



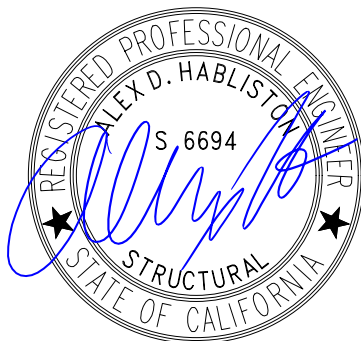
13228 NE 20th St, Suite 100, Bellevue, WA 98005  
Phone (425) 614-0949 Fax (425) 614-0950

**STRUCTURAL CALCULATIONS FOR:  
Break Strength Certified Pre-Stretched B-line Seismic Cable System**

Client:



ATTN: Zac Brown



By  
**Eusonh Lim, E.I.T.**  
**Alex Habliston, S.E.**

01/16/2020

**AUE No. 19486**

Date: 1/13/2020

**Pre-Stretched B-Line Seismic Cable Assembly Load Analysis Summary**

$\Omega$ System =	2.20	per ASCE 19-16	$\phi$ System =	0.64	per ASCE 19-16
$\Omega$ Bracket =	1.95	per AISI S100-2012 Section F1.2	$\phi$ Bracket =	0.82	per AISI S100-2012 Section F1.1
$\Omega$ Cable =	2.50	per IBC 2015 1709.3.1	$\phi$ Cable =	0.56	per IBC 2015 1709.3.1
$\Omega$ Connector =	2.00	per FM 1950 Section 4.2	$\phi$ Connector =	0.70	per FM 1950 Section 4.2

Angle (deg)	Cable Dia (in)	Bracket 1	Bracket 2	Connector	Pallow (lb) (ASD)	Pallow (lb) (LRFD)
30	1/8	3/8" Eyelet	B154 Bracket	BKC200	798	1117
45	1/8	3/8" Eyelet	B154 Bracket	BKC200	678	949
60	1/8	3/8" Eyelet	B154 Bracket	BKC200	667	934
30	1/8	1/2" Eyelet	B154 Bracket	BKC200	800	1120
45	1/8	1/2" Eyelet	B154 Bracket	BKC200	744	1042
60	1/8	1/2" Eyelet	B154 Bracket	BKC200	654	915
30	1/8	B154 Bracket	B154 Bracket	BKC200	800	1120
45	1/8	B154 Bracket	B154 Bracket	BKC200	747	1046
60	1/8	B154 Bracket	B154 Bracket	BKC200	799	1119
30	1/8	3/8" Eyelet	B650 Bracket	BKC200	680	952
45	1/8	3/8" Eyelet	B650 Bracket	BKC200	670	938
60	1/8	3/8" Eyelet	B650 Bracket	BKC200	636	890
30	1/8	1/2" Eyelet	B650 Bracket	BKC200	686	960
45	1/8	1/2" Eyelet	B650 Bracket	BKC200	670	938
60	1/8	1/2" Eyelet	B650 Bracket	BKC200	608	851
30	1/8	B650 Bracket	B650 Bracket	BKC200	800	1120
45	1/8	B650 Bracket	B650 Bracket	BKC200	730	1021
60	1/8	B650 Bracket	B650 Bracket	BKC200	798	1118

Angle (deg)	Cable Dia (in)	Bracket 1	Bracket 2	Connector	Pallow (lb) (ASD)	Pallow (lb) (LRFD)
30	3/16	3/8" Eyelet	B154 Bracket	BKC200	1544	2161
45	3/16	3/8" Eyelet	B154 Bracket	BKC200	1379	1930
60	3/16	3/8" Eyelet	B154 Bracket	BKC200	1335	1869
30	3/16	1/2" Eyelet	B154 Bracket	BKC200	1576	2206
45	3/16	1/2" Eyelet	B154 Bracket	BKC200	1378	1930
60	3/16	1/2" Eyelet	B154 Bracket	BKC200	1288	1803
30	3/16	B154 Bracket	B154 Bracket	BKC200	1473	2062
45	3/16	B154 Bracket	B154 Bracket	BKC200	1508	2111
60	3/16	B154 Bracket	B154 Bracket	BKC200	1228	1719
30	3/16	3/8" Eyelet	B650 Bracket	BKC200	1197	1675
45	3/16	3/8" Eyelet	B650 Bracket	BKC200	1120	1568
60	3/16	3/8" Eyelet	B650 Bracket	BKC200	1064	1489
30	3/16	1/2" Eyelet	B650 Bracket	BKC200	1170	1639
45	3/16	1/2" Eyelet	B650 Bracket	BKC200	1174	1644
60	3/16	1/2" Eyelet	B650 Bracket	BKC200	1138	1593
30	3/16	B650 Bracket	B650 Bracket	BKC200	1512	2117
45	3/16	B650 Bracket	B650 Bracket	BKC200	1441	2017
60	3/16	B650 Bracket	B650 Bracket	BKC200	1157	1619



13228 NE 20th St., Suite 100, Bellevue, WA 98005 (425) 614-0949

Project:	Break Strength Certified Pre-Stretched B-line Seismic Cable System	Pg. No:	Analysis 1
Address:		Date:	1/13/20
Client:	EATON / B-Line series	Job No.:	19486

**Pre-Stretched B-Line Seismic Cable Assembly Load Analysis (1/8" Dia Cable)**

ASD Design

$\Omega$  System = 2.20 per ASCE 19-16  
 $\Omega$  Bracket = 1.95 per AISI S100-2012 Supplement No. 2 Section F1.2  
 $\Omega$  Cable = 2.50 per IBC 2015 1709.3.1  
 $\Omega$  Connector = 2.00 per FM 1950 Section 4.2

