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ESL-1004 ESL-1007

NFPA-13 Seismic Bracing Calculation

Sheet _____ of _____

Project Cape Fear Valley Health - Harnett He Contractor Regional Fire Services NC, LLC
 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: 4-WAY

Brace Information

Length of Brace* N/A
 Diameter of Brace Gold 418 lb Load Rating
 Type of Brace Four Way
 Angle of Brace 30 to 44 degrees
 Least radius of gyration* N/A
 I/r value* N/A
 Maximum horizontal load 209 lbs

Fastener Information

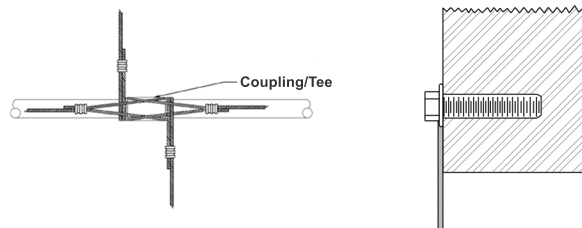
Orientation of connecting surface Orientation 3
 Fastener Type Wedge/Expansion Anchor in Con
 Diameter 3/8"
 Length (in wood) (in concrete) 2"
 Structural Attachment Fitting SAF
 Maximum Load 76 lbs

Seismic Brace Attachments

Structure attachment fitting or tension- only bracing system:

Manufacturer Loos & Co., Inc.
 Model #GO3
 Listed Load Rating 418 lbs
 Adjusted load rating (per 18.5.2.3) 209 lbs

Seismic Brace Assembly Details
 (Provide detail on plans)



Brace ID No. to be used on plans C1

Sprinkler System Load Calculation [F_{pw}=C_pW_p(default is 0.5C_p)

Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
4"	SCH. 10 Steel	6.00	11.78	81.28
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				81.28 lbs

C_p Value 0.35

Maximum Load F_{pw} = C_pW_p = 28.45 lbs

* Excludes tension only bracing systems

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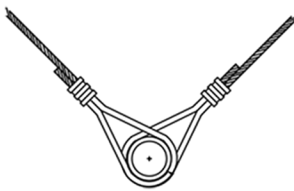
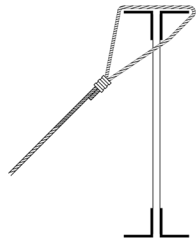
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 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: LATERAL

Brace Information	Seismic Brace Attachments
Length of Brace* N/A	Structure attachment fitting or tension- only bracing system:
Diameter of Brace <u>Gold 418 lb Load Rating</u>	Manufacturer <u>Loos & Co., Inc.</u>
Type of Brace <u>Lateral</u>	Model <u>#GO3</u>
Angle of Brace <u>30 to 44 degrees</u>	Listed Load Rating <u>418 lbs</u>
Least radius of gyration* N/A	Adjusted load rating (per 18.5.2.3) <u>209 lbs</u>
l/r value* N/A	
Maximum horizontal load <u>209 lbs</u>	
	Seismic Brace Assembly Details (Provide detail on plans)
	
	
	Brace ID No. to be used on plans <u>A1</u>

Sprinkler System Load Calculation [F _{pw} =C _p W _p (default is 0.5C _p)				
Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	18.00	4.22	87.35
1"	SCH. 40 Steel	15.00	2.05	35.36
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				122.72 lbs
Cp Value <u>0.35</u>		Maximum Load F _{pw} = C _p W _p = <u>42.95 lbs</u>		

* Excludes tension only bracing systems

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 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: LATERAL

Brace Information

Length of Brace* N/A
 Diameter of Brace Orange 770 lb Load Rating
 Type of Brace Lateral
 Angle of Brace 30 to 44 degrees
 Least radius of gyration* N/A
 I/r value* N/A
 Maximum horizontal load 385 lbs

Fastener Information

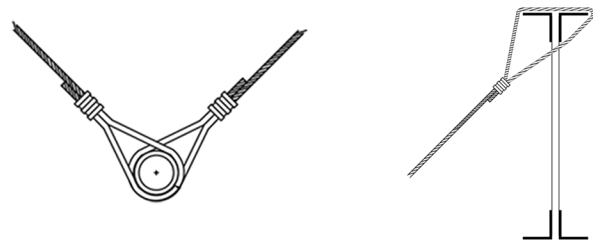
Orientation of connecting surface Orientation 1
 Fastener Type Loop Around Bar Joist
 Diameter N/A
 Length (in wood) (in concrete) N/A
 Structural Attachment Fitting N/A
 Maximum Load 385 lbs

Seismic Brace Attachments

Structure attachment fitting or tension- only bracing system:

Manufacturer Loos & Co., Inc.
 Model #OR4
 Listed Load Rating 770 lbs
 Adjusted load rating (per 18.5.2.3) 385 lbs

