INSERT TAB:

"Introduction"

ASC 2018 – Project Management
Instructions and Timeline

Introduction – 2/8/18

Your team will act as members of DPR Construction; determining if you will take the deal set forth by your client. You are empowered to make key contractual, business and logistical decisions. The decisions your team makes will have significant consequences and will impact the success of your project. The strategy that you choose will map the road ahead, but may also expose you to possible roadblocks. You are expected to adapt to situations, engineer solutions, demonstrate DPR's Core Values, and deliver a project decision while maintaining raving fans.

DPR is responding to a Request for Proposal for the University of Southern California Norris Healthcare Center Project. DPR is still determining if the project is one in which we want to pursue. Your selection on whether or not to take the project is based upon your team decision about the client's contract, schedule and budget requirements; while maintaining a great relationship.

USC been a great client of DPR in the past. We have built several projects for them over the past few decades and would like to continue the relationship as long as the deal is fair, equitable, and profitable.

USC believes in delivering healthcare centers that impact their community but also represent their image as a leading private research university. USC's Health Sciences campus houses renowned specialized care and research in cancer, stem cell and regenerative medicine, orthopedics and sports medicine. USC is looking to expand their healthcare facilities and in doing so they are asking DPR to help with construction of the new USC NHC facility.

List of Project Modules:

The final team score will be a composite of the following:

20 Points	Contract Risk Assessment Module
20 Points	Logistics + Schedule Modules
20 Points	MEP Equipment Module
30 Points	General Conditions (GC's) + Schedule of Values (SOV) Module + Self-Perform Work
20 Points	All Scenarios + Red-Zone "Go/No-Go" + Mini Presentation
30 Points	Final Presentation
140 Points	*Total Points*


Schedule:

THURSDAY, 2/8/18

Time	Activity	Activity is DUE
6:00 AM	Initial Presentation at Redwood 2 Room.	
7:00 AM	Students Receive INITIAL PROJECT INFORMATION.	
10:00 AM	GC's, SPW, and SOV Module Explanation – Only **(2)** Students per Team come down to Redwood 2 Room for Presentation. Students should bring questions about these modules and DPR execs can answer.	
2:00 PM – 4:00 PM	Mini-Presentations - Information for this activity will be provided to you by email sometime during the day.	
5:00 PM		Contract Risk Assessment Module is DUE.
5:00 PM	Logistics Module - Only **(2)** Students per Team come down to Redwood 2 Room for Logistics Module Presentation. This will be a new module which students did not receive at 7 AM.	
8:00 PM		1. GC Module is DUE. 2. SPW Module is DUE. 3. SOV Module is DUE. 4. Schedule Module is DUE. 5. MEP Equipment Module is DUE.
10:00 PM		1. Logistics Module is DUE 2. Red Zone "Go/No-Go" is DUE.

FRIDAY, 2/9/18

7:00 AM	Presentation Times will be posted at Redwood 2 Room.	All Presentation Materials are DUE to Redwood 2 Room.
8:00 AM – 4:00 PM	Team Presentations at Redwood 2 Room	
5:00 PM	Problem Recap at Redwood 2 Room	
6:00 PM – 7:00 PM	Student Info Session – Hang out and talk to DPR at Redwood 2 Room.	


1. Contract Risk Assessment Module

During this module, your team will evaluate the (2) contract documents provided. Use the Owner Contract Evaluation Tool Form as a tool to dive deep into each contract and learn the positives and negatives of each. Then Fill out the Contract Comparison document to finalize your analysis and help lead you toward your contract selection. You can find detailed instructions in the module section of your binder and usb.

Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **(2) Completed Owner Contract Evaluation Tool Forms**
- **(1) Completed Contract Comparison Document**

2. Logistics Module

It is crucial that all parties who are traveling through and nearby a construction project clearly understand how to travel safely. If this information is unclear, this could put people at risk of injury or worse.

During this module, your team will provide multiple logistics-related deliverables. You will receive a detailed logistics module instruction sheet which will explain in detail what you will need to do.

This module is NOT provided in your initial package. This module will be provided to you later in the day as per the schedule on page 2 of this document.

Deliverable:
This information will be explained to you when you receive the module.
Your Team will turn in this module by usb to DPR's hotel room.

3. Schedule Module

Project schedules are like the backbone of a project. They explain how a project will flow and detail the sequence of the work. A schedule is also used to help the construction management team prioritize their management activities. By understanding when activities are taking place, and what activities are predecessors and successors, a project engineer can prioritize their workload to make sure the field team receives the information they need before the work starts.

During this module, your team will create a Line Item schedule in Smartsheet. Your team has been provided milestones and activities. Use what is given to you but also add additional milestones and


activities to create the complete schedule. You can find detailed instructions in the module section of your binder and usb.

Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **(1) Smartsheet schedule as a pdf document.**
- **(1) Questionnaire filled out**

4. MEP Equipment Module

As a construction manager, we need to understand what the design is and if we think it works. When we receive design documents, it is our job to review and validate the design before the work starts. We do constructability reviews to help guide our owners and designers to create understandable and achievable construction documents.

During this module, your team will confirm if the design documents accurately depict the required MEP systems which are required for each piece of equipment.

Follow the "How to.." document to help you determine if all systems have been included in the design.

Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **(1) MEP Equipment Constructability Review**

5. General Conditions (GC's)

General Conditions are the costs to manage the project. This includes but is not limited to management staffing labor, field offices, equipment, safety, internet, vehicles, food/water, power, printers, etc. It is important for project managers to compile the costs for these items before a project starts so that you can get them into your budget. Imagine if your owner approved your costs for the job but you forgot to include a superintendent, or you forgot internet! Then your fee would have to cover those items!

In this module you will create your GC's for the project. Think hard about what you will need or don't need! You need to make sure you have everything you project requires and nothing more. You don't want to forget anything, but you also don't want to be the person who prices yourself out of a job!

(Deliverable info on next page)


Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **(1) GC document in both pdf and excel formats.**

6. Self-Performed Work (SPW) Module

Self-Performed Work provides a lot of benefits to both us and our owners. In this module you will review plans and specs, complete a take-off, and provide a cost of a self-performed work item.

Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **(1) Concrete Estimate**
- **(1) Critical Thinking**

7. Schedule of Values (SOV) Module

Schedule of Values is where you will buy out your subcontractors. It is DPRs job to scrutinize the scope and the pricing of all our subcontractors.

Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **All Completed bid tallies in pdf and excel formats.**
- **(1) Completed SOV in both pdf and excel formats.**

8. Scenarios

The construction industry is a fast-paced and exciting industry. Generally, we construction managers are juggling many items at the same time. During the day your team will be sent emails with instructions for deliverables which will be due the same day. Make sure you respond to these emails in a professional and clear way. Your DPR executives expect you to perform at a high level and provide timely responses!

Deliverable:
Your Team will turn in your responses to Scenarios by email.


9. Red-Zone "Go/No-Go"

Ah, the most exciting question of the day. After you have built the many modules of the day, you have a great understanding of the risks that the project creates. So should DPR take the job or not? Read through the instructions in detail to provide a detailed response for this answer.

Deliverable:
Your Team will turn in the following items for this module by usb to DPR's hotel room.

- **(1) Response to the RedZone "Go/No-Go" email.**

10. Mini Presentation

Sometimes email or phone communications are restrictive. It is hard to ask questions back-and-forth in a timely manner over email and phone calls don't allow you to read people's body language. Even Facetime can't beat a face-to-face meeting. Sometime during the day we will ask members of your team to come down to Redwood 2 room and present to your DPR executives. The content that you will present will be explained to you sometime during the day.

11. Final Presentation

The presentation will be structured as an internal DPR meeting held to discuss the risks of the project. Every member of your team must present. Teams will present their final risk assessments, budget and schedule for the project with a brief recap of how they arrived at those results. The presentation should cover your overall strategy including how the team was structured to accomplish the decision on whether or not to pursue this project. This meeting will also be a forum to present and review risk allowing us an opportunity to share how we might improve for future projects.

Typical Presentation Outline:

- Setup - 5 minutes
- Team Presentation - 20 minutes
- Question and Answer - 10 minutes
- Breakdown - 5 minute

7:00 am: All presentation materials are due. Any handouts or electronic files produced after this time cannot be utilized during the presentation. Please also return all specifications, drawings and USB Modems at this time.
7:00 am: Presentation times will be posted in Redwood 2.
8:00 am – 4:00 pm: Team Presentations


12. Problem Requirements

Information can be directed to your team in numerous ways. Any questions from your team to the problem sponsor's team should be transmitted via email.

Physical copies will only be provided for a limited number of the project documents, and if the internet isn't working. All documents will be provided in electronic format. Most deliverables are submitted via usb to DPR's hotel room. Don't be late! Give yourself enough time to get from your room to DPR's hotel room! **If you are late to submit, even by a few seconds, you will be given 0 points for that module.**

Email Address

During the course of the competition you will be communicating with the sponsor's team through this email address:

DPR Executive Team dpr.asc2018@gmail.com

Problem Material

Upon completion of the Initial Presentation your team will be provided with the following materials:

- Project Turnover Binder
- USB
- Room Signs
- DPR Survival Kit

Project Information

A real project was utilized to create this problem; however the problem's components are fictitious. The architect, client, and all parties associated to the project have generously granted us permission to utilize the project for the benefit of this educational experience. We insist that their generosity not be taken for granted. Under no circumstances should your team make contact with the client, architect or any representatives of the project.

