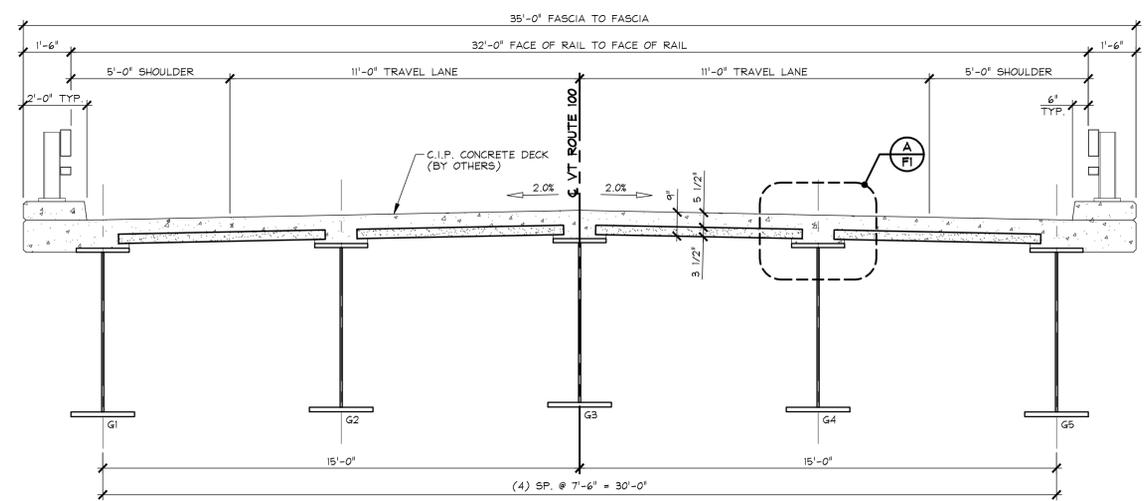
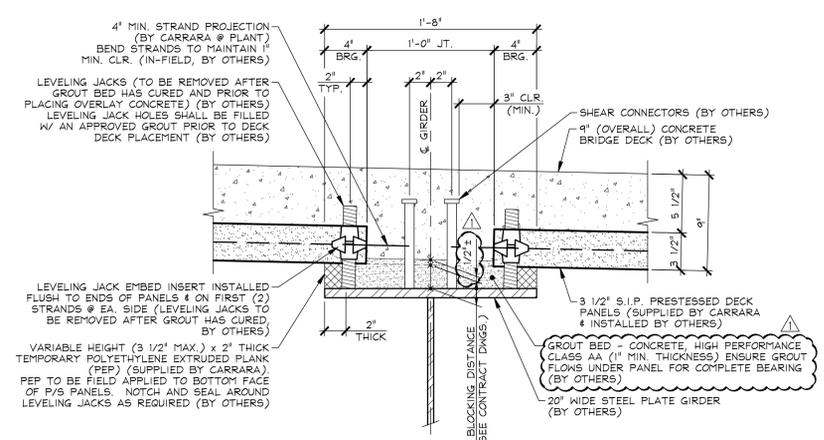


1 PRESTRESSED STAY-IN-PLACE FORM PANEL LAYOUT
1/8" = 1'-0"



2 TRANSVERSE SECTION
3/8" = 1'-0"

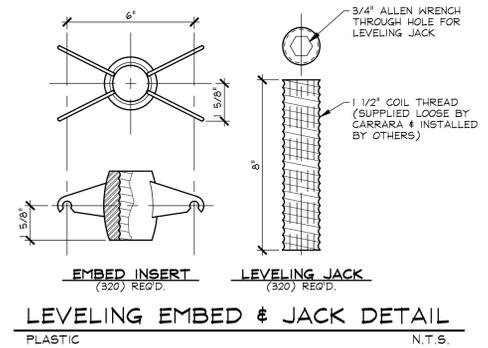
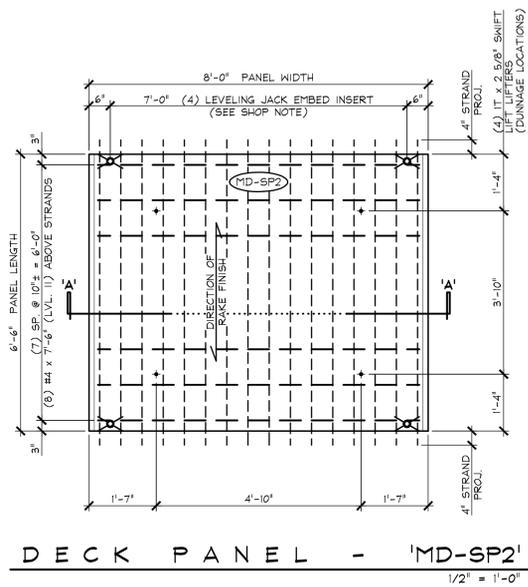
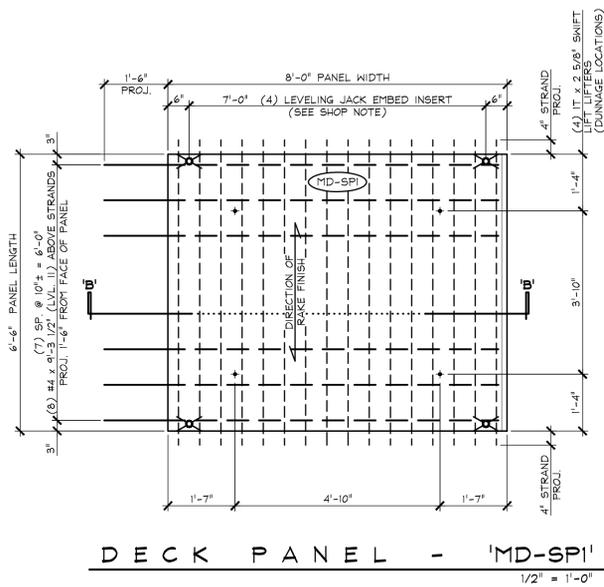


