



Aaron Snyder Structural Option Advisor: M. Kevin Parfitt, PE

Structural Technical Report I October 5, 2006

Structural Concepts / Structural Existing Conditions Report

Introduction:

The Odyssey is a 475,650 SF luxury residential complex located in Arlington, Virginia. It features 2- 3 story townhouses adjacent to 3 levels of underground parking and towers clad with glass curtain walls and brick. There are 16 stories of apartments with suites located on the top floors and retail space on the ground floors.

The first technical report introduces the existing structural conditions of the Odyssey through detailed descriptions of the foundation, floor, column, and lateral systems. Preliminary analysis of design loads and lateral forces are spot checked on a typical column and shear wall for discrepancies in design criteria. The preliminary analysis provides better understanding into loading and code assumptions made in analysis through ASCE7-02 provisions. Structural advantages in post-tensioned slab design were observed in a comparison to a conventional 2-way system and will be addressed in further analysis of the floor system. Analysis calculations and observations can be found in Appendices A - G as well as descriptive figures of preliminary design component and typical floor plan.

Structural Systems:

Foundation

The primary foundation structures of the Odyssey are concrete footings of various sizes, depths, and reinforcement spread throughout the lower garage level footprint. Individual column footings are typical, however mat footings spread over larger areas are found at locations supporting larger gravitational and lateral loads. Mat-1 spans over numerous columns which support shear walls beginning on the 1st floor of the building. A second mat footing supports the lateral load through shear walls (A&B), located around the central elevator shafts at the core of the adjoining towers. The larger mat footings, compared to the typical column footings, distribute the lateral loads into the foundation more effectively over a similar area. Continuous strip footings typically sized at 2'-0'' x 1'-4'', support a perimeter bearing wall surrounding the lower garage levels.

Floor Systems

The floor systems found throughout the Odyssey seemingly vary as much as the space usage in the building. Three distinct systems are noted in the following sections on account of size, loading, and use of the space supported:

Basement Garage:

The lower garage level (B3) floor is composed of 4" concrete slab (f'c=5ksi) on grade reinforced with $6x6 - w1.4 \times w1.4$ wire mesh on 6mil vapor barrier over 6" on compacted gravel with a capacity of 5,500psf.

The remaining lower garage levels through the first floor are primarily 8.5" conventionally reinforced 2-way concrete slab system with bottom reinforcement of #4 bars @ 13" o.c. Additional top and bottom reinforcement is specified as needed throughout the floor #bar sizes varying at given spacing. Drop panels are also included at specified columns and typically extend 4-1/2" below slab, and some up to 6-1/4" or 8" below slab. Also found on these floors are reinforced edge beams around larger spans for loading docks, mechanical spaces/shafts, and retail space located on both the upper garage and 1st floors. Typical bays sizes for the reinforced 2-way slab system are 25'x25' and 17'x25'.

Tower:

 $\frac{10^{nd}}{2^{nd}-15^{th}}$

The Odyssey tower is mostly an 8" 2-way post tensioned flat concrete slab (f'c=5ksi) with continuous bottom reinforcement of #4 bars @ 24" o.c in each direction. Negative moment reinforcement of the slab column junctions is typically #4 bars expanding .33l_n in both span directions. Added reinforcement at slab openings in the long direction of specified bays is also typically #4 bars. Floor bays vary in size but 25'x 22'



at

and 25'x 28' are typical with a variation on the 14th floor plan that has post tensioned beams integrated into the 2-way slab to support the rooftop swimming pool.

16th & Roof

The roof and upper floor system of the western portion of the Odyssey's tower is similar to that of the lower floors, however reinforced concrete edge beams and interior post tensioned beams were included to properly support excess loads from mechanical equipment. Both size and reinforcement vary between beams and post tension loading varies depending on span and location in the system. The east tower on the 16th level support the pool terrace and is a 11" 2-way post tensioned flat slab(f'c=5ksi) with #5 bars @ 24" o.c. each way and specified areas with added bottom reinforcement typically #5 and #6 bars. Typical floor bay sizes vary with 25'x 22' and 25'x 28' most common throughout these levels.

Townhouses

Townhouses which span the length of the sight on the east are built integrally with the lower garage levels but do not share the same floor system. The system is 8.5" one-way concrete slab conventionally reinforced with #4 bar @ 13" o.c.



and built-in reinforced edge beams typically 24"x18" and 26"x16" with #6 and #11 reinforcement. Two floor bay sizes are split between the townhouses with 23'x 30' and 19'x 30' spanning the edge beams. The townhouse roof system is also split over the row with the typical one-way concrete slab or cantilevered 12" metal C-joists @ 24" o.c. with metal a soffit.

Columns:

Structural columns of the Odyssey are primarily a simple concrete structure with varied sizes, shapes, and reinforcement dependent on level and location throughout the building. The columns found in the tower of the Odyssey, levels 1-16, support the floor systems and are typically sized at 18"x 26" with #11 bar reinforcement. Round columns are found at the corners of the tower with primarily architectural design influences to not detract from symmetric corner windows with conventional rectangular columns integrated into apartment walls.

The columns located in the lower garage through 1st levels, and partially on 2nd and 3rd levels, serve a dual purpose in the structural design of the Odyssey. Rotated columns are oriented differently at floor slabs, typically rotating 90° from underside to the top side of the floor slab. These columns support the floor systems and are an architectural design to better fit apartment spaces.

Sloping columns are oriented differently from face to face of the slab on the same level. The purpose of these sloping columns is to effectively transmit lateral loads from shear walls and the building edge into the foundation. A further look into the integrated functioning of sloping column and foundation in regard to lateral distribution and moment may provide better analysis of the structures behavior. Both types of columns vary in size with a range in sizes from 18"x 26" to 26" x 42" with #11 bar reinforcement.

Column concrete strength varies from level to level:

Levels B3-B1	: f'c = 6000psi
Levels 1-4	: f'c = 8000psi
Levels 5	: f'c = 6000psi
Levels 6-16	: f'c = 5000psi

Lateral Bracing:

The primary lateral resisting system of the Odyssey are groupings of shear walls placed throughout the floor plan. Locations on the exterior wings provide single lateral direction bracing while those at the core provide both primary directions. The building shape suggests that a detailed analysis would determine the control loading direction to be askew to primary directions and that the shear walls described below collectively distribute this case.

Shear wall A:

Resists both lateral load directions: North-South & East-West. Location: Surrounds 2 central-north elevator shafts Range: B3 - 4th level Size: North-South walls - 1'-2" x 10' Integrated into columns - 14"x 28" Column Reinforcement - 6 #9 bars East-West wall - 10"x20'-2" Wall Reinforcement: #5 & #6 bars @ 12"

Shear wall B:

Resists both lateral load directions: North-South & East-West. Location: Surrounds 2 central-south elevator shafts Range: B3 - 4th level level Size: North-South walls - 1'-2" x 10' Integrated into columns - 14"x 28" Column Reinforcement - 6 #9 bars East-West wall - 10"x19'-4" Wall Reinforcement: #5 & #6 bars @ 12"

Shear wall C, C1:

Resists lateral load directions: North-South Location: Surrounding West stair tower. Range: 2nd - 16th level C1 terminates at 10th level Size: North-South walls - 10"x 13'-10.5" Ends attached to columns – 18"x 26" and 24"x 24" Column Reinforcement – (varies) #11 bars Wall Reinforcement: #5 & #6 bars @ 12"

Shear wall E:

Resists lateral load directions: North West-South East Location: Column line X4 - North side of East tower Range: 2nd - 14th level Size: North-South walls - 10"x 29'-5" Ends attached to columns – 18"x 26" Column Reinforcement – (varies) #11 bars Wall Reinforcement: #5 & #6 bars @ 12"









Codes and Requirements:

The Odyssey is designed under: The 1996 BOCA National Building Code The 1996 Virginia Uniform Statewide Building Code with 2000 Amendments Concrete construction in accordance with: American Concrete Institute 318 - "Reinforced Concrete Design" American Concrete Institute 301 – "Specification for Structural Concrete" Building Officials and Code Administrators (BOCA) – Latest Edition Steel construction in accordance with: Building Officials and Code Administrators (BOCA) American Institute of Steel Construction Manual – Allowable stress design (ASD) Masonry construction in accordance with: Building Officials and Code Administrators (BOCA) "Building Code Requirements for Masonry Structures and Specifications for Masonry Structures" - ACI-530 / ACI-530.1 Material strength and details in accordance with: ASTM Standards – Properties of Building Materials

Gravity and Lateral Loads:

The gravity and lateral loads for structural analysis were determined in accordance with ASCE7-02. General assumptions for several dead loads were made with interpretation of details and averages. Load factors and adjustments are used when appropriate according to provisions of ASCE7-02 in analyzing structural components and systems. Several gravity loads are listed below:

Gravity: (psf)

Floor Live:	
Residential Units & Corridors	40
Public Areas	100
Mech. Room	150
Pool Terrace	100
Parking Garage	50
Stairs and Exits	100
Roof Live:	
Min. Roof Live Load	30
Roof Snow:	
Roof Snow Load	21
Floor Dead:	
Concrete Slab	100 –150 (varied thickness 8"-12")
Partitions	8
Flooring	4
Ceiling	5
Mechanical	10
Beams/Columns	(*varies)

Lateral:

A summary of lateral loads calculated in accordance with ASCE7-02 design provisions are displayed in the following sections. Refer to Appendix – for a further detailed procedure of calculation and listed analysis including generalized assumptions.

