

The University of British Columbia Land and Building Services		Departmental Funded Projects	
Work Procedure		I-D-23	
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		Replaces: 23 July 2001	

1. Application

This procedure is to be used on all departmentally funded projects managed, designed and constructed by UBC Land & Building Services.

2. References

I-B-28	Hazard Identification & Assessment
I-D-05	External Consultants & General Contractors Contracts
I-D-15	Project Estimates (Work Requests Greater Than \$1,000)
I-D-18	Minor Capital & Capital Maintenance Projects
I-D-20	Submissions for Contracting Out
I-D-28	Change Orders & Amendments
I-D-29	Construction Notification and Start-up

3. Definitions

Refer to document I-D-04, Projects – Definitions.

4. Procedures

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A. CUSTOMER REQUESTS TO LAND & BUILDING SERVICES

1. The Customer shall identify the need for Work within his/her building. An outline of the complete scope defining the parameters of the Work is prepared, necessary approvals from the Dean or Director of the Customer's department are obtained to consider the Work, and a hard copy Customer Request Form (*Customer Request - <rev. date>.doc* - attached as [Schedule A](#)) initiated.
2. The Customer may then either:
 - a) Contact the Facility Manager for a meeting to discuss the proposed Work - if the Work appears to be feasible, based on a pre-determined feasibility checklist, the Facility Manager shall complete the Customer Request Package, roughly assess the value of the Work (to assist the Service Centre Coordinator) and forward the Customer Request Package to the Service Centre Coordinator; or
 - b) Phone in the Work request to the Service Centre-Trouble Calls if the Work is considered "Routine" in nature (i.e. less than 2 worker days to complete) – the Trouble Call Clerk shall complete the Customer Request Form based on the telephone interview with the Customer, then direct the Customer Request Form to the Service Centre Coordinator.
3. The Service Centre Coordinator, upon receiving the Customer Request Package, shall roughly assess the value of the Work (unless already done so by the Facility Manager) based on pre-determined costing criteria, and determine whether the request is either:
 - a) "Routine Work" (less than 2 worker days to complete or less than \$1,000 in value – refer to Work Request created and routed direct to Maintenance Trade Shops);
 - b) "Minor Work" (not meeting the criteria of the New Job Strategy Session (see [Clause B.I.1. b](#)) below) and estimated to take between 2 and 20 worker days to complete or between \$1,000 and \$10,000 in value – refer to [Division C](#)); or
 - c) a "Project" (estimated to take more 10 worker days to complete or over \$5,000 in value – refer to [Division B](#)).

B. PROJECTS

I. Planning Phase

1. Project Initiation
 - a) If the Work is deemed a "Project", the Service Centre Coordinator shall enter the Customer Request Package into FME by way of a "Planned Work Request" including the following information:
 - Customer contact information,
 - Work Request Type (P - Project Services),
 - Category (PMGT - Project Management)
 - Title (C1200 Project Management – *Project Name*)
 - Property (*Building Name* – can be accessed by Zoom function, then Select)

- Phase (06 - Projects Office)
 - Description (same as Title)
 - Shop (06-Projects – Project Mgmt)
 - Work Code (C1211 – PlantOps Project Management)
 - Priority (SET BY MGR)
 - Labour Class (CRAFT RATE)
- b) The Service Centre Coordinator shall, with the assistance of the Associate Director-Project Services as necessary, make an assessment as to whether the proposed Project:
- i) requires architecture or engineering design;
 - ii) involves the alteration to hard or soft landscape or a building exterior;
 - iii) involves the alteration to a door or window (i.e. adds/moves/deletes, door swing or type);
 - iv) alters use of existing space (i.e. storage room to a laboratory);
 - v) involves the alteration of any structural, mechanical or electrical systems (i.e. adds/moves/deletes/upgrades); and/or
 - vi) involves any major demolition work.

If the Project meets any of the above criteria, the Customer Request Package shall be forwarded to the Chair of the New Job Strategy Session for addition to the agenda of the forthcoming meeting, held weekly. The deadline for adding Projects to the New Job Strategy Session (NJSS) agenda is 2:00 p.m. two working days prior to the meeting, meaning Customer Request Packages have to be in to the Service Centre Coordinator by noon two working days prior to the meeting.

If the Project does not meet the above criteria, the Customer Request Package shall be directed to the Projects Data Clerk and held until the post-NJSS meeting for assignment of a Project Manager.

