



State University
CONSTRUCTION FUND

PROJECT COST REPORTING GUIDE



State University Construction Fund
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A. PREFACE

This **PROJECT COST REPORTING GUIDE** has been prepared for use in conjunction with the State University Construction Fund's (the "Fund") Consultant's Agreements.

The purpose of this Guide is to present and clarify the Fund's requirements under Contract Article I for estimating and reporting project costs, outline acceptable cost estimation methods and establish reporting format for various scopes of work. This Guide is not intended to be a training manual for consultants or their estimators, nor does it attempt to offer guidance in every instance of variation of project detail which is inevitable in SUCF projects. Please communicate any questions regarding the use and application of this Guide to your Fund representative.

This guide is to be used in conjunction with the Fund's program directives. Discuss any potential conflicts with your Fund representative.

This Guide includes information regarding:

General Requirements

Project Scope Classifications

Phase Submission Requirements for Estimates

Estimate Content Descriptions

Deliverables

Copyrights and Confidentiality

Value Engineering

Appendixes

B. GENERAL REQUIREMENTS

1. Requirements for all submissions

- a. All estimates, at all phases except for Program Verification/Concept phase, will have line item costs broken out into labor and materials. Equipment costs, where appropriate, must be included in the material column. Labor and material cost breakouts must not be “proportional,” i.e. having a blanket percentage applied to unit prices. They must reflect an actual analysis of the labor hours and productivity rates required to perform a task and the actual cost of materials for an item.
- b. Follow Construction Specifications Institute (CSI) format for all estimates. The Fund has no specific direction for versions of CSI to use however the estimate must conform to the design consultant’s specification coding as it applies to the project. The format must be consistent throughout the project phases.
- c. The level of detail included in the estimate must relate to the level of documents the estimate is based on. If certain objects or items of construction work are identified on the phase submission drawings then that work must be identified in a line item in the estimate. Where quantities can be measured or calculated, lump sums or square-foot pricing will not be accepted. Refer to section D for further clarification.
- d. Estimates must include costs that are required to complete the construction project. Work not shown must be conceptualized. Conceptualizations must be verified with the design team for acceptability and intent, and described in an accompanying narrative. It is unacceptable to use contingency funds to provide funding for a scope of work even if it is not shown on phase drawings or not yet designed.
- e. Labor cost must be consistent with the NYS Department of Labor prevailing wage rates and staffing definitions. Use the most current rates as found on the Department of Labor’s website. Verify if any special labor conditions or Project Labor Agreements (PLA’s) will be in effect; if so use the appropriate wages as required by the agreement where they differ. Document all labor costs used by showing the base wage rate, insurance rates, benefits, taxes, and describe any blended rates using apprentices and multiple trades. Link:
<http://wpp.labor.state.ny.us/wpp/publicViewPWChanges.do?method=showlt>
- f. The Consultant must examine the scope of work and corresponding budget and confirm that the scope as presented can be accomplished within the corresponding budget. Any change to the program must be tracked, at each phase of design to determine if budget requirements have changed.
- g. Identify any unplanned, unusual or extraordinary conditions and assess the extent and nature of any budgetary impact so the Fund can provide project direction. Examples would include any special systems required by onsite conditions (example: supported foundations, underpinning, work in a congested location), additions to the original program (example: required code upgrades to existing systems, repairs required as a result of discovery during building inspections),

extraneous site work (example: providing temporary contractor facilities or relocation of site utilities) or changes in user/campus requirements.

- h. All estimates must be prepared using current unit pricing. The estimate must reflect the intended construction schedule; the Fund may provide (by ourselves or via a third party) either a detailed schedule or a list of milestones depending upon the level of design completeness. Estimates must include a factor for escalation to price the estimate in the projected time frame based on the submitted construction schedule. The escalation rate must be calculated from the date of the estimate to the midpoint of construction. The rate must match that currently being used by the Fund. For all phase submissions, escalation shall be the final markup on the Summary Sheet as it is separately tracked by the Fund.
- i. Refer to Appendix D of the Cost Reporting Guide for an example of a Detailed Estimate Worksheet. This format must be used for all estimate phases; Schematic, Design Manual or Pre-Bid.
- j. In developing estimates, items such as availability of potential bidders, as well as the need to adjust the projected bid date due to seasonal factors, must be considered.
- k. Refer to the Estimate Content Descriptions in Section D for a further description of estimate content requirements acceptable for each phase submission.
- l. Completion of an Estimate Summary Sheet and Narrative is required as part of each Phase Submission.

2. Comparisons

- a. With the submission of the current phase estimate, provide a comparison of the previous phase estimate to the current phase estimate. Identify in the comparison the reasons for major cost shifts and changes. The comparison format shall follow the estimate format.

3. Conformance to SUCF Budgets and Realignment

- a. If the Consultant's estimate for the phase exceeds the Fund's Budget, the Consultant must examine the overall project and its original cost basis, and describe the changes in the project that contribute to the cost overrun. These changes may include differences in the project scope, inadequate funding at the time of budget establishment, different existing conditions from the original assumptions, or other reasons; identify objectively what they may be.
- b. Identify a path back to the original budget. Reasonable project reductions required to reduce the estimated cost to match the available budget can be considered. Reductions must not affect the constructability of the project. Refer to section G, Value Engineering, for more information.

4. Review of Estimates

- a. The estimate provided will be reviewed in detail by the Fund and may be verified with an independent second estimate obtained by the Fund. The Consultant and its Cost Analyst shall review the Fund's comments and concerns and, if applicable, its second "check" estimate, and revise and reconcile their estimate accordingly, or provide further documentation to substantiate their costs. The process shall proceed until the Consultant's estimate is acceptable to the Fund. This process does not relieve the Consultant of their responsibilities under Section B(5)d of Article I of the Consultant Agreement. Appendix F describes the sequencing of this process. The Fund reserves the right to refuse estimates which, in its opinion, do not conform to the guidelines included herein, or are not comprehensive, not timely, grossly erroneous or for any other reason.

