REPUBLIKA E SHQIPËRISË

RAPORT TEKNIK

HARTIM PROJEKTESH BASHKIA VAU DEJES

Relacioni Teknik i Ndërtim Ure ne lumin Drin Pistull-Stajke

(PROJEKT - ZBATIMI)

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TIRANË 2020

1. HYRJE

Bashkia e Vaut të Dejës kufizohet në veri dhe në perëndim me bashkinë e Shkodrës, në lindje me bashkinë Fushë Arrëz ndërsa në jug me bashkitë Pukë dhe Lezhë. Qendra e kësaj bashkie është qyteti i Vaut të Dejës. Sipas Censusit të vitit 2011 ka një popullsi prej 30,438 banorësh. Ndërkohë që sipas Regjistrit Civil, kjo bashki numëron 48,966 banorë. Bashkia e re ka në një sipërfaqe prej 499.09 km2 me një densitet prej 98.11 banorë/km2. Kjo bashki përbëhet nga 6 njësi administrative. Bashkia e re ka nën administrimin e saj një qytet dhe 47 fshatra. Bashkia e Vaut të Dejës zgjerohet me 5 komuna, të cilat merren kryesisht me bujqësi, ndërsa zona ka resurse të konsiderueshme ujore. Në të ndodhet hidrocentrali i Vaut të Dejës si dhe HEC-et Ashta 1 dhe Ashta 2, të ndërtuara me koncesion privat gjatë viteve të fundit. Komuna e Bushatit, e cila i shtohet Bashkisë së re është një zonë e njohur për prodhimet bujqësore dhe ka një aktivitet jo të vogël në eksportin e zarzavateve.

Projekti synon te identifikoje hollesisht gjendjen, te propozoje nderhyrjet teknike dhe te gjitha masat e tjera te nevojshme qe lidhen me kryerjen e punimeve te permiresimit te situates se tanishme ne keto objekte per sigurimin e funksionimit te qendrueshem dhe garantimit te sigurise se nevojshme te aksesit te ures ne te gjithe gjatesine e saj dhe te mbrojtjes nga geryerjet nga lumi.

Objektivi specifik i ketij projekti do te jete qe te siguroje qe punimet dhe nderhyrjet inxhinierike te planifikohen ne menyre te tille qe te plotesohen ne menyren sa me te plote te gjitha kerkesat e parashikuara per zbatimin e punimeve, duke respektuar zhvillimin aktual dhe ardhshem, nepermjet aplikimit te praktikave me te mira te mundeshme, profesionale dhe inxhinierike.

2.5.1 Pershkrimi i objektit

Ne kete projekt parashikohet ndertimi i nje ure me konstruksion beton arme me hapesire drite HD 1x10m. Percaktimi i pozicionit per vendosjen e ures, eshte bere ne perputhje me studimin hidrologjik si dhe ate gjologo-inxhinierik. Ura do te kete nje pozicion planimetrik, paralel, me aksin e projektit te rruges. Mbistruktura eshte e vendosur horizontalisht duke bere rakordimet perkatese me projektin e rruges. Gjeresia totale e ures eshte 6 m, me dy kalime me gjeresi 2.0 m . Ura do te kete nje gjatesi prej 10 ml si dhe dy trotuar nga 1.0 m secili.

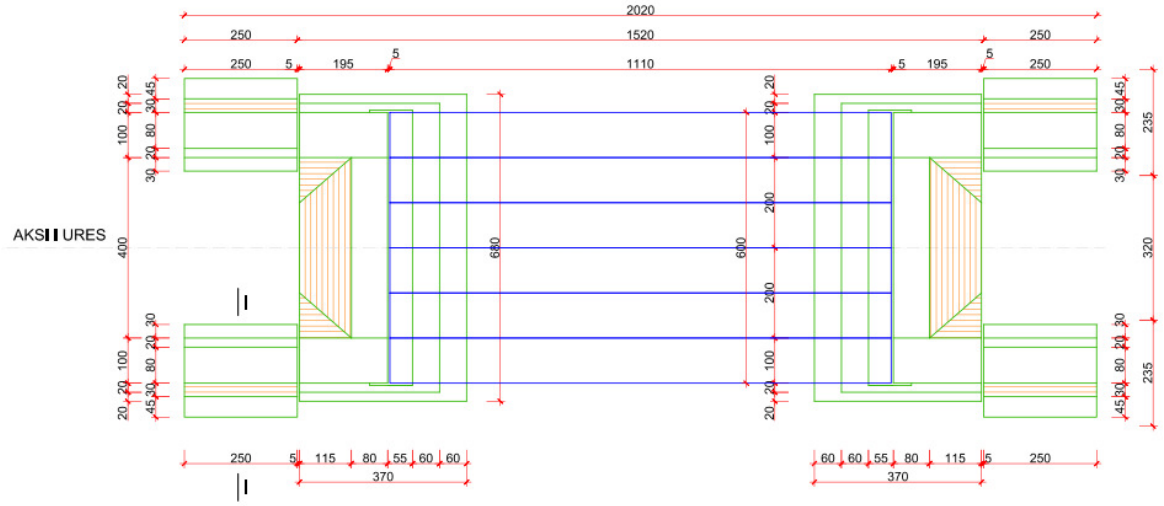


Fig.1 (Planimetria)

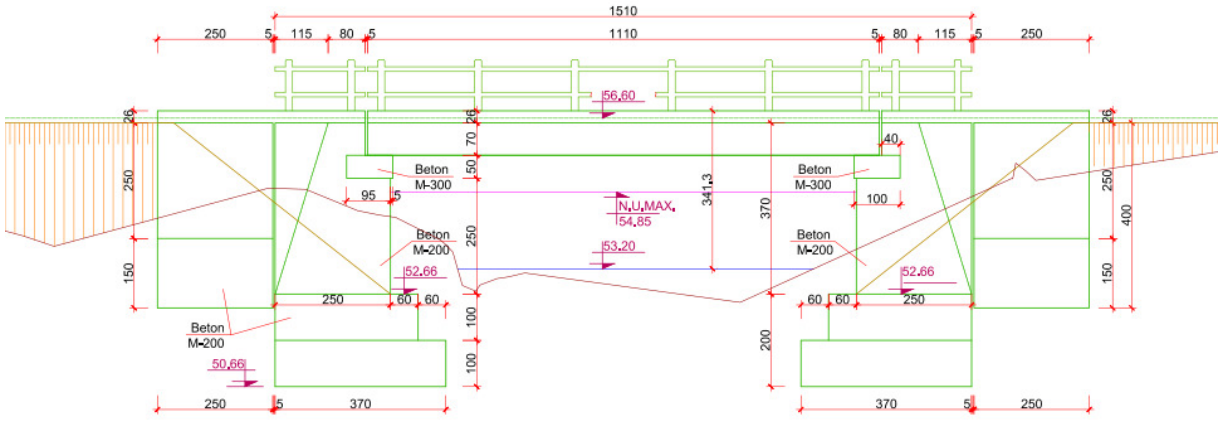


Fig.2 (Prerje gjatesore)

Nenstruktura e ures eshte realizuar me ane te ballnave, nisur edhe nga rekomandimet gjeologo-inxhinierike qe zhyten deri ne shtresen zhavorrore e cila sipas relacionit gjeologjik eshte e pershtatshme per te suportuar ngarkesat qe vijen ne themel.

Mbeshtetjet anesore te ures jane realizuar me anen e ballnave beton arme. Trashesia e murit vertikal te ballnave eshte 100 cm. Nga pas shpatullave jane vendosur soletat rakorduese me trashesi 25cm dhe permasa 4.0 m x 3.5 m ne plan. Per te mbrojtur skarpaten e mbushjes nga pas ballnave, keto te fundit zgjatohen ne formen e mureve beton arme. Ballnat jane realizuar me beton te klasit C25/30 (M-300).