- c) The NJSS shall meet and direct the Project to the appropriate department on campus:
- i) Projects involving a new or addition to an existing building are directed to the Director of Planning for consideration.
 - ii) Projects involving grants, change of room use, Minor Capital funding or other planning-related issues prior to any design or implementation are directed to Campus & Community Planning and in particular either the Capital Programs Manager or Space Administration Manager. Once acceptable to proceed, the Customer Request Package shall be brought forth to the next NJSS for assignment to one of the project implementation groups – if rejected, the request shall be returned to the requester with an explanation;
 - iii) Customer Requests for consulting mechanical or electrical engineering services only, i.e. review of condition/operation of existing systems or equipment, advice on any proposed upgrade or replacement of systems or equipment, etc. are directed to Plant Operations Technical Services.

If an order-of-magnitude estimate is generated by Technical Services staff as a result of the consultation, it shall be:

- Reviewed and signed-off by the Manager-Technical Services; then
- Routed by the Technical Services Clerk to either:

- if estimate is \$10,000 or less, to the Project Trades Clerk for a Minor Works Supervisor to be assigned by the Manager, Project Trades to prepare and submit a Minor Works Estimate (refer to [Division C](#)); or
 - if estimate is greater than \$10,000, to the Projects Data Clerk for a Project Manager to be assigned by the Associate Director-Project Services to prepare and submit a Project Estimate (refer to Section 2 – Pre-Design)
- iv) Projects requiring primarily data, network or telephone service are directed to IT Services Network Facilities Services group for project management. Any supporting electrical or conduit work shall be “sub-contracted” by Network Facilities to Project Services as necessary by way of Customer Request Form.
- v) Most of the remaining projects not meeting any of the above criteria are directed to Project Services for design and/or implementation. The balance of this work procedure deals with projects of this nature.
- d) Immediately following each NJSS, the Associate Director-Project Services, Manager-Design Office, Project Managers and Projects Data Clerk shall meet to discuss and distribute all projects directed back from the New Job Strategy to Project Services, as well as those projects not discussed at the NJSS. At this meeting, the individual assigned to a Project becomes the Project Manager.
- e) The Projects Data Clerk shall advise the Chair of the NJSS of the names of the assigned project managers to each project accordingly, for the Chair of the NJSS to complete and distribute the minutes of the meeting via e-mail to all parties.
- f) The Project Office Clerk, upon receipt of the NJSS minutes, shall contact the Customer within two (2) working days to advise that the Customer Request Package has been received and who the Project Manager will be, and advise the Project Manager when completed.
- g) The Customer Request Package, with a routing sheet and hardcopy printout of the Planned Work Request, shall be assembled by the Service Centre Coordinator and forwarded to the Projects Data Clerk.
- h) The Projects Data Clerk shall:
- i) enter the proposed Project into the Projects Office Assignment/Status Report;
 - ii) set up the “Project Definitions” on FME, indicating the:
 - Project Number (top right corner of Customer Request Form),
 - Project Name (consisting of building name or site location, room number(s) and maximum five word project descriptor),
 - Project Type (USER FUNDED),
 - Project Status (05-OPEN),
 - Estimator (name of assigned Project Manager)
 - Shop (06 – Project Services)
 - Shop Person (name of assigned Project Manager)
 - Customer Expectation Notes (date assigned to Project Services);
 - iii) update the Planned Work Request “Project” (*Project Number* – can be accessed by Zoom function) and “Shop Person” (name of assigned Project Manager) fields; and

- iv) prepare a Proposed Project Folder, containing the Customer Request Package and printouts of Planned Work Request and Project Definitions, and issue it to the Project Manager.

Throughout the life of the Project, and on a bi-weekly basis, the Projects Office Assignment/ Status Report will be updated by the Projects Data Clerk, based on information received from the Project Manager. The Projects Data Clerk will also, on a monthly basis and based on the % complete of the Project, calculate and bill out (through a Work Request Journal Entry) the Project Management Fee.