A SECTION
1 1/2" = 1'-0"

- GENERAL NOTES**
- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
 - MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 4,000 PSI.
 - REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31), AND SHALL BE LEVEL II (DUAL COATED) AS NOTED ON SHOP TICKET.
 - PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203M), AND SHALL CONSIST OF 3/8" x 270 KSI 7 WIRE LOW RELAXATION STRANDS.
 - PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF 17.2 K (U.N.O.) AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, SHEET 'P1').
 - ENDS OF PRESTRESSING STRANDS SHALL PROJECT 4" MIN. FROM EACH END OF PANEL.
 - THE TOPS OF THE PANELS SHALL RECEIVE A RAKE FINISH ROUGHENED TO 1/4" AMPLITUDE (U.N.O.) (DIRECTION PARALLEL TO STRANDS).
 - PANELS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. PANELS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS BENEATH LIFTERS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
 - MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.05 RESPECTIVELY.
DESIGN MIX: J.P.C. BRIDGE MIX #425M (NO DCI)
 - QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS, CONTRACT DOCUMENTS & SPECIFICATIONS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
 - CURING METHOD: MOISTURE & HEAT RETENTION. AS SOON AS THE TOP OF THE PANELS ARE FINISHED, A COVER OF POLY AND A LAYER OF RIGID INSULATION WILL BE PLACED OVER THE PANELS IN A MANNER THAT WILL NOT DISTURB THE RAKE FINISH. THE AMBIENT TEMPERATURE WITHIN THE ENCLOSURE SHALL NOT DROP BELOW 70°. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENT ON GRAPH CHART AND WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED. THE CHART SHALL BE MARKED AND PROVIDED TO THE QA INSPECTOR. THE UNITS SHALL NOT BE EXPOSED TO A TEMPERATURE DIFFERENTIAL BETWEEN THE SURFACE OF THE HARDENED CONCRETE AND THE AMBIENT STORAGE ENVIRONMENT OF GREATER THAN 40°F AT ANY TIME. UNITS SHALL NOT BE EXPOSED TO AMBIENT TEMPERATURES LESS THAN 30°F UNTIL THE DESIGN STRENGTH IS ACHIEVED.
 - THE DRILLING OF HOLES OR USE OF POWER ACTUATED TOOLS ON PANELS SHALL NOT BE PERMITTED.
 - THE PANELS SHALL BE ORIENTED AND ERECTED WITH THE MARK-END AS SHOWN ON PLANS.
 - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FORMING THE END OF THE DECK SLAB PRIOR TO CASTING DECK.

2-25-16 REVISED PER T.Y. LIN COMMENTS

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010		A.L. ST. ONGE CONTRACTOR, INC. CONTRACTOR MORRISVILLE, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF WINDSOR		DATE: JAN. 12, 2016	SCALE: NOTED
	TOWN OF WAITSFIELD VT ROUTE 100 (MINOR ARTERIAL) BRIDGE NO.: 177 PROJECT NO.: BF 013-4(39)		CHKD: A.S. DFTM: B.L.	JOB NO: 23480-016
	PRESTRESSED STAY-IN-PLACE FORM PANEL LAYOUT & DETAILS		DWG. NO:	F1



EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING
(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 3/8" φ x 270 KSI
 AREA: 0.085 IN²
 TENSION: 17,200 LBS. EACH STRAND
 GRIP TO GRIP: 120'-6" = 120.5'
 Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE: $\Delta = \frac{P_L}{AE} = \frac{(17,200 - 3,000) \times 120.5 \times 12}{0.085 \times 28,600,000} = 8.45'$