5. Scope

- a. Estimates must reflect the scope of the project as described in the drawings, specifications, and related reports. Estimates must not omit scope contained in the documents. It is a requirement that the schematic and design manual phase submissions capture the full intent of the overall project even though it is understood that all the details, means or methods on how to accomplish the intent will be established in future submissions.

6. Narratives

- a. Estimates must be accompanied by a narrative or assumptions-and-qualifications statement. The narrative must describe any solutions to construction issues proposed by the estimator as they relate to cost and constructability, and in the case of interpreting intent in the project, must describe what measures were made to capture the true cost of the project. The narrative must clarify any conditions or make discussion points to which the estimator cannot convey in numbers.

C. PROJECT SCOPE CLASSIFICATIONS

1. General

- a. Estimates and scopes of work are classified as New Building, Rehabilitation or Site Work. Many SUCF projects incorporate more than one classification; separate estimates must be prepared for each. In this instance an executive project summary combining all of the classifications must be prepared.

2. New Buildings/Additions

- a. Any new building or an addition to an existing building falls into this classification. New work is segregated so that appropriate unit costs can be derived from the estimate and compared internally to historical costs for similar building types.
- b. Generally, all of the work that is enclosed by the new building's envelope and foundations is to be included in this work classification. Excavation and backfill necessary for installation of foundations is to be included. Similarly, slab sub-base is to be included in this portion of the estimate. Damp-proofing, foundation

insulation, utilities inside and 5 feet beyond the building footprint, and foundation drains are also to be included in this section of the estimate. Selective demolition of existing interior space (where required by the new work) will be included in this portion of the estimate. (Refer to Appendix B of the Cost Reporting Guide for the Fund's version of the Project Estimate Summary Sheet for New Buildings.)

3. Rehabilitation

- a. Any renovation to an existing building or space is to be included in this portion of the estimate. Selective demolition of existing interior space will be included in this portion of the estimate.
- b. Refer to Appendix B of the Cost Reporting Guide for the Fund's version of the Project Estimate Summary Sheet for Rehabilitation work.

4. Site Work

- a. Site work includes all aspects of the project outside of the building envelope. Site work is estimated as a separate component of the project to ensure accurate and isolated building costs. All work such as mass excavation, pavements, sidewalks, site utilities, athletic fields, site lighting, site improvements, etc. shall be grouped into site. Note that building demolition (either whole buildings or select interior demolition) is typically building related, these costs must be reported as part of the New Building or Rehabilitation work classification.
- b. In the case of site work or site utility projects that serve multiple buildings, or that relocate utilities to enable other projects, the work must be identifiable from other site costs so the value can be tracked by the Fund.
- c. Refer to Appendix C of the Cost Reporting Guide for the Fund's version of the Project Estimate Summary Sheet for Site Work.

5. Appurtenant Buildings and Structures

- a. A project may include accessory type buildings. Examples of these may include connecting pedestrian bridges, chemical storage sheds, generator or switchgear enclosures, etc. These structures must have estimates prepared separately from the primary buildings they serve.

6. Projects with Multiple Phases

- a. Projects that consist of multiple construction phases, or projects that encompass design work for all construction phases of a project but intend to construct less than the full scope, must have estimates that separate the cost on a per-phase basis.
- b. The cost to perform work in phases must be included in the estimate. Identify actual work items (for example, temporary partitions, multiple mobilizations, additional labor costs or any kind of work that is newly installed and then removed at a later phase) in the phase in which the work occurs. Broadly defined "phasing

premiums” that consist of percentages applied to the cost of the work may not be used.

7. Hazardous Materials Abatement

- a. Projects that require hazmat abatement (including, but not limited to, lead, asbestos, PCB’s, mercury, contaminated soil, etc.) must have costs included for abatement. These costs will be included with the estimate classifications noted above; for example, asbestos abatement could be in renovated buildings or sitework, and contaminated soil removal could be part of all three classes. Do not exclude hazmat remediation from a project estimate if it is part of a project.

D. DESIGN PHASE REQUIREMENTS FOR ESTIMATES

1. For All Phases

- a. In all cases, the estimates submitted are responses to the consultant’s drawings, specifications, design narratives and other submission documents. The level of detail of the estimate must be commensurate or superior to the level of detail and decisions made in the design submission.
- b. Estimates are submit complete and in a timely fashion, and must include all supporting documentation.

2. Program Verification / Concept Phase

- a. As stated in the Consultant’s Agreement, Article I, Section B, Part (2) g., a Concept Phase Cost Estimate verifying that the project can be completed within the Program Budget is required. This is the only phase submission where a labor/material breakdown is not required.

3. Schematic Phase

- a. In the Schematic Phase, the estimate objective is to match the program scope, after preliminary investigation by the Consultant, with proposed costs. Keep cost estimates for program changes separate from the original scope. Whenever possible, break the estimate into the most finite CSI format. Each line item will have costs for Labor, Material and Total columns. At this phase, vendor material budgets for major or unique equipment must be included as back-up to the estimate. All markups are to be included on the Project Estimate Summary Sheet(s).

4. Design Manual Phase

- a. Estimates shall be taken off as finitely as possible with separate Labor, Material and Total columns for each line item. Market condition research must be ongoing, which includes the availability of potential bidders. At this phase, material quotes

for major equipment must be included as back-up to the estimate. All markups shall be separately displayed on the Project Estimate Summary Sheet(s). Approved changes are to be segregated within the estimate for ease of review.