Seismic Brace Assembly Details
 (Provide detail on plans)



Brace ID No. to be used on plans A2

Sprinkler System Load Calculation [F_{pw}=C_pW_p(default is 0.5C_p)]

Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	14.00	4.22	67.94
1 1/4"	SCH. 40 Steel	150.00	2.93	505.42
1"	SCH. 40 Steel	60.00	2.05	141.45
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				714.82 lbs

C_p Value 0.35

Maximum Load F_{pw} = C_pW_p = 250.19 lbs

* Excludes tension only bracing systems

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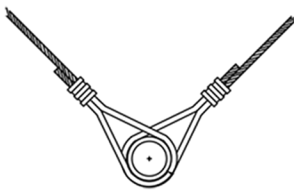
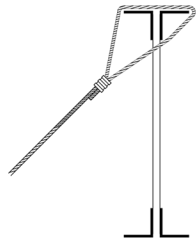
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 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: LATERAL

Brace Information	Seismic Brace Attachments
Length of Brace* N/A	Structure attachment fitting or tension- only bracing system:
Diameter of Brace <u>Orange 770 lb Load Rating</u>	Manufacturer <u>Loos & Co., Inc.</u>
Type of Brace <u>Lateral</u>	Model <u>#OR4</u>
Angle of Brace <u>30 to 44 degrees</u>	Listed Load Rating <u>770 lbs</u>
Least radius of gyration* N/A	Adjusted load rating (per 18.5.2.3) <u>385 lbs</u>
l/r value* N/A	
Maximum horizontal load <u>385 lbs</u>	
	Seismic Brace Assembly Details (Provide detail on plans)
	
	
	Brace ID No. to be used on plans <u>A3</u>

Sprinkler System Load Calculation [F _{pw} =C _p W _p (default is 0.5C _p)				
Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	25.00	4.22	121.32
1 1/4"	SCH. 40 Steel	235.00	2.93	791.83
1"	SCH. 40 Steel	75.00	2.05	176.81
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				1089.97 lbs
C _p Value <u>0.35</u> Maximum Load F _{pw} = C _p W _p = <u>381.49 lbs</u>				

* Excludes tension only bracing systems

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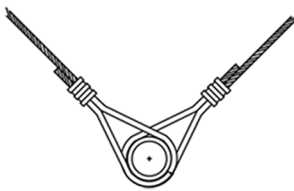
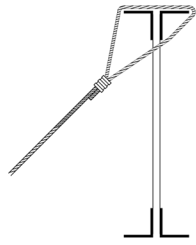
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Project Cape Fear Valley Health - Harnett He Contractor Regional Fire Services NC, LLC
 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: LATERAL

Brace Information	Seismic Brace Attachments
Length of Brace* N/A	Structure attachment fitting or tension- only bracing system:
Diameter of Brace <u>Orange 770 lb Load Rating</u>	Manufacturer <u>Loos & Co., Inc.</u>
Type of Brace <u>Lateral</u>	Model <u>#OR4</u>
Angle of Brace <u>30 to 44 degrees</u>	Listed Load Rating <u>770 lbs</u>
Least radius of gyration* N/A	Adjusted load rating (per 18.5.2.3) <u>385 lbs</u>
l/r value* N/A	
Maximum horizontal load <u>385 lbs</u>	
	Seismic Brace Assembly Details (Provide detail on plans)
	 
	Brace ID No. to be used on plans <u>A4</u>

Sprinkler System Load Calculation [F _{pw} =C _p W _p (default is 0.5C _p)				
Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	25.00	4.22	121.32
1 1/4"	SCH. 40 Steel	200.00	2.93	673.90
1"	SCH. 10 Steel	85.00	1.81	176.93
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				972.15 lbs
Cp Value <u>0.35</u>		Maximum Load F _{pw} = C _p W _p = <u>340.25 lbs</u>		

* Excludes tension only bracing systems

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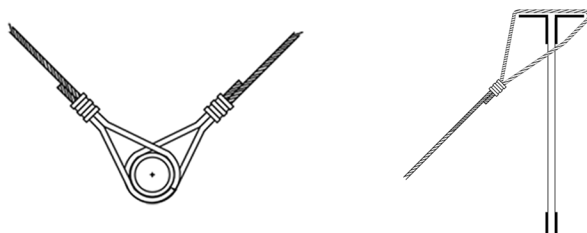
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 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: LATERAL

Brace Information	Seismic Brace Attachments
Length of Brace* N/A	Structure attachment fitting or tension- only bracing system:
Diameter of Brace <u>Orange 770 lb Load Rating</u>	Manufacturer <u>Loos & Co., Inc.</u>
Type of Brace <u>Lateral</u>	Model <u>#OR4</u>
Angle of Brace <u>30 to 44 degrees</u>	Listed Load Rating <u>770 lbs</u>
Least radius of gyration* N/A	Adjusted load rating (per 18.5.2.3) <u>385 lbs</u>
l/r value* N/A	
Maximum horizontal load <u>385 lbs</u>	
	Seismic Brace Assembly Details (Provide detail on plans)
	