Wind:

ASCE7-02 Section 9

					T	
	VVindward		Windward Leeward		Total M	WFRS
Z(ft)	N-S	E-W	N-S	E-W	N-S	E-W
0-15	8.05	8.0495	-8.84434	-8.81247	16.89	16.86
20	8.43	8.4283	-8.84434	-8.81247	17.27	17.24
25	8.81	8.8071	-8.84434	-8.81247	17.65	17.62
30	9.09	9.0912	-8.84434	-8.81247	17.94	17.90
40	9.38	9.3753	-8.84434	-8.81247	18.22	18.19
50	9.85 9.8488		-8.84434	-8.81247	18.69	18.66
60	10.32	10.3222	-8.84434	-8.81247	19.17	19.13
70	10.70	10.7010	-8.84434	-8.81247	19.55	19.51
80	11.08	11.0798	-8.84434	-8.81247	19.92	19.89
90	11.36	11.3639	-8.84434	-8.81247	20.21	20.18
100	12.12	12.1215	-8.84434	-8.81247	20.97	20.93
120	12.78	12.7844	-8.84434	-8.81247	21.63	21.60
140	13.35	13.3526	-8.84434	-8.81247	22.20	22.17
160	13.92	13.9208	-8.84434	-8.81247	22.77	22.73
180	14.39	14.3943	-8.84434	-8.81247	23.24	23.21

Wind Pressure Envelope

N-S Distribution

roof	
level 16	
level 15	
	level 14
	level 13
	level 12
	level 11
	level 10
	level 9
	level 8
	level 7
	level 6
	level 5
	level 4
	level 3 🗖
	level 2
	level 1

Seismic:

ASCE7-02 Section 6

	Wx	h _x	w _x h _x ^k	Cvx	Fx	Vx	Mx
Level, x	(kips)	(ft)			(kips)	(kips)	(ft-kips)
Roof	1533	167	769,202	0.058	40		6,665
16	3428	147.1	1,474,522	0.111	77	40	11,254
15	3681	136.1	1,440,838	0.109	75	116	10,175
14	4181	125.3	1,480,246	0.112	77	191	9,623
13	4118	116	1,327,438	0.100	69	268	7,989
12	4118	106.63	1,198,316	0.090	62	337	6,630
11	4118	97.3	1,072,148	0.081	56	399	5,413
10	4118	88	948,952	0.072	49	455	4,333
9	4118	78.64	827,760	0.062	43	504	3,377
8	4118	69.31	710,010	0.054	37	547	2,553
7	4118	60	595,870	0.045	31	584	1,855
6	4118	50.65	485,022	0.037	25	615	1,275
5	4118	41.32	378,732	0.029	20	640	812
4	4118	32	277,623	0.021	14	659	461
3	4118	22.66	182,532	0.014	9	674	215
2	4118	13.33	95,800	0.007	5	683	66
1						688	
	Σ =		Σ =	Σ =	Σ =		Σ =
	62240		13265012	1.000	688		72696

Vertical Distribution of Seismic

N-S Distribution

r	oof				
L	evel 16	2 40 K			
	evel 15			/	116 K
		leve	⊇l 14	/	191 K
		leve	⊇l 13		268 к
		leve	⊇l 12		337 K
		leve	⊇l 11		399 K
		leve	⊇l 10		455 K
		leve	≥l 9		504 K
		leve	⊇l 8		504 K
		leve	⊇l 7		547 K
		leve	≥l 6	/	584 K
		leve	el 5		640 K
		leve	≥l 4		659 K
		leve	≥l 3		674 K
		leve	≥l 2		683 K
		leve	≥l 1		688 K

Preliminary Analysis / Spot Check Summary:

Gravity

Post-Tensioned 2-way Concrete Slab:

A preliminary structural analysis of this system was carried out under generalized assumptions to better understand the design effects of a post-tensioned 2 way concrete slab. An averaged interior floor bay was determined to be 25'x 22' with assigned loads of levels with the floor structure. Furthermore, the post-tensioning was removed from the system and will be integrated later for a complete analysis. Distinct advantages were observed and noted by comparing structural set design components to results obtained from the preliminary design. An immediate observation through the analysis was reduction of slab thickness to span. A reduction of slab thickness is integral in residential construction regarding occupancy and building height. By comparison the posttensioning eliminated additional positive reinforcement by effective force distribution at tendon drape points in mid-span. Also, a discrepancy in minimum reinforcement suggests additional compressive forces provided by tendons increased resistance to flexural temperature and shrinkage effects. Details of findings are noted throughout the preliminary analysis, which is found in Appendix - .

Column:

The structural spot check was carried out with a typical 18"x 26" column on the 14th level. Loads were calculated through the remaining floors to the column including typical floor and roof loads. Appropriate live load reductions were calculated based on the provisions of ASCE7-02. The axial load resolved on the column was 611.7k and was determined as reasonable for design assumptions of building loads. A minimum ratio of reinforcement area in the column is found through axial-bending comparison in the column design table referenced in the calculations. The typical reinforcement design size in columns throughout the building is determined adequate for the spot check requirements.

Lateral

Shear Wall:

A shear wall spot check was performed through a distribution of lateral loads over a tributary area. The loading was assumed over symmetry of general directional loading on the building in the North-South loading. Shear wall C was chosen on level 13 for the wind loading effects and structural spot check. Wind loading was analyzed based on a previous notion of a possible critical skew loading distribution from further investigation. An accumulated level line shear of 1klf was analyzed over shear wall C resulting in minimum reinforcement over the wall length with typical shear reinforcement at 12" o.c