5. Pre-Bid Phase

- a. The estimate shall reflect the full scope of work, in line item fashion, including separate Labor, Material and Total columns for each line item. No lump sums or square foot allowances will be permitted. Manufacturer's quotations for major equipment must be supplied as back-up. Market conditions research must be complete and corresponding adjustments incorporated, if necessary. Escalation factors, if any, are to be adjusted based on approved project schedule changes. For projects that include an extensive amount of work within a single trade, a more finite estimate breakdown is to be provided. Costs associated with constructability, such as phasing plan costs or premium time, are to be included and clearly identified at this time.

6. Post Pre-Bid Phase Through Bid Award

- a. The costs identified with any change to the scope as a result of Fund comments after the Pre-Bid submission must be estimated and forwarded for consideration. At the release of bidding documents, the consultant is expected to market the project to contractors to garner the maximum number of possible bidders. Should bid results vary considerably from the budget (guidelines vary depending on the size of a project) a post-bid evaluation will be required, from the Consultant, to explain the variance. This requirement must be completed within 7 calendar days of the receipt of bids, as a determination on whether to award the construction contract must take place by the Fund shortly after receipt of bids.
- b. Addenda, if any, must have an estimate describing the cost impact. Include a cost estimate that details any budget impacts and issue it to the Fund for review not less than 1 week prior to the bid opening. It is acceptable to issue one estimate that encompasses multiple addenda.

7. Summary of Contingencies and Markups for Phase Submissions

- a. The following tables summarize the *maximum* recommended mark-up and contingencies for each phase submission. Any deviations from these rates require a detailed explanation.

Phase Submission	*General Conditions	**Overhead & Profit	***Design Contingency	****Bid Contingency	Escalation %
Concept/Program Verification	Not more than 10%	See Below	15%	5%	Date of estimate to midpoint of construction
Schematic	Not more than 10%	See Below	10%	5%	Date of estimate to midpoint of construction
Design Manual	Not more than 10%	See Below	5%	5%	Date of estimate to midpoint of construction
Pre Bid	Not more than 10%	See Below	0%	5%	Date of estimate to midpoint of construction

- * **General Conditions percentages** must be reflective of the working conditions, schedule and means/methods of construction. A detailed estimate of general condition items is acceptable in lieu of a percentage.
- ** **Overhead and Profit percentages** must be reflective of the complexity of the project scope, economic climate as well as the overall base construction cost.
 For projects under \$1,000,000 the average rate is 12.5%.
 For projects between \$1,000,000 and \$15,000,000 the average rate must not exceed 10%.
 For projects between \$15,000,000 and \$50,000,000 the average rate must not exceed 8%.
 For projects over \$50,000,000 the average rate must not exceed 6%.
- *** **Design Contingency percentages** must reflect the level of completeness of the contract documents at the submitted phase. The percentages shown are a not-to-exceed value.
- **** **Bid Contingency percentages** must reflect the economic climate of the area at the time of bidding. The Fund, at its discretion, may direct the consultant to use a differing percentage or exclude bid contingency from a project estimate.

Do not include hidden contingencies, lower tier contractor markups, or unnecessary percentages on item costs in an estimate. Unit labor and material prices shall represent bare cost with no hidden markups. Material and equipment cost shall be based on quoted or current market pricing.

- b. Do not include contingencies or markups for the following:

Green building costs - These costs must be included in the estimate line items; a percentage allocated for this work is not acceptable.

Phasing - Increases in construction cost required by a phased project must be identified in the line items as construction scope; a percentage for this work is not acceptable.

Overtime or premium time - If the project requires a non-standard rate, identify the time any premium or shift differential work is applicable to in the estimate line items. Again, a percentage for this cost is not acceptable. Note that the Fund does not generally permit large amounts of overtime, in accordance with State policy, and any need for this is a rare occurrence.

c. Markups for Mechanical and Electrical Trades

In all estimates, pricing for Fire Protection, Plumbing, HVAC and Electrical trades must be included at the **Subcontractor’s cost to produce**. Separate line items shall be included to show the overhead and profit, general conditions, insurance and bonding costs of the subcontractor and these items will be included in the estimate detail. This is a requirement for all estimates at all phases.

d. Fund’s Contract Approach

Estimates must reflect the Fund’s approach to awarding contracts as established by the State Legislature. The Fund is exempt from the Wicks Law. Virtually all contracts are awarded to a single prime contractor who is then responsible for his own subcontractor agreements. The contracts are awarded on a lump-sum basis to the lowest qualified bidder. The estimate is required to reflect this contracting approach. There are occasional exceptions to this policy and the Fund will advise the consultant if this policy will not be in effect for a specific project.

E. ESTIMATE CONTENT DESCRIPTIONS

The following table outlines the acceptable content for each phase submission in the design process. Refer to this table when progressing from one design phase submission to the next to clarify the requirements for each phase estimate.

<p>Format</p>	<p>Provide estimate detail organized in CSI Format. Specific version of CSI shall match the organization of the design consultant’s specifications. A “systems” format is unacceptable. Utilize separate Project Estimate Summary Sheets for each new building, each rehabilitation, each addition, and each related site work project. Base cost shall be in current dollars and pricing.</p>
<p>Lump Sum Pricing</p>	<p>Schematic: Lump sums shall represent complete systems and be inclusive of all anticipated ancillary work for that system. The actual labor rates and equipment cost shall be incorporated into lump sums. Pricing shall represent labor, material, tools, shipping, equipment rental, rigging, hoisting, etc. as required. Vendor quotes (provided selections are confirmed) must be provided at the time of the phase submission.</p>

