | 18 | 62 | 1116 | 6000 | 226 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 242 | 0.94 | 519 | 0.55 | 0.44 | | | | |

Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

E = max(DX+TORX, DY+TORY)

DX,Y = ETABS load combo for response spectrum scaled to 100% of static base shear

TORX,Y = ETABS load case for 5% accidental torsion

$$\Phi V_n = .6A_c v(\alpha_c f_c^{.5} + \rho_h f_y)$$

| ETABS | | | | | | | | | | | | Vu/ | Vu/ | Vu/ | Line Sum | Vu/ | | | | | |
|-------|------|----|------|------|--------|-------|------------|------|--------|-------|------|--------|------------|----------------------|---------------------|----------------------|--------|--------|--------|--------------------|------|
| Level | Pier | t | lw | Acv | fc | Vu | α_c | Type | As | #rows | s | Rho | ΦV_n | $\Phi 10A^*f_c^{.5}$ | $\Phi 8A^*f_c^{.5}$ | $\Phi 10A^*f_c^{.5}$ | Acv | Vu | Acv | $\Phi 8^*f_c^{.5}$ | |
| | | | {in} | {in} | {in^2} | {psi} | | | {in^2} | | {in} | | {kips} | {kips} | {kips} | | {in^2} | {kips} | {kips} | {kips} | |
| L5 | P-5 | 18 | 64 | 1152 | 6000 | 101 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | 7704 | 1803 | 0.23 | 0.37 |
| L5 | P-6 | 18 | 64 | 1152 | 6000 | 91 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.40 | 535 | 0.21 | 0.17 | | | | |
| L5 | P-7 | 18 | 63 | 1134 | 6000 | 203 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.91 | 527 | 0.48 | 0.39 | | | | |
| L5 | P-8 | 18 | 59 | 1062 | 6000 | 255 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 263 | 0.97 | 494 | 0.65 | 0.52 | | | | |
| L5 | P-9 | 18 | 136 | 2448 | 6000 | 726 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.95 | 1138 | 0.80 | 0.64 | | | | |
| L5 | P-10 | 18 | 106 | 1908 | 6000 | 515 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.86 | 887 | 0.73 | 0.58 | 7704 | 1790 | 0.23 | 0.37 |
| L4 | 1.1 | 18 | 107 | 1926 | 6000 | 459 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 478 | 0.96 | 895 | 0.64 | 0.51 | | | | |
| L4 | 1.2 | 18 | 135 | 2430 | 6000 | 680 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.89 | 1129 | 0.75 | 0.60 | | | | |
| L4 | 1.3 | 18 | 60 | 1080 | 6000 | 428 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 576 | 0.74 | 502 | 1.06 | 0.85 | | | | |
| L4 | 1.4 | 18 | 62 | 1116 | 6000 | 316 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.90 | 519 | 0.78 | 0.61 | | | | |
| L4 | 1.5 | 18 | 64 | 1152 | 6000 | 114 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.50 | 535 | 0.27 | 0.21 | 7704 | 1996 | 0.26 | 0.37 |
| L4 | 1.6 | 18 | 64 | 1152 | 6000 | 110 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.49 | 535 | 0.26 | 0.21 | | | | |
| L4 | 1.7 | 18 | 63 | 1134 | 6000 | 311 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 355 | 0.88 | 527 | 0.74 | 0.59 | | | | |
| L4 | 1.8 | 18 | 59 | 1062 | 6000 | 408 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.99 | 494 | 1.03 | 0.82 | | | | |
| L4 | 1.9 | 18 | 136 | 2448 | 6000 | 603 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.99 | 1138 | 0.66 | 0.53 | | | | |
| L4 | 1.11 | 18 | 106 | 1908 | 6000 | 393 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 473 | 0.83 | 887 | 0.55 | 0.44 | 7704 | 1823 | 0.24 | 0.37 |
| L4 | 12.1 | 18 | 107 | 1926 | 6000 | 422 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 478 | 0.88 | 895 | 0.59 | 0.47 | | | | |
| L4 | 12.2 | 18 | 135 | 2430 | 6000 | 671 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.88 | 1129 | 0.74 | 0.59 | | | | |
| L4 | 12.3 | 18 | 60 | 1080 | 6000 | 385 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.92 | 502 | 0.96 | 0.77 | | | | |
| L4 | 12.4 | 18 | 62 | 1116 | 6000 | 278 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.80 | 519 | 0.67 | 0.54 | | | | |
| L4 | 12.5 | 18 | 64 | 1152 | 6000 | 115 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.51 | 535 | 0.27 | 0.22 | 7704 | 1872 | 0.24 | 0.37 |
| L4 | 12.6 | 18 | 64 | 1152 | 6000 | 112 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.49 | 535 | 0.28 | 0.21 | | | | |
| L4 | 12.7 | 18 | 63 | 1134 | 6000 | 281 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 355 | 0.79 | 527 | 0.67 | 0.53 | | | | |
| L4 | 12.8 | 18 | 59 | 1062 | 6000 | 381 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.93 | 494 | 0.98 | 0.77 | | | | |
| L4 | 12.9 | 18 | 136 | 2448 | 6000 | 672 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.88 | 1138 | 0.74 | 0.59 | | | | |
| L4 | 12.1 | 18 | 106 | 1908 | 6000 | 419 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 473 | 0.89 | 887 | 0.59 | 0.47 | 7704 | 1865 | 0.24 | 0.37 |
| L4 | A-1 | 18 | 107 | 1926 | 6000 | 370 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 418 | 0.88 | 895 | 0.52 | 0.41 | | | | |
| L4 | A-2 | 18 | 135 | 2430 | 6000 | 612 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.81 | 1129 | 0.68 | 0.54 | | | | |
| L4 | A-3 | 18 | 60 | 1080 | 6000 | 395 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.95 | 502 | 0.98 | 0.79 | | | | |
| L4 | A-4 | 18 | 62 | 1116 | 6000 | 371 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 431 | 0.86 | 519 | 0.89 | 0.72 | | | | |
| L4 | A-5 | 18 | 64 | 1152 | 6000 | 369 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 445 | 0.83 | 535 | 0.86 | 0.69 | | | | |
| L4 | A-6 | 18 | 64 | 1152 | 6000 | 97 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.43 | 535 | 0.23 | 0.18 | | | | |
| L4 | A-7 | 18 | 63 | 1134 | 6000 | 280 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 1.00 | 527 | 0.66 | 0.53 | | | | |
| L4 | A-8 | 18 | 59 | 1062 | 6000 | 371 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.91 | 494 | 0.94 | 0.75 | | | | |
| L4 | A-9 | 18 | 136 | 2448 | 6000 | 568 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.74 | 1138 | 0.62 | 0.50 | | | | |
| L4 | A-10 | 18 | 106 | 1908 | 6000 | 372 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 473 | 0.79 | 887 | 0.52 | 0.42 | 7704 | 1687 | 0.22 | 0.37 |
| L4 | P-1 | 18 | 107 | 1926 | 6000 | 376 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 1.00 | 895 | 0.53 | 0.42 | | | | |
| L4 | P-2 | 18 | 135 | 2430 | 6000 | 650 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.85 | 1129 | 0.72 | 0.58 | | | | |
| L4 | P-3 | 18 | 60 | 1080 | 6000 | 407 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.98 | 502 | 1.01 | 0.81 | | | | |
| L4 | P-4 | 18 | 62 | 1116 | 6000 | 299 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.86 | 519 | 0.72 | 0.58 | | | | |
| L4 | P-5 | 18 | 64 | 1152 | 6000 | 117 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.52 | 535 | 0.27 | 0.22 | 7704 | 1848 | 0.24 | 0.37 |
| L4 | P-6 | 18 | 64 | 1152 | 6000 | 101 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.45 | 535 | 0.24 | 0.19 | | | | |
| L4 | P-7 | 18 | 63 | 1134 | 6000 | 264 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 281 | 0.94 | 527 | 0.63 | 0.50 | | | | |
| L4 | P-8 | 18 | 59 | 1062 | 6000 | 354 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.86 | 494 | 0.90 | 0.72 | | | | |
| L4 | P-9 | 18 | 136 | 2448 | 6000 | 750 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.98 | 1138 | 0.82 | 0.66 | | | | |
| L4 | P-10 | 18 | 106 | 1908 | 6000 | 543 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.91 | 887 | 0.77 | 0.61 | 7704 | 2013 | 0.26 | 0.37 |
| L3 | 1.1 | 18 | 107 | 1926 | 6000 | 582 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 603 | 0.97 | 895 | 0.81 | 0.65 | | | | |
| L3 | 1.2 | 18 | 135 | 2430 | 6000 | 1062 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 1295 | 0.82 | 1129 | 1.18 | 0.94 | | | | |
| L3 | 1.3 | 18 | 60 | 1080 | 6000 | 352 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.84 | 502 | 0.88 | 0.70 | | | | |
| L3 | 1.4 | 18 | 62 | 1116 | 6000 | 337 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.97 | 519 | 0.81 | 0.65 | | | | |
| L3 | 1.5 | 18 | 64 | 1152 | 6000 | 216 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.96 | 535 | 0.51 | 0.40 | 7704 | 2550 | 0.33 | 0.37 |
| L3 | 1.6 | 18 | 64 | 1152 | 6000 | 227 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 250 | 0.91 | 535 | 0.53 | 0.42 | | | | |
| L3 | 1.7 | 18 | 63 | 1134 | 6000 | 350 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 355 | 0.99 | 527 | 0.83 | 0.66 | | | | |
| L3 | 1.8 | 18 | 59 | 1062 | 6000 | 337 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.82 | 494 | 0.85 | 0.68 | | | | |
| L3 | 1.9 | 18 | 136 | 2448 | 6000 | 1003 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 1305 | 0.77 | 1138 | 1.10 | 0.88 | | | | |
| L3 | 1.11 | 18 | 106 | 1908 | 6000 | 512 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.86 | 887 | 0.72 | 0.58 | 7704 | 2430 | 0.32 | 0.37 |
| L3 | 12.1 | 18 | 107 | 1926 | 6000 | 475 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 478 | 0.99 | 895 | 0.66 | 0.53 | | | | |
| L3 | 12.2 | 18 | 135 | 2430 | 6000 | 699 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.92 | 1129 | 0.77 | 0.62 | | | | |
| L3 | 12.3 | 18 | 60 | 1080 | 6000 | 261 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.77 | 502 | 0.65 | 0.52 | | | | |
| L3 | 12.4 | 18 | 62 | 1116 | 6000 | 207 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.59 | 519 | 0.50 | 0.40 | | | | |
| L3 | 12.5 | 18 | 64 | 1152 | 6000 | 100 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.44 | 535 | 0.23 | 0.19 | 7704 | 1742 | 0.23 | 0.37 |
| L3 | 12.6 | 18 | 64 | 1152 | 6000 | 92 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | | | | |
| L3 | 12.7 | 18 | 63 | 1134 | 6000 | 206 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 355 | 0.58 | 527 | 0.49 | 0.39 | | | | |
| L3 | 12.8 | 18 | 59 | 1062 | 6000 | 257 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.77 | 494 | 0.65 | 0.52 | | | | |
| L3 | 12.9 | 18 | 136 | 2448 | 6000 | 707 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.92 | 1138 | 0.78 | 0.62 | | | | |
| L3 | 12.1 | 18 | 106 | 1908 | 6000 | 477 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.80 | 887 | 0.67 | 0.54 | 7704 | 1739 | 0.23 | 0.37 |
| L3 | A-1 | 18 | 107 | 1926 | 6000 | 364 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.96 | 895 | 0.51 | 0.41 | | | | |

Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

E = max(DX+TORX, DY+TORY)

DX,Y = ETABS load combo for response spectrum scaled to 100% of static base shear

TORX,Y = ETABS load case for 5% accidental torsion

$\Phi V_n = .6A_{cv}(\alpha_c f_c^{.5} + \rho_h f_y)$

| Level | | Pier | | t | lw | Acv | fc | Vu | α_c | Tupe | As | #rows | s | Rho | ΦV_n | Vu/ ΦV_n | $\Phi 10A^*f_c^{.5}$ | Vu/ $\Phi 8A^*f_c^{.5}$ | Vu/ $\Phi 10A^*f_c^{.5}$ | Line Sum Acv Vu | Vu/ Acv | $\Phi 8^*f_c^{.5}$ | | |
|-------|-------|------|------|---|--------|-------|--------|----|------------|------|--------|-------|--------|-----|------------|-------------------|----------------------|----------------------------|-----------------------------|--------------------|------------|--------------------|-------|--|
| | | {in} | {in} | | {in^2} | {psi} | {kips} | | | | {in^2} | | {in} | | {kips} | | {kips} | | | {in^2} | {kips} | {ksi} | {ksi} | |
| L3 | A-2 | 18 | 135 | | 2430 | 6000 | 540 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 603 | 0.90 | 1129 | 0.60 | 0.48 | | | | | | |
| L3 | A-3 | 18 | 60 | | 1080 | 6000 | 234 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 268 | 0.87 | 502 | 0.58 | 0.47 | | | | | | |
| L3 | A-4 | 18 | 62 | | 1116 | 6000 | 244 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.88 | 519 | 0.59 | 0.47 | | | | | | |
| L3 | A-5 | 18 | 64 | | 1152 | 6000 | 422 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 445 | 0.95 | 535 | 0.99 | 0.79 | | | | | | |
| L3 | A-5.1 | 18 | 64 | | 1152 | 6000 | 554 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 614 | 0.90 | 535 | 1.29 | 1.04 | | | | | | |
| L3 | A-5.2 | 18 | 51 | | 918 | 6000 | 203 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 228 | 0.89 | 427 | 0.59 | 0.48 | 9774 | 2561 | 0.26 | 0.37 | | |
| L3 | A-6 | 18 | 64 | | 1152 | 6000 | 199 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.88 | 535 | 0.46 | 0.37 | | | | | | |
| L3 | A-7 | 18 | 63 | | 1134 | 6000 | 312 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 355 | 0.88 | 527 | 0.74 | 0.59 | | | | | | |
| L3 | A-8 | 18 | 59 | | 1062 | 6000 | 304 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.91 | 494 | 0.77 | 0.62 | | | | | | |
| L3 | A-9 | 18 | 136 | | 2448 | 6000 | 922 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 946 | 0.97 | 1138 | 1.01 | 0.81 | | | | | | |
| L3 | A-10 | 18 | 106 | | 1908 | 6000 | 483 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 597 | 0.81 | 887 | 0.68 | 0.55 | 7704 | 2220 | 0.29 | 0.37 | | |
| L3 | P-1 | 18 | 107 | | 1926 | 6000 | 588 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 603 | 0.97 | 895 | 0.82 | 0.65 | | | | | | |
| L3 | P-2 | 18 | 135 | | 2430 | 6000 | 807 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 939 | 0.86 | 1129 | 0.89 | 0.71 | | | | | | |
| L3 | P-3 | 18 | 60 | | 1080 | 6000 | 295 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.87 | 502 | 0.74 | 0.59 | | | | | | |
| L3 | P-4 | 18 | 62 | | 1116 | 6000 | 217 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 242 | 0.90 | 519 | 0.52 | 0.42 | | | | | | |
| L3 | P-5 | 18 | 64 | | 1152 | 6000 | 119 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.53 | 535 | 0.28 | 0.22 | 7704 | 2025 | 0.26 | 0.37 | | |
| L3 | P-6 | 18 | 64 | | 1152 | 6000 | 118 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.52 | 535 | 0.27 | 0.22 | | | | | | |
| L3 | P-7 | 18 | 63 | | 1134 | 6000 | 233 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.95 | 527 | 0.55 | 0.44 | | | | | | |
| L3 | P-8 | 18 | 59 | | 1062 | 6000 | 268 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.81 | 494 | 0.68 | 0.54 | | | | | | |
| L3 | P-9 | 18 | 136 | | 2448 | 6000 | 546 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.90 | 1138 | 0.60 | 0.48 | | | | | | |
| L3 | P-10 | 18 | 106 | | 1908 | 6000 | 453 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 473 | 0.96 | 887 | 0.64 | 0.51 | 7704 | 1618 | 0.21 | 0.37 | | |
| L2 | 12.1 | 18 | 107 | | 1926 | 6000 | 437 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 478 | 0.91 | 895 | 0.61 | 0.49 | | | | | | |
| L2 | 12.2 | 18 | 135 | | 2430 | 6000 | 671 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 760 | 0.88 | 1129 | 0.74 | 0.59 | | | | | | |
| L2 | 12.3 | 18 | 60 | | 1080 | 6000 | 355 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 417 | 0.85 | 502 | 0.88 | 0.71 | | | | | | |
| L2 | 12.4 | 18 | 62 | | 1116 | 6000 | 300 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 349 | 0.86 | 519 | 0.72 | 0.58 | | | | | | |
| L2 | 12.5 | 18 | 64 | | 1152 | 6000 | 138 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 228 | 0.61 | 535 | 0.32 | 0.26 | 7704 | 1901 | 0.25 | 0.37 | | |
| L2 | 12.6 | 18 | 64 | | 1152 | 6000 | 125 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.55 | 535 | 0.29 | 0.23 | | | | | | |
| L2 | 12.7 | 18 | 63 | | 1134 | 6000 | 291 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 355 | 0.82 | 527 | 0.69 | 0.55 | | | | | | |
| L2 | 12.8 | 18 | 59 | | 1062 | 6000 | 340 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.83 | 494 | 0.86 | 0.69 | | | | | | |
| L2 | 12.9 | 18 | 136 | | 2448 | 6000 | 658 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 766 | 0.86 | 1138 | 0.72 | 0.58 | | | | | | |
| L2 | 12.1 | 18 | 106 | | 1908 | 6000 | 434 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 473 | 0.92 | 887 | 0.61 | 0.49 | 7704 | 1848 | 0.24 | 0.37 | | |
| L2 | A-1 | 18 | 107 | | 1926 | 6000 | 304 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.80 | 895 | 0.42 | 0.34 | | | | | | |
| L2 | A-2 | 18 | 135 | | 2430 | 6000 | 498 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 527 | 0.94 | 1129 | 0.55 | 0.44 | | | | | | |
| L2 | A-3 | 18 | 60 | | 1080 | 6000 | 271 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.80 | 502 | 0.68 | 0.54 | | | | | | |
| L2 | A-4 | 18 | 62 | | 1116 | 6000 | 269 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 277 | 0.97 | 519 | 0.65 | 0.52 | | | | | | |
| L2 | A-5 | 18 | 64 | | 1152 | 6000 | 322 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 361 | 0.89 | 535 | 0.75 | 0.60 | | | | | | |
| L2 | A-5.1 | 18 | 80 | | 1440 | 6000 | 340 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 357 | 0.95 | 669 | 0.64 | 0.51 | | | | | | |
| L2 | A-5.2 | 18 | 48 | | 864 | 6000 | 182 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 187 | 0.97 | 402 | 0.57 | 0.45 | 10008 | 2187 | 0.22 | 0.37 | | |
| L2 | P-1 | 18 | 107 | | 1926 | 6000 | 629 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 744 | 0.85 | 895 | 0.88 | 0.70 | | | | | | |
| L2 | P-2 | 18 | 127 | | 2286 | 6000 | 809 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 883 | 0.92 | 1062 | 0.95 | 0.76 | | | | | | |
| L2 | P-3 | 18 | 54 | | 972 | 6000 | 411 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 518 | 0.79 | 452 | 1.14 | 0.91 | | | | | | |
| L2 | P-4 | 18 | 54 | | 972 | 6000 | 266 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 304 | 0.87 | 452 | 0.74 | 0.59 | | | | | | |
| L2 | P-5 | 18 | 56 | | 1008 | 6000 | 216 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 219 | 0.99 | 468 | 0.58 | 0.46 | 7164 | 2332 | 0.33 | 0.37 | | |
| L2 | P-6 | 18 | 64 | | 1152 | 6000 | 226 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 1.00 | 535 | 0.53 | 0.42 | | | | | | |
| L2 | P-7 | 18 | 63 | | 1134 | 6000 | 432 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 438 | 0.99 | 527 | 1.03 | 0.82 | | | | | | |
| L2 | P-8 | 18 | 59 | | 1062 | 6000 | 401 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 410 | 0.98 | 494 | 1.01 | 0.81 | | | | | | |
| L2 | P-9 | 18 | 121 | | 2178 | 6000 | 733 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 841 | 0.87 | 1012 | 0.90 | 0.72 | | | | | | |
| L2 | P-10 | 18 | 43 | | 774 | 6000 | 119 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 152 | 0.78 | 360 | 0.41 | 0.33 | 6300 | 1910 | 0.30 | 0.37 | | |

(E) Bsmt Wall (No shotcrete) 42ksi rebar

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----|------|----|-----|-------|------|-----|---|-------|---|----|--------|------|------|------|------|------|--|--|--|--|--|--|--|--|
| L1 | 12.3 | 36 | 738 | 26568 | 3200 | 364 | 2 | 0.563 | 1 | 12 | 0.0013 | 2675 | 0.14 | 9017 | 0.05 | 0.04 | | | | | | | | |
|----|------|----|-----|-------|------|-----|---|-------|---|----|--------|------|------|------|------|------|--|--|--|--|--|--|--|--|

Hall of Justice

Shotcrete (N)+(E) Shear Wall Shear Design

$\Phi V_n = .6A_{cv}(\alpha_c f_c^{.5} + Rho f_y)$

(N) 18" wall + (E) 36" wall

| ETABS | | Design Force | | | | | | | | | | | | | | | | | | |
|---------------------|------|--------------|------|-------|------|--------|-------|--------|------------|--------|-------|------|--------|--------|------------|-------------------|----------------------|----------------------------|-----------------------------|------|
| Level | Pier | t | t | Ratio | lw | Acv | fc | Vu | α_c | As | #rows | s | Rho | fy | ΦV_n | Vu/ ΦV_n | $\Phi 10A^*f_c^{.5}$ | Vu/ $\Phi 8A^*f_c^{.5}$ | Vu/ $\Phi 10A^*f_c^{.5}$ | |
| | | {in} | {in} | | {in} | {in^2} | {psi} | {kips} | | {in}^2 | | {in} | | {ksi} | {kips} | | {kips} | | | |
| (N) 18" Wall | | | | | | | | | | | | | | | | | | | | |
| L2 | | 1.1 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 1290 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.52 | 5906 | 0.27 | 0.22 |
| L2 | | 1.2 | 28 | 18 | 0.64 | 115 | 2070 | 6000 | 407 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 406 | 1.00 | 962 | 0.53 | 0.42 |
| L2 | | 1.3 | 28 | 18 | 0.64 | 1033 | 18594 | 6000 | 899 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 3650 | 0.25 | 8642 | 0.13 | 0.10 |
| L2 | | 1.4 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 1049 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.42 | 5906 | 0.22 | 0.18 |
| L2 | A-6 | 28 | 18 | 0.64 | 496 | 8928 | 6000 | 1116 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 1752 | 0.64 | 4149 | 0.34 | 0.27 | |
| L2 | A-7 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 1217 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.49 | 5906 | 0.26 | 0.21 | |
| L1 | | 1.1 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 2527 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 1.01 | 5906 | 0.53 | 0.43 |
| L1 | | 1.3 | 28 | 18 | 0.64 | 1256 | 22608 | 6000 | 1694 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 4438 | 0.38 | 10507 | 0.20 | 0.16 |
| L1 | | 1.4 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 1383 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.55 | 5906 | 0.29 | 0.23 |
| L1 | | 12.1 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 1352 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.54 | 5906 | 0.29 | 0.23 |
| L1 | | 12.3 | 36 | 18 | 0.64 | 738 | 13284 | 6000 | 233 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2607 | 0.09 | 6174 | 0.05 | 0.04 |
| L1 | A-1 | 28 | 18 | 0.64 | 938 | 16884 | 6000 | 1615 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 3314 | 0.49 | 7847 | 0.26 | 0.21 | |
| L1 | A-6 | 28 | 18 | 0.64 | 496 | 8928 | 6000 | 1296 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 1752 | 0.74 | 4149 | 0.39 | 0.31 | |
| L1 | A-7 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 2599 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 1.04 | 5906 | 0.55 | 0.44 | |
| L1 | P-1 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 1652 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.66 | 5906 | 0.35 | 0.28 | |
| L1 | P-2 | 28 | 18 | 0.64 | 728 | 13104 | 6000 | 822 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2572 | 0.32 | 6090 | 0.17 | 0.13 | |
| L1 | P-3 | 28 | 18 | 0.64 | 706 | 12708 | 6000 | 2144 | 2 | 0.31 | 2 | 12 | 0.0029 | 60 | 2494 | 0.86 | 5906 | 0.45 | 0.36 | |
| (E) 36" Wall | | | | | | | | | | | | | | | | | | | | |
| L2 | | 1.1 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 725 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.28 | 8626 | 0.11 | 0.08 |
| L2 | | 1.2 | 28 | 36 | 0.36 | 115 | 4140 | 3200 | 229 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 417 | 0.55 | 1405 | 0.20 | 0.16 |
| L2 | | 1.3 | 28 | 36 | 0.36 | 1033 | 37188 | 3200 | 505 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 3745 | 0.13 | 12622 | 0.05 | 0.04 |
| L2 | | 1.4 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 590 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.23 | 8626 | 0.09 | 0.07 |
| L2 | A-6 | 28 | 36 | 0.36 | 496 | 17856 | 3200 | 628 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 1798 | 0.35 | 6061 | 0.13 | 0.10 | |
| L2 | A-7 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 684 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.27 | 8626 | 0.10 | 0.08 | |
| L1 | | 1.1 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 1421 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.56 | 8626 | 0.21 | 0.16 |
| L1 | | 1.3 | 28 | 36 | 0.36 | 1256 | 45216 | 3200 | 953 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 4553 | 0.21 | 15347 | 0.08 | 0.06 |
| L1 | | 1.4 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 778 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.30 | 8626 | 0.11 | 0.09 |
| L1 | | 12.1 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 761 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.30 | 8626 | 0.11 | 0.09 |
| L1 | | 12.3 | 36 | 36 | 0.36 | 738 | 26568 | 3200 | 131 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2675 | 0.05 | 9017 | 0.02 | 0.01 |
| L1 | A-1 | 28 | 36 | 0.36 | 938 | 33768 | 3200 | 908 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 3400 | 0.27 | 11461 | 0.10 | 0.08 | |
| L1 | A-6 | 28 | 36 | 0.36 | 496 | 17856 | 3200 | 729 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 1798 | 0.41 | 6061 | 0.15 | 0.12 | |
| L1 | A-7 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 1462 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.57 | 8626 | 0.21 | 0.17 | |
| L1 | P-1 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 929 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.36 | 8626 | 0.13 | 0.11 | |
| L1 | P-2 | 28 | 36 | 0.36 | 728 | 26208 | 3200 | 462 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2639 | 0.18 | 8895 | 0.06 | 0.05 | |
| L1 | P-3 | 28 | 36 | 0.36 | 706 | 25416 | 3200 | 1206 | 2 | 0.563 | 1 | 12 | 0.0013 | 42 | 2559 | 0.47 | 8626 | 0.17 | 0.14 | |

Hall of Justice
Shotcrete Wall Properties for ETABS Model

Equivalent wall thickness based on (N) concrete E.

| Wall | (N) Wall | | (E) Wall | | W | Equivalent Conc | | Force Dist. | |
|--------|----------|------|----------|------|-------|-----------------|------|-------------|------|
| | E | t | E | t | | E | t | (E) | (N) |
| | {ksi} | {in} | {ksi} | {in} | {pcf} | {ksi} | {in} | | |
| N18E36 | 4415 | 18 | 1249 | 36 | 150 | 4415 | 28.2 | 0.36 | 0.64 |



H: Shear Wall Pier Flexural Design

Hall of Justice

Concrete Shear Wall Shear Design

Scaling response spectrum to 80% of static base shear

Load combo = (.8E + 1.6H)

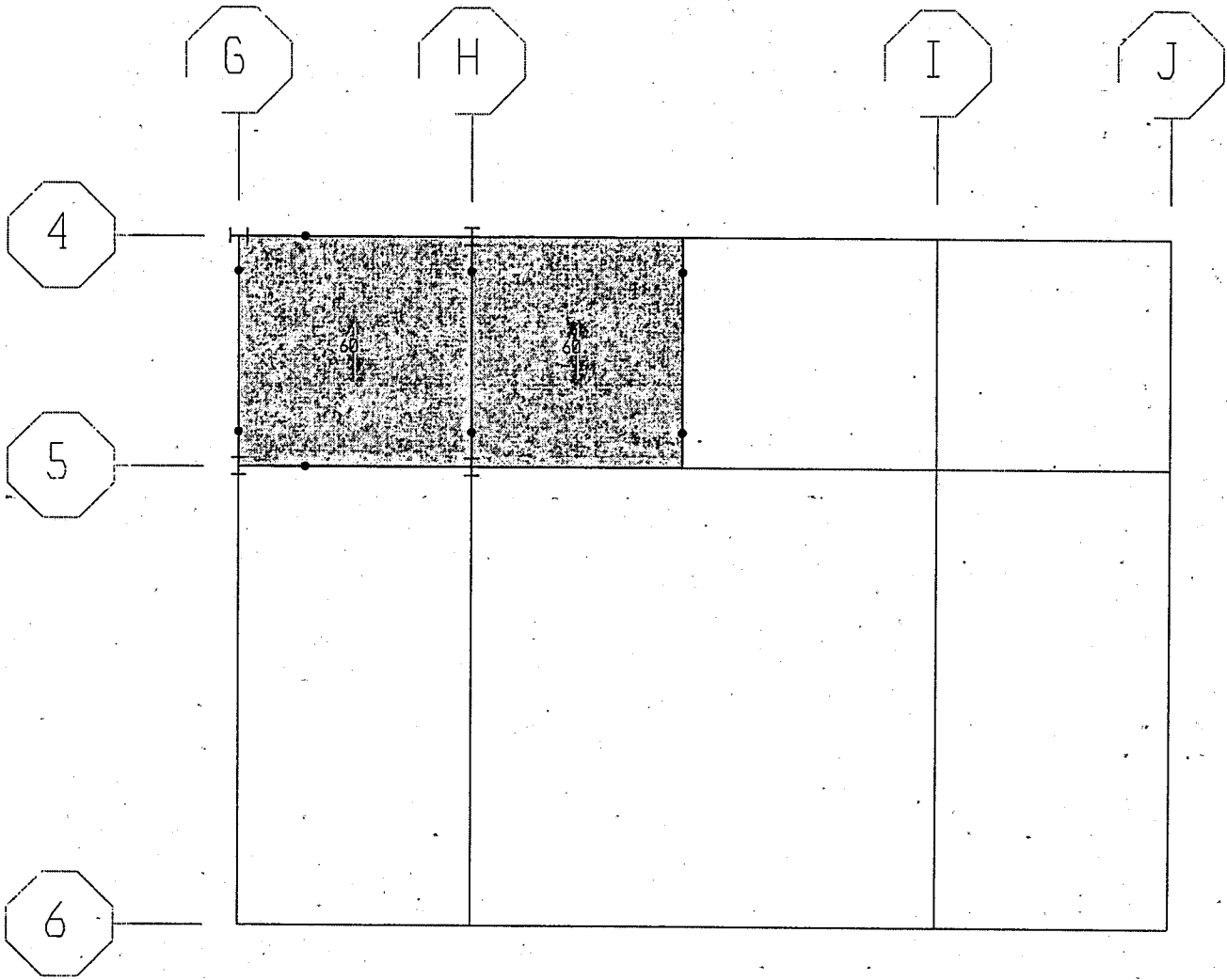
E = max(DX+TORX, DY+TORY)

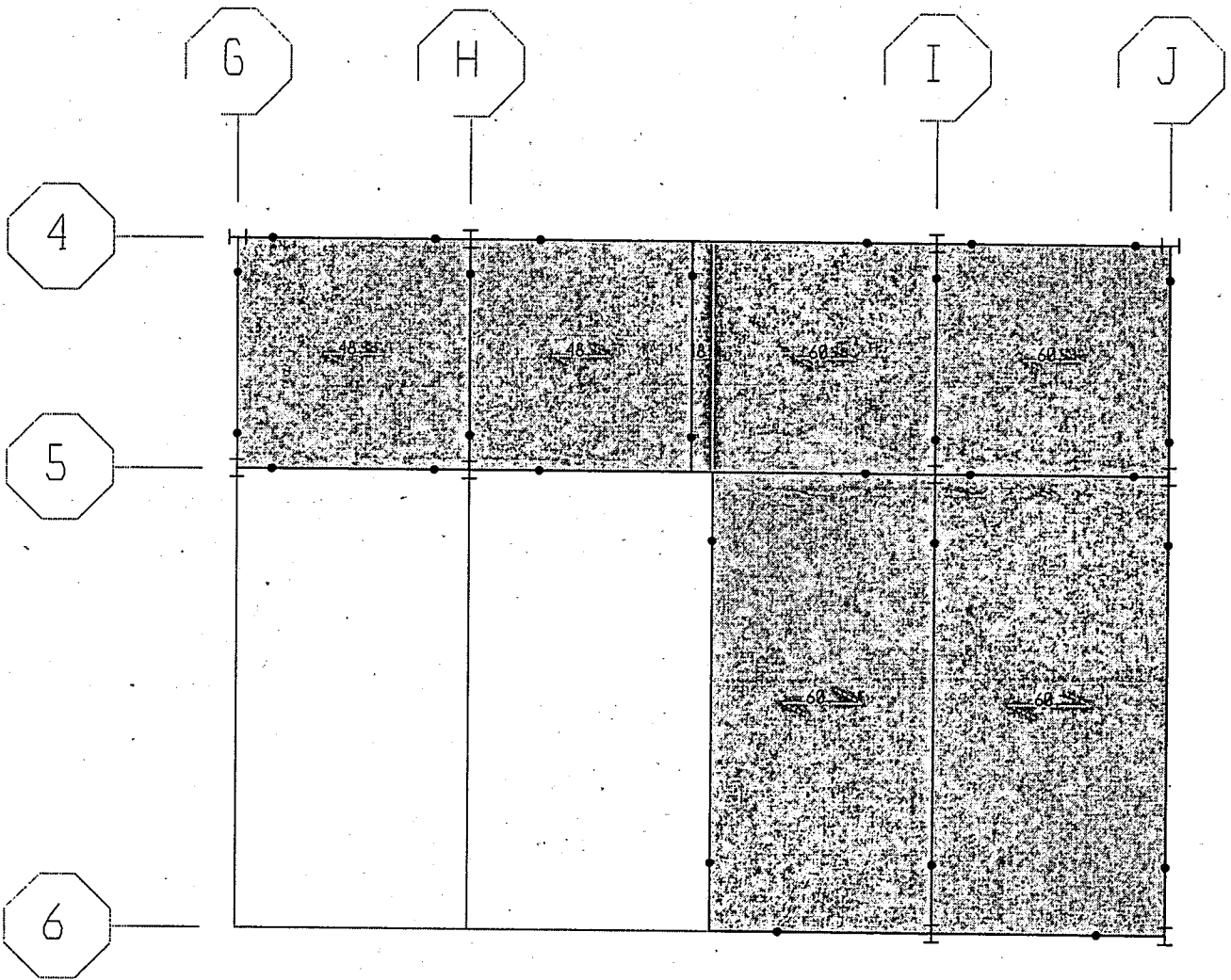
DX, Y = ETABS load combo for response spectrum scaled to 100% of static base shear

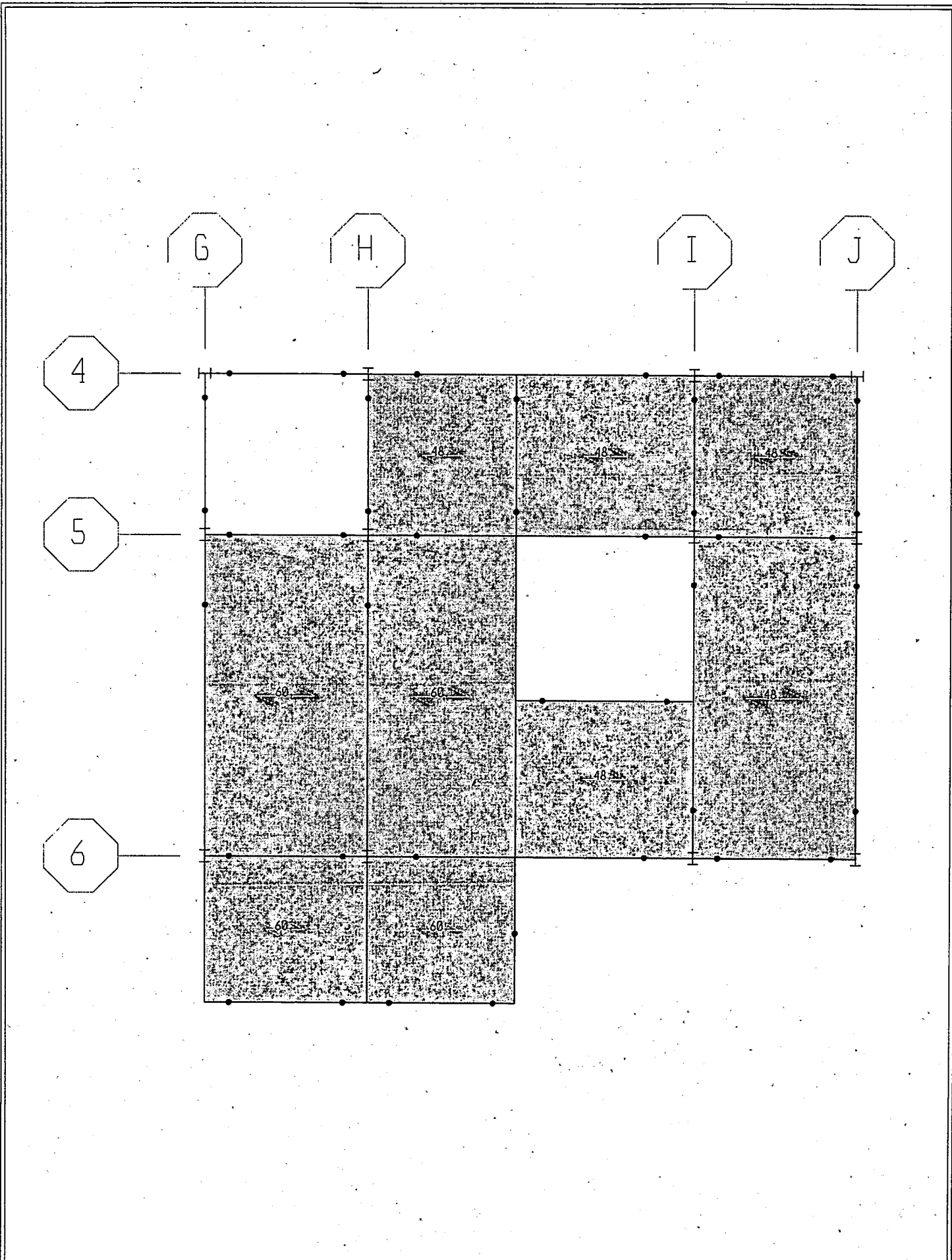
TORX, Y = ETABS load case for 5% accidental torsion

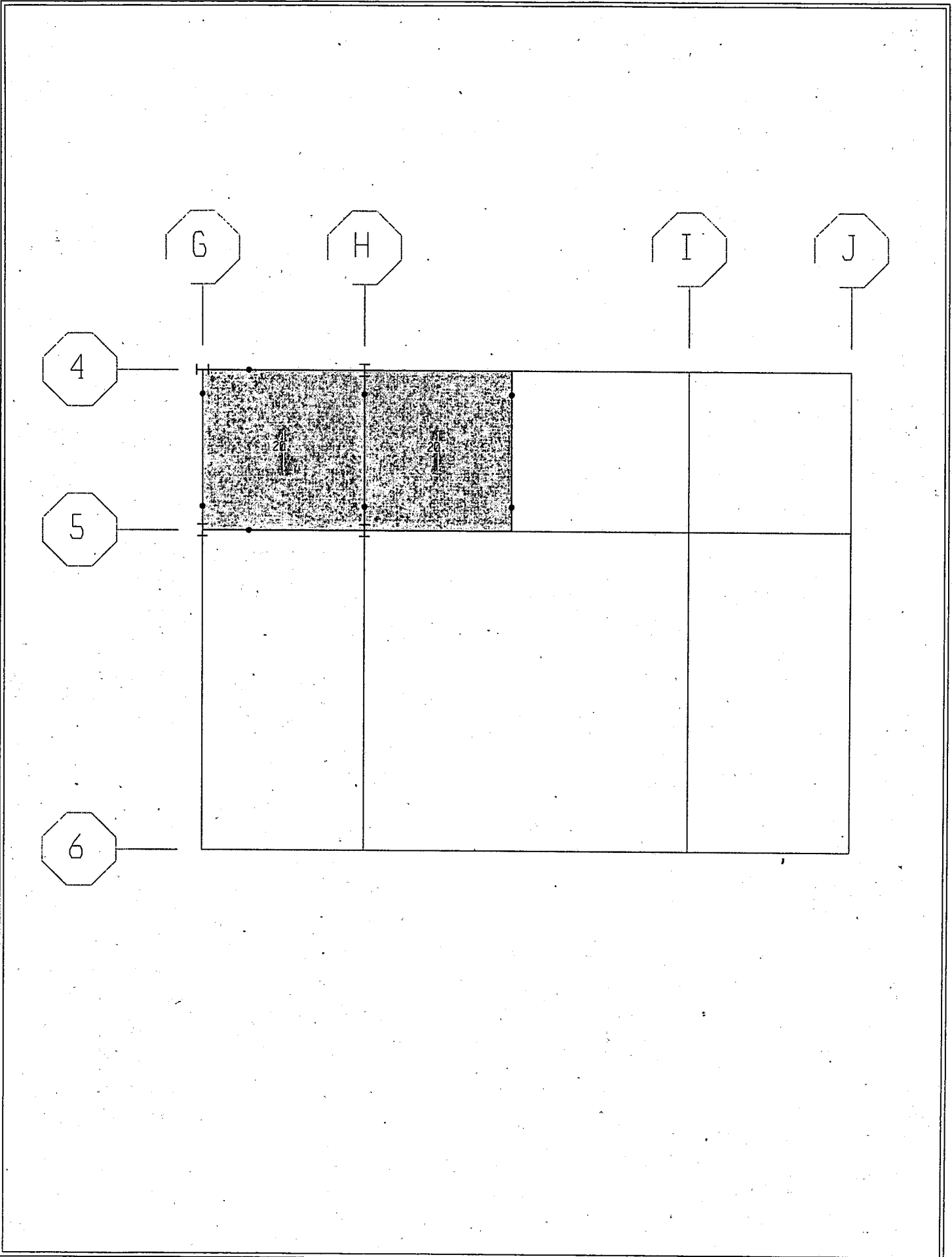
$\Phi V_n = .6A_c v (\alpha_c f_c^{.5} + \rho_h f_y)$

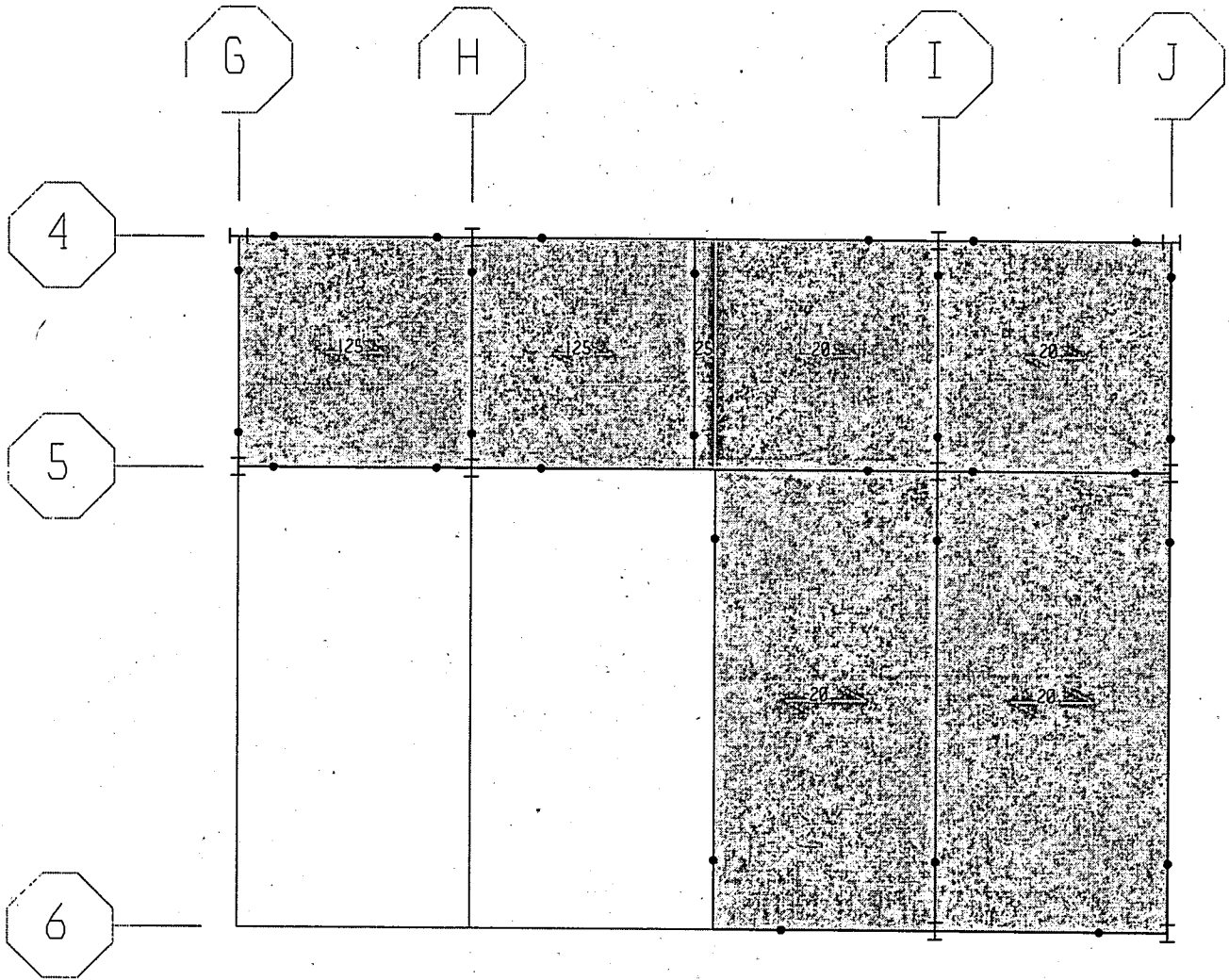
| ETABS | | | | | | | | | | | | | | Line Sum | | Vu/ | | Φ8*f _c ^{.5} | | | |
|-------|------|------|------|--------------------|----------------|----------------|----------------|-------------------|------|-------|------|--------|-----------------|---------------------------------|-----------------------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------|--------|-------|---------------------------------|
| Level | Pier | t | hw | A _c v | f _c | V _u | α _c | Tupe | As | #rows | s | Rho | ΦV _n | V _u /ΦV _n | Φ10A*f _c ^{.5} | V _u /Φ8A*f _c ^{.5} | V _u /Φ10A*f _c ^{.5} | Acv | Vu | Acv | Φ8*f _c ^{.5} |
| | | (in) | (in) | (in ²) | (psi) | (kips) | | (in) ² | | | (in) | | (kips) | | (kips) | | | (in ²) | (kips) | (ksi) | (ksi) |
| L10 | P-3 | 18 | 38 | 684 | 6000 | 277 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 365 | 0.76 | 318 | 1.09 | 0.87 | | | | |
| L10 | P-4 | 18 | 41 | 738 | 6000 | 311 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 393 | 0.79 | 343 | 1.13 | 0.91 | | | | |
| L10 | P-5 | 18 | 64 | 1152 | 6000 | 243 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 250 | 0.97 | 535 | 0.57 | 0.45 | 6930 | 1388 | 0.20 | 0.37 |
| L10 | P-6 | 18 | 64 | 1152 | 6000 | 199 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.88 | 535 | 0.48 | 0.37 | | | | |
| L10 | P-7 | 18 | 63 | 1134 | 6000 | 432 | 2 | H5 | 0.44 | 2 | 6 | 0.0081 | 438 | 0.99 | 527 | 1.02 | 0.82 | | | | |
| L10 | P-8 | 18 | 59 | 1062 | 6000 | 481 | 2 | H6 | 0.44 | 2 | 4 | 0.0122 | 566 | 0.85 | 494 | 1.22 | 0.97 | | | | |
| L10 | P-9 | 18 | 136 | 2448 | 6000 | 380 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.79 | 1138 | 0.42 | 0.33 | | | | |
| L10 | P-10 | 18 | 106 | 1908 | 6000 | 234 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.62 | 887 | 0.33 | 0.26 | 7704 | 1725 | 0.22 | 0.37 |
| L9 | 1.1 | 18 | 107 | 1926 | 6000 | 276 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.73 | 895 | 0.39 | 0.31 | | | | |
| L9 | 1.2 | 18 | 135 | 2430 | 6000 | 456 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.96 | 1129 | 0.50 | 0.40 | | | | |
| L9 | 1.3 | 18 | 60 | 1080 | 6000 | 245 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 268 | 0.92 | 502 | 0.61 | 0.49 | | | | |
| L9 | 1.4 | 18 | 62 | 1116 | 6000 | 201 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.92 | 519 | 0.49 | 0.39 | | | | |
| L9 | 1.5 | 18 | 64 | 1152 | 6000 | 81 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.38 | 535 | 0.19 | 0.15 | 7704 | 1259 | 0.16 | 0.37 |
| L9 | 1.6 | 18 | 64 | 1152 | 6000 | 80 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.35 | 535 | 0.19 | 0.15 | | | | |
| L9 | 1.7 | 18 | 63 | 1134 | 6000 | 201 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.90 | 527 | 0.48 | 0.38 | | | | |
| L9 | 1.8 | 18 | 59 | 1062 | 6000 | 238 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 263 | 0.91 | 494 | 0.60 | 0.48 | | | | |
| L9 | 1.9 | 18 | 136 | 2448 | 6000 | 450 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.94 | 1138 | 0.49 | 0.40 | | | | |
| L9 | 1.11 | 18 | 106 | 1908 | 6000 | 270 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.72 | 887 | 0.38 | 0.30 | 7704 | 1239 | 0.16 | 0.37 |
| L9 | 12.1 | 18 | 107 | 1926 | 6000 | 301 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.80 | 895 | 0.42 | 0.34 | | | | |
| L9 | 12.2 | 18 | 135 | 2430 | 6000 | 483 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 527 | 0.92 | 1129 | 0.53 | 0.43 | | | | |
| L9 | 12.3 | 18 | 60 | 1080 | 6000 | 255 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 268 | 0.95 | 502 | 0.64 | 0.51 | | | | |
| L9 | 12.4 | 18 | 62 | 1116 | 6000 | 209 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.96 | 519 | 0.50 | 0.40 | | | | |
| L9 | 12.5 | 18 | 64 | 1152 | 6000 | 84 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.37 | 535 | 0.20 | 0.16 | 7704 | 1333 | 0.17 | 0.37 |
| L9 | 12.6 | 18 | 64 | 1152 | 6000 | 83 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.37 | 535 | 0.19 | 0.16 | | | | |
| L9 | 12.7 | 18 | 63 | 1134 | 6000 | 211 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.95 | 527 | 0.50 | 0.40 | | | | |
| L9 | 12.8 | 18 | 59 | 1062 | 6000 | 250 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 263 | 0.95 | 494 | 0.63 | 0.51 | | | | |
| L9 | 12.9 | 18 | 136 | 2448 | 6000 | 479 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 1.00 | 1138 | 0.53 | 0.42 | | | | |
| L9 | 12.1 | 18 | 106 | 1908 | 6000 | 291 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.78 | 887 | 0.41 | 0.33 | 7704 | 1314 | 0.17 | 0.37 |
| L9 | A-1 | 18 | 107 | 1926 | 6000 | 278 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.73 | 895 | 0.39 | 0.31 | | | | |
| L9 | A-2 | 18 | 135 | 2430 | 6000 | 459 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.96 | 1129 | 0.51 | 0.41 | | | | |
| L9 | A-3 | 18 | 60 | 1080 | 6000 | 244 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 268 | 0.91 | 502 | 0.61 | 0.49 | | | | |
| L9 | A-4 | 18 | 62 | 1116 | 6000 | 197 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 219 | 0.90 | 519 | 0.48 | 0.38 | 6552 | 1177 | 0.18 | 0.37 |
| L9 | A-6 | 18 | 64 | 1152 | 6000 | 83 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.37 | 535 | 0.19 | 0.15 | | | | |
| L9 | A-7 | 18 | 63 | 1134 | 6000 | 208 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 223 | 0.93 | 527 | 0.49 | 0.39 | | | | |
| L9 | A-8 | 18 | 59 | 1062 | 6000 | 245 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 263 | 0.93 | 494 | 0.62 | 0.50 | | | | |
| L9 | A-9 | 18 | 136 | 2448 | 6000 | 470 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 481 | 0.98 | 1138 | 0.52 | 0.41 | | | | |
| L9 | A-10 | 18 | 106 | 1908 | 6000 | 278 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.74 | 887 | 0.39 | 0.31 | 7704 | 1284 | 0.17 | 0.37 |
| L9 | P-1 | 18 | 107 | 1926 | 6000 | 314 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.83 | 895 | 0.44 | 0.35 | | | | |
| L9 | P-2 | 18 | 135 | 2430 | 6000 | 446 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 477 | 0.94 | 1129 | 0.49 | 0.40 | | | | |
| L9 | P-3 | 18 | 38 | 684 | 6000 | 110 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 134 | 0.82 | 318 | 0.43 | 0.35 | | | | |
| L9 | P-4 | 18 | 41 | 738 | 6000 | 93 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 145 | 0.64 | 343 | 0.34 | 0.27 | | | | |
| L9 | P-5 | 18 | 64 | 1152 | 6000 | 76 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.34 | 535 | 0.18 | 0.14 | 6930 | 1039 | 0.15 | 0.37 |
| L9 | P-6 | 18 | 64 | 1152 | 6000 | 95 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.42 | 535 | 0.22 | 0.18 | | | | |
| L9 | P-7 | 18 | 63 | 1134 | 6000 | 236 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.96 | 527 | 0.56 | 0.45 | | | | |
| L9 | P-8 | 18 | 59 | 1062 | 6000 | 281 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.85 | 494 | 0.71 | 0.57 | | | | |
| L9 | P-9 | 18 | 136 | 2448 | 6000 | 556 | 2 | H3 | 0.31 | 2 | 8 | 0.0043 | 607 | 0.92 | 1138 | 0.61 | 0.49 | | | | |
| L9 | P-10 | 18 | 106 | 1908 | 6000 | 344 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.92 | 887 | 0.49 | 0.39 | 7704 | 1512 | 0.20 | 0.37 |
| L8 | 1.1 | 18 | 107 | 1926 | 6000 | 298 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.79 | 895 | 0.42 | 0.33 | | | | |
| L8 | 1.2 | 18 | 135 | 2430 | 6000 | 507 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 527 | 0.96 | 1129 | 0.56 | 0.45 | | | | |
| L8 | 1.3 | 18 | 60 | 1080 | 6000 | 295 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.87 | 502 | 0.74 | 0.59 | | | | |
| L8 | 1.4 | 18 | 62 | 1116 | 6000 | 227 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 242 | 0.94 | 519 | 0.55 | 0.44 | | | | |
| L8 | 1.5 | 18 | 64 | 1152 | 6000 | 91 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.40 | 535 | 0.21 | 0.17 | 7704 | 1418 | 0.18 | 0.37 |
| L8 | 1.6 | 18 | 64 | 1152 | 6000 | 90 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.40 | 535 | 0.21 | 0.17 | | | | |
| L8 | 1.7 | 18 | 63 | 1134 | 6000 | 226 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.92 | 527 | 0.54 | 0.43 | | | | |
| L8 | 1.8 | 18 | 59 | 1062 | 6000 | 286 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.86 | 494 | 0.72 | 0.58 | | | | |
| L8 | 1.9 | 18 | 136 | 2448 | 6000 | 494 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 531 | 0.93 | 1138 | 0.54 | 0.43 | | | | |
| L8 | 1.11 | 18 | 106 | 1908 | 6000 | 296 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.79 | 887 | 0.42 | 0.33 | 7704 | 1391 | 0.18 | 0.37 |
| L8 | 12.1 | 18 | 107 | 1926 | 6000 | 308 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 378 | 0.81 | 895 | 0.43 | 0.34 | | | | |
| L8 | 12.2 | 18 | 135 | 2430 | 6000 | 523 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 527 | 0.99 | 1129 | 0.58 | 0.46 | | | | |
| L8 | 12.3 | 18 | 60 | 1080 | 6000 | 301 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 338 | 0.89 | 502 | 0.75 | 0.60 | | | | |
| L8 | 12.4 | 18 | 62 | 1116 | 6000 | 231 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 242 | 0.95 | 519 | 0.56 | 0.45 | | | | |
| L8 | 12.5 | 18 | 64 | 1152 | 6000 | 93 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | 7704 | 1456 | 0.19 | 0.37 |
| L8 | 12.6 | 18 | 64 | 1152 | 6000 | 92 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 226 | 0.41 | 535 | 0.22 | 0.17 | | | | |
| L8 | 12.7 | 18 | 63 | 1134 | 6000 | 232 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 246 | 0.94 | 527 | 0.55 | 0.44 | | | | |
| L8 | 12.8 | 18 | 59 | 1062 | 6000 | 295 | 2 | H4 | 0.44 | 2 | 8 | 0.0061 | 332 | 0.89 | 494 | 0.75 | 0.60 | | | | |
| L8 | 12.9 | 18 | 136 | 2448 | 6000 | 517 | 2 | H2 | 0.31 | 2 | 10 | 0.0034 | 531 | 0.97 | 1138 | 0.57 | 0.45 | | | | |
| L8 | 12.1 | 18 | 106 | 1908 | 6000 | 305 | 2 | H1 | 0.31 | 2 | 12 | 0.0029 | 375 | 0.81 | 887 | 0.43 | 0.34 | 7704 | 1441 | 0.19 | 0.37 |

