



Estimating Commercial Projects





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Presenter





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Disclaimer


This presentation is not intended to be a comprehensive program covering all aspects of this topic. All technicians are encouraged to read and follow all applicable standards, codes and regulations related to this topic.

- ✓ It is the responsibility of each individual contractor to follow local building codes and licensing requirements and to work safely in accordance with OSHA guidelines.
- ✓ It is the contractor's responsibility to take proper precautions on each project to prevent cross contamination. Always take the health and safety of the building occupants into consideration before you conduct any cleaning procedures.
- ✓ All of the following tips are only general tips. They do not cover every situation and it is your responsibility to adapt these tips to the individual system you are working on.
- ✓ The Instructor is not responsible in any way for the work you perform after viewing this slide show. You are responsible for your own work.
- ✓ The views and opinions following are the instructors opinions and not necessarily the official position of the National Air Duct Cleaners Association.




What We'll Learn


- Data Acquisition
- Tasks vs Component
- Estimating Projects
- Exercise




Building Types

- Residential
- Light Commercial
- Commercial
- Industrial
- Institutional









Data acquisition is the process of gathering all necessary information to create a complete proposal. This is usually equated with **being in the field or at the project's location**. The accuracy and integrity of the data accumulated is the beginning point of using the bid estimation system.

There are 2 types of data that we initially gather. The first is **mechanical system data** and the second is all other **project-related costs**. Blueprints are the best way to gather the mechanical system data but should not be completely relied upon.




Develop your own interview guide


- Client expectations
- Building and activities
- HVAC system
- Occupant complaints
- Nature of the call
- Ownership and organization documentation





- With no written scope of work your company will be required to conduct a great deal of extra work and you are taking a significant risk financially. If the customer states that no scope of work exists then you should recommend the NADCA Specification.....
- You should make every attempt early on to get the customer to sign off on the scope before generating a proposal because the rest of the contractors will be creating their prices from faulty information and up selling the customer once they get on the project.
- In order to create an competitive proposal all bidding contractors need to be quoting from the facilities Architectural Blueprints



Specifications






Scope of Work Example

The relining of the units-specify Armacell liner. This is done in the blower section of the AHU. Seal coat liner in filter section.


- 1.) AHU, A-1
 - Clean AHU, Low pressure duct from the VAV's to grill
 - High pressure supply and return duct system
 - VAV boxes
 - Clean AHU coils
- 2.) AHU, A-4
 - Clean/reline AHU. Remove the possible molded liner from the blower section of the AHU unit reline using Armacell Liner
 - Clean Supply and return duct system
 - Clean AHU coils
 - Seal coat liner in filter section.
- 3.) AHU, A-5
 - Remove the possible molded liner from the blower section of the AHU unit reline using Armacell Liner
 - Clean AHU coils
 - Seal coat liner in filter section.
- 4.) AHU, B-2,3,4
 - Clean AHUs, supply and return duct system
 - Clean AHU coils



Specifications

Where do we find the HVAC Cleaning?

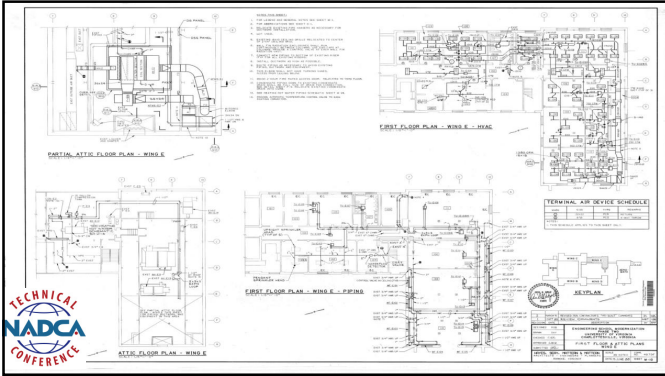
1. Division 15 (New Format Coming)
2. Division 23
3. Separate section for HVAC Cleaning
4. Keyed notes
5. General notes
6. Other sections can refer to your scope of work
7. Addendums