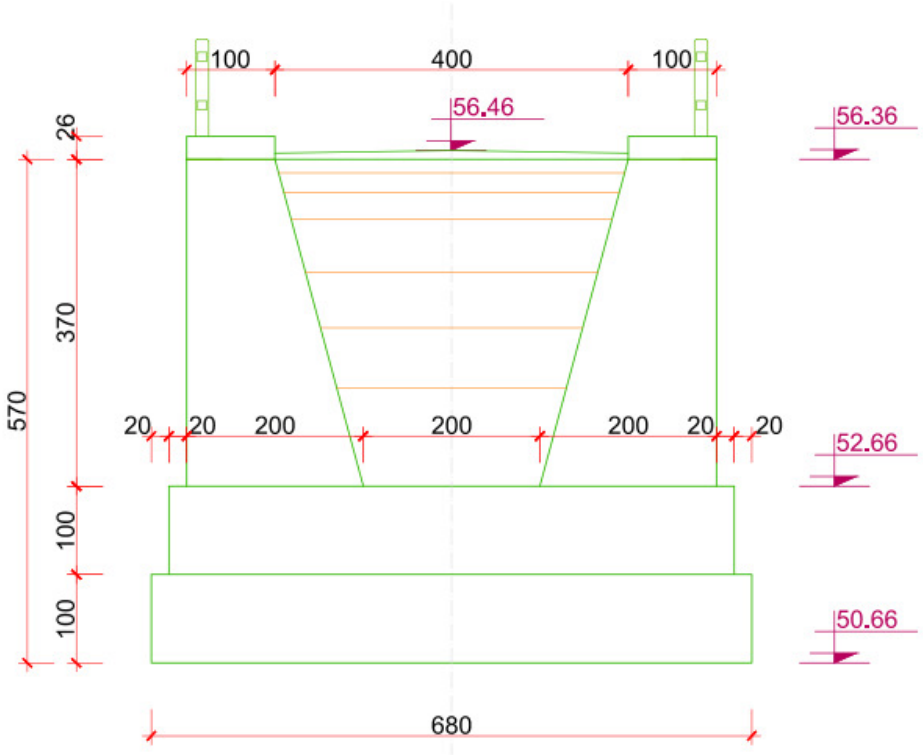


Fig. 3 (Prerja terthore ne balle)

Mbistruktura e ures eshte e parashikuar te ndertohet me soleton beton arme te zakonshem C30/37 (M-400). Ne ure do te vendosen 6 soletone. Ne pjesen e siperme te tyre soletonet monolitizohen me ane te nje solete beton arme me trashesi mes 15 cm. Mbeshtetjet e trareve me jastekun e pilave dhe shpatullave do te realizohet me ane te cernierave prej neopreni me permasa 40x30x10.

Trotuaret e ures do te jene beton arme monolit dhe do te kene gjeresi 1.0 m. Trashesia e tyre do te jete 30 cm dhe ne brendesi te tyre do te vendosen 3 tuba plastik me diameter Ø110 mm. Ne ane te trotuareve eshte parashikuar te vendoset mbrojtese metalike per kembesore.

Mbi mbeshtetjet e mbistruktures, ne pila dhe ne ballna jane lene hapesira prej 10 cm ku do te vendosen fugat e diletacionit.

Ne ure do te vendoset shtresa asfaltike 4.0 cm, shtresa e binderit 6.0 cm, nje shtrese beton pendence me trashesi maksimale 10 cm ne mesin e ures si dhe hidroizolimi. Gjithashtu ne ure do te vendosen dhe tubat e kullimit te ujrave te shiut.

Per rregullimin e trafikut ne ure eshte parashikuar te vendosen te gjithe elementet e nevojshem te sinjalistikes horizontale dhe vertikale.

2.5.2 Materialet

Betoni C25/30

• Rezistenca karakteristike kubike	Rck	=	30	N/mm2
• Rezistenca karakteristike cilindrike	fck	=	25	N/mm2
• Sforcimi mesatar aksial ne terheqje	fctm	=	2.2	N/mm2
• Moduli sekant i elasticitetit	E	=	31	kN/mm2
• Vlera llogaritese e rrezistences ne shtypje	fcd	=	15	N/mm2
• Vlera llogaritese e rrezistences ne terheqje	ftd	=	1.15	N/mm2

Betoni C30/37

• Rezistenca karakteristike kubike	Rck	=	37	N/mm2
• Rezistenca karakteristike cilindrike	fck	=	30	N/mm2
• Sforcimi mesatar aksial ne terheqje	fctm	=	2.9	N/mm2
• Moduli sekant i elasticitetit	E	=	32	kN/mm2
• Vlera llogaritese e rrezistences ne shtypje	fcd	=	20	N/mm2
• Vlera llogaritese e rrezistences ne terheqje	ftd	=	1.3	N/mm2

Armatura e çelikut FeB44k

• Rezistenca karakteristike ne terheqje	ftk	=	540	N/mm2
• Rezistenca karakteristike e rrjedhshmerise	fyk	=	430	N/mm2
• Vlera mesatare e modulit te elasticitetit	Esm	=	210	kN/mm2
• Faktori i pjesshem i sigurise	□c	=	1.15	
• Vlera llogaritese e rrezistences se rrjedhshmerise	fyd	=	374	N/mm2
• Vlera llogaritese e zgjatimit te rrjedhshmerise	esyd	=	0.187%	

2.5.3 Ngarkesat

a) Te perhershme

Si ngarkese e perhershme konsiderohet pesha vetjake e elementeve, ngarkesat nga shtresat si dhe presioni i dheut. Pesha vetjake e elementeve llogaritet automatikisht nga programi *(Dead load)* ndersa ngarkesa e shtresave te trotuarit dhe rruges si dhe presioni i dheut (mbushjes nga pas ballnave) futen ne program si ngarkese uniformisht e shperndare.

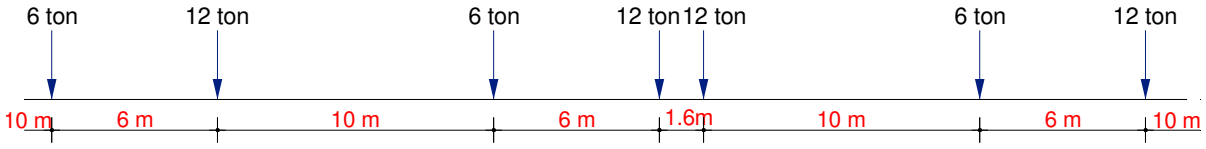
b) Te perkohshme

Si ngarkese e perkohshme, konsiderohet ngarkesa e trafikut dhe ngarkesa nga turma. Ngarkesa e trafikut futet ne program si ngarkese *(Moving load)* ndersa ngarkesa nga turma ne trotuar vendoset si ngarkese uniformisht e shperndare *(Live load)*. Jane marre ne konsiderate dy tipe skeme ngarkesash:

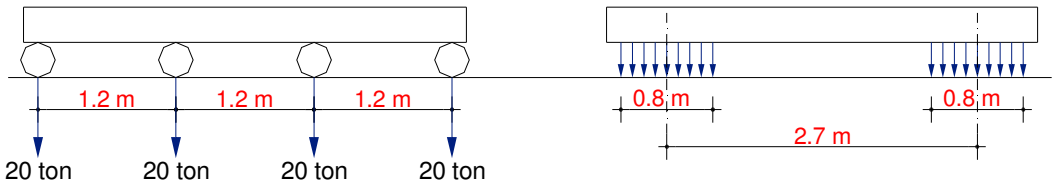
1. *Ngarkesat sipas KTP*

Ngarkesat vertikale normative te levizshme per llogaritjen e urave ne rruget automobilistike, qe jane marre ne keto llogaritje, perbehen nga dy lloj skemash N-18 dhe T-80. Cdo skeme eshte e perbere nga nje kolone e vazhdueshme automjetesh si ne figuren e meposhtme.

N - 18



T - 80



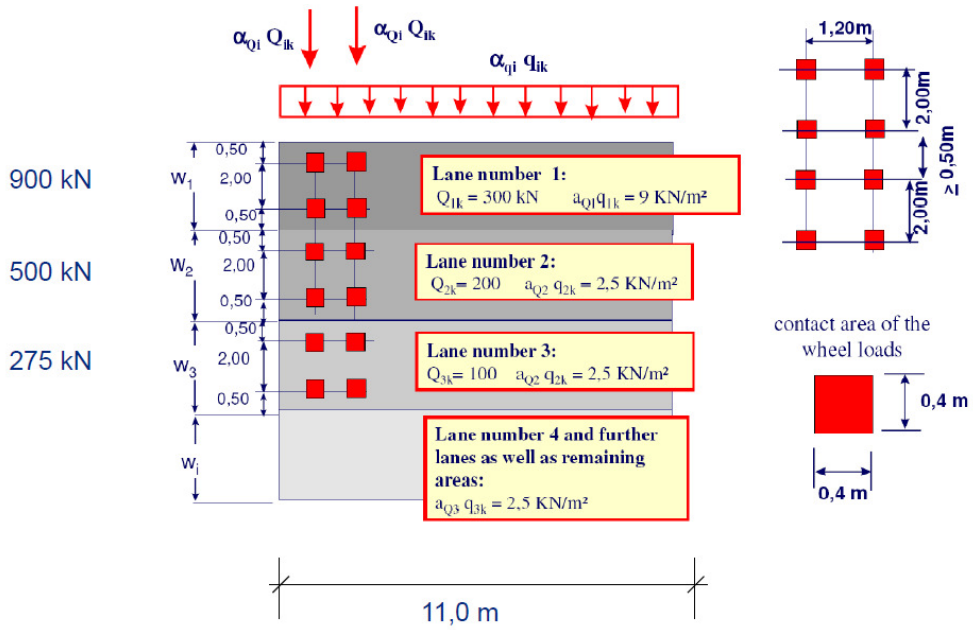
2. *Ngarkesat sipas Eurocode*

Per percaktimin e efekteve te trafikut rrugor, sipas eurocode, lidhur me verifikimet e gjendjes kufitare limit ULS dhe gjendjes kufitare te sherbimit SLS eshte marre ne konsiderate modelet e meposhtme te ngarkesave:

- Modeli 1 i ngarkeses *(LM1)* eshte e perbere nga dy nensisteme ngarkesash:

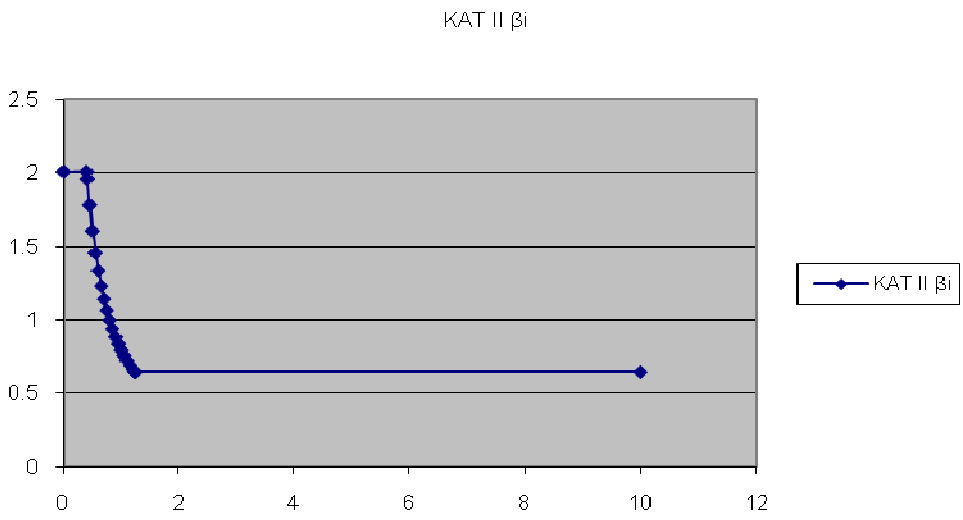
1) Nje sistem prej dy ngarkesash boshti te perqendruara, sipas skices se meposhtme, ku cdo bosht ka peshen $\alpha_Q Q_k = 300kN$ perfshire dhe amplifikimin dinamik.

2) Nje sistem prej ngarkesash te shperndara qe kane nje dendesi peshe $\alpha_q q_k = 9\frac{kN}{m^2}$



c) Te veçanta

Reagimi sizmik eshte llogaritur per troje te kategorise II dhe intensitet 8 balle me koeficient sizmik $k_E = 0.22$. Ndersa vlerat e koeficientit dinamik β_i merren nga grafiku i meposhtem.



Grafiku i ndryshimit te koefiçentit dinamik β ne funksion te periodes T.

2.5.4 Kombinimi i ngarkesave

Me poshte po paraqit disa nga kombinimet e perdoruara

a) Sipas EC

Kombinimi ULS

Comb 1 $1.35 \cdot D + 1.35 \cdot L + 1.5 \cdot (0.75TS + 0.4UDL)$

Comb 5 $1 \cdot D + 0.2 \cdot L + 0.2 \cdot LM1 + 1 \cdot E$

Kombinimi SLS

Comb 7 $1 \cdot D + 1 \cdot L + 1 \cdot LM1$

Comb 8 $1 \cdot D + 1 \cdot L + 1 \cdot N18$

b) Sipas KTP

Kombinimi

Comb 9 $1.2 \cdot D + 1.4 \cdot L + 1.4 \cdot N18$

Comb 10 $1.2 \cdot D + 1.1 \cdot T80$

Ku:

D – *Te gjitha ngarkesat e perhershme (pesha vetjake, shtresat dhe presioni i dheut)*

E – *Ngarkesa sizmike*

L – *Ngarkesa ne trotuar*

LM1=TS+UDL – *Modeli i ngarkeses sipas EC*

2.5.5 Metoda e analizes

Per llogaritjen e ures eshte perdorur programi Sap2000v14.0.0. Ky program bazohet ne metoden e elementeve te fundem. Ura eshte modeluar si nje strukture tredimensionale ku cdo element plan i saj eshte modeluar si element ***shell*** ndersa elementet njedimensional (kolona, trare dhe pilota) jane modeluar si element ***frame***. Ndersa dheu si bazament eshte modeluar nga nje seri sustash te shperndara uniformisht nen themel.

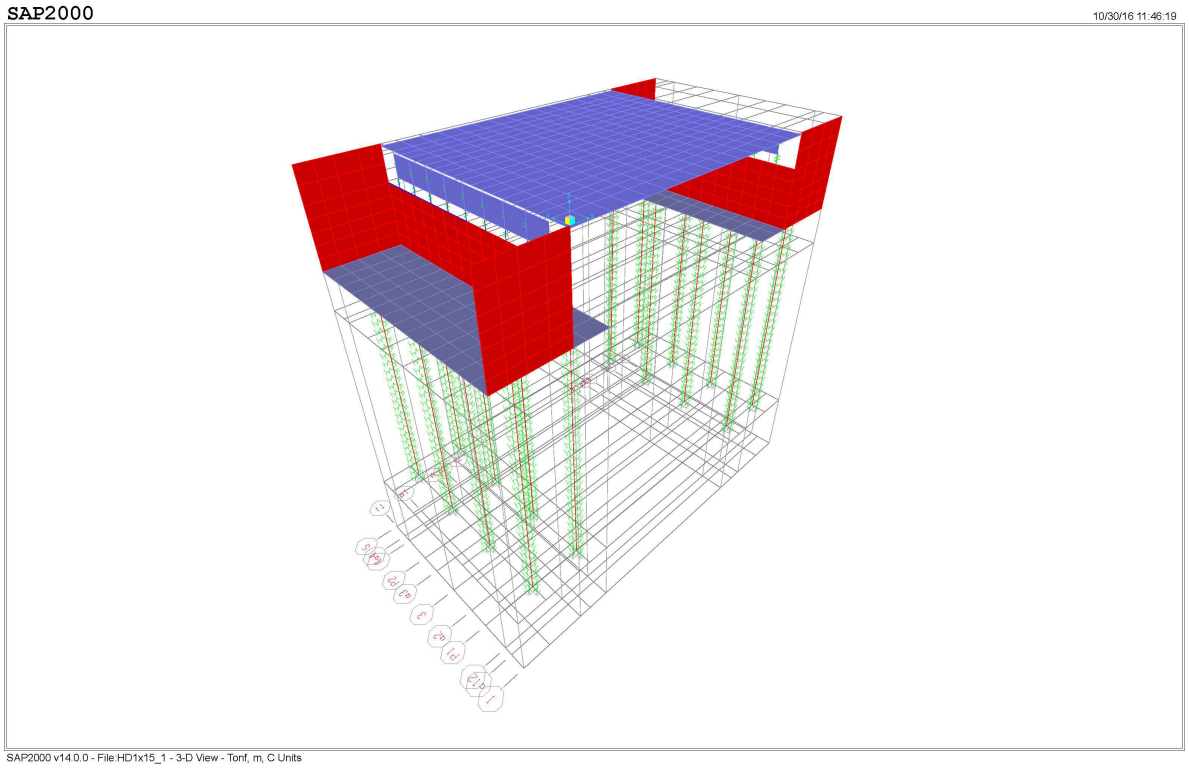


Fig. 4 (Pamja 3D e modelit llogarites)

2.5.6 Rezultate ne forme tabelare.

Table: Active Degrees of Freedom

Table: Active Degrees of Freedom

UX	UY	UZ	RX	RY	RZ
Yes	Yes	Yes	Yes	Yes	Yes

Table: Area Section Properties, Part 1 of 4

Table: Area Section Properties, Part 1 of 4

Section	Material	MatAngle	AreaType	Type	DrillDOF	Thickness	BendThick	Arc
		Degrees				m	m	Degrees
ASEC2	C25/30	0.000	Shell	Shell-Thin	Yes	0.120000	0.120000	
DIAFRAGMA	C25/30	0.000	Shell	Shell-Thin	Yes	0.250000	0.250000	
MURI SHP	4000Psi	0.000	Shell	Shell-Thin	Yes	1.000000	1.000000	
SOLETA	C25/30	0.000	Shell	Shell-Thin	Yes	0.200000	0.200000	
TH_SHPATULLA	C25/30	0.000	Shell	Shell-Thin	Yes	1.200000	1.200000	
WING WALL	C25/30	0.000	Shell	Shell-Thin	Yes	0.500000	0.500000	

