







j

GUNNIN CONSULTING ENGINEERS, INC.

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214- 528-3796 e-mail: gunningcei@aol.com Delivery Address: 3303 Lee Parkway, Ste. 325

Dallas, Texas 75219-5109 FAX 214-522-6796

May 10, 2002

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re:

Cable Supports for Street Banners Belt Line Road near Quorum Drive Addison, Texas

Dear Mr. Pierce:

At your request, I visited the site of the project yesterday to observe the condition of the cables and their attachments. I was accompanied by your Mr. Charles Mitchell, who operated a bucket lift to permit my observations.

Enclosed is one print each of several photos taken by two different cameras, identified here as camera A and camera B. We have marked on the back of the photos A1 through A15 and B1 through B23. The pole in the middle of the street is shown in photos B1 through B6. The support on the south side of the street is shown in photos A1 through A5 and B6 through B13. The support on the north side of the street is shown in photos A6 through A15 and B14 through B23. These photos are for your files.

We observed that the double-nuts on the south end of the upper cable were loose. Mr. Mitchell tightened them before we left the site.

We observed that the eyebolt at the bottom cable attachment to the support on the north side of the street had broken. This is indicated in Photos B16 through B17, B19 through B23, A8, and A10 through A15.

Mr. Mitchell and I had a brief, cursory discussion of methods of repair for the attachment. Following further review by this office, we recommend the following repairs.

Mr. Pierce May 10, 2002 Page two

The cable should be re-attached to the support by use of a turnbuckle, selected from among those listed in the attached sheet. The existing broken eye-bolt may be reused. In order to accommodate a large turnbuckle, the existing broken bolt should be cut off short enough to permit placement of its eye as close to the pole as possible while retaining the double nuts both sides. The jaws of the turnbuckle should be oriented vertical. Similarly, the eyebolt at the other end of the cable should be cut off short enough to permit placement of its eye close to the pole, with double nuts both sides. No turnbuckle is required at the south support, unless necessary for erection purposes. In lieu of cutting off the threads of the existing bolts to re-use them, new bolts may be used, same diameter as existing bolts.

We also recommend you make the same repairs described above for the upper cable. We also suggest that at both top and bottom cables, the cables should not be tightened more than necessary to reasonably limit their sag.

Since the dimensions of the cables and dimensional locations of the supports are not known to us, we cannot determine which of the turnbuckles are of appropriate size to fit with the as-fabricated cables. We suggest that when you determine these dimensions and which sizes of turnbuckles from the attached list will fit, and that you advise our office so we can review your selection of turnbuckles for adequacy.

If you have any questions, feel free to call on me.

Sincerely,

GUNNIN CONSULTING ENGINEERS, INC.

Bill L. Gunnin, P.E.

Enclosures: Photographs

Crosby Turnbuckle Data

Jim Pierce

From:

Charles Mitchell

Sent:

Friday, May 04, 2001 10:13 AM

To:

Jim Pierce

Subject:

Banner Pole Measurments

Jim,

I took these measurments on the banner poles:

South side of Belt Line:

Calculated Diameter:

Top:

11" diameter

Circumference: 37"

Bottom: 11.5" diameter

Circumference: 38"

12.10"

Height from top to bottom eye-bolt: 30.5"

North side of Belt Line:

Top:

11" diameter

Circumference: 36.5"

11.6"

Bottom: 11" diameter

Circumference: 37.5"

Height from top to bottom eye-bolt: 30.5"

"Mitch"

Fax to Bill Gunnin 214-522-6796

1

HP LaserJet 3200se



TOALASERJET 3200 9724502837 09:38 MAY-4-2001

Fax Call Report

Identification Duration **Pages** Result Time Туре Job Date 09:38:04 92145226796 0:34 1 0K 5/ 4/2001 Send 611

Jim Pierce

Charles Mitchell Friday, May 04, 2001 10:13 AM Jim Pierce Banner Pole Measurments

I took these measurments on the banner poles;

South side of Belt Line:

Calculated Diameter: Circumference: 37"

Top: 11" diameter

11-784

Bottom: 11.5" diameter

12.10"

Height from top to bottom eye-bolt: 30.5"

Circumference: 38"

North side of Belf Line:

11.6" Circumference: 36.5"

Top: 11" diameter

11.9"

Bottom: 11" diameter

Circumference: 37.5"

Height from top to bottom eye-bolt: 30.5"

"Mitch"

Fax to Bill Gunnin 214-522-6796



<u>AĎĎÎSŐN</u>			ATTENTIO	ATTENTION JOB NO.					
Public Works / Engi 6801 Westgrove • P.O. Addison, Texas 75001 elephone: (972) 450-287	Box 9010	72) 450-283 <i>7</i>	RE:	Belt Li Street	ine Pd Banners				
o <u>Carme</u>	en M	syan		· · · · · · · · · · · · · · · · · · ·					
ENTLEMAN: WE ARE SENDI ☐ Shop Drawings ☐ Copy of letter	NG YOU	/	Plans	arate cover via □ Samples	the following items: ☐ Specifications				
COPIES DATE	NO.			DESCRIPTION					
		Centract for	Annua	1 Observat	in of Street				
		Banners (
		Relt	Line	Rd	/				
						_			
					-				
					:	_			
	MITTED	as checked below:							
☐ For approval		☐ Approved as submitted			copies for approval				
For your use		☐ Approved as noted			copies for distribution				
☐ As requested	anana ant	☐ Returned for corrections		☐ Return	corrected prints				
					RNED AFTER LOAN TO US				
		19		☐ PRINTS RETU	HNED AFTER LOAN TO US				
EMARKE									
EMARKS	_	_				<u> </u>			
									
· ·									
					· .				

LETTER OF TRANSMITTAL

If enclosures are not as noted, please notify us at once.

GUNNIN CONSULTING ENGINEERS, INC.

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214- 528-3796 e-mail: gunningcei@aol.com Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

May 1, 2002

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re:

Cable Supports for Street Banners Belt Line Road near Quorum Drive Addison, Texas

Dear Mr. Pierce:

This is to confirm our telephone conversation today regarding our annual observations of the cable supports. It was agreed that we would perform the annual observations for a lump sum fee of \$500.00 each year, and that you would provide a man-lift with operator to facilitate our observations.

Please indicate agreement by Town of Addison by an authorized signature below. Also, please give me a call to schedule our observations in the next week or so.

If you have any questions, feel free to call on me.

Sincerely.

GUNNIN CONSULTING ENGINEERS, INC.

Bill L. Gunnin, Ph.D., P.E.

President

Agreed to:

By Town of Addison:

Date: 5-1-02

GUNNIN CONSULTING ENGINEERS, INC

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457 Phone: 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Suite 325

Dallas, Texas 75219 FAX: 214-522-6796

FACSIMILE COVER SHEET

DATE: May 1, 2002

TO: Mr. James C. Pierce, Jr., P.E.

Town of Addison

FAX NO: 972-450-2837

FROM: Bill L. Gunnin

JOB NAME: Street Banner Supports

Belt Line near Quorum Drive

JOB NUMBER: 389

TOTAL NUMBER OF PAGES, INCLUDING THIS SHEET: 2

HARD COPY OF TRANSMISSION TO FOLLOW? YES:

NO: X

PLEASE CALL 214-528-3796 IF COMPLETE TRANSMISSION IS NOT RECEIVED.

Wison!

JIM PIERCE, P.E. **Assistant Public Works Director** (972) 450-2879 (972) 450-2837 FAX jpierce@ci.addison.tx.us

Town of Addison 16801 Westgrove Dr. P.O. Box 9010, Addison, Texas 75001-9010

Barbara-This is for the new hardware that was put up

for the banners, and is OK

UNION SLING COMPANY

Mailing Address
BOX 565301
DALLAS, TEXAS 75356
PHONE: (214) 637-2651
TOLL FREE 800-999-6207

Warehouse 3021 PLUTO STREET DALLAS, TEXAS 75212 FAX: (214) 637-0259

INVOICE No. B 50719

SOLD TO: Town of Addison

j

P.O. Box 9010 Addison, Tx. 75001 SHIPPED TO:

E-Mail - unionsling@msn.com

Same

AH: Jim Pierce

INVOICE		DELIVERY DATE	YOUR ORDER NO.	SHIPPED VIA	TERN		
ره. 5-15	7-01	5-9-01	R-000800	Call For		30 Be Rendered	
QUAN.	WA C	water of the part of	DESCRIPTION	A Management of the second of	PRICE	AMOUNT	TOTAL Section
lea.			Bearing nut to bear	ring nut 7x19 Prefos, G414 Galv. P.S.	457.76	457.76	Laurena Langera Maria
	thi Eye	mble & Mod. Bolt with	3/4"x15" G291 Cros one nut each end. (by Regular Nut Eye	sby Regular Nut One each mod. 3/4"		nter 14 trons Guardina ya Guardina	
· (h.)	and	clistomers	7/16" I.D. x2'0" OA (Note: Upper Assemb	Stainless Steel			
lea.	sta		1 Ditto Above.	ring not 7x19 Pref.	457.76	457.76	
4ea.	3/8	"x2½" G291	regular nut eye bol	L t	4.47	17.88	
16ea.	3/8	" G450 Cros	by U-Bolt Clips		3.05	48.80	
4ea.	5/1	6" G450 Cro	sby U-Bolt Clips		2.90	11.60	: w
4ea.			Pref Stainless Stee 1-A	el-plain cut-	27.76	111.04	
				en e			\$1104.84
				tudent i visita e naturalitati i visita e naturalitati i visita e naturalitati i visita e naturalitati i visit Naturalitati i visita e naturalitati i visita e naturalitati i visita e naturalitati i visita e naturalitati i			
		er e	THANK YOU				
		`````````````````````````````````````	ax Exempt - Cert. (	On File			
,		DKI-P	ay ini				
ir igge		06-	-12-01	The second of th			
	•	All Control of the Co		o de promise de la primera de la composición de la composición de la composición de la composición de la compo La composición de la		and the second s	om Maria (1997) Omah Emilya
1d l	 Varning	THE WIPE DODE	IS NOT TO BE LISED IN SCAFFOL	DINO CADIE CUMPED OD CICY C	I IMPED ABBLICATIO	NIC MADDANITI	S ON WIRE

WARNING - THIS WIRE ROPE IS NOT TO BE USED IN SCAFFOLDING, CABLE - CLIMBER OR SKY - CLIMBER APPLICATIONS. WARRANTIES ON WIRE ROPE AND/OR ASSEMBLIES APPLIES TO NEW AND UNUSED WIRE ROPE AND/OR ASSEMBLIES. THE RATED CAPACITY MAY DECREASE WITH EACH USE. INSPECT THE SLING AND/OR WIRE ROPE AND CONSULT INDUSTRY AND OSHA STANDARDS BEFORE EVERY USE.

ROPE WHEN CUT TO LENGTH ACCORDING TO ORDER IS NOT SUBJECT TO RETURN WITHOUT APPROVAL OF SELLER.
SLING ASSEMBLIES WHEN MANUFACTURED TO CUSTOMER SPECIFICATIONS ARE NOT SUBJECT TO RETURN WITHOUT APPROVAL OF SELLER.

### GUNNIN CONSULTING ENGINEERS, INC

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457 Phone: 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Suite 325

Dallas, Texas 75219 FAX: 214-522-6796

#### **FACSIMILE COVER SHEET**

DATE: May 22, 2001

TO: Mr. James C. Pierce, Jr., P.E.

Town of Addison

FAX NO: 972-450-2837

FROM: Bill L. Gunnin

JOB NAME: Street Banner Supports

Belt Line near Quorum Drive

JOB NUMBER:

TOTAL NUMBER OF PAGES, INCLUDING THIS SHEET: 2

HARD COPY OF TRANSMISSION TO FOLLOW? YES: X NO:

PLEASE CALL 214-528-3796 IF COMPLETE TRANSMISSION IS NOT RECEIVED.

Jim -

Please disregard the previous invoice.

The original of this invoice is en route via mail.

Thanks,

Bill Gunnin

Original Barbara K Sent porprient 5/29/01

### GUNNIN CONSULTING ENGINEERS, INC.

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214- 528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109

FAX 214-522-6796

Town of Addison
Mr. James C. Pierce, Jr., P.E.
16801 Westgrove Drive
Addison, TX 75001-9010

DATE	INVOICE#
5/21/2001	38900-01

1		
	PROJECT	ı
	and Other Designer Cable Designer	
	389 Street Banners Cable Supports	

SUBTOTAL PROFESSIONAL SERVICES			2,000.0
Less Previously Invoiced Fee Due This Invoice	•	0.00 2,000.00	0.0 2,000.0
Percent Complete Fee Earned to Date	0	100.00 2,000.00	0.0 0.0
PROFESSIONAL SERVICES 4/12/01 THROUGH 6/21/01 Agreed Fee	0	2,000.00	0.0
DESCRIPTION	QTY	RATE	AMOUNT

4	ACORD,	CERTIF	FICATE OF	LIABILI	TY INSU	JRANCE		DATE (MM/DDYY) 05/07/2001			
PRO	DUCER						ED AS A MATTER OF				
	ONNIE J.L O BOX 777		COMPANY		HOLDER.	THIS CERTIFICA	O RIGHTS UPON THE TE DOES NOT AMENI OFFORDED BY THE PO	, EXTEND OR			
	ALLAS, TX 14- <u>35</u> 8-50					INSURERS AFFORDING COVERAGE					
INSU	GUNN	IN CONSUI	TING ENGINE	EERS, INC.	INSURER A: U	NION STAN	DARD INS. CO.				
					INSURER B:						
		OX 820457			INSURER C:						
	DALL	AS, TX 75	382-0457		INSURER D:						
INSURER E:											
	COVERAGES										
A	THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES, AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.										
INSR LTR	TYPE OF IN	BURANCE	POLICY NUI	MBER	POLICY EFFECTIVE	POLICY EXPIRATION DATE (MM/DD/YY)	LIMIT	8			
	GENERAL LIABILITY						EACH OCCURRENCE	\$1,000,000			
	X COMMERCIAL G	ENERAL LIABILITY					FIRE DAMAGE (Any one fire)	s_100,000			
	CLAIMS MA	DE X OCCUR					MED EXP (Any one person)	s 5,000			
Α			TP 1750665	-22	09-01-00	09-01-01	PERSONAL & ADV INJURY	\$1,000,000			
							GENERAL AGGREGATE	s1,000,000			
	GEN'L AGGREGATE L	IMIT APPLIES PER:					PRODUCTS - COMP/OF AGG	3EXCLUDED			
	X POLICY	PRO- DECT LOC									
	AUTOMOBILE DABILIT	TY					COMBINED SINGLE LIMIT (Es accident)	s			
	ALL OWNED AUT						BÖDILY INJURY (Per person)	s			
	HIRED AUTOS	TOS					GODILY INJURY (Per accident)	\$			
	<u> </u>						PROPERTY DAMAGE (Per accident)	s			
-,-	GARAGE LIABILITY						AUTO ONLY - EA ACCIDENT	5			
	ANY AUTO						OTHER THAN EA ACC	ş			
					•		AUTO ONLY: AGG	S			
_	EXCESS LIABILITY	,					EACH OCCURRENCE	\$			
	OCCUR	CLAIMS MADE					AGGREGATE	5			
		_						2			
	DEDUCTIBLE	l						5			
	RETENTION	s						\$			
	WORKERS COMPENSA						TORY LIMITS ER				
	EMPLOYERS' LIABILIT	۲		[			E.L. EACH ACCIDENT	\$			
							E.L. DISEASE - EA EMPLOYEE	\$			
							E.L. DISEASE - POLICY LIMIT	\$			
	ОТНЕЯ										
DESC	RIPTION OF OPERATION	NS/LOCATIONS/VEHIC	LES/EXCLUSIONS ADDED BY	ENDORSEMENT/SPECI	AL PROVISIONS						
	,,,,,										
			•								
CEF	CERTIFICATE HOLDER ADDITIONAL INSURED; INSURER LETTER; CANCELLATION										
<u> </u>	177 1027	14   1400	MONE MOUNTED, MOUNTE				POLICIES BE CANCELLED BEFO	DE THE EXPIRATION			
	TOWN	OF ADDIS	ON		1			10 DAYS WRITTEN			
	ATTN:	-	C. PIERCE				AMED TO THE LEFT, BUY FAILUR				
		X 9010	O. LIUNOU								
			75001-9010		1 \		OF ANY KIND UPON THE INSURE	, ILA MUENTA DR			
ADDISON, TX. 75001-9010 REPROSENTATIVE AUTHORIZED REPRESENTATIVE											
	FAY 4	972-450-	2837		\$ 100	M //	F. 10 DM				
100	PD 26-S (7/97)	7312-430-	<u> </u>		7-01	IVLER IX.					

#### ACORD... CERTIFICATE OF LIABILITY INSURANCE DATE (MM/DD/YY) 05/07/2001 THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION PRODUCER ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR RONNIE J.L. WARD & COMPANY PO BOX 7777 ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. DALLAS, TX. 75209 **INSURERS AFFORDING COVERAGE** 214-358-5000 INSURED GUNNIN CONSULTING ENGINEERS, INC. UNION STANDARD INS. INSURER A: INSURER B: PO BOX 820457 INSURER C DALLAS, TX 75382-0457 INSURER D: INSURER E **COVERAGES** THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. POLICY EFFECTIVE DATE (MM/DD/YY) POLICY EXPIRATION DATE (MM/DD/YY) POLICY NUMBER LIMITS TYPE OF INSURANCE LTR \$1,000,000 GENERAL LIABILITY **EACH OCCURRENCE** 100,000 X COMMERCIAL GENERAL LIABILITY FIRE DAMAGE (Any one fire) X occur 5,000 CLAIMS MADE MED EXP (Any one person) 09-01-01 \$1,000,000 TP 1750665-22 09-01-00 Α PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE **\$EXCLUDED** GEN'L AGGREGATE LIMIT APPLIES PER: PRODUCTS - COMP/OP AGG X POLICY LOC AUTOMOBILE LIABILITY COMBINED SINGLE LIMIT \$ (Ea accident) ANY AUTO ALL OWNED AUTOS BODILY INJURY \$ (Per person) SCHEDULED AUTOS HIRED AUTOS **BODILY INJURY** \$ (Per accident) NON-OWNED AUTOS PROPERTY DAMAGE \$ (Per accident) GARAGE LIABILITY AUTO ONLY - EA ACCIDENT ANY AUTO EA ACC \$ OTHER THAN AUTO ONLY: AGG \$ **EXCESS LIABILITY** EACH OCCURRENCE \$ OCCUR CLAIMS MADE AGGREGATE \$ \$ DEDUCTIBLE \$ RETENTION \$ WORKERS COMPENSATION AND TORY LIMITS EMPLOYERS' LIABILITY E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT OTHER DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS CANCELLATION CERTIFICATE HOLDER ADDITIONAL INSURED; INSURER LETTER: SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION TOWN OF ADDISON DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN ATTN: JAMES C. PIERCE NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. BUT FAILURE TO DO SO SHALL PO BOX 9010 SE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR ADDISON, TX. 75001-9010 REPRESENTATIVES AUTHORIZED REPRESENTATIVE FAX #972-450-2837 ACORD 25-S (7/97) © ACORD CORPORATION 1988

ACORD, CERTII				TIFIC	AT _∟	OF	LIABII	ITY INS	URANJE		DATE (MM/DD/YY) 05/03/2001	
1092		10925	aughlin Brunson Insurance Agency					ONLY AND HOLDER. 1	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.			
Suite 250 Dallas TX 75238 INSUR						INSURERS A	RS AFFORDING COVERAGE					
INSU	RED	Gunnin	Consultin	g Engine	ers. Inc.			INSURER A: De	sign Professiona	ls Insurance Company		
			ox 820457	-	,			INSURER B:		· -		
		Dallas	ON 020 15		TX	7	5382	INSURER C:				
		Danas			17.	,.	3362	INSURER D:		_		
								INSURER E:		_		
TI Al M	NY REQUII AY PERTA	ES OF INS REMENT, IN, THE II	TERM OR C NSURANCE	ONDITION AFFORDE	OF ANY CO	NTRA OLICIE	CT OR OTHER D	OOCUMENT WITH FI IEREIN IS SUBJECT CLAIMS.	RESPECT TO WHIC T TO ALL THE TERM	DLICY PERIOD INDICATED H THIS CERTIFICATE MAY MS, EXCLUSIONS AND CO	BE ISSUED OR	
NSR LTR	т	YPE OF INS	SURANCE		POLIC	Y NUME	BER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMI	TS	
	GENERAL	LIABILITY								EACH OCCURRENCE	\$	
	COM	MERCIAL G	ENERAL LIABI	LITY						FIRE DAMAGE (Any one fire)	\$	
	,	CLAIMS MA	DE OC	CUR						MED EXP (Any one person)	\$	
	Ш									PERSONAL & ADV INJURY	\$	
	Ш									GENERAL AGGREGATE	\$	
	GEN'L AGO		IMIT APPLIES	PER:						PRODUCTS - COMP/OP AGG	\$	
	POLIC	CY J	RO- ECT L	LOC					-			
	AUTOMOB ANY A	ILE LIABILI AUTO	ΤΥ							COMBINED SINGLE LIMIT (Ea accident)	\$	
	$\overline{}$	WNED AU								BODILY INJURY (Per person)	\$	
		D AUTOS OW <b>N</b> ED AU	тоѕ							BODILY INJURY (Per accident)	\$	
			_	—						PROPERTY DAMAGE (Per accident)	\$	
	GARAGE L	IABILITY								AUTO ONLY - EA ACCIDENT	\$	
	ANY	AUTO								OTHER THAN AUTO ONLY:  AGG		
	EXCESS L	IABILITY								EACH OCCURRENCE	\$	
	occi		CLAIMS MA	ADE						AGGREGATE	\$	
											\$	
	DEDL	CTIBLE									\$	
	RETE	NTION	\$								\$	
	WORKERS	COMPENS	ATION AND							WC STATU- OTH-	•	
	EMPLOYE	RS' LIABILI	TY							E.L. EACH ACCIDENT	\$	
										E.L. DISEASE - EA EMPLOYER	\$	
										E.L. DISEASE - POLICY LIMIT		
A	OTHERPT	ofession	al Liab.	PL5	17675			01/10/1999	01/10/2002	\$500,000 Pe	r Claim / Aggregate	
								T/SPECIAL PROVISION				
					coverage is	s the t	otal aggregate	e limit for all cla	ims presented w	ithin the annual policy		
			t to a dedu		~							
Ref	erence Jo	ob: Add	lison Bann	ier Cable	Support							
							ANCELLATION					
									SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION			
		Town o	f Addison					DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL DAYS WRITTEN				
Attn: James C. Pierce, Jr. P.E						1	NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL					
P.O. Box 9010						IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OF						
Addison T				TX	75	5001-9010	REPRESENTATI AUTHORIZED RE		-/ lone 4.	JAW		
		, Lucibo	••		.71			AUTHORIZED RE	NEGERIATIVE	()		
										V		

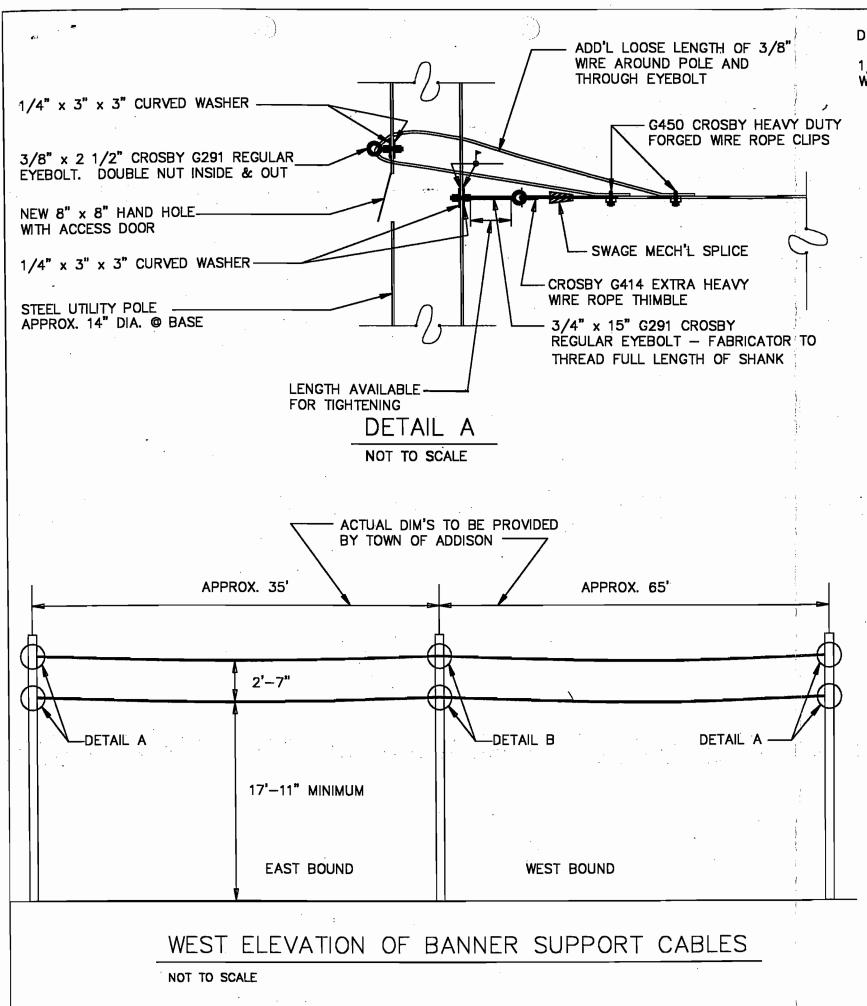


1.800.942.9255

Banners 11615, 56040. 11615, 56040. Streets & Markings



Charles Dennis Cable Fab. 214-637-2651



DOUBLE NUT -WOOD POLE - APPROX. 12" DIA. @ BASE 1/4" x 3" X 3" STEEL WASHER EACH FACE -3/4" x 15" G291 CROSBY REGULAR EYEBOLT - FABRICATOR THREAD FULL LENGTH OF SHANK -G450 CROSBY HEAVY DUTY FORGED WIRE ROPE CLIPS 7/16" ID STAINLESS STEEL PIPE x 2'-0". REMOVE BURRS FROM INSIDE @ ENDS. BILL LEE GUNNIN DETAIL B NOT TO SCALE **GENERAL NOTES:** 

- 1. STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE TOWN OF ADDISON BUILDING CODE.
- 2. EXISTING CONSTRUCTION INFORMATION IS PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL CONDITIONS IN THE FIELD.
- 3. CONTRACTOR SHALL VERIFY ALL EXISTING JOB SITE DIMENSIONS AND CONDITIONS AND SHALL NOTIFY THE ENGINEER IN WRITING OF ANY INCONSISTENCIES BETWEEN THE DRAWINGS AND EXISTING CONDITIONS PRIOR TO FABRICATION OF MATERIAL OR CONSTRUCTION.
- 4. CONTRACTOR SHALL SUBMIT THREE COPIES OF SHOP DRAWINGS FOR REVIEW BY ENGINEER. BEFORE SUBMITTING THEM, CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLIANCE AND COORDINATION WITH REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS, AND SHALL SO INDICATE BY APPLICATION OF HIS STAMP. SHOP DRAWINGS SHALL NOT BE REPRODUCTIONS OF CONTRACT DOCUMENTS.
- 5. WRE SHALL BE 3/8" DIAM., 7 X 19, PREFORMED STAINLESS STEEL WIRE.
- 6. WELDING OF STRUCTURAL STEEL SHALL CONFORM TO AWS D.1.1. USE E70XX ELECTRODES FOR FIELD AND SHOP WELDS.
- 7. STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO ASTM A36.
- 8. PAINT STEEL ELEMENTS THAT ARE NOT GALVANIZED OR STAINLESS, AND PAINT FIELD WELDS ON GALVANIZED ELEMENTS, WITH PAINT CONFORMING TO TT-P-641.

CONSULTING GUNNIN R SUPPORT DIS ZO DIS

Revisions

INC.

ENGINEERS,

ELEVATION DETAILS CENEARL NOTES

۵

SCALE: AS SHOWN





From:

Michael Murphy

Sent:

Wednesday, May 02, 2001 3:36 PM

To:

Chris Terry; Ron Whitehead; Barbara Kovacevich; Lea Dunn; Bob Phillips

Cc:

Jim Pierce: Robin Jones: Steve Chutchian

Subject:

FW: Belt Line Banners

We have agreed to a final design on the banner structure. we are now working with Durable Construction on fabricating the modifications to the poles on Belt Line. They should let us know sometime tomorrow (Thursday May 3rd) when they can get on this project and how long it will take. Obviously we are pushing them to expedite.

As far as temporary banner poles spanning Belt Line, anything we erect will leave us in the same predicament we are currently in with the existing banner poles. Also, we would contract with the same company (Durable Construction) to install the temporary poles.

My recommendation is for us to continue with the pole modifications as planned and in the interim come up with something other than banners to promote the Taste event on Belt Line, i.e. electronic message boards, bill boards or some type of median signs (we have the capabilities to create small signs that could be used) and we also have a lighted message board.

I will let eveyone know how long it will take to make the necessary modifications as soon as the information is available.

Call with any questions.

### Míke

Michael E. Murphy, P.E. Director of Public Works Town of Addison (972)450-2878

-----Original Message-----

From:

Barbara Kovacevich

Sent:

Tuesday, May 01, 2001 6:33 PM

To:

Michael Murphy

Cc:

Robin Jones; Bob Phillips; Lea Dunn

Subject:

Belt Line Banners

#### Mike:

I met with Ron W. and Lea D. this morning and we talked about the event banners on Belt Line Road. They want to discuss the possibility of proceeding with erecting two temporary poles (banners each direction) on Belt Line between Quorum Drive and Addison Road (where the road hasn't been expanded) until the new poles are confirmed. Please call Ron and Lea to discuss. I would like to put up the Taste Addison banners as early as possible next week. Let me know what I need to....

Barbara Kovacevich Special Event Manager Town of Addison 972-450-6221

Check out our new website http://www.addisontexas.net

2001 Event Calendar:

North Texas Jazz Festival: April 3-8

Taste Addison: May 19-20 Addison Kaboom Town!: July 3
Addison Oktoberfest: September 20-23

# GUNNIN CONSULTING ENGINEERS, INC

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457 Phone: 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Suite 325

Dallas, Texas 75219 FAX: 214-522-6796

FACSIMILE COVER SHEET

DATE: May 1, 2001

TO: Mr. James C. Pierce, Jr., P.E.

Town of Addison

FAX NO: 972-450-2837

FROM: Bill L Gunnin

JOB NAME: Street Banner Supports

Belt Line near Quorum Drive

JOB NUMBER:

TOTAL NUMBER OF PAGES, INCLUDING THIS SHEET: 2

HARD COPY OF TRANSMISSION TO FOLLOW? YES: NO:

PLEASE CALL 214-528-3796 IF COMPLETE TRANSMISSION IS NOT RECEIVED.

Order Parts Nov

Charles W. Dennis, II Union Sling Co. 214-637-2651 off Singleton

# **GUNNIN CONSULTING ENGINEERS, INC.**

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214- 528-3796

e-mail: gunningcei@sol.com

Delivery Address:

3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109

FAX 214-522-6796

BILL TO Town of Addison Mr. James C. Pierce, Jr., P.E. 16801 Westgrove Drive Addison, TX 75001-9010

DATE	INVOICE#
5/1/2001	38900-01

	PROJECT
389 Stree	et Banners Cable Supports

DESCRIPTION	QTY	RATE	AMOUNT
PROFESSIONAL SERVICES 4/12/01 THROUGH	<u> </u>		
1/30/01	1 1		
Agreed Fee	0	2,000.00	0.00
Percent Complete	0	90.00	0.00
Fee Eamed to Date	0	1,800.00	0.00 0.00
Less Previously Invoiced	0	0.00	1, <b>80</b> 0.00
Fee Due This Invoice		1,800.00	1,800.00
SUBTOTAL PROFESSIONAL SERVICES			1,800.00
	1 1		
	ļ	{	
	Total		\$1,800.00

## GUNNIN CONSULTING ENGINEERS, INC.

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457

Phone 214- 528-3796

e-mail: gunningcei@aol.com

Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

April 30, 2001

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re:

Cable Supports for Street Banners Belt Line Road near Quorum Drive Addison, Texas

Dear Mr. Pierce:

We are transmitting herewith two prints of Sheet S.01, the structural design drawing for the banner supports. The drawing is dated April 30, 2001, bears my professional seal, and is issued for construction.

As we discussed on the phone today, we recommend that the cables not be over-tightened. The resulting horizontal loads at the top of the poles could cause small rotations of the foundations. (Study of the poles and their foundations was not included among the services we were asked to provide on this project.) The resulting rotations of the foundations might cause additional sag in the cables.

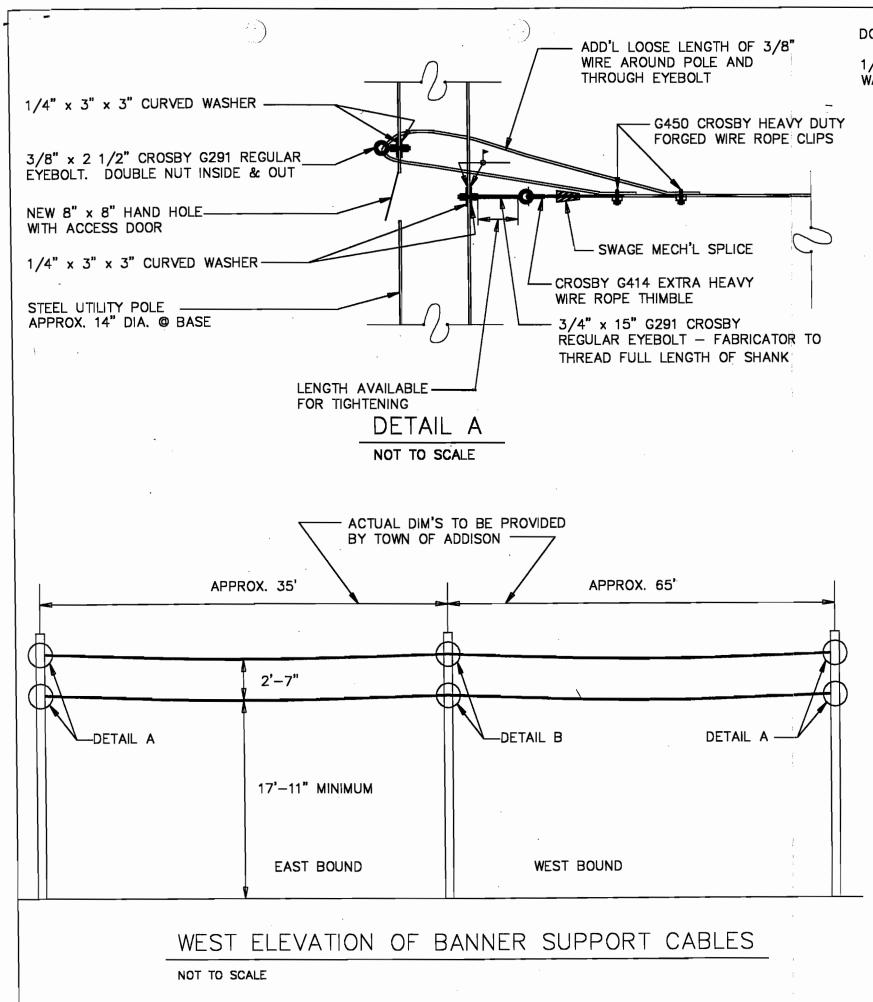
If you have any questions, feel free to call on us.

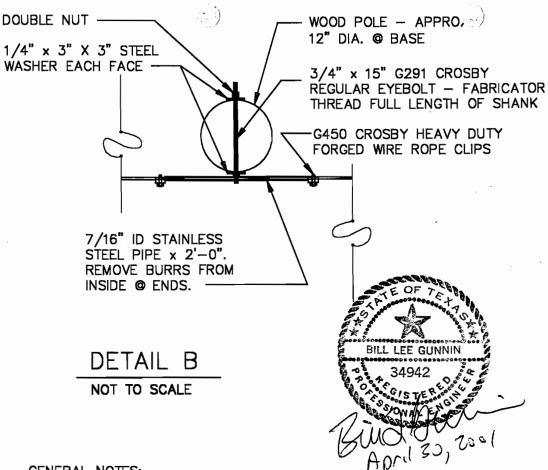
Sincerely,

**GUNNIN CONSULTING ENGINEERS, INC.** 

Bill L. Gunnin, Ph.D., P.E.

Cc Mike





**GENERAL NOTES:** 

- 1. STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE TOWN OF ADDISON BUILDING CODE.
- 2. EXISTING CONSTRUCTION INFORMATION IS PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL CONDITIONS IN THE FIELD.
- 3. CONTRACTOR SHALL VERIFY ALL EXISTING JOB SITE DIMENSIONS AND CONDITIONS AND SHALL NOTIFY THE ENGINEER IN WRITING OF ANY INCONSISTENCIES BETWEEN THE DRAWINGS AND EXISTING CONDITIONS PRIOR TO FABRICATION OF MATERIAL OR CONSTRUCTION.
- 4. CONTRACTOR SHALL SUBMIT THREE COPIES OF SHOP DRAWINGS FOR REVIEW BY ENGINEER. BEFORE SUBMITTING THEM, CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLIANCE AND COORDINATION WITH REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS, AND SHALL SO INDICATE BY APPLICATION OF HIS STAMP. SHOP DRAWINGS SHALL NOT BE REPRODUCTIONS OF CONTRACT DOCUMENTS.