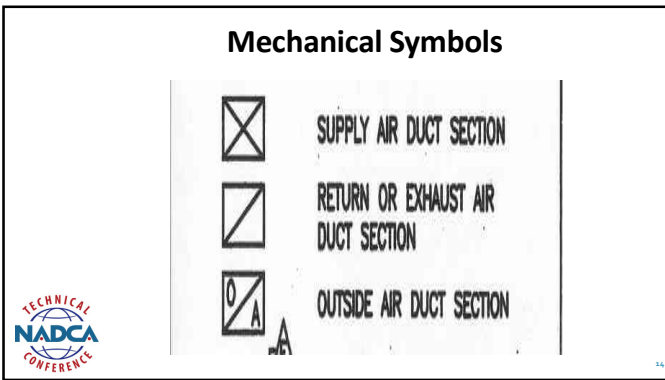


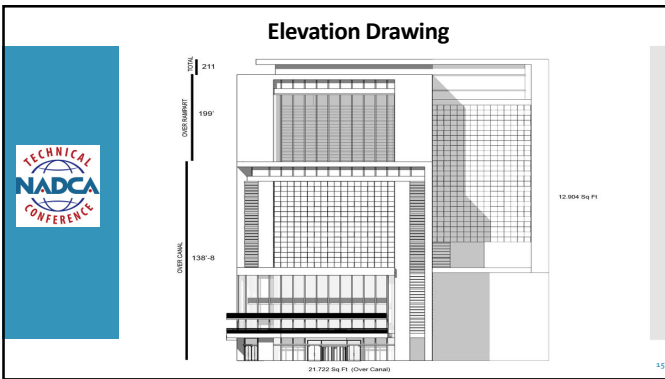
Background on Architectural Drawings

Architectural drawings are used by architects and others for a number of purposes:

- To develop a design idea into a coherent proposal
- To communicate ideas and concepts
- To convince clients of the merits of a design
- To enable a building contractor to construct it
- As a record of the completed work
- To make a record of a building that already exists. As Built (as it was actually built)
- In Order to create commercial proposals you need to understand key areas within Architectural Drawing








When We Have Questions



It's a risk to assume!

Mechanical Engineer
Building owners rep.
Specification writer



What is the difference?

Components
Tasks
Both Words = Money





Component
Man Hours
Task



Multiplying both Items Produces Man Hours

6 VAV Boxes
 X 3_{Man/Hrs}
 = 18_{Man/Hrs}

Component
 x Task
 = Man Hours

Material Equipment Usage Selection Process

Task Clean :6 Man Hours
 Task Coat :2 Man Hours



Component
 7.5-10 Ton

Task Clean: Materials
 Coil Cleaner 3 gallons
 Rubber Gloves

Task Coat: Materials
 Fungicidal Coating ?? sq. ft. per gallon
 Tyvek Suits
 Painters Hoods

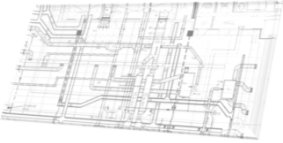

Task Clean: Equipment
 Negative Air Machine
 Contact HEPA Vacuum

Task Coat: Equipment
 Negative Air Machine
 Paint Sprayer
 Paint Mixing tools
 Paint Strainer

Doing Take-Off's on Mechanical Drawings

1. Review specifications to understand scope of project.
2. Confirm you have all mechanical pages.
3. Identify AHU's or other systems of concern
4. Review equipment schedules (if available).
5. Review notes on drawings.

Hands On Doing Take Off's



Tools Needed

- ✓ Highlighters
- ✓ Scale Ruler
- ✓ Scale master







Scale Ruler





Blueprints and Plans for HVAC
Joseph Moravsek, Frank Miller
BARNES & NOBLE
 www.bn.com
 • \$120 approximate price



The World's Finest Measuring Tools
SCALEX Corporation



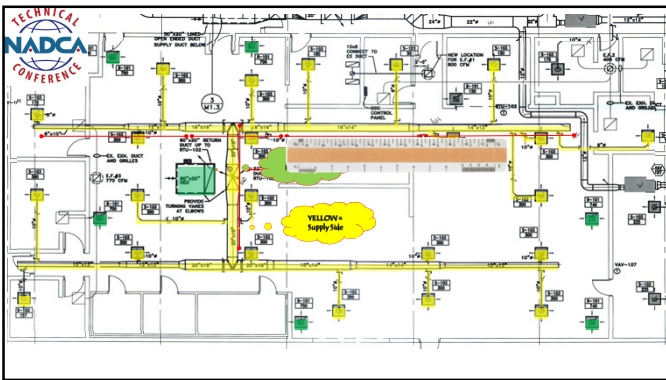
The Plan Wheel XLU2 is the perfect tool for taking scaled measurements from blueprints, maps and plans. Just select the built-in scale factor to match the plan and roll the PlanWheel. The measurement is displayed instantly. Portable, uses two AAA batteries (included). Connects to your computer with optional Interface Kit.