2. Pre-Design

- a) The Project Manager shall contact the Facility Manager, receive a debriefing on the proposed Project, and instruct the Projects Office Clerk to set up a pre-design site meeting with the Facility Manager and Customer. Based on the size, complexity and nature of the work, the Project Manager may choose to bring in the Manager-Design Office (Design Manager), Manager-Technical Services, Electrical Engineer, Estimating Manager and/or Network Facilities to also attend a pre-site meeting and the site meeting. Subsequent to a pre-site meeting, the Project Manager or Design Manager may consult Regulatory Services for any Code clarification prior to the site meeting and may in fact request the presence of Regulatory Services at the site meeting with the Facility Manager and Customer.
- b) The Project Manager shall conduct the pre-design meeting on site with a goal of firming up the scope of the Work, through inspection of the proposed location of the work, and discussing in detail the proposed scope, intent and expected outcome of the Work, its timing, any impact it may have on building systems, any code or accessibility implications, and any options to the proposed work which could save time and/or cost. The Project Manager shall take notes.
- c) Feasibility Study: if specifically requested by the Customer, or if deemed necessary by the Design Manager to assess any of the following issues:
 - Code and/or zoning requirements and controls
 - Environmental impact
 - Demographics (transportation, heritage, community concerns)
 - Existing condition of building systems (building envelope, structural, mechanical, electrical) and potential for adaptability
 - Existing use of space and surroundings
 - Life cycle cost

thus requiring outside resources or extensive internal resources to be brought in to determine or confirm Project feasibility prior to any estimating, the Design Manager may request from the Project Manager a consultation upset fee to pay for such services.

Such request shall be in writing, could occur prior to, during or after the initial meeting with the Customer and must be accompanied by a completed "Professional Services Estimate" form (*Prof Services Estimate - <rev. date>.doc* - attached as [Schedule B](#)). The Project Manager shall review the request, and if justified, shall approach the Customer for the funding.

The consultation fee:

- i) If accepted by the Customer:
 - a] The Professional Services Estimate form is to be returned to the Project Manager with the Client's Authorization to Proceed section completed, including signature and

FMIS account code. The Project Manager shall advise the Facility Manager, Design Manager and other affected parties in writing of the approval and forward the approved Professional Services Estimate form to the Projects Data Clerk who shall:

- open a new Work Request linked to the Project Number (via the “Projects” button and Zoom function) and based on the Planned Work Request data, with the following changes:
 - Type (P – Project Services),
 - Category (CNSLT - Consulting),
 - Title (C1000 Consulting – *Project Name*),
 - Project (*Project Number* – can be accessed by Zoom function),
 - Phase (if feasibility study done in-house, use “07” for Design Office or “04x” for Technical Services; if external consultant, use system generated phase number),
 - Estimated Start and End Dates,
 - Description (C1111 + description of work to be performed),
 - Shop (if feasibility study done in-house, use “07” for Design Office or “04x” for Technical Services; if external consultant, “NOT REQD”),
 - Shop Person (name of assigned Project Architect),
 - Work Code (C1111 – Planning Review),
 - Priority (SET BY MGR),
 - Labour Class (CRAFT RATE for internal, NOT REQUIRED for external),
 - Budget (Work Request budget, based on approved Professional Services Estimate, accessed through the top “More” button),
 - Estimate (breakdown of costs for the Phase, accessed through the bottom “More” button), and
 - Distribution:
 - Start Date and Expire Date (expected start and end date of Phase)
 - Dept is the Customer’s Speed Chart (same as Customer field in Work Request screen) with Account as given by the Client’s Authorization to Proceed
 - Offset Dept is either “DFPQ” for Projects Office or “DVWZ” for Design Office with Account based on the fund type of the work
 - Fixed Amount set at the Budget amount for the Phase
 - update the Customer Expectation Notes in the Project Definitions (date assigned to Design Office)
 - printout and send the Work Request (or advise Work Request Number via e-mail) to the Design Manager;
 - update the Projects Office Assignment/ Status Report; and
 - advise the Project Manager upon completion.
- b] The Design Manager shall advise the Design Office Clerk to add necessary phases to the Work Request for any consultants required (refer to **Work Procedure I-D-05, External Consultants & General Contractors Contracts, Section A – Consultants** for details on engaging and administering Consultant agreements), undertake and complete the feasibility study with the cooperation of the Project Manager and

Customer, and if the Project is deemed feasible by the Design Manager and Customer, the study shall be forwarded to the Project Manager for estimating.

- ii) If rejected by the Customer, effectively cancelling the Project, the Project Manager shall immediately advise the Projects Data Clerk, Facility Manager, Design Manager and other affected parties in writing.

The Projects Data Clerk shall:

- set the FME Project Definitions and all related Work Request Status to 95-CANCELLED,
- arrange through LBS Finance to have all related Work Requests Status set to 99-CLOSED,
- update the Projects Office Assignment/Status Report, and
- recover the Planned Project Folder from the Project Manager for filing.

