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**TEST PREPARATION AND DATA
ANALYSIS FOR VIBRATIONAL TESTING
OF MID BAY BRIDGE TENDONS
Contract No. BC353 RPWO#17
Final Report to Florida Department of Transportation**

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16. Abstract This report presents results of vibration tests of external post-tensioned tendons of the Mid Bay Bridge performed in October, 2000 and amplifies the scope of previous interim communications. The tests were intended to aid in detecting possible corrosion damage. Included is detailed analysis of data from the approach spans, using newly available data processing methodology. Average estimated tension values of the tendons in the approach spans tested agreed with those expected from design. Regional variations in estimated tension along the bridge were revealed but appeared to reflect normal variability expected within construction practice. The ability of the method to detect distress was confirmed by large (27%) differences in estimated tension results from both ends of a tendon later confirmed to have corrosion damage. With the exception of that tendon (later replaced) after discarding likely artifacts only one other tendon in over 800 tested in the approach spans showed notable (but still < 8%) estimated end-to-end force disparity. This tendon plus four others that had estimated tensions appreciably lower than others in nearby spans were flagged for special attention in future inspections. Analysis of the center spans tendons was subject to greater uncertainty than elsewhere because of complex geometry, shorter tendon lengths, and obstructions to vibration. Nevertheless, the estimated tension values there agreed generally with those expected from design and the vibration tests did not reveal conclusive indication of tendon distress there.					
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NOTICE

The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the State of Florida Department of Transportation or the U.S. Department of Transportation. Prepared in cooperation with the State of Florida Department of Transportation and the U.S. Department of Transportation.

EXECUTIVE SUMMARY

This report presents the findings of analysis of data from vibration tests of external tendons in the Mid Bay Bridge (MBB) over a period of about 2 weeks during October, 2000. The University of South Florida (USF) prepared in cooperation with FDOT a vibrational test plan for the MBB tendons and trained contractors for FDOT on the execution of the tests. USF analyzed the data and obtained estimates of tension in the tendons at the time of the tests. An initial report using a simplified analysis procedure was delivered to FDOT in 2001. Subsequent work, under an FDOT investigation started later and still ongoing developed procedures for detailed, more accurate analysis of archived vibrational data. Those procedures were applied to the MBB data for the approach spans, which constitute most of the bridge length, and the results are presented here alongside those of the three center spans.

The data were suitable for calculating estimated tensions for nearly all of the 2484 tendon segments in the approach spans (No. 1-81 and 85-141), and for much of the tendon inventory of the main spans. Average estimated tension values of the tendons tested agreed with those expected from design. Regional variations in estimated tension along the bridge were revealed but appeared to reflect normal variability expected within construction practice. Unusual disparity between estimated tensions at opposite ends of each tendon was used as an indicator of possible distress in the tendon. In the approach spans the average disparity was about 2% of the average tension, and a value of 6% was chosen as being sufficiently large to merit note. One tendon known to be distressed and later removed showed a difference of 27%. Of the remaining tendons at the time of inspection, only one in the over 800 tendons tested showed estimated forces disparities exceeding 6% (but in that case disparity was still < 8%) after accounting for possible artifacts. Four other tendons were noted that showed disparity less than 6% but that had estimated tensions markedly lower than those in nearby spans. Those five tendons were flagged for special attention during future inspections. For completeness, two other tendons were noted that showed disparities exceeding 6% but that are suspected to have resulted from testing anomalies.

Analysis of the center spans (No. 82-84) tendons was subject to greater uncertainty than elsewhere because of complex geometry, shorter tendon lengths, and obstructions to vibration. Nevertheless, the estimated tension values agreed generally with those expected from design. There was no conclusive indication of tendon distress in any of the tendon segments that produced useable data in this group.

NOTE ON SCOPE OF THIS REPORT

The main findings of this program were obtained using a simplified tendon force calculation procedure, and conveyed to the Florida Department of Transportation (FDOT) in an interim report dated July 16, 2001. Preparation of a final report was postponed however, as it was anticipated that a more advanced force calculation method would be developed in an upcoming FDOT project. An initial version of such method has now become available from progress in the FDOT Project "Validation and Practical Procedure for Vibrational Evaluation of Tendons", BC353 RPWO #44, and has been applied to recalculate the force estimates of all the regular bridge spans. The results confirm nearly all the preliminary findings and are presented in this Final Report which supersedes any previous draft version.

BACKGROUND

The objective of this project was to plan, prepare for, and analyze vibrational data to be acquired from the external tendons in the Mid Bay Bridge (MBB) by a separate contractor.

The University of South Florida (USF) prepared in cooperation with FDOT a vibrational test plan for the MBB tendons. USF prepared test equipment based on that used for a previous investigation conducted for FDOT for the Niles Channel Bridge [1]. In addition, USF trained both in Tampa and at the MBB the separate contract operators on the operation of the test equipment.

The data were acquired over a period of about 2 weeks during October, 2000 and delivered to USF. Data consisted of (i) data forms containing tendon segment lengths, frequencies for the Mode 1 and 2 peaks for each tendon segment tested (used for simplified calculations not reported here) and (ii) electronic files in .wav format containing the accelerometer output records of each measurement. Each tendon was tested in duplicate.

For the calculations the mass per unit length was estimated to be 32.9 kg/m (22.11 lb/ft) and 26.78 kg/m (18.00 lb/ft) for 19 and 12 strand tendons respectively, based on standard 0.6-inch diameter strand mass per unit length, assuming densities of 1,650 kg/m³ (103.1 lb/ft³) and 1,000 kg/m³ (62.4 lb/ft³) for the grout and duct polymer respectively, and assuming that the polymer duct in 19-strand and 12-strand tendons had an inner diameter of 104 mm (4 in) and a wall thickness of 6.35 mm (0.25 in). Tendons that had been wrapped with additional polymeric material during earlier repairs were estimated to have 3% additional unit length mass than tendons still present in their original condition. The measured length of each tendon and the presence of a polymeric wrap are documented in the Appendix at the end of this report. For uniformity with recent vibration test reports from other bridges, the force calculations presented here were made assuming that the free vibrating length was the concrete-to-concrete distance between faces of deviation blocks or between faces of diaphragm and deviation block. Thus, the possible effect of the short portion of steel duct emerging

from deviation block or diaphragm was not considered but any later potential correction for this effect is not anticipated to be large.

Calculation results are reported in separate sections for regular spans (No. 1 to 81 and 85 to 141) and for center spans 82, 83 and 84.

RESULTS AND COMMENTS FOR SPANS 1-81 AND 85-141

The tendon segment nomenclature used for Regular Spans (No. 1 to 81 and 85 to 141) is shown in Table 1. All tendons in this set had 19 strands. The bridge extends from South to North starting at span 1 and the tendon segment designation has been adapted to match that used in reports of vibration tests for other bridges [2]. In these spans there are 3 tendons each (labeled Outer, Middle and Inner) on the West and East sides of the span. Each tendon has two deviation blocks thus dividing the tendon into South, Center and North segments. Table 1 shows also the key to the nomenclature used to report results of the other MBB inspections [3], where tendons are numbered 1 through 6 from West to East and segments are labeled A through C from South to North.

The estimated tensions for the tendon segments for which calculations were feasible (nearly all of the 2484 tendon segments in these spans) are reported in Table 2. Entries have been left blank for the few cases where calculations were not feasible, typically because physical obstructions to vibration introduced excessive uncertainty. Thick lines indicate the position of expansion joints (EJ) at intermediate and End (END) spans. Tensions are reported as Force per Strand both in SI (kN/Strand) and in English units (kips/Strand; kips=1,000 pound-force), arranged per the tendon segment layout in Table 1. Note that 1 kN = 0.225 kips.

The estimated tension results are presented using 0.1 kN/Strand and 0.1 kips/Strand precision to minimize the effect of roundoff errors in any later numeric manipulation by users of the results. Experience to date shows that typical reproducibility of results (keeping input parameters the same) using the present data acquisition and calculation procedures is in the order of 1% to 2%, or about one significant digit less than the tabulation precision. Test uncertainty (e.g. mechanical complications in vibrational response, spectrum peak identification problems) could occasionally result in larger variability. If improved calculation models become available in the future, tensions may be recalculated accordingly. To that end, the original electronic data files from these field tests are archived permanently at USF. It is emphasized that regardless of the reproducibility of the measurement results, the force estimates are also subject to global or individual inaccuracy from uncertainty in the input parameters used. Important among those are the mass per unit length (which depends on grout condition and voidage), and the effective vibrating length (affected by hidden vibration obstructions).

Figures 1 to 3 show the estimated tension values as a function of position in the bridge for the three tested segments of each of the Outer, Middle and Inner tendons on both sides of the bridge. The average value of the estimated tension was ~ 175 kN/strand

(~39.4 kips/strand), which for a 0.6 in nominal diameter strand it corresponds to a stress of ~67% of the Guaranteed Ultimate Tensile Strength (GUTS) of 1.86 GPa (270 ksi). That value is within reasonable expectation for a structure of this type. It must be cautioned however that absolute tensions estimated with the vibrational method depend not only on the model assumptions but also on the values assumed for the input parameters, notably the mass per unit length for which some uncertainty exists.

The results show modest general tension change trends along the bridge. For example, tendons in the first 10 spans (S end of the bridge) tended to have lower estimated tensions than those in the subsequent spans up to the center spans. There was a general declining trend in estimated tendon tension northward from the center spans. There were also slight regional differences between E and W side estimated tensions. These variations were typically within expected construction tolerance and may reflect varying adjustments of tensioning jacks or erection procedures during construction, among other possible sources.

As shown in Figures 1-3 the estimated tensions at the South, Center and North segments of a given tendon were usually quite similar, indicating that friction at the two intermediate deviation blocks was relatively small. Abnormal disparity between estimated tension of both ends of a tendon or between identical tendons on each side of the span is a possible manifestation of distress at the low tension end or side. Consequently, the end-to-end estimated tendon tension disparity (calculated as the N minus S tensions, divided by the average of both and expressed as a percentage) is shown in Table 2. The disparity between estimated tension of each tendon segment on the W side of the span and its counterpart on the E side is given as well (W minus E tensions, divided by the average of both and expressed as a percentage).

There was one instance of very large N-S disparity (-27%, lower tension at the North end) in the West Outer tendon (Tendon No.1) in Span 009. The tendon was removed afterwards, and direct examination confirmed that there was extensive corrosion damage, consistent with the vibrational test indication. The observation for tendon No.1 in Span 009 was the largest end-to-end difference observed for any of the other tendons analyzed during this test sequence (vibration tests had been previously conducted in some severely distressed tendons [4] of the MBB but those tendons were already replaced before the present tests). The average absolute value of the observed N-S disparity was about 2% and very few tendons showed absolute value disparities exceeding 6%. The 6% value was chosen as a threshold to flag tendons that may merit special attention, as done for similar analyses in other FDOT bridges [2].

A visual representation of the end to end disparity for all tendons tested is shown graphically in Figures 4 to 6 for the Outer, Middle and Inner tendon groups, where for each tendon tested the tension at the N end is plotted as a function of the tension at the S end. If those values were identical the data point would fall exactly on the 1:1 diagonal line. Separation from the diagonal line is an indication of the N-S disparity. Lines are drawn for 6% disparity and tendons exceeding that are identified and listed also in Table 3A. As shown there, only one tendon in addition to the Outer, West tendon in Span 009

showed absolute disparity value > 6% (but less than 8%) that was not associated with possible artifacts^a.

The other absolute disparity values exceeding 6% in Table 3A stem from having estimated tension values at one end that were notably higher than those of tendons in nearby spans. A higher than expected tension is not a likely indication of distress, which would be manifested normally by force relaxation. Instead, erroneously high force estimates can easily occur for example if small but undetected obstructions to vibration caused the effective length to be somewhat shorter than the value reported and used for the calculations.

With the exception of Tendon 1 in Span 9, the rest of the estimated tension values did not show instances that would be considered to be alarmingly below the level expected in a sound structure. However, visual examination of Figures 1-3 revealed a few cases where tensions (either at one or both ends of the tendon) were conspicuously below the average of similar tendons in nearby spans. Four of the most notable of those cases have been flagged in Figures 1-3 and listed in Table 3B as additional tendons of interest in future inspections. This listing is not exclusive however and reference to the entire trends in Figures 1-3 and Table 2 should be made when interpreting the results of future bridge inspections.

The findings for this span group suggest that no tendon examined during the present sequence in the regular spans (other than No. 1 in Span 9, subsequently replaced) was in a seriously detensioned condition. The Inner-East (No. 4) tendon in Span 42 (S end in particular) merits special attention in subsequent monitoring, as the N-S disparity was modest but higher than all others after accounting for possible artifacts. The tendons listed in Table 3B show only modestly lower tension than their nearby peers, but the difference stands out from the usual data scatter. It is recommended that these tendons also be given special attention in the future. In addition, the present vibrational data provide a baseline that can be contrasted with the results of later vibration surveys, allowing for high sensitivity in revealing tension degradation that may take place in the interim.

RESULTS AND COMMENTS ON CENTER SPAN GROUP, 82 TO 84

The Center Span Group has a complicated arrangement of tendons and segments. Spans 82 and 84 had a configuration similar to that of the MBB approaches, but with different segment lengths, both 12- and 19-strand tendons, and tendons continuing into Span 83. Table 4A illustrates the arrangement in Span 83. Tendons 1,2 and 3 of Span 82 continue into the South end of Span 83 as L1, L2 and L3 respectively. Tendons 4, 5 and 6 of Span 82 continue into the South end of Span 83 as R3, R2 and R1

^a It is noted that in the preliminary report issued in July 16, 2001 based on simplified calculations there were several additional tendons with N-S disparity exceeding 6%. Those tendons are no longer listed since their disparities dropped below 6% when their data were processed in the present detailed calculations. The smaller field was an expected outcome of having reduced uncertainty with more sophisticated calculations.

respectively. An analogous arrangement exists at the North end of Span 83 with respect to Span 84. Note that with the exception of L7 and R7 all other external tendons in Span 83 terminate at the centerline. Based on the information available it was assumed in the calculations that Tendons 1 and 6 in Spans 82 and 84 as well as their respective continuations and L7 and R7 in Span 83, are 12-strand tendons. All other tendons were assumed to be 19-strand. Span 83 has 4-fold peer groups for each tendon segment.

A number of the tendon segments in these spans were physically obstructed from vibrating and produced no usable data. Table 4B shows the estimated tension results for all the segments that could be tested in Spans 82 to 84. The results are arranged in a manner comparable to that of Table 4A, but including all three Center Spans.

These spans included many tendon segments that were unusually short or may have encountered undetected partial vibration obstruction with consequent uncertainty in the tension estimates. Because of the variety of lengths and configurations encountered here and uncertainty on vibrating conditions, only the simplified calculation method has been applied to these spans. The simplified procedure took into account the tendon stiffness by assuming approximate values of 262,400 Nm and 155,000 Nm for 19-strand tendons (the majority by far) and 12-strand tendons respectively. Those values were obtained by custom analysis of the results of selected tendons using the detailed procedure that was applied routinely to the approach spans (see previous section). Estimated tensions were calculated using as input the measured frequencies for Mode 1 (fundamental) and Mode 2 (2nd overtone) as reported by the operators in the Log Form, the measured tendon segment length and the assumed tendon stiffness and estimated mass per unit length. The calculation was made using the approximation for a vibrating stretched stiff string by Morse [5].

Estimated tension levels for 19-strand tendons were on average somewhat smaller than those observed in the MBB approaches. The estimated tensions for all the 12-strand tendon segments were in turn fractionally lower than those of the 19-strand tendons. Estimated tensions on segments of continuing tendons at either side of the transition between spans 83 and 84 were with one exception (R1H to A6) quite close to each other. In contrast, there was a small but noticeable general difference (lower average tension on the span 82 side) at the 82-83 transition. Those global differences are unlikely to be indicative of individual tendon distress.

An unusually high estimated tension of 239 kN/strand (54 kips/Strand) was encountered in L7A, but no tendon segment in its peer group (L7B, R7A and R7B) produced useable results for comparison. An unusually large difference in estimated tension (from 230 kN/strand (52 kips/Strand) to 158 kN/strand (36 kips/Strand)) was found in consecutive segments R5E and R5D respectively. However, much of the peer groups for R5E and R5E failed to produce useable results. The next segments in line in the same tendon (R5C through R5A) yielded results that appear to be normal, when compared to peer segments in span 83. Because of uncertainty in absolute tension estimates in these spans, in the absence of peer segment information the result for R5D is not necessarily

an indication of mechanical distress. Other seemingly low values in other tendon segments in span 83 tend to be reflected in the corresponding peer groups and therefore are not considered to be indicative of individual distress. Comparison with results of future vibration surveys of the same tendons would permit sensitive detection of potential damage in progress with less need for data from peer groups.

CONCLUSIONS

1. Vibrational testing was rapidly and successfully conducted in October, 2000, for virtually the entire tendon segment inventory of the Mid Bay Bridge.
2. Average estimated tension values agreed with those expected from design. Regional variations in estimated tension along the bridge were revealed but appeared to reflect normal variability expected within construction practice.
3. In the approach spans (No. 1-81 and 85-141) the average absolute disparity between estimated tensions at opposite ends of each tendon was about 2%. One tendon known to be distressed (No. 1 in span 9) and later removed showed an end-to-end disparity of 27%. Of the remaining tendons at the time of inspection, after accounting for possible artifacts only one in more than 800 tendons showed an estimated force disparity (8.5%) greater than 6%. That tendon was noted for attention in future bridge inspections. Four tendons with tension values that were appreciably below the average of nearby spans were also noted for future attention.
4. Analysis of the tendon center spans (No. 82-84) data was subject to greater uncertainty than elsewhere because of complex geometry, shorter tendon lengths, and obstructions to vibration. Nevertheless, the estimated tension values agreed generally with those expected from design. There was no conclusive indication of tendon distress in any of the tendon segments that produced useable data in this span group.

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[4] Preliminary report on vibrational testing of selected tendons of the Mid Bay Bridge, Letter report to R.G. Powers, FDOT, by A.A. Sagüés, September 12, 2000

[5] P.M Morse, "Vibration and Sound", Mc.Graw Hill, N.Y., 1948.

Table 1 – Approach spans tendon segment nomenclature used for vibration test reporting, keyed to listing used in other MBB report results [3].

Tendon Type	West			East		
	South	Center	North	South	Center	North
Outer	A1	B1	C1	A6	B6	C6
Middle	A2	B2	C2	A5	B5	C5
Inner	A3	B3	C3	A4	B4	C4

Table 2 – Estimated tensions and disparities in Spans 1-81 and 85-141. Blank spaces indicate data were not available or not suitable for analysis.

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
OO1	Outer		172.5	172.6	166.3	164.5	161.4		38.8	38.8	37.4	37.0	36.3		-3%		5%	7%	END
	Middle	178.0	177.1	175.7	163.4	164.4	163.8	40.0	39.8	39.5	36.7	37.0	36.8	-1%	0%	9%	7%	7%	
	Inner	185.4	183.5	178.9	165.6	163.9	162.6	41.7	41.3	40.2	37.2	36.8	36.6	-4%	-2%	11%	11%	10%	
OO2	Outer	168.4	171.5	169.6	161.5	164.4	164.9	37.9	38.5	38.1	36.3	37.0	37.1	1%	2%	4%	4%	3%	
	Middle	173.3	174.5	174.6	162.3	164.7	163.7	39.0	39.2	39.2	36.5	37.0	36.8	1%	1%	7%	6%	6%	
	Inner	174.4	176.8	177.7	168.2	171.6	171.6	39.2	39.7	39.9	37.8	38.6	38.6	2%	2%	4%	3%	3%	
OO3	Outer	173.2	173.3	172.5	171.7	172.2	173.0	38.9	39.0	38.8	38.6	38.7	38.9	0%	1%	1%	1%	0%	
	Middle	174.1	174.2	175.1	174.8	174.8	174.9	39.1	39.2	39.4	39.3	39.3	39.3	1%	0%	0%	0%	0%	
	Inner	178.3	178.3	177.4	171.1	170.4	172.9	40.1	40.1	39.9	38.5	38.3	38.9	0%	1%	4%	5%	3%	
OO4	Outer	177.0	179.8	181.8	178.0	180.5	181.5	39.8	40.4	40.9	40.0	40.6	40.8	3%	2%	-1%	0%	0%	
	Middle	179.2	178.8	178.8	171.1	173.5	170.2	40.3	40.2	40.2	38.5	39.0	38.3	0%	-1%	5%	3%	5%	
	Inner	180.8	181.4	184.3	180.5	180.8	183.1	40.6	40.8	41.4	40.6	40.6	41.2	2%	1%	0%	0%	1%	EJ
OO5	Outer	173.3	175.1	174.9	165.8	167.2	167.9	39.0	39.4	39.3	37.3	37.6	37.7	1%	1%	4%	5%	4%	
	Middle	171.9	173.4	174.9	172.0	169.2	168.7	38.6	39.0	39.3	38.7	38.0	37.9	2%	-2%	0%	2%	4%	
	Inner	176.3	174.5	174.3	175.7	175.2	172.4	39.6	39.2	39.2	39.5	39.4	38.8	-1%	-2%	0%	0%	1%	
OO6	Outer	165.8	166.7	169.2	169.6	166.9	169.1	37.3	37.5	38.0	38.1	37.5	38.0	2%	0%	-2%	0%	0%	
	Middle	168.4	169.1	171.4	170.0	169.2	172.2	37.9	38.0	38.5	38.2	38.0	38.7	2%	1%	-1%	0%	-1%	
	Inner	172.3	173.1	174.3	168.7	169.2	170.6	38.7	38.9	39.2	37.9	38.0	38.3	1%	1%	2%	2%	2%	
OO7	Outer	168.7	173.4	175.3	169.0	172.5	171.8	37.9	39.0	39.4	38.0	38.8	38.6	4%	2%	0%	0%	2%	
	Middle	173.7	175.9	178.0	166.4	166.7	170.9	39.1	39.5	40.0	37.4	37.5	38.4	2%	3%	4%	5%	4%	
	Inner	179.3	181.2	179.5	173.0	173.3	175.2	40.3	40.7	40.3	38.9	39.0	39.4	0%	1%	4%	4%	2%	
OO8	Outer	170.3	171.3	171.0	168.4	168.6	170.6	38.3	38.5	38.4	37.9	37.9	38.4	0%	1%	1%	2%	0%	
	Middle	173.2	171.7	177.4	167.9	169.0	170.4	38.9	38.6	39.9	37.7	38.0	38.3	2%	1%	3%	2%	4%	
	Inner	170.5	175.6	175.0	167.0	172.1	172.4	38.3	39.5	39.3	37.5	38.7	38.7	3%	3%	2%	2%	2%	
OO9	Outer	181.0	172.5	138.4	175.5	174.8	176.4	40.7	38.8	31.1	39.5	39.3	39.7	-27%	0%	3%	-1%	-24%	
	Middle	180.4	183.8	183.5	175.1	177.2	174.7	40.6	41.3	41.3	39.4	39.8	39.3	2%	0%	3%	4%	5%	
	Inner	184.2	186.3	186.3	179.3	181.7	179.1	41.4	41.9	41.9	40.3	40.8	40.3	1%	0%	3%	3%	4%	EJ