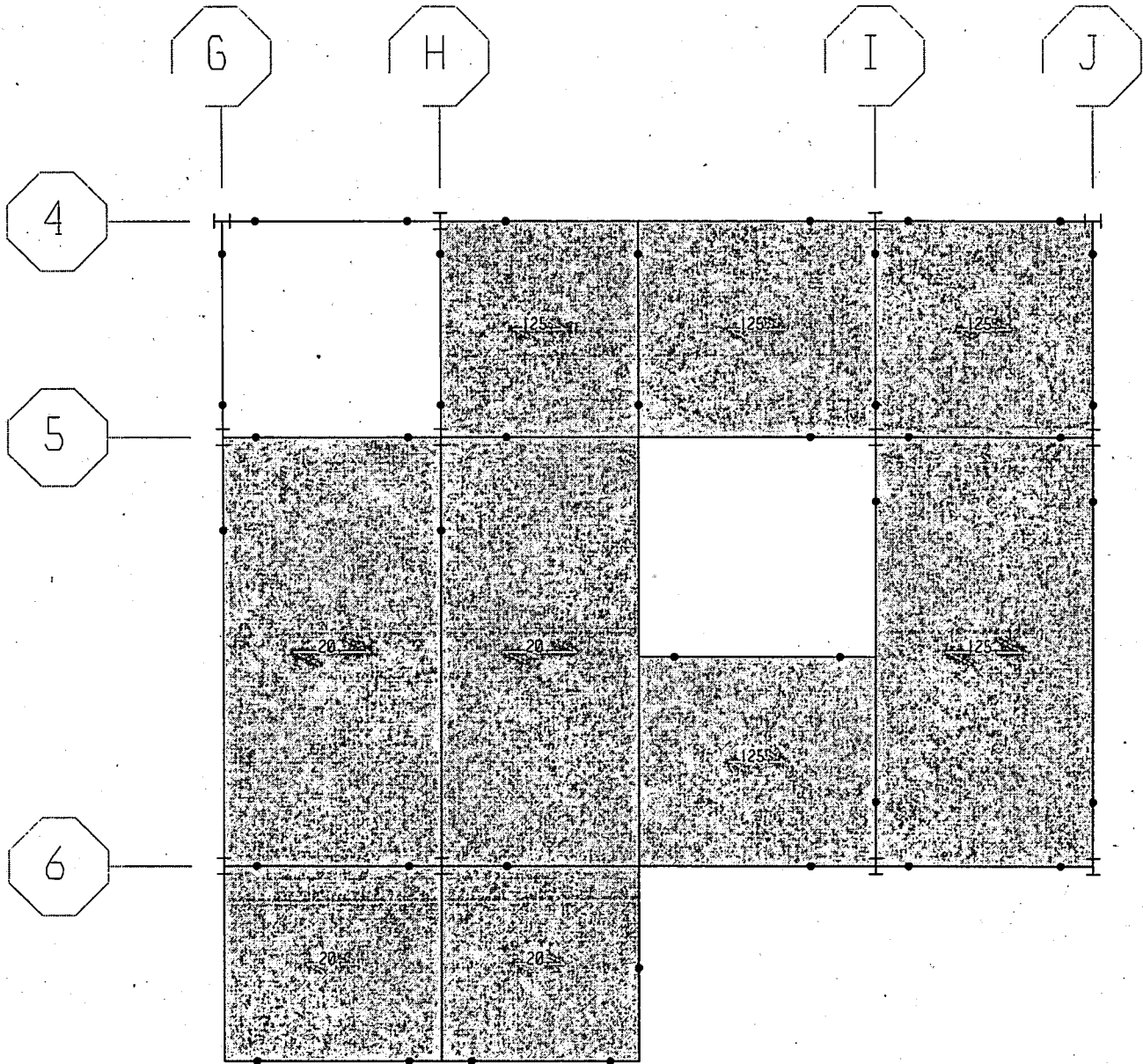






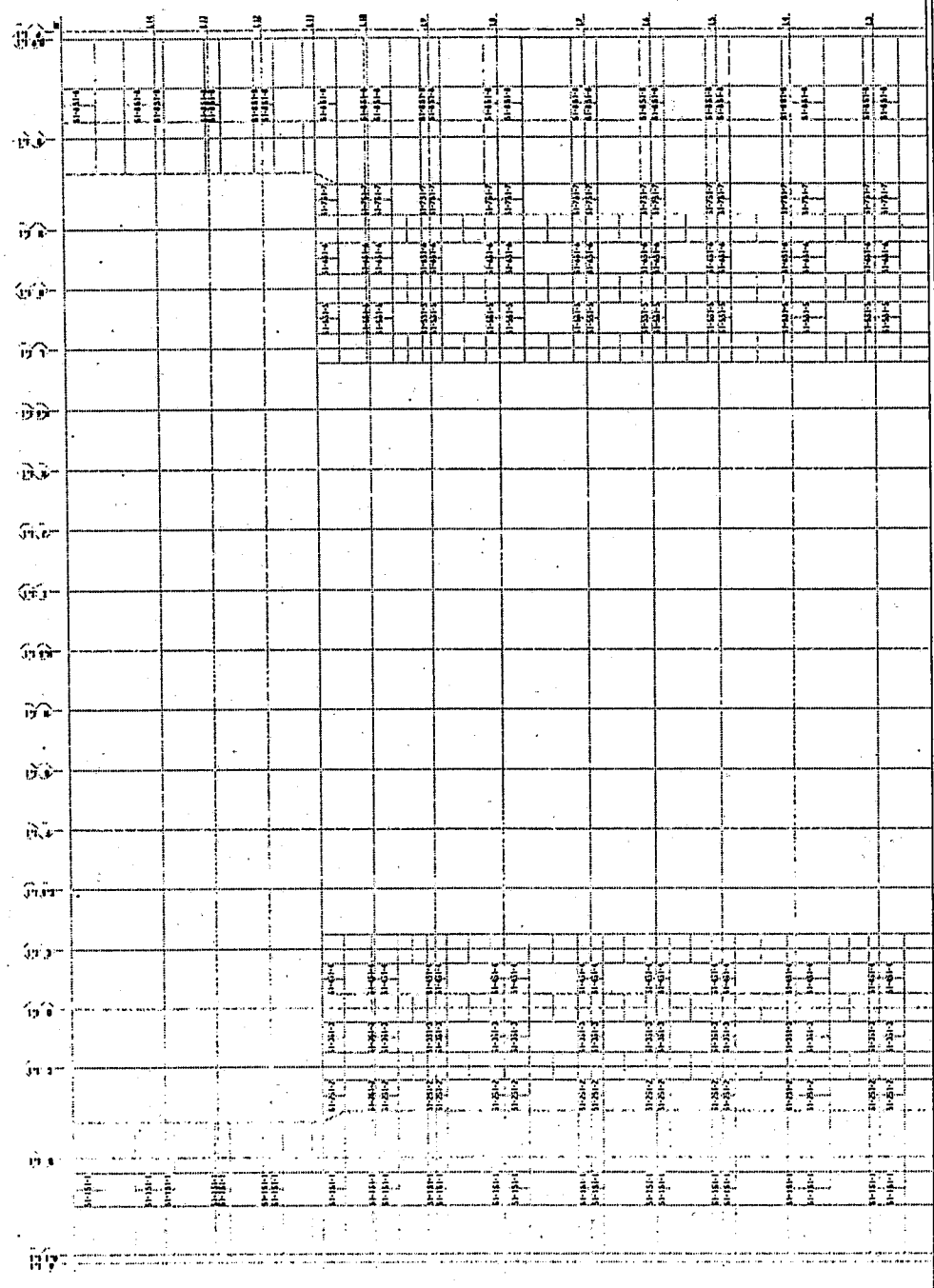


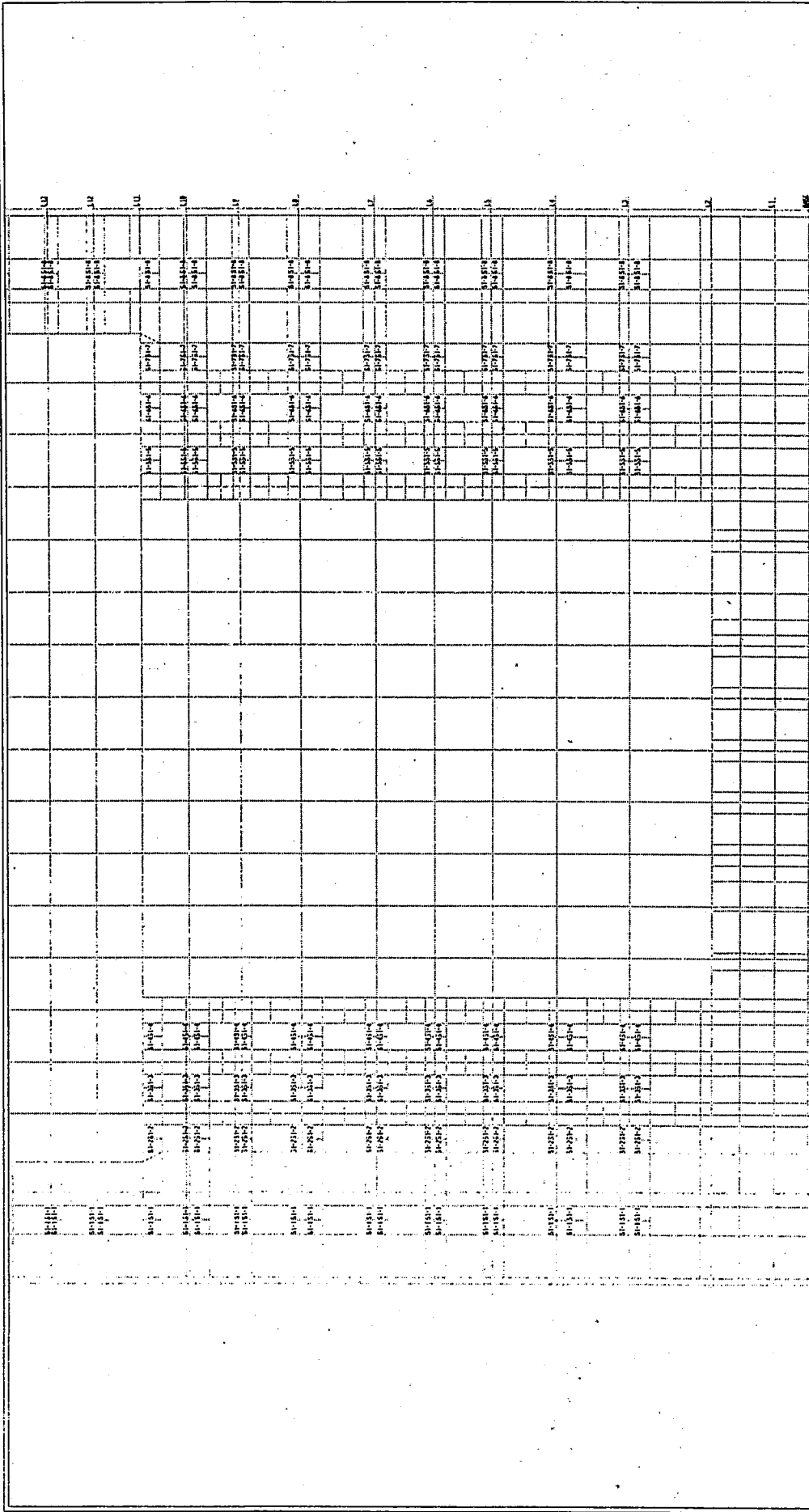


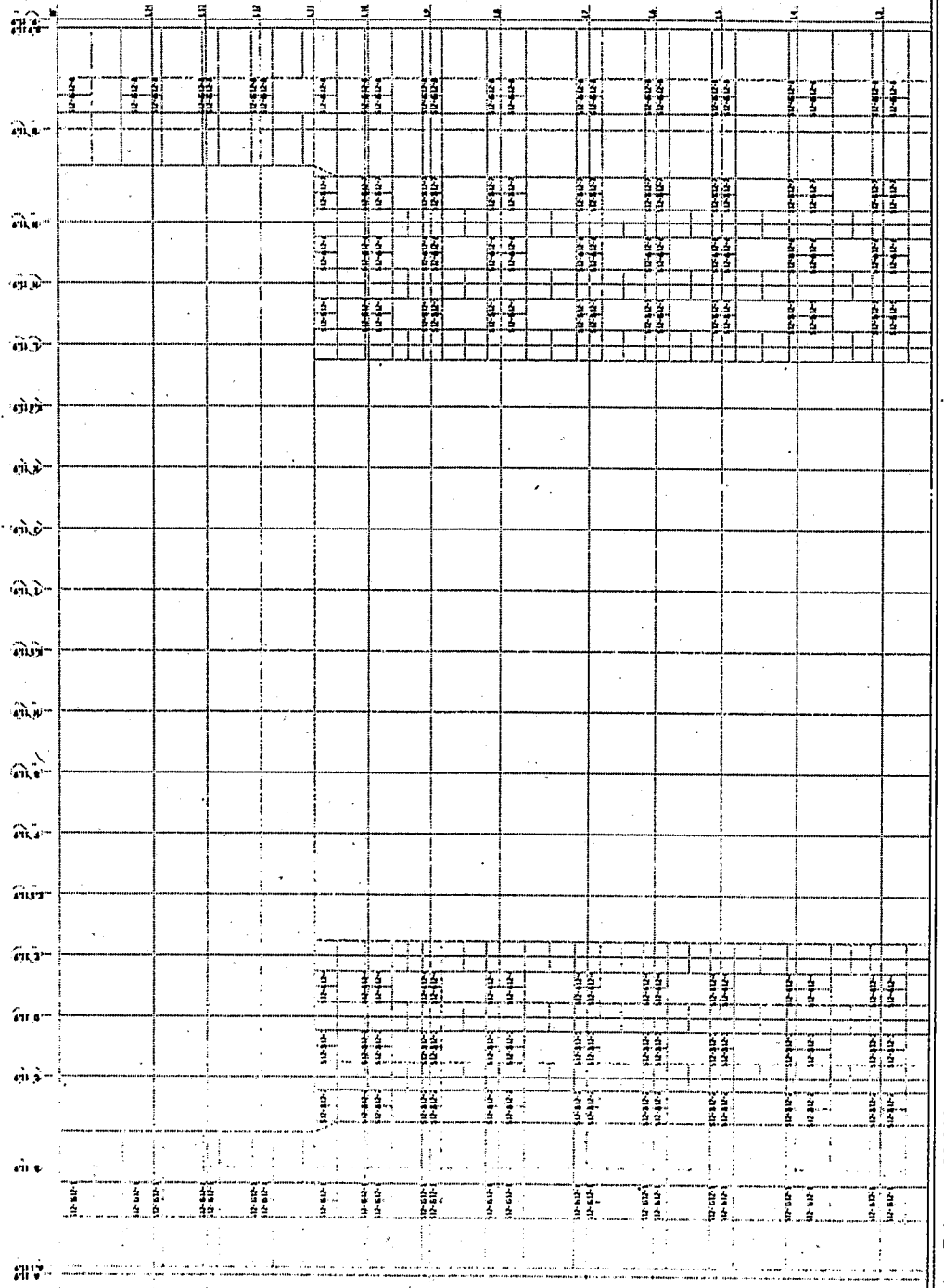




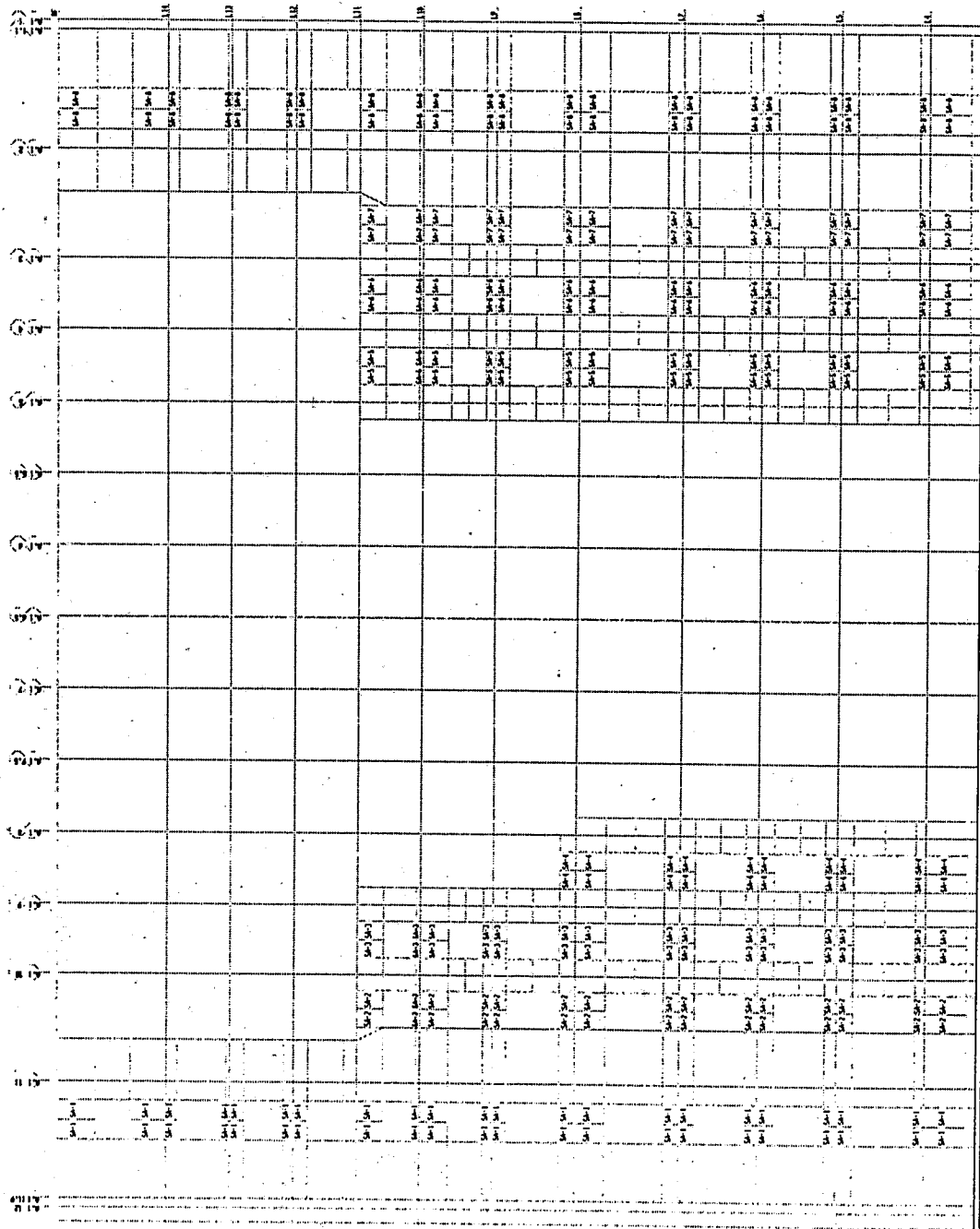
I: Shear Wall Spandrel Beam Design

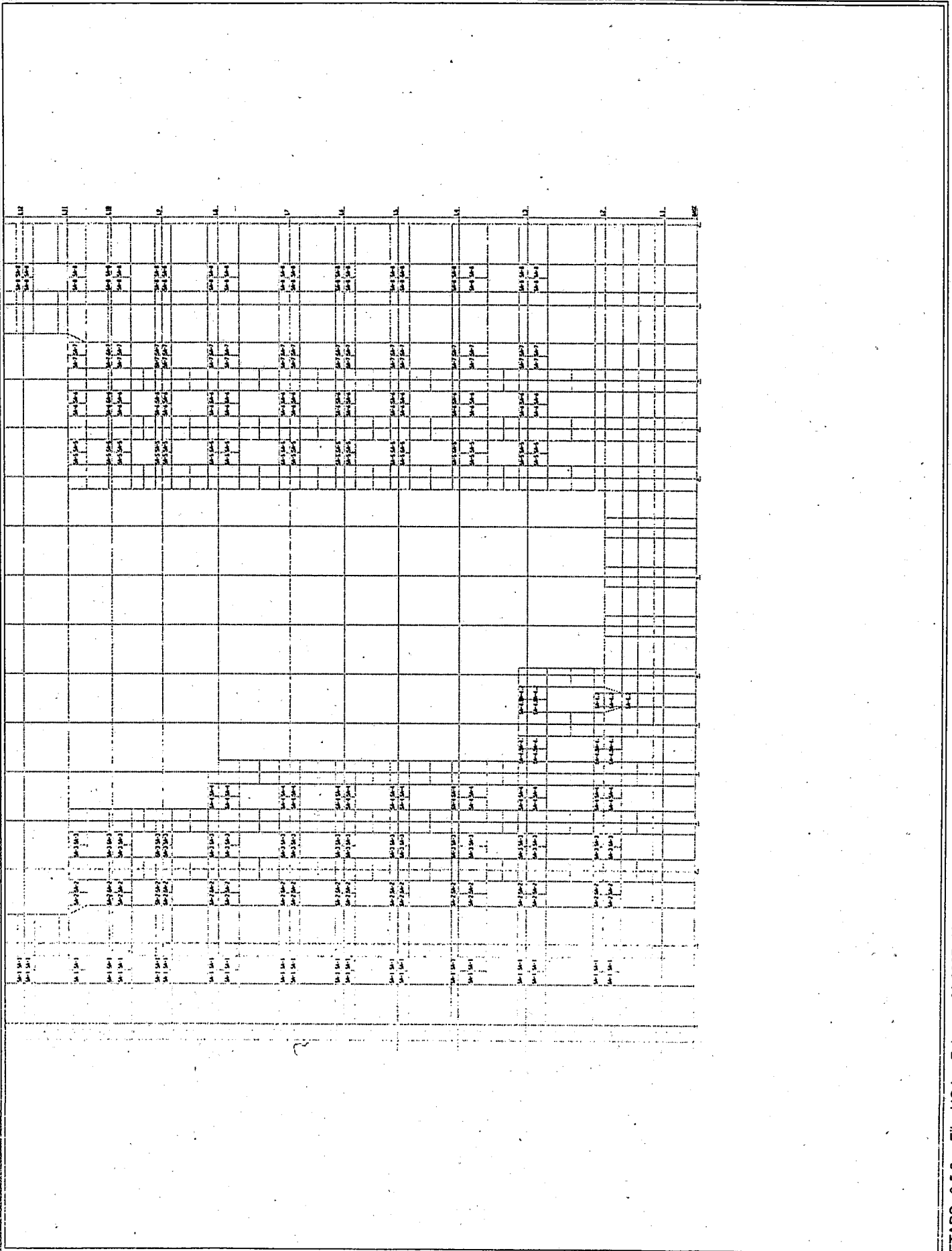


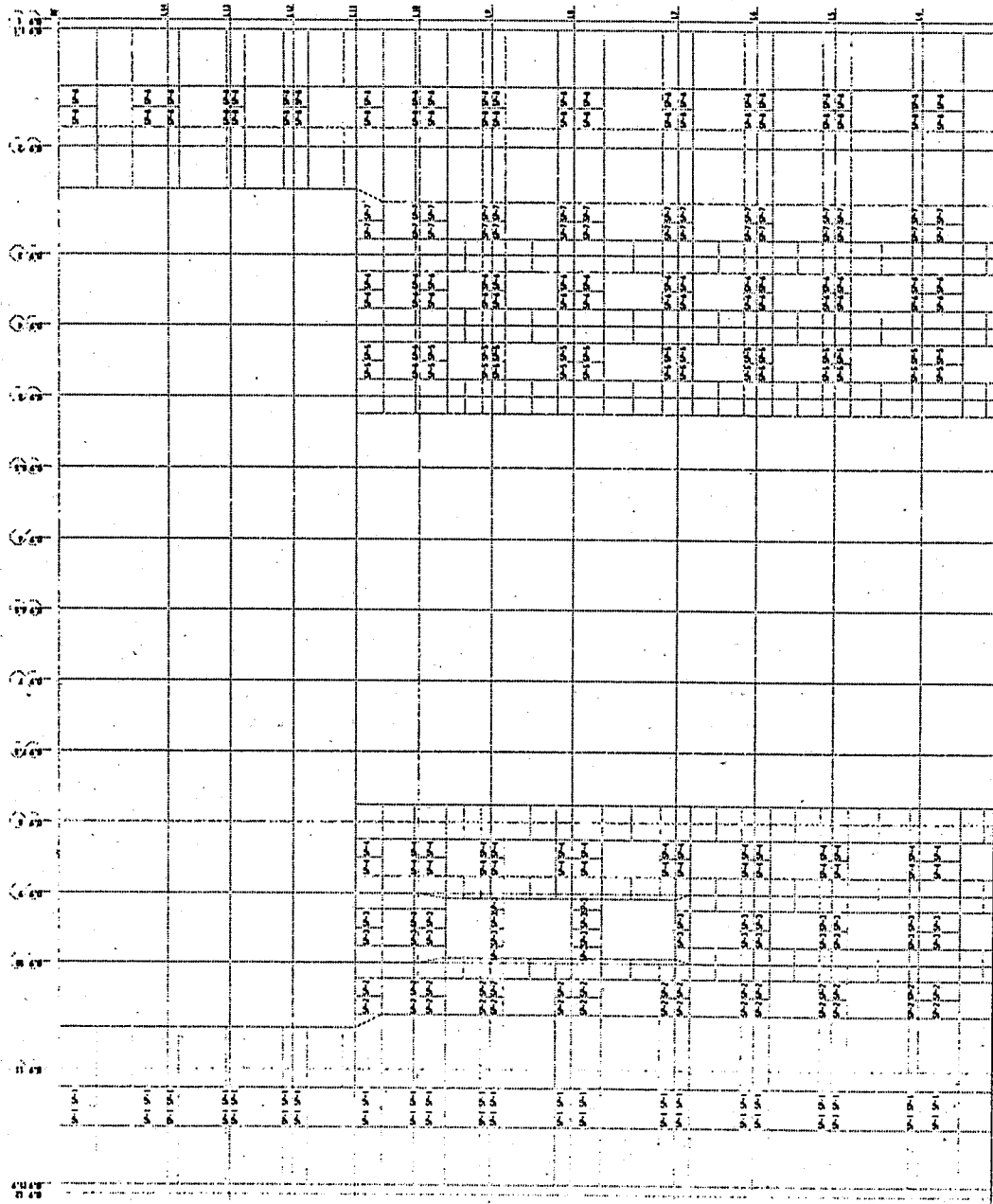


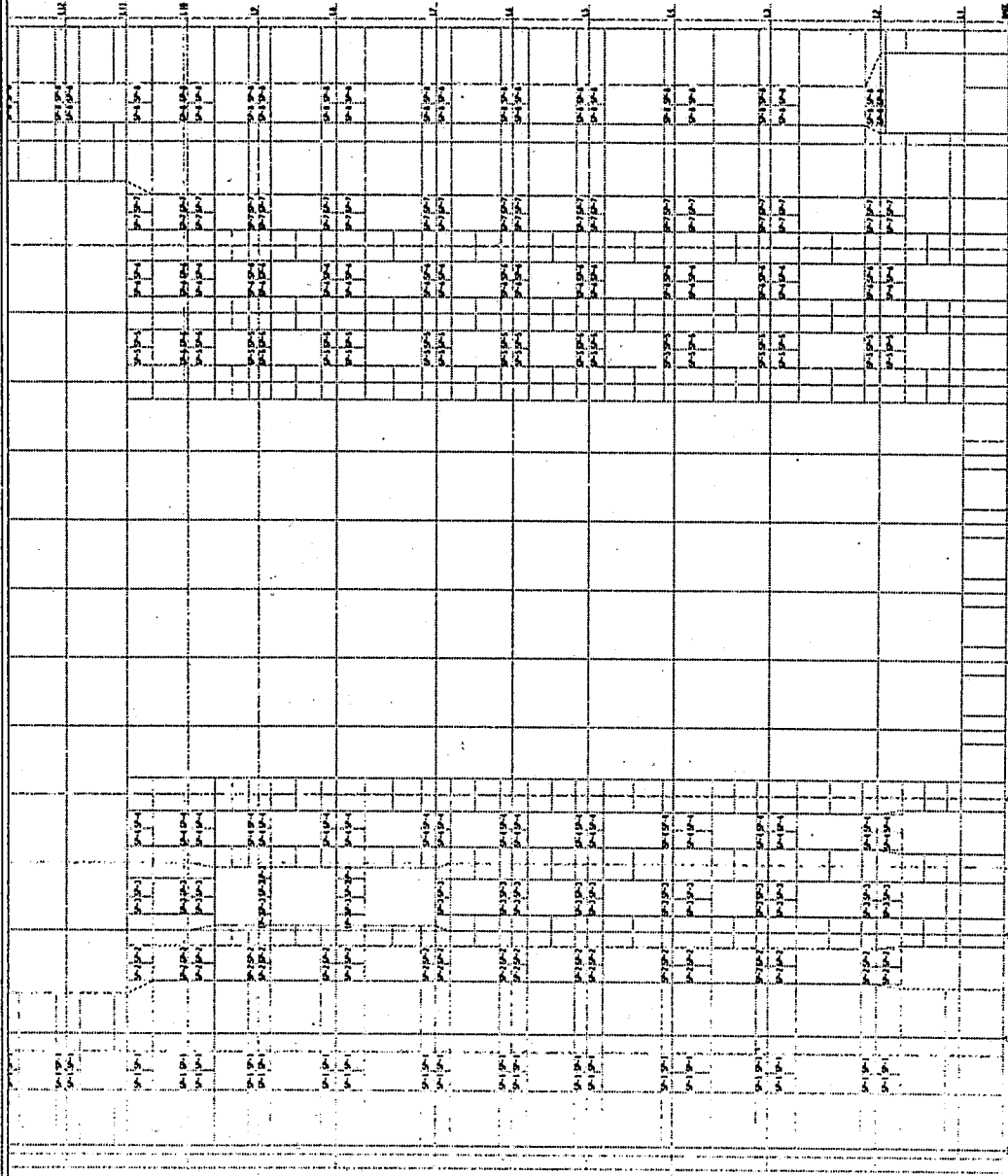


| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 10-10-01 | 10-10-02 | 10-10-03 | 10-10-04 | 10-10-05 | 10-10-06 | 10-10-07 | 10-10-08 | 10-10-09 | 10-10-10 | 10-10-11 | 10-10-12 | 10-10-13 | 10-10-14 | 10-10-15 | 10-10-16 | 10-10-17 | 10-10-18 | 10-10-19 | 10-10-20 | 10-10-21 | 10-10-22 | 10-10-23 | 10-10-24 | 10-10-25 | 10-10-26 | 10-10-27 | 10-10-28 | 10-10-29 | 10-10-30 | 10-10-31 | 10-10-32 | 10-10-33 | 10-10-34 | 10-10-35 | 10-10-36 | 10-10-37 | 10-10-38 | 10-10-39 | 10-10-40 | 10-10-41 | 10-10-42 | 10-10-43 | 10-10-44 | 10-10-45 | 10-10-46 | 10-10-47 | 10-10-48 | 10-10-49 | 10-10-50 | 10-10-51 | 10-10-52 | 10-10-53 | 10-10-54 | 10-10-55 | 10-10-56 | 10-10-57 | 10-10-58 | 10-10-59 | 10-10-60 | 10-10-61 | 10-10-62 | 10-10-63 | 10-10-64 | 10-10-65 | 10-10-66 | 10-10-67 | 10-10-68 | 10-10-69 | 10-10-70 | 10-10-71 | 10-10-72 | 10-10-73 | 10-10-74 | 10-10-75 | 10-10-76 | 10-10-77 | 10-10-78 | 10-10-79 | 10-10-80 | 10-10-81 | 10-10-82 | 10-10-83 | 10-10-84 | 10-10-85 | 10-10-86 | 10-10-87 | 10-10-88 | 10-10-89 | 10-10-90 | 10-10-91 | 10-10-92 | 10-10-93 | 10-10-94 | 10-10-95 | 10-10-96 | 10-10-97 | 10-10-98 | 10-10-99 | 10-10-100 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|









Hall of Justice

Shear Wall Spandrel Beam Design

a = $\sqrt{d \cdot \sqrt{(d^2 - 2Mu / (85 \cdot f_c \cdot s \cdot b))}}$
 As = $Mu / (fy(d-a/2))$
 Ah min = 0.0025b
 Av min = 0.0015b
 Vu max = $\phi(2/3)(10 \cdot L/d) \sqrt{fc}$ for L/d from 2.5
 $\phi = 0.80$

Scaling response spectrum to 80% of static base shear
 Load combo = (8E + 1.8H)
 E = max(DX+TORX, DY+TORX)
 DX, Y = ETABS load combo for response spectrum scaled to 100% of static base shear
 TORX, Y = ETABS load case for 5% accidental torsion

Deep beam shear
 $V_s = [AV_s(1+L/d)] / (2 + AV_h s^2(11-L/d) / 12) \cdot d$
 $V_n = V_c + V_c$

Factor Vu max Vu min L/d

| Story | ETABS Spandrel | fc (ksi) | fy (ksi) | Properties | | | | Flex. Steel Top | | | | Bot. Shear Design | | | | Vu | Vu max | Vu min | L/d | Factor | Vu max | Vu min | 2Vc | 2Vc | Type | Av | s | Avh | s2 | Vs | φVn | Vu | Diag | Stk | Vu max | Ad |
|-------|----------------|----------|----------|------------|----|----|----|-----------------|----|------|-------|-------------------|------|------|------|-----|--------|--------|------|--------|--------|--------|-------|------|------|------|------|------|------|------|------|-----|------|------|--------|-----|
| | | | | dbot | db | dt | db | dbot | Mu | a | As | As | Vu | Vc | AV | | | | | | | | | | | | | | | | | | | | | |
| L9 | S1-5 | 6 | 60 | 68 | 42 | 30 | 3 | 3 | 39 | 5896 | 1.1 | 2.84 | 1.1 | 2.84 | 39 | 172 | 181 | 0.54 | 0.54 | 0.90 | 1.74 | 8.00 | 435 | 0.40 | No | 0.47 | S1 | 0.93 | 12 | 0.93 | 8 | 251 | 0.66 | N/A | N/A | |
| L9 | S1-6 | 6 | 60 | 68 | 42 | 30 | 3 | 3 | 39 | 8837 | 1.7 | 4.29 | 1.7 | 4.29 | 39 | 269 | 181 | 1.28 | 0.54 | 0.90 | 1.74 | 8.00 | 435 | 0.60 | No | 0.71 | S3 | 0.93 | 8 | 0.93 | 8 | 272 | 0.95 | N/A | N/A | |
| L9 | S1-7 | 6 | 60 | 68 | 42 | 30 | 3 | 3 | 39 | 8289 | 1.6 | 4.02 | 1.6 | 4.02 | 39 | 241 | 181 | 1.13 | 0.54 | 0.90 | 1.74 | 8.00 | 435 | 0.55 | No | 0.67 | S3 | 0.93 | 8 | 0.93 | 8 | 272 | 0.89 | N/A | N/A | |
| L9 | S1-8 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 4117 | 0.8 | 2.03 | 0.8 | 2.03 | 38 | 109 | 177 | 0.03 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.26 | No | 0.31 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.52 | 0.89 | N/A |
| L9 | S12-1 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 4501 | 0.9 | 2.22 | 0.9 | 2.22 | 38 | 119 | 177 | 0.11 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.28 | No | 0.34 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.52 | 0.87 | N/A |
| L9 | S12-2 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 8874 | 1.7 | 4.43 | 1.7 | 4.43 | 38 | 259 | 177 | 1.34 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.61 | No | 0.73 | S3 | 0.93 | 8 | 0.93 | 8 | 265 | 0.98 | N/A | N/A |
| L9 | S12-3 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 9335 | 1.8 | 4.66 | 1.8 | 4.66 | 38 | 273 | 177 | 1.47 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.64 | No | 0.77 | S4 | 0.93 | 8 | 0.93 | 8 | 266 | 0.99 | N/A | N/A |
| L9 | S12-4 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 6236 | 1.2 | 3.09 | 1.2 | 3.09 | 38 | 182 | 177 | 0.67 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.43 | No | 0.52 | S1 | 0.93 | 12 | 0.93 | 8 | 245 | 0.72 | N/A | N/A |
| L9 | S12-5 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 6190 | 1.2 | 3.07 | 1.2 | 3.07 | 38 | 181 | 177 | 0.66 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.43 | No | 0.51 | S1 | 0.93 | 12 | 0.93 | 8 | 245 | 0.72 | N/A | N/A |
| L9 | S12-6 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 9270 | 1.8 | 4.63 | 1.8 | 4.63 | 38 | 272 | 177 | 1.45 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.64 | No | 0.77 | S4 | 0.93 | 8 | 0.93 | 8 | 266 | 0.98 | N/A | N/A |
| L9 | S12-7 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 8753 | 1.7 | 4.36 | 1.7 | 4.36 | 38 | 265 | 177 | 1.31 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.64 | No | 0.72 | S3 | 0.93 | 8 | 0.93 | 8 | 265 | 0.96 | N/A | N/A |
| L9 | S12-8 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 4356 | 0.8 | 2.15 | 0.8 | 2.15 | 38 | 115 | 177 | 0.08 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.27 | No | 0.33 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.52 | 0.87 | N/A |
| L9 | SA-1 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 4196 | 0.8 | 2.07 | 0.8 | 2.07 | 38 | 111 | 177 | 0.04 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.26 | No | 0.31 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.52 | 0.87 | N/A |
| L9 | SA-2 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 8307 | 1.6 | 4.14 | 1.6 | 4.14 | 38 | 243 | 177 | 1.20 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.57 | No | 0.69 | S1 | 0.93 | 12 | 0.93 | 8 | 245 | 0.93 | N/A | N/A |
| L9 | SA-3 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 9097 | 1.8 | 4.54 | 1.8 | 4.54 | 38 | 264 | 177 | 1.39 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.62 | No | 0.75 | S4 | 0.93 | 8 | 0.93 | 8 | 266 | 0.97 | 0.95 | N/A |
| L9 | SA-5 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 6274 | 1.2 | 3.11 | 1.2 | 3.11 | 38 | 183 | 177 | 0.68 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.43 | No | 0.52 | S1 | 0.93 | 12 | 0.93 | 8 | 245 | 0.73 | N/A | N/A |
| L9 | SA-6 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 9284 | 1.8 | 4.64 | 1.8 | 4.64 | 38 | 272 | 177 | 1.46 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.64 | No | 0.77 | S4 | 0.93 | 8 | 0.93 | 8 | 266 | 0.97 | 0.98 | N/A |
| L9 | SA-7 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 8821 | 1.7 | 4.40 | 1.7 | 4.40 | 38 | 257 | 177 | 1.33 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.61 | No | 0.73 | S2 | 0.93 | 8 | 0.93 | 8 | 253 | 0.98 | 1.00 | N/A |
| L9 | SA-8 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 4233 | 0.8 | 2.09 | 0.8 | 2.09 | 38 | 112 | 177 | 0.05 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.26 | No | 0.32 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.52 | 0.84 | N/A |
| L9 | SP-1 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 4208 | 0.8 | 2.07 | 0.8 | 2.07 | 38 | 111 | 177 | 0.05 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.26 | No | 0.32 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.52 | 0.84 | N/A |
| L9 | SP-2 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 8495 | 1.7 | 4.23 | 1.7 | 4.23 | 38 | 246 | 177 | 1.23 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.58 | No | 0.70 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.93 | 0.84 | N/A |
| L9 | SP-3 | 6 | 60 | 111 | 24 | 30 | 9 | 4 | 15 | 20 | 1906 | 1.0 | 4.23 | 1.7 | 1.80 | 15 | 74 | 70 | 0.72 | 0.54 | 0.90 | 7.40 | 11.60 | 424 | 0.31 | No | 0.53 | S1 | 0.93 | 12 | 0.93 | 6 | 312 | 293 | 0.64 | N/A |
| L9 | SP-4 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 7927 | 1.5 | 3.94 | 1.5 | 3.94 | 38 | 226 | 177 | 1.05 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.53 | No | 0.64 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.93 | 0.78 | N/A |
| L9 | SP-5 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 6877 | 1.3 | 3.41 | 1.3 | 3.41 | 38 | 201 | 177 | 0.83 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.47 | No | 0.57 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 0.93 | 0.68 | N/A |
| L9 | SP-6 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 10283 | 2.0 | 5.15 | 2.0 | 5.15 | 38 | 301 | 177 | 1.71 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.71 | No | 0.85 | S3 | 0.93 | 8 | 0.93 | 8 | 333 | 306 | 0.89 | N/A |
| L9 | SP-7 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 38 | 38 | 9859 | 1.9 | 4.93 | 1.9 | 4.93 | 38 | 287 | 177 | 1.59 | 0.54 | 0.90 | 1.79 | 8.00 | 424 | 0.68 | No | 0.81 | S1 | 0.93 | 12 | 0.93 | 8 | 243 | 293 | 0.98 | N/A |
| L9 | SP-8 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 38 | 38 | 5004 | 1.0 | 2.47 | 1.0 | 2.47 | 38 | 132 | 177 | 0.23 | 0.54 | 0.90 | 1.95 | 8.00 | 424 | 0.31 | No | 0.37 | S1 | 0.93 | 12 | 0.93 | 8 | 310 | 292 | 0.46 | N/A |
| L8 | S1-1 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 78 | 78 | 17422 | 1.6 | 4.18 | 1.6 | 4.18 | 78 | 467 | 363 | 1.07 | 0.54 | 0.90 | 0.95 | 8.00 | 870 | 0.54 | No | 0.68 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.89 | N/A |
| L8 | S1-2 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 19575 | 1.8 | 4.70 | 1.8 | 4.70 | 78 | 485 | 363 | 1.19 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.57 | No | 0.68 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.84 | N/A |
| L8 | S1-3 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 14821 | 1.4 | 3.55 | 1.4 | 3.55 | 78 | 404 | 363 | 0.80 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.46 | No | 0.56 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.77 | N/A |
| L8 | S1-4 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 9316 | 0.9 | 2.22 | 0.9 | 2.22 | 78 | 237 | 363 | 0.08 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.27 | No | 0.33 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.46 | N/A |
| L8 | S1-5 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 9135 | 0.9 | 2.18 | 0.9 | 2.18 | 78 | 234 | 363 | 0.07 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.27 | No | 0.32 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.44 | N/A |
| L8 | S1-6 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 14757 | 1.4 | 3.54 | 1.4 | 3.54 | 78 | 399 | 363 | 0.78 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.46 | No | 0.57 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.76 | N/A |
| L8 | S1-7 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 19241 | 1.8 | 4.62 | 1.8 | 4.62 | 78 | 484 | 363 | 1.14 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.56 | No | 0.67 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.82 | N/A |
| L8 | S1-8 | 6 | 60 | 74 | 42 | 30 | 4 | 4 | 78 | 78 | 16890 | 1.6 | 4.08 | 1.6 | 4.08 | 78 | 486 | 363 | 1.02 | 0.54 | 0.90 | 0.95 | 8.00 | 870 | 0.56 | No | 0.68 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 526 | 0.87 | N/A |
| L8 | S12-1 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 18317 | 1.7 | 4.40 | 1.7 | 4.40 | 78 | 481 | 363 | 1.17 | 0.54 | 0.90 | 0.95 | 8.00 | 870 | 0.56 | No | 0.68 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.87 | N/A |
| L8 | S12-2 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 20208 | 1.9 | 4.86 | 1.9 | 4.86 | 78 | 511 | 363 | 1.26 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.59 | No | 0.71 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.97 | N/A |
| L8 | S12-3 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 15230 | 1.4 | 3.65 | 1.4 | 3.65 | 78 | 415 | 363 | 0.84 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.48 | No | 0.57 | S1 | 0.93 | 12 | 0.93 | 8 | 516 | 527 | 0.79 | N/A |
| L8 | S12-4 | 6 | 60 | 68 | 42 | 30 | 4 | 4 | 78 | 78 | 9587 | 0.9 | 2.29 | 0.9 | 2.29 | 78 | 244 | 363 | 0.11 | 0.54 | 0.90 | 0.87 | 8.00 | 870 | 0.28 | No | 0.3 | | | | | | | | | |

Hall of Justice
Shear Wall Spandrel Beam Design

a = d-sqrt(d^2-2Mu/(85*fc*9*b))
Vs = Mu/(9fy(d-a/2))
Ah min = 0.0025b
Av min = 0.0015b
Vu max = phi(2/3)(10*L/d)sqrt(fc)/bd for L/d from 2-5
phi = 0.60
Scaling response spectrum to 80% of static base shear
Load combo = (8E + 1.6H)
E = max(DX+TORX, DY+TORX)
DX, Y = ETABS load combo for response spectrum scaled to 100% of static base shear
TORX, Y = ETABS load case for 5% accidental torsion

Deep beam shear
Vs = [Av/s(1+L/d)]2+Avhs2(11-L/d)/12fyd
Vh = Vc + Vc

Table with columns: Story, Spandrel, Properties, Flex, Steel, Top, Bot, Shear Design, AV, AV min, Ah min, L/d, Factor, Vu max, Vu, Vv, Vv-u, Vv-u, Deep Beam Shear, Check, s, AVh, s2, Vs, phi Vn, Vu max, phi Vh, Vu max, Diag Ste Vu, Vu max, Vu max, Ad. Rows include SP-1 to SP-7 and SA-1 to SA-8.



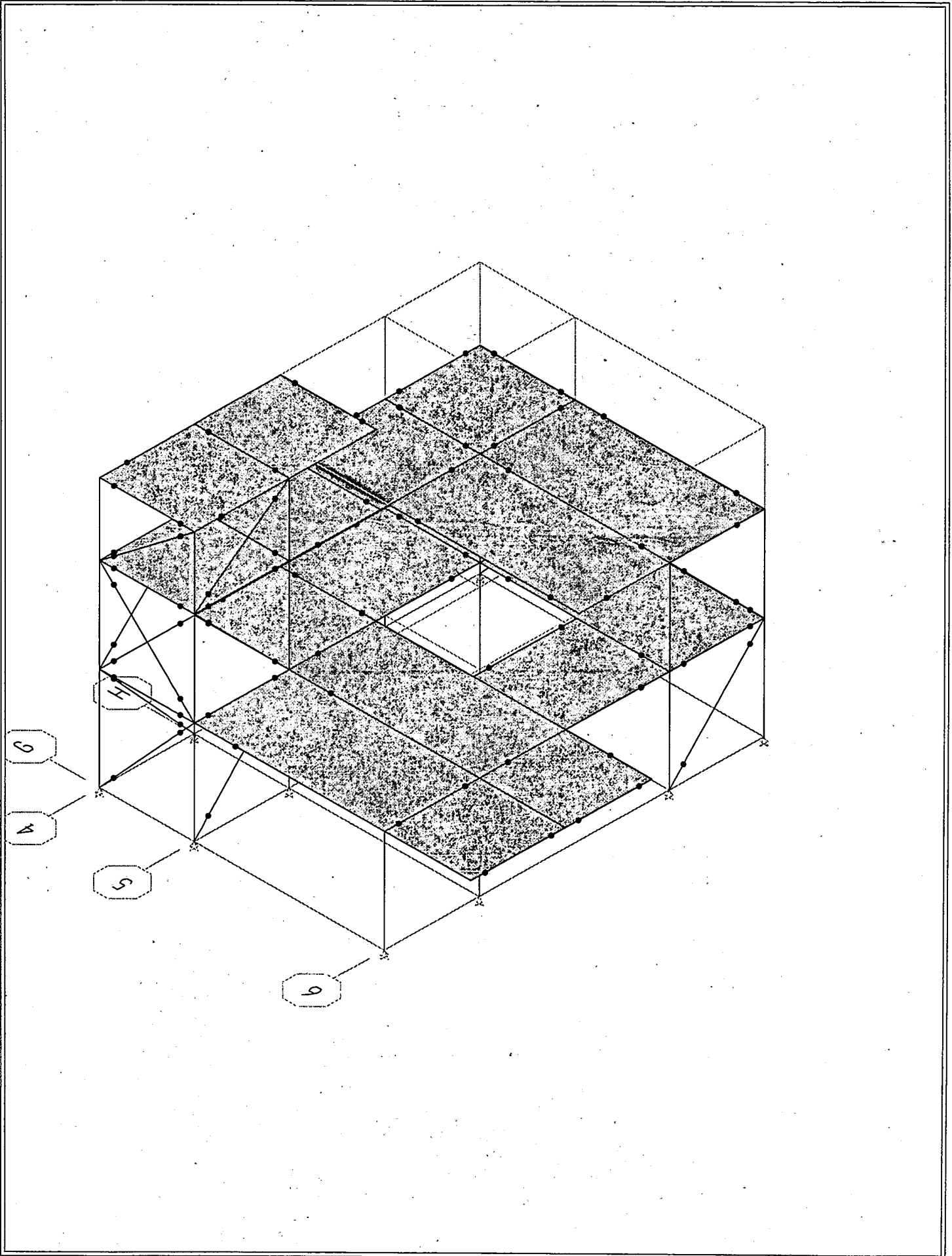
J: Elevator Machine Room Lateral Analysis ETABS Files

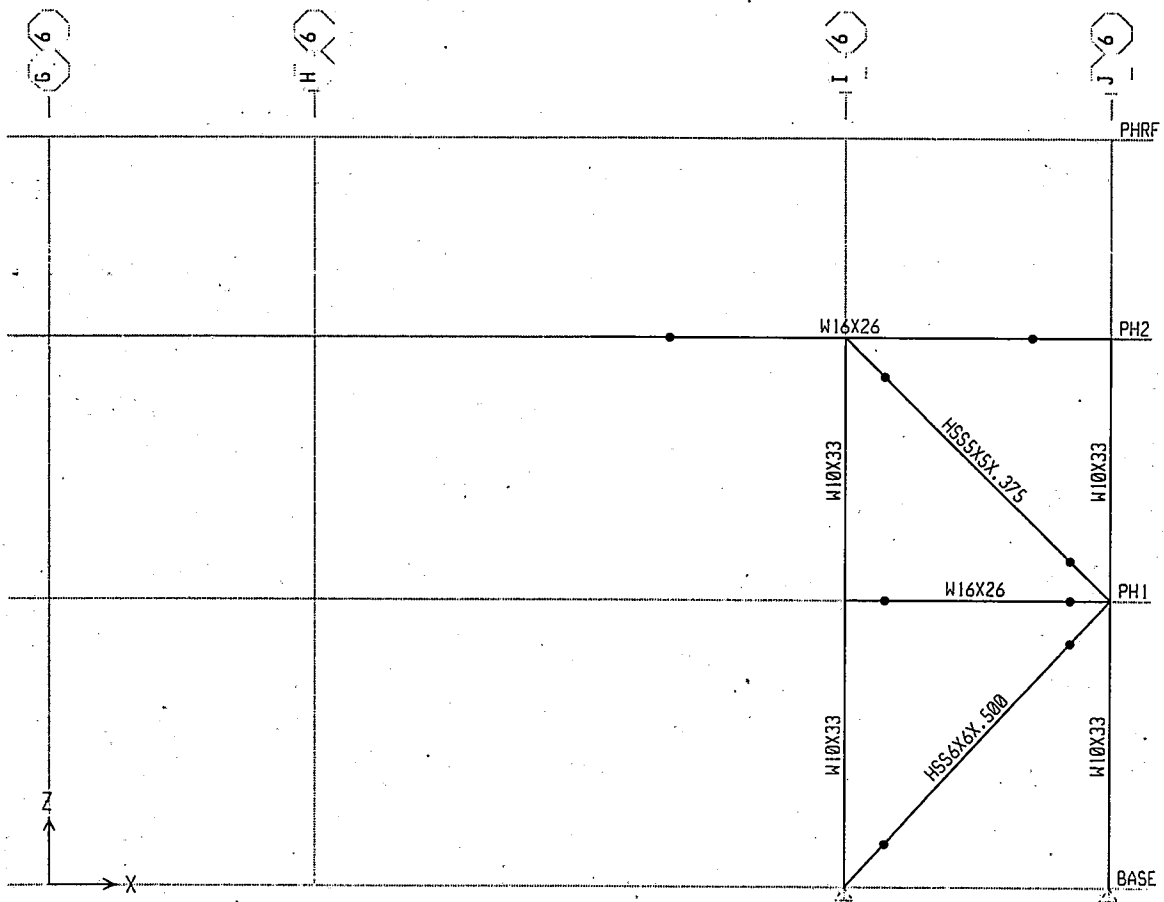
J.1: Plots

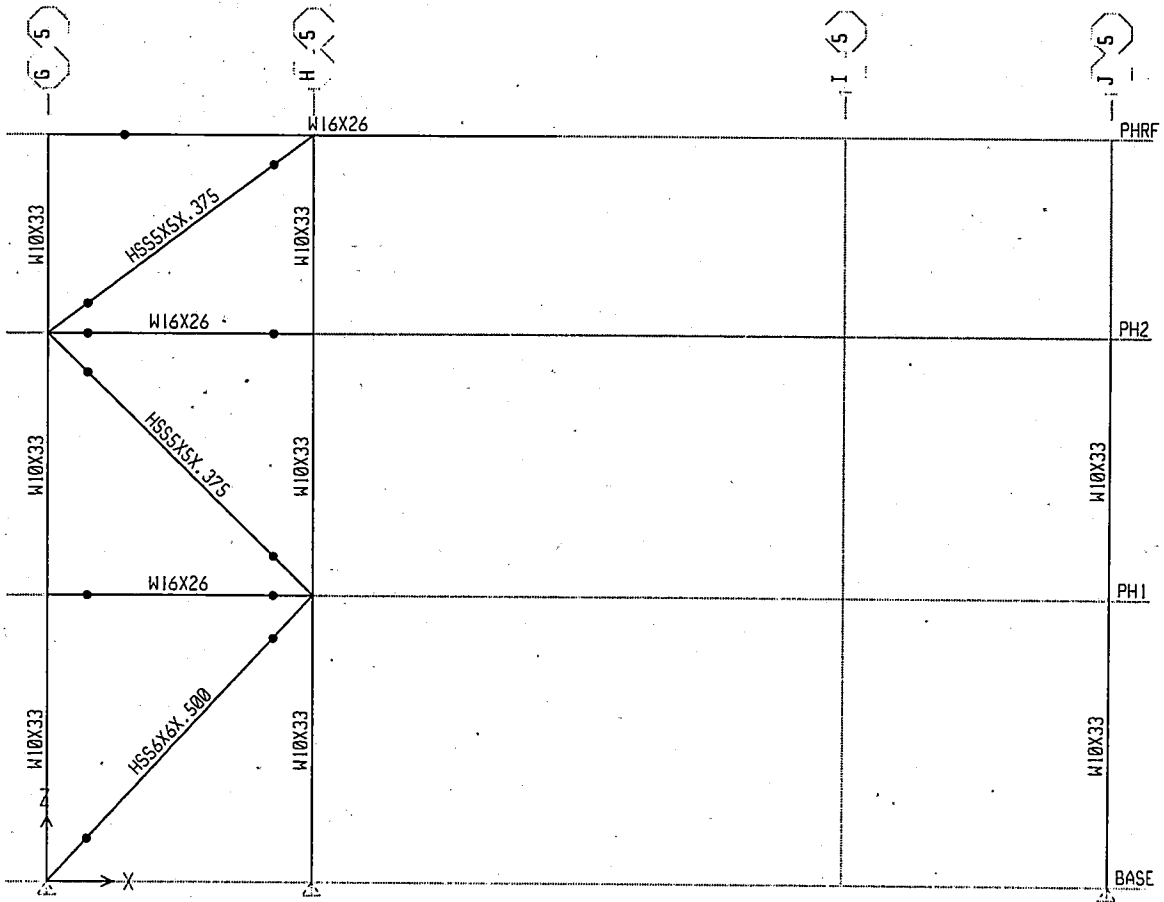
Hall of Justice
Fp Forces

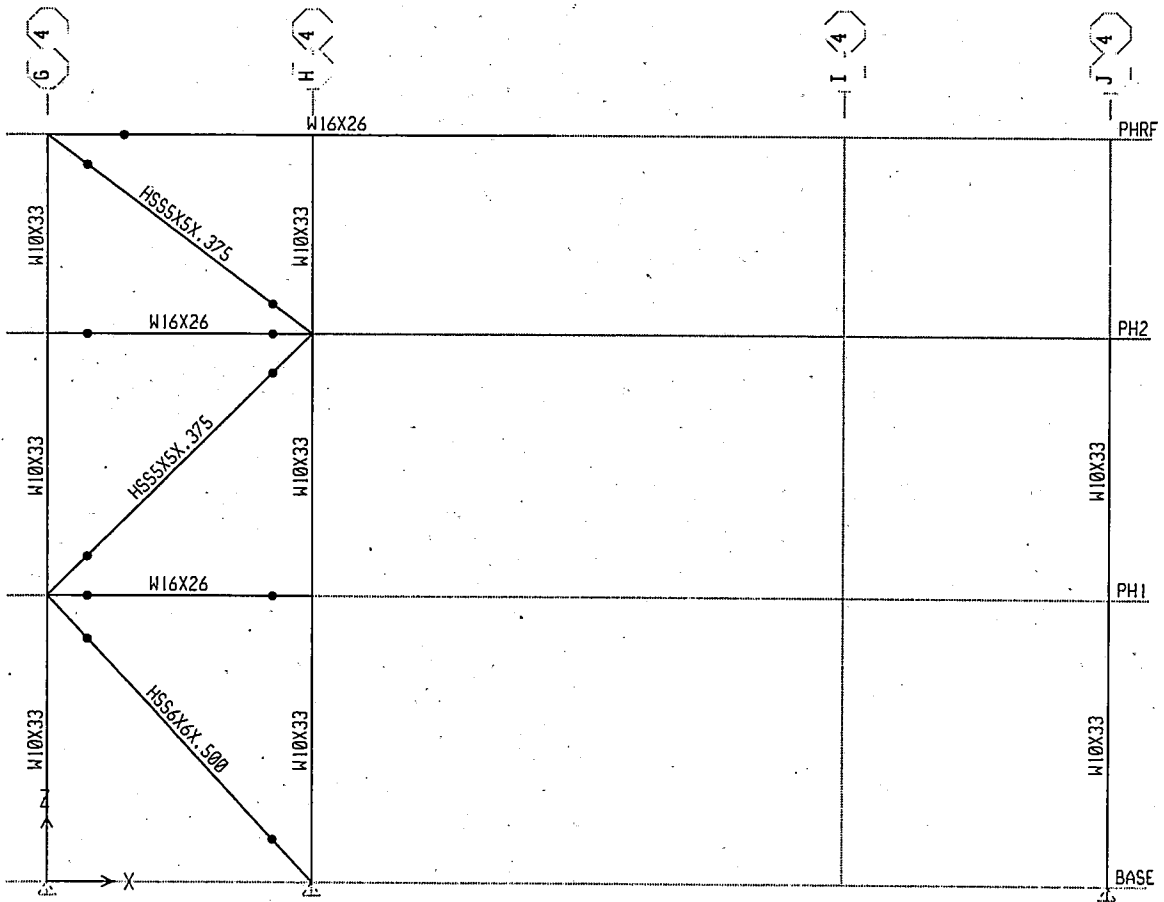
$$Fp/Wp = apCaIp/Rp*(1+3hx/hr)$$

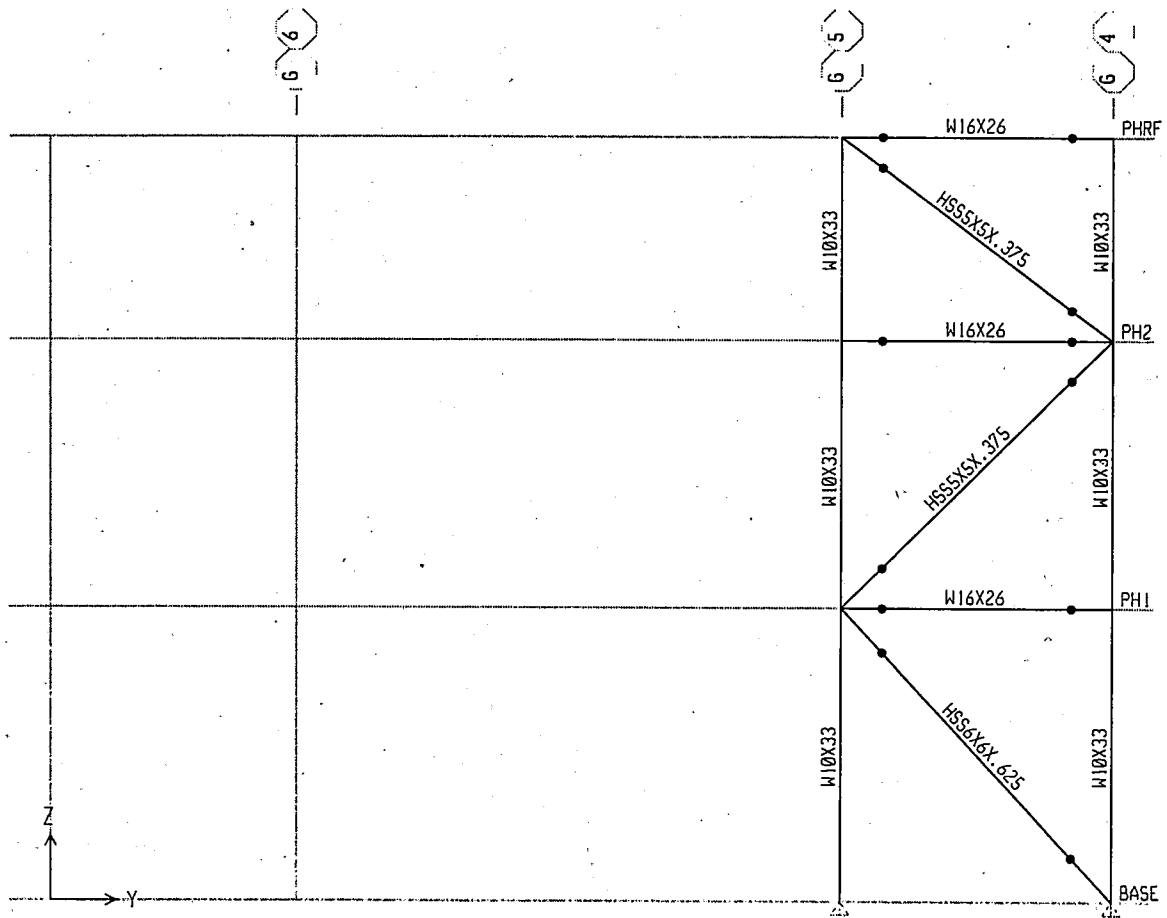
| ap | Ca | Ip | Rp | apCaIp/Rp | hx {ft} | hr {ft} | Fp/Wp trial | Fp/Wp min | Fp/Wp max | Fp/Wp final |
|-----------|-----|----|----|-----------|------------|------------|----------------|--------------|--------------|----------------|
| Penthouse | | | | | | | | | | |
| 2.5 | 0.4 | 1 | 4 | 0.25 | 175 | 175 | 1.00 | 0.28 | 1.60 | 1.00 |

