

Job Name: 25-3470P9 CCHS Precast Building
Job Location: 5185 Fort Campbell BLVD
Contractor: Christian County Board of Education C/O A&K Construction

Plant: Beaver Dam
9/29/2026 2:19:00 PM

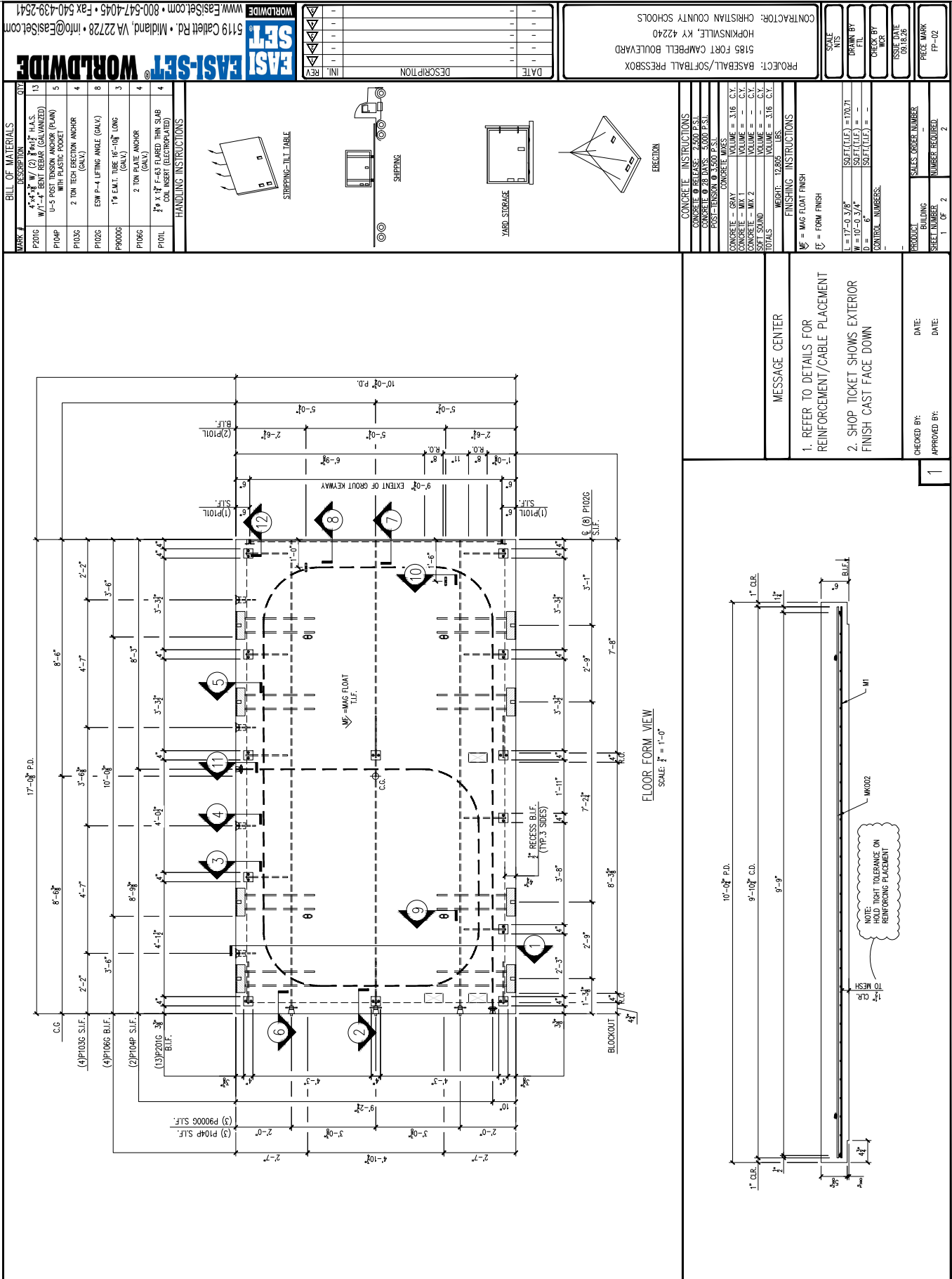
Tech: J. Coppage
PC: E. Bradley



Structure ID: FP-02 - Floor Panel 2

P1 CVBS

FLOOR - EASI-SET BUILDING - FP-02 - 120" x 204"