- 5. WIRE SHALL BE 3/8" DIAM., 7 X 19, PREFORMED STAINLESS STEEL
- 6. WELDING OF STRUCTURAL STEEL SHALL CONFORM TO AWS D.1.1. USE E70XX ELECTRODES FOR FIELD AND SHOP WELDS.
- 7. STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO ASTM A36.
- 8. PAINT STEEL ELEMENTS THAT ARE NOT GALVANIZED OR STAINLESS," AND PAINT FIELD WELDS ON GALVANIZED ELEMENTS, WITH PAINT CONFORMING TO TT-P-641.

ENGINEERS, CONSULTING UNNIN ש

Revisions:

SUPPE  $\Box$ DDIS DISON 

ELEVATION DETALS **GENEARL NOTES** SCALE: AS SHOWN DATE: 04/30/0



TOWN OF

# ADDISON

# PUBLIC WORKS

To: Bill Gunnin	From: Jim Pierce, P.E.
Company: Gunnin Coms Engrs	Asst. Public Wks. Dir. Phone: 972/450-2879 FAX: 972/450-2837
FAX#: 214-522-6796	jpierce@ci.addison.tx.us
Date: 4-13-01	16801 Westgrove P.O.Box 9010
# of pages (including cover): 3	Addison, TX 75001-9010
Re: Belt Line Street Ba	nners
☐ Original in mail ☐ Per your request	t
Comments:	
Copy of Signe	d proposal attached.
I will be gone for So please coordina	ir the next to weeks
So please coordina	te your work with
Mike Murphy, Dir. of	Public Works
Mike Murphy, Dir. of 972	- 450 - 2878
	aules
	Jam_
Profossional liebility	insurance
add the City our on	Additional 1500mpt.
	· · · · · · · · · · · · · · · · · · ·
•	

# GUNNIN CONSULTING ENGINEERS, INC.

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214-528-3796 e-mail: gunningcei@aol.com Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

April 12, 2001

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re:

Cable Supports for Street Banners Belt Line Road near Quorum Drive Addison, Texas

Dear Mr. Pierce:

We are pleased to submit this proposal to provide consulting structural engineering services for the referenced project. The project consists of replacement cables, along with connections of the cables to existing poles.

Our services will consist of the following:

Preparation of structural calculations for the cables and their connections to the poles

Preparation of contract drawings and project specifications for the structural portion of the work

Review of structural shop drawings or manufacturer's data sheets, if applicable, to determine general conformance with the design concept of the project and for general compliance with information indicated in the structural contract documents

One or more visits to the project site to observe the progress of the structural construction, with written reports of such visits. These services would be performed in conjunction with a materials testing and inspection agency, if appropriate.

We will perform these services using the Town of Addison Street Banner Specifications and Banner Hardware you have provided,

Agreed to: by Town of Addison date 4/13/01 by Swinin Consulting

Engineers, Inc.

Mr. Pierce April 12, 2001 Page two

It is agreed that, at your request, we will not review the design of the poles. It is also agreed that our services do not include the street banners nor their connections to the cables designed by us. It is also agreed that before each annual anniversary of the completion of construction of the cables, our firm will be retained, and paid in accordance with the schedule indicated below, to visit the project site to observe the cables and their connections, and to recommend remedial construction, if appropriate.

We propose to provide these services in accordance with the following fee schedule:

Initial design, preparation of construction documents, review of submittals, and visit(s) to the project site during the original construction - \$2,000.00 (two thousand dollars).

On or before each annual anniversary of completion of construction, our visit to the project site to observe the cables and their connections, with a written report - \$1,000.00 (one thousand dollars) each year.

If the Town of Addison does not agree to pay for our annual visit at a given annual anniversary, or if the Town of Addison declines to construct remedial construction that we recommend within one month of our recommendation, our liability for our consulting structural engineering services relative to the project ceases from that time forward.

If this proposal is acceptable, please indicate acceptance by an authorized signature below and return a copy to this office. We look forward to working with you on this project.

Sincerely,

GUNNIN CONSULTING ENGINEERS, INC.

Bill L. Gunnin, Ph.D., P.E.

President

AGREED AND ACCEPTED:

By: A. G. Mary Town of Addison

Date: 4/13/01

# **GUNNIN CONSULTING ENGINEERS, INC**

Mailing Address:

Sent By: STRUCTURAL SERVICES, INC.;

P. O. Box 820457

Dallas, Texas 75382-0457 Phone: 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Suite 325

Dallas, Texas 75219 FAX: 214-522-6796

FACSIMILE COVER SHEET

DATE: April 12, 2001

Mr. James C. Pierce, Jr., P.E. TO:

Town of Addison

FAX NO: 972-450-2837

FROM: Bill L. Gunnin

JOB NAME: Street Banner Supports

Belt Line near Quorum Drive

JOB NUMBER:

TOTAL NUMBER OF PAGES, INCLUDING THIS SHEET: 3

HARD COPY OF TRANSMISSION TO FOLLOW? YES: X NO:

PLEASE CALL 214-528-3796 IF COMPLETE TRANSMISSION IS NOT RECEIVED.

Please return an executed copy via FAX. We look forward to working with you.



Reedcon, Inc. 2801 Regal Road, Suite 105 Plano, Texas 75075 (972) 596-2852 (972) 596-7493 Fax

April 10, 2001

Town of Addison Attn: Jim Pierce 16801 Westgrove Drive Addison, Texas 75001 Re: Structural Evaluation & Recommendations
Event Sign Support Cables
Beltline Road
Addison, Texas

Dear Jim:

Sincerely yours.

We propose to furnish you Engineering Services for the structural evaluation and recommendations for the event sign support cables located on Beltline Road between Inwood Road and the Dallas North Tollway. We understand the requested services will include the preparation of a report describing the existing conditions and any recommendations. Our fee for these services will be \$850.00. Required additional services authorized by you will be billed hourly at a rate of \$100.00 per hour.

Please call if you have any questions.

Stan Reed, P.E.		 · · · · · · · · · · · · · · · · · · ·
Vice President	Date:	
Consulting Engineers		

Accepted by:



#### PUBLIC WORKS DEPARTMENT

(972) 450-2871

Post Office Box 9010 Addison, Texas 75001-9010

16801 Westgrove

April 9, 2001

Mr. A. Cecil Jones, P.E. Vice President Neel-Schaffer, Inc. 5004 Fifth Avenue, South Birmingham, Alabama 35212

Re: Special Events Banner Support Pole On Belt Line Road

Dear Mr. Jones:

Our staff is in receipt of your amended proposal for engineering services related to the design of the Special Events Banner Support Pole improvements. Your firm's effort in providing the Town of Addison with the requested scope of services is appreciated. However, after two attempts to negotiate the proposed engineering fee with our Public Works Department, the total cost submitted by your firm remains higher than projected by our staff for this project. As a result, we will be unable to engage the services of your firm for the design of the Special Events Banner Support Pole improvements.

Thank you for your response to our request for a proposal for engineering services. We appreciate the time and effort you took in this endeavor.

Sincerely,

Steven Z. Chutchian, P.E.

Assistant City Engineer

Cc: Chris Terry, Assistant City Manager
Michael Murphy, Director of Public Works
Jim Pierce, Assistant Director of Public Works

# GUNNIN CONSULTING ENGINEERS, INC

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457 Phone: 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Suite 325

Dallas, Texas 75219 FAX: 214-522-6796

#### **FACSIMILE COVER SHEET**

DATE: April 9, 2001

TO: Mr. James C. Pierce, Jr., P.E.

Town of Addison

FAX NO: 972-450-2837

FROM: Bill L. Gunnin

JOB NAME: Street Banner Supports

Belt Line near Quorum Drive

JOB NUMBER:

TOTAL NUMBER OF PAGES, INCLUDING THIS SHEET: 7

HARD COPY OF TRANSMISSION TO FOLLOW? YES: X NO:

PLEASE CALL 214-528-3796 IF COMPLETE TRANSMISSION IS NOT RECEIVED.

Mr. Pierce -

The original is being put in today's mail. If you need it sooner, let me know and we will have it delivered to you.

My resume is included, but I did not include lengthy lists of representative projects. If you would like, I will be glad to send them.

If you have any questions, feel free to call me.

Thanks.

# **GUNNIN CONSULTING ENGINEERS, INC.**

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457

Phone 214- 528-3796
e-mail: gunningcei@aol.com

Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

April 9, 2001

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Dear Mr. Pierce:

We appreciate the opportunity to express our interest in providing consulting structural engineering services for the Town of Addison. Thank you for meeting me last Thursday at Belt Line Road near Quorum Drive to discuss the scope of the desired services.

We understand that the services relate to the cable supports for the Banner Hardware, along with the connections of the cables to the existing poles. Generally, our services would include the following:

Preparation of structural calculations for the cables and their connections to the poles

Preparation of contract drawings and project specifications for the structural portion of the work

Review of structural shop drawings or manufacturer's data sheets to determine general conformance with the design concept of the project and for general compliance with information indicated in the structural contract documents

One or more visits to the project site to observe the progress of the structural construction, with written reports of such visits. These services would be performed in conjunction with a materials testing and inspection agency, if appropriate.

We would perform these services using the Town of Addison Street Banner Specifications and Banner Hardware you have provided.

Mr. Pierce April 9, 2001 Page two

Enclosed please find a copy of my resume. If there is additional information you need, please feel free to call me.

Sincerely,

**GUNNIN CONSULTING ENGINEERS, INC.** 

Bill L. Gunnin, Ph.D., P.E.

Enclosure: Resume

# **GUNNIN CONSULTING ENGINEERS, INC.**

Mailing Address: P. O. Box 820457

Dallas, Texas 75382-0457 Phone: (214) 528-3796 Email: gunningcei@aol.com Delivery Address:

3303 Lee Parkway, Suite 325 Dallas, Texas 75219-5143 Fax: (214) 522-6796

#### Bill L. Gunnin, Ph.D., P.E.

## Education:

January, 1970

Doctor of Philosophy (Civil Engineering)

The University of Texas at Austin

January, 1967

Master of Science in Civil Engineering

The University of Texas at Austin

May, 1965

Bachelor of Science in Civil Engineering

Texas Tech University, Lubbock, Texas

## <u>Professional Experience:</u>

July, 1992

President

to Present

Gunnin Consulting Engineers, Inc.

Dallas, Texas

October, 1979

Principal

to February, 1999

Campbell & Associates Consulting Engineers, Inc.

(Formerly Gunnin-Campbell Consulting Engineers, Inc.)

Dallas, Texas

October, 1979

to July, 1992

**Executive Vice President** 

Gunnin-Campbell Consulting Engineers, Inc.

Dallas, Texas

October, 1972

Vice President

to October, 1979

Ellisor and Tanner, Inc.

Dallas, Texas

September, 1971

to May, 1972

Lecturer/Visiting Industrial Professor

Department of Civil Engineering Southern Methodist University

Dallas, Texas

March, 1971

Senior Structural Engineer Ellisor and Tanner, Inc.

to September, 1972

Dallas, Texas

Sent By: STRUCTURAL SERVICES, INC.;

GUNNIN Page 2

June, 1970

Senior Structural Engineer

Apr-9-01 11:11AM;

to February, 1971 Ellisor Engineers, Inc.

Houston, Texas

January, 1970

Instructor

to May, 1970

Department of Civil Engineering The University of Texas at Austin

#### Professional Organizations:

American Society of Civil Engineers (Member) American Concrete Institute Consulting Engineers Council Structural Engineers Association of Texas (Charter Member)

#### Professional Activities:

Department of Civil Engineering, The University of Texas at Austin Member of Departmental Visiting Committee, 1986-1989

Structural Engineers Association of Texas

Director, North Central Texas Chapter, 1989-1990

Director, State Organization, 1991

Member of Committee on Professional Practice, 1986-Present

Chairman of Committee on Professional Practice, 1987-1989

Member of Committee on Specialty Registration, 1991-1992

Structural Group, Texas Section, American Society of Civil Engineers

Secretary, 1979-1980

Chairman, 1980-1981

#### Prestressed Concrete Institute

Member of "Blue-Ribbon" Committee to review the Second Edition of the PCI Design Handbook, May 1978

Northeast Texas Chapter, American Concrete Institute

Director, 1975-1977

Secretary-Treasurer, 1977-1978

Vice President, 1978-1979, 1980-1981

President, 1979-1980

#### Professional Registration:

Arizona California New Mexico North Carolina

Colorado Indiana

Ohio Oklahoma

Louisiana

۱

Texas

GUNNIN Page 3

#### Publications:

"Market Tower – Indianapolis, Indiana," Bill L. Gunnin, <u>Concrete International: Design and Construction</u>, January 1989.

"Mathematical Modeling of General Nonlinear Response of Structures," Bill L. Gunnin, Franz N. Rad, and Richard W. Furlong, <u>International Conference on Mathematical Modeling</u>, August 1977.

"Structural Design and Analysis of Atlanta Centre, Ltd.," Stephen J. Campbell and Bill L. Gunnin, <u>Proceedings, National Structural Engineering Conference</u>, August 1976.

"The First International Building in Dallas, Texas (USA)," Bill L. Gunnin, Acier Stahl Steel, March 1976.

"A General Nonlinear Analysis of Concrete Structures and Comparison with Frame Tests," Bill L. Gunnin, Franz N. Rad, and Richard W. Furlong, Proceedings, Second National Symposium on Computerized Structural Analysis and Design, March 1976.

"Nonlinear Analysis of Truss Frames," B. L. Gunnin and R.W. Furlong, Advances in Astronautical Sciences, Vol. 24, 1967.

#### Professional Presentations:

"Market Tower, Indianapolis, Indiana," Bill L. Gunnin, presented to the North Central Texas Chapter of the Structural Engineers Association of Texas, May 26, 1992.

"Market Tower, Indianapolis, Indiana" Bill L. Gunnin, presented at the Annual Meeting and Awards Program of the Indiana Chapter, American Concrete Institute, May 23, 1989.

"Las Colinas Equestrian Center," Bill L. Gunnin, presented at the Texas Section, American Society of Civil Engineers, Spring 1983.

"Extruded Precast Concrete Panels for a Housing Project in Abu Dhabi, United Arab Emirates," Bill L. Gunnin, presented at the Texas Section, American Society of Civil Engineers, Fall 1978.

"Structural Steel Frames – Concept, Design, Fabrication," panel with Roy Reiderman of Bethlehem Steel Corporation, Paul Mitchell of Mosher Steel Company, and Ken Michalski of Inryco, Inc., presented to the North Texas Chapter of the Producer's Council, Inc., March 1978.

### GUNNIN Page 4

"Structural Design and Analysis of Atlanta Centre, Ltd.," Bill L. Gunnin and Stephen J. Campbell, presented at the Texas Section, American Society of Civil Engineers, Fall 1976.

"Foundation Systems – First International Building in Dallas, Texas," Bill L. Gunnin, presented at the Texas Section, American Society of Civil Engineers, Fall 1975.

"The First International Building in Dallas – Structural Systems," Bill L. Gunnin, presented at the Texas Section, American Society of Civil Engineers, Fall 1973.

"Composite Stub Girder Steel Frame System," Bill L. Gunnin, presented to the Society of Iron and Steel Fabricators of Wisconsin, Inc., February 20, 1973.

#### Additional presentations to:

The University of Texas at Austin
The University of Texas at Arlington
Southern Methodist University
Texas Tech University
Dallas Post of the Society of American Military Engineers

#### Awards:

Maurice Van Buren Structural Engineering Award for the paper, "Market Tower – Indianapolis, Indiana" presented by the American Concrete Institute at the Spring Convention in Boston, Massachusetts in March, 1991.

Civil Engineering Academy, Texas Tech University, Lubbock, Texas - inducted in Spring 1991.

Special Jury Award from the Prestressed Concrete Institute to Gunnin-Campbell Consulting Engineers, Inc., for excellence in architecture and engineering design using precast prestressed concrete for the Las Colinas Equestrian Center, Irving, Texas, November 2, 1982.



# NEEL-SCHAFFER, INC.

5004 Fifth Avenue, South Birmingham, Alabama 35212 Phone: (205) 591-3800 Fax: (205) 592-8362

E-mail: alabama@neel-schaffer.com

March 30, 2001

Mr. Steven Z. Chutchian, P.E. Assistant City Engineer Addison Public Works Department Post Office Box 9010 Addison, Texas 75001-9010

Dear Mr. Chutchian:

REFERENCE: SPECIAL EVENTS BANNER SUPPORT ON BELT LINE ROAD

This is in response to your Requests For Proposal (RFP) to the undersigned dated February 28, 2001 and March 23, 2001. We understand that the RFP covers engineering services required for an evaluation and design of the support system for your special events banner on Belt Line Road in Addison. Your description of the banner and its support system is attached.

The proposed work will be divided into two parts. The first part, Phase A, will consist of an analysis and evaluation of the existing banner support system and will serve as preliminary design. The second part, Phase B, will include final design computations and development of construction plans and specifications. More specifically:

Phase A -- Preliminary Design. Upon receipt of a notice-to-proceed we will review and evaluate all parts of the existing support system for the described Town of Addison street banner and hardware specifications included in your RFP package. No work will be performed in connection with the banner itself. A detailed structural analysis will be done for the support system using the criteria and provisions contained in the 1994 Edition of the American Association of State Highway and Transportation Officials (AASHTO) publication "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals." Design loads will be based on a wind velocity of 100 mph with the banner in place. While it is anticipated that the poles are structurally adequate, we will analyze them in that regard using pier depths supplied by you. Existing survey and geotechnical information will be requested. If such information is not available, assumed or estimated values will be used since no field work is included in this proposal.

Mr. Steve Z. Chutchian, P.E. March 30, 2001 Page Two

