

# EMSWORTH L/D, OHIO RIVER

## FIBERGLASS REINFORCED PLASTIC TIMBER (FRP) INSTALLATION AT UPPER GUARD CELL WALL



®

US Army Corps of Engineers  
**BUILDING STRONG**®





# EMSWORTH L/D, OHIO RIVER





# UPPER GUARD CELL WALL



Existing Oak Timber  
Rubbing Fenders

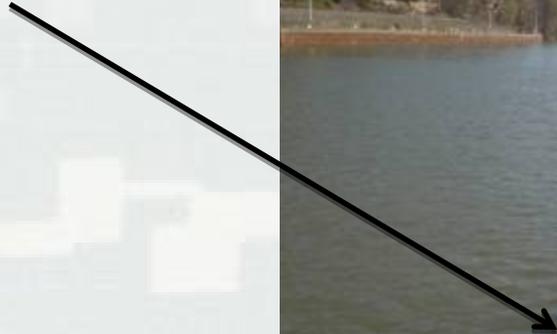
03.30.2012





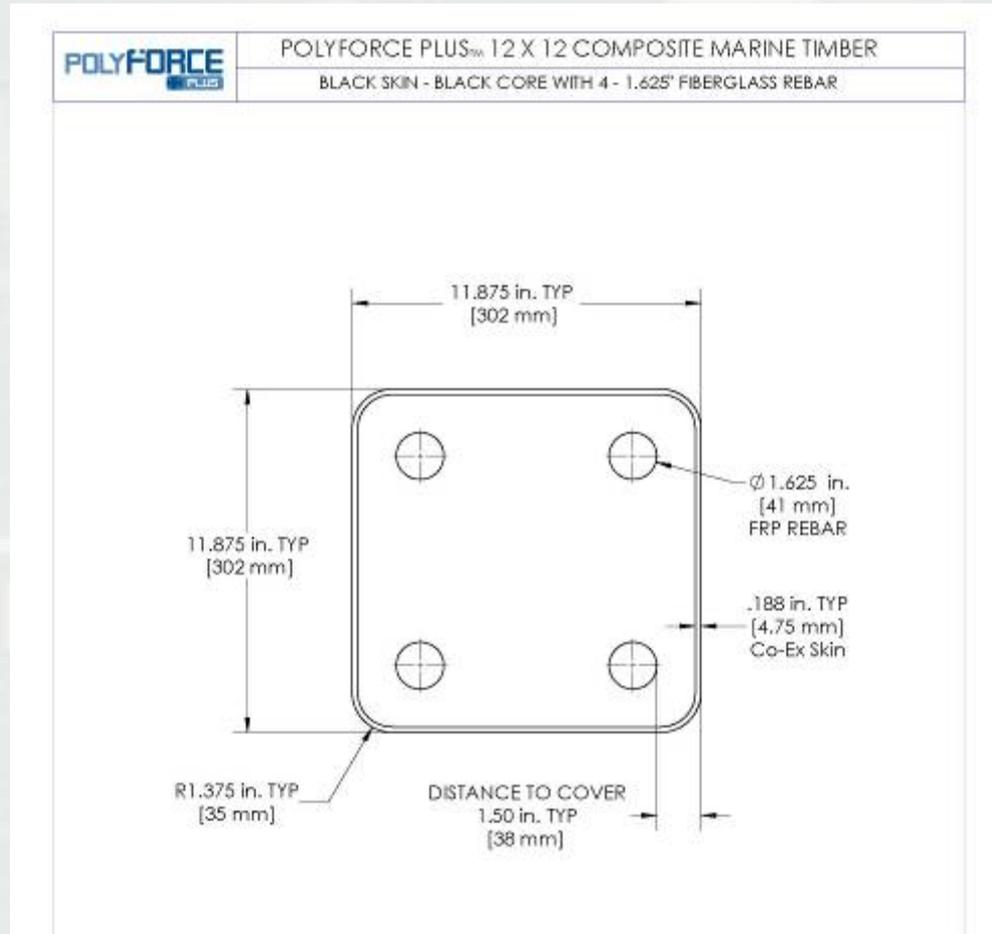
# UPPER GUARD CELL WALL

Existing Oak Timber  
Rubbing Fenders



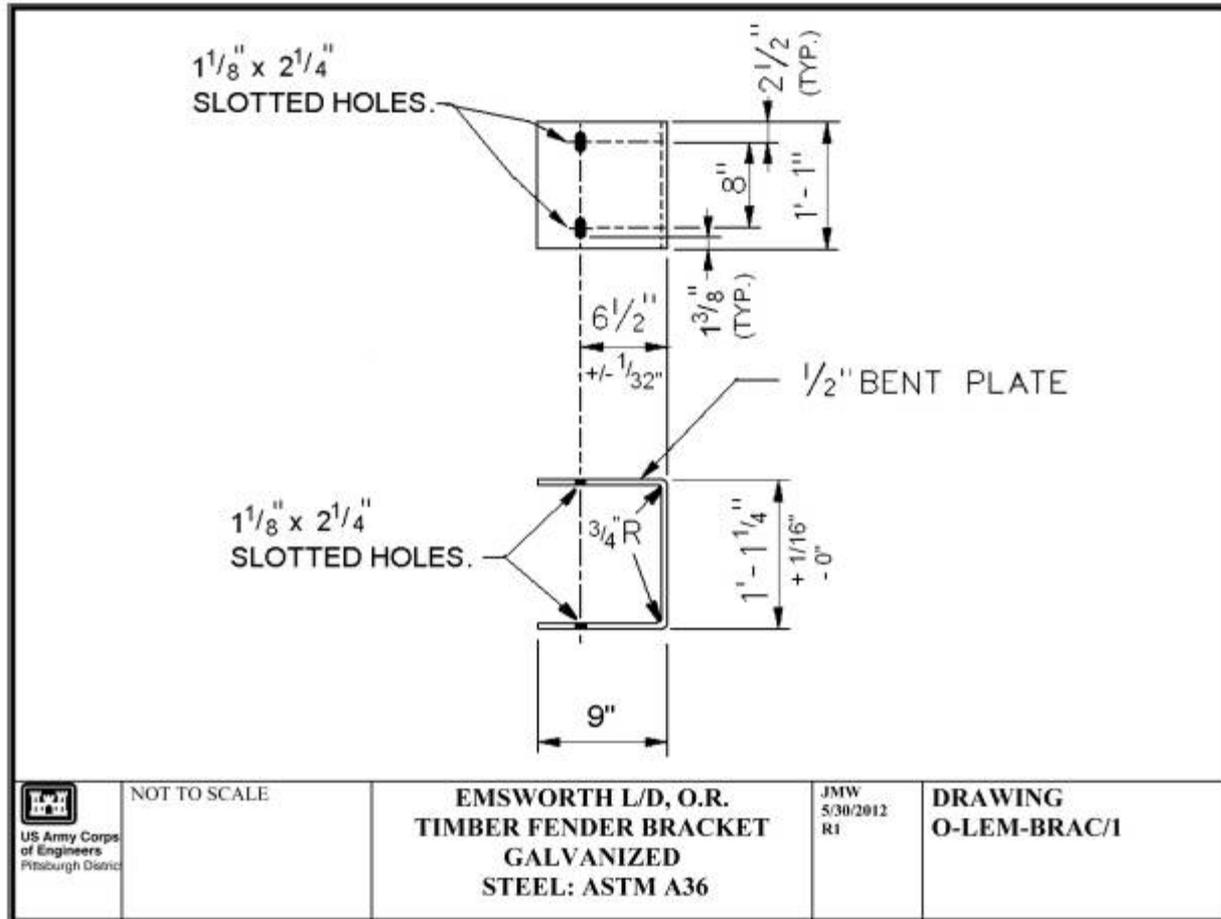


# Fiberglass Reinforced Timber



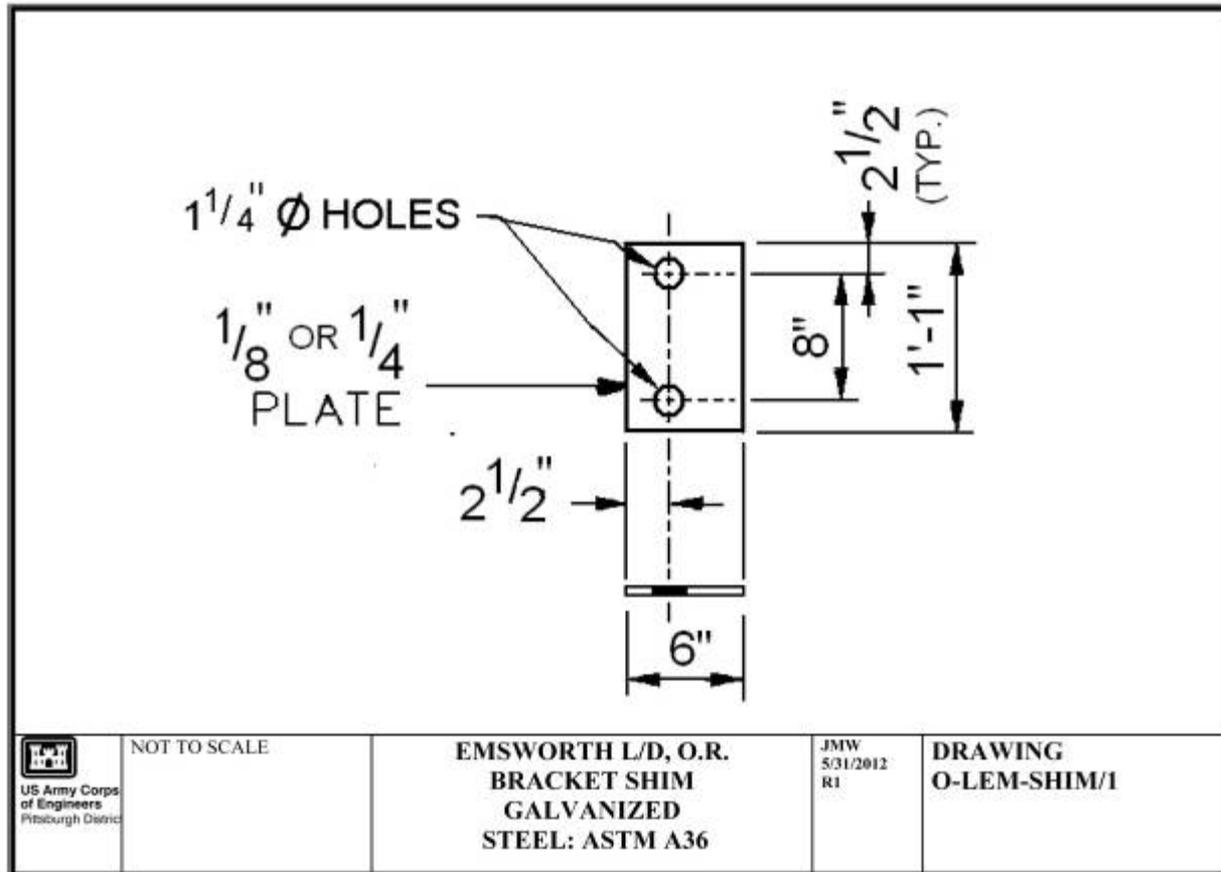


# TIMBER FENDER BRACKETS





# SHIMS



# FRP