Table: Area Section Properties, Part 2 of 4

Table: Area Section Properties, Part 2 of 4

Section	InComp	CoordSys	Color	TotalWt	TotalMass	F11Mod	F22Mod
				Tonf	Tonf-s2/m		
ASEC2			Blue	0.0000	0.00	1.000000	1.000000
DIAFRAGMA			8421631	0.0000	0.00	1.000000	1.000000
MURI SHP			Red	192.2216	19.60	1.000000	1.000000
SOLETA			16744576	108.0500	11.02	1.000000	1.000000
TH_SHPATULLA			12615808	450.0000	45.89	1.000000	1.000000
WING WALL			Red	100.0000	10.20	1.000000	1.000000

Table: Area Section Properties, Part 3 of 4

Table: Area Section Properties, Part 3 of 4

Section	F12Mod	M11Mod	M22Mod	M12Mod	V13Mod	V23Mod	MMod	WMod
ASEC2	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
DIAFRAGMA	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
MURI SHP	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
SOLETA	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
TH_SHPATULLA	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
WING WALL	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Table: Bridge Abutment Definitions

Table: Bridge Abutment Definitions

Abutment	GirderSup	SubType	FSProp
BABT1	Bottom	Spring	Fixed

Table: Bridge Layout Line 1 - General

Table: Bridge Layout Line 1 - General

LayoutLine	CoordSys	X	Y	Z	GlobalX	GlobalY	GlobalZ
		m	m	m	m	m	m
AKSI	GLOBAL	0.00000	6.25000	0.00000	0.00000	6.25000	0.00000

Table: Case - Response Spectrum 1 - General, Part 1 of 2

Table: Case - Response Spectrum 1 - General, Part 1 of 2

Case	ModalCombo	GMCf1	GMCf2	PerRigid	DirCombo	DampingType	ConstDamp
		Cyc/sec	Cyc/sec				
SIZMIC	CQC	1.0000E+00	0.0000E+00	SRSS	SRSS	Constant	0.0500

Table: Case - Response Spectrum 1 - General, Part 2 of 2

Table: Case - Response Spectrum 1 - General, Part 2 of 2

Case	EccenRatio	NumOverride
SIZMIC	0.000000	0

Table: Frame Section Properties 01 - General, Part 1 of 5

Table: Frame Section Properties 01 - General, Part 1 of 5

SectionName	Material	Shape	t3	t2	Area	TorsConst
			m	m	m2	m4
BRD7	C25/30	Bridge Section			7.045000	0.198304
C100X100	C25/30	Rectangular	1.000000	1.000000	1.000000	0.140833
PILA 120	C25/30	Circle	1.200000		1.130973	0.203575
PILOTA 100	C25/30	Circle	1.000000		0.785398	0.098175
T100X100	C25/30	Rectangular	1.000000	1.000000	1.000000	0.140833
T190X160	C25/30	Rectangular	1.600000	1.900000	3.040000	1.275552
T190X80	C25/30	Rectangular	0.800000	1.900000	1.520000	0.238476
Trau T	C25/30	PC Conc I Girder	1.100000	1.300000	0.505000	0.010633

Table: Frame Section Properties 01 - General, Part 2 of 5

Table: Frame Section Properties 01 - General, Part 2 of 5

SectionName	I33	I22	AS2	AS3	S33	S22	Z33
	m4	m4	m2	m2	m3	m3	m3
BRD7	0.720239	40.790446	2.940871	3.521707	0.811905	8.158089	1.513685
C100X100	0.083333	0.083333	0.833333	0.833333	0.166667	0.166667	0.250000
PILA 120	0.101788	0.101788	1.017876	1.017876	0.169646	0.169646	0.288000
PILOTA 100	0.049087	0.049087	0.706858	0.706858	0.098175	0.098175	0.166667
T100X100	0.083333	0.083333	0.833333	0.833333	0.166667	0.166667	0.250000
T190X160	0.648533	0.914533	2.533333	2.533333	0.810667	0.962667	1.216000
T190X80	0.081067	0.457267	1.266667	1.266667	0.202667	0.481333	0.304000
Trau T	0.058138	0.032454	0.303984	0.336734	0.081877	0.049929	0.146063

Table: Frame Section Properties 01 - General, Part 3 of 5

Table: Frame Section Properties 01 - General, Part 3 of 5

SectionName	Z22	R33	R22	ConcCol	ConcBeam	Color	TotalWt
	m3	m	m				Tonf
BRD7	12.970667	0.360728	2.714691	No	No	Gray8Dark	0.0000
C100X100	0.250000	0.288675	0.288675	Yes	No	White	0.0000
PILA 120	0.288000	0.300000	0.300000	Yes	No	Blue	0.0000

Table: Frame Section Properties 01 - General, Part 3 of 5

SectionName	Z22	R33	R22	ConcCol	ConcBeam	Color	TotalWt
	m3	m	m				Tonf
PILOTA 100	0.166667	0.250000	0.250000	Yes	No	Red	439.8230
T100X100	0.250000	0.288675	0.288675	No	Yes	Blue	62.5000
T190X160	1.444000	0.461880	0.548483	No	Yes	White	0.0000
T190X80	0.722000	0.230940	0.548483	No	Yes	Orange	0.0000
Trau T	0.092667	0.339302	0.253507	No	No	Yellow	170.4375

Table: Frame Section Properties 01 - General, Part 4 of 5

Table: Frame Section Properties 01 - General, Part 4 of 5

SectionName	TotalMass	FromFile	AMod	A2Mod	A3Mod	JMod	I2Mod
	Tonf-s2/m						
BRD7	0.00	No	1.000000	1.000000	1.000000	1.000000	1.000000
C100X100	0.00	No	1.000000	1.000000	1.000000	1.000000	1.000000
PILA 120	0.00	No	1.000000	1.000000	1.000000	1.000000	1.000000
PILOTA 100	44.85	No	1.000000	1.000000	1.000000	1.000000	1.000000
T100X100	6.37	No	1.000000	1.000000	1.000000	1.000000	1.000000
T190X160	0.00	No	1.000000	1.000000	1.000000	1.000000	1.000000
T190X80	0.00	No	1.000000	1.000000	1.000000	1.000000	1.000000
Trau T	17.38	No	1.000000	1.000000	1.000000	1.000000	1.000000

Table: Frame Section Properties 01 - General, Part 5 of 5

Table: Frame Section Properties 01 - General, Part 5 of 5

SectionName	I3Mod	MMod	WMod	GUID	Notes
BRD7	1.000000	1.000000	1.000000		Added 10/30/2016 11:28:52 AM
C100X100	1.000000	1.000000	1.000000		Added 3/5/2015 12:10:02 PM
PILA 120	1.000000	1.000000	1.000000		Added 3/5/2015 12:10:48 PM
PILOTA 100	1.000000	1.000000	1.000000		Added 3/5/2015 12:13:29 PM
T100X100	1.000000	1.000000	1.000000		Added 3/5/2015 12:09:03 PM
T190X160	1.000000	1.000000	1.000000		Added 3/5/2015 12:08:13 PM
T190X80	1.000000	1.000000	1.000000		Added 8/20/2016 9:42:52 AM
Trau T	1.000000	1.000000	1.000000		Added 3/5/2015 12:01:30 PM

Table: Frame Section Properties 02 - Concrete Column, Part 1 of 2

Table: Frame Section Properties 02 - Concrete Column, Part 1 of 2

SectionName	RebarMatL	RebarMatC	ReinfConfig	LatReinf	Cover	NumBars3Dir	NumBars2Dir	NumBarsCirc
					m			
C100X100	A615Gr60	A615Gr60	Rectangular	Ties	0.040000	7	7	
PILA 120	A615Gr60	A615Gr60	Circular	Spiral	0.050000			20
PILOTA 100	A615Gr60	A615Gr60	Circular	Spiral	0.050000			16

Table: Frame Section Properties 02 - Concrete Column, Part 2 of 2

Table: Frame Section Properties 02 - Concrete Column, Part 2 of 2

SectionName	BarSizeL	BarSizeC	SpacingC	NumCBars2	NumCBars3	ReinfType
			m			
C100X100	16d	10d	0.150000	3	3	Design
PILA 120	20d	10d	0.150000			Design
PILOTA 100	16d	8d	0.150000			Design

Table: Frame Section Properties 03 - Concrete Beam

Table: Frame Section Properties 03 - Concrete Beam

SectionName	RebarMatL	RebarMatC	TopCover	BotCover	TopLeftArea	TopRghtArea	BotLeftArea	BotRghtArea
			m	m	m2	m2	m2	m2
T100X100	A615Gr60	A615Gr60	0.050000	0.050000	0.000000	0.000000	0.000000	0.000000
T190X160	A615Gr60	A615Gr60	0.050000	0.050000	0.000000	0.000000	0.000000	0.000000
T190X80	A615Gr60	A615Gr60	0.050000	0.050000	0.000000	0.000000	0.000000	0.000000

