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JANUARY 31 - FEBRUARY 2, 2010 RESTON, VIRGINIA

MOTIVATION

- NATIONAL COMPETITION BETWEEN COLLEGES AND UNIVERSITIES ORGANIZED BY ASCE AND AISC
- DESIGN / BUILD / TEST CONCEPT NOT TRADITIONALLY TAUGHT IN THE CLASSROOM
- ABILITY TO CONCEPTUALIZE AND COMBINE THEORETICAL ENGINEERING CONCEPTS AND KNOWLEDGE
- USAGE OF SOFTWARE AND FABRICATION TOOLS

PROJECT-BASED DESIGN

- FORMAL CLASS ON BRIDGE ENGINEERING INTEGRATED WITH PROJECT BASED DESIGN
- FIELD TRIPS TO FABRICATION SHOPS AND EXISTING BRIDGES
- COLLABORATION AMONG MULTIPLE STUDENT GROUPS
- FUNDRAISING AND PROJECT MANAGEMENT

CHALLENGES

- COMPLEX AND REALISTIC DESIGN CONSTRAINTS SET FORTH BY COMPETITION COMMITTEE
- INCORPORATING CONSTRUCTABILITY AND PERFORMANCE CONCEPTS INTO DESIGN
- PROJECT AND TIME MANAGEMENT
- LEVERAGING PHYSICAL MODELS USING PROTOTYPING SUBASSEMBLIES AND EXTENSIVE COMPUTER MODELS

WHAT WE LEARN

- THE COMPLETE PROCESS FROM CONCEPTUAL DESIGN TO FINISHED PRODUCT AND ITS TESTING
- VIEW FROM BOTH DESIGNER AND CONTRACTOR PERSPECTIVES
- VIEW AND FORMULATE FABRICATION TECHNIQUES USED IN THE INDUSTRY
- ABILITY TO USE 3-D BRIDGE INFORMATION MODELING CONCEPTS TO PRESENT DESIGN

NATIONAL STUDENT STEEL BRIDGE COMPETITION

- NATIONAL COMPETITION BY AMERICAN SOCIETY OF CIVIL ENGINEERS AND AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- DESIGN OF A TWENTY FOOT LONG STEEL BRIDGE
- COMPETITION CATEGORIES
- CONSTRUCTION SPEED AND EFFICIENCY
- WEIGHT OF BRIDGE
- VERTICAL LOADING (2500 POUNDS LOADED ON THE BRIDGE)

CONCEPTUALIZATION

DESIGN(S)