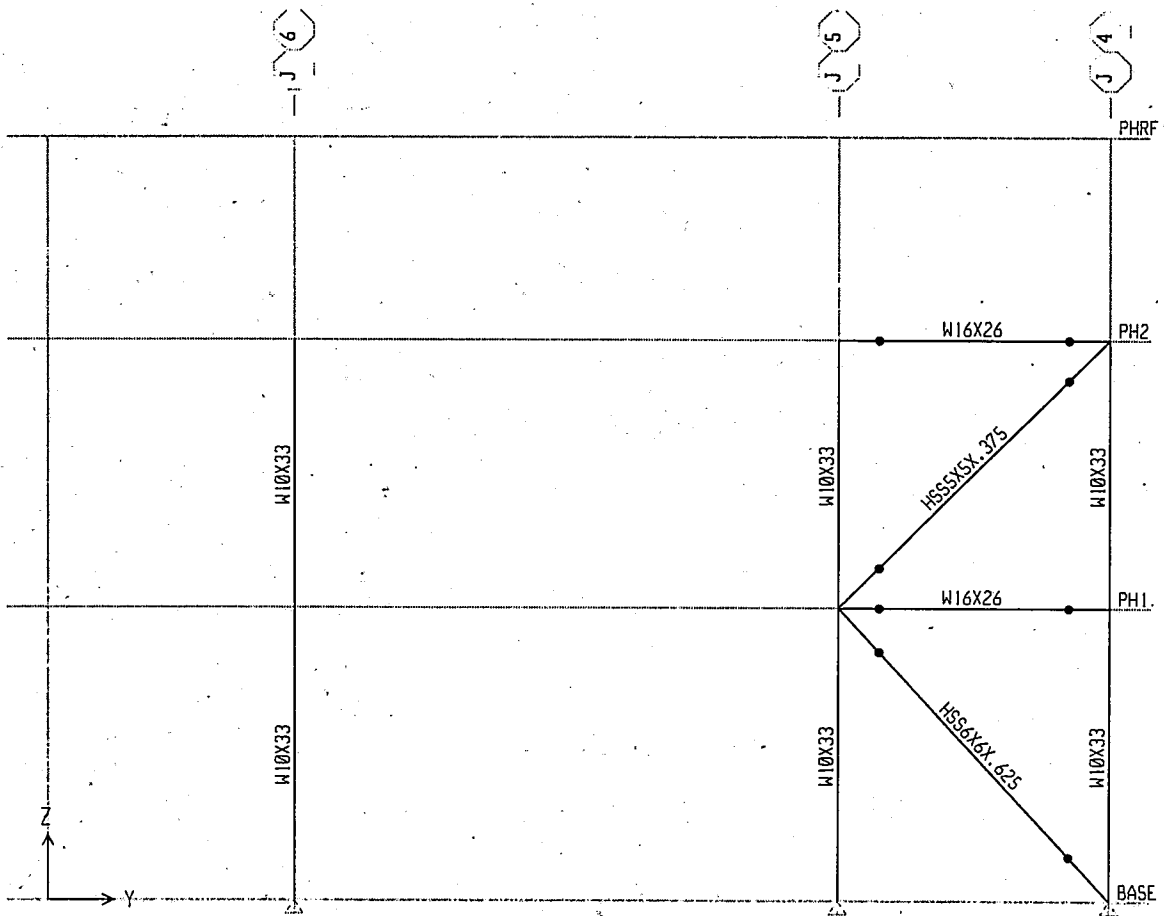


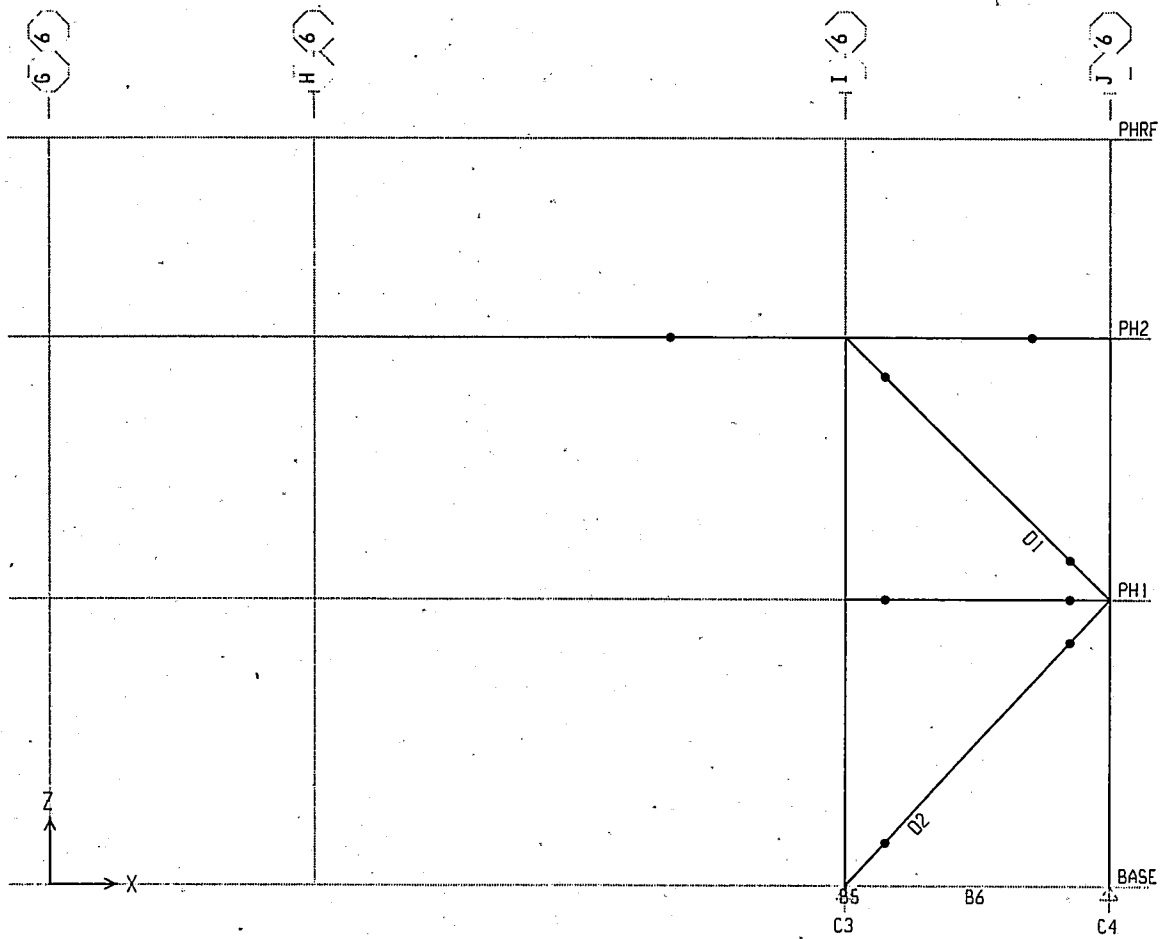




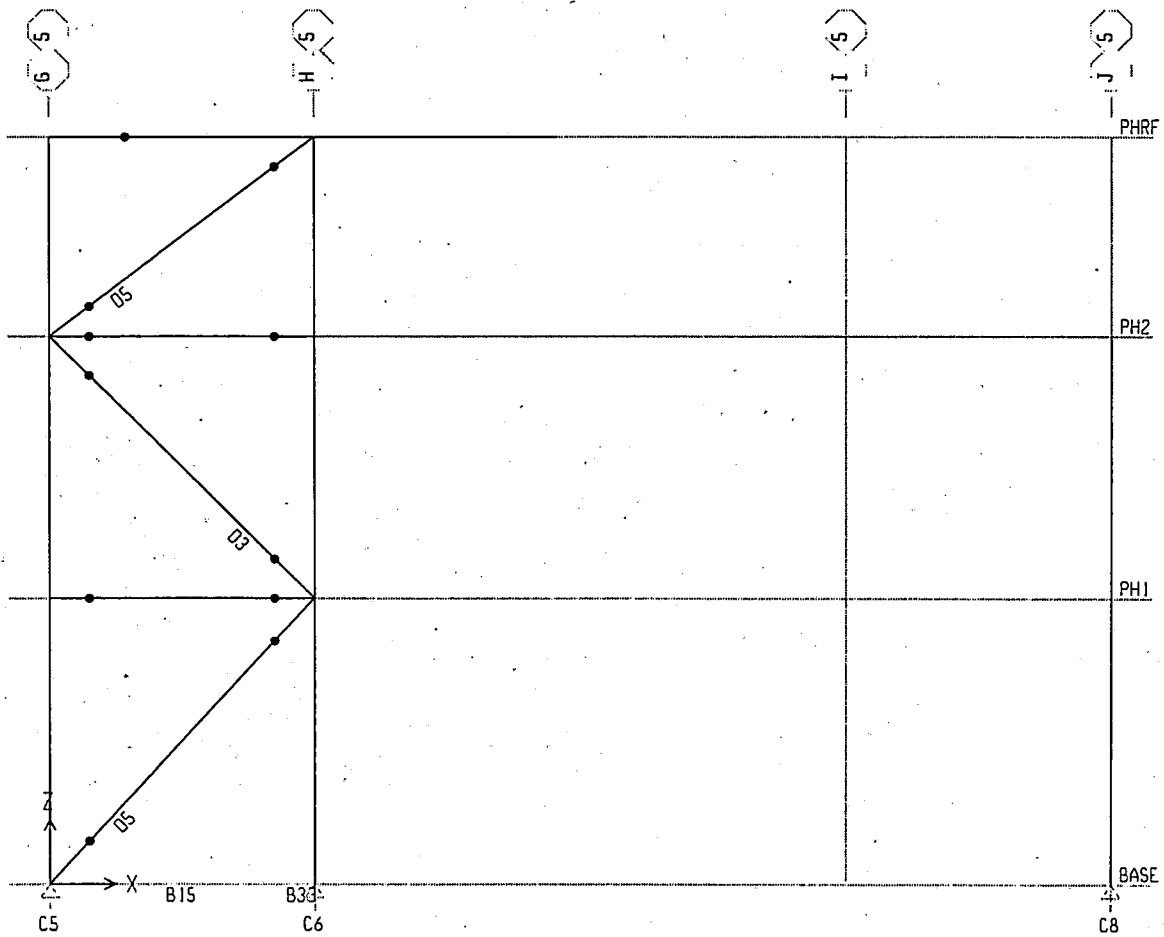


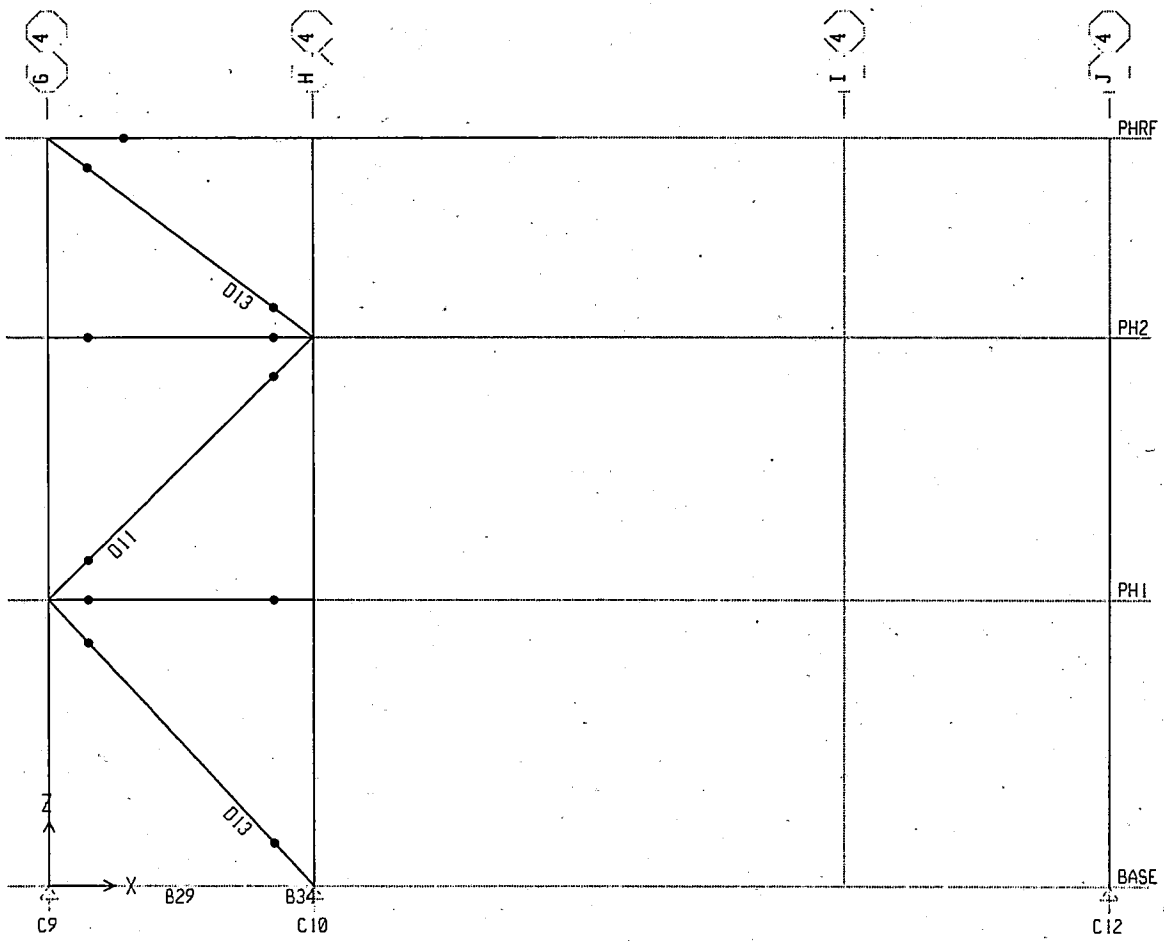


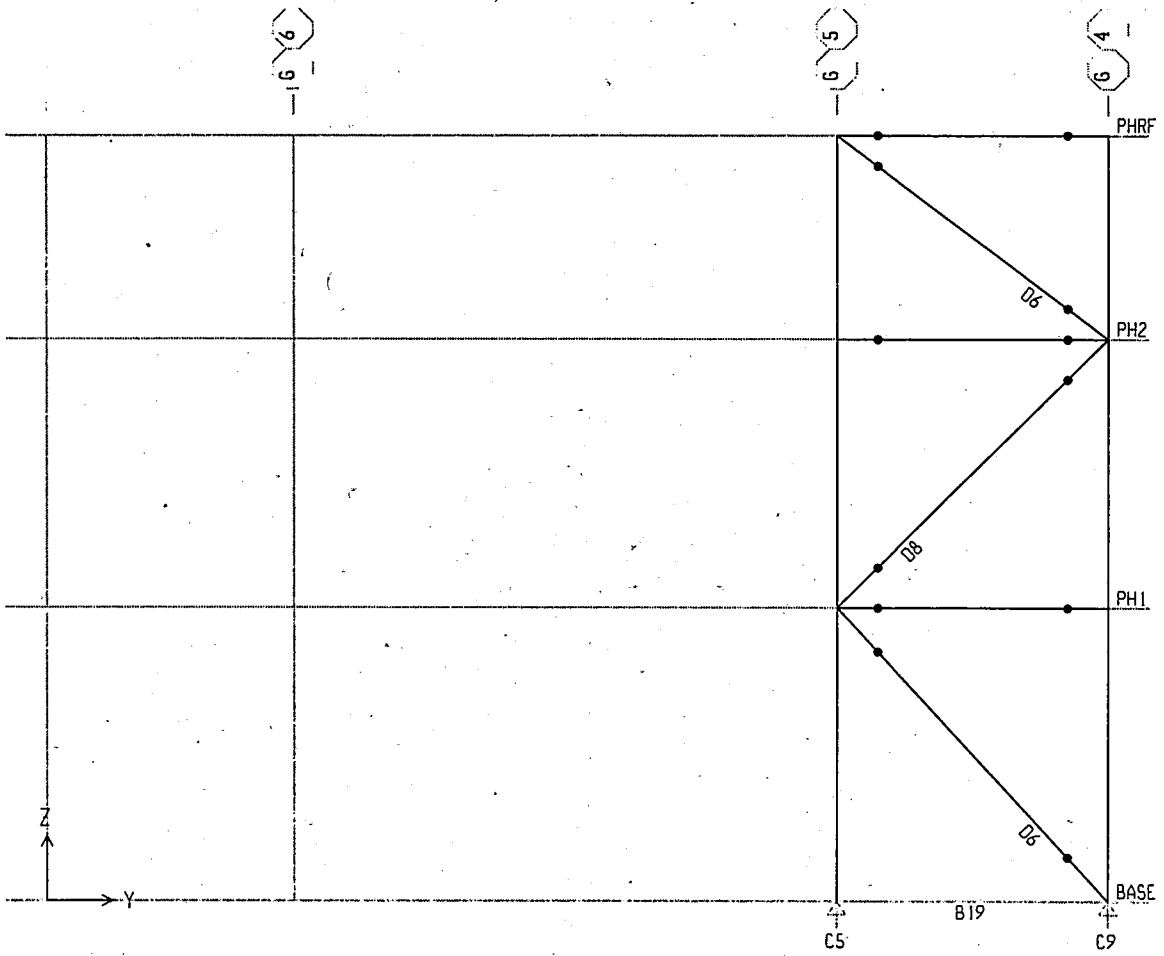


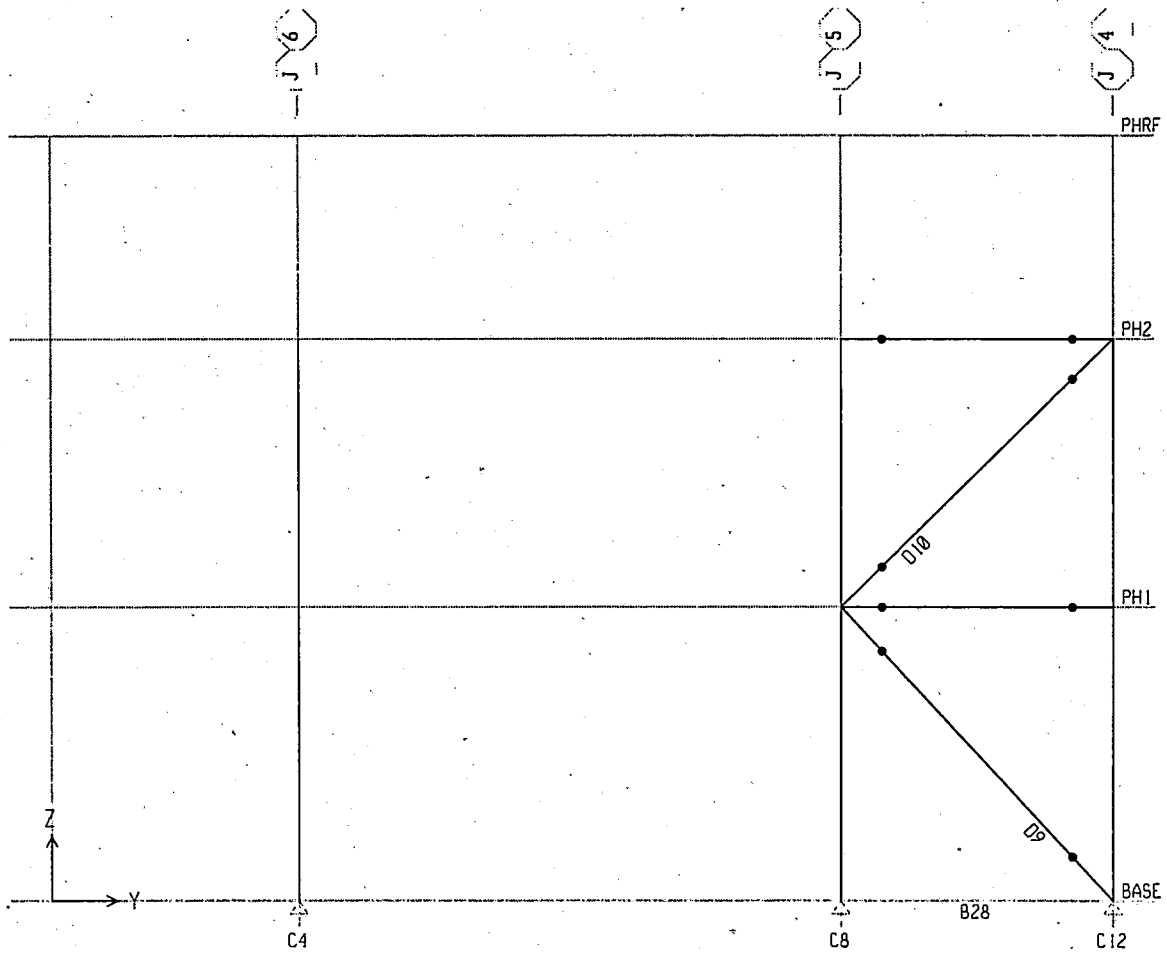


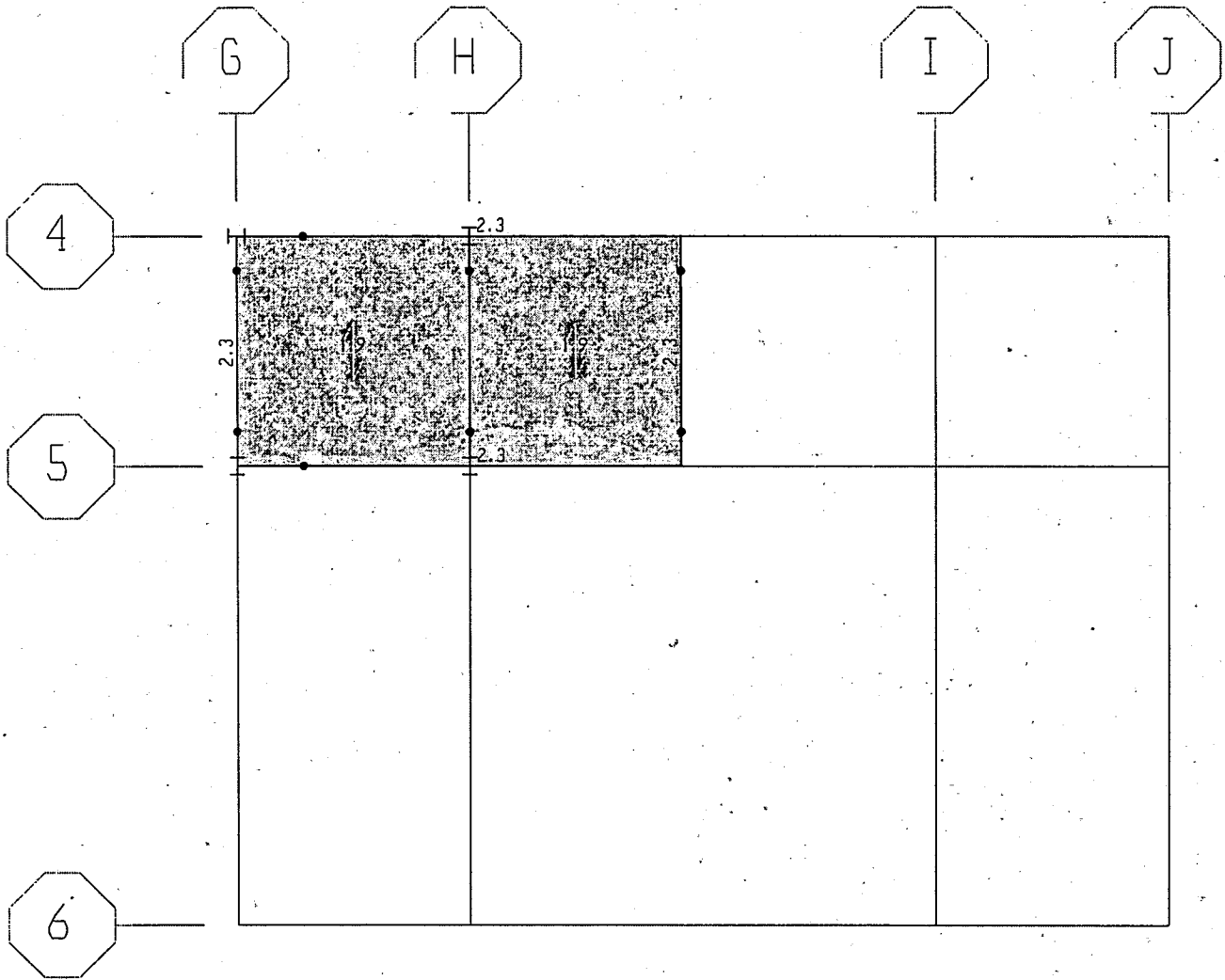
Line Labels



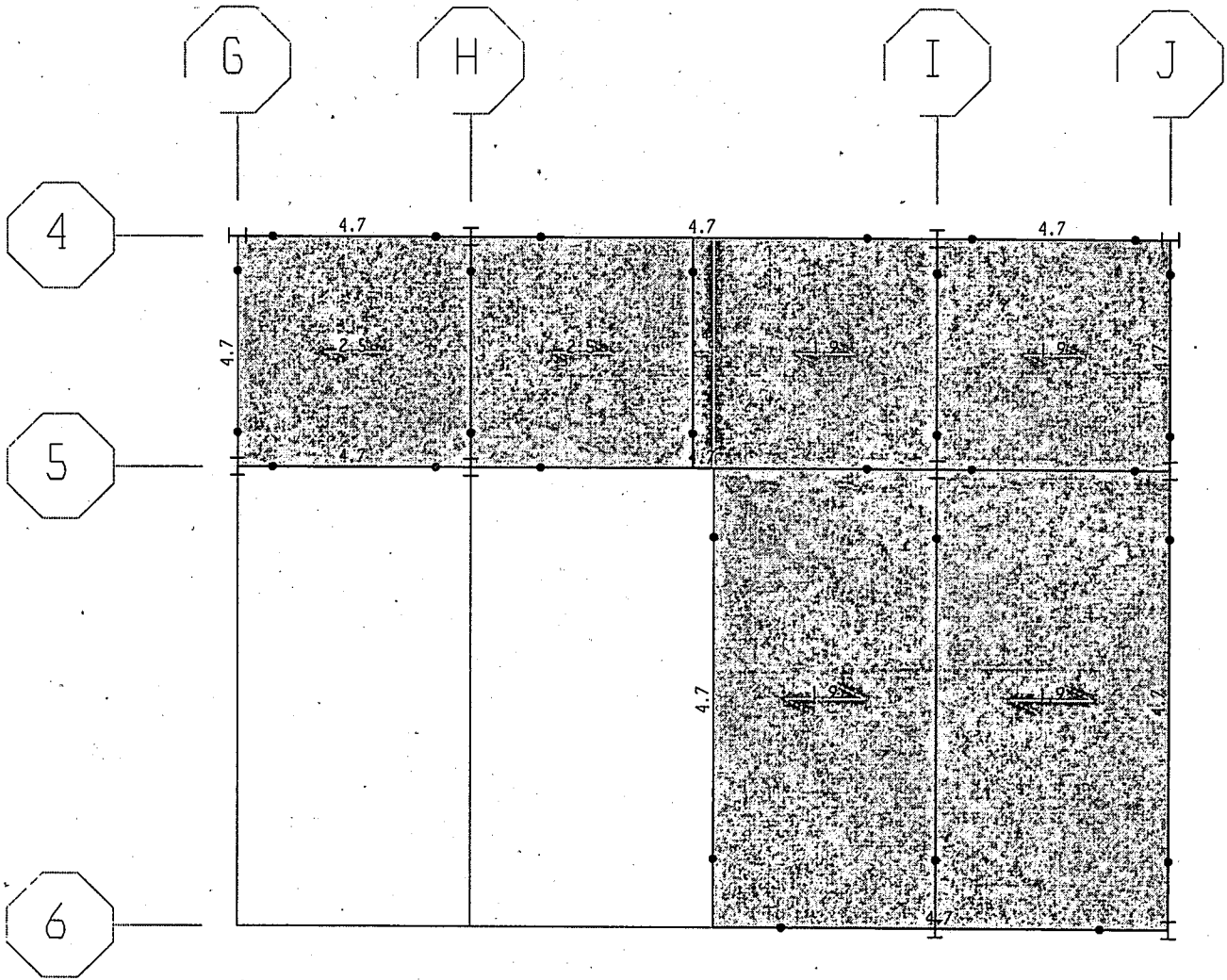


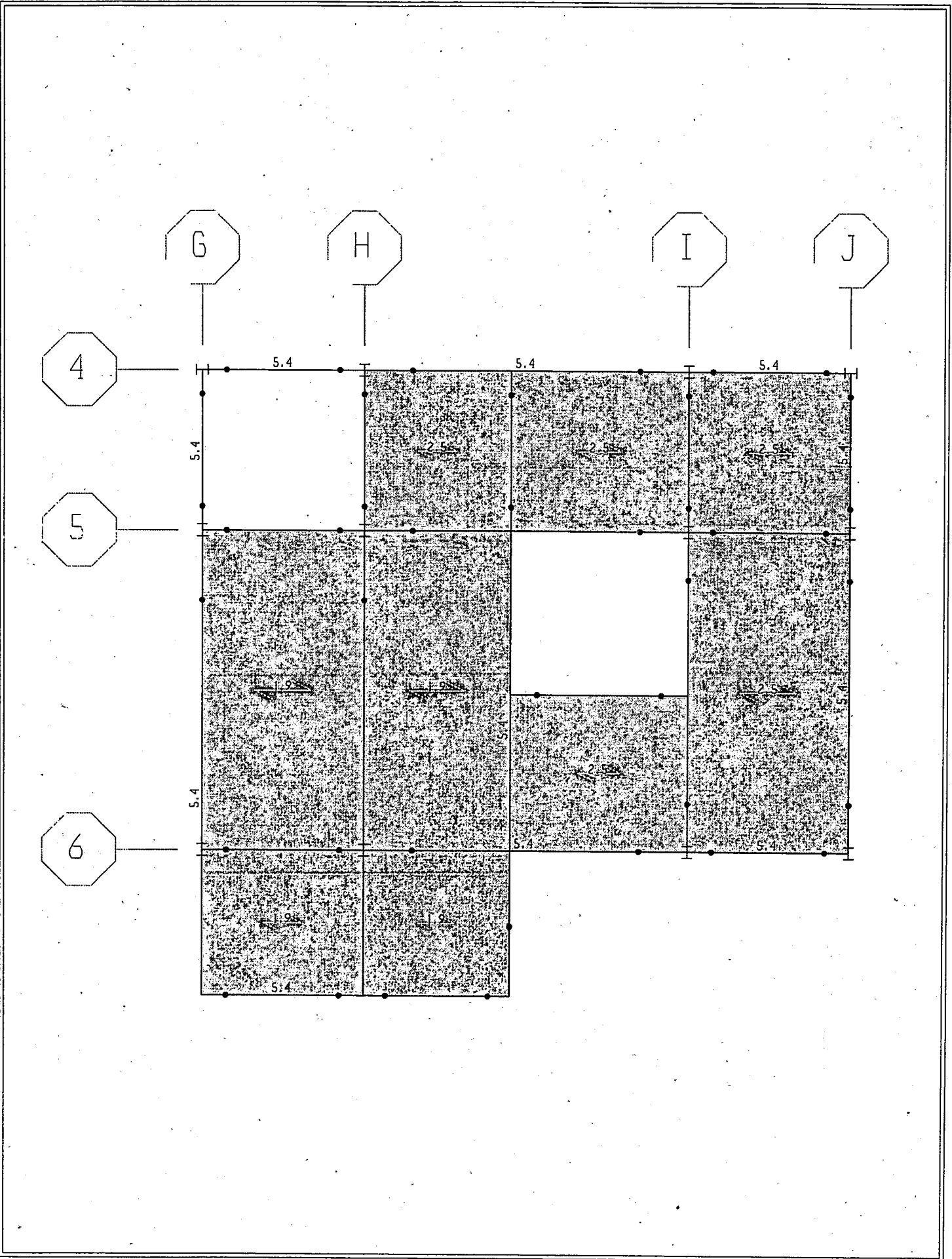


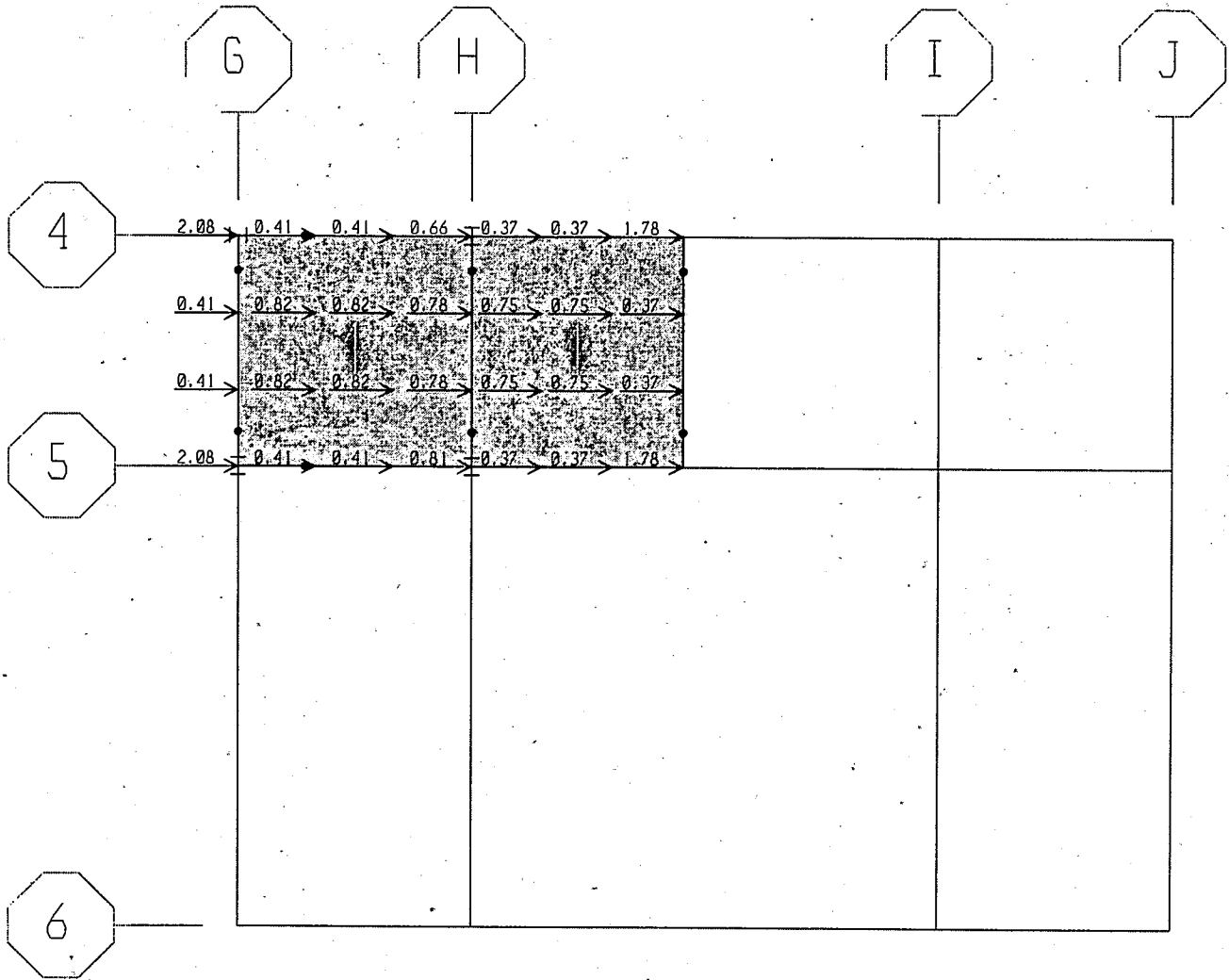




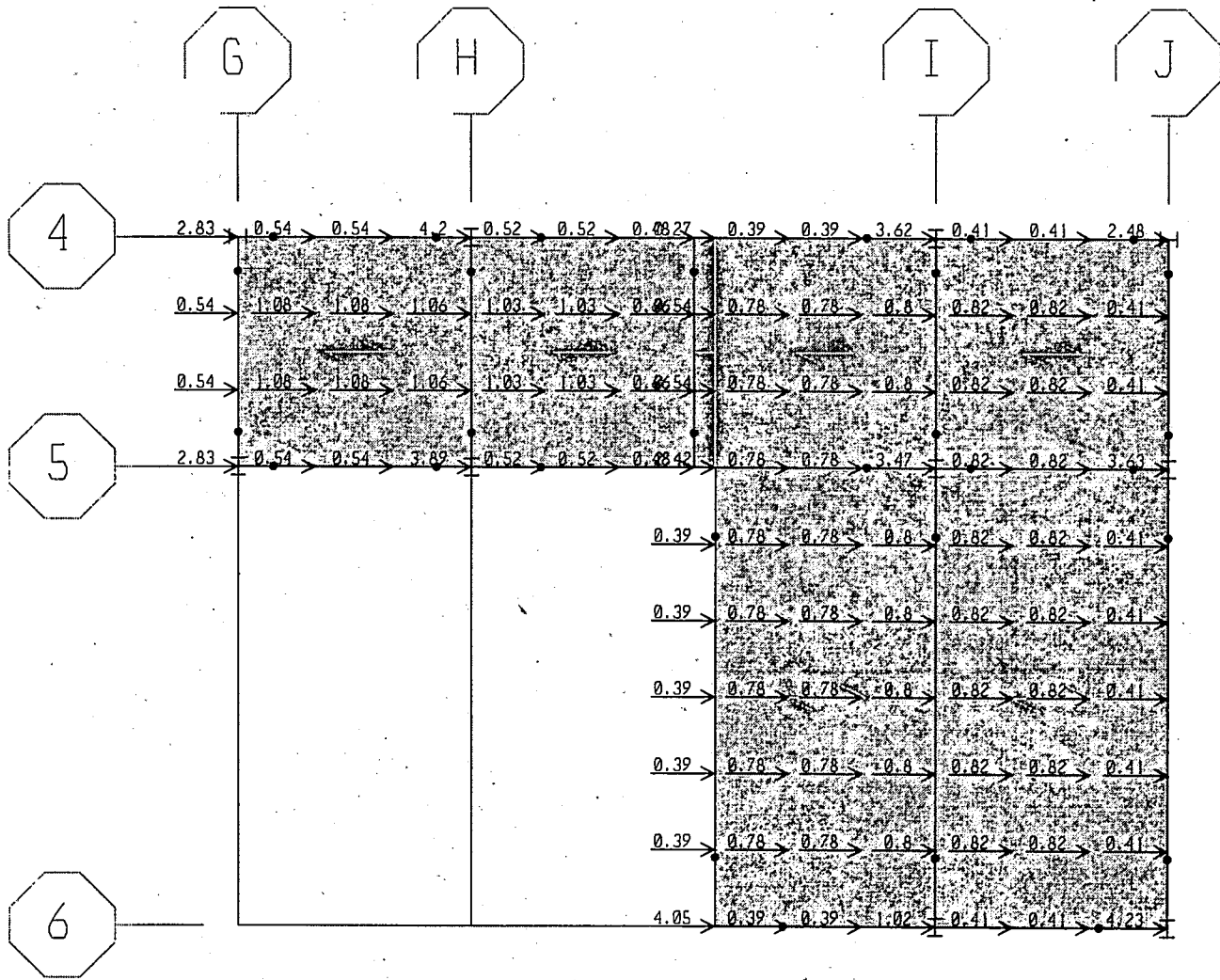
Mass

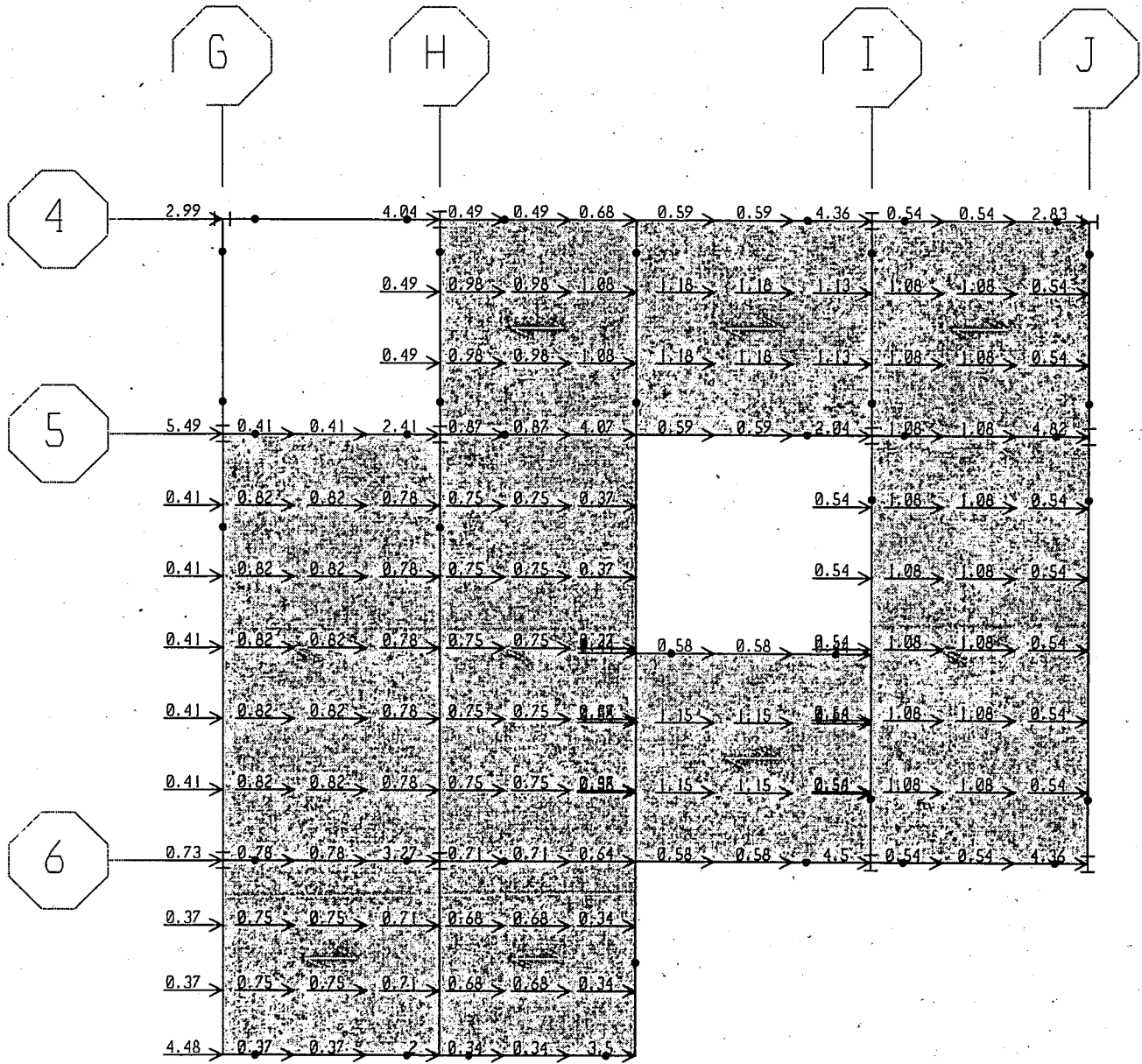


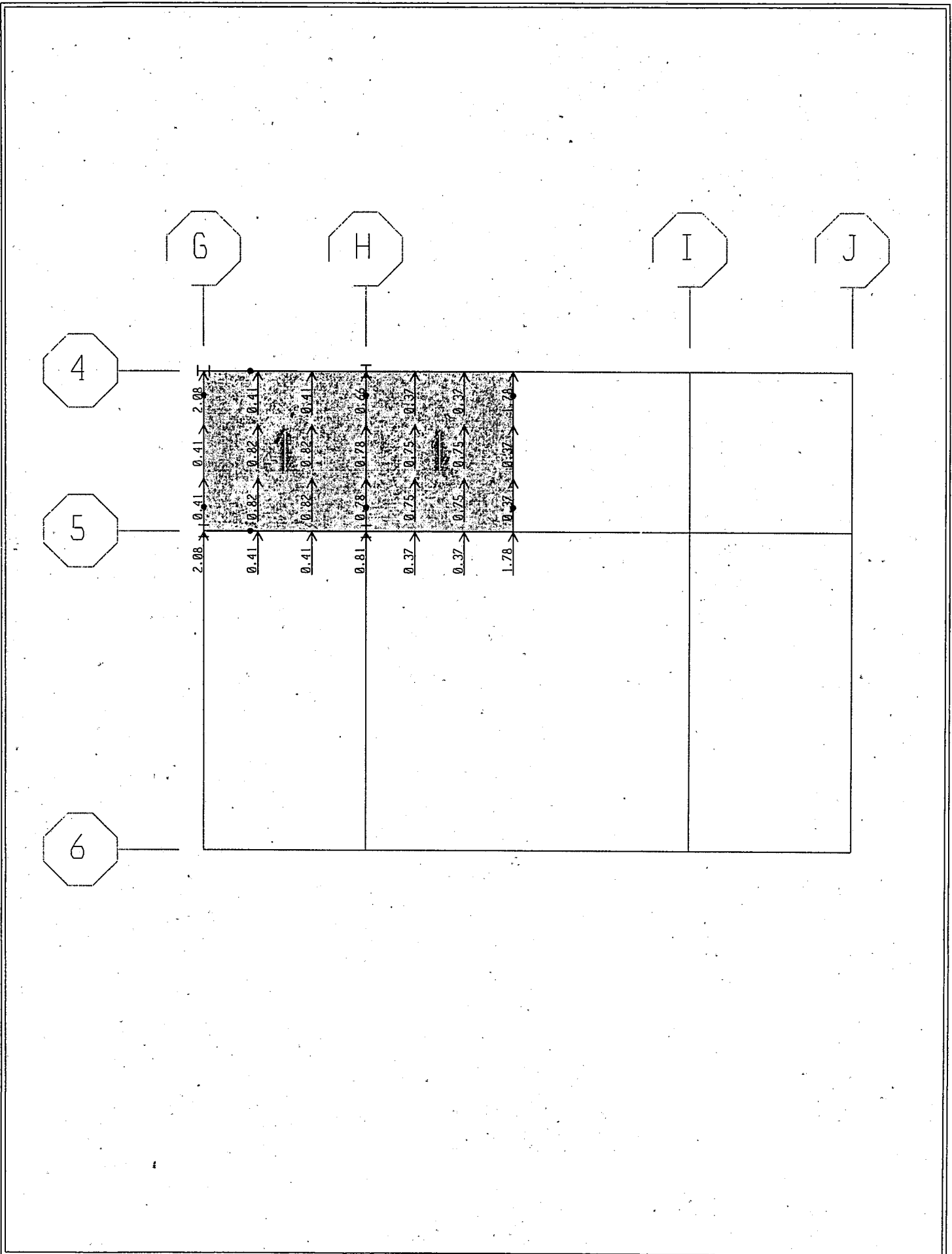


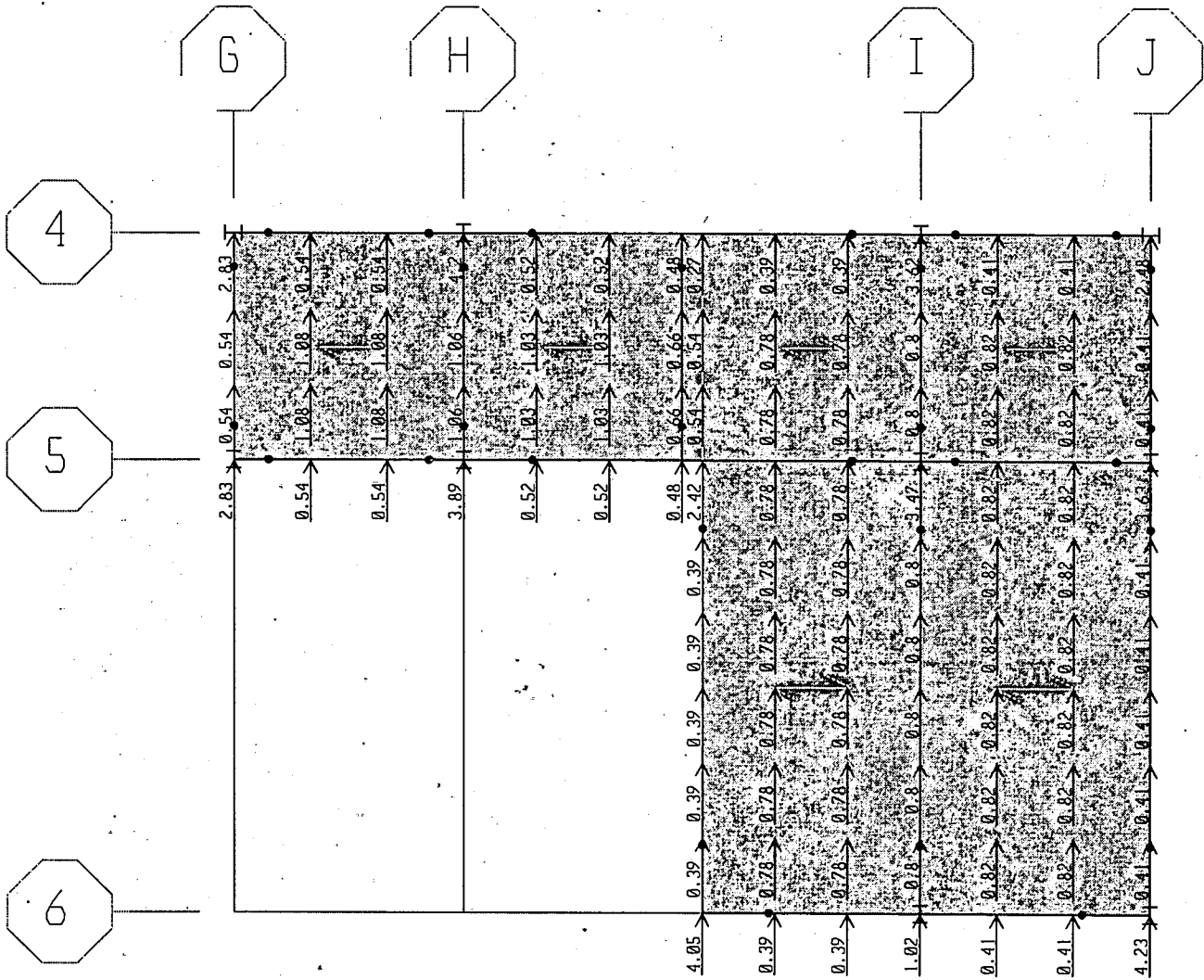


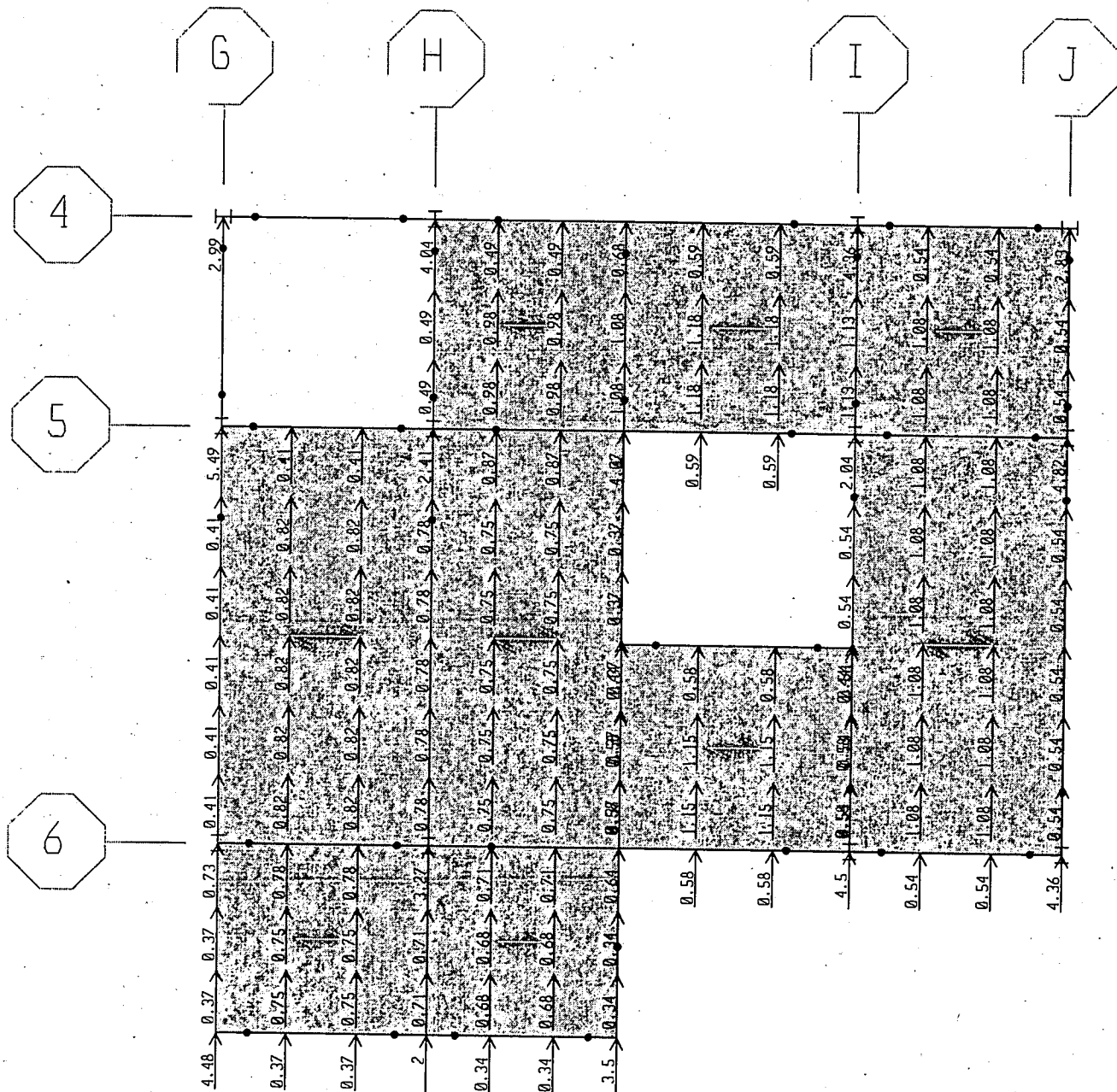
Fp load













J.2: Input File

STORY DATA

| STORY | SIMILAR TO | HEIGHT | ELEVATION |
|-------|------------|---------|-----------|
| PERF | None | 100.000 | 376.000 |
| PE2 | None | 132.000 | 276.000 |
| PE1 | None | 144.000 | 144.000 |
| BASE | None | | 0.000 |

COORDINATE SYSTEM LOCATION DATA

| NAME | TYPE | X | Y | ROTATION | BUBBLESIZE | VISIBLE |
|--------|-----------|-------|-------|----------|------------|---------|
| GLOBAL | Cartesian | 0.000 | 0.000 | 0.00000 | 60.000 | Yes |

COORDINATE SYSTEM GRID DATA

| SYSTEM NAME | GRID DIR | GRID ID | GRID TYPE | GRID SIZE | BUBBLE LOC | GRID COORDINATE |
|-------------|----------|---------|------------|-----------|------------|-----------------|
| GLOBAL | X | 0 | Primary No | | Top | 1087.000 |
| GLOBAL | X | H | Primary No | | Top | 1219.000 |
| GLOBAL | X | I | Primary No | | Top | 1483.000 |
| GLOBAL | X | J | Primary No | | Top | 1615.000 |
| GLOBAL | Y | 6 | Primary No | | Left | 1219.000 |
| GLOBAL | Y | 5 | Primary No | | Left | 1483.000 |
| GLOBAL | Y | 4 | Primary No | | Left | 1615.000 |

POINT COORDINATES

| POINT | X | Y | DE-BELOW |
|-------|----------|----------|----------|
| 1 | 1087.000 | 1099.000 | 0.000 |
| 2 | 1219.000 | 1099.000 | 0.000 |
| 3 | 1339.000 | 1099.000 | 0.000 |
| 4 | 1087.000 | 1219.000 | 0.000 |
| 5 | 1219.000 | 1219.000 | 0.000 |
| 6 | 1339.000 | 1219.000 | 0.000 |
| 7 | 1087.000 | 1339.000 | 0.000 |
| 8 | 1483.000 | 1219.000 | 0.000 |
| 9 | 1615.000 | 1219.000 | 0.000 |
| 10 | 1339.000 | 1348.000 | 0.000 |
| 11 | 1483.000 | 1348.000 | 0.000 |
| 12 | 1087.000 | 1483.000 | 0.000 |
| 13 | 1219.000 | 1483.000 | 0.000 |
| 14 | 1339.000 | 1483.000 | 0.000 |
| 15 | 1345.000 | 1483.000 | 0.000 |
| 16 | 1357.000 | 1483.000 | 0.000 |
| 17 | 1483.000 | 1483.000 | 0.000 |
| 18 | 1615.000 | 1483.000 | 0.000 |
| 19 | 1087.000 | 1615.000 | 0.000 |
| 20 | 1219.000 | 1615.000 | 0.000 |
| 21 | 1339.000 | 1615.000 | 0.000 |
| 22 | 1345.000 | 1615.000 | 0.000 |
| 23 | 1357.000 | 1615.000 | 0.000 |
| 24 | 1483.000 | 1615.000 | 0.000 |
| 25 | 1615.000 | 1615.000 | 0.000 |

COLUMN CONNECTIVITY DATA

| COLUMN | I END PT | J END PT | I END STORY |
|--------|----------|----------|-------------|
| C1 | 4 | 4 | Below |
| C2 | 5 | 5 | Below |
| C3 | 8 | 8 | Below |
| C4 | 9 | 9 | Below |
| C5 | 12 | 12 | Below |
| C6 | 13 | 13 | Below |
| C7 | 17 | 17 | Below |
| C8 | 18 | 18 | Below |
| C9 | 19 | 19 | Below |
| C10 | 20 | 20 | Below |
| C11 | 24 | 24 | Below |
| C12 | 25 | 25 | Below |

BRACM CONNECTIVITY DATA

| BRACM | I END PT | J END PT |
|-------|----------|----------|
| B1 | 1 | 2 |
| B2 | 2 | 3 |
| B3 | 4 | 5 |
| B4 | 5 | 6 |
| B5 | 7 | 8 |
| B6 | 8 | 9 |
| B7 | 1 | 12 |
| B8 | 2 | 13 |
| B9 | 14 | 3 |
| B10 | 10 | 11 |
| B11 | 7 | 16 |
| B12 | 17 | 8 |
| B13 | 8 | 17 |
| B14 | 9 | 18 |
| B15 | 12 | 13 |
| B17 | 13 | 17 |
| B18 | 17 | 18 |
| B19 | 12 | 19 |
| B21 | 13 | 20 |
| B22 | 14 | 21 |
| B25 | 15 | 22 |
| B26 | 16 | 23 |
| B27 | 17 | 24 |
| B28 | 18 | 25 |
| B29 | 19 | 26 |
| B31 | 20 | 24 |
| B32 | 24 | 25 |
| B33 | 13 | 14 |
| B34 | 19 | 22 |

BRACE CONNECTIVITY DATA

| BRACE | I END PT | J END PT | I END STORY |
|-------|----------|----------|-------------|
| D1 | 9 | 8 | Below |
| D2 | 8 | 9 | Below |
| D3 | 12 | 12 | Below |
| D5 | 12 | 13 | Below |
| D6 | 19 | 12 | Below |
| D8 | 12 | 19 | Below |
| D9 | 25 | 18 | Below |
| D10 | 18 | 25 | Below |
| D11 | 19 | 20 | Below |
| D13 | 20 | 19 | Below |

FLOOR CONNECTIVITY DATA

| FLOOR | POINT | POINT | POINT | POINT |
|-------|-------|-------|-------|-------|
| F1 | 1 | 2 | 5 | 4 |
| F2 | 2 | 3 | 6 | 5 |
| F3 | 4 | 5 | 11 | 10 |
| F4 | 4 | 5 | 13 | 12 |
| F5 | 14 | 13 | 5 | 6 |
| F6 | 7 | 8 | 17 | 16 |
| F7 | 8 | 9 | 18 | 17 |
| F8 | 12 | 13 | 20 | 19 |
| F10 | 14 | 21 | 20 | 13 |
| F13 | 13 | 15 | 22 | 20 |
| F13 | 15 | 16 | 23 | 22 |
| F14 | 14 | 17 | 24 | 21 |
| F15 | 16 | 17 | 24 | 23 |
| F16 | 17 | 18 | 25 | 24 |
| F17 | 13 | 14 | 21 | 20 |

MASS SOURCE DATA

| MASS FROM | LATERAL MASS ONLY | LUMP MASS AT STORIES |
|-----------|-------------------|----------------------|
| Masses | Yes | No |

ASSEMBLED POINT MASSES

Table with columns: STORY, POINT, UX, UY, UZ, RX, RY, RZ. It lists assembly point masses for various stories and points, including a 'Totals' row at the bottom right.

MATERIAL PROPERTY DATA

Table with columns: MATERIAL NAME, MATERIAL TYPE, DESIGN TYPE, MATERIAL DIR/PLANE, MODULUS OF ELASTICITY, POISSON'S RATIO, THERMAL COEFF, SHEAR MODULUS. Rows include STEEL, CONC, HSSSTEEL, and SLAB.

MATERIAL PROPERTY MASS AND WEIGHT

Table with columns: MATERIAL NAME, MASS PER UNIT VOL, WEIGHT PER UNIT VOL. Rows include STEEL, CONC, HSSSTEEL, and SLAB.

MATERIAL DESIGN DATA FOR STEEL MATERIALS

Table with columns: MATERIAL NAME, STEEL FY, STEEL FU, STEEL COST (\$). Rows include STEEL and HSSSTEEL.

MATERIAL DESIGN DATA FOR CONCRETE MATERIALS

Table with columns: MATERIAL NAME, LIGHTWEIGHT CONCRETE, CONCRETE FC, REBAR FY, REBAR FYS, LIGHTWT REDUC FACT. Rows include CONC and SLAB.

FRAME SECTION PROPERTY DATA

Table with columns: FRAME SECTION NAME, MATERIAL NAME, SECTION SHAPE NAME OR NAME IN SECTION DATABASE FILE, CONC COL, CONC BEAM. Lists various frame sections like HSS4X4.250, W10X12, etc.

FRAME SECTION PROPERTY DATA

Table with columns: FRAME SECTION NAME, SECTION DEPTH, FLANGE WIDTH TOP, FLANGE THICK TOP, WEB THICK, FLANGE WIDTH BOT, FLANGE THICK BOT. Lists various frame sections.

FRAME SECTION PROPERTY DATA

Table with columns: FRAME SECTION NAME, SECTION AREA, TORSIONAL CONSTANT, MOMENTS OF INERTIA I11, I22, A2, A3, SHEAR AREAS. Lists various frame sections.

FRAME SECTION PROPERTY DATA

Table with columns: FRAME SECTION NAME, SECTION MODULI S11, S22, PLASTIC MODULI Z11, Z22, RADIUS OF GYRATION R11, R22. Lists various frame sections.

FRAME SECTION WEIGHTS AND MASSES

Table with columns: FRAME SECTION NAME, TOTAL WEIGHT, TOTAL MASS. Lists various frame sections.

SHELL SECTION PROPERTY DATA

Table with columns: SHELL SECTION NAME, MATERIAL NAME, SHELL TYPE, LOAD DIST ONE WAY, MEMBRANE TRICK, BONDING TRICK, TOTAL WEIGHT, TOTAL MASS. Rows include SLAB and DECK.

DECK SECTION PROPERTY DATA

Table with columns: DECK SECTION NAME, DECK TYPE, SLAB MATERIAL, DECK MATERIAL, DECK SHEAR TRICK, DECK UNIT WT. Rows include DECK Filled.

DECK SECTION SHEAR STUD DATA

Table with columns: DECK SECTION NAME, STUD DIAM, STUD HEIGHT, STUD FU. Row includes DECK.

DECK SECTION GEOMETRY DATA

Table with columns: DECK SECTION NAME, SLAB DEPTH, RIB DEPTH, RIB WIDTH, RIB SPACING. Row includes DECK.

STATIC LOAD CASES

Table with columns: STATIC CASE, CASE TYPE, AUTO LAT LOAD, SELF WT MULTIPLIER. Rows include DEAD, LIVE, FFXPEP, FFXPEL, FFXPEM, FFXPEI, FFXPEJ, FFXPEK, FFXPEL.

LOADING COMBINATIONS

Table with columns: COMBO, COMBO TYPE, CASE, CASE TYPE, SCALE FACTOR. Rows include FFX ADD, FFX ADD, ASD1 ABS, ASD2 ABS, FP ERVE, PU ABS.

SUPPORT (RESTRAINT) DATA

Table with columns: STORY, POINT, UX, UY, UZ, RX, RY, RZ. Rows list support conditions for stories 4 through 25.

FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY LEVEL, LINE ID, LINE TYPE, SECTION TYPE, AUTO SELECT SECTION, ANALYSIS SECTION, DESIGN PROCEDURE, DESIGN SECTION. Rows list assignments for columns (C1-C12) and beams (B1-B32).

FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY LEVEL, LINE ID, LINE TYPE, SECTION TYPE, AUTO SELECT SECTION, ANALYSIS SECTION, DESIGN PROCEDURE, DESIGN SECTION. Rows include assignments for beam types like HSS6X6X.425 Steel Frame and HSS6X6X.500 Steel Frame.

RELEASE ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY LEVEL, LINE ID, LINE TYPE, P, V2, V3, T, M2, M3. Rows show release assignments for various beam and column elements.

CARDINAL POINT ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY LEVEL, LINE ID, LINE TYPE, CARDINAL POINT, MIRROR ABOUT Z, TRANSFORM STIFFNESS. Rows list cardinal point assignments for columns (C1-C19) and beams (B19-B29).

CARDINAL POINT ASSIGNMENTS TO LINE OBJECTS

Table with columns: STORY LEVEL, LINE ID, LINE TYPE, CARDINAL POINT, MIRROR ABOUT Z, TRANSFORM STIFFNESS. Rows show cardinal point assignments for beams D6, D9, and D13.

END OFFSET (ALONG LENGTH) ASSIGNMENTS TO LINE OBJECTS

END OFFSET (ALONG LENGTH) ASSIGNMENTS TO LINE OBJECTS

| STORY LEVEL | LINE ID | LINE TYPE | OFFSET TYPE | I END OFFSET | J END OFFSET | RIGID CORE FACTOR |
|-------------|---------|-----------|-------------|--------------|--------------|-------------------|
| PERF | C5 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C6 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C9 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C10 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C3 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C4 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C5 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C6 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C7 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C8 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C9 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C10 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C11 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C12 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C1 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C2 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C3 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C4 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C5 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C6 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C7 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C8 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C9 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C10 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C11 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | C12 | Column | Automatic | 0.0000 | 15.7000 | 0.0000 |
| PERF | B19 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B21 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B23 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B33 | Beam | Automatic | 3.9800 | 0.0000 | 0.0000 |
| PERF | B34 | Beam | Automatic | 4.8650 | 0.0000 | 0.0000 |
| PERF | B5 | Beam | Automatic | 0.0000 | 3.9800 | 0.0000 |
| PERF | B11 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B13 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B14 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B15 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B17 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B18 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B19 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B21 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B23 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B27 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B28 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B29 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B31 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B32 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B1 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B2 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B3 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B4 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B6 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B7 | Beam | Automatic | 0.0000 | 4.8650 | 0.0000 |
| PERF | B8 | Beam | Automatic | 0.0000 | 4.8650 | 0.0000 |
| PERF | B9 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B10 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B12 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B14 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B15 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B17 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B18 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B19 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B21 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B23 | Beam | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | B26 | Beam | Automatic | 4.8650 | 4.8650 | 0.0000 |
| PERF | B28 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B29 | Beam | Automatic | 4.8650 | 3.9800 | 0.0000 |
| PERF | B31 | Beam | Automatic | 3.9800 | 3.9800 | 0.0000 |
| PERF | B32 | Beam | Automatic | 3.9800 | 4.8650 | 0.0000 |
| PERF | D5 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D6 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D13 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D1 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D3 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D8 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D10 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D11 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D2 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D5 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |

| STORY LEVEL | LINE ID | LINE TYPE | OFFSET TYPE | I END OFFSET | J END OFFSET | RIGID CORE FACTOR |
|-------------|---------|-----------|-------------|--------------|--------------|-------------------|
| PERF | F8 | Floor | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D6 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D8 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |
| PERF | D13 | Brace | Automatic | 0.0000 | 0.0000 | 0.0000 |

LINE MASS ASSIGNMENTS (LINE MASS IS A MASS PER UNIT LENGTH)

WALL, SLAB, DECK & OPENING ASSIGNMENTS TO AREA OBJECTS

| STORY | LINE | LINE TYPE | MASS |
|-------|------|-----------|------------|
| PERF | B19 | Beam | 1.5972E-05 |
| PERF | B21 | Beam | 1.5972E-05 |
| PERF | B33 | Beam | 1.5972E-05 |
| PERF | B34 | Beam | 1.5972E-05 |
| PERF | B5 | Beam | 3.2639E-05 |
| PERF | B11 | Beam | 3.2639E-05 |
| PERF | B14 | Beam | 3.2639E-05 |
| PERF | B15 | Beam | 3.2639E-05 |
| PERF | B17 | Beam | 3.2639E-05 |
| PERF | B19 | Beam | 3.2639E-05 |
| PERF | B21 | Beam | 3.2639E-05 |
| PERF | B23 | Beam | 3.2639E-05 |
| PERF | B1 | Beam | 3.7500E-05 |
| PERF | B4 | Beam | 3.7500E-05 |
| PERF | B6 | Beam | 3.7500E-05 |
| PERF | B7 | Beam | 3.7500E-05 |
| PERF | B9 | Beam | 3.7500E-05 |
| PERF | B14 | Beam | 3.7500E-05 |
| PERF | B19 | Beam | 3.7500E-05 |
| PERF | B28 | Beam | 3.7500E-05 |
| PERF | B29 | Beam | 3.7500E-05 |
| PERF | B31 | Beam | 3.7500E-05 |
| PERF | B32 | Beam | 3.7500E-05 |

| STORY LEVEL | AREA ID | AREA TYPE | SECTION TYPE | SECTION LABEL |
|-------------|---------|-----------|--------------|---------------|
| PERF | F8 | Floor | Deck | DECK |
| PERF | F17 | Floor | Deck | DECK |
| PERF | F6 | Floor | Deck | DECK |
| PERF | F7 | Floor | Deck | DECK |
| PERF | F8 | Floor | Deck | DECK |
| PERF | F13 | Floor | Deck | DECK |
| PERF | F13 | Floor | Deck | DECK |
| PERF | F15 | Floor | Deck | DECK |
| PERF | F16 | Floor | Deck | DECK |
| PERF | F1 | Floor | Deck | DECK |
| PERF | F2 | Floor | Deck | DECK |
| PERF | F3 | Floor | Deck | DECK |
| PERF | F4 | Floor | Deck | DECK |
| PERF | F5 | Floor | Deck | DECK |
| PERF | F7 | Floor | Deck | DECK |
| PERF | F10 | Floor | Deck | DECK |
| PERF | F14 | Floor | Deck | DECK |
| PERF | F16 | Floor | Deck | DECK |

AREA MASS ASSIGNMENTS
(AREA MASS IS A MASS PER UNIT AREA)

| STORY | AREA | AREATYPE | MASS |
|-------|------|----------|------------|
| PERF | F8 | Floor | 1.0995E-06 |
| PERF | F17 | Floor | 1.0995E-06 |
| PERF | F6 | Floor | 1.0995E-06 |
| PERF | F7 | Floor | 1.0995E-06 |
| PERF | F8 | Floor | 1.4468E-06 |
| PERF | F13 | Floor | 1.4468E-06 |
| PERF | F13 | Floor | 1.4468E-06 |
| PERF | F15 | Floor | 1.0995E-06 |
| PERF | F16 | Floor | 1.0995E-06 |
| PERF | F1 | Floor | 1.0995E-06 |
| PERF | F2 | Floor | 1.0995E-06 |
| PERF | F3 | Floor | 1.4468E-06 |
| PERF | F4 | Floor | 1.0995E-06 |
| PERF | F5 | Floor | 1.0995E-06 |
| PERF | F7 | Floor | 1.4468E-06 |
| PERF | F10 | Floor | 1.4468E-06 |
| PERF | F14 | Floor | 1.4468E-06 |
| PERF | F16 | Floor | 1.4468E-06 |

UNIFORM LOAD ASSIGNMENTS TO AREA OBJECTS

| CASE | STORY | AREA | AREATYPE | DIRECTION | LOAD |
|------|-------|------|----------|-----------|--------|
| DEAD | PERF | F8 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F17 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F6 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F7 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F8 | Floor | Gravity | 0.0003 |
| DEAD | PERF | F13 | Floor | Gravity | 0.0003 |
| DEAD | PERF | F13 | Floor | Gravity | 0.0003 |
| DEAD | PERF | F15 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F16 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F1 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F2 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F3 | Floor | Gravity | 0.0009 |
| DEAD | PERF | F4 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F5 | Floor | Gravity | 0.0004 |
| DEAD | PERF | F7 | Floor | Gravity | 0.0003 |
| DEAD | PERF | F10 | Floor | Gravity | 0.0003 |
| DEAD | PERF | F14 | Floor | Gravity | 0.0003 |
| DEAD | PERF | F16 | Floor | Gravity | 0.0003 |
| LIVE | PERF | F8 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F17 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F6 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F7 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F8 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F13 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F13 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F15 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F16 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F1 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F2 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F3 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F4 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F5 | Floor | Gravity | 0.0001 |
| LIVE | PERF | F7 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F10 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F14 | Floor | Gravity | 0.0009 |
| LIVE | PERF | F16 | Floor | Gravity | 0.0009 |



J.3: Story Force File

LOADING COMBINATIONS

| COMBO | COMBO TYPE | CASE | CASE TYPE | SCALE FACTOR |
|-------|------------|--------|-----------|--------------|
| FPK | ADD | FPKPRF | Static | 1.0000 |
| | | FPKPEL | Static | 1.0000 |
| | | FPKPEL | Static | 1.0000 |
| FPY | ADD | FPYPRF | Static | 1.0000 |
| | | FPYPEL | Static | 1.0000 |
| | | FPYPEL | Static | 1.0000 |

STORY FORCES

| STORY | LOAD | LOCATION | P | VX | VY | T | MX | MY |
|-------|--------|----------|------------|------------|------------|------------|------------|------------|
| PRF | FPKPRF | Top | -4.263E-14 | -2.174E+01 | -5.653E-13 | 3.365E+04 | -6.730E-11 | 4.735E-11 |
| | | Bottom | -4.263E-14 | -2.174E+01 | -5.653E-13 | 3.365E+04 | -9.095E-10 | -2.174E+03 |
| PEP | FPKPEP | Top | -1.662E-13 | 6.164E-12 | -1.677E-12 | -1.164E+02 | -2.614E-10 | 1.965E-10 |
| | | Bottom | -1.662E-13 | 6.164E-12 | -1.677E-12 | -1.164E+02 | -9.345E-11 | 4.133E-10 |
| PEL | FPKPEL | Top | 7.988E-14 | 3.713E-12 | -2.009E-12 | 8.149E-01 | 1.247E-10 | -9.037E-11 |
| | | Bottom | 7.988E-14 | 3.713E-12 | -2.009E-12 | 8.149E-01 | 1.247E-10 | -9.037E-11 |
| PRF | FPYPRF | Top | 1.819E-14 | -1.018E-12 | -3.174E+01 | -2.334E+04 | 5.821E-11 | -4.366E-11 |
| | | Bottom | 1.819E-14 | -1.018E-12 | -3.174E+01 | -2.334E+04 | 5.821E-11 | -4.366E-11 |
| PEP | FPYPEP | Top | 5.329E-13 | -1.990E-12 | 9.611E-12 | 1.769E+03 | 2.847E-11 | -9.095E-12 |
| | | Bottom | 5.329E-13 | -1.990E-12 | 9.611E-12 | 1.769E+03 | 2.847E-11 | -9.095E-12 |
| PEL | FPYPEL | Top | 5.063E-14 | -8.649E-13 | 5.178E-12 | 5.302E+02 | 7.549E-11 | -5.775E-11 |
| | | Bottom | 5.063E-14 | -8.649E-13 | 5.178E-12 | 5.302E+02 | 7.549E-11 | -5.775E-11 |
| PRF | FPX | Top | -1.289E-13 | -2.174E+01 | -4.252E-12 | 3.365E+04 | -2.040E-10 | 1.531E-10 |
| | | Bottom | -1.289E-13 | -2.174E+01 | -4.252E-12 | 3.365E+04 | -2.040E-10 | 1.531E-10 |
| PEP | FPY | Top | 9.415E-14 | -3.572E-12 | -2.174E+01 | -1.204E+04 | 1.592E-10 | -1.105E-10 |
| | | Bottom | 9.415E-14 | -3.572E-12 | -2.174E+01 | -1.204E+04 | 1.592E-10 | -1.105E-10 |
| PEL | FPXPEP | Top | -1.232E-14 | -3.174E+01 | -1.603E-12 | 3.160E+04 | 2.251E-11 | -2.174E+03 |
| | | Bottom | -1.232E-14 | -3.174E+01 | -1.603E-12 | 3.160E+04 | 2.251E-11 | -2.174E+03 |
| PEP | FPKPEP | Top | 6.893E-14 | -9.755E+01 | -5.832E-12 | 1.612E+05 | 2.269E-10 | 4.934E-10 |
| | | Bottom | 6.893E-14 | -9.755E+01 | -5.832E-12 | 1.612E+05 | 2.269E-10 | 4.934E-10 |
| PEL | FPKPEL | Top | 1.868E-13 | 1.611E-11 | -4.673E-12 | 2.844E+03 | 4.211E-10 | 1.610E-10 |
| | | Bottom | 1.868E-13 | 1.611E-11 | -4.673E-12 | 2.844E+03 | 4.211E-10 | 1.610E-10 |
| PEP | FPYPRF | Top | -2.842E-14 | -2.379E-12 | -2.174E+01 | -2.825E+04 | 2.174E+03 | -7.094E-11 |
| | | Bottom | -2.842E-14 | -2.379E-12 | -2.174E+01 | -2.825E+04 | 2.174E+03 | -7.094E-11 |
| PEL | FPYPEL | Top | -2.203E-13 | -7.702E-12 | -9.755E+01 | -1.317E+05 | -1.288E+04 | -3.743E-10 |
| | | Bottom | -2.203E-13 | -7.702E-12 | -9.755E+01 | -1.317E+05 | -1.288E+04 | -3.743E-10 |
| PEP | FPYPEL | Top | -2.109E-15 | -2.575E-12 | 8.886E-12 | 3.908E+02 | -5.154E-10 | -7.304E-11 |
| | | Bottom | -2.109E-15 | -2.575E-12 | 8.886E-12 | 3.908E+02 | -5.154E-10 | -7.304E-11 |
| PEL | FPX | Top | 2.133E-13 | -1.193E+02 | -1.211E-11 | 1.754E+05 | 6.805E-10 | -2.174E+03 |
| | | Bottom | 2.133E-13 | -1.193E+02 | -1.211E-11 | 1.754E+05 | 6.805E-10 | -2.174E+03 |
| PEP | FPY | Top | -2.508E-13 | -1.266E-11 | -1.193E+02 | -1.596E+05 | 2.174E+03 | -8.578E-11 |
| | | Bottom | -2.508E-13 | -1.266E-11 | -1.193E+02 | -1.596E+05 | 2.174E+03 | -8.578E-11 |
| PEL | FPXPEP | Top | 5.143E-14 | -2.174E+01 | 1.742E-12 | 3.024E+04 | 3.251E-11 | -5.044E+03 |
| | | Bottom | 5.143E-14 | -2.174E+01 | 1.742E-12 | 3.024E+04 | 3.251E-11 | -5.044E+03 |
| PEP | FPKPEP | Top | 1.999E-13 | -9.755E+01 | 2.089E-12 | 1.349E+05 | 1.146E-09 | -1.288E+04 |
| | | Bottom | 1.999E-13 | -9.755E+01 | 2.089E-12 | 1.349E+05 | 1.146E-09 | -1.288E+04 |
| PEL | FPKPEL | Top | 6.336E-14 | -1.497E+02 | -1.347E-12 | 2.132E+05 | 9.379E-10 | 2.406E-09 |
| | | Bottom | 6.336E-14 | -1.497E+02 | -1.347E-12 | 2.132E+05 | 9.379E-10 | 2.406E-09 |
| PEP | FPYPRF | Top | -3.889E-14 | 2.606E-09 | -2.174E+01 | -2.879E+04 | 5.044E+03 | -3.596E-10 |
| | | Bottom | -3.889E-14 | 2.606E-09 | -2.174E+01 | -2.879E+04 | 5.044E+03 | -3.596E-10 |
| PEL | FPYPEL | Top | -1.355E-13 | 3.425E-09 | -9.755E+01 | -1.297E+05 | 1.288E+04 | -9.773E-10 |
| | | Bottom | -1.355E-13 | 3.425E-09 | -9.755E+01 | -1.297E+05 | 1.288E+04 | -9.773E-10 |
| PEP | FPYPEL | Top | -5.811E-14 | 3.262E-10 | -1.497E+02 | -2.022E+05 | -1.747E-09 | -2.866E-07 |
| | | Bottom | -5.811E-14 | 3.262E-10 | -1.497E+02 | -2.022E+05 | -1.747E-09 | -2.866E-07 |
| PEL | FPX | Top | 3.147E-13 | -2.690E+02 | 3.697E-12 | 3.423E+05 | 4.411E-09 | -1.792E+04 |
| | | Bottom | 3.147E-13 | -2.690E+02 | 3.697E-12 | 3.423E+05 | 4.411E-09 | -1.792E+04 |
| PEP | FPY | Top | -2.325E-13 | 6.167E-09 | -2.690E+02 | -3.607E+05 | 1.792E+04 | -1.634E-09 |
| | | Bottom | -2.325E-13 | 6.167E-09 | -2.690E+02 | -3.607E+05 | 1.792E+04 | -1.634E-09 |

TRIBUTARY AREA AND REDUCED LIVE LOAD FACTORS

| STORY LEVEL | OBJECT LABEL | OBJECT TYPE | TRIBUTARY AREA | REDUCED LL FACTOR |
|-------------|--------------|-------------|----------------|-------------------|
| RACE | 4 | Point | 0.00 | 1.0000 |
| RACE | 5 | Point | 0.00 | 1.0000 |
| RACE | 8 | Point | 0.00 | 1.0000 |
| RACE | 9 | Point | 0.00 | 1.0000 |
| RACE | 12 | Point | 0.00 | 1.0000 |
| RACE | 13 | Point | 0.00 | 1.0000 |
| RACE | 17 | Point | 0.00 | 1.0000 |
| RACE | 18 | Point | 0.00 | 1.0000 |
| RACE | 19 | Point | 0.00 | 1.0000 |
| RACE | 20 | Point | 0.00 | 1.0000 |
| RACE | 24 | Point | 0.00 | 1.0000 |
| RACE | 25 | Point | 0.00 | 1.0000 |
| PERP | C5 | Column | 0.00 | 1.0000 |
| PERP | C6 | Column | 0.00 | 1.0000 |
| PERP | C9 | Column | 0.00 | 1.0000 |
| PERP | C10 | Column | 0.00 | 1.0000 |
| PEL | C7 | Column | 0.00 | 1.0000 |
| PEL | C8 | Column | 0.00 | 1.0000 |
| PEL | C5 | Column | 0.00 | 1.0000 |
| PEL | C6 | Column | 0.00 | 1.0000 |
| PEL | C7 | Column | 0.00 | 1.0000 |
| PEL | C8 | Column | 0.00 | 1.0000 |
| PEL | C9 | Column | 0.00 | 1.0000 |
| PEL | C10 | Column | 0.00 | 1.0000 |
| PEL | C11 | Column | 0.00 | 1.0000 |
| PEL | C12 | Column | 0.00 | 1.0000 |
| PEL | C1 | Column | 0.00 | 1.0000 |
| PEL | C2 | Column | 0.00 | 1.0000 |
| PEL | C3 | Column | 0.00 | 1.0000 |
| PEL | C4 | Column | 0.00 | 1.0000 |
| PEL | C5 | Column | 0.00 | 1.0000 |
| PEL | C6 | Column | 0.00 | 1.0000 |
| PEL | C7 | Column | 0.00 | 1.0000 |
| PEL | C8 | Column | 0.00 | 1.0000 |
| PEL | C9 | Column | 0.00 | 1.0000 |
| PEL | C10 | Column | 0.00 | 1.0000 |
| PEL | C11 | Column | 0.00 | 1.0000 |
| PEL | C12 | Column | 0.00 | 1.0000 |
| PERP | B19 | Beam | 0.00 | 1.0000 |
| PERP | B21 | Beam | 0.00 | 1.0000 |
| PERP | B23 | Beam | 0.00 | 1.0000 |
| PERP | B24 | Beam | 0.00 | 1.0000 |
| PEL | B5 | Beam | 0.00 | 1.0000 |
| PEL | B11 | Beam | 0.00 | 1.0000 |
| PEL | B13 | Beam | 0.00 | 1.0000 |
| PEL | B14 | Beam | 0.00 | 1.0000 |
| PEL | B15 | Beam | 0.00 | 1.0000 |
| PEL | B17 | Beam | 0.00 | 1.0000 |
| PEL | B18 | Beam | 0.00 | 1.0000 |
| PEL | B19 | Beam | 0.00 | 1.0000 |
| PEL | B21 | Beam | 0.00 | 1.0000 |
| PEL | B22 | Beam | 0.00 | 1.0000 |
| PEL | B23 | Beam | 0.00 | 1.0000 |
| PEL | B24 | Beam | 0.00 | 1.0000 |
| PEL | B25 | Beam | 0.00 | 1.0000 |
| PEL | B26 | Beam | 0.00 | 1.0000 |
| PEL | B27 | Beam | 0.00 | 1.0000 |
| PEL | B28 | Beam | 0.00 | 1.0000 |
| PEL | B29 | Beam | 0.00 | 1.0000 |
| PEL | B31 | Beam | 0.00 | 1.0000 |
| PEL | B32 | Beam | 0.00 | 1.0000 |
| PEL | B1 | Beam | 0.00 | 1.0000 |
| PEL | B2 | Beam | 0.00 | 1.0000 |
| PEL | B3 | Beam | 0.00 | 1.0000 |
| PEL | B4 | Beam | 0.00 | 1.0000 |
| PEL | B5 | Beam | 0.00 | 1.0000 |
| PEL | B6 | Beam | 0.00 | 1.0000 |
| PEL | B7 | Beam | 0.00 | 1.0000 |
| PEL | B8 | Beam | 0.00 | 1.0000 |
| PEL | B9 | Beam | 0.00 | 1.0000 |
| PEL | B10 | Beam | 0.00 | 1.0000 |
| PEL | B12 | Beam | 0.00 | 1.0000 |
| PEL | B13 | Beam | 0.00 | 1.0000 |
| PEL | B14 | Beam | 0.00 | 1.0000 |
| PEL | B15 | Beam | 0.00 | 1.0000 |
| PEL | B17 | Beam | 0.00 | 1.0000 |
| PEL | B18 | Beam | 0.00 | 1.0000 |
| PEL | B19 | Beam | 0.00 | 1.0000 |
| PEL | B21 | Beam | 0.00 | 1.0000 |
| PEL | B22 | Beam | 0.00 | 1.0000 |
| PEL | B23 | Beam | 0.00 | 1.0000 |
| PEL | B24 | Beam | 0.00 | 1.0000 |
| PEL | B25 | Beam | 0.00 | 1.0000 |
| PEL | B26 | Beam | 0.00 | 1.0000 |
| PEL | B27 | Beam | 0.00 | 1.0000 |
| PEL | B28 | Beam | 0.00 | 1.0000 |
| PEL | B29 | Beam | 0.00 | 1.0000 |

TRIBUTARY AREA AND REDUCED LIVE LOAD FACTORS

| STORY LEVEL | OBJECT LABEL | OBJECT TYPE | TRIBUTARY AREA | REDUCED LL FACTOR |
|-------------|--------------|-------------|----------------|-------------------|
| PEL | B11 | Beam | 0.00 | 1.0000 |
| PEL | B12 | Beam | 0.00 | 1.0000 |



J.4: Element Force File

LOADING COMBINATIONS

Table with columns: COMBO, COMBO TYPE, CASE, CASE TYPE, SCALE FACTOR. Rows include FFX ADD, FFXPERF, FFXPERF, FFXPERF, FFXPERF, FFXPERF.