During the course of the problem if any instructional questions arise please address them to the email above.

INSERT TAB:

"Meet The Judges"

Meet the DPR Team

Greg Amon

School: Cal Poly San Luis Obispo
Problems Competed in at ASC Regions 6 & 7 Competition: Heavy Civil, LEED, & Commercial
Favorite Part About Your Job: Work hard play hard culture of out company – at times there can be a lot to do, but we always make sure to have a great time while we're at it!
Current Project: The Scripps Research Institute

Taylor Banks

School: University of California Davis
ASC Regions 6 & 7 Competition Experience: 4th Year Hosting the Competition
Favorite Part About Your Job: Collaboration, figuring out the best way to build something that you have never built before.
Current Project: Exterior Upgrade in a Pleasanton Corporate Campus $25M

Kegan Haerr

School: Cal Poly San Luis Obispo
Problems Competed in at ASC Regions 6 & 7 Competition: DPR's ~~Risk~~ Project Management
Favorite Part About Your Job: DPR and our Client have formed a close-knit bond where we are frequently called up to perform challenging and difficult scopes. It's rewarding to be acknowledged for providing excellent service.
Current Project: $60M Infrastructure and security improvements package for one of the world's premier technology leaders.

Rocky Moss

School: Oregon State University and University of Michigan
Favorite Part About Your Job: The great people I get to work with
Current Project: National Leader Special Services Group (SSG) and National Leader College Recruiting

Meet the DPR Team

Amanda Tyer

School: San Diego State University
Problems Competed in at ASC Regions 6 & 7 Competition : Preconstruction
Favorite Part About Your Job: When a project is over we leave behind a structure that will be there for many years to come. It's a monument of the hard work, passion and collaboration our teams create.
Current Project: 130,000 SF, 3-story biotechnology lab and office TI worth $16 million

Austin McGaha

School: Cal Poly San Luis Obispo
Problems Competed in at ASC Regions 6 & 7 Competition : DPR's ~~Risk~~ Project Management
Favorite Part About Your Job: Mentoring the interns I get to work with. It's a very special experience getting to teach them and shape young minds
Current Project: Life Science Lab and Manufacturing Facility ($300M)

Maisie Gwynne

School: University of Southern California
Problems Competed in at ASC Regions 6 & 7 Competition: Design Build & Commercial
Favorite Part About Your Job: Problem solving out in the field with the foreman, architect and owner
Current Project: Themepark

Nicholas Fondano

School: Arizona State University
Problems Competed in at ASC Regions 6 & 7 Competition : LEED
Favorite Part About Your Job: Starting a new project and determining all the intricate details of planning and execution.
Current Project: Corporate Office Renovation

Meet the DPR Team

John Beuerlein

School: University of Southern California
Problems Competed in at ASC Regions 6 & 7 Competition : Preconstruction
Favorite Part About Your Job: Problem solving and learning something new every single day!
Current Project: Shire Pharmaceutical LA Plant

Julianne Lucas

School: University of Southern California
Problems Competed in at ASC Regions 6 & 7 Competition : Commercial
Favorite Part About Your Job: Interacting with a variety of disciplines to learn all parts of the building process and that each day brings new challenges to solve.
Current Project: Life Science Design-Build Project Pursuit

Whitney Rogers

School: Arizona State University
Problems Competed in at ASC Regions 6 & 7 Competition : Concrete Solutions
Favorite Part About Your Job: Every day is a new day full of challenges, new relationships and opportunities. Its also rewarding to turn over a job that provides great purpose (education, research hospitals, etc.) as well as the happiness of the client.
Current Project: Multiple SPW (self perform concrete) jobs and a 7,500 SF Office space worth $18M

Nic Carera

School: Cal Poly San Luis Obispo
Problems Competed in at ASC Regions 6 & 7 Competition: DPR's ~~Risk~~ Project Management
Favorite Part About Your Job: Solving a new problem everyday and developing personal relationships with the team
Current Project: Workday Development Center

Meet the DPR Team

Alison Kang

School: University of Southern California
Problems Competed in at ASC Regions 6 & 7 Competition : Heavy Civil, LEED & Integrated Project Delivery
Favorite Part About Your Job: I love that in Preconstruction, you get to touch multiple projects in different phases of design, as well as be part of a pursuit. It keeps it exciting!
Current Project: Preconstruction - $55M Office Complex

Collin Weisenburger

School: San Diego State University
Problems Competed in at ASC Regions 6 & 7 Competition: Preconstruction
Favorite Part About Your Job: Solving problems and building relationships while doing it. There is nothing better than turning over the space of the client's dreams, by reaching solutions to meet their current needs.
Current Project: 7 story parking structure, 200,000 SF of lab space, 50,000 SF of office space

Carlos Hurtado

School: Cal Poly Pomona
Problems Competed in at ASC Regions 6 & 7 Competition : Design-Build, Concrete
Favorite Part About Your Job: The type of technical projects I get to be part of and the challenges and opportunities it provides for me to grow, learn and be more innovative. In addition, the sense of community and support that we get from everyone at DPR which makes me feel like I'm working with my friends and not my co-workers.
Current Project: Atara Bio Manufacturing Facility

Katherine Christian

School: University of Southern California
Problems Competed in at ASC Regions 6 & 7 Competition: Mixed Use, Design Build and Integrated Project Delivery
Favorite Part About Your Job: Working in an environment that allows me to learn something new every day and witness the ground-up progress on a day to day basis.
Current Project: 1 million SF Corporate Office complex worth $450 million

INSERT TAB:

"PROJECT MODULES"

INSERT TAB:

"Contract Risk Assessment"

Module 1: Contract Risk Assessment

How to fill out Owner Contract Evaluation Tool (OCET) form:

Objective: Determine the amount of risk for each of the (2) owner contracts are for DPR.

Method: Fill out (1) "Owner Contract Evaluation Tool" Form for each of the (2) contracts you have received. A total of (2) "Owner Contract Evaluation Tool" forms should be filled out and turned in, one for contract "A" and one for contract "B."

How to fill out a "Owner Contract Evaluation Tool" Form:

1. Open a blank "Owner Contract Evaluation Tool" Form.
2. Read the Risk Description and find the correlated language in the Contract.
3. Determine if the Risk Description answer is "Yes," "No," or "Other" and put an X in the appropriate box.
    a. "Other" means it is either Not applicable in the contract, or the answer is something other than a clear Yes or No.
    b. Keep in mind that some items may be silent. You will need to determine if a silent answer is a "Yes" or a "No" to the question.
4. In the Contract Reference column, write in the contract section number which addresses the Risk Description.
    a. For example, if Section 4.1.5.6 is the contract location which speaks to the Risk Description, write, "4.1.5.6" in the Contract Reference Section. If the item is in "Exhibit B" write that in the reference.
    b. If the description is silent, write "Silent."
5. Complete each item on the Owner Contract Evaluation Tool Form.
6. After (1) Owner Contract Evaluation Tool form is complete, Perform steps 1-5 for the 2nd contract.

Contract Comparison

Objective:
Determine which contract will yield a more successful project for DPR and explain with examples to your Project Executive. Write your response below in the form of an email to your Project Executive named Jim.

Support Your Decision:
Highlight specific examples from your analysis and explain why certain contract language is more advantageous for DPR. Remember this assessment is the summary of your findings and is a major deliverable to your project executive. As such, please be succinct with your arguments and limit yourself to no more than 300 words.

Fill out Below:

Team Name:

Response:

INSERT TAB:

"Logistics"

Module 2: Logistics

No information provided in this binder. This information will be provided to you when you sit through the presentation as shown on the schedule.

INSERT TAB:

"Schedule"

Module 3: Schedule

Build a Schedule

Instructions:

- Start date is Monday, October 8, 2018
- Owner wants to be 100% moved in & operational by end of Summer, 2021
- Sequence and include the below milestones in your schedule – Add any other milestones you see necessary
- Schedules need to be at least 200 different line items (I.E. L2 overhead MEP & L3 overhead MEP are not 2 different line items, so they count as 1).
- We are grading based on *quality* not *quantity* of line items in your schedule
- This schedule should be built using the information found on the plans provided. Understand the type of structure this is and what elements go into the building to develop a *project specific* schedule.
- **Please turn in your schedule by printing to PDF!**
    - Use "Smartsheet" to build your schedule, see the attached instructions for how to access and use the program.
    - The following columns are to be shown in your PDF:
        - Activity Names
        - Durations
        - Start & Finish Dates
        - Activity Bars

Milestones:

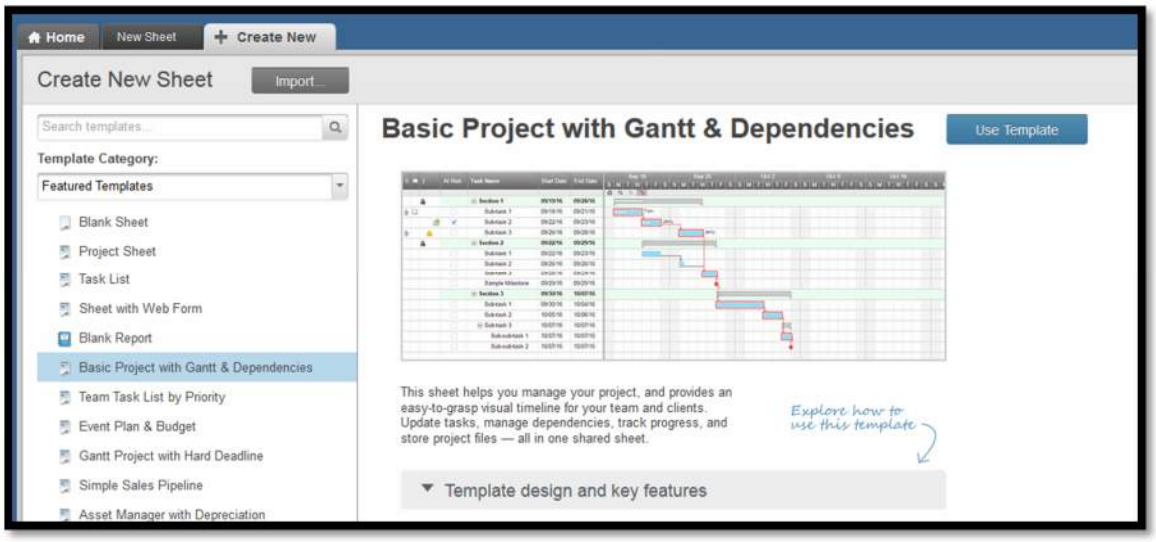
- Steam System Tie In Complete
- Remove Manhoist
- Skin System Complete
- Start TI's
- Basement Walls Complete
- TI Permit
- Set Roof Mechanical Equipment
- Structural Steel Material Release
- Commissioning Starts
- Complete Shoring
- Elevator Fabrication Released
- Complete SOMD Pours
- Substantial Completion
- Install Manhoist
- Elevator Inspections
- TAB Report
- Start Curtainwall System
- Erect Structural Steel
- Release AHUs
- Pneumatic Tube Deferred Submittal Approved
- Tunnel to Adjacent Building Complete
- Core & Shell Permit
- Steel Topping Out
- Utility Tie In Complete

Smartsheet How-To

Smartsheet is a web-based software that has Gantt chart capabilities. Very similar to other scheduling software you may have used, it allows you to insert tasks with durations and dates and set up dependencies to build a schedule. Best of all, its free to use for a 30-day trial! Follow the steps below and utilize the links to understand the software. Its very user friendly, but if you're having troubles watch the quick videos.

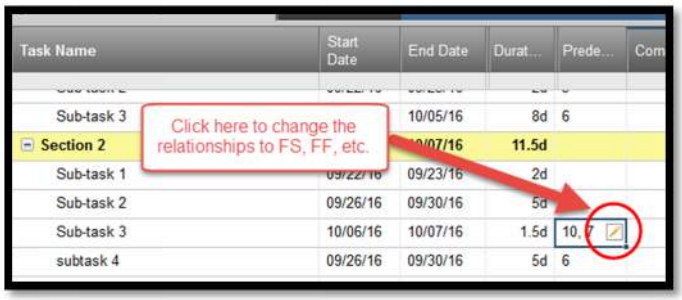
1. **Create an account online https://app.smartsheet.com/b/signup**

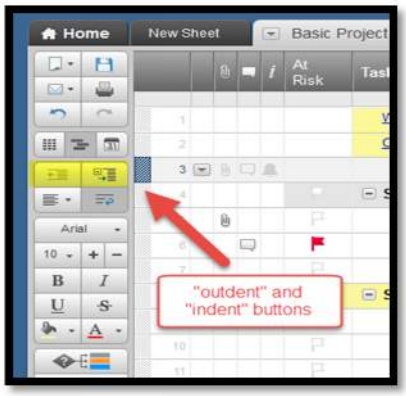
2. **From the homepage, click " + Create New" to start a new sheet**
3. **Choose the "Basic Project with Gantt & Dependencies" template**
4. **The sheet allows you to type task names, dates, durations, and predecessors directly into the spreadsheet, or drag from bar to bar to create relationships. To understand all the tools at your disposal utilize the links below**
    - How-To Video (4:16) https://www.youtube.com/embed/WBUnbrN4UvY
    - Template How-To Webpage https://www.smartsheet.com/solutions/basic-project-with-gantt-and-dependencies?tmgl=7D0ii8KknF2lW34WkeRubg

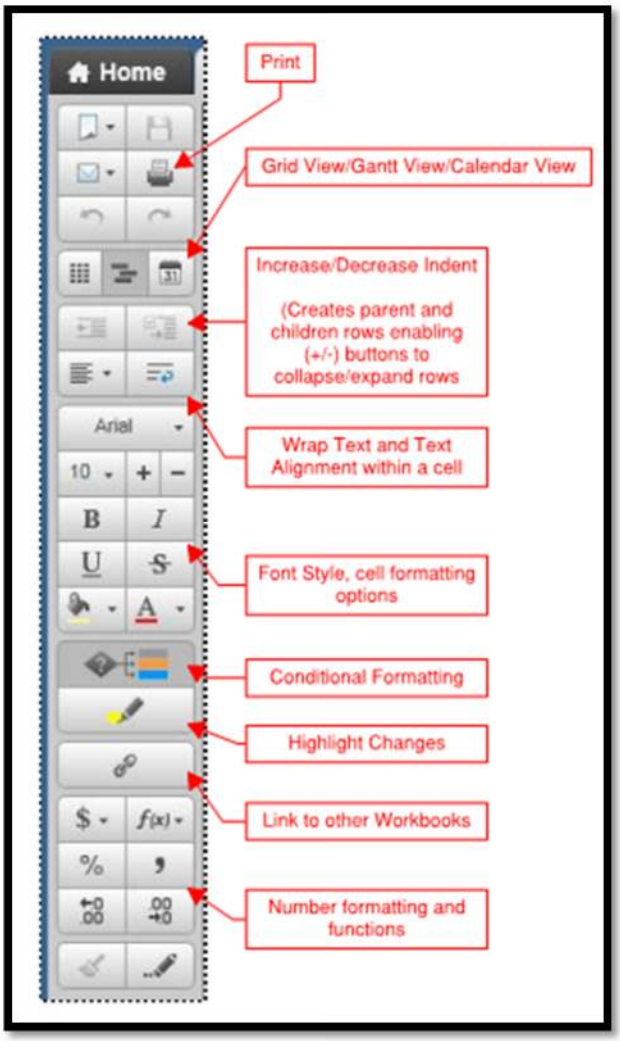


Additional Tips

- Rearrange columns to meet your needs and hide columns you may not use (% complete, assigned to, etc.)
- Change the row colors to create a visual breakdown between task types, similar to a P6 layout
- If you change the duration to 0, it will automatically create a milestone
- Remember to save frequently in-case you lose your internet connection
- Use the “outdent” and “indent” buttons to create summary activities and sub-tasks
- In the predecessor box, click on the small edit button to change the relationship to Finish-Start, Finish-Finish, etc.
-
- Click the gear logo, at the top of the Gantt view to change the project settings and modify working days







QUESTIONNAIRE

The intent of the questions below are to test your knowledge and spark ideas for creating your schedule, but you do not need to update your schedule to reflect your answers.

1. Who from your project team should be included in production planning sessions?

2. What 'make ready' (the work you have to do in order to build the actual hospital building) construction projects are shown on your schedule in order to not impact current hospital occupants while construction is ongoing?

3. Building Information Modeling (BIM) has a big impact on planning the work before you build it. List the subcontractors that could help make the project benefit from modeling their work and why.

4. What benefits do metal deck inserts to hang MEPF overhead provide in lieu of other construction practices? When should metal deck inserts be done in the schedule – between what activities?

5. In order to bring the end date of the project in our owner's typically ask for ways to save time out of our schedule. Name one way to decrease the overall length of the construction schedule before construction starts and another that could take place once construction begins. Both answers need to carry the least amount of cost impact to the project.

6. For the two answers you proposed above what are the associated risks for each?

7. When in the schedule should the tunnel tie in to HCCII take place? What constraints would be present at this time?

8. Fire alarm is a design build system by your subcontractor. How early in the project should they be brought on board and why?

9. At what point in your schedule did you staff up or down your General Conditions. Define the changes in staffing and what activities in your schedule triggered these changes.

10. What is the appropriate sequencing for the following activities: anchor rooftop equipment, roofing, roof equipment curbs, place roof SOMD, set rooftop mechanical equipment.

INSERT TAB:

"MEP Equipment"

Module 4:
MEP Equipment

How to Complete an MEP EQUIPMENT CONSTRUCTABILITY REVIEW

One of the many ways DPR determines the amount of risk involved in a project is through the review of the design documents. If the design documents are difficult to interpret or incomplete the project will be difficult to build, exposing DPR to more risk and unforeseen costs.

A constructability review enables you to define unclear or missing information prior to the start of construction. Communicating this information to the design team and owner can help align the team and clarify information prior to the start of construction.