* Nove: While Landout Capeles Assume of subject values of a subject value of a subject of a subject of a subject of a subject value of a subject of a subject value of a subject of a			
Hereinstructures of subject active (1)But control (2)MWTRS:		D FOR A POP	* NOTE: WOND LOADER CO
$ \begin{array}{c} \label{eq:construction} \\ \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		WALLSC	HZELEMONARY ANAL
Lacaritans: AREALESCO, M. MWFRS: S. S. SHEREVALLS E-W: SHEREVALLS CRUPANEY: CATELOGY II * Receive Desire June the Assertions: - Accure Courted Incode. BUDDING DESTON PROPERTIES: BASIE WEND SPEC: V=80 NOT MED DIRDOTOCIDENTY TACKOR. Kg: 085 6. MADD DIRDOTOCIDENTY TACKOR. Kg: 085 6. MADDETACKE FACTOR: I-10 6.5 * Noneo ON STRUCTURE SET : AMON TO ASCETTOR FREAMENT DRODORE CATEGORY: B. 5. TERRAD DERDONARE CONSTANTS: 6.5 MEDICATY PRESSURE DOCUMENTS: 6.5 MEDICATY PRESSURE DOCUMENT VIEW AND CAS CAN BOO VIEW VIEW * ZMAN: CONSTRUCTOR Kg: 1.0 6 * ASSIME TACKARANTE SLOPE LOCATIVE PRESSURE TOPOGRAPHICE FACTOR Kg: 1.0 6 * ASSIME TACKARANTE SLOPE LOCATIVE PRESSURE TOPOGRAPHICE FACTOR Kg: 1.0 6 * ASSIME TACKARANTE SLOPE LOCATIVE PRESSURE TOPOGRAPHICE FACTOR Kg: 1.0 6 * ASSIME TACKARANTE SLOPE LOCATIVE PRESSURE TOPOGRAPHICE FACTOR Kg: 1.0 6 * ASSIME TACKARANTE SLOPE LOCATIVE PRESSURE TOPOGRAPHICE FACTOR Kg: 1.0 6 * ASSIME TACKARANTE SLOPE LOCATIVE PRESSURE MADDE REPORT STRUCTURE : CONSTRUCT REPORT * ASSIME TACKARANTE SLOPE I CONSTRUCT STREEDING * ASSIME TACKARATE SLOPE I CONSTRUCT STREEDING * ASSIME TACKARATE STREEDING I G. * ASSIME TACKARATERIANTION : EXELORED G. THERENAL PROSSURE CONSTRUCTORS * FACE GLUE * TACKARA PROSSURE CONSTRUCTORS * FACE GLUE * TACKARA PROSSURE CONSTRUCTORS * FACE ASSI		1 /	NUILDING DESCRIPTION
$HEAR AL PRESULTE FACTOR F_{1} F_{1} F_{2} F_{$	ST.	N	LOCATION: ARU
CONTRACT FACTOR FACTOR K_{1} and K_{2}			MATRS. NO
* RELEVAL DEFENSION DURING A AGUNTAGE - ABOUNT DESERV DEDERTIES: DASSE UNED COUNT FACTOR: BERCANDO DESTRU PROPERTIES: DASSE WIND SPEED: V=80 MPH 6. UNDO DUBLICATION FACTOR: V=80 MPH 6. UNDO CASTRACTOR: I-10 6.5 * NOREO CASTRACTOR: VELOCITY PRESSUE * CONFERENCE FACTOR K20.5 * ASSUME TOCORDATIC SCOPE TUBENTIES * ASSUME CONTRACTORS OF STATULE M. O ANTEL RADOR * ASSUME READO STRUCTURE: CONCETT * ASSUME ASSUME CONTINUES: CONCETT * ASSUME READO STRUCTURE: CONCETT		1	CREEPANCY! CAT
 Accure Course Support Support for ANALYSTS DESTRUMPO COURSE FOR ANALYSTS BOSLOTIC DESTRU PROPERTIES: BASIC WAND SPEED: V=80 MPH MED DIRECTORNALITY FACTOR: Kd=085 MED DIRECTORNALITY FACTOR: Kd=085		ES ASSUNDITIONS:	* PRILIMENTARY DE
- DESREVERS COURSE FRANK BUEDRIC DESTAN PROPERTES: BASIC WAND SPEED: V=80MPH 6. UBD INTEGRATIONALITY FACTOR: K1=085 6. IMPORTANCE FACTOR: II-10 6.5 A NOTED ON STRUCTURES SET: APPLY TO ASCETCOR FOR ADJUST ENDIDER CATECODER: II-10 6.5 A NOTED ON STRUCTURES SET: APPLY TO ASCETCOR FOR ADJUST ENDIDER CATECODER: II-10 6.5 A NOTED ON STRUCTURES SET: APPLY TO ASCETCOR FOR ADJUST ENDIDER CATECODER: II-10 6.5 A NOTED ON STRUCTURES SET: APPLY TO ASCETCOR FOR ADJUST ENDIDER CATECODER: II-10 6.5 A NOTE OF EARLE CONSTRUCTS A SOUTH PRESSURE FOR SUSCE CONFERENCE A ASOME TOROUGHTER STORE AND ADJUST A ASOME TOROUGHTER STORE TO ADJUST ADJUST A ASOME TOROUGHTER STORE TO ADJUST AND ADJUST A ASOME TOROUGHTER STORE TO ADJUST ADJUST A ASOME TOROUGHTER STORE TO CONSTRUCT A A ASOME TOROUGHTER STORE TO CONSTRUCT A A ASOME TOROUGHTER STORE TO CONSTRUCT A A ASOME TOROUGHTER STORE TO ADJUST AND ADJUST A ASOME TOROUGHTER STORE TO ADJUST ADJUST A ASOME TOROUGHTER STORE ADJUST ADJUST A ASOME TOROUGHTER STORE ADJUST A ASOME TOROUGHTER STORE ADJUST A ASOME TOROUGHTER ADJUST A ASOME TOROUGHTER STORE ADJUST A ASOME TOROUGHTER ADJUST A ASOME TOROUGHTER ADJUST A ASOME TOROUGHTER ADJUST A ASOME TO ADJUST A ASOME TOROUGHTER ADJUST A ASOME TO ADJUST A ASOME TOROUGHTER AD		E TOR ANALYSES	- ABOUNTE G
BUILDENG DESJEW PROPERTIES: BASIC WEND SPEED: V=80 MPH 6. Who DERECTIONALITY FACTOR: Kd= 085 6. IMPRETANCE FACTOR: II-10 65 THREETACE FACTOR: II-10 65 THREETACE FACTOR: II-10 65 THREETACE FACTOR: II-10 65 TERRATU SARSTARE CONSTANTS 6.5 TERRATU SARSTARE FACTOR 6.5 TERRATU SARSTARE FACTOR 6.5 TANTER AND CONSTANTS AND 6.5 TODOCCARDITIC FACTOR 6.5 A SOME OBSTANTIONS OF STATEMENT HAVE FACTOR A SOME OBSTANTIONS OF STATEMENT MORE FACTOR A SOME OBSTANT TALE UNDER VEDERIT PRESSER MASSIME TRACADENTS SOFE INSERTITION NOTE: A SOME OBSTANT TALE OF CONCELLES MASSIME CONSTANT TALE OF CONCELLES A SOME OBSTANT A SOME OBSTANT OF CONCELLE	/	FACADE.	- Dispense
BUILDTUG DESTRU MADDERTTES: RATE WIND SPEED: V=80HPH 6. WIDD DIRECTIONALITY FACTOR: KG= Q85 6. IMPOSTANCE FACTOR: I I-10 65 * NOTED ON STRUCTURES SET: APRY TO ASSET FOR FACALISM EXPOSER CATEGORY: B 1-10 6. * NOTED ON STRUCTURES SET: APRY TO ASSET FOR FACALISM EXPOSER CATEGORY: B 6.5 TERRATU ERESURE CONSTANTS 6.5 * ZMEN: CREATER OF COST * ASSIME TOROUCHER VELOCITY PRESSURE DEDOCRATICE FACTOR KG= 1.0 * ASSIME TOROUCHER SOFE INSERVETIONT * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE RATES * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHERS OF SUMMER H. O 2 MOTE FACTOR * ASSIME TOROUCHER SOFE INSERTION H. O TO FOR * ASSIME TOROUCHER FACTOR * ASSIME TOROUCHER FACTOR * ASSIME TOROUCHER FACTOR * ASSIME TOROUCHER FACTOR * ASSIME REATO STRUCTURE : CONSERTS * ASSIME TOROUCHER FACTOR * AS		CASEI	
