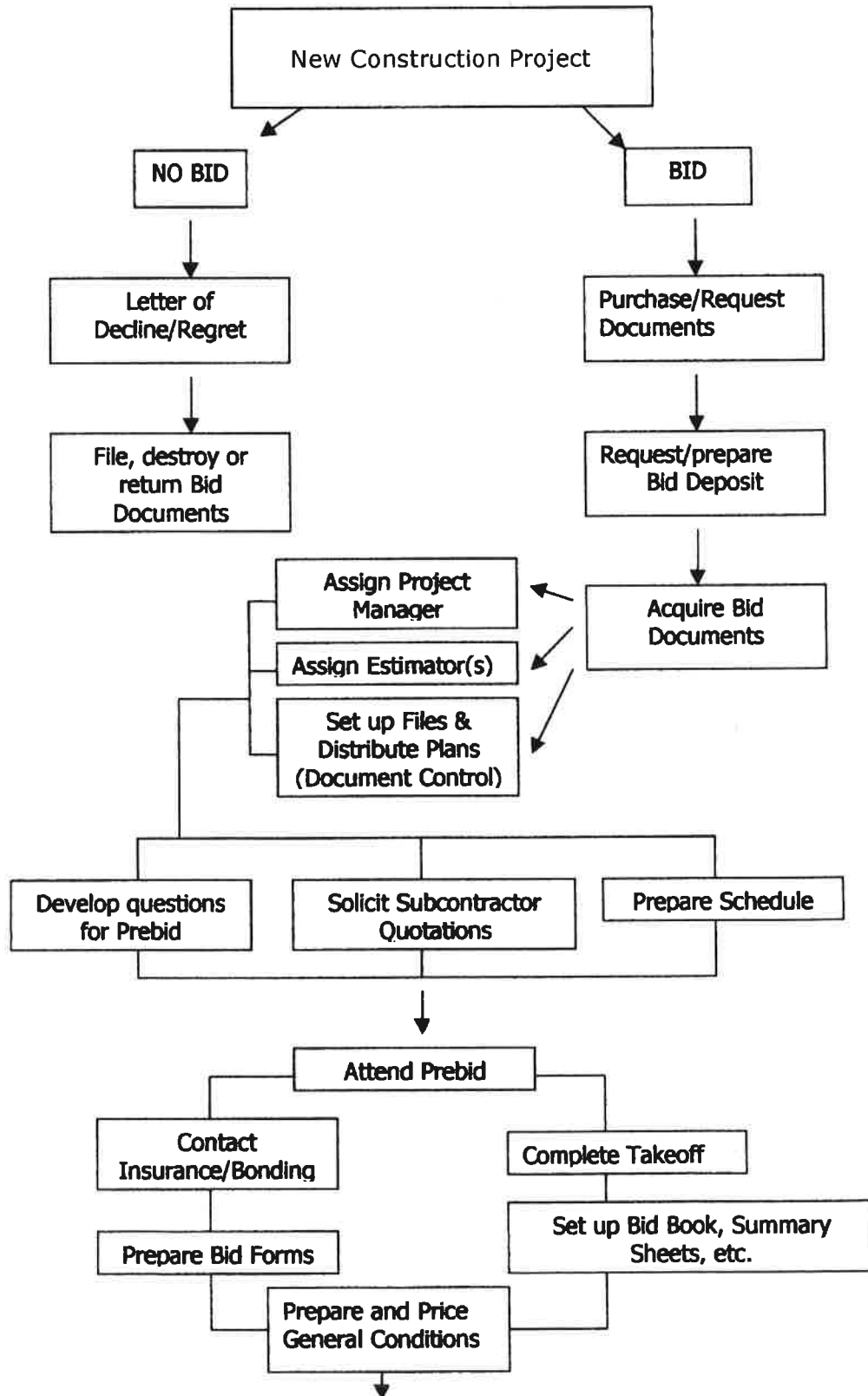


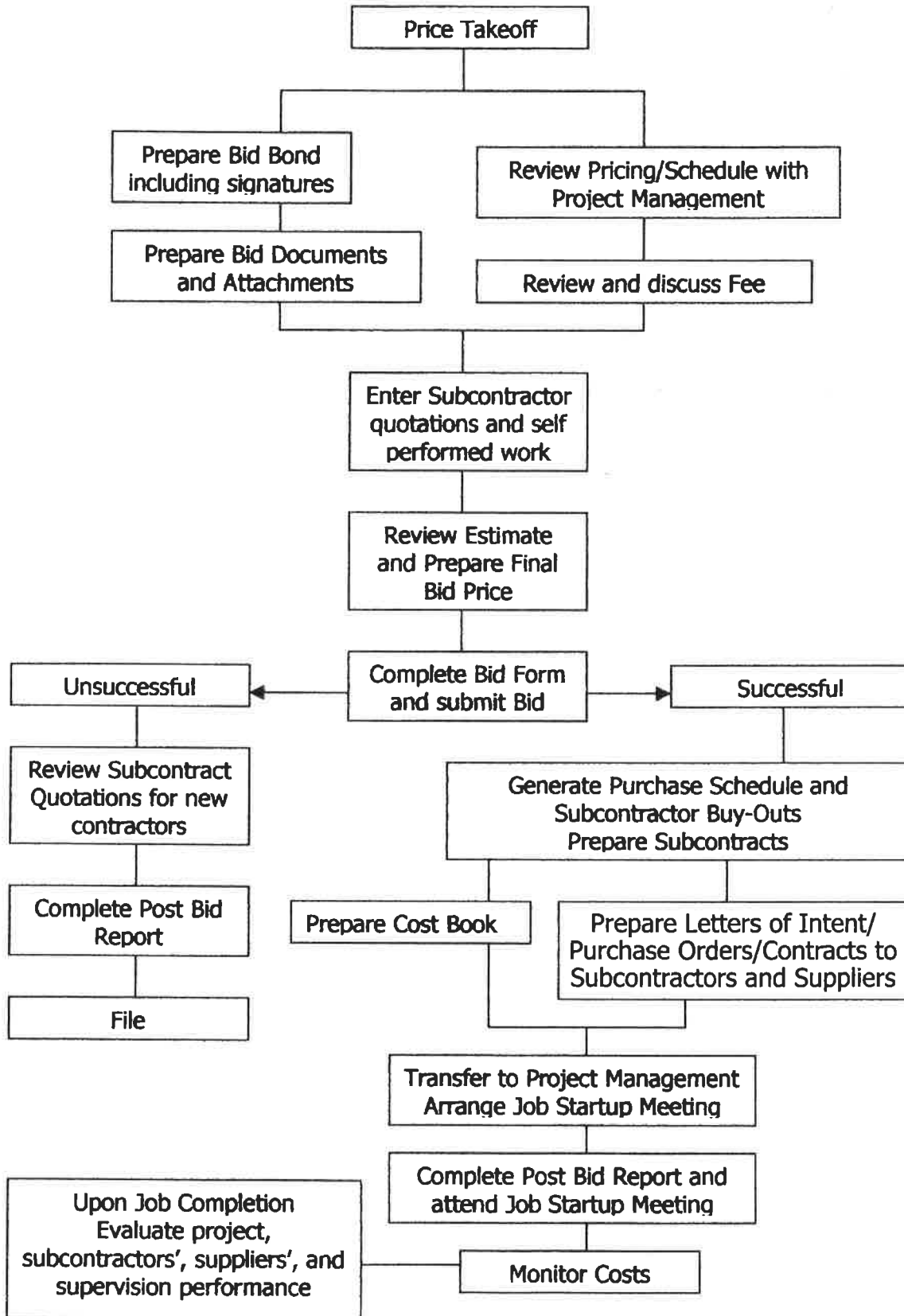


AMERICAN SOCIETY OF PROFESSIONAL ESTIMATORS
CPE – GEK WORKSHOP #5
CHECKLISTS
SPECIFICATION REVIEW
PLAN REVIEW

PRESENTER – DON WOOD CPE

ESTIMATE PROCESS FLOW CHART





SECTION 8 – CHECKLISTS/SPECIAL FORMS

Master Checklist

Bid Document Inventory Checklist

Site Investigation Checklist

Direct Cost Estimate Checklist

Overhead Estimate Checklist

General Conditions Estimate Detail

Final Summary

Final Summary Cut and Add Sheet

Account Summary

Estimate Detail

Quantity Survey

Refer to Part Two for discipline specific checklists/forms.

Master Checklist

Project: _____

Estimator: _____

Locations: _____

Estimate #: _____

Checklist

Date

Bid Document Inventory

Yes _____

Document Review

Yes _____

Estimating Assignments

Yes _____

Site Investigation

Yes _____

Direct Cost Estimate

Yes _____

General Conditions Estimate

Yes _____

Indirect Cost Estimate

Yes _____

Estimate Review

Yes _____

Bid Review

Yes _____

Profit Determination

Yes _____

Bid Adjustments

Yes _____

Bid Documents

Yes _____

Analysis of Bids

Yes _____

Notes:

Bid Document Inventory Checklist

Project: _____

Estimator: _____

Location: _____

Estimate #: _____

Original Issue: _____

Addenda #'s: _____

Inventory Completed

Missing Documents:

Document Name	Document Number	Document Name	Document Number
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Wrong Revisions:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Illegible Documents:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Acknowledgment Sent Yes – Date _____ No

Comments:

Site Investigation Checklist

Project: _____

Performed By: _____

Location: _____

Date Performed: _____

Estimate #: _____

Items Required:

Notepad, Pencils, Straightedge

Camera and Film

Pocket Recorder

List of Questions

Comments:

En route to Site:

Narrow Roads Yes No

Sharp Turns Yes No

Load Restrictions Yes No

Overhead Obstructions Yes No

Plant Security Yes No

Rail Access Spur Yes No

Alternate Routes Yes No

Signs of Previous Inclement Weather Yes No

Comments:

Today's Weather _____ Temp _____

Site Representatives [Names and Titles]:

Site Utilities:

Power [Description and distance]:

Voltages available: _____ Volt _____ Amps _____ Phase

Is existing power adequate? Yes No

Will overhead power lines restrict our operations? Yes No

Do underground power lines restrict our operation? Yes No

Is there a hookup and/or use charge for power? Yes No

What distribution problems are likely? _____

Comments: _____

Water [Source and capacity]: _____

Is existing water adequate? Yes No

Is there a hookup and/or use charge for non-potable water Yes No

Nearest available source for potable water: _____

Is there a hookup and/or use charge for potable water? Yes No

Comments: _____

Gas [Source and capacity]: _____

Is existing source adequate? Yes No

Is there a hookup and/or use charge for gas supply? Yes No

Are alternative sources available? Yes No

Is there a hookup and/or use charge for temporary gas? Yes No

Comments: _____

Compressed Air

Is compressed air required? Yes No

Is there an existing distribution system available? Yes No

Is this adequate? Yes No

Can single units handle rather than a distribution system? Yes No

Comments: _____

Site conditions

Groundwater

Is the area well drained? Yes No

Will a well point system be required? Yes No

Is the area subject to flooding? Yes No

Comments: _____

Clearing and excavation

Are permits required for clearing or excavation? Yes No

Is disposal area available? Yes No

Are there ground level or underground obstructions? Yes No

Are obstructions located visibly or on drawings? Yes No

Disposal area dump charges are: _____

Comments: _____

Construction Plant

Site availability

Is there adequate space for:

Comments:

offices Yes No

warehousing Yes No

material yard Yes No

staff and craft parking Yes No

construction traffic Yes No

Comments: _____

Are improvements or new construction required for:

- offices Yes No _____
- warehousing Yes No _____
- material yard Yes No _____
- staff and craft parking Yes No _____
- construction traffic Yes No _____

Comments: _____

Regulatory requirements and permits to obtain:

Building Permit

- Who obtains/pays for it? Owner General Subcontractor
- Whose jurisdiction Local State Federal
- _____

Sanitary Permit

- Who obtains/pays for it? Owner General Subcontractor
- Whose jurisdiction Local State Federal
- _____

Burning Permit

- Who obtains/pays for it? Owner General Subcontractor
- Whose jurisdiction Local State Federal
- _____

Dumping Permit

Who obtains/pays for it? Owner General Subcontractor

Whose jurisdiction Local State Federal

Other: _____

Who obtains/pays for it? Owner General Subcontractor

Whose jurisdiction Local State Federal

Other: _____

Who obtains/pays for it? Owner General Subcontractor

Whose jurisdiction Local State Federal

Other: _____

Who obtains/pays for it? Owner General Subcontractor

Whose jurisdiction Local State Federal

Other: _____

Who obtains/pays for it? Owner General Subcontractor

Whose jurisdiction Local State Federal

Comments: _____

Local Material, Subcontractor and Labor Supply

Are local suppliers available for:

- small tools and consumables? Yes No _____
- equipment rentals? Yes No _____
- office supplies/furnishings Yes No _____
- construction materials? Yes No _____
- fuel, oil and lubricants? Yes No _____
- Comments: _____ Yes No _____
- _____ Yes No _____
- _____ Yes No _____

Availability of Local Subcontractors

Name (Check {✓} = prior work for owner)	Trade/Craft	Phone	Union Agreements
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments: _____

Sources for Craft Labor

Name (Check {✓} = adequate forces)	Trade/Craft	Phone	Union Agreements
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ ()	_____	_____	<input type="checkbox"/> Yes <input type="checkbox"/> No

Comments: _____

Existing Plant Operation

- Will tie-ins be required at existing structures/plant? Yes No
- Will tie-ins be required at existing process lines? Yes No
- Will tie-ins be required at electrical distribution? Yes No
- Are advance notice/permits required? Yes No
- Are shut downs permitted? Yes No
- Has time for shut downs been allowed or scheduled? Yes No
- Are around-the-clock effort advance notice/permits required? Yes No