ANALYSIS

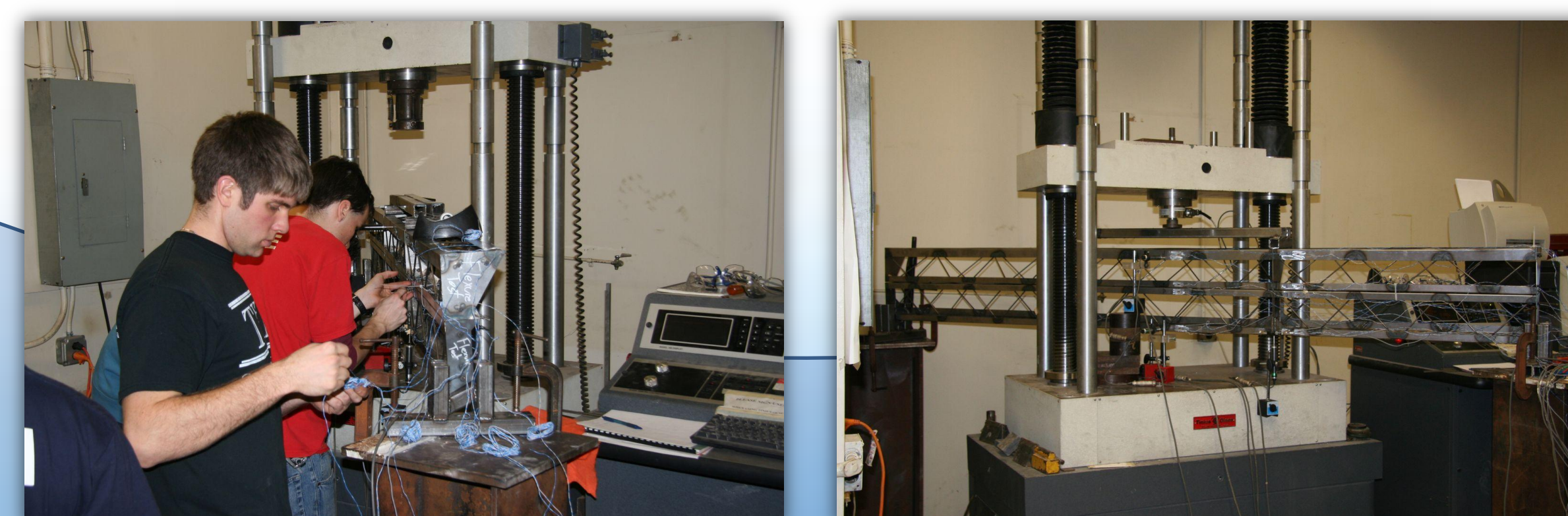
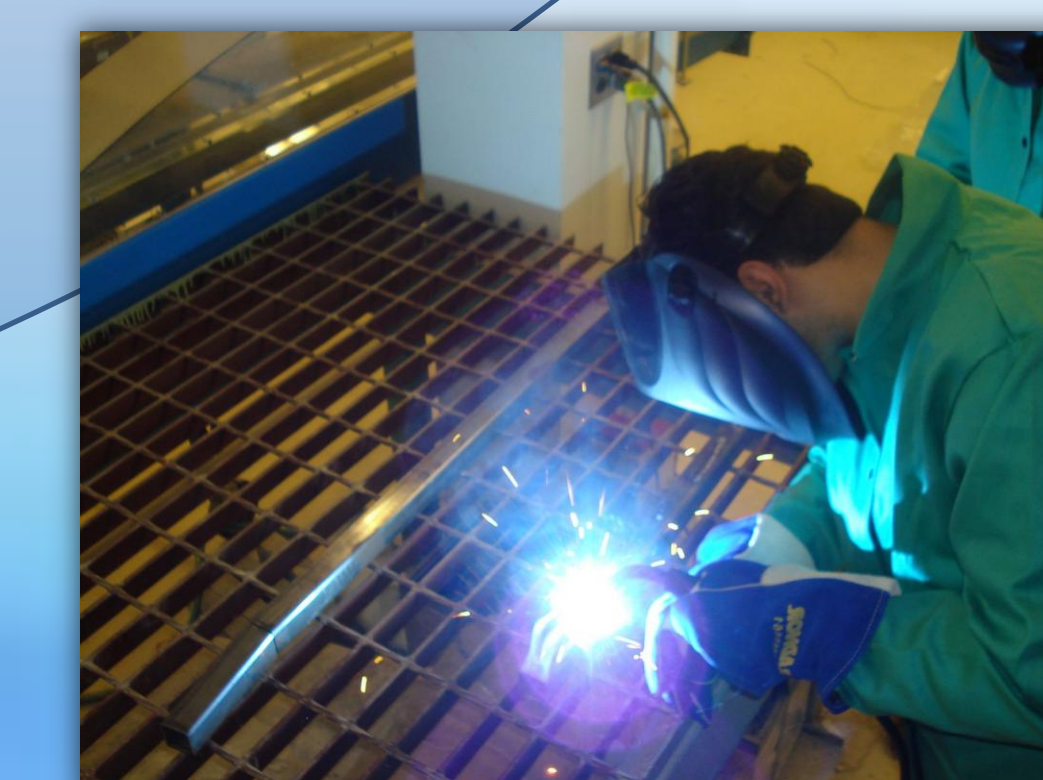
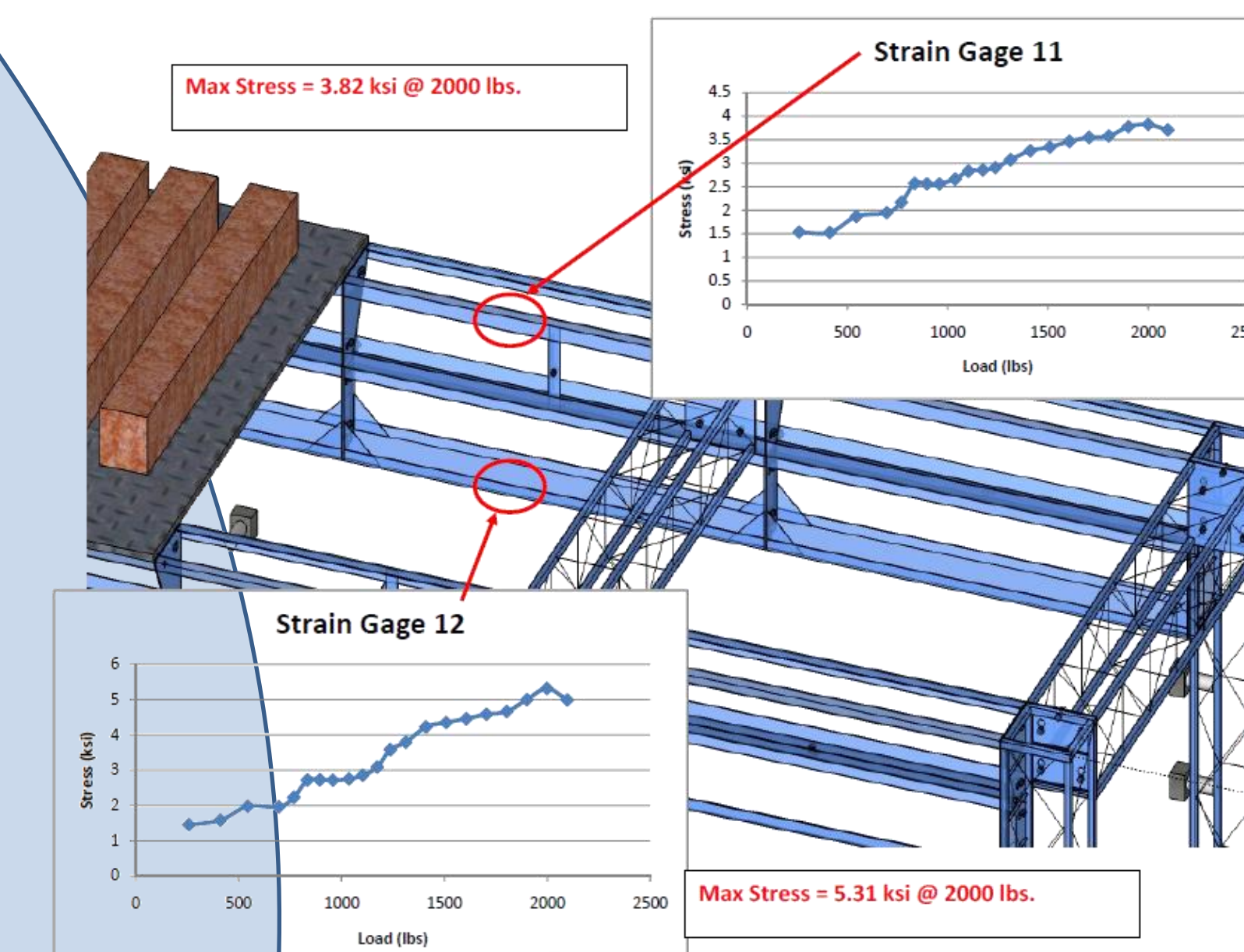
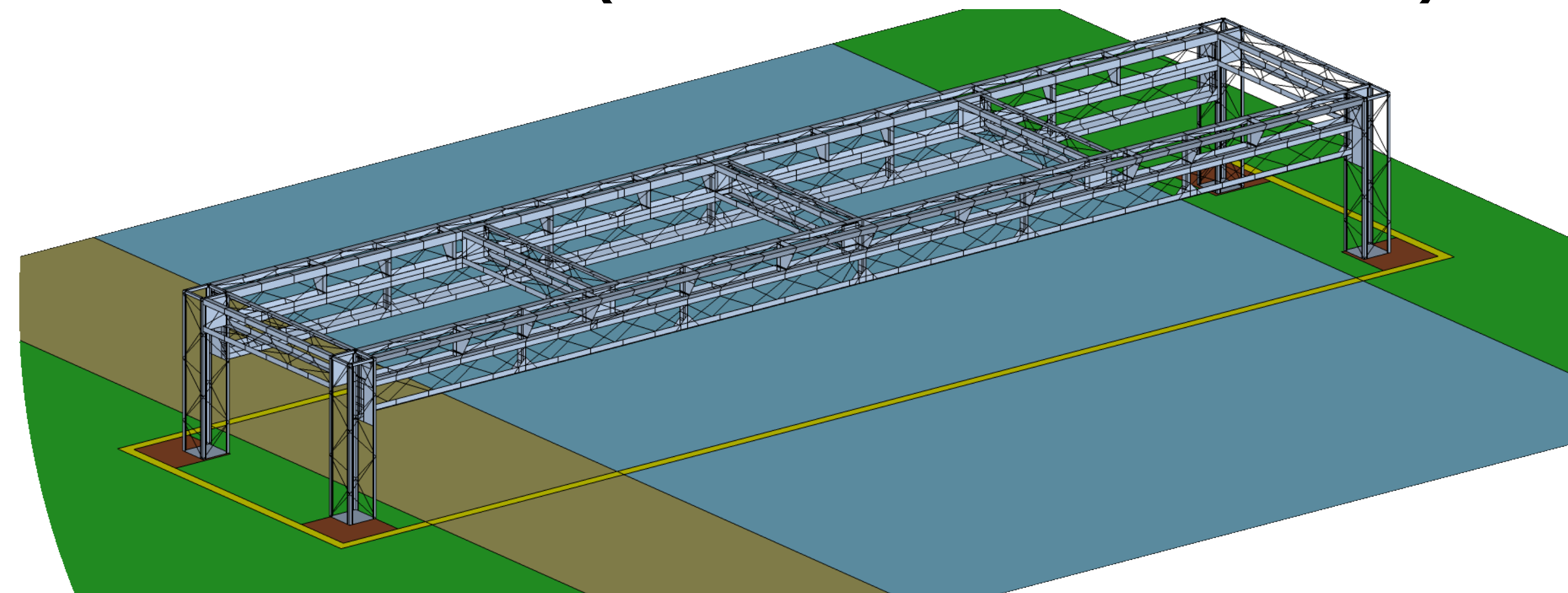
SCALE MODEL AND SIMILITUDE TESTING

PROTOTYPE TESTING

FABRICATION

FULL-SCALE TESTING

COMPETITION



FACULTY ADVISORS
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