BASIC WEND SPEED: $V = 80 \text{ APH}$ 6. WEND DIRECTIONALITY JACTOR: $K_{0} = 0.85$ 6. IMPORTANCE FACTOR: II-10 6.5 * NOTED ON STRUCTUREL SET: AREY TO ASCETTOR FOR ANALYSE EXTRUSE CATEGORY: B 5.5 TERRATU EXPOSED CONSTANTS: 6.5 <u>EXTRUSE OF CONSTANTS</u> 6.5 <u>EXTRUSE OF FIRE OF CONSTANTS</u> 1075: <u>EXTRUSE OF</u>	11		BUILDING DESIGN
UDD DATECTORPOLITY JACTOR: K1= 0.85 6. IMPORTANCE FACTOR: J-10 6.5 * NOTEO ON STRUCTUREN SET: APRIL TO ASCETOR FOR ANALYS ENDOLER CATCOLOCY: B 6.5 TERRATIN ENDOLAR CONSTANTS: 6.5 <u>ERRATIN ENDOLAR CONSTANTS</u> 6.5 <u>ERRATIN ENDOLAR E CONSTANTS</u> 6.5 <u>ELECTIV PRESSURE ENDOLAR CONFETTUTION</u> * CONFETTURING ENDOLER VELOCITY PRESSURE <u>EDEOCOMPTE FACTOR</u> 6.6 <u>* Assume OBSTRUCTORS OF STATURE H. @ A NOTE:</u> <u>* Assume Remo STRUCTURE : CONSTANTS NOTE:</u> <u>* Assume CONSTANTED STRUCTURE : CONSTANTS NOTE:</u> <u>* Assume CONSTANTED : ERESSEE</u> 6.5 <u>ERROSSEE CONSTANTS CONSTANTS NOTE:</u> <u>* Assume CONSTANTED : ERESSEE STRUCTURE : CONSTANTS NOTE:</u> <u>* Assume Remo STRUCTURE : CONSTANTS NOTE:</u> <u>* Assume CONSTANTE</u> <u>5.5</u> <u>ERROSSEE CONSTANTED : ERESSEE STRUCTURE</u> <u>* Assume CONSTANTED : ERESSEE CONSTANTS NOTE:</u> <u>* Assume Remo STRUCTURE : CONSTANTS NOTE:</u> <u>* Assume Remo STRUCTURE : CONSTANTS NOTE:</u> <u>* Assume CONSTANTED : ERESSEE CONSTANTED : ERESSEE STRUCTURE</u>	6.5.9	V = 80 MPH	BASIC WIND
IMPOTIDALLE FLOOR: I = 1.0 6.5 TMPOTIDALE FLOOR: I = 1.0 6.5 * NOTEO ON STRUCTURAL SET: APRY TO ASCETOR FOR ANALON ERDDRE CATEGORY: B 6.5 TERRATIN ERDDURE CONSTANTS: 6.5 $IERRATIN ERDDURE CONSTANTS: 6.5 IERRATIN ERDDURE EDINOUSE COEFFICIENT: 4 COEFFICIENT: 4 COEFFICIENT TALLE UNDER VELOCITY PRESSURE IDPOGRATICE FACTOR K24 = 1.0 6 * ASSUME TOROGODITIC SLOPE INSTRUCTION FRESSURE IDPOGRATICE FACTOR K24 = 1.0 6 * ASSUME TOROGODITIC SLOPE INSTRUCTION FRESSURE IDPOGRATICE FACTOR K24 = 1.0 6 * ASSUME TOROGODITIC SLOPE INSTRUCTION FRESSURE IDPOGRATICE FACTOR K24 = 1.0 6 * ASSUME REALD STRUCTURE : CONSTANTS NOTE: IDPOGRATICE FACTOR K2 = TABLE 0.2 FROM IDPOGRATICE FACTOR K2 = TABLE 0.2 FROM IDPOGRATICE FACTOR K2 = 100000000000000000000000000000000000$	6.54	KI- OPE	leton Dobring
IMPORTANCE FACTOR:I-1.06.5* NOTED ON STRUCTURENE SET:ARCETOR FOR AMARKE GIEERDDURE CARENDER:BTERRADU ERDDURE CONSTANTS:6.5 $\overline{DRODURE GARGEROF:}$ 6.5 \overline{A} ZMAN::GREATER OF (0.64) (30) \overline{A} ZMAN::GREATER OF (0.64) (30) \overline{A} ZMAN::GREATER OF (0.64) (30) \overline{A} CORFFICIENT TARE UNDER VELOCITY PRESSUREIDPOGGARATIC FACTOR $K_{24} = 1.0$ A ASSUME TOUGARMENE SUPE INSTANTSGARST EFFECT FACTOR A ASSUME OBSTRUCTORS OF SIMPLAR H. OD 2 NOTE RADURE \overline{A} ASSUME READ STRUCTURE : CONCEPTE \overline{A} ASSUME READ STRUCTURE : CONCEPTE \overline{A} ASSUME READ STRUCTURE : CONCEPTE \overline{A} ASSUME CLASSIFICATION : $$	0.0.1	- ng= 0.00	alter D succession
* NOTED ON STRUCTURENE SET : APPLY TO ASCETOR FOR ANALY ERRORDE CATEGORY: B ASCETOR FOR ANALY TERRATU ERRORDE CONSTANTS: 6.5 $\frac{1}{200000000} \frac{1}{100000} \frac{1}{100000} \frac{1}{1000000} \frac{1}{1000000} \frac{1}{10000000000000000000000000000000000$	6.5.5	I-1.0	IMPORTANCE FAC
ERDDRE CATEGORY: TERRATN ERDDURE CONSTANTS: $ERRATN ERDDURE CONSTANTS:$ 6.5 $ERRATN ERDDURE CONSTANTS:$ 6.5 $ERRATN ERDDURE CONSTANTS:$ 6.5 $ERRATN ERDOURD INTO ONE VALOOUS CONSTANTS:$ $* Z_{MEN} : GREATER OF \begin{cases} Obh \\ 30 \end{cases} VELOCATY RESSURE ERDOURDER VELOCATY PRESSURE: * CREATER TABLE UNCER VELOCATY PRESSURE: TOPOGRAPHIC FACTOR K_{24} = 1.0 6 * Assume OBSTRUCTORS OF SIMULARIES F_{4} = 1.0 6.5 * Assume OBSTRUCTORS OF SIMULARIES F_{5} = 1.0 6.5 * Assume REFORD STRUCTORE : CONSTANTS NOTE: * Assume OBSTRUCTORS of SIMULARIES NOTE: * Assume REFORD STRUCTORE : CONSTANTS NOTE: * Assume CONTRUCTORE : CONSTANTS NOTE: ERCONST EFFECT FACTOR * Assume CLASSIFICATION : EXCOSED F_{5} = 50.63 C_{5} = 50.64 F_{5} = 50.63 C_{5} = 50.64 C_{5} = 50.64$	JALYESS.	SET : APPLY TO ASCE 7-OR FOR AN	* NOTED ON
TERRATIN ERPOSERE CONSTANTS: 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.	6.5.6	B	ERDEVER CAT
TERRATIO ERDOURE CONSTANTS: $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			
$\frac{1}{2} \frac{1}{120} \frac{1}{1200} \frac{1}{17} \frac{1}{0.84} \frac{1}{140} \frac{1}{0.45} \frac{1}{0.30} \frac{1}{1200} \frac{1}{150} \frac{1}{16} \frac{1}{16$	6.5.6	STU	TERRAIN EXPO
$\frac{1}{8} \frac{1}{70} \frac{1}{1000} \frac{1}{17} \frac{1}{17} \frac{1}{10.84} \frac{1}{14.0} \frac{1}{0.45} \frac{1}{0.30} \frac{1}{15.0} \frac{1}{16}$ $\frac{1}{8} \frac{1}{70} \frac{1}{1000} \frac{1}{17} \frac{1}{10.84} \frac{1}{14.0} \frac{1}{0.45} \frac{1}{0.30} \frac{1}{16} \frac{1}{16}$ $\frac{1}{8} \frac{1}{2} \frac{1}{2} \frac{1}{100} \frac{1}{30} \frac{1}{30}$ $\frac{1}{8} \frac{1}{30} \frac{1}{100} \frac{1}{30} \frac{1}{100} \frac{1}{10} \frac{1}{100} \frac{1}{100} \frac{1}{100} \frac{1}{100} \frac{1}{10} \frac{1}{100} \frac{1}{10} \frac{1}{100} \frac{1}{10} $	Z . ((4)		Forever