	<p>Design Manual: Lump sum pricing shall be kept to a minimum at this phase. Vendor quotes, if available, must be provided at the time of the phase submission.</p> <p>Pre Bid: Lump sum pricing is unacceptable at this phase unless the work is of a highly specialized nature and is substantiated by subcontractor or vendor quote. The quote must be provided. Quotes shall be all inclusive of labor, material, equipment, supervision, etc.</p>
<p>Quantity Takeoff</p>	<p>Schematic: Quantity take off shall include take off from drawings / schematic plans. Anticipate and conceptualize work not yet shown, but required for a complete system.</p> <p>Design Manual: Takeoff shall indicate square feet, linear feet, cubic yards, etc. and counts for individual pieces of equipment from drawings. Lumps sums shall be kept to a minimum. Detailed takeoffs shall be provided for all divisions</p> <p>Pre Bid: A detailed takeoff shall be provided showing all quantities for work included on project. Lumps sums are unacceptable. The takeoff shall be as detailed as possible to provide as true a representation of the scope of work.</p>
<p>Unit Pricing</p>	<p>Unit pricing shall be all inclusive of labor, supervision, material, tools, shipping, equipment rental, rigging, hoisting, etc. Material and labor costs shall represent typical market conditions for the project location.</p>
<p>Material Pricing</p>	<p>Schematic: Indicate pricing for components in individual divisions. Material and equipment pricing shall represent typical market conditions at the location of the project.</p> <p>Design Manual: Pricing for materials and equipment shall be adjusted for anticipated market conditions and actual quotations from vendors. Include vendor quotations for major equipment / subcontracts with phase submission.</p> <p>Pre-Bid: Update material and equipment pricing as necessary due to refinements in design. Provide updated manufacturer's / subcontractor's quotes to verify major equipment / system pricing.</p> <p>In all cases, material pricing for each line item shall be in a discrete column. Equipment cost items which represent a significant sum (examples: tower cranes, external hoists on high-rise buildings, or any equipment costs that are pivotal to the constructability of the project) must have their own line item costs identified in the estimate. General conditions percentages must be adjusted to reflect the inclusion of equipment costs in the estimate detail where appropriate, i.e. do not "double dip."</p>
<p>Labor Pricing</p>	<p>Schematic: Labor cost shall be based on actual prevailing wage rates at the project location. Labor rates shall be representative of the trade being estimated.</p> <p>Design Manual: Confirm that labor rates are current and verify rates for different divisions. Labor hours shall be indicative of the work represented on drawings and anticipate work not yet shown on drawings.</p> <p>Pre Bid: Verify labor rates and scope of work for labor takeoff. Adjust labor hours to compensate for refinements in scope and job conditions.</p> <p>In all cases, labor pricing for each line item shall be in a discrete column. Special labor cost situations (example: weekend or shift work, any labor costs that are pivotal to the constructability of the project) must have their own line item costs identified in the estimate.</p>

<p>General Conditions</p>	<p>Apply reasonable markup for General Conditions for bonds, job trailer, project management and supervision, coordination, meetings, submittals, shop drawings, CPM schedules, construction photographs, administrative work, temporary facilities, temporary utilities, cleaning and fencing. Identify GC costs for special or unusual conditions (such as marine or railroad insurance, exceptional traffic protection, security requirements, etc.) as a separate line item. Refer to section D.7 of the Cost Reporting Guide for mark-up percentages for each phase submission. General Conditions shall appear on the Summary Sheet(s). Special equipment (such as common-use cranes) or construction conditions (such as sheeting/shoring or offsite staging areas) must be separately identified in the estimate detail and not “double dipped” in the GC percentage.</p>
<p>Overhead</p>	<p>Apply reasonable markup for overhead to include contractor's home office operation, insurances, administration payroll, payment and performance bond, etc. Refer to section D.7 of the Cost Reporting Guide for mark-up percentages for each phase submission. Overhead shall appear on the Summary Sheet(s).</p>
<p>Profit</p>	<p>Apply reasonable markup for contractor's profit. Refer to section D.7 of the Cost Reporting Guide for mark-up percentages for each phase submission. Profit shall appear on the Summary Sheet(s)</p>
<p>Abnormal Market Conditions</p>	<p>Schematic: Abnormal market conditions are not typically forecastable at this phase.</p> <p>Design Manual: Extraneous market conditions for material, labor and equipment may be evident at this time. Project schedule must be considered to adjust for market conditions. Equipment, material and labor costs must be adjusted to compensate for market conditions.</p> <p>Pre Bid: Verify local market conditions for the project and verify quantity of available and willing bidders for project. Compensate for heavy competition or lack thereof for project. Identify as additional line item / markup at end of estimate.</p> <p>Abnormal Market Conditions costs are rarely applicable to SUCF projects. Such costs shall appear on the Summary Sheet(s). In all cases a detailed description of such conditions, and potential mitigation, is required as part of the submission.</p>
<p>Design Contingency</p>	<p>Apply design contingency to accommodate anticipated refinements in drawings, specifications and scope of work. Refer to section D.7 of the Cost Reporting Guide for mark-up percentages for each phase submission. Design Contingency shall appear on the Summary Sheet(s).</p>
<p>Bidding Contingency</p>	<p>Apply bidding contingency to accommodate variations in contractor bids. Refer to section D.7 of the Cost Reporting Guide for mark-up percentages for each phase submission. Show on the Summary Sheet(s). The Fund may, at its option, exclude this contingency.</p>
<p>Escalation</p>	<p>Incorporate escalation in accordance with project schedule into estimate. Escalation shall be calculated from the date of the estimate to the midpoint of construction according to project schedule. Escalation shall appear on the Summary Sheet(s). Verify the correct SUCF rate with the Cost group.</p>