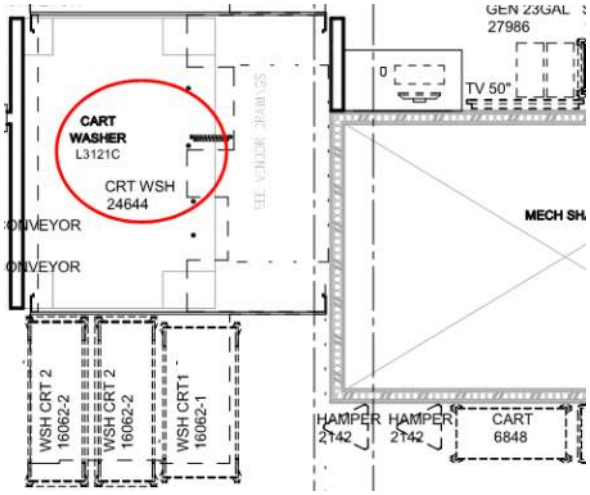
Because of the criticality of USC NHC's equipment, it is essential that the proper utilities are routed to each piece of equipment. Your task will be to review the utility requirements listed in the "MEP Equipment Cutsheets" and compare them with the "Medical Equipment Log" and confirm all of the required utilities have been included on the design documents.

INSTRUCTIONS:

1. Begin with the equipment log - select a piece of equipment to review. Identify the utilities that are required per the log. **All equipment you will need to review is highlighted in GREEN** (see below for example).

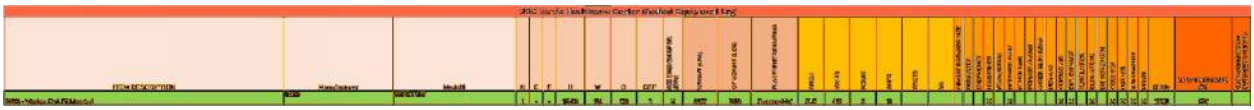
ITEM DESCRIPTION	Manufacturer	Model#
24644 - Washer, Cart, Pit Mounted	Steris	VISION 1327
24683 - Changing Station, Baby, Horizontal	Koala Kare Products	KB200
24684-1 - Cart, Scope Transport, 6-Tray	Advanced Sterilization Product	CLEANASCOPE 103600
24684-2 - Cart, Scope Transport, 10-Tray	Advanced Sterilization Product	CLEANASCOPE 103635

1. Review the cutsheets - Identify the utilities which are required per the cutsheets.
2. Locate the equipment on the MEP plans and confirm if the utilities have been shown on the drawings.



Example –

a. **Medical Equipment Log:** On the medical equipment log, it says that Equipment #24644 requires hardwired power, a network port, compressed air, external exhaust, building steam, cold water, hot water, treated water, and a drain per the equipment matrix. Now review the drawings & equipment cutsheets to ensure they have also been incorporated into the design documents.



b. **Cutsheet:** Verify that the requirements listed in the log match the MEP cutsheet requirements. ✔

GBA

1773.2 - Norris Healthcare Center

USC University of Southern California

Cut Sheet Summary

GBA Id	**24644**
Item	**Washer, Cart, Pit Mounted**
Manufacturer	**Steris**
Model	**VISION 1327**

Image shown may vary in color or finish from actual item to be purchased.

Physical

Height ("):	**112.75**
Width ("):	**124.00**
Depth ("):	**130.00**
Weight (lb):	**6,367**
Operating Wt (lb):	**7,483**

Installation / Placement

Placement: **Recessed - Wall**

☐ Component System

Seismic Anchorage

Type: **Floor**

Pre-apprvl #: **OPA-2689-10**

Electrical

☐ Multiple Elec Reqs

Voltage:	**480**
Hertz:	**60**
Phase:	**3**
Amps:	**13.5**
Watts:	
Volt Amps:	
Breaker Size:	

☐ Dedicated
☐ Emergency
☑ Hard-wired ☐ Power Cord

NEMA:

Network Connection: **Wired**

☐ Cable TV
☐ Analog Phone Line
☐ Remote Alarm

Plumbing/Mechanical

☐ Medical Gas
☑ Compressed Air
☑ External Exhaust
☐ Ventilation
☑ Building Steam
☐ Integral Steam Generator
☑ Cold Water
☑ Hot Water
☑ Treated Water
☑ Drain

BTUs/Hr: **13,800**

Responsibilities

Furnished by:	**Owner**
New Install:	**Med Equip Vendor**
Existing Install:	**N/A**
Deinstall/ Move:	**N/A**

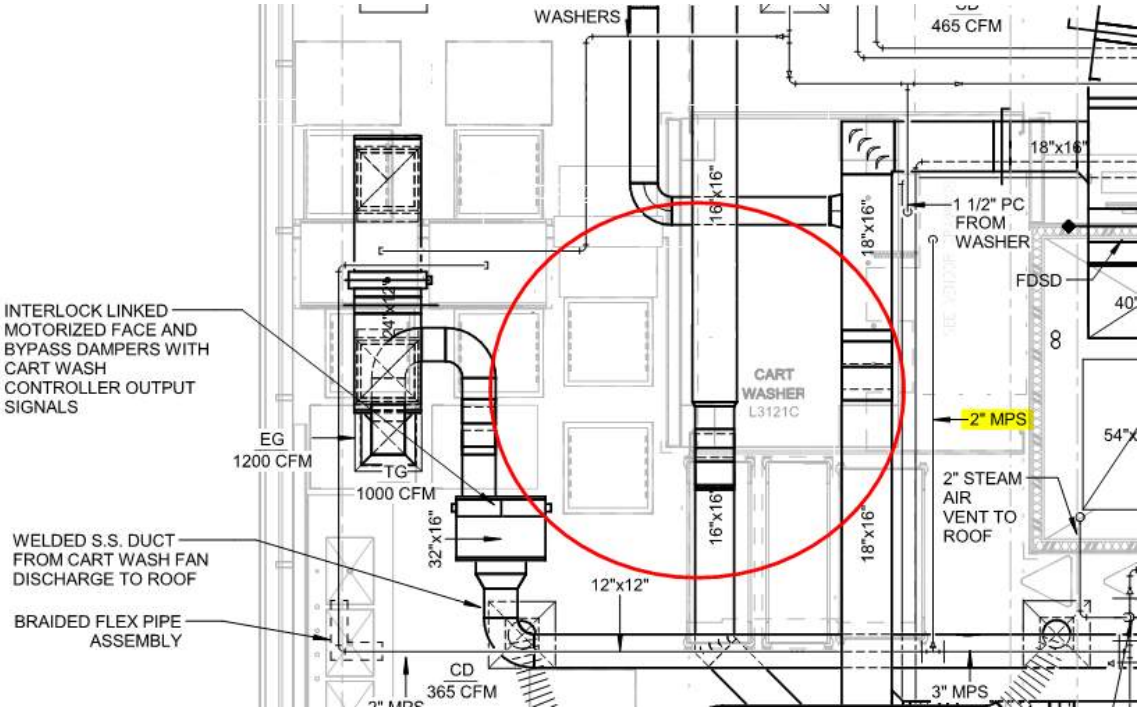
☑ Contractor Rough-In

Notes

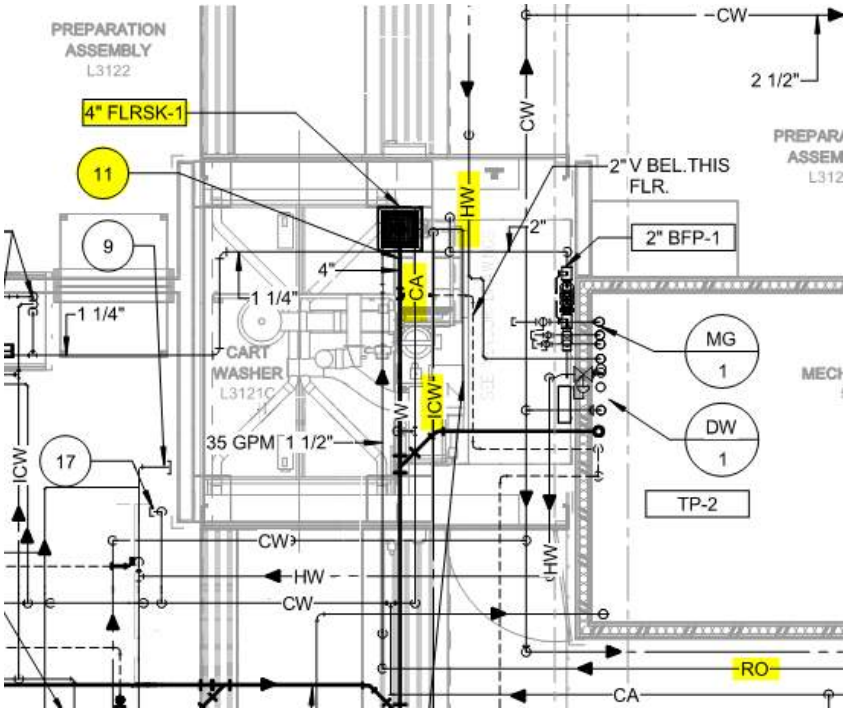
☑ Critical Path Item
☐ Refer to Vendor Dwg
☑ See Mfgr Cut Sheets
☑ Dimensions may be rounded; see vendor sheets

N/A Responsibilities = No Qty (New /Existing)