We will incorporate our findings into a formal bound report which will be stamped and signed on the front cover by a professional engineer registered in the state of Texas. This report will also contain our professional opinion as to the structural adequacy of the system and its components along with any recommended improvements that we may deem necessary or justified. Six copies of this report will be submitted for your review and/or approval.

Phase B -- Final Design. Subsequent to your written approval of our improvement/redesign scheme, we will design and prepare plans and technical specifications for construction of the improvements. All documents will be formatted and produced in accordance with your typical policies and procedures. In this regard, we will require examples of typical (go-by) documents, including sheet borders, title blocks and specifications before final design begins.

The individual assigned responsibility for this project will be Julian R. Barksdale, Vice President and Engineer Manager of our Structural Department in Jackson, Mississippi. Mr. Barksdale has had more than 30 years experience in highway structures, the last 20 of which he served as the Assistant Bridge Engineer for the Mississippi Department of Transportation. He has participated in and supervised the design of many overhead sign supporting structures, light supports and signal system supports. We intend that Mr. Barksdale will be intimately involved in this project as the company supervising officer and will review/approve all documents produced by this effort. Further, the individual who will seal the documents is Kenneth W. Gilbert, PE a graduate Structural Engineer who heads the Civil Department of the Birmingham Office. Mr. Gilbert will be involved in the project from it outset and will review and certify each document developed.

Our proposed lump sum for accomplishing this work and providing your office with six copies of the bound report is \$9,000.00. We will complete Phase A and submit the report to you within 30 calendar days after receiving your notice-to-proceed. Phase B will consist of two submittals. The 100% unreviewed document package will be submitted within 30 calendar days after we receive your approval of the Phase A study and identification of the selected improvements. Review comments will be resolved, corrections/revisions will be made and the final document package submitted within 14 days of receipt of your review comments.





Mr. Steve Z. Chutchian, PE March 30, 2001 Page Three

Thank you very much for allowing us to propose on this unique project. Hopefully, you will find everything in order. If this proposal meets your approval please sign where indicated below and return one copy to me. This will be sufficient for us to proceed with the project.

Sincerely,

A. Cecil Jones, R.E. Vice President

ACJ/am

CITY OF ADDISON, TEXAS				
By:				
Date				





# NEEL-SCHAFFER, INC. GENERAL TERMS AND CONDITIONS

- Relationship Between Engineer and Client. Engineer shall serve
  as Client's professional engineering consultant in those phases of
  the Project to which this Agreement applies. The relationship is
  that of a buyer and seller of professional services and it is understood that the parties have not entered into any joint venture or
  partnership with the other. The Engineer shall not be considered
  to be the agent of the Client.
- 2. Responsibility of the Engineer. Engineer will strive to perform services under this Agreement in a manner consistent with that standard of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, express or implied, and no warranty or guarantee is included or intended in this Agreement or in any report, opinion, document, or otherwise.

Notwithstanding anything to the contrary which may be contained in this Agreement or any other material incorporated herein by reference, or in any agreement between the Client and any other party concerning the Project, the Engineer shall not have control of and shall not be responsible for the means, methods, techniques, sequences or procedures of construction; or the safety, safety precautions or programs of the Client, the construction contractor, other contractors or subcontractors performing any of the work or providing any of the services on the Project. Nor shall the Engineer be responsible for the acts or omissions of the Client, or for the failure of the Client, any contractor or subcontractor, or any other engineer, architect or consultant not under contract to the Engineer to carry out their respective responsibilities in accordance with the Project documents, this Agreement or any other agreement concerning the Project.

Engineer shall determine the amounts owing to the construction contractor and recommend in writing payments to the contractor in such amounts. By recommending any payment, the Engineer will not thereby be deemed to have represented that exhaustive, continuous or detailed reviews or examinations have been made to check the quality or quantity of the contractor's work.

3. Responsibility of the Client. Client shall provide all criteria and full information as to his requirements for the Project, including budgetary limitations. Client shall arrange for Engineer to enter upon public and private property and obtain all necessary approvals and permits required from all governmental authorities having jurisdiction over the Project.

Client shall give prompt written notice to the Engineer whenever Client observes or otherwise becomes aware of any development that affects the scope or timing of Engineer's services, or any defect or nonconformance in the work of any construction contractor.

Client shall examine all documents presented by Engineer, obtain advice of an attorney or other consultant as Client deems appropriate for such examinations and provide decisions pertaining thereto within a reasonable time so as not to delay the services of the Engineer.

 Designation of Authorized Representatives. Each party shall designate one or more persons to act with authority in its behalf with respect to appropriate aspects of the Project. The persons designated shall review and respond promptly to all communications received from the party.

- 5. Ownership of Documents. Drawings, specifications, reports and any other documents prepared by Engineer in connection with any or all of the services furnished hereunder shall be the property of Client. Engineer shall have the right to retain copies of all documents and drawings for its files.
- 6. Reuse of Documents. All documents, including drawings and specifications furnished by Engineer pursuant to this Agreement, are intended for use on the Project only. They should not be used by Client or others on extensions of the Project or on any other project. Any reuse, without written verification or adaption by Engineer, shall be at Client's sole risk, and Client shall indemnify and hold harmless Engineer from all claims, damages, losses and expenses, including attorney's fees arising out of or resulting therefrom.
- 7. Opinions of Cost. Since the Engineer has no control over the cost of labor, materials, equipment or services furnished by the contractor, or over the contractor's methods of determining prices, or over competitive bidding or market conditions, the Engineer cannot and does not guarantee that proposals, bids or actual construction costs will not vary from his opinions or estimates of construction costs.
- 8. Changes. Client reserves the right by written change order or amendment to make changes in requirements, amount of work, or engineering time schedule adjustments; and Engineer and Client shall negotiate appropriate adjustments in fee and/or schedule acceptable to both parties to accommodate any changes.
- Delays. If the Engineer's services are delayed by the Client, or for other reasons beyond the Engineer's control, for more than one year, the fee provided for in this Agreement shall be adjusted equitably.
- Subcontracts. Engineer may subcontract portions of the services, but each subcontractor must be approved by Client in writing.
- 11. Suspension of Services. Client may, at any time, by written order to Engineer, require Engineer to stop all, or any part, of the services required by this Agreement. Upon receipt of such an order, Engineer shall immediately comply with its terms and take all reasonable steps to minimize the occurrence of costs allocable to the services covered by the order. Client, however, shall pay all costs associated with suspension including all costs necessary to maintain continuity and the staff required to resume the services upon expiration of the suspension of work order. Engineer will not be obligated to provide the same personnel employed prior to suspension when the services are resumed in the event the period of any suspension exceeds 30 days. Client will reimburse Engineer for the costs of such suspension and remobilization.
- 12. Termination. This Agreement may be terminated by either party upon 30 days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. This Agreement may be terminated by Client, under the same terms, whenever Client shall determine that termination is in its best interests. Cost of termina-

tion, including salaries, overhead and fee, incurred by Engineer either before or after the termination date shall be reimbursed by Client.

- 13. Notices. Any notice or designation required to be given by either party hereto shall be in writing and, unless receipt of such notice is expressly required by the terms hereof, it shall be deemed to be effectively served when deposited in the mail with sufficient first class postage affixed and addressed to the party to whom such notice is directed at such party's place of business or such other address as either party shall hereinafter furnish to the other party by written notice as herein provided.
- 14. Indemnification. Engineer shall indemnify and hold harmless Client from Client's loss or expense, including reasonable attorney's fees for claims for personal injury (including death) or property damage arising out of the sole negligent act, error or omission of Engineer.

Client shall indemnify and hold harmless Engineer from Engineer's loss or expense, including reasonable attorney's fees, for claims for personal injuries (including death) on property damage arising out of the sole negligent act, error or omission of Client.

In the event of joint or concurrent negligence of Engineer and Client, each shall bear that portion of the loss or expense that its share of the joint or concurrent negligence bears to the total negligency (including that of third parties) which caused the personal injury or property damage.

Client shall not be liable to the Engineer, and the Engineer shall not be liable to the Client, for any special, incidental or consequential damages, including, but not limited to, loss of use and loss of profit, incurred by either party due to the fault of the other, regardless of the nature of this fault, or whether it was committed by the Client or the Engineer or their employees, agents or subcontractors, by reason of services rendered under this Agreement

- 15. Legal Proceedings. In the event Engineer's employees are at any time required by Client to provide testimony, answer interrogatories or otherwise provide information ("testimony") in preparation for or at a trial, hearing, proceeding on inquiry ("proceeding") arising out of the services that are the subject of this Agreement, where Engineer is not a party to such proceeding, Client will compensate Engineer for its services and reimburse Engineer for all related direct costs incurred in connection with providing such testimony. This provision shall be of no effect if the parties have agreed in a separate agreement or an amendment to this Agreement to terms which specifically supersede this provision, nor shall this provision apply in the event Client engages Engineer to provide expert testimony or litigation support, which services shall be the subject of a separate agreement or an amendment to this Agreement.
- 16. Successors and Assigns. The terms of this Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns; provided however, that neither party shall assign this Agreement in whole or in part without the prior written approval of the other.
- 17. Insurance. Within the context of prudent business practices, Engineer shall endeavor to maintain workmen's compensation and unemployment compensation of a form and in an amount as

required by state law; comprehensive general liability with maximum limits of \$500,000/ \$1,000,000; automotive liability with maximum limits of \$500,000/ \$500,000; and professional liability insurance with an annual limit of \$500,000. Client recognizes that insurance market is erratic and Engineer cannot guarantee to maintain the coverages identified above.

- 18. Information Provided by the Client. The Engineer shall indicate to the Client the information needed for rendering of services hereunder. The Client may elect to provide this information (including services by others) to the Engineer. In this case, the Client recognizes that the Engineer cannot assure the sufficiency of such information. Accordingly, the Engineer shall not be liable for any claims for injury or loss arising from errors, omissions or inaccuracies in documents or other information provided by the Client. In addition, the Client agrees to compensate the Engineer for any time spent or expenses incurred in defending such claim or in making revisions to his work as a direct or indirect result of information provided by the Client which is insufficient.
- 19. Subsurface Conditions and Utilities. Client recognizes that a comprehensive sampling and testing program implemented by trained and experienced personnel of Engineer or Engineer's subconsultants with appropriate equipment may fail to detect certain hidden conditions. Client also recognizes that actual environmental, geological and geotechnical conditions that Engineer properly inferred to exist between sampling points may differ significantly from those that actually exist.

Engineer will locate utilities which will affect the project from information provided by the Client and utility companies and from Engineer's surveys. In that these utility locations are based, at least in part, on information from others, Engineer cannot and does not warrant their completeness and accuracy.

20. Hazardous Materials. When hazardous materials are known, assumed or suspected to exist at a project site, Engineer is required to take appropriate precautions to protect the health and safety of his personnel, to comply with the applicable laws and regulations and to follow procedures deemed prudent to minimize physical risks to employees and the public. Client hereby warrants that, if he knows or has any reason to assume or suspect that hazardous materials may exist at the project site, he will inform Engineer in writing prior to initiation of services under this Agreement.

Hazardous materials may exist at a site where there is no reason to believe they could or should be present. Client agrees that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. Engineer agrees to notify Client as soon as practically possible should unanticipated hazardous materials or suspected hazardous materials be encountered. Client waives any claim against Engineer and agrees to indemnify, defend and hold Engineer harmless from any claim or liability for injury or loss arising from Engineer's encountering unanticipated hazardous materials or suspected hazardous materials. Client also agrees to compensate Engineer for any time spent and expenses incurred by Engineer in defense of any such claim.

21. Risk Allocation. The Client recognizes that Engineer's fee includes an allowance for funding a variety of risks which affect the Engineer by virtue of his agreeing to perform services on the Client's behalf. One of these risks stems from the Engineer's potential for human error. In order for the Client to obtain the

benefits of a fee which includes a lesser alressance for risk funding, the Client agrees to limit the Engineer's liability to the Client and all construction contractors arising from the Engineer's professional acts, errors or omissions, such that the total aggregate liability of the Engineer to all those named shall not exceed \$50,000 or the Engineer's total fee for the services rendered on this project, whichever is greater.

- 22. Anticipated Change Orders. Client recognizes and expects that a certain amount of imprecision and incompleteness is to be expected in construction contract documents; that contractors are expected to furnish and perform work, materials and equipment that may reasonably be inferred from the contract documents or from the prevailing custom or trade usage as being required to produce the intended result whether or not specifically called for; and that a certain amount of change orders are to be expected. As long as Engineer provides services in a manner consistent with that standard of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions, client agrees not to make any claim against Engineer for cost of these change orders unless these costs become a significant part of the construction contract amount. In no case will Client make claim against Engineer for costs incurred if the change order work is a necessary part of the Project for which Client would have incurred cost if work had been included originally in the contract documents unless Client can demonstrate that such costs were higher through issuance of the change order than they would have been if originally included in the contract documents in which case any claim of Client against Engineer will be limited to the cost increase and not the entire cost of the change order.
- 23. Payment. Engineer shall submit monthly statements to Client. Payment in full shall be done upon receipt of the invoice. If payments are delinquent after 30 days from invoice date, the Client agrees to pay interest on the unpaid balance at the rate of one percent per month. Payment for Engineer's services is not contingent on any factor except Engineers ability to provide services in a manner consistent with that standard of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.
- 24. Force Majeure. Neither Client nor Engineer shall be liable for any fault or delay caused by any contingency beyond their control, including, but not limited to, acts of God, wars, strikes, walkouts, fires, natural calamities, or demands or requirements of governmental agencies.