* ZMEN: GREATER OF $\begin{cases} 0.6h \\ 30' \end{cases}$ VELOCITY PRESSURE EXPOSURE COEFFECTENT: * COEFFECTENT TABLE UNDER VELOCITY PRESSURE. TOPOGRAPHIC FACTOR $K_{24} = 1.0$ 6 * ASSUME TOBUGADATIC SLOPE INSELATETICANT * ASSUME OBSTRUCTIONS OF SIMILAR H. @ 2 MOLE ROOTUS GUST EFFECT FACTOR 6.5 * ASSUME REALD STRUCTURE : CONCRETE. $\frac{90.9h}{2} \frac{3.40}{10020}$ 9. 9y - CONSTANTS NOTE: $\frac{90.9h}{2} \frac{3.40}{10020}$ 9. 9y - CONSTANTS NOTE: $\frac{90.9h}{2} \frac{3.40}{10020}$ 9. 9y - CONSTANTS NOTE: $\frac{10020}{14} \frac{2}{0.085}$ $\frac{1}{12} - \frac{1}{100} \frac{1}{10} \frac{1}{0.05}$ $\frac{1}{12} \frac{10020}{14} \frac{2}{0.085}$ $\frac{1}{12} - \frac{1}{100} \frac{1}{10} \frac{1}{0.05}$ $\frac{1}{12} \frac{1}{10020}$ $\frac{1}{10020} \frac{1}{10020} \frac{1}{1002$	100.2	0,84 1/4.0 0.45 0.30 320 1/8.0	B 7.0
(30' VELOCITY PRESSURE EXPOSURE COEFFECTENT: * COEFFECTERT TABLE UNDER VELOCITY PRESSURE. TOPOGRAPHIC FACTOR NZ+ 1.0 6 * ASSUME TOPOGRAPHIC SLOPE INSERMITICANT * ASSUME OBSTRUCTIONS OF SIMILAR H. @ 2 MILE RADIUS GUST EFFECT FACTOR 6.1 * ASSUME REALD STRUCTURE : CONCRETE. <u>90.90 3.40</u> 9. 9. CONSTANTS NOTE: <u>10020</u> 2 TABLE 6.2 CALCULATED <u>10020</u> 0.85 CALCULATED <u>10020</u> 0.85 CALCULATED <u>10020</u> 0.85 CALCULATED <u>10020</u> 0.85 CALCULATED <u>10020</u> 0.85 CALCULATED <u>10020</u> 0.85 CALCULATED <u>1000</u> 0.85 CALCULAT			* ZMIN = GR
VELOCITY PRESSURE EXPOSURE COEFFECTIVIT * COEFFECTENT TABLE UNDER VELOCITY PRESSURE. TOPOGRAPHIC FACTOR $K_{24} = 1.0$ 6 * ASSUME TOPOGRAPHIC SLOPE INSTRUCTIONT * ASSUME OBSTRUCTIONS OF SIMILAR H. @ 2 MILE RADOUS GUST EFFECT FACTOR 6.1 * ASSUME REALD STRUCTURE : CONCRETE $\frac{90.94}{2}$ $\frac{3.40}{100.20}$ 2 · TABLE 0.2 $\frac{1}{2}$ $\frac{100.20}{100.25}$ f_{z} · FQ 6.5 $\frac{1}{2}$ $\frac{463.38}{0.85}$ f_{z} · FQ 6.5 STREDOSHER ENCLOSURE CLASSIFICATION ! EUCOSED 6.1 INTERNAL PRESSURE COEFFECTENT: 6.1 $GCp_{1} = 0.18$			
* COEFFICIENT TABLE UNDER VELOCITY PRESSURE TOPOGRAPHIC FACTOR K24 = 1.0 6 * ASSUME TOPOGRAPHIC SLOPE INSTRUMENT * ASSUME OBSTRUCTIONS OF SEMILAR H4. @ 2 MILE RADOUS GUST EFFECT FACTOR 6.9 * ASSUME REDED STRUCTURE : CONCRETE <u>* ASSUME REDED STRUCTURE : CONCRETE</u> <u>* ASSUME REDED STRUCTURE : CONSTRUCTS NOTE:</u> <u>* ASSUME REDED CONSTRUCT</u> <u>* ASSUME CONSTRUCTURE : CONSTRUCTS NOTE:</u> <u>* ASSUME CONSTRUCTURE : CONSTRUCTS NOTE:</u> <u>* ASSUME CONSTRUCTURE : CONSTRUCT</u> <u>* ASSUME CONSTRUCTURE : CONSTRUCTS ONE:</u> <u>* ASSUME CONSTRUCTURE : CONSTRUCTOR CONSTRUCT</u>		E COEFFICIENT:	VELOCITY PRESSU
TOPOGRAPHIC FACTOR * ASSUME TOPOGRAPHIC SLOPE INSTEMPTICANT * ASSUME OBSTRUCTIONS OF SIMILAR HE. @ 2 MILE RADIUS GUST EFFECT FACTOR * ASSUME READ STRUCTURE: CONCRETE. <u>90.94 3.40</u> <u>90.94 - CONSTANTS NOTE:</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u> <u>10020</u>		NOER VELOCITY PRESSURE.	* COEFFICI
$\begin{array}{c} \text{IDPOCLATION C FACTOR} \\ \text{IDPOCLATION C FORMULA FILMETICANT} \\ \text{IDPOCLATION CONTRACTOR} \\ \text{IDDOCLATION CONTAINTS FOR CONTRACT FILMET FACTOR} \\ IDDOCLATION C FORMULA FILMET FILMET$	1.57	10	Tapadaputa
A ASSUME TOTOLOGICATIONS OF SIMILAR HE. @ 2 MILE RADIUS WASSUME OBSTRUCTIONS OF SIMILAR HE. @ 2 MILE RADIUS GUST EFFECT FACTOR # ASSUME REALD STRUCTURE : CONCRETE <u>90,9V 340</u> 2 100.20 2 - TABLE 6.2 <u>12 00.25</u> <u>12 0.25</u> <u>12 0.25</u> <u>12 - FR 6.5</u> <u>5720051452</u> <u>12 0.80</u> <u>12 0.85</u> <u>12 - FR 6.5</u> <u>5720051452</u> <u>12 - FR 6.5</u> <u>5720051452</u> <u>12 - FR 6.5</u> <u>5720051452</u> <u>12 - FR 6.5</u> <u>5720051452</u> <u>6.5</u> <u>1.5 - FR 6.4</u> <u>1.5 - FR 6.7</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u> <u>6.5</u>	013.1	N2t = 1.0	IOPOGRAPHIC F
GUST EFFECT FACTOR # ASSUME REALD STRUCTURE : CONCRETE. $\frac{90.9v}{2} \frac{3.40}{100.20}$ $g_0.9v - CONSTANTS NOTE:$ $\frac{1}{2} \frac{100.20}{100.20}$ $\frac{1}{2} \frac{100.20}{100.20}$ $\frac{100.20}{100.20}$ $\frac{100.20}{100.20}$ $\frac{100.20}{10$	<	OF SIMILAR HE. (C) 2 MT = ROOTS	* ASSUME O
GUST EFFECT FACTOR # ASSUME REALD STRUCTURE : CONCRETE $\frac{90.9V}{2} \frac{3.40}{100.20}$ $\frac{9v}{2} \cdot \frac{9v}{2} \cdot$			
* ASSUME REALD STRUCTURE : CONCRETE. $ \frac{90,94}{2},340 $ 90,94 9	.6.5.8		GUST EFFECT F
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		JRE : CONCRETE.	* ASSUME R
$\frac{2}{l_2} \frac{100.20}{0.25}$ $\frac{2}{1_2} - TABLE6.2$ $\frac{2}{1_2} \frac{100.20}{0.25}$ $\frac{1}{1_2} - FR 6.5$ $\frac{1}{1_2} - FR 6.5$ $\frac{1}{1_2} - FR 6.5$ $\frac{1}{1_2} - FR 6.7$ $\frac{1}{1_2} - FR 6.4$		90.90 - CONSTANTS NOTE:	90.9v
$\frac{1}{4} \frac{463.38}{463.38}$ $\frac{1}{42} \frac{463.38}{6}$ $\frac{1}{42} \frac{463.38}{6}$ $\frac{1}{42} \frac{1}{4} \frac{6.5}{6}$ $\frac{1}{4} \frac{1}{4} \frac{1}{6} 1$	ATED W	2 - TABLEG.2 CALEUL	Ż
Q 0.80 G 0.85 G 0.85 G 0.85 G FA 6-6 G FA 6-4 ENCLOSURE CLASSIFICATION ! ENCLOSED G.F. INTERNAL PRESSURE COEFFICIENT: 40 GCp; = ± 0.18	SHEAT.	12 - EU 6-5 SPREDO	
ENCLOSURE CLASSIFICATION : ENCLOSED 6: INTERNAL PRESSURE COEFFICIENT: 60 GCp;=±0.18		Q - EQ 6-6	Q 6
INTERNAL PRESSURE COEFFICIENT: 40 6: GCp;= ± 0.18	IE CI	Gt - EQ 6-4	Excert
INTERNAL PRESSURE COEFFICIENT: 40 6: GCp;=±0.18	6.3.1	N: ENCLOSED	INCLOSUKE CL
GCp;= ± 0.18	6.5.11.	FICTERT	TATEDNAL POR
		GCp:= ± 0.19	
		- F, 0.0	-
EXTERNAL PRESSURE GREFFICIENT: 6.5	6.5.11.:	FPICIENT:	EXTERNAL PR
WINOWARD: Cp = 0.8		ENOWARD: $Cp = 0.8$	