Table 2 – Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O10	Outer	179.6	180.4	180.7	173.7	168.8	171.1	40.4	40.5	40.6	39.1	37.9	38.5	1%	-2%	3%	7%	5%	EJ
	Middle	177.1	177.5	178.3	171.6	173.3	173.8	39.8	39.9	40.1	38.6	39.0	39.1	1%	1%	3%	2%	3%	
	Inner	179.6	181.1	178.1	179.0	178.3	177.6	40.4	40.7	40.0	40.2	40.1	39.9	-1%	-1%	0%	2%	0%	
O11	Outer	178.6	179.7	179.0	171.2	172.0	171.3	40.2	40.4	40.2	38.5	38.7	38.5	0%	0%	4%	4%	4%	
	Middle	175.7	177.3	174.5	167.5	167.6	170.7	39.5	39.9	39.2	37.7	37.7	38.4	-1%	2%	5%	6%	2%	
	Inner	177.4	176.4	176.8	173.3	176.2	174.7	39.9	39.7	39.7	39.0	39.6	39.3	0%	1%	2%	0%	1%	
O12	Outer	177.7	179.0	178.8	165.1	163.4	166.4	40.0	40.2	40.2	37.1	36.7	37.4	1%	1%	7%	9%	7%	
	Middle	183.9	183.4	182.0	173.1	173.4	173.5	41.4	41.2	40.9	38.9	39.0	39.0	-1%	0%	6%	6%	5%	
	Inner	180.4	182.2	182.9	170.8	173.8	173.7	40.6	41.0	41.1	38.4	39.1	39.0	1%	2%	5%	5%	5%	
O13	Outer	174.6	178.1	177.0	170.0	173.3	174.6	39.3	40.0	39.8	38.2	39.0	39.2	1%	3%	3%	3%	1%	
	Middle	177.6	179.1	182.1	177.7	180.9	182.1	39.9	40.3	40.9	39.9	40.7	40.9	2%	2%	0%	-1%	0%	
	Inner	181.1	181.8	181.0	178.8	180.3	183.2	40.7	40.9	40.7	40.2	40.5	41.2	0%	2%	1%	1%	-1%	
O14	Outer	176.1	179.8	182.4	171.5	170.4	175.1	39.6	40.4	41.0	38.6	38.3	39.4	4%	2%	3%	5%	4%	
	Middle	178.6	178.8	182.0	179.1	176.6	176.3	40.2	40.2	40.9	40.3	39.7	39.6	2%	-2%	0%	1%	3%	
	Inner	180.1	179.7	182.5	178.6	178.8	179.2	40.5	40.4	41.0	40.2	40.2	40.3	1%	0%	1%	1%	2%	
O15	Outer	184.6	185.5	187.4	184.7	184.9	187.6	41.5	41.7	42.1	41.5	41.6	42.2	2%	2%	0%	0%	0%	EJ
	Middle	181.9	181.7	183.0	186.1	186.8	188.8	40.9	40.8	41.1	41.8	42.0	42.4	1%	1%	-2%	-3%	-3%	
	Inner	185.4	189.0	189.3	187.7	190.1	191.1	41.7	42.5	42.5	42.2	42.7	43.0	2%	2%	-1%	-1%	-1%	
O16	Outer	177.0	180.6	179.6	177.2	176.0	176.8	39.8	40.6	40.4	39.8	39.6	39.7	1%	0%	0%	3%	2%	
	Middle	176.0	177.8	177.2	176.5	177.5	176.6	39.6	40.0	39.8	39.7	39.9	39.7	1%	0%	0%	0%	0%	
	Inner	183.0	181.1	178.1	182.7	180.9	178.3	41.1	40.7	40.0	41.1	40.7	40.1	-3%	-2%	0%	0%	0%	
O17	Outer	169.9	175.2	175.0	170.1	170.7	170.1	38.2	39.4	39.3	38.2	38.4	38.2	3%	0%	0%	3%	3%	
	Middle	173.0	176.8	176.0	171.1	172.3	174.3	38.9	39.7	39.6	38.5	38.7	39.2	2%	2%	1%	3%	1%	
	Inner	177.1	177.9	177.9	173.4	175.4	179.0	39.8	40.0	40.0	39.0	39.4	40.2	0%	3%	2%	1%	-1%	
O18	Outer	176.5	176.7	174.6	167.8	167.0	167.8	39.7	39.7	39.2	37.7	37.5	37.7	-1%	0%	5%	6%	4%	
	Middle	179.7	180.9	183.3	173.4	173.6	174.6	40.4	40.7	41.2	39.0	39.0	39.3	2%	1%	4%	4%	5%	
	Inner	183.1	185.2	182.4	179.4	178.3	179.7	41.2	41.6	41.0	40.3	40.1	40.4	0%	0%	2%	4%	2%	
O19	Outer	178.8	180.6	181.1	180.5	176.9	174.0	40.2	40.6	40.7	40.6	39.8	39.1	1%	-4%	-1%	2%	4%	
	Middle	177.3	176.8	180.4	173.0	176.6	178.3	39.9	39.7	40.6	38.9	39.7	40.1	2%	3%	2%	0%	1%	
	Inner	177.8	181.3	178.4	176.4	178.4	178.3	40.0	40.7	40.1	39.6	40.1	40.1	0%	1%	1%	2%	0%	
O20	Outer	175.6	178.5	177.9	174.6	177.1	175.7	39.5	40.1	40.0	39.3	39.8	39.5	1%	1%	1%	1%	1%	
	Middle	181.8	183.1	183.7	176.8	179.2	177.1	40.9	41.2	41.3	39.8	40.3	39.8	1%	0%	3%	2%	4%	
	Inner	184.2	182.2	183.0	173.6	177.2	177.7	41.4	41.0	41.1	39.0	39.8	40.0	-1%	2%	6%	3%	3%	
O21	Outer	188.4	191.2	189.1	181.7	185.6	186.1	42.4	43.0	42.5	40.8	41.7	41.8	0%	2%	4%	3%	2%	EJ
	Middle	184.0	185.2	184.8	180.0	182.0	183.6	41.4	41.6	41.5	40.5	40.9	41.3	0%	2%	2%	2%	1%	
	Inner	190.6	189.0	190.0	182.7	187.3	188.1	42.8	42.5	42.7	41.1	42.1	42.3	0%	3%	4%	1%	1%	

Table 2 – Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O22	Outer	175.1	176.6	177.8	174.6	177.6	176.3	39.4	39.7	40.0	39.2	39.9	39.6	1%	1%	0%	-1%	1%	EJ
	Middle	174.9	177.6	174.7	178.3	176.3	176.9	39.3	39.9	39.3	40.1	39.6	39.8	0%	-1%	-2%	1%	-1%	
	Inner	181.5	183.2	178.0	181.3	181.7	181.7	40.8	41.2	40.0	40.8	40.8	40.8	-2%	0%	0%	1%	-2%	
O23	Outer	175.7	179.6	182.1	171.2	175.0	175.8	39.5	40.4	40.9	38.5	39.3	39.5	4%	3%	3%	3%	4%	
	Middle	179.5	179.9	182.9	174.3	176.5	177.9	40.3	40.4	41.1	39.2	39.7	40.0	2%	2%	3%	2%	3%	
	Inner	181.8	183.8	184.3	178.0	181.1	181.0	40.9	41.3	41.4	40.0	40.7	40.7	1%	2%	2%	1%	2%	
O24	Outer	180.2	181.0	183.2	175.3	175.5	173.2	40.5	40.7	41.2	39.4	39.5	38.9	2%	-1%	3%	3%	6%	
	Middle	184.9	184.4	182.1	182.1	181.4	180.6	41.6	41.5	40.9	40.9	40.8	40.6	-2%	-1%	2%	2%	1%	
	Inner	183.7	188.0	186.3	185.4	186.0	181.6	41.3	42.3	41.9	41.7	41.8	40.8	1%	-2%	-1%	1%	3%	
O25	Outer	177.3	180.0	180.7	176.4	175.3	176.3	39.9	40.5	40.6	39.7	39.4	39.6	2%	0%	1%	3%	2%	
	Middle	181.7	182.1	183.0	181.5	183.4	181.8	40.8	40.9	41.1	40.8	41.2	40.9	1%	0%	0%	-1%	1%	
	Inner	186.1	188.4	187.5	181.8	181.7	185.6	41.8	42.4	42.1	40.9	40.8	41.7	1%	2%	2%	4%	1%	
O26	Outer	179.2	183.1	181.9	174.4	175.1	173.0	40.3	41.2	40.9	39.2	39.4	38.9	1%	-1%	3%	4%	5%	
	Middle	186.8	188.7	187.2	184.2	182.3	183.2	42.0	42.4	42.1	41.4	41.0	41.2	0%	-1%	1%	3%	2%	
	Inner	185.9	187.6	185.0	183.3	184.7	182.3	41.8	42.2	41.6	41.2	41.5	41.0	-1%	-1%	1%	2%	1%	
O27	Outer	187.2	189.6	191.4	182.4	185.4	185.6	42.1	42.6	43.0	41.0	41.7	41.7	2%	2%	3%	2%	3%	EJ
	Middle	187.9	185.2	187.8	187.4	187.0	185.2	42.3	41.6	42.2	42.1	42.0	41.6	0%	-1%	0%	-1%	1%	
	Inner	191.8	194.2	188.5	188.0	186.7	185.8	43.1	43.7	42.4	42.3	42.0	41.8	-2%	-1%	2%	4%	1%	
O28	Outer	184.4	182.7	182.4	160.9		161.0	41.4	41.1	41.0	36.2		36.2	-1%	0%	14%		12%	
	Middle	186.0	182.4	183.7	178.7	179.9	179.0	41.8	41.0	41.3	40.2	40.4	40.2	-1%	0%	4%	1%	3%	
	Inner	186.4	183.4	183.1	180.5	183.3	180.2	41.9	41.2	41.2	40.6	41.2	40.5	-2%	0%	3%	0%	2%	
O29	Outer	180.8	181.9	183.8	181.0	177.2	187.9	40.6	40.9	41.3	40.7	39.8	42.2	2%	4%	0%	3%	-2%	
	Middle	184.9	189.0	186.5	180.9	182.5	184.7	41.6	42.5	41.9	40.7	41.0	41.5	1%	2%	2%	4%	1%	
	Inner	181.4	187.6	182.0	177.1	180.6	181.3	40.8	42.2	40.9	39.8	40.6	40.8	0%	2%	2%	4%	0%	
O30	Outer	181.3	184.4	184.6	175.2	187.3	177.7	40.8	41.5	41.5	39.4	42.1	40.0	2%	1%	3%	-2%	4%	
	Middle	182.8	184.0	184.1	178.6	175.3	179.9	41.1	41.4	41.4	40.2	39.4	40.4	1%	1%	2%	5%	2%	
	Inner	188.9	188.3	188.0	182.9	184.0	184.5	42.5	42.3	42.3	41.1	41.4	41.5	0%	1%	3%	2%	2%	
O31	Outer	180.1	182.2	181.8	174.7	174.2	177.5	40.5	41.0	40.9	39.3	39.2	39.9	1%	2%	3%	5%	2%	
	Middle	184.1	183.6	182.5	180.8	177.5	175.9	41.4	41.3	41.0	40.6	39.9	39.5	-1%	-3%	2%	3%	4%	
	Inner	183.4	184.3	187.6	181.1	182.6	184.6	41.2	41.4	42.2	40.7	41.0	41.5	2%	2%	1%	1%	2%	
O32	Outer	179.4	179.7	179.7	174.4	173.3	173.8	40.3	40.4	40.4	39.2	38.9	39.1	0%	0%	3%	4%	3%	
	Middle	175.3	180.1	181.0	180.0	180.9	183.2	39.4	40.5	40.7	40.5	40.7	41.2	3%	2%	-3%	0%	-1%	
	Inner	183.8	182.4	182.8	181.2	182.9	183.3	41.3	41.0	41.1	40.7	41.1	41.2	-1%	1%	1%	0%	0%	
O33	Outer	182.3		190.3	182.3	185.1	185.6	41.0		42.8	41.0	41.6	41.7	4%	2%	0%		2%	EJ
	Middle	185.9	187.1	186.0	185.9	183.6	185.1	41.8	42.1	41.8	41.8	41.3	41.6	0%	0%	0%	2%	0%	
	Inner	186.9	190.6	191.8	186.9	189.7	186.8	42.0	42.9	43.1	42.0	42.6	42.0	3%	0%	0%	1%	3%	

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O34	Outer	179.4	179.3	179.9	175.6	178.7	178.2	40.3	40.3	40.5	39.5	40.2	40.1	0%	1%	2%	0%	1%	EJ
	Middle	179.5	181.7	176.7	170.9	172.9	175.3	40.4	40.8	39.7	38.4	38.9	39.4	-2%	3%	5%	5%	1%	
	Inner	180.3	180.9	181.7	184.2	186.0	182.3	40.5	40.7	40.9	41.4	41.8	41.0	1%	-1%	-2%	-3%	0%	
O35	Outer	176.0	175.9	175.3	178.5	177.9	177.4	39.6	39.5	39.4	40.1	40.0	39.9	0%	-1%	-1%	-1%	-1%	
	Middle	174.6	177.9	181.1	177.6	180.5	180.4	39.3	40.0	40.7	39.9	40.6	40.6	4%	2%	-2%	-1%	0%	
	Inner	183.7	182.5	185.5	179.6	180.8	181.7	41.3	41.0	41.7	40.4	40.6	40.9	1%	1%	2%	1%	2%	
O36	Outer	171.5	174.2	178.1	172.7	177.8	177.4	38.5	39.2	40.0	38.8	40.0	39.9	4%	3%	-1%	-2%	0%	
	Middle	178.4	180.6	182.7	168.6	176.0	173.7	40.1	40.6	41.1	37.9	39.6	39.0	2%	3%	6%	3%	5%	
	Inner	178.0	183.1	179.7	172.6	175.1	177.5	40.0	41.2	40.4	38.8	39.4	39.9	1%	3%	3%	4%	1%	
O37	Outer	180.5	185.0	184.7	177.7	178.8	178.3	40.6	41.6	41.5	40.0	40.2	40.1	2%	0%	2%	3%	4%	
	Middle	178.6	186.6	185.2	180.9	181.2	182.6	40.1	42.0	41.6	40.7	40.7	41.0	4%	1%	-1%	3%	1%	
	Inner	176.8	180.7	178.8	173.6	178.1	183.2	39.7	40.6	40.2	39.0	40.0	41.2	1%	5%	2%	1%	-2%	
O38	Outer	186.4	185.0	184.1	178.9	178.4	179.3	41.9	41.6	41.4	40.2	40.1	40.3	-1%	0%	4%	4%	3%	
	Middle	189.0	184.1	183.5	187.3	186.7	185.5	42.5	41.4	41.3	42.1	42.0	41.7	-3%	-1%	1%	-1%	-1%	
	Inner	188.5	191.5	189.9	183.6	184.3	181.8	42.4	43.0	42.7	41.3	41.4	40.9	1%	-1%	3%	4%	4%	
O39	Outer	188.0	190.0	187.1	184.1	182.9	183.1	42.3	42.7	42.1	41.4	41.1	41.2	0%	-1%	2%	4%	2%	
	Middle	186.9	188.0	186.5	182.9	185.5	186.9	42.0	42.3	41.9	41.1	41.7	42.0	0%	2%	2%	1%	0%	
	Inner	192.3	190.1	189.6	182.6	196.0	187.8	43.2	42.7	42.6	41.0	44.1	42.2	-1%	3%	5%	-3%	1%	EJ
O40	Outer	186.8	185.4	185.1	181.0	179.6	179.2	42.0	41.7	41.6	40.7	40.4	40.3	-1%	-1%	3%	3%	3%	
	Middle	192.7	190.1	189.2	178.2	181.2	177.2	43.3	42.7	42.5	40.1	40.7	39.8	-2%	-1%	8%	5%	7%	
	Inner	189.3	188.5	188.5	184.0	191.2	192.4	42.6	42.4	42.4	41.4	43.0	43.3	0%	4%	3%	-1%	-2%	
O41	Outer	178.5	182.4	182.1	177.7	179.6	175.9	40.1	41.0	40.9	39.9	40.4	39.6	2%	-1%	0%	2%	3%	
	Middle	179.5	183.2	184.3	176.5	174.9	175.7	40.3	41.2	41.4	39.7	39.3	39.5	3%	0%	2%	5%	5%	
	Inner	180.1	184.2	183.4	179.8	182.3	181.5	40.5	41.4	41.2	40.4	41.0	40.8	2%	1%	0%	1%	1%	
O42	Outer	170.0	170.8	178.3	173.4	177.5	176.7	38.2	38.4	40.1	39.0	39.9	39.7	5%	2%	-2%	-4%	1%	
	Middle	176.7	177.8	179.0	183.6	177.6	178.6	39.7	40.0	40.2	41.3	39.9	40.1	1%	-3%	-4%	0%	0%	
	Inner	177.8	181.6	181.8	169.2	177.6	182.5	40.0	40.8	40.9	38.0	39.9	41.0	2%	8%	5%	2%	0%	
O43	Outer	170.2	174.1	172.2	167.4	167.5	175.9	38.3	39.1	38.7	37.6	37.7	39.6	1%	5%	2%	4%	-2%	
	Middle	174.8	173.7	175.8	163.2	167.5	172.8	39.3	39.0	39.5	36.7	37.6	38.8	1%	6%	7%	4%	2%	
	Inner	182.3	180.8	182.4	174.8	176.8	177.1	41.0	40.7	41.0	39.3	39.7	39.8	0%	1%	4%	2%	3%	
O44	Outer	175.9	179.6	180.3	171.0	171.4	173.3	39.5	40.4	40.5	38.4	38.5	39.0	2%	1%	3%	5%	4%	
	Middle	181.6	183.1	182.7	167.3	174.4	173.8	40.8	41.2	41.1	37.6	39.2	39.1	1%	4%	8%	5%	5%	
	Inner	177.2	181.5	178.6	174.3	177.2	178.1	39.8	40.8	40.1	39.2	39.8	40.0	1%	2%	2%	2%	0%	
O45	Outer	181.4	185.3	183.8	177.5	179.4	179.9	40.8	41.7	41.3	39.9	40.3	40.4	1%	1%	2%	3%	2%	
	Middle	184.6	187.5	183.3	178.1	174.2	178.9	41.5	42.2	41.2	40.0	39.2	40.2	-1%	0%	4%	7%	2%	
	Inner	187.5	188.0	186.2	190.8	189.1	187.9	42.1	42.3	41.9	42.9	42.5	42.2	-1%	-2%	-2%	-1%	-1%	EJ

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O46	Outer	182.2	183.2	182.8	179.5	181.5	179.5	41.0	41.2	41.1	40.3	40.8	40.4	0%	0%	1%	1%	2%	EJ
	Middle	181.0	184.0	182.1	178.2	172.8	176.4	40.7	41.4	40.9	40.1	38.8	39.6	1%	-1%	2%	6%	3%	
	Inner	185.0	191.5	187.4	185.4	179.8	182.2	41.6	43.0	42.1	41.7	40.4	41.0	1%	-2%	0%	6%	3%	
O47	Outer	183.4	185.1	189.6	179.4	182.7	181.5	41.2	41.6	42.6	40.3	41.1	40.8	3%	1%	2%	1%	4%	
	Middle	185.9	185.0	187.0	179.3	182.6	181.5	41.8	41.6	42.0	40.3	41.1	40.8	1%	1%	4%	1%	3%	
	Inner	186.2	186.2	189.6	179.8	188.1	188.0	41.9	41.9	42.6	40.4	42.3	42.3	2%	4%	3%	-1%	1%	
O48	Outer	179.3	183.0	182.4	176.2	177.4	177.2	40.3	41.1	41.0	39.6	39.9	39.8	2%	1%	2%	3%	3%	
	Middle	178.5	180.7	178.7	180.4	184.5	184.4	40.1	40.6	40.2	40.5	41.5	41.5	0%	2%	-1%	-2%	-3%	
	Inner	183.1	181.5	180.4	180.2	182.9	182.7	41.2	40.8	40.6	40.5	41.1	41.1	-1%	1%	2%	-1%	-1%	
O49	Outer	177.2	177.8	179.0	176.6	176.9	179.8	39.8	40.0	40.2	39.7	39.8	40.4	1%	2%	0%	0%	0%	
	Middle	181.2	183.8	185.2	180.6	180.2	178.6	40.7	41.3	41.6	40.6	40.5	40.1	2%	-1%	0%	2%	4%	
	Inner	177.4	183.5	182.9	175.2	178.1	178.0	39.9	41.2	41.1	39.4	40.0	40.0	3%	2%	1%	3%	3%	
O50	Outer	181.0	179.8	180.0	174.6	179.3	175.4	40.7	40.4	40.5	39.2	40.3	39.4	-1%	0%	4%	0%	3%	
	Middle	181.2	181.4	180.8	179.9	178.3	176.9	40.7	40.8	40.7	40.5	40.1	39.8	0%	-2%	1%	2%	2%	
	Inner	179.2	184.5	184.1	177.4	178.1	178.8	40.3	41.5	41.4	39.9	40.0	40.2	3%	1%	1%	4%	3%	
O51	Outer	174.2	177.9	179.4	180.3	185.8	181.6	39.2	40.0	40.3	40.5	41.8	40.8	3%	1%	-3%	-4%	-1%	EJ
	Middle	179.5	184.5	181.6	176.6	180.5	176.1	40.4	41.5	40.8	39.7	40.6	39.6	1%	0%	2%	2%	3%	
	Inner	186.4	190.7	191.3	184.3	186.7	186.7	41.9	42.9	43.0	41.4	42.0	42.0	3%	1%	1%	2%	2%	
O52	Outer	178.6	171.6	176.7	176.4	178.7	178.5	40.1	38.6	39.7	39.7	40.2	40.1	-1%	1%	1%	-4%	-1%	
	Middle	184.0	185.6	182.6	172.2	173.2	173.6	41.4	41.7	41.1	38.7	38.9	39.0	-1%	1%	7%	7%	5%	
	Inner	185.5	184.4	183.5	183.6	181.7	179.3	41.7	41.5	41.3	41.3	40.9	40.3	-1%	-2%	1%	1%	2%	
O53	Outer	180.0	180.7	183.7	173.2	175.7	175.7	40.5	40.6	41.3	38.9	39.5	39.5	2%	1%	4%	3%	4%	
	Middle	186.2	180.8	188.3	179.7	176.6	176.7	41.9	40.6	42.3	40.4	39.7	39.7	1%	-2%	4%	2%	6%	
	Inner	180.8	183.1	189.8	175.3	180.1	180.0	40.6	41.2	42.7	39.4	40.5	40.5	5%	3%	3%	2%	5%	
O54	Outer	176.0	178.9	181.1	183.1	178.2	181.0	39.6	40.2	40.7	41.2	40.1	40.7	3%	-1%	-4%	0%	0%	
	Middle	180.1	181.6	183.7	174.7	174.6	178.7	40.5	40.8	41.3	39.3	39.3	40.2	2%	2%	3%	4%	3%	
	Inner	178.8	182.6	183.8	174.9	177.5	178.8	40.2	41.1	41.3	39.3	39.9	40.2	3%	2%	2%	3%	3%	
O55	Outer	178.4	179.1	178.9	174.1	176.5	178.9	40.1	40.3	40.2	39.1	39.7	40.2	0%	3%	2%	1%	0%	
	Middle	181.3	185.7	186.1	175.2	179.1	179.3	40.8	41.7	41.8	39.4	40.3	40.3	3%	2%	3%	4%	4%	
	Inner	186.0	190.0	190.7	176.8	180.4	182.0	41.8	42.7	42.9	39.8	40.5	40.9	2%	3%	5%	5%	5%	
O56	Outer	176.4	179.9	178.3	175.0	177.2	174.0	39.7	40.4	40.1	39.3	39.8	39.1	1%	-1%	1%	1%	2%	
	Middle	181.3	182.5	183.5	181.3	181.9	181.0	40.8	41.0	41.3	40.7	40.9	40.7	1%	0%	0%	0%	1%	
	Inner	180.2	181.8	180.9	176.4	180.3	177.9	40.5	40.9	40.7	39.7	40.5	40.0	0%	1%	2%	1%	2%	
O57	Outer	168.0	166.6	168.2	179.1	185.4	184.1	37.8	37.5	37.8	40.3	41.7	41.4	0%	3%	-6%	-11%	-9%	EJ
	Middle	182.0	187.9	190.3	176.7	180.5	181.9	40.9	42.3	42.8	39.7	40.6	40.9	4%	3%	3%	4%	5%	
	Inner	188.2	189.9	189.0	180.5	184.4	186.2	42.3	42.7	42.5	40.6	41.5	41.9	0%	3%	4%	3%	2%	