F. DELIVERABLES

1. **General Discussion** – Estimates must be complete and comprehensive. It is acceptable to have estimates prepared by experts in different trades, however, each part of an estimate must be combined into a single, complete summary sheet, and each component must have a consistent format and appearance. The complete estimate must be submitted at the same time as the design package to which it represents.
2. **Electronic Submissions** – All estimates must be submitted in electronic format. Microsoft Excel is the only acceptable software for submissions. The Fund does not require any data or formulas that the consultant may consider proprietary or copyrighted, however, the submission must have active formulas such that the Fund can modify the submission and return to the consultant for review. At a minimum, line item extension formulas ($a*b=c$), column subtotals and links from subtotals to summaries must be present. Editable PDF's are not acceptable, nor are Excel files that have been "range valued" such that no mathematical formulas remain.
3. **Material Quotations** – Estimates that incorporate certain equipment, machinery or unique, proprietary or special systems must have costs for these systems documented separately. Such items may include large emergency generators, electrical switchgear, thermal generating equipment (boilers or chillers), automated parking equipment, or any product or material custom made or not sourced through normal commercial channels. Any product or system that represents more than 10% of the value of a submitted estimate must have its costs verified with a material quote. These quotations must include pricing for the specified product or material, and describe the scope of services associated with it, i.e. delivery, assembly, maintenance agreements, training, etc. The quote must be from a source that is authorized to sell the product by the manufacturer. Historical data, or quotes for similar or equal products obtained from other projects, is not an acceptable substitute for quotations for the specific project.

G. COPYRIGHTS AND CONFIDENTIALITY

1. **Copyright** – In accordance with the contract, consultants are reminded that all work product for a project is the property of the State of New York. This includes all deliverables related to the Cost Estimate as well as materials described within this document that are intended to support the estimate.
2. **Limitations** – Consultant and their estimators are not required to convey copyrights of source materials to the State of New York. Such source materials may include spreadsheet designs, information from historical databases, or proprietary formulas or algorithms.
3. **Confidentiality** – Cost data for any Fund project is to be treated with the utmost privacy. Project cost data shall not be disseminated to any party outside of the Fund's project team, nor shall it be made available to contractors, material suppliers, or outside organizations or individuals. Requests for cost data made under the Freedom of Information Law must be referred back to the Fund.

4. **Reuse of data** – The Fund expressly prohibits the resale of complete or partial project cost data to any and all outside parties, for any purpose. In the interest of aiding industry collaboration, the sharing of project cost data for comparison or historical purposes is acceptable provided the following is performed:
 - a. The project name and location is anonymized and regionalized, and not identified specifically.
 - b. Public bidding on the project has been completed.
 - c. At the point of the project's beneficial occupancy, the constraint of item (a) above shall be withdrawn.

H. VALUE ENGINEERING

1. **General Discussion** – In the interest of maximizing value for the campus clients, users, students and taxpayers, all Fund projects, at every cost estimate submission, and not withstanding any project size or cost, will include a Value Engineering suggestion section.
2. **Projects under budget** - For projects that are at or under budget, a listing of ideas, without pricing, will be an acceptable submission.
3. **Projects over budget** – For projects over the Fund's established budget, a listing of ideas along with deduct pricing will be required. The pricing will be detailed using the same line items and level of detail that has been supplied in the phase estimate submission.
4. **Scope and nature of ideas** – Value Engineering should reflect an in-depth brainstorming of cost saving alternate solutions to a design problem. In this spirit, virtually all ideas should be made available for team review, including ideas that may conflict with Fund standards or those that may be counter to campus or user requests. VE ideas that include random or generalized reductions in scope, including reductions in net SF or the wholesale deletion of space, building structural bays, or fitout of areas are discouraged and should not be suggested as methods to regain budget and contract compliance.
5. **Presentation** – VE should be organized by trade, and costs built up based on CSI divisions, as the remainder of the estimate. A copy of the SUCF VE reporting log is shown in the Appendix and is available as a live Excel file from your Fund representative. This log shall be used for all VE submissions.

APPENDICES

Appendix A: AREA TAKEOFF METHODOLOGY FOR COST ESTIMATING

1. General

- a. The areas defined below are used to determine the Program Budget for projects that deal with new construction, and where applicable, major rehabilitations. The definitions provided herein are intended to be comprehensive; however, situations may arise for which this guide is not inclusive, including some possible specific conflicts with the Design standards. Questions regarding such situations must be directed to the assigned Construction Fund Design Coordinator.

2. Net Program Area

- a. The Net Program Area is the programmable interior floor space enclosed by walls, ceiling and/or roof, and a constructed floor assigned to a particular academic or support function of a building. The Net Program Area for various types of space (i.e., laboratories, classrooms, offices, etc.) is subject to Facility Programming Standards established by the State University of New York (SUNY) in conjunction with the Fund.

3. Optimum Gross Area

- a. The Optimum Gross Area of a building is the net program area, plus all additional building space theoretically necessary to connect the areas in an efficient design solution. The Optimum Gross Area is arrived at by multiplying the Net Program Area by a Grossing Factor. Grossing Factors vary with the type of space being constructed and have been generated from historical data compiled by the Fund.

4. Design Gross Area

- a. The Design Gross Area of a building is the total space enclosed by the exterior walls of a structure. For the purpose of establishing the Project Program Budget, the design gross area is calculated on a straight area basis as taken off from design drawings. ***Typically this is the area used to develop the project cost estimate, as it is the "actual" area of the building.***

5. Areas Included In Design Gross Area (Space not included in net program area)

- a. Building Components
 - Space occupied by columns, walls and partitions, shafts, chases, furred space.
 - Toilet rooms (including vestibule and dressing rooms).
 - Locker space in public areas (Locker Room will be assigned Net Area).
 - Closet or Coat space (Cloak Rooms will be assigned Net Area).

b. Public Areas

- Display space
- Anterooms to any Net Area space
- Corridor or passage
- Circulation space
- Pedestrian tunnels
- Stair hall and stairway
- Elevator and escalator
- Book lifts and dumbwaiter

c. Service Areas

- Janitor or utility closet
- Mechanical / Electrical Rooms
- Steam and heat distribution room
- Air conditioning, mechanical, fan rooms, penthouses, mezzanines, shafts
- Telephone switch room, IDF rooms

6. Areas NOT To Be Included In Gross Area

- Plazas, uncovered atria or other site features not part of a building
- Loading dock platforms that are not inside a building
- Porches, platforms or decks
- Areas under canopies that are otherwise not enclosed
- Below-grade spaces that are uninhabitable, i.e. elevator pits, pump pits, pipe or utility tunnels, or transformer vaults that are outside the building
- Non-assignable accessory buildings or sheds, such as emergency generator enclosures or chemical and gas storage sheds

Note that the cost for these parts of a building must be included in the overall estimate. They must be clearly defined as being a special part of the project cost and not the overall building.