THEREFORE: TOLERANCES: ± 5%
 Δ UPPER LIMIT = 1.05 x 8.45" = 8.87" = 8 7/8"
 Δ LOWER LIMIT = 0.95 x 8.45" = 8.03" = 8"

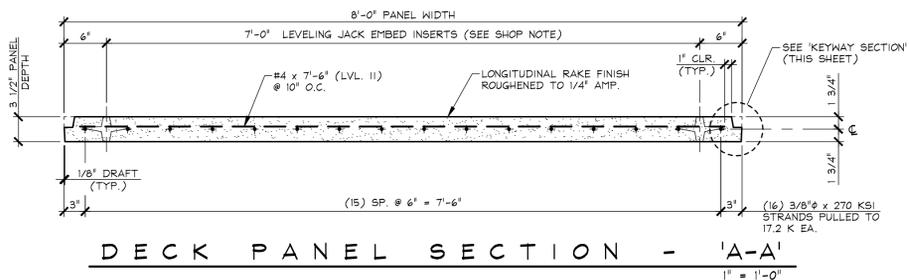
EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:
 $\Delta P = \frac{0.5 \times 14,200}{8.45} = 840$ LBS.

TOTAL TENSIONING FORCE = 17,200 + 840 = 18,040 LBS.

STRAND TENSIONING PROCEDURE:

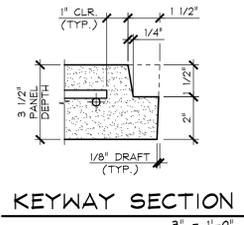
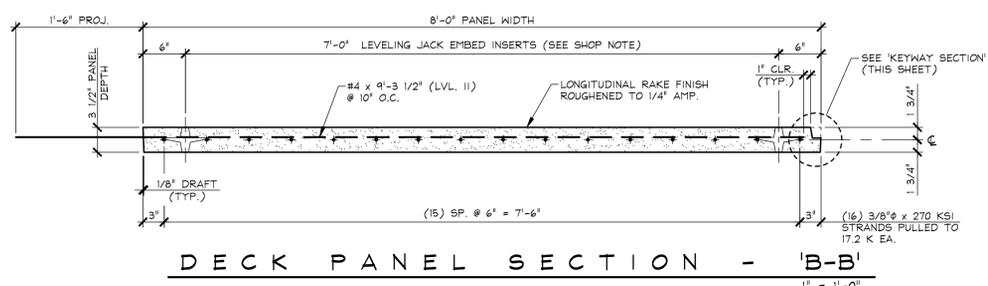
- PULL EACH STRAND INITIALLY TO 3,000 LBS.* AND MARK STRAND.
- THEN PULL EACH STRAND TO A TOTAL TENSION OF 18,040 LBS.* AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 8" AND 8 7/8".

* NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.



DETENSIONING SCHEDULE
N.T.S.

1	3	5	7	9	11	13	15	16	14	12	10	8	6	4	2
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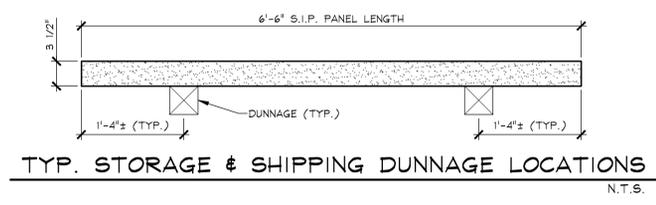


SHOP NOTE:
INSTALL LEVELING JACK INSERTS FLUSH TO FORM AT ENDS OF PANELS ON FIRST TWO (2) STRANDS AT EA. SIDE OF PANEL

MARK: MD-SP1	QTY.: 8	WT.: 1.12 T	VOL.: 0.56 cy
MARK: MD-SP2	QTY.: 72	WT.: 1.12 T	VOL.: 0.55 cy
MARK:	QTY.:	WT.:	VOL.:

MATERIAL LIST / PANEL

ITEM	DESCRIPTION	QTY./PANEL	
		MD-SP1	MD-SP2
1	#4 x 7'-6" (LEVEL II, DUAL COATED)		8
2	#4 x 9'-3 1/2" (LEVEL II, DUAL COATED)	8	
3			
4			
5			
6			
7			
8	IT x 2 5/8" SWIFT LIFT LIFTER (GALV.)	4	4
9	LEVELING JACK EMBED INSERTS	4	4
10			



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	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF WINDSOR	DATE: JAN. 12, 2016 SCALE: NOTED
	TOWN OF WAITSFIELD VT ROUTE 100 (MINOR ARTERIAL) BRIDGE NO.: 177 PROJECT NO.: BF 013-4(39)	CHKD: A.S. DFTM: B.L. JOB NO: 23480-016
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