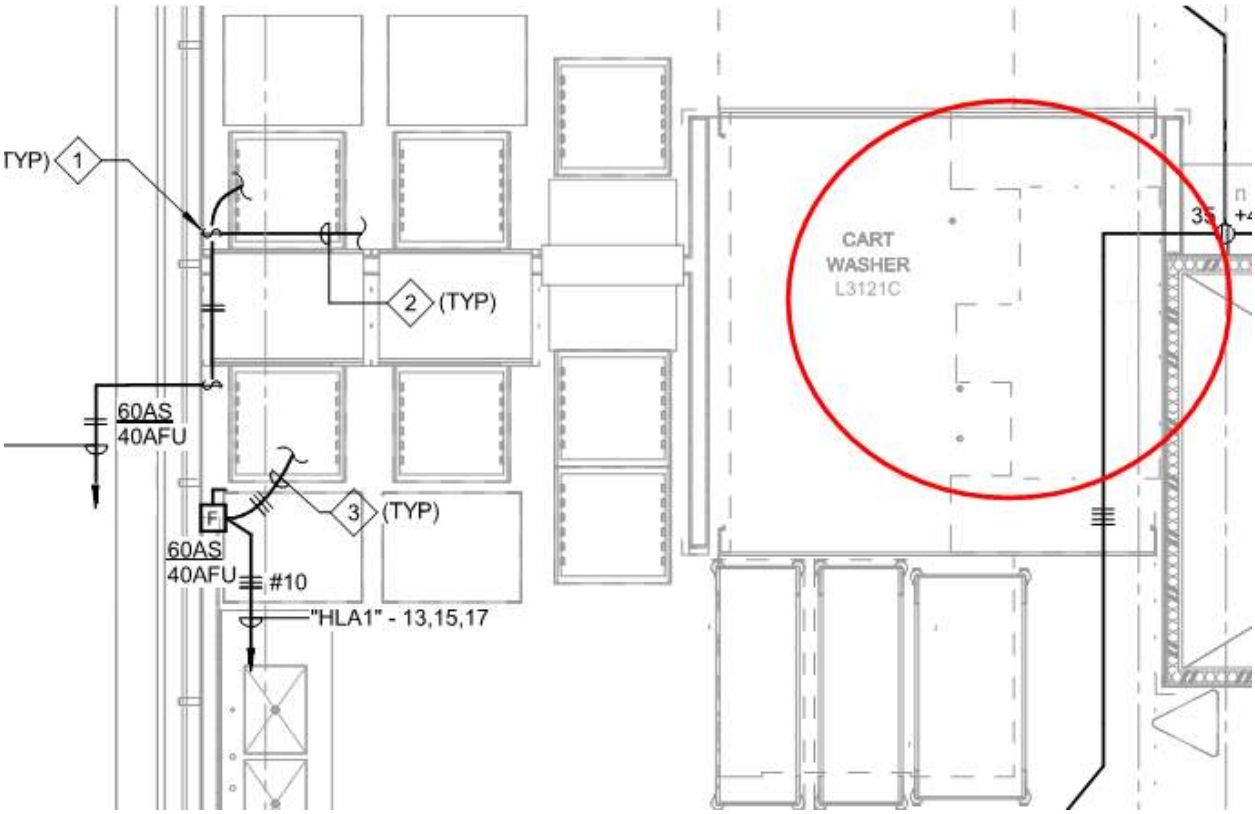
c. **Mechanical Plans:** No external exhaust is shown on the mechanical plans, but the building steam is shown (see highlight). We should make a note of this in the MEP Equipment Constructability Review Table.



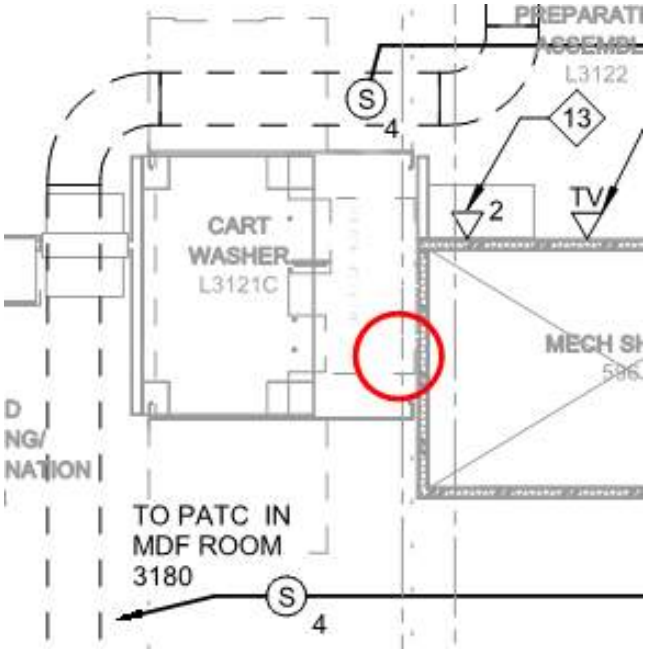
d. **Plumbing Plans:** All required plumbing is shown on the plumbing plans (see highlight).



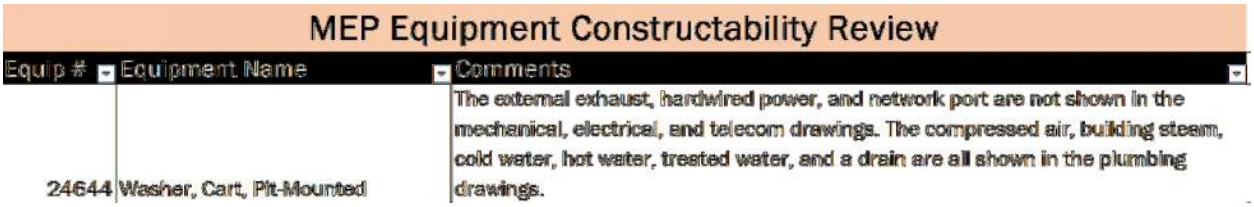
e. **Electrical Plans:** The hardwired power is not shown on the electrical drawings. We should make a note of this in the MEP Equipment Constructability Review Table.



f. **Telecommuncation Plans:** The network port is not shown on the telecom drawings. We should make a note of this in the MEP Equipment Constructability Review Table.



3. List any missing utilities from the design documents in the “MEP Equipment Constructability Review” worksheet. An example is shown below. This will be your final deliverable for this module.



MEP Equipment Constructability Review

Equip #	Equipment Name	Comments
24644	Washer, Cart, Pit-Mounted	The external exhaust, hardwired power, and network port are not shown in the mechanical, electrical, and telecom drawings. The compressed air, building steam, cold water, hot water, treated water, and a drain are all shown in the plumbing drawings.

HINT: RO means Reverse Osmosis which is referring to treated water requirements for the equipment.