Appendix B:

**SAMPLE ESTIMATE SUMMARY SHEET FOR NEW BUILDINGS,
BUILDING ADDITIONS, OR REHABILITATED BUILDINGS**

Sample Project Estimate Summary Sheet (NEW)

PHASE REPORT _____ DATE _____ PROJECT NO. _____

CAMPUS _____ TITLE _____

*COST CONSULTANT _____ START CONSTRUCTION _____
(responsible for preparation or review of total estimate) COMPLETE CONSTRUCTION _____

DESIGNED GROSS AREA _____ DG NAME AND NUMBER _____

DIV NO.	DIVISION TITLE	TOTAL COST	\$/G.S.F.	% TOTAL
2A	SITE CONSTRUCTION (Building Demolition Only)			
3	CONCRETE			
4	MASONRY			
5	METALS			
6	WOOD AND PLASTICS			
7	THERMAL AND MOISTURE PROTECTION			
8	DOORS AND WINDOWS			
9	FINISHES			
10	SPECIALTIES			
11	EQUIPMENT			
12	FURNISHINGS			
13.1	SPECIAL CONS. (EXCL HAZ MAT REMEDIATION)			
13.2	SPECIAL CONS. (HAZ MATERIAL REMEDIATION)			
14	CONVEYING SYSTEMS			
GC OVERHEAD AND PROFIT ON GENERAL TRADES				
SUBTOTAL GC TRADES				
15.1	MECHANICAL (HVAC)			
15.2	MECHANICAL (PLUMBING)			
15.3	MECHANICAL (FIRE PROTECTION)			
16	ELECTRICAL			
SUBTOTAL MEP TRADES				
GC OVERHEAD AND PROFIT ON MEP TRADES				
SUBTOTAL BUILDING ESTIMATE (NEW)				
GENERAL CONDITIONS (must be reported here)				
OVERHEAD AND PROFIT (must be reported here)				
DESIGN CONTINGENCY (must be reported here)				
BIDDING CONTINGENCY (must be reported here)				
ESCALATION (to midpoint of construction)				
SPECIAL CONSIDERATIONS (Budgeted at \$)				
TOTAL BUILDING CONSTRUCTION ESTIMATE (NEW)				
2B	SITE CONSTRUCTION (Excluding Building Demolition)			
TOTAL PROJECT ESTIMATE (NEW)				

* If systems are estimated by others, please name

**Appendix C:
SAMPLE ESTIMATE SUMMARY SHEET FOR SITE WORK AND
INFRASTRUCTURE PROJECTS**

I. Project Estimate Summary Sheet (SITE)

PHASE REPORT _____ DATE _____ PROJECT NO. _____

CAMPUS _____ TITLE _____

*COST CONSULTANT _____ START CONSTRUCTION _____
(responsible for preparation or review of total estimate) BLDG NAME & NUMBER _____

COMPLETE CONSTRUCTION _____

DIVISION NO.	DIVISION TITLE	TOTAL COST
2.1	SITE CLEARING	
2.2	EARTHWORK	
2.3	PAVEMENTS	
2.4	SITE FEATURES	
2.5	CONCRETE WALKS	
2.6	ATHLETIC FIELDS	
2.7	LAWN	
2.8	UTILITIES-PLUMBING	
2.9	UTILITIES-HEATING / COOLING	
2.10	UTILITIES-ELECTRICAL	
2.11	PLANTING	
	SUBTOTAL SITE ESTIMATE	
GENERAL CONDITIONS (must be reported here)		
OVERHEAD AND PROFIT (must be reported here)		
DESIGN CONTINGENCY (must be reported here)		
BIDDING CONTINGENCY (must be reported here)		
ESCALATION (to midpoint of construction)		
SPECIAL CONSIDERATIONS (Budgeted at \$ _____)		
TOTAL SITE ESTIMATE		

* If systems are estimated by others, please name

Appendix E: EQUIPMENT COST FOR PROJECTS

Group II Equipment - Equipment that is permanently connected to a facility with design characteristics that must be coordinated with various trades is classified as Group II and typically identified in CSI Divisions 10, 11 and 12. Some examples include laboratory fume hoods, sterilizers, dishwashers, scoreboards, permanent basketball backboards, folding partitions, floor mats, etc. *This equipment must be included in the project estimate.*