Angle (deg)	Cable Dia (in)	Pallow (lb)	Bracket 1	Pallow (lb)	Bracket 2	Pallow (lb)	Connector	Pallow (lb)	System	Pallow (lb)	Pallow (lb)
30	1/8	800	3/8" Eyelet	994	B154 Bracket	1027	BKC200	873	System 1 - 30	798	<b>798</b>
45	1/8	800	3/8" Eyelet	934	B154 Bracket	989	BKC200	873	System 1 - 45	678	<b>678</b>
60	1/8	800	3/8" Eyelet	1031	B154 Bracket	880	BKC200	873	System 1 - 60	667	<b>667</b>
30	1/8	800	1/2" Eyelet	1054	B154 Bracket	1027	BKC200	873	System 2 - 30	838	<b>800</b>
45	1/8	800	1/2" Eyelet	967	B154 Bracket	989	BKC200	873	System 2 - 45	744	<b>744</b>
60	1/8	800	1/2" Eyelet	1011	B154 Bracket	880	BKC200	873	System 2 - 60	654	<b>654</b>
30	1/8	800	B154 Bracket	1027	B154 Bracket	1027	BKC200	873	System 3 - 30	835	<b>800</b>
45	1/8	800	B154 Bracket	989	B154 Bracket	989	BKC200	873	System 3 - 45	747	<b>747</b>
60	1/8	800	B154 Bracket	880	B154 Bracket	880	BKC200	873	System 3 - 60	799	<b>799</b>
30	1/8	800	3/8" Eyelet	994	B650 Bracket	997	BKC200	873	System 4 - 30	680	<b>680</b>
45	1/8	800	3/8" Eyelet	934	B650 Bracket	1010	BKC200	873	System 4 - 45	670	<b>670</b>
60	1/8	800	3/8" Eyelet	1031	B650 Bracket	941	BKC200	873	System 4 - 60	636	<b>636</b>
30	1/8	800	1/2" Eyelet	1054	B650 Bracket	997	BKC200	873	System 5 - 30	686	<b>686</b>
45	1/8	800	1/2" Eyelet	967	B650 Bracket	1010	BKC200	873	System 5 - 45	670	<b>670</b>
60	1/8	800	1/2" Eyelet	1011	B650 Bracket	941	BKC200	873	System 5 - 60	608	<b>608</b>
30	1/8	800	B650 Bracket	997	B650 Bracket	997	BKC200	873	System 6 - 30	814	<b>800</b>
45	1/8	800	B650 Bracket	1010	B650 Bracket	1010	BKC200	873	System 6 - 45	730	<b>730</b>
60	1/8	800	B650 Bracket	941	B650 Bracket	941	BKC200	873	System 6 - 60	798	<b>798</b>



13228 NE 20th St., Suite 100, Bellevue, WA 98005 (425) 614-0949

Project:	Break Strength Certified Pre-Stretched B-line Seismic Cable System	Pg. No:	Analysis 2
Address:		Date:	1/13/20
Client:	EATON / B-Line series	Job No.:	19486

**Kwik Wire Assembly Load Analysis (3/16" Dia Cable)**

ASD Design

$\Omega$  System = 2.20 per ASCE 19-16  
 $\Omega$  Bracket = 1.95 per AISI S100-2012 Supplement No. 2 Section F1.2  
 $\Omega$  Cable = 2.50 per IBC 2015 1709.3.1  
 $\Omega$  Connector = 2.00 per FM 1950 Section 4.2

Angle (deg)	Cable Dia (in)	Pallow (lb)	Bracket 1	Pallow (lb)	Bracket 2	Pallow (lb)	Connector	Pallow (lb)	System	Pallow (lb)	Pallow (lb)
30	3/16	1680	3/8" Eyelet	2207	B154 Bracket	2094	BKC200	1798	System 9 - 30	1544	<b>1544</b>
45	3/16	1680	3/8" Eyelet	2123	B154 Bracket	2025	BKC200	1798	System 9 - 45	1379	<b>1379</b>
60	3/16	1680	3/8" Eyelet	2180	B154 Bracket	2225	BKC200	1798	System 9 - 60	1335	<b>1335</b>
30	3/16	1680	1/2" Eyelet	2093	B154 Bracket	2094	BKC200	1798	System 10 - 30	1576	<b>1576</b>
45	3/16	1680	1/2" Eyelet	2004	B154 Bracket	2025	BKC200	1798	System 10 - 45	1378	<b>1378</b>
60	3/16	1680	1/2" Eyelet	2153	B154 Bracket	2225	BKC200	1798	System 10 - 60	1288	<b>1288</b>
30	3/16	1680	B154 Bracket	2094	B154 Bracket	2094	BKC200	1798	System 11 - 30	1473	<b>1473</b>
45	3/16	1680	B154 Bracket	2025	B154 Bracket	2025	BKC200	1798	System 11 - 45	1508	<b>1508</b>
60	3/16	1680	B154 Bracket	2225	B154 Bracket	2225	BKC200	1798	System 11 - 60	1228	<b>1228</b>
30	3/16	1680	3/8" Eyelet	2207	B650 Bracket	1830	BKC200	1798	System 13 - 30	1197	<b>1197</b>
45	3/16	1680	3/8" Eyelet	2123	B650 Bracket	2054	BKC200	1798	System 13 - 45	1120	<b>1120</b>
60	3/16	1680	3/8" Eyelet	2180	B650 Bracket	2038	BKC200	1798	System 13 - 60	1064	<b>1064</b>
30	3/16	1680	1/2" Eyelet	2093	B650 Bracket	1830	BKC200	1798	System 14 - 30	1170	<b>1170</b>
45	3/16	1680	1/2" Eyelet	2004	B650 Bracket	2054	BKC200	1798	System 14 - 45	1174	<b>1174</b>
60	3/16	1680	1/2" Eyelet	2153	B650 Bracket	2038	BKC200	1798	System 14 - 60	1138	<b>1138</b>
30	3/16	1680	B650 Bracket	1830	B650 Bracket	1830	BKC200	1798	System 15 - 30	1512	<b>1512</b>
45	3/16	1680	B650 Bracket	2054	B650 Bracket	2054	BKC200	1798	System 15 - 45	1441	<b>1441</b>
60	3/16	1680	B650 Bracket	2038	B650 Bracket	2038	BKC200	1798	System 15 - 60	1157	<b>1157</b>



13228 NE 20th St., Suite 100, Bellevue, WA 98005 (425) 614-0949

Project:	Break Strength Certified Pre-Stretched B-line Seismic Cable System	Pg. No:	Analysis 3
Address:		Date:	1/13/20
Client:	EATON / B-Line series	Job No.:	19486

**Pre-Stretched B-Line Seismic Cable Assembly Load Analysis (1/8" Dia Cable)**

**LRFD Design**

- Φ System = 0.64 per ASCE 19-16
- Φ Bracket = 0.82 per AISI S100-2012 Supplement No. 2 Section F1.1
- Φ Cable = 0.56 per IBC 2015 1709.3.1
- Φ Connector = 0.70 per FM 1950 Section 4.2

