

Tech:	J. Coppage
PC:	E. Bradley



P1 CVBS

FLOOR - EASI-SET BUILDING - FP-04 - 124" x 288"

FLOOR FORM VIEW
SCALE: 1/8" = 1'-0"

NOTE: SHOP TICKET SHOWS INSIDE SURFACE OF FLOOR CAST FACE DOWN

MESSAGE CENTER

1. REFER TO DETAILS FOR REINFORCEMENT/CABLE PLACEMENT

2. SHOP TICKET SHOWS INSIDE SURFACE OF FLOOR CAST FACE DOWN

DATE: _____

CHECKED BY: _____

APPROVED BY: _____

1

Job Name: 25-3470P8 CCHS Precast Building
Job Location: 5185 Fort Campbell BLVD
Contractor: Christian County Board of Education C/O A&K Construction

Plant: Beaver Dam
9/10/2026 9:57:17 AM

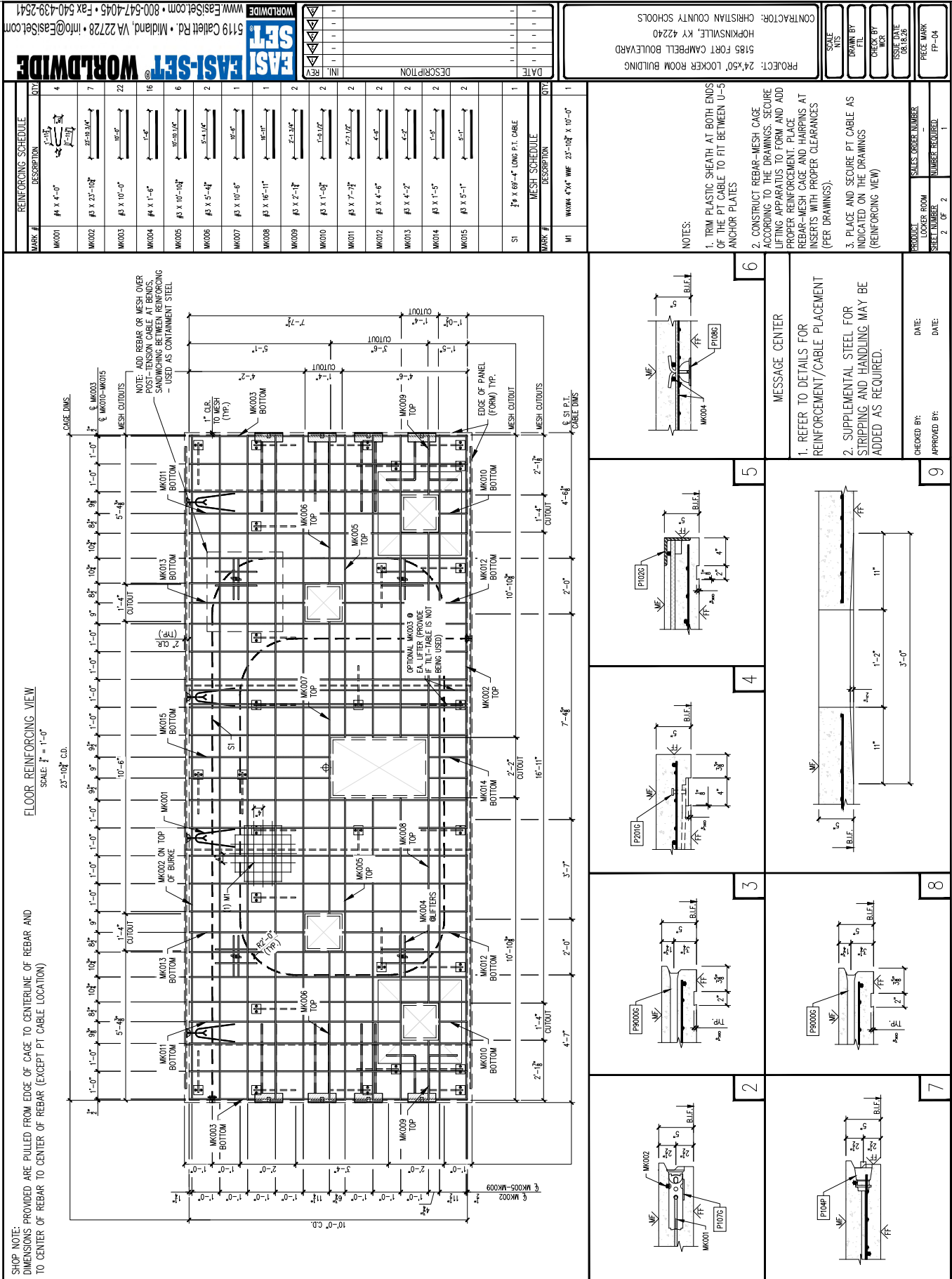
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Structure ID: FP-04 - Floor Panel 4

