

# IMPLEMENTING COORDINATION LAB AND LESSON INTO CM 413 - JOB SITE



Coordination can make or break a job. The act of coordination and the millions of pieces that go into a single project can directly affect both the schedule and budget of a construction project. Coordination is not a single part of the job, it is an on-going process that continuously involves all entities of the project. The importance of coordination and what it entails is not yet captured in the Cal Poly Construction Management curriculum. The purpose of this project would be to capture that importance and continue to build upon it to better prepare Cal Poly Builders for the construction world. To capture the idea of coordination, a “lab”, or lesson, will be implemented into the Construction Management Lab of CM 413. This lesson will teach the importance of coordination through real life experience and stories and demonstrate the act of coordination with the implementation of the BIM coordination product, Navisworks. The lesson will be followed by an assignment, in which the students of CM 413 will undergo the coordination process by finding “clashes” in a model and explaining the effect of these “clashes”, how they affect cost and time, and how to fix them. The overall goals and takeaways from this Lab would be to know what coordination entails, the work that goes into, the communication required for it and how it can be a corner stone in today’s Construction Industry.

## The Reasons

- The aspect of Coordination is not yet captured in the CM Curriculum
- Coordination of the Job Site is becoming a corner stone of todays Construction industry
- Knowing the best practices for Coordination leads to an overall better understanding of your Job Site

Key Words: Construction Coordination, BIM Coordination, Navisworks, Cal Poly, Curriculum