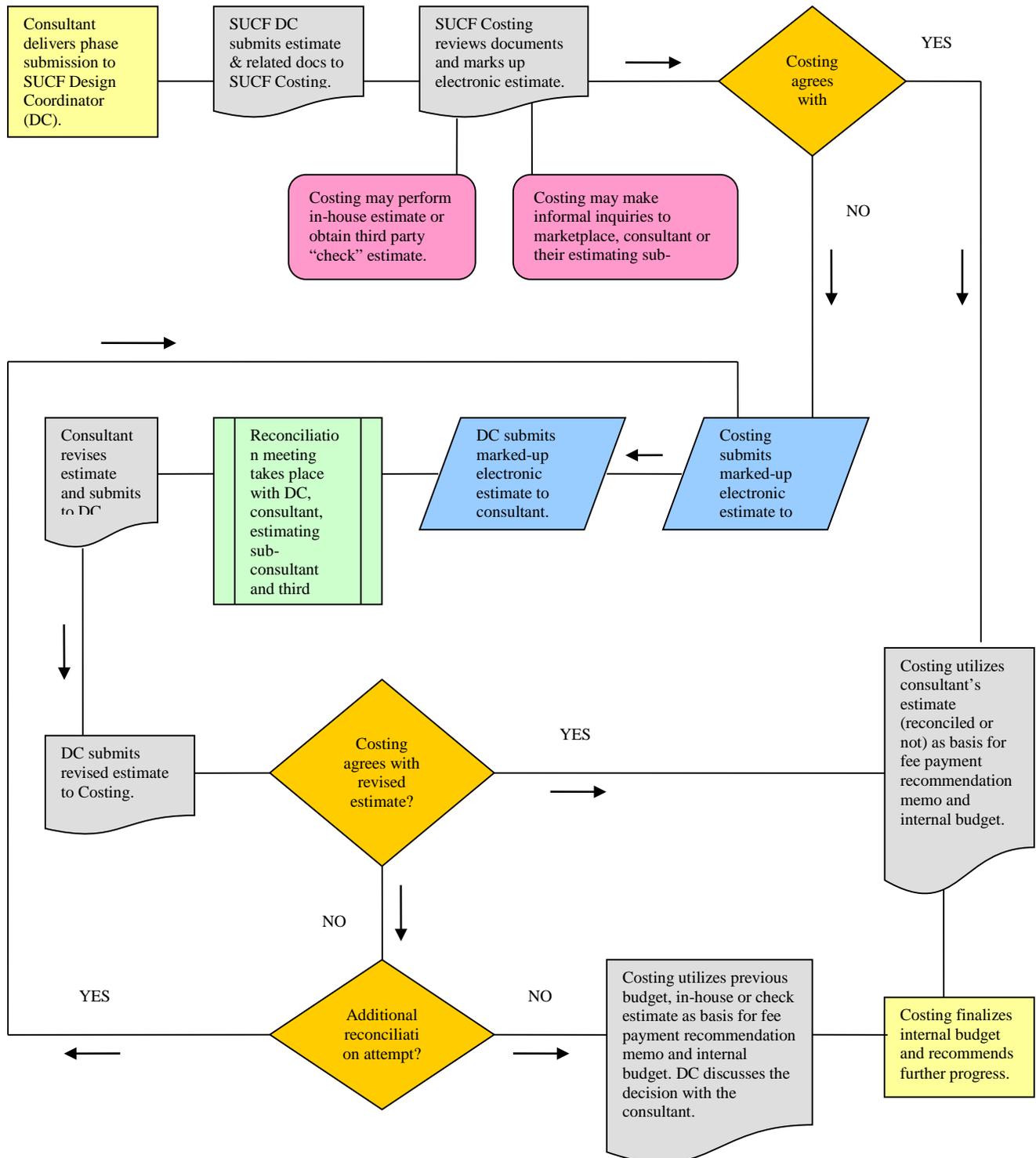
Group III Equipment - Equipment that requires floor space but does not require a permanent connection to a utility is classified as Group III. Some examples include desks, chairs, A/V equipment, computers, telephone system hardware, etc. *This equipment is not included as part of the project estimate.*

Telecommunications and data wiring may be classified as Group III Equipment or as part of the base building scope. This is a campus decision. Verify the status of this item with the project's Design Coordinator.

Appendix F:

FLOW CHART FOR SUCF REVIEW OF ESTIMATES

This information is supplied for the consultant's understanding of SUCF internal procedures and steps to reconcile and approve an estimate. These may change at the discretion of the Fund.