Table: Grid Lines, Part 1 of 2

Table: Grid Lines, Part 1 of 2

CoordSys	AxisDir	GridID	XRYZCoord	LineType	LineColor	Visible	BubbleLoc	AllVisible
			m					
GLOBAL	X	t1	-4.00000	Primary	Gray8Dark	Yes	End	Yes
GLOBAL	X	p1	-2.25000	Primary	Gray8Dark	No	End	
GLOBAL	X	A	0.00000	Primary	Gray8Dark	Yes	End	
GLOBAL	X	p2	0.75000	Primary	Gray8Dark	No	End	
GLOBAL	X	t2	2.00000	Primary	Gray8Dark	Yes	End	
GLOBAL	X	t3	13.00000	Primary	Gray8Dark	Yes	End	
GLOBAL	X	p3	14.25000	Primary	Gray8Dark	No	End	
GLOBAL	X	B	15.00000	Primary	Gray8Dark	Yes	End	
GLOBAL	X	p4	17.25000	Primary	Gray8Dark	No	End	
GLOBAL	X	t4	19.00000	Primary	Gray8Dark	Yes	End	
GLOBAL	Y	1	0.00000	Primary	Gray8Dark	Yes	Start	
GLOBAL	Y	a1	1.00000	Primary	Gray8Dark	No	Start	
GLOBAL	Y	2	1.50000	Primary	Gray8Dark	Yes	Start	
GLOBAL	Y	P1	3.25000	Primary	Gray8Dark	No	Start	
GLOBAL	Y	a2	4.50000	Primary	Gray8Dark	No	Start	
GLOBAL	Y	3	6.25000	Primary	Gray8Dark	Yes	Start	
GLOBAL	Y	a3	8.00000	Primary	Gray8Dark	No	Start	
GLOBAL	Y	P2	9.25000	Primary	Gray8Dark	No	Start	
GLOBAL	Y	4	11.00000	Primary	Gray8Dark	Yes	Start	
GLOBAL	Y	a4	11.50000	Primary	Gray8Dark	No	Start	
GLOBAL	Y	5	12.50000	Primary	Gray8Dark	Yes	Start	
GLOBAL	Z	Z5	-23.10000	Primary	Gray8Dark	Yes	End	
GLOBAL	Z	Z4	-19.00000	Primary	Gray8Dark	No	End	
GLOBAL	Z	Z3	-7.10000	Primary	Gray8Dark	No	Start	
GLOBAL	Z	Z2	-5.00000	Primary	Gray8Dark	No	End	
GLOBAL	Z	Z1	0.00000	Primary	Gray8Dark	Yes	End	

Table: Grid Lines, Part 2 of 2

Table: Grid Lines, Part 2 of 2

CoordSys	BubbleSize
	m
GLOBAL	1.250000
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	

Table: Grid Lines, Part 2 of 2

CoordSys	BubbleSize
	m
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	
GLOBAL	

Table: Load Case Definitions, Part 1 of 2

Table: Load Case Definitions, Part 1 of 2

Case	Type	InitialCond	ModalCase	BaseCase	DesTypeOpt	DesignType	AutoType
DEAD	LinStatic	Zero			Prog Det	DEAD	None
MODAL	LinModal	Zero			Prog Det	OTHER	None
N-18	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
N-13	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
IT	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
LIVE	LinStatic	Zero			Prog Det	LIVE	None
EC	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
SHTRESAT	LinStatic	Zero			Prog Det	SUPER DEAD	None
SIZMIC	LinRespSpec		MODAL		Prog Det	QUAKE	None
MBUSHJA H	LinStatic	Zero			Prog Det	SUPER DEAD	None
MBUSHJA V	LinStatic	Zero			Prog Det	SUPER DEAD	None

Table: Load Case Definitions, Part 2 of 2

Table: Load Case Definitions, Part 2 of 2

Case	RunCase	CaseStatus	GUID	Notes
DEAD	Yes	Finished		
MODAL	Yes	Finished		
N-18	Yes	Finished		
N-13	Yes	Finished		
IT	Yes	Finished		
LIVE	Yes	Finished		
EC	Yes	Finished		
SHTRESAT	Yes	Finished		
SIZMIC	Yes	Finished		
MBUSHJA H	Yes	Finished		
MBUSHJA V	Yes	Finished		

Table: Load Pattern Definitions

Table: Load Pattern Definitions

LoadPat	DesignType	SelfWtMult	AutoLoad	GUID	Notes
DEAD	DEAD	1.000000			
LIVE	LIVE	0.000000			
SHTRESAT	SUPER DEAD	0.000000			
MBUSHJA H	SUPER DEAD	0.000000			
MBUSHJA V	SUPER DEAD	0.000000			

Table: Material Properties 01 - General

Table: Material Properties 01 - General

Material	Type	SymType	TempDepend	Color	GUID	Notes
4000Psi	Concrete	Isotropic	No	Cyan		Normalweight f'c = 4 ksi added 4/12/2011 2:16:59 PM
A615Gr60	Rebar	Uniaxial	No	Gray8Dark		ASTM A615 Grade 60 added 6/9/2011 2:36:42 PM
A992Fy50	Steel	Isotropic	No	Green		ASTM A992 Fy=50 ksi added 4/12/2011 2:16:59 PM
C25/30	Concrete	Isotropic	No	Cyan		Normalweight f'c = 4 ksi added 4/12/2011 2:16:59 PM

Table: Material Properties 03b - Concrete Data, Part 1 of 2

Table: Material Properties 03b - Concrete Data, Part 1 of 2

Material	Fc	LtWtConc	SSCurveOpt	SSHysType	SFc	SCap	FinalSlope	FAngle
	Tonf/m2							Degrees
4000Psi	2812.28	No	Mander	Takeda	0.002219	0.005000	-0.100000	0.000
C25/30	2500.00	No	Mander	Takeda	0.002219	0.005000	-0.100000	0.000

Table: Material Properties 03b - Concrete Data, Part 2 of 2

Table: Material Properties 03b - Concrete Data, Part 2 of 2

Material	DAngle
	Degrees
4000Psi	0.000
C25/30	0.000

Table: Material Properties 03e - Rebar Data, Part 1 of 2

Table: Material Properties 03e - Rebar Data, Part 1 of 2

Material	Fy	Fu	EffFy	EffFu	SSCurveOpt	SSHysType	SHard	SCap
	Tonf/m2	Tonf/m2	Tonf/m2	Tonf/m2				
A615Gr60	42184.18	63276.27	46402.60	69603.89	Simple	Kinematic	0.010000	0.090000