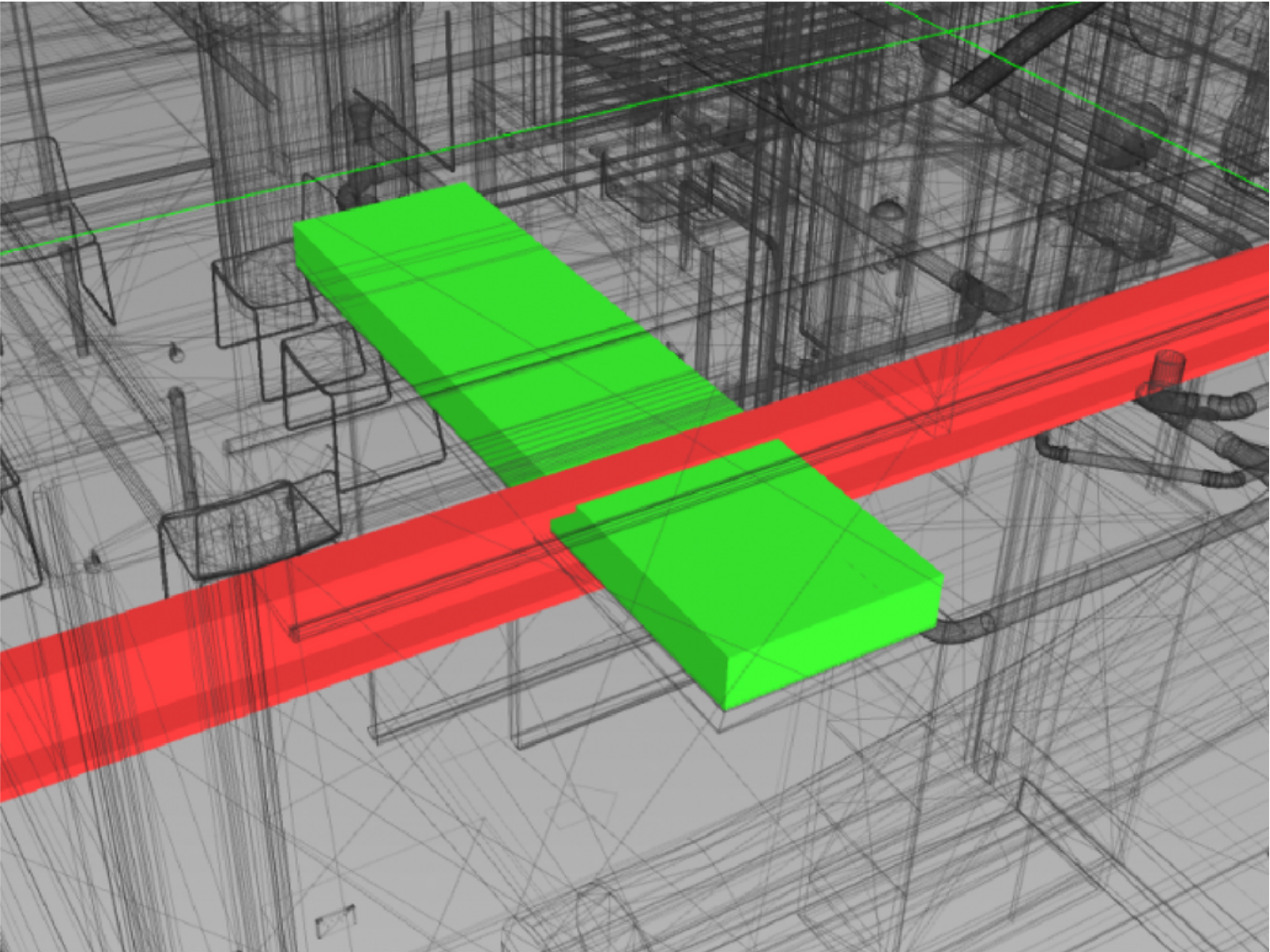
Connor Westover


## Lesson Objectives

- Students understand the importance of Job Site coordination
- Students learn how to use Navisworks
- Students apply Navisworks and Coordination knowledge to complete Assignment

## The Results

- Students identify clashes and involved parties
- Come up with solution
- Determine "Who Moves" in small explanation and turn in clashes to poly learn for review