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O58	Outer	180.2	179.9	179.1	176.3	178.5	178.0	40.5	40.4	40.3	39.6	40.1	40.0	-1%	1%	2%	1%	1%	EJ
	Middle	176.3	175.9	176.9	196.1	191.4	189.9	39.6	39.5	39.8	44.1	43.0	42.7	0%	-3%	-11%	-8%	-7%	
	Inner	183.7	177.4	177.6	175.4	178.9	179.3	41.3	39.9	39.9	39.4	40.2	40.3	-3%	2%	5%	-1%	-1%	
O59	Outer	177.5	180.0	182.7	177.3	174.4	176.1	39.9	40.5	41.1	39.9	39.2	39.6	3%	-1%	0%	3%	4%	
	Middle	177.3	177.6	179.8	173.2	171.7	172.6	39.9	39.9	40.4	38.9	38.6	38.8	1%	0%	2%	3%	4%	
	Inner	181.1	180.9	184.5	175.7	177.8	181.3	40.7	40.7	41.5	39.5	40.0	40.8	2%	3%	3%	2%	2%	
O60	Outer	177.6	175.4	179.1	174.2	174.5	175.1	39.9	39.4	40.3	39.2	39.2	39.4	1%	1%	2%	0%	2%	
	Middle	178.1	180.8	181.3	177.8	177.0	173.5	40.0	40.6	40.8	40.0	39.8	39.0	2%	-2%	0%	2%	4%	
	Inner	180.7	183.4	184.6	176.0	177.7	180.3	40.6	41.2	41.5	39.6	39.9	40.5	2%	2%	3%	3%	2%	
O61	Outer	177.4	179.5	183.6	172.8	174.2	176.8	39.9	40.3	41.3	38.8	39.2	39.7	3%	2%	3%	3%	4%	
	Middle	180.9	182.9	185.4	176.5	178.3	175.9	40.7	41.1	41.7	39.7	40.1	39.6	2%	0%	2%	3%	5%	
	Inner	182.1	185.3	182.0	174.8	178.3	177.6	40.9	41.7	40.9	39.3	40.1	39.9	0%	2%	4%	4%	2%	
O62	Outer	179.5	182.0	181.4	173.5	173.5	175.2	40.4	40.9	40.8	39.0	39.0	39.4	1%	1%	3%	5%	3%	
	Middle	180.3	179.7	180.6	176.2	176.8	177.3	40.5	40.4	40.6	39.6	39.7	39.9	0%	1%	2%	2%	2%	
	Inner	180.0	181.0	181.6	175.9	174.2	178.3	40.5	40.7	40.8	39.5	39.2	40.1	1%	1%	2%	4%	2%	
O63	Outer	187.2	190.6	189.6	181.6	186.3	181.4	42.1	42.8	42.6	40.8	41.9	40.8	1%	0%	3%	2%	4%	
	Middle	186.6	188.1	184.9	180.8	179.4	178.3	42.0	42.3	41.6	40.6	40.3	40.1	-1%	-1%	3%	5%	4%	
	Inner	186.9	193.2	187.4	179.0	179.9	175.6	42.0	43.4	42.1	40.2	40.4	39.5	0%	-2%	4%	7%	7%	
O64	Outer	191.2	187.8	185.6	181.8	180.8	180.5	43.0	42.2	41.7	40.9	40.6	40.6	-3%	-1%	5%	4%	3%	
	Middle	181.0	178.8	177.9	171.6	176.7	170.6	40.7	40.2	40.0	38.6	39.7	38.4	-2%	-1%	5%	1%	4%	
	Inner	191.4	185.7	183.9	181.1	182.5	181.5	43.0	41.7	41.3	40.7	41.0	40.8	-4%	0%	6%	2%	1%	
O65	Outer	182.1	184.7	184.7	173.3	174.3	177.7	40.9	41.5	41.5	39.0	39.2	39.9	1%	2%	5%	6%	4%	
	Middle	182.4	184.9	182.4	178.0	179.4	180.0	41.0	41.6	41.0	40.0	40.3	40.5	0%	1%	2%	3%	1%	
	Inner	180.8	184.7	187.8	178.5	180.6	186.0	40.7	41.5	42.2	40.1	40.6	41.8	4%	4%	1%	2%	1%	
O66	Outer	182.7	186.2	182.4	176.8	177.5	174.9	41.1	41.9	41.0	39.7	39.9	39.3	0%	-1%	3%	5%	4%	
	Middle	185.2	182.3	182.9	180.7	181.5	181.7	41.6	41.0	41.1	40.6	40.8	40.8	-1%	1%	2%	0%	1%	
	Inner	184.2	186.0	183.0	180.3	180.5	179.5	41.4	41.8	41.1	40.5	40.6	40.3	-1%	0%	2%	3%	2%	
O67	Outer	181.0	179.7	186.3	175.7	177.5	185.4	40.7	40.4	41.9	39.5	39.9	41.7	3%	5%	3%	1%	0%	
	Middle	181.8	183.9	187.2	170.9	177.3	176.9	40.9	41.3	42.1	38.4	39.9	39.8	3%	3%	6%	4%	6%	
	Inner	183.6	185.7	193.0	179.5	180.1	188.3	41.3	41.7	43.4	40.3	40.5	42.3	5%	5%	2%	3%	2%	
O68	Outer	179.2	181.0	181.6	176.9	174.5	175.4	40.3	40.7	40.8	39.8	39.2	39.4	1%	-1%	1%	4%	3%	
	Middle	182.1	183.1	181.3	178.5	179.0	179.6	40.9	41.2	40.8	40.1	40.3	40.4	0%	1%	2%	2%	1%	
	Inner	184.0	184.4	184.7	181.6	183.2	180.4	41.4	41.4	41.5	40.8	41.2	40.6	0%	-1%	1%	1%	2%	
O69	Outer	184.2	186.6	187.5	182.7	184.4	180.4	41.4	42.0	42.2	41.1	41.5	40.6	2%	-1%	1%	1%	4%	
	Middle	183.6	188.4	187.9	177.2	179.6	175.0	41.3	42.3	42.2	39.8	40.4	39.3	2%	-1%	4%	5%	7%	
	Inner	196.4	200.0	197.1	186.0	187.8	180.3	44.2	45.0	44.3	41.8	42.2	40.5	0%	-3%	5%	6%	9%	

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O70	Outer	180.1	184.0	177.7	178.8	178.6	175.7	40.5	41.4	40.0	40.2	40.1	39.5	-1%	-2%	1%	3%	1%	EJ
	Middle	178.9	184.1	178.2	177.9	176.0	177.3	40.2	41.4	40.1	40.0	39.6	39.9	0%	0%	1%	5%	0%	
	Inner	185.7	189.7	187.2	181.1	180.5	176.6	41.8	42.6	42.1	40.7	40.6	39.7	1%	-3%	3%	5%	6%	
O71	Outer	188.5	189.3	190.3	167.8	178.1	176.2	42.4	42.5	42.8	37.7	40.0	39.6	1%	5%	12%	6%	8%	
	Middle	181.4	182.6	183.5	180.9	184.9	180.3	40.8	41.1	41.3	40.7	41.6	40.5	1%	0%	0%	-1%	2%	
	Inner	186.5	182.2	180.8	185.4	185.2	178.2	41.9	41.0	40.6	41.7	41.6	40.1	-3%	-4%	1%	-2%	1%	
O72	Outer	181.7	186.3	182.0	175.5	177.6	176.3	40.8	41.9	40.9	39.4	39.9	39.6	0%	0%	3%	5%	3%	
	Middle	185.5	186.8	184.8	180.8	180.6	180.3	41.7	42.0	41.6	40.6	40.6	40.5	0%	0%	3%	3%	2%	
	Inner	190.9	192.6	189.8	181.6	183.9	183.1	42.9	43.3	42.7	40.8	41.3	41.2	-1%	1%	5%	5%	4%	
O73	Outer	181.1	184.2	182.4	177.4	179.5	176.9	40.7	41.4	41.0	39.9	40.4	39.8	1%	0%	2%	3%	3%	
	Middle	186.6	186.1	183.5	182.1	184.6	182.9	42.0	41.8	41.3	40.9	41.5	41.1	-2%	0%	2%	1%	0%	
	Inner	188.0	190.2	188.8	187.0	187.4	187.8	42.3	42.8	42.5	42.0	42.1	42.2	0%	0%	1%	2%	1%	
O74	Outer	187.8	194.2	189.3	175.1	173.8	177.9	42.2	43.7	42.5	39.4	39.1	40.0	1%	2%	7%	11%	6%	
	Middle	182.0	187.7	184.2	181.4	182.1	179.7	40.9	42.2	41.4	40.8	40.9	40.4	1%	-1%	0%	3%	2%	
	Inner	184.0	188.2	184.9	178.4	184.2	178.9	41.4	42.3	41.6	40.1	41.4	40.2	0%	0%	3%	2%	3%	
O75	Outer	188.3	190.8	185.9	184.6	184.9	185.2	42.3	42.9	41.8	41.5	41.6	41.6	-1%	0%	2%	3%	0%	
	Middle	193.9	191.8	188.4	180.2	182.9	181.9	43.6	43.1	42.3	40.5	41.1	40.9	-3%	1%	7%	5%	3%	
	Inner	196.6	199.8	197.4	189.7	191.0	187.5	44.2	44.9	44.4	42.7	42.9	42.1	0%	-1%	4%	5%	5%	
O76	Outer	181.0	182.3	184.8	176.4	177.4	180.6	40.7	41.0	41.5	39.7	39.9	40.6	2%	2%	3%	3%	2%	
	Middle	176.0	180.2	181.7	185.2	183.3	182.2	39.6	40.5	40.8	41.6	41.2	41.0	3%	-2%	-5%	-2%	0%	
	Inner	186.9	189.5	185.3	181.2	179.6	181.9	42.0	42.6	41.7	40.7	40.4	40.9	-1%	0%	3%	5%	2%	
O77	Outer	185.7	185.5	185.5	178.2	177.0	176.9	41.7	41.7	41.7	40.1	39.8	39.8	0%	-1%	4%	5%	5%	
	Middle	183.5	185.4	184.2	180.4	181.8	181.2	41.2	41.7	41.4	40.6	40.9	40.7	0%	0%	2%	2%	2%	
	Inner	178.7	180.3	180.0	178.1	180.7	176.2	40.2	40.5	40.5	40.0	40.6	39.6	1%	-1%	0%	0%	2%	
O78	Outer	175.6	179.3	178.6	172.5	174.8	172.7	39.5	40.3	40.1	38.8	39.3	38.8	2%	0%	2%	3%	3%	
	Middle	181.1	185.4	184.9	174.1	177.6	176.6	40.7	41.7	41.6	39.1	39.9	39.7	2%	1%	4%	4%	5%	
	Inner	182.9	188.9	185.5	175.3	179.6	176.6	41.1	42.5	41.7	39.4	40.4	39.7	1%	1%	4%	5%	5%	
O79	Outer	179.8	183.4	182.1	172.0	173.0	173.7	40.4	41.2	40.9	38.7	38.9	39.0	1%	1%	4%	6%	5%	
	Middle	184.8	186.1	184.0	176.0	179.3	178.4	41.5	41.8	41.4	39.6	40.3	40.1	0%	1%	5%	4%	3%	
	Inner	185.1	186.0	185.3	175.1	181.0	177.4	41.6	41.8	41.6	39.4	40.7	39.9	0%	1%	6%	3%	4%	
O80	Outer	185.8	184.5	181.0	169.8	174.9	172.0	41.8	41.5	40.7	38.2	39.3	38.7	-3%	1%	9%	5%	5%	
	Middle	181.2	182.3	177.8	170.3	174.0	170.6	40.7	41.0	40.0	38.3	39.1	38.4	-2%	0%	6%	5%	4%	
	Inner	184.6	189.8	185.1	179.0	181.5	177.1	41.5	42.7	41.6	40.2	40.8	39.8	0%	-1%	3%	4%	4%	
O81	Outer	186.9	190.7	189.5	182.2	183.4	183.6	42.0	42.9	42.6	41.0	41.2	41.3	1%	1%	3%	4%	3%	
	Middle	184.8	188.3	188.1	181.5	183.6	183.0	41.6	42.3	42.3	40.8	41.3	41.1	2%	1%	2%	3%	3%	
	Inner	190.8	192.1	196.6	186.2	189.8	190.2	42.9	43.2	44.2	41.9	42.7	42.8	3%	2%	2%	1%	3%	

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O85	Outer	183.3	187.6	182.2	190.4	187.0	181.7	41.2	42.2	41.0	42.8	42.0	40.9	-1%	-5%	-4%	0%	0%	EJ
	Middle	181.0	185.1	180.3	183.5	186.1	183.6	40.7	41.6	40.5	41.3	41.8	41.3	0%	0%	-1%	-1%	-2%	
	Inner	191.3	193.8	189.9	190.0	192.6	188.6	43.0	43.6	42.7	42.7	43.3	42.4	-1%	-1%	1%	1%	1%	
O86	Outer	177.7	176.2	173.7	182.0	180.3	177.5	39.9	39.6	39.1	40.9	40.5	39.9	-2%	-3%	-2%	-2%	-2%	
	Middle	176.7	177.0	172.8	181.8	180.7	177.0	39.7	39.8	38.9	40.9	40.6	39.8	-2%	-3%	-3%	-2%	-2%	
	Inner	183.2	181.8	177.5	181.8	186.0	181.3	41.2	40.9	39.9	40.9	41.8	40.8	-3%	0%	1%	-2%	-2%	
O87	Outer	181.4	180.3	176.8	177.3	174.3	171.6	40.8	40.5	39.8	39.9	39.2	38.6	-3%	-3%	2%	3%	3%	
	Middle	173.2	176.8	173.6	183.9	184.9	181.1	38.9	39.8	39.0	41.3	41.6	40.7	0%	-2%	-6%	-4%	-4%	
	Inner	180.3	179.4	177.6	184.2	186.2	185.0	40.5	40.3	39.9	41.4	41.8	41.6	-2%	0%	-2%	-4%	-4%	
O88	Outer	182.0	178.6	176.8	177.8	178.3	176.2	40.9	40.2	39.7	40.0	40.1	39.6	-3%	-1%	2%	0%	0%	
	Middle	177.8	176.8	174.8	184.1	181.3	177.1	40.0	39.8	39.3	41.4	40.8	39.8	-2%	-4%	-3%	-3%	-1%	
	Inner	182.3	183.2	183.2	182.0	180.8	178.8	41.0	41.2	41.2	40.9	40.6	40.2	0%	-2%	0%	1%	2%	
O89	Outer	174.9	175.0	171.1	178.6	174.5	172.7	39.3	39.3	38.5	40.2	39.2	38.8	-2%	-3%	-2%	0%	-1%	
	Middle	173.4	176.2	172.5	177.9	175.8	176.3	39.0	39.6	38.8	40.0	39.5	39.6	-1%	-1%	-3%	0%	-2%	
	Inner	175.0	175.5	172.1	179.6	179.5	177.1	39.4	39.5	38.7	40.4	40.3	39.8	-2%	-1%	-3%	-2%	-3%	
O90	Outer	176.1	176.3	177.3	176.2	179.2	177.8	39.6	39.6	39.9	39.6	40.3	40.0	1%	1%	0%	-2%	0%	
	Middle	171.7	175.6	172.7	180.2	181.2	178.9	38.6	39.5	38.8	40.5	40.7	40.2	1%	-1%	-5%	-3%	-4%	
	Inner	178.5	178.6	180.1	181.0	184.5	182.3	40.1	40.1	40.5	40.7	41.5	41.0	1%	1%	-1%	-3%	-1%	EJ
O91	Outer	185.7	185.4	180.6	180.3	184.1	180.8	41.8	41.7	40.6	40.5	41.4	40.6	-3%	0%	3%	1%	0%	
	Middle	177.8	181.4	177.1	184.4	187.2	181.3	40.0	40.8	39.8	41.5	42.1	40.8	0%	-2%	-4%	-3%	-2%	
	Inner	185.7	186.7	182.4	189.6	190.2	185.2	41.8	42.0	41.0	42.6	42.8	41.6	-2%	-2%	-2%	-2%	-2%	
O92	Outer	176.1	175.2	174.6	180.1	179.1	180.6	39.6	39.4	39.3	40.5	40.3	40.6	-1%	0%	-2%	-2%	-3%	
	Middle	180.1	180.4	177.7	181.8	184.4	186.1	40.5	40.6	39.9	40.9	41.5	41.8	-1%	2%	-1%	-2%	-5%	
	Inner	177.8	178.5	176.0	183.9	182.6	182.9	40.0	40.1	39.6	41.3	41.0	41.1	-1%	-1%	-3%	-2%	-4%	
O93	Outer	176.9	176.3	173.9	178.7	180.8	177.2	39.8	39.6	39.1	40.2	40.6	39.8	-2%	-1%	-1%	-2%	-2%	
	Middle	178.3	176.1	173.1	180.0	180.9	178.8	40.1	39.6	38.9	40.5	40.7	40.2	-3%	-1%	-1%	-3%	-3%	
	Inner	180.7	182.4	183.5	186.8	188.0	184.6	40.6	41.0	41.3	42.0	42.3	41.5	2%	-1%	-3%	-3%	-1%	
O94	Outer	175.2	171.8	171.3	180.7	178.1	179.0	39.4	38.6	38.5	40.6	40.0	40.2	-2%	-1%	-3%	-4%	-4%	
	Middle	175.5	174.9	173.0	183.5	181.7	182.4	39.5	39.3	38.9	41.3	40.8	41.0	-1%	-1%	-4%	-4%	-5%	
	Inner	178.3	177.9	176.0	179.4	180.9	178.8	40.1	40.0	39.6	40.3	40.7	40.2	-1%	0%	-1%	-2%	-2%	
O95	Outer	171.2	170.2	168.7	174.3	174.2	170.5	38.5	38.3	37.9	39.2	39.2	38.3	-1%	-2%	-2%	-2%	-1%	
	Middle	169.4	174.5	173.6	176.2	176.0	173.1	38.1	39.2	39.0	39.6	39.6	38.9	2%	-2%	-4%	-1%	0%	
	Inner	172.2	175.7	171.6	175.0	178.0	173.6	38.7	39.5	38.6	39.3	40.0	39.0	0%	-1%	-2%	-1%	-1%	
O96	Outer	174.6	176.9	174.7	179.0	178.8	180.5	39.2	39.8	39.3	40.2	40.2	40.6	0%	1%	-2%	-1%	-3%	
	Middle	169.4	171.0	169.5	171.6	175.3	175.3	38.1	38.4	38.1	38.6	39.4	39.4	0%	2%	-1%	-2%	-3%	
	Inner	172.2	175.0	176.2	181.6	184.0	181.7	38.7	39.3	39.6	40.8	41.4	40.9	2%	0%	-5%	-5%	-3%	EJ

