What does the team plan to accomplish by the Detailed Design Review?

- Preliminary End Product Design - draft, water simulation, strength, attachment, mounting
- Preliminary Molding Equipment Design - concept selection, Translation molding feasibility
- Feasibility Work - Economic, Compression, Translation molding, Mold material
- Problem Statement for Phase 4
- Accomplishment Definition for Phase 3
- EDGE Work - Organizing files, Cleaning links, Decision documentation, Updating documents
- BOM - Heating, Compression, Insulation, Molding, Cooling, Safety, Electronic Components
  Budget Increase Request - Full scale BOM proposal, Small scale BOM proposal, List of constraints, List of requirements, List of selection criteria, Email DeBartolo, Create proposal pitch
- Molding Equipment Design - Equipment Frame, Compression System, Plastic Melting Cavity, Injection System Design, Sectioning Plate Mold Cavity, Mold Cavity Alignment System, System Structure, Heating Insulating, Mold Removal Ejection
- Gutter Design - Individual Piece Clip Design, Vertical Clip Strength Horizontal Clip Strength, Mounting System Volume of Plastic per Mold, Water Retention Rate, Strength Testing of Product
- Draft Design Prototype - Create STL File of Design, 3D Print Prototypes, Test Attachment Methods, Test Structural Integrity

What tasks have been accomplished so far?

- Finalized concept selection for the compression system
- Created the first BOM, giving us a sense of cost for material
  - Ran economical analysis on the original BOM
  - Considered pivot options for the project
- Focusing the project scope into an injection system without the mold
  - Budget become a lot more coherent due to a $600+ saving on raw material
- Placed our first purchase order
  - Car-jack for the compression system
- Prototyped the structure for the compression system with wood
  - Further development and calculations to do
- Prototyped our finished product in the form of a 3D printed set of parts
  - Further development planned
- CAD design of the entire system at a high level, more informative, somewhat technical.
  - Main concepts represented
- Updated risk analysis, feasibility analysis, general information files.
- Secured some storage space

What tasks remain, and who is the owner of each?

- Secure more space for the bigger system (Ignacio)
- Simulate final gutter design functionality for product proposal (Vikas & Adam)
    - Run strength and water simulations for final design
    - Finalize attachment method between pieces
    - Finalize structural support method into the houses
- Changes to the structural design in relation to the prototype (Pierce & Kyle & Ignacio)
    - How does the force behave across the structure
    - Space feasibility for the heating system
    - Space feasibility for the molding cavity
    - Support for the components
    - Attachment methods for the structure pieces, book welding time
- Electronic system design and feasibility (Kyle)
    - Talk to Professor Slack, understand how to build the electronics
- Finalize materials and purchase them (Team)
- Create CAD model of mold with ejector pins (Adam & Vikas)
- Update Test Plan procedures (Pierce)
- Budget increase future plan (Ignacio)
- Heating system design and feasibility (Adam)
    - Speak with Professor Stevens about heating method

What decisions have been made so far?

- We have to simplify the final design so that it can be more easily molded
- Shrink the size of the mold to reduce our costs for first iteration testing
- Reduce scope into just an injection system, if completed before end of MSD II move on to mold design
- Changes to some of the technical systems
- Will not pursue budget increase until it becomes a more pressing matter, keep an action plan set up for quick push

What questions does the team have for the customer and/or guide in order to continue moving forward?

- What is the time frame of necessity of the melting system for El Sauce? (Customer)
- Do you wish to sponsor our project further? (Customer)
- What would be something that would incentivise further investment into this segment of projects in future MSD sections? (Sarah & Customer)