Comments: _____

Direct Cost Estimate Checklist

Project: _____

Bid Date: _____

Location: _____

Estimate Due: _____

Estimate#: _____

Have packages been assembled or contact made for:

Subcontractor scope:

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Comments: _____

Material and equipment vendors:

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Job site wages, fringes and burdens

Wages:

- Base wages Yes No
- Shift differential Yes No
- High pay Yes No
- Toxic pay Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Direct labor burden:

- Social Security Yes No
- Federal Unemployment Yes No
- State Unemployment Yes No
- Workers' compensation Yes No
- Liability insurance Yes No
- _____ Yes No
- _____ Yes No

Fringes:

- Health and welfare Yes No
- Vacation and holiday Yes No
- Pension Yes No
- Apprentice Yes No
- Legal Yes No
- Industrial Yes No
- Travel Yes No
- Subsistence Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments:

- _____
- _____
- _____
- _____
- _____ Yes No
- _____ Yes No

Quantity survey

Did this reveal any interference? Yes No

Are there any conflicts between the specs and the drawings? Yes No

Is there any scope duplication? Yes No

Is there any scope omission? Yes No

Plan views compared to details/sections? Yes No

Any allowances in quantities? Yes No

Have any questions been submitted? Yes No

Have any questions been answered? Yes No

Material listing

Is the listing detailed enough to purchase materials? Yes No

Are there confirmed quotations? Yes No

Have “plug” prices been used? Yes No

Have cut and add sheets been prepared for the “plug” prices? Yes No

Have extensions and additions been checked? Yes No

Have carry-forwards been checked? Yes No

Labor units**Development:**

Historical units available? Yes No

Compared to similar project? Yes No

Compared to company avg. Yes No

Reviewed by superintendents? Yes No

Developed by crew analysis? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Application:

- Table developed listing units? Yes No
- Checks made for correct use? Yes No
- Addition/extensions checked? Yes No
- Carry-forwards checked? Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Construction Scheduling

Schedule:

- Time phased with activities? Yes No
- Manpower located? Yes No
- Major milestones located? Yes No
- Multiple shifts shown? Yes No
- Overtime scheduled Yes No
- _____ Yes No

Other:

- Manpower curves? Yes No
- Organization chart? Yes No
- Resumes of key personnel? Yes No
- Work plan? Yes No
- _____ Yes No
- _____ Yes No

Overhead Estimate Checklist

Project: _____

Bid Date: _____

Location: _____

Estimate Due: _____

Estimate: _____

The intent of the term overhead, whether it be “General Contractor” or “Subcontractor,” is to imply the anticipated contract costs for all items that cannot be classified as direct field costs. The overhead costs include, but are not limited to, home office physical plant leasing or capital investment and maintenance cost, finance expense, home office physical plant services, support and pro rata salaries, project management, clerical accounting, general liability and comprehensive insurance costs, and outside services. The anticipated cost for overhead shall be shown separately in each estimate and may be calculated using either of the following methods: (a) define each item that is applicable to overhead and the anticipated cost or (b) apply a percentage based on historical information and adjusted to reflect contract size and duration, the company total contract volume, and expected costs for additional staff requirements for a specific project.

Home Office Plant

Plant capital investment:

Plant leasing:

Unimproved real property Yes No

Unimproved real property Yes No

Improved real property Yes No

Improved real property Yes No

Office buildings Yes No

Office buildings Yes No

Storage buildings Yes No

Storage buildings Yes No

Maintenance buildings Yes No

Maintenance buildings Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Plant Maintenance:

Plant Repair:

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Comments: _____

Home office Staff

Management and engineering

- Project manager Yes No
- Assistant project manager Yes No
- Project mgr. Secretarial staff Yes No
- Project structural engineer Yes No
- Asst. structural engineer Yes No
- Project engineer staff Yes No
- Project process engineer Yes No
- Asst. process engineer Yes No
- Process engineer staff Yes No
- Project architect Yes No
- Asst. project architect Yes No
- Project architect staff Yes No
- Chief estimator Yes No
- Senior estimator Yes No
- Estimator Yes No
- Estimator secretarial staff Yes No
- Quality control officer Yes No
- Scheduling personnel Yes No
- Cost engineer Yes No
- Office engineer Yes No
- Safety engineer Yes No
- Aircraft pilot Yes No
- Maintenance engineer Yes No
- Master mechanic Yes No
- Mechanic Yes No
- Heavy truck operators Yes No
- Light truck operators Yes No
- General plant laborers Yes No
- Janitorial personnel Yes No
- Landscape maintenance Yes No
- Personnel
- Security personnel Yes No
- Survey/layout personnel Yes No
- _____ Yes No