The Project Manager shall advise the Resource Planner to remove the Project from the master resource schedule.

- d) The Project Manager shall prepare, based on the information gathered and with the assistance of the Estimating Manager as necessary, a Class 'C' Cost Estimate (Project Budget) in accordance with **Work Procedure I-D-15, Project Estimates, Division B, Section 1 - Preparation of Project Budget**. The Project Budget shall be presented in person to the Customer normally within 7 business days of the site visit.
- e) If the Customer approves the Project Budget, the Project Estimate form is to be returned to the Project Manager with the Client's Authorization to Proceed section completed, including signature and FMIS account code.
- f) The Design Leader shall be selected based on the following criteria:
- i) On projects generally less than \$250,000 total value, the Design Office shall have first right of refusal on the design work, providing it can deliver the design within the time frame and budget set.
- ii) On projects \$250,000 or greater in total value, or on those projects passed over by the Design Office, the Design Leader shall be either consultant architectural firm(s) assigned by the University Architect, or consultant engineering firm(s) pre-approved by the Associate Director-Project Services.

The Project Manager has the option to either retain and manage the Consultant directly, or through the Design Office (Project Architect, assigned by the Design Manager, manages the design process) for a nominal fee.

The procedure to be followed in retaining and administering a Consultant agreement is outlined in **Work Procedure I-D-05, External Consultants & General Contractors Contracts, Section A – Consultants**.

- g) The Project Manager shall advise via e-mail those parties listed in [Appendix A - Project Review Notification List](#) of the approval, using "Notification of Project" form (*Project Notification - <rev. date>.doc* - attached as [Schedule C](#)), with the "Start-up" box checked, and forward the approved Project Estimate form to the Projects Data Clerk who shall:
- i) Update the FME Project Definitions:
- Status (30-IN PROGRESS)

- Budget (total, based on approved Class 'C' Cost Estimate)
 - Estimated Start and End Dates
 - Customer Expectation Notes (date approved estimate received)
- ii) Promote the original Planned Work Request (entitled "C1200 Project Management – *Project Name*") to a Work Request (enabling charges to be processed against it for Project Management fees) and enter the:
- Estimated Start and End Dates
 - Budget (based on Project Management fee plus the Applicable Taxes from the approved Class 'C' Cost Estimate, accessed through the top "More" button)
 - For Phase 06, Estimate for Project Management fees and Distribution (as in [Clause B.I.2. c\) i\) a\)](#))
 - For new Phase 001, Estimate for Applicable Taxes (UBC Admin Levy - 2% of project cost) and Distribution (as in [Clause B.I.2. c\) i\) a\)](#))
- iii) If not already done so for a Feasibility Study, open a new Work Request for "C1000 Consulting" linked to the Project Number, based on the original Work Request data and set up as per [Clause B.I.2. c\) i\) a\)](#) with the following changes:
- a) For design work:
- Description (C1000 + description of work to be performed),
 - Phase* (07 – Design Office)
 - Shop* (07 – Design Office)
 - Work Code* (C1136 – PlantOps Design), and
 - Shop Person* (name of assigned Project Architect)
 - Budget (based on Professional Services Estimate from the approved Class 'C' Cost Estimate, accessed through the top "More" button)
- and printout/send the Work Request (or advise Work Request Number via e-mail) to the Design Manager*, who shall arrange for commencement of design work.
- *Note:*
- *if the design work is to be performed by an external Consultant retained by the Design Manager, two phases need to be set up: Phase 07 and 001, Work Codes C1131 – Prime Consultant and C1136 – PlantOps Design respectively and both with Shop 07-Design Office*
 - *if the design work is to be performed by an external Consultant retained by the Project Manager, the Phase is 001, Shop is 06-Project Services, Work Code is to be C1131 – Prime Consultant, and Shop Person is to be the Project Manager, who also receives the Work Request*
- b) For design review work undertaken by Technical Services, two phases:
- Description (C1000 + description of work to be performed),
 - Phase (04E – Electrical and 04M - Mechanical)
 - Shop (04 – Engineering)
 - Work Code (C1133 – PlantOps Engineering),
 - Shop Person – leave blank