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EASI-SET WORLDWIDE

5119 Catlett Road • P.O. Box 400 • Midland, VA • www.EasiSet.com
Info@easiset.com • 800-547-4045 • Fax 540-439-2541

EASI-SET BUILDINGS

PT Check for FP-04 (PCI MNL - 116)

Material Data

(7) Wire lo-lax Strand - ASTM A416

Φ_{ps} 0.500 in,

A= 0.153 in²

E= 28500000 psi

fpu= 270 ksi

Strand Length 796 in

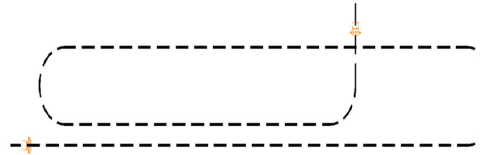
Assume (Info supplied by strand manufacturer)

k= 0.0007 Wobble Friction Coeff.

μ = 0.05 Curvature friction coeff. (Initial tension of 3,000 lbs)

Strand is to be stressed 70% of ultimate

= 28917 lbs



Cable Configuration

Adjustments to tensioning

1) Dead end anchor wedge seating loss

~ Expected to be 1/8 in

2) Live end anchor wedge seating loss

~ Expected to be 1/8 in, recommend over pull 1/8"

3) Elastic Shortening

Neglect for this pnl

4) Friction Loss

Additional force to overcome frictional forces between strand and sheathing

Tensioning Computations

$$\text{Basic Elongation} = \frac{(\text{Force required beyond initial tension}) (\text{Length of strand between anchorages})}{(\text{Area of strand}) (\text{Modulus of Elasticity})}$$
$$= 4.73 \text{ in}$$

Adjustments

a) Dead end anchor wedge seating: Add 1/8" to elong. No force adjustment req'd

Add 1/8 in

b) Live end seating: over pull by 1/8"

1/8 in

Force adjustment $t = 685 \text{ lbs}$ $\alpha = \text{curvature} = \pi(2.5) = 7.85 \text{ radians}$

$$\text{c) Friction losses} \quad \frac{PD}{PS} = e^{-\frac{(kL + \mu\alpha)}{2}}$$

$$= 0.645$$

$$\text{Avg. strand force} = 0.822 \quad 17.77\% \text{ Loss}$$

Recommend sequential jacking at both ends of the tendon be used to reduce the overstressing the strand at the live end

Friction loss at mid-point of tendon

$$\frac{PD}{PS} = e^{-\frac{(kL + \mu\alpha)}{2}}$$

$$= 0.803$$

$$\text{Avg. strand force over half of tendon} = 0.901 \quad 9.86\% \text{ Loss}$$

Total force and elongation at live end must be increased to compensate for friction losses

$$\text{Elong. Adjustment} = 0.466 \text{ in}$$

$$\text{Force Adjustment} = 2850 \text{ lbs}$$

$$\text{Total Force Required} = 32452 \text{ lbs} \quad \text{OK}$$

Elongation Summary:

Gross Theoretical Elongation			
Basic Elongation	4.73 in		
Dead End Seating Loss	0.125 in		
Live End Seating Loss	0.125 in		
Friction Losses	0.466 in		
Total Elongation	5.45 in		
Rounded	5 7/16 in		
Tolerance limits	-7.0%	5.07 in	5 1/16 in
	+7.0%	5.83 in	5 13/16 in