Administrative:

- General manager Yes No
- Office manager Yes No
- Managerial staff Yes No
- Contract administrator Yes No
- Comptroller Yes No
- Comptroller staff Yes No
- Payroll clerk Yes No
- Secretarial staff Yes No
- Receptionist Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Home office utilities – capital cost:

- Waste water systems Yes No
- Domestic water systems Yes No
- HVAC systems Yes No
- Electrical systems Yes No
- Sound systems Yes No
- Alarm systems Yes No
- Security systems Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Home office utilities – operating cost:

- Waste water systems Yes No
- Domestic water systems Yes No
- HVAC systems Yes No
- Electrical systems Yes No
- Sound systems Yes No
- Alarm systems Yes No
- Security systems Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Construction Equipment

Rental/lease equipment:

- Pro rata company rental Yes No
- Pro rata company lease Yes No
- Pro rata outside rental Yes No
- Pro rata outside lease Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Company owned equipment:

- Equipment service vehicles Yes No
- Car, station wagons Yes No
- Vans, pickups Yes No
- Light trucks Yes No
- Heavy trucks Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Home office supplies:

- Stationery Yes No
- Copier paper Yes No
- Forms – estimating Yes No
- Forms – administrative Yes No
- Forms – accounting Yes No
- File folders Yes No
- Printer toner Yes No
- Computer disks/peripherals Yes No
- Writing instruments Yes No
- Graphic supplies Yes No
- Postage costs Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Home office equipment

- Office furniture Yes No
- Copy machine(s) Yes No
- Computer Yes No
- Fax/printer Yes No
- Calculators Yes No
- Electronic measuring devices Yes No
- Computer software Yes No
- Video recorder Yes No
- Sound recorder Yes No
- Postage metering machine Yes No
- File cabinets Yes No
- Plan storage racks Yes No
- Plan storage cabinets Yes No
- Graphics equipment Yes No
- CAD station Yes No
- CAD Plotter Yes No

Comments: _____

Finance Expense

Progress payment delay cost: Interest, debt service charges:

- | | | | |
|---------------------------------|--|-----------------------|--|
| Has the amount been calculated? | <input type="checkbox"/> Yes <input type="checkbox"/> No | Real property | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No | Buildings, structures | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Is it included in the estimate | <input type="checkbox"/> Yes <input type="checkbox"/> No | Vehicles | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No | Equipment | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No | _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No | _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No | _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No | _____ | <input type="checkbox"/> Yes <input type="checkbox"/> No |

Comments: _____

Outside services:

- Engineering Yes No
- Architectural Yes No
- Equipment maintenance/repair Yes No
- Building maintenance/repair Yes No
- Janitorial Yes No
- Landscaping Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Insurance:

- Comprehensive general liability Yes No
- Personal injury/prop. damage Yes No
- Business auto Yes No
- Equipment floaters Yes No
- Builder’s risk Yes No
- Fire, extended coverage Yes No
- Insurance exclusions Yes No
- Worker’s comp (home office staff) Yes No
- Social security (home office staff) Yes No
- Fringe benefits (home office staff) Yes No
- Earthquake Yes No
- _____ Yes No

Comments: _____

Advertising/marketing:

- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Taxes/licenses:

- Real property tax Yes No
- Bus. property/equip tax Yes No
- State sales tax Yes No
- Motor fuel tax Yes No
- Special taxes/assessments Yes No
- Rental equipment tax Yes No
- Contractors license Yes No
- Vehicle licenses/registration Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Bonds:

- Contractor license Yes No
- Notary public Yes No
- Accountant Yes No
- Employee Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Technical:

- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Home Office Staff equipment

Rental/lease equipment:

- Pro rata company rental Yes No
- Pro rata company lease Yes No
- Pro rata outside rental Yes No
- Pro rata outside lease Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Company owned equipment:

- Equipment service vehicles Yes No
- Cars, station wagons Yes No
- Vans, pickups Yes No
- Light trucks Yes No
- Heavy trucks Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

General Conditions Estimate Checklist

Project: _____

Bid Date: _____

Location: _____

Estimate Due: _____

Estimate #: _____

The intent of the term general conditions is to imply the anticipated costs for division one or the project site direct costs, construction physical plant, construction equipment, supervision, supervision service equipment, hot and cold weather protection, small hand and power tools, expendables, permits, fees, licenses, testing, field engineering, and other costs that are required by the general and special conditions and its anticipated cost. A percentage, based on historical information, may be applied to the total direct costs as a judgmental verification of the previously calculated detailed general conditions estimate. General conditions may be shown as a percentage, based on historical information.