Angle (deg)	Cable Dia (in)	Pallow (lb)	Bracket 1	Pallow (lb)	Bracket 2	Pallow (lb)	Connector	Pallow (lb)	System	Pallow (lb)	Pallow (lb)
30	1/8	1120	3/8" Eyelet	1590	B154 Bracket	1644	BKC200	1222	System 1 - 30	1117	<b>1117</b>
45	1/8	1120	3/8" Eyelet	1495	B154 Bracket	1582	BKC200	1222	System 1 - 45	949	<b>949</b>
60	1/8	1120	3/8" Eyelet	1650	B154 Bracket	1408	BKC200	1222	System 1 - 60	934	<b>934</b>
30	1/8	1120	1/2" Eyelet	1686	B154 Bracket	1644	BKC200	1222	System 2 - 30	1173	<b>1120</b>
45	1/8	1120	1/2" Eyelet	1547	B154 Bracket	1582	BKC200	1222	System 2 - 45	1042	<b>1042</b>
60	1/8	1120	1/2" Eyelet	1618	B154 Bracket	1408	BKC200	1222	System 2 - 60	915	<b>915</b>
30	1/8	1120	B154 Bracket	1644	B154 Bracket	1644	BKC200	1222	System 3 - 30	1169	<b>1120</b>
45	1/8	1120	B154 Bracket	1582	B154 Bracket	1582	BKC200	1222	System 3 - 45	1046	<b>1046</b>
60	1/8	1120	B154 Bracket	1408	B154 Bracket	1408	BKC200	1222	System 3 - 60	1119	<b>1119</b>
30	1/8	1120	3/8" Eyelet	1590	B650 Bracket	1596	BKC200	1222	System 4 - 30	952	<b>952</b>
45	1/8	1120	3/8" Eyelet	1495	B650 Bracket	1616	BKC200	1222	System 4 - 45	938	<b>938</b>
60	1/8	1120	3/8" Eyelet	1650	B650 Bracket	1506	BKC200	1222	System 4 - 60	890	<b>890</b>
30	1/8	1120	1/2" Eyelet	1686	B650 Bracket	1596	BKC200	1222	System 5 - 30	960	<b>960</b>
45	1/8	1120	1/2" Eyelet	1547	B650 Bracket	1616	BKC200	1222	System 5 - 45	938	<b>938</b>
60	1/8	1120	1/2" Eyelet	1618	B650 Bracket	1506	BKC200	1222	System 5 - 60	851	<b>851</b>
30	1/8	1120	B650 Bracket	1596	B650 Bracket	1596	BKC200	1222	System 6 - 30	1139	<b>1120</b>
45	1/8	1120	B650 Bracket	1616	B650 Bracket	1616	BKC200	1222	System 6 - 45	1021	<b>1021</b>
60	1/8	1120	B650 Bracket	1506	B650 Bracket	1506	BKC200	1222	System 6 - 60	1118	<b>1118</b>



**13228 NE 20th St., Suite 100, Bellevue, WA 98005 (425) 614-0949**

Project:	Break Strength Certified Pre-Stretched B-line Seismic Cable System	Pg. No:	Analysis 4
Address:		Date:	1/13/20
Client:	EATON / B-Line series	Job No.:	19486

**Kwik Wire Assembly Load Analysis (3/16" Dia Cable)**

**LRFD Design**

- Φ System = 0.64 per ASCE 19-16
- Φ Bracket = 0.82 per AISI S100-2012 Supplement No. 2 Section F1.1
- Φ Cable = 0.56 per IBC 2015 1709.3.1
- Φ Connector = 0.70 per FM 1950 Section 4.2

Angle (deg)	Cable Dia (in)	Pallow (lb)	Bracket 1	Pallow (lb)	Bracket 2	Pallow (lb)	Connector	Pallow (lb)	System	Pallow (lb)	Pallow (lb)
30	3/16	2352	3/8" Eyelet	3531	B154 Bracket	3350	BKC200	2517	System 9 - 30	2161	<b>2161</b>
45	3/16	2352	3/8" Eyelet	3396	B154 Bracket	3240	BKC200	2517	System 9 - 45	1930	<b>1930</b>
60	3/16	2352	3/8" Eyelet	3488	B154 Bracket	3560	BKC200	2517	System 9 - 60	1869	<b>1869</b>
30	3/16	2352	1/2" Eyelet	3348	B154 Bracket	3350	BKC200	2517	System 10 - 30	2206	<b>2206</b>
45	3/16	2352	1/2" Eyelet	3207	B154 Bracket	3240	BKC200	2517	System 10 - 45	1930	<b>1930</b>
60	3/16	2352	1/2" Eyelet	3445	B154 Bracket	3560	BKC200	2517	System 10 - 60	1803	<b>1803</b>
30	3/16	2352	B154 Bracket	3350	B154 Bracket	3350	BKC200	2517	System 11 - 30	2062	<b>2062</b>
45	3/16	2352	B154 Bracket	3240	B154 Bracket	3240	BKC200	2517	System 11 - 45	2111	<b>2111</b>
60	3/16	2352	B154 Bracket	3560	B154 Bracket	3560	BKC200	2517	System 11 - 60	1719	<b>1719</b>
30	3/16	2352	3/8" Eyelet	3531	B650 Bracket	2928	BKC200	2517	System 13 - 30	1675	<b>1675</b>
45	3/16	2352	3/8" Eyelet	3396	B650 Bracket	3286	BKC200	2517	System 13 - 45	1568	<b>1568</b>
60	3/16	2352	3/8" Eyelet	3488	B650 Bracket	3261	BKC200	2517	System 13 - 60	1489	<b>1489</b>
30	3/16	2352	1/2" Eyelet	3348	B650 Bracket	2928	BKC200	2517	System 14 - 30	1639	<b>1639</b>
45	3/16	2352	1/2" Eyelet	3207	B650 Bracket	3286	BKC200	2517	System 14 - 45	1644	<b>1644</b>
60	3/16	2352	1/2" Eyelet	3445	B650 Bracket	3261	BKC200	2517	System 14 - 60	1593	<b>1593</b>
30	3/16	2352	B650 Bracket	2928	B650 Bracket	2928	BKC200	2517	System 15 - 30	2117	<b>2117</b>
45	3/16	2352	B650 Bracket	3286	B650 Bracket	3286	BKC200	2517	System 15 - 45	2017	<b>2017</b>
60	3/16	2352	B650 Bracket	3261	B650 Bracket	3261	BKC200	2517	System 15 - 60	1619	<b>1619</b>