- Distribution - set at Offset Dept "CWOH" and Fixed Amount set at 1/2% of estimated mechanical and electrical construction value (from the approved Class 'C' Cost Estimate)
and printout/send the Work Request (or advise Work Request Number via e-mail) to the Technical Services Clerk.
- iv) As requested by the Project Manager at this time or at a future date, create new Planned Work Requests for:
 - C2000 External Construction (*Category: CONSE – Construction – External*),
 - C2150 PlantOps Construction (*Category: CONST – Construction - Internal*),
 - C3000 Completion Costs (*Category: CMPLT - Completion*), and
 - C4000 Contingencies (*Category: CNTGY - Contingency*)all set up in the same format as the C1200 Project Management and C1000 Consulting Work Requests and appropriated as per the approved Project Budget with proper account distribution;
- v) Update the Projects Office Assignment/ Status Report; and
- vi) Advise the Project Manager upon completion.
- h) If the Project Budget is rejected by the Customer, and the Project cancelled, the Project Manager shall immediately advise the Projects Data Clerk, Facility Manager, Design Manager and other affected parties in writing.
The Projects Data Clerk shall:
 - set the FME Project Definitions and all related Work Request Status to 95-CANCELLED,
 - arrange through LBS Finance to have all related Work Requests Status set to 99-CLOSED,
 - update the Projects Office Assignment/Status Report, and
 - recover the Planned Project Folder from the Project Manager for filing.The Project Manager shall advise the Resource Planner to remove the Project from the master resource schedule.
- i) If the Project Budget is approved, the Project Manager shall confirm the proposed Project Schedule with the Resource Planner, who shall confirm the Project slot on the master resource schedule, assign the Project as "Priority 3" (filler work) and arrange for tentative room bookings, if necessary. The Project Manager shall at this time create the Project Binder (index given in [Appendix B](#)), incorporating the contents of the Proposed Project Folder, and tentatively book any major system (mechanical, electrical, IT Services) shutdowns required.

II. Design Phase

1. General

- a) The Design Leader (Consultant or in-house Project Architect) shall review the project scope with the Project Manager (and Project Architect if Design Office managing Consultant), Estimating Manager and other key members of the Planning Phase in order to gain a clear understanding of the project limitations and any required fee or budget amendments thereof.

- b) The Design Leader shall coordinate a Design Team, which could consist of, but not be limited to: in-house or sub-consultant architects, designers, engineers, technologists and draftspersons, IT Services designers, and any other necessary consultants.
- c) The Design Leader shall schedule a design start-up meeting on site between the Project Manager and the “Design Committee” consisting of the Design Leader, Design Team, representatives of Technical Services (acting as building stewards/ design advisers), Customer and any key building users, to review the site, gather necessary data, firm up functional and operating requirements and budget, and set the design schedule. From the meeting, the Design Leader shall develop a functional programme to address the Customer’s needs, in complete concert with the approved scope and budget.
- d) The Design Team shall commence design work, with the Design Leader regularly reviewing the design with the Design Committee and regularly reporting progress back to the Project Manager, who then shall update the Customer through regular Project status reports. Throughout the life of the Project, and on a bi-weekly basis for in-house managed designs, the Design Office Assignment/ Status Report and Consultant Work Request status will be updated by the Design Office Clerk, based on information received from the Project Architects.
- e) **The Design Standards to be adhered to by the Design Team for department-funded work (i.e. non-government funded work) are the minimum requirements per the BC Building, Plumbing and Fire Codes, Canadian Electrical Code, and other industry codes and standards. The UBC Technical Guidelines shall be used as a reference only and for drawing, specification and tender document format standards, not as the minimum technical requirements.**
- f) The Design Leader shall closely monitor and adhere to the approved design and technical budget and schedule. Regular updates as to cost and schedule shall be made to the Project Manager, with any irregularities pointed out and dealt with prior to carrying on work.
- For in-house or in-house-managed designs, any design budget amendments deemed necessary and defensible by the Design Leader must be made in writing to the Project Manager and approved prior to taking on any amended design work.
- The procedure to be followed in requesting a Fee Amendment is outlined in **Work Procedure I-D-28, Change Orders & Amendments, Section D – Architectural & Engineering Fee Amendments.**
- g) All correspondence between the Design Leader and the Customer shall be documented and copied to the Project Manager (and Project Architect if Design Office managing Consultant). Throughout the design process, the Design Leader must ensure that the programme matches the approved Project Budget. **Under no circumstances shall any scope or design changes take place without the review and prior approval of the Project Manager.**
- In the case of a Customer who is making unrealistic demands or expectations, the Project Manager may have to approach the Customer, his/her supervisor, administrator, Department Head or Dean for either additional funding or to “rein in” the Customer to keep the Project on budget.