Mobilization

Move-in expense:

- Construction equipment Yes No
- Small tools and consumables Yes No
- Office trailers Yes No
- Tool vans & change houses Yes No
- Personnel relocation Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Field supervision:

- Project superintendent Yes No
- Architectural superintendent Yes No
- Civil superintendent Yes No
- Electrical superintendent Yes No
- Mechanical superintendent Yes No
- Structural superintendent Yes No
- Equipment superintendent Yes No
- Field engineer(s) Yes No
- Technical aides Yes No
- Secretary/clerk(s) Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Site Staff

The intent of the term site staff is to imply limited participation by home office managerial and administrative personnel on projects when these personnel are assigned to offices and quarters at the site of the project. Refer to Overhead Cost Definitions for projects staffed on site with supervisory personnel only who are fully supported by management and administrative personnel at the home office.

Office management/engineering:

- Project manager Yes No
- Assistant project manager Yes No
- Project engineer Yes No
- Assistant project engineer Yes No
- Estimator Yes No
- Cost Engineer Yes No
- Scheduler Yes No
- Office engineer Yes No
- Safety engineer Yes No
- Subcontract engineer Yes No
- Technical aides Yes No
- Secretary/clerk(s) Yes No

Administrative:

- Office manger Yes No
- Accountant Yes No
- Bookkeeper Yes No
- Timekeeper Yes No
- Secretary/receptionist Yes No
- Clerk/typist(s) Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Temporary buildings:

- Site offices – staff Yes No
- Site offices – owner Yes No
- Change houses – craft Yes No
- Tool sheds Yes No
- Warehouse Yes No
- First aid Yes No
- Fabrication shop Yes No
- Fuel and repair facility Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Temp utilities/water:

- Construction Yes No
- Fire protection Yes No
- Drinking water and ice Yes No
- Dust control Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Temporary constructions:

- Barricades and fencing Yes No
- Parking/roads-construct/main. Yes No
- Material storage & dunnage Yes No
- Signs & markers Yes No
- Scaffolding and ladders Yes No
- Enclosures Yes No
- Dewatering system Yes No
- _____ Yes No
- _____ Yes No

Temp utilities/electricity:

- Temporary power distribution Yes No
- Temporary power services Yes No
- Area lighting Yes No
- Heating and ventilation Yes No
- Systems and maintenance Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Temporary utilities/other:

- Gas systems Yes No
- Compressed air systems Yes No
- Welding power systems Yes No
- Telephone system Yes No
- Telecommunication system Yes No
- _____ Yes No

Equipment operating expense:

- Fuels Yes No
- Lubricants Yes No
- Repair & maintenance Yes No
- Operations labor Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Construction Equipment

Rental/lease equipment:

- Company rental Yes No
- Company lease Yes No
- Outside rental Yes No
- Outside lease Yes No
- _____ Yes No
- _____ Yes No

Company owned equipment:

- Repair & maintenance Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Site office supplies:

- Stationary & office supplies Yes No
- Engineering/drafting supplies Yes No
- Outside blueprint costs Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Site office equipment:

- Office furniture Yes No
- Copy machine Yes No
- Fax/printer Yes No
- Blueprint machines Yes No
- Computer Yes No
- Calculators Yes No
- Fire extinguishers Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Site office utilities:

- Water hookup & supply Yes No
- Power hookup & supply Yes No
- Gas hookup & supply Yes No
- Telephone hookup & supply Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Other site office costs:

- Photographs Yes No
- Travel expense Yes No
- Permits & licenses Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Small tools:

- Initial purchases Yes No
- Replacement purchases Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Cold weather protection:

- Unit heaters Yes No
- Tarps and plastic Yes No
- Enclosures Yes No
- LP gas/oil Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Consumables:

- Welding rod Yes No
- Welding gas Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Hot weather protection;

- Fans and ventilators Yes No
- Tarps and plastics Yes No
- Shelters Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Outside services:

- Material testing Yes No
- X-ray and other Yes No
- Authorized inspector Yes No
- Testing and inspection Yes No
- Survey and site layout Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Insurance:

- Comprehensive general liability Yes No
- Personal injury/property Yes No
- Business auto Yes No
- Equipment floaters Yes No
- Builder’s risk Yes No
- Umbrella excess liability Yes No
- Insurance exclusions Yes No
- Earthquake Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Other services:

- Janitorial Yes No
- Security Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Taxes/licenses:

- Material sales tax Yes No
- Local sales tax Yes No
- State sales tax Yes No
- Motor fuel tax Yes No
- Property taxes (equipment) Yes No
- Rental equipment tax Yes No
- Vehicle licenses/registrations Yes No
- Gross receipts tax Yes No
- _____ Yes No
- _____ Yes No

Comments: Include building permit, plan check and utility connection fees as required

Bonds:

- Bid Yes No
- Payment & performance Yes No
- Material supply Yes No
- Subcontractor Yes No
- Employee Yes No
- Installation warranty Yes No
- Contractor license bond Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Technical:

- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Home Office Support

The intent of the term Home Office Support is to imply limited participation by home office managerial and administrative personnel on projects when these personnel are assigned to offices and quarters at the site of the project. Refer to Overhead Cost Definitions for projects that are staffed on site with supervisory personnel only who are supported by management and administrative staffs at the home office.