COLLEGE OF ARCHITECTURE & ENVIRONMENTAL DESIGN  
CONSTRUCTION MANAGEMENT DEPARTMENT

CM 413 – LAB #1  
PROFESSOR Kommer

Coordination Lab

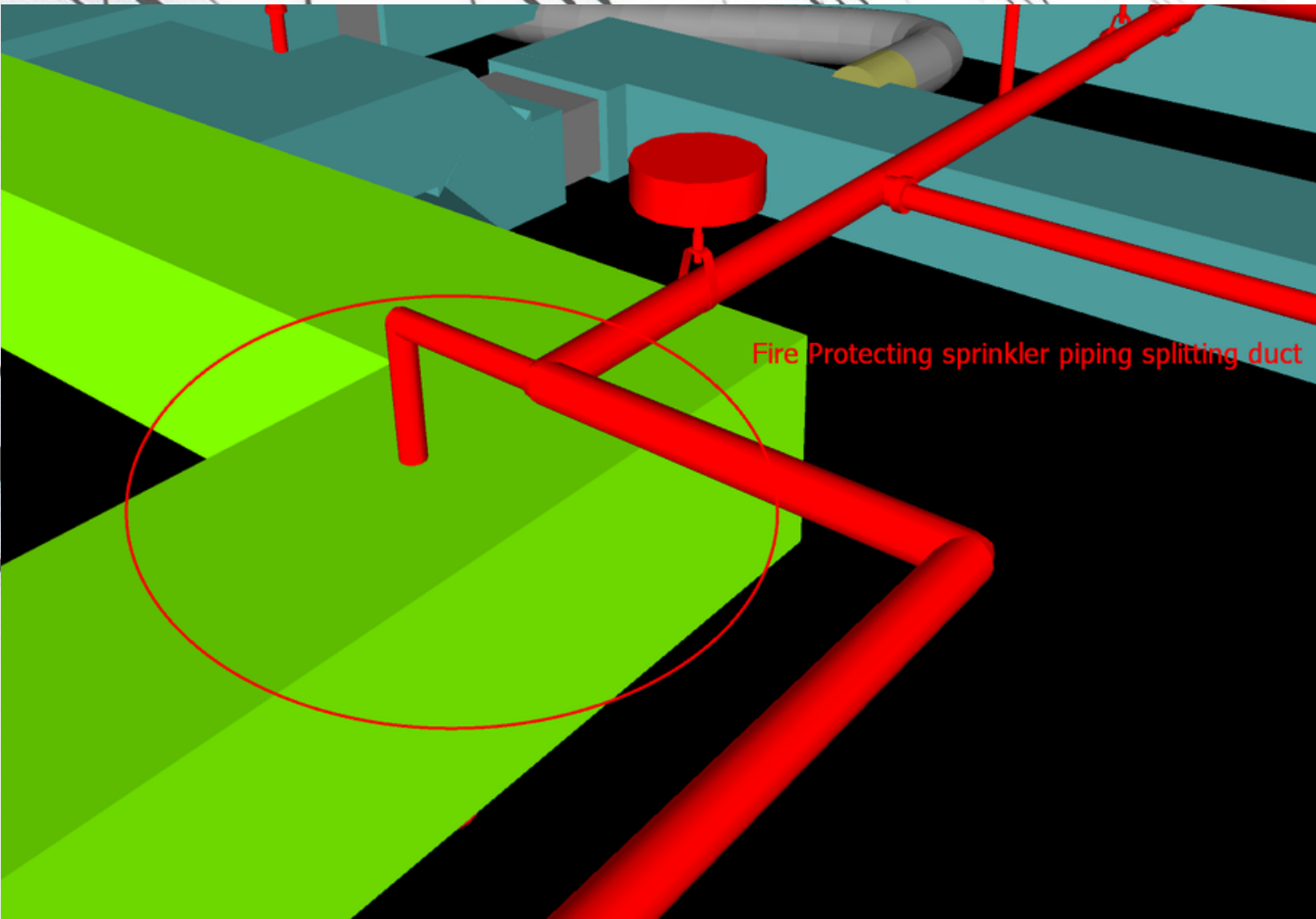
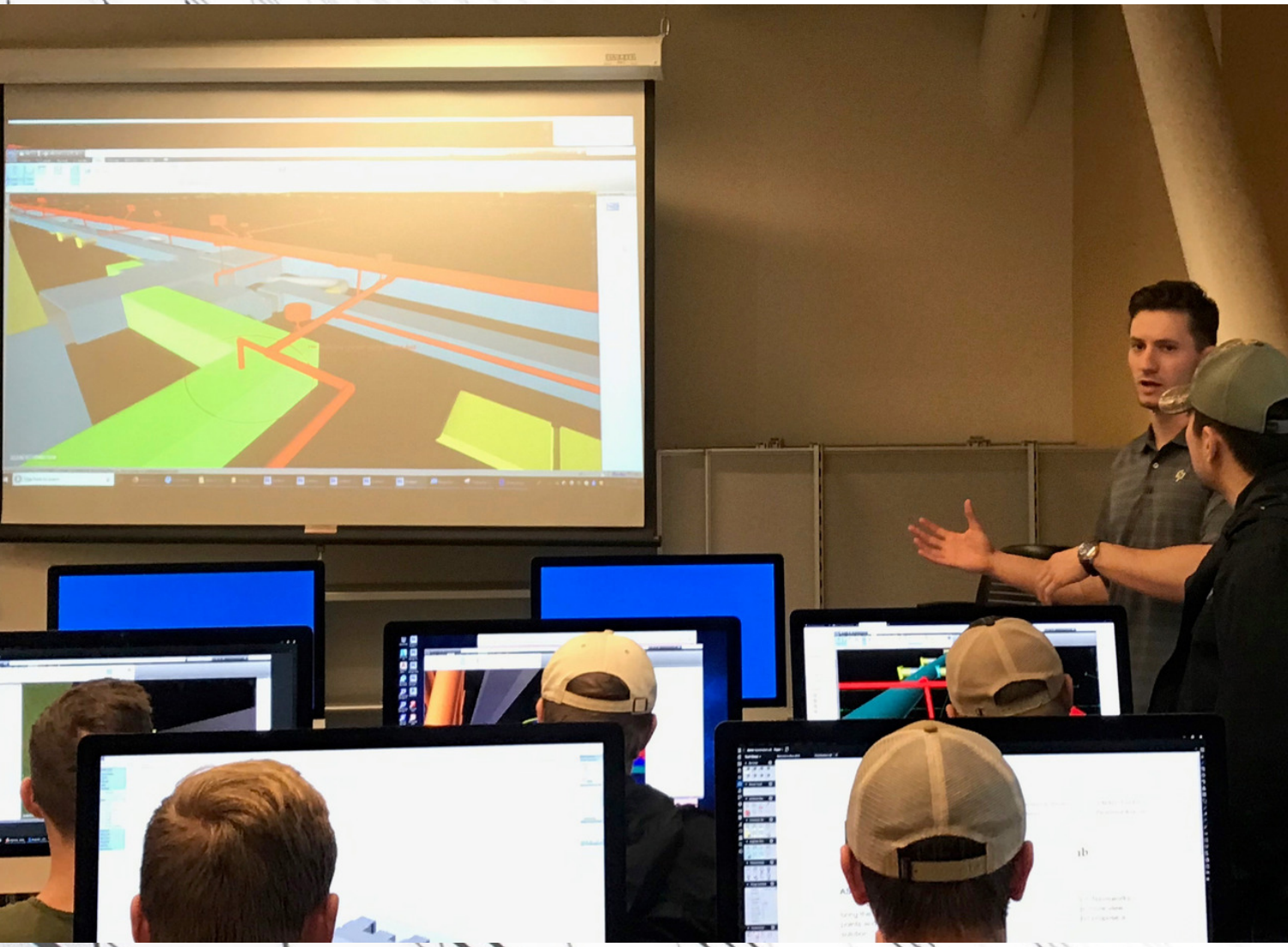
**ASSIGNMENT:**