- 25. Compliance with Laws. To the extent they apply to its employees or its services, the Engineer shall comply with all applicable United States, state, territorial and commonwealth laws, including ordinances of any political subdivisions or agencies of the United States, any state, territory or commonwealth thereof.
- Separate Provisions. If any provisions of this Agreement are held to be invalid or unenforceable, the remaining provisions shall be valid and binding.
- 27. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the principal place of business of the Engineer.

- 28. Amendment. This Agreement shall not be subject to amendment unless another instrument is executed by duly authorized representatives of each of the parties.
- 29. Entire Understanding of Agreement. This Agreement represents and incorporates the entire understanding of the parties hereto, and each party acknowledges that there are no warranties, representations, covenants or understandings of any kind, matter or description whatsoever, made by either party to the other except as expressly set forth herein. Client and Engineer hereby agree that any purchase orders, invoices, confirmations, acknowledgments or other similar documents executed or delivered with respect to the subject matter hereof that conflict with the terms of this Agreement shall be null, void and without effect to the extent they conflict with the terms of this Agreement.



#### PUBLIC WORKS DEPARTMENT

(972) 450-2871

Post Office Box 9010 Addison, Texas 75001-9010

16801 Westgrove

March 23, 2001

Mr. A Cecil Jones, P.E. Vice President Neel-Schaffer, Inc. 5004 Fifth Avenue South Birmingham, Alabama 35212

Re: Special Events Banner Support Pole On Belt Line Road

#### Dear Mr. Jones:

Our staff received your response to our request for a proposal regarding the design of Special Events Banner Support Poles. After reviewing the submitted scope and associated fee, we re-evaluated our service needs for this project and request that you submit a revised proposal with the following provisions:

- a. Analysis of the existing support structures, including the capability of the poles to withstand maximum wind speeds of 100 miles per hour.
- b. Evaluation of the existing cables and cable hardware, and the design of proposed connections to fit unto the existing poles.
- c. Associated calculations, signed and sealed by a Registered Professional Engineer in the State of Texas.
- d. Project scope and fee, limited to the design of improvements to the existing support poles on Belt Line Road.

In addition, please submit the following information regarding the responsible individual on this project:

- a. Name
- b. Office location
- Background and professional qualifications related to wind load and structural analysis
- d. Level of involvement in the total scope of work to be performed.

Please submit (4) copies of your proposal to this office by April 6, 2001. Should you have any questions, please feel free to contact this office at 972-450-2886.

Your attention and consideration of this matter is greatly appreciated.

Sincerely,

Steven Z. Chutchian, P.E.

**Assistant City Engineer** 

Cc: Chris Terry, Assistant City Manager

Michael Murphy, P.E., Director of Public Works

Jim Pierce, P.E., Assistant Director of Public Works



Birmingham, Alabama 35212 Fax: (205) 592-8362 E-mail: alabama@neel-schaffer.com

March 14, 2001

Mr. Steven Z. Chutchian, P.E. Assistant City Engineer Addison Public Works Department Post Office Box 9010 Addison, Texas 75001-9010

Dear Mr. Chutchian:

REFERENCE: SPECIAL EVENTS BANNER SUPPORT ON BELT LINE ROAD

This is in response to your Request For Proposal (RFP) to the undersigned dated February 28, 2001. We understand that the RFP covers engineering services required for an evaluation and redesign of the support system for your special events banner on Belt Line Road in Addison. Your description of the banner and its support system is attached.

The proposed work will be divided into two parts. The first part, Phase A, will consist of an analysis and evaluation of the existing banner support system and will serve as preliminary design. The second part, Phase B, will include final design computations and development of construction plans and specifications. More specifically:

Phase A -- Preliminary Design. Upon receipt of a notice-to-proceed we will review and evaluate all parts of the existing support system for the described Town of Addison street banner and hardware specifications included in your RFP package. No work will be performed in connection with the banner itself. A detailed structural analysis will be done for the support system using the criteria and provisions contained in the 1994 Edition of the American Association of State Highway and Transportation Officials (AASHTO) publication "Standard Specifications for Structural Supports for Highway signs, Luminaries and Traffic Signals." Design loads will be based on a wind velocity of 100 mph with the banner in place. Existing survey and geotechnical information will be requested. If such information is not available, assumed or estimated values will be used since no field work is included in this proposal.

We will incorporate our findings into a formal bound report which will be stamped and signed on the front cover by a professional engineer registered in the state of Texas. This report will also contain our professional opinion as to the structural adequacy of the system and its components along with any recommended improvements that we may deem necessary or justified. Six copies of this report will be submitted for your review and/or approval.

Mr. Steve Z. Chutchian, P.E. March 14, 2001 Page Two

Phase B -- Final Design. Subsequent to your written approval of our improvement/redesign scheme, we will design and prepare plans and technical specifications for construction of the improvements. All documents will be formatted and produced in accordance with your typical policies and procedures. In this regard, we will be examples of typical (go-by) documents, including sheet borders, title blocks and specifications before final design begins.

Our primary structural engineering staff, located in the corporate headquarters at Jackson, Mississippi, includes ten individuals with extensive experience in the design of highway lighting supports, overhead sign supports, as well as other highway structures such as bridges, foundations, railings, barriers and retaining walls. Of the ten, three are former Mississippi Department of Transportation design engineers with a cumulative total of more then 100 years of pertinent experience. Four other individuals have experience levels ranging from approximately 8 years to 25 years. As a staff, they are intimately familiar with the applicable design codes for this project and the appropriate design/analysis techniques. Harry Lee James, MDOT Bridge Engineer, may be contacted at (601)359-7200 for an independent assessment of our capability.

Our proposed fixed fee for accomplishing this work and providing your office with six copies of the bound report is \$12,500.00. We will complete Phase A and submit the report to you within 30 calendar days after receiving your notice-to-proceed. Phase B will consist of two submittals. The 100% unreviewed document package will be submitted within 30 calendar days after we receive your approval of the Phase A study and identification of the selected improvements. Review comments will be resolved, corrections/revisions will be made and the final document package submitted within 14 days of receipt of your review comments.

Thank you very much for allowing us to propose on this unique project. Hopefully, you will find everything in order. However, if you need additional information or wish to discuss, please call me.

Sincerely,

A. Cecil Jones, P.E.

Vice President





## TOWN OF ADDISON STREET BANNER SPECIFICATIONS

QUANTITY: 30 ft. long by 30 in. tall (finished size) SIZE: COPY: On one side only MATERIAL: 14 oz. vinyl minimum CONSTRUCTION: 1/4" plastic-coated stainless steel aircraft cable shall be tightly sewn in casings across the top and bottom. Leave 36" of cable extending from each end of banner free to be fastened to pole. Reinforced metal grommets shall be 24 inches apart, on top and bottom, and shall be placed as close to the cable casings as possible. Grommet area to be reinforced to avoid tearing. A second row of stitching shall be next to the grommets. Wind slits shall be half circles and placed randomly. Put no wind slits in the lettering or design. There needs to be maximum possible slits to dissipate heavy wind loads. *Not drawn to scale.

b:\se\general\banner.spc rev;2/28/98

# Banner Hardware

- 1. Distance from pole on the north side of the roadway to pole in the median is approximately 65 feet."
- 2. Distance from pole on the south side of the roadway to pole in the median is approximately 43 feet.
- 3. Poles on the north and south side of the roadway are traffic signal poles fabricated by Union Steel. Both poles are mounted on a 30" pier with a bolt circle of 20" on bolts 1 5/8" in diameter. Both poles are 12" in diameter at the bottom. Both poles have been shortened. On the pole on the north side of the roadway the pole extends approximately 3' above the top span wire. The pole on the south side of the roadway extends approximately 1' above the top span wire.
- 4. The center pole is a standard, wooden power pole.
- 5. The cables between these poles is galvanized, stranded span wire, 5/16" in diameter. The bottom cable is 17' 11" above the roadway surface. The top cable is 31" above the lower cable.
- 6. The cables are attached to eye-type strandvises designed to accommodate 5/16". thick cable. Type number 5101 and 6M Rated for steel strand galvanized cable.
- 7. These strandvises are in turn attached to eye bolts, approximately 11/16" in diameter and 17" long. The eye bolts are through-bolted to the pole and secured with a threaded nut. A second threaded nut is added to prevent the first nut from "backing off".
- 8. Additionally, a length of 5/16" cable is looped through the eye bolt and clamped to the span wire by means of two three-bolt clamps.
- 9. The span wire is secured to the center pole by means of three-bolt clamps. The clamps are secured to the pole by through-bolting the center bolt to the wooden pole.
- 10. Foundations shall be ten (10) ft. deep.



#### PUBLIC WORKS DEPARTMENT

OK.

Post Office Box 9010 Addison, Texas 75001-9010

(972) 450-2871 16801 Westgrove

February 28, 2001

Mr. A. Cecil Jones, P.E. Vice President Neel-Schaffer, Inc. 5004 Fifth Avenue South Birmingham, Alabama 35212

Re: Request for Proposal Special Events Banner Support Pole on Belt Line Road

#### Dear Mr. Jones:

As we previously discussed, the Town of Addison has determined a need to routinely display banner advertisements along Belt Line Road for upcoming special events in our community. This arterial roadway is heavily traveled and the Town benefits from the placement of banners across the full width of the street.

At this time, we are requesting a proposal from your firm for the following design services:

- a. Evaluation of the existing support structures.
- b. Review of existing cables and cable hardware.
- c. Design of cable and cable hardware system suitable to resist winds of 100 mph with banners attached.
- d. Associated calculations, signed and sealed by a Registered Professional Engineer in the State of Texas that is qualified in wind load analysis and cable hardware analysis.

Attached are typical Town of Addison street banner and hardware specifications to assist in your evaluation of the proposed project. Please submit your proposal to include the following:

- a. Project description
- b. Technical approach
- c. Qualifications
- d. References appropriate to this project
- e. Proposal fee

Please submit four (4) copies of your proposal to this office by March 16, 2001. Should you have any questions, please feel free to contact me at 972-450-2886.

Your attention and consideration is greatly appreciated.

Sincerely,

Steven Z. Chutchian, P.E.

Assistant City Engineer

Cc: Mike Murphy, P.E., Director of Public Works

Jim Pierce, P.E., Assistant Director of Public Works

Chris Terry, Assistant City Manager

## TOWN OF ADDISON STREET BANNER SPECIFICATIONS

**QUANTITY:** 2 30 ft. long by 30 in. tall (finished size) SIZE: On one side only COPY: 14 oz. vinyl minimum MATERIAL: CONSTRUCTION: 1/4" plastic-coated stainless steel aircraft cable shall be tightly sewn in casings across the top and bottom. Leave 36" of cable extending from each end of banner free to be fastened to pole. Reinforced metal grommets shall be 24 inches apart, on top and bottom, and shall be placed as close to the cable casings as possible. Grommet area to be reinforced to avoid tearing. A second row of stitching shall be next to the grommets. Wind slits shall be half circles and placed randomly. Put no wind slits in the lettering or design. There needs to be maximum possible slits to dissipate heavy wind loads. *Not drawn to scale.

## **Banner Hardware**

- 1. Distance from pole on the north side of the roadway to pole in the median is approximately 65 feet.
- 2. Distance from pole on the south side of the roadway to pole in the median is approximately 43 feet.
- 3. Poles on the north and south side of the roadway are traffic signal poles fabricated by Union Steel. Both poles are mounted on a 30" pier with a bolt circle of 20" on bolts 1 5/8" in diameter. Both poles are 12" in diameter at the bottom. Both poles have been shortened. On the pole on the north side of the roadway the pole extends approximately 3' above the top span wire. The pole on the south side of the roadway extends approximately 1' above the top span wire.
- 4. The center pole is a standard, wooden power pole.
- 5. The cables between these poles is galvanized, stranded span wire, 5/16" in diameter. The bottom cable is 17' 11" above the roadway surface. The top cable is 31" above the lower cable.
- 6. The cables are attached to eye-type strandvises designed to accommodate 5/16" thick cable. Type number 5101 and 6M Rated for steel strand galvanized cable.
- 7. These strandvises are in turn attached to eye bolts, approximately 11/16" in diameter and 17" long. The eye bolts are through-bolted to the pole and secured with a threaded nut. A second threaded nut is added to prevent the first nut from "backing off".
- 8. Additionally, a length of 5/16" cable is looped through the eye bolt and clamped to the span wire by means of two three-bolt clamps.
- 9. The span wire is secured to the center pole by means of three-bolt clamps. The clamps are secured to the pole by through-bolting the center bolt to the wooden pole.
- 10. Foundations shall be ten (10) ft. deep.



# NEEL-SCHAFFER, INC.

5004 Fifth Avenue, South Birmingham, Alabama 35212 Phone: (205) 591-3800 Fax: (205) 592-8362

E-mail: alabama@neel-schaffer.com

February 26, 2001

Mr. Steven Z. Chutchian, PE Town of Addison 16801 Westgrove Road Addison, Texas 75001-9010

Dear Steve:

Thanks so much for the hospitality last week. It was great to finally meet you and tell you of Neel-Schaffer's interest in and commitment to having an office in North Dallas.

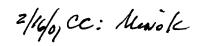
By now, I hope you have had occasion to review the Transportation services CD and have seen our capabilities in Transportation. We look forward to showing that capability to you, on the ground, in Addison. As I mentioned, however, we have like experience in Landscape Architecture with specific interests in streetscapes, their planning, design and construction. As promised, I am enclosing some past projects done by the staff here of landscape projects in various locations across the Southeast. The project manager for our LA section, Gary Peterson who, incidentally, is registered in Texas. His resume and that of Chris Pugh of our staff is also enclosed. Finally, I have enclosed a list of references which we would appreciate hour contacting about us and our work.

I'll call you next week and perhaps we can discuss this further over lunch. I will look forward to that possibility. Again, thank you very much for your courtesy. Kindest personal regards.

Sincerely yours,

A. Cecil Jones, PE Vice President

cc: Johnny Carr Gary Peterson





# NEEL-SCHAFFER, INC. ENGINEERS PLANNERS

5004 Fifth Avenue, South Birmingham, Alabama 35212 Phone: (205) 591-3800 Fax: (205) 592-8362 E-mail: alabama@neel-schaffer.com

January 30, 2001

Mr. Michael E. Murphy, PE Director of Public Works Town of Addison Post Office Box 9010 Addison, Texas 75001-9010

#### Dear Mike:

First, please forgive the length of time it has taken to write this letter. I have never seen things as busy as they are right now. Second, thanks, as always, for the courteous manner in which you greet me and make me feel welcome in your office and finally, it is my genuine hope that we can work for the Town of Addison in the future.

As you requested, this letter will serve as an "overview" of the services performed by Neel-Schaffer, Inc. with no specific project mentioned but with several references we have served in the past should there be a desire, on your part, to check us out.

Neel-Schaffer, Inc. provides engineering services through the main office in Jackson, Mississippi and through branch offices located in Nashville, Tennessee; Atlanta, Georgia; Baton Rouge, Louisiana; Birmingham, Alabama; Greensboro, North Carolina, and in Tupelo and Hattiesburg, Mississippi.

Neel-Schaffer, Inc. has a staff of over 350 professional and technical employees. Of 108 graduate engineers, seventy-six are registered professionals and twenty have advanced degrees.

Neel-Schaffer, Inc. offers civil, structural, aviation, hydraulic, environmental, electrical, traffic, transportation, highway and bridge services and landscape architecture from professionals who are recognized experts in their fields. The firm also employs highly trained hydrologists, cost estimators and urban planners. Professional services can be provided for the complete scope of a project to include the planning, surveying, design and construction phases.

ogus au le propagation de le mégant de Bruston de la companyant de la companya de la companya de la companya d Ogustagna de la mesta de la Bruston de la companya Na Companya de la companya Mr. Michael Murphy, PE January 30, 2001 Page Two

#### References include:

Mr. Wayne Sullivan, PE Director of Roads and Transportation Jefferson County Commission (205) 325-5795