**13228 NE 20th St., Suite 100, Bellevue, WA 98005 (425) 614-0949**

Project:	Break Strength Certified Pre-Stretched B-line Seismic Cable System	Pg. No:	Analysis 5
Address:		Date:	1/13/20
Client:	EATON / B-Line series	Job No.:	19486

**Pre-Stretched B-Line Seismic Cable Test Results**

**Bracket Testing**

Test ID	Type	Dia (in)	Component	Angle (deg)	Max Load (lb)						
					Test 1	Failure Mechanism	Test 2	Failure Mechanism	Test 3	Failure Mechanism	Average
BK1	Bracket	1/8	3/8" Eyelet	30	2046	Cable Broke under Crimp	<b>1824</b>	Cable Broke under Crimp	1934	Cable Broke under Crimp	1935
				45	1873	Cable Broke under Crimp	<b>1729</b>	Cable Broke under Crimp	1854	Cable Broke under Crimp	1819
				60	2036	Cable Broke under Crimp	<b>1931</b>	Cable Broke under Crimp	2055	Cable Broke under Crimp	2007
BK2	Bracket	1/8	1/2" Eyelet	30	2152	Cable Broke under Crimp	2004	Cable Broke under Crimp	<b>1999</b>	Cable Broke under Crimp	2052
				45	<b>1730</b>	Cable Broke under Crimp	1919	Cable Broke under Crimp	1996	Cable Broke under Crimp	1882
				60	1976	Cable Broke under Crimp	2018	Cable Broke under Crimp	<b>1910</b>	Cable Broke under Crimp	1968
BK3	Bracket	3/16	3/8" Eyelet	30	4505	Cable Broke under Crimp	4496	Cable Broke under Crimp	<b>3888</b>	Cable Broke under Crimp	4296
				45	<b>4036</b>	Cable Broke under Crimp	4147	Cable Broke under Crimp	4213	Cable Broke under Crimp	4132
				60	4520	Cable Broke under Crimp	4405	Cable Broke under Crimp	<b>3806</b>	Cable Broke under Crimp	4244
BK4	Bracket	3/16	1/2" Eyelet	30	<b>3973</b>	Cable Broke under Crimp	4205	Cable Broke under Crimp	4042	Cable Broke under Crimp	4073
				45	3982	Cable Broke under Crimp	<b>3838</b>	Cable Broke under Crimp	3886	Cable Broke under Crimp	3902
				60	<b>4067</b>	Cable Broke under Crimp	4298	Cable Broke under Crimp	4209	Cable Broke under Crimp	4191
BK5	Bracket	1/8	B154	30	2027	Cable Broke under Crimp	<b>1948</b>	Cable Broke under Crimp	2025	Cable Broke under Crimp	2000
				45	<b>1917</b>	Cable Broke under Crimp	1930	Cable Broke under Crimp	1927	Cable Broke under Crimp	1925
				60	<b>1432</b>	Cable Broke under Crimp	1836	Cable Broke under Crimp	1871	Cable Broke under Crimp	1713
BK6	Bracket	3/16	B154	30	4170	Cable Broke under Crimp	<b>3994</b>	Cable Broke under Crimp	4062	Cable Broke under Crimp	4075
				45	<b>3736</b>	Cable Broke under Crimp	4262	Cable Broke under Crimp	3828	Cable Broke under Crimp	3942
				60	<b>4182</b>	Cable Broke under Crimp	4442	Cable Broke under Crimp	4370	Cable Broke under Crimp	4331
BK7	Bracket	1/8	B650	30	1947	Cable Broke under Crimp	2028	Cable Broke under Crimp	<b>1850</b>	Cable Broke under Crimp	1942
				45	<b>1962</b>	Cable Broke under Crimp	1967	Cable Broke under Crimp	1968	Cable Broke under Crimp	1966
				60	1902	Cable Broke under Crimp	1812	Cable Broke under Crimp	<b>1783</b>	Cable Broke under Crimp	1832
BK8	Bracket	3/16	B650	30	<b>3449</b>	Cable Broke at B650	3653	Cable Broke at B650	3584	Cable Broke at B650	3562
				45	4013	Cable tore through B650	<b>3942</b>	Cable tore through B650	4039	Cable tore through B650	3998
				60	3918	Cable Broke under Crimp	<b>3903</b>	Cable tore through B650	4081	Cable Broke under Crimp	3967

Note: Values in blue are the minimum values per test

**Connector Testing**

Test ID	Type	Dia (in)	Component	Angle (deg)	Max Load (lb)						
					Test 1	Failure Mechanism	Test 2	Failure Mechanism	Test 3	Failure Mechanism	Average
BKC1	Connector	1/8	BKC 200	90	<b>1701</b>	Cable Broke under Crimp	1715	Cable Broke under Crimp	1822	Cable Broke under Crimp	1746
BKC2	Connector	1/8	BKC 200	90	1769	Cable Broke at BKC 200	1814	Cable Broke at Bar Joist	<b>1758</b>	Cable Broke under Crimp	1780
BKC3	Connector	3/16	BKC 200	90	3688	Cable Broke at BKC 200	<b>3458</b>	Cable Broke at BKC 200	3640	Cable Broke under Crimp	3595
BKC4	Connector	3/16	BKC 200	90	3848	Cable Broke at BKC 200	<b>3662</b>	Cable Broke at BKC 200	3967	Cable Broke at BKC 200	3826

Note: Values in blue are the minimum values per test

**Cable Strength**

Dia (in)	Type	Break Strength (lb)
1/8	7x19	<b>2000</b>
3/16	7x19	<b>4200</b>

Pre-Stretched B-Line Seismic Cable Test Results (Cont.)