	Brace ID No. to be used on plans <u>A5</u>

Sprinkler System Load Calculation [Fpw=CpWp(default is 0.5Cp)]				
Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	25.00	4.22	121.32
1 1/4"	SCH. 40 Steel	215.00	2.93	724.44
1"	SCH. 40 Steel	106.00	2.05	249.90
Total Zone of Influence Weight (Wp) (water filled pipe x 1.15 per 18.5.5.2)				1095.66 lbs
Cp Value <u>0.35</u> Maximum Load Fpw = CpWp = <u>383.48 lbs</u>				

* Excludes tension only bracing systems

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 Address Crested Iris Drive Address 3101-310 Poplarwood Ct
Lillington, NC 27546 Raleigh, NC 27604
 Telephone 919-212-2722

Design Name: Longitudinal

Brace Information

Length of Brace* N/A
 Diameter of Brace Gold 418 lb Load Rating
 Type of Brace Longitudinal
 Angle of Brace 30 to 44 degrees
 Least radius of gyration* N/A
 I/r value* N/A
 Maximum horizontal load 209 lbs

Fastener Information

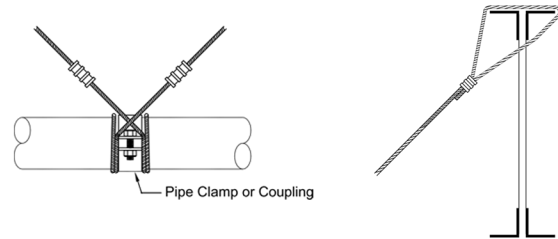
Orientation of connecting surface Orientation 1
 Fastener Type Loop Around Bar Joist
 Diameter N/A
 Length (in wood) (in concrete) N/A
 Structural Attachment Fitting N/A
 Maximum Load 209 lbs

Seismic Brace Attachments

Structure attachment fitting or tension- only bracing system:

Manufacturer Loos & Co., Inc.
 Model #GO3
 Listed Load Rating 418 lbs
 Adjusted load rating (per 18.5.2.3) 209 lbs

Seismic Brace Assembly Details
 (Provide detail on plans)



Brace ID No. to be used on plans B1

Sprinkler System Load Calculation [F_{pw}=C_pW_p(default is 0.5C_p)]

Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	42.00	4.22	203.83
4"	SCH. 10 Steel	6.00	11.78	81.28
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				285.11 lbs

C_p Value 0.35

Maximum Load F_{pw} = C_pW_p = 99.79 lbs

* Excludes tension only bracing systems

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Lillington, NC 27546 Raleigh, NC 27604
Telephone 919-212-2722

Design Name: Longitudinal

Brace Information

Length of Brace* N/A
Diameter of Brace Gold 418 lb Load Rating
Type of Brace Longitudinal
Angle of Brace 30 to 44 degrees
Least radius of gyration* N/A
l/r value* N/A
Maximum horizontal load 209 lbs

Fastener Information

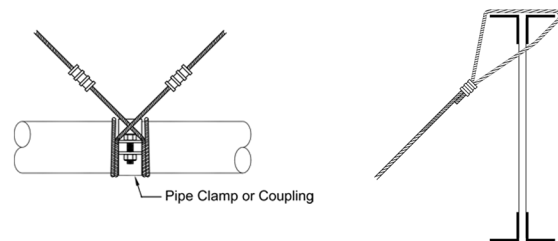
Orientation of connecting surface Orientation 1
Fastener Type Loop Around Bar Joist
Diameter N/A
Length (in wood) (in concrete) N/A
Structural Attachment Fitting N/A
Maximum Load 209 lbs

Seismic Brace Attachments

Structure attachment fitting or tension- only bracing system:

Manufacturer Loos & Co., Inc.
Model #GO3
Listed Load Rating 418 lbs
Adjusted load rating (per 18.5.2.3) 209 lbs

Seismic Brace Assembly Details
(Provide detail on plans)



Brace ID No. to be used on plans B2

Sprinkler System Load Calculation [F_{pw}=C_pW_p(default is 0.5C_p)]

Diameter	Type	Length (ft)	Weight per ft.	Total Weight + 15% (lbs)
2"	SCH. 10 Steel	43.00	4.22	208.68
Total Zone of Influence Weight (W _p) (water filled pipe x 1.15 per 18.5.5.2)				208.68 lbs

C_p Value 0.35

Maximum Load F_{pw} = C_pW_p = 73.04 lbs

* Excludes tension only bracing systems