COLUMN FORCES

Table with columns: STORY, COLUMN, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PERP C5 DEAD, PERP C5 LIVE, PERP C5 FFX, PERP C5 FFX, PERP C9 DEAD, PERP C9 LIVE, PERP C9 FFX, PERP C9 FFX, PERP C10 DEAD, PERP C10 LIVE, PERP C10 FFX, PERP C10 FFX, PERP C3 DEAD, PERP C3 LIVE, PERP C3 FFX, PERP C3 FFX.

COLUMN FORCES

Table with columns: STORY, COLUMN, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PER C4 DEAD, PER C4 LIVE, PER C4 FFX, PER C4 FFX, PER C5 DEAD, PER C5 LIVE, PER C5 FFX, PER C5 FFX, PER C6 DEAD, PER C6 LIVE, PER C6 FFX, PER C6 FFX, PER C8 DEAD, PER C8 LIVE, PER C8 FFX, PER C8 FFX.

COLUMN FORCES

Table with columns: STORY, COLUMN, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PER C9 DEAD, PER C9 LIVE, PER C9 FFX, PER C9 FFX, PER C10 DEAD, PER C10 LIVE, PER C10 FFX, PER C10 FFX, PER C12 DEAD, PER C12 LIVE, PER C12 FFX, PER C12 FFX, PER C3 DEAD, PER C3 LIVE, PER C3 FFX, PER C3 FFX.

C O L U M N F O R C E S

Table with columns: STORY, COLUMN, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PH1 C4 DEAD, PH1 C4 LIVE, PH1 C4 FFX, PH1 C4 FFY, PH1 C5 DEAD, PH1 C5 LIVE, PH1 C5 FFX, PH1 C5 FFY, PH1 C8 DEAD, PH1 C8 LIVE, PH1 C8 FFX, PH1 C8 FFY, PH1 C9 DEAD, PH1 C9 LIVE, PH1 C9 FFX, PH1 C9 FFY.

C O L U M N F O R C E S

Table with columns: STORY, COLUMN, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PH1 C10 DEAD, PH1 C10 LIVE, PH1 C10 FFX, PH1 C10 FFY, PH1 C13 DEAD, PH1 C13 LIVE, PH1 C13 FFX, PH1 C13 FFY.

B E A M F O R C E S

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PERP B19 DEAD, PERP B19 LIVE, PERP B19 FFX, PERP B19 FFY, PERP B33 DEAD, PERP B33 LIVE.

B E A M F O R C E S

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PERP B33 LIVE (Continued), PERP B33 FFX, PERP B33 FFY, PERP B34 DEAD, PERP B34 LIVE.

BEAM FORCES

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include beam types like LIVE, FFX, FFY, DEAD, and LIVE for various stories (R24, R25, R19, R15, R19, R19, R19).

BEAM FORCES

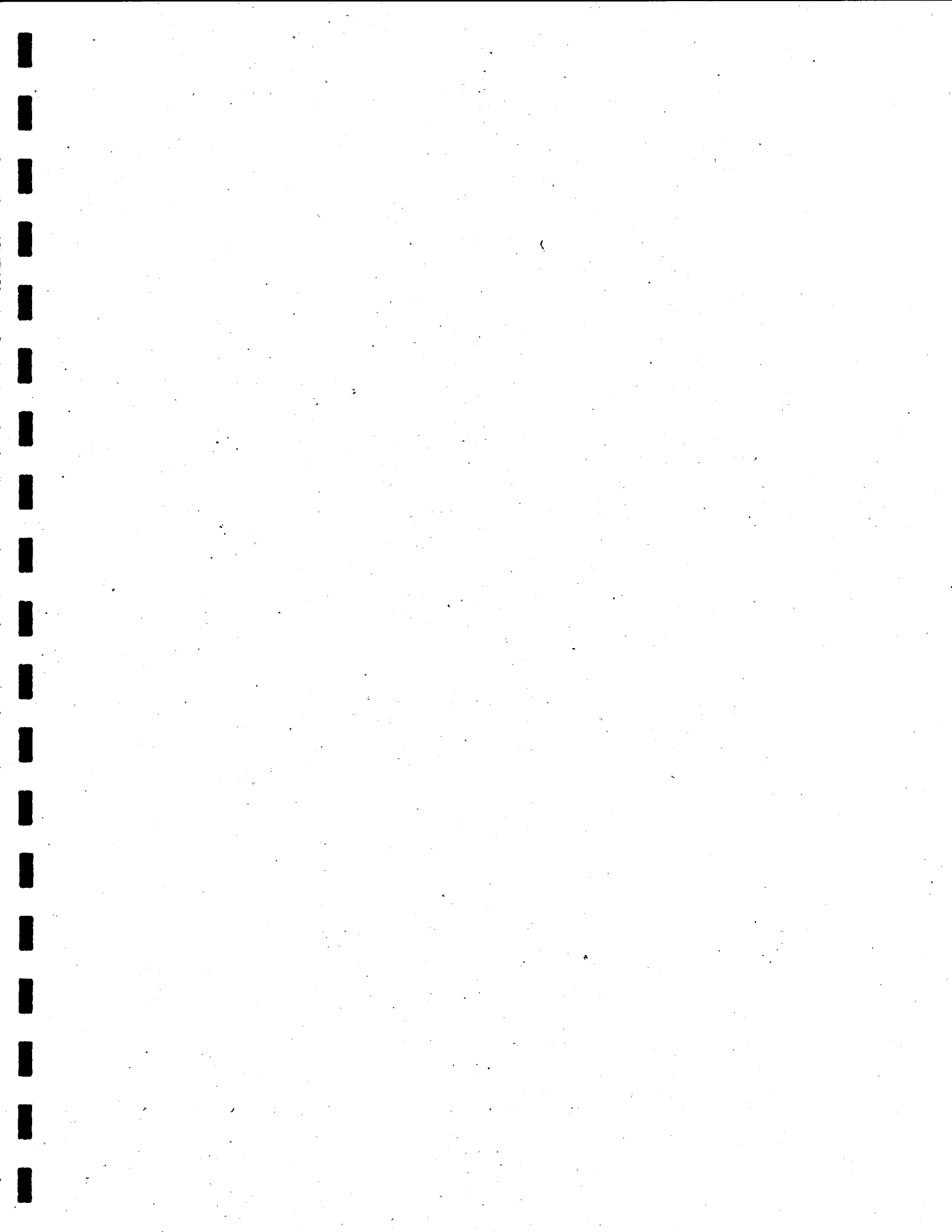
Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include beam types like LIVE, FFX, FFY, DEAD, and LIVE for various stories (R25, R15, R15, R15, R19, R19, R19, R19).

BEAM FORCES

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include beam types like FFX, FFY, DEAD, LIVE, FFX, FFY, DEAD, LIVE, FFX, FFY, DEAD, LIVE for various stories (R15, R15, R19, R19, R19, R19, R19, R19, R19, R19, R19, R19).

BEAM FORCES

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include beam types like LIVE, FFX, FFY, DEAD, LIVE, FFX, FFY, DEAD, LIVE, FFX, FFY, DEAD, LIVE for various stories (R19, R19, R19, R19, R19, R19, R19, R19, R19, R19, R19, R19).



BEAM FORCES

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include BEAM B6 DEAD, LIVE, FFX, FFY and BEAM B15 DEAD, LIVE, FFX, FFY.

BEAM FORCES

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include BEAM B29 DEAD, LIVE, FFX, FFY and BEAM B15 DEAD, LIVE, FFX, FFY.

BEAM FORCES

Table with columns: STORY, BEAM, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include BEAM B19 DEAD, LIVE, FFX, FFY and BEAM B28 DEAD, LIVE, FFX, FFY.

BRACE FORCES

Table with columns: STORY, BRACE, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include BRACE B29 DEAD, LIVE, FFX, FFY and BRACE D5 DEAD, LIVE, FFX, FFY.

BRACE FORCES

Table with columns: STORY, BRACE, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PH1 D3 DEAD, PH1 D3 LIVE, PH1 D3 FFX, PH1 D3 FFY, PH1 D4 DEAD, PH1 D4 LIVE, PH1 D4 FFX, PH1 D4 FFY, PH1 D10 DEAD, PH1 D10 LIVE, PH1 D10 FFX, PH1 D10 FFY, PH1 D11 DEAD, PH1 D11 LIVE, PH1 D11 FFX, PH1 D11 FFY.

BRACE FORCES

Table with columns: STORY, BRACE, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PH1 D3 DEAD, PH1 D3 LIVE, PH1 D3 FFX, PH1 D3 FFY, PH1 D5 DEAD, PH1 D5 LIVE, PH1 D5 FFX, PH1 D5 FFY, PH1 D6 DEAD, PH1 D6 LIVE, PH1 D6 FFX, PH1 D6 FFY, PH1 D9 DEAD, PH1 D9 LIVE, PH1 D9 FFX, PH1 D9 FFY.

BRACE FORCES

Table with columns: STORY, BRACE, LOAD, LOC, P, V2, V3, T, M2, M3. Rows include PH1 D13 DEAD, PH1 D13 LIVE, PH1 D13 FFX, PH1 D13 FFY.



J.5: Reaction File

LOADING COMBINATIONS

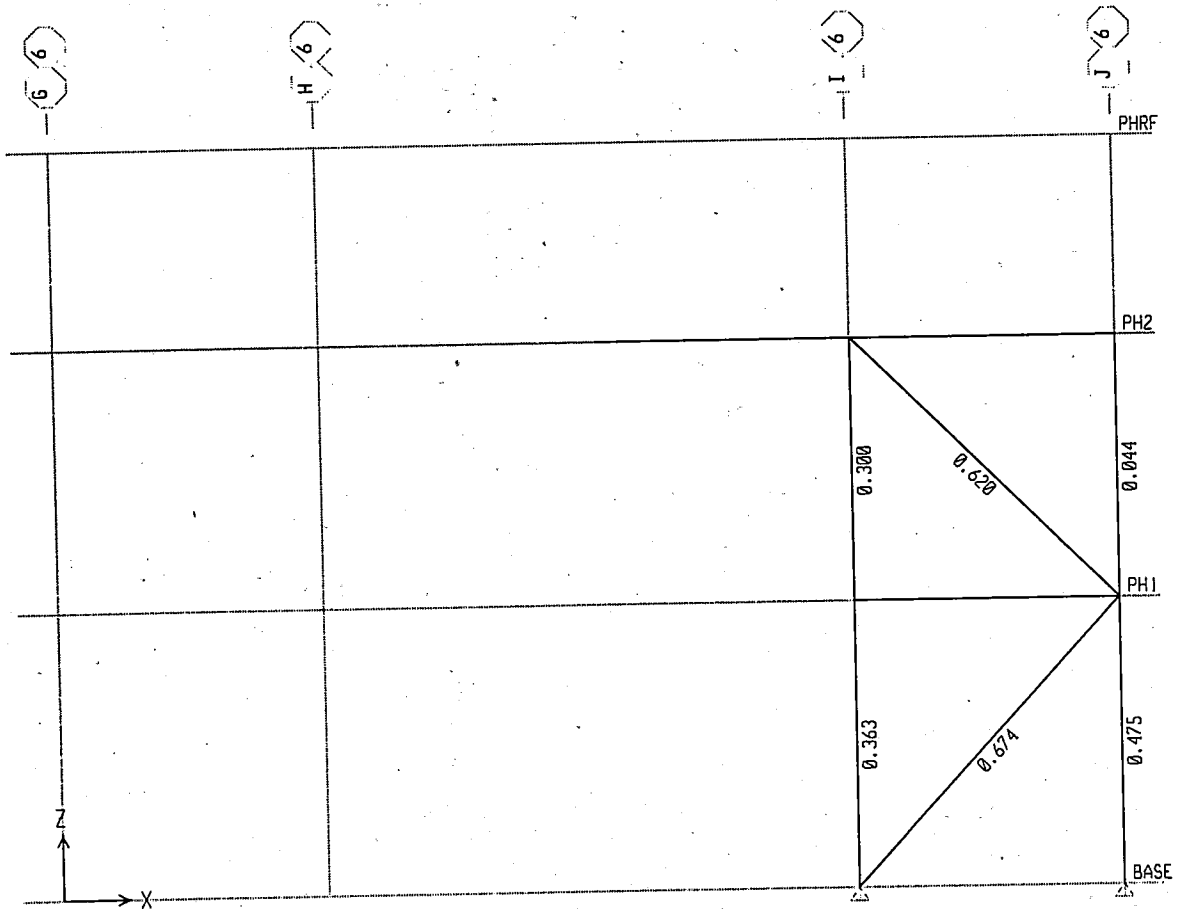
| COMBO | COMBO TYPE | CASE | CASE TYPE | SCALE FACTOR |
|-------|------------|---------|-----------|--------------|
| FFX | ADD | FFXPERF | Static | 1.0000 |
| | | FFXPEL | Static | 1.0000 |
| | | FFXPEL | Static | 1.0000 |
| FFY | ADD | FFYPELF | Static | 1.0000 |
| | | FFYPEL | Static | 1.0000 |
| | | FFYPEL | Static | 1.0000 |

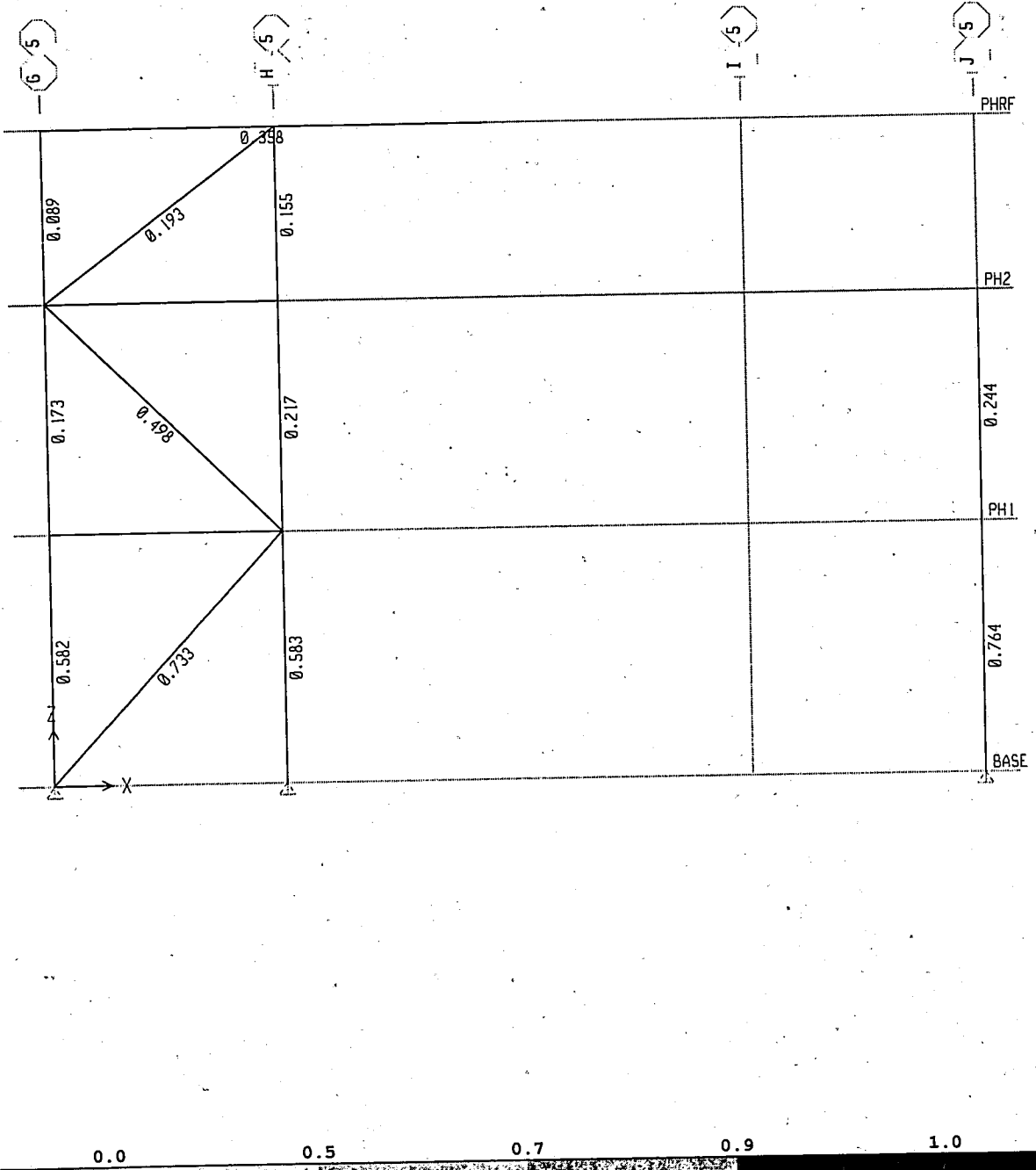
SUPPORT REACTIONS

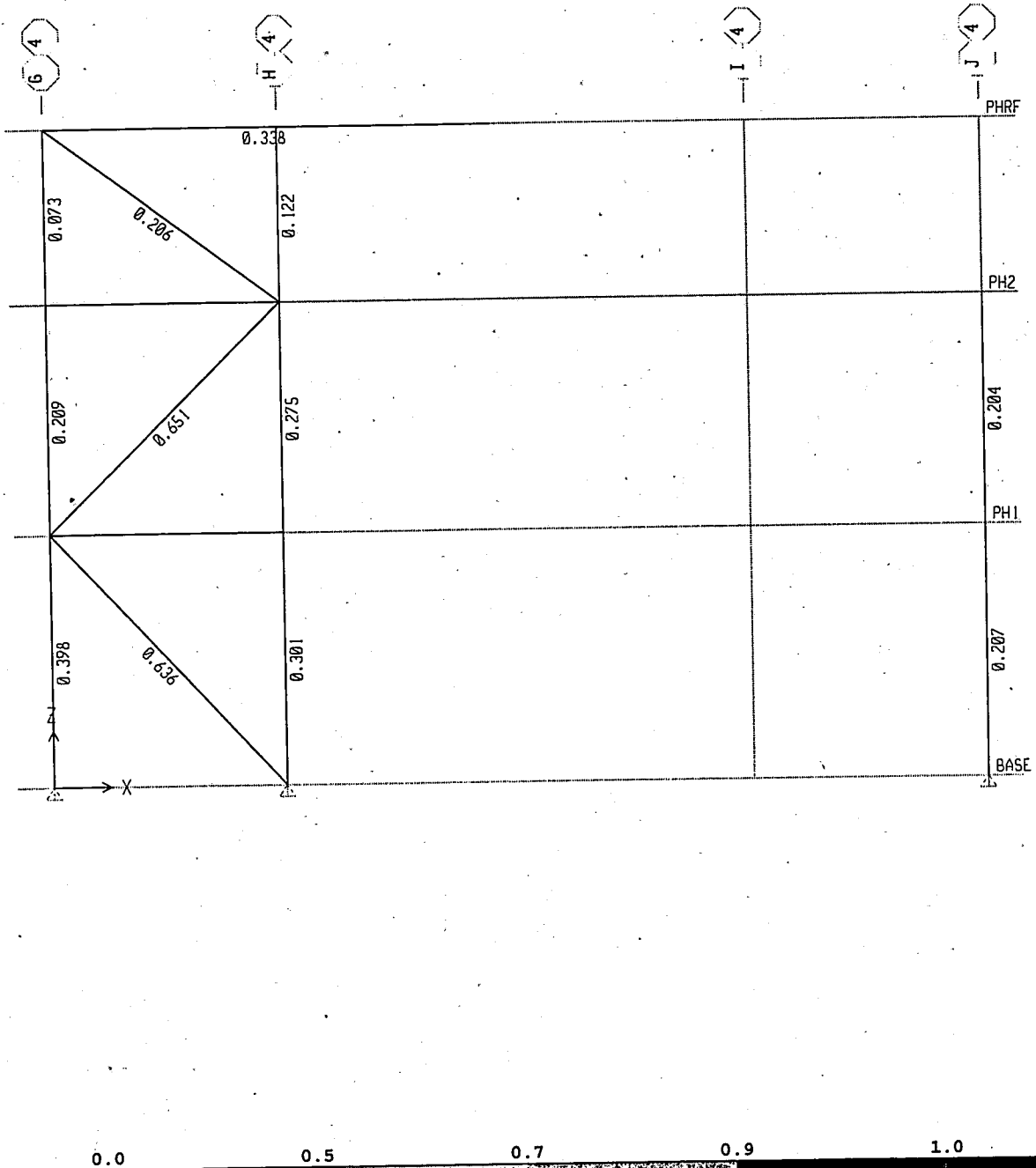
| STORY | POINT | LOAD | FX | FY | FZ | MX | MY | MZ |
|-----------|------------|------|---------|---------|---------|-------------|-------------|-------------|
| BASE | 8 | DEAD | -1.44 | 0.03 | 21.73 | 0.000 | 0.000 | 0.000 |
| BASE | 8 | LIVE | -0.58 | 0.18 | 18.87 | 0.000 | 0.000 | 0.000 |
| BASE | 8 | FFX | -91.54 | -0.59 | -140.00 | 0.000 | 0.000 | 0.000 |
| BASE | 8 | FFY | 6.73 | 0.03 | 2.03 | 0.000 | 0.000 | 0.000 |
| BASE | 9 | DEAD | -0.03 | 0.03 | 10.23 | 0.000 | 0.000 | 0.000 |
| BASE | 9 | LIVE | -0.04 | 0.13 | 10.39 | 0.000 | 0.000 | 0.000 |
| BASE | 9 | FFX | 0.00 | -0.06 | 140.00 | 0.000 | 0.000 | 0.000 |
| BASE | 9 | FFY | 0.02 | 0.03 | -2.03 | 0.000 | 0.000 | 0.000 |
| BASE | 12 | DEAD | 3.39 | -0.02 | 14.05 | 0.000 | 0.000 | 0.000 |
| BASE | 12 | LIVE | 2.98 | 0.00 | 10.13 | 0.000 | 0.000 | 0.000 |
| BASE | 12 | FFX | -94.33 | -0.14 | -145.56 | 0.000 | 0.000 | 0.000 |
| BASE | 12 | FFY | 1.49 | 0.16 | -191.23 | 0.000 | 0.000 | 0.000 |
| BASE | 13 | DEAD | 0.05 | -0.06 | 21.51 | 0.000 | 0.000 | 0.000 |
| BASE | 13 | LIVE | 0.08 | 0.00 | 19.78 | 0.000 | 0.000 | 0.000 |
| BASE | 13 | FFX | 0.00 | -0.12 | 146.39 | 0.000 | 0.000 | 0.000 |
| BASE | 13 | FFY | 0.04 | 0.05 | -32.06 | 0.000 | 0.000 | 0.000 |
| BASE | 18 | DEAD | -0.05 | -0.01 | 12.00 | 0.000 | 0.000 | 0.000 |
| BASE | 18 | LIVE | -0.21 | -0.06 | 11.76 | 0.000 | 0.000 | 0.000 |
| BASE | 18 | FFX | -0.03 | -0.07 | -1.05 | 0.000 | 0.000 | 0.000 |
| BASE | 18 | FFY | 0.02 | 0.08 | -201.27 | 0.000 | 0.000 | 0.000 |
| BASE | 19 | DEAD | 0.00 | 0.74 | 3.65 | 0.000 | 0.000 | 0.000 |
| BASE | 19 | LIVE | 0.00 | 1.13 | 1.84 | 0.000 | 0.000 | 0.000 |
| BASE | 19 | FFX | 0.14 | 6.86 | -143.67 | 0.000 | 0.000 | 0.000 |
| BASE | 19 | FFY | 0.10 | -133.18 | 189.68 | 0.000 | 0.000 | 0.000 |
| BASE | 20 | DEAD | -2.28 | 0.01 | 18.39 | 0.000 | 0.000 | 0.000 |
| BASE | 20 | LIVE | -1.25 | 0.01 | 20.16 | 0.000 | 0.000 | 0.000 |
| BASE | 20 | FFX | -82.86 | -0.11 | 142.63 | 0.000 | 0.000 | 0.000 |
| BASE | 20 | FFY | -1.37 | 0.04 | 34.51 | 0.000 | 0.000 | 0.000 |
| Summation | 0, 0, Base | DEAD | -0.43 | 0.73 | 101.45 | 144920.760 | -135871.812 | 1342.470 |
| Summation | 0, 0, Base | LIVE | -0.11 | 1.17 | 93.73 | 134039.922 | -124604.444 | 1889.297 |
| Summation | 0, 0, Base | FFX | -164.33 | 6.16 | -1.03 | -1701.324 | -14496.856 | 39239.462 |
| Summation | 0, 0, Base | FFY | -0.16 | -132.78 | -202.38 | -270529.875 | 127255.061 | -141109.462 |

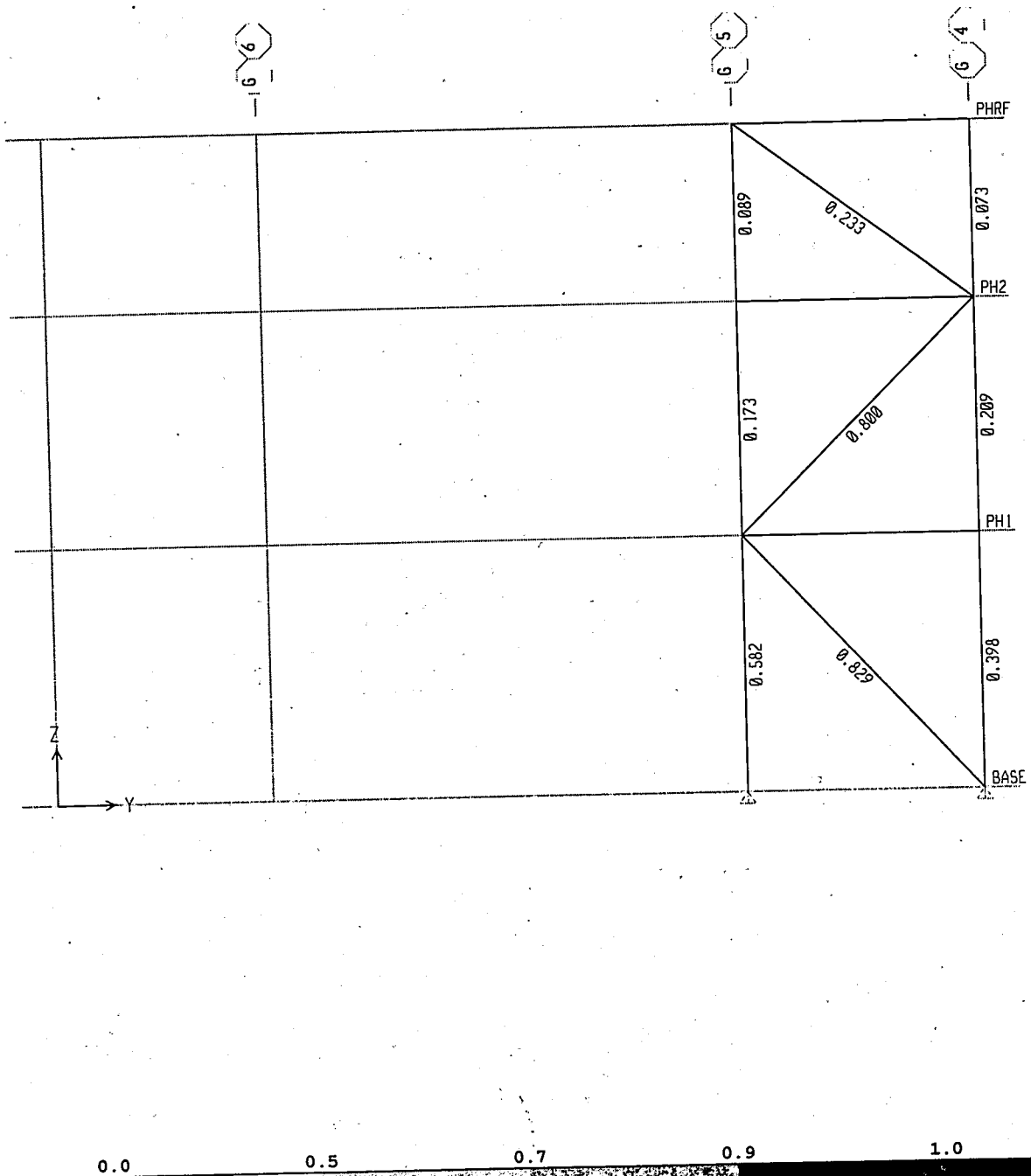


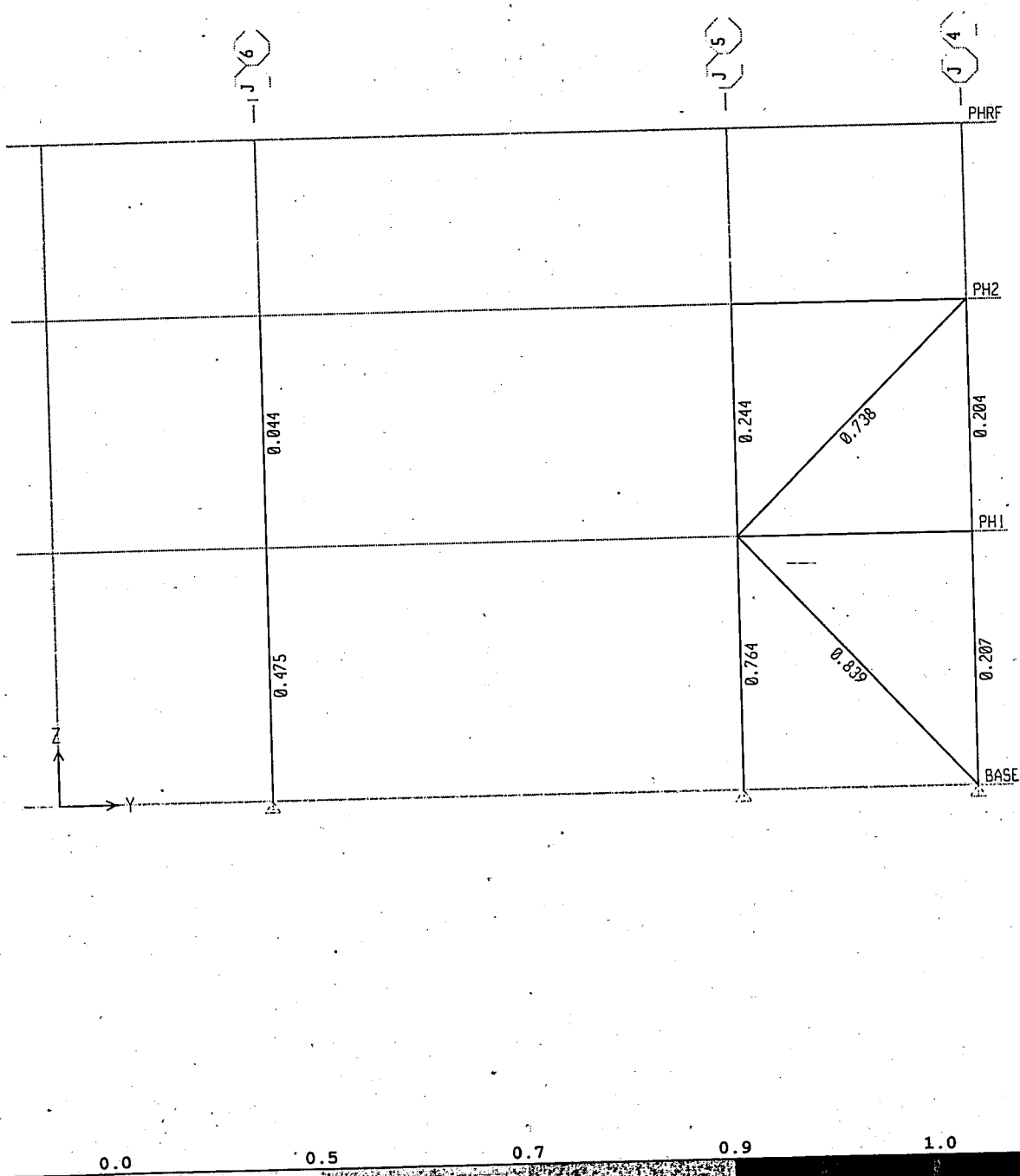
K: Elevator Machine Room Braced Frame Design











MATERIAL PROPERTY DATA

| MATERIAL NAME | DESIGN TYPE | MATERIAL DIR/PLANE | MODULUS OF ELASTICITY | POISSON'S RATIO | THERMAL COEFF | SHEAR MODULUS |
|---------------|-------------|--------------------|-----------------------|-----------------|---------------|---------------|
| STEEL | Iso | All | 29000.000 | 0.3000 | 6.5000E-06 | 11153.846 |
| HSSSTEEL | Iso | All | 29000.000 | 0.3000 | 5.5000E-06 | 11153.846 |

MATERIAL PROPERTY MASS AND WEIGHT

| MATERIAL NAME | MASS PER UNIT VOL | WEIGHT PER UNIT VOL |
|---------------|-------------------|---------------------|
| STEEL | 7.3400E-07 | 2.8160E-04 |
| HSSSTEEL | 7.3400E-07 | 2.8360E-04 |

MATERIAL DESIGN DATA FOR STEEL MATERIALS

| MATERIAL NAME | STEEL FY | STEEL FU | STEEL COST (\$) |
|---------------|----------|----------|-----------------|
| STEEL | 50.000 | 65.000 | 1.00 |
| HSSSTEEL | 46.000 | 58.000 | 1.00 |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | MATERIAL NAME | SECTION DEPTH | FLANGE WIDTH TOP | FLANGE THICK TOP | WEB THICK | FLANGE WIDTH BOT | FLANGE THICK BOT |
|--------------------|---------------|---------------|------------------|------------------|-----------|------------------|------------------|
| W10X13 | STEEL | 9.7000 | 7.5600 | 0.4350 | 0.2300 | 7.9600 | 0.4350 |
| W16X26 | STEEL | 15.7000 | 5.5000 | 0.3450 | 0.2500 | 5.5000 | 0.3450 |
| HSS6X6X.375 | HSSSTEEL | 5.0000 | 5.0000 | 0.3490 | 0.3490 | 0.0000 | 0.0000 |
| HSS6X6X.500 | HSSSTEEL | 6.0000 | 6.0000 | 0.4650 | 0.4650 | 0.0000 | 0.0000 |
| HSS6X6X.625 | HSSSTEEL | 6.0000 | 6.0000 | 0.5810 | 0.5810 | 0.0000 | 0.0000 |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION AREA | SECTION TORSIONAL CONSTANT | MOMENTS OF INERTIA I33 | MOMENTS OF INERTIA I22 | CONC COL | CONC BEAM |
|--------------------|--------------|----------------------------|------------------------|------------------------|----------|-----------|
| W10X13 | 9.7100 | 0.5610 | 171.0000 | 36.6000 | | |
| W16X26 | 7.6800 | 35.1000 | 30.0000 | 9.5900 | | |
| HSS6X6X.375 | 9.7000 | 81.1000 | 21.7000 | 21.7000 | | |
| HSS6X6X.500 | 11.7000 | 94.9000 | 48.3000 | 48.3000 | | |
| HSS6X6X.625 | 11.7000 | 94.9000 | 55.2000 | 55.2000 | | |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION MODULI S33 | SECTION MODULI Z33 | PLASTIC MODULI Z33 | PLASTIC MODULI R33 | RADIUS OF GYRATION R32 |
|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------|
| W10X13 | 35.1490 | 9.1960 | 38.8000 | 4.1956 | 1.9415 |
| W16X26 | 36.3439 | 3.4873 | 44.2000 | 6.2684 | 1.1175 |
| HSS6X6X.375 | 8.6800 | 8.6800 | 10.8000 | 1.8739 | 1.8739 |
| HSS6X6X.500 | 16.1000 | 16.1000 | 19.8000 | 2.2269 | 2.2269 |
| HSS6X6X.625 | 18.4000 | 18.4000 | 23.2000 | 2.1721 | 2.1721 |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION AREA | SECTION TORSIONAL CONSTANT | MOMENTS OF INERTIA I33 | MOMENTS OF INERTIA I22 | CONC COL | CONC BEAM |
|--------------------|--------------|----------------------------|------------------------|------------------------|----------|-----------|
| W10X13 | 9.7100 | 0.5610 | 171.0000 | 36.6000 | | |
| W16X26 | 7.6800 | 35.1000 | 30.0000 | 9.5900 | | |
| HSS6X6X.375 | 9.7000 | 81.1000 | 21.7000 | 21.7000 | | |
| HSS6X6X.500 | 11.7000 | 94.9000 | 48.3000 | 48.3000 | | |
| HSS6X6X.625 | 11.7000 | 94.9000 | 55.2000 | 55.2000 | | |

FRAME SECTION PROPERTY DATA

| FRAME SECTION NAME | SECTION MODULI S33 | SECTION MODULI Z33 | PLASTIC MODULI Z33 | PLASTIC MODULI R33 | RADIUS OF GYRATION R32 |
|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------|
| W10X13 | 35.1490 | 9.1960 | 38.8000 | 4.1956 | 1.9415 |
| W16X26 | 36.3439 | 3.4873 | 44.2000 | 6.2684 | 1.1175 |
| HSS6X6X.375 | 8.6800 | 8.6800 | 10.8000 | 1.8739 | 1.8739 |
| HSS6X6X.500 | 16.1000 | 16.1000 | 19.8000 | 2.2269 | 2.2269 |
| HSS6X6X.625 | 18.4000 | 18.4000 | 23.2000 | 2.1721 | 2.1721 |

STEEL CODE PREFERENCES

Steel Design Code : UBC97-ASD
 Time History Type : Envelopes
 Frame Type zone : Braced Frame
 Consider Deflection? : Zone 4
 Deflection Check Type : No
 DL Limit, L / : Both
 Super DL-LI Limit, L / : 120
 Live Load Limit, L / : 360
 Total Load Limit, L / : 240
 DL Limit, abs Limit, L / : 240
 Super DL-LI Limit, abs : 1
 Live Load Limit, abs : 1
 Total Load Limit, abs : 1
 Pattern Live Load Factor : 1
 Maximum Auto Iteration : 1

LOADING COMBINATIONS

| COMBO | CASE | SCALE |
|-------|--------|--------|
| TYPE | TYPE | FACTOR |
| ASD1 | DEAD | 0.7500 |
| | Static | 0.7500 |
| | FPY | 0.5400 |
| ASD2 | DEAD | 0.7500 |
| | Static | 0.7500 |
| | FPY | 0.5400 |

BEAM STEEL STRESS CHECK ELEMENT INFORMATION (UBC97-ASD)

| STORY LEVEL | COLUMN LINE | SECTION ID | FRAMING TYPE | LLF FACTOR | L ₁ /RATIO MAJOR | L ₁ /RATIO MINOR | K MAJOR | K MINOR |
|-------------|-------------|------------|--------------|------------|-----------------------------|-----------------------------|---------|---------|
| PHRF | B33 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |

COLUMN STEEL STRESS CHECK ELEMENT INFORMATION (UBC97-ASD)

| STORY LEVEL | COLUMN LINE | SECTION ID | FRAMING TYPE | LLF FACTOR | L ₁ /RATIO MAJOR | L ₁ /RATIO MINOR | K MAJOR | K MINOR |
|-------------|-------------|------------|--------------|------------|-----------------------------|-----------------------------|---------|---------|
| PH2 | C3 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |
| PH1 | C5 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |
| PH1 | C7 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |
| PH1 | C9 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |
| PHRF | C11 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |
| PH2 | C13 | M10X33 | BRACED | 1.000 | 0.881 | 0.881 | 1.000 | 1.000 |
| | | | | | | | | |

C O L U M N S T E E L S T R E S S C H E C K O U T P U T (UCS7-ASD)

STORY COLUMN SECTION /-----MOMENT INTERACTION CHECK-----//-----SHEAR2---//-----SHEAR3---//
 LEVEL LINE ID COMBO RATIO = AX + B33 + B22 COMBO RATIO COMBO RATIO

| STORY LEVEL | COLUMN LINE ID | SECTION COMBO | MOMENT RATIO | INTERACTION | SHEAR2 RATIO | SHEAR3 RATIO | COMBO RATIO |
|-------------|----------------|---------------|--------------|-------------|-----------------------|--------------|------------------|
| PH2 | C3 | W10X33 | ASD1(C) | 0.300 | 0.145 + 0.027 + 0.128 | ASD1 | 0.011 ASD1 0.005 |
| PH1 | C3 | W10X33 | ASD1(C) | 0.363 | 0.254 + 0.022 + 0.086 | ASD1 | 0.004 ASD2 0.002 |
| PH2 | C4 | W10X33 | ASD2(C) | 0.044 | 0.004 + 0.027 + 0.013 | ASD1 | 0.007 ASD2 0.001 |
| PH1 | C4 | W10X33 | ASD1(C) | 0.475 | 0.434 + 0.017 + 0.024 | ASD2 | 0.003 ASD2 0.001 |
| PH2 | C5 | W10X33 | ASD2(C) | 0.089 | 0.041 + 0.034 + 0.014 | ASD2 | 0.008 ASD2 0.001 |
| PH1 | C5 | W10X33 | ASD1(C) | 0.173 | 0.139 + 0.018 + 0.016 | ASD2 | 0.007 ASD2 0.001 |
| PH2 | C6 | W10X33 | ASD2(C) | 0.584 | 0.554 + 0.012 + 0.016 | ASD2 | 0.002 ASD2 0.000 |
| PH1 | C6 | W10X33 | ASD1(C) | 0.155 | 0.060 + 0.013 + 0.081 | ASD2 | 0.012 ASD2 0.004 |
| PH2 | C7 | W10X33 | ASD2(C) | 0.217 | 0.128 + 0.016 + 0.073 | ASD2 | 0.007 ASD2 0.002 |
| PH1 | C7 | W10X33 | ASD1(C) | 0.583 | 0.523 + 0.012 + 0.048 | ASD1 | 0.003 ASD2 0.002 |
| PH2 | C8 | W10X33 | ASD1(C) | 0.127 | 0.075 + 0.011 + 0.042 | ASD2 | 0.004 ASD2 0.008 |
| PH1 | C8 | W10X33 | ASD2(C) | 0.244 | 0.028 + 0.020 + 0.156 | ASD2 | 0.002 ASD2 0.002 |
| PH2 | C9 | W10X33 | ASD2(C) | 0.073 | 0.032 + 0.011 + 0.147 | ASD1 | 0.006 ASD2 0.001 |
| PH1 | C9 | W10X33 | ASD1(C) | 0.209 | 0.179 + 0.011 + 0.020 | ASD1 | 0.006 ASD2 0.001 |
| PH2 | C10 | W10X33 | ASD2(C) | 0.398 | 0.398 + 0.000 + 0.000 | ASD1 | 0.001 ASD1 0.000 |
| PH1 | C10 | W10X33 | ASD1(C) | 0.122 | 0.029 + 0.014 + 0.078 | ASD2 | 0.010 ASD2 0.003 |
| PH2 | C11 | W10X33 | ASD1(C) | 0.275 | 0.201 + 0.017 + 0.057 | ASD2 | 0.007 ASD1 0.002 |
| PH1 | C11 | W10X33 | ASD2(C) | 0.301 | 0.251 + 0.008 + 0.042 | ASD1 | 0.001 ASD2 0.001 |
| PH2 | C12 | W10X33 | ASD1(C) | 0.105 | 0.033 + 0.036 + 0.036 | ASD1 | 0.009 ASD2 0.002 |
| PH1 | C12 | W10X33 | ASD2(C) | 0.204 | 0.147 + 0.019 + 0.038 | ASD2 | 0.004 ASD1 0.002 |
| PH2 | C13 | W10X33 | ASD2(C) | 0.207 | 0.175 + 0.014 + 0.018 | ASD2 | 0.002 ASD1 0.000 |

B R A C E S T E E L S T R E S S C H E C K E L E M E N T I N F O R M A T I O N (UCS7-ASD)

STORY BRACE SECTION /-----REL F L RATIO L RATIO-----//-----K MAJOR MINOR-----//-----K MAJOR MINOR-----//
 LEVEL LINE ID FRAMING TYPE FACTOR MAJOR MINOR MAJOR MINOR

| STORY LEVEL | BRACE SECTION | FRAMING TYPE | REL F | L RATIO MAJOR | L RATIO MINOR | K MAJOR | K MINOR |
|-------------|-----------------|--------------|-------|---------------|---------------|---------|---------|
| PH2 | D1 HSS6X6X.500 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH1 | D2 HSS6X6X.500 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH2 | D3 HSS6X6X.375 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH1 | D4 HSS6X6X.375 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH2 | D5 HSS6X6X.500 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH1 | D6 HSS6X6X.375 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH2 | D7 HSS6X6X.625 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH1 | D8 HSS6X6X.375 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH2 | D9 HSS6X6X.625 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH1 | D10 HSS6X6X.375 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH2 | D11 HSS6X6X.375 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| PH1 | D13 HSS6X6X.500 | BRACED | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

B E A M S T E E L S T R E S S C H E C K O U T P U T (U B C 9 7 - A S D)
 /-----MOMENT INTERACTION CHECK-----/
 RATIO = ALL + B13 + B12 COMBO RATIO COMBO RATIO
 ASD2 0.039 ASD2 0.002
 ASD2 0.039 ASD2 0.002

C O L U M N S P E C I A L S E I S M I C R E Q U I R E M E N T S (U B C 9 7 - A S D)
 /---CONTN. PLATS---/ DOUBLER PLATS---/ B/C RATIOS---/
 THICK MAJOR MINOR
 SECTION CLASS COMBO AREA COMBO THICK MAJOR MINOR

| STORY LEVEL | PHRF | BEAM BAY ID | SECTION ID | ASD2(C) | RATIO | ASD2 | ASD2 | ASD2 | ASD2 |
|-------------|------|-------------|------------|---------|-----------|-------|-------|-------|------|
| PHRF | B33 | M16X26 | ASD2(C) | 0.358 | 1. > 965Y | 0.041 | 0.298 | 0.018 | |
| PHRF | B34 | M16X26 | ASD2(C) | 0.338 | 1. > 965Y | 0.025 | 0.295 | 0.018 | |

| STORY LEVEL | PHRF | SECTION CLASS | COMBO | AREA | COMBO | THICK | MAJOR | MINOR |
|-------------|------|---------------|--------|---------|-------|-------|-------|-------|
| PH2 | PH1 | C3 | M10X33 | Compact | | | | |
| PH1 | PH1 | C4 | M10X33 | Compact | | | | |
| PH1 | PH1 | C5 | M10X33 | Compact | | | | |
| PH1 | PH1 | C6 | M10X33 | Compact | | | | |
| PH1 | PH1 | C7 | M10X33 | Compact | | | | |
| PH1 | PH1 | C8 | M10X33 | Compact | | | | |
| PH1 | PH1 | C9 | M10X33 | Compact | | | | |
| PH1 | PH1 | C10 | M10X33 | Compact | | | | |
| PH1 | PH1 | C11 | M10X33 | Compact | | | | |
| PH1 | PH1 | C12 | M10X33 | Compact | | | | |

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B R A C E S T E E L S T R E S S C H E C K O U T P U T (UBC97-ASD)

STORY LEVEL BEAM SECTION CLASS COMBO SECTION /-----CONNECTION SHEAR-----/ END-J

PH1 B33 M16X26 Compact ASD2 5.306E-01

PH2 B34 M16X26 Compact ASD2 5.438E-01

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B R A C E S T E E L S T R E S S C H E C K O U T P U T (UBC97-ASD)

STORY LEVEL BRACE SECTION /-----MOMENT INTERACTION CHECK-----/

PH1 D1 HSS5X5X.375 ASD1(C) 0.620 = 0.593 + 0.028 + 0.000 ASD2 0.001 ASD2 0.000

PH1 D2 HSS6X6X.500 ASD1(C) 0.674 = 0.649 + 0.025 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D3 HSS5X5X.375 ASD1(C) 0.498 = 0.474 + 0.025 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D4 HSS5X5X.375 ASD2(C) 0.193 = 0.176 + 0.017 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D5 HSS6X6X.500 ASD1(C) 0.733 = 0.707 + 0.027 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D6 HSS5X5X.375 ASD2(C) 0.233 = 0.216 + 0.017 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D7 HSS6X6X.625 ASD2(C) 0.829 = 0.798 + 0.032 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D8 HSS5X5X.375 ASD2(C) 0.800 = 0.765 + 0.034 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D9 HSS6X6X.625 ASD2(C) 0.839 = 0.807 + 0.032 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D10 HSS5X5X.375 ASD2(C) 0.738 = 0.706 + 0.032 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D11 HSS5X5X.375 ASD1(C) 0.651 = 0.622 + 0.029 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D12 HSS5X5X.375 ASD2(C) 0.206 = 0.189 + 0.017 + 0.000 ASD2 0.001 ASD2 0.000

PH2 D13 HSS6X6X.500 ASD1(C) 0.636 = 0.612 + 0.024 + 0.000 ASD2 0.001 ASD2 0.000

B R A C E S P E C I A L S E I S M I C R E Q U I R E M E N T S (UBC97-ASD)

| STORY LEVEL | BRACE BAY ID | SECTION CLASS | COMBO | CONNECTION FORCE | END-I | COMBO | END-J |
|-------------|--------------|---------------|--------------|------------------|-------|-------|---------|
| PH2 | D1 | HSS5XK.375 | Seismic ASD2 | -64.73 | ASD2 | | -64.50 |
| PH1 | D2 | HSS5XK.375 | Seismic ASD2 | 138.89 | ASD2 | | 139.29 |
| PH2 | D3 | HSS5XK.375 | Seismic ASD2 | 52.80 | ASD2 | | 53.03 |
| PH1 | D4 | HSS5XK.375 | Seismic ASD2 | -23.56 | ASD2 | | -23.43 |
| PH2 | D5 | HSS5XK.500 | Seismic ASD2 | -149.50 | ASD2 | | -149.11 |
| PH1 | D6 | HSS5XK.375 | Seismic ASD2 | -29.34 | ASD2 | | -29.12 |
| PH2 | D7 | HSS5XK.375 | Seismic ASD2 | 186.91 | ASD2 | | 186.81 |
| PH1 | D8 | HSS5XK.375 | Seismic ASD2 | -202.37 | ASD2 | | -201.89 |
| PH2 | D9 | HSS5XK.375 | Seismic ASD2 | -80.35 | ASD2 | | -80.11 |
| PH1 | D10 | HSS5XK.375 | Seismic ASD2 | -68.74 | ASD2 | | -68.51 |
| PH2 | D11 | HSS5XK.375 | Seismic ASD2 | -25.21 | ASD2 | | -25.04 |
| PH1 | D12 | HSS5XK.375 | Seismic ASD2 | -129.64 | ASD2 | | -129.44 |
| PH2 | D13 | HSS5XK.500 | Seismic ASD2 | | | | |

ETABS Steel Design

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PHRF Element: C5 Station Loc: 0.000 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=100.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.089 = 0.041 + 0.034 + 0.014 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -10.208 | 38.971 | 4.886 | 0.444 | 0.059 | | | |
| AXIAL FORCE & BIAxIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 1.051 | 25.343 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 1.109 | 33.000 | 370.061 | 0.850 | 1.000 | 0.843 | 1.959 | |
| Minor Bending | | 0.531 | 37.500 | 79.206 | 0.850 | 1.000 | 0.843 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.157 | 20.000 | 0.008 | | | | | |
| Minor Shear | | 0.010 | 20.000 | 0.001 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|---------------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PHRF Element: C6 Station Loc: 84.300 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=100.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.155 = 0.060 + 0.013 + 0.081 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -14.883 | -15.313 | -27.908 | -0.649 | -0.473 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | Axial | Stress | Allowable | Allowable | | | | | |
| | | 1.533 | 25.343 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | Major Bending | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| | Minor Bending | 0.436 | 33.000 | 370.061 | 0.850 | 1.000 | 0.843 | 2.131 | |
| | | 3.035 | 37.500 | 79.206 | 0.850 | 1.000 | 0.843 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | Major Shear | Stress | Allowable | Ratio | | | | | |
| | Minor Shear | 0.230 | 20.000 | 0.012 | | | | | |
| | | 0.082 | 20.000 | 0.004 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in | | (Summary for Combo and Station) | | | |
|------------------------------------------------------------------|------|-------------------------|--------------------|---------------------------------|--------|--------|--------|
| Level: PHRF | | Element: C9 | Station Loc: 0.000 | Section ID: W10X33 | | | |
| Element Type: Braced Frame | | Classification: Compact | | | | | |
| L=100.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.073 = 0.032 + 0.011 + 0.030 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS. | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -7.927 | 12.641 | 10.240 | 0.155 | 0.147 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 0.816 | 25.343 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.360 | 33.000 | 370.061 | 0.850 | 1.000 | 0.843 |
| Minor Bending | | 1.114 | 37.500 | 79.206 | 0.850 | 1.000 | 0.843 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.055 | 20.000 | 0.003 | | | |
| Minor Shear | | 0.025 | 20.000 | 0.001 | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
|-----------------------------------------------------------------------------|------|-------------------------|-----------|---------------------|--------|--------------------|--------|
| Level: PHRF | | Element: C10 | | Station Loc: 84.300 | | Section ID: W10X33 | |
| Element Type: Braced Frame | | Classification: Compact | | | | | |
| L=100.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is > 0.122 = 0.029 + 0.014 + 0.078 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -7.172 | -16.370 | -27.015 | -0.561 | -0.397 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 0.739 | 25.343 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| Major Bending | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Minor Bending | | 0.466 | 33.000 | 370.061 | 0.850 | 1.000 | 0.843 |
| | | 2.938 | 37.500 | 79.206 | 0.850 | 1.000 | 0.843 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| Major Shear | | Stress | Allowable | Ratio | | | |
| Minor Shear | | 0.199 | 20.000 | 0.010 | | | |
| | | 0.069 | 20.000 | 0.003 | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
|-----------------------------------------------------------------------------|------|-------------------------|-----------|----------------------|--------|--------------------|--------|
| Level: PH2 | | Element: C3 | | Station Loc: 116.300 | | Section ID: W10X33 | |
| Element Type: Braced Frame | | Classification: Compact | | | | | |
| L=132.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.300 = 0.145 + 0.027 + 0.128 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD1 | -32.079 | -28.005 | -44.230 | -0.611 | -0.550 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 3.304 | 22.734 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.797 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 |
| Minor Bending | | 4.810 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 |
| | | | | | | | Cb |
| | | | | | | | Factor |
| | | | | | | | 2.300 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.217 | 20.000 | 0.011 | | | |
| Minor Shear | | 0.095 | 20.000 | 0.005 | | | |

ETABS Steel Design

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in | | (Summary for Combo and Station) | | | |
|------------------------------------------------------------------|------|-------------------------|-----------|---------------------------------|--------|--------------------|--------|
| Level: PH2 | | Element: C4 | | Station Loc: 0.000 | | Section ID: W10X33 | |
| Element Type: Braced Frame | | Classification: Compact | | | | | |
| L=132.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.044 = 0.004 + 0.027 + 0.013 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -0.880 | 28.406 | 4.551 | 0.350 | 0.067 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 0.091 | 22.734 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.808 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 |
| Minor Bending | | 0.495 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.124 | 20.000 | 0.006 | | | |
| Minor Shear | | 0.012 | 20.000 | 0.001 | | | |

ETABS Steel Design

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 Subject _____

| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH2 Element: C5 Station Loc: 0.000 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=132.000 | | | | | | | | | |
| A=9.710 122=36.600 133=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.173 = 0.139 + 0.018 + 0.016 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD1 | -30.704 | 18.689 | 5.535 | 0.165 | 0.101 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 3.162 | 22.734 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.532 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 | 2.024 | |
| Minor Bending | | 0.602 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.058 | 20.000 | 0.003 | | | | | |
| Minor Shear | | 0.017 | 20.000 | 0.001 | | | | | |

ETABS Steel Design

Engineer _____
 Project _____
 Subject _____

| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH2 Element: C6 Station Loc: 0.000 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=132.000 A=9.710 i22=36.600 i33=171.000 s22=9.196 s33=35.149 r22=1.941 r33=4.197 E=29000.000 fy=50.000 RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.217 = 0.128 + 0.016 + 0.073 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -28.226 | 16.760 | 25.286 | 0.372 | 0.288 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | Axial | Stress | Allowable | Allowable | | | | | |
| | | 2.907 | 22.734 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | Major Bending | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| | Minor Bending | 0.477 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 | 2.300 | |
| | | 2.750 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | Major Shear | Stress | Allowable | Ratio | | | | | |
| | Minor Shear | 0.132 | 20.000 | 0.007 | | | | | |
| | | 0.050 | 20.000 | 0.002 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH2 Element: C7 Station Loc: 116.300 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=132.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.127 = 0.075 + 0.011 + 0.042 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD1 | -16.511 | -11.141 | -14.517 | -0.144 | -0.230 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 1.700 | 22.734 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.317 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 | 2.300 | |
| Minor Bending | | 1.579 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.051 | 20.000 | 0.003 | | | | | |
| Minor Shear | | 0.040 | 20.000 | 0.002 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
|-----------------------------------------------------------------------------|------|--------|-----------|-----------|--------|--------|--------|
| Level: PH2 Element: C8 Station Loc: 0.000 Section ID: W10X33 | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | |
| L=132.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.244 = 0.028 + 0.020 + 0.196 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -6.156 | 20.820 | 67.670 | 0.238 | 0.883 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 0.634 | 22.734 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.592 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 |
| Minor Bending | | 7.359 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 |
| | | | | | | | Cb |
| | | | | | | | 2.217 |
| SHEAR DESIGN | | | | | | | |
| | | fv | Fv | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.084 | 20.000 | 0.004 | | | |
| Minor Shear | | 0.153 | 20.000 | 0.008 | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH2 Element: C9 Station Loc: 116.300 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=132.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.209 = 0.179 + 0.011 + 0.020 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -39.519 | -12.791 | -7.218 | -0.175 | -0.096 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 4.070 | 22.734 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.364 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 | 2.300 | |
| Minor Bending | | 0.785 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 | | |
| SHEAR-DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.062 | 20.000 | 0.003 | | | | | |
| Minor Shear | | 0.017 | 20.000 | 0.001 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in (Summary for Combo and Station) | | | | | | |
|------------------------------------------------------------------|------|-----------------------------------------------|--------------------|--------------------|--------|--------|--------|--|
| Level: PH2 | | Element: C10 | Station Loc: 0.000 | Section ID: W10X33 | | | | |
| Element Type: Braced Frame | | Classification: Compact | | | | | | |
| L=132.000 | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | |
| RLLF=1.000 | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.275 = 0.201 + 0.017 + 0.057 | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | |
| Combo | ASD1 | -44.480 | 20.102 | 20.536 | 0.265 | 0.217 | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | |
| | | fa | Fa | Ft | | | | |
| | | Stress | Allowable | Allowable | | | | |
| Axial | | 4.581 | 22.734 | 30.000 | | | | |
| | | fb | Fb | Fe | Cm | K | L | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | |
| Major Bending | | 0.572 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 | |
| Minor Bending | | 2.233 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 | |
| SHEAR DESIGN | | | | | | | | |
| | | fv | FV | Stress | | | | |
| | | Stress | Allowable | Ratio | | | | |
| Major Shear | | 0.094 | 20.000 | 0.005 | | | | |
| Minor Shear | | 0.038 | 20.000 | 0.002 | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|---------------------------------------------------------------------------------------|------|--------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH2 Element: C11 Station Loc: 0.000 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=132.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.105 = 0.033 + 0.036 + 0.036 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD1 | -7.345 | 38.161 | 12.329 | 0.512 | 0.200 | | | |
| AXIAL FORCE & BIAxIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 0.756 | 22.734 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 1.086 | 30.000 | 194.432 | 0.850 | 1.000 | 0.881 | 2.300 | |
| Minor Bending | | 1.341 | 37.500 | 41.615 | 0.850 | 1.000 | 0.881 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.181 | 20.000 | 0.009 | | | | | |
| Minor Shear | | 0.035 | 20.000 | 0.002 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|--------------------------------------------|------|-----------------------------------------------|--|--------------------|--|--------------------|--|--------|--|--------|--|
| Level: PH2 | | Element: C12 | | Station Loc: 0.000 | | Section ID: W10X33 | | | | | |
| Element Type: Braced Frame | | Classification: Compact | | | | | | | | | |
| L=132.000 | | | | | | | | | | | |
| A=9.710 | | I22=36.600 | | I33=171.000 | | | | | | | |
| s22=9.196 | | s33=35.149 | | r22=1.941 | | r33=4.197 | | | | | |
| E=29000.000 | | fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is | | 0.204 = 0.147 + 0.019 + 0.038 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | | | |
| | | P | | M33 | | M22 | | V2 | | V3 | |
| Combo | ASD2 | -32.524 | | 20.297 | | 13.010 | | 0.232 | | 0.169 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | | | | | |
| | | fa | | Fa | | Ft | | | | | |
| Axial | | Stress | | Allowable | | Allowable | | | | | |
| | | 3.350 | | 22.734 | | 30.000 | | | | | |
| | | fb | | Fb | | Fe | | Cm | | K | |
| Major Bending | | Stress | | Allowable | | Allowable | | Factor | | Factor | |
| Minor Bending | | 1.415 | | 37.500 | | 41.615 | | 0.850 | | 1.000 | |
| | | 0.577 | | 30.000 | | 194.432 | | 0.850 | | 1.000 | |
| | | | | | | | | 0.881 | | 0.881 | |
| | | | | | | | | | | 2.263 | |
| SHEAR DESIGN | | | | | | | | | | | |
| | | fv | | FV | | Stress | | | | | |
| Major Shear | | Stress | | Allowable | | Ratio | | | | | |
| Minor Shear | | 0.082 | | 20.000 | | 0.004 | | | | | |
| | | 0.029 | | 20.000 | | 0.001 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in | | (Summary for Combo and Station) | | | | |
|--------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|-----------|---------------------------------|--------|--------|--------|--------|
| Level: PH1 Element: C3 | | Station Loc: 128.300 | | Section ID: W10X33 | | | | |
| Element Type: Braced Frame | | Classification: Compact | | | | | | |
| L=144.000 A=9.710 i22=36.600 i33=171.000 s22=9.196 s33=35.149 r22=1.941 r33=4.197 E=29000.000 fy=50.000 RLLF=1.000 | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.363 = 0.254 + 0.022 + 0.086 | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | |
| Combo | ASD1 | -53.474 | -26.406 | -29.439 | -0.206 | -0.229 | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | |
| | | fa | Fa | Ft | | | | |
| | | Stress | Allowable | Allowable | | | | |
| Axial | | 5.507 | 21.652 | 30.000 | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor |
| Major Bending | | 0.751 | 30.000 | 159.762 | 0.850 | 1.000 | 0.891 | 1.750 |
| Minor Bending | | 3.201 | 37.500 | 34.195 | 0.850 | 1.000 | 0.891 | |
| SHEAR DESIGN | | | | | | | | |
| | | fv | FV | Stress | | | | |
| | | Stress | Allowable | Ratio | | | | |
| Major Shear | | 0.073 | 20.000 | 0.004 | | | | |
| Minor Shear | | 0.040 | 20.000 | 0.002 | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|---------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH1 Element: C4 Station Loc: 128.300 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=144.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.475 = 0.434 + 0.017 + 0.024 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD1 | -91.233 | -20.201 | -7.108 | -0.157 | -0.055 | | | |
| AXIAL FORCE & BIAxIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| Axial | | Stress | Allowable | Allowable | | | | | |
| | | 9.396 | 21.652 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| Major Bending | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Minor Bending | | 0.575 | 30.000 | 159.762 | 0.850 | 1.000 | 0.891 | 1.750 | |
| | | 0.773 | 37.500 | 34.195 | 0.850 | 1.000 | 0.891 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| Major Shear | | Stress | Allowable | Ratio | | | | | |
| Minor Shear | | 0.056 | 20.000 | 0.003 | | | | | |
| | | 0.010 | 20.000 | 0.000 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | | |
|-----------------------------------------------------------------------------|--|-----------------|--|----------------------|--|--------------------|--|--------|--|--------|
| Level: PH1 | | Element: C5 | | Station Loc: 128.300 | | Section ID: W10X33 | | | | |
| Element Type: Braced Frame | | Classification: | | Compact | | | | | | |
| L=144.000 | | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.582 = 0.554 + 0.012 + 0.016 | | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | | |
| | | P | | M33 | | M22 | | V2 | | V3 |
| Combo ASD2 | | -116.564 | | -13.600 | | -4.226 | | -0.106 | | -0.033 |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | | |
| | | fa | | Fa | | Ft | | | | |
| Axial | | Stress | | Allowable | | Allowable | | | | |
| | | 12.005 | | 21.652 | | 30.000 | | | | |
| | | fb | | Fb | | Fe | | Cm | | K |
| Major Bending | | Stress | | Allowable | | Allowable | | Factor | | Factor |
| Minor Bending | | 0.387 | | 30.000 | | 159.762 | | 0.850 | | 1.000 |
| | | 0.460 | | 37.500 | | 34.195 | | 0.850 | | 1.000 |
| | | | | | | | | L | | Cb |
| | | | | | | | | Factor | | Factor |
| | | | | | | | | 0.891 | | 1.750 |
| SHEAR DESIGN | | | | | | | | | | |
| | | fv | | FV | | Stress | | | | |
| Major Shear | | Stress | | Allowable | | Ratio | | | | |
| Minor Shear | | 0.038 | | 20.000 | | 0.002 | | | | |
| | | 0.006 | | 20.000 | | 0.000 | | | | |