- h) The minimum required reviews and sign-offs during design are as follows:
- i) For Projects valued at less than \$250,000:
- a) 25% complete design stage (complete Schematic Design):
 - review/sign-off by Project Manager, Customer, Physical Access Coordinator, Design Office and Technical Services officials;
 - review by Campus Planning, Plant Operations, Utilities, Sustainability, Classroom Services and IT Services officials
 - b) 75% complete design stage (50% complete working drawings, specifications):
 - Design Leader meets with Project Manager, Estimating Manager (as required), Project Coordinator (in-house-constructed projects), Project Architect (in-house-managed outsourced designs), and Technical Services officials to review drawings vis-à-vis constructability, budget, schedule, scope adherence; obtains necessary comments and sign-offs
 - c) 95% complete design stage (90% complete working drawings, specifications):
 - review/sign-off by Project Manager, Customer, Physical Access Coordinator, Design Office and Technical Services officials;
 - review by Project Coordinator (in-house-constructed projects), Campus Planning, Plant Operations, Utilities, Sustainability, Classroom Services and IT Services officials
- ii) For Projects valued at \$250,000 and over:
- a) 25% complete design stage (complete Schematic Design):
 - review/sign-off by Project Manager, Customer, Physical Access Coordinator, Project Architect (in-house-managed outsourced designs) and Technical Services officials;
 - review by Campus Planning, Plant Operations, Utilities, Transportation, Sustainability, Classroom Services and IT Services officials
 - b) 50% complete design stage (complete Design Development):
 - review/sign-off by Project Manager, Customer, Physical Access Coordinator, Project Architect (in-house-managed outsourced designs) and Technical Services officials;
 - review by Campus Planning, Plant Operations, Utilities, Transportation, Sustainability, Classroom Services, Parking & Access Control, Campus Security and IT Services officials
 - c) 75% complete design stage (50% complete working drawings, specifications):
 - review/sign-off by Project Manager, Customer, Physical Access Coordinator, Project Architect (in-house-managed outsourced designs) and Technical Services officials;
 - review by Estimating Manager, Project Coordinator (in-house-constructed projects), Campus Planning, Plant Operations, Utilities, Transportation, Sustainability, Classroom Services, Parking & Access Control, Campus Security and IT Services officials

Note: depending on the scale and/or complexity of the Project, this review by agencies external to Project Services may be omitted, with the entire review occurring at the 95% complete design stage – to be determined by the Project Manager.

- d] 95% complete design stage (90% complete working drawings, specifications):
- review/sign-off by Project Manager, Customer, Physical Access Coordinator, Project Architect (in-house-managed outsourced designs) and Technical Services officials;
 - review by Project Coordinator (in-house-constructed projects), Campus Planning, Plant Operations, Utilities, Transportation, Sustainability, Classroom Services, Parking & Access Control, Campus Security and IT Services officials; building permit application
- iii) In each of the above cases involving review/sign-off, the Design Leader shall submit six (6) sets of plans to the Design Office Clerk (on fully outsourced designs, to the Project Manager for delivery to the Design Office Clerk, or on in-house-managed outsourced designs, to the Project Architect for delivery to the Design Office Clerk) who shall:
- a] log in and update the Consultant Work Request “Expectations” notes;
- b] attach a Design Review Comment Sheet (*Design Review - <rev. date>.doc* - attached as [Schedule D](#)) and distribute sets to the:
- Projects Data Clerk for updating the Projects Office Assignment/Status Report, Project Definitions Customer Expectation notes, and delivery to the Project Manager for review and sign-off;
 - Customer for review and sign-off;
 - Physical Access Coordinator for review and sign-off;
 - Technical Services Clerk for placement in the USB Room 1100 plan view area and notifying obtaining Mechanical and Electrical Engineers, and O&M Architect reviews and sign-offs on design intent;
 - Manager-Design Office (on fully outsourced designs) for review and sign-off;
 - Estimating Manager via the Projects Office Clerk at the 75% complete design stage; and
 - Campus Planning plan view area for general review and comments
- c] advise on behalf of the Project Manager and via e-mail, using the “Notification of Project” form (*Project Notification - <rev. date>.doc* - attached as [Schedule C](#)) with the appropriate box checked, those parties listed in [Appendix A](#) what stage of the Project design is complete, that plans are available for viewing and commenting, and what the deadline for comments is.