Mr. James Brown, PE Division Engineer Alabama Department of Transportation (256) 389-1400

Mr. Hugh McVeigh Manager Federal Express Corporation (901) 434-8903 Mr. Ray Bass, PE Chief Engineer Alabama Department of Transportation (334) 242-6318

Mr. Nick Ardillo Executive Director Golden Triangle Regional Airport (662) 327-4422 Ext. 203

Mr. Ken Power Airport Engineer Talladega Municipal Airport (205) 761-1363

It is our intent to have a presence in Texas and I can think of no better place to start than in the Dallas area. As I explained, we are discussing possibilities with Wayne Ginn as to his and our future in Texas.

All this said, we need a chance, we need a project. Be it a road, airport, drainage problem, traffic problem, whatever, all we ask is a chance to serve you and Addison. I will be back in Dallas in the next two weeks and will call you. Until then, thanks again for your interest in Neel-Schaffer, Inc.

Kindest regards.

Yours very truly,

NEEL-SCHAFFER, INC.

A. Cecil Jones, PE Vice President

ACJ/am





Mailing Address:

P. O. Box 820457
Dallas, Texas 75382-0457
Phone 214- 528-3796
e-mail: gunningcei@aol.com

Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-528-3797

November 19, 2004

To My Business Associates, My Friends, and My Family:

I am writing to let you know about a change in my situation. For medical reasons, I have retired from the engineering profession and I am winding down Gunnin Consulting Engineers, Inc. I have been taking a lengthy battery of medical tests to determine my situation. It was not until very recently that I learned more definitive results from the medical testing and evaluation. It is convenient for me to inform all of my business and other associates, my friends, and my family, all at the same time.

To My Business Associates – Owners, Designers, Contractors, and Professional Associates:

In my practice of structural engineering for over 30 years in the Dallas area and beyond, I have been blessed with the opportunity to participate in the most exciting and rewarding projects for the best clients and professional and construction entities, that an engineer could hope for. I have had a wonderful professional experience, and have worked with the best people in the client/design/construction field imaginable. I thank all of you for the opportunity, and for the experience, and for your support.

Even though I have retired, I will still be living in the Dallas area. If you would like me to refer you to another structural engineer, I would be happy to do so. For those of you with on-going projects, someone from my office will contact you to discuss how to transition that work. If you have not heard from me soon, please call.

For the last several years, I have been blessed with the opportunity to teach some graduate structural engineering courses at SMU. This experience has been both challenging and rewarding. To Dr. Bijan Mohraz, department chair, I thank you for the opportunity.

To My Many Friends:

Again, I have been blessed with a multitude of friends, who have shared companionship and encouragement over many years. I look forward to reminiscing about old times. God bless you for your friendship.

To My Family:

Once again, I have been blessed with a wonderful, supportive family. I was raised in the most loving and encouraging home imaginable. I dearly love my wife and our children and our families. I have been blessed with help and inspiration more than I deserve. I look forward to spending more time with you in the future.

November 19, 2004 Page two

To All of You:

Tonight when you go to bed, ask your God to bless me and my family, and thank your God for His grace and His love for all of us.

Sincerely,

Bill L. Gunnin, Ph. D., P. E.

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457

Phone 214- 528-3796 e-mail: gunningcei@aol.com Delivery Address:

3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109

FAX 214-528-3797

**BILL TO** 

Town of Addison Mr. James C. Pierce, Jr., P.E. 16801 Westgrove Drive Addison, TX 75001-9010

DATE	INVOICE#
6/1/2004	38900-04

	PROJECT
389	Street Banners Cable Supports

DESCRIPTION	QTY	RATE	AMOUNT
PROFESSIONAL SERVICES 5/1/03 THROUGH 5/31/03	_		
Agreed Fee	1	500.00	500.00
, 0 and /			
OK to they			
Jefuin			
OK to 108 6-2-04			
•			
	Total		\$500.00

Date: 11/18/2003 Time: 4:53:58 PM

<u> </u>	4CO	RD _™ CERTI	FICATE	ر، LIABI	LITY INS	URANC	E 2	DATE 11/18/2003
PRO	DUCER	McLaughlin Brunson 9535 Forest Lane	Insurance Ager	ncy	ONLY AN HOLDER.	D CONFERS N	UED AS A MATTER OF RIGHTS UPON THE TOOLS NOT AMERICAN THE PROPER BY THE PROPERTY OF THE PROPER	HE CERTIFICATE
		Suite 118 Dallas	TX	75243		INSURERS	AFFORDING COVERA	GE
INSL	IRED	Gunnin Consulting E	Ingineers Inc.		INSURER A: Lu	mbermans Mutu	al Casualty Company	(Kemper)
		P. O. Box 820457			INSURER B:			
		Dallas	TX	75382	INSURER C:			
		Dallas	17	13302	INSURER D:			
	_				INSURER E:			
	VERAG							
AI M	NY REQU AY PERT	CIES OF INSURANCE LISTE JIREMENT, TERM OR CON 'AIN, THE INSURANCE AFF AGGREGATE LIMITS SHOW	DITION OF ANY CO	ONTRACT OR OTHE LICIES DESCRIBED	R DOCUMENT WIT HEREIN IS SUBJEC	H RESPECT TO WI	HICH THIS CERTIFICATE	MAY BE ISSUED OR
INSR		TYPE OF INSURANCE	POLIC	/ NUMBER	POLICY EFFECTIVE	POLICY EXPIRATION	LIMI	TS
		L LIABILITY					EACH OCCURRENCE	\$
	CON	MMERCIAL GENERAL LIABILITY		•			FIRE DAMAGE (Any one fire)	\$
		CLAIMS MADE OCCUR					MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
	GEN'L AC	GREGATE LIMIT APPLIES PER:					PRODUCTS - COMP/OP AGG	\$
	POL	JCY PRO- LOC						
	$\overline{}$	BILE LIABILITY					COMBINED SINGLE LIMIT (Ea acadent)	\$
		OWNED AUTOS HEDULED AUTOS					BODILY INJURY (Per person)	\$
		EDAUTOS N-OWNEDAUTOS					BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
ı		LIABILITY	l				AUTO ONLY - EA ACCIDENT	\$
	Hany	AUTO					OTHER THAN EA ACC	\$
	540500						AGG	\$
		LIABILITY CLAIMS HADE					EACH OCCURRENCE	\$
	000	CUR CLAIMS MADE					AGGREGATE	-
	<u></u>	NATION S						\$
		DUCTIBLE						\$
		ENTION \$	-	<del></del>	<del>                                     </del>	_	WC STATU- OTH-	
		RS COMPENSATION AND ERS' LIABILITY						<u> </u>
							E.L. DISEASE - EA EMPLOYEE	\$
A	oth∈RP	rofessional	QL019007-00		01/10/2003	01/10/2004	E.L. DISEASE - POLICY LIMIT \$ 500,000 pe	r claim/annl aggrgt
		101035101101	QL012007-00		01/10/2003	01710/2004	Ψ 300,000 μ	· · · · · · · · · · · · · · · · · · ·
DES	CRIPTION (	F OPERATIONS/LOCATIONS/VE	HICLES/EXCLUSIONS	ADDED BY ENDORSEMEN	NT/SPECIAL PROVISION	IS		
RE:	Addisc	on Airport "T" Hangars	The claims m	ade professional l	iability coverage	is the total aggr	egate limit for all clair	ns
pres	ented w	vithin the annual policy	period and is su	ibject to a deducti	ble.	33		
Ref	erence J	lob: Addison Banner C	Cable Support					
CE	RTIFICA	TE HOLDER ADD	OMONAL INSURED; IN	SURER LETTER:	CANCELLAT	ION		
					SHOULD ANY OF	F THE ABOVE DESCRIB	ED POLICIES BE CANCELLED E	BEFORE THE EXPIRATION
		Town of Addison, Public W	orks/Engineering				ER WILL ENDEAVOR TO MAIL	10 DAYS WRITTEN
		P.O. Box 9010					NAMED TO THE LEFT, BUT F	
				#F001 0010			Y OF ANY KIND UPON THE IN	
		Addison	TX	75001-9010	REPRESENTATI			
					AUTHORIZED REF	PRESENTATIVE	Dades to D	-D 02
							Datride P. Melai	escien_

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214- 528-3796 e-mail: gunningcei@aol.com Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

May 28, 2004

Mr. James C. Pierce, Jr., P.E. Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re:

Cable Supports for Street Banners Belt Line Road near Quorum Drive Addison, Texas

Dear Mr. Pierce:

At your request, I visited the site of the referenced project on May 24, 2004 to make visual observations of the condition of the cables and their attachments. I was accompanied by your Mr. Charles Mitchell, who operated a bucket lift to permit my observations.

Generally, it appeared that the recommendations we made in our letter report dated April 30, 2003 had been executed. At the middle, wooden pole, the sleeves that protect the cables where they pass through the eye-bolts were slightly worn on the top surface. I was able to twist the sleeves about the cables approximately 180 degrees so that the slightly worn surface was near the bottom, and the less-worn surface was near the top. Also, at the middle pole, it appeared that the two eyebolts had been changed since my visit last year. Mr. Mitchell confirmed that stainless steel eyebolts had been substituted for galvanized. This was probably a positive change, which probably reduced the wear of the sleeves at the middle pole.

Enclosed are one print each of 49 photographs I took while at the site. .

Again, we suggest that each year you routinely check all of the bolts and nuts for tightness. If you have any questions, feel free to call on me.

Sincerely,

GUNNIN CONSULTING ENGINEERS, INC.

Bill L. Gunnin, P. E.

Enclosures: 49 photographs

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214- 528-3796 e-mail: gunningcei@aol.com Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

April 30, 2003

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re: Cable Supports for Street Banners
Belt Line Road near Quorum Drive
Addison, Texas

Dear Mr. Pierce:

At your request, I visited the site of the referenced project yesterday to make visual observations of the condition of the cables and their attachments. I was accompanied by your Mr. Charles Mitchell, who operated a bucket lift to permit my observations, and by you part-time.

Enclosed are one print each of 24 photographs I took while at the site. The photos are marked on the back in ink the numbers 1-24 for identification. The pole in the middle of the street is shown in photos 6 through 8. The support on the south side of the street is shown in photos 9 through 15. The support on the north side of the street is shown in photos 16 through 23. The remaining photos are general shots taken from street level.

## Middle supports in median – timber pole (photos 6-8)

- 1. The sleeves to protect the cable were worn at the eye-bolts. They were also slightly bent at the eye-bolts. The sleeves should be moved to the south a little bit so that they engage the eye-bolts with material that is not worn.
- 2. Looking down the length of the cables from the ends, the cables appear to not be straight. Rather, they appear to be slightly harped (horizontally) at the center support. This condition exacerbates the tendency for wear of the sleeves (and, to a lesser extent, wear of the eye-bolts). The nuts of the eye-bolts should be loosened and the eyebolts should be moved to the east as far at the length of the eyebolts with nuts will permit. Moving the eyebolts to the east will permit the cables to straighten out somewhat and will reduce the tendency for wear of the sleeves and eyebolts.

Mr. Pierce April 30, 2003 Page two

### South supports – steel pole (photos 9-15)

- 1. The eyebolts which connect the cables to the poles have approximately 2-1/2 inches of unthreaded shank between the double nuts and the beginning of the eye. This condition causes more bending in the bolt at the nuts from wind forces than if the eye was very close to the pole. It is probable that the eye-bolt that broke last year resulted from fatigue in the bolt caused by many reversible, cyclical, horizontal loads from wind gusts. The present condition is much better than the condition that existed last year because the distance between the eye and the double nuts at the pole is considerably less with installation of the turnbuckles last year. The condition at the south supports to resist cyclical, reversing wind gusts could be further improved by implementing one of the following measures:
  - a. The unthreaded portion of the existing eyebolts could be threaded additionally to as close as possible (verify distance) to the eye. This would reduce the bending forces in the eyebolt shank due to wind gusts, and would reduce the likelihood of recurrence of fatigue failure.
  - b. The existing eyebolts could be removed from the cables, and new shoulder nut eyebolts or machinery eyebolts could be installed with clevises. See attached data sheet.
  - c. A steel angle could be tack-welded either side of each eyebolt to the steel pole and to the shank of the existing eye-bolt near its eye, to provide lateral support for the bolt from wind gusts. You should verify the weldibility of the metal items.
- 2. You should also verify that there is an appropriate length of travel in the existing turnbuckles at the north support to make possible these measures. Also, please note that implementation of a. or b. above may also result in implementation of the measures at the middle supports without loosening and moving the cable clamps..

North supports – steel pole (photos 16-23)

1. No comments except as related to coordination with the comments above for the center and south supports.

Finally, we suggest that each year you routinely check all of the bolts and nuts for tightness. If you have any questions, feel free to call on me.

Sincerely,

GUNNIN CONSULTING ENGINEERS, INC.

Bill L. Gunnin, P. E.

Enclosures: Photographs 1-23

Data sheet for machinery eyebolt and shoulder nut eyebolt

# WARNINGS AND APPLICATION INSTRUCTIONS







Regular Nut Eye Bolt G-291

Shoulder Nut Eye Bolt

Machinery Eye Bolt

# Important Safety Information - Read & Follow

#### Inspection/Maintenance Safety:

- Always inspect eye bolt before use.
- Never use eye bolt that shows signs of wear or damage.
- Never use eye bolt if eye or shank is bent or elongated.
- Always be sure threads on shank and receiving holes are clean.
- Never machine, grind, or cut eye bolt.

#### **Assembly Safety:**

- Never exceed load limits specified in Table I.
- Never use regular nut eye bolts for angular lifts.
- Always use shoulder nut eye bolts (or machinery eye bolts) for angular lifts.
- For angular lifts, adjust working load as follows:

Direction of Pull	Adjusted Working Load
45 degrees	30% of rated working load
90 degrees	25% of rated working load

- Never undercut eye bolt to seat shoulder against the load
- Always countersink receiving hole or use washers to seat shoulder.
- Always screw eye bolt down completely for proper seating.
- Always tighten nuts securely against the load.

and a second	(Line Load)
Size (in.)	Working Load Limit
1/4	650
5/16	1,200
3/8	1,550
1/2	2,600
5/8	5,200
3/4	7,200
7/8	10,600
1	13,300
. 1-1/4	21,000
1-1/2	24,000

## î verminike

- Loads may slip or fall if proper eye bolt assembly and lifting procedures are not used.
- A falling load can seriously injure or kill.
- Read and understand both sides of these instructions, and follow all eye bolt safety information presented here.
- Read, understand, and follow information in diagrams and charts below before using eye bolt assemblies.

# Shoulder Nut Eye Bolt — Installation for Angular Loading

IN - LINE

The threaded shank must protrude through the load sufficiently to allow full engagement of the nut.

90°

If the eye bolt protrudes so far through the load that the nut cannot be tightened securely against the load, use property sized washers to take up the excess space BETWEEN THE NUT AND THE LOAD.

Thickness of spacers must exceed this distance between the bottom of the load and the last thread of the eye boit

Place washers or spacers between nut and load so that when the nut is tightened securely, the shoulder is secured flush against the load surface.

Mailing Address:

P. O. Box 820457 Dallas, Texas 75382-0457 Phone 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109

FAX 214-522-6796

**BILL TO** 

Town of Addison Mr. James C. Pierce, Jr., P.E. 16801 Westgrove Drive Addison, TX 75001-9010

DATE	INVOICE#
5/1/2003	38900-03

PROJECT	_
389 Street Banners Cable Supports	

DESCRIPTION	QTY	RATE	AMOUNT
PROFESSIONAL SERVICES 6/1/02 THROUGH 4/30/03			·
Agreed Fee	1	500.00	500.00
Okto Pay Solution 5-6-03			
Shur			
5-b-03			•
•			
	Total		\$500.00

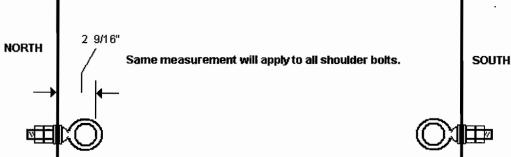


## 5-16-02

Refigure turnbuckle requirements using I Shoulder bolt and one original bolt "drawn into pole"

of the or a difficult soll	,	
TOP CABLE		
Dimensions inside bolts: (N. Side)	Bolt Drawn	5 11
14 10	up- s. side	160
	Shoulder bolk	2 16
7 16 9	N. Side	
30 -19 n 3/3/6		7 20
16		e 4
Difference to be made up		16
Difference to be made up	Dy 9	
Turn buckle 32	4/ 19/16	
	111	_ 11
	15 Say 2	.3"
	16	
3/4 × 9" works between 2	-7.5 and 17"	
BOTTOM CABLE		andrews approximate the state of the state o
Dimensions Inside Bolts ,	$17\frac{3}{16}$	
18 % 17 ½ 17 16 17 16	+ 17 12	
$\frac{12}{16}$ $\frac{12}{16}$		
The state of the s	34 15"	Total
17 12 17 3/16	. 16	
Bolt Drawn up 6" 5,5de		
Shoulder Bolt 2 76	MANUSCHI N. b. del billio de	
8 %	34 <u>15</u>	
Difference for Turnbuckle:	$-8\frac{9}{4}$	
PITTETETICE 401 TOLD BUCKIE!	76 6 "	
7/. 42 11	<u> </u>	<del>,</del>
3/4 × 12" works betwee	m 33.5 and 20"	

#### SHOULDER BOLTS



Shoulder bolts are a little over five inches in length. Opening of the eye is 1 1/2" and the thickness of the eye ring is about 9/16". The threaded portion of the bolts is 3/4" diameter with UNC of 10 TPI. The length of the threaded portion of the bolt is a little over five inches. Data sheet states the Working Load Limit is 7200 lhs.

Bolt is made of forged steel, quneched and tempered.

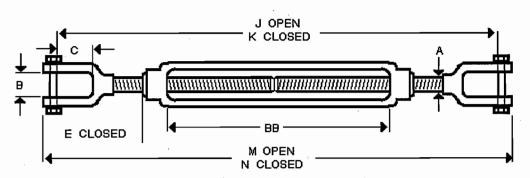
Bolts shown install with 1/8" thick washer both inside and outside pole surfaces. .





3'2 1/6 - 5 7/6 27 9" to be made up with turnbuckles

## Crosby 6" Jaw & Jaw Turnbuckle



A = 0.75"

B = 1.03"

E = 4.18"

C = 1.50"

J = 21.50"

K=14.00"

M = 24.10"

N = 16.60"

BB = 6.00"

1 ( 0783 .OM GOL ] 20 ) UI

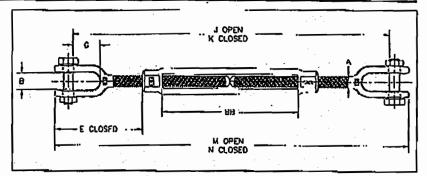
UHT S002\80\30

## Crosby® Jaw & Jaw Turnbuckles



HG-228 JAW & JAW

Meets the performance requirements of Pederal Specifications FF-T-791b, Type 1, Form 1 — CLASS 7, and ASTM F-1145, except for those provisions required of the contractor.



- · Hot Dip galvanized steel.
- End fittings are Quenched and Tempered, bodies heat treated by normalizing.
- TURNBUCKLES RECOMMENDED HAR STRAKEHT OR IN-LINE PULL ONLY.
- Forged Jaw ends are fitted with bolts and nuts for 1/4" through 5/8", and pins and cotters on 3/4" through 2-3/4" sizes.
- Modified UNI thread on end fittings for improved fatigue properties, Body has UNC threads.
- Lock Nuts available for all sizes (see page 162).
- Comprehensive end fitting data provided on page 160.
- Patigue Rated.

BECVK

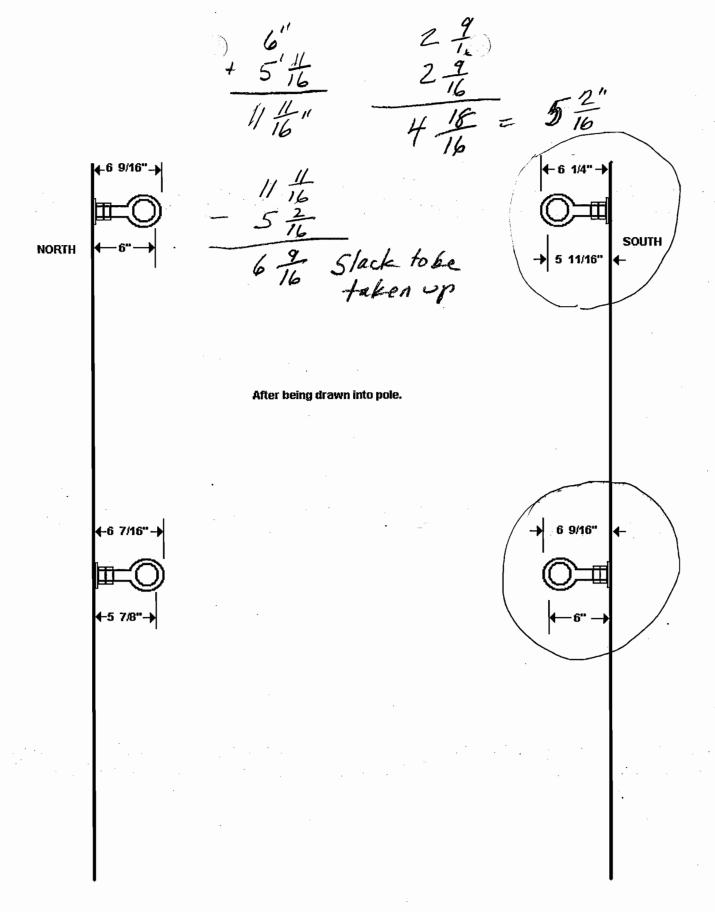
Fatigue Rated

					_ <del>_</del>	_5					M	<b>-</b> N	<u> 88</u>	
	Tinte James	Steel		vcolati.		(1110)			ing and					