Table: Material Properties 03e - Rebar Data, Part 2 of 2

Table: Material Properties 03e - Rebar Data, Part 2 of 2

Material	FinalSlope	UseCTDef
A615Gr60	-0.100000	No

Table: Joint Displacements, Part 1 of 2

Table: Joint Displacements, Part 1 of 2

Joint	OutputCase	CaseType	StepType	U1	U2	U3	R1	R2
				cm	cm	cm	Radians	Radians
2	COMB5	Combination	Max	0.933529	0.445437	-0.029559	0.000384	0.001771
2	COMB5	Combination	Min	-0.598920	-0.441498	-0.093183	-0.000423	0.000897
5	COMB5	Combination	Max	0.931690	0.445717	-0.031390	0.000132	0.001801
5	COMB5	Combination	Min	-0.599661	-0.441707	-0.091711	-0.000120	0.000958
7	COMB5	Combination	Max	0.932766	0.445372	-0.032722	0.000395	0.001683
7	COMB5	Combination	Min	-0.599376	-0.441965	-0.089519	-0.000427	0.000901
9	COMB5	Combination	Max	0.930904	0.445417	-0.034079	0.000146	0.001735
9	COMB5	Combination	Min	-0.600184	-0.442399	-0.089750	-0.000127	0.000936
11	COMB5	Combination	Max	0.931912	0.444810	-0.034877	0.000406	0.001642
11	COMB5	Combination	Min	-0.599831	-0.442826	-0.088051	-0.000425	0.000898
13	COMB5	Combination	Max	0.930353	0.444620	-0.035344	0.000142	0.001724
13	COMB5	Combination	Min	-0.600467	-0.443540	-0.090266	-0.000143	0.000913
15	COMB5	Combination	Max	0.931625	0.443904	-0.035257	0.000418	0.001638
15	COMB5	Combination	Min	-0.599973	-0.443904	-0.087187	-0.000418	0.000896
17	COMB5	Combination	Max	0.930353	0.443540	-0.035344	0.000143	0.001724
17	COMB5	Combination	Min	-0.600467	-0.444620	-0.090266	-0.000142	0.000913
19	COMB5	Combination	Max	0.931912	0.442826	-0.034877	0.000425	0.001642
19	COMB5	Combination	Min	-0.599831	-0.444810	-0.088051	-0.000406	0.000898
21	COMB5	Combination	Max	0.930904	0.442399	-0.034079	0.000127	0.001735
21	COMB5	Combination	Min	-0.600184	-0.445417	-0.089750	-0.000146	0.000936
23	COMB5	Combination	Max	0.932766	0.441965	-0.032722	0.000427	0.001683
23	COMB5	Combination	Min	-0.599376	-0.445372	-0.089519	-0.000395	0.000901
24	COMB5	Combination	Max	0.710640	0.396730	-0.024068	0.000071	0.000567
24	COMB5	Combination	Min	-0.678961	-0.397312	-0.097313	-0.000049	-0.000525
25	COMB5	Combination	Max	0.931690	0.441707	-0.031390	0.000120	0.001801
25	COMB5	Combination	Min	-0.599661	-0.445717	-0.091711	-0.000132	0.000958
26	COMB5	Combination	Max	0.744183	0.399602	-0.024068	0.000377	0.001904
26	COMB5	Combination	Min	-0.710034	-0.401432	-0.097313	-0.000421	0.000843
27	COMB5	Combination	Max	0.933529	0.441498	-0.029559	0.000423	0.001771
27	COMB5	Combination	Min	-0.598920	-0.445437	-0.093183	-0.000384	0.000897
28	COMB5	Combination	Max	0.722964	0.396589	-0.029559	0.000061	0.000624
28	COMB5	Combination	Min	-0.684552	-0.396933	-0.093182	-0.000056	-0.000534
29	COMB5	Combination	Max	0.760136	0.399912	-0.029559	0.000384	0.001771
29	COMB5	Combination	Min	-0.716307	-0.400462	-0.093182	-0.000423	0.000897
30	COMB5	Combination	Max	0.729618	0.396279	-0.032721	0.000055	0.000652
30	COMB5	Combination	Min	-0.684625	-0.396477	-0.089519	-0.000053	-0.000538
31	COMB5	Combination	Max	0.917239	0.441289	-0.029559	0.000384	0.001771
31	COMB5	Combination	Min	-0.609183	-0.437732	-0.093183	-0.000423	0.000897
32	COMB5	Combination	Max	0.768429	0.399363	-0.032721	0.000395	0.001683
32	COMB5	Combination	Min	-0.716577	-0.399679	-0.089519	-0.000427	0.000901
33	COMB5	Combination	Max	0.917402	0.441182	-0.032722	0.000395	0.001683
33	COMB5	Combination	Min	-0.609682	-0.438087	-0.089519	-0.000427	0.000901
34	COMB5	Combination	Max	0.732803	0.396074	-0.034877	0.000051	0.000672
34	COMB5	Combination	Min	-0.684727	-0.396175	-0.088051	-0.000050	-0.000549
35	COMB5	Combination	Max	0.917039	0.440636	-0.034877	0.000406	0.001642
35	COMB5	Combination	Min	-0.610088	-0.438845	-0.088051	-0.000425	0.000898
36	COMB5	Combination	Max	0.772775	0.398985	-0.034877	0.000406	0.001642
36	COMB5	Combination	Min	-0.717390	-0.399130	-0.088051	-0.000425	0.000898
37	COMB5	Combination	Max	0.916852	0.439801	-0.035257	0.000418	0.001638
37	COMB5	Combination	Min	-0.610184	-0.439801	-0.087187	-0.000418	0.000896

Table: Joint Reactions, Part 1 of 2

Table: Joint Reactions, Part 1 of 2

Joint	OutputCase	CaseType	StepType	F1	F2	F3	M1	M2
				Tonf	Tonf	Tonf	Tonf-m	Tonf-m
60	COMB2	Combination	Max	0.0332	0.0102	150.2161	0.00000	0.00000
60	COMB2	Combination	Min	-0.0392	-0.0003	122.5367	0.00000	0.00000
62	COMB2	Combination	Max	0.0426	0.0145	194.7385	0.00000	0.00000
62	COMB2	Combination	Min	-0.0258	-0.0228	148.6769	0.00000	0.00000
64	COMB2	Combination	Max	0.0045	0.0056	140.1952	0.00000	0.00000
64	COMB2	Combination	Min	-0.0208	-0.0029	119.5497	0.00000	0.00000
94	COMB2	Combination	Max	0.0162	0.0172	200.0356	0.00000	0.00000
94	COMB2	Combination	Min	-0.0071	-0.0213	153.5006	0.00000	0.00000
96	COMB2	Combination	Max	0.0045	0.0029	140.1952	0.00000	0.00000
96	COMB2	Combination	Min	-0.0208	-0.0056	119.5497	0.00000	0.00000
98	COMB2	Combination	Max	0.0162	0.0213	200.0356	0.00000	0.00000
98	COMB2	Combination	Min	-0.0071	-0.0172	153.5006	0.00000	0.00000
100	COMB2	Combination	Max	0.0332	0.0003	150.2161	0.00000	0.00000
100	COMB2	Combination	Min	-0.0392	-0.0102	122.5367	0.00000	0.00000
130	COMB2	Combination	Max	0.0426	0.0228	194.7385	0.00000	0.00000
130	COMB2	Combination	Min	-0.0258	-0.0145	148.6769	0.00000	0.00000
805	COMB2	Combination	Max	0.0319	0.0081	0.0000	0.00000	0.00000
805	COMB2	Combination	Min	-0.0330	-0.0006	0.0000	0.00000	0.00000
806	COMB2	Combination	Max	0.0307	0.0061	0.0000	0.00000	0.00000
806	COMB2	Combination	Min	-0.0268	-0.0008	0.0000	0.00000	0.00000
807	COMB2	Combination	Max	0.0299	0.0043	0.0000	0.00000	0.00000
807	COMB2	Combination	Min	-0.0206	-0.0013	0.0000	0.00000	0.00000
808	COMB2	Combination	Max	0.0293	0.0026	0.0000	0.00000	0.00000
808	COMB2	Combination	Min	-0.0143	-0.0019	0.0000	0.00000	0.00000
809	COMB2	Combination	Max	0.0290	0.0013	0.0000	0.00000	0.00000
809	COMB2	Combination	Min	-0.0079	-0.0032	0.0000	0.00000	0.00000
810	COMB2	Combination	Max	0.0286	0.0009	0.0000	0.00000	0.00000
810	COMB2	Combination	Min	-0.0012	-0.0051	0.0000	0.00000	0.00000
811	COMB2	Combination	Max	0.0286	0.0005	0.0000	0.00000	0.00000
811	COMB2	Combination	Min	0.0054	-0.0071	0.0000	0.00000	0.00000
812	COMB2	Combination	Max	0.0295	0.0001	0.0000	0.00000	0.00000
812	COMB2	Combination	Min	0.0106	-0.0092	0.0000	0.00000	0.00000
813	COMB2	Combination	Max	0.0332	-0.0001	0.0000	0.00000	0.00000
813	COMB2	Combination	Min	0.0122	-0.0119	0.0000	0.00000	0.00000
814	COMB2	Combination	Max	0.0394	-0.0001	0.0000	0.00000	0.00000
814	COMB2	Combination	Min	0.0090	-0.0146	0.0000	0.00000	0.00000
815	COMB2	Combination	Max	0.0485	-0.0001	0.0000	0.00000	0.00000
815	COMB2	Combination	Min	0.0043	-0.0175	0.0000	0.00000	0.00000
816	COMB2	Combination	Max	0.0588	-0.0001	0.0000	0.00000	0.00000
816	COMB2	Combination	Min	-0.0026	-0.0205	0.0000	0.00000	0.00000
817	COMB2	Combination	Max	0.0702	-0.0001	0.0000	0.00000	0.00000
817	COMB2	Combination	Min	-0.0109	-0.0236	0.0000	0.00000	0.00000
818	COMB2	Combination	Max	0.0821	-0.0001	0.0000	0.00000	0.00000
818	COMB2	Combination	Min	-0.0209	-0.0267	0.0000	0.00000	0.00000
819	COMB2	Combination	Max	0.0945	0.0000	0.0000	0.00000	0.00000
819	COMB2	Combination	Min	-0.0327	-0.0298	0.0000	0.00000	0.00000
820	COMB2	Combination	Max	0.1075	0.0000	0.0000	0.00000	0.00000
820	COMB2	Combination	Min	-0.0465	-0.0328	0.0000	0.00000	0.00000
821	COMB2	Combination	Max	0.1206	0.0001	0.0000	0.00000	0.00000
821	COMB2	Combination	Min	-0.0624	-0.0357	0.0000	0.00000	0.00000