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (Kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
O97	Outer	178.0	177.4	176.7	180.0	181.0	182.1	40.0	39.9	39.7	40.5	40.7	40.9	-1%	1%	-1%	-2%	-3%	EJ
	Middle	185.4	177.7	175.0	182.4	181.3	182.5	41.7	39.9	39.3	41.0	40.8	41.0	-6%	0%	2%	-2%	-4%	
	Inner	178.8	180.3	178.5	182.3	186.8	184.5	40.2	40.5	40.1	41.0	42.0	41.5	0%	1%	-2%	-4%	-3%	
O98	Outer	176.9	176.9	176.9	173.6	174.9	171.6	39.8	39.8	39.8	39.0	39.3	38.6	0%	-1%	2%	1%	3%	
	Middle	174.3	181.2	173.0	181.9	178.4	179.1	39.2	40.7	38.9	40.9	40.1	40.3	-1%	-2%	-4%	2%	-3%	
	Inner	176.4	179.4	181.0	177.3	177.5	175.9	39.7	40.3	40.7	39.9	39.9	39.5	3%	-1%	0%	1%	3%	
O99	Outer	174.6	178.4	176.5	179.1	175.5	173.8	39.2	40.1	39.7	40.3	39.5	39.1	1%	-3%	-3%	2%	2%	
	Middle	169.5	168.3	168.6	178.0	175.2	176.1	38.1	37.8	37.9	40.0	39.4	39.6	-1%	-1%	-5%	-4%	-4%	
	Inner	173.2	171.9	172.8	180.0	180.4	178.6	38.9	38.6	38.8	40.5	40.6	40.1	0%	-1%	-4%	-5%	-3%	
100	Outer	175.7	175.5	170.6	175.3	175.1	172.8	39.5	39.5	38.3	39.4	39.4	38.8	-3%	-1%	0%	0%	-1%	
	Middle	180.0	177.1	172.4	172.6	174.2	172.0	40.5	39.8	38.7	38.8	39.2	38.7	-4%	0%	4%	2%	0%	
	Inner	175.9	178.7	176.7	175.9	180.5	175.5	39.6	40.2	39.7	39.5	40.6	39.5	0%	0%	0%	-1%	1%	
101	Outer	171.9	171.6	170.4	174.9	176.2	176.5	38.6	38.6	38.3	39.3	39.6	39.7	-1%	1%	-2%	-3%	-4%	
	Middle	171.1	172.4	167.6	178.6	178.4	175.0	38.5	38.7	37.7	40.1	40.1	39.3	-2%	-2%	-4%	-3%	-4%	
	Inner	174.5	179.9	171.4	175.4	174.3	173.5	39.2	40.5	38.5	39.4	39.2	39.0	-2%	-1%	0%	3%	-1%	
102	Outer	176.0	177.2	177.8	173.6	177.6	174.8	39.6	39.8	40.0	39.0	39.9	39.3	1%	1%	1%	0%	2%	
	Middle	173.2	174.8	175.4	175.8	177.5	176.7	38.9	39.3	39.4	39.5	39.9	39.7	1%	0%	-2%	-2%	-1%	
	Inner	180.4	183.2	183.7	176.8	178.9	177.4	40.6	41.2	41.3	39.7	40.2	39.9	2%	0%	2%	2%	3%	
103	Outer	175.1	177.5	176.2	184.0		182.2	39.4	39.9	39.6	41.4		41.0	1%	-1%	-5%		-3%	
	Middle	171.2	173.8	171.9	189.8	181.2	178.9	38.5	39.1	38.6	42.7	40.7	40.2	0%	-6%	-10%	-4%	-4%	
	Inner	177.6	177.9	178.1	197.8	186.3	181.6	39.9	40.0	40.0	44.5	41.9	40.8	0%	-9%	-11%	-5%	-2%	
104	Outer	169.4	171.3	169.0	176.2	173.8	170.7	38.1	38.5	38.0	39.6	39.1	38.4	0%	-3%	-4%	-1%	-1%	
	Middle	171.4	170.2	167.3	175.0	174.1	173.1	38.5	38.3	37.6	39.3	39.1	38.9	-2%	-1%	-2%	-2%	-3%	
	Inner	172.1	173.1	172.9	176.5	174.6	174.2	38.7	38.9	38.9	39.7	39.2	39.2	0%	-1%	-3%	-1%	-1%	
105	Outer	173.9	175.0	173.1	170.2	171.1	169.6	39.1	39.3	38.9	38.3	38.5	38.1	0%	0%	2%	2%	2%	
	Middle	175.3	180.0	179.9	174.6	173.8	173.1	39.4	40.5	40.4	39.2	39.1	38.9	3%	-1%	0%	4%	4%	
	Inner	176.2	180.8	180.4	173.3	175.1	174.0	39.6	40.6	40.6	39.0	39.4	39.1	2%	0%	2%	3%	4%	
106	Outer	169.2	170.5	168.0	173.7	170.7	168.6	38.0	38.3	37.8	39.0	38.4	37.9	-1%	-3%	-3%	0%	0%	
	Middle	172.2	174.8	173.2	172.2	172.7	170.8	38.7	39.3	38.9	38.7	38.8	38.4	1%	-1%	0%	1%	1%	
	Inner	173.9	179.9	171.0	172.0	171.2	169.8	39.1	40.4	38.4	38.7	38.5	38.2	-2%	-1%	1%	5%	1%	
107	Outer	171.0	168.4	167.4	171.6	173.3	172.5	38.5	37.9	37.6	38.6	39.0	38.8	-2%	1%	0%	-3%	-3%	
	Middle	170.3	171.2	164.9	176.0	177.5	173.9	38.3	38.5	37.1	39.6	39.9	39.1	-3%	-1%	-3%	-4%	-5%	
	Inner	174.0	174.6	172.3	177.6	179.3	176.3	39.1	39.2	38.7	39.9	40.3	39.6	-1%	-1%	-2%	-3%	-2%	
108	Outer	175.2	173.7	168.4	175.0	175.6	174.6	39.4	39.0	37.9	39.3	39.5	39.2	-4%	0%	0%	-1%	-4%	
	Middle	170.4	171.5	170.3	173.3	175.0	174.7	38.3	38.6	38.3	39.0	39.3	39.3	0%	1%	-2%	-2%	-3%	
	Inner	177.0	178.3	178.3	174.9	179.5	175.3	39.8	40.1	40.1	39.3	40.4	39.4	1%	0%	1%	-1%	2%	

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
109	Outer	175.4	177.2	174.3	177.3	178.4	173.3	39.4	39.8	39.2	39.9	40.1	39.0	-1%	-2%	-1%	-1%	1%	EJ
	Middle	175.1	175.4	175.7	176.1	177.5	174.7	39.4	39.4	39.5	39.6	39.9	39.3	0%	-1%	-1%	-1%	1%	
	Inner	181.1	183.9	180.7	182.1	182.1	178.5	40.7	41.3	40.6	40.9	40.9	40.1	0%	-2%	-1%	1%	1%	
110	Outer	166.2	167.4	168.3	177.0	176.5	173.1	37.4	37.6	37.8	39.8	39.7	38.9	1%	-2%	-6%	-5%	-3%	
	Middle	167.1	168.3	164.9	177.4	175.0	168.7	37.6	37.8	37.1	39.9	39.3	37.9	-1%	-5%	-6%	-4%	-2%	
	Inner	174.5	173.4	170.6	174.1	179.7	173.0	39.2	39.0	38.4	39.1	40.4	38.9	-2%	-1%	0%	-4%	-1%	
111	Outer	170.3	170.7	168.6	173.1	171.8	170.4	38.3	38.4	37.9	38.9	38.6	38.3	-1%	-2%	-2%	-1%	-1%	
	Middle	171.0	170.8	167.4	174.1	176.1	171.3	38.5	38.4	37.6	39.1	39.6	38.5	-2%	-2%	-2%	-3%	-2%	
	Inner	170.8	172.2	169.0	175.5	177.7	172.4	38.4	38.7	38.0	39.4	40.0	38.8	-1%	-2%	-3%	-3%	-2%	
112	Outer	169.6	169.7	167.2	176.7	174.6	170.3	38.1	38.2	37.6	39.7	39.3	38.3	-1%	-4%	-4%	-3%	-2%	
	Middle	170.3	170.2	167.9	175.6	176.2	174.0	38.3	38.3	37.7	39.5	39.6	39.1	-1%	-1%	-3%	-3%	-4%	
	Inner	170.5	169.2	168.7	171.5	171.2	169.7	38.3	38.0	37.9	38.5	38.5	38.2	-1%	-1%	-1%	-1%	-1%	
113	Outer	170.0	169.7	164.5	171.9	170.8	169.8	38.2	38.2	37.0	38.6	38.4	38.2	-3%	-1%	-1%	-1%	-3%	
	Middle	172.8	174.5	170.5	175.7	176.5	171.4	38.9	39.2	38.3	39.5	39.7	38.5	-1%	-2%	-2%	-1%	-1%	
	Inner	175.6	175.9	170.8	176.2	177.3	173.2	39.5	39.5	38.4	39.6	39.9	38.9	-3%	-2%	0%	-1%	-1%	
114	Outer	173.5	173.7	175.4	174.9	176.3	173.1	39.0	39.1	39.4	39.3	39.6	38.9	1%	-1%	-1%	-1%	1%	
	Middle	171.5	173.6	173.6	171.9	171.4	173.2	38.6	39.0	39.0	38.6	38.5	38.9	1%	1%	0%	1%	0%	
	Inner	174.8	173.1	176.4	176.6	178.0	176.1	39.3	38.9	39.7	39.7	40.0	39.6	1%	0%	-1%	-3%	0%	
115	Outer	176.4	177.8	174.4	183.5	184.3	178.6	39.7	40.0	39.2	41.3	41.4	40.2	-1%	-3%	-4%	-4%	-2%	
	Middle	175.1	176.5	176.0	183.1	183.1	178.0	39.4	39.7	39.6	41.2	41.2	40.0	1%	-3%	-4%	-4%	-1%	
	Inner	179.5	179.8	177.7	186.2	184.4	180.5	40.4	40.4	39.9	41.9	41.5	40.6	-1%	-3%	-4%	-3%	-2%	
116	Outer	174.9	174.7	170.6	175.0	172.3	168.6	39.3	39.3	38.4	39.3	38.7	37.9	-2%	-4%	0%	1%	1%	
	Middle	173.7	178.0	176.7	175.6	176.2	171.8	39.1	40.0	39.7	39.5	39.6	38.6	2%	-2%	-1%	1%	3%	
	Inner	177.3	176.8	172.8	178.5	180.6	177.1	39.9	39.8	38.8	40.1	40.6	39.8	-3%	-1%	-1%	-2%	-2%	
117	Outer	169.5	167.8	164.9	177.6	171.1	170.0	38.1	37.7	37.1	39.9	38.5	38.2	-3%	-4%	-5%	-2%	-3%	
	Middle	164.5	167.0	164.3	180.3	172.9	171.3	37.0	37.5	36.9	40.5	38.9	38.5	0%	-5%	-9%	-3%	-4%	
	Inner	165.2	167.9	165.0	174.8	175.9	173.1	37.1	37.7	37.1	39.3	39.5	38.9	0%	-1%	-6%	-5%	-5%	
118	Outer	170.8	168.6	169.7	172.1	171.3	171.0	38.4	37.9	38.1	38.7	38.5	38.4	-1%	-1%	-1%	-2%	-1%	
	Middle	172.2	171.0	169.6	177.9	176.1	178.0	38.7	38.4	38.1	40.0	39.6	40.0	-1%	0%	-3%	-3%	-5%	
	Inner	171.7	175.1	171.1	180.0	180.6	176.4	38.6	39.4	38.5	40.5	40.6	39.7	0%	-2%	-5%	-3%	-3%	
119	Outer	171.0	172.3	168.8	171.3	172.5	168.3	38.4	38.7	38.0	38.5	38.8	37.8	-1%	-2%	0%	0%	0%	
	Middle	173.9	173.8	168.4	179.7	179.9	175.4	39.1	39.1	37.8	40.4	40.4	39.4	-3%	-2%	-3%	-3%	-4%	
	Inner	175.4	177.5	172.2	177.6	179.9	177.4	39.4	39.9	38.7	39.9	40.4	39.9	-2%	0%	-1%	-1%	-3%	
120	Outer	172.5	172.2	171.9	178.6	178.4	174.6	38.8	38.7	38.6	40.1	40.1	39.2	0%	-2%	-3%	-4%	-2%	
	Middle	169.9	169.9	171.6	175.2	175.5	175.3	38.2	38.2	38.6	39.4	39.5	39.4	1%	0%	-3%	-3%	-2%	
	Inner	171.8	170.9	175.2	173.4	176.4	177.9	38.6	38.4	39.4	39.0	39.7	40.0	2%	3%	-1%	-3%	-2%	

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips/Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
121	Outer	177.0	178.0	171.8	179.4	181.0	176.8	39.8	40.0	38.6	40.3	40.7	39.8	-3%	-1%	-1%	-2%	-3%	EJ
	Middle	175.0	176.9	171.3	174.2	177.8	173.5	39.4	39.8	38.5	39.2	40.0	39.0	-2%	0%	0%	0%	-1%	
	Inner	181.4	183.7	180.7	177.6	183.0	178.6	40.8	41.3	40.6	39.9	41.1	40.2	0%	1%	2%	0%	1%	
122	Outer	169.6	172.7	168.9	172.7	172.3	166.8	38.1	38.8	38.0	38.8	38.7	37.5	0%	-4%	-2%	0%	1%	
	Middle	177.6	175.2	170.8	176.2	175.4	172.9	39.9	39.4	38.4	39.6	39.4	38.9	-4%	-2%	1%	0%	-1%	
	Inner	178.2	177.9	172.3	178.6	179.4	175.3	40.1	40.0	38.7	40.2	40.3	39.4	-3%	-2%	0%	-1%	-2%	
123	Outer	169.1	168.8	170.2	177.1	175.8	172.0	38.0	37.9	38.3	39.8	39.5	38.7	1%	-3%	-5%	-4%	-1%	
	Middle	171.4	170.9	171.4	180.8	179.0	178.9	38.5	38.4	38.5	40.7	40.2	40.2	0%	-1%	-5%	-5%	-4%	
	Inner	172.3	172.7	172.1	178.3	179.6	177.2	38.7	38.8	38.7	40.1	40.4	39.8	0%	-1%	-3%	-4%	-3%	
124	Outer	167.8	169.4	163.9	172.2	175.7	170.3	37.7	38.1	36.8	38.7	39.5	38.3	-2%	-1%	-3%	-4%	-4%	
	Middle	168.5	171.2	165.6	180.3	173.7	173.0	37.9	38.5	37.2	40.5	39.1	38.9	-2%	-4%	-7%	-1%	-4%	
	Inner	171.6	172.7	168.7	176.1	177.5	173.3	38.6	38.8	37.9	39.6	39.9	39.0	-2%	-2%	-3%	-3%	-3%	
125	Outer	169.1	168.2	165.3	169.3	168.6	165.7	38.0	37.8	37.2	38.1	37.9	37.3	-2%	-2%	0%	0%	0%	
	Middle	170.5	169.3	168.6	172.3	173.7	173.5	38.3	38.1	37.9	38.7	39.0	39.0	-1%	1%	-1%	-3%	-3%	
	Inner	174.2	175.2	174.0	174.7	174.9	171.1	39.2	39.4	39.1	39.3	39.3	38.5	0%	-2%	0%	0%	2%	
126	Outer	171.3	171.7	169.4	177.4	176.0	173.3	38.5	38.6	38.1	39.9	39.6	39.0	-1%	-2%	-4%	-2%	-2%	
	Middle	169.4	172.2	167.0	178.5	175.7	175.8	38.1	38.7	37.5	40.1	39.5	39.5	-1%	-1%	-5%	-2%	-5%	
	Inner	174.3	174.6	185.9	181.7	184.2	182.6	39.2	39.3	41.8	40.9	41.4	41.0	6%	0%	-4%	-5%	2%	EJ
127	Outer	176.0	178.5	174.4	182.4	184.8	178.5	39.6	40.1	39.2	41.0	41.6	40.1	-1%	-2%	-4%	-4%	-2%	
	Middle	173.7	174.1	172.5	179.6	183.9	174.6	39.0	39.1	38.8	40.4	41.4	39.3	-1%	-3%	-3%	-5%	-1%	
	Inner	182.1	181.0	178.5	182.7	184.7	180.0	40.9	40.7	40.1	41.1	41.5	40.5	-2%	-1%	0%	-2%	-1%	
128	Outer	171.6	172.6	172.1	170.3	172.2	169.3	38.6	38.8	38.7	38.3	38.7	38.1	0%	-1%	1%	0%	2%	
	Middle	169.6	171.6	171.1	174.1	177.0	175.6	38.1	38.6	38.5	39.1	39.8	39.5	1%	1%	-3%	-3%	-3%	
	Inner	174.4	177.4	174.2	174.2	176.0	174.6	39.2	39.9	39.2	39.2	39.6	39.2	0%	0%	0%	1%	0%	
129	Outer	170.4	167.8	166.9	173.1	173.3	167.8	38.3	37.7	37.5	38.9	39.0	37.7	-2%	-3%	-2%	-3%	-1%	
	Middle	167.9	168.8	165.1	177.1	174.9	166.9	37.7	38.0	37.1	39.8	39.3	37.5	-2%	-6%	-5%	-4%	-1%	
	Inner	173.1	172.6	175.5	176.9	175.2	172.1	38.9	38.8	39.4	39.8	39.4	38.7	1%	-3%	-2%	-2%	2%	
130	Outer	170.8	168.2	166.0	176.0	173.3	170.3	38.4	37.8	37.3	39.6	39.0	38.3	-3%	-3%	-3%	-3%	-3%	
	Middle	169.4	172.1	168.4	170.7	172.7	165.5	38.1	38.7	37.9	38.4	38.8	37.2	-1%	-3%	-1%	0%	2%	
	Inner	170.7	171.1	167.7	172.4	174.3	171.1	38.4	38.5	37.7	38.8	39.2	38.5	-2%	-1%	-1%	-2%	-2%	
131	Outer	172.2	175.2	170.8	172.7	174.0	171.1	38.7	39.4	38.4	38.8	39.1	38.5	-1%	-1%	0%	1%	0%	
	Middle	170.9	173.0	173.3	171.5	169.3	171.6	38.4	38.9	39.0	38.6	38.1	38.6	1%	0%	0%	2%	1%	
	Inner	177.7	178.6	180.1	174.8	175.4	177.5	39.9	40.1	40.5	39.3	39.4	39.9	1%	2%	2%	2%	1%	
132	Outer	181.4	181.1	178.3	179.1	181.1	176.5	40.8	40.7	40.1	40.3	40.7	39.7	-2%	-1%	1%	0%	1%	
	Middle	177.4	177.4	173.2	174.7	179.0	174.9	39.9	39.9	38.9	39.3	40.2	39.3	-2%	0%	2%	-1%	-1%	
	Inner	183.2	181.2	179.9	185.0	187.0	181.5	41.2	40.7	40.4	41.6	42.0	40.8	-2%	-2%	-1%	-3%	-1%	EJ

Table 2 - Continued

Span	Tendon Type	Tension (kN/Strand)						Tension (kips /Strand)						N-S Disparity		W-E Disparity			
		West			East			West			East			West	East	South	Center	North	
		South	Center	North	South	Center	North	South	Center	North	South	Center	North						
133	Outer	169.9	172.2	169.8	171.2	168.5	168.8	38.2	38.7	38.2	38.5	37.9	37.9	0%	-1%	-1%	2%	1%	EJ
	Middle	171.1	169.2	167.1	176.7	177.2	175.0	38.5	38.0	37.6	39.7	39.8	39.3	-2%	-1%	-3%	-5%	-5%	
	Inner	172.1	166.9	171.4	178.8	178.1	175.2	38.7	37.5	38.5	40.2	40.0	39.4	0%	-2%	-4%	-6%	-2%	
134	Outer	173.4	175.1	170.8	178.5	178.8	176.9	39.0	39.4	38.4	40.1	40.2	39.8	-2%	-1%	-3%	-2%	-4%	
	Middle	175.0	175.0	172.9	175.1	175.4	174.2	39.3	39.3	38.9	39.4	39.4	39.2	-1%	-1%	0%	0%	-1%	
	Inner	175.2	176.0	172.6	173.7	172.8	169.2	39.4	39.6	38.8	39.0	38.8	38.0	-1%	-3%	1%	2%	2%	
135	Outer	172.3	173.6	170.0	175.9	175.2	172.9	38.7	39.0	38.2	39.6	39.4	38.9	-1%	-2%	-2%	-1%	-2%	
	Middle	172.1	173.8	170.1	172.7	175.8	171.2	38.7	39.1	38.2	38.8	39.5	38.5	-1%	-1%	0%	-1%	-1%	
	Inner	177.5	178.5	175.2	178.1	180.1	176.6	39.9	40.1	39.4	40.0	40.5	39.7	-1%	-1%	0%	-1%	-1%	
136	Outer	167.9	168.6	167.4	182.6	182.3	180.1	37.8	37.9	37.6	41.0	41.0	40.5	0%	-1%	-8%	-8%	-7%	
	Middle	173.5	174.7	170.9	177.6	175.3	172.1	39.0	39.3	38.4	39.9	39.4	38.7	-2%	-3%	-2%	0%	-1%	
	Inner	177.5	176.8	171.7	176.9	175.6	173.2	39.9	39.7	38.6	39.8	39.5	38.9	-3%	-2%	0%	1%	-1%	
137	Outer	176.6	179.3	178.0	181.1	181.1	177.1	39.7	40.3	40.0	40.7	40.7	39.8	1%	-2%	-3%	-1%	0%	EJ
	Middle	181.8	184.8	180.9	181.2	182.3	180.9	40.9	41.6	40.7	40.7	41.0	40.7	-1%	0%	0%	1%	0%	
	Inner	179.3	180.9	180.9	179.2	183.9	181.2	40.3	40.7	40.7	40.3	41.3	40.7	1%	1%	0%	-2%	0%	
138	Outer	184.0	184.6	185.4	184.4	190.3	187.1	41.4	41.5	41.7	41.4	42.8	42.1	1%	1%	0%	-3%	-1%	
	Middle	177.5	178.0	179.3	184.1	186.3	185.4	39.9	40.0	40.3	41.4	41.9	41.7	1%	1%	-4%	-5%	-3%	
	Inner	186.0	188.1	184.3	188.2	191.3	182.4	41.8	42.3	41.4	42.3	43.0	41.0	-1%	-3%	-1%	-2%	1%	
139	Outer	172.5	173.0	171.9	180.6	184.1	180.9	38.8	38.9	38.6	40.6	41.4	40.7	0%	0%	-5%	-6%	-5%	
	Middle	174.1	174.9	174.5	178.2	177.9	177.1	39.1	39.3	39.2	40.1	40.0	39.8	0%	-1%	-2%	-2%	-2%	
	Inner	172.6	179.9	172.6	178.6	182.1	176.8	38.8	40.4	38.8	40.1	40.9	39.8	0%	-1%	-3%	-1%	-2%	
140	Outer	170.4	169.7	167.5	173.3	169.8	165.7	38.3	38.1	37.7	39.0	38.2	37.3	-2%	-4%	-2%	0%	1%	
	Middle	171.7	170.0	171.3	179.1	177.7	174.3	38.6	38.2	38.5	40.3	39.9	39.2	0%	-3%	-4%	-4%	-2%	
	Inner	173.8	175.8	169.7	181.0	184.7	180.1	39.1	39.5	38.2	40.7	41.5	40.5	-2%	0%	-4%	-5%	-6%	
141	Outer	185.2	185.1	184.6	176.5	180.4	172.1	41.6	41.6	41.5	39.7	40.6	38.7	0%	-3%	5%	3%	7%	
	Middle	183.4	183.3	183.9	177.1	177.4	175.9	41.2	41.2	41.3	39.8	39.9	39.6	0%	-1%	4%	3%	4%	
	Inner	177.6	178.7	177.4	174.5	178.5	177.9	39.9	40.2	39.9	39.2	40.1	40.0	0%	2%	2%	0%	0%	

Table 3A - Tendons with end-to-end estimated force disparity exceeding 6% in Spans 1-81 and 85-141.