2. Schematic Design

- a) The Design Leader shall work with the Design Committee to develop a schematic design for the Project. A number of design alternatives may be discussed and developed to better explore and clarify the Customer’s intentions. After a number of design variants have been investigated, the Project Manager and Design Committee must select the most viable option to proceed with.
- b) At the completion of schematic design (25% complete overall design stage), the Design Leader shall arrange for reviews and sign-offs as listed in [Clause B.II.1.g](#). On projects valued at \$250,000 or less, a maximum two (2) working day window for design reviews will apply. On projects valued at greater than \$250,000, a maximum five (5) working day window for design reviews will apply.

- c) The Design Office Clerk shall collect all design review comment sheets and send copies to the :
 - i) Project Manager and Project Architect on in-house designs; or
 - ii) Project Manager, Project Architect and Consultant on in-house managed outsourced designs; or
 - iii) Project Manager (2 sets – one for file and one for forwarding to the Consultant) on fully outsourced designs.

A review meeting may be called by the Design Leader as deemed necessary prior to proceeding with any changes to the design.

- d) If a building exterior is modified or if there are major use changes in a facility, a Development Permit may be required. The Project Manager (or Project Architect on in-house or in-house-managed designs) shall obtain the necessary schematic design information from the Design Leader, prepare, submit and pay for a Development Permit application to the Manager of Development Services for Campus Planning, and obtain approval.
- e) On smaller, less complex projects (typically less than \$50,000), the schematic design process may be reduced, in order to save time and cost. The waiving of steps must be agreed to by the Project Manager and Design Manager prior to commencing design work.

3. Design Development

- a) Based on the approved schematic design documents and approved estimate of Construction Cost, the Design Leader shall prepare design development documents consisting of drawings, outline specifications, and other documents appropriate to the size of the Project to fix and describe the size and character of the entire Project as to the architectural, civil, structural, mechanical and electrical systems, materials and such other elements as may be appropriate. The Design Leader shall meet with members of the Design Committee as necessary to ensure that the Customer's requirements are adequately understood and met.
- b) At the completion of design development (50% complete overall design stage), on projects valued at greater than \$250,000, the Design Leader shall arrange for reviews and sign-offs as listed in [Clause B.II.1. g](#).
- c) All design review comment sheets are to be collected by the Design Office Clerk, with copies distributed as per [Clause B.II.2. c](#)). A review meeting may be called by the Design Leader as deemed necessary prior to proceeding with any changes to the design.
- d) The Project Manager, at the completion of design development (50% complete overall design stage), shall assess with the Resource Planner whether the construction work will stay in-house or be outsourced, and:
 - i) If remaining in-house, request assignment of a Project Coordinator to the Project via e-mail (including project particulars, i.e. scope, budget, schedule) to the Manager, Projects, c.c. Projects Data Clerk, and forward a copy of the latest Project Budget and other pertinent project documentation (i.e. communications describing scope of work, customer expectations, sketches, partial drawings, schedule, etc.) to the Project Coordinator. The Project Coordinator shall receive the Project Construction Binder from the Projects Data Clerk and follow all steps listed in the Project Coordinator Pre-Construction Checklist (*PRCD Pre-Const Checklist - <rev. date>.doc*, attached as [Schedule J](#)); or

- ii) If planned to be outsourced, follow the necessary procedures as detailed in the collective agreements between the University and its unions (CUPE 116, IUOE 882) for the contracting out of the work, and specifically those procedures given in **Work Procedure I-D-20, Submissions for Contracting Out**.

Typically, consideration for outsourcing will only be given to those projects successfully demonstrating the University's:

- Inexperience or lack of equipment necessary to perform the Work;
- Inability to complete the Work within the establish time frame using in-house forces, due to resources being fully booked;
- Inability to provide sufficient resources to match the scale of the Work

The contracting out process take as long as 4 to 5 weeks to complete, so consideration must be allowed for in the Project schedule, with the Customer's expectations aligned to suit reality. As soon as contracting out approval has been obtained, the Project Manager shall immediately advise the Design Leader, Customer and Projects Data Clerk.

- e) On smaller, less complex projects (typically less than \$50,000), the design development process may be reduced, in order to save time and cost. The waiving of steps must be agreed to by the Project Manager and Design Manager prior to commencing design development.

