Huneke Engineering

60 Gailwood, Suite B St. Peters, MO 63376 636 441-9000 636 922-9915 fax

9/10/10

To Whom It May Concern,

Subject:

Acceptance and use of this report by any party constitute a contractual agreement that the Engineers total liability arising out of or in any way related to this analysis and report shall not exceed the total sum paid to the Engineer for the services provided. Liability does not exist beyond the analysis contained in this report. Materials selected by this report have been designed for calculations in this report only. Use of these materials for other purposes have not been considered.

Lintel design Supporting only roof load
Maximum opening
Live load applied300 plf
Dead load applied
Stirrup size#3 bars
Conclusion: see exhibit 1 for calculations
Lintels shall be constructed per exhibits 2 and 3.
Supporting roof and light frame story above Maximum opening
Live load applied
Live load applied
Dead load applied
Conclusion: see exhibit 4 for calculations
See Standis 1 for Calculations
Lintels shall be constructed per exhibits 2 and 3.
Supporting roof and (1) ICF story above
Maximum opening
Live load applied1130 plf
Dead load applied860 plf
Stirrup size#3 bars
Conclusion: see exhibit 5 for calculations
out that it is the chiculations
Lintels shall be constructed per exhibits 2 and 3.

If you have any questions related to this report please contact me.

Thomas J. Huneke, P.E. 19552 Prepared by Ryan K. Holdener



Title : Dsgnr: Description :

Job# Date: 2:24PM, 10 SEP 10

Scope:

Rey: 520003 User: KW-0607968, Vor 5.8.0, 15-Jun-2007 (c)1983-2007 ENERCALO Engineering Software

Multi-Span Concrete Beam

Page 1 lcf.ecw.Calculations

Description

roof only

General Informati	on			Code Ref: ACI 318	3-02, 1997 UBC, 2003 IBC, 20	03 NFPA
Fy		10.0 psi	All Spans Cor	sidered as Individual Beams	ACI Dead Load Factor	1.40
fc	-	10.0 psi	Stirrup Fy	40,000.0 psi	ACI Live Load Factor	1.70
Concrete Member	Inform	ation				
Description						
Span	ft	10,00			-4	P - A
Beam Width	in	5.50		1.5 * 7.5		
Beam Depth	in	12.00				VIII.
End Fixity		Fix-Fix				
Reinforcing Center	Armo	. 0.31In2				
	Bar Depth	10,00in				
Left	Area Bar Depth	0,31In2		7-6		
Di. Li	0.00	2,00in 0.31in2				
Right	Ber Depth	2,00in				
Loads		77771				
Using Live Load This	Span ??	Yes				_
Dead Load	k/ft	0.300				
Live Load	k/R	0,300				
Results		Beam OK				_
Mmax @ Cntr	k-ft	3.87	-		And the second second second	
@ X =	ft	5.00				
Mn • Phi	k-ft	13.02				
Max @ Left End	k-ft	-7.75				
Mn * Phi	k-ft	13.02				
	1					
Max @ Right End	k-ft	-7.75		-		
Mn * Phl	k-ft	13.02				
		Bending OK				
Shear @ Left	k	4.65				
Shear @ Right	k	4.65				
Reactions & Defle	ctions					
DL@ Left	k	1.50	- 39			-
LL@ Left	k k	1.50				
Total @ Left		3.00				Ç.
DL@Right	k	1.50				
LL@ Right	k	1.50				
Total @ Right	k	3.00				
Max. Deflection	In	-0.014				
@X=	ft	5.00				
Inertia : Effective	in4	634.22				
Shear Stirrups	7					No.
Stirrup Rebar Area	in2	0.510			The art of the control of the	ties and the
Spacing @ Left	In	5.00			4.4	
Spacing @ .2*L Spacing @ .4*L	In	5.00				
Spacing @ .4°L	ln In	Not Req'd				
Spacing @ .8*L	in	Not Req'd				
Spacing @ Right	in	5.00				
Sharing of Light	in	5,00				

EXHIBIT 2

Lintel Schedule

	load condition	min. lintel depth	max opening clear span	Dimension "A"	stirrup spacing	top & bottom bar size
	supporting roof only	12"	8'-3"	3'-0"	O _{II}	鹊
	supporting roof only (engineered design)	12"	10'-0"	4'-0"	ហ្ន	#5
V	supporting roof & wood	ne"	40101	A 011		±1
9	supporting roof and wood	1				
	frame above	12"	4'-7"	3'-0"	σį	费
V	roof and (1) ICF story					
,	above (eng design)	26"	10'-0"	4'-0"	12"	ま
	roof and (1) ICF story	N.Chan				
	above	121	5'-7"	1.4	ᅋ	步

Note: all stirrups are #3 bars

EXHIBIT3

no stirrups in zone "A"

See lintel Schedule, for bar sizes

Min lintel depth = 8"

Top and bottom bars of lintel to extend min. 24" beyond opening. *4 bar 12" or less from beyond each side of bottom of opening, bar shall extend 24" opening.