Span	Tendon (i)	End With Lower Tension (i)	N-S % Disparity (absolute)	Observations
009	O, W (1)	N (C)	27	Confirmed corrosion distress; tendon was replaced afterwards.
042	I, E (4)	S (A)	7.6	
103	I, E (4)	N (C)	8.5	Possibly not an indication of distress (ii).
126	I, W (3)	S (A)	6.4	Possibly not an indication of distress (ii).

Notes:

(i) Given in parenthesis is tendon nomenclature per key in Table 1 for reference to other reports on Mid-Bay bridge.

(ii) In these cases the opposite end of the tendon was at an expansion joint and had estimated tension significantly greater than similar tendons nearby. Higher estimated tension may have resulted for example from undetected obstructions to vibration causing a shorter effective vibration length. The resulting disparity with the lower tension end may not be indicative of distress there.

(iii) % Disparity expressed with higher precision than in Table 2.

Table 3B - Tendons in Spans 1-81 and 85-141 with end to end disparity not exceeding 6% but with estimated tensions markedly lower than those in nearby spans

Span	Tendon	End With Lower Tension	N-S % Disparity (absolute)
028	O, E (6)	N (C)	0.1
043	M, E (5)	S (A)	5.7
057	O, W (1)	N (C)	0.1
071	O, E (6)	S (A)	4.9

Note: This list is not exhaustive as it is based on visual judgement. It is emphasized that these tendons have estimated tension values that although lower than others nearby, would still be considered to be reasonable for a sound structure.

Table 4A - Arrangement of tendons and tendon segments in Span 83.

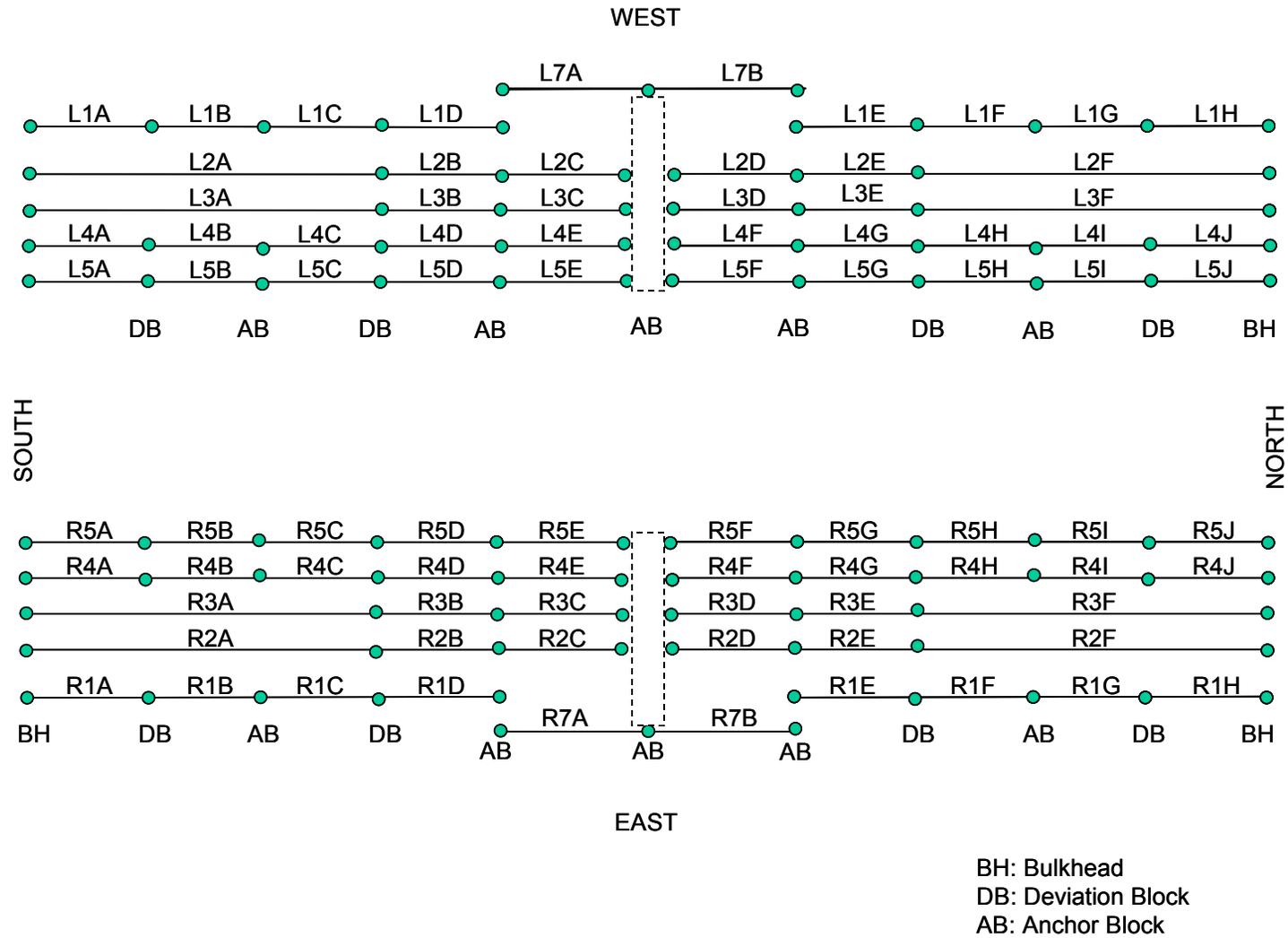


Table 4B - Top: Estimated tension results (kN/Strand) for Spans 82, 83 and 84 (1kN = 0.225 kips).
 Bottom: Segment designation key.

SPAN 82			SPAN 83								SPAN 84				
A	B	C	SW				239	NW				A	B	C	
		151	155	184	170	185		194	194	172	160	151			
158		162	169				178		172			165		167	
165		159	171				177		171			167		167	
			176	174	193		169		180	180	173				
			168	180	190		181		187	183	171				
			169				195	189	158	230	184		177	180	170
			175		180	189		183				177	179	168	
162		161	168					181				172			
158		160	168					188				175			
		154	163	191	188	211			184	174		167		169	
			SE						NE				169		167
			SW				L7A	L7B	NW				147		
A1	B1	C1	L1A	L1B	L1C	L1D		L1E	L1F	L1G	L1H	A1	B1	C1	
A2	B2	C2	L2A			L2B	L2C	L2D	L2E	L2F			A2	B2	C2
A3	B3	C3	L3A			L3B	L3C	L3D	L3E	L3F			A3	B3	C3
			L4A	L4B	L4C	L4D	L4E	L4F	L4G	L4H	L4I	L4J			
			L5A	L5B	L5C	L5D	L5E	L5F	L5G	L5H	L5I	L5J			
			R5A	R5B	R5C	R5D	R5E	R5F	R5G	R5H	R5I	R5J			
			R4A	R4B	R4C	R4D	R4E	R4F	R4G	R4H	R4I	R4J			
A4	B4	C4	R3A			R3B	R3C	R3D	R3E	R3F			A4	B4	C4
A5	B5	C5	R2A			R2B	R2C	R2D	R2E	R2F			A5	B5	C5
A6	B6	C6	R1A	R1B	R1C	R1D			R1E	R1F	R1G	R1H	A6	B6	C6
			SE				R7A	R7B	NE						

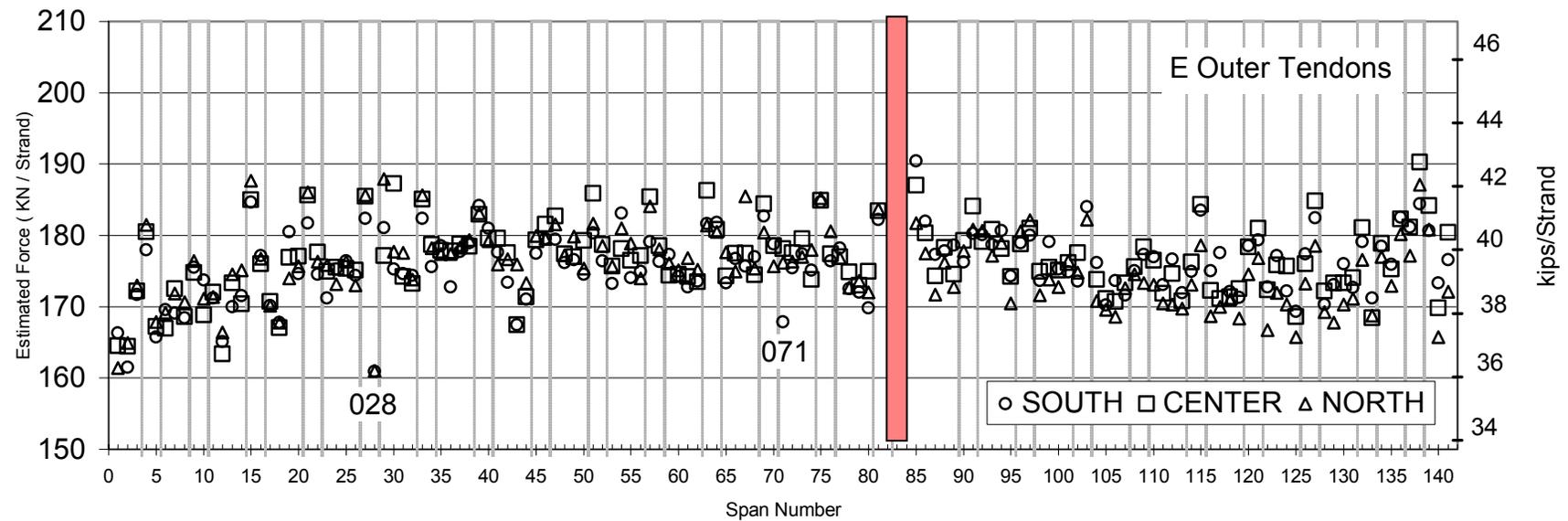
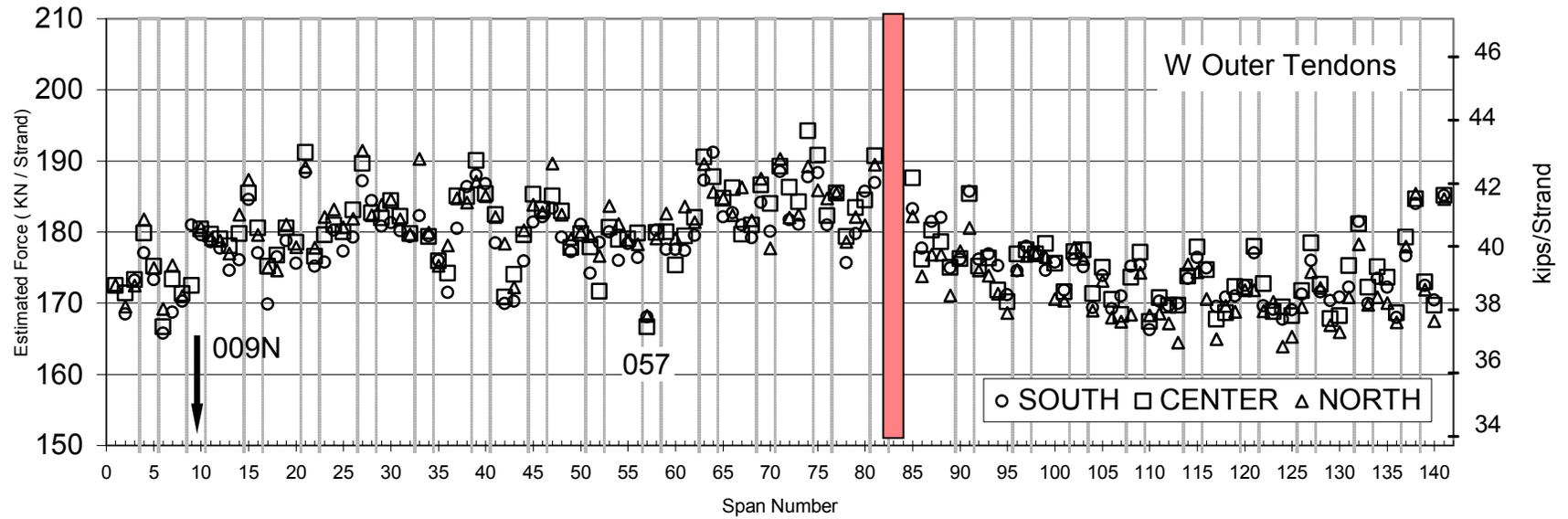


Figure1 – Estimated tension values as function of position in the bridge for Outer tendons. The N end of W Outer tendon 009 had estimated tension of 138.4 kN/Strand (31.1 kips/Strand). Tendons in Spans 028, 027 and 071 with tensions notably below the average of nearby spans are indicated. The vertical bar represents the main spans section, reported in Table 4.

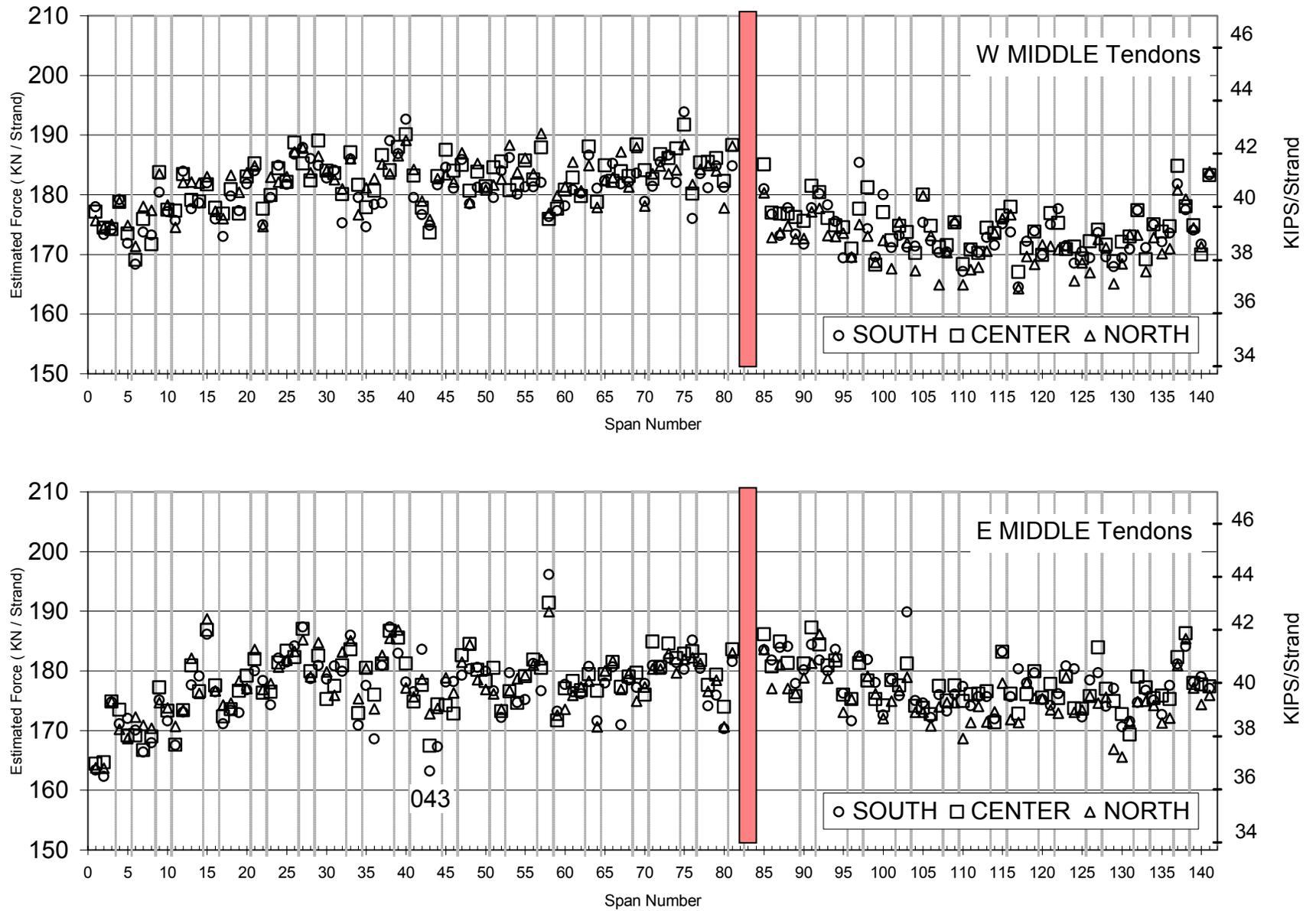


Figure2 – Estimated tension values as function of position in the bridge for Middle tendons. A tendons in Spans 043with tension notably below the average of of nearby spans is indicated.The vertical bar represents the main spans section, reported in Table 4.

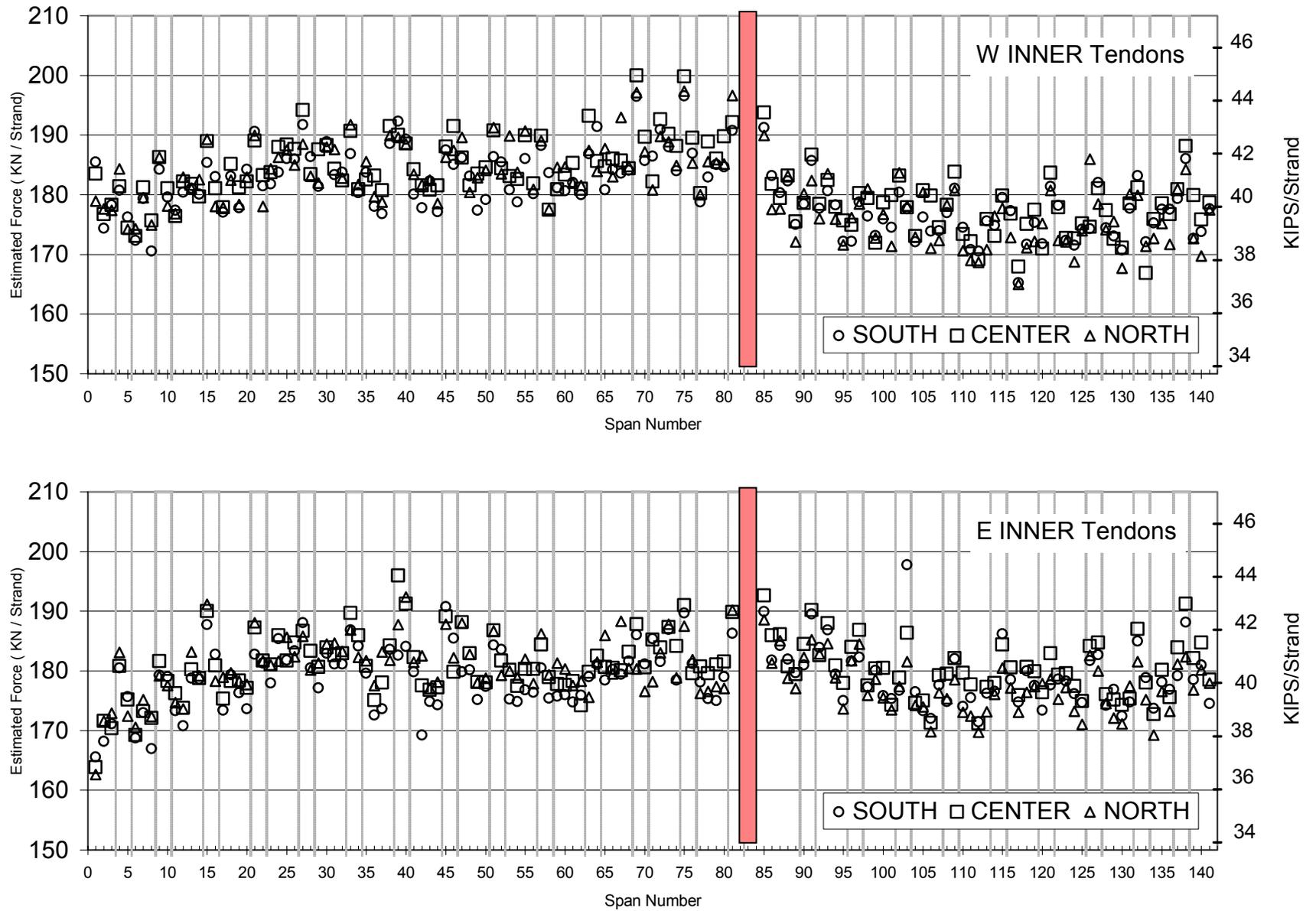


Figure3 – Estimated tension values as function of position in the bridge for Inner tendons. The vertical bar represents the main spans section, reported in Table 4.