USC Norris Healthcare Center - Medical Equipment Log

ITEM DESCRIPTION	Manufacturer	Model#	N	E	F	H	W	D	GRP	SEE DIMS ON MFGR SPEC	WEIGHT (LBS)	OP WEIGHT (LBS)	PLACEMENT/MOUNTING	ANCH	VOLTS	PHASE	AMPS	WATTS	VA	CIRCUIT BREAKER SIZE	DEDICATED	EMERGENCY	HARDWIRED	POWERCORD	NETWORK PORT	PHONE LINE	REMOTE ALARM	OTHER ELEC REQS	MED GAS	COMPRESD AIR	EXT. EXHAUST	VENTILATION	BLDG STEAM	INT STEAM GEN	COLD H20	HOT H20	TREATED H20	DRAIN	BTUs	NEW FURN/INST BY	SEE COMMENTS ON DATASHEET SUMMARY
313 - Microwave, Countertop 1.8 CUFT	GE Appliances	JEB1860DMWW	8	-	-	14	24	19-1/2	2		43		Countertop	POR	120	1	14	1550						X																	O/O	
503 - Cart, Transfer, Universal	Steris	FD61-700	5	-	-	37	31	38			145		Mobile	POR																											O/O	
525 - Waste Receptacle, 44 Gal, Biohazard	Rubbermaid Commercial	2643-60	14	-	-	31-1/2	24	24	3		52	102	Mobile	POR																											O/O	
999-04 - Chemical Dispensing System, Acu-hold Container, 3 Pump Delivery System	Steris	PROLYSTICA ACU-HOLD	2	-	-	14	10-1/4	6	2	X			WallMount	VIC	120	1								X																	O/V	X
1186 - Rack, Sterile Wrap	Intermetro Industries Corp	SWR566DC/2460CI-4	1	-	-	68	24	60	3	X	94		Mobile	POR																											O/O	
1542 - C-Locker, Wall Mount	Herman Miller	C0561FF	11	-	-	78	23	20	1				WallMount	WAL																											O/C	
1861 - Cart, Housekeeping	Royce Rolls Ringer	F36-08E	11	-	-	43	23	36	2				Mobile	POR																											O/O	
2142 - Hamper, Linen (for Containment of Soiled Linen)	Blickman	2301SS	47	-	-	32	18	18	3		25		Mobile	POR																											O/O	
3376-1 - Compressor, Air, Rotary Scroll	Steris	STS 050142	1	-	-	35	40	24	2	X	260		Freestanding	VIC	208	3	14				X	X		X																	O/V	X
3845 - Waste Receptacle, General, 18 GAL, 27'HX 17'W X 20'D	Rubbermaid Commercial	6145W	41	-	-	27	17	20					Mobile	POR																											O/O	
6146 - Waste Receptacle, Biohazard, 23 Gal, 33in. H X 17in. W X 20in. D	Rubbermaid Commercial	6146 BIOHAZARD	16	-	-	33	17	20	3				Mobile	POR																											O/O	
6848 - Cart, Wire 24D 48W 69H	Intermetro Industries Corp	N556EC/2448CI-4	18	-	-	69	48	24	3	X	120	1020	Mobile	POR																											O/O	
6872 - Cart, Wire 24D 60W 69H	Intermetro Industries Corp	SUPER ERECTA N566EC/	36	-	-	69	60	24	3		112	912	Mobile	POR																											O/O	X
8113 - Rack Return	Steris	RELIANCE RACK RETURN	1	-	-	31	37	11	1	X	235		Recessed -W	VIC																											O/C	X
9485 - Load Unload Conveyor, Single, Automated	Steris	TBD	2	-	-	31	32	32	2	X	94	229	Freestanding	FLR							X	X	X							X								X			O/V	
9485-1 - Load Unload Conveyor, Single, Manual	Steris	SCS-1I/SCS-1U	4	-	-	31	32	32	2	X	94	229	Freestanding	FLR	120	1	15																								O/V	
9638 - Storage System, High Density, Top-Track	Intermetro Industries Corp	HIGH DENSITY TOP- TRA	2	-	-	-	-	-	3	X			Freestanding	FLR																											O/O	
10459 - Sealer, Heat, Countertop (Temperatures Digitally Controlled)	Rennco Incorporated	LIFT SEAL LS-18D	2	-	-	8	20	11	2		46	46	Countertop		120	1	5							X																O/O	
11831 - Reprocessor, Endoscope	Advanced Sterilization Product	EVOTECH	2	-	1	58	46	33	2	X	500	578	Freestanding	FLR	208	3		9000		30	X			X	X			X							X		X	X	7000	O/C	X
16062-1 - Cart, Instrument Wash, 55-15 16in. H X 65in. W X 32.5in. D	Steris	INSTRUMENT WASH CA	1	-	-	56	65	33	3				Mobile	POR																											O/O	
16062-2 - Cart, Container Wash, 71in. H X 30in. W X 66in. D	Steris	CONTAINER WASH CART	2	-	-	70-3/4	30	66	3				Mobile	POR																											O/O	
16575 - Cart, Case, Closed 39H X 33W X 29D	Intermetro Industries Corp	CASE24-L6S	25	-	-	39	33	29	3		115		Mobile	POR																											O/O	
17267 - Transporter, C-Locker	Herman Miller	C0342FF	2	-	-	42	28	26	3				Mobile	POR																											O/O	
19494-54 - Loading Car Transfer Carriage for 54in. Chamber Sterilizer	Steris	EVOLUTION	4	-	-	58	25	78	3	X			Mobile	POR																											O/O	
19816 - Sonic Cleaner, Countertop	Steris	RELIANCE CRT5	1	-	-	13	13	21	2	X	36		Countertop	CTP	120	1	12							X																	O/O	
19892 - Washer Disinfector	Steris	RELIANCE VISION	2	-	-	81	42	32	1	X	458	1187	Recessed -W	FLR	480	3	17			25			X		X					X	X		X		X	X	X	X	6299	O/V	
22143 - Sterilizer, 26 x 37.5 x 54	Steris	EVOLUTION	2	-	-	78	38	76	1	X	3800	3800	Freestanding	FLR	480	3	6			8	X	X	X		X					X			X		X		X	X	14650	O/V	
23162 - Cabinet, Endoscope	Stanley Innerspace Corporation	4800AA	2	-	-	92	36	18	1		205	2100	WallMount	WAL	120																										O/C	
23724 - Soak Station, GUS, Countertop	PCI Medical	G32-E	1	-	-	27	36	27	2		110		Countertop	CTP	120	1	1					X		X																	O/O	X
24644 - Washer, Cart, Pit Mounted	Steris	VISION 1327	1	-	-	112-3/4	124	130	1	X	6367	7483	Recessed -W	FLR	480	3	14							X		X				X	X		X		X	X	X	X	13800	O/V	
24683 - Changing Station, Baby, Horizontal	Koala Kare Products	KB200	4	-	-	22	35	23	1		28		WallMount	WAL																											O/C	
24684-1 - Cart, Scope Transport, 6-Tray	Advanced Sterilization Product	CLEANASCOPE 103600	1	-	-	36-1/2	20-1/2	23	3				Mobile	POR																											O/O	
24684-2 - Cart, Scope Transport, 10-Tray	Advanced Sterilization Product	CLEANASCOPE 103635	1	-	-	56-1/2	20-1/2	23					Mobile	POR																											O/V	
25542 - Ultrasonic Cleaner, Console	Steris	CAVIWAVE PRO CRP117	1	-	-	59	36	35	2	X		900	Freestanding	VIC	208	3	27							X												X	X	X	X	300	O/C	X
25575 - Sterilizer, Low Temperature-1 Door	Steris	V-PRO MAX	2	-	-	76	33	39	2	X		780	Freestanding	FLR	208	3	16			20				X	X															1046	O/V	
25594-1 - Water Treatment System - Reverse Osmosis with Deionizer	Steris	HCS-2052	1	-	-	66	77	36	1	X		1548	Freestanding	FLR	120	1				20	X			X												X			X		O/V	X
25825 - Disinfector, Ultrasound Transducer	GE Healthcare (Imaging)	TROPHON EPR	1	-	-	19-1/4	13-5/8	13-5/8	2	X	38		WallMount	WAL	120		5							X																	O/C	X
26370 - Workstation, Prep and Pack, Worksurface 36ft. X 72in.	Steris	ERGOSTAT	3	-	-	-	72	45	3				Freestanding	POR	120	1				20				X	X	X															O/V	X
26691 - Cart, Utility	Intermetro Industries Corp	MW 108	2	-	-	39	24	36	3				Mobile	POR																											O/O	
27986 - Waste Receptacle, General, 23 GAL, 33"H X 17"W X 20"D	Rubbermaid Commercial	6146 BEIGE	16	-	-	33	17	20					Mobile	POR																											O/O	
28218 - Cabinet, Flammable Storage, 12 Gal.	Justrite Manufacturing	891200	1	-	-	35	24	18	3		123		Freestanding																												O/O	
28657 - Clean Up Counter, 2 Sink	Steris	CCPS317735AH	1	-	-	42	77	31	2		395		Freestanding		120	1			140					X							X					X	X	X	X		O/C	
28658 - Clean Up Counter, 3 Sink	Steris	CC3110635AH	2	-	-	42	106	31	2	X	493		Freestanding		120	1			140					X							X					X	X	X	X		O/C	
28795 - Cabinetry Instrument Storage & Instrument Pegboard	McMurray Stern	Custom	1	-	-	45-3/4	238	27		X			Freestanding	VIC	120	1							X																		O/O	X
30601 - Air Gun with Wall-Mounting Bracket	Steris	Air Gun with Wall Mounting Bracket	3	-	-	-	-	-					WallMount	VIC																	X										O/C	X

MEP Equipment Constructibility Review

PROJECT: USC Norris Healthcare Center
SCHOOL:

DIRECTIONS: Please fill out the "Comments" column with the missing utilities based on your review of the cutsheets and drawings. Also include any assumptions made during your design and cutsheet review. See Cart Washer example below for reference.

MEP Equipment Constructability Review

Equip #	Equipment Name	Comments
24644	Washer, Cart, Pit-Mounted	The external exhaust, hardwired power, and network port are not shown in the mechanical, electrical, and telecom drawings. The compressed air, building steam, cold water, hot water, treated water, and a drain are all shown in the plumbing drawings.
11831	Endoscope Reprocessor (2)	
25542	Ultrasonic Cleaner, Console	
25594-1	Water Treatment System - Reverse Osmosis w/ Deionizer	
3376-1	Compressor Air Rotary Scroll	
9485	Load/Unload Conveyor, Single, Automated	
19892	Washer Disinfector	
999-04	Chemical Dispensing System	
26370	Work Station, Prep & Pack, Workstation, 36x72	
28657	2 Sink Cleanup Counter	
22143	Sterilizer, 26x37.5x54	
23724	Soak Station, GUS, Countertop	

INSERT TAB:

"General Conditions (GC's)"

Module 5: General Conditions (GC's)

For information on this module, reference your USB drive. Review the excel file located in the GC's folder. There will be a presentation by your DPR executive team later today which will explain this module in more detail. Come prepared with questions. Reference the ASC schedule in the beginning of your binder for timing of presentation.

INSERT TAB:

"Self Performed Work"

Module 6: Self-Performed Work (SPW)

USC NORRIS HEALTHCARE CENTER

PRECONSTRUCTION: CONCRETE ESTIMATE PACKET

TABLE OF CONTENTS

1. INTRODUCTION 3

2. INSTRUCTIONS 4-7

3. DEFINITIONS 8

4. VIDEO RESOURCES 9

INTRODUCTION

DPR Construction is a company built on the mission, 'To Build Great Things'. One of the most important aspects of our company is that we are a self-performing contractor. Our founders aspire to one day self-perform an entire project.

