

NORTON & SCHMIDT
Consulting Engineers, LLC
311 E. 11th Avenue
North Kansas City, MO 64116
Phone: (816) 421-4232 Fax: (816) 421-1956

Project Bradhorst Residence
Job No. -2308
Calculated by EPH Date 10/21/2022
Checked by _____ Sheet No. 1 of 2

Structural Analysis / Design

for

2 New Headers

@

Basement Stairs

of

Bradhorst Residence

257 SE Coyle Drive

Lee's Summit, MO

64063

client:

Nick Bannan

OKM Pros LLC

816 336 1490

nickokmpros@gmail.com

Note: Norton & Schmidt Consulting Eng'rs LLC &
this engineer assume no liability or responsibility
for construction means and methods

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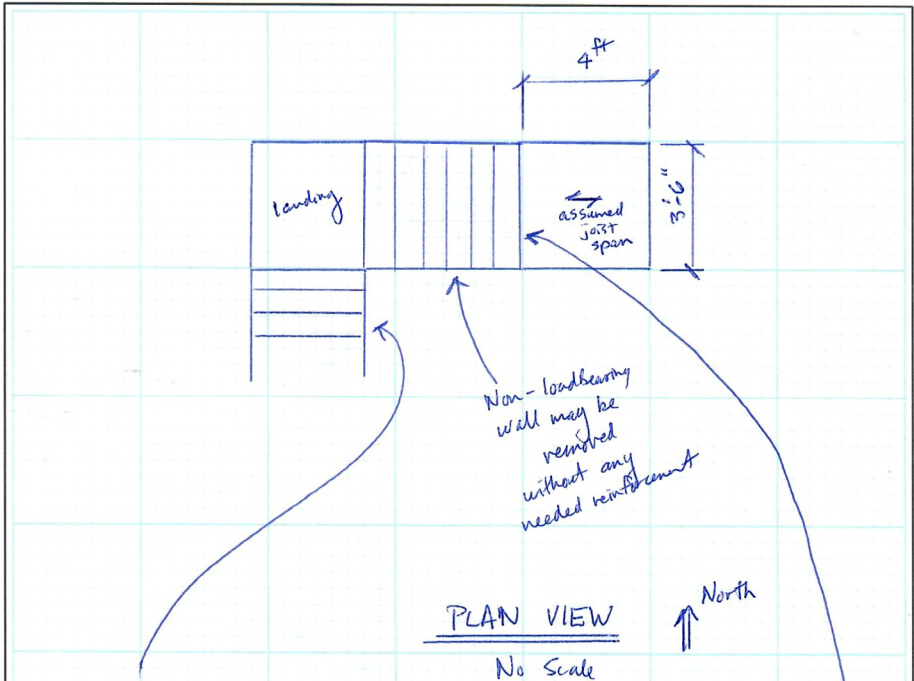
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Project OKM Pros

Job No. 2022-2308

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Structural design of
new header to replace
stud wall

$$\text{load} = 4\frac{1}{2} \times 60 \text{ psf} = 260 \text{ plf}$$

$$\text{span} = 3'-3"$$

$$\text{try } (2) 2 \times 10^5 \quad M_{\text{max}} = \frac{260(3.25)^2}{8} = 343 \text{ ft-lb}$$

$$\text{actual } f_b = \frac{M}{S} = \frac{343(12)}{(2) 21.39}$$

$$= 100 \text{ psi}$$

$$\text{allowable } F_b = 1000 \text{ psi}$$

$$f_b < F_b$$

use (2) 2x10⁵ D. Fir #2

Structural design of
header for upper landing

$$\text{load} = 60 \text{ psf} \times 2 \text{ ft} = 120 \text{ plf}$$

$$\text{span} = 3'-6"$$

$$M_{\text{max}} = \frac{120(3.5)^2}{8} = 180 \text{ ft-lb}$$

use (2) 2x6^S

D Fir #2

Provide face mount joist hanger
@ each TJI