TIMBERS



# FRP TIMBERS





# OAK TIMBERS AND EXISTING BRACKETS REMOVED





# DRILLING & CUTTING TIMBERS



# DRILLING FRP TIMBERS





# BRACKET INSTALLATION ON FRP TIMBER





# FRP TIMBER INSTALLATION

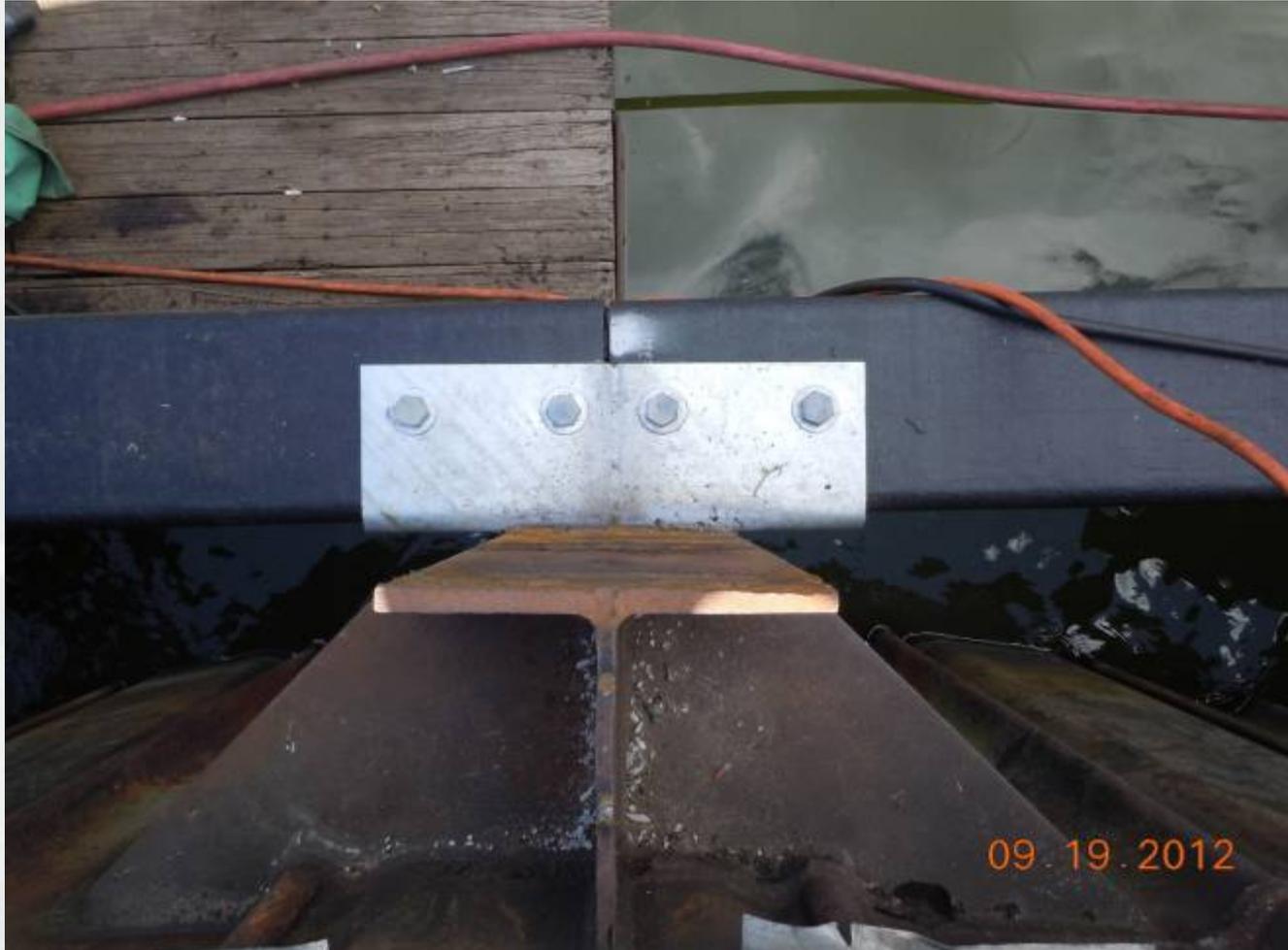


# FRP TIMBER INSTALLATION





# BRACKETS AT FRP TIMBER SPLICE



# BRACKETS AT FRP TIMBER ANGLE SPLICE





# FRP TIMBER INSTALLATION



# FRP TIMBER INSTALLATION





# FRP TIMBER INSTALLATION AT END OF UPPER CELL



# FRP TIMBER INSTALLATION AT END OF UPPER CELL







10.12.2012







10.12.2012





10.09.2012





10.12.2012





10.12.2012