The self-performed group at DPR consists of teams within the company that specialize in specific trades. They bid, manage, and perform the work associated with their trade. Some of the self-perform divisions within DPR include: Concrete, drywall, surveying layout, Unistrut, ACT, and insulation. When owners allow DPR to self-perform work, it increases our fee while decreasing our risk. It also improves our control of safety, schedule, and cost management. Ultimately, this added control of our project benefits the owner.

This section will focus on our SPW Concrete division. You will create an estimate for SPW Concrete by performing a take-off of concrete foundations and selecting unit prices for the specific types of work. Remember to pay attention to the varied sizes and requirements of the foundation types identified.

INSTRUCTIONS

1. **QUANTITY TAKE-OFF**:

   Review the structural items listed on the TYPE column of the 'Concrete Estimate spreadsheet'. Open your drawings, specs, and details. Fill out the Description column.

USC NHC

SPW STRUCTURAL CONCRETE ESTIMATE

ITEM #	TYPE	Description (Height, Width, Depth)	QUANTITY	UOM	UNIT PRICE	TOTAL COST	TOTAL CY
1	PILE CAPS			EA			
1.1				EA			
1.2				EA			
1.3				EA			
1.4				EA			
1.5				EA			
2	GRADE BEAMS			SF			
2.1				SF			
2.2				SF			
2.3				SF			
2.4				SF			
2.5				SF			
3	SPREAD FOOTINGS			EA			
3.1				EA			
3.2				EA			
3.3				EA			
3.4				EA			
3.5				EA			
4	MAT SLAB			SF			
4.1				SF			
4.2				SF			
4.3				SF			
4.4				SF			
4.5				SF			
5	COLUMN TEMPLATES			EA			
5.1				EA			
5.2				EA			

   a. Enter your quantities into the 'Structural Concrete Estimate' spreadsheet.

USC NHC

SPW STRUCTURAL CONCRETE ESTIMATE

ITEM #	TYPE	Description (Height, Width, Depth)	QUANTITY	UOM	UNIT PRICE	TOTAL COST	TOTAL CY
1	PILE CAPS			EA			
1.1				EA			
1.2				EA			
1.3				EA			
1.4				EA			
1.5				EA			
2	GRADE BEAMS			SF			
2.1				SF			
2.2				SF			
2.3				SF			
2.4				SF			
2.5				SF			
3	SPREAD FOOTINGS			EA			
3.1				EA			
3.2				EA			
3.3				EA			
3.4				EA			
3.5				EA			
4	MAT SLAB			SF			
4.1				SF			
4.2				SF			
4.3				SF			
4.4				SF			
4.5				SF			
5	COLUMN TEMPLATES			EA			
5.1				EA			
5.2				EA			
5.3				EA			
5.4				EA			
5.5				EA			

2. **DETERMING THE COST OF WORK**:
    a. The 'Unit Cost' Tab in the Concrete Estimate Spreadsheets file will be used to determine an estimate for the foundations. Choose items from this list and plug into the 'Unit Price' column on the 'Structural Concrete Estimate' spreadsheet. *Note: you may need to extrapolate by combining some items together.*
    b. Then fill out the Total Cost, Total CY of Concrete, Total SPW Structural concrete cost, and Total cubic yards needed for project.

USC NHC

STRUCTURAL CONCRETE ESTIMATE

UNIT COST SPREADSHEET

ITEM #	DESCRIPTION	UOM	UNIT PRICE
1	4' x 4' Pile Caps	EA	$ 566.00
2	8.50' x 5' Pile Caps	EA	$ 988.00
3	8' x 4' Pile Caps	EA	$ 637.33
4	7' x 5' Pile Caps	EA	$ 812.26
5	9' x 3.5' Foundation	FT	$ 1,117.13
6	3' x 4' Grade Beam	FT	$ 433.25
7	5.25' x 4' Grade Beam	FT	$ 513.23
8	3.5' x 4' Grade Beam	FT	$ 767.89
9	1.5' x 1.5' Grade Beam	FT	$ 319.78
10	4.25' x 4' Grade Beam	FT	$ 423.00
11	3.41' x 4' Grade Beam	FT	$ 389.00
12	1' x 4.67' CIP Wall	FT	$ 1,212.46
13	1' Mat Slab	CY	$ 1,100.05
14	0.67' x 5' CIP Wall	FT	$ 987.12
15	1' x 12.25' CIP Wall	FT	$ 1,232.45
16	2' x 3.5' Foundation	FT	$ 768.33
17	6" x 3' Styrofoam between Foundations	FT	$ 13.14
18	Large Templates	EA	$ 534.10
19	3' x 3' Columns	EA	$ 5,789.12
20	2' x 2' Columns	EA	$ 4,310.29

USC NHC

SPW STRUCTURAL CONCRETE ESTIMATE

ITEM #	TYPE	Description (Height, Width, Depth)	QUANTITY	UOM	UNIT PRICE	TOTAL COST	TOTAL CY
1	PILE CAPS			EA			
1.1				EA			
1.2				EA			
1.3				EA			
1.4				EA			
1.5				EA			
2	GRADE BEAMS			SF			
2.1				SF			
2.2				SF			
2.3				SF			
2.4				SF			
2.5				SF			
3	SPREAD FOOTINGS			EA			
3.1				EA			
3.2				EA			
3.3				EA			
3.4				EA			
3.5				EA			
4	MAT SLAB			SF			
4.1				SF			
4.2				SF			
4.3				SF			
4.4				SF			
4.5				SF			
5	COLUMN TEMPLATES			EA			
5.1				EA			
5.2				EA			
5.3				EA			
5.4				EA			
5.5				EA			

c. Once you have determined the total cost of work for the structural concrete for SPW, **INPUT** this cost into the designated line item in the Schedule of Values (SOV).

3. CRITICAL THINKING:

a. We want you to ***DIG DEEPER***. As you are completing the SPW Concrete estimate, think about what risks we are taking on as a company and how we can mitigate them. This section may require some discussion with your teammates. Reference the critical thinking template for the questions to be answered. *Each response should be a minimum of 1-paragraph.*

4. DELIVERABLES:

a. For the deliverables of this section, the following need to be provided:

i. Take-off of Foundations
ii. Completed 'Structural Concrete Estimate' spreadsheet
iii. Critical Thinking Responses
iv. Optional: Bonus Question

5. BONUS:

a. Mix designs come with various properties. We have provided a file of potential mix designs that have been submitted for approval. Identify the best mix design to be used for each of the items identified above. Remember to check your plans and specifications!

DEFINITIONS

1. **Self-Perform Work (SPW):** a scope of work which is performed inhouse by the General Contractor.

2. **Cement:** a powdery substance made up of lime, iron, silica, and aluminum; mixed with water, fine aggregate and coarse aggregates to make concrete.

3. **Concrete:** the chemical reaction of when water is added to cement with a mixture of coarse and/or fine aggregates.

4. **Admixture:** an ingredient sometimes added to the concrete mix design during batching to modify one or more of the properties of the concrete.

5. **Water-to-Cement Ratio (w/cm):** The is the ratio of the amount of water to cement within a concrete mix. The maximum amount is usually determined by the Structural Engineer.

6. **Grade Beam (GB):** a grade beam is used to support loads that have minimal bending. They help transfer the load of a shear wall equally among the pile caps and/or caisson footings (bearing points) below.

7. **Spread Footings (SF):** a spread footing typically carries a single column and helps to spread this load of the building laterally into the soils. Also known as an isolated footing.

8. **Continuous Footings (CF):** a continuous footing typically to constructed to provide a stable base around the perimeter of the building. Most commonly used where spread footings support the center of the building.

9. **Pile Caps (PC):** pile caps are masses of concrete connecting a group of previously constructed on piles driven into the ground. These typically form part of the foundations of the building.

10. **Mat Slab:** also known as a raft foundation, it is used to distribute heavier building loads across an entire section of the foundation.

11. **Slab-on-Grade (SOG):** slab-on-grades are also known as *floating slabs*, are typically a single layer of concrete, where it is thickened at the edges to create an integral footing.

VIDEO RESOURCES

If you need some helpful hints on how to do the take-off for this section, below are links to some 'How To' videos to follow if using either Bluebeam Studio or On-Screen Take-off.