					100	* Y.	200		eleci.		Office			
	1/4×4	1032493	500	.38	.25	.45	1.58	.62	10.90	B.90	11.90	7.90	4.00	٠.
-	5/18 × 41/2	1032518	800	.52	.31	.50	1.98	.87	12.36	8.36	13.90	9.40	4.50	
	3/8×0	1032536	1200	. ,81	.38	.54	2.12	.87	16.14	10.14	17.38	11.38	8.00	ı
	1/2×6	1032554	2200	1.58	.50	.55	2.75	1.06	18.50	11.50	20.00	13.00	6.00	
	1/2×9	1032572	2200	1.74	.50	,55	2.75	1.06	24.50	14.50	26.00	16.00	9.00	1
	_½x 12	1032590	2200	2.40	.50	.55	2,75	1.00	30.50	17.50	32.00	19,00	12.00	
	5/a x 6	1032616	3500	2.72	.63	.82	3.50	1,31	20.05	12.60	22,13	14.88	6.00	
	%×9	1032634	3500	3,43	.63	.82	9.50	1.31	26.05	15.80	28.13	17.88	9.00	
_	5/4 x 12	1032652	3500	3,91	.63	.R2	3,50	1.31	32.05	18.80	34.13	20.00	12,00_"	
_	3/4×6	1032670	5200	4.11	75	1.03	4.18	1.50	<u>21.50-</u>	14.00	24.10~	·····16.60	6.00	
	_34×9	1032698	5200	5,46	75	_1.03	4.18	1.50	27.50	17.00	80.10	19.60	9.00	
	3/4 x 12	1032714	5200	6,43	.75	1.03	4.18	1.50	38.50	20.00	36.10	22,60	12.00	
	% x 18	1032732	5200	8.07	.75	1.03	4.18	1.50	45.50	26.00	48.10	28.60	18.00	
	<u>7⁄8 x</u> 12	1032750	7200	B.17	.88	1.23	4.85	1.75	35.11	21.36	38.07	24,32	12.00	$\overline{}$
	% x 18	1032778	7200	10.78	.88	1,23	4.85	1,75	47.11	27.36	50,07	30,32	18.00	ĺ
	. 1x6	1032796	10000	10.1B	1.00	1,31	5.53	2.06	24.72	16.72	28.08	20.06	6,00	
	1 x 12	1032812	10000	12.52	1.00	1,31	5.53	2.06	36.72	<u>22.7</u> 2	40.06	26.06	<u>12,0</u> 0	
	1 x 18	1032830	10000	15,14	1.00	1,31	5.53	2.06	48.72	28,72	52.06	. 32.08	18.00	
	1 x 24 11/4 x 12	1032858 1032876	15200	19.08 20.59	1.00 1.25	1,31 1,86	6.53 7.21	<u>2.06.</u> 2.81	6 <u>0.72</u> 39.84	<u> </u>	<u>04.06</u> 44.04	29.54	24.00 12.00	
	11/4 x 18	1032894	15200	24.68	1,25	1.86	7.21	2.81	51.84	31.34	56,04	35.54	18.00	
		1032910	15200	28.20	1.25	<b>—</b> `	7.21	2.81	63,64	37.34	68.04	41 54	24.00	
	1½ x 24	1032938	21400	30.69	1.50	<u>1.86</u> 2,25	7.88	2,81	41.50	26,50	48.50	31.50	12,00	
	1½ x 18	1032956	21400	36.75	1.50	2.25	7.88	2.81	53.50	32.50	58,50	37.50	18.00	
	11/2 X 24	1032974	21400	40.67	1.50	2.25	7.88	2.81	65.50	38.50	70.50	43.50	24.00	1
	1% x 18	1033018	28000	54.00	1.75	2.60	9,40	3.38	53,38	35.38	59.18	41.18	18.00	
	1% x 24	1033036	28000	63.36	1.75	2.60	9.40	3.38	65.38	41.38	71.18	47.18	24.00	i
	2×24	1033054	37000	94.25	2.00	2,62	11.86	3,69	69.54	45.54	76.72	52.72	24.00	
	21/2×24	1033072	60000	105.00	2.50 2.50	3.06	13,56	4.44	72,98	48.98	82.18	58.18	24.00	
	2%×24	1033090	75000	198,00	2.75	3.68	15.22	4.19	74.75	50.75	85.50	61.50	24.00	
	1 777			,					· :::		,,,,,,,	L * · · · · · _	1.00	

* Proof Load is 2.5 times Working Load I lmit. Ultimate load is 5 times Working Load Limit.

Copyright @ 2000 The Crosby Group, Inc. All Rights Reserved

157





# Forged Machinery Eye Bolts

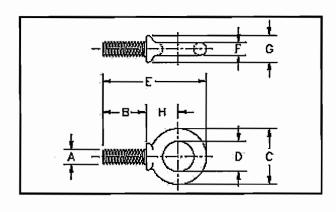


#### SHOULDER TYPE MACHINERY EYE BOLTS











- Forged Steel Quenched & Tempered.
- Working Load Limits shown are for In-line pull.
- Recommended for straight line pull.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- All Bolts threaded UNC.



SEE APPLICATION AND WARNING INFORMATION See Pages 136 - 137

0'		Working	Weight	Dimensions (in.)						
Size	Stock No.	Load Limit * (lbs.)	per 100 (lbs.)	A** Thread	В	С	D	E .	F	G
1/4 x 1	9900182	650	5.00	1/4 - 20	1.02	1.13	.75	2.29	.19	.53
5/16 x 1-1/8	9900191	1200	9.00	5/16 - 18	1.15	1.38	.88	2.74	.25	.59
3/8 x 1-1/4	9900208	1550	15.00	3/8 - 16	1.27	1.62	1.00	3.07	.31	.69
1/2 x 1-1/2	9900217	2600	28.00	1/2 - 13	1.53	1.95	1.19	3.70	.38	.91
5/8 x 1-3/4	9900226	5200	55.00	5/8 - 11	1.79	2.38	1.38	4.45	.50	1.13
3/4 x 2	9900235	7200	96.00	3/4 - 10	2.05	2.76	1.50	5.07	.63	1.38
7/8 x 2-1/4	9900244	10600	154.00	7/8 - 9	2.31	3.25	1.75	5.87	.75	1.56
1 x 2-1/2	9900253	13300	238.00	1 - 8	2.57	3.76	2.00	6.66	.88	1.81
1-1/4 x 3	9900262	21000	399.00	1 1/4 - 7	3.09	4.50	2.50	7.95	1.00	2.28
1-1/2 x 3-1/2	9900271	24000	720.00	1 1/2 - 6	3.60	5.50	3.00	9.49	1.25	2.75

^{*} Ultimate Load is 5 times the Working Load Limit.



Copyright © 2000 The Crosby Group, Inc. All rights reserved



^{**} All Bolts Threaded UNC

Mailing Address:

P. O. Box 820457

Dallas, Texas 75382-0457

Phone: 214-528-3796

e-mail: gunningcei@aol.com

Delivery Address:

3303 Lee Parkway, Suite 325

Dallas, Texas 75219 FAX: 214-522-6796

FACSIMILE COVER SHEET

DATE: May 10, 2002

TO: Mr. James C. Pierce, Jr., P.E.

Town of Addison

FAX NO: 972-450-2837

FROM: Bill L. Gunnin

JOB NAME: Street Banner Supports

Belt Line near Quorum Drive

JOB NUMBER: 389

TOTAL NUMBER OF PAGES, INCLUDING THIS SHEET: 4

HARD COPY OF TRANSMISSION TO FOLLOW? YES:

NO: X

PLEASE CALL 214-528-3796 IF COMPLETE TRANSMISSION IS NOT RECEIVED.

Robin- Im not.
Sure I understand
fhis. Lets discuss
This. Jets discuss

Mailing Address:

P. O. Box 820457
Dallas, Texas 75382-0457
Phone 214- 528-3796
e-mail: gunningcei@aol.com

Delivery Address: 3303 Lee Parkway, Ste. 325 Dallas, Texas 75219-5109 FAX 214-522-6796

May 10, 2002

Mr. James C. Pierce, Jr., P.E. Assistant Public Works Director Town of Addison 16801 Westgrove Drive Addison, Texas 75001-9010

Re: Cable Supports for Street Banners
Belt Line Road near Quorum Drive
Addison, Texas

Dear Mr. Pierce:

At your request, I visited the site of the referenced project yesterday to observe the condition of the cables and their attachments. I was accompanied by your Mr. Charles Mitchell, who operated a bucket lift to permit my observations.

Enclosed is one print each of several photos taken by two different cameras, identified here as camera A and camera B. We have marked on the back of the photos A1 through A15 and B1 through B23. The pole in the middle of the street is shown in photos B1 through B6. The support on the south side of the street is shown in photos A1 through A5 and B6 through B13. The support on the north side of the street is shown in photos A6 through A15 and B14 through B23. These photos are for your files.

We observed that the double-nuts on the south end of the upper cable were loose. Mr. Mitchell tightened them before we left the site.

We observed that the eyebolt at the bottom cable attachment to the support on the north side of the street had broken. This is indicated in Photos B16 through B17, B19 through B23, A8, and A10 through A15.

Mr. Mitchell and I had a brief, cursory discussion of methods of repair for the attachment. Following further review by this office, we recommend the following repairs.

Mr. Pierce May 10, 2002 Page two

The cable should be re-attached to the support by use of a turnbuckle, selected from among those listed in the attached sheet. The existing broken eye-bolt may be reused. In order to accommodate a large turnbuckle, the existing broken bolt should be cut off short enough to permit placement of its eye as close to the pole as possible while retaining the double nuts both sides. The jaws of the turnbuckle should be oriented vertical. Similarly, the eyebolt at the other end of the cable should be cut off short enough to permit placement of its eye close to the pole, with double nuts both sides. No turnbuckle is required at the south support, unless necessary for erection purposes. In lieu of cutting off the threads of the existing bolts to re-use them, new bolts may be used, same diameter as existing bolts.

We also recommend you make the same repairs described above for the upper cable. We also suggest that at both top and bottom cables, the cables should not be tightened more than necessary to reasonably limit their sag.

Since the dimensions of the cables and dimensional locations of the supports are not known to us, we cannot determine which of the turnbuckles are of appropriate size to fit with the as-fabricated cables. We suggest that when you determine these dimensions and which sizes of turnbuckles from the attached list will fit, and that you advise our office so we can review your selection of turnbuckles for adequacy.

If you have any questions, feel free to call on me.

Sincerely,

GUNNIN CONSULTING ENGINEERS, INC.

Bill L. Gunnin, P.E.

Enclosures: Photographs

Crosby Turnbuckle Data

[ JOB NO. 5670 ]

20:4

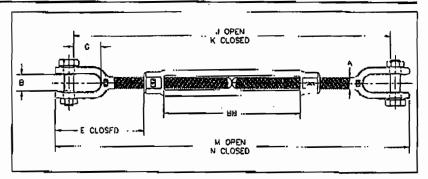
DHT 2002\80\80

## Crosby® Jaw & Jaw Turnbuckles



HG-228 JAW & JAW

Meets the performance requirements of Pederal Specifications FF-T-791b,
Type 1, Form 1 — CLASS 7, and
ASTM F-1145, except for those provisions required of the contractor.



- · Hot Dip galvanized steel.
- End fittings are Quenched and Tempered, bodies heat treated by normalizing.
- TURNBUCKLES RECOMMENDED FOR STRAIGHT OR IN-LINE PULL ONLY.
- Forged Jaw ends are fitted with bolts and nuts for 1/4" through 5/8", and pins and cotters on 3/4" through 2-3/4" sizes.
- Modified UNI thread on end fittings for improved fatigue properties.
   Body has UNC threads.
- Lock Nuts available for all sizes (see page 162).
- Comprehensive end fitting data provided on page 160.
- Fatigue Rated.

## Faligue Rated

Sign   Sign	Name of the	1976	12, 212			0.000	(VVIII) 77	X (1)	livereign				
	Elameter	5	V.Olden	voist!		7			1115	7.			
% ₁₈ x 4½         1032518         800         .52         .31         .50         1.98         .67         12.36         8.36         13.90         9.40         4.50           ½x 6         1032554         1200         .81         .38         .54         2.12         .87         16.14         10.14         17.38         11.38         6.00           ½x 8         1032554         2200         1.58         .50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x 12         1032552         2200         1.74         .50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x 12         1032590         2200         2.40         .50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x 12         1032590         2200         2.40         .50         .55         2.75         1.00         50.50         17.50         32.00         19.00         12.00           ½x 2         1.00         3.00         2.1         3.00         3.00         3.00         3.00 </td <td>Ÿ.</td> <td></td> <td>2000</td> <td>Edi</td> <td>(</td> <td>vitin (</td> <td>ØΒ</td> <td>3. 3.</td> <td>100</td> <td>i de</td> <td></td> <td>(A)</td> <td><b>1</b></td>	Ÿ.		2000	Edi	(	vitin (	ØΒ	3. 3.	100	i de		(A)	<b>1</b>
% ₁₈ x 4½         1032518         800         .52         .31         .50         1.98         .67         12.36         8.36         13.90         9.40         4.50           ½x 6         1032554         1200         .81         .38         .54         2.12         .87         16.14         10.14         17.38         11.38         6.00           ½x 8         1032554         2200         1.58         .50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x 12         1032552         2200         1.74         .50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x 12         1032590         2200         2.40         .50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x 12         1032590         2200         2.40         .50         .55         2.75         1.00         50.50         17.50         32.00         19.00         12.00           ½x 2         1.00         3.00         2.1         3.00         3.00         3.00         3.00 </td <td><b>MANUAL TO SERVICE</b></td> <td>Galvis</td> <td><b>多种物形</b></td> <td>100</td> <td></td> <td></td> <td></td> <td></td> <td>र था था</td> <td>ALCONO.</td> <td><b>EXPLANA</b></td> <td>(SCT. (V)</td> <td></td>	<b>MANUAL TO SERVICE</b>	Galvis	<b>多种物形</b>	100					र था था	ALCONO.	<b>EXPLANA</b>	(SCT. (V)	
% x 0         1032839         1200         .81         .38         .54         2.12         .87         16.14         10.14         17.38         11.38         8.00           ½x x 6         1032854         2200         1.58         50         .55         2.75         1.06         19.50         11.50         20.00         13.00         6.00           ½x x 9         1032572         2200         1.74         50         .55         2.75         1.06         24.50         14.50         26.00         16.00         9.00           ½x x 1         1032596         2200         2.40         50         .55         2.75         1.06         24.50         14.50         26.00         19.00         12.00           ½x x 6         1032816         3500         2.72         .63         .82         3.50         1.31         20.05         12.80         22.13         14.86         6.00           ½x x 6         1032852         3500         3.91         .63         .82         3.50         1.31         26.05         18.80         29.10         12.00           ½x x 8         1032675         5200         4.11         .76         1.03         4.18         1.50         <						· .45			10,90	8.90		7.90	4.00
½ x 5         1032554         2200         1.58         .50         .55         2.75         1.06         18.50         11.50         20.00         13.00         6.00           ½ x 9         1032572         2200         1.74         50         .55         2.75         1.06         24.50         14.50         28.00         16.00         9.00           ½ x 12         1032580         2200         2.40         .50         .55         2.75         1.06         24.50         14.50         28.00         19.00         12.00           ½ x 12         1032580         2200         2.40         .50         .55         2.75         1.08         30.50         17.50         32.00         19.00         12.00           ½ x 8         1032581         3500         3.43         .63         .82         3.50         1.31         26.05         15.80         28.13         17.88         9.00           ½ x 8         1032652         3500         4.11         .75         1.03         4.18         1.50         21.50         14.00         24.10         16.60         6.00           ½ x 8         1032698         5200         5.48         .75         1.03         4.18	5/18 × 41/2												
½ x 9         1032572         2200         1.74         50         .55         2.75         1.06         24.50         14.50         28.00         16.00         9.00           ½ x 12         1032596         2200         2.40         50         .55         2.75         1.08         30.50         17.50         32.00         19.00         12.00           ½ x 8         1032516         3500         2.72         .63         .82         3.50         1.31         20.05         12.80         22.13         14.86         6.00           ½ x 8         1032652         3500         3.43         .63         .82         3.50         1.31         20.05         18.80         28.13         17.88         9.00           ½ x 8         1032652         3500         3.91         .63         .82         3.50         1.31         32.05         18.80         28.13         17.88         9.00           ½ x 8         1032679         5200         4.11         .75         1.03         4.18         1.50         21.50         14.00         24.10         16.60         6.00           ½ x 12         1032732         5200         8.07         .75         1.03         4.18         <	_3⁄8 × €				101	<del>-</del> -						11.38	6.00
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1/2×6	1032554	2200	1.58	.50	.55	2.75	1.06	18.50	11.50	20.00	13.00	6.00
56 x 6         1032616         3500         2.72         63         .82         3.50         1.31         20.05         12.60         22.13         14.88         6.00           56 x 9         1032634         3500         3.43         63         .82         3.50         1.31         26.05         18.80         28.13         17.88         9.00           5 _A x 12         1032652         3500         3.91         63         .P2         3.50         1.91         32.05         18.80         34.13         20.00         12.00           34 x 6         1032670         5200         4.11         .75         1.03         4.18         1.50         21.50         14.00         24.10         16.60         6.00           34 x 12         1032714         5200         6.43         .76         1.03         4.18         1.50         27.50         17.00         90.10         19.60         9.00           34 x 12         1032760         7200         8.17         88         1.23         4.85         1.75         35.11         21.30         38.01         2.80         12.00           34 x 12         1032780         7200         10.78         88         1.23         4.85 <td>½×9</td> <td>1032572</td> <td>2200</td> <td>1.74</td> <td>50</td> <td>.55</td> <td>2.75</td> <td>1.06</td> <td>24.50</td> <td>14.50</td> <td>26.00</td> <td>16.00</td> <td>9.00</td>	½×9	1032572	2200	1.74	50	.55	2.75	1.06	24.50	14.50	26.00	16.00	9.00
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	_½ x 12	1032590	2200	2.40	,50	55	2.75	1.00	30.50	17.50	32.00	19.00	12.00
5/h x 12         1032652         3500         3.91         6.3         R2         3.50         1.31         32.05         18.80         34.13         20.00         12.00           3/4 x 6         1032670         5200         4.11         .76         1.03         4.18         1.50         21.50         14.00         24.10         16.60         6.00           3/4 x 9         1032674         5200         6.43         .76         1.03         4.18         1.50         27.50         17.00         50.10         19.60         9.00           3/4 x 19         1032732         5200         8.07         .75         1.03         4.18         1.50         27.50         17.00         50.10         29.60         12.00           3/4 x 19         1032750         7200         8.17         .88         1.23         4.85         1.75         35.11         21.38         38.07         24.32         12.00           1/6 x 18         1032776         7200         10.78         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 12         1032812         10000         12.52         1.00         1.31	5/a x 6	1032616	3500	2.72	.63	ر88	3.50	1.31	20.05	12.80	22,13	14.88	6.00
% x 6         1032670         5200         4.11         .75         1.03         4.18         1.50         21.50         14.00         24.10         16.60         6.00           % x 9         1032698         5200         5.46         .75         1.03         4.18         1.50         27.50         17.00         80.10         19.60         9.00           % x 12         1032714         5200         6.43         .76         1.03         4.18         1.50         33.50         20.00         36.10         22.60         12.00           % x 18         1032732         5200         8.07         .75         1.03         4.18         1.50         35.50         20.00         48.10         28.60         19.00           ½x 12         1032778         7200         10.78         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 6         1032796         10000         10.18         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         12.00           1 x 18         1032891         10000         15.14         1.00         1.31         5.	5⁄8 × 9	1032634	3500	3,43	.63	.82	9.50	1,31	26.05	15.80	28.13	17.88	9,00