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| | | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PH1 Element: C6 Station Loc: 128.300 Section ID: W10X33 Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=144.000 A=9.710 i22=36.600 i33=171.000 s22=9.196 s33=35.149 r22=1.941 r33=4.197 E=29000.000 fy=50.000 RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.583 = 0.523 + 0.012 + 0.048 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASDI | -109.866 | -14.132 | -12.965 | -0.110 | -0.101 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 11.315 | 21.652 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.402 | 30.000 | 159.762 | 0.850 | 1.000 | 0.891 | 1.750 | |
| Minor Bending | | 1.410 | 37.500 | 34.195 | 0.850 | 1.000 | 0.891 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.039 | 20.000 | 0.002 | | | | | |
| Minor Shear | | 0.018 | 20.000 | 0.001 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
|-----------------------------------------------------------------------------|------|-------------------------|-----------|----------------------|--------|--------------------|--------|
| Level: PH1 | | Element: C8 | | Station Loc: 128.300 | | Section ID: W10X33 | |
| Element Type: Braced Frame | | Classification: Compact | | | | | |
| L=144.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.764 = 0.606 + 0.011 + 0.147 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -127.325 | -12.295 | -36.797 | -0.096 | -0.287 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 13.113 | 21.652 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.350 | 30.000 | 159.762 | 0.850 | 1.000 | 0.891 |
| Minor Bending | | 4.001 | 37.500 | 34.195 | 0.850 | 1.000 | 0.891 |
| SHEAR DESIGN | | | | | | | |
| | | fv | Fv | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.034 | 20.000 | 0.002 | | | |
| Minor Shear | | 0.050 | 20.000 | 0.002 | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH1 Element: C9 Station Loc: 0.000 Section ID: W10X33 | | | | | | | | | |
| Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=144.000 | | | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.398 = 0.398 + 0.000 + 0.000 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS (SPECIAL COMBO) | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASDI | -142.415 | 0.000 | 0.000 | 0.080 | 0.026 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 14.667 | 36.808 | 50.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.000 | 30.000 | 159.762 | 1.000 | 1.000 | 0.891 | 1.750 | |
| Minor Bending | | 0.000 | 37.500 | 34.195 | 1.000 | 1.000 | 0.891 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.028 | 20.000 | 0.001 | | | | | |
| Minor Shear | | 0.005 | 20.000 | 0.000 | | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|--|----------------------|--|--------------------|--|--------|--|--------|
| Level: PH1 | | Element: C10 | | Station Loc: 128.300 | | Section ID: W10X33 | | | | |
| Element Type: Braced Frame | | Classification: Compact | | | | | | | | |
| L=144.000 A=9.710 i22=36.600 i33=171.000 s22=9.196 s33=35.149 r22=1.941 r33=4.197 E=29000.000 fy=50.000 RLLF=1.000 | | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.301 = 0.251 + 0.008 + 0.042 | | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | | |
| | | P | | M33 | | M22 | | V2 | | V3 |
| Combo | ASD1 | -52.855 | | -9.104 | | -14.184 | | -0.071 | | -0.111 |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | | |
| | | fa | | Fb | | Fe | | Cm | | K |
| Axial | | Stress | | Allowable | | Allowable | | Factor | | Factor |
| | | 5.443 | | 21.652 | | 30.000 | | | | |
| | | fb | | Fb | | Fe | | Cm | | K |
| Major Bending | | Stress | | Allowable | | Allowable | | Factor | | Factor |
| Minor Bending | | 1.542 | | 37.500 | | 34.195 | | 0.850 | | 1.000 |
| | | 0.259 | | 30.000 | | 159.762 | | 0.850 | | 1.000 |
| | | | | | | | | L | | Cb |
| | | | | | | | | 0.891 | | 1.750 |
| SHEAR DESIGN | | | | | | | | | | |
| | | fv | | FV | | Stress | | | | |
| Major Shear | | Stress | | Allowable | | Ratio | | | | |
| Minor Shear | | 0.019 | | 20.000 | | 0.001 | | | | |
| | | 0.025 | | 20.000 | | 0.001 | | | | |

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in | | (Summary for Combo and Station) | | | |
|------------------------------------------------------------------|------|-------------------------|-----------|---------------------------------|--------|--------------------|--------|
| Level: PH1 | | Element: C12 | | Station Loc: 128.300 | | Section ID: W10X33 | |
| Element Type: Braced Frame | | Classification: Compact | | | | | |
| L=144.000 | | | | | | | |
| A=9.710 i22=36.600 i33=171.000 | | | | | | | |
| s22=9.196 s33=35.149 r22=1.941 r33=4.197 | | | | | | | |
| E=29000.000 fy=50.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.207 = 0.175 + 0.014 + 0.018 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -36.698 | -17.145 | -6.611 | -0.134 | -0.052 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 3.779 | 21.652 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.488 | 30.000 | 159.762 | 0.850 | 1.000 | 0.891 |
| Minor Bending | | 0.719 | 37.500 | 34.195 | 0.850 | 1.000 | 0.891 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.047 | 20.000 | 0.002 | | | |
| Minor Shear | | 0.009 | 20.000 | 0.000 | | | |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PHRF Element: B33 Station Loc: 132.000 Section ID: W16X26 Element Type: Braced Frame Classification: Compact | | | | | | | | | |
| L=252.000 A=7.680 i22=9.590 i33=301.000 s22=3.487 s33=38.344 r22=1.117 r33=6.260 E=29000.000 fy=50.000 RLLF=1.000 | | | | | | | | | |
| Stress Check Message - l > 96ry P-M33-M22 Demand/Capacity Ratio is 0.358 = 0.041 + 0.298 + 0.018 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -3.580 | -219.816 | -2.387 | -2.761 | -0.119 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 0.466 | 11.378 | 30.000 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 5.733 | 19.218 | 357.109 | 0.850 | 1.000 | 0.508 | 1.000 | |
| Minor Bending | | 0.685 | 37.500 | 11.378 | 0.850 | 1.000 | 0.508 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.703 | 17.892 | 0.039 | | | | | |
| Minor Shear | | 0.038 | 20.000 | 0.002 | | | | | |
| END REACTION MAJOR SHEAR FORCES | | | | | | | | | |
| | | Left End | Load | Right End | Load | | | | |
| | | Reaction | Combo | Reaction | Combo | | | | |
| | | 0.531 | ASD2 | | | | | | |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PRRF Element: B34 Station Loc: 132.000 Section ID: W16X26 Element Type: Braced Frame Classification: Compact | | | | | | | |
| L=252.000 A=7.680 i22=9.590 i33=301.000 s22=3.487 s33=38.344 r22=1.117 r33=6.260 E=29000.000 fy=50.000 RLLF=1.000 | | | | | | | |
| Stress Check Message - 1 > 96ry P-M33-M22 Demand/Capacity Ratio is 0.338 = 0.025 + 0.295 + 0.018 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| Combo | ASD2 | P | M33 | M22 | V2 | V3 | |
| | | -2.176 | -219.816 | -2.368 | -2.761 | -0.118 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-3) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 0.283 | 11.537 | 30.000 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| Major Bending | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| | | 5.733 | 19.413 | 362.098 | 0.850 | 1.000 | 0.505 |
| Minor Bending | | 0.679 | 37.500 | 11.537 | 0.850 | 1.000 | 0.505 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| Major Shear | | Stress | Allowable | Ratio | | | |
| | | 0.703 | 17.892 | 0.039 | | | |
| Minor Shear | | 0.037 | 20.000 | 0.002 | | | |
| END REACTION MAJOR SHEAR FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | 0.543 | ASD2 | | | | |

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| UBC97-ASD STEEL SECTION CHECK | | Units: Kip-in | | (Summary for Combo and Station) | | | |
|------------------------------------------------------------------|------|-------------------------|-----------|---------------------------------|--------|-------------|-------------|
| Level: | PHRF | Element: | D5 | Station Loc: | 82.801 | Section ID: | HSS5X5X.375 |
| Element Type: Braced Frame | | Classification: Seismic | | | | | |
| L=165.602 | | | | | | | |
| A=6.180 i22=21.700 i33=21.700 | | | | | | | |
| s22=8.680 s33=8.680 r22=1.874 r33=1.874 | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.193 = 0.176 + 0.017 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -12.968 | -3.592 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 2.098 | 11.890 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.414 | 27.600 | 19.120 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 19.120 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | -23.557 | ASD2 | 23.433 | ASD2 | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|-----------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PHRF Element: D6 Station Loc: 82.801 Section ID: HSS5X5X.375 | | | | | | | | | |
| Element Type: Braced Frame Classification: Seismic | | | | | | | | | |
| L=165.602 | | | | | | | | | |
| A=6.180 i22=21.700 i33=21.700 | | | | | | | | | |
| s22=8.680 s33=8.680 r22=1.874 r33=1.874 | | | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.233 = 0.216 + 0.017 + 0.000 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -15.848 | -3.592 | 0.000 | 0.000 | 0.000 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 2.564 | 11.890 | 27.600 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.414 | 27.600 | 19.120 | 1.000 | 1.000 | 1.000 | 1.000 | |
| Minor Bending | | 0.000 | 27.600 | 19.120 | 1.000 | 1.000 | 1.000 | 1.000 | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| END REACTION AXIAL FORCES | | | | | | | | | |
| | | Left End | Load | Right End | Load | | | | |
| | | Reaction | Combo | Reaction | Combo | | | | |
| | | -29.345 | ASD2 | -29.169 | ASD2 | | | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PHRF Element: D13 Station Loc: 82.801 Section ID: HSS5X5X.375 Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=165.602 A=6.180 i22=21.700 i33=21.700 s22=8.680 s33=8.680 r22=1.874 r33=1.874 E=29000.000 fy=46.000 RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.206 = 0.189 + 0.017 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -13.884 | -3.592 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 2.247 | 11.890 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.414 | 27.600 | 19.120 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 19.120 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | -25.211 | ASD2 | -25.036 | ASD2 | | |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PH2 Element: D1 Station Loc: 93.338 Section ID: HSS5X5X.375 Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=186.676 A=6.180 i22=21.700 i33=21.700 s22=8.680 s33=8.680 r22=1.874 r33=1.874 E=29000.000 fy=46.000 RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.620 = 0.593 + 0.028 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD1 | -36.610 | -4.049 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 5.924 | 9.997 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.466 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | -64.728 | ASD2 | -64.497 | ASD2 | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
|-----------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| Level: PH2 Element: D3 Station Loc: 93.338 Section ID: HSS5X5X.375 | | | | | | | |
| Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=186.676 | | | | | | | |
| A=6.180 i22=21.700 i33=21.700 | | | | | | | |
| s22=8.680 s33=8.680 r22=1.874 r33=1.874 | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.498 = 0.474 + 0.025 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD1 | -29.275 | -4.049 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 4.737 | 9.997 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.466 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | 52.799 | ASD2 | 53.030 | ASD2 | | |

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| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|---------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH2 Element: D8 Station Loc: 93.338 Section ID: HSS5X.375 | | | | | | | | | |
| Element Type: Braced Frame Classification: Seismic | | | | | | | | | |
| L=186.676 | | | | | | | | | |
| A=6:180 i22=21:700 i33=21:700 | | | | | | | | | |
| s22=8.680 s33=8.680 r22=1.874 r33=1.874 | | | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.800 = 0.765 + 0.034 + 0.000 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -47.285 | -4.049 | 0.000 | 0.000 | 0.000 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 7.651 | 9.997 | 27.600 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.466 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 | 1.000 | |
| Minor Bending | | 0.000 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 | 1.000 | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| END REACTION AXIAL FORCES | | | | | | | | | |
| | | Left End | Load | Right End | Load | | | | |
| | | Reaction | Combo | Reaction | Combo | | | | |
| | | -86.912 | ASD2 | 86.807 | ASD2 | | | | |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PH2 Element: D10 Station Loc: 93.338 Section ID: HSS5X5X.375 Element Type: Braced Frame Classification: Seismic | | | | | | | | | |
| L=186.676 A=6.180 i22=21.700 i33=21.700 s22=8.680 s33=8.680 r22=1.874 r33=1.874 E=29000.000 fy=46.000 RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.738 = 0.706 + 0.032 + 0.000 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD2 | -43.630 | -4.049 | 0.000 | 0.000 | 0.000 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 7.060 | 9.997 | 27.600 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.466 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 | 1.000 | |
| Minor Bending | | 0.000 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 | | |
| SHEAR-DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| END REACTION AXIAL FORCES | | | | | | | | | |
| | | Left End | Load | Right End | Load | | | | |
| | | Reaction | Combo | Reaction | Combo | | | | |
| | | -80.345 | ASD2 | -80.114 | ASD2 | | | | |

ETABS Steel Design

Engineer _____
 Project _____
 Subject _____

| | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in. (Summary for Combo and Station) Level: PH2 Element: D11 Station Loc: 93.338 Section ID: HSS5X5X.375 Element Type: Braced Frame Classification: Seismic | | | | | | | | | |
| L=186.676 A=6.180 i22=21.700 i33=21.700 s22=8.680 s33=8.680 r22=1.874 r33=1.874 E=29000.000 fy=46.000 RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.651 = 0.622 + 0.029 + 0.000 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD1 | -38.447 | -4.049 | 0.000 | 0.000 | 0.000 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 6.221 | 9.997 | 27.600 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.466 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 | 1.000 | |
| Minor Bending | | 0.000 | 27.600 | 15.047 | 1.000 | 1.000 | 1.000 | | |
| SHEAR-DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| END REACTION AXIAL FORCES | | | | | | | | | |
| | | Left End | Load | Right End | Load | | | | |
| | | Reaction | Combo | Reaction | Combo | | | | |
| | | -68.738 | ASD2 | -68.507 | ASD2 | | | | |

ETABS Steel Design

Engineer _____
 Project _____
 Subject _____

| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
|-----------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| Level: PH1 Element: D2 Station Loc: 97.673 Section ID: HSS6X6X.500 | | | | | | | |
| Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=195.346 | | | | | | | |
| A=9.740 i22=48.300 i33=48.300 | | | | | | | |
| s22=16.100 s33=16.100 r22=2.227 r33=2.227 | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.674 = 0.649 + 0.025 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD1 | -75.831 | -6.678 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 7.786 | 12.000 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.415 | 27.600 | 19.406 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 19.406 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES : | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | 138.894 | ASD2 | 139.292 | ASD2 | | |

ETABS Steel Design

Engineer _____

Project _____

Subject _____

| | | | | | | | |
|---------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | |
| Level: PH1 Element: D5 Station Loc: 97.673 Section ID: HSS6X6X.500 | | | | | | | |
| Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=195.346 | | | | | | | |
| A=9.740 i22=48.300 i33=48.300 | | | | | | | |
| s22=16.100 s33=16.100 r22=2.227 r33=2.227 | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | |
| RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.733 = 0.707 + 0.027 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD1 | -82.605 | -6.678 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 8.481 | 12.000 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| Major Bending | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Minor Bending | | 0.415 | 27.600 | 19.406 | 1.000 | 1.000 | 1.000 |
| | | 0.000 | 27.600 | 19.406 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| Major Shear | | Stress | Allowable | Ratio | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | -149.503 | ASD2 | -149.105 | ASD2 | | |

ETABS Steel Design

Engineer _____
 Project _____
 Subject _____

| | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PH1 Element: D6 Station Loc: 97.673 Section ID: HSS6X6X.625 Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=195.346 A=11:700 i22=55.200 i33=55.200 s22=18.400 s33=18.400 r22=2.172 r33=2.172 E=29000.000 fy=46.000 RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.829 = 0.798 + 0.032 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -108.510 | -8.021 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| Axial | | Stress | Allowable | Allowable | | | |
| | | 9.274 | 11.626 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.436 | 27.600 | 18.463 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 18.463 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | 199.640 | ASD2 | 200.118 | ASD2 | | |

ETABS Steel Design

Engineer _____
 Project _____
 Subject _____

| | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) Level: PH1 Element: D9 Station Loc: 97.673 Section ID: HSS6X6X.625 Element Type: Braced Frame Classification: Seismic | | | | | | | |
| L=195.346 A=11.700 I22=55.200 I33=55.200 s22=18.400 s33=18.400 r22=2.172 r33=2.172 E=29000.000 fy=46.000 RLLF=1.000 | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.839 = 0.807 + 0.032 + 0.000 | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | |
| Combo | ASD2 | -109.730 | -8.021 | 0.000 | 0.000 | 0.000 | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | |
| | | fa | Fa | Ft | | | |
| | | Stress | Allowable | Allowable | | | |
| Axial | | 9.379 | 11.626 | 27.600 | | | |
| | | fb | Fb | Fe | Cm | K | L |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor |
| Major Bending | | 0.436 | 27.600 | 18.463 | 1.000 | 1.000 | 1.000 |
| Minor Bending | | 0.000 | 27.600 | 18.463 | 1.000 | 1.000 | 1.000 |
| SHEAR DESIGN | | | | | | | |
| | | fv | FV | Stress | | | |
| | | Stress | Allowable | Ratio | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | |
| END REACTION AXIAL FORCES | | | | | | | |
| | | Left End | Load | Right End | Load | | |
| | | Reaction | Combo | Reaction | Combo | | |
| | | -202.367 | ASD2 | -201.889 | ASD2 | | |

ETABS Steel Design

Engineer _____
 Project _____
 Subject _____

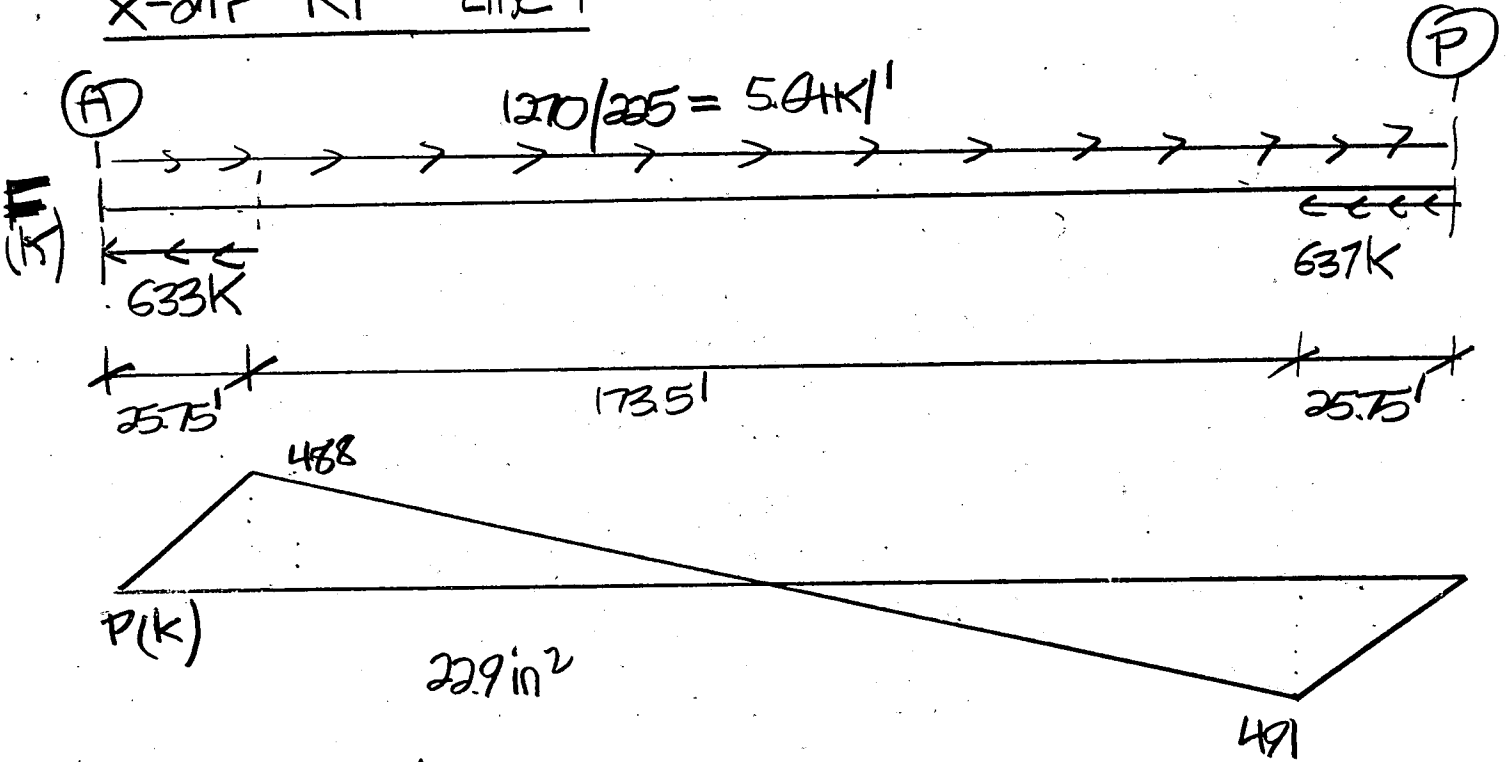
| UBC97-ASD STEEL SECTION CHECK Units: Kip-in (Summary for Combo and Station) | | | | | | | | | |
|---------------------------------------------------------------------------------------|------|----------|-----------|-----------|--------|--------|--------|--------|--|
| Level: PH1 Element: D13 Station Loc: 97.673 Section ID: HSS6X6X.500 | | | | | | | | | |
| Element Type: Braced Frame Classification: Seismic | | | | | | | | | |
| L=195.346 | | | | | | | | | |
| A=9.740 i22=48.300 i33=48.300 | | | | | | | | | |
| s22=16.100 s33=16.100 r22=2.227 r33=2.227 | | | | | | | | | |
| E=29000.000 fy=46.000 | | | | | | | | | |
| RLLF=1.000 | | | | | | | | | |
| P-M33-M22 Demand/Capacity Ratio is 0.636 = 0.612 + 0.024 + 0.000 | | | | | | | | | |
| STRESS CHECK FORCES & MOMENTS | | | | | | | | | |
| | | P | M33 | M22 | V2 | V3 | | | |
| Combo | ASD1 | -71.478 | -6.678 | 0.000 | 0.000 | 0.000 | | | |
| AXIAL FORCE & BIAXIAL MOMENT DESIGN (H1-1) | | | | | | | | | |
| | | fa | Fa | Ft | | | | | |
| | | Stress | Allowable | Allowable | | | | | |
| Axial | | 7.339 | 12.000 | 27.600 | | | | | |
| | | fb | Fb | Fe | Cm | K | L | Cb | |
| | | Stress | Allowable | Allowable | Factor | Factor | Factor | Factor | |
| Major Bending | | 0.415 | 27.600 | 19.406 | 1.000 | 1.000 | 1.000 | 1.000 | |
| Minor Bending | | 0.000 | 27.600 | 19.406 | 1.000 | 1.000 | 1.000 | | |
| SHEAR DESIGN | | | | | | | | | |
| | | fv | FV | Stress | | | | | |
| | | Stress | Allowable | Ratio | | | | | |
| Major Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| Minor Shear | | 0.000 | 18.400 | 0.000 | | | | | |
| END REACTION AXIAL FORCES | | | | | | | | | |
| | | Left End | Load | Right End | Load | | | | |
| | | Reaction | Combo | Reaction | Combo | | | | |
| | | -129.838 | ASD2 | -129.440 | ASD2 | | | | |



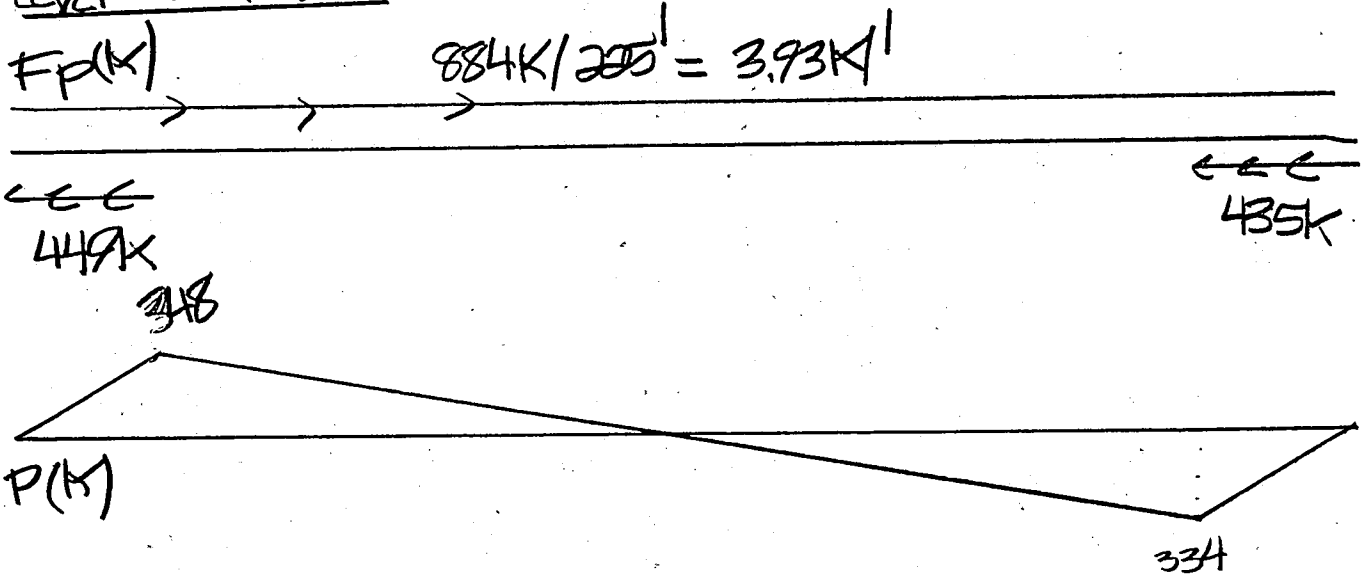
L: Diaphragm Design

Drag Force

X-dir RF Line 1



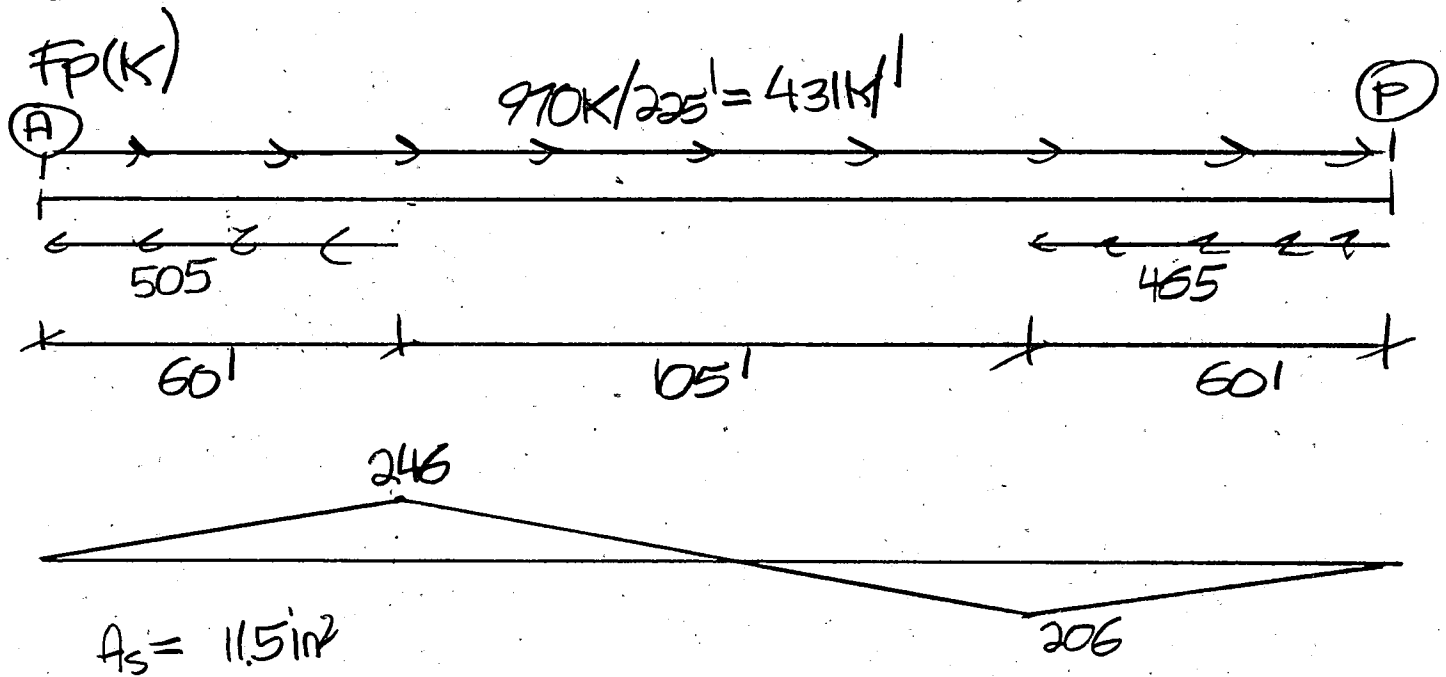
Level 14 Line 1



| | | |
|-----------|-------------|------------|
| Project: | W. O. No.: | Date: |
| Calc. By: | Checked By: | Sheet 1 of |

Drag Force

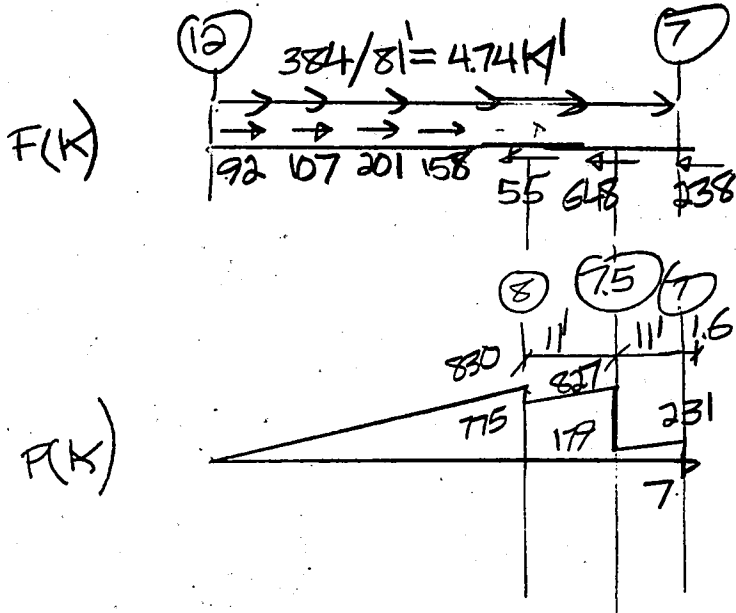
Line 1 Level 10



| | | |
|-----------|-------------|------------|
| Project: | W. O. No.: | Date: |
| Calc. By: | Checked By: | Sheet 2 of |

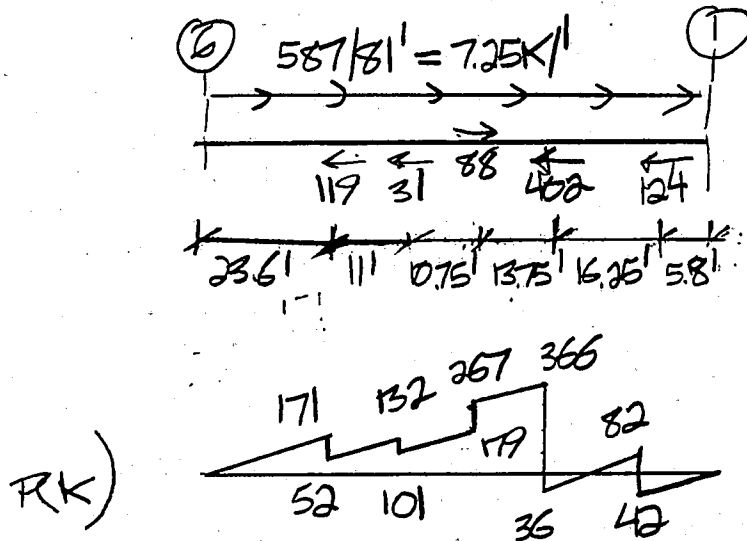
Drag Force

Y-dir Level 3 Line A North



$P_u = -LP$
 use $\phi = 1.0$

Level 3 Line A South



| | | |
|-----------|-------------|------------|
| Project: | W. O. No.: | Date: |
| Calc. By: | Checked By: | Sheet 3 of |

Hall of Justice

X-direction shear walls dynamic analysis forces

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load Case | V | ΔV | Level | Pier | V | ΔV | ΔV | Drag Design | | As=Pu/60ksi | | Pu | | Fp | | Max As | |
|-------|------|-------|-----------|--------|--------|-------|-------|--------|--------|--------|-------------|---------|-------------|--------|--------|--------|--------|--------|--------|--|
| | | | | | | | | | | | Wall L | Total L | F | P | Pu | As | As | As | | |
| | | | | {kips} | {kips} | Above | | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {kips} | {in^2} | {in^2} | {in^2} | | |
| RF | 1 | 1.1 | DX | 355 | | N/A | N/A | 0 | | | | | | | | | | | | |
| RF | 1 | 1.2 | DX | 270 | 625 | N/A | N/A | 0 | 0 | 625 | 25.75 | 225 | 5.59 | 481 | 1213 | 20.2 | 8.9 | 20.2 | | |
| RF | 1 | 1.9 | DX | 273 | | N/A | N/A | 0 | | | | | | | | | | | | |
| RF | 1 | 1.11 | DX | 359 | 632 | N/A | N/A | 0 | 0 | 632 | 25.75 | 225 | 5.59 | 488 | 1231 | 20.5 | 9.0 | 20.5 | | |
| RF | 12 | 12.1 | DX | 377 | | N/A | N/A | 0 | | | | | | | | | | | | |
| RF | 12 | 12.2 | DX | 286 | 663 | N/A | N/A | 0 | 0 | 663 | 25.75 | 225 | 5.84 | 513 | 1292 | 21.5 | 9.5 | 21.5 | | |
| RF | 12 | 12.9 | DX | 282 | | N/A | N/A | 0 | | | | | | | | | | | | |
| RF | 12 | 12.11 | DX | 368 | 650 | N/A | N/A | 0 | 0 | 650 | 25.75 | 225 | 5.84 | 500 | 1259 | 21.0 | 9.3 | 21.0 | | |
| L14 | 1 | 1.1 | DX | 651 | | RF | 1.1 | 355 | | | | | | | | | | | | |
| L14 | 1 | 1.2 | DX | 373 | 1024 | RF | 1.2 | 270 | 625 | 399 | 25.75 | 225 | 3.52 | 308 | 691 | 11.5 | 7.4 | 11.5 | | |
| L14 | 1 | 1.9 | DX | 379 | | RF | 1.9 | 273 | | | | | | | | | | | | |
| L14 | 1 | 1.11 | DX | 646 | 1025 | RF | 1.11 | 359 | 632 | 393 | 25.75 | 225 | 3.52 | 302 | 678 | 11.3 | 7.3 | 11.3 | | |
| L14 | 12 | 12.1 | DX | 687 | | RF | 12.1 | 377 | | | | | | | | | | | | |
| L14 | 12 | 12.2 | DX | 388 | 1075 | RF | 12.2 | 286 | 663 | 412 | 25.75 | 225 | 3.67 | 318 | 712 | 11.9 | 7.4 | 11.9 | | |
| L14 | 12 | 12.9 | DX | 392 | | RF | 12.9 | 282 | | | | | | | | | | | | |
| L14 | 12 | 12.11 | DX | 673 | 1065 | RF | 12.11 | 368 | 650 | 415 | 25.75 | 225 | 3.67 | 320 | 717 | 11.9 | 7.3 | 11.9 | | |
| L12 | 1 | 1.1 | DX | 400 | | L14 | 1.1 | 651 | | | | | | | | | | | | |
| L12 | 1 | 1.2 | DX | 778 | 1178 | L14 | 1.2 | 373 | 1024 | 153 | 25.75 | 225 | 1.34 | 119 | 266 | 4.4 | 6.4 | 6.4 | | |
| L12 | 1 | 1.9 | DX | 778 | | L14 | 1.9 | 379 | | | | | | | | | | | | |
| L12 | 1 | 1.11 | DX | 397 | 1175 | L14 | 1.11 | 646 | 1025 | 149 | 25.75 | 225 | 1.34 | 115 | 257 | 4.3 | 6.2 | 6.2 | | |
| L12 | 12 | 12.1 | DX | 425 | | L14 | 12.1 | 687 | | | | | | | | | | | | |
| L12 | 12 | 12.2 | DX | 811 | 1237 | L14 | 12.2 | 388 | 1075 | 162 | 25.75 | 225 | 1.40 | 125 | 281 | 4.7 | 6.3 | 6.3 | | |
| L12 | 12 | 12.9 | DX | 808 | | L14 | 12.9 | 392 | | | | | | | | | | | | |
| L12 | 12 | 12.11 | DX | 410 | 1218 | L14 | 12.11 | 673 | 1065 | 154 | 25.75 | 225 | 1.40 | 118 | 264 | 4.4 | 6.2 | 6.2 | | |
| L10 | 1 | 1.1 | DX | -311 | | L12 | 1.1 | 400 | | | | | | | | | | | | |
| L10 | 1 | 1.2 | DX | 353 | | L12 | 1.2 | 778 | | | | | | | | | | | | |
| L10 | 1 | 1.3 | DX | 504 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 1 | 1.4 | DX | 446 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 1 | 1.5 | DX | 209 | 1202 | L12 | N/A | 0 | 1178 | 25 | 60 | 225 | 0.11 | 18 | 41 | 0.7 | 4.6 | 4.6 | | |
| L10 | 1 | 1.6 | DX | 207 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 1 | 1.7 | DX | 448 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 1 | 1.8 | DX | 492 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 1 | 1.9 | DX | 343 | | L12 | 1.9 | 778 | | | | | | | | | | | | |
| L10 | 1 | 1.11 | DX | -315 | 1174 | L12 | 1.11 | 397 | 1175 | -1 | 60 | 225 | 0.11 | -7 | -16 | -0.3 | 3.8 | 3.8 | | |
| L10 | 12 | 12.1 | DX | -317 | | L12 | 12.1 | 425 | | | | | | | | | | | | |
| L10 | 12 | 12.2 | DX | 394 | | L12 | 12.2 | 811 | | | | | | | | | | | | |
| L10 | 12 | 12.3 | DX | 532 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 12 | 12.4 | DX | 469 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 12 | 12.5 | DX | 220 | 1297 | L12 | N/A | 0 | 1237 | 60 | 60 | 79.5 | 0.76 | 15 | 33 | 0.6 | 2.5 | 2.5 | | |
| L10 | 12 | 12.6 | DX | 217 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 12 | 12.7 | DX | 471 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 12 | 12.8 | DX | 520 | | L12 | N/A | 0 | | | | | | | | | | | | |
| L10 | 12 | 12.9 | DX | 378 | | L12 | 12.9 | 808 | | | | | | | | | | | | |
| L10 | 12 | 12.11 | DX | -310 | 1276 | L12 | 12.11 | 410 | 1218 | 58 | 60 | 90.5 | 0.64 | 20 | 44 | 0.7 | 3.4 | 3.4 | | |

Hall of Justice

X-direction shear walls dynamic analysis forces

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load | | Level | Pier | V | ΣV | ΔV | Drag Wall | Design L | Total L | F | P | Pu | As | Fp | Max |
|-------|------|-------|------|-----|----------|-------|------|------|-----|-----------|----------|---------|-----|-----|-----|-----|-----|-----|
| | | | Case | V | | | | | | | | | | | | | | |
| L9 | 1 | 1.1 | DX | 330 | L10 | 1.1 | -311 | | | | | | | | | | | |
| L9 | 1 | 1.2 | DX | 544 | L10 | 1.2 | 353 | | | | | | | | | | | |
| L9 | 1 | 1.3 | DX | 293 | L10 | 1.3 | 504 | | | | | | | | | | | |
| L9 | 1 | 1.4 | DX | 241 | L10 | 1.4 | 446 | | | | | | | | | | | |
| L9 | 1 | 1.5 | DX | 97 | 1505 L10 | 1.5 | 209 | 1202 | 303 | 60 | 225 | 2.69 | 141 | 317 | 5.3 | 3.6 | 5.3 | |
| L9 | 1 | 1.6 | DX | 95 | L10 | 1.6 | 207 | | | | | | | | | | | |
| L9 | 1 | 1.7 | DX | 241 | L10 | 1.7 | 448 | | | | | | | | | | | |
| L9 | 1 | 1.8 | DX | 285 | L10 | 1.8 | 492 | | | | | | | | | | | |
| L9 | 1 | 1.9 | DX | 536 | L10 | 1.9 | 343 | | | | | | | | | | | |
| L9 | 1 | 1.11 | DX | 320 | 1477 L10 | 1.11 | -315 | 1174 | 303 | 60 | 225 | 2.69 | 142 | 317 | 5.3 | 3.5 | 5.3 | |
| L9 | 12 | 12.1 | DX | 361 | L10 | 12.1 | -317 | | | | | | | | | | | |
| L9 | 12 | 12.2 | DX | 578 | L10 | 12.2 | 394 | | | | | | | | | | | |
| L9 | 12 | 12.3 | DX | 306 | L10 | 12.3 | 532 | | | | | | | | | | | |
| L9 | 12 | 12.4 | DX | 252 | L10 | 12.4 | 469 | | | | | | | | | | | |
| L9 | 12 | 12.5 | DX | 101 | 1598 L10 | 12.5 | 220 | 1297 | 301 | 60 | 79.5 | 3.79 | 74 | 166 | 2.8 | 1.8 | 2.8 | |
| L9 | 12 | 12.6 | DX | 100 | L10 | 12.6 | 217 | | | | | | | | | | | |
| L9 | 12 | 12.7 | DX | 253 | L10 | 12.7 | 471 | | | | | | | | | | | |
| L9 | 12 | 12.8 | DX | 299 | L10 | 12.8 | 520 | | | | | | | | | | | |
| L9 | 12 | 12.9 | DX | 573 | L10 | 12.9 | 378 | | | | | | | | | | | |
| L9 | 12 | 12.11 | DX | 348 | 1574 L10 | 12.11 | -310 | 1276 | 297 | 60 | 90.5 | 3.29 | 100 | 225 | 3.7 | 2.5 | 3.7 | |
| L8 | 1 | 1.1 | DX | 356 | L9 | 1.1 | 330 | | | | | | | | | | | |
| L8 | 1 | 1.2 | DX | 605 | L9 | 1.2 | 544 | | | | | | | | | | | |
| L8 | 1 | 1.3 | DX | 354 | L9 | 1.3 | 293 | | | | | | | | | | | |
| L8 | 1 | 1.4 | DX | 272 | L9 | 1.4 | 241 | | | | | | | | | | | |
| L8 | 1 | 1.5 | DX | 110 | 1697 L9 | 1.5 | 97 | 1505 | 192 | 60 | 225 | 1.60 | 96 | 215 | 3.6 | 4.4 | 4.4 | |
| L8 | 1 | 1.6 | DX | 107 | L9 | 1.6 | 95 | | | | | | | | | | | |
| L8 | 1 | 1.7 | DX | 270 | L9 | 1.7 | 241 | | | | | | | | | | | |
| L8 | 1 | 1.8 | DX | 341 | L9 | 1.8 | 285 | | | | | | | | | | | |
| L8 | 1 | 1.9 | DX | 588 | L9 | 1.9 | 536 | | | | | | | | | | | |
| L8 | 1 | 1.11 | DX | 338 | 1646 L9 | 1.11 | 320 | 1477 | 169 | 60 | 225 | 1.60 | 73 | 163 | 2.7 | 3.7 | 3.7 | |
| L8 | 12 | 12.1 | DX | 369 | L9 | 12.1 | 361 | | | | | | | | | | | |
| L8 | 12 | 12.2 | DX | 627 | L9 | 12.2 | 578 | | | | | | | | | | | |
| L8 | 12 | 12.3 | DX | 362 | L9 | 12.3 | 306 | | | | | | | | | | | |
| L8 | 12 | 12.4 | DX | 277 | L9 | 12.4 | 252 | | | | | | | | | | | |
| L8 | 12 | 12.5 | DX | 112 | 1747 L9 | 12.5 | 101 | 1598 | 149 | 60 | 225 | 1.33 | 69 | 154 | 2.6 | 3.8 | 3.8 | |
| L8 | 12 | 12.6 | DX | 111 | L9 | 12.6 | 100 | | | | | | | | | | | |
| L8 | 12 | 12.7 | DX | 279 | L9 | 12.7 | 253 | | | | | | | | | | | |
| L8 | 12 | 12.8 | DX | 353 | L9 | 12.8 | 299 | | | | | | | | | | | |
| L8 | 12 | 12.9 | DX | 618 | L9 | 12.9 | 573 | | | | | | | | | | | |
| L8 | 12 | 12.11 | DX | 364 | 1725 L9 | 12.11 | 348 | 1574 | 151 | 60 | 225 | 1.33 | 71 | 160 | 2.7 | 3.9 | 3.9 | |
| L7 | 1 | 1.1 | DX | 431 | L8 | 1.1 | 356 | | | | | | | | | | | |
| L7 | 1 | 1.2 | DX | 653 | L8 | 1.2 | 605 | | | | | | | | | | | |
| L7 | 1 | 1.3 | DX | 352 | L8 | 1.3 | 354 | | | | | | | | | | | |
| L7 | 1 | 1.4 | DX | 277 | L8 | 1.4 | 272 | | | | | | | | | | | |
| L7 | 1 | 1.5 | DX | 113 | 1827 L8 | 1.5 | 110 | 1697 | 130 | 60 | 225 | 1.21 | 57 | 128 | 2.1 | 3.9 | 3.9 | |
| L7 | 1 | 1.6 | DX | 111 | L8 | 1.6 | 107 | | | | | | | | | | | |
| L7 | 1 | 1.7 | DX | 275 | L8 | 1.7 | 270 | | | | | | | | | | | |
| L7 | 1 | 1.8 | DX | 341 | L8 | 1.8 | 341 | | | | | | | | | | | |
| L7 | 1 | 1.9 | DX | 640 | L8 | 1.9 | 588 | | | | | | | | | | | |
| L7 | 1 | 1.11 | DX | 420 | 1788 L8 | 1.11 | 338 | 1646 | 142 | 60 | 225 | 1.21 | 70 | 156 | 2.6 | 4.2 | 4.2 | |
| L7 | 12 | 12.1 | DX | 440 | L8 | 12.1 | 369 | | | | | | | | | | | |
| L7 | 12 | 12.2 | DX | 655 | L8 | 12.2 | 627 | | | | | | | | | | | |
| L7 | 12 | 12.3 | DX | 351 | L8 | 12.3 | 362 | | | | | | | | | | | |
| L7 | 12 | 12.4 | DX | 276 | L8 | 12.4 | 277 | | | | | | | | | | | |
| L7 | 12 | 12.5 | DX | 112 | 1834 L8 | 12.5 | 112 | 1747 | 86 | 60 | 225 | 0.78 | 40 | 89 | 1.5 | 3.7 | 3.7 | |
| L7 | 12 | 12.6 | DX | 111 | L8 | 12.6 | 111 | | | | | | | | | | | |
| L7 | 12 | 12.7 | DX | 277 | L8 | 12.7 | 279 | | | | | | | | | | | |
| L7 | 12 | 12.8 | DX | 345 | L8 | 12.8 | 353 | | | | | | | | | | | |
| L7 | 12 | 12.9 | DX | 652 | L8 | 12.9 | 618 | | | | | | | | | | | |
| L7 | 12 | 12.11 | DX | 428 | 1814 L8 | 12.11 | 364 | 1725 | 88 | 60 | 225 | 0.78 | 42 | 94 | 1.6 | 3.6 | 3.6 | |

Hall of Justice

X-direction shear walls dynamic analysis forces

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load | | Level | Pier | V | ΣV | ΔV | Drag Wall L | Design | | | Fp Max | | | |
|-------|------|-------|------|--------|---------|-------|--------|--------|--------|-------------|--------|--------|--------|--------|--------|--------|--------|
| | | | Case | V | | | | | | | Total | L | F | P | Pu | As | As |
| | | | | {kips} | Above | | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {kips} | {in^2} | {in^2} | {in^2} |
| L6 | 1 | 1.1 | DX | 467 | L7 | 1.1 | 431 | | | | | | | | | | |
| L6 | 1 | 1.2 | DX | 693 | L7 | 1.2 | 653 | | | | | | | | | | |
| L6 | 1 | 1.3 | DX | 389 | L7 | 1.3 | 352 | | | | | | | | | | |
| L6 | 1 | 1.4 | DX | 299 | L7 | 1.4 | 277 | | | | | | | | | | |
| L6 | 1 | 1.5 | DX | 125 | 1972 L7 | 1.5 | 113 | 1827 | 145 | 60 | 225 | 1.27 | 69 | 155 | 2.6 | 3.7 | 3.7 |
| L6 | 1 | 1.6 | DX | 123 | L7 | 1.6 | 111 | | | | | | | | | | |
| L6 | 1 | 1.7 | DX | 297 | L7 | 1.7 | 275 | | | | | | | | | | |
| L6 | 1 | 1.8 | DX | 376 | L7 | 1.8 | 341 | | | | | | | | | | |
| L6 | 1 | 1.9 | DX | 678 | L7 | 1.9 | 640 | | | | | | | | | | |
| L6 | 1 | 1.11 | DX | 454 | 1928 L7 | 1.11 | 420 | 1788 | 140 | 60 | 225 | 1.27 | 64 | 143 | 2.4 | 3.5 | 3.5 |
| L6 | 12 | 12.1 | DX | 475 | L7 | 12.1 | 440 | | | | | | | | | | |
| L6 | 12 | 12.2 | DX | 692 | L7 | 12.2 | 655 | | | | | | | | | | |
| L6 | 12 | 12.3 | DX | 383 | L7 | 12.3 | 351 | | | | | | | | | | |
| L6 | 12 | 12.4 | DX | 294 | L7 | 12.4 | 276 | | | | | | | | | | |
| L6 | 12 | 12.5 | DX | 123 | 1967 L7 | 12.5 | 112 | 1834 | 133 | 60 | 225 | 1.19 | 62 | 139 | 2.3 | 3.5 | 3.5 |
| L6 | 12 | 12.6 | DX | 122 | L7 | 12.6 | 111 | | | | | | | | | | |
| L6 | 12 | 12.7 | DX | 295 | L7 | 12.7 | 277 | | | | | | | | | | |
| L6 | 12 | 12.8 | DX | 378 | L7 | 12.8 | 345 | | | | | | | | | | |
| L6 | 12 | 12.9 | DX | 690 | L7 | 12.9 | 652 | | | | | | | | | | |
| L6 | 12 | 12.11 | DX | 461 | 1947 L7 | 12.11 | 428 | 1814 | 133 | 60 | 225 | 1.19 | 62 | 139 | 2.3 | 3.5 | 3.5 |
| L5 | 1 | 1.1 | DX | 578 | L6 | 1.1 | 467 | | | | | | | | | | |
| L5 | 1 | 1.2 | DX | 851 | L6 | 1.2 | 693 | | | | | | | | | | |
| L5 | 1 | 1.3 | DX | 326 | L6 | 1.3 | 389 | | | | | | | | | | |
| L5 | 1 | 1.4 | DX | 257 | L6 | 1.4 | 299 | | | | | | | | | | |
| L5 | 1 | 1.5 | DX | 118 | 2129 L6 | 1.5 | 125 | 1972 | 157 | 60 | 225 | 1.26 | 81 | 182 | 3.0 | 4.0 | 4.0 |
| L5 | 1 | 1.6 | DX | 116 | L6 | 1.6 | 123 | | | | | | | | | | |
| L5 | 1 | 1.7 | DX | 256 | L6 | 1.7 | 297 | | | | | | | | | | |
| L5 | 1 | 1.8 | DX | 311 | L6 | 1.8 | 376 | | | | | | | | | | |
| L5 | 1 | 1.9 | DX | 819 | L6 | 1.9 | 678 | | | | | | | | | | |
| L5 | 1 | 1.11 | DX | 553 | 2054 L6 | 1.11 | 454 | 1928 | 126 | 60 | 225 | 1.26 | 51 | 114 | 1.9 | 3.3 | 3.3 |
| L5 | 12 | 12.1 | DX | 589 | L6 | 12.1 | 475 | | | | | | | | | | |
| L5 | 12 | 12.2 | DX | 837 | L6 | 12.2 | 692 | | | | | | | | | | |
| L5 | 12 | 12.3 | DX | 316 | L6 | 12.3 | 383 | | | | | | | | | | |
| L5 | 12 | 12.4 | DX | 248 | L6 | 12.4 | 294 | | | | | | | | | | |
| L5 | 12 | 12.5 | DX | 112 | 2103 L6 | 12.5 | 123 | 1967 | 136 | 60 | 225 | 1.22 | 63 | 140 | 2.3 | 3.6 | 3.6 |
| L5 | 12 | 12.6 | DX | 112 | L6 | 12.6 | 122 | | | | | | | | | | |
| L5 | 12 | 12.7 | DX | 252 | L6 | 12.7 | 295 | | | | | | | | | | |
| L5 | 12 | 12.8 | DX | 310 | L6 | 12.8 | 378 | | | | | | | | | | |
| L5 | 12 | 12.9 | DX | 837 | L6 | 12.9 | 690 | | | | | | | | | | |
| L5 | 12 | 12.11 | DX | 576 | 2086 L6 | 12.11 | 461 | 1947 | 139 | 60 | 225 | 1.22 | 66 | 148 | 2.5 | 3.6 | 3.6 |
| L4 | 1 | 1.1 | DX | 524 | L5 | 1.1 | 578 | | | | | | | | | | |
| L4 | 1 | 1.2 | DX | 787 | L5 | 1.2 | 851 | | | | | | | | | | |
| L4 | 1 | 1.3 | DX | 514 | L5 | 1.3 | 326 | | | | | | | | | | |
| L4 | 1 | 1.4 | DX | 381 | L5 | 1.4 | 257 | | | | | | | | | | |
| L4 | 1 | 1.5 | DX | 137 | 2342 L5 | 1.5 | 118 | 2129 | 213 | 60 | 101.5 | 2.10 | 87 | 195 | 3.3 | 4.1 | 4.1 |
| L4 | 1 | 1.6 | DX | 131 | L5 | 1.6 | 116 | | | | | | | | | | |
| L4 | 1 | 1.7 | DX | 375 | L5 | 1.7 | 256 | | | | | | | | | | |
| L4 | 1 | 1.8 | DX | 488 | L5 | 1.8 | 311 | | | | | | | | | | |
| L4 | 1 | 1.9 | DX | 694 | L5 | 1.9 | 819 | | | | | | | | | | |
| L4 | 1 | 1.11 | DX | 450 | 2138 L5 | 1.11 | 553 | 2054 | 84 | 60 | 101.5 | 0.82 | 34 | 77 | 1.3 | 3.0 | 3.0 |
| L4 | 12 | 12.1 | DX | 504 | L5 | 12.1 | 589 | | | | | | | | | | |
| L4 | 12 | 12.2 | DX | 805 | L5 | 12.2 | 837 | | | | | | | | | | |
| L4 | 12 | 12.3 | DX | 463 | L5 | 12.3 | 316 | | | | | | | | | | |
| L4 | 12 | 12.4 | DX | 335 | L5 | 12.4 | 248 | | | | | | | | | | |
| L4 | 12 | 12.5 | DX | 136 | 2244 L5 | 12.5 | 112 | 2103 | 141 | 60 | 225 | 1.24 | 66 | 148 | 2.5 | 3.8 | 3.8 |
| L4 | 12 | 12.6 | DX | 134 | L5 | 12.6 | 112 | | | | | | | | | | |
| L4 | 12 | 12.7 | DX | 338 | L5 | 12.7 | 252 | | | | | | | | | | |
| L4 | 12 | 12.8 | DX | 456 | L5 | 12.8 | 310 | | | | | | | | | | |
| L4 | 12 | 12.9 | DX | 798 | L5 | 12.9 | 837 | | | | | | | | | | |
| L4 | 12 | 12.11 | DX | 499 | 2225 L5 | 12.11 | 576 | 2086 | 138 | 60 | 225 | 1.24 | 64 | 143 | 2.4 | 3.8 | 3.8 |

Hall of Justice

X-direction shear walls dynamic analysis forces.