Table: Element Forces - Area Shells, Part 1 of 5

Table: Element Forces - Area Shells, Part 1 of 5

Area	AreaElem	ShellType	Joint	OutputCase	CaseType	StepType	F11	F22
							Tonf/m	Tonf/m
126	105	Shell-Thin	340	COMB2	Combination	Max	3.816	7.698
126	105	Shell-Thin	331	COMB2	Combination	Max	4.487	11.782
126	105	Shell-Thin	410	COMB2	Combination	Max	2.476	11.533
126	105	Shell-Thin	418	COMB2	Combination	Max	1.976	7.462
126	105	Shell-Thin	340	COMB2	Combination	Min	-2.717	1.291
126	105	Shell-Thin	331	COMB2	Combination	Min	-2.624	3.469
126	105	Shell-Thin	410	COMB2	Combination	Min	-3.242	3.126
126	105	Shell-Thin	418	COMB2	Combination	Min	-3.441	0.857

Table: Element Forces - Area Shells, Part 2 of 5

Table: Element Forces - Area Shells, Part 2 of 5

Area	AreaElem	Joint	OutputCase	StepType	F12	FMax	FMin	FAngle
					Tonf/m	Tonf/m	Tonf/m	Degrees
126	105	340	COMB2	Max	3.890	0.000	0.000	0.000
126	105	331	COMB2	Max	2.349	0.000	0.000	0.000
126	105	410	COMB2	Max	2.017	0.000	0.000	0.000
126	105	418	COMB2	Max	3.551	0.000	0.000	0.000
126	105	340	COMB2	Min	-4.173	0.000	0.000	0.000
126	105	331	COMB2	Min	-3.365	0.000	0.000	0.000
126	105	410	COMB2	Min	-4.284	0.000	0.000	0.000
126	105	418	COMB2	Min	-5.093	0.000	0.000	0.000

Table: Element Forces - Area Shells, Part 3 of 5

Table: Element Forces - Area Shells, Part 3 of 5

Area	AreaElem	Joint	OutputCase	StepType	FVM	M11	M22	M12
					Tonf/m	Tonf-m/m	Tonf-m/m	Tonf-m/m
126	105	340	COMB2	Max	0.000	15.72450	-0.15914	3.48888
126	105	331	COMB2	Max	0.000	31.92879	0.30377	1.66937
126	105	410	COMB2	Max	0.000	28.20627	7.77613	1.67983
126	105	418	COMB2	Max	0.000	10.80818	2.69711	3.48897
126	105	340	COMB2	Min	0.000	6.87342	-3.48760	0.76135
126	105	331	COMB2	Min	0.000	14.24988	-3.59514	-2.03241
126	105	410	COMB2	Min	0.000	12.70428	3.11681	-2.13522
126	105	418	COMB2	Min	0.000	3.71075	-0.64432	0.66913

Table: Element Forces - Area Shells, Part 4 of 5

Table: Element Forces - Area Shells, Part 4 of 5

Area	AreaElem	Joint	OutputCase	StepType	MMax	MMin	MAngle	V13
					Tonf-m/m	Tonf-m/m	Degrees	Tonf/m
126	105	340	COMB2	Max	0.00000	0.00000	0.000	-6.679
126	105	331	COMB2	Max	0.00000	0.00000	0.000	-6.679
126	105	410	COMB2	Max	0.00000	0.00000	0.000	-7.954
126	105	418	COMB2	Max	0.00000	0.00000	0.000	-7.954
126	105	340	COMB2	Min	0.00000	0.00000	0.000	-14.308
126	105	331	COMB2	Min	0.00000	0.00000	0.000	-14.308
126	105	410	COMB2	Min	0.00000	0.00000	0.000	-15.603
126	105	418	COMB2	Min	0.00000	0.00000	0.000	-15.603

Table: Element Forces - Area Shells, Part 5 of 5

Table: Element Forces - Area Shells, Part 5 of 5

Area	AreaElem	Joint	OutputCase	StepType	V23	VMax	VAngle
					Tonf/m	Tonf/m	Degrees
126	105	340	COMB2	Max	-0.276	0.000	0.000
126	105	331	COMB2	Max	-4.364	0.000	0.000
126	105	410	COMB2	Max	-4.364	0.000	0.000
126	105	418	COMB2	Max	-0.276	0.000	0.000
126	105	340	COMB2	Min	-2.469	0.000	0.000
126	105	331	COMB2	Min	-8.428	0.000	0.000
126	105	410	COMB2	Min	-8.428	0.000	0.000
126	105	418	COMB2	Min	-2.469	0.000	0.000

Table: Element Forces - Frames, Part 1 of 2

Table: Element Forces - Frames, Part 1 of 2

Frame	Station	OutputCase	CaseType	StepType	P	V2	V3	T
	m				Tonf	Tonf	Tonf	Tonf-m
1884	0.00000	COMB2	Combination	Max	183.2496	-3.1840	1.4688	1.32643
1884	0.50000	COMB2	Combination	Max	183.2496	-2.3318	1.4688	1.32643
1884	1.00000	COMB2	Combination	Max	183.2496	-1.4797	1.4688	1.32643
1884	0.00000	COMB2	Combination	Min	120.3069	-12.1630	-2.1114	-0.74013
1884	0.50000	COMB2	Combination	Min	120.3069	-11.3108	-2.1114	-0.74013
1884	1.00000	COMB2	Combination	Min	120.3069	-10.4586	-2.1114	-0.74013

Table: Element Forces - Frames, Part 2 of 2

Table: Element Forces - Frames, Part 2 of 2

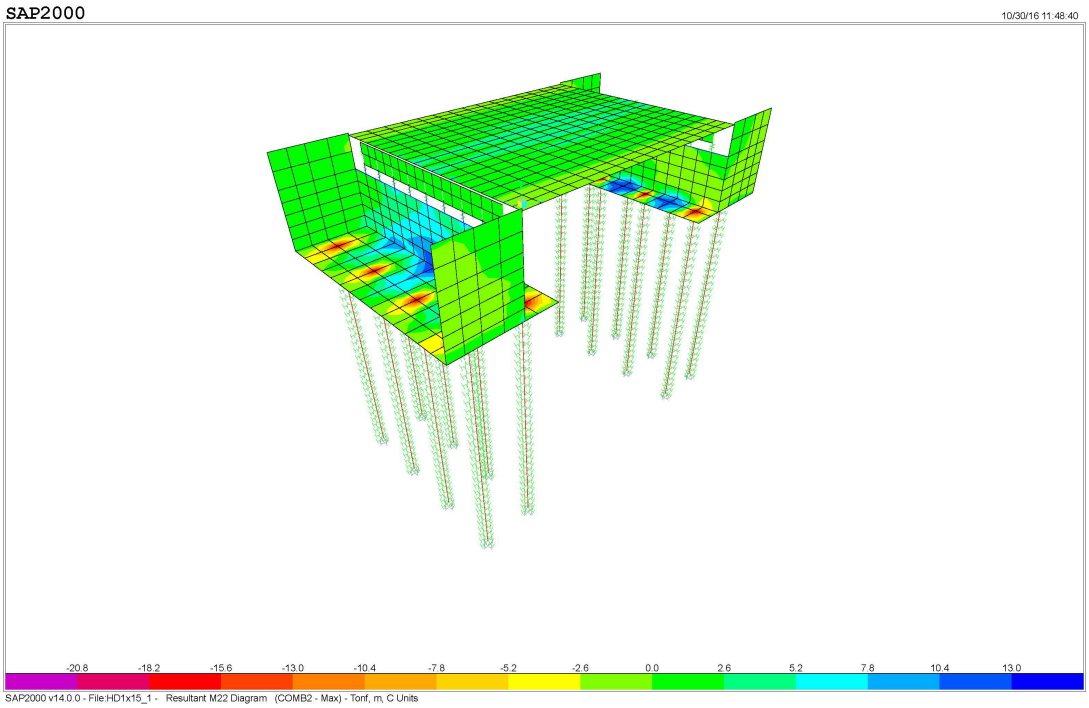
Frame	Station	OutputCase	StepType	M2	M3	FrameElem	ElemStation
	m			Tonf-m	Tonf-m		m
1884	0.00000	COMB2	Max	2.20224	109.39807	1884-1	0.00000
1884	0.50000	COMB2	Max	2.32559	113.21061	1884-1	0.50000
1884	1.00000	COMB2	Max	2.44894	116.59705	1884-1	1.00000
1884	0.00000	COMB2	Min	-2.20589	64.61822	1884-1	0.00000
1884	0.50000	COMB2	Min	-2.03608	67.89965	1884-1	0.50000
1884	1.00000	COMB2	Min	-1.86626	70.75498	1884-1	1.00000