Management:

- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Administrative:

- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Demobilization

Move out expense:

- Construction equipment Yes No
- Small tools/consumables Yes No
- Office trailers Yes No
- Tool vans & change houses Yes No
- Personnel relocation Yes No
- Punchlists Yes No
- Final job cleanup Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Scrap/salvage:

- Temporary facilities Yes No
- Temporary construction Yes No
- Freight Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Escalation – materials

- Permanent Yes No
- Temporary Yes No
- Freight Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Escalation – labor:

- Wages Yes No
- Payroll Yes No
- Insurance Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No
- _____ Yes No

Comments: _____

Finance Expense

Progress payment delay cost:

Other:

Has the amount been calculated? Yes No

_____ Yes No

Is it included in the estimate? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Comments: _____

Contingencies:

Quantity survey:

Strikes, walkouts, etc. Yes No

Was it done in accordance
with the plans and specs? Yes No

_____ Yes No

Abnormal weather Yes No

Are there any conflicting
areas remaining? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Comments: _____

Material and labor recap:

Has the estimate been assembled so
that all figures are traceable Yes No

Has it been prepared to reflect
how the job will be built? Yes No

Have plug amounts been
identified and adjustments
sheets prepared? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Estimated labor units:

Is this job similar to past jobs? Yes No

Do the labor units reflect the
similarities or differences? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Comments: _____

General conditions

Do the general conditions correspond to
the length of the project? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Can the job be properly staffed
with this number of people? Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

_____ Yes No

Comments: _____

SECTION 9 – SPECIFICATION REVIEW

Invitations to Bid and Instructions to Estimators/Bidders

Thoroughly review specifications during the estimating/bidding process. Conduct this review during periods of uninterrupted time to allow for proper mental concentration. Start at the beginning. Scan the table of contents to find out the included work and the order in which it is found. The invitation to bid and instructions to bidders provide answers to:

- ✓ Bid date and time
- ✓ Bonding requirements
- ✓ Bid location
- ✓ Availability of extra documents
- ✓ Liquidated damages
- ✓ Bid forms

Estimators should not make the mistake of disregarding this element of the estimate/ bid documents. So doing may result in submitted estimates/bids not being in accord with the requirements and therefore considered valueless though monetarily acceptable.

Relationship to Plans

The relationship is such that studying the specifications should be first and then coordinated with the drawings. Specifications have various sections. Each section describes:

- ✓ Warranties
- ✓ Standards of quality
- ✓ Installation practices and sequences
- ✓ Material manufacturers or criteria
- ✓ Special project circumstances

The most critical items during the estimating/bidding stage are the specific materials and procedures having a cost or schedule impact. It is imperative to read the specifications for all items regarding required product certifications etc. that could increase a material cost.

General and Supplementary Conditions

Read the general and supplementary conditions of the contract and thoroughly understand them. As an example, AIA Forms 101, 201, and 401 have different types and levels of project requirements. Notes on the contract form, insurance requirements, allowances, alternates, and addenda are an integral part of the estimate.

General and supplementary condition items that impact cost may include:

- ✓ Federal prevailing wages
- ✓ Payment date for retention
- ✓ Retention rate
- ✓ Retention rate reductions
- ✓ Alternates
- ✓ Unused material
- ✓ Detailing & shop drawings
- ✓ Date for final payment
- ✓ Date for progress payments
- ✓ As-built drawings
- ✓ Stored material payments
- ✓ Owner personnel training
- ✓ Basis for change orders
- ✓ Startup
- ✓ Operations & maintenance manuals
- ✓ State Prevailing wages
- ✓ Union agreements or apprenticeship requirements

Identify, list, and appropriately mark items that impact schedule for review by management and others involved in the estimate/bid process. Review each part of the general and supplementary conditions. Maintain a list of items needed for provision and installation, or services necessary for prosecution of the work. Translate this list into questions for subcontractors during the bidding process. Also use this list to cross-reference the drawings for coordination. Exercise special care in noting specific items such as:

- ✓ Completion date
- ✓ Partial or beneficial occupancy
- ✓ Liquidated damages/completion incentives
- ✓ Testing requirements
- ✓ Schedules of construction
- ✓ Continuation/interruption of existing facilities
- ✓ Continuation/interruption of existing utilities

Determining Pertinent Divisions and Sections

Local work and labor practices will dictate the exact specification sections application to the work. Be careful in rating the effects of all estimate/bid document elements referenced. Study contractual requirements for general and special conditions in addition to the technical specifications.