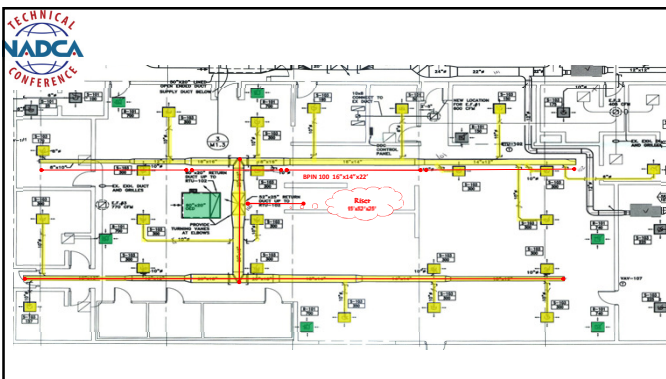



Cost around: \$100

Takeoff Exercises










Factors Affecting Pricing Criteria


Set-Up Time

Contamination Level of the Duct System

Accessibility of Items to be Serviced



Estimating the Project



Current Pricing Methods

Price by Linear Footage

Price by Man/Hour

Price by Point

Flat Rate Pricing




Materials plus Mark-Up

Materials with no Mark-Up

Price by Building Square Footage

Estimating Materials



- Line item each material
- % of labor method



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Estimating Other Items

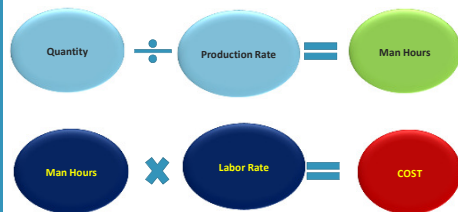

- Subcontractors
- Equipment rental
- Mobilization
- Demobilization
- Equipment maintenance
- Travel costs
- Project Management
- Others



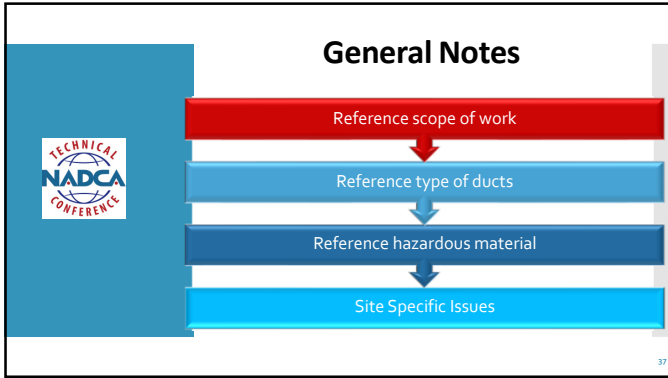
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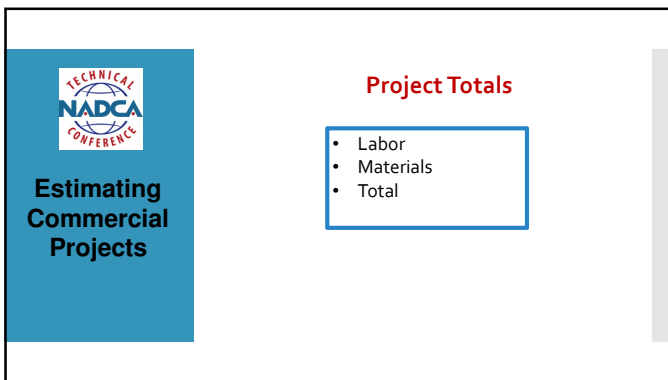
Estimating Labor

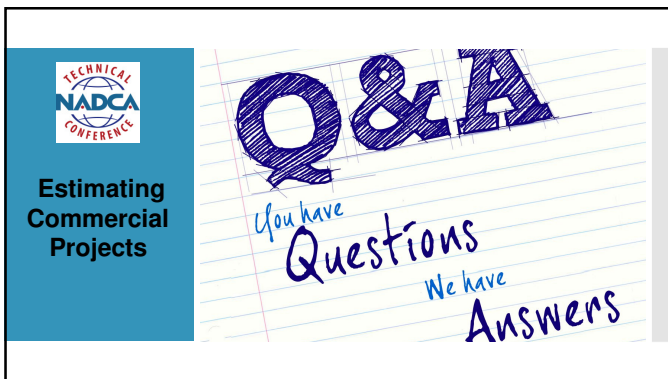
Converting take-off's to man hours




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Thank you
for
Participating!