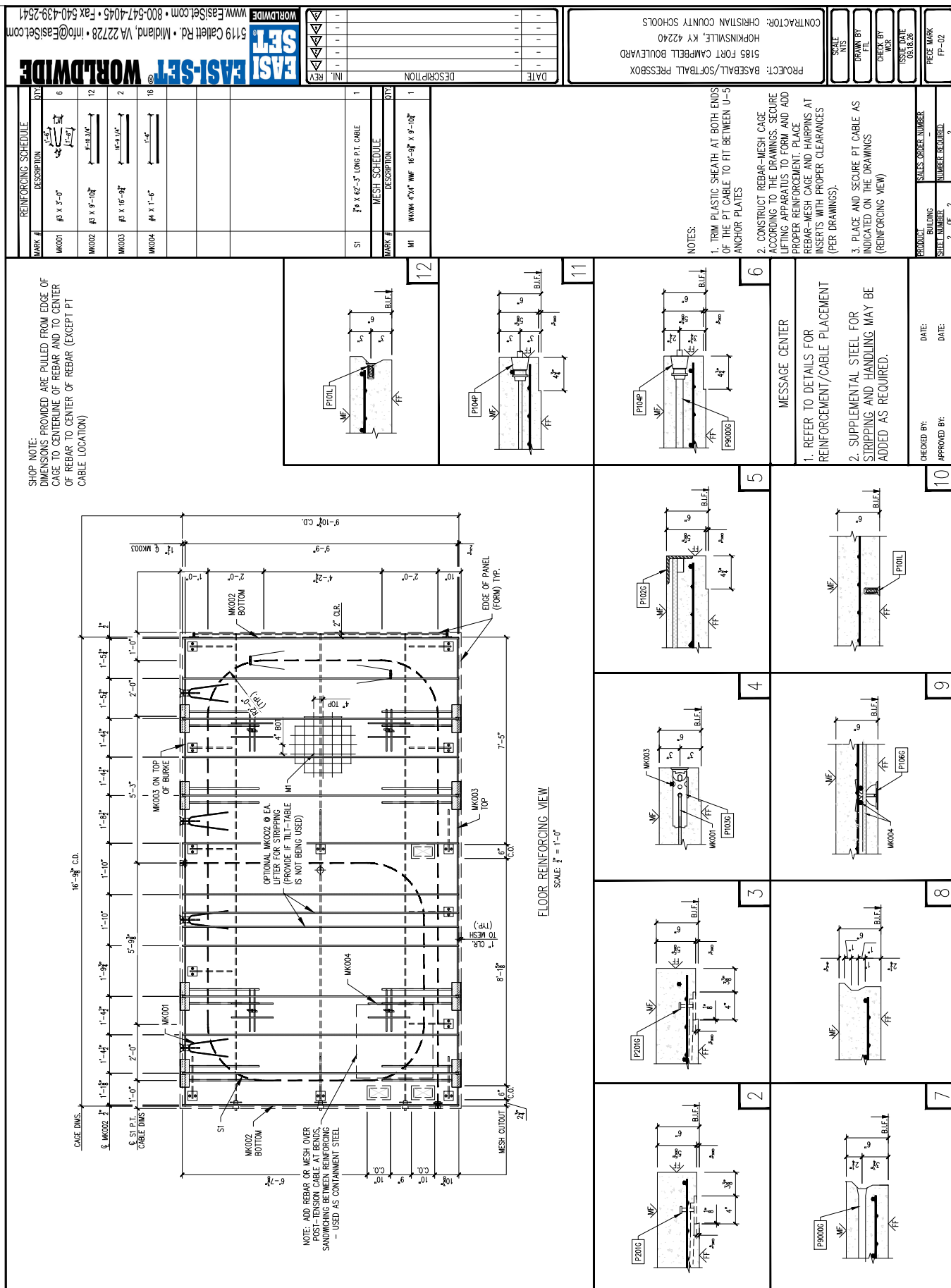


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FLOOR - EASI-SET BUILDING - FP-02 - 120" x 204"



PT Check for Floor Panels FP-02 (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 676 in

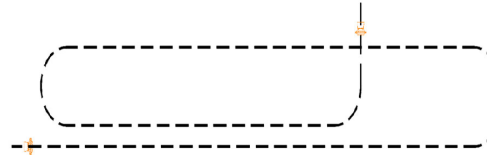
Assume (Info supplied by strand manufacturer)

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

$$\text{Basic Elongation} = \frac{(\text{Force required beyond initial tension}) (\text{Length of strand between anchorages})}{(\text{Area of strand}) (\text{Modulus of Elasticity})}$$
$$= 4.01 \text{ in}$$

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 $t = 807 \text{ lbs}$ $\alpha = \text{curvature} = \pi(2.5) = 7.85 \text{ radians}$

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

$$= 0.649$$

$$\text{Avg. strand force} = 0.825 \quad 17.54\% \text{ Loss}$$

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

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

$$= 0.806$$

Avg. strand force over

$$\text{half of tendon} = 0.903 \quad 9.72\% \text{ Loss}$$

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

Elong. Adjustment = 0.390 in

Force Adjustment = 2809 lbs

Total Force Required = 32533 lbs **OK**

Elongation Summary:

Gross Theoretical Elongation

Basic Elongation	4.01 in
Dead End Seating Loss	0.125 in
Live End Seating Loss	0.125 in
Friction Losses	0.390 in
Total Elongation	4.65 in
Rounded	4 10/16 in
Tolerance limits	-7.0% 4.33 in 4 5/16 in
	+7.0% 4.98 in 5 in