In your GC group, using what you’ve learned about coordination in Navisworks, bring the current model down and run a clash detection on it. Gather 3 or more view points and export them. Identify what the clash is, the trades involved and propose a solution, “who needs to move”.

There is no perfectly written way to do this. Using your own intuition, you should put together these clashes as if there were hundreds. What is the best way to organize it? How do you decide who needs to alter or move their work? Do you see other ways to minimize these clashes from reaching the field? These are questions you should be prepared to answer when presenting on your clash.

- DELIVERABLES:**
1. Find Three or more outstanding clashes in your current model, Save them as view points and export them.
  2. Identify each clash in the summation of a few sentences, including where it is, what it is and who is involved (subcontractors).
  3. Present 1 of these clashes in your GC update presentation, using pictures or videos. Talk to the subcontractors involved and create a solution. (who needs to move.)
- EXCELLENCE:**
- Ideas for excellent work include:
- Having accurate, real life clashes.
  - Having a proposed solution for the clash that makes sense for parties involved.
  - Accurate pictures and usages of Navisworks to display clash.

**DUE DATE:** See Polylearn and Lab Assignment Summary



### Student Example

#### M Vs. P (1)



**Camera Position** -78.830ft, 30.233ft, 36.343ft  
Plumbing pipe runs through HVAC register

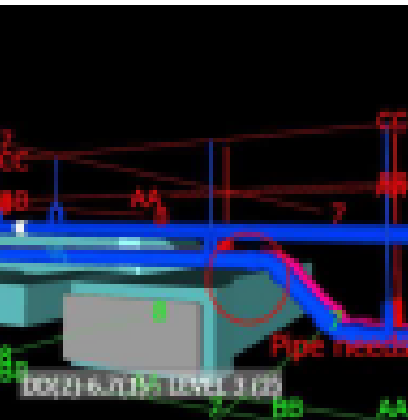
#### M Vs. P (2)



**Camera Position** -58.354ft, 33.873ft, 34.731ft  
Pipe runs through HVAC register

**Mechanical contractor to move HVAC register by shortening duct work by 6-8" away from piping.**

#### M Vs. P (3)



**Camera Position** -27.819ft, 45.477ft, 30.090ft  
Pipe needs more clearance, resting on HVAC