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load | | Level | Pier | V | ΣV | ΔV | Drag Wall | Design L | As=Pu/60ksi | | Fp | Max | | | |
|-------|------|-------|--------|--------|-------|------|--------|--------|--------|-----------|----------|-------------|--------|--------|--------|--------|--------|-----|
| | | | Case | V | | | | | | | | ΣV | Above | | | L | P | Pu |
| | | | {kips} | {kips} | | | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {kips} | {in^2} | {in^2} | {in^2} | |
| L3 | 1 | 1.1 | DX | 637 | L4 | 1.1 | 524 | | | | | | | | | | | |
| L3 | 1 | 1.2 | DX | 1184 | L4 | 1.2 | 787 | | | | | | | | | | | |
| L3 | 1 | 1.3 | DX | 404 | L4 | 1.3 | 514 | | | | | | | | | | | |
| L3 | 1 | 1.4 | DX | 392 | L4 | 1.4 | 381 | | | | | | | | | | | |
| L3 | 1 | 1.5 | DX | 253 | 2870 | L4 | 1.5 | 137 | 2342 | 528 | 60 | 101.5 | 5.20 | 216 | 483 | 8.1 | 6.4 | 8.1 |
| L3 | 1 | 1.6 | DX | 263 | | L4 | 1.6 | 131 | | | | | | | | | | |
| L3 | 1 | 1.7 | DX | 404 | | L4 | 1.7 | 375 | | | | | | | | | | |
| L3 | 1 | 1.8 | DX | 386 | | L4 | 1.8 | 488 | | | | | | | | | | |
| L3 | 1 | 1.9 | DX | 1119 | | L4 | 1.9 | 694 | | | | | | | | | | |
| L3 | 1 | 1.11 | DX | 420 | 2591 | L4 | 1.11 | 450 | 2138 | 454 | 60 | 101.5 | 4.47 | 185 | 415 | 6.9 | 5.6 | 6.9 |
| L3 | 12 | 12.1 | DX | 551 | | L4 | 12.1 | 504 | | | | | | | | | | |
| L3 | 12 | 12.2 | DX | 818 | | L4 | 12.2 | 805 | | | | | | | | | | |
| L3 | 12 | 12.3 | DX | 307 | | L4 | 12.3 | 463 | | | | | | | | | | |
| L3 | 12 | 12.4 | DX | 237 | | L4 | 12.4 | 335 | | | | | | | | | | |
| L3 | 12 | 12.5 | DX | 107 | 2020 | L4 | 12.5 | 136 | 2244 | -224 | 60 | 79.5 | -2.82 | -55 | -123 | -2.1 | 0.7 | 2.1 |
| L3 | 12 | 12.6 | DX | 108 | | L4 | 12.6 | 134 | | | | | | | | | | |
| L3 | 12 | 12.7 | DX | 241 | | L4 | 12.7 | 338 | | | | | | | | | | |
| L3 | 12 | 12.8 | DX | 301 | | L4 | 12.8 | 456 | | | | | | | | | | |
| L3 | 12 | 12.9 | DX | 820 | | L4 | 12.9 | 798 | | | | | | | | | | |
| L3 | 12 | 12.11 | DX | 537 | 2008 | L4 | 12.11 | 499 | 2225 | -217 | 60 | 79.5 | -2.73 | -53 | -119 | -2.0 | 0.7 | 2.0 |
| L2 | 1 | 1.1 | DX | 2090 | L3 | 1.1 | 637 | | | | | | | | | | | |
| L2 | 1 | 1.2 | DX | 688 | L3 | 1.2 | 1184 | | | | | | | | | | | |
| L2 | 1 | 1.3 | DX | 1474 | L3 | 1.3 | 404 | | | | | | | | | | | |
| L2 | 1 | 1.4 | DX | 1743 | L3 | 1.4 | 392 | | | | | | | | | | | |
| L2 | 1 | N/A | DX | 0 | L3 | 1.5 | 253 | | | | | | | | | | | |
| L2 | 1 | N/A | DX | 0 | L3 | 1.6 | 263 | | | | | | | | | | | |
| L2 | 1 | N/A | DX | 0 | L3 | 1.7 | 404 | | | | | | | | | | | |
| L2 | 1 | N/A | DX | 0 | L3 | 1.8 | 386 | | | | | | | | | | | |
| L2 | 1 | N/A | DX | 0 | L3 | 1.9 | 1119 | | | | | | | | | | | |
| L2 | 1 | N/A | DX | 0 | 5994 | L3 | 1.11 | 420 | 5461 | 533 | | | | | | | | |
| L2 | 12 | 12.1 | DX | 500 | L3 | 12.1 | 551 | | | | | | | | | | | |
| L2 | 12 | 12.2 | DX | 752 | L3 | 12.2 | 818 | | | | | | | | | | | |
| L2 | 12 | 12.3 | DX | 397 | L3 | 12.3 | 307 | | | | | | | | | | | |
| L2 | 12 | 12.4 | DX | 326 | L3 | 12.4 | 237 | | | | | | | | | | | |
| L2 | 12 | 12.5 | DX | 140 | 2115 | L3 | 12.5 | 107 | 2020 | 96 | 60 | 79.5 | 1.20 | 23 | 52 | 0.9 | 1.5 | 1.5 |
| L2 | 12 | 12.6 | DX | 139 | L3 | 12.6 | 108 | | | | | | | | | | | |
| L2 | 12 | 12.7 | DX | 328 | L3 | 12.7 | 241 | | | | | | | | | | | |
| L2 | 12 | 12.8 | DX | 388 | L3 | 12.8 | 301 | | | | | | | | | | | |
| L2 | 12 | 12.9 | DX | 747 | L3 | 12.9 | 820 | | | | | | | | | | | |
| L2 | 12 | 12.11 | DX | 494 | 2096 | L3 | 12.11 | 537 | 2008 | 89 | 60 | 79.5 | 1.11 | 22 | 49 | 0.8 | 1.5 | 1.5 |
| L1 | 1 | 1.1 | DX | 2103 | L2 | 1.1 | 2090 | | | | | | | | | | | |
| L1 | 1 | N/A | DX | 0 | L2 | 1.2 | 688 | | | | | | | | | | | |
| L1 | 1 | 1.3 | DX | 2094 | L2 | 1.3 | 1474 | | | | | | | | | | | |
| L1 | 1 | 1.4 | DX | 1755 | 5952 | L2 | 1.4 | 1743 | 5994 | -42 | | | | | | | | |
| L1 | 12 | 12.1 | DX | 1894 | L2 | 12.1 | 500 | | | | | | | | | | | |
| L1 | 12 | 12.2 | DX | 270 | L2 | 12.2 | 752 | | | | | | | | | | | |
| L1 | 12 | 12.3 | DX | -27 | L2 | 12.3 | 397 | | | | | | | | | | | |
| L1 | 12 | 12.4 | DX | 268 | L2 | 12.4 | 326 | | | | | | | | | | | |
| L1 | 12 | 12.5 | DX | 1876 | L2 | 12.5 | 140 | | | | | | | | | | | |
| L1 | 12 | N/A | DX | 0 | L2 | 12.6 | 139 | | | | | | | | | | | |
| L1 | 12 | N/A | DX | 0 | L2 | 12.7 | 328 | | | | | | | | | | | |
| L1 | 12 | N/A | DX | 0 | L2 | 12.8 | 388 | | | | | | | | | | | |
| L1 | 12 | N/A | DX | 0 | L2 | 12.9 | 747 | | | | | | | | | | | |
| L1 | 12 | N/A | DX | 0 | 4282 | L2 | 12.11 | 494 | 4212 | 70 | | | | | | | | |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design | | As = Pu/(.9*60ksi) | | | |
|-------|------|---------------|------------|--------|------------------|--------|-------|------|--------|--------|--------|---------------------|-------------|---------|--------------------|--------|--------|-----|
| | | | Case | V | Case | V | | | | | | | Wall L | Total L | F | Pu | As | |
| | | | {kips} | {kips} | {kips} | {kips} | Above | | {kips} | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | |
| RF | 1 | 1.1 DX | 355 | N/A | 0 | N/A | N/A | N/A | 0 | | | | | | | | | |
| RF | 1 | 1.2 DX | 270 | 625 | N/A | 0 | N/A | N/A | 0 | | | 625 | 25.75 | 225 | 5.59 | 481 | 8.9 | |
| RF | 1 | 1.9 DX | 273 | N/A | 0 | N/A | N/A | N/A | 0 | | | | | | | | | |
| RF | 1 | 1.11 DX | 359 | 632 | N/A | 0 | N/A | N/A | 0 | | | 632 | 25.75 | 225 | 5.59 | 488 | 9.0 | |
| RF | 12 | 12.1 DX | 377 | N/A | 0 | N/A | N/A | N/A | 0 | | | | | | | | | |
| RF | 12 | 12.2 DX | 288 | 663 | N/A | 0 | N/A | N/A | 0 | | | 663 | 25.75 | 225 | 5.84 | 513 | 9.5 | |
| RF | 12 | 12.9 DX | 282 | N/A | 0 | N/A | N/A | N/A | 0 | | | | | | | | | |
| RF | 12 | 12.11 DX | 368 | 650 | N/A | 0 | N/A | N/A | 0 | | | 650 | 25.75 | 225 | 5.84 | 500 | 9.3 | |
| L14 | 1 | 1.1 L14DIAX | 321 | L14TX | 418 | RF | 1.1 | 372 | | | | | | | | | | |
| L14 | 1 | 1.2 L14DIAX | 192 | 514 | L14TX | 231 | 649 | RF | 1.2 | 275 | 647 | 2 | 515 | 25.75 | 225 | 4.57 | 398 | 7.4 |
| L14 | 1 | 1.9 L14DIAX | 195 | L14TX | 234 | RF | 1.9 | 275 | | | | | | | | | | |
| L14 | 1 | 1.11 L14DIAX | 316 | 511 | L14TX | 411 | 645 | RF | 1.11 | 368 | 643 | 2 | 513 | 25.75 | 225 | 4.57 | 395 | 7.3 |
| L14 | 12 | 12.1 L14DIAX | 321 | L14TX | 414 | RF | 12.1 | 369 | | | | | | | | | | |
| L14 | 12 | 12.2 L14DIAX | 192 | 514 | L14TX | 230 | 644 | RF | 12.2 | 273 | 642 | 2 | 515 | 25.75 | 225 | 4.57 | 397 | 7.4 |
| L14 | 12 | 12.9 L14DIAX | 195 | L14TX | 233 | RF | 12.9 | 274 | | | | | | | | | | |
| L14 | 12 | 12.11 L14DIAX | 317 | 512 | L14TX | 408 | 641 | RF | 12.11 | 366 | 640 | 1 | 512 | 25.75 | 225 | 4.57 | 395 | 7.3 |
| L12 | 1 | 1.1 L12DIAX | 199 | L12TX | 333 | L14 | 1.1 | 672 | | | | | | | | | | |
| L12 | 1 | 1.2 L12DIAX | 242 | 441 | L12TX | 729 | 1062 | L14 | 1.2 | 384 | 1056 | 6 | 446 | 25.75 | 225 | 3.92 | 345 | 6.4 |
| L12 | 1 | 1.9 L12DIAX | 242 | L12TX | 724 | L14 | 1.9 | 389 | | | | | | | | | | |
| L12 | 1 | 1.11 L12DIAX | 195 | 437 | L12TX | 324 | 1048 | L14 | 1.11 | 661 | 1050 | -2 | 435 | 25.75 | 225 | 3.92 | 334 | 6.2 |
| L12 | 12 | 12.1 L12DIAX | 198 | L12TX | 330 | L14 | 12.1 | 669 | | | | | | | | | | |
| L12 | 12 | 12.2 L12DIAX | 241 | 440 | L12TX | 724 | 1054 | L14 | 12.2 | 382 | 1051 | 3 | 442 | 25.75 | 225 | 3.91 | 341 | 6.3 |
| L12 | 12 | 12.9 L12DIAX | 243 | L12TX | 725 | L14 | 12.9 | 387 | | | | | | | | | | |
| L12 | 12 | 12.11 L12DIAX | 195 | 437 | L12TX | 332 | 1047 | L14 | 12.11 | 659 | 1046 | 1 | 438 | 25.75 | 225 | 3.91 | 337 | 6.2 |
| L10 | 1 | 1.1 L10DIAX | 127 | L10TX | 260 | L12 | 1.1 | 400 | | | | | | | | | | |
| L10 | 1 | 1.2 L10DIAX | 187 | L10TX | 272 | L12 | 1.2 | 811 | | | | | | | | | | |
| L10 | 1 | 1.3 L10DIAX | 93 | L10TX | 518 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 1 | 1.4 L10DIAX | 75 | L10TX | 459 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 1 | 1.5 L10DIAX | 33 | 516 | L10TX | 216 | 1206 | L12 | N/A | 0 | 1211 | -6 | 511 | 60 | 225 | 4.35 | 250 | 4.6 |
| L10 | 1 | 1.6 L10DIAX | 32 | L10TX | 212 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 1 | 1.7 L10DIAX | 73 | L10TX | 458 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 1 | 1.8 L10DIAX | 90 | L10TX | 501 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 1 | 1.9 L10DIAX | 184 | L10TX | 249 | L12 | 1.9 | 808 | | | | | | | | | | |
| L10 | 1 | 1.11 L10DIAX | 124 | 502 | L10TX | -265 | 1155 | L12 | 1.11 | 390 | 1196 | -41 | 469 | 60 | 225 | 4.35 | 207 | 3.8 |
| L10 | 12 | 12.1 L10DIAX | 130 | L10TX | -243 | L12 | 12.1 | 397 | | | | | | | | | | |
| L10 | 12 | 12.2 L10DIAX | 189 | L10TX | 283 | L12 | 12.2 | 805 | | | | | | | | | | |
| L10 | 12 | 12.3 L10DIAX | 93 | L10TX | 519 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 12 | 12.4 L10DIAX | 74 | L10TX | 460 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 12 | 12.5 L10DIAX | 33 | 520 | L10TX | 216 | 1235 | L12 | N/A | 0 | 1202 | 33 | 547 | 60 | 79.5 | 6.88 | 134 | 2.5 |
| L10 | 12 | 12.6 L10DIAX | 33 | L10TX | 215 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 12 | 12.7 L10DIAX | 75 | L10TX | 466 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 12 | 12.8 L10DIAX | 92 | L10TX | 511 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | 12 | 12.9 L10DIAX | 189 | L10TX | 275 | L12 | 12.9 | 807 | | | | | | | | | | |
| L10 | 12 | 12.11 L10DIAX | 127 | 517 | L10TX | -244 | 1222 | L12 | 12.11 | 388 | 1195 | 27 | 538 | 60 | 90.5 | 5.95 | 181 | 3.4 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design Wall L | Total L (ft) | As = Pu/(.9*60ksi) | | |
|-------|------|-------|------------|--------|------------------|--------|----------|-------|--------|--------|--------|---------------------|-----------------------|-----------------|--------------------|--------|--------|
| | | | Case | V | Case | V | | | | | | | | | ΔV | F | As |
| | | | | {kips} | | {kips} | Above | | {kips} | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} |
| L9 | 1 | 1.1 | L9DIAX | 118 | L9TX | 244 | L10 | 1.1 | -218 | | | | | | | | |
| L9 | 1 | 1.2 | L9DIAX | 160 | L9TX | 494 | L10 | 1.2 | 333 | | | | | | | | |
| L9 | 1 | 1.3 | L9DIAX | 60 | L9TX | 298 | L10 | 1.3 | 548 | | | | | | | | |
| L9 | 1 | 1.4 | L9DIAX | 47 | L9TX | 249 | L10 | 1.4 | 484 | | | | | | | | |
| L9 | 1 | 1.5 | L9DIAX | 24 | 409 L9TX | 99 | 1384 L10 | 1.5 | 227 | 1373 | 11 | 417 | 60 | 225 | 3.68 | 197 | 3.6 |
| L9 | 1 | 1.6 | L9DIAX | 23 | L9TX | 97 | L10 | 1.6 | 222 | | | | | | | | |
| L9 | 1 | 1.7 | L9DIAX | 47 | L9TX | 247 | L10 | 1.7 | 481 | | | | | | | | |
| L9 | 1 | 1.8 | L9DIAX | 57 | L9TX | 287 | L10 | 1.8 | 530 | | | | | | | | |
| L9 | 1 | 1.9 | L9DIAX | 158 | L9TX | 477 | L10 | 1.9 | 309 | | | | | | | | |
| L9 | 1 | 1.11 | L9DIAX | 114 | 399 L9TX | 223 | 1331 L10 | 1.11 | -225 | 1318 | 14 | 410 | 60 | 225 | 3.68 | 189 | 3.5 |
| L9 | 12 | 12.1 | L9DIAX | 116 | L9TX | 249 | L10 | 12.1 | -200 | | | | | | | | |
| L9 | 12 | 12.2 | L9DIAX | 158 | L9TX | 496 | L10 | 12.2 | 344 | | | | | | | | |
| L9 | 12 | 12.3 | L9DIAX | 58 | L9TX | 297 | L10 | 12.3 | 549 | | | | | | | | |
| L9 | 12 | 12.4 | L9DIAX | 46 | L9TX | 248 | L10 | 12.4 | 484 | | | | | | | | |
| L9 | 12 | 12.5 | L9DIAX | 23 | 401 L9TX | 99 | 1389 L10 | 12.5 | 227 | 1404 | -16 | 389 | 60 | 79.5 | 4.89 | 95 | 1.8 |
| L9 | 12 | 12.6 | L9DIAX | 23 | L9TX | 98 | L10 | 12.6 | 226 | | | | | | | | |
| L9 | 12 | 12.7 | L9DIAX | 47 | L9TX | 251 | L10 | 12.7 | 490 | | | | | | | | |
| L9 | 12 | 12.8 | L9DIAX | 57 | L9TX | 292 | L10 | 12.8 | 541 | | | | | | | | |
| L9 | 12 | 12.9 | L9DIAX | 158 | L9TX | 497 | L10 | 12.9 | 336 | | | | | | | | |
| L9 | 12 | 12.11 | L9DIAX | 115 | 401 L9TX | 247 | 1385 L10 | 12.11 | -203 | 1390 | -4 | 397 | 60 | 90.5 | 4.39 | 134 | 2.5 |
| L8 | 1 | 1.1 | L8DIAX | 126 | L8TX | 262 | L9 | 1.1 | 288 | | | | | | | | |
| L8 | 1 | 1.2 | L8DIAX | 182 | L8TX | 540 | L9 | 1.2 | 553 | | | | | | | | |
| L8 | 1 | 1.3 | L8DIAX | 73 | L8TX | 365 | L9 | 1.3 | 321 | | | | | | | | |
| L8 | 1 | 1.4 | L8DIAX | 56 | L8TX | 286 | L9 | 1.4 | 267 | | | | | | | | |
| L8 | 1 | 1.5 | L8DIAX | 26 | 462 L8TX | 117 | 1569 L9 | 1.5 | 108 | 1537 | 33 | 480 | 60 | 225 | 4.19 | 237 | 4.4 |
| L8 | 1 | 1.6 | L8DIAX | 25 | L8TX | 114 | L9 | 1.6 | 105 | | | | | | | | |
| L8 | 1 | 1.7 | L8DIAX | 55 | L8TX | 282 | L9 | 1.7 | 265 | | | | | | | | |
| L8 | 1 | 1.8 | L8DIAX | 70 | L8TX | 349 | L9 | 1.8 | 309 | | | | | | | | |
| L8 | 1 | 1.9 | L8DIAX | 178 | L8TX | 511 | L9 | 1.9 | 536 | | | | | | | | |
| L8 | 1 | 1.11 | L8DIAX | 121 | 449 L8TX | 231 | 1486 L9 | 1.11 | 266 | 1480 | 6 | 454 | 60 | 225 | 4.19 | 202 | 3.7 |
| L8 | 12 | 12.1 | L8DIAX | 125 | L8TX | 248 | L9 | 12.1 | 292 | | | | | | | | |
| L8 | 12 | 12.2 | L8DIAX | 180 | L8TX | 526 | L9 | 12.2 | 555 | | | | | | | | |
| L8 | 12 | 12.3 | L8DIAX | 71 | L8TX | 356 | L9 | 12.3 | 318 | | | | | | | | |
| L8 | 12 | 12.4 | L8DIAX | 55 | L8TX | 279 | L9 | 12.4 | 265 | | | | | | | | |
| L8 | 12 | 12.5 | L8DIAX | 25 | 457 L8TX | 114 | 1523 L9 | 12.5 | 107 | 1539 | -16 | 444 | 60 | 225 | 3.96 | 206 | 3.8 |
| L8 | 12 | 12.6 | L8DIAX | 25 | L8TX | 114 | L9 | 12.6 | 107 | | | | | | | | |
| L8 | 12 | 12.7 | L8DIAX | 56 | L8TX | 282 | L9 | 12.7 | 268 | | | | | | | | |
| L8 | 12 | 12.8 | L8DIAX | 70 | L8TX | 350 | L9 | 12.8 | 314 | | | | | | | | |
| L8 | 12 | 12.9 | L8DIAX | 181 | L8TX | 524 | L9 | 12.9 | 556 | | | | | | | | |
| L8 | 12 | 12.11 | L8DIAX | 125 | 457 L8TX | 252 | 1522 L9 | 12.11 | 290 | 1535 | -13 | 447 | 60 | 225 | 3.96 | 209 | 3.9 |
| L7 | 1 | 1.1 | L7DIAX | 123 | L7TX | 389 | L8 | 1.1 | 306 | | | | | | | | |
| L7 | 1 | 1.2 | L7DIAX | 173 | L7TX | 609 | L8 | 1.2 | 603 | | | | | | | | |
| L7 | 1 | 1.3 | L7DIAX | 71 | L7TX | 349 | L8 | 1.3 | 390 | | | | | | | | |
| L7 | 1 | 1.4 | L7DIAX | 57 | L7TX | 281 | L8 | 1.4 | 305 | | | | | | | | |
| L7 | 1 | 1.5 | L7DIAX | 28 | 451 L7TX | 113 | 1742 L8 | 1.5 | 126 | 1730 | 12 | 461 | 60 | 225 | 4.18 | 211 | 3.9 |
| L7 | 1 | 1.6 | L7DIAX | 28 | L7TX | 111 | L8 | 1.6 | 122 | | | | | | | | |
| L7 | 1 | 1.7 | L7DIAX | 57 | L7TX | 277 | L8 | 1.7 | 302 | | | | | | | | |
| L7 | 1 | 1.8 | L7DIAX | 68 | L7TX | 336 | L8 | 1.8 | 373 | | | | | | | | |
| L7 | 1 | 1.9 | L7DIAX | 171 | L7TX | 590 | L8 | 1.9 | 573 | | | | | | | | |
| L7 | 1 | 1.11 | L7DIAX | 120 | 443 L7TX | 372 | 1686 L8 | 1.11 | 272 | 1642 | 44 | 479 | 60 | 225 | 4.18 | 228 | 4.2 |
| L7 | 12 | 12.1 | L7DIAX | 121 | L7TX | 372 | L8 | 12.1 | 291 | | | | | | | | |
| L7 | 12 | 12.2 | L7DIAX | 171 | L7TX | 580 | L8 | 12.2 | 589 | | | | | | | | |
| L7 | 12 | 12.3 | L7DIAX | 69 | L7TX | 333 | L8 | 12.3 | 380 | | | | | | | | |
| L7 | 12 | 12.4 | L7DIAX | 55 | L7TX | 268 | L8 | 12.4 | 298 | | | | | | | | |
| L7 | 12 | 12.5 | L7DIAX | 27 | 444 L7TX | 108 | 1660 L8 | 12.5 | 123 | 1681 | -21 | 427 | 60 | 225 | 3.77 | 201 | 3.7 |
| L7 | 12 | 12.6 | L7DIAX | 27 | L7TX | 107 | L8 | 12.6 | 122 | | | | | | | | |
| L7 | 12 | 12.7 | L7DIAX | 56 | L7TX | 270 | L8 | 12.7 | 301 | | | | | | | | |
| L7 | 12 | 12.8 | L7DIAX | 68 | L7TX | 330 | L8 | 12.8 | 374 | | | | | | | | |
| L7 | 12 | 12.9 | L7DIAX | 172 | L7TX | 581 | L8 | 12.9 | 587 | | | | | | | | |
| L7 | 12 | 12.11 | L7DIAX | 120 | 443 L7TX | 364 | 1652 L8 | 12.11 | 295 | 1681 | -28 | 420 | 60 | 225 | 3.77 | 194 | 3.6 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design Wall L | Total L | As = Pu/(.9*60ksi) | | | | |
|-------|------|-------|------------|--------|------------------|--------|-------|------|-----|-------|--------|---------------------|-----------------------|---------|--------------------|--------|------|-----|-----|
| | | | Case | V | ΣV | Case | | | | | | | | | V | ΣV | F | Pu | As |
| | | | {kips} | {kips} | {kips} | {kips} | Above | | | | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | | | |
| L6 | 1 | 1.1 | L6DIAX | 113 | L6TX | 437 | L7 | 1.1 | 434 | | | | | | | | | | |
| L6 | 1 | 1.2 | L6DIAX | 155 | L6TX | 665 | L7 | 1.2 | 674 | | | | | | | | | | |
| L6 | 1 | 1.3 | L6DIAX | 67 | L6TX | 390 | L7 | 1.3 | 378 | | | | | | | | | | |
| L6 | 1 | 1.4 | L6DIAX | 54 | L6TX | 303 | L7 | 1.4 | 304 | | | | | | | | | | |
| L6 | 1 | 1.5 | L6DIAX | 27 | 416 | L6TX | 127 | 1923 | L7 | 1.5 | 124 | 1914 | 8 | 423 | 60 | 225 | 3.71 | 200 | 3.7 |
| L6 | 1 | 1.6 | L6DIAX | 27 | L6TX | 124 | L7 | 1.6 | 122 | | | | | | | | | | |
| L6 | 1 | 1.7 | L6DIAX | 54 | L6TX | 299 | L7 | 1.7 | 300 | | | | | | | | | | |
| L6 | 1 | 1.8 | L6DIAX | 65 | L6TX | 375 | L7 | 1.8 | 363 | | | | | | | | | | |
| L6 | 1 | 1.9 | L6DIAX | 153 | L6TX | 644 | L7 | 1.9 | 654 | | | | | | | | | | |
| L6 | 1 | 1.11 | L6DIAX | 110 | 409 | L6TX | 418 | 1859 | L7 | 1.11 | 415 | 1855 | 5 | 413 | 60 | 225 | 3.71 | 190 | 3.5 |
| L6 | 12 | 12.1 | L6DIAX | 112 | L6TX | 419 | L7 | 12.1 | 416 | | | | | | | | | | |
| L6 | 12 | 12.2 | L6DIAX | 153 | L6TX | 634 | L7 | 12.2 | 643 | | | | | | | | | | |
| L6 | 12 | 12.3 | L6DIAX | 65 | L6TX | 369 | L7 | 12.3 | 361 | | | | | | | | | | |
| L6 | 12 | 12.4 | L6DIAX | 53 | L6TX | 286 | L7 | 12.4 | 290 | | | | | | | | | | |
| L6 | 12 | 12.5 | L6DIAX | 27 | 410 | L6TX | 120 | 1827 | L7 | 12.5 | 118 | 1829 | -2 | 409 | 60 | 225 | 3.62 | 191 | 3.5 |
| L6 | 12 | 12.6 | L6DIAX | 27 | L6TX | 120 | L7 | 12.6 | 118 | | | | | | | | | | |
| L6 | 12 | 12.7 | L6DIAX | 54 | L6TX | 288 | L7 | 12.7 | 293 | | | | | | | | | | |
| L6 | 12 | 12.8 | L6DIAX | 65 | L6TX | 365 | L7 | 12.8 | 357 | | | | | | | | | | |
| L6 | 12 | 12.9 | L6DIAX | 154 | L6TX | 634 | L7 | 12.9 | 645 | | | | | | | | | | |
| L6 | 12 | 12.11 | L6DIAX | 111 | 410 | L6TX | 409 | 1816 | L7 | 12.11 | 408 | 1820 | -4 | 407 | 60 | 225 | 3.62 | 189 | 3.5 |
| L5 | 1 | 1.1 | L5DIAX | 128 | L5TX | 547 | L6 | 1.1 | 470 | | | | | | | | | | |
| L5 | 1 | 1.2 | L5DIAX | 174 | L5TX | 818 | L6 | 1.2 | 709 | | | | | | | | | | |
| L5 | 1 | 1.3 | L5DIAX | 53 | L5TX | 324 | L6 | 1.3 | 408 | | | | | | | | | | |
| L5 | 1 | 1.4 | L5DIAX | 44 | L5TX | 257 | L6 | 1.4 | 317 | | | | | | | | | | |
| L5 | 1 | 1.5 | L5DIAX | 25 | 425 | L5TX | 115 | 2060 | L6 | 1.5 | 134 | 2038 | 22 | 442 | 60 | 225 | 3.76 | 216 | 4.0 |
| L5 | 1 | 1.6 | L5DIAX | 25 | L5TX | 113 | L6 | 1.6 | 132 | | | | | | | | | | |
| L5 | 1 | 1.7 | L5DIAX | 45 | L5TX | 254 | L6 | 1.7 | 313 | | | | | | | | | | |
| L5 | 1 | 1.8 | L5DIAX | 51 | L5TX | 308 | L6 | 1.8 | 392 | | | | | | | | | | |
| L5 | 1 | 1.9 | L5DIAX | 171 | L5TX | 775 | L6 | 1.9 | 688 | | | | | | | | | | |
| L5 | 1 | 1.11 | L5DIAX | 124 | 415 | L5TX | 511 | 1960 | L6 | 1.11 | 450 | 1974 | -14 | 405 | 60 | 225 | 3.76 | 179 | 3.3 |
| L5 | 12 | 12.1 | L5DIAX | 127 | L5TX | 528 | L6 | 12.1 | 452 | | | | | | | | | | |
| L5 | 12 | 12.2 | L5DIAX | 172 | L5TX | 767 | L6 | 12.2 | 677 | | | | | | | | | | |
| L5 | 12 | 12.3 | L5DIAX | 52 | L5TX | 300 | L6 | 12.3 | 366 | | | | | | | | | | |
| L5 | 12 | 12.4 | L5DIAX | 43 | L5TX | 238 | L6 | 12.4 | 300 | | | | | | | | | | |
| L5 | 12 | 12.5 | L5DIAX | 25 | 419 | L5TX | 106 | 1939 | L6 | 12.5 | 127 | 1942 | -3 | 416 | 60 | 225 | 3.71 | 194 | 3.6 |
| L5 | 12 | 12.6 | L5DIAX | 25 | L5TX | 105 | L6 | 12.6 | 127 | | | | | | | | | | |
| L5 | 12 | 12.7 | L5DIAX | 44 | L5TX | 242 | L6 | 12.7 | 302 | | | | | | | | | | |
| L5 | 12 | 12.8 | L5DIAX | 51 | L5TX | 295 | L6 | 12.8 | 382 | | | | | | | | | | |
| L5 | 12 | 12.9 | L5DIAX | 173 | L5TX | 770 | L6 | 12.9 | 679 | | | | | | | | | | |
| L5 | 12 | 12.11 | L5DIAX | 126 | 419 | L5TX | 520 | 1931 | L6 | 12.11 | 441 | 1932 | 0 | 419 | 60 | 225 | 3.71 | 196 | 3.6 |
| L4 | 1 | 1.1 | L4DIAX | 117 | L4TX | 505 | L5 | 1.1 | 590 | | | | | | | | | | |
| L4 | 1 | 1.2 | L4DIAX | 165 | L4TX | 765 | L5 | 1.2 | 877 | | | | | | | | | | |
| L4 | 1 | 1.3 | L4DIAX | 83 | L4TX | 514 | L5 | 1.3 | 341 | | | | | | | | | | |
| L4 | 1 | 1.4 | L4DIAX | 66 | L4TX | 384 | L5 | 1.4 | 272 | | | | | | | | | | |
| L4 | 1 | 1.5 | L4DIAX | 27 | 457 | L4TX | 143 | 2312 | L5 | 1.5 | 124 | 2204 | 108 | 544 | 60 | 101.5 | 5.36 | 222 | 4.1 |
| L4 | 1 | 1.6 | L4DIAX | 27 | L4TX | 136 | L5 | 1.6 | 122 | | | | | | | | | | |
| L4 | 1 | 1.7 | L4DIAX | 65 | L4TX | 375 | L5 | 1.7 | 269 | | | | | | | | | | |
| L4 | 1 | 1.8 | L4DIAX | 80 | L4TX | 482 | L5 | 1.8 | 324 | | | | | | | | | | |
| L4 | 1 | 1.9 | L4DIAX | 155 | L4TX | 648 | L5 | 1.9 | 833 | | | | | | | | | | |
| L4 | 1 | 1.11 | L4DIAX | 110 | 437 | L4TX | 408 | 2047 | L5 | 1.11 | 553 | 2101 | -54 | 393 | 60 | 101.5 | 3.88 | 161 | 3.0 |
| L4 | 12 | 12.1 | L4DIAX | 117 | L4TX | 447 | L5 | 12.1 | 571 | | | | | | | | | | |
| L4 | 12 | 12.2 | L4DIAX | 174 | L4TX | 724 | L5 | 12.2 | 825 | | | | | | | | | | |
| L4 | 12 | 12.3 | L4DIAX | 80 | L4TX | 436 | L5 | 12.3 | 317 | | | | | | | | | | |
| L4 | 12 | 12.4 | L4DIAX | 62 | L4TX | 317 | L5 | 12.4 | 252 | | | | | | | | | | |
| L4 | 12 | 12.5 | L4DIAX | 28 | 461 | L4TX | 134 | 2057 | L5 | 12.5 | 114 | 2080 | -23 | 442 | 60 | 225 | 3.94 | 206 | 3.8 |
| L4 | 12 | 12.6 | L4DIAX | 28 | L4TX | 133 | L5 | 12.6 | 114 | | | | | | | | | | |
| L4 | 12 | 12.7 | L4DIAX | 63 | L4TX | 321 | L5 | 12.7 | 256 | | | | | | | | | | |
| L4 | 12 | 12.8 | L4DIAX | 78 | L4TX | 430 | L5 | 12.8 | 312 | | | | | | | | | | |
| L4 | 12 | 12.9 | L4DIAX | 175 | L4TX | 722 | L5 | 12.9 | 829 | | | | | | | | | | |
| L4 | 12 | 12.11 | L4DIAX | 116 | 461 | L4TX | 445 | 2051 | L5 | 12.11 | 562 | 2073 | -22 | 443 | 60 | 225 | 3.94 | 207 | 3.8 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design | | As = Pu/(.9*60ksi) | | | | | | |
|-------|------|-------|------------|--------|------------------|--------|---------|-------|------|------------------------------|--------|---------------------|-------------|---------|--------------------|--------|-----|--|--|--|--|
| | | | Case | V | Case | V | | | | | | | Wall L | Total L | F | Pu | As | | | | |
| | | | {kips} | {kips} | {kips} | {kips} | Above | | | | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | | | | | |
| L3 | 1 | 1.1 | L3DIAX | 142 | L3TX | 608 | L4 | 1.1 | 542 | | | | | | | | | | | | |
| L3 | 1 | 1.2 | L3DIAX | 229 | L3TX | 1160 | L4 | 1.2 | 816 | | | | | | | | | | | | |
| L3 | 1 | 1.3 | L3DIAX | 66 | L3TX | 408 | L4 | 1.3 | 540 | | | | | | | | | | | | |
| L3 | 1 | 1.4 | L3DIAX | 64 | L3TX | 399 | L4 | 1.4 | 404 | | | | | | | | | | | | |
| L3 | 1 | 1.5 | L3DIAX | 43 | 544 L3TX | 258 | 2830 L4 | 1.5 | 152 | 2454 | 377 | 845 | 60 | 101.5 | 8.33 | 346 | 6.4 | | | | |
| L3 | 1 | 1.6 | L3DIAX | 44 | L3TX | 269 | L4 | 1.6 | 144 | | | | | | | | | | | | |
| L3 | 1 | 1.7 | L3DIAX | 66 | L3TX | 410 | L4 | 1.7 | 395 | | | | | | | | | | | | |
| L3 | 1 | 1.8 | L3DIAX | 63 | L3TX | 385 | L4 | 1.8 | 507 | | | | | | | | | | | | |
| L3 | 1 | 1.9 | L3DIAX | 223 | L3TX | 1076 | L4 | 1.9 | 696 | | | | | | | | | | | | |
| L3 | 1 | 1.11 | L3DIAX | 120 | 516 L3TX | 326 | 2466 L4 | 1.11 | 440 | 2182 | 284 | 743 | 60 | 101.5 | 7.32 | 304 | 5.6 | | | | |
| L3 | 12 | 12.1 | L3DIAX | 120 | L3TX | 503 | L4 | 12.1 | 483 | | | | | | | | | | | | |
| L3 | 12 | 12.2 | L3DIAX | 172 | L3TX | 757 | L4 | 12.2 | 778 | | | | | | | | | | | | |
| L3 | 12 | 12.3 | L3DIAX | 56 | L3TX | 289 | L4 | 12.3 | 460 | | | | | | | | | | | | |
| L3 | 12 | 12.4 | L3DIAX | 47 | L3TX | 223 | L4 | 12.4 | 336 | Dynamic shear force controls | | | | | | | | | | | |
| L3 | 12 | 12.5 | L3DIAX | 26 | 421 L3TX | 100 | 1871 L4 | 12.5 | 143 | 2201 | -330 | 157 | 60 | 79.5 | 1.98 | 39 | 0.7 | | | | |
| L3 | 12 | 12.6 | L3DIAX | 26 | L3TX | 100 | L4 | 12.6 | 142 | | | | | | | | | | | | |
| L3 | 12 | 12.7 | L3DIAX | 48 | L3TX | 226 | L4 | 12.7 | 340 | | | | | | | | | | | | |
| L3 | 12 | 12.8 | L3DIAX | 55 | L3TX | 284 | L4 | 12.8 | 454 | | | | | | | | | | | | |
| L3 | 12 | 12.9 | L3DIAX | 173 | L3TX | 760 | L4 | 12.9 | 777 | Dynamic shear force controls | | | | | | | | | | | |
| L3 | 12 | 12.11 | L3DIAX | 119 | 421 L3TX | 496 | 1865 L4 | 12.11 | 481 | 2194 | -329 | 158 | 60 | 79.5 | 1.98 | 39 | 0.7 | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| L2 | 1 | 1.1 | L2DIAX | 317 | L2TX | 1918 | L3 | 1.1 | 646 | | | | | | | | | | | | |
| L2 | 1 | 1.2 | L2DIAX | 71 | L2TX | 784 | L3 | 1.2 | 1224 | | | | | | | | | | | | |
| L2 | 1 | 1.3 | L2DIAX | 471 | L2TX | 1559 | L3 | 1.3 | 425 | | | | | | | | | | | | |
| L2 | 1 | 1.4 | L2DIAX | 308 | L2TX | 1449 | L3 | 1.4 | 417 | | | | | | | | | | | | |
| L2 | 1 | N/A | L2DIAX | 0 | L2TX | 0 | L3 | 1.5 | 270 | | | | | | | | | | | | |
| L2 | 1 | N/A | L2DIAX | 0 | L2TX | 0 | L3 | 1.6 | 282 | | | | | | | | | | | | |
| L2 | 1 | N/A | L2DIAX | 0 | L2TX | 0 | L3 | 1.7 | 428 | | | | | | | | | | | | |
| L2 | 1 | N/A | L2DIAX | 0 | L2TX | 0 | L3 | 1.8 | 403 | | | | | | | | | | | | |
| L2 | 1 | N/A | L2DIAX | 0 | L2TX | 0 | L3 | 1.9 | 1139 | | | | | | | | | | | | |
| L2 | 1 | N/A | L2DIAX | 0 | 1166 L2TX | 0 | 5710 L3 | 1.11 | 359 | 5594 | 117 | 1260 | | | | | | | | | |
| L2 | 12 | 12.1 | L2DIAX | 68 | L2TX | 438 | L3 | 12.1 | 537 | | | | | | | | | | | | |
| L2 | 12 | 12.2 | L2DIAX | 127 | L2TX | 681 | L3 | 12.2 | 805 | | | | | | | | | | | | |
| L2 | 12 | 12.3 | L2DIAX | 58 | L2TX | 384 | L3 | 12.3 | 305 | | | | | | | | | | | | |
| L2 | 12 | 12.4 | L2DIAX | 70 | L2TX | 311 | L3 | 12.4 | 236 | | | | | | | | | | | | |
| L2 | 12 | 12.5 | L2DIAX | 52 | 375 L2TX | 120 | 1935 L3 | 12.5 | 107 | 1989 | -53 | 333 | 60 | 79.5 | 4.18 | 82 | 1.5 | | | | |
| L2 | 12 | 12.6 | L2DIAX | 51 | L2TX | 121 | L3 | 12.6 | 107 | | | | | | | | | | | | |
| L2 | 12 | 12.7 | L2DIAX | 71 | L2TX | 315 | L3 | 12.7 | 240 | | | | | | | | | | | | |
| L2 | 12 | 12.8 | L2DIAX | 57 | L2TX | 377 | L3 | 12.8 | 299 | | | | | | | | | | | | |
| L2 | 12 | 12.9 | L2DIAX | 130 | L2TX | 680 | L3 | 12.9 | 809 | | | | | | | | | | | | |
| L2 | 12 | 12.11 | L2DIAX | 72 | 381 L2TX | 431 | 1925 L3 | 12.11 | 529 | 1983 | -58 | 334 | 60 | 79.5 | 4.20 | 82 | 1.5 | | | | |

Hall of Justice

Y-direction shear walls dynamic analysis forces

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load Case | V {kips} | ΣV {kips} | Level Above | Pier | V {kips} | ΣV {kips} | ΔV {kips} | Drag Wall {ft} | Design Total L {ft} | As=Pu/60ksi | | Fp | | Max As {in^2} | Pier ΔV {kips} | |
|-------|------|------|-----------|-------------|--------------|-------------|------|-------------|--------------|--------------|-------------------|------------------------|-------------|------|--------------|--------------|------------------|-------------------|------|
| | | | | | | | | | | | | | F | P | As {in^2} | As {in^2} | | | |
| RF | A | A-1 | DY | 335 | | N/A | N/A | 0 | | | | | | | | | | | 335 |
| RF | A | A-2 | DY | 255 | 589 | N/A | N/A | 0 | 0 | 589 | 25.75 | 181 | 6.56 | 420 | 1083 | 18.0 | 7.8 | 18.0 | 255 |
| RF | A | A-9 | DY | 259 | | N/A | N/A | 0 | | | | | | | | | | | 259 |
| RF | A | A-10 | DY | 340 | 598 | N/A | N/A | 0 | 0 | 598 | 25.75 | 181 | 6.56 | 429 | 1106 | 18.4 | 8.0 | 18.4 | 340 |
| RF | P | P-1 | DY | 370 | | N/A | N/A | 0 | | | | | | | | | | | 370 |
| RF | P | P-2 | DY | 281 | 651 | N/A | N/A | 0 | 0 | 651 | 25.75 | 181 | 7.38 | 461 | 1188 | 19.8 | 8.5 | 19.8 | 281 |
| RF | P | P-9 | DY | 296 | | N/A | N/A | 0 | | | | | | | | | | | 296 |
| RF | P | P-10 | DY | 388 | 684 | N/A | N/A | 0 | 0 | 684 | 25.75 | 181 | 7.38 | 494 | 1273 | 21.2 | 9.1 | 21.2 | 388 |
| L14 | A | A-1 | DY | 622 | | RF | A-1 | 335 | | | | | | | | | | | 287 |
| L14 | A | A-2 | DY | 358 | 980 | RF | A-2 | 255 | 589 | 390 | 25.75 | 181 | 4.25 | 281 | 630 | 10.5 | 6.9 | 10.5 | 103 |
| L14 | A | A-9 | DY | 362 | | RF | A-9 | 259 | | | | | | | | | | | 104 |
| L14 | A | A-10 | DY | 614 | 977 | RF | A-10 | 340 | 598 | 378 | 25.75 | 181 | 4.25 | 269 | 602 | 10.0 | 6.8 | 10.0 | 275 |
| L14 | P | P-1 | DY | 692 | | RF | P-1 | 370 | | | | | | | | | | | 323 |
| L14 | P | P-2 | DY | 388 | 1080 | RF | P-2 | 281 | 651 | 429 | 25.75 | 181 | 4.68 | 308 | 691 | 11.5 | 6.8 | 11.5 | 106 |
| L14 | P | P-9 | DY | 403 | | RF | P-9 | 296 | | | | | | | | | | | 107 |
| L14 | P | P-10 | DY | 699 | 1102 | RF | P-10 | 388 | 684 | 418 | 25.75 | 181 | 4.68 | 297 | 666 | 11.1 | 6.8 | 11.1 | 311 |
| L12 | A | A-1 | DY | 378 | | L14 | A-1 | 622 | | | | | | | | | | | -244 |
| L12 | A | A-2 | DY | 733 | 1111 | L14 | A-2 | 358 | 980 | 131 | 25.75 | 181 | 1.65 | 88 | 198 | 3.3 | 5.4 | 5.4 | 375 |
| L12 | A | A-9 | DY | 761 | | L14 | A-9 | 362 | | | | | | | | | | | 398 |
| L12 | A | A-10 | DY | 384 | 1145 | L14 | A-10 | 614 | 977 | 169 | 25.75 | 181 | 1.65 | 126 | 282 | 4.7 | 6.2 | 6.2 | -230 |
| L12 | P | P-1 | DY | 395 | | L14 | P-1 | 692 | | | | | | | | | | | -298 |
| L12 | P | P-2 | DY | 818 | 1213 | L14 | P-2 | 388 | 1080 | 133 | 25.75 | 181 | 1.64 | 90 | 202 | 3.4 | 5.6 | 5.6 | 431 |
| L12 | P | P-9 | DY | 838 | | L14 | P-9 | 403 | | | | | | | | | | | 436 |
| L12 | P | P-10 | DY | 428 | 1266 | L14 | P-10 | 699 | 1102 | 164 | 25.75 | 181 | 1.64 | 122 | 274 | 4.6 | 6.1 | 6.1 | -271 |
| L10 | A | A-1 | DY | -252 | | L12 | A-1 | 378 | | | | | | | | | | | -630 |
| L10 | A | A-2 | DY | 384 | | L12 | A-2 | 733 | | | | | | | | | | | -349 |
| L10 | A | A-3 | DY | 483 | | L12 | N/A | 0 | | | | | | | | | | | 483 |
| L10 | A | A-4 | DY | 251 | 866 | L12 | N/A | 0 | 1111 | -245 | 49 | 57.5 | -4.26 | -36 | -81 | -1.4 | 0.7 | 1.4 | 251 |
| L10 | A | A-6 | DY | 222 | | L12 | N/A | 0 | | | | | | | | | | | 222 |
| L10 | A | A-7 | DY | 475 | | L12 | N/A | 0 | | | | | | | | | | | 475 |
| L10 | A | A-8 | DY | 523 | | L12 | N/A | 0 | | | | | | | | | | | 523 |
| L10 | A | A-9 | DY | 416 | | L12 | A-9 | 761 | | | | | | | | | | | -345 |
| L10 | A | A-10 | DY | -243 | 1393 | L12 | A-10 | 384 | 1145 | 248 | 60 | 79.5 | 3.12 | 61 | 136 | 2.3 | 3.5 | 3.5 | -628 |
| L10 | P | P-1 | DY | -310 | | L12 | P-1 | 395 | | | | | | | | | | | -704 |
| L10 | P | P-2 | DY | 346 | | L12 | P-2 | 818 | | | | | | | | | | | -472 |
| L10 | P | P-3 | DY | 328 | | L12 | N/A | 0 | | | | | | | | | | | 328 |
| L10 | P | P-4 | DY | 370 | | L12 | N/A | 0 | | | | | | | | | | | 370 |
| L10 | P | P-5 | DY | 289 | 1023 | L12 | N/A | 0 | 1213 | -190 | 60 | 181 | 0.18 | -201 | -450 | -7.5 | -0.6 | 7.5 | 289 |
| L10 | P | P-6 | DY | 237 | | L12 | N/A | 0 | | | | | | | | | | | 237 |
| L10 | P | P-7 | DY | 514 | | L12 | N/A | 0 | | | | | | | | | | | 514 |
| L10 | P | P-8 | DY | 571 | | L12 | N/A | 0 | | | | | | | | | | | 571 |
| L10 | P | P-9 | DY | 450 | | L12 | P-9 | 838 | | | | | | | | | | | -389 |
| L10 | P | P-10 | DY | -283 | 1489 | L12 | P-10 | 428 | 1266 | 222 | 60 | 181 | 0.18 | 212 | 474 | 7.9 | 7.1 | 7.9 | -712 |

Hall of Justice

Y-direction shear walls dynamic analysis forces

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load Case | V | ΣV | Level Above | Pier | V | ΣV | ΔV | Drag Design | | As=Pu/60ksi | | Fp | | Max As | Pier ΔV | |
|-------|------|------|-----------|--------|--------|-------------|------|--------|--------|--------|-------------|---------|-------------|--------|--------|--------|--------|---------|--------|
| | | | | | | | | | | | Wall L | Total L | F | P | Pu | As | | | As |
| | | | | (kips) | (kips) | | | (kips) | (kips) | (kips) | (ft) | (ft) | (k/ft) | {kips} | {kips} | {in^2} | {in^2} | {in^2} | (kips) |
| L9 | A | A-1 | DY | 328 | | L10 | A-1 | -252 | | | | | | | | | | | 580 |
| L9 | A | A-2 | DY | 542 | | L10 | A-2 | 384 | | | | | | | | | | | 159 |
| L9 | A | A-3 | DY | 288 | | L10 | A-3 | 483 | | | | | | | | | | | -195 |
| L9 | A | A-4 | DY | 234 | 1392 | L10 | A-4 | 251 | 866 | 526 | 57.5 | 57.5 | 9.15 | 0 | 0 | 0.0 | 0.0 | 0.0 | -17 |
| L9 | A | A-6 | DY | 98 | | L10 | A-6 | 222 | | | | | | | | | | | -123 |
| L9 | A | A-7 | DY | 246 | | L10 | A-7 | 475 | | | | | | | | | | | -229 |
| L9 | A | A-8 | DY | 290 | | L10 | A-8 | 523 | | | | | | | | | | | -233 |
| L9 | A | A-9 | DY | 556 | | L10 | A-9 | 416 | | | | | | | | | | | 140 |
| L9 | A | A-10 | DY | 329 | 1520 | L10 | A-10 | -243 | 1393 | 127 | 60 | 79.5 | 1.60 | 31 | 70 | 1.2 | 1.3 | 1.3 | 573 |
| L9 | P | P-1 | DY | 372 | | L10 | P-1 | -310 | | | | | | | | | | | 682 |
| L9 | P | P-2 | DY | 528 | | L10 | P-2 | 346 | | | | | | | | | | | 182 |
| L9 | P | P-3 | DY | 130 | | L10 | P-3 | 328 | | | | | | | | | | | -198 |
| L9 | P | P-4 | DY | 110 | | L10 | P-4 | 370 | | | | | | | | | | | -260 |
| L9 | P | P-5 | DY | 91 | 1231 | L10 | P-5 | 289 | 1023 | 208 | 60 | 181 | 2.82 | 39 | 87 | 1.5 | 1.1 | 1.5 | -198 |
| L9 | P | P-6 | DY | 112 | | L10 | P-6 | 237 | | | | | | | | | | | -125 |
| L9 | P | P-7 | DY | 280 | | L10 | P-7 | 514 | | | | | | | | | | | -234 |
| L9 | P | P-8 | DY | 333 | | L10 | P-8 | 571 | | | | | | | | | | | -238 |
| L9 | P | P-9 | DY | 658 | | L10 | P-9 | 450 | | | | | | | | | | | 208 |
| L9 | P | P-10 | DY | 408 | 1791 | L10 | P-10 | -283 | 1489 | 302 | 60 | 181 | 2.82 | 133 | 298 | 5.0 | 3.4 | 5.0 | 692 |
| L8 | A | A-1 | DY | 317 | | L9 | A-1 | 328 | | | | | | | | | | | -11 |
| L8 | A | A-2 | DY | 558 | | L9 | A-2 | 542 | | | | | | | | | | | 16 |
| L8 | A | A-3 | DY | 340 | | L9 | A-3 | 288 | | | | | | | | | | | 52 |
| L8 | A | A-4 | DY | 345 | | L9 | A-4 | 234 | | | | | | | | | | | 111 |
| L8 | A | A-5 | DY | 243 | 1803 | L9 | N/A | 0 | 1392 | 411 | 60 | 181 | 2.53 | 259 | 581 | 9.7 | 6.1 | 9.7 | 243 |
| L8 | A | A-6 | DY | 102 | | L9 | A-6 | 98 | | | | | | | | | | | 4 |
| L8 | A | A-7 | DY | 259 | | L9 | A-7 | 246 | | | | | | | | | | | 13 |
| L8 | A | A-8 | DY | 329 | | L9 | A-8 | 290 | | | | | | | | | | | 39 |
| L8 | A | A-9 | DY | 559 | | L9 | A-9 | 556 | | | | | | | | | | | 3 |
| L8 | A | A-10 | DY | 317 | 1566 | L9 | A-10 | 329 | 1520 | 46 | 60 | 181 | 2.53 | -105 | -236 | -3.9 | 0.1 | 3.9 | -12 |
| L8 | P | P-1 | DY | 379 | | L9 | P-1 | 372 | | | | | | | | | | | 7 |
| L8 | P | P-2 | DY | 579 | | L9 | P-2 | 528 | | | | | | | | | | | 51 |
| L8 | P | P-3 | DY | 171 | | L9 | P-3 | 130 | | | | | | | | | | | 41 |
| L8 | P | P-4 | DY | 126 | | L9 | P-4 | 110 | | | | | | | | | | | 16 |
| L8 | P | P-5 | DY | 98 | 1353 | L9 | P-5 | 91 | 1231 | 122 | 60 | 181 | 1.45 | 35 | 78 | 1.3 | 1.6 | 1.6 | 7 |
| L8 | P | P-6 | DY | 122 | | L9 | P-6 | 112 | | | | | | | | | | | 9 |
| L8 | P | P-7 | DY | 301 | | L9 | P-7 | 280 | | | | | | | | | | | 21 |
| L8 | P | P-8 | DY | 383 | | L9 | P-8 | 333 | | | | | | | | | | | 50 |
| L8 | P | P-9 | DY | 701 | | L9 | P-9 | 658 | | | | | | | | | | | 43 |
| L8 | P | P-10 | DY | 425 | 1932 | L9 | P-10 | 408 | 1791 | 141 | 60 | 181 | 1.45 | 54 | 120 | 2.0 | 3.5 | 3.5 | |
| L7 | A | A-1 | DY | 395 | | L8 | A-1 | 317 | | | | | | | | | | | 78 |
| L7 | A | A-2 | DY | 608 | | L8 | A-2 | 558 | | | | | | | | | | | 50 |
| L7 | A | A-3 | DY | 349 | | L8 | A-3 | 340 | | | | | | | | | | | 9 |
| L7 | A | A-4 | DY | 311 | | L8 | A-4 | 345 | | | | | | | | | | | -34 |
| L7 | A | A-5 | DY | 119 | 1781 | L8 | A-5 | 243 | 1803 | -22 | 60 | 181 | 0.48 | -51 | -113 | -1.9 | 1.5 | 1.9 | -124 |
| L7 | A | A-6 | DY | 104 | | L8 | A-6 | 102 | | | | | | | | | | | 2 |
| L7 | A | A-7 | DY | 258 | | L8 | A-7 | 259 | | | | | | | | | | | -1 |
| L7 | A | A-8 | DY | 321 | | L8 | A-8 | 329 | | | | | | | | | | | -8 |
| L7 | A | A-9 | DY | 602 | | L8 | A-9 | 559 | | | | | | | | | | | 43 |
| L7 | A | A-10 | DY | 391 | 1675 | L8 | A-10 | 317 | 1566 | 109 | 60 | 181 | 0.48 | 80 | 179 | 3.0 | 3.3 | 3.3 | 74 |
| L7 | P | P-1 | DY | 411 | | L8 | P-1 | 379 | | | | | | | | | | | 32 |
| L7 | P | P-2 | DY | 653 | | L8 | P-2 | 579 | | | | | | | | | | | 74 |
| L7 | P | P-3 | DY | 433 | | L8 | P-3 | 171 | | | | | | | | | | | 262 |
| L7 | P | P-4 | DY | 252 | | L8 | P-4 | 126 | | | | | | | | | | | 125 |
| L7 | P | P-5 | DY | 108 | 1857 | L8 | P-5 | 98 | 1353 | 504 | 60 | 181 | 2.18 | 373 | 835 | 13.9 | 8.0 | 13.9 | 10 |
| L7 | P | P-6 | DY | 109 | | L8 | P-6 | 122 | | | | | | | | | | | -13 |
| L7 | P | P-7 | DY | 276 | | L8 | P-7 | 301 | | | | | | | | | | | -26 |
| L7 | P | P-8 | DY | 348 | | L8 | P-8 | 383 | | | | | | | | | | | -35 |
| L7 | P | P-9 | DY | 655 | | L8 | P-9 | 701 | | | | | | | | | | | -47 |
| L7 | P | P-10 | DY | 437 | 1824 | L8 | P-10 | 425 | 1932 | -108 | 60 | 181 | 2.18 | -239 | -536 | -8.9 | -1.7 | 8.9 | |

Hall of Justice

Y-direction shear walls dynamic analysis forces

Pu = .8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load Case | V {kips} | ΣV {kips} | Level Above | Pier | V {kips} | ΣV {kips} | ΔV {kips} | Drag Design | | As=Pu/60ksi | | Fp | | Max As | Pier ΔV | |
|-------|------|------|-----------|-------------|--------------|-------------|------|-------------|--------------|--------------|-------------|---------|-------------|------|------|------|--------|---------|------|
| | | | | | | | | | | | Wall L | Total L | L | F | P | Pu | | | As |
| L6 | A | A-1 | DY | 430 | | L7 | A-1 | 395 | | | | | | | | | | | 36 |
| L6 | A | A-2 | DY | 652 | | L7 | A-2 | 608 | | | | | | | | | | | 44 |
| L6 | A | A-3 | DY | 387 | | L7 | A-3 | 349 | | | | | | | | | | | 38 |
| L6 | A | A-4 | DY | 311 | | L7 | A-4 | 311 | | | | | | | | | | | 0 |
| L6 | A | A-5 | DY | 143 | 1923 | L7 | A-5 | 119 | 1781 | 142 | 60 | 181 | 1.57 | 48 | 108 | 1.8 | 2.6 | 2.6 | 24 |
| L6 | A | A-6 | DY | 115 | | L7 | A-6 | 104 | | | | | | | | | | | 11 |
| L6 | A | A-7 | DY | 279 | | L7 | A-7 | 258 | | | | | | | | | | | 21 |
| L6 | A | A-8 | DY | 355 | | L7 | A-8 | 321 | | | | | | | | | | | 34 |
| L6 | A | A-9 | DY | 640 | | L7 | A-9 | 602 | | | | | | | | | | | 39 |
| L6 | A | A-10 | DY | 428 | 1817 | L7 | A-10 | 391 | 1675 | 141 | 60 | 181 | 1.57 | 47 | 106 | 1.8 | 2.5 | 2.5 | 37 |
| L6 | P | P-1 | DY | 446 | | L7 | P-1 | 411 | | | | | | | | | | | 35 |
| L6 | P | P-2 | DY | 681 | | L7 | P-2 | 653 | | | | | | | | | | | 28 |
| L6 | P | P-3 | DY | 442 | | L7 | P-3 | 433 | | | | | | | | | | | 9 |
| L6 | P | P-4 | DY | 360 | | L7 | P-4 | 252 | | | | | | | | | | | 108 |
| L6 | P | P-5 | DY | 113 | 2041 | L7 | P-5 | 108 | 1857 | 185 | 60 | 181 | 1.64 | 86 | 193 | 3.2 | 3.2 | 3.2 | 5 |
| L6 | P | P-6 | DY | 118 | | L7 | P-6 | 109 | | | | | | | | | | | 9 |
| L6 | P | P-7 | DY | 288 | | L7 | P-7 | 276 | | | | | | | | | | | 12 |
| L6 | P | P-8 | DY | 372 | | L7 | P-8 | 348 | | | | | | | | | | | 24 |
| L6 | P | P-9 | DY | 688 | | L7 | P-9 | 655 | | | | | | | | | | | 34 |
| L6 | P | P-10 | DY | 470 | 1935 | L7 | P-10 | 437 | 1824 | 112 | 60 | 181 | 1.64 | 14 | 30 | 0.5 | 2.0 | 2.0 | 33 |
| L5 | A | A-1 | DY | 538 | | L6 | A-1 | 430 | | | | | | | | | | | 108 |
| L5 | A | A-2 | DY | 791 | | L6 | A-2 | 652 | | | | | | | | | | | 139 |
| L5 | A | A-3 | DY | 324 | | L6 | A-3 | 387 | | | | | | | | | | | -63 |
| L5 | A | A-4 | DY | 292 | | L6 | A-4 | 311 | | | | | | | | | | | -19 |
| L5 | A | A-5 | DY | 117 | 2062 | L6 | A-5 | 143 | 1923 | 139 | 60 | 181 | 1.63 | 41 | 92 | 1.5 | 2.5 | 2.5 | -27 |
| L5 | A | A-6 | DY | 110 | | L6 | A-6 | 115 | | | | | | | | | | | -5 |
| L5 | A | A-7 | DY | 241 | | L6 | A-7 | 279 | | | | | | | | | | | -38 |
| L5 | A | A-8 | DY | 293 | | L6 | A-8 | 355 | | | | | | | | | | | -62 |
| L5 | A | A-9 | DY | 795 | | L6 | A-9 | 640 | | | | | | | | | | | 154 |
| L5 | A | A-10 | DY | 534 | 1973 | L6 | A-10 | 428 | 1817 | 156 | 60 | 181 | 1.63 | 59 | 131 | 2.2 | 2.8 | 2.8 | 107 |
| L5 | P | P-1 | DY | 564 | | L6 | P-1 | 446 | | | | | | | | | | | 118 |
| L5 | P | P-2 | DY | 830 | | L6 | P-2 | 681 | | | | | | | | | | | 149 |
| L5 | P | P-3 | DY | 340 | | L6 | P-3 | 442 | | | | | | | | | | | -102 |
| L5 | P | P-4 | DY | 267 | | L6 | P-4 | 360 | | | | | | | | | | | -93 |
| L5 | P | P-5 | DY | 120 | 2120 | L6 | P-5 | 113 | 2041 | 79 | 60 | 181 | 1.39 | -4 | -9 | -0.2 | 1.8 | 1.8 | 7 |
| L5 | P | P-6 | DY | 107 | | L6 | P-6 | 118 | | | | | | | | | | | -10 |
| L5 | P | P-7 | DY | 241 | | L6 | P-7 | 288 | | | | | | | | | | | -47 |
| L5 | P | P-8 | DY | 302 | | L6 | P-8 | 372 | | | | | | | | | | | -70 |
| L5 | P | P-9 | DY | 854 | | L6 | P-9 | 688 | | | | | | | | | | | 166 |
| L5 | P | P-10 | DY | 603 | 2107 | L6 | P-10 | 470 | 1935 | 172 | 60 | 181 | 1.39 | 89 | 199 | 3.3 | 3.3 | 3.3 | 133 |
| L4 | A | A-1 | DY | 419 | | L5 | A-1 | 538 | | | | | | | | | | | -120 |
| L4 | A | A-2 | DY | 703 | | L5 | A-2 | 791 | | | | | | | | | | | -88 |
| L4 | A | A-3 | DY | 465 | | L5 | A-3 | 324 | | | | | | | | | | | 141 |
| L4 | A | A-4 | DY | 438 | | L5 | A-4 | 292 | | | | | | | | | | | 145 |
| L4 | A | A-5 | DY | 435 | 2460 | L5 | A-5 | 117 | 2062 | 398 | 60 | 181 | 2.04 | 275 | 616 | 10.3 | 7.0 | 10.3 | 318 |
| L4 | A | A-6 | DY | 113 | | L5 | A-6 | 110 | | | | | | | | | | | 2 |
| L4 | A | A-7 | DY | 329 | | L5 | A-7 | 241 | | | | | | | | | | | 88 |
| L4 | A | A-8 | DY | 437 | | L5 | A-8 | 293 | | | | | | | | | | | 144 |
| L4 | A | A-9 | DY | 645 | | L5 | A-9 | 795 | | | | | | | | | | | -149 |
| L4 | A | A-10 | DY | 421 | 1945 | L5 | A-10 | 534 | 1973 | -28 | 60 | 181 | 2.04 | -150 | -337 | -5.6 | -0.8 | 5.6 | -113 |
| L4 | P | P-1 | DY | 424 | | L5 | P-1 | 564 | | | | | | | | | | | -140 |
| L4 | P | P-2 | DY | 747 | | L5 | P-2 | 830 | | | | | | | | | | | -83 |
| L4 | P | P-3 | DY | 478 | | L5 | P-3 | 340 | | | | | | | | | | | 139 |
| L4 | P | P-4 | DY | 352 | | L5 | P-4 | 267 | | | | | | | | | | | 84 |
| L4 | P | P-5 | DY | 134 | 2135 | L5 | P-5 | 120 | 2120 | 15 | 60 | 181 | 1.26 | -61 | -137 | -2.3 | 1.2 | 2.3 | 14 |
| L4 | P | P-6 | DY | 117 | | L5 | P-6 | 107 | | | | | | | | | | | 9 |
| L4 | P | P-7 | DY | 309 | | L5 | P-7 | 241 | | | | | | | | | | | 68 |
| L4 | P | P-8 | DY | 414 | | L5 | P-8 | 302 | | | | | | | | | | | 112 |
| L4 | P | P-9 | DY | 866 | | L5 | P-9 | 854 | | | | | | | | | | | 12 |
| L4 | P | P-10 | DY | 616 | 2321 | L5 | P-10 | 603 | 2107 | 214 | 60 | 181 | 1.26 | 138 | 309 | 5.2 | 4.0 | 5.2 | 13 |