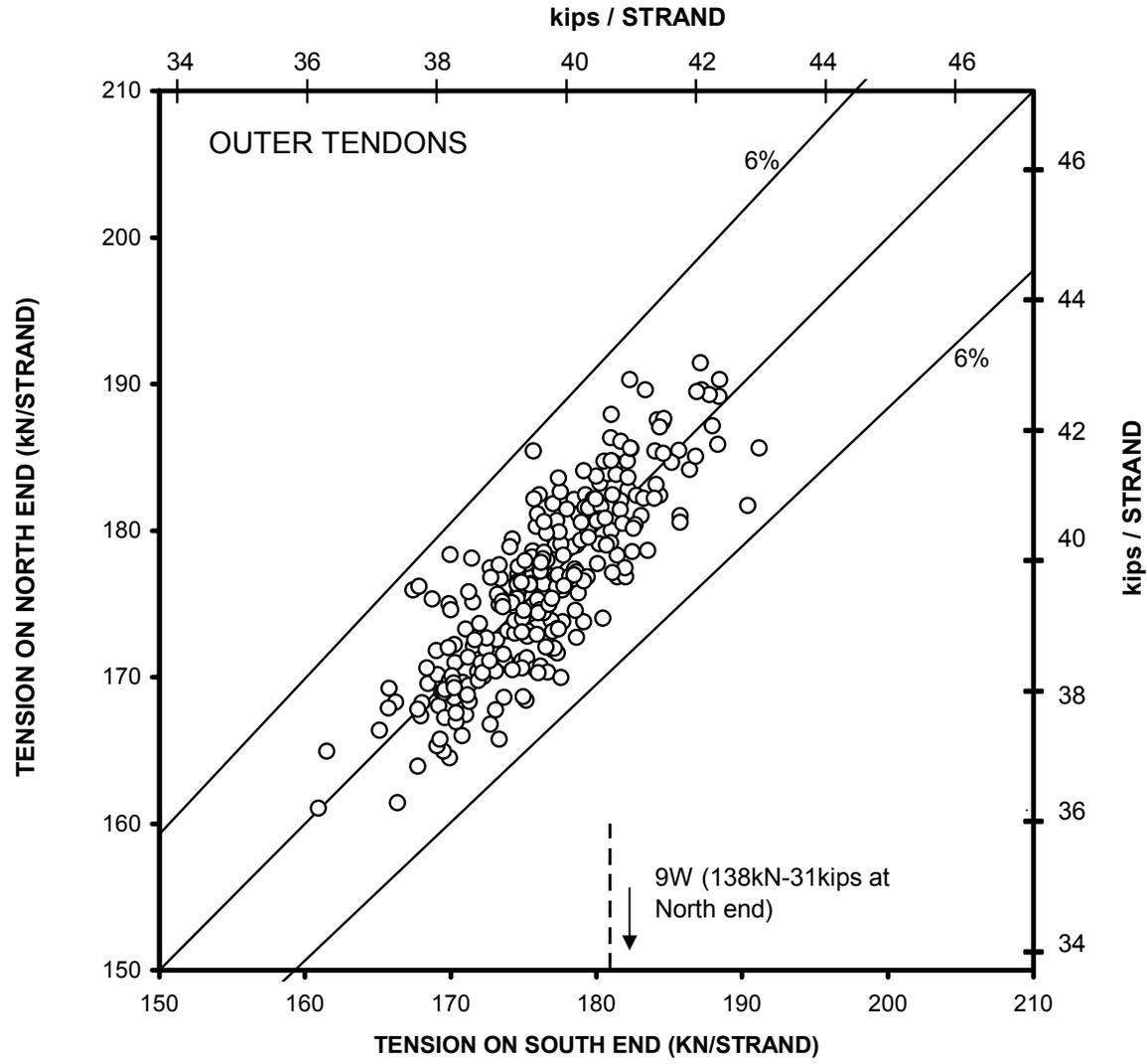


Figure 4 - Visual representation of end to end disparity for Outer tendons (both E and W sides) in spans 1-81 and 85-141. The diagonal line denotes ideally equal tension at both ends. Tendons with N-S disparity exceeding 6% are noted.

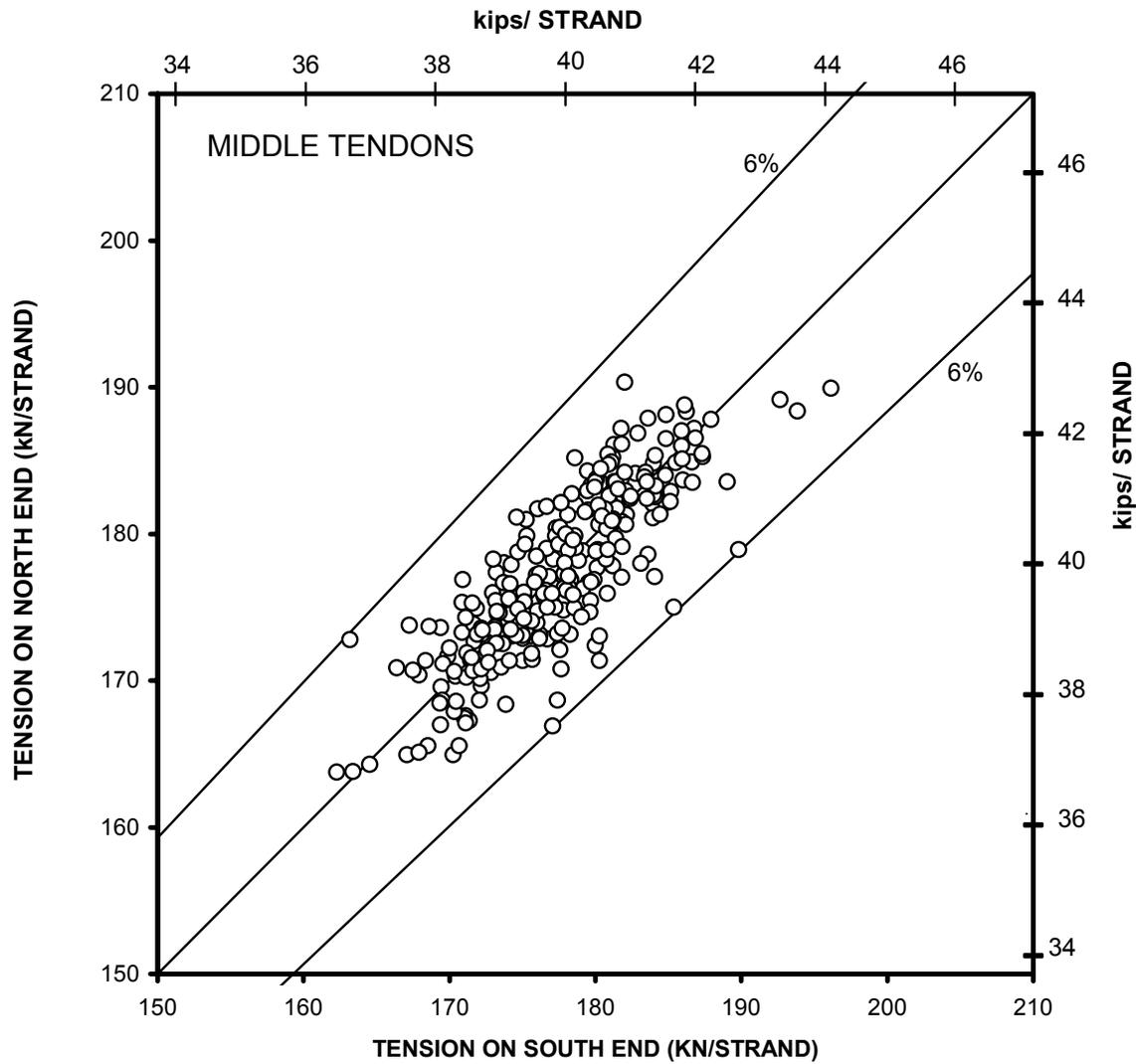


Figure 5 - Visual representation of end to end disparity for Middle tendons (both E and W sides) in spans 1-81 and 85-141. The diagonal line denotes ideally equal tension at both ends.

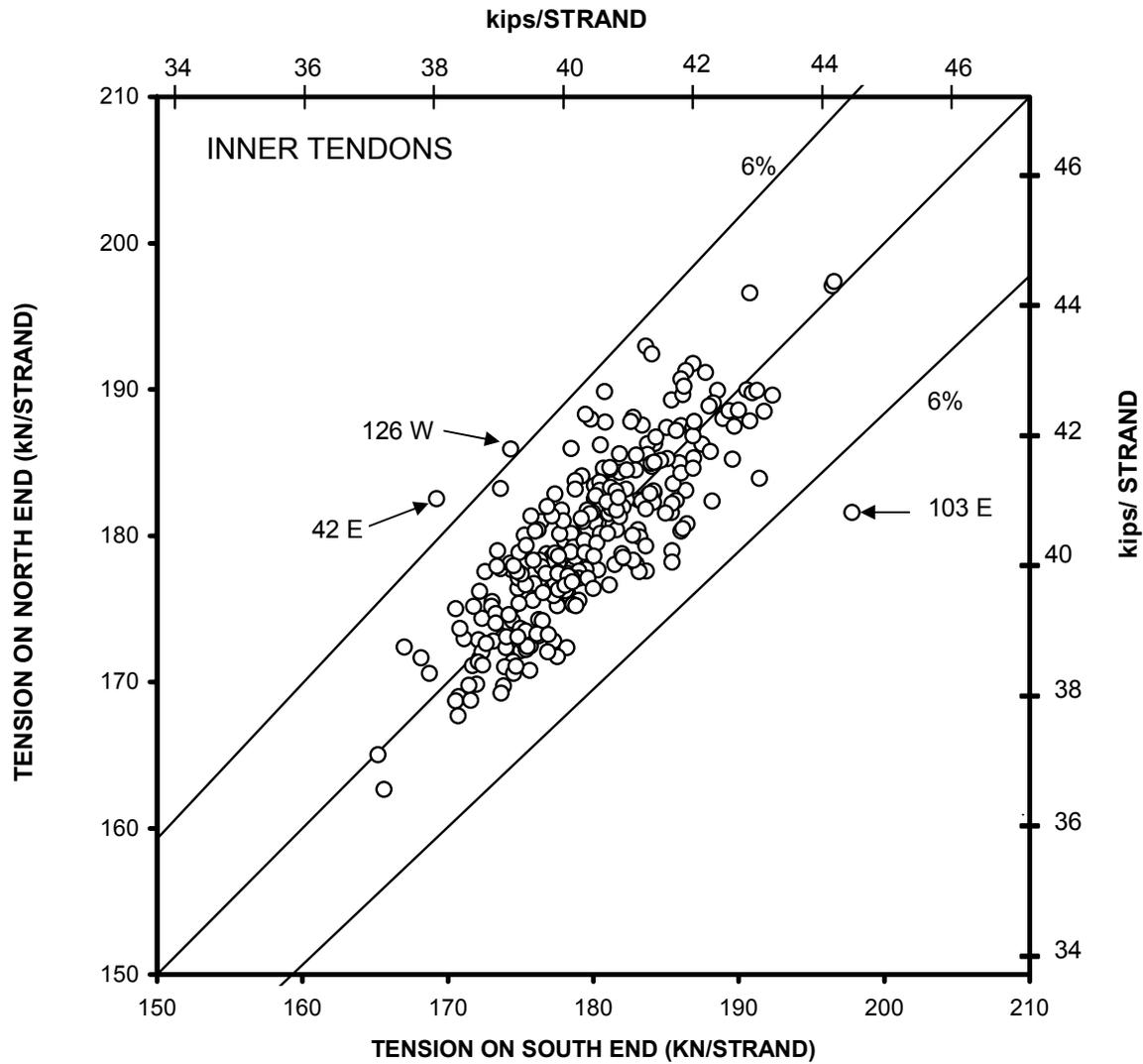


Figure 6 - Visual representation of end to end disparity for Inner tendons (both E and W sides) in spans 1-81 and 85-141. The diagonal line denotes ideally equal tension at both ends. Tendons with N-S disparity exceeding 6% are noted.

APPENDIX 1

Table A1 - Summary of approach spans tendon segments lengths (m) and wrap condition (wrapped tendon segments underlined). Tendon designation is per Table 2.

001A1	13.39	004A1	13.46	007A1	13.42	010A1	13.40	013A1	13.42	016A1	13.36	019A1	13.48	022A1	13.43
001A2	13.34	004A2	13.46	007A2	13.41	010A2	13.34	013A2	13.41	016A2	13.31	019A2	13.47	022A2	13.37
001A3	13.30	004A3	13.46	007A3	13.42	010A3	13.28	013A3	13.41	016A3	13.27	019A3	13.47	022A3	13.33
001A4	13.31	004A4	13.47	007A4	13.42	010A4	13.31	013A4	13.45	016A4	13.36	019A4	13.47	022A4	13.32
001A5	13.35	004A5	13.47	007A5	13.42	010A5	13.36	013A5	13.46	016A5	13.41	019A5	13.47	022A5	13.36
001A6	13.41	004A6	13.48	007A6	13.42	010A6	13.41	013A6	13.47	016A6	13.47	019A6	13.48	022A6	13.43
001B1	9.83	004B1	9.83	007B1	9.83	010B1	9.84	013B1	9.84	016B1	9.82	019B1	9.83	022B1	9.82
001B2	9.82	004B2	9.83	007B2	9.83	010B2	9.84	013B2	9.83	016B2	9.82	019B2	9.83	022B2	9.82
001B3	9.82	004B3	9.83	007B3	9.83	010B3	9.84	013B3	9.83	016B3	9.81	019B3	9.83	022B3	9.82
001B4	9.83	004B4	9.83	007B4	9.83	010B4	9.84	013B4	9.83	016B4	9.81	019B4	9.82	022B4	9.82
001B5	9.83	004B5	9.83	007B5	9.83	010B5	9.84	013B5	9.83	016B5	9.81	019B5	9.82	022B5	9.81
001B6	9.83	004B6	9.83	007B6	9.83	010B6	9.84	013B6	9.83	016B6	9.81	019B6	9.82	022B6	9.82
001C1	13.49	004C1	13.45	007C1	13.47	010C1	13.44	013C1	13.46	016C1	13.47	019C1	13.52	022C1	13.47
001C2	13.48	004C2	13.40	007C2	13.48	010C2	13.44	013C2	13.46	016C2	13.47	019C2	13.51	022C2	13.46
001C3	13.47	004C3	13.35	007C3	13.48	010C3	13.43	013C3	13.45	016C3	13.47	019C3	13.51	022C3	13.47
001C4	13.47	004C4	13.47	007C4	13.52	010C4	13.47	013C4	13.47	016C4	13.45	019C4	13.50	022C4	13.47
001C5	13.48	004C5	13.40	007C5	13.52	010C5	13.48	013C5	13.48	016C5	13.46	019C5	13.51	022C5	13.47
001C6	13.49	004C6	13.46	007C6	13.53	010C6	13.50	013C6	13.49	016C6	13.47	019C6	13.52	022C6	13.48
002A1	13.48	005A1	13.42	008A1	13.50	011A1	13.48	014A1	13.46	017A1	13.49	020A1	13.48	023A1	13.44
002A2	13.47	005A2	13.36	008A2	13.47	011A2	13.46	014A2	13.46	017A2	13.49	020A2	13.48	023A2	13.44
002A3	13.48	005A3	13.32	<u>008A3</u>	13.46	011A3	13.45	014A3	13.45	017A3	13.49	020A3	13.49	023A3	13.44
002A4	13.46	005A4	13.34	008A4	13.45	011A4	13.46	014A4	13.48	017A4	13.51	020A4	13.49	023A4	13.43
002A5	13.46	005A5	13.38	008A5	13.45	011A5	13.47	014A5	13.48	017A5	13.52	020A5	13.51	023A5	13.42
002A6	13.47	005A6	13.45	008A6	13.45	011A6	13.48	014A6	13.49	017A6	13.52	020A6	13.50	023A6	13.43
002B1	9.80	005B1	9.83	008B1	9.83	011B1	9.83	014B1	9.86	017B1	9.82	020B1	9.81	023B1	9.81
002B2	9.80	005B2	9.83	008B2	9.82	011B2	9.83	014B2	9.86	017B2	9.82	020B2	9.80	023B2	9.81
002B3	9.80	005B3	9.82	008B3	9.83	011B3	9.83	014B3	9.86	017B3	9.82	020B3	9.79	023B3	9.81
002B4	9.80	005B4	9.83	008B4	9.85	011B4	9.82	014B4	9.83	017B4	9.82	020B4	9.80	023B4	9.81
002B5	9.80	005B5	9.83	008B5	9.85	011B5	9.82	014B5	9.83	017B5	9.81	020B5	9.80	023B5	9.81
002B6	9.80	005B6	9.83	008B6	9.85	011B6	9.82	014B6	9.83	017B6	9.81	020B6	9.80	023B6	9.81
002C1	13.42	005C1	13.46	008C1	13.48	011C1	13.49	014C1	13.45	017C1	13.43	020C1	13.46	023C1	13.51
002C2	13.41	005C2	13.45	008C2	13.48	<u>011C2</u>	13.48	014C2	13.44	017C2	13.43	020C2	13.46	023C2	13.50
002C3	13.41	005C3	13.44	008C3	13.48	011C3	13.47	014C3	13.44	017C3	13.44	020C3	13.45	023C3	13.50
002C4	13.41	005C4	13.47	008C4	13.49	011C4	13.48	014C4	13.47	017C4	13.46	020C4	13.45	023C4	13.50
002C5	13.41	005C5	13.47	008C5	13.49	011C5	13.49	014C5	13.48	017C5	13.47	020C5	13.44	023C5	13.50
002C6	13.43	005C6	13.49	008C6	13.50	011C6	13.52	014C6	13.49	017C6	13.48	020C6	13.46	023C6	13.51
003A1	13.46	006A1	13.49	009A1	13.46	012A1	13.46	015A1	13.46	018A1	13.46	021A1	13.51	024A1	13.42
003A2	13.46	006A2	13.48	009A2	13.45	012A2	13.45	015A2	13.45	018A2	13.46	021A2	13.51	024A2	13.42
003A3	13.46	006A3	13.49	009A3	13.45	012A3	13.45	015A3	13.45	018A3	13.46	021A3	13.51	024A3	13.41
003A4	13.46	006A4	13.49	009A4	13.47	012A4	13.47	015A4	13.47	018A4	13.45	021A4	13.50	024A4	13.43
003A5	13.47	006A5	13.49	009A5	13.47	012A5	13.48	015A5	13.48	018A5	13.45	021A5	13.50	024A5	13.44
003A6	13.47	006A6	13.49	009A6	13.47	012A6	13.49	015A6	13.48	018A6	13.45	021A6	13.50	024A6	13.43
003B1	9.80	006B1	9.83	009B1	9.82	012B1	9.84	015B1	9.84	018B1	9.79	021B1	9.81	024B1	9.82
003B2	9.80	006B2	9.83	009B2	9.81	012B2	9.84	015B2	9.84	018B2	9.79	021B2	9.81	024B2	9.82
003B3	9.80	006B3	9.82	009B3	9.81	012B3	9.84	015B3	9.84	018B3	9.79	021B3	9.80	024B3	9.82
003B4	9.80	006B4	9.82	009B4	9.82	012B4	9.82	015B4	9.83	018B4	9.80	021B4	9.81	024B4	9.81
003B5	9.79	006B5	9.82	009B5	9.82	012B5	9.82	015B5	9.83	018B5	9.80	021B5	9.81	024B5	9.81
003B6	9.79	006B6	9.83	009B6	9.82	012B6	9.82	015B6	9.83	018B6	9.80	021B6	9.80	024B6	9.81
003C1	13.42	006C1	13.45	009C1	13.42	012C1	13.46	015C1	13.44	018C1	13.46	021C1	13.41	024C1	13.50
003C2	13.42	006C2	13.44	009C2	13.36	012C2	13.45	015C2	13.38	018C2	13.47	021C2	13.35	024C2	13.49
003C3	13.42	006C3	13.44	009C3	13.31	012C3	13.45	<u>015C3</u>	13.33	018C3	13.47	021C3	13.31	024C3	13.49
003C4	13.42	006C4	13.47	009C4	13.31	012C4	13.44	015C4	13.31	018C4	13.49	021C4	13.31	024C4	13.50
003C5	13.43	006C5	13.47	009C5	13.36	012C5	13.44	015C5	13.35	018C5	13.49	021C5	13.35	024C5	13.51
003C6	13.43	006C6	13.49	009C6	13.41	012C6	13.45	015C6	13.39	018C6	13.50	021C6	13.40	024C6	13.52

Table A1 continued.