VELOCITY PRESSURE

50 SMEETS 100 SHEETS 200 SHEETS

22-141 22-142 22-144

EAMPAD"

92= 0.00256 Kz Kz+Kd V2I

VELOCETY PRESSURE EXPOSURE COEFFECTENT · EXPOSURE B CASE I 6.5.6.6

6.5.10

EQ 6-15

	$K_{\rm z}$ and $q_{\rm z}$	
Z(ft)	Kz	qz
0-15	0.85	11.8374
20	0.89	12.3945
25	0.93	12.9516
30	0.96	13.3693
40	0.99	13.7871
50	1.04	14.4835
60	1.09	15.1798
70	1.13	15.7368
80	1.17	16.2939
90	1.20	16.7117
100	1.28	17.8258
120	1.35	18.8006
140	1.41	19.6362
160	1.47	20.4718
180	1.52	21.1681
200	1.56	21.7252
167	1.4875	20.7155

DESIGN WIND LOAD

Pz= 92(GECp)

6.5.12.2

	Windward Leeward			Total M	WFRS	
Z(ft)	N-S E-W		N-S	E-W	N-S	E-W
0-15	8.05	8.0495	-8.84434	-8.81247	16.89	16.86
20	8.43	8.4283	-8.84434	-8.81247	17.27	17.24
25	8.81	8.8071	-8.84434	-8.81247	17.65	17.62
30	9.09	9.0912	-8.84434	-8.81247	17.94	17.90
40	9.38	9.3753	-8.84434	-8.81247	18.22	18.19
50	9.85	9.8488	-8.84434	-8.81247	18.69	18.66
60	10.32	10.3222	-8.84434	-8.81247	19.17	19.13
70	10.70	10.7010	-8.84434	-8.81247	19.55	19.51
80	11.08	11.0798	-8.84434	-8.81247	19.92	19.89
90	11.36	11.3639	-8.84434	-8.81247	20.21	20.18
100	12.12	12.1215	-8.84434	-8.81247	20.97	20.93
120	12.78	12.7844	-8.84434	-8.81247	21.63	21.60
140	13.35	13.3526	-8.84434	-8.81247	22.20	22.17
160	13.92	13.9208	-8.84434	-8.81247	22.77	22.73
180	14.39	14.3943	-8.84434	-8.81247	23.24	23.21
200	14.77	14.7731	-8.84434	-8.81247	23.62	23.59
167	14.0866	14.0866	-8.84434	-8.81247	22.93	22.90

WIND SHEAR ON LEVEL

- NOTE: SIMPLIFIED ASSUMPTIONS TAKEN ESR DESTREBUTEON OVER EACH LEVEL.
 - · LEVEL HEIGHTS TAKEN AS TREBUTARY HU/LEVEL
 - · WEND LOAD DESTREBUTEON TAKEN AS AVERALE OVER LEVEL

Level	h/floor (ft)	Z (ft)
Roof	4	162.95
16	16	146.95
15	11	135.95
14	10.66	125.29
13	9.33	115.96
12	9.33	106.63
11	9.33	97.30
10	9.33	87.97
9	9.33	78.64
8	9.33	69.31
7	9.33	59.98
6	9.33	27.99
5	9.33	41.32
4	9.33	31.99
3	9.33	22.66
2	9.33	13.33
1	13.33	0.00

50 SHEETS 100 SHEETS 200 SHEETS

22-141 22-142 22-144

SAMPAD'

	N-S	E-W
Shear @ Roof	0.232	0.232
Shear @16	0.540	0.539
Shear @15	0.780	0.779
Shear @14	0.996	0.995
Shear @13	1.192	1.190
Shear @12	1.388	1.386
Shear @11	1.576	1.574
Shear @10	1.762	1.759
Shear @9	1.948	1.945
Shear @8	2.136	2.133
Shear @7	2.322	2.319
Shear @6	2.501	2.497
Shear @5	2.676	2.671
Shear @4	2.845	2.841
Shear @3	3.007	3.002
Shear @2	3.198	3.193
Shear @1	-	-
Base Shear	29.099	29.055

E-W Distribution

		level 16	
		level 15	5
		level 14	4
		level 13	3—
		level 12	2
		level 11	<u> </u>
		level 10)
		level 9	
		level 8	
		level 7	
		level 6	
		level 5	
		level 4	
		level 3	\square
		level 2	P
		level 1	



\bigcirc	RONF: MAD ROOF AREA: 6100 SF (ROUGH TAKE OFF)
-	DEAD: ARIMETER: 502 FT (RARINTAKE OFF)
	PTITO TOBVATTANI 075 PSF
	MEMBRADE 1 1 BE
	(BASED ON & CONCRETE SLAB)
	CANVESTE BRANE: 63 BE (ASSOMED AND STRE: WANT = IKLE)
	14" LAD CETTER: 5 PSF * PSE RASED OFF CUM, LENGTH OF
S S LI S	MEP : 10 PSF BEAMS UVER ANG. FLOOR AREA.
) SHEE) SHEE) SHEE	TOTAL GrOUF : 191.75 POF
100 100 100	ROUF! 15th LEVEL - POOL TERRACE AREA: 100005F (Exculored Rook)
2-14	DEAD PERSINETER: 515 FT.
000	TELE DAVERS: 15 PSF
	MEMBRONTE ! PSF
	CONSCRETE: 112.5 PSF (BAJED: ON AUD. (E) EVARES FROM B" = 11"]
	1/2" GYP CERLOL: 5 PSF
	MEP : 10 PSF
	TOTAL grous: 143.5 PSF
	FLOOR: 16th LEVEL ARBA 9700 SF (RUNH TAKE OFF)
	DEAD : PERSMETER: 502 ft (ROUGH TAKE OFF)
	FLOORING: 4 PSF
	MECH YNED / PARTITIONS: S PSF
	CONCRETE SUB: 150 PSF (BASED ON 12" CONCRETE SUAB)
	CONCRETTE BEAMS: 30 PSF
	12" GYP CETLER: 5 PSF
	MEP : 10PSF
•	LIVE
	PUBLIC ARRA: 100PSF (STRUGURAL SET)
	TOTAL 410th 307 pst
	FLOOR: 15th LEVEL AREA: 9700 SF (ROUGH TAKE-OFF)
	DEAD: PERIMETER! 502 FT (ROUCH TAKE -OFF)
	FLODEDSG! 4PSF
	PARTITIONS: BPSIE
	CONCRETE SAB: 112.5 (BASED ON ANALLY [VARTES FROM 9"? 11]) 14" (47 LETTAL: SPSF
	MEP IDPSIE
	LIVE!
	ADJOTMENT & CORFADY UDPSF
	The IT IT IT S
	JOTA 915"