3/4 x 9         1032698         5200         5.46         .75         1.03         4.18         1.50         27.50         17.00         80.10         19.60         9.00           3/4 x 18         1032732         5200         6.43         .76         1.03         4.18         1.50         33.50         20.00         36.10         22.60         12.00           7/6 x 18         1032732         5200         8.07         .75         1.03         4.18         1.50         45.50         26.00         48.10         28.60         18.00           7/6 x 18         1032750         7200         8.17         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 6         1032778         7200         10.78         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 12         1032812         10000         10.18         1.00         1.31         5.53         2.06         24.72         40.06         20.06         6.00           1 x 12         1032813         10000         15.14         1.00         1.31         5.53	5⁄n x 12_	1032652	3500	3.91	.63	.82	3.50	1.31	32.05	18.80	34.13	20.00	12.00
% x 12         1032714         5200         6.43         .76         1.03         4.18         1.50         33.50         20.00         36.10         .22 80         12.00           % x 18         1032732         5200         8.07         .75         1.03         4.18         1.50         45.50         26.00         48.10         28.60         19.00           % x 12         1032760         7200         8.17         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 6         1032796         10000         10.18         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         6.00           1 x 12         1092812         10000         12.52         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         6.00           1 x 12         1092813         10000         12.51         1.00         1.31         5.53         2.06         24.72         40.06         26.06         12.00           1 x 24         1032876         10000         18.06         1.21         2.81         39.84	3/4×6	1032670	5200	4.11	76	1.03	4.18	1.50	21.50	14.00	24.10	16.60	6.00
% x 18         1032732         5200         8.07         .75         1.03         4.18         1.50         45.50         26.00         48.10         28.60         18.00           % x 12         1032778         7200         8.17         .88         1.23         4.85         1.75         35.11         21.36         38.07         24.32         12.00           % x 18         1032778         7200         10.78         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 6         1032796         10000         10.18         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         6.00           1 x 12         1092812         10000         12.52         1.00         1.31         5.53         2.06         36.72         22.72         40.06         26.06         12.00           1 x 18         1032830         10000         15.14         1.00         1.31         5.63         2.06         48.72         28.72         52.06         32.08         18.00           1 x 24         1032876         15200         20.59         1.25         1.86	3/4×9	1032698	5200	5.46	.75	1.03	4.18	1.50	27.50	17.00	80.10	19.60	9.00
% x 18         1032732         5200         8.07         .75         1.03         4.18         1.50         45.50         26.00         48.10         28.60         18.00           % x 12         1032778         7200         8.17         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 6         1032796         10000         10.18         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         6.00           1 x 12         1032830         10000         12.52         1.00         1.31         5.53         2.06         36.72         22.72         40.06         26.06         12.00           1 x 18         1032830         10000         15.14         1.00         1.31         5.63         2.06         46.72         28.72         52.06         32.06         18.00           1 x 24         1032856         10000         18.08         1.25         1.86         7.21         2.81         39.84         25.34         44.04         29.64         12.00           1 ½ x 12         1032856         15200         22.59         1.86         7.21	3/4 x 12	1032714	5200	6.43	.75	1.03	4.18	1.50	33.50	20.00	36.10	22 60	12.00
76 x 18         1032778         7200         10.78         .88         1.23         4.85         1.75         47.11         27.36         50.07         30.32         18.00           1 x 6         1032796         10000         10.18         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         6.00           1 x 12         1032812         10000         12.52         1.00         1.31         5.53         2.06         36.72         22.72         40.06         26.06         12.00           1 x 18         1032830         10000         15.14         1.00         1.31         5.53         2.06         48.72         28.72         52.06         32.06         18.00           1 x 24         1032876         15000         19.08         1.00         1.31         5.63         2.06         60.72         04.72         04.06         38.06         24.00           1½ x 12         1032876         15200         20.59         1.25         1.86         7.21         2.81         39.84         25.34         44.04         29.64         12.00           1½ x 18         1032994         15200         28.20         1.25         1.86<		1032732	5200	8.07	75_	1.03	4.18	1.50	45.50	26.00	48.10	28.60	18.00
7/6 x 18         1032778         7200         10.78         88         1.23         4.85         1.75         47.11         27.36         50.07         90.92         18.00           1 x 6         1032796         10000         10.18         1.00         1.31         5.53         2.06         24.72         16.72         28.06         20.06         6.00           1 x 12         1032812         10000         12.52         1.00         1.31         5.53         2.06         36.72         22.72         40.06         26.06         12.00           1 x 18         1032830         10000         15.14         1.00         1.31         5.53         2.06         46.72         28.72         52.06         32.06         18.00           1 x 24         1032876         15000         20.59         1.25         1.86         7.21         2.81         39.84         25.34         44.04         29.64         12.00           1 ½ x 18         1032894         15200         24.68         1.25         1.86         7.21         2.81         51.84         31.34         56.04         35.54         18.00           1 ½ x 12         10329910         15200         28.20         1.25         1.	7/8 x 12	1032750	7200	B.17	.88	1.23	4.85	1.75	35.11	21.36	38.07	24.32	12.00
1 x 12         1082812         10000         12.52         1.00         1,31         5.53         2.06         96.72         22.72         40.06         26.06         12.00           1 x 18         1032830         10000         15.14         1.00         1.31         5.63         2.06         46.72         28.72         52.06         32.06         18.00           1 x 24         1032876         15200         20.59         1.25         1.86         7.21         2.81         39.84         25.34         44.04         29.64         12.00           1½ x 18         1032894         15200         24.68         1.25         1.86         7.21         2.81         51.84         31.34         56.04         35.54         18.00           1½ x 24         1032910         15200         28.20         1.25         1.86         7.21         2.81         63.84         37.34         68.04         41.54         24.00           1½ x 12         1032988         21400         36.75         1.50         2.25         7.88         2.81         41.50         26.50         48.50         31.50         12.00           1½ x 18         1032974         21400         40.67         1.50		1032778	7200	10.78	.88	1,23		1.75	47.11	27.36	50,07	30.32	18.00
1 x 18         1032830         10000         15.14         1.00         1,31         5.63         2.06         46.72         28.72         52.06         32.06         18.00           1 x 24         1032876         10000         19.08         1.00         1.31         5.63         2.06         60.72         04.09         38.06         24.00           1½x 12         1032876         15200         20.59         1.25         1.86         7.21         2.81         39.84         25.34         44.04         29.64         12.00           1¼x 18         1032894         15200         24.68         1.25         1.86         7.21         2.81         51.84         31.34         56.04         35.54         18.00           1½x 24         1032910         15200         28.20         1.25         1.86         7.21         2.81         63.84         37.34         68.04         41.54         24.00           1½x 12         1032988         21400         30.69         1.50         2.25         7.88         2.81         41.50         26.50         48.50         31.50         12.00           1½x 18         1032974         21400         36.75         1.50         2.25         7.88<	1 x 6	1032796	10000	10.18	1.00	1,31	5.53		24.72_	16.72	28.06	20.06	6.00
1 x 24         1032858         10000         18.08         1.00         1.31         5.53         2.06         60.72         34.72         04.06         38.06         24.00           1½x 12         1032876         15200         20.59         1.25         1.86         7.21         2.81         39.84         25.34         44.04         29.54         12.00           1½x 18         1032894         15200         24.68         1.25         1.86         7.21         2.81         51.84         31.34         56.04         35.54         18.00           1½x 12         1032938         21400         30.69         1.50         2.25         7.88         2.81         41.50         26.50         48.50         31.50         12.00           1½x 18         1032956         21400         36.75         1.50         2.25         7.88         2.81         53.50         32.50         58.50         37.50         18.00           1½x 24         1032974         21400         40.57         1.50         2.25         7.88         2.81         53.50         38.50         70.50         43.50         24.00           1½x 24         1033018         28000         54.00         1.75         2.60						1,31							
1½ x 12         1032876         15200         20.59         1.25         1.86         7.21         2.81         39.84         25.94         44.04         29.64         12.00           1½ x 18         1032894         15200         24.68         1.25         1.86         7.21         2.81         51.84         31.34         56.04         35.54         18.00           1½ x 12         1032938         21400         30.69         1.50         2.25         7.88         2.81         41.50         26.50         48.50         31.50         12.00           1½ x 18         1032956         21400         36.75         1.50         2.25         7.88         2.81         53.50         32.50         58.50         37.50         18.00           1½ x 24         1032974         21400         40.67         1.50         2.25         7.88         2.81         53.50         38.50         70.50         43.50         24.00           1½ x 18         1033018         28000         54.00         1.75         2.60         9.40         3.38         53.98         35.38         59.18         41.18         18.00           1¾ x 24         1033036         28000         63.36         1.75         <													
1¼ x 18         1032894         15200         24.68         1.25         1.86         7.21         2.81         51.84         31.34         56.04         35.54         18.00           1½ x 24         1032910         15200         28.20         1.25         1.86         7.21         2.81         63.64         37.34         68.04         41.54         24.00           1½ x 12         1032988         21400         30.69         1.50         2.25         7.88         2.81         53.50         32.50         58.50         31.50         12.00           1½ x 18         1032956         21400         36.75         1.50         2.25         7.88         2.81         53.50         32.50         58.50         37.50         18.00           1½ x 24         1032974         21400         40.67         1.50         2.25         7.88         2.81         65.50         38.50         70.50         43.50         24.00           1¾ x 18         1033018         28000         54.00         1.75         2.60         9.40         3.38         53.38         35.38         59.18         41.18         18.00           1¾ x 24         1033036         28000         63.36         1.75         <													
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							<del></del>						
1½ x 12         1032988         21400         30.69         1.50         2.25         7.88         2.81         41.50         26.50         48.50         31.50         12.00           1½ x 18         1032956         21400         36.75         1.50         2.25         7.88         2.81         53.50         32.50         58.50         37.50         18.00           1½ x 24         1032974         21400         40.67         1.50         2.25         7.88         2.81         65.50         38.50         70.50         43.50         24.00           1½ x 18         1033018         28000         54.00         1.75         2.60         9.40         3.38         53.98         35.38         59.18         41.18         18.00           1¾ x 24         1033036         28000         63.36         1.75         2.60         9.40         3.38         65.39         41.38         71.18         47.18         24.00           2 x 24         1033054         37000         94.25         2.00         2.62         11.86         3.69         69.54         45.54         76.72         52.72         24.00           2½ x 24         1033072         50000         105.00         2.50			<del></del>									11 14 44 15	
1½ x 18         1032956         21400         36.75         1.50         2.25         7.88         2.81         53.50         32.50         58.50         37.50         18.00           1½ x 24         1032974         21400         40.67         1.50         2.25         7.88         2.81         65.50         38.50         70.50         43.50         24.00           1½ x 18         1033018         28000         54.00         1.75         2.60         9.40         3.38         53.98         35.38         59.18         41.18         18.00           1¾ x 24         1033036         28000         63.36         1.75         2.60         9.40         3.38         65.39         41.38         71.18         47.18         24.00           2 x 24         1033054         37000         94.25         2.00         2.62         11.86         3.69         69.54         45.54         76.72         52.72         24.00           2½ x 24         1033072         50000         105.00         2.50         3.06         13.50         4.44         72.98         48.98         82.18         58.18         24.00				1									
1½ x 24         1032974         21400         40.67         1.50         2.25         7.88         2.81         65.50         38.50         70.50         43.50         24.00           1½ x 18         1033018         28000         54.00         1.75         2.60         9.40         3.38         53.38         35.38         59.18         41.18         18.00           1¾ x 24         1033036         28000         63.36         1.75         2.60         9.40         3.38         65.39         41.38         71.18         47.18         24.00           2 x 24         1033054         37000         94.25         2.00         2.62         11.86         3.69         69.54         45.54         76.72         52.72         24.00           2½ x 24         1033072         60000         105.00         2.50         3.06         13.50         4.44         72.98         48.98         82.18         58.18         24.00	-			1							<del>-</del>		1
1½ x 18         1033018         28000         54.00         1.75         2.60         9.40         3.38         53.38         35.38         59.18         41.18         18.00           1¾ x 24         1033036         28000         63.36         1.75         2.60         9.40         3.38         65.38         41.38         71.18         47.18         24.00           2 x 24         1033054         37000         94.25         2.00         2.62         11.86         3.69         69.54         45.54         76.72         52.72         24.00           2½ x 24         1033072         60000         105.00         2.50         3.06         13.50         4.44         72.98         48.98         82.18         58.18         24.00				<del></del>			-						
13/4 x 24     1033036     28000     63.96     1.75     2.60     9.40     3.38     65.38     41.38     71.18     47.18     24.00       2 x 24     1033054     37000     94.25     2.00     2.62     11.86     3.69     69.54     45.54     76.72     52.72     24.00       2 1/2 x 24     1033072     60000     105.00     2.50     3.06     13.56     4.44     72.96     48.98     82.18     58.18     24.00													
2 x 24     1033054     37000     94.25     2.00     2.62     11.86     3.69     69.54     45.54     76.72     52.72     24.00       2 1/2 x 24     1033072     60000     105.00     2.50     3.06     13.36     4.44     72.96     48.98     82.18     58.18     24.00					***								
21/2 x 24 1000072 60000 105.00 2.50 3.06 13.56 4.44 72.98 48.98 82.18 58.18 24.00	13/4 x 24	1033036		63.36	1.75	2.60	9.40	3.38	65.38	41.38	71.18	_ 47.18	24.00
1) Table ( - 1)   1   1   1   1   1   1   1   1   1	2 x 24					2.62		<u>3,</u> 69					
29/4 x 24   1033090   75000   198.00   2.75   3.66   15.22   4.19   74.75   50.75   85.50   61.50   24.00	21/2 x 24	1000072		105.00	2.50	3.06		4.44			82,18	58.18	24.00
	23/4 × 24	1033090	75000	198.00	2.75	3.68	15,22	4.19	74.75	50.75	85.50	61.50	24.00

^{*} Proof Load is 2.5 times Working Load Limit. Ultimate load is 5 times Working Load Limit.

Copyright © 2000 The Crosby Group, Inc. All Rights Reserved

Union Sling Co

May 09 02 12:10p