Hall of Justice

Y-direction shear walls dynamic analysis forces

Pu=.8P*2.8 scaling 80%. At roof using (Fp/F)*P*2.8

| Level | Elev | Pier | Load Case | V {kips} | ΣV {kips} | Level Above | Pier | V {kips} | ΣV {kips} | ΔV {kips} | Drag Design | | As=Pu/60ksi | | Fp As {in^2} | Max As {in^2} | Pier ΔV {kips} | | |
|-------|------|-------|-----------|-------------|--------------|-------------|-------|-------------|--------------|--------------|---------------|---------|-------------|------|--------------------|---------------------|----------------------|--------------|--------------|
| | | | | | | | | | | | Wall L | Total L | F | P | | | | Pu {kips} | As {in^2} |
| L3 | A | A-1 | DY | 327 | | L4 | A-1 | 419 | | | | | | | | | -91 | | |
| L3 | A | A-2 | DY | 598 | | L4 | A-2 | 703 | | | | | | | | | -105 | | |
| L3 | A | A-3 | DY | 265 | | L4 | A-3 | 465 | | | | | | | | | -201 | | |
| L3 | A | A-4 | DY | 280 | | L4 | A-4 | 438 | | | | | | | | | -157 | | |
| L3 | A | A-5 | DY | 492 | | L4 | A-5 | 435 | | | | | | | | | 56 | | |
| L3 | A | A-5.1 | DY | 651 | | L4 | N/A | 0 | | | | | | | | | 651 | | |
| L3 | A | A-5.2 | DY | 239 | 2852 | L4 | N/A | 0 | 2460 | 392 | See hand calc | | | | | | | 239 | |
| L3 | A | A-6 | DY | 232 | | L4 | A-6 | 113 | | | | | | | | | 119 | | |
| L3 | A | A-7 | DY | 361 | | L4 | A-7 | 329 | | | | | | | | | 32 | | |
| L3 | A | A-8 | DY | 350 | | L4 | A-8 | 437 | | | | | | | | | -87 | | |
| L3 | A | A-9 | DY | 1050 | | L4 | A-9 | 645 | | | | | | | | | 405 | | |
| L3 | A | A-10 | DY | 546 | 2539 | L4 | A-10 | 421 | 1945 | 594 | See hand calc | | | | | | | 125 | |
| L3 | P | P-1 | DY | 634 | | L4 | P-1 | 424 | | | | | | | | | 210 | | |
| L3 | P | P-2 | DY | 899 | | L4 | P-2 | 747 | | | | | | | | | 152 | | |
| L3 | P | P-3 | DY | 336 | | L4 | P-3 | 478 | | | | | | | | | -143 | | |
| L3 | P | P-4 | DY | 250 | | L4 | P-4 | 352 | | | | | | | | | -102 | | |
| L3 | P | P-5 | DY | 127 | 2246 | L4 | P-5 | 134 | 2135 | 111 | 60 | 181 | -2.44 | 258 | 578 | 9.6 | 5.8 | 9.6 | -6 |
| L3 | P | P-6 | DY | 114 | | L4 | P-6 | 117 | | | | | | | | | | | -2 |
| L3 | P | P-7 | DY | 258 | | L4 | P-7 | 309 | | | | | | | | | | | -51 |
| L3 | P | P-8 | DY | 308 | | L4 | P-8 | 414 | | | | | | | | | | | -107 |
| L3 | P | P-9 | DY | 574 | | L4 | P-9 | 866 | | | | | | | | | | | -292 |
| L3 | P | P-10 | DY | 514 | 1768 | L4 | P-10 | 616 | 2321 | -554 | 60 | 181 | -2.44 | -407 | -912 | -15.2 | -4.7 | 15.2 | -102 |
| L2 | A | A-1 | DY | 305 | | L3 | A-1 | 327 | | | | | | | | | | | -23 |
| L2 | A | A-2 | DY | 508 | | L3 | A-2 | 598 | | | | | | | | | | | -90 |
| L2 | A | A-3 | DY | 283 | | L3 | A-3 | 265 | | | | | | | | | | | 18 |
| L2 | A | A-4 | DY | 278 | | L3 | A-4 | 280 | | | | | | | | | | | -2 |
| L2 | A | A-5 | DY | 338 | | L3 | A-5 | 492 | | | | | | | | | | | -153 |
| L2 | A | A-5.1 | DY | 335 | | L3 | A-5.1 | 651 | | | | | | | | | | | -316 |
| L2 | A | A-5.2 | DY | 187 | 2233 | L3 | A-5.2 | 239 | 2852 | -619 | | | | | | | | | -52 |
| L2 | A | A-6 | DY | 1789 | | L3 | A-6 | 232 | | | | | | | | | | | 1557 |
| L2 | A | A-7 | DY | 1910 | | L3 | A-7 | 361 | | | | | | | | | | | 1549 |
| L2 | A | N/A | DY | 0 | | L3 | A-8 | 350 | | | | | | | | | | | -350 |
| L2 | A | N/A | DY | 0 | | L3 | A-9 | 1050 | | | | | | | | | | | -1050 |
| L2 | A | N/A | DY | 0 | 3699 | L3 | A-10 | 546 | 2539 | 1160 | | | | | | | | | -546 |
| L2 | P | P-1 | DY | 651 | | L3 | P-1 | 634 | | | | | | | | | | | 17 |
| L2 | P | P-2 | DY | 826 | | L3 | P-2 | 899 | | | | | | | | | | | -73 |
| L2 | P | P-3 | DY | 428 | | L3 | P-3 | 336 | | | | | | | | | | | 92 |
| L2 | P | P-4 | DY | 253 | | L3 | P-4 | 250 | | | | | | | | | | | 3 |
| L2 | P | P-5 | DY | 214 | 2372 | L3 | P-5 | 127 | 2246 | 126 | 60 | 181 | 1.44 | 39 | 88 | 1.5 | 2.7 | 2.7 | 87 |
| L2 | P | P-6 | DY | 205 | | L3 | P-6 | 114 | | | | | | | | | | | 91 |
| L2 | P | P-7 | DY | 428 | | L3 | P-7 | 258 | | | | | | | | | | | 170 |
| L2 | P | P-8 | DY | 409 | | L3 | P-8 | 308 | | | | | | | | | | | 101 |
| L2 | P | P-9 | DY | 741 | | L3 | P-9 | 574 | | | | | | | | | | | 168 |
| L2 | P | P-10 | DY | 119 | 1903 | L3 | P-10 | 514 | 1768 | 135 | 60 | 181 | 1.44 | 49 | 109 | 1.8 | 2.1 | 2.1 | -395 |
| L1 | A | A-1 | DY | 2316 | | L2 | A-1 | 305 | | | | | | | | | | | 2011 |
| L1 | A | A-6 | DY | 1573 | | L2 | A-2 | 508 | | | | | | | | | | | 1065 |
| L1 | A | A-7 | DY | 1994 | | L2 | A-3 | 283 | | | | | | | | | | | 1711 |
| L1 | A | N/A | DY | 0 | | L2 | A-4 | 278 | | | | | | | | | | | -278 |
| L1 | A | N/A | DY | 0 | | L2 | A-5 | 338 | | | | | | | | | | | -338 |
| L1 | A | N/A | DY | 0 | | L2 | A-5.1 | 335 | | | | | | | | | | | -335 |
| L1 | A | N/A | DY | 0 | | L2 | A-5.2 | 187 | | | | | | | | | | | -187 |
| L1 | A | N/A | DY | 0 | | L2 | A-6 | 1789 | | | | | | | | | | | -1789 |
| L1 | A | N/A | DY | 0 | 5882 | L2 | A-7 | 1910 | 5932 | -50 | | | | | | | | | -1910 |
| L1 | P | P-1 | DY | 2132 | | L2 | P-1 | 651 | | | | | | | | | | | 1481 |
| L1 | P | P-2 | DY | 578 | | L2 | P-2 | 826 | | | | | | | | | | | -248 |
| L1 | P | P-3 | DY | 1655 | | L2 | P-3 | 428 | | | | | | | | | | | 1227 |
| L1 | P | N/A | DY | 0 | | L2 | P-4 | 253 | | | | | | | | | | | -253 |
| L1 | P | N/A | DY | 0 | | L2 | P-5 | 214 | | | | | | | | | | | -214 |
| L1 | P | N/A | DY | 0 | | L2 | P-6 | 205 | | | | | | | | | | | -205 |
| L1 | P | N/A | DY | 0 | | L2 | P-7 | 428 | | | | | | | | | | | -428 |
| L1 | P | N/A | DY | 0 | | L2 | P-8 | 409 | | | | | | | | | | | -409 |
| L1 | P | N/A | DY | 0 | | L2 | P-9 | 741 | | | | | | | | | | | -741 |
| L1 | P | N/A | DY | 0 | 4365 | L2 | P-10 | 119 | 4275 | 90 | | | | | | | | | -119 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + 8"Transfer | Drag Design | | As = Pu/(.9*60ksi) | | | | |
|-------|------|------|------------|--------|------------------|--------|--------|-------|--------|--------|--------|--------------------|-------------|------|--------------------|--------|--------|-----|------|
| | | | Case | V | ΣV | Case | | | | | | | V | ΣV | Wall | Total | L | F | Pu |
| | | | | {kips} | {kips} | {kips} | {kips} | Above | {kips} | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | | |
| RF | A | A-1 | DY | 335 | N/A | 0 | N/A | N/A | 0 | | | | | | | | | | |
| RF | A | A-2 | DY | 255 | 589 | N/A | 0 | N/A | N/A | 0 | | 589 | 25.75 | 181 | 6.56 | 420 | 7.8 | | |
| RF | A | A-9 | DY | 259 | N/A | 0 | N/A | N/A | 0 | | | | | | | | | | |
| RF | A | A-10 | DY | 340 | 598 | N/A | 0 | N/A | N/A | 0 | | 598 | 25.75 | 181 | 6.56 | 429 | 8.0 | | |
| RF | P | P-1 | DY | 370 | N/A | 0 | N/A | N/A | 0 | | | | | | | | | | |
| RF | P | P-2 | DY | 281 | 651 | N/A | 0 | N/A | N/A | 0 | | 651 | 25.75 | 181 | 7.38 | 461 | 8.5 | | |
| RF | P | P-9 | DY | 296 | N/A | 0 | N/A | N/A | 0 | | | | | | | | | | |
| RF | P | P-10 | DY | 388 | 684 | N/A | 0 | N/A | N/A | 0 | | 684 | 25.75 | 181 | 7.38 | 494 | 9.1 | | |
| L14 | A | A-1 | L14DIAY | 320 | L14TY | 405 | RF | A-1 | 359 | | | | | | | | | | |
| L14 | A | A-2 | L14DIAY | 192 | 512 | L14TY | 225 | 630 | RF | A-2 | 266 | 625 | 5 | 516 | 25.75 | 181 | 5.67 | 370 | 6.9 |
| L14 | A | A-9 | L14DIAY | 195 | L14TY | 229 | RF | A-9 | 271 | | | | | | | | | | |
| L14 | A | A-10 | L14DIAY | 318 | 513 | L14TY | 403 | 632 | RF | A-10 | 364 | 635 | -3 | 511 | 25.75 | 181 | 5.67 | 365 | 6.8 |
| L14 | P | P-1 | L14DIAY | 319 | L14TY | 405 | RF | P-1 | 356 | | | | | | | | | | |
| L14 | P | P-2 | L14DIAY | 190 | 509 | L14TY | 222 | 627 | RF | P-2 | 264 | 620 | 7 | 515 | 25.75 | 181 | 5.68 | 369 | 6.8 |
| L14 | P | P-9 | L14DIAY | 196 | L14TY | 231 | RF | P-9 | 274 | | | | | | | | | | |
| L14 | P | P-10 | L14DIAY | 320 | 516 | L14TY | 407 | 638 | RF | P-10 | 367 | 641 | -3 | 514 | 25.75 | 181 | 5.68 | 367 | 6.8 |
| L12 | A | A-1 | L12DIAY | 196 | L12TY | 318 | L14 | A-1 | 657 | | | | | | | | | | |
| L12 | A | A-2 | L12DIAY | 236 | 432 | L12TY | 698 | 1016 | L14 | A-2 | 377 | 1034 | -18 | 418 | 25.75 | 181 | 4.85 | 293 | 5.4 |
| L12 | A | A-9 | L12DIAY | 246 | L12TY | 728 | L14 | A-9 | 383 | | | | | | | | | | |
| L12 | A | A-10 | L12DIAY | 198 | 444 | L12TY | 329 | 1057 | L14 | A-10 | 654 | 1037 | 20 | 459 | 25.75 | 181 | 4.85 | 335 | 6.2 |
| L12 | P | P-1 | L12DIAY | 191 | L12TY | 302 | L14 | P-1 | 657 | | | | | | | | | | |
| L12 | P | P-2 | L12DIAY | 243 | 434 | L12TY | 718 | 1020 | L14 | P-2 | 372 | 1029 | -9 | 427 | 25.75 | 181 | 4.88 | 301 | 5.6 |
| L12 | P | P-9 | L12DIAY | 247 | L12TY | 732 | L14 | P-9 | 386 | | | | | | | | | | |
| L12 | P | P-10 | L12DIAY | 198 | 445 | L12TY | 329 | 1031 | L14 | P-10 | 659 | 1046 | 15 | 457 | 25.75 | 181 | 4.88 | 331 | 6.1 |
| L10 | A | A-1 | L10DIAY | 138 | L10TY | -195 | L12 | A-1 | 383 | | | | | | | | | | |
| L10 | A | A-2 | L10DIAY | 194 | L10TY | 322 | L12 | A-2 | 776 | | | | | | | | | | |
| L10 | A | A-3 | L10DIAY | 93 | L10TY | 503 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | A | A-4 | L10DIAY | 42 | 465 | L10TY | 264 | 894 | L12 | N/A | 0 | 1159 | -265 | 253 | 49 | 57.5 | 4.39 | 37 | 0.7 |
| L10 | A | A-6 | L10DIAY | 36 | L10TY | 232 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | A | A-7 | L10DIAY | 82 | L10TY | 498 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | A | A-8 | L10DIAY | 99 | L10TY | 548 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | A | A-9 | L10DIAY | 204 | L10TY | 366 | L12 | A-9 | 809 | | | | | | | | | | |
| L10 | A | A-10 | L10DIAY | 137 | 557 | L10TY | -180 | 1465 | L12 | A-10 | 394 | 1203 | 282 | 767 | 60 | 79.5 | 9.65 | 188 | 3.5 |
| L10 | P | P-1 | L10DIAY | 123 | L10TY | -246 | L12 | P-1 | 366 | | | | | | | | | | |
| L10 | P | P-2 | L10DIAY | 183 | L10TY | 247 | L12 | P-2 | 798 | | | | | | | | | | |
| L10 | P | P-3 | L10DIAY | 68 | L10TY | 313 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | P | P-4 | L10DIAY | 64 | L10TY | 357 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | P | P-5 | L10DIAY | 47 | 485 | L10TY | 280 | 951 | L12 | N/A | 0 | 1163 | -213 | 314 | 60 | 181 | 5.77 | -32 | -0.8 |
| L10 | P | P-6 | L10DIAY | 35 | L10TY | 230 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | P | P-7 | L10DIAY | 81 | L10TY | 497 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | P | P-8 | L10DIAY | 99 | L10TY | 548 | L12 | N/A | 0 | | | | | | | | | | |
| L10 | P | P-9 | L10DIAY | 200 | L10TY | 355 | L12 | P-9 | 813 | | | | | | | | | | |
| L10 | P | P-10 | L10DIAY | 133 | 548 | L10TY | -193 | 1436 | L12 | P-10 | 394 | 1208 | 228 | 731 | 60 | 181 | 5.77 | 384 | 7.1 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design | | As = Pu/(.9*60ksi) | | | | |
|-------|------|------|------------|--------|------------------|--------|--------|-------|-----|------|------|---------------------|-------------|------|--------------------|--------|--------|-----|------|
| | | | Case | V | ΣV | Case | | | | | | | V | ΣV | Wall | Total | L | F | Pu |
| | | | | {kips} | {kips} | {kips} | {kips} | Above | | | | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | | |
| L9 | A | A-1 | L9DIAY | 121 | | L9TY | 253 | L10 | A-1 | -156 | | | | | | | | | |
| L9 | A | A-2 | L9DIAY | 166 | | L9TY | 500 | L10 | A-2 | 377 | | | | | | | | | |
| L9 | A | A-3 | L9DIAY | 62 | | L9TY | 295 | L10 | A-3 | 530 | | | | | | | | | |
| L9 | A | A-4 | L9DIAY | 43 | 391 | L9TY | 246 | 1294 | L10 | A-4 | 276 | 1028 | 268 | 606 | 57.5 | 57.5 | 10.53 | 0 | 0.0 |
| L9 | A | A-6 | L9DIAY | 25 | | L9TY | 102 | L10 | A-6 | 243 | | | | | | | | | |
| L9 | A | A-7 | L9DIAY | 49 | | L9TY | 259 | L10 | A-7 | 521 | | | | | | | | | |
| L9 | A | A-8 | L9DIAY | 60 | | L9TY | 302 | L10 | A-8 | 576 | | | | | | | | | |
| L9 | A | A-9 | L9DIAY | 167 | | L9TY | 525 | L10 | A-9 | 424 | | | | | | | | | |
| L9 | A | A-10 | L9DIAY | 120 | 421 | L9TY | 263 | 1451 | L10 | A-10 | -141 | 1623 | -172 | 283 | 60 | 79.5 | 3.56 | 69 | 1.3 |
| L9 | P | P-1 | L9DIAY | 125 | | L9TY | 263 | L10 | P-1 | -211 | | | | | | | | | |
| L9 | P | P-2 | L9DIAY | 155 | | L9TY | 446 | L10 | P-2 | 299 | | | | | | | | | |
| L9 | P | P-3 | L9DIAY | 26 | | L9TY | 123 | L10 | P-3 | 332 | | | | | | | | | |
| L9 | P | P-4 | L9DIAY | 21 | | L9TY | 107 | L10 | P-4 | 375 | | | | | | | | | |
| L9 | P | P-5 | L9DIAY | 21 | 347 | L9TY | 88 | 1027 | L10 | P-5 | 293 | 1088 | -61 | 298 | 60 | 181 | 4.00 | 58 | 1.1 |
| L9 | P | P-6 | L9DIAY | 26 | | L9TY | 108 | L10 | P-6 | 240 | | | | | | | | | |
| L9 | P | P-7 | L9DIAY | 53 | | L9TY | 271 | L10 | P-7 | 520 | | | | | | | | | |
| L9 | P | P-8 | L9DIAY | 64 | | L9TY | 317 | L10 | P-8 | 576 | | | | | | | | | |
| L9 | P | P-9 | L9DIAY | 178 | | L9TY | 567 | L10 | P-9 | 411 | | | | | | | | | |
| L9 | P | P-10 | L9DIAY | 130 | 451 | L9TY | 299 | 1561 | L10 | P-10 | -155 | 1592 | -31 | 426 | 60 | 181 | 4.00 | 186 | 3.4 |
| L8 | A | A-1 | L8DIAY | 127 | | L8TY | 204 | L9 | A-1 | 295 | | | | | | | | | |
| L8 | A | A-2 | L8DIAY | 187 | | L8TY | 476 | L9 | A-2 | 557 | | | | | | | | | |
| L8 | A | A-3 | L8DIAY | 75 | | L8TY | 350 | L9 | A-3 | 316 | | | | | | | | | |
| L8 | A | A-4 | L8DIAY | 58 | | L8TY | 373 | L9 | A-4 | 261 | | | | | | | | | |
| L8 | A | A-5 | L8DIAY | 24 | 471 | L8TY | 269 | 1672 | L9 | N/A | 0 | 1429 | 243 | 666 | 60 | 181 | 5.57 | 332 | 6.1 |
| L8 | A | A-6 | L8DIAY | 26 | | L8TY | 110 | L9 | A-6 | 111 | | | | | | | | | |
| L8 | A | A-7 | L8DIAY | 57 | | L8TY | 276 | L9 | A-7 | 276 | | | | | | | | | |
| L8 | A | A-8 | L8DIAY | 72 | | L8TY | 343 | L9 | A-8 | 322 | | | | | | | | | |
| L8 | A | A-9 | L8DIAY | 185 | | L8TY | 494 | L9 | A-9 | 582 | | | | | | | | | |
| L8 | A | A-10 | L8DIAY | 126 | 466 | L8TY | 218 | 1440 | L9 | A-10 | 304 | 1596 | -155 | 342 | 60 | 181 | 5.57 | 8 | 0.1 |
| L8 | P | P-1 | L8DIAY | 132 | | L8TY | 251 | L9 | P-1 | 306 | | | | | | | | | |
| L8 | P | P-2 | L8DIAY | 178 | | L8TY | 470 | L9 | P-2 | 499 | | | | | | | | | |
| L8 | P | P-3 | L8DIAY | 30 | | L8TY | 169 | L9 | P-3 | 132 | | | | | | | | | |
| L8 | P | P-4 | L8DIAY | 22 | | L8TY | 128 | L9 | P-4 | 114 | | | | | | | | | |
| L8 | P | P-5 | L8DIAY | 24 | 386 | L8TY | 98 | 1115 | L9 | P-5 | 95 | 1147 | -31 | 361 | 60 | 181 | 4.55 | 88 | 1.6 |
| L8 | P | P-6 | L8DIAY | 28 | | L8TY | 121 | L9 | P-6 | 117 | | | | | | | | | |
| L8 | P | P-7 | L8DIAY | 60 | | L8TY | 297 | L9 | P-7 | 289 | | | | | | | | | |
| L8 | P | P-8 | L8DIAY | 76 | | L8TY | 369 | L9 | P-8 | 339 | | | | | | | | | |
| L8 | P | P-9 | L8DIAY | 199 | | L8TY | 584 | L9 | P-9 | 628 | | | | | | | | | |
| L8 | P | P-10 | L8DIAY | 138 | 501 | L8TY | 298 | 1669 | L9 | P-10 | 343 | 1716 | -48 | 463 | 60 | 181 | 4.55 | 190 | 3.5 |
| L7 | A | A-1 | L7DIAY | 121 | | L7TY | 342 | L8 | A-1 | 247 | | | | | | | | | |
| L7 | A | A-2 | L7DIAY | 173 | | L7TY | 553 | L8 | A-2 | 541 | | | | | | | | | |
| L7 | A | A-3 | L7DIAY | 72 | | L7TY | 348 | L8 | A-3 | 376 | | | | | | | | | |
| L7 | A | A-4 | L7DIAY | 58 | | L7TY | 326 | L8 | A-4 | 393 | | | | | | | | | |
| L7 | A | A-5 | L7DIAY | 29 | 453 | L7TY | 123 | 1692 | L8 | A-5 | 278 | 1835 | -143 | 339 | 60 | 181 | 4.26 | 83 | 1.5 |
| L7 | A | A-6 | L7DIAY | 28 | | L7TY | 104 | L8 | A-6 | 119 | | | | | | | | | |
| L7 | A | A-7 | L7DIAY | 57 | | L7TY | 262 | L8 | A-7 | 295 | | | | | | | | | |
| L7 | A | A-8 | L7DIAY | 68 | | L7TY | 318 | L8 | A-8 | 368 | | | | | | | | | |
| L7 | A | A-9 | L7DIAY | 172 | | L7TY | 555 | L8 | A-9 | 558 | | | | | | | | | |
| L7 | A | A-10 | L7DIAY | 120 | 445 | L7TY | 347 | 1586 | L8 | A-10 | 261 | 1601 | -15 | 432 | 60 | 181 | 4.26 | 177 | 3.3 |
| L7 | P | P-1 | L7DIAY | 122 | | L7TY | 327 | L8 | P-1 | 297 | | | | | | | | | |
| L7 | P | P-2 | L7DIAY | 170 | | L7TY | 574 | L8 | P-2 | 532 | | | | | | | | | |
| L7 | P | P-3 | L7DIAY | 63 | | L7TY | 432 | L8 | P-3 | 179 | | | | | | | | | |
| L7 | P | P-4 | L7DIAY | 47 | | L7TY | 241 | L8 | P-4 | 135 | | | | | | | | | |
| L7 | P | P-5 | L7DIAY | 27 | 429 | L7TY | 102 | 1676 | L8 | P-5 | 106 | 1249 | 427 | 771 | 60 | 181 | 5.61 | 434 | 8.0 |
| L7 | P | P-6 | L7DIAY | 28 | | L7TY | 101 | L8 | P-6 | 131 | | | | | | | | | |
| L7 | P | P-7 | L7DIAY | 57 | | L7TY | 259 | L8 | P-7 | 317 | | | | | | | | | |
| L7 | P | P-8 | L7DIAY | 69 | | L7TY | 319 | L8 | P-8 | 395 | | | | | | | | | |
| L7 | P | P-9 | L7DIAY | 177 | | L7TY | 552 | L8 | P-9 | 653 | | | | | | | | | |
| L7 | P | P-10 | L7DIAY | 124 | 455 | L7TY | 348 | 1579 | L8 | P-10 | 346 | 1842 | -262 | 245 | 60 | 181 | 5.61 | -92 | -1.7 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design | | As = Pu/(.9*60ksi) | | | | |
|-------|------|------|------------|--------|------------------|------|-------|------|-----|------|--------|---------------------|-------------|------|--------------------|---------|--------|--------|------|
| | | | Case | V | ΣV | Case | | | | | | | V | ΣV | Wall L | Total L | F | Pu | As |
| | | | {kips} | {kips} | | | Above | | | | {kips} | {kips} | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | |
| L6 | A | A-1 | L6DIAY | 111 | | L6TY | 384 | L7 | A-1 | 385 | | | | | | | | | |
| L6 | A | A-2 | L6DIAY | 154 | | L6TY | 607 | L7 | A-2 | 613 | | | | | | | | | |
| L6 | A | A-3 | L6DIAY | 68 | | L6TY | 386 | L7 | A-3 | 373 | | | | | | | | | |
| L6 | A | A-4 | L6DIAY | 56 | | L6TY | 318 | L7 | A-4 | 347 | | | | | | | | | |
| L6 | A | A-5 | L6DIAY | 29 | 418 | L6TY | 151 | 1845 | L7 | A-5 | 133 | 1851 | -5 | 413 | 60 | 181 | 4.52 | 143 | 2.6 |
| L6 | A | A-6 | L6DIAY | 27 | | L6TY | 115 | L7 | A-6 | 114 | | | | | | | | | |
| L6 | A | A-7 | L6DIAY | 54 | | L6TY | 278 | L7 | A-7 | 281 | | | | | | | | | |
| L6 | A | A-8 | L6DIAY | 64 | | L6TY | 352 | L7 | A-8 | 342 | | | | | | | | | |
| L6 | A | A-9 | L6DIAY | 153 | | L6TY | 602 | L7 | A-9 | 615 | | | | | | | | | |
| L6 | A | A-10 | L6DIAY | 110 | 407 | L6TY | 391 | 1738 | L7 | A-10 | 389 | 1742 | -4 | 404 | 60 | 181 | 4.52 | 133 | 2.5 |
| L6 | P | P-1 | L6DIAY | 111 | | L6TY | 373 | L7 | P-1 | 370 | | | | | | | | | |
| L6 | P | P-2 | L6DIAY | 151 | | L6TY | 612 | L7 | P-2 | 634 | | | | | | | | | |
| L6 | P | P-3 | L6DIAY | 65 | | L6TY | 431 | L7 | P-3 | 454 | | | | | | | | | |
| L6 | P | P-4 | L6DIAY | 53 | | L6TY | 357 | L7 | P-4 | 258 | | | | | | | | | |
| L6 | P | P-5 | L6DIAY | 26 | 406 | L6TY | 106 | 1878 | L7 | P-5 | 111 | 1826 | 52 | 448 | 60 | 181 | 4.60 | 172 | 3.2 |
| L6 | P | P-6 | L6DIAY | 26 | | L6TY | 110 | L7 | P-6 | 111 | | | | | | | | | |
| L6 | P | P-7 | L6DIAY | 53 | | L6TY | 267 | L7 | P-7 | 279 | | | | | | | | | |
| L6 | P | P-8 | L6DIAY | 65 | | L6TY | 342 | L7 | P-8 | 344 | | | | | | | | | |
| L6 | P | P-9 | L6DIAY | 156 | | L6TY | 596 | L7 | P-9 | 613 | | | | | | | | | |
| L6 | P | P-10 | L6DIAY | 113 | 414 | L6TY | 388 | 1703 | L7 | P-10 | 392 | 1739 | -36 | 386 | 60 | 181 | 4.60 | 109 | 2.0 |
| L5 | A | A-1 | L5DIAY | 126 | | L5TY | 498 | L6 | A-1 | 424 | | | | | | | | | |
| L5 | A | A-2 | L5DIAY | 172 | | L5TY | 751 | L6 | A-2 | 662 | | | | | | | | | |
| L5 | A | A-3 | L5DIAY | 54 | | L5TY | 325 | L6 | A-3 | 410 | | | | | | | | | |
| L5 | A | A-4 | L5DIAY | 49 | | L5TY | 302 | L6 | A-4 | 339 | | | | | | | | | |
| L5 | A | A-5 | L5DIAY | 26 | 427 | L5TY | 117 | 1992 | L6 | A-5 | 151 | 1997 | -4 | 423 | 60 | 181 | 4.76 | 137 | 2.5 |
| L5 | A | A-6 | L5DIAY | 25 | | L5TY | 109 | L6 | A-6 | 125 | | | | | | | | | |
| L5 | A | A-7 | L5DIAY | 44 | | L5TY | 242 | L6 | A-7 | 298 | | | | | | | | | |
| L5 | A | A-8 | L5DIAY | 50 | | L5TY | 293 | L6 | A-8 | 375 | | | | | | | | | |
| L5 | A | A-9 | L5DIAY | 172 | | L5TY | 765 | L6 | A-9 | 657 | | | | | | | | | |
| L5 | A | A-10 | L5DIAY | 124 | 414 | L5TY | 508 | 1916 | L6 | A-10 | 431 | 1885 | 31 | 439 | 60 | 181 | 4.76 | 153 | 2.8 |
| L5 | P | P-1 | L5DIAY | 125 | | L5TY | 498 | L6 | P-1 | 413 | | | | | | | | | |
| L5 | P | P-2 | L5DIAY | 169 | | L5TY | 763 | L6 | P-2 | 667 | | | | | | | | | |
| L5 | P | P-3 | L5DIAY | 51 | | L5TY | 332 | L6 | P-3 | 455 | | | | | | | | | |
| L5 | P | P-4 | L5DIAY | 43 | | L5TY | 262 | L6 | P-4 | 376 | | | | | | | | | |
| L5 | P | P-5 | L5DIAY | 24 | 411 | L5TY | 115 | 1970 | L6 | P-5 | 115 | 2025 | -55 | 367 | 60 | 181 | 4.53 | 96 | 1.8 |
| L5 | P | P-6 | L5DIAY | 24 | | L5TY | 99 | L6 | P-6 | 119 | | | | | | | | | |
| L5 | P | P-7 | L5DIAY | 43 | | L5TY | 226 | L6 | P-7 | 287 | | | | | | | | | |
| L5 | P | P-8 | L5DIAY | 50 | | L5TY | 280 | L6 | P-8 | 365 | | | | | | | | | |
| L5 | P | P-9 | L5DIAY | 178 | | L5TY | 759 | L6 | P-9 | 652 | | | | | | | | | |
| L5 | P | P-10 | L5DIAY | 130 | 425 | L5TY | 523 | 1886 | L6 | P-10 | 429 | 1853 | 33 | 452 | 60 | 181 | 4.53 | 180 | 3.3 |
| L4 | A | A-1 | L4DIAY | 112 | | L4TY | 361 | L5 | A-1 | 540 | | | | | | | | | |
| L4 | A | A-2 | L4DIAY | 167 | | L4TY | 641 | L5 | A-2 | 809 | | | | | | | | | |
| L4 | A | A-3 | L4DIAY | 82 | | L4TY | 461 | L5 | A-3 | 343 | | | | | | | | | |
| L4 | A | A-4 | L4DIAY | 74 | | L4TY | 454 | L5 | A-4 | 318 | | | | | | | | | |
| L4 | A | A-5 | L4DIAY | 55 | 490 | L4TY | 487 | 2403 | L5 | A-5 | 126 | 2136 | 268 | 704 | 60 | 181 | 5.46 | 376 | 7.0 |
| L4 | A | A-6 | L4DIAY | 25 | | L4TY | 118 | L5 | A-6 | 117 | | | | | | | | | |
| L4 | A | A-7 | L4DIAY | 62 | | L4TY | 329 | L5 | A-7 | 257 | | | | | | | | | |
| L4 | A | A-8 | L4DIAY | 76 | | L4TY | 432 | L5 | A-8 | 309 | | | | | | | | | |
| L4 | A | A-9 | L4DIAY | 150 | | L4TY | 614 | L5 | A-9 | 823 | | | | | | | | | |
| L4 | A | A-10 | L4DIAY | 105 | 418 | L4TY | 395 | 1889 | L5 | A-10 | 549 | 2055 | -166 | 285 | 60 | 181 | 5.46 | -43 | -0.8 |
| L4 | P | P-1 | L4DIAY | 103 | | L4TY | 371 | L5 | P-1 | 540 | | | | | | | | | |
| L4 | P | P-2 | L4DIAY | 160 | | L4TY | 686 | L5 | P-2 | 820 | | | | | | | | | |
| L4 | P | P-3 | L4DIAY | 77 | | L4TY | 462 | L5 | P-3 | 349 | | | | | | | | | |
| L4 | P | P-4 | L4DIAY | 60 | | L4TY | 345 | L5 | P-4 | 276 | | | | | | | | | |
| L4 | P | P-5 | L4DIAY | 26 | 426 | L4TY | 135 | 1999 | L5 | P-5 | 123 | 2108 | -109 | 339 | 60 | 181 | 4.61 | 62 | 1.2 |
| L4 | P | P-6 | L4DIAY | 25 | | L4TY | 113 | L5 | P-6 | 107 | | | | | | | | | |
| L4 | P | P-7 | L4DIAY | 59 | | L4TY | 285 | L5 | P-7 | 240 | | | | | | | | | |
| L4 | P | P-8 | L4DIAY | 72 | | L4TY | 380 | L5 | P-8 | 297 | | | | | | | | | |
| L4 | P | P-9 | L4DIAY | 189 | | L4TY | 746 | L5 | P-9 | 819 | | | | | | | | | |
| L4 | P | P-10 | L4DIAY | 138 | 482 | L4TY | 520 | 2045 | L5 | P-10 | 567 | 2029 | 16 | 495 | 60 | 181 | 4.61 | 219 | 4.0 |

Hall of Justice

X-direction shear walls Fp forces and forces due to transfer of load due to change in stiffness of lateral system

| Level | Elev | Pier | Fp Loading | | Transfer Loading | | Level | Pier | V | ΣV | ΔV | Fp + .8*Transfer | Drag Design Wall L | Total L | As = Pu/(.9*60ksi) | | | | |
|-------|------|-------|------------|--------|------------------|------|-------|------|-------|-------|------------------------------|---------------------|-----------------------|---------|--------------------|--------|------|------|------|
| | | | Case | V | ΣV | Case | | | | | | | | | V | ΣV | F | Pu | As |
| | | | {kips} | {kips} | | | Above | | | | {kips} | {ft} | {ft} | {k/ft} | {kips} | {in^2} | | | |
| L3 | A | A-1 | L3DIAY | 98 | | L3TY | 257 | L4 | A-1 | 396 | | | | | | | | | |
| L3 | A | A-2 | L3DIAY | 155 | | L3TY | 516 | L4 | A-2 | 693 | | | | | | | | | |
| L3 | A | A-3 | L3DIAY | 53 | | L3TY | 249 | L4 | A-3 | 487 | | | | | | | | | |
| L3 | A | A-4 | L3DIAY | 53 | | L3TY | 280 | L4 | A-4 | 477 | | | | | | | | | |
| L3 | A | A-5 | L3DIAY | 59 | | L3TY | 546 | L4 | A-5 | 504 | | | | | | | | | |
| L3 | A | A-5.1 | L3DIAY | 59 | | L3TY | 740 | L4 | N/A | 0 | | | | | | | | | |
| L3 | A | A-5.2 | L3DIAY | 27 | 506 | L3TY | 268 | 2855 | L4 | N/A | 0 | 2556 | 299 | 805 | See hand calc | | | | |
| L3 | A | A-6 | L3DIAY | 45 | | L3TY | 232 | L4 | A-6 | 126 | | | | | | | | | |
| L3 | A | A-7 | L3DIAY | 67 | | L3TY | 359 | L4 | A-7 | 348 | | | | | | | | | |
| L3 | A | A-8 | L3DIAY | 66 | | L3TY | 341 | L4 | A-8 | 456 | | | | | | | | | |
| L3 | A | A-9 | L3DIAY | 236 | | L3TY | 980 | L4 | A-9 | 661 | | | | | | | | | |
| L3 | A | A-10 | L3DIAY | 143 | 557 | L3TY | 480 | 2390 | L4 | A-10 | 428 | 2019 | 371 | 929 | See hand calc | | | | |
| L3 | P | P-1 | L3DIAY | 138 | | L3TY | 565 | L4 | P-1 | 403 | | | | | | | | | |
| L3 | P | P-2 | L3DIAY | 193 | | L3TY | 804 | L4 | P-2 | 736 | | | | | | | | | |
| L3 | P | P-3 | L3DIAY | 63 | | L3TY | 310 | L4 | P-3 | 486 | | | | | | | | | |
| L3 | P | P-4 | L3DIAY | 51 | | L3TY | 229 | L4 | P-4 | 363 | Dynamic shear force controls | | | | | | | | |
| L3 | P | P-5 | L3DIAY | 29 | 475 | L3TY | 118 | 2026 | L4 | P-5 | 144 | 2132 | -106 | 369 | 60 | 181 | 0.95 | 312 | 5.8 |
| L3 | P | P-6 | L3DIAY | 27 | | L3TY | 105 | L4 | P-6 | 121 | | | | | | | | | |
| L3 | P | P-7 | L3DIAY | 53 | | L3TY | 235 | L4 | P-7 | 304 | | | | | | | | | |
| L3 | P | P-8 | L3DIAY | 57 | | L3TY | 282 | L4 | P-8 | 402 | | | | | | | | | |
| L3 | P | P-9 | L3DIAY | 129 | | L3TY | 517 | L4 | P-9 | 805 | Dynamic shear force controls | | | | | | | | |
| L3 | P | P-10 | L3DIAY | 98 | 364 | L3TY | 494 | 1633 | L4 | P-10 | 563 | 2195 | -562 | -198 | 60 | 181 | 0.95 | -255 | -4.7 |
| L2 | A | A-1 | L2DIAY | 49 | | L2TY | 210 | L3 | A-1 | 283 | | | | | | | | | |
| L2 | A | A-2 | L2DIAY | 99 | | L2TY | 397 | L3 | A-2 | 557 | | | | | | | | | |
| L2 | A | A-3 | L2DIAY | 43 | | L2TY | 261 | L3 | A-3 | 264 | | | | | | | | | |
| L2 | A | A-4 | L2DIAY | 47 | | L2TY | 275 | L3 | A-4 | 294 | | | | | | | | | |
| L2 | A | A-5 | L2DIAY | 50 | | L2TY | 368 | L3 | A-5 | 562 | | | | | | | | | |
| L2 | A | A-5.1 | L2DIAY | 65 | | L2TY | 369 | L3 | A-5.1 | 755 | | | | | | | | | |
| L2 | A | A-5.2 | L2DIAY | 37 | 390 | L2TY | 206 | 2086 | L3 | A-5.2 | 273 | 2988 | -903 | -512 | | | | | |
| L2 | A | A-6 | L2DIAY | 326 | | L2TY | 1967 | L3 | A-6 | 243 | | | | | | | | | |
| L2 | A | A-7 | L2DIAY | 383 | | L2TY | 1540 | L3 | A-7 | 377 | | | | | | | | | |
| L2 | A | N/A | L2DIAY | 0 | | L2TY | 0 | L3 | A-8 | 358 | | | | | | | | | |
| L2 | A | N/A | L2DIAY | 0 | | L2TY | 0 | L3 | A-9 | 1042 | | | | | | | | | |
| L2 | A | N/A | L2DIAY | 0 | 708 | L2TY | 0 | 3507 | L3 | A-10 | 517 | 2537 | 969 | 1678 | | | | | |
| L2 | P | P-1 | L2DIAY | 94 | | L2TY | 566 | L3 | P-1 | 601 | | | | | | | | | |
| L2 | P | P-2 | L2DIAY | 149 | | L2TY | 723 | L3 | P-2 | 855 | | | | | | | | | |
| L2 | P | P-3 | L2DIAY | 62 | | L2TY | 416 | L3 | P-3 | 326 | | | | | | | | | |
| L2 | P | P-4 | L2DIAY | 71 | | L2TY | 202 | L3 | P-4 | 243 | | | | | | | | | |
| L2 | P | P-5 | L2DIAY | 53 | 429 | L2TY | 210 | 2117 | L3 | P-5 | 126 | 2151 | -34 | 395 | 60 | 181 | 4.19 | 144 | 2.7 |
| L2 | P | P-6 | L2DIAY | 76 | | L2TY | 166 | L3 | P-6 | 112 | | | | | | | | | |
| L2 | P | P-7 | L2DIAY | 92 | | L2TY | 405 | L3 | P-7 | 249 | | | | | | | | | |
| L2 | P | P-8 | L2DIAY | 72 | | L2TY | 365 | L3 | P-8 | 297 | | | | | | | | | |
| L2 | P | P-9 | L2DIAY | 138 | | L2TY | 655 | L3 | P-9 | 551 | | | | | | | | | |
| L2 | P | P-10 | L2DIAY | 16 | 393 | L2TY | 108 | 1699 | L3 | P-10 | 519 | 1729 | -30 | 363 | 60 | 181 | 4.19 | 111 | 2.1 |

Hall of Justice
Shear Walls Soil Load Shears

SOIL = static soil load
SOILX1 = x-direction seismic soil load
SOILY2 = y-direction seismic soil load

Pu=1.6H

| Level | Elev | Pier | Load Case | V {kips} | ΣV {kips} | Level | Elev | Pier | Load Case | V {kips} | ΣV {kips} | Drag Wall {ft} | Design L {ft} | Total L {ft} | As = F {k/ft} | |
|-------------|------|------|------------|----------|-----------|-------------|------|------|--------------|----------|-----------|----------------|---------------|--------------|---------------|--|
| X-direction | | | | | | X-direction | | | | | | | | | | |
| L2 | | 1 | 1.1 SOIL | -58 | | L2 | | 1 | 1.1 SOILX1 | 118 | | | | | | |
| L2 | | 1 | 1.2 SOIL | 15 | | L2 | | 1 | 1.2 SOILX1 | 26 | | | | | | |
| L2 | | 1 | 1.3 SOIL | 25 | | L2 | | 1 | 1.3 SOILX1 | 91 | | | | | | |
| L2 | | 1 | 1.4 SOIL | 72 | 53 | L2 | | 1 | 1.4 SOILX1 | 45 | 281 | | | | | |
| L2 | 12S | | 12.1 SOIL | 3 | | L2 | 12S | | 12.1 SOILX1 | 8 | | | | | | |
| L2 | 12S | | 12.2 SOIL | 3 | | L2 | 12S | | 12.2 SOILX1 | 22 | | | | | | |
| L2 | 12S | | 12.3 SOIL | 1 | | L2 | 12S | | 12.3 SOILX1 | 12 | | | | | | |
| L2 | 12S | | 12.4 SOIL | 0 | | L2 | 12S | | 12.4 SOILX1 | 16 | | | | | | |
| L2 | 12N | | 12.5 SOIL | -1 | 6 | L2 | 12N | | 12.5 SOILX1 | 12 | 70 | 60 | 79.5 | 0.89 | | |
| L2 | 12N | | 12.6 SOIL | 2 | | L2 | 12N | | 12.6 SOILX1 | 3 | | | | | | |
| L2 | 12N | | 12.7 SOIL | 3 | | L2 | 12N | | 12.7 SOILX1 | 6 | | | | | | |
| L2 | 12N | | 12.8 SOIL | 2 | | L2 | 12N | | 12.8 SOILX1 | 6 | | | | | | |
| L2 | 12N | | 12.9 SOIL | 4 | | L2 | 12N | | 12.9 SOILX1 | 13 | | | | | | |
| L2 | 12N | | 12.11 SOIL | 1 | 11 | L2 | 12N | | 12.11 SOILX1 | 8 | 37 | 60 | 79.5 | 0.46 | | |
| Y-direction | | | | | | Y-direction | | | | | | | | | | |
| L2 | A | A-1 | SOIL | -14 | | L2 | A | A-1 | SOILY2 | -14 | | | | | | |
| L2 | A | A-2 | SOIL | -17 | | L2 | A | A-2 | SOILY2 | -29 | | | | | | |
| L2 | A | A-3 | SOIL | -7 | | L2 | A | A-3 | SOILY2 | -14 | | | | | | |
| L2 | A | A-4 | SOIL | -7 | | L2 | A | A-4 | SOILY2 | -16 | | | | | | |
| L2 | A | A-5 | SOIL | -7 | | L2 | A | A-5 | SOILY2 | -17 | | | | | | |
| L2 | A | A-6 | SOIL | -34 | -86 | L2 | A | A-6 | SOILY2 | -120 | -209 | | | | | |
| L2 | P | P-1 | SOIL | -13 | | L2 | P | P-1 | SOILY2 | -32 | | | | | | |
| L2 | P | P-2 | SOIL | -16 | | L2 | P | P-2 | SOILY2 | -49 | | | | | | |
| L2 | P | P-3 | SOIL | -6 | | L2 | P | P-3 | SOILY2 | -22 | | | | | | |
| L2 | P | P-4 | SOIL | -6 | | L2 | P | P-4 | SOILY2 | -25 | | | | | | |
| L2 | P | P-5 | SOIL | -3 | | L2 | P | P-5 | SOILY2 | -18 | | | | | | |
| L2 | P | P-6 | SOIL | -4 | | L2 | P | P-6 | SOILY2 | -27 | | | | | | |
| L2 | P | P-7 | SOIL | -7 | | L2 | P | P-7 | SOILY2 | -35 | | | | | | |
| L2 | P | P-8 | SOIL | -4 | | L2 | P | P-8 | SOILY2 | -28 | | | | | | |
| L2 | P | P-9 | SOIL | -5 | | L2 | P | P-9 | SOILY2 | -58 | | | | | | |
| L2 | P | P-10 | SOIL | 6 | -60 | L2 | P | P-10 | SOILY2 | -6 | -301 | | | | | |

$P_u / (.9 * 60 \text{ksi})$
Pu As
{kips} {in²}

28 0.5

14 0.3

Hall of Justice
Diaphragm Shear Capacity

$$\Phi V_n = .85 A_{cv} (LWC \text{Factor} \alpha_c * f_c^{.5} + Rho * f_y)$$

| Slab | Concrete Prop | | Steel Prop | | Rho | fy | LWC | | ΦVn | Max Φ10A*fc ^{.5} |
|-------------|---------------|------|--------------------|------|--------|-------|--------|----------------|--------|------------------------------|
| | fc | t | As | s | | | Factor | α _c | | |
| | {psi} | {in} | {in ² } | {in} | | {psi} | | | {k/ft} | {k/ft} |
| 4" #3SQ@18" | 3200 | 4 | 0.141 | 18 | 0.0020 | 42000 | 1 | 2 | 8.0 | 23.1 |
| 4" plain | 3200 | 4 | 0 | 18 | 0.0000 | 42000 | 1 | 2 | 4.6 | 23.1 |
| (N) 4" | 4000 | 4 | 0.31 | 8 | 0.0097 | 60000 | 1 | 2 | 28.9 | 25.8 |

Twining Lab Report

| Location | fc {psi} |
|-----------------------------------------|-------------|
| Level 4 Room 442 South Floor | 4370 |
| Level 6 Room 635 South Floor | 2380 |
| Level 8 Room 812 Southeast Floor | 3820 |
| Level 12 Room 1221 Northeast Floor | 1830 |
| Level 12 Room 1216 Southwest Floor | 3190 |
| Level 14 Room 1429 Northwest Floor 31.2 | 1810 |
| Level 14 Room 1429 Northwest Floor 31.3 | 1930 |
| Level 1 Room 114 East Floor 57.2 | 2120 |
| Level 1 Room 114 East Floor 57.3 | 2200 |
| 3rd Floor Ceiling 58.2 | 4530 |
| 3rd Floor Ceiling 58.3 | 4260 |
| 3rd Floor Ceiling 59.3 | 3850 |
| 5th Floor | 3230 |
| Level 9 Room 949 East Floor 62.2 | 4790 |
| Level 9 Room 949 East Floor 62.3 | 3810 |
| Average | 3208 |
| Used | 3200 |

Reinforcing Steel

| Sample no. | fy {psi} |
|------------|-------------|
| 1.6 | 40700 |
| 2.5 | 39800 |
| 5.4 | 36700 |
| 6.5 | 41800 |
| 3.5 | 59400 |
| 43.5 | 53000 |
| 28.5 | 39600 |
| 28.6 | 40000 |
| 23.4 | 38100 |
| 23.5 | 40800 |
| 17.5 | 38700 |
| 17.6 | 41900 |
| 13.5 | 37000 |
| 13.6 | 42500 |
| 16.5 | 38900 |
| 16.6 | 40500 |
| 12.5 | 38800 |
| 12.6 | 43300 |
| 29.5 | 40000 |
| 29.6 | 39200 |
| 25.5 | 43400 |
| 25.6 | 41100 |
| 32.5 | 55800 |
| 44.6 | 49700 |
| 24.5 | 39100 |
| 24.6 | 43600 |
| 22.4 | 43300 |
| 22.5 | 41300 |
| Average | 42429 |
| Used | 42000 |

Hall of Justice
Diaphragm Shear Check

Vu = E+1.6H E=max (Fp+.8*transfer force, .8*dynamic force)
At Roof using .91Ex & .93Ey to scale to min of Fp and .8E
Force transferred directly to drag

Shear Transfer to Drag Beams
#4 epoxy dowels (HY-150)

| Level | Grid | E (kips) | H (kips) | Mass (kips) | Fp/wp (kips) | Fp (kips) | Vu (kips) | L (ft) | Vu Slab (k/ft) | ΦVn (k/ft) | Vu/ΦVn | # w/ 2" Embed. (in) | ΦVn (k/ft) | # w/ 4" Embed. (in) | ΦVn (k/ft) | Total ΦVn (k/ft) |
|-------------|------|----------|----------|-------------|--------------|-----------|-----------|--------|------------------|------------|--------|---------------------|------------|---------------------|------------|------------------|
| X-direction | | | | | | | | | | | | | | | | |
| RF | 1 | 1257 | 0 | 1114 | 0.28 | 307 | 864 | 225 | 3.8 4" #3SQ@18" | 8.0 | 0.48 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.91 |
| RF | 12 | 1313 | 0 | 1114 | 0.28 | 307 | 915 | 225 | 4.1 4" #3SQ@18" | 8.0 | 0.51 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.96 |
| L14 | 1 | 1025 | 0 | 1054 | 0.2 | 211 | 814 | 225 | 3.6 4" #3SQ@18" | 8.0 | 0.45 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.86 |
| L14 | 12 | 1027 | 0 | 1054 | 0.2 | 211 | 816 | 225 | 3.6 4" #3SQ@18" | 8.0 | 0.46 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.86 |
| L12 | 1 | 881 | 0 | 619 | 0.2 | 124 | 757 | 225 | 3.4 4" #3SQ@18" | 8.0 | 0.42 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.80 |
| L12 | 12 | 880 | 0 | 619 | 0.2 | 124 | 756 | 225 | 3.4 4" #3SQ@18" | 8.0 | 0.42 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.80 |
| L10 | 1 | 980 | 0 | 1090 | 0.2 | 218 | 762 | 225 | 3.4 4" #3SQ@18" | 8.0 | 0.43 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.50 |
| L10 | 12S | 547 | 0 | 545 | 0.2 | 109 | 438 | 79.5 | 5.5 4" #3SQ@18" | 8.0 | 0.69 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.81 |
| L10 | 12N | 538 | 0 | 545 | 0.2 | 109 | 429 | 90.5 | 4.7 4" #3SQ@18" | 8.0 | 0.60 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.70 |
| L9 | 1 | 827 | 0 | 800 | 0.2 | 160 | 667 | 225 | 3.0 4" #3SQ@18" | 8.0 | 0.37 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.70 |
| L9 | 12S | 389 | 0 | 400 | 0.2 | 80 | 309 | 79.5 | 3.9 4" #3SQ@18" | 8.0 | 0.49 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.92 |
| L9 | 12N | 397 | 0 | 400 | 0.2 | 80 | 317 | 90.5 | 3.5 4" #3SQ@18" | 8.0 | 0.44 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.83 |
| L8 | 1 | 943 | 0 | 946 | 0.2 | 189 | 754 | 225 | 3.4 4" #3SQ@18" | 8.0 | 0.42 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.49 |
| L8 | 12 | 891 | 0 | 946 | 0.2 | 189 | 702 | 225 | 3.1 4" #3SQ@18" | 8.0 | 0.39 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.46 |
| L7 | 1 | 940 | 0 | 913 | 0.2 | 183 | 757 | 225 | 3.4 4" #3SQ@18" | 8.0 | 0.42 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.80 |
| L7 | 12 | 847 | 0 | 913 | 0.2 | 183 | 664 | 225 | 3.0 4" #3SQ@18" | 8.0 | 0.37 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.70 |
| L6 | 1 | 836 | 0 | 762 | 0.2 | 152 | 684 | 225 | 3.0 4" #3SQ@18" | 8.0 | 0.38 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.72 |
| L6 | 12 | 816 | 0 | 762 | 0.2 | 152 | 664 | 225 | 2.9 4" #3SQ@18" | 8.0 | 0.37 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.70 |
| L5 | 1 | 847 | 0 | 791 | 0.2 | 158 | 689 | 225 | 3.1 4" #3SQ@18" | 8.0 | 0.38 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.73 |
| L5 | 12 | 835 | 0 | 791 | 0.2 | 158 | 677 | 225 | 3.0 4" #3SQ@18" | 8.0 | 0.38 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.71 |
| L4 | 1S | 544 | 0 | 462 | 0.2 | 92 | 452 | 102 | 4.5 4" #3SQ@18" | 8.0 | 0.56 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.66 |
| L4 | 1N | 393 | 0 | 462 | 0.2 | 92 | 301 | 102 | 3.0 4" #3SQ@18" | 8.0 | 0.37 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.44 |
| L4 | 12 | 885 | 0 | 923 | 0.2 | 185 | 700 | 225 | 3.1 4" #3SQ@18" | 8.0 | 0.39 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.46 |
| L3 | 1S | 845 | 0 | 493 | 0.2 | 99 | 746 | 102 | 7.4 4" #3SQ@18" | 8.0 | 0.92 | 1 | 6 2.81 | 1 | 6 5.06 | 7.87 0.93 |
| L3 | 1N | 743 | 0 | 493 | 0.2 | 99 | 644 | 102 | 6.3 4" #3SQ@18" | 8.0 | 0.80 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.93 |
| L3 | 12S | 179 | 0 | 0 | 0.2 | 0 | 179 | 79.5 | 2.3 4" #3SQ@18" | 8.0 | 0.28 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.33 |
| L3 | 12N | 174 | 0 | 0 | 0.2 | 0 | 174 | 79.5 | 2.2 4" #3SQ@18" | 8.0 | 0.27 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.32 |
| L2 | 1 | 1260 | 334 | 1306 | 0.2 | 261 | 1533 | 225 | 6.8 4" #3SQ@18" | 8.0 | 0.86 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 1.00 |
| L2 | 12S | 333 | 76 | 474 | 0.2 | 95 | 360 | 79.5 | 4.5 4" #3SQ@18" | 8.0 | 0.57 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.67 |
| L2 | 12N | 334 | 48 | 474 | 0.2 | 95 | 316 | 79.5 | 4.0 4" #3SQ@18" | 8.0 | 0.50 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.59 |
| L1 | 1 | 34 | 0 | 0 | 0.2 | 0 | 34 | 225 | 0.1 4" #3SQ@18" | 8.0 | 0.02 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.02 |
| L1 | 12 | 56 | 0 | 0 | 0.2 | 0 | 56 | 225 | 0.2 4" #3SQ@18" | 8.0 | 0.03 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.04 |
| Y-direction | | | | | | | | | | | | | | | | |
| RF | A | 1187 | 0 | 901 | 0.27 | 244 | 877 | 181 | 4.8 4" #3SQ@18" | 8.0 | 0.61 | 2 | 6 5.63 | 0 | 8 0.00 | 5.63 0.86 |
| RF | P | 1335 | 0 | 901 | 0.27 | 244 | 1015 | 181 | 5.6 4" #3SQ@18" | 8.0 | 0.70 | 2 | 6 5.63 | 0 | 8 0.00 | 5.63 1.00 |
| L14 | A | 1027 | 0 | 856 | 0.2 | 171 | 856 | 181 | 4.7 4" #3SQ@18" | 8.0 | 0.59 | 2 | 6 5.63 | 0 | 8 0.00 | 5.63 0.84 |
| L14 | P | 1029 | 0 | 856 | 0.2 | 171 | 858 | 181 | 4.7 4" #3SQ@18" | 8.0 | 0.60 | 2 | 6 5.63 | 0 | 8 0.00 | 5.63 0.84 |
| L12 | A | 877 | 0 | 516 | 0.2 | 103 | 774 | 181 | 4.3 4" #3SQ@18" | 8.0 | 0.54 | 2 | 6 5.63 | 0 | 8 0.00 | 5.63 0.76 |
| L12 | P | 884 | 0 | 516 | 0.2 | 103 | 781 | 181 | 4.3 4" #3SQ@18" | 8.0 | 0.54 | 2 | 6 5.63 | 0 | 8 0.00 | 5.63 0.77 |
| L10 | AE | 253 | 0 | 459 | 0.2 | 92 | 161 | 57.5 | 2.8 4" #3SQ@18" | 8.0 | 0.35 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.41 |
| L10 | AW | 767 | 0 | 459 | 0.2 | 92 | 675 | 79.5 | 8.5 4" #3SQ@18" | 8.0 | 1.07 | 1 | 4 4.22 | 1 | 4 5.99 | 10.21 0.83 |
| L10 | P | 1045 | 0 | 918 | 0.2 | 184 | 861 | 181 | 4.8 4" #3SQ@18" | 8.0 | 0.60 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.70 |
| L9 | AE | 606 | 0 | 351 | 0.2 | 70 | 536 | 57.5 | 9.3 4" #3SQ@18" | 8.0 | 1.17 | 2 | 4 8.44 | 0 | 8 0.00 | 8.44 1.10 |
| L9 | AW | 283 | 0 | 351 | 0.2 | 70 | 213 | 79.5 | 2.7 4" #3SQ@18" | 8.0 | 0.34 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.63 |
| L9 | P | 724 | 0 | 701 | 0.2 | 140 | 584 | 181 | 3.2 4" #3SQ@18" | 8.0 | 0.41 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.76 |
| L8 | A | 1008 | 0 | 838 | 0.2 | 168 | 840 | 181 | 4.6 4" #3SQ@18" | 8.0 | 0.58 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.68 |
| L8 | P | 824 | 0 | 838 | 0.2 | 168 | 656 | 181 | 3.6 4" #3SQ@18" | 8.0 | 0.46 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.53 |
| L7 | A | 771 | 0 | 804 | 0.2 | 161 | 610 | 181 | 3.4 4" #3SQ@18" | 8.0 | 0.42 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.80 |
| L7 | P | 1016 | 0 | 804 | 0.2 | 161 | 855 | 181 | 4.7 4" #3SQ@18" | 8.0 | 0.59 | 2 | 6 5.63 | 0 | 6 0.00 | 5.63 0.84 |
| L6 | A | 817 | 0 | 674 | 0.2 | 135 | 682 | 181 | 3.8 4" #3SQ@18" | 8.0 | 0.47 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.89 |
| L6 | P | 834 | 0 | 674 | 0.2 | 135 | 699 | 181 | 3.9 4" #3SQ@18" | 8.0 | 0.49 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.92 |
| L5 | A | 862 | 0 | 698 | 0.2 | 140 | 722 | 181 | 4.0 4" #3SQ@18" | 8.0 | 0.50 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.95 |
| L5 | P | 819 | 0 | 698 | 0.2 | 140 | 679 | 181 | 3.8 4" #3SQ@18" | 8.0 | 0.47 | 2 | 8 4.22 | 0 | 8 0.00 | 4.22 0.89 |
| L4 | A | 989 | 0 | 823 | 0.2 | 165 | 824 | 181 | 4.6 4" #3SQ@18" | 8.0 | 0.57 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.67 |
| L4 | P | 834 | 0 | 823 | 0.2 | 165 | 669 | 181 | 3.7 4" #3SQ@18" | 8.0 | 0.46 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.54 |
| L3 | AE | 805 | 0 | 441 | 0.2 | 88 | 717 | 81 | 8.9 4" #3SQ@18" | 8.0 | 1.11 | 2 | 8 4.22 | 1 | 8 4.68 | 8.90 0.99 |
| L3 | AW | 929 | 0 | 441 | 0.2 | 88 | 841 | 81 | 10.4 4" #3SQ@18" | 8.0 | 1.30 | 2 | 8 4.22 | 1 | 8 4.68 | 8.90 1.17 |
| L3 | P | 354 | 0 | 0 | 0.2 | 0 | 354 | 181 | 2.0 4" #3SQ@18" | 8.0 | 0.25 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.29 |
| L2 | A | 1166 | 295 | 1081 | 0.2 | 216 | 1422 | 181 | 7.9 4" #3SQ@18" | 8.0 | 0.99 | 1 | 6 2.81 | 1 | 6 5.06 | 7.87 1.00 |
| L2 | P | 758 | 361 | 854 | 0.2 | 171 | 1165 | 181 | 6.4 4" #3SQ@18" | 8.0 | 0.81 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.95 |
| L1 | A | 40 | 0 | 0 | 0.2 | 0 | 40 | 181 | 0.2 4" #3SQ@18" | 8.0 | 0.03 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.03 |
| L1 | P | 72 | 0 | 0 | 0.2 | 0 | 72 | 181 | 0.4 4" #3SQ@18" | 8.0 | 0.05 | 1 | 8 2.11 | 1 | 8 4.68 | 6.79 0.06 |

Hall of Justice
Diaphragm Strenghtening

Vu = E E=max (Fp+.8*transfer force, .8*dynamic force)
At Roof using .9Ex & .92Ey to scale to min of Fp and .8E

| Level | Grid | E {kips} | Vu {kips} | L {ft} | Vu {k/ft} | (E) slab check | Vu/ ΦVn | Vu {k/ft} | (N) slab check | Vu/ ΦVn |
|-------------|------|-------------|--------------|-----------|--------------|----------------|---------------|--------------|----------------|---------------|
| | | | | | | Slab | ΦVn {k/ft} | | Slab | ΦVn {k/ft} |
| X-direction | | | | | | | | | | |
| RF | 1W | 625 | 625 | 25.5 | 22.1 | 4" #3SQ@18" | 8.0 | 2.77 | 14.1 (N) 4" | 25.8 0.55 |
| RF | 1E | 632 | 632 | 25.5 | 24.8 | 4" #3SQ@18" | 8.0 | 3.11 | 16.8 (N) 4" | 25.8 0.65 |
| RF | 12W | 663 | 663 | 25.5 | 26.0 | 4" #3SQ@18" | 8.0 | 3.27 | 18.0 (N) 4" | 25.8 0.70 |
| RF | 12E | 650 | 650 | 25.5 | 25.5 | 4" #3SQ@18" | 8.0 | 3.20 | 17.5 (N) 4" | 25.8 0.68 |
| L14 | 1W | 515 | 515 | 25.5 | 20.2 | 4" #3SQ@18" | 8.0 | 2.54 | 15.5 (N) 4" | 25.8 0.60 |
| L14 | 1E | 513 | 513 | 25.5 | 20.1 | 4" #3SQ@18" | 8.0 | 2.53 | 15.4 (N) 4" | 25.8 0.60 |
| L14 | 12W | 515 | 515 | 25.5 | 20.2 | 4" #3SQ@18" | 8.0 | 2.54 | 15.5 (N) 4" | 25.8 0.60 |
| L14 | 12E | 512 | 512 | 25.5 | 20.1 | 4" #3SQ@18" | 8.0 | 2.52 | 15.4 (N) 4" | 25.8 0.60 |
| L12 | 1W | 446 | 446 | 25.5 | 17.5 | 4" #3SQ@18" | 8.0 | 2.20 | 12.8 (N) 4" | 25.8 0.50 |
| L12 | 1E | 435 | 435 | 25.5 | 17.1 | 4" #3SQ@18" | 8.0 | 2.14 | 12.4 (N) 4" | 25.8 0.48 |
| L12 | 12W | 442 | 442 | 25.5 | 17.3 | 4" #3SQ@18" | 8.0 | 2.18 | 12.6 (N) 4" | 25.8 0.49 |
| L12 | 12E | 438 | 438 | 25.5 | 17.2 | 4" #3SQ@18" | 8.0 | 2.16 | 12.5 (N) 4" | 25.8 0.48 |
| Y-direction | | | | | | | | | | |
| RF | AS | 589 | 589 | 25.5 | 21.3 | 4" #3SQ@18" | 8.0 | 2.67 | 13.3 (N) 4" | 25.8 0.51 |
| RF | AN | 598 | 598 | 25.5 | 23.5 | 4" #3SQ@18" | 8.0 | 2.95 | 15.5 (N) 4" | 25.8 0.60 |
| RF | PS | 651 | 651 | 25.5 | 25.5 | 4" #3SQ@18" | 8.0 | 3.21 | 17.6 (N) 4" | 25.8 0.68 |
| RF | PN | 684 | 684 | 25.5 | 26.8 | 4" #3SQ@18" | 8.0 | 3.37 | 18.9 (N) 4" | 25.8 0.73 |
| L14 | AS | 516 | 516 | 25.5 | 20.2 | 4" #3SQ@18" | 8.0 | 2.54 | 15.5 (N) 4" | 25.8 0.60 |
| L14 | AN | 511 | 511 | 25.5 | 20.0 | 4" #3SQ@18" | 8.0 | 2.52 | 15.4 (N) 4" | 25.8 0.60 |
| L14 | PS | 515 | 515 | 25.5 | 20.2 | 4" #3SQ@18" | 8.0 | 2.54 | 15.5 (N) 4" | 25.8 0.60 |
| L14 | PN | 514 | 514 | 25.5 | 20.2 | 4" #3SQ@18" | 8.0 | 2.53 | 15.5 (N) 4" | 25.8 0.60 |
| L12 | AS | 418 | 418 | 25.5 | 16.4 | 4" #3SQ@18" | 8.0 | 2.06 | 11.7 (N) 4" | 25.8 0.45 |
| L12 | AN | 459 | 459 | 25.5 | 18.0 | 4" #3SQ@18" | 8.0 | 2.26 | 13.3 (N) 4" | 25.8 0.52 |
| L12 | PS | 427 | 427 | 25.5 | 16.7 | 4" #3SQ@18" | 8.0 | 2.10 | 12.1 (N) 4" | 25.8 0.47 |
| L12 | PN | 457 | 457 | 25.5 | 17.9 | 4" #3SQ@18" | 8.0 | 2.25 | 13.2 (N) 4" | 25.8 0.51 |

Hall of Justice
11th Floor Drag Beam Design

Mass

| | | |
|-----------|-----------|-----------------|
| (E) Wall | 1247 plf | |
| Colonnade | 1400 plf | 15.4K/col @ 11' |
| Floor | 1134 plf | 162psf over 7' |
| Sum | 3.78 k/ft | |
| Fp/wp | 0.2 | |
| Fp | 0.76 k/ft | |

Wall %Fp based on distribution of Fp load at level 10

| Loc. | Line | | Wall | | Wall | | Pu | | Dynamic Load | | Pu scaled 80% | | Max As |
|---------|--------------|-----------------|------|--------------|----------------|--------------|--------------|-------|--------------|--------------|---------------|------|-----------|
| | Fp {k/ft} | Total L {ft} | % Fp | Fp {kips} | Wall L {ft} | Pu {kips} | As {in^2} | F/w | P | Pu {kips} | As {in^2} | | |
| Line 1 | | | | | | | | | | | | | |
| South | 0.76 | 225 | 0.51 | 86 | 60 | 41 | 0.8 | 0.065 | 13 | 30 | 0.5 | 0.76 | |
| North | 0.76 | 225 | 0.49 | 84 | 60 | 39 | 0.7 | 0.065 | 13 | 28 | 0.5 | 0.71 | |
| Line 12 | | | | | | | | | | | | | |
| South | 0.76 | 225 | 0.50 | 85 | 60 | 40 | 0.7 | 0.065 | 13 | 29 | 0.5 | 0.74 | |
| North | 0.76 | 225 | 0.50 | 85 | 60 | 39 | 0.7 | 0.065 | 13 | 29 | 0.5 | 0.73 | |
| Line A | | | | | | | | | | | | | |
| East | 0.76 | 181 | 0.45 | 62 | 49 | 25 | 0.5 | 0.057 | 7 | 16 | 0.3 | 0.47 | |
| West | 0.76 | 181 | 0.55 | 75 | 60 | 29 | 0.5 | 0.057 | 8 | 19 | 0.3 | 0.54 | |
| Line P | | | | | | | | | | | | | |
| East | 0.76 | 181 | 0.47 | 64 | 49 | 27 | 0.5 | 0.057 | 8 | 17 | 0.3 | 0.50 | |
| West | 0.76 | 181 | 0.53 | 73 | 60 | 27 | 0.5 | 0.057 | 8 | 17 | 0.3 | 0.50 | |

| Time Hist Design Envelopes | Phi-B Factor | Phi-C Factor | Phi-Vs Factor | Phi-Vs Factor | Phi-Vs Factor | Phi-Vs Factor | Phi-Vs Factor |
|----------------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| 0.900 | 0.700 | 0.850 | 0.600 | 0.800 | | | |

| Shear Wall Design Preferences - Rebar Units (UBC97) | Area | Length | Units |
|-----------------------------------------------------|-----------------|---------------------|-------|
| | in ² | in ² /ft | |

| Shear Wall Design Preferences - Simplified Pier Ratio Limits (UBC97) | Edge Memb | Edge Memb | Edge Memb |
|----------------------------------------------------------------------|-----------|-----------|-----------|
| | PT-Max | PC-Max | PC-Min |
| 0.0280 | 0.0280 | | |

| Shear Wall Design Preferences - Interaction Surface Data (UBC97) | Number | Number | Sect Des | Sect Des |
|------------------------------------------------------------------|--------|--------|----------|----------|
| | Points | IP-Max | IP-Min | |
| 24 | 11 | 0.0200 | 0.0025 | |

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in ² | As Right in ² | Av Shear in ² /ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|------------------------------|---------------|
| RF | 1.1 | Top | 14.000 | 14.000 | 1.998 | 1.876 | 0.435 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 1.927 | 1.912 | 0.435 | Not Needed |
| L4 | 1.1 | Top | 28.000 | 28.000 | 9.297 | 9.418 | 1.425 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 6.301 | 6.115 | 1.418 | Not Needed |
| L3 | 1.1 | Top | 21.000 | 21.000 | 6.550 | 6.166 | 1.355 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 6.135 | 6.478 | 1.350 | Not Needed |
| L2 | 1.1 | Top | 18.000 | 18.000 | 6.575 | 6.496 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.854 | 7.030 | 0.540 | Not Needed |
| L1 | 1.1 | Top | 18.000 | 18.000 | 6.949 | 6.933 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.409 | 6.715 | 0.540 | Not Needed |
| L0 | 1.1 | Top | 18.000 | 18.000 | 4.234 | 4.315 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.160 | 4.118 | 0.540 | Not Needed |
| L9 | 1.1 | Top | 18.000 | 18.000 | 4.349 | 4.048 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.595 | 4.686 | 0.540 | Not Needed |
| L8 | 1.1 | Top | 18.000 | 18.000 | 4.541 | 4.278 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.691 | 3.710 | 0.540 | Not Needed |
| L7 | 1.1 | Top | 18.000 | 18.000 | 4.083 | 3.884 | 0.569 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.741 | 3.697 | 0.569 | Not Needed |
| L6 | 1.1 | Top | 18.000 | 18.000 | 4.247 | 3.905 | 0.571 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.294 | 4.358 | 0.571 | Not Needed |
| L5 | 1.1 | Top | 18.000 | 18.000 | 6.632 | 6.095 | 0.977 | 16.050 |
| | | Bottom | 18.000 | 18.000 | 6.758 | 6.739 | 0.972 | 16.050 |
| L4 | 1.1 | Top | 18.000 | 18.000 | 5.488 | 5.035 | 0.887 | 16.050 |
| | | Bottom | 18.000 | 18.000 | 5.825 | 5.658 | 0.878 | 16.050 |
| L3 | 1.1 | Top | 18.000 | 18.000 | 8.291 | 7.657 | 1.343 | 16.050 |
| | | Bottom | 27.000 | 18.000 | 10.190 | 8.951 | 1.330 | 16.050 |
| RF | 1.2 | Top | 14.000 | 14.000 | 2.672 | 2.655 | 0.420 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 3.551 | 3.465 | 0.420 | Not Needed |
| L4 | 1.2 | Top | 35.000 | 35.000 | 12.419 | 12.091 | 0.729 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 7.499 | 7.570 | 0.655 | Not Needed |
| L3 | 1.2 | Top | 28.000 | 28.000 | 8.972 | 9.043 | 0.682 | Not Needed |
| | | Bottom | 35.000 | 35.000 | 12.306 | 12.660 | 0.940 | Not Needed |
| L1 | 1.2 | Top | 27.000 | 27.000 | 11.685 | 12.030 | 0.540 | Not Needed |
| | | Bottom | 36.000 | 36.000 | 15.248 | 15.591 | 0.540 | Not Needed |
| L0 | 1.2 | Top | 18.000 | 18.000 | 8.020 | 8.242 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.719 | 6.685 | 0.540 | Not Needed |
| L9 | 1.2 | Top | 18.000 | 18.000 | 5.676 | 5.633 | 0.637 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.844 | 8.044 | 0.627 | Not Needed |
| L8 | 1.2 | Top | 18.000 | 18.000 | 5.937 | 5.790 | 0.719 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.405 | 4.583 | 0.719 | Not Needed |
| L7 | 1.2 | Top | 18.000 | 18.000 | 3.635 | 3.447 | 0.799 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.634 | 3.867 | 0.799 | Not Needed |
| L6 | 1.2 | Top | 18.000 | 18.000 | 3.325 | 3.148 | 0.882 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.156 | 3.388 | 0.882 | Not Needed |
| L5 | 1.2 | Top | 18.000 | 18.000 | 3.299 | 3.120 | 1.220 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.725 | 7.082 | 1.220 | Not Needed |
| L4 | 1.2 | Top | 18.000 | 18.000 | 5.055 | 4.994 | 1.175 | 20.250 |
| | | Bottom | 18.000 | 18.000 | 4.391 | 4.031 | 1.175 | 20.250 |
| L3 | 1.2 | Top | 18.000 | 18.000 | 4.125 | 3.401 | 2.032 | 20.250 |
| | | Bottom | 27.000 | 27.000 | 9.315 | 10.175 | 2.009 | 20.250 |