	PACTITE 1/2 GYP ME LIVE	Rens: B CERLERA: 5 2P: 10	PSF PSF						
	TOTAL	groon 10	(2 pst 57 pst	(אדטכנט	ral se	न)			
Sn.	Extra DAN Extra Extra Snice	D: REDR WALL : D : P : Show	912 = 51 : 4.2 p	6.0 pst	(STUR (20%)	OF FLAT	ROUA L	and)	SYSTEM
	Area (SE)	Perimeter (ft)	Total q (PSE)	Weight (w _x) (Kins)				h	s
Roof: Main Roof	6100	502	191.75	(Kips) 1532.639			Level	(ft	t)
Roof: Level 15	10000	515	143.5	1630.7172			2 - 12	13.	33 22
Floor: Level 16	9700	502	307	3427.692			14	9.3	55 .66
Floor: Level 15 Floor: Level 14	22000	850	179.5	2050.382			15	1	1
Electric Louisle 2-12				4181.415	w/floor	2-13			
FIGUR: Levels 2-13	22000	850	167	4181.416 44532.108	w/floor 4118.	2-13 108	16	16	6
Floor: Level 1	22000 22000	850 850	167 167 W = Σ w =	4181.416 44532.108 - 57354.9542	w/floor 2 4118.	2-13 108	16 Roof	16	6 ŀ
Floor: Level 1	22000 22000	850 850	167 167 W=Σw=	4181.416 44532.108 - 57354.9542	w/floor 4118.		16 Roof		6
Floor: Level 1	22000 22000	850 850 h _x	167 167 W = Σ w =	4181.416 44532.108 - 57354.9542	w/floor 4118.	E-13 108 F _x	16 Roof		6 F M _x
Floor: Level 1	22000 22000 Wx (kips) 1533	850 850 h _x (ft) 167	167 167 W = Σ w = w _x h _x ^k	4181.416 44532.108 - 57354.9542 0.202 0	w/floor 4118.	2-13 108 F _x (kips)	16 Roof 40	10 4 Vx (kips)	6 F M _x (ft-kip
Floor: Level 1 Floor: Level 1 Level, x Roof 16	22000 22000 Wx (kips) 1533 3428	850 850 h _x (ft) 167 147.1	167 167 167 W = Σ w = w _x h _x ^k	4181.416 44532.108 57354.9542 9,202 0 1,522 0	w/floor 4118. Cvx .058 .111	2-13 108 F _x (kips)	16 Roof 40 77	10 4 ✓× (kips) 40	6 + (ft-kip 6,6 11,2
Floor: Level 1 Floor: Level 1 Level, x Roof 16 15	22000 22000 Wx (kips) 1533 3428 3681	850 850 h _x (ft) 167 147.1 136.1	167 167 W = Σ w = w _x h _x ^k 769 1,474	4181.416 44532.108 57354.9542 9,202 0 1,522 0 1,838 0	w/floor 4118. Cvx .058 .111 .109	2-13 108 F _x (kips)	16 Roof 40 77 75	10 4 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	6 M <mark>x</mark> (ft-kip 6,6 11,2 10,1
Level, x Roof 16 15 14	22000 22000 W _x (kips) 1533 3428 3681 4181 4181	850 850 hx (ft) 167 147.1 136.1 125.3	167 167 W = Σ w = 769 1,474 1,440 1,480	4181.416 44532.108 57354.9542 57354.9542 0,202 0 ,522 0 ,838 0 ,246 0 ,246 0	w/floor 4118.	2-13 108 F _x (kips)	16 Roof 40 77 75 77 20	10 4 √x (kips) 40 116 191 200	6 M <mark>x</mark> (ft-kip 6,6 11,2 10,1 9,6
Level, x Roof 16 15 14 13	22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118	850 850 h _x (ft) 167 147.1 136.1 125.3 116 105.63	167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,440 1,327 1,227	4181.416 44532.108 57354.9542 57354.9542 0,202 0 1,522 0 0,338 0 0,246 0 4,38 0 346 0	w/floor 4118. Cvx 058 .111 .109 .112 .100 .090	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62		6 M <u>x</u> (ft-kip: 6,6 11,2 10,1 9,6 7,9
Level, x Roof 16 15 14 13 12 11	22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118	850 850 h _x (ft) 167 147.1 136.1 125.3 116 106.63 97 3	167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,440 1,480 1,327 1,198 1,072	4181.416 44532.106 57354.9542 57354.9542 0,202 0 0,222 0 0,222 0 0,248 0 0,246 0 0,316 0 0,148 0	w/floor 4118. Cvx 058 .111 .109 .112 .100 .090 .081	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56	10 4 Vx (kips) 10 10 10 116 191 268 337 399	6 M _x (ft-kip: 6,6 11,2 10,1 9,6 7,9 6,6 5,4
Level, x Roof 16 15 14 13 12 11 10	22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88	167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,474 1,480 1,327 1,198 1,072 948	4181.416 44532.109 57354.9542 57354.9542 0,202 0 1,522 0 0,202 0 1,522 0 0,203 0 0,246 0 00000000000000000000000000000000000	w/floor 4118. Cvx .058 .111 .109 .112 .100 .090 .081 .072	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49	10 4 Vx (kips) 40 116 191 268 337 399 455	6 M _× (ft-kip: 6,6 11,2 10,1 9,6 7,9 6,6 5,4 4,3
Level, x Roof 16 15 14 13 12 11 10 9	22000 22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64	167 167 167 W = Σ w = w _k h _x ^k 769 1,474 1,480 1,327 1,196 1,072 948 827	4181.416 44532.109 57354.9542 57354.9542 0,202 00 5522 00 5522 00 0,246 00 1,246 00 1,446 000	w/floor 4118. Cvx 058 .111 .109 .112 .100 .090 .081 .072 .062	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49 43	10 4 Vx (kips) 40 116 191 268 337 399 455 504	6 M _★ (ft-kip. 6,6 11,2 10,1 9,6 7,9 6,6 5,4 4,3 3,3
Floor: Level 1 Floor: Level 1 Level, x Roof 16 15 14 13 12 11 10 9 8 7	22000 22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118 4	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31	167 167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,474 1,480 1,327 1,198 1,072 948 827 710	4181.416 44532.108 	w/floor 4118. Cvx 058 .111 .109 .112 .100 .090 .081 .072 .062 .054 .015	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49 43 37		6 (ft-kip) 6,6 11,2 10,1 9,6 7,9 6,6 5,4 4,3 3,3 2,5
Floor: Level 1 Floor: Level 1 Level, x Roof 16 15 14 13 12 11 10 9 8 7 6	22000 22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118 4	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31 60 50.65	167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,474 1,480 1,327 1,198 1,072 948 827 710 595	4181.416 44532.108 	w/floor 4118. Cvx 058 .111 .109 .112 .100 .090 .081 .072 .062 .054 .045 .037	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49 43 37 31 25		6 (ft-kip: 6,6 11,2 10,1 9,6 7,9 6,6 5,4 4,3 3,3 2,5 1,8
Floor: Level 1 Floor: Level 1 Level, x Roof 16 15 14 13 12 11 10 9 8 7 6 5	22000 22000 (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118 4	850 850 h _x (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31 60 50.65 41.32	167 167 167 167 W=Σw= wxhxk 769 1,474 1,474 1,474 1,327 1,198 1,072 948 827 710 595 485 376	4181.416 44532.108 	w/floor 4118. Cvx Cvx 058 .111 .109 .112 .100 .090 .081 .072 .062 .054 .045 .037 .029	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49 43 37 31 25 20	10 ↓	6 (ft-kip: 6,6 11,2 10,1 9,6 7,9 6,6 5,4 4,3 3,3 2,5 3,3 2,5 8 1,8 1,8 1,8 1,8 1,8 1,8 1,8 1,8 1,8 1
Floor: Level 2-13 Floor: Level 1 Level, x Roof 16 15 14 13 12 11 10 9 8 7 6 5 4	22000 22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118 4	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31 60 50.65 41.32 32	167 167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,460 1,327 1,198 1,072 948 827 710 596 485 376 277	4181.416 44532.108 - 57354.9542 57354.9542 0,202 0,202 0,202 0,203 0,246 0,246 0,2148 0,316 0,952 0,952 0,010 0,870 0,022 0,732 0,732	w/floor 4118. 4118. Cvx 058 .111 .109 .112 .100 .090 .081 .072 .054 .045 .037 .029 .021	2-13 108 F _x (kips)	16 Roof 40 77 75 69 62 56 49 43 37 31 25 20 14	10 √x (kips) 40 116 191 268 337 399 455 504 547 584 615 640 659	6 (ft-kip: 6,6 11,2 10,1 7,9 6,6 5,4 4,3 3,3 2,5 1,8 1,2 8 4
Filoor: Level 2-13 Floor: Level 1 Level, x Roof 16 15 14 13 12 11 10 9 8 7 6 5 4 3	22000 22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118 4	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31 60 50.65 41.32 32 22.66	167 167 167 167 W = Σ w = w _x h _x ^k 769 1,474 1,474 1,480 1,327 1,198 1,072 948 827 710 595 485 376 277 182	4181.416 44532.108 - 57354.9542 57354.9542 0,202 0,202 0,202 0,203 0,246 0,246 0,246 0,316 0,552 0,316 0,552 0,010 0,552 0,010 0,562 0,760 0,732 0,732 0,732 0,523	w/floor 4118. 4118. Cvx 058 .111 .109 .112 .100 .090 .081 .072 .062 .054 .045 .037 .029 .021 .014	2-13 108 F _x (kips)	16 Roof 40 77 75 69 62 69 62 56 49 43 37 31 25 20 14 9	10 √x (kips) 40 116 191 268 337 399 455 504 547 584 615 640 659 674	6 (ft-kip: 6,6 11,2 10,1 10,1 7,9 6,6 7,9 6,6 7,9 6,6 7,9 6,6 7,9 6,6 7,9 10,1 10,1 10,1 10,1 10,1 10,1 10,1 10
Level, x Roof 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 4	22000 22000 22000 Wx (kips) 1533 3428 3681 4181 4118 4118 4118 4118 4118 4118 4	850 850 hx (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31 60 50.65 41.32 32 22.66 13.33	167 167 167 167 W = Σ w = w _k h _x ^k 769 1,474 1,474 1,480 1,327 1,198 1,072 948 827 710 595 485 378 2777 182 95	4181.416 44532.108 - 57354.9542 57354.9542 0,202 0,202 0,202 0,203 0,204 0,246 0,246 0,246 0,316 0,246 0,246 0,316 0,316 0,247 0,316 0,316 0,310 0,322 0,010 0,622 0,623 0,623 0,623 0,600	w/floor 4118. Cvx Cvx 058 111 109 112 100 090 081 072 062 054 045 037 029 021 014 004 014 007	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49 43 37 31 25 20 14 9 5 4 4 9 5 5 5 1 1 5 5 5 5 5 5 5 5 5 5 5 5 5	10 ✓x (kips) 40 116 191 268 337 399 455 504 547 584 615 640 659 674 683	6 (ft-kip) (
Level, x Roof 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 1	22000 22000 22000 22000 22000 22000 22000 22000 22000 Wx (kips) 1533 3428 3681 4183 4118	850 850 h x (ft) 167 147.1 136.1 125.3 116 106.63 97.3 88 78.64 69.31 60 50.65 41.32 32 22.66 13.33	167 167 167 167 W = Σ w = w _k h _x ^k 769 1,474 1,440 1,327 1,198 1,072 948 827 710 595 485 376 277 182 95 95 95	4181.416 44532.108 - 57354.9542 57354.9542 0,202 0,202 0,338 0,246 0,246 0,316 0,246 0,316 0,316 0,316 0,322 0,623 0,010 0,623 0,522 0,623 0,000	w/floor 4118. 4118. Cvx 058 .111 .109 .112 .100 .090 .081 .072 .062 .054 .021 .021 .021 .014 .007	2-13 108 F _x (kips)	16 Roof 40 77 75 77 69 62 56 49 43 37 31 25 20 14 9 5 4 31 25 20 14 9 5 4 31 25 20 14 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1	100 ✓x (kips) 40 1116 191 268 337 399 455 504 547 584 615 640 659 674 683 688	6 - - - - - - - - - - - - -