025A1	13.48	028A1	13.43	031A1	13.51	034A1	13.41	037A1	13.46	040A1	13.40	<u>043A1</u>	13.47	<u>046A1</u>	13.38
025A2	13.47	028A2	13.35	031A2	13.50	034A2	13.36	<u>037A2</u>	13.46	040A2	13.33	<u>043A2</u>	13.47	<u>046A2</u>	13.34
025A3	13.46	028A3	13.30	031A3	13.50	034A3	13.32	037A3	13.46	040A3	13.29	043A3	13.46	<u>046A3</u>	13.31
025A4	13.45	028A4	13.30	031A4	13.50	034A4	13.31	037A4	13.44	040A4	13.28	<u>043A4</u>	13.46	<u>046A4</u>	13.31
025A5	13.45	028A5	13.35	031A5	13.50	034A5	13.35	037A5	13.43	040A5	13.33	<u>043A5</u>	13.46	<u>046A5</u>	13.34
025A6	13.46	028A6	13.41	031A6	13.50	034A6	13.41	037A6	13.43	040A6	13.39	043A6	13.46	<u>046A6</u>	13.40
025B1	9.80	028B1	9.84	031B1	9.83	034B1	9.84	037B1	9.81	040B1	9.81	043B1	9.81	<u>046B1</u>	9.83
025B2	9.80	028B2	9.84	031B2	9.83	<u>034B2</u>	9.84	037B2	9.81	040B2	9.81	<u>043B2</u>	9.81	<u>046B2</u>	9.83
025B3	9.80	028B3	9.83	031B3	9.83	034B3	9.84	037B3	9.82	040B3	9.81	043B3	9.80	<u>046B3</u>	9.83
025B4	9.79	028B4	9.83	031B4	9.83	034B4	9.83	037B4	9.82	<u>040B4</u>	9.82	<u>043B4</u>	9.80	<u>046B4</u>	9.83
025B5	9.79	028B5	9.83	031B5	9.84	034B5	9.83	037B5	9.82	<u>040B5</u>	9.83	<u>043B5</u>	9.80	<u>046B5</u>	9.83
025B6	9.79	028B6	9.84	031B6	9.84	034B6	9.83	037B6	9.82	040B6	9.82	043B6	9.80	<u>046B6</u>	9.83
025C1	13.51	028C1	13.42	031C1	13.44	034C1	13.49	037C1	13.51	040C1	13.52	043C1	13.50	<u>046C1</u>	13.47
025C2	13.50	028C2	13.41	031C2	13.43	034C2	13.49	037C2	13.49	040C2	13.52	<u>043C2</u>	13.49	<u>046C2</u>	13.46
025C3	13.50	028C3	13.41	031C3	13.43	034C3	13.49	037C3	13.50	040C3	13.51	<u>043C3</u>	13.50	<u>046C3</u>	13.46
025C4	13.49	028C4	13.41	031C4	13.44	034C4	13.49	037C4	13.50	<u>040C4</u>	13.53	<u>043C4</u>	13.47	<u>046C4</u>	13.49
025C5	13.50	028C5	13.41	031C5	13.44	034C5	13.50	037C5	13.50	<u>040C5</u>	13.53	<u>043C5</u>	13.47	<u>046C5</u>	13.50
025C6	13.51	028C6	13.43	031C6	13.45	034C6	13.51	037C6	13.51	<u>040C6</u>	13.56	<u>043C6</u>	13.47	<u>046C6</u>	13.52
026A1	13.46	029A1	13.46	032A1	13.50	035A1	13.47	038A1	13.51	041A1	13.49	<u>044A1</u>	13.43	047A1	13.46
026A2	13.45	029A2	13.45	032A2	13.49	035A2	13.46	038A2	13.51	041A2	13.48	044A2	13.43	047A2	13.44
026A3	13.45	<u>029A3</u>	13.45	032A3	13.49	035A3	13.46	038A3	13.52	041A3	13.48	<u>044A3</u>	13.44	047A3	13.44
026A4	13.45	<u>029A4</u>	13.45	032A4	13.48	035A4	13.44	038A4	13.52	041A4	13.50	044A4	13.46	<u>047A4</u>	13.43
026A5	13.45	029A5	13.45	032A5	13.48	035A5	13.44	038A5	13.52	041A5	13.47	044A5	13.46	<u>047A5</u>	13.41
026A6	13.45	029A6	13.45	032A6	13.49	035A6	13.45	038A6	13.52	041A6	13.47	044A6	13.47	047A6	13.41
026B1	9.81	029B1	9.82	032B1	9.81	035B1	9.81	038B1	9.85	041B1	9.82	044B1	9.81	047B1	9.80
026B2	9.81	029B2	9.83	032B2	9.80	035B2	9.81	038B2	9.85	041B2	9.82	044B2	9.81	047B2	9.80
026B3	9.81	029B3	9.83	032B3	9.80	035B3	9.81	038B3	9.85	041B3	9.82	044B3	9.80	047B3	9.79
026B4	9.80	<u>029B4</u>	9.82	032B4	9.80	035B4	9.80	038B4	9.84	041B4	9.82	044B4	9.81	047B4	9.81
026B5	9.81	029B5	9.82	032B5	9.80	035B5	9.80	038B5	9.83	<u>041B5</u>	9.82	044B5	9.81	047B5	9.81
026B6	9.81	029B6	9.82	032B6	9.81	035B6	9.80	038B6	9.83	041B6	9.82	044B6	9.80	047B6	9.82
026C1	13.53	029C1	13.49	032C1	13.43	035C1	13.52	038C1	13.46	041C1	13.47	044C1	13.48	047C1	13.50
026C2	13.53	029C2	13.49	032C2	13.43	035C2	13.52	038C2	13.45	041C2	13.47	044C2	13.48	047C2	13.49
026C3	13.52	<u>029C3</u>	13.48	032C3	13.43	035C3	13.51	038C3	13.46	041C3	13.47	<u>044C3</u>	13.47	<u>047C3</u>	13.48
026C4	13.53	<u>029C4</u>	13.48	032C4	13.44	035C4	13.50	<u>038C4</u>	13.43	<u>041C4</u>	13.46	<u>044C4</u>	13.47	<u>047C4</u>	13.49
026C5	13.53	029C5	13.48	032C5	13.44	035C5	13.51	038C5	13.44	041C5	13.46	<u>044C5</u>	13.48	<u>047C5</u>	13.49
026C6	13.54	029C6	13.49	032C6	13.45	035C6	13.51	038C6	13.44	041C6	13.45	044C6	13.48	047C6	13.51
027A1	13.52	030A1	13.45	033A1	13.47	036A1	13.46	039A1	13.43	<u>042A1</u>	13.49	045A1	13.45	048A1	13.46
027A2	13.51	030A2	13.45	033A2	13.47	036A2	13.46	039A2	13.43	042A2	13.47	045A2	13.44	048A2	13.45
027A3	13.50	030A3	13.45	033A3	13.47	036A3	13.46	<u>039A3</u>	13.44	042A3	13.47	<u>045A3</u>	13.44	<u>048A3</u>	13.44
<u>027A4</u>	13.52	030A4	13.48	<u>033A4</u>	13.46	036A4	13.47	<u>039A4</u>	13.45	042A4	13.49	<u>045A4</u>	13.43	048A4	13.43
027A5	13.51	030A5	13.46	<u>033A5</u>	13.46	036A5	13.48	<u>039A5</u>	13.46	042A5	13.49	<u>045A5</u>	13.43	048A5	13.42
027A6	13.52	030A6	13.46	033A6	13.47	036A6	13.48	<u>039A6</u>	13.46	042A6	13.48	<u>045A6</u>	13.43	048A6	13.43
027B1	9.83	030B1	9.81	033B1	9.80	036B1	9.82	039B1	9.82	<u>042B1</u>	9.82	045B1	9.81	048B1	9.82
027B2	9.83	030B2	9.81	033B2	9.80	036B2	9.81	039B2	9.82	042B2	9.83	045B2	9.81	048B2	9.82
027B3	9.83	030B3	9.82	033B3	9.81	036B3	9.81	<u>039B3</u>	9.82	042B3	9.83	045B3	9.81	<u>048B3</u>	9.81
<u>027B4</u>	9.83	030B4	9.82	<u>033B4</u>	9.81	036B4	9.82	<u>039B4</u>	9.82	042B4	9.83	<u>045B4</u>	9.81	048B4	9.82
027B5	9.82	030B5	9.82	033B5	9.81	<u>036B5</u>	9.83	<u>039B5</u>	9.83	042B5	9.83	045B5	9.81	048B5	9.81
027B6	9.82	030B6	9.81	033B6	9.80	036B6	9.83	<u>039B6</u>	9.82	042B6	9.83	045B6	9.81	048B6	9.81
027C1	13.38	030C1	13.48	033C1	13.40	036C1	13.47	039C1	13.39	<u>042C1</u>	13.44	<u>045C1</u>	13.42	048C1	13.53
027C2	13.31	030C2	13.47	033C2	13.34	036C2	13.47	039C2	13.32	042C2	13.43	<u>045C2</u>	13.35	048C2	13.51
<u>027C3</u>	13.27	030C3	13.48	033C3	13.30	<u>036C3</u>	13.47	<u>039C3</u>	13.29	042C3	13.43	<u>045C3</u>	13.30	<u>048C3</u>	13.51
<u>027C4</u>	13.27	030C4	13.46	033C4	13.31	036C4	13.48	<u>039C4</u>	13.29	042C4	13.46	<u>045C4</u>	13.32	048C4	13.51
027C5	13.32	030C5	13.47	033C5	13.35	036C5	13.49	<u>039C5</u>	13.33	042C5	13.45	<u>045C5</u>	13.36	048C5	13.52
027C6	13.38	030C6	13.48	<u>033C6</u>	13.40	036C6	13.52	<u>039C6</u>	13.40	042C6	13.46	<u>045C6</u>	13.42	048C6	13.53

Table A1 continued.

<u>049A1</u>	13.45	<u>052A1</u>	13.38	055A1	13.47	058A1	13.35	061A1	13.50	064A1	13.41	<u>067A1</u>	13.43	<u>070A1</u>	13.35
049A2	13.44	052A2	13.32	055A2	13.47	058A2	13.29	061A2	13.49	<u>064A2</u>	13.35	067A2	13.43	<u>070A2</u>	13.28
<u>049A3</u>	13.44	052A3	13.26	055A3	13.47	058A3	13.26	061A3	13.48	064A3	13.31	067A3	13.43	<u>070A3</u>	13.25
<u>049A4</u>	13.45	052A4	13.26	055A4	13.46	<u>058A4</u>	13.28	061A4	13.44	<u>064A4</u>	13.33	067A4	13.42	<u>070A4</u>	13.26
049A5	13.45	<u>052A5</u>	13.31	055A5	13.44	058A5	13.32	061A5	13.43	<u>064A5</u>	13.38	067A5	13.41	<u>070A5</u>	13.30
049A6	13.46	<u>052A6</u>	13.37	055A6	13.45	058A6	13.38	061A6	13.43	064A6	13.44	067A6	13.41	<u>070A6</u>	13.36
<u>049B1</u>	9.82	<u>052B1</u>	9.81	055B1	9.83	058B1	9.82	061B1	9.81	064B1	9.81	067B1	9.80	<u>070B1</u>	9.80
049B2	9.82	052B2	9.80	055B2	9.82	058B2	9.82	061B2	9.81	<u>064B2</u>	9.82	067B2	9.79	<u>070B2</u>	9.80
<u>049B3</u>	9.82	052B3	9.80	055B3	9.82	<u>058B3</u>	9.82	061B3	9.81	<u>064B3</u>	9.81	067B3	9.79	<u>070B3</u>	9.81
<u>049B4</u>	9.81	052B4	9.80	055B4	9.84	<u>058B4</u>	9.81	061B4	9.83	064B4	9.82	067B4	9.78	<u>070B4</u>	9.82
049B5	9.81	052B5	9.80	055B5	9.83	058B5	9.82	061B5	9.82	064B5	9.82	067B5	9.79	<u>070B5</u>	9.82
049B6	9.81	<u>052B6</u>	9.81	055B6	9.82	058B6	9.82	061B6	9.81	064B6	9.82	067B6	9.79	<u>070B6</u>	9.81
<u>049C1</u>	13.48	<u>052C1</u>	13.48	055C1	13.47	058C1	13.50	<u>061C1</u>	13.49	064C1	13.47	<u>067C1</u>	13.48	<u>070C1</u>	13.53
049C2	13.47	052C2	13.48	055C2	13.46	058C2	13.49	061C2	13.48	<u>064C2</u>	13.45	067C2	13.47	<u>070C2</u>	13.52
049C3	13.47	052C3	13.48	055C3	13.45	<u>058C3</u>	13.49	061C3	13.48	<u>064C3</u>	13.45	<u>067C3</u>	13.48	<u>070C3</u>	13.53
<u>049C4</u>	13.47	052C4	13.47	055C4	13.45	<u>058C4</u>	13.49	061C4	13.49	<u>064C4</u>	13.45	<u>067C4</u>	13.49	<u>070C4</u>	13.54
<u>049C5</u>	13.48	052C5	13.48	055C5	13.45	058C5	13.49	061C5	13.49	<u>064C5</u>	13.46	067C5	13.50	<u>070C5</u>	13.55
049C6	13.49	<u>052C6</u>	13.50	055C6	13.46	058C6	13.51	061C6	13.55	064C6	13.47	<u>067C6</u>	13.51	<u>070C6</u>	13.55
<u>050A1</u>	13.49	053A1	13.46	056A1	13.48	059A1	13.42	062A1	13.43	065A1	13.43	068A1	13.47	071A1	13.49
050A2	13.48	<u>053A2</u>	13.46	056A2	13.48	059A2	13.41	062A2	13.43	065A2	13.42	068A2	13.46	071A2	13.48
050A3	13.47	053A3	13.45	056A3	13.48	059A3	13.41	062A3	13.43	065A3	13.43	068A3	13.46	071A3	13.49
050A4	13.46	053A4	13.45	056A4	13.49	059A4	13.41	062A4	13.43	065A4	13.43	068A4	13.47	<u>071A4</u>	13.47
<u>050A5</u>	13.47	053A5	13.44	056A5	13.49	059A5	13.41	062A5	13.42	065A5	13.43	068A5	13.46	071A5	13.47
<u>050A6</u>	13.47	053A6	13.44	056A6	13.49	<u>059A6</u>	13.41	062A6	13.42	065A6	13.43	068A6	13.46	071A6	13.46
<u>050B1</u>	9.83	053B1	9.83	056B1	9.83	059B1	9.78	062B1	9.82	065B1	9.81	068B1	9.78	071B1	9.79
050B2	9.84	053B2	9.83	056B2	9.83	059B2	9.78	062B2	9.81	065B2	9.81	068B2	9.79	071B2	9.79
050B3	9.83	053B3	9.82	056B3	9.83	059B3	9.78	062B3	9.81	065B3	9.81	068B3	9.79	<u>071B3</u>	9.80
050B4	9.82	053B4	9.81	056B4	9.84	059B4	9.79	062B4	9.81	065B4	9.81	068B4	9.78	071B4	9.80
<u>050B5</u>	9.82	<u>053B5</u>	9.81	056B5	9.84	059B5	9.78	062B5	9.80	065B5	9.81	068B5	9.79	071B5	9.80
050B6	9.82	053B6	9.81	056B6	9.84	059B6	9.78	062B6	9.80	065B6	9.82	068B6	9.78	071B6	9.81
<u>050C1</u>	13.43	053C1	13.52	056C1	13.51	059C1	13.56	062C1	13.52	065C1	13.51	068C1	13.54	071C1	13.50
050C2	13.44	<u>053C2</u>	13.50	056C2	13.51	059C2	13.55	062C2	13.52	<u>065C2</u>	13.51	068C2	13.53	071C2	13.48
050C3	13.44	<u>053C3</u>	13.50	056C3	13.50	059C3	13.54	062C3	13.52	065C3	13.51	068C3	13.53	071C3	13.48
050C4	13.45	053C4	13.49	056C4	13.47	059C4	13.52	062C4	13.54	<u>065C4</u>	13.49	068C4	13.51	<u>071C4</u>	13.49
<u>050C5</u>	13.46	<u>053C5</u>	13.50	056C5	13.48	059C5	13.52	062C5	13.54	065C5	13.49	068C5	13.51	071C5	13.50
<u>050C6</u>	13.46	<u>053C6</u>	13.51	056C6	13.48	059C6	13.52	062C6	13.54	065C6	13.50	068C6	13.52	071C6	13.51
<u>051A1</u>	13.47	054A1	13.45	057A1	13.47	060A1	13.45	063A1	13.47	066A1	13.42	069A1	13.45	<u>072A1</u>	13.48
<u>051A2</u>	13.46	054A2	13.44	057A2	13.45	060A2	13.45	063A2	13.47	066A2	13.42	069A2	13.44	<u>072A2</u>	13.48
051A3	13.46	054A3	13.44	<u>057A3</u>	13.46	060A3	13.46	<u>063A3</u>	13.47	<u>066A3</u>	13.43	069A3	13.45	072A3	13.48
051A4	13.46	054A4	13.44	057A4	13.45	060A4	13.47	<u>063A4</u>	13.46	066A4	13.43	<u>069A4</u>	13.48	072A4	13.48
<u>051A5</u>	13.46	<u>054A5</u>	13.44	057A5	13.45	<u>060A5</u>	13.47	063A5	13.46	066A5	13.43	<u>069A5</u>	13.48	072A5	13.48
<u>051A6</u>	13.46	<u>054A6</u>	13.45	057A6	13.46	060A6	13.48	063A6	13.46	066A6	13.44	<u>069A6</u>	13.49	072A6	13.48
<u>051B1</u>	9.85	054B1	9.82	057B1	9.79	<u>060B1</u>	9.82	063B1	9.90	066B1	9.82	069B1	9.79	<u>072B1</u>	9.81
051B2	9.83	054B2	9.82	057B2	9.79	060B2	9.83	063B2	9.80	066B2	9.82	069B2	9.79	<u>072B2</u>	9.81
051B3	9.83	054B3	9.82	<u>057B3</u>	9.79	060B3	9.83	<u>063B3</u>	9.78	066B3	9.83	069B3	9.80	072B3	9.81
051B4	9.83	054B4	9.81	057B4	9.79	060B4	9.84	<u>063B4</u>	9.81	066B4	9.81	069B4	9.81	072B4	9.81
051B5	9.85	054B5	9.81	057B5	9.79	<u>060B5</u>	9.85	063B5	9.81	066B5	9.81	<u>069B5</u>	9.80	072B5	9.81
<u>051B6</u>	9.85	054B6	9.81	057B6	9.79	060B6	9.85	063B6	9.81	066B6	9.81	<u>069B6</u>	9.80	072B6	9.81
<u>051C1</u>	13.43	054C1	13.47	057C1	13.46	060C1	13.46	063C1	13.47	066C1	13.47	069C1	13.48	<u>072C1</u>	13.44
<u>051C2</u>	13.36	054C2	13.46	057C2	13.40	060C2	13.46	063C2	13.40	066C2	13.47	<u>069C2</u>	13.43	<u>072C2</u>	13.43
051C3	13.31	054C3	13.47	<u>057C3</u>	13.35	060C3	13.47	<u>063C3</u>	13.36	066C3	13.47	069C3	13.40	072C3	13.43
051C4	13.31	054C4	13.49	057C4	13.36	060C4	13.49	<u>063C4</u>	13.35	066C4	13.48	<u>069C4</u>	13.38	072C4	13.43
<u>051C5</u>	13.34	054C5	13.50	057C5	13.40	<u>060C5</u>	13.50	063C5	13.40	066C5	13.48	<u>069C5</u>	13.40	072C5	13.43
<u>051C6</u>	13.41	054C6	13.51	057C6	13.46	060C6	13.51	063C6	13.45	066C6	13.49	<u>069C6</u>	13.45	072C6	13.44

Table A1 continued.

073A1	13.47	076A1	13.42	079A1	13.48	085A1	13.45	088A1	13.46	091A1	13.42	094A1	13.47	097A1	13.45
073A2	13.46	076A2	13.35	079A2	13.46	085A2	13.39	088A2	13.46	<u>091A2</u>	13.36	094A2	13.48	097A2	13.39
073A3	13.46	076A3	13.30	079A3	13.45	085A3	13.35	088A3	13.47	091A3	13.33	094A3	13.47	097A3	13.34
073A4	13.45	076A4	13.29	079A4	13.44	<u>085A4</u>	13.34	088A4	13.46	091A4	13.34	094A4	13.45	<u>097A4</u>	13.36
073A5	13.45	076A5	13.34	079A5	13.44	<u>085A5</u>	13.40	088A5	13.46	091A5	13.38	094A5	13.45	097A5	13.41
073A6	13.45	076A6	13.40	079A6	13.44	085A6	13.45	088A6	13.47	091A6	13.46	094A6	13.45	097A6	13.48
073B1	9.79	076B1	9.80	079B1	9.81	085B1	9.82	088B1	9.82	091B1	9.81	094B1	9.81	097B1	9.80
073B2	9.79	076B2	9.80	079B2	9.81	085B2	9.81	088B2	9.81	091B2	9.81	094B2	9.81	097B2	9.80
073B3	9.79	076B3	9.81	079B3	9.81	085B3	9.81	088B3	9.81	091B3	9.81	094B3	9.81	097B3	9.80
073B4	9.80	<u>076B4</u>	9.80	079B4	9.81	<u>085B4</u>	9.81	088B4	9.83	091B4	9.81	094B4	9.82	097B4	9.79
073B5	9.80	076B5	9.80	079B5	9.81	<u>085B5</u>	9.81	088B5	9.82	091B5	9.81	094B5	9.82	097B5	9.79
073B6	9.80	076B6	9.80	079B6	9.81	<u>085B6</u>	9.81	088B6	9.82	091B6	9.81	094B6	9.82	097B6	9.79
073C1	13.51	076C1	13.50	079C1	13.51	085C1	13.48	088C1	13.47	091C1	13.51	094C1	13.48	097C1	13.47
073C2	13.51	076C2	13.50	079C2	13.50	085C2	13.47	088C2	13.47	<u>091C2</u>	13.49	094C2	13.49	097C2	13.46
073C3	13.50	076C3	13.50	079C3	13.50	085C3	13.46	088C3	13.46	091C3	13.49	094C3	13.49	097C3	13.46
073C4	13.51	076C4	13.50	079C4	13.50	<u>085C4</u>	13.46	088C4	13.43	091C4	13.47	094C4	13.48	097C4	13.48
073C5	13.51	076C5	13.51	079C5	13.51	<u>085C5</u>	13.47	088C5	13.43	091C5	13.48	094C5	13.48	097C5	13.49
073C6	13.52	076C6	13.53	079C6	13.52	<u>085C6</u>	13.48	088C6	13.44	091C6	13.48	094C6	13.48	097C6	13.50
074A1	13.57	077A1	13.49	080A1	13.52	086A1	13.47	089A1	13.48	092A1	13.49	095A1	13.49	098A1	13.53
074A2	13.55	077A2	13.49	080A2	13.52	086A2	13.46	089A2	13.47	092A2	13.48	<u>095A2</u>	13.48	<u>098A2</u>	13.52
074A3	13.56	077A3	13.48	080A3	13.51	086A3	13.47	089A3	13.47	092A3	13.48	095A3	13.49	098A3	13.52
074A4	13.56	077A4	13.49	080A4	13.51	086A4	13.47	089A4	13.48	092A4	13.48	095A4	13.50	098A4	13.52
074A5	13.56	077A5	13.48	080A5	13.51	086A5	13.46	089A5	13.48	092A5	13.48	095A5	13.49	098A5	13.52
<u>074A6</u>	13.55	077A6	13.49	080A6	13.51	086A6	13.46	089A6	13.49	092A6	13.47	095A6	13.50	098A6	13.53
074B1	9.85	077B1	9.83	080B1	9.82	086B1	9.81	089B1	9.83	092B1	9.79	095B1	9.83	098B1	9.79
074B2	9.86	077B2	9.82	080B2	9.82	086B2	9.81	089B2	9.82	092B2	9.80	095B2	9.83	098B2	9.78
074B3	9.86	077B3	9.82	080B3	9.82	086B3	9.81	089B3	9.83	092B3	9.80	095B3	9.83	098B3	9.78
074B4	9.84	077B4	9.82	080B4	9.82	086B4	9.81	089B4	9.82	092B4	9.81	095B4	9.83	098B4	9.78
074B5	9.83	077B5	9.82	080B5	9.82	086B5	9.80	089B5	9.82	092B5	9.82	095B5	9.83	098B5	9.78
074B6	9.84	077B6	9.82	080B6	9.83	086B6	9.80	089B6	9.82	092B6	9.82	095B6	9.83	098B6	9.78
074C1	13.50	077C1	13.51	080C1	13.44	086C1	13.48	089C1	13.53	092C1	13.45	095C1	13.47	098C1	13.43
074C2	13.49	077C2	13.50	080C2	13.44	086C2	13.48	089C2	13.53	092C2	13.45	095C2	13.47	098C2	13.42
074C3	13.50	077C3	13.49	080C3	13.44	086C3	13.48	089C3	13.52	092C3	13.42	095C3	13.47	098C3	13.42
074C4	13.51	077C4	13.46	080C4	13.45	086C4	13.48	089C4	13.51	092C4	13.45	095C4	13.48	098C4	13.43
074C5	13.52	077C5	13.47	080C5	13.46	086C5	13.49	089C5	13.52	<u>092C5</u>	13.46	095C5	13.49	098C5	13.45
074C6	13.53	077C6	13.47	080C6	13.47	086C6	13.50	089C6	13.52	<u>092C6</u>	13.47	095C6	13.49	098C6	13.45
075A1	13.49	078A1	13.48	081A1	13.45	087A1	13.47	090A1	13.49	093A1	13.52	096A1	13.49	099A1	13.44
075A2	13.48	078A2	13.47	081A2	13.43	087A2	13.46	<u>090A2</u>	13.49	093A2	13.51	096A2	13.48	099A2	13.44
075A3	13.48	078A3	13.48	081A3	13.43	087A3	13.46	090A3	13.50	093A3	13.50	096A3	13.48	<u>099A3</u>	13.44
075A4	13.45	078A4	13.50	081A4	13.40	087A4	13.46	090A4	13.49	093A4	13.50	096A4	13.49	099A4	13.45
075A5	13.43	078A5	13.50	081A5	13.40	087A5	13.46	090A5	13.49	093A5	13.50	<u>096A5</u>	13.48	099A5	13.46
075A6	13.44	078A6	13.51	081A6	13.41	087A6	13.47	090A6	13.49	093A6	13.51	096A6	13.49	099A6	13.47
075B1	9.81	078B1	9.83	081B1	9.82	087B1	9.84	090B1	9.82	093B1	9.82	096B1	9.83	099B1	9.83
075B2	9.82	078B2	9.83	081B2	9.83	087B2	9.85	090B2	9.82	093B2	9.82	096B2	9.82	099B2	9.82
075B3	9.82	078B3	9.84	081B3	9.83	087B3	9.85	090B3	9.82	093B3	9.82	096B3	9.82	<u>099B3</u>	9.82
075B4	9.82	078B4	9.83	081B4	9.83	087B4	9.84	090B4	9.82	093B4	9.82	096B4	9.82	099B4	9.81
075B5	9.82	078B5	9.83	081B5	9.83	087B5	9.84	090B5	9.82	093B5	9.81	096B5	9.82	099B5	9.81
075B6	9.83	078B6	9.83	081B6	9.83	087B6	9.83	090B6	9.82	093B6	9.81	096B6	9.82	099B6	9.81
075C1	13.38	078C1	13.44	081C1	13.43	087C1	13.52	090C1	13.36	093C1	13.42	096C1	13.39	099C1	13.46
075C2	13.32	078C2	13.43	081C2	13.38	087C2	13.51	<u>090C2</u>	13.29	093C2	13.42	096C2	13.33	099C2	13.46
075C3	13.28	078C3	13.43	081C3	13.34	087C3	13.51	090C3	13.26	093C3	13.43	<u>096C3</u>	13.29	<u>099C3</u>	13.46
075C4	13.30	078C4	13.44	081C4	13.33	087C4	13.49	090C4	13.28	093C4	13.45	096C4	13.30	099C4	13.47
075C5	13.33	078C5	13.44	081C5	13.37	087C5	13.50	090C5	13.31	093C5	13.46	<u>096C5</u>	13.33	099C5	13.48
075C6	13.39	078C6	13.46	081C6	13.44	087C6	13.50	090C6	13.37	093C6	13.49	096C6	13.38	099C6	13.50