> DOOR OPENING MINDOW OR

-#5 bar, 12" or less from each side of opening for full height of story.

Opening Detail



Title : Dsgnr: Description :

Job # Date: 2:24PM, 10 SEP 10

Scope:

Rev: 580003 User: KW-0607966, Ver 5.8.0, 15-Jun-2007 (c)1683-2007 ENERCALC Engineering Software

Multi-Span Concrete Beam

Page 1 id.ecv:Colculations

Description

roof and light frame

General Informat	tion			Code Ref: ACI 318	1-02, 1997 UBC, 2003 IBC, 20	03 NFPA
Fy fc		00.0 psi 00.0 psi	All Spans Cor	sidered as Individual Beams	ACI Dead Load Factor	1.40
Concrete Membe			Stirrup Fy	40,000.0 psi	ACI Live Load Factor	1.70
PROPERTY AND PERSONS ASSESSMENT OF THE PERSO	i ittioni	lation				
Description						
Span	ft	10.00				
Beam Width	in	5.50				B
Beam Depth	ln	26,00				v.,
End Fixity		Fix-Fix				
Reinforcing Cente	Bor Dopth	0.31in2				-
Lef	JOHN CO. 100 C	24.00in		373		,
Lei	Bar Dapth	0.31in2 2.00in				
Righ	. Area	0.31In2				
. cyn	Ber Depth	2,00ln				
Loads						-
Using Live Load This	Span ??	Yes				1.50
Dead Load	k/ft	0.600			~	
Live Load	k/ft	0.860				
Results		Beam OK				
Mmax @ Cntr	k-ft	9.59			والمراجعة	
@ X =	R	5.00				
Mn * Phi	k-ft	32.55				
Max @ Left End	k-ft					
Mn * Phi	k-ft	-19.18 32.55				
	100000					
Max @ Right End	k-ft	-19.18				
Mn * Phi	k-ft	32.55	1			
		Bending OK				
Shear @ Left	k	11.51				
Shear @ Right	k	11.51				
Reactions & Defle	ctions					
· DL@Left	k	3.00				-
LL @ Left	k	4.30				
Total @ Left	k	7.30	E 14			
DL @ Right	k	3.00	-	50		
LL@ Right	k	4,30				
Total @ Right	k	7.30				
Max. Deflection	in	-0.003				
@X=	ft	5.00				
Inertia : Effective	In4	8,055.67				
Shear Stirrups						15.25
Stirrup Rebar Area	In2	0.220		AND DESCRIPTION OF THE PERSON NAMED IN COLUMN	the country of the control of the state of	
Spacing @ Left	in	12.00				
Spacing @ .2*L Spacing @ .4*L	in in	12.00				
Spacing @ .4*L Spacing @ .6*L	in	Not Req'd			87.	
Spacing @ .8*L	in	Not Reg'd				
Spacing @ Right	in in	12.00				
channil of Willer	inj	12.00				

Title : Dsgnr: Description : Job# Date: 2:24PM, 10 SEP 10

EXHIBIT 5

Scope :

Ray: 550003 User: KW-0507965, Ver 5.8.0, 15-Jun-2007 (c)1983-2007 ENERCALC Englaneting Software

Multi-Span Concrete Beam

Page 1 lcf.ecw;Calculations

Description

roof and (1) ICF story above

General Informati	on			Code Ref: ACI 318	-02, 1997 UBC, 2003 IBC, 20	03 NFPA
Fy Pc	3,0	00.0 psl 00.0 psl	All Spans Co Stirrup Fy	nsidered as Individual Beams 40,000.0 psi	ACI Dead Load Factor ACI Live Load Fector	1,40
Concrete Member	Inform	nation				
Description Span Beam Width Beam Depth End Fixity	ft In In	10.00 5.50 26.00 Pin-Pin				
Left	Area Ber Depth Area Ber Depth Area Ber Depth	0.44in2 24.00in 0.44in2 2.00in 0.44in2 2.00in				
Loads						GEO TIO
Using Live Load This S Dead Load Live Load	Span ?? k/ft k/ft	Yes 1.130 0.860				
Results		Beam OK		-		
Mmex @ Cntr @ X = Mn * Phl Max @ Left End	k-ft ft k-ft k-ft	38.05 5.00 45.61 0.00				
Mn * Phi Max @ Right End Mn * Phi	k-ft k-ft k-ft	45.61 0.00 45.61 Bending OK				
Shear @ Left Shear @ Right	k k	15.22 15.22				
Reactions & Defler	ctions					
DL @ Left LL @ Left Total @ Left DL @ Right LL @ Right Total @ Right Max. Deflection @ X = Inertia; Effective	k k k k in ft in4	5.65 4.30 9.95 5.65 4.30 9.95 -0.025 5.00 5,642,38				
Shear Stirrups	1	.,				
Stirrup Rebar Area Spacing @ Left Spacing @ .2*L Spacing @ .4*L Spacing @ .6*L Spacing @ .8*L Spacing @ Right	in in in in in in	0.220 12.00 12.00 Not Req'd Not Req'd 12.00				