System Testing

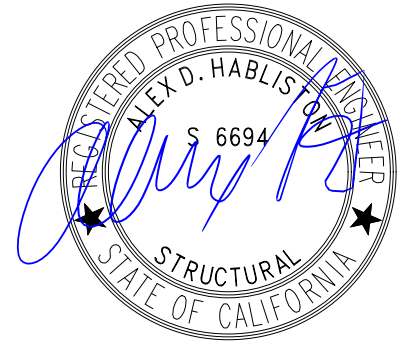
Test ID	Type	Dia (in)	Component	Angle (deg)	Max Load (lb)						
					Test 1	Failure Mechanism	Test 2	Failure Mechanism	Test 3	Failure Mechanism	Average
System 1	System	1/8	3/8" Eyelet & B154	30	1755.7	Cable Broke at B154	1752.1	Cable Broke at B154	1756.4	Cable Broke at BKC 200	1755
				45	1531.1	Cable Broke at B154	1432	Cable Broke at B154	1510.1	Cable Broke at B154	1491
				60	1337.8	Cable Broke at B154	1640.7	Cable Broke at B154	1426.9	Cable Broke at B154	1468
System 2	System	1/8	1/2" Eyelet & B154	30	1758.6	Cable Broke at B154	1887.6	Cable Broke at BKC 200	1885	Cable Broke at BKC 200/B154	1844
				45	1757.2	Cable Broke at B154	1524.7	Cable Broke at B154	1631.2	Cable Broke at B154	1638
				60	1245.5	Cable Broke at B154	1539.5	Cable Broke at B154	1528.9	Cable Broke at B154	1438
System 3	System	1/8	B154 Bracket	30	1754.7	Cable Broke at BKC 200	1877.7	Cable Broke at BKC 200	1877.3	Cable Broke at BKC 200	1837
				45	1533	Cable Broke at B154	1756.8	Cable Broke at BKC 200	1643.3	Cable Broke at Bar Joist	1644
				60	1755.7	Cable Broke at BKC 200	1763.3	Cable Broke at Bar Joist	1754.9	Cable Broke at BKC 200	1758
System 5	System	1/8	3/8" Eyelet & B650	30	1529	Cable Broke at B650	1534.1	Cable Broke at B650	1425.9	Cable Broke at B650	1496
				45	1425.4	Cable Broke at B650	1467.1	Cable Broke at B650	1529.7	Cable Broke at B650	1474
				60	1332.9	Cable Broke at B650	1531.9	Cable Broke at B650	1330.3	Cable Broke at B650	1398
System 6	System	1/8	1/2" Eyelet & B650	30	1758.1	Cable Broke at B650	1431.5	Cable Broke at B650	1338.1	Cable Broke at B650	1509
				45	1336.1	Cable Broke at B650	1753.9	Cable Broke at B650	1329.8	Cable Broke at B650	1473
				60	1428.3	Cable Broke at B650	1246.6	Cable Broke at B650	1336.8	Cable Broke at B650	1337
System 7	System	1/8	B650 Bracket	30	1751.7	Cable Broke at BKC 200	1741.4	Cable Broke at BKC 200	1877.7	Cable Broke at BKC 200	1790
				45	1530.2	Cable Broke at Bar Joist	1754.1	Cable Broke at Bar Joist	1530.9	Cable Broke at Bar Joist	1605
				60	1755.3	Cable Broke at Bar Joist	1758.7	Cable Broke at Bar Joist	1755.1	Cable Broke at Bar Joist	1756
System 9	System	3/16	3/8" Eyelet & B154	30	3471.9	Cable Broke at BKC 200	3242.1	Cable Broke at B154	3475.9	Cable Broke at BKC 200	3397
				45	3033.8	Cable Broke at B154	3036.2	Cable Broke at B154	3028.1	Cable Broke at B154	3033
				60	3032.8	Cable Broke at B154	2994.8	Cable Broke at B154	2784.9	Cable Broke at B154	2938
System 10	System	3/16	1/2" Eyelet & B154	30	3470.8	Cable Broke at BKC 200/B154	3474.8	Cable Broke at B154	3455	Cable Broke at B154	3467
				45	3247.3	Cable Broke at B154	2829.5	Cable Broke at B154	3019.9	Cable Broke at B154	3032
				60	2842.9	Cable Broke at B154	2722.8	Cable Broke at B154	2933.6	Cable Broke at B154	2833
System 11	System	3/16	B154 Bracket	30	3239	Cable Broke at BKC 200	3245	Cable Broke at BKC 200	3238	Cable Broke at BKC 200	3241
				45	3237.7	Cable Broke at BKC 200	3240.6	Cable Broke at BKC 200	3471.3	Cable Broke at BKC 200	3317
				60	2681.5	Cable Broke at Bar Joist	2861.6	Cable Broke at BKC 200	2562.4	Cable Broke at BKC 200	2702
System 13	System	3/16	3/8" Eyelet & B650	30	2627.6	Cable Broke at B650	2635.7	Cable Broke at B650	2634.3	Cable Broke at B650	2633
				45	2624.8	Cable Broke at B650	2465.7	Cable Broke at B650	2303.6	Cable Broke at B650	2465
				60	2369	Cable Broke at B650	2331	Cable Broke at B650	2321.2	Cable Broke at B650	2340
System 14	System	3/16	1/2" Eyelet & B650	30	2629.7	Cable Broke at B650	2454.6	Cable Broke at B650	2640.3	Cable Broke at B650	2575
				45	2646.2	Cable Broke at B650	2466.9	Cable Broke at B650	2636.8	Cable Broke at B650	2583
				60	2638.3	Cable Broke at B650	2452.4	Cable Broke at B650	2419.3	Cable Broke at B650	2503
System 15	System	3/16	B650 Bracket	30	3027.1	Cable Broke at BKC 200	3468.2	Cable Broke at BKC 200	3483.5	Cable Broke at BKC 200	3326
				45	3241.8	Cable Broke at BKC 200	3023.9	Cable Broke at BKC 200	3243.3	Cable Broke at BKC 200	3170
				60	2478.4	Cable Broke at Bar Joist	2343.1	Cable Broke at BKC 200	2812.6	Cable Broke at BKC 200	2545