Table A1 continued.

100A1	13.47	103A1	13.38	106A1	13.49	109A1	13.38	112A1	13.50	115A1	13.37	118A1	13.44	121A1	13.38
100A2	13.46	<u>103A2</u>	13.33	106A2	13.47	109A2	13.33	112A2	13.50	<u>115A2</u>	13.32	118A2	13.44	121A2	13.32
<u>100A3</u>	13.45	103A3	13.30	106A3	13.48	109A3	13.30	112A3	13.50	115A3	13.28	118A3	13.44	121A3	13.28
<u>100A4</u>	13.46	103A4	13.30	106A4	13.47	109A4	13.32	112A4	13.51	115A4	13.30	118A4	13.40	121A4	13.26
<u>100A5</u>	13.47	103A5	13.40	<u>106A5</u>	13.47	109A5	13.37	112A5	13.51	115A5	13.34	118A5	13.42	121A5	13.31
100A6	13.47	103A6	13.40	106A6	13.48	109A6	13.43	112A6	13.51	115A6	13.40	118A6	13.42	121A6	13.37
100B1	9.82	103B1	9.84	106B1	9.81	109B1	9.83	112B1	9.82	115B1	9.81	118B1	9.80	121B1	9.82
100B2	9.82	103B2	9.83	106B2	9.81	109B2	9.83	112B2	9.83	115B2	9.81	118B2	9.83	121B2	9.82
100B3	9.81	103B3	9.83	<u>106B3</u>	9.82	109B3	9.84	112B3	9.83	115B3	9.82	118B3	9.83	121B3	9.82
100B4	9.80	103B4	9.83	106B4	9.82	109B4	9.83	112B4	9.83	115B4	9.82	118B4	9.83	121B4	9.83
100B5	9.80	103B5	9.83	<u>106B5</u>	9.81	109B5	9.83	112B5	9.82	115B5	9.81	118B5	9.82	121B5	9.83
100B6	9.80	103B6	9.84	106B6	9.81	109B6	9.83	112B6	9.82	115B6	9.81	118B6	9.83	121B6	9.83
100C1	13.46	103C1	13.45	106C1	13.47	109C1	13.46	112C1	13.47	115C1	13.46	118C1	13.49	121C1	13.50
<u>100C2</u>	13.46	103C2	13.44	106C2	13.47	109C2	13.46	112C2	13.46	115C2	13.45	118C2	13.48	121C2	13.50
100C3	13.45	103C3	13.44	106C3	13.47	109C3	13.46	112C3	13.46	115C3	13.45	118C3	13.48	121C3	13.50
<u>100C4</u>	13.47	103C4	13.46	106C4	13.47	109C4	13.49	112C4	13.46	115C4	13.45	118C4	13.48	121C4	13.50
<u>100C5</u>	13.48	103C5	13.46	<u>106C5</u>	13.48	109C5	13.49	112C5	13.47	115C5	13.46	118C5	13.49	121C5	13.50
<u>100C6</u>	13.49	103C6	13.47	<u>106C6</u>	13.48	109C6	13.51	112C6	13.48	115C6	13.47	118C6	13.49	121C6	13.51
101A1	13.48	104A1	13.43	107A1	13.49	<u>110A1</u>	13.50	<u>113A1</u>	13.47	116A1	13.50	119A1	13.51	122A1	13.50
101A2	13.49	<u>104A2</u>	13.43	107A2	13.48	<u>110A2</u>	13.50	113A2	13.46	116A2	13.49	119A2	13.49	122A2	13.49
101A3	13.48	104A3	13.43	107A3	13.48	<u>110A3</u>	13.50	113A3	13.46	116A3	13.49	119A3	13.50	122A3	13.48
101A4	13.48	104A4	13.44	107A4	13.49	110A4	13.50	113A4	13.47	116A4	13.53	119A4	13.50	122A4	13.48
101A5	13.49	104A5	13.44	107A5	13.49	110A5	13.49	113A5	13.47	116A5	13.53	119A5	13.50	122A5	13.47
101A6	13.50	104A6	13.45	107A6	13.49	110A6	13.50	113A6	13.47	116A6	13.54	119A6	13.51	122A6	13.47
101B1	9.82	104B1	9.83	107B1	9.78	110B1	9.79	113B1	9.79	116B1	9.80	119B1	9.82	122B1	9.81
101B2	9.81	104B2	9.82	107B2	9.79	110B2	9.79	113B2	9.79	116B2	9.80	119B2	9.81	122B2	9.81
101B3	9.91	104B3	9.82	107B3	9.79	110B3	9.80	113B3	9.79	116B3	9.80	119B3	9.82	122B3	9.81
101B4	9.81	104B4	9.82	107B4	9.80	110B4	9.79	113B4	9.79	116B4	9.80	119B4	9.80	122B4	9.80
101B5	9.81	104B5	9.82	107B5	9.79	110B5	9.79	113B5	9.79	116B5	9.80	119B5	9.80	122B5	9.80
101B6	9.80	104B6	9.82	107B6	9.79	110B6	9.80	113B6	9.78	116B6	9.79	119B6	9.80	122B6	9.80
101C1	13.45	104C1	13.47	107C1	13.44	110C1	13.44	113C1	13.42	116C1	13.44	119C1	13.45	122C1	13.43
101C2	13.45	<u>104C2</u>	13.47	<u>107C2</u>	13.42	<u>110C2</u>	13.44	113C2	13.42	116C2	13.44	119C2	13.45	122C2	13.43
101C3	13.44	104C3	13.47	<u>107C3</u>	13.44	<u>110C3</u>	13.44	113C3	13.43	116C3	13.43	119C3	13.44	122C3	13.42
101C4	13.48	104C4	13.46	107C4	13.43	110C4	13.46	113C4	13.46	116C4	13.41	119C4	13.43	122C4	13.41
101C5	13.50	104C5	13.47	107C5	13.44	<u>110C5</u>	13.46	113C5	13.47	116C5	13.42	119C5	13.43	122C5	13.42
101C6	13.50	104C6	13.48	107C6	13.45	110C6	13.48	113C6	13.49	116C6	13.43	119C6	13.45	122C6	13.43
102A1	13.48	105A1	13.43	108A1	13.43	111A1	13.47	114A1	13.52	117A1	13.47	120A1	13.43	123A1	13.46
102A2	13.46	105A2	13.42	108A2	13.43	111A2	13.46	114A2	13.50	<u>117A2</u>	13.46	120A2	13.41	123A2	13.45
102A3	13.46	105A3	13.42	108A3	13.43	111A3	13.46	114A3	13.50	117A3	13.45	120A3	13.42	123A3	13.45
102A4	13.48	105A4	13.42	108A4	13.45	111A4	13.46	114A4	13.49	117A4	13.47	120A4	13.41	123A4	13.45
102A5	13.47	105A5	13.43	108A5	13.45	111A5	13.47	114A5	13.49	117A5	13.48	120A5	13.40	123A5	13.44
102A6	13.47	105A6	13.43	108A6	13.46	111A6	13.47	114A6	13.49	117A6	13.48	120A6	13.41	123A6	13.45
102B1	9.81	105B1	9.83	108B1	9.82	111B1	9.83	114B1	9.84	117B1	9.82	120B1	9.83	123B1	9.86
102B2	9.81	105B2	9.82	108B2	9.82	111B2	9.82	114B2	9.84	117B2	9.81	120B2	9.83	123B2	9.86
102B3	9.81	105B3	9.82	108B3	9.82	111B3	9.82	<u>114B3</u>	9.84	117B3	9.81	120B3	9.83	123B3	9.86
102B4	9.82	105B4	9.83	108B4	9.83	111B4	9.81	114B4	9.84	117B4	9.80	120B4	9.84	123B4	9.87
102B5	9.81	105B5	9.82	108B5	9.83	111B5	9.81	114B5	9.84	117B5	9.80	120B5	9.83	123B5	9.87
102B6	9.81	105B6	9.82	108B6	9.82	111B6	9.81	114B6	9.84	117B6	9.79	120B6	9.83	123B6	9.88
102C1	13.38	105C1	13.45	<u>108C1</u>	13.39	111C1	13.47	114C1	13.38	117C1	13.44	120C1	13.41	123C1	13.43
102C2	13.33	105C2	13.45	108C2	13.33	111C2	13.46	114C2	13.33	117C2	13.44	120C2	13.35	123C2	13.43
102C3	13.30	105C3	13.46	108C3	13.28	111C3	13.46	114C3	13.28	117C3	13.43	120C3	13.31	123C3	13.43
102C4	13.31	105C4	13.49	108C4	13.29	111C4	13.48	<u>114C4</u>	13.30	117C4	13.45	120C4	13.31	123C4	13.45
102C5	13.36	105C5	13.52	108C5	13.33	111C5	13.49	114C5	13.34	117C5	13.46	120C5	13.35	123C5	13.46
102C6	13.41	105C6	13.52	108C6	13.38	111C6	13.50	114C6	13.39	117C6	13.46	120C6	13.40	123C6	13.46

Table A1 end.

124A1	13.48	127A1	13.41	130A1	13.48	133A1	13.47	<u>136A1</u>	13.47	139A1	13.44
124A2	13.46	127A2	13.36	130A2	13.47	133A2	13.46	136A2	13.46	139A2	13.44
124A3	13.46	127A3	13.32	130A3	13.48	133A3	13.46	136A3	13.46	139A3	13.44
124A4	13.44	127A4	13.33	130A4	13.48	133A4	13.46	136A4	13.45	139A4	13.46
<u>124A5</u>	13.44	127A5	13.36	<u>130A5</u>	13.48	133A5	13.46	136A5	13.45	139A5	13.45
<u>124A6</u>	13.44	127A6	13.42	130A6	13.48	133A6	13.46	136A6	13.45	139A6	13.45
124B1	9.81	127B1	9.80	130B1	9.79	133B1	9.81	136B1	9.82	139B1	9.82
124B2	9.82	127B2	9.80	130B2	9.80	133B2	9.81	136B2	9.82	139B2	9.80
124B3	9.82	127B3	9.81	130B3	9.80	133B3	9.81	136B3	9.82	<u>139B3</u>	9.83
124B4	9.82	127B4	9.81	130B4	9.81	133B4	9.81	136B4	9.83	139B4	9.83
124B5	9.82	127B5	9.81	130B5	9.80	133B5	9.81	136B5	9.82	139B5	9.82
124B6	9.81	127B6	9.82	130B6	9.80	133B6	9.81	136B6	9.83	139B6	9.82
<u>124C1</u>	13.50	127C1	13.45	130C1	13.46	133C1	13.48	136C1	13.47	139C1	13.48
124C2	13.49	127C2	13.45	130C2	13.45	133C2	13.47	136C2	13.47	139C2	13.47
124C3	13.50	127C3	13.45	130C3	13.44	133C3	13.47	136C3	13.46	139C3	13.48
124C4	13.50	127C4	13.46	130C4	13.42	133C4	13.48	136C4	13.44	<u>139C4</u>	13.48
124C5	13.52	<u>127C5</u>	13.46	<u>130C5</u>	13.43	133C5	13.49	136C5	13.45	139C5	13.48
124C6	13.53	127C6	13.48	130C6	13.44	133C6	13.49	136C6	13.46	139C6	13.49
125A1	13.51	128A1	13.47	131A1	13.48	134A1	13.44	<u>137A1</u>	13.53	140A1	13.45
125A2	13.50	128A2	13.45	131A2	13.47	134A2	13.44	<u>137A2</u>	13.53	140A2	13.44
125A3	13.50	128A3	13.45	131A3	13.47	134A3	13.43	<u>137A3</u>	13.52	140A3	13.45
125A4	13.49	128A4	13.42	131A4	13.47	134A4	13.43	137A4	13.51	140A4	13.44
125A5	13.48	128A5	13.42	131A5	13.48	134A5	13.42	137A5	13.51	140A5	13.44
<u>125A6</u>	13.48	<u>128A6</u>	13.43	131A6	13.48	134A6	13.43	137A6	13.52	140A6	13.45
125B1	9.81	128B1	9.82	131B1	9.82	134B1	9.83	<u>137B1</u>	9.82	140B1	9.83
125B2	9.81	128B2	9.82	131B2	9.82	134B2	9.82	137B2	9.82	140B2	9.82
125B3	9.81	128B3	9.82	131B3	9.82	134B3	9.83	137B3	9.82	140B3	9.83
125B4	9.80	128B4	9.82	131B4	9.81	134B4	9.82	137B4	9.82	140B4	9.82
125B5	9.80	128B5	9.83	131B5	9.81	134B5	9.81	137B5	9.82	140B5	9.82
125B6	9.79	<u>128B6</u>	9.83	131B6	9.81	134B6	9.81	137B6	9.82	140B6	9.82
125C1	13.43	128C1	13.47	131C1	13.40	134C1	13.48	<u>137C1</u>	13.40	140C1	13.49
125C2	13.42	128C2	13.47	131C2	13.35	134C2	13.47	137C2	13.34	140C2	13.48
125C3	13.42	128C3	13.47	131C3	13.31	134C3	13.47	137C3	13.29	<u>140C3</u>	13.48
<u>125C4</u>	13.43	128C4	13.49	131C4	13.29	134C4	13.48	137C4	13.31	140C4	13.46
125C5	13.44	128C5	13.49	131C5	13.31	134C5	13.49	137C5	13.35	140C5	13.47
<u>125C6</u>	13.46	<u>128C6</u>	13.50	131C6	13.36	134C6	13.50	137C6	13.41	140C6	13.47
126A1	13.48	129A1	13.48	132A1	13.40	135A1	13.50	138A1	13.39	141A1	13.36
<u>126A2</u>	13.47	<u>129A2</u>	13.47	132A2	13.35	135A2	13.49	138A2	13.34	141A2	13.36
<u>126A3</u>	13.46	129A3	13.46	132A3	13.31	135A3	13.49	138A3	13.30	141A3	13.35
126A4	13.46	129A4	13.44	132A4	13.31	135A4	13.47	138A4	13.29	<u>141A4</u>	13.36
126A5	13.46	129A5	13.44	<u>132A5</u>	13.37	<u>135A5</u>	13.46	138A5	13.33	141A5	13.37
126A6	13.47	129A6	13.44	132A6	13.44	135A6	13.48	138A6	13.40	<u>141A6</u>	13.37
126B1	9.79	129B1	9.83	132B1	9.80	135B1	9.80	138B1	9.80	141B1	9.79
126B2	9.79	<u>129B2</u>	9.84	132B2	9.80	135B2	9.81	138B2	9.80	141B2	9.79
126B3	9.79	129B3	9.84	132B3	9.80	135B3	9.81	138B3	9.80	141B3	9.79
126B4	9.79	129B4	9.84	132B4	9.80	135B4	9.81	138B4	9.80	141B4	9.80
126B5	9.79	129B5	9.84	132B5	9.79	<u>135B5</u>	9.81	138B5	9.80	141B5	9.80
126B6	9.78	129B6	9.84	132B6	9.79	135B6	9.81	138B6	9.79	141B6	9.80
126C1	13.38	129C1	13.48	132C1	13.44	135C1	13.47	138C1	13.47	141C1	13.46
<u>126C2</u>	13.33	<u>129C2</u>	13.48	132C2	13.44	135C2	13.47	138C2	13.47	141C2	13.40
<u>126C3</u>	13.29	<u>129C3</u>	13.48	132C3	13.44	135C3	13.46	138C3	13.47	141C3	13.36
126C4	13.31	129C4	13.46	132C4	13.45	135C4	13.48	<u>138C4</u>	13.45	141C4	13.35
126C5	13.34	<u>129C5</u>	13.47	132C5	13.47	<u>135C5</u>	13.49	138C5	13.47	141C5	13.39
126C6	13.39	129C6	13.47	132C6	13.47	135C6	13.50	<u>138C6</u>	13.47	<u>141C6</u>	13.44

Table A2 - Summary of center spans tendon segments lengths (m). Bottom: Segment designation key.

SPAN 82			SPAN 83						SPAN 84						
A	B	C	SW			6.25	6.48	NW			A	B	C		
18.25	3.37	15.1	10.77	3.33	3.37	2.67		2.64	3.39	3.34	10.75	15	3.41	18.31	
18.21	3.37	15	19.35			2.67	6.27	6.47	2.65	19.34			15	3.39	18.26
18.2	3.37	14.9	19.35			2.68	6.27	6.48	2.65	19.33			15.01	3.39	18.22
			10.72	3.34	3.38	2.68	6.25	6.49	2.65	3.39	3.35	10.7			
			10.7	3.34	3.38	2.68	6.25	6.51	2.67	3.4	3.36	10.68			
			10.7	3.35	3.38	2.68	6.26	6.5	2.64	3.39	3.37	10.69			
			10.72	3.35	3.38	2.66	6.27	6.49	2.64	3.39	3.38	10.7			
18.2	3.36	14.99	19.36			2.65	6.28	6.5	2.65	19.33			15.01	3.36	18.23
18.22	3.36	15	19.37			2.65	6.28	6.47	2.65	19.34			15.01	3.37	18.24
18.62	3.35	15.1	10.76	3.35	3.37	2.65			2.65	3.4	3.39	10.75	15.03	3.37	18.28
			SE			6.26	6.49	NE							
			SW			L7A	L7B	NW							
A1	B1	C1	L1A	L1B	L1C	L1D		L1E	L1F	L1G	L1H	A1	B1	C1	
A2	B2	C2	L2A			L2B	L2C	L2D	L2E	L2F			A2	B2	C2
A3	B3	C3	L3A			L3B	L3C	L3D	L3E	L3F			A3	B3	C3
			L4A	L4B	L4C	L4D	L4E	L4F	L4G	L4H	L4I	L4J			
			L5A	L5B	L5C	L5D	L5E	L5F	L5G	L5H	L5I	L5J			
			R5A	R5B	R5C	R5D	R5E	R5F	R5G	R5H	R5I	R5J			
			R4A	R4B	R4C	R4D	R4E	R4F	R4G	R4H	R4I	R4J			
A4	B4	C4	R3A			R3B	R3C	R3D	R3E	R3F			A4	B4	C4
A5	B5	C5	R2A			R2B	R2C	R2D	R2E	R2F			A5	B5	C5
A6	B6	C6	R1A	R1B	R1C	R1D			R1E	R1F	R1G	R1H	A6	B6	C6
			SE			R7A	R7B	NE							

UNIT CONVERSIONS TABLE

CONVERSION FACTORS, US CUSTOMARY TO METRIC UNITS

<i>Multiply</i>	<i>by</i>	<i>to obtain</i>
inch	25.4	mm
foot	0.3048	meter
square inches	645	square mm
cubic yard	0.765	cubic meter
pound/cubic yard	0.593	kg/cubic meter
inch ² /year	2.046 10 ⁻⁷	cm ² /sec
gallon/cubic yard	4.95	liter/cubic meter
standard cubic feet/hour	466.67	ml/minute
ounces	28.35	gram
pound	0.454	kilogram
pound (lb)	4.448	newtons
kip (1000 lb)	4.448	kilo newton (kN)
pound/in ²	0.0069	MPa
kip/in ²	6.895	MPa
ft-kip	1.356	kN-m
in-kip	0.113	kN-m