1. **Bluebeam Studio:**
    a. Link: https://youtu.be/gYAoTDZ3aEo

2. **On-Screen Take-Off:**
    a. Link: https://youtu.be/7b5qq3FKjwM

USC NHC

SPW STRUCTURAL CONCRETE ESTIMATE

								BONUS
ITEM #	**TYPE**	**Description (Height, Width, Depth)**	**QUANTITY**	**UOM**	**UNIT PRICE**	**TOTAL COST**	**TOTAL CY**	**MIX DESIGN #**
1	**PILE CAPS**			**EA**				
1.1				EA				
1.2				EA				
1.3				EA				
1.4				EA				
1.5				EA				
2	**GRADE BEAMS**			**SF**				
2.1				SF				
2.2				SF				
2.3				SF				
2.4				SF				
2.5				SF				
3	**SPREAD FOOTINGS**			**EA**				
3.1				EA				
3.2				EA				
3.3				EA				
3.4				EA				
3.5				EA				
4	**MAT SLAB**			**SF**				
4.1				SF				
4.2				SF				
4.3				SF				
4.4				SF				
4.5				SF				
5	**COLUMN TEMPLATES**			**EA**				
5.1				EA				
5.2				EA				
5.3				EA				
5.4				EA				
5.5				EA				
6	**ELEVATOR PITS**			**EA**				
6.1				SF				
6.2				SF				
6.3				SF				
6.4				SF				
6.5				SF				
7	**CIP COLUMNS**			**EA**				
7.1				EA				
7.2				EA				
7.3				EA				
7.4				EA				
7.5				EA				
8	**CIP WALLS**			**LF**				
8.1				LF				
8.2				LF				
8.3				LF				
8.4				LF				
8.5				LF				
9	**SLAB-ON-GRADE**			**SF**				
9.1				SF				
9.2				SF				
9.3				SF				
9.4				SF				

9.5				SF				
10	**EQUIPMENT PADS**			**SF**				
10.1				SF				
10.2				SF				
10.3				SF				
10.4				SF				
10.5				SF				

TOTAL SPW STRUCTURAL CONCRETE COST **$ -**

TOTAL CUBIC YARDS NEEDED FOR PROJECT **0**

CRITICAL THINKING DISCUSSION QUESTIONS

1. For the USC NHC project, are there other scopes of work that you may recommend we perform ourselves? Why? Reference the drawings to find specifics.

2. Notice that your foundation unit prices do not include overhead costs. Please list overhead items that DPR Concrete would need to create a complete foundation proposal. *Note: You do not need to enter this into your cost of work for the concrete foundations sections or into the SOV.*

3. What are the added risks of self-performing work which is typically subcontracted? What are some challenges associated with SPW trades? What are some reasons not to self-perform a scope? How can we mitigate risk when we are self-performing one or more scopes on a project?

INSERT TAB:

"Schedule of Values (SOV)"

Module 7: Schedule of Values (SOV)

ESTIMATE & SCHEDULE OF VALUES

A schedule of values, often referred to as an "SOV", provides a detailed break-down that details various scopes of work and their costs. These scheduled costs sum to equal the total contract value of a project. We use this tool to estimate the total value of the project.

Bid Tally: Estimators and Project Managers use bid tallies to evaluate subcontractor bids.

DIRECTIONS:

Our SOV is almost complete, but there are still a few trades that are missing estimated contract values! The following trades require costs: Casework, Doors, Frames & Hardware, Tile, Fire Protection and Mechanical. Please review all subcontractor bids and complete the bid tally provided. For each trade, identify which scopes the subcontractor has included or excluded in their proposal via the bid tally. Use this information to assist in the selection of subcontractors. Please make sure to note any additional or missing scopes on each subcontractor's bid tally, along with an associated cost.

BID TALLY

Inclusions Section: Use the inclusions listed in the subcontractors' proposals to generate your list of inclusions in your bid tally, but also make sure to complete a personal review of the drawings. Don't solely rely on the contractor's word!

Cost to Complete Section: This section is used to identify scopes that a subcontractor may not have priced, but that you know will be needed to complete the work. For example, if the painting subcontractor did not include a cost for touch-up paint in their price, and you know that touch-up paint will be required, make sure to include a line item under Cost to Complete with a lump sum cost for this missed scope. For the sake of this project, it is safe to assume that not all scopes, under any specific trade, need to be completed by the same contractor.

Deliverable: Turn in completed bid tallies in pdf and excel format

SOV

Once your bid tally is complete, select the subcontractor for each scope. Input their final number onto your SOV. The cost that you have input on the SOV should include the subcontractors cost plus any cost to completes you have identified. Include a detailed explanation of why this contractor was selected.

Your jobsite management and site requirements total should align with your GC's. Don't forget to set percentage rates for your insurance, fee and contingencies.

Deliverable: Turn in a completed SOV in pdf and excel format

CONSTRUCTION

SCHEDULE OF VALUES

PROJECT: USC NHP

ESTIMATE NO: 1
DATE:
ESTIMATOR: Your School
DURATION:

SPEC	TRADE	SUB/SELF-PERFORM	TOTAL	COMMENTS
1	**DEMOLITION**			
	Demolition		$ 96,912	
	Earthwork		$ 587,038	
	Surveying		$ 60,412	
	Concrete Decks		$ 2,581,630	
	Foundations			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	Waterproofing		$ 316,854	
	Landscaping		$ 308,277	
	Site Utilities		$ 476,769	
	Shoring		$ 437,276	
	Rebar and Reinforcing		$ 1,393,935	
	Structural Steel		$ 4,993,000	
	Decking, Stairs, and Miscellaneous Metals		$ 2,092,005	
	Sheet Metal/Flashing		$ 2,161,297	
	Fireproofing		$ 502,600	
	Exterior Glazing		$ 1,953,034	
	Roofing & Waterproofing		$ 520,493	
	Metal Studs, Drywall, Taping & Insulation		$ 6,137,767	
	Casework			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	Doors, Frames & Hardware			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	Carpeting, Rubber Tiles, and Epoxy Floors		$ 726,747	
	Tile			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	Acoustical Ceiling		$ 705,505	
	Painting		$ 295,723	
	Toilet Accessories, Wall Protection		$ 486,679	
	Interior Signage		$ 153,258	
	Window Coverings		$ 113,273	
	Elevators		$ 2,371,329	
	Fire Door		$ 347,768	
	Fire Protection			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	Plumbing			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	HVAC			MUST INCLUDE COMMENTS FOR WHY THIS SUBCONTRACTOR WAS SECLECTED
	Electrical		$ 9,804,360	
14	**GENERAL CONDITIONS**			
	Jobsite Management & Site Requirements			
	SUBTOTAL		$ 39,623,941	(Auto Calcs)
	Contractors Insurance & Bonds	<SET YOUR INSURANCE RATE>	#REF!	(Auto Calcs)
	Fee	<SET YOUR FEE%>	#REF!	(Auto Calcs)
	Design & Construction Contingency	(Auto Calcs)	#REF!	(Auto Calcs)
	PROJECTED CONSTRUCTION COSTS			
	TOTAL PROJECT COST		$ -	

****Make sure all equations are functioning properly** -

INSERT TAB:

"Scenarios"

Module 8: Scenarios

Module 8 – Introduction & Overview

Scenarios

Throughout the competition day, each team can expect to receive a series of 'real life' questions to your ASC email. These questions will be themed to ask about various construction topics and require fast-paced, professional responses to mimic the day-to-day barrage you will experience as a young project engineer in the working world.

Just as is with the ASC competition as a whole, each scenario is primarily written to be an educational experience by introducing students to common construction topics such as value engineering, site logistics, safety, innovation, etc.

High scoring responses will have the following characteristics:

1. Responses received on, or before, the mandatory deadline provided in the email body
2. Professional, business-oriented tone and formatting that you would feel comfortable sending to your company's upper management team
3. Well-developed responses that dive deeper into the issues and express thorough understanding of the topics

INSERT TAB:

"Red Zone Go/No-Go"

Module 9:
Red Zone "Go/No-Go"

Module 9 – Introduction & Overview

Red Zone "Go/No-Go"

Since the theme of the DPR Project Management ASC challenge is a preconstruction evaluation, the ultimate decision after completing the modules is whether to pursue the project, or decline the invitation to bid. As a part of this competition, your decision, and how you explain that decision, is a graded deliverable called the "Red Zone". The Red Zone is a nickname for the selection criteria used by DPR management teams to evaluate a project's worth and potential success.

Early in the day via email, you will receive detailed instructions on how to craft the narrative and explain your decision. High scoring responses on this module will share the following characteristics:

1. Directly address the DPR Red Zone selection criteria
2. Directly addresses DPR's Critical Success Factors
3. Discusses pros and cons from each of the day's modules and project characteristics and how they impacted your decision
4. Professional, business-oriented tone and formatting that you would feel comfortable sending to your company's upper management team

INSERT TAB:

"Mini Presentation"

Module 10:
Mini Presentation

Module 10 – Introduction & Overview

Mini Presentation

You should anticipate that one of the scenarios distributed through the day will prompt a more detailed discussion. After receiving the responses from the teams, we will distribute times to each team individually for two members to come down to the presentation room to present on, and discuss, a scenario response in greater detail for approximately 10 to 15 minutes. A high scoring response to this section of the module will include:

1. Clear slides and good visual aids
2. Comfortable communication and confidence in speaking
3. A good understanding of the questions asked and the material being presented on

INSERT TAB:

"Final Presentation"

Module 11:
Final Presentation

Final Presentation

On Friday your team will have the opportunity to present to the DPR management team. This is your chance to share your "go, no-go" decision on whether DPR should pursue this project. This decision should be a compilation of all the modules you worked on, gathering information on cost, schedule, logistics and all the intricacies that go into building a technical project.

While we don't expect you to go into detail for each module, we expect you to understand how each influenced your decision. Your presentation should touch on the following at a minimum:

- Contracts & Risk
- Logistics & scheduling
- General conditions & Schedule of values
- MEP Constructability Review
- Self-Performed Work
- Mini-Presentation
- Red Zone Analysis
- Scenarios
- Go, No-Go Decision

Remember, you work for DPR! Your team has been working on this job pursuit and this is your chance to present to *your* management team why DPR should or should not pursue this project further.