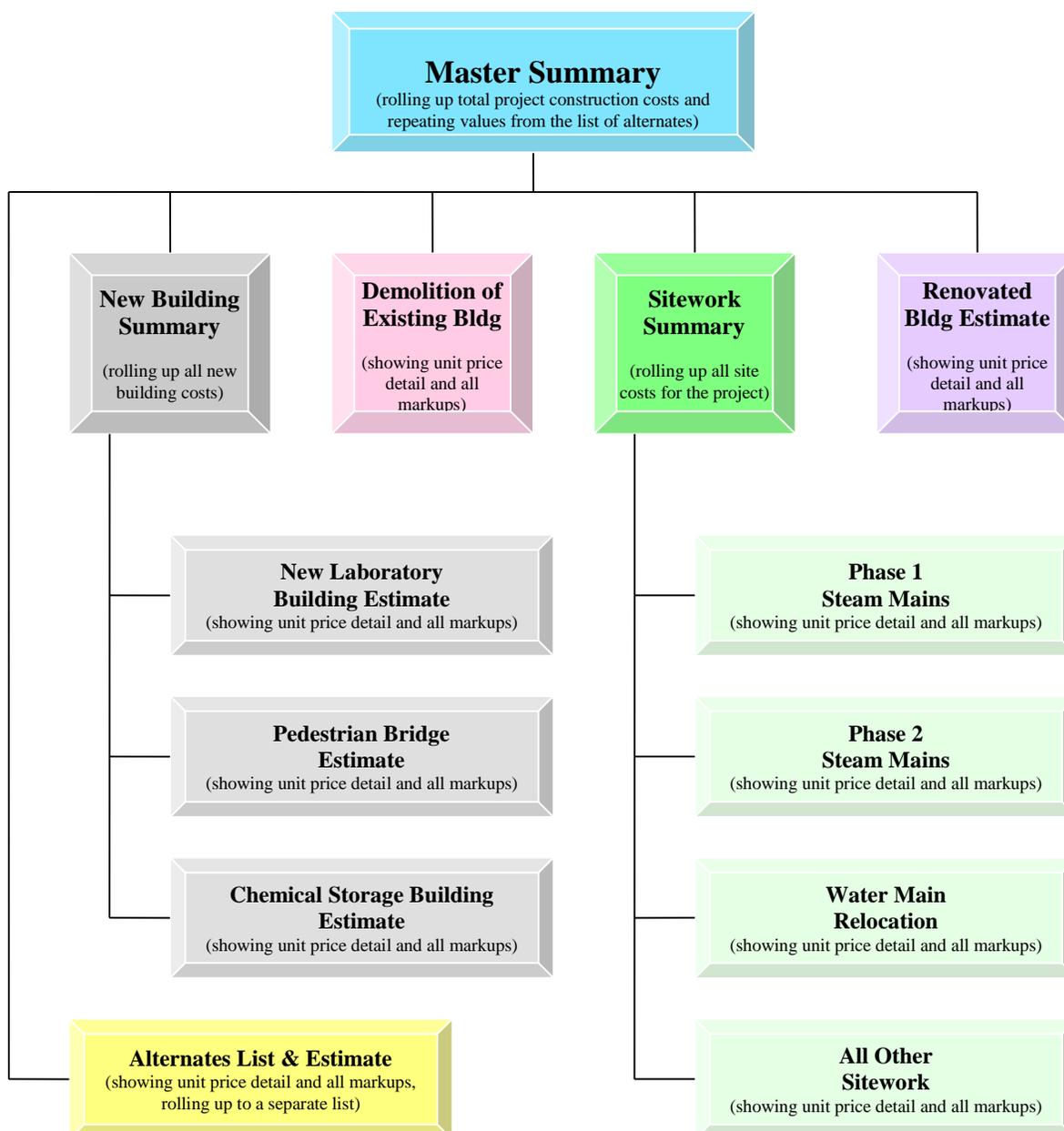


Appendix G:

ESTIMATE ORGANIZATION EXAMPLE

The following is an example of an organization of multiple component, multiple phase estimates required. (See also Appendix H.) The example is based on the following scope:

Campus X requires a new science laboratory. The new building will be sited partly atop the location of an outdated structure which will be demolished. It will have a pedestrian bridge connecting to a nearby, existing building, which will contain faculty offices for the instructors assigned to the lab. This existing building will be partly renovated to accommodate these offices. The laboratory also has a small, separate storage building where solvents and reagents are kept. Several utility projects are required to allow the construction to take place on the site. When complete the project will incorporate site amenities and features that will integrate the new and existing facilities into a complete part of the campus. Several alternates are planned to maximize funding usage.



**Appendix H:
SAMPLE MASTER SUMMARY SHEET EXAMPLE**

Sample Project Master Summary Sheet

PHASE REPORT _____ DATE _____ PROJECT NO. _____
 CAMPUS _____ TITLE _____
 *COST CONSULTANT _____ START CONSTR _____
 (* responsible for preparation or review of total estimate) COMPLETE CONSTR _____
 OVERALL GROSS AREA _____ BUILDING NAME AND NUMBER _____

New Laboratory Building:	<i>Total</i>	<i>sf</i>	<i>\$/sf</i>
New Building.....	\$31,875,000	75000	\$425.00
Pedestrian Bridge/Link.....	\$1,282,500	1800	\$712.50
Chemical and Solvent Storage Structure.....	\$343,750	1250	\$275.00
SUBTOTAL New Building	\$33,501,250		

Building Demolition:			
Remove Existing Building.....	\$1,187,500	95000	\$12.50
SUBTOTAL Building Demolition	\$1,187,500		

Sitework:			
Phase 1 Steam Mains.....	\$350,000	1000	\$350.00
Phase 2 Steam Mains.....	\$448,000	1280	\$350.00
Water Main Relocation.....	\$35,625	285	\$125.00
Other Sitework.....	\$1,256,000	78050	\$16.09
SUBTOTAL Sitework	\$2,089,625		

Renovate Existing Building:			
Renovations.....	\$3,525,500	28000	\$125.91
SUBTOTAL Renovations	\$3,525,500		

TOTAL Building Project..... \$40,303,875

Alternates:	
Alternate 1 - Stainless Steel Exterior Panels ILO Aluminum.....	\$450,000
Alternate 2 - Walnut Veneer Doors ILO Hollow Metal.....	\$109,650
Alternate 3 - Terrazzo Floor in Lobby and Corridors.....	\$243,750
Alternate 4 - Geothermal Heating System.....	\$1,895,000
Savings Idea #1 - Concrete Curb ILO Granite.....	(\$25,865)
Savings Idea #2 - Plastic Acid Waste Piping.....	(\$78,650)
Savings Idea #3 - EIFS ILO Aluminum Panels.....	(\$121,350)

Appendix I: VALUE ENGINEERING LOG

VE #	Alt #	Description	Accepted	<< Pending >>	Rejected	Notes
1		Consolidate two cores into one.		TBD		Requires lab modifications at Weiskotten. Makes a longer path for vertical circulation.
2		Remove one of the three elevators.				May cause longer wait times.
3		Remove one floor of the two story connector.				Also reduces hazmat project risk.
4		Delete connector to Silverman.				Also reduces hazmat project risk.
5		Delete south connector to Weiskotten.				Also reduces hazmat project risk.
6						
59						
60						
Subtotals:			\$0	\$0	\$0	
Calculate from estimate summary -> 12.50% Composite Markups:			\$0	\$0	\$0	
VE Savings to Date:			\$0	\$0	\$0	

Appendix J: CONTACTS

For all project related questions, contact your SUCF Design Coordinator.
 For general questions regarding estimating standards and procedures, contact:

Chief Estimator, Capital Program Management
 (518) 320-1770