Detailed Review

Remove or copy all pertinent elements of the specifications and assemble in sequential order. A loose leaf, three-ring binder may be right for this purpose. Read each word from front to back and highlight items that are unusual, contradictory, particularly restrictive or abnormally vague. Be sure to understand and appreciate the cost and schedule implications of references such as:

- ✓ Per manufacturers recommendations
- ✓ Per uniform building code
- ✓ As selected by the architect
- ✓ As approved by owner, etc.

Typical examples of specifications having a cost or schedule impact could include:

- ✓ As-built drawings as a marked-up set of plans
- ✓ As-built drawings as reproducible tracings
- ✓ Shop drawings required
- ✓ Sample submittals
- ✓ Specific material grades and catalog numbers
- ✓ Types of materials allowed
- ✓ Sole sourcing for material or equipment

Also consider site accessibility for the duration of the project. Check unusual requirements for material delivery due to traffic congestion, truck waiting time, and availability of storage areas.

Review all sections of the specifications. Make provision in the estimate/bid for noted items directly related to each specific section. Exercise special care in noting specific items such as:

- ✓ Attachment requirements
- ✓ Mounting requirements
- ✓ Penetration requirements
- ✓ Design criteria

Interpretation of Intent

When reviewing specifications, the estimator should create an analysis and evaluation sheet. This sheet serves to remind the estimator throughout the takeoff process of important impacts on costs and productivity. It also serves to document the estimator's perception of the intent of the documents.

Define Scope of Work

Be specific in defining the scope of work, whether by inclusion or exclusion, in the estimate/bid submittal. For clarity, refer to division, section paragraph, and sub headings by the appropriate numbers and letters contained in the specifications.

Many companies have standard inclusions/exclusions that apply to all projects. A copy of these inclusions/exclusions for trades affecting the estimate/bid should be available during the estimating/bidding procedure. The estimator should note items of direct impact resulting from these standard inclusions/exclusions.

Note inclusions/exclusions unique to a specific project and explain in detail to all trades affected. The estimator must find inclusions/exclusions of other trades that change the specific estimate/bid and incorporate those in the estimate/bid.

SECTION 10 – PLAN REVIEW

Develop Familiarity and Format

Review the plans to interpret the design professional's style and intent. Read all notes and create a list of unusual items. Formulate a method of accounting for various types of work. Analyze details for practicality, intent, and inconsistencies. The preferred method of takeoff is to match the sequential order of actual construction. However, in extremely complex projects, it is usually easier to get started by beginning with the simplest typical systems or components. By the time the bulk of the basic work is complete, the drawings should be easier to understand. This simplifies identification and accounting of the complicated items.

Physical proof that the plan sheets agree with the title sheet index in title and number is critical. Note discrepancies, if any, between the index and the sheets. When there is no title sheet or plan index, prepare a list of the sheet titles and numbers. This is for reference and qualification of the estimate/bid.

Note the drawn to scale signs and prove their accuracy with mechanical or electronic measuring devices used for the quantity survey. Find out if the stated plan dimensions agree with the scaled dimensions noted on the drawing. Prudent observance of these procedures provides proof that the plan copies remain accurate to scale.

Review the plans for each section of work and determine the degree of completeness. State the appropriate levels for each section of the estimate. This review also should include the scope of work in each section. This is so selection of bidding subcontractors, when applicable, is on an informed basis. Information gleaned from the specification and plan reviews provide the estimator with knowledge required to complete the estimate/bid. This also allows intelligent requests for additional information from the design professional and response to queries from subcontractors and suppliers.

Carefully study the site location plan for items that may hinder access. Review the construction site plan to find out the following conditions:

- ✓ Project locations within property boundaries
- ✓ Security
- ✓ Location of office and storage trailers
- ✓ Distance of these from actual construction

Examine architectural/structural plans in detail for items of work such as:

- ✓ Roof type and roofing material
- ✓ Areas restricting the passage of work
- ✓ Type of exterior wall

- ✓ Areas restricting the specific scope of work
- ✓ Wall and ceiling dimensions
- ✓ Specific design criteria
- ✓ Equipment locations and layout
- ✓ Wall and ceiling materials and finishes