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in 2 | As Right in 2 | Av Shear in 2/ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|--------------|---------------|------------------|---------------|
| L11 | 1.1.1 | Top | 28.000 | 28.000 | 9.427 | 9.301 | 1.431 | Not Needed |
| L10 | 1.1.1 | Bottom | 21.000 | 21.000 | 6.129 | 6.314 | 1.423 | Not Needed |
| L13 | 1.1.1 | Top | 21.000 | 21.000 | 6.994 | 7.378 | 1.360 | Not Needed |
| L12 | 1.1.1 | Bottom | 18.000 | 18.000 | 7.077 | 7.141 | 0.540 | Not Needed |
| L11 | 1.1.1 | Top | 18.000 | 18.000 | 7.860 | 7.684 | 0.540 | Not Needed |
| L10 | 1.1.1 | Bottom | 18.000 | 18.000 | 7.433 | 7.132 | 0.540 | Not Needed |
| L9 | 1.1.1 | Top | 18.000 | 18.000 | 4.215 | 4.491 | 0.540 | Not Needed |
| L8 | 1.1.1 | Bottom | 18.000 | 18.000 | 4.215 | 4.275 | 0.540 | Not Needed |
| L7 | 1.1.1 | Top | 18.000 | 18.000 | 4.742 | 4.995 | 0.540 | Not Needed |
| L6 | 1.1.1 | Bottom | 18.000 | 18.000 | 5.385 | 5.377 | 0.540 | Not Needed |
| L5 | 1.1.1 | Top | 18.000 | 18.000 | 5.018 | 5.158 | 0.540 | Not Needed |
| L4 | 1.1.1 | Bottom | 18.000 | 18.000 | 4.592 | 4.686 | 0.540 | Not Needed |
| L3 | 1.1.1 | Top | 18.000 | 18.000 | 3.932 | 4.168 | 0.558 | Not Needed |
| L2 | 1.1.1 | Bottom | 18.000 | 18.000 | 4.047 | 4.070 | 0.558 | Not Needed |
| L1 | 1.1.1 | Top | 18.000 | 18.000 | 4.352 | 4.693 | 0.647 | Not Needed |
| L0 | 1.1.1 | Bottom | 18.000 | 18.000 | 4.620 | 4.542 | 0.647 | Not Needed |
| L11 | 1.1.1 | Top | 18.000 | 18.000 | 6.239 | 7.410 | 0.946 | 15.900 |
| L10 | 1.1.1 | Bottom | 18.000 | 18.000 | 6.403 | 7.682 | 0.946 | 15.900 |
| L9 | 1.1.1 | Top | 27.000 | 27.000 | 9.586 | 8.819 | 1.392 | 15.900 |
| L8 | 1.1.1 | Bottom | 27.000 | 27.000 | 9.340 | 12.147 | 1.378 | 15.900 |
| L7 | 12.1 | Top | 14.000 | 14.000 | 1.992 | 1.969 | 0.482 | Not Needed |
| L6 | 12.1 | Bottom | 14.000 | 14.000 | 2.018 | 2.004 | 0.482 | Not Needed |
| L5 | 12.1 | Top | 28.000 | 28.000 | 9.701 | 9.823 | 1.543 | Not Needed |
| L4 | 12.1 | Bottom | 21.000 | 21.000 | 6.623 | 6.436 | 1.536 | Not Needed |
| L3 | 12.1 | Top | 21.000 | 21.000 | 6.559 | 6.181 | 1.479 | Not Needed |
| L2 | 12.1 | Bottom | 21.000 | 21.000 | 6.343 | 6.989 | 1.473 | Not Needed |
| L1 | 12.1 | Top | 18.000 | 18.000 | 6.528 | 6.447 | 0.540 | Not Needed |
| L0 | 12.1 | Bottom | 18.000 | 18.000 | 6.825 | 7.007 | 0.540 | Not Needed |
| L11 | 12.1 | Top | 18.000 | 18.000 | 6.872 | 6.760 | 0.540 | Not Needed |
| L10 | 12.1 | Bottom | 18.000 | 18.000 | 6.358 | 6.674 | 0.540 | Not Needed |
| L9 | 12.1 | Top | 18.000 | 18.000 | 4.158 | 4.223 | 0.540 | Not Needed |
| L8 | 12.1 | Bottom | 18.000 | 18.000 | 4.082 | 4.064 | 0.540 | Not Needed |
| L7 | 12.1 | Top | 18.000 | 18.000 | 4.270 | 3.969 | 0.540 | Not Needed |
| L6 | 12.1 | Bottom | 18.000 | 18.000 | 4.496 | 4.571 | 0.540 | Not Needed |
| L5 | 12.1 | Top | 18.000 | 18.000 | 4.442 | 4.285 | 0.540 | Not Needed |
| L4 | 12.1 | Bottom | 18.000 | 18.000 | 3.624 | 3.592 | 0.540 | Not Needed |
| L3 | 12.1 | Top | 18.000 | 18.000 | 3.903 | 3.705 | 0.592 | Not Needed |
| L2 | 12.1 | Bottom | 18.000 | 18.000 | 3.673 | 3.610 | 0.592 | Not Needed |
| L1 | 12.1 | Top | 18.000 | 18.000 | 4.122 | 3.765 | 0.693 | Not Needed |
| L0 | 12.1 | Bottom | 18.000 | 18.000 | 4.027 | 4.093 | 0.693 | Not Needed |
| L11 | 12.1 | Top | 18.000 | 18.000 | 6.356 | 5.885 | 0.986 | 16.050 |
| L10 | 12.1 | Bottom | 18.000 | 18.000 | 6.356 | 6.546 | 0.986 | 16.050 |
| L9 | 12.1 | Top | 18.000 | 18.000 | 5.334 | 4.673 | 0.818 | 16.050 |
| L8 | 12.1 | Bottom | 18.000 | 18.000 | 4.927 | 5.168 | 0.808 | 16.050 |
| L7 | 12.1 | Top | 18.000 | 18.000 | 6.209 | 6.517 | 1.076 | 16.050 |
| L6 | 12.1 | Bottom | 18.000 | 18.000 | 7.902 | 6.795 | 1.062 | 16.050 |
| L5 | 12.1 | Top | 18.000 | 18.000 | 5.328 | 4.044 | 0.805 | 16.642 |
| L4 | 12.1 | Bottom | 18.000 | 18.000 | 5.400 | 4.437 | 0.805 | 16.721 |

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in ² | As Right in ² | Av Shear in ² /ft | B-Zone Length |
|-----------------------------------------------------------------------------------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|------------------------------|---------------|
| RF | 12.2 | Top Bottom | 14,000 14,000 | 2,833 3,680 | 2,833 3,680 | 0.420 0.420 | Not Needed | |
| L14 | 12.2 | Top Bottom | 35,000 21,000 | 7,882 7,954 | 13,048 12,687 | 0.858 0.717 | Not Needed | |
| L13 | 12.2 | Top Bottom | 28,000 35,000 | 9,445 12,885 | 9,514 13,242 | 0.746 1.156 | Not Needed | |
| L11 | 12.2 | Top Bottom | 27,000 36,000 | 12,247 15,970 | 12,551 16,230 | 0.540 0.540 | Not Needed | |
| L10 | 12.2 | Top Bottom | 18,000 18,000 | 8,740 7,281 | 8,949 7,258 | 0.540 0.540 | Not Needed | |
| L9 | 12.2 | Top Bottom | 18,000 18,000 | 6,221 8,597 | 6,184 8,800 | 0.741 0.731 | Not Needed | |
| L8 | 12.2 | Top Bottom | 18,000 18,000 | 5,503 5,048 | 6,391 5,190 | 0.776 0.767 | Not Needed | |
| L7 | 12.2 | Top Bottom | 18,000 18,000 | 4,091 4,158 | 3,861 4,402 | 0.797 0.797 | Not Needed | |
| L6 | 12.2 | Top Bottom | 18,000 18,000 | 3,398 3,689 | 3,168 3,955 | 0.873 0.873 | Not Needed | |
| L5 | 12.2 | Top Bottom | 18,000 18,000 | 3,119 7,101 | 2,877 7,612 | 1.178 1.174 | Not Needed | |
| L4 | 12.2 | Top Bottom | 18,000 18,000 | 4,762 3,929 | 4,551 3,929 | 1.132 1.132 | 20,250 | |
| L3 | 12.2 | Top Bottom | 18,000 18,000 | 3,365 5,646 | 3,550 6,482 | 1.237 1.237 | 20,250 | |
| L2 | 12.2 | Top Bottom | 18,000 18,000 | 2,364 4,698 | 2,364 6,702 | 1.174 1.174 | 20,250 | |
| L11 | 12.3 | Top Bottom | 18,000 18,000 | 8,285 6,051 | 8,645 5,945 | 2.026 2.020 | Not Needed | |
| L10 | 12.3 | Top Bottom | 27,000 18,000 | 11,666 7,233 | 11,837 7,052 | 2.526 2.520 | Not Needed | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier. | | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier. | | | | | | | | |
| L9 | 12.3 | Top Bottom | 18,000 18,000 | 6,386 8,417 | 6,448 8,277 | 1.091 1.176 | Not Needed | |
| L8 | 12.3 | Top Bottom | 18,000 18,000 | 11,546 8,855 | 11,837 8,814 | 1.534 1.418 | 9,000 | |
| L7 | 12.3 | Top Bottom | 18,000 18,000 | 8,106 8,026 | 7,944 8,222 | 1.324 1.314 | Not Needed | |
| L6 | 12.3 | Top Bottom | 18,000 18,000 | 8,606 8,641 | 8,352 8,913 | 1.508 1.498 | 9,000 | |
| L5 | 12.3 | Top Bottom | 18,000 18,000 | 11,244 11,244 | 11,451 11,451 | 1.210 1.210 | 9,000 | |
| L4 | 12.3 | Top Bottom | 27,000 27,000 | 12,153 11,801 | 12,120 11,852 | 2.073 2.063 | 9,000 | |
| L3 | 12.3 | Top Bottom | 27,000 27,000 | 12,186 12,401 | 12,108 12,392 | 1.432 1.435 | 9,406 | |
| L2 | 12.3 | Top Bottom | 27,000 27,000 | 10,764 12,547 | 11,774 11,399 | 2.029 2.020 | 10,205 | |
| L11 | 12.4 | Top Bottom | 18,000 18,000 | 1,735 1,099 | 1,722 1,141 | 0.540 0.540 | Not Needed | |
| L10 | 12.4 | Top Bottom | 18,000 18,000 | 7,762 5,591 | 8,215 5,591 | 1.970 1.963 | Not Needed | |
| L9 | 12.4 | Top Bottom | 18,000 18,000 | 5,685 7,082 | 5,736 6,940 | 0.730 0.767 | Not Needed | |

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | Av Shear in ² /ft | B-Zone Length |
|-----------------------------------------------------------------------------------------|------------|------------------|----------------|-----------------|------------------------------|---------------|
| L2 | A-1 | Top | 18.000 | 18.000 | 7.205 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 7.228 | 16.639 |
| RF | A-2 | Top | 14.000 | 14.000 | 2.550 | 0.420 |
| | | Bottom | 14.000 | 14.000 | 3.255 | Not Needed |
| L14 | A-2 | Top | 35.000 | 35.000 | 12.029 | 0.644 |
| | | Bottom | 21.000 | 21.000 | 7.269 | Not Needed |
| L13 | A-2 | Top | 28.000 | 28.000 | 8.599 | 0.641 |
| | | Bottom | 35.000 | 35.000 | 11.790 | Not Needed |
| L11 | A-2 | Top | 27.000 | 27.000 | 11.135 | 0.540 |
| | | Bottom | 36.000 | 36.000 | 14.988 | Not Needed |
| L10 | A-2 | Top | 18.000 | 18.000 | 8.012 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 6.819 | Not Needed |
| L9 | A-2 | Top | 18.000 | 18.000 | 5.712 | 0.657 |
| | | Bottom | 18.000 | 18.000 | 8.355 | Not Needed |
| L8 | A-2 | Top | 18.000 | 18.000 | 6.008 | 0.633 |
| | | Bottom | 18.000 | 18.000 | 4.794 | Not Needed |
| L7 | A-2 | Top | 18.000 | 18.000 | 4.201 | 0.729 |
| | | Bottom | 18.000 | 18.000 | 3.921 | Not Needed |
| L6 | A-2 | Top | 18.000 | 18.000 | 4.217 | 0.823 |
| | | Bottom | 18.000 | 18.000 | 3.795 | Not Needed |
| L5 | A-2 | Top | 18.000 | 18.000 | 4.139 | 1.117 |
| | | Bottom | 18.000 | 18.000 | 5.872 | Not Needed |
| L4 | A-2 | Top | 18.000 | 18.000 | 6.309 | 0.975 |
| | | Bottom | 18.000 | 18.000 | 4.661 | Not Needed |
| L3 | A-2 | Top | 18.000 | 18.000 | 6.723 | 0.703 |
| | | Bottom | 18.000 | 18.000 | 5.269 | Not Needed |
| L2 | A-2 | Top | 18.000 | 18.000 | 4.932 | 0.626 |
| | | Bottom | 18.000 | 18.000 | 5.121 | Not Needed |
| L11 | A-3 | Top | 18.000 | 18.000 | 7.519 | 1.692 |
| | | Bottom | 18.000 | 18.000 | 5.467 | Not Needed |
| L10 | A-3 | Top | 27.000 | 27.000 | 11.056 | 2.358 |
| | | Bottom | 18.000 | 18.000 | 10.084 | Not Needed |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier. | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier. | | | | | | |
| L9 | A-3 | Top | 18.000 | 18.000 | 6.406 | 1.052 |
| | | Bottom | 18.000 | 18.000 | 8.387 | Not Needed |
| L8 | A-3 | Top | 27.000 | 27.000 | 11.248 | 1.498 |
| | | Bottom | 18.000 | 18.000 | 9.022 | Not Needed |
| L7 | A-3 | Top | 18.000 | 18.000 | 8.179 | 1.384 |
| | | Bottom | 18.000 | 18.000 | 8.325 | Not Needed |
| L6 | A-3 | Top | 18.000 | 18.000 | 8.530 | 1.593 |
| | | Bottom | 18.000 | 18.000 | 8.885 | Not Needed |
| L5 | A-3 | Top | 18.000 | 18.000 | 8.396 | 1.374 |
| | | Bottom | 27.000 | 27.000 | 11.204 | Not Needed |
| L4 | A-3 | Top | 27.000 | 27.000 | 11.316 | 1.593 |
| | | Bottom | 18.000 | 18.000 | 8.659 | Not Needed |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier. | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier. | | | | | | |
| L3 | A-3 | Top | 18.000 | 18.000 | 7.979 | 0.983 |
| | | Bottom | 18.000 | 18.000 | 7.347 | Not Needed |
| L2 | A-3 | Top | 18.000 | 18.000 | 6.161 | 0.967 |
| | | Bottom | 18.000 | 18.000 | 5.991 | Not Needed |
| L11 | A-4 | Top | 18.000 | 18.000 | 1.285 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 0.344 | Not Needed |

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | Av Shear in ² /ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|------------------------------|---------------|
| L10 | A-4 | Top | 18.000 | 18.000 | 6.589 | 0.833 |
| | | Bottom | 18.000 | 18.000 | 4.062 | Not Needed |
| L9 | A-4 | Top | 18.000 | 18.000 | 7.149 | 0.890 |
| | | Bottom | 27.000 | 27.000 | 11.594 | Not Needed |
| L8 | A-4 | Top | 27.000 | 27.000 | 12.098 | 0.930 |
| | | Bottom | 11.979 | 11.979 | 11.377 | Not Needed |
| L7 | A-4 | Top | 27.000 | 27.000 | 10.189 | 1.304 |
| | | Bottom | 18.000 | 18.000 | 8.902 | Not Needed |
| L6 | A-4 | Top | 27.000 | 27.000 | 10.490 | 1.399 |
| | | Bottom | 27.000 | 27.000 | 10.763 | Not Needed |
| L5 | A-4 | Top | 27.000 | 27.000 | 10.972 | 1.418 |
| | | Bottom | 27.000 | 27.000 | 12.867 | Not Needed |
| L4 | A-4 | Top | 27.000 | 27.000 | 12.506 | 2.102 |
| | | Bottom | 27.000 | 27.000 | 11.999 | Not Needed |
| L3 | A-4 | Top | 27.000 | 27.000 | 12.174 | 1.360 |
| | | Bottom | 27.000 | 27.000 | 12.069 | Not Needed |
| L2 | A-4 | Top | 18.000 | 18.000 | 7.946 | 1.102 |
| | | Bottom | 18.000 | 18.000 | 7.574 | Not Needed |
| L8 | A-5 | Top | 18.000 | 18.000 | 7.543 | 8.708 |
| | | Bottom | 18.000 | 18.000 | 6.119 | Not Needed |
| L7 | A-5 | Top | 18.000 | 18.000 | 6.853 | 7.002 |
| | | Bottom | 18.000 | 18.000 | 6.712 | Not Needed |
| L6 | A-5 | Top | 18.000 | 18.000 | 8.054 | 9.037 |
| | | Bottom | 18.000 | 18.000 | 8.649 | Not Needed |
| L5 | A-5 | Top | 27.000 | 27.000 | 10.667 | 0.673 |
| | | Bottom | 27.000 | 27.000 | 10.884 | Not Needed |
| L2 | A-5 | Top | 27.000 | 27.000 | 11.020 | 10.978 |
| | | Bottom | 27.000 | 27.000 | 10.715 | Not Needed |
| RF | P-1 | Top | 14.000 | 14.000 | 1.968 | 0.474 |
| | | Bottom | 14.000 | 14.000 | 1.968 | Not Needed |
| L14 | P-1 | Top | 28.000 | 28.000 | 9.769 | 1.586 |
| | | Bottom | 21.000 | 21.000 | 6.685 | Not Needed |
| L13 | P-1 | Top | 21.000 | 21.000 | 7.092 | 1.536 |
| | | Bottom | 21.000 | 21.000 | 6.772 | Not Needed |
| L12 | P-1 | Top | 18.000 | 18.000 | 6.899 | 6.854 |
| | | Bottom | 18.000 | 18.000 | 7.247 | Not Needed |
| L11 | P-1 | Top | 18.000 | 18.000 | 7.239 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 6.793 | Not Needed |
| L10 | P-1 | Top | 18.000 | 18.000 | 4.345 | 4.417 |
| | | Bottom | 18.000 | 18.000 | 4.161 | Not Needed |
| L9 | P-1 | Top | 18.000 | 18.000 | 4.430 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 4.799 | Not Needed |
| L8 | P-1 | Top | 18.000 | 18.000 | 4.403 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 3.978 | Not Needed |
| L7 | P-1 | Top | 18.000 | 18.000 | 3.333 | 0.540 |
| | | Bottom | 18.000 | 18.000 | 3.552 | Not Needed |
| L6 | P-1 | Top | 18.000 | 18.000 | 4.256 | 0.643 |
| | | Bottom | 18.000 | 18.000 | 4.137 | Not Needed |
| L5 | P-1 | Top | 18.000 | 18.000 | 6.874 | 0.941 |
| | | Bottom | 18.000 | 18.000 | 6.979 | Not Needed |
| L4 | P-1 | Top | 18.000 | 18.000 | 5.517 | 0.616 |
| | | Bottom | 18.000 | 18.000 | 4.916 | Not Needed |

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | Am Left in ² | Am Right in ² | Av Shear in ² /ft | B-Zone Length |
|----------------------------------------------------------------------------------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|------------------------------|---------------|
| L3 | P-1 | Top | 18.000 | 18.000 | 7.516 | 7.155 | 1.329 | 16.050 |
| | | Bottom | 18.000 | 18.000 | 7.721 | 7.718 | 1.315 | 16.050 |
| L2 | P-1 | Top | 18.000 | 18.000 | 7.219 | 5.517 | 1.532 | 17.041 |
| | | Bottom | 18.000 | 18.000 | 7.672 | 7.340 | 1.523 | 17.034 |
| RF | P-2 | Top | 14.000 | 14.000 | 2.820 | 2.780 | 0.420 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 3.619 | 3.758 | 0.420 | Not Needed |
| L14 | P-2 | Top | 35.000 | 35.000 | 11.151 | 12.660 | 0.884 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 7.995 | 7.980 | 0.735 | Not Needed |
| L13 | P-2 | Top | 28.000 | 28.000 | 9.503 | 9.537 | 0.759 | Not Needed |
| | | Bottom | 35.000 | 35.000 | 12.857 | 13.318 | 1.167 | Not Needed |
| L11 | P-2 | Top | 27.000 | 27.000 | 12.467 | 12.872 | 0.540 | Not Needed |
| | | Bottom | 36.000 | 36.000 | 14.891 | 15.404 | 0.540 | Not Needed |
| L10 | P-2 | Top | 27.000 | 27.000 | 9.566 | 9.667 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.055 | 8.058 | 0.540 | Not Needed |
| L9 | P-2 | Top | 18.000 | 18.000 | 7.117 | 6.943 | 0.635 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.742 | 9.038 | 0.625 | Not Needed |
| L8 | P-2 | Top | 18.000 | 18.000 | 8.017 | 7.731 | 0.722 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.397 | 7.695 | 0.721 | Not Needed |
| L7 | P-2 | Top | 18.000 | 18.000 | 5.832 | 5.541 | 0.857 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.093 | 6.456 | 0.847 | Not Needed |
| L6 | P-2 | Top | 18.000 | 18.000 | 4.711 | 4.469 | 0.883 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 5.086 | 5.359 | 0.882 | Not Needed |
| L5 | P-2 | Top | 18.000 | 18.000 | 4.295 | 4.042 | 1.249 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.920 | 8.884 | 1.237 | Not Needed |
| L4 | P-2 | Top | 18.000 | 18.000 | 6.447 | 6.052 | 1.043 | 20.250 |
| | | Bottom | 18.000 | 18.000 | 4.710 | 4.962 | 1.043 | 20.250 |
| L3 | P-2 | Top | 18.000 | 18.000 | 6.292 | 5.463 | 1.487 | 20.250 |
| | | Bottom | 18.000 | 18.000 | 5.451 | 6.900 | 1.474 | 20.250 |
| L2 | P-2 | Top | 18.000 | 18.000 | 5.301 | 4.586 | 1.703 | 19.639 |
| | | Bottom | 18.000 | 18.000 | 5.252 | 5.889 | 1.694 | 19.702 |
| L11 | P-3 | Top | 18.000 | 18.000 | 8.571 | 8.905 | 2.621 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.671 | 6.671 | 2.614 | Not Needed |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier | | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier | | | | | | | | |
| L7 | P-3 | Top | 27.000 | 27.000 | 12.770 | 13.563 | 2.164 | 9.000 |
| | | Bottom | 27.000 | 27.000 | 13.296 | 13.288 | 2.117 | 9.000 |
| L6 | P-3 | Top | 27.000 | 27.000 | 12.637 | 12.165 | 1.959 | 9.000 |
| | | Bottom | 27.000 | 27.000 | 12.313 | 12.768 | 1.961 | 9.000 |
| L5 | P-3 | Top | 27.000 | 27.000 | 11.406 | 10.976 | 1.467 | 9.000 |
| | | Bottom | 27.000 | 27.000 | 12.056 | 12.549 | 1.538 | 9.000 |
| L4 | P-3 | Top | 27.000 | 27.000 | 12.900 | 12.336 | 2.172 | 9.000 |
| | | Bottom | 27.000 | 27.000 | 11.789 | 11.780 | 2.163 | 9.000 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier | | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier | | | | | | | | |
| L11 | P-4 | Top | 18.000 | 18.000 | 3.755 | 3.698 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.814 | 3.777 | 0.540 | Not Needed |
| L7 | P-4 | Top | 18.000 | 18.000 | 4.838 | 3.874 | 0.680 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 5.934 | 6.340 | 0.680 | Not Needed |
| L6 | P-4 | Top | 18.000 | 18.000 | 8.944 | 8.646 | 1.388 | 9.300 |
| | | Bottom | 18.000 | 18.000 | 8.337 | 8.776 | 1.378 | 9.300 |
| L5 | P-4 | Top | 18.000 | 18.000 | 8.919 | 8.514 | 1.159 | 9.300 |
| | | Bottom | 27.000 | 27.000 | 10.860 | 11.462 | 1.211 | 9.300 |
| L4 | P-4 | Top | 27.000 | 27.000 | 12.758 | 12.391 | 1.989 | 10.154 |
| | | Bottom | 27.000 | 27.000 | 12.008 | 12.504 | 1.963 | 10.238 |

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in ² | As Right in ² | Av Shear in ² /ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|------------------------------|---------------|
| L9 | 1.8 | Top | 18.000 | 18.000 | 6.066 | 5.964 | 0.990 | Not Needed |
| L8 | 1.8 | Bottom | 18.000 | 18.000 | 7.708 | 7.916 | 1.076 | Not Needed |
| L7 | 1.8 | Top | 27.000 | 27.000 | 11.311 | 10.890 | 1.432 | 8.850 |
| L6 | 1.8 | Bottom | 18.000 | 18.000 | 8.256 | 8.387 | 1.325 | 8.850 |
| L5 | 1.8 | Top | 18.000 | 18.000 | 7.586 | 7.665 | 1.287 | Not Needed |
| L4 | 1.8 | Bottom | 18.000 | 18.000 | 7.783 | 7.665 | 1.277 | Not Needed |
| L3 | 1.8 | Top | 18.000 | 18.000 | 8.013 | 8.177 | 1.486 | 8.850 |
| L2 | 1.8 | Bottom | 18.000 | 18.000 | 8.476 | 8.296 | 1.476 | 8.850 |
| L1 | 1.8 | Top | 18.000 | 18.000 | 1.125 | 1.125 | 1.125 | 8.850 |
| L10 | 1.8 | Bottom | 18.000 | 18.000 | 1.272 | 1.272 | 1.272 | 8.850 |
| L9 | 1.8 | Top | 27.000 | 27.000 | 11.871 | 11.728 | 2.186 | 8.850 |
| L8 | 1.8 | Bottom | 27.000 | 27.000 | 11.871 | 11.800 | 2.176 | 8.850 |
| L7 | 1.8 | Top | 27.000 | 27.000 | 11.871 | 11.800 | 2.186 | 8.850 |
| L6 | 1.8 | Bottom | 27.000 | 27.000 | 11.871 | 11.800 | 2.176 | 8.850 |
| L5 | 1.8 | Top | 27.000 | 27.000 | 11.871 | 11.800 | 2.186 | 8.850 |
| L4 | 1.8 | Bottom | 27.000 | 27.000 | 11.871 | 11.800 | 2.176 | 8.850 |
| L3 | 1.8 | Top | 27.000 | 27.000 | 11.871 | 11.800 | 2.186 | 8.850 |
| L2 | 1.8 | Bottom | 27.000 | 27.000 | 11.871 | 11.800 | 2.176 | 8.850 |
| L1 | 1.8 | Top | 27.000 | 27.000 | 11.871 | 11.800 | 2.186 | 8.850 |
| L10 | 1.8 | Bottom | 27.000 | 27.000 | 11.871 | 11.800 | 2.176 | 8.850 |
| L9 | 1.9 | Top | 14.000 | 14.000 | 2.685 | 2.704 | 0.420 | Not Needed |
| L8 | 1.9 | Bottom | 14.000 | 14.000 | 3.556 | 3.469 | 0.420 | Not Needed |
| L7 | 1.9 | Top | 35.000 | 35.000 | 12.147 | 12.477 | 0.722 | Not Needed |
| L6 | 1.9 | Bottom | 21.000 | 21.000 | 7.613 | 7.537 | 0.652 | Not Needed |
| L5 | 1.9 | Top | 28.000 | 28.000 | 9.068 | 8.989 | 0.691 | Not Needed |
| L4 | 1.9 | Bottom | 35.000 | 35.000 | 12.782 | 12.394 | 0.935 | Not Needed |
| L3 | 1.9 | Top | 27.000 | 27.000 | 12.105 | 11.738 | 0.540 | Not Needed |
| L2 | 1.9 | Bottom | 36.000 | 36.000 | 15.572 | 15.249 | 0.540 | Not Needed |
| L1 | 1.9 | Top | 18.000 | 18.000 | 8.190 | 7.914 | 0.540 | Not Needed |
| L10 | 1.9 | Bottom | 18.000 | 18.000 | 6.651 | 6.683 | 0.540 | Not Needed |
| L9 | 1.9 | Top | 18.000 | 18.000 | 5.574 | 5.581 | 0.618 | Not Needed |
| L8 | 1.9 | Bottom | 18.000 | 18.000 | 7.869 | 7.722 | 0.607 | Not Needed |
| L7 | 1.9 | Top | 18.000 | 18.000 | 6.695 | 6.810 | 0.699 | Not Needed |
| L6 | 1.9 | Bottom | 18.000 | 18.000 | 5.416 | 5.466 | 0.699 | Not Needed |
| L5 | 1.9 | Top | 18.000 | 18.000 | 4.248 | 4.483 | 0.773 | Not Needed |
| L4 | 1.9 | Bottom | 18.000 | 18.000 | 4.495 | 4.247 | 0.773 | Not Needed |
| L3 | 1.9 | Top | 18.000 | 18.000 | 4.305 | 4.515 | 0.853 | Not Needed |
| L2 | 1.9 | Bottom | 18.000 | 18.000 | 4.072 | 3.801 | 0.853 | Not Needed |
| L1 | 1.9 | Top | 18.000 | 18.000 | 4.294 | 4.420 | 1.158 | Not Needed |
| L10 | 1.9 | Bottom | 18.000 | 18.000 | 6.181 | 6.196 | 1.158 | Not Needed |
| L9 | 1.9 | Top | 18.000 | 18.000 | 6.537 | 6.386 | 1.025 | 20.400 |
| L8 | 1.9 | Bottom | 18.000 | 18.000 | 4.340 | 5.009 | 1.025 | 20.400 |
| L7 | 1.9 | Top | 27.000 | 27.000 | 7.527 | 8.415 | 1.777 | 20.473 |
| L6 | 1.9 | Bottom | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L5 | 1.9 | Top | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L4 | 1.9 | Bottom | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L3 | 1.9 | Top | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L2 | 1.9 | Bottom | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L1 | 1.9 | Top | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L10 | 1.9 | Bottom | 27.000 | 27.000 | 8.866 | 7.254 | 1.763 | 20.653 |
| L9 | 12.6 | Top | 18.000 | 18.000 | 0.183 | 0.075 | 0.540 | Not Needed |
| L8 | 12.6 | Bottom | 18.000 | 18.000 | 0.987 | 0.885 | 0.540 | Not Needed |
| L7 | 12.6 | Top | 18.000 | 18.000 | 4.385 | 4.100 | 0.540 | Not Needed |
| L6 | 12.6 | Bottom | 18.000 | 18.000 | 2.676 | 2.712 | 0.540 | Not Needed |
| L5 | 12.6 | Top | 18.000 | 18.000 | 3.884 | 3.804 | 0.540 | Not Needed |
| L4 | 12.6 | Bottom | 18.000 | 18.000 | 4.391 | 4.373 | 0.540 | Not Needed |
| L3 | 12.6 | Top | 18.000 | 18.000 | 6.671 | 6.422 | 0.540 | 9.600 |
| L2 | 12.6 | Bottom | 18.000 | 18.000 | 5.741 | 5.758 | 0.540 | 9.600 |
| L1 | 12.6 | Top | 18.000 | 18.000 | 7.562 | 7.426 | 0.555 | 9.600 |
| L10 | 12.6 | Bottom | 18.000 | 18.000 | 7.101 | 7.018 | 0.583 | 9.600 |
| L9 | 12.6 | Top | 18.000 | 18.000 | 8.964 | 8.791 | 0.691 | 10.350 |
| L8 | 12.6 | Bottom | 18.000 | 18.000 | 8.655 | 8.564 | 0.691 | 10.433 |
| L7 | 12.6 | Top | 27.000 | 27.000 | 10.593 | 10.389 | 0.620 | 11.179 |
| L6 | 12.6 | Bottom | 27.000 | 27.000 | 11.162 | 10.986 | 0.620 | 11.197 |

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in ² | As Right in ² | Ax Shear in/2ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|-----------------|---------------|
| L7 | A-8 | Top | 18.000 | 18.000 | 3.573 | 3.810 | 0.778 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.149 | 3.620 | 0.778 | Not Needed |
| L6 | A-8 | Top | 18.000 | 18.000 | 3.378 | 3.697 | 0.654 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.664 | 3.330 | 0.654 | Not Needed |
| L5 | A-8 | Top | 18.000 | 18.000 | 3.287 | 3.591 | 1.161 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.343 | 3.674 | 1.154 | Not Needed |
| L4 | A-8 | Top | 18.000 | 18.000 | 5.371 | 5.778 | 1.086 | 20.400 |
| | | Bottom | 18.000 | 18.000 | 4.325 | 3.851 | 1.196 | 20.400 |
| L3 | A-8 | Top | 18.000 | 18.000 | 6.728 | 7.920 | 1.196 | 20.400 |
| | | Bottom | 18.000 | 18.000 | 7.726 | 5.786 | 1.196 | 20.400 |
| L2 | A-6 | Top | 18.000 | 18.000 | 5.561 | 5.549 | 1.020 | 20.657 |
| | | Bottom | 18.000 | 18.000 | 6.416 | 1.020 | 1.020 | 20.600 |
| L11 | A-6 | Top | 18.000 | 18.000 | 1.018 | 0.898 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.480 | 4.192 | 0.540 | Not Needed |
| L10 | A-6 | Top | 18.000 | 18.000 | 2.756 | 2.800 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.886 | 3.795 | 0.540 | Not Needed |
| L9 | A-6 | Top | 18.000 | 18.000 | 4.443 | 4.420 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.438 | 6.114 | 0.540 | 9.600 |
| L8 | A-6 | Top | 18.000 | 18.000 | 5.494 | 5.587 | 0.540 | 9.600 |
| | | Bottom | 18.000 | 18.000 | 7.179 | 7.060 | 0.540 | 9.600 |
| L7 | A-6 | Top | 18.000 | 18.000 | 6.666 | 6.666 | 0.540 | 9.600 |
| | | Bottom | 18.000 | 18.000 | 8.467 | 8.314 | 0.572 | 10.238 |
| L6 | A-6 | Top | 18.000 | 18.000 | 8.166 | 8.068 | 0.572 | 10.424 |
| | | Bottom | 18.000 | 18.000 | 10.065 | 9.907 | 0.627 | 11.162 |
| L5 | A-6 | Top | 27.000 | 27.000 | 10.712 | 10.398 | 0.627 | 11.177 |
| | | Bottom | 27.000 | 27.000 | 12.158 | 11.534 | 0.701 | 12.183 |
| L4 | A-6 | Top | 27.000 | 27.000 | 10.415 | 10.305 | 0.540 | 12.407 |
| | | Bottom | 18.000 | 18.000 | 1.688 | 1.719 | 0.540 | Not Needed |
| L11 | A-7 | Top | 18.000 | 18.000 | 1.073 | 1.016 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.153 | 7.763 | 1.988 | Not Needed |
| L10 | A-7 | Top | 18.000 | 18.000 | 5.152 | 5.705 | 1.981 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 5.456 | 5.470 | 0.686 | Not Needed |
| L9 | A-7 | Top | 18.000 | 18.000 | 6.755 | 6.839 | 0.696 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.017 | 7.927 | 0.940 | Not Needed |
| L8 | A-7 | Top | 18.000 | 18.000 | 7.391 | 7.443 | 0.833 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.794 | 7.668 | 0.848 | 9.450 |
| L7 | A-7 | Top | 18.000 | 18.000 | 8.289 | 8.463 | 1.085 | 9.450 |
| | | Bottom | 18.000 | 18.000 | 8.663 | 8.465 | 1.111 | 9.450 |
| L6 | A-7 | Top | 18.000 | 18.000 | 8.521 | 8.697 | 1.051 | 9.651 |
| | | Bottom | 27.000 | 27.000 | 11.021 | 10.709 | 1.072 | 9.545 |
| L5 | A-7 | Top | 27.000 | 27.000 | 11.815 | 11.806 | 1.846 | 10.686 |
| | | Bottom | 27.000 | 27.000 | 11.947 | 11.877 | 1.750 | 10.728 |
| L4 | A-7 | Top | 18.000 | 18.000 | 8.304 | 7.991 | 1.957 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.818 | 8.862 | 1.950 | Not Needed |
| L11 | A-8 | Top | 27.000 | 27.000 | 12.508 | 11.846 | 2.548 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.054 | 7.157 | 2.541 | Not Needed |
| L10 | A-8 | Top | 18.000 | 18.000 | 10.744 | 10.744 | 1.390 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.154 | 8.241 | 1.281 | Not Needed |

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in ² | As Right in ² | Ax Shear in/2ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|-----------------|---------------|
| L7 | A-8 | Top | 18.000 | 18.000 | 7.315 | 7.459 | 1.201 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.583 | 7.405 | 1.191 | Not Needed |
| L6 | A-8 | Top | 18.000 | 18.000 | 7.206 | 7.974 | 1.395 | 8.850 |
| | | Bottom | 18.000 | 18.000 | 7.994 | 7.994 | 1.385 | 8.850 |
| L5 | A-8 | Top | 18.000 | 18.000 | 7.653 | 7.997 | 1.072 | 8.850 |
| | | Bottom | 18.000 | 18.000 | 8.827 | 6.524 | 1.187 | 8.850 |
| L4 | A-8 | Top | 27.000 | 27.000 | 11.015 | 11.040 | 1.943 | 8.850 |
| | | Bottom | 27.000 | 27.000 | 11.068 | 10.970 | 1.934 | 8.850 |
| L3 | A-8 | Top | 27.000 | 27.000 | 12.612 | 12.039 | 1.589 | 8.850 |
| | | Bottom | 27.000 | 27.000 | 13.206 | 13.038 | 1.607 | 8.850 |
| RF | A-9 | Top | 14.000 | 14.000 | 2.552 | 2.591 | 0.420 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 3.401 | 3.277 | 0.420 | Not Needed |
| L14 | A-9 | Top | 35.000 | 35.000 | 11.592 | 12.101 | 0.640 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 7.322 | 7.231 | 0.618 | Not Needed |
| L13 | A-9 | Top | 28.000 | 28.000 | 8.747 | 8.693 | 0.644 | Not Needed |
| | | Bottom | 35.000 | 35.000 | 12.293 | 11.799 | 0.756 | Not Needed |
| L11 | A-9 | Top | 27.000 | 27.000 | 11.699 | 11.298 | 0.540 | Not Needed |
| | | Bottom | 36.000 | 36.000 | 15.095 | 14.615 | 0.540 | Not Needed |
| L10 | A-9 | Top | 18.000 | 18.000 | 8.366 | 8.079 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.814 | 6.785 | 0.540 | Not Needed |
| L9 | A-9 | Top | 18.000 | 18.000 | 5.461 | 5.494 | 0.664 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.189 | 7.887 | 0.654 | Not Needed |
| L8 | A-9 | Top | 18.000 | 18.000 | 5.391 | 5.362 | 0.647 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.217 | 4.133 | 0.647 | Not Needed |
| L7 | A-9 | Top | 18.000 | 18.000 | 3.252 | 3.489 | 0.713 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.426 | 3.227 | 0.713 | Not Needed |
| L6 | A-9 | Top | 18.000 | 18.000 | 3.351 | 3.586 | 0.794 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.092 | 2.857 | 0.794 | Not Needed |
| L5 | A-9 | Top | 18.000 | 18.000 | 3.296 | 3.612 | 1.115 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.498 | 5.923 | 1.115 | Not Needed |
| L4 | A-9 | Top | 18.000 | 18.000 | 5.914 | 5.984 | 0.878 | 20.400 |
| | | Bottom | 18.000 | 18.000 | 4.779 | 5.068 | 0.878 | 20.400 |
| L3 | A-9 | Top | 18.000 | 18.000 | 4.662 | 5.159 | 1.687 | 20.400 |
| | | Bottom | 18.000 | 18.000 | 6.873 | 6.594 | 1.680 | 20.400 |
| RF | A-10 | Top | 14.000 | 14.000 | 1.905 | 1.927 | 0.420 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 1.846 | 1.862 | 0.420 | Not Needed |
| L14 | A-10 | Top | 28.000 | 28.000 | 9.177 | 8.970 | 1.357 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 5.822 | 6.092 | 1.349 | Not Needed |
| L13 | A-10 | Top | 21.000 | 21.000 | 6.480 | 6.800 | 1.291 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 6.277 | 5.954 | 1.285 | Not Needed |
| L12 | A-10 | Top | 18.000 | 18.000 | 6.717 | 6.754 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.210 | 7.042 | 0.540 | Not Needed |
| L11 | A-10 | Top | 18.000 | 18.000 | 7.083 | 7.167 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.899 | 6.615 | 0.540 | Not Needed |
| L10 | A-10 | Top | 18.000 | 18.000 | 4.229 | 4.194 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.998 | 4.009 | 0.540 | Not Needed |
| L9 | A-10 | Top | 18.000 | 18.000 | 3.956 | 4.104 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.396 | 4.461 | 0.540 | Not Needed |
| L8 | A-10 | Top | 18.000 | 18.000 | 4.184 | 4.186 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.671 | 3.907 | 0.540 | Not Needed |
| L7 | A-10 | Top | 18.000 | 18.000 | 3.830 | 3.914 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.523 | 3.718 | 0.540 | Not Needed |

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | Am Left in ² | Am Right in ² | Avg Shear in ² /ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|-------------------------------|---------------|
| L6 | A-10 | Top | 18.000 | 18.000 | 4.091 | 4.288 | 0.598 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.152 | 4.235 | 0.598 | Not Needed |
| L5 | A-10 | Top | 18.000 | 18.000 | 6.563 | 6.947 | 0.889 | 15.900 |
| | | Bottom | 18.000 | 18.000 | 7.036 | 7.129 | 0.889 | 15.900 |
| L4 | A-10 | Top | 18.000 | 18.000 | 5.849 | 6.154 | 0.589 | 15.900 |
| | | Bottom | 18.000 | 18.000 | 5.718 | 5.975 | 0.589 | 15.900 |
| L3 | A-10 | Top | 18.000 | 18.000 | 8.300 | 8.628 | 1.106 | 15.900 |
| | | Bottom | 18.000 | 18.000 | 10.537 | 1.092 | 1.092 | 15.900 |
| L11 | P-6 | Top | 18.000 | 18.000 | 0.206 | 0.094 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 1.121 | 1.014 | 0.540 | Not Needed |
| L10 | P-6 | Top | 18.000 | 18.000 | 4.827 | 4.573 | 0.556 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 2.951 | 2.991 | 0.549 | Not Needed |
| L9 | P-6 | Top | 18.000 | 18.000 | 4.360 | 4.312 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.975 | 4.911 | 0.540 | Not Needed |
| L8 | P-6 | Top | 18.000 | 18.000 | 7.404 | 7.180 | 0.540 | 9.600 |
| | | Bottom | 18.000 | 18.000 | 6.491 | 6.496 | 0.540 | 9.600 |
| L7 | P-6 | Top | 18.000 | 18.000 | 8.111 | 7.988 | 0.629 | 9.771 |
| | | Bottom | 18.000 | 18.000 | 7.704 | 7.618 | 0.629 | 9.864 |
| L6 | P-6 | Top | 27.000 | 27.000 | 9.896 | 9.699 | 0.685 | 10.620 |
| | | Bottom | 27.000 | 27.000 | 9.545 | 9.434 | 0.685 | 10.707 |
| L5 | P-6 | Top | 27.000 | 27.000 | 10.964 | 10.785 | 0.612 | 11.467 |
| | | Bottom | 27.000 | 27.000 | 11.523 | 11.237 | 0.612 | 11.485 |
| L4 | P-6 | Top | 27.000 | 27.000 | 12.901 | 12.198 | 0.745 | 12.443 |
| | | Bottom | 27.000 | 27.000 | 11.313 | 11.428 | 0.595 | 12.633 |
| L11 | P-7 | Top | 18.000 | 18.000 | 1.853 | 1.896 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 1.194 | 1.135 | 0.540 | Not Needed |
| L10 | P-7 | Top | 18.000 | 18.000 | 8.900 | 8.907 | 2.204 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.158 | 6.220 | 2.197 | Not Needed |

***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier.
 ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier.

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | Am Left in ² | Am Right in ² | Avg Shear in ² /ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|-------------------------------|---------------|
| L4 | P-8 | Top | 27.000 | 27.000 | 12.030 | 12.151 | 1.931 | 8.850 |
| | | Bottom | 27.000 | 27.000 | 11.570 | 11.489 | 1.922 | 8.883 |
| L3 | P-8 | Top | 27.000 | 27.000 | 11.869 | 12.187 | 1.438 | 9.182 |
| | | Bottom | 27.000 | 27.000 | 12.806 | 12.589 | 1.464 | 9.100 |
| RF | P-9 | Top | 14.000 | 14.000 | 2.926 | 2.971 | 0.420 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 3.926 | 3.784 | 0.420 | Not Needed |
| L14 | P-9 | Top | 35.000 | 35.000 | 13.086 | 13.609 | 0.969 | Not Needed |
| | | Bottom | 35.000 | 35.000 | 8.399 | 8.302 | 0.783 | Not Needed |
| L13 | P-9 | Top | 28.000 | 28.000 | 9.905 | 9.855 | 0.815 | Not Needed |
| | | Bottom | 28.000 | 28.000 | 14.093 | 13.581 | 1.209 | Not Needed |
| L11 | P-9 | Top | 27.000 | 27.000 | 13.183 | 12.789 | 0.540 | Not Needed |
| | | Bottom | 27.000 | 27.000 | 16.014 | 16.497 | 0.589 | Not Needed |
| L10 | P-9 | Top | 27.000 | 27.000 | 9.873 | 9.789 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.860 | 7.848 | 0.540 | Not Needed |
| L9 | P-9 | Top | 18.000 | 18.000 | 6.772 | 6.917 | 0.947 | Not Needed |
| | | Bottom | 27.000 | 27.000 | 10.399 | 9.888 | 0.937 | Not Needed |
| L8 | P-9 | Top | 18.000 | 18.000 | 7.192 | 7.539 | 0.981 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.327 | 5.955 | 0.970 | Not Needed |
| L7 | P-9 | Top | 18.000 | 18.000 | 4.215 | 4.515 | 0.811 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 5.120 | 4.721 | 0.811 | Not Needed |
| L6 | P-9 | Top | 18.000 | 18.000 | 3.611 | 3.948 | 0.879 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.573 | 4.155 | 0.879 | Not Needed |
| L5 | P-9 | Top | 18.000 | 18.000 | 3.410 | 3.673 | 1.270 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 8.582 | 7.882 | 1.258 | Not Needed |
| L4 | P-9 | Top | 18.000 | 18.000 | 6.118 | 6.346 | 1.332 | 20.400 |
| | | Bottom | 18.000 | 18.000 | 5.492 | 4.841 | 1.323 | 20.400 |
| L3 | P-9 | Top | 18.000 | 18.000 | 5.493 | 5.429 | 0.844 | 20.400 |
| | | Bottom | 18.000 | 18.000 | 5.202 | 5.685 | 0.844 | 20.400 |
| L2 | P-9 | Top | 18.000 | 18.000 | 3.595 | 3.864 | 1.520 | 19.372 |
| | | Bottom | 18.000 | 18.000 | 8.660 | 8.853 | 1.520 | 19.149 |
| RF | P-10 | Top | 14.000 | 14.000 | 2.048 | 2.078 | 0.532 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 2.108 | 2.111 | 0.532 | Not Needed |
| L14 | P-10 | Top | 28.000 | 28.000 | 10.928 | 10.928 | 1.638 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 8.650 | 8.919 | 1.638 | Not Needed |
| L13 | P-10 | Top | 21.000 | 21.000 | 6.469 | 6.796 | 1.573 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 7.174 | 6.812 | 1.567 | Not Needed |
| L12 | P-10 | Top | 18.000 | 18.000 | 6.669 | 6.731 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.239 | 7.047 | 0.540 | Not Needed |
| L11 | P-10 | Top | 18.000 | 18.000 | 7.019 | 7.117 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.936 | 6.623 | 0.540 | Not Needed |
| L10 | P-10 | Top | 18.000 | 18.000 | 4.205 | 4.223 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.035 | 4.036 | 0.540 | Not Needed |
| L9 | P-10 | Top | 18.000 | 18.000 | 3.823 | 4.050 | 0.540 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.367 | 4.335 | 0.540 | Not Needed |
| L8 | P-10 | Top | 18.000 | 18.000 | 5.071 | 5.202 | 0.584 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.380 | 4.493 | 0.584 | Not Needed |
| L7 | P-10 | Top | 18.000 | 18.000 | 3.874 | 3.964 | 0.615 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.829 | 3.980 | 0.615 | Not Needed |
| L6 | P-10 | Top | 18.000 | 18.000 | 3.995 | 4.215 | 0.715 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.324 | 4.393 | 0.715 | Not Needed |
| L5 | P-10 | Top | 18.000 | 18.000 | 6.243 | 6.723 | 1.099 | 15.900 |
| | | Bottom | 18.000 | 18.000 | 7.002 | 6.895 | 1.087 | 15.900 |

| Story Label | Pier Label | Station Location | Edge Memb Left | Edge Memb Right | As Left in ² | As Right in ² | Avg Shear in ² /ft | B-Zone Length | As Left in ² | As Right in ² | Avg Shear in ² /ft | B-Zone Length | Edge Spacing | D/C Ratio | Pier Leg | Shear Av in ² /ft | B-Zone Length |
|-------------|------------|------------------|----------------|-----------------|-------------------------|--------------------------|-------------------------------|---------------|-------------------------|--------------------------|-------------------------------|---------------|--------------|-----------|-----------|------------------------------|---------------|
| L4 | P-10 | Top | 18.000 | 18.000 | 5.409 | 5.807 | 1.260 | 15.900 | 5.409 | 5.807 | 1.260 | 15.900 | 10.000 | 0.7288 | Top Leg 1 | 0.840 | 105.900 |
| | | Bottom | 18.000 | 18.000 | 6.561 | 7.144 | 1.251 | 15.900 | 6.561 | 7.144 | 1.251 | 15.900 | 10.000 | 0.8035 | Bot Leg 1 | 0.840 | 105.900 |
| L3 | P-10 | Top | 18.000 | 18.000 | 6.303 | 7.329 | 1.235 | 15.900 | 6.303 | 7.329 | 1.235 | 15.900 | 10.000 | 0.8098 | Top Leg 1 | 1.048 | 105.900 |
| | | Bottom | 21.000 | 18.000 | 9.947 | 6.331 | 1.221 | 15.900 | 9.947 | 6.331 | 1.221 | 15.900 | 10.000 | 0.8907 | Bot Leg 1 | 1.048 | 105.900 |
| L2 | P-10 | Top | 18.000 | 18.000 | 4.068 | 6.992 | 0.774 | 7.106 | 4.068 | 6.992 | 0.774 | 7.106 | 12.000 | 0.5941 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 6.693 | 4.888 | 0.753 | 7.146 | 6.693 | 4.888 | 0.753 | 7.146 | 12.000 | 0.5167 | Bot Leg 1 | 0.840 | Not Needed |
| RF | 12.11 | Top | 14.000 | 14.000 | 1.983 | 2.002 | 0.469 | Not Needed | 1.983 | 2.002 | 0.469 | Not Needed | 12.000 | 0.4072 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 14.000 | 14.000 | 2.013 | 2.023 | 0.469 | Not Needed | 2.013 | 2.023 | 0.469 | Not Needed | 12.000 | 0.3348 | Bot Leg 1 | 0.840 | Not Needed |
| L14 | 12.11 | Top | 28.000 | 28.000 | 9.801 | 9.679 | 1.518 | Not Needed | 9.801 | 9.679 | 1.518 | Not Needed | 12.000 | 0.7690 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 21.000 | 21.000 | 6.406 | 6.595 | 1.511 | Not Needed | 6.406 | 6.595 | 1.511 | Not Needed | 12.000 | 0.8394 | Bot Leg 1 | 0.840 | Not Needed |
| L13 | 12.11 | Top | 21.000 | 21.000 | 6.839 | 7.224 | 1.446 | Not Needed | 6.839 | 7.224 | 1.446 | Not Needed | 12.000 | 0.8011 | Top Leg 1 | 0.840 | 105.900 |
| | | Bottom | 21.000 | 21.000 | 6.844 | 6.417 | 1.440 | Not Needed | 6.844 | 6.417 | 1.440 | Not Needed | 12.000 | 0.8443 | Bot Leg 1 | 0.840 | 105.900 |
| L12 | 12.11 | Top | 18.000 | 18.000 | 6.860 | 6.945 | 0.540 | Not Needed | 6.860 | 6.945 | 0.540 | Not Needed | 12.000 | 0.9147 | Top Leg 1 | 0.840 | 105.900 |
| | | Bottom | 18.000 | 18.000 | 7.534 | 7.327 | 0.540 | Not Needed | 7.534 | 7.327 | 0.540 | Not Needed | 12.000 | 0.9491 | Bot Leg 1 | 0.840 | 105.900 |
| L11 | 12.11 | Top | 18.000 | 18.000 | 7.092 | 7.193 | 0.540 | Not Needed | 7.092 | 7.193 | 0.540 | Not Needed | 12.000 | 0.9491 | Top Leg 1 | 0.840 | 38.850 |
| | | Bottom | 18.000 | 18.000 | 7.078 | 6.755 | 0.540 | Not Needed | 7.078 | 6.755 | 0.540 | Not Needed | 12.000 | 0.6653 | Bot Leg 1 | 0.840 | Not Needed |
| L10 | 12.11 | Top | 18.000 | 18.000 | 4.275 | 4.200 | 0.540 | Not Needed | 4.275 | 4.200 | 0.540 | Not Needed | 12.000 | 0.0415 | Top Leg 1 | 1.080 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.915 | 3.952 | 0.540 | Not Needed | 3.915 | 3.952 | 0.540 | Not Needed | 12.000 | 0.0434 | Bot Leg 1 | 1.080 | Not Needed |
| L9 | 12.11 | Top | 18.000 | 18.000 | 4.112 | 4.388 | 0.540 | Not Needed | 4.112 | 4.388 | 0.540 | Not Needed | 12.000 | 0.9277 | Top Leg 1 | 0.840 | 38.850 |
| | | Bottom | 18.000 | 18.000 | 4.739 | 4.682 | 0.540 | Not Needed | 4.739 | 4.682 | 0.540 | Not Needed | 12.000 | 0.7832 | Bot Leg 1 | 0.840 | 38.850 |
| L8 | 12.11 | Top | 18.000 | 18.000 | 4.280 | 4.521 | 0.540 | Not Needed | 4.280 | 4.521 | 0.540 | Not Needed | 12.000 | 0.8530 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.916 | 3.934 | 0.540 | Not Needed | 3.916 | 3.934 | 0.540 | Not Needed | 12.000 | 0.9388 | Bot Leg 1 | 0.840 | Not Needed |
| L7 | 12.11 | Top | 18.000 | 18.000 | 3.668 | 3.858 | 0.573 | Not Needed | 3.668 | 3.858 | 0.573 | Not Needed | 12.000 | 0.7815 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 3.547 | 3.581 | 0.573 | Not Needed | 3.547 | 3.581 | 0.573 | Not Needed | 12.000 | 0.7317 | Bot Leg 1 | 0.840 | Not Needed |
| L6 | 12.11 | Top | 18.000 | 18.000 | 3.477 | 3.798 | 0.672 | Not Needed | 3.477 | 3.798 | 0.672 | Not Needed | 9.000 | 0.7819 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 4.109 | 4.040 | 0.672 | Not Needed | 4.109 | 4.040 | 0.672 | Not Needed | 9.000 | 0.9008 | Bot Leg 1 | 0.840 | Not Needed |
| L5 | 12.11 | Top | 18.000 | 18.000 | 5.714 | 6.397 | 0.966 | 15.900 | 5.714 | 6.397 | 0.966 | 15.900 | 12.000 | 0.4406 | Top Leg 1 | 0.840 | 109.200 |
| | | Bottom | 18.000 | 18.000 | 6.462 | 6.351 | 0.966 | 15.900 | 6.462 | 6.351 | 0.966 | 15.900 | 12.000 | 0.3323 | Bot Leg 1 | 0.840 | 109.200 |
| L4 | 12.11 | Top | 18.000 | 18.000 | 4.115 | 4.715 | 0.838 | 15.900 | 4.115 | 4.715 | 0.838 | 15.900 | 9.000 | 0.8038 | Top Leg 1 | 0.840 | 105.900 |
| | | Bottom | 18.000 | 18.000 | 5.025 | 4.869 | 0.838 | 15.900 | 5.025 | 4.869 | 0.838 | 15.900 | 9.000 | 0.9336 | Bot Leg 1 | 0.840 | 105.900 |
| L3 | 12.11 | Top | 18.000 | 18.000 | 9.851 | 7.465 | 1.051 | 15.900 | 9.851 | 7.465 | 1.051 | 15.900 | 12.000 | 0.7623 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.173 | 8.559 | 1.038 | 15.900 | 7.173 | 8.559 | 1.038 | 15.900 | 12.000 | 0.5733 | Bot Leg 1 | 0.840 | Not Needed |
| L2 | 12.11 | Top | 18.000 | 18.000 | 5.623 | 7.309 | 0.830 | 16.801 | 5.623 | 7.309 | 0.830 | 16.801 | 12.000 | 0.6230 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 7.258 | 7.705 | 0.822 | 16.800 | 7.258 | 7.705 | 0.822 | 16.800 | 12.000 | 0.3337 | Bot Leg 1 | 0.840 | Not Needed |
| L2 | A-5.1 | Top | 18.000 | 18.000 | 4.043 | 4.360 | 0.867 | Not Needed | 4.043 | 4.360 | 0.867 | Not Needed | 12.000 | 0.7771 | Top Leg 1 | 0.840 | Not Needed |
| | | Bottom | 18.000 | 18.000 | 5.846 | 6.284 | 0.863 | Not Needed | 5.846 | 6.284 | 0.863 | Not Needed | 12.000 | 0.8075 | Bot Leg 1 | 0.840 | Not Needed |
| L2 | A-5.2 | Top | 18.000 | 18.000 | 4.692 | 5.005 | 0.838 | Not Needed | 4.692 | 5.005 | 0.838 | Not Needed | 12.000 | 0.8237 | Top Leg 1 | 1.088 | 105.900 |
| | | Bottom | 18.000 | 18.000 | 3.526 | 3.647 | 0.833 | Not Needed | 3.526 | 3.647 | 0.833 | Not Needed | 12.000 | 0.9056 | Bot Leg 1 | 1.088 | 105.900 |

SUMMARY OUTPUT DATA - GENERAL REINFORCING PIER SECTIONS - CHECK (UBC97)

| Story Label | Pier Label | Station Location | Pier Section | D/C Ratio | Pier Leg | Shear Av In ² /ft | B-Zone Length |
|----------------------------------------------------------------------------------------------|------------|------------------|--------------|-----------|-----------|------------------------------|---------------|
| L12 | 1.2 | Top | 1P2L12 | 0.4637 | Top Leg 1 | 2.103 | 16.650 |
| | | Bottom | 1P2L12 | 0.8396 | Bot Leg 1 | 2.527 | 16.650 |
| L3 | 1.3 | Top | 1P3L3 | 0.7095 | Top Leg 1 | 1.943 | 9.084 |
| | | Bottom | 1P3L3 | 0.7289 | Bot Leg 1 | 1.942 | 9.192 |
| L3 | 1.4 | Top | 1P4L3 | 0.8605 | Top Leg 1 | 2.205 | 10.967 |
| | | Bottom | 1P4L3 | 0.9109 | Bot Leg 1 | 2.169 | 11.038 |
| L3 | 1.5 | Top | 1P5L3 | 0.9011 | Top Leg 1 | 1.378 | 11.358 |
| | | Bottom | 1P5L3 | 0.9123 | Bot Leg 1 | 1.378 | 11.428 |
| L12 | 12.2 | Top | 1P2L12 | 0.4857 | Top Leg 1 | 2.232 | 16.650 |
| | | Bottom | 1P2L12 | 0.8776 | Bot Leg 1 | 2.629 | 16.650 |
| L3 | 12.4 | Top | 1P4L3 | 0.7444 | Top Leg 1 | 1.362 | 11.213 |
| | | Bottom | 1P4L3 | 0.7584 | Bot Leg 1 | 1.362 | 11.284 |
| L2 | 12.4 | Top | 1P4L3 | 0.7392 | Top Leg 1 | 2.129 | 11.808 |
| | | Bottom | 1P4L3 | 0.7927 | Bot Leg 1 | 2.129 | 11.945 |
| L3 | 12.5 | Top | 1P4L3 | 0.8697 | Top Leg 1 | 0.631 | 12.951 |
| | | Bottom | 1P4L3 | 0.8554 | Bot Leg 1 | 0.631 | 13.024 |
| L2 | 12.5 | Top | 1P4L3 | 0.9750 | Top Leg 1 | 0.912 | 14.109 |
| | | Bottom | 1P4L3 | 0.9414 | Bot Leg 1 | 0.912 | 14.158 |
| L12 | A-2 | Top | 1P2L12 | 0.4454 | Top Leg 1 | 1.975 | 16.650 |
| | | Bottom | 1P2L12 | 0.8064 | Bot Leg 1 | 2.329 | 16.650 |
| L4 | A-5 | Top | 1P5L3 | 0.8568 | Top Leg 1 | 2.668 | 12.790 |
| | | Bottom | 1P5L3 | 0.9964 | Bot Leg 1 | 2.700 | 12.837 |
| L3 | A-5 | Top | 1P5L3 | 0.8907 | Top Leg 1 | 2.901 | 10.414 |
| | | Bottom | 1P5L3 | 0.8208 | Bot Leg 1 | 2.901 | 10.485 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L12 | P-2 | Top | 1P2L12 | 0.4872 | Top Leg 1 | 2.259 | 16.650 |
| | | Bottom | 1P2L12 | 0.8967 | Bot Leg 1 | 2.666 | 16.650 |
| L10 | P-3 | Top | 1P3L10 | 0.7976 | Top Leg 1 | 2.345 | 5.700 |
| | | Bottom | 1P3L10 | 0.4932 | Bot Leg 1 | 2.302 | Not Needed |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L9 | P-3 | Top | 1P3L10 | 0.4548 | Top Leg 1 | 0.817 | Not Needed |
| | | Bottom | 1P3L10 | 0.8129 | Bot Leg 1 | 0.868 | Not Needed |
| L8 | P-3 | Top | 1P3L10 | 0.7193 | Top Leg 1 | 1.356 | 5.700 |
| | | Bottom | 1P3L10 | 0.6060 | Bot Leg 1 | 1.294 | 5.700 |
| L3 | P-3 | Top | 1P3L3 | 0.6839 | Top Leg 1 | 1.757 | 9.062 |
| | | Bottom | 1P3L3 | 0.6946 | Bot Leg 1 | 1.747 | 9.130 |
| L2 | P-3 | Top | 1P3L2 | 0.7710 | Top Leg 1 | 2.895 | 9.453 |
| | | Bottom | 1P3L2 | 0.7300 | Bot Leg 1 | 2.895 | 9.492 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L10 | P-4 | Top | 1P4L10 | 0.8152 | Top Leg 1 | 3.037 | 6.150 |

SUMMARY OUTPUT DATA - GENERAL REINFORCING PIER SECTIONS - CHECK

| Story Label | Pier Label | Station Location | Pier Section | D/C Ratio | Pier Leg | Shear Av In ² /ft | B-Zone Length |
|----------------------------------------------------------------------------------------------|------------|------------------|--------------|-----------|-----------|------------------------------|---------------|
| | | Bottom | 1P4L10 | 0.5340 | Bot Leg 1 | 2.830 | 6.150 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L9 | P-4 | Top | 1P4L10 | 0.2876 | Top Leg 1 | 0.540 | Not Needed |
| | | Bottom | 1P4L10 | 0.3506 | Bot Leg 1 | 0.595 | Not Needed |
| L8 | P-4 | Top | 1P4L10 | 0.4463 | Top Leg 1 | 0.784 | 6.150 |
| | | Bottom | 1P4L10 | 0.3565 | Bot Leg 1 | 0.671 | 6.150 |
| L3 | P-4 | Top | 1P4L3 | 0.7563 | Top Leg 1 | 1.457 | 10.741 |
| | | Bottom | 1P4L3 | 0.7623 | Bot Leg 1 | 1.457 | 10.812 |
| L2 | P-4 | Top | 1P4L2 | 0.7807 | Top Leg 1 | 2.164 | 10.472 |
| | | Bottom | 1P4L2 | 0.7478 | Bot Leg 1 | 2.164 | 10.512 |
| L3 | P-5 | Top | 1P4L3 | 0.8641 | Top Leg 1 | 0.777 | 12.505 |
| | | Bottom | 1P4L3 | 0.8451 | Bot Leg 1 | 0.777 | 12.978 |
| L2 | P-5 | Top | 1P5L2 | 0.8875 | Top Leg 1 | 1.497 | 12.295 |
| | | Bottom | 1P5L2 | 0.9534 | Bot Leg 1 | 1.497 | 12.346 |
| L3 | 1.6 | Top | 1P5L3 | 0.9051 | Top Leg 1 | 1.447 | 13.236 |
| | | Bottom | 1P5L3 | 0.9246 | Bot Leg 1 | 1.447 | 13.307 |
| L3 | 1.7 | Top | 1P4L3 | 0.8610 | Top Leg 1 | 2.250 | 10.949 |
| | | Bottom | 1P4L3 | 0.9201 | Bot Leg 1 | 2.250 | 11.021 |
| L3 | 1.8 | Top | 1P3L3 | 0.6600 | Top Leg 1 | 1.851 | 8.850 |
| | | Bottom | 1P3L3 | 0.6798 | Bot Leg 1 | 1.859 | 8.850 |
| L12 | 1.9 | Top | 1P2L12 | 0.4616 | Top Leg 1 | 2.093 | 16.800 |
| | | Bottom | 1P2L12 | 0.8403 | Bot Leg 1 | 2.531 | 16.800 |
| L3 | 12.6 | Top | 1P4L3 | 0.8677 | Top Leg 1 | 0.585 | 12.812 |
| | | Bottom | 1P4L3 | 0.8459 | Bot Leg 1 | 0.585 | 12.886 |
| L2 | 12.6 | Top | 1P4L3 | 0.9698 | Top Leg 1 | 0.802 | 13.924 |
| | | Bottom | 1P4L3 | 0.9656 | Bot Leg 1 | 0.802 | 13.973 |
| L3 | 12.7 | Top | 1P4L3 | 0.7602 | Top Leg 1 | 1.342 | 11.244 |
| | | Bottom | 1P4L3 | 0.7760 | Bot Leg 1 | 1.342 | 11.316 |
| L2 | 12.7 | Top | 1P4L3 | 0.7350 | Top Leg 1 | 1.870 | 11.916 |
| | | Bottom | 1P4L3 | 0.7996 | Bot Leg 1 | 1.870 | 11.964 |
| L12 | 12.9 | Top | 1P2L12 | 0.4792 | Top Leg 1 | 2.181 | 16.800 |
| | | Bottom | 1P2L12 | 0.8710 | Bot Leg 1 | 2.587 | 16.800 |
| L3 | A-6 | Top | 1P5L3 | 0.8278 | Top Leg 1 | 1.312 | 12.956 |
| | | Bottom | 1P5L3 | 0.8306 | Bot Leg 1 | 1.312 | 13.026 |
| L3 | A-7 | Top | 1P4L3 | 0.7850 | Top Leg 1 | 1.956 | 10.838 |
| | | Bottom | 1P4L3 | 0.8345 | Bot Leg 1 | 1.909 | 10.910 |
| L12 | A-9 | Top | 1P2L12 | 0.4445 | Top Leg 1 | 2.032 | 16.800 |
| | | Bottom | 1P2L12 | 0.8109 | Bot Leg 1 | 2.392 | 16.800 |
| L3 | P-6 | Top | 1P4L3 | 0.9190 | Top Leg 1 | 0.742 | 13.058 |
| | | Bottom | 1P4L3 | 0.9021 | Bot Leg 1 | 0.742 | 13.131 |

| Story Label | Pier Label | Station Location | Pier Section | D/C Ratio | Pier Leg | Shear Av in ² /ft | B-Zone Length |
|----------------------------------------------------------------------------------------------|------------|------------------|--------------|-----------|-----------|------------------------------|---------------|
| L2 | P-6 | Top | 1P5L3 | 0.8763 | Top Leg 1 | 1.485 | 14.134 |
| | | Bottom | 1P5L3 | 0.8477 | Bot Leg 1 | 1.485 | 14.181 |
| L3 | P-7 | Top | 1P4L3 | 0.8086 | Top Leg 1 | 1.500 | 11.601 |
| | | Bottom | 1P4L3 | 0.8239 | Bot Leg 1 | 1.500 | 11.673 |
| L2 | P-7 | Top | 1P4L3 | 0.8772 | Top Leg 1 | 3.052 | 12.260 |
| | | Bottom | 1P4L3 | 0.9368 | Bot Leg 1 | 2.687 | 12.308 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L10 | P-8 | Top | 1P3L3 | 0.6362 | Top Leg 1 | 2.834 | Not Needed |
| | | Bottom | 1P3L3 | 0.4454 | Bot Leg 1 | 2.827 | Not Needed |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L2 | P-6 | Top | 1P3L3 | 0.6580 | Top Leg 1 | 2.232 | 9.439 |
| | | Bottom | 1P3L3 | 0.5520 | Bot Leg 1 | 2.193 | 9.484 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L12 | P-9 | Top | 1P2L12 | 0.5021 | Top Leg 1 | 2.324 | 16.800 |
| | | Bottom | 1P2L12 | 0.5049 | Bot Leg 1 | 2.713 | 16.800 |
| L3 | A-5.1 | Top | 1P5L3 | 0.9744 | Top Leg 1 | 3.254 | 9.600 |
| | | Bottom | 1P5L3 | 0.8164 | Bot Leg 1 | 3.254 | 9.600 |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at top of pier leg 1 | | | | | | | |
| ***** Design Inadequacy Message: Shear force exceeds maximum allowed at bottom of pier leg 1 | | | | | | | |
| L3 | A-5.2 | Top | ASP2L3 | 0.6263 | Top Leg 1 | 1.334 | 7.650 |
| | | Bottom | ASP2L3 | 0.6219 | Bot Leg 1 | 1.321 | 7.650 |