4. Construction Documents

- a) Based on the approved design development documents and approved estimate of Construction Cost, the Design Leader shall prepare construction documents consisting of drawings and specifications setting forth in detail the architectural, civil, structural, mechanical and electrical requirements for the construction of the project. The Design Leader shall meet with members of the Design Committee as necessary to ensure that the Customer's requirements are adequately understood and met.
- b) During the preparation of working drawings and specifications, the Design Leader shall arrange for reviews and sign-offs as listed in [Clause B.II.1. g](#):
 - i) at the 50% completion stage (75% complete overall design stage)

Note: on projects greater than \$100,000, the Project Manager shall arrange for a Class "B" Cost Estimate (Design Check) to be prepared to confirm that total estimated costs adhere to the approved Project Budget. The estimate shall be prepared in accordance with Work Procedure I-D-15, Project Estimates, Division B, Section 2 (Design Check).
 - ii) at the 90% completion stage (95% complete overall design stage).

On projects valued at \$250,000 or less, a maximum two (2) working day window for design reviews will apply. On projects valued at greater than \$250,000, a maximum five (5) working day window for design reviews will apply.

- c) All design review comment sheets are to be collected by the Design Office Clerk, with copies distributed as per [Clause B.II.2. c](#). A review meeting may be called by the Design Leader as deemed necessary prior to proceeding with any changes to the design.
- d) The Project Manager shall review the project schedule and:
 - i) review and confirm trades availability with the Scheduler (if the Project will be constructed with in-house forces);

- ii) update all affected parties of the date(s) of major system (mechanical, electrical, IT Services) shutdowns required; and
- iii) prepare packages for the tendering of special long delivery time furnishings & equipment contracts, either by UBC Supply Management (purchases over \$10,000) or by Project Services (purchases \$10,000 or less).

If the Project will be constructed with in-house forces, the Project Manager may assign any or all of the above tasks to the Project Coordinator.

- e) Upon final completion of the construction documents (100% complete design), review and sign-off by the Coordinating Registered Professional (CRP), the Design Leader shall:
 - i) Building Permit Application:
 - a) Compile the necessary Building Permit application documents (Building Permit Application Form, 3 sets of construction documents, and Letters of Assurance from all architects and engineers).
 - b) If **fully outsourced** design, submit the original Building Permit package and one copy to the Project Manager for application of the Work Request number to cover the cost of the Building Permit Fee, and submission to Regulatory Services.
 - c) If **in-house-managed** design, submit the original Building Permit package and one copy to the Project Architect for application of the Work Request number (to be advised by the Project Manager) to cover the cost of the Building Permit Fee, and submission to Regulatory Services.
 - d) If **in-house** design, apply the Work Request number (to be advised by the Project Manager) to cover the cost of the Building Permit Fee, submit the original Building Permit package to Regulatory Services and retain a copy of the package for records.
 - e) In each of the above scenarios, if the Work involves plumbing and/or sprinklers, application for a Plumbing Permit including supporting documentation is also required.
 - f) Allow for a four (4) week turnaround time for the Building Permit issuance in the project schedule.
 - ii) If the construction is to be undertaken by in-house forces, issue to the Projects Data Clerk (on fully outsourced designs, to the Project Manager for delivery to the Projects Data Clerk, or on in-house-managed designs, to the Project Architect for delivery to the Projects Data Clerk) a package consisting of a minimum 12 sets of "Issued for Pricing" construction documents and a Document Transmittal form.

The Projects Data Clerk shall:

- a) update the Projects Office Assignment/Status Report and Project Definitions Customer Expectation Notes;
- b) forward one set of documents to the Project Coordinator;
- c) forward the balance of the package to the Project Trades Clerk for:
 - logging in the package;
 - forwarding 3 sets of documents and transmittal to the Estimating Manager; and;
 - forwarding the balance of documents to the relevant Trade Heads for plan review, preparation of safety assessments and special work procedures.

The Project Coordinator shall:

- a) Review the documents for completeness; and
 - b) Review the project budget and timing with the Project Manager.
- iii) If the construction is to be outsourced, issue to the Project Manager (on in-house-managed designs, to the Project Architect for delivery to the Project Manager) a package consisting of a document transmittal and the following:

- a) “Issued for Tender” construction drawings, both in hard copy (sufficient sets for the purposes of obtaining bids plus two sets for the Project Manager) and electronically in an AutoCAD 14