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PROJECT	Desert Haven (Queens Motel)		
	Victorville, California		
JOB NO.	2018.075.00		
BY	AR	DATE	06/05/2018
SHEET NO.	1	OF	2

STRUCTURAL CALCULATIONS

FOR

BALCONY/STAIR RAIL POSTS
RIM AND STRINGER CONNECTIONS
DESERT HAVEN (QUEENS MOTEL)
16959 STODDARD WELLS ROAD
VICTORVILLE, CALIFORNIA

TRSE Reference Number: 2018.075.00

June 5, 2018

PREPARED FOR:

Basis Architecture
2130 Fourth Street
San Rafael, CA 94915
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STRUCTURAL ENGINEER:

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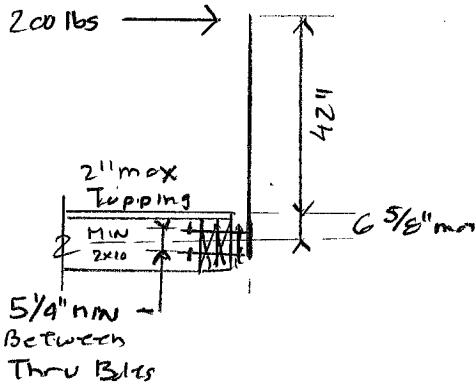




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PROJECT	Desert Haven Railings		
	Victorville, CA		
JOB NO.	2018.075.05		
BY	AR	DATE	6/5/18
SHEET NO.	2	OF	2

Handrail Connection



$$M = 48\frac{5}{8}'' \times 200 \text{ lbs} \\ = 9725 \text{ lb}\cdot\text{in}$$

$$P = \text{Tension on Bolts} \\ = 9725 \text{ lb}\cdot\text{in} / 5.25 \text{ in} \\ = 1852 \text{ lbs say } 1800 \text{ lbs}$$

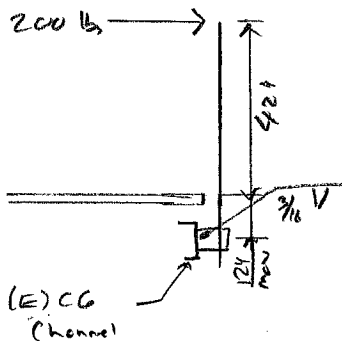
∴ Use (2) DTT2B w/ 1 1/4" screws
 to DBL 2x or 4x T&B

$$P_{allow} = 2 \times 1825 \text{ lbs} / 1.6 \\ = 2281 \text{ lbs } \therefore \text{OK}$$

or use (1) HTT4 w/ (18) #10 1/2" screws
 to single 2x T&B

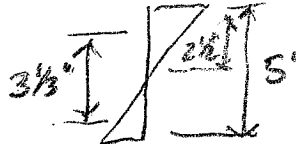
$$P_{allow} = 4455 \text{ lbs} / 1.6 \\ = 2784 \text{ lbs } \therefore \text{OK}$$

At Stair



$$M = 54'' \times 200 \text{ lb} \\ = 10800 \text{ lb}\cdot\text{in}$$

$$P = \text{Tension on weld} \\ = 10800 \text{ lb}\cdot\text{in} / 2.67 \text{ in}$$



$$= 3240 \text{ lb} \Rightarrow 2592 \text{ pli max} \\ \therefore \text{Use } 3/16'' \text{ weld}$$