exp. K	
<=1+(T-0.5)/(2.	5-0.5)
1.215	

Base Shear
(Kips)
V=Cs*W
688.259

	Appendix – C SNOW LO.	AD	
	ROOF SNOW LOND		ASCE7-02
	GROUND SNOW LOAD:	Ry = 30 PSF	7.2
	THERMAL FACTOR:	Ct= 1.0	7.3.2
	SNOW EXPOSURE FACTOR!	Ce = 0.7	7.3.1
SHEETS	IMPORTANCE FACTOR ! * CATEGORT : II	I = 1.00	7.3.3
22-144 200 22-144 200	FLAT ROUF SNOW LOADS: pt= 0.7CcC4Ipg	Pt= 14,7psf	7.3
AD.	* STRUCTURAL SET DESIGNED:	Pt=21psf	
EAM	* ASSUME DESTON ANALYSIS DIFFERS FROM CODE ANALY	ASCE7-OR 1505 PER BOCA I	7 76
	1 100 - 1	C	Λ
	* USE Pt= 21 psF FOR Accur	ate Structural 1	INALYSIS.
	* USE Pt= 21 psF For Accur	ate Structural 1	WARYSIS.
	* USE Pt= 21 psF For Accur	ATE STRUCTURAL 1	WARYSIS.
	* USE Pt= 21 psF For Accur	ATE STRUCTURAL A	WANYERS.
	* USE Pt= 21 psF For Accur	ATE STRUCTURAL 1	WARYER.
	* USE Pt= 21 psF FOR Accur	ATE STRUCTURAL 1	WANYSIS.
	* USE Pt= 21 psF For Accur	ATE STRUCTURAL 1	WANYSIS.
	* USE Pt= 21 psF FOR Accur	ATE STRUCTURAL A	WAUYSIS.
	* USE Pt= 21 psF For Accur	ATE STRUCTURAL A	WARYSTS.
	* USE Pt= 21 psF For Acour	ATE STRUCTURAL (WARYSTS.
	* USE Pt= 21 psF For Acour	ATE STRUCTURAL (WARYSTS.
	* USE Pt= 21 psF For Acour	ATE STRUCTURAL (WARYSTS.
	* USE Pt= 21 psf For Accur	ATE STRUCTURAL A	WARYSTS.
	* USE Pt= 21 psF For Accur	ATE STRUCTURAL (WARYSTS.
	* USE Pt= 21psF For Accur	ATE STRUCTURAL (WAUYSIS.

Appendix -D GRAVITY CHECK

$$C_{1}$$
 Street
 S_{1} Street
 S_{2} Street
 S

Appendix – E SLAB COMPARISON

CONCRETE SLAB! CHECK

MOTES: PRELIMINARY ANALYSIS OF A TYPICAL BAY SLALL BE DESIGNED BY THE EQUILATENT FRAME METHOD (ACI 318-05) WITH LONDONG ASSUMPTIONS ALLORDING TO ASCE7-02.

> POST-TENSIONTWO SHALL BE INTEGRATED IN FUTURE ANALYSIS REGARIDENCE STRUCTURAL SLAB SYSTEMS AND DEFFERENTIATION BRINGEN DESIGNS RECARDENCE REDURDRENT IS A RESULTANT OF MOMENT DESCREDENCIES OF SYSTEMS, FOR LARK OF POST-TENSION FORCES UPUN SLAB.

TYPICAL BATS SHALL BE SIMPLIFIED TO DERECARD EXTERIOR CANTILITURED SECTIONS BASED ON PRACTOONS OF THE BATFOREDR WALL LINE-LOADS TO POST TENSION ON & FORCES.



NOTE: PRELEMENTER' ANALYSIS WELL CONSTORE A TYPECOL BAY OF 22' × 25' OVER AUELAUDUG FLOOR BAYS AND COLUMN ALIGNMENT 17



NOTE: THE PRILIMONARY MALYSIS SHALL COMPARE RESULTS WITH SET DESIGN PER PREVENS ASSUMPTIONS: 9"SLAB WU: 231.4 PSF

> STATJE MOMENT : Mo= Wulzh /8 = 331.8 H-K

LOCATEON	STREP	TOTAL MO (A+k)	TOTAL WIDTH (44)	Momen / Storworth (ft-K/ft).
INT SUPPORT 0.65 Mb	C.S. (75%) M.S. (25%)	161.75	$\frac{\eta'}{\eta'}$	14,70 4,90
MEDSPAL	C.S. (60%)	69.68	11'	6.33

NEGATIVE MOMENT CHECK

50 SHI 100 SHI 200 SHI

22-141 22-142 22-144

ERMPAD'

INT SUPPORT: * (AS PER SET DESIZN) C.S. - #4 @ 16" AS = 0.15 TW2/27

As = 0.15 W/AT d= 9"- 0.75-0.5-0.25 = 7.5"

 $a = \frac{A_{5}E_{4}}{0.855(b)} = \frac{(0.15)(60)}{0.85(5)(12\%)} = 0.176''$

$$\phi M_n = \phi A_5 f_{\gamma} (d - a_{2}) = (0, a_{1})(0, 15)(60)(7.5" - \frac{0, 176}{2}) = 5 \frac{91 - k}{2}$$

NOTE: STRUCTURAL SET. INT SUPPORT REWFORCEMENT INADEQUATE FOR C.S. HOMEAT, HOWEVER WORRS FOR M.S. REST-TENSION THROUGH C.S. WOULD ADSUST THE REQUESED RETUFORCOMENT AT C.S. THEOREM ACCOUNTER SET REWFORCEMENT

PODETIVE MOMENT CHECK. MIDSPAN: * (AS PER SET DESIGN) C.S+M.S - #46012" AS=.2 IN2/4+ d=7.5"

> a = (0.2)(60) = 0.235" 0.35(5)(12"/1)

$$M_{n} = (0.9)(0.2)(60)(7.5 - \frac{0.235}{2}) = 6.64 \frac{64-4}{4+}$$

NOTE: SET DESIGN REINFORMENT YERLOS ADEQUATE FOR PRELEMENTED PESSON MOMENTS IN MEDSIMU C.S. \$ M.S., THESE ARE SPECIFIED BATS WITH ADDED BUTTON REINFORCEMENT FOR ADDITIONESTICANCTH AT SLAS OPENINGS.

* TYPECAL BAYS WETHOUT ADDED REDUFORCEMENT BEE A MAXIMUM POST-TERNEJONZUG FORCE AT MENSIONN THEREBY NEGATING A NEED FOR ADDETECHEL RETUFORCIMENT.