Table: Modal Periods And Frequencies

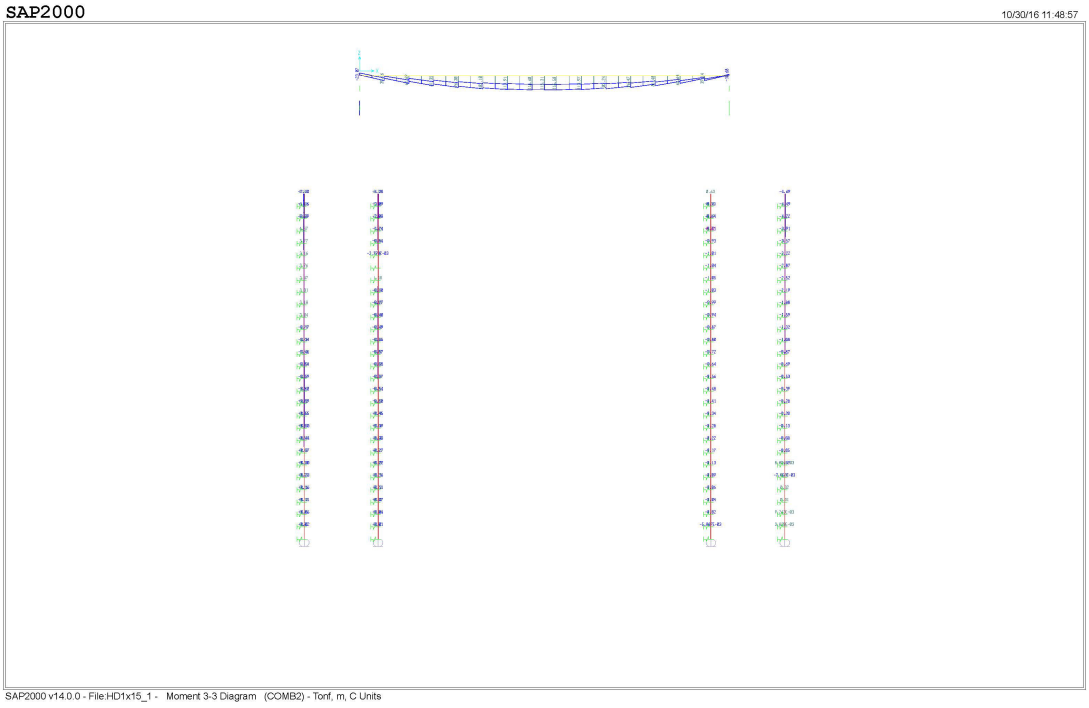
Table: Modal Periods And Frequencies

OutputCase	StepType	StepNum	Period	Frequency	CircFreq	Eigenvalue
			Sec	Cyc/sec	rad/sec	rad2/sec2
MODAL	Mode	1.000000	0.303512	3.2948E+00	2.0702E+01	4.2856E+02
MODAL	Mode	2.000000	0.236128	4.2350E+00	2.6609E+01	7.0805E+02
MODAL	Mode	3.000000	0.215069	4.6497E+00	2.9215E+01	8.5350E+02
MODAL	Mode	4.000000	0.204094	4.8997E+00	3.0786E+01	9.4776E+02
MODAL	Mode	5.000000	0.200963	4.9760E+00	3.1265E+01	9.7752E+02
MODAL	Mode	6.000000	0.142668	7.0093E+00	4.4041E+01	1.9396E+03
MODAL	Mode	7.000000	0.142644	7.0105E+00	4.4048E+01	1.9402E+03
MODAL	Mode	8.000000	0.097879	1.0217E+01	6.4193E+01	4.1208E+03
MODAL	Mode	9.000000	0.081299	1.2300E+01	7.7285E+01	5.9730E+03
MODAL	Mode	10.000000	0.076279	1.3110E+01	8.2371E+01	6.7850E+03
MODAL	Mode	11.000000	0.070232	1.4238E+01	8.9463E+01	8.0036E+03
MODAL	Mode	12.000000	0.067590	1.4795E+01	9.2960E+01	8.6416E+03

2.5.7 Rezultate ne forme grafike



Epiura e momentit perkules ne jastekun e pilotave per COMB2



Epiura e Momentit perkules te Traut T

2.5.8 Percaktimi i aftesise mbajtese, sipas materialit, per pilotin e varur.

Me poshte paraqitet epiura e momentit perkules per pilotat:

Epiura e momentit M2-2(Ton.m) per kombinimin ULS (Comb 5)

SAP2000 Concrete Design

Project
Job Number
Engineer Bledi

```
ACI 318-05/IBC2003 COLUMN SECTION DESIGN  Type: Sway Special  Units: Tonf, cm, C  (Flexural Details)

L=50.000
Element     : 910                D=100.000       dc=6.600
Station Loc : 50.000             E=300.000       fc=0.250        Lt.Wt. Fac.=1.000
Section ID  : PILOTA 100         fy=4.218        fys=4.218
Combo ID    : COMB5              RLLF=1.000

Phi(Compression-Spiral): 0.700   Overstrength Factor: 1.25
Phi(Compression-Tied):   0.650
Phi(Tension Controlled): 0.900
Phi(Shear):              0.750
Phi(Seismic Shear):      0.600
Phi(Joint Shear):        0.850


AXIAL FORCE & BIAXIAL MOMENT DESIGN FOR PU, M2, M3
                         Rebar      Rebar     Design     Design     Design
                          Area          %         Pu        Mu2        Mu3
                        78.540      1.000     46.850   1726.060   2667.644

Factored & Minimum Biaxial Moments
                      Non-Sway       Sway   Factored    Minimum    Minimum
                           Mns         Ms         Mu       Mmin Eccentrcty
   Major Bending(M3)  -157.333   2824.977   2667.644    211.948      4.524
   Minor Bending(M2)   386.838   1339.222   1726.060    211.948      4.524

Axial Force & Biaxial Moment Factors
                          Cm   Delta_ns    Delta_s          K          L
                      Factor     Factor     Factor     Factor     Length
   Major Bending(M3)   0.879      1.000      1.000      1.000     50.000
   Minor Bending(M2)   0.919      1.000      1.000      1.000     50.000
```

Percaktimi i sasise se armatures per piloten

2.5.9 Percaktimi i aftesise mbajtese, sipas dheut, per ballnin.

Per kete marrim ne model, reaksionin ne njeren nga pilotat ne pilat e mesit:

$N_j = 130 ton$ per kombinimin me te pafavorshem.

Te dhenat per piloten:

$D = 1.0 m$, $F = \pi \cdot r^2 = 3.14 \cdot 0.5^2 = 0.785 m^2$, $U = 2 \cdot \pi \cdot r = 2 \cdot 3.14 \cdot 0.5 = 3.14 m$

Atehere llogaritim aftesine mbajtese te njeres prej pilotave te piles se mesit, $L = 16 m$

$$P = m * k * (m_\sigma * R * F + U * m_f * \sum_{i=1}^{3} l_i * f_i)$$

m - koeficient qe varet nga menyra se si eshte realizuar pilota.

m = 1 pilote e ngulur

m = 0.65 pilote e derdhur

k - koeficient qe varet nga menyra se si punon pilota.

k = 0.7 ne ngulje

k = 0.4 ne shkulje

m_σ = 1 merr parasysh se si eshte formuar maja e pilotes.

m_f = 1 merr parasysh se si eshte formuar trupi i pilotes.

$f_i = f(I_k, z_i)$ = ferkimi specifik

shtresa (3), zhavorr koker mesem, $z_1 = 3 m$, $f_1 = 48 kPa$

shtresa (4), suargjila, I_k =0.2, $z_2 = 6 m$, $f_2 = 58 kPa$

shtresa (6), zhavorr koker mesem, $z_3 = 10 m$, $f_3 = 65 kPa$

R - reaksioni ne majen e pilotes $R = f(I_k, h_1 + h_2 + h_3)$

Maja e pilotes vendoset ne shtresen (6), zhavorr koker mesem, $h_1 + h_2 + h_3 \approx 16 m$, $R = 4400 kPa$

$P = 0.65 \cdot 0.7 \cdot [1 \cdot 440 \cdot 0.785 + 3.14 \cdot 1 \cdot (4 \cdot 4.8 + 1.5 \cdot 5.8 + 8.5 \cdot 6.5)] = 275 Ton > Nj = 130 Ton$

Pra pilota eshte e garantuar ne aftesi mbajtese sipas dheut.

Referenca:

1. Kushtet teknike te projektitmit Shqiptare KTP 22, 23-78, KTP-N2-89.
2. Euocode 1: Action on structures – Part 2:Traffic loads on bridges, Eurocode 2, 7 dhe 8.
3. Eurocode 7: Geotecnical Design
4. Foundation Analysis and Design, Fifth Edition, Joseph E. Bowles, P.E. S.E

GRUPI I PROJEKTITMIT:
"ARABEL-STUDIO" shpk

Inxh.Ardi Arkaxhiu