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Stonewall Station: Tendon Tension Report

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Objective:

To demonstrate unverified elongation tendons in level 5 of the Stonewall Station project were tensioned similarly to verified elongation tendons.

Process:

An area of concrete roughly 6ft long along the axis of the suspect tendons was removed to a width sufficient to place wedges and install the TM-1000 tension meter. The protective sheath was removed from a roughly 2.5ft section of the tendon to allow for free movement of the cable. Other obstructions were removed to allow clear and free access to the tendons with the tension meter.



Fig 1: Left to Right Group 88,89,90,91



Fig 2: Left to Right Group 114,115,115



Fig 3: Left to Right Group 111,112,113

After preparations were completed, the tendons were spread utilizing plastic wedges with notches for grip. The field calibration of the TM-1000 was performed to verify the instrument. Then the TM-1000 tension meter was installed using saddle block "L" and handle position "1" for all tendons.



Fig 3: Tension Meter Installed on Tendon 91C

The measurements were taken from the dial indicator face reading between 0-100 and compared to the calibration chart supplied by the manufacturer. Below are the tabulated results followed by sample pictures of measurements.

Stonewall Station Tendon Tension				
Green = Verified Through Elongation				
Orange = Not Verified Through Elongation				
Group	A	B	C	D
91	47	44.5	48	N/A
90	46.5	46	47	N/A
89	44	43	47	49
88	49	45	49	N/A
116	49	45	47.5	47
115	47	48	47.5	49.5
114	49	46	46.5	49
113	48	45	47	47
112	47	45	46	46.5
111	45	45	46.5	48.5

Table 1: Tabulated Results from Tendon Measurements



91 C

91 B

91 A



111 D

111 C

111 B

111 A

Conclusion:

The deflection measurements across all tendons contains a minimum of 43, a maximum of 49.5, a range of 6.5, and a standard deviation of 1.616. This shows given the sample size of verified elongation and unverified elongation tendons are similarly tensioned.

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