Note: Values in blue are the minimum values per test



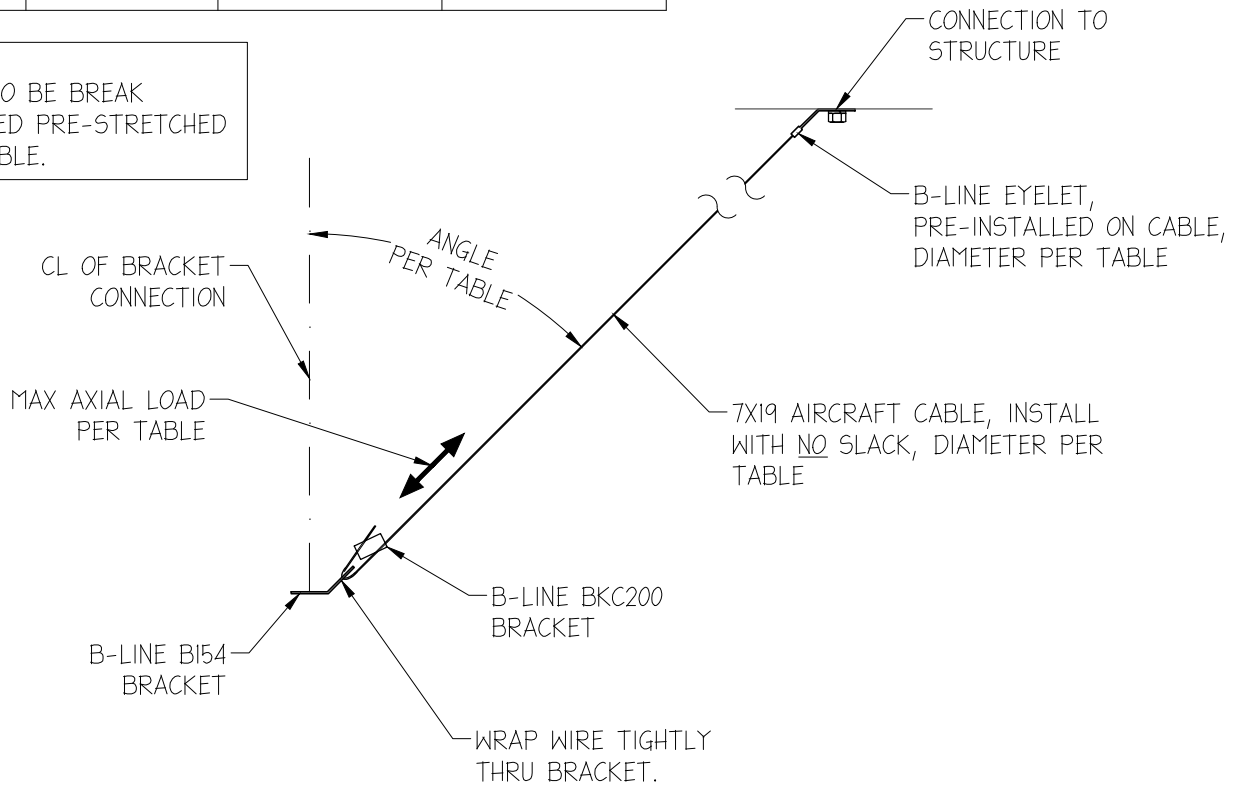
ASSEMBLY SUMMARY: B154 BRACKET AND EYELET

CABLE DIAMETER	EYELET DIAMETER	BRACE ANGLE (DEGREES)	MAX AXIAL LOAD (ASD) (LB)	MAX AXIAL LOAD (LRFD) (LB)
1/8"	3/8"	30	798	1117
		45	678	949
		60	667	934
1/8"	1/2"	30	800	1120
		45	744	1042
		60	654	915
3/16"	3/8"	30	1544	2161
		45	1379	1930
		60	1335	1869
3/16"	1/2"	30	1576	2206
		45	1378	1930
		60	1288	1803



01/16/2020

NOTE:  
AIRCRAFT CABLE TO BE BREAK STRENGTH CERTIFIED PRE-STRETCHED B-LINE SEISMIC CABLE.



# CABLE BRACE B154 BRACKET AND EYELET ASSEMBLY

1  
SSK-1

SCALE: 1"=1'-0"



13228 NE 20TH ST, SUITE 100, BELLEVUE, WA 98005 \ 425 614-0949

PROJECT: B-LINE SEISMIC CABLE SYSTEMS

ENG: EL

PG: SSK-1

ADDRESS:

VER: V3

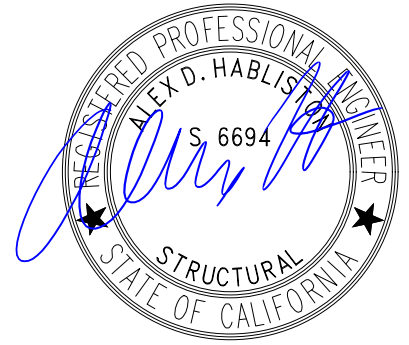
CLIENT: EATON / B-LINE SERIES

DATE: 2020-01-13

JOB NO: 19486

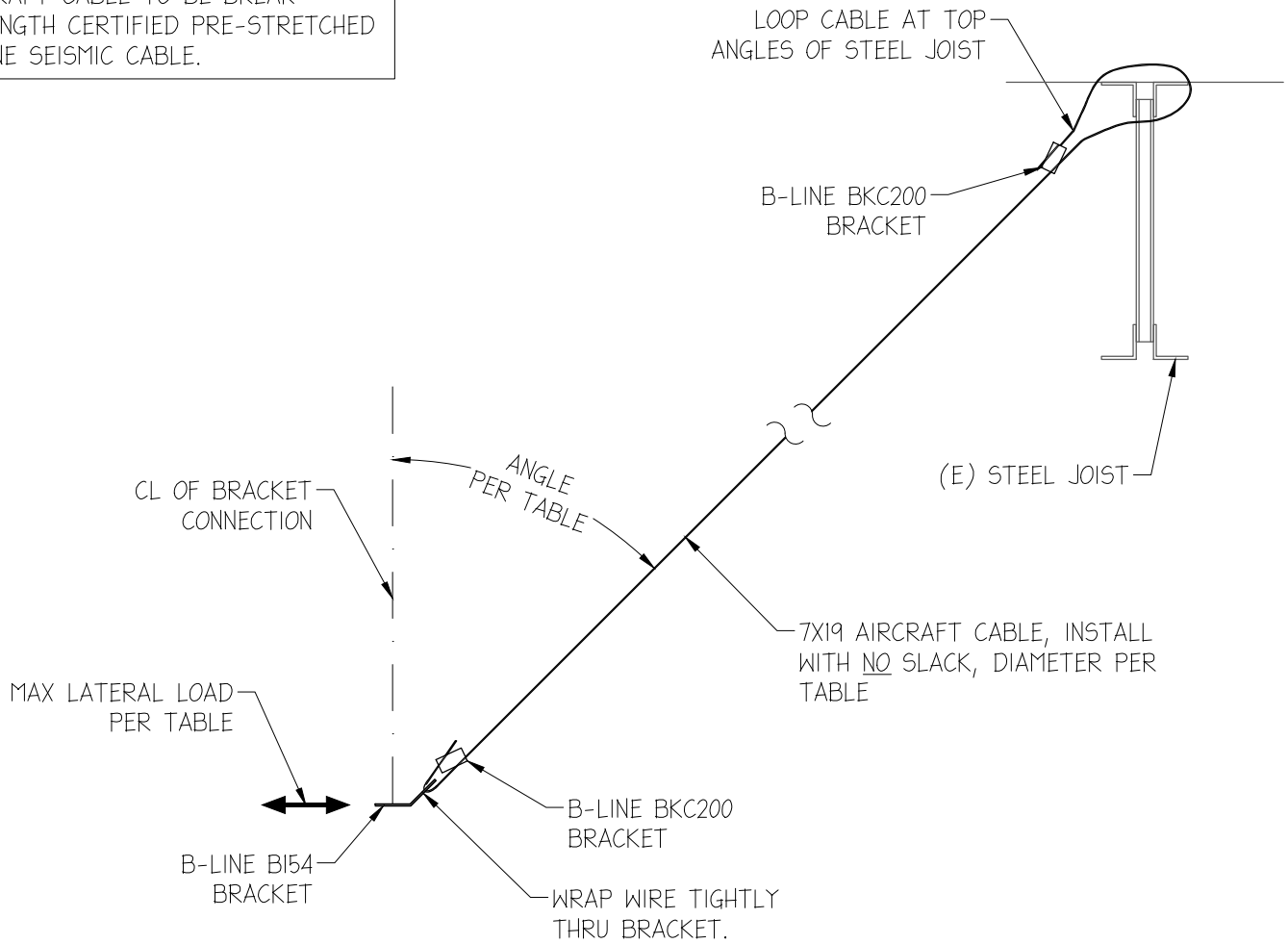
ASSEMBLY SUMMARY: BI54 BRACKET AND LOOP

CABLE DIAMETER	BRACKET	BRACE ANGLE (DEGREES)	MAX AXIAL LOAD (ASD) (LB)	MAX AXIAL LOAD (LRFD) (LB)
1/8"	B-LINE BI54	30	800	1120
		45	747	1046
		60	799	1119
3/16"	B-LINE BI54	30	1473	2062
		45	1508	2111
		60	1228	1719



01/16/2020

NOTE:  
AIRCRAFT CABLE TO BE BREAK STRENGTH CERTIFIED PRE-STRETCHED B-LINE SEISMIC CABLE.



# CABLE BRACE BI54 BRACKET ASSEMBLY

1  
SSK-2

SCALE: 1"=1'-0"



13228 NE 20TH ST, SUITE 100, BELLEVUE, WA 98005 \ 425 614-0949

PROJECT: B-LINE SEISMIC CABLE SYSTEMS

ENG: EL

PG: SSK-2

ADDRESS:

VER: V3

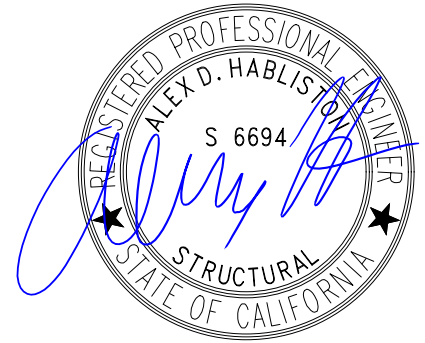
CLIENT: EATON / B-LINE SERIES

DATE: 2020-01-13

JOB NO: 19486

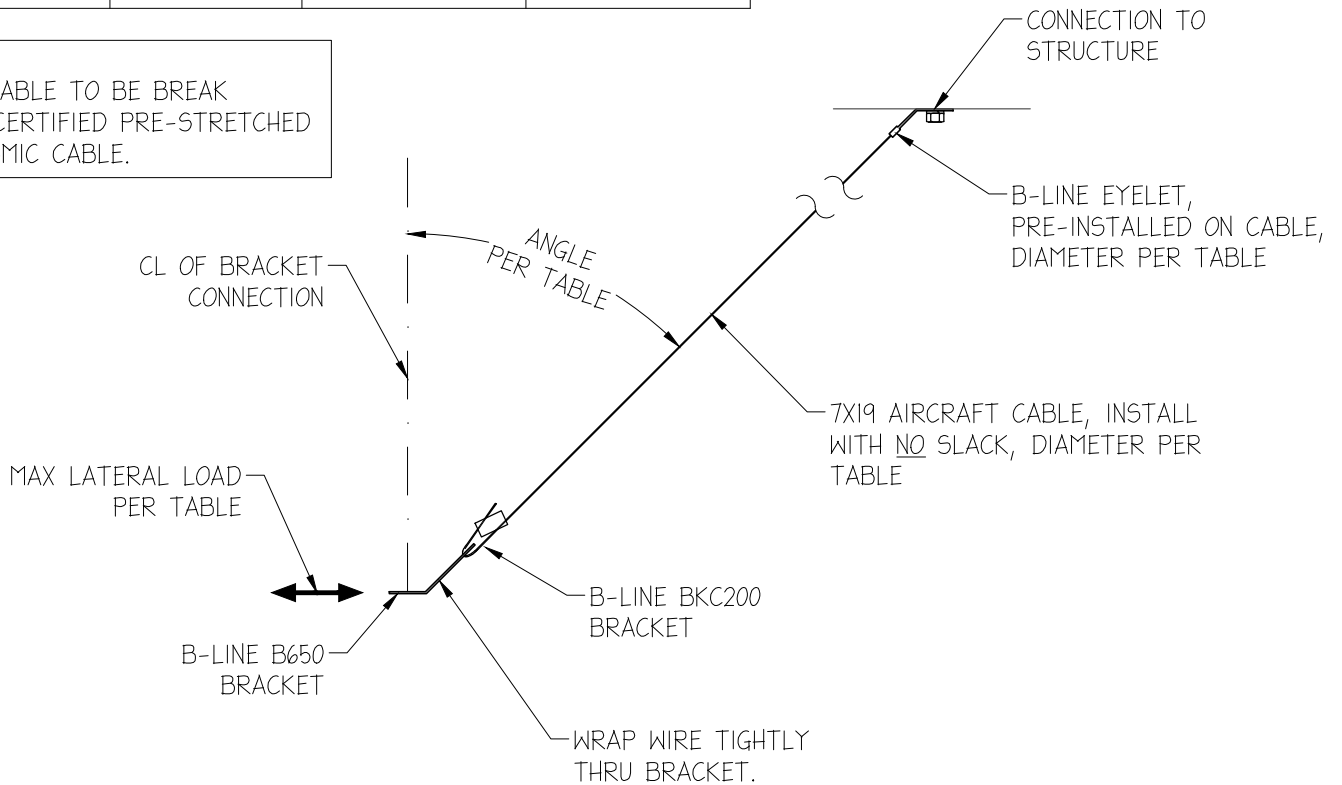
ASSEMBLY SUMMARY: B650 BRACKET AND EYELET

CABLE DIAMETER	EYELET DIAMETER	BRACE ANGLE (DEGREES)	MAX AXIAL LOAD (ASD) (LB)	MAX AXIAL LOAD (LRFD) (LB)
1/8"	3/8"	30	680	952
		45	670	938
		60	636	890
1/8"	1/2"	30	686	960
		45	670	938
		60	608	851
3/16"	3/8"	30	1197	1675
		45	1120	1568
		60	1064	1489
3/16"	1/2"	30	1170	1639
		45	1174	1644
		60	1138	1593



01/16/2020

NOTE:  
AIRCRAFT CABLE TO BE BREAK STRENGTH CERTIFIED PRE-STRETCHED B-LINE SEISMIC CABLE.



# CABLE BRACE B650 BRACKET AND EYELET ASSEMBLY

1  
SSK-3

SCALE: 1"=1'-0"



13228 NE 20TH ST, SUITE 100, BELLEVUE, WA 98005 \ 425 614-0949

PROJECT: B-LINE SEISMIC CABLE SYSTEMS

ENG: EL

PG: SSK-3

ADDRESS:

VER: V3

CLIENT: EATON / B-LINE SERIES

DATE: 2020-01-13

JOB NO: 19486

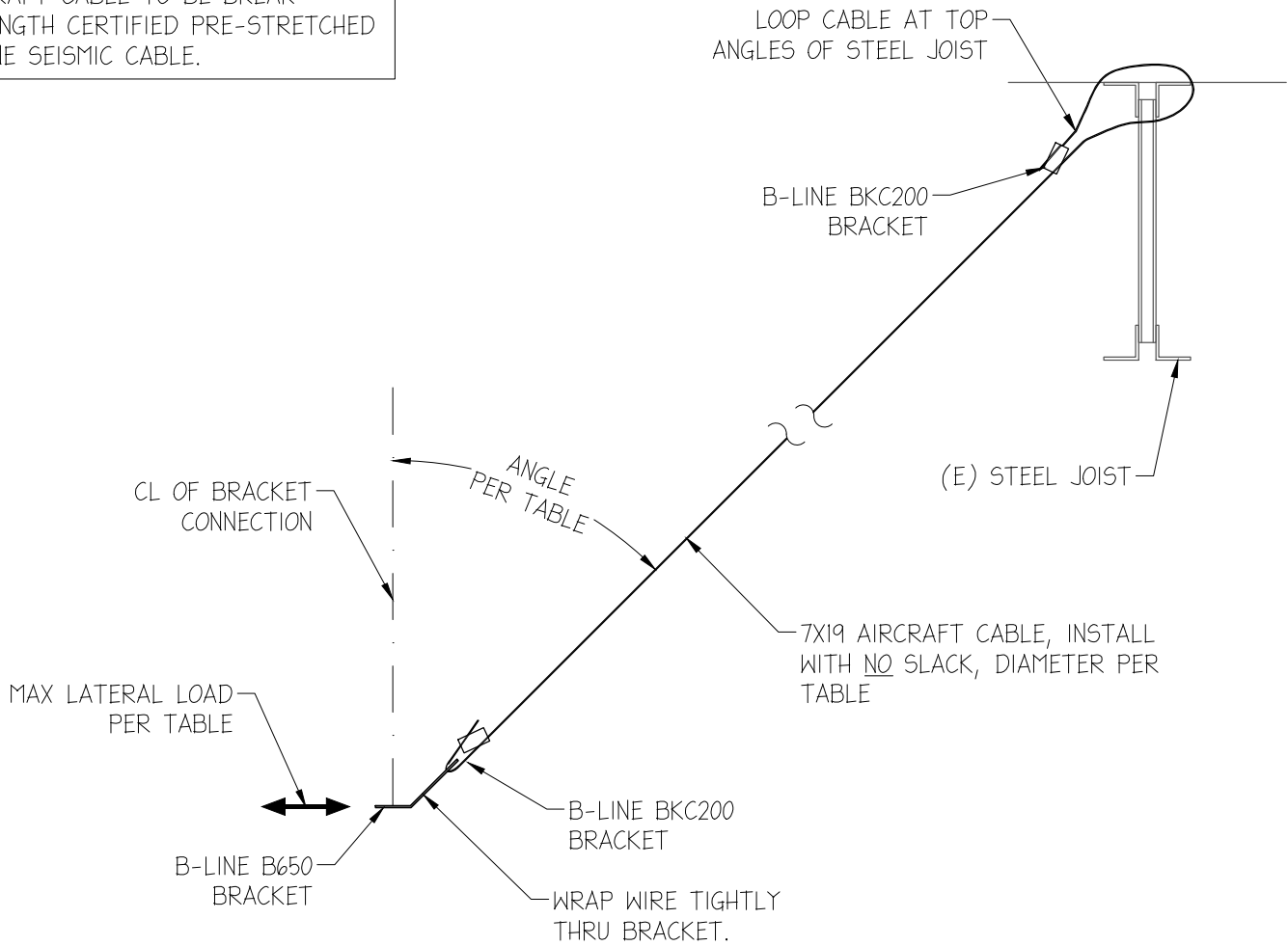
ASSEMBLY SUMMARY: B650 BRACKET AND LOOP

CABLE DIAMETER	BRACKET	BRACE ANGLE (DEGREES)	MAX AXIAL LOAD (ASD) (LB)	MAX AXIAL LOAD (LRFD) (LB)
1/8"	B-LINE B650	30	800	1120
		45	730	1021
		60	798	1118
3/16"	B-LINE B650	30	1512	2117
		45	1441	2017
		60	1157	1619



01/16/2020

NOTE:  
AIRCRAFT CABLE TO BE BREAK STRENGTH CERTIFIED PRE-STRETCHED B-LINE SEISMIC CABLE.



# CABLE BRACE B650 BRACKET ASSEMBLY

1  
SSK-4

SCALE: 1"=1'-0"



13228 NE 20TH ST, SUITE 100, BELLEVUE, WA 98005 \ 425 614-0949

PROJECT: B-LINE SEISMIC CABLE SYSTEMS

ENG: EL

PG: SSK-4

ADDRESS:

VER: V3

CLIENT: EATON / B-LINE SERIES

DATE: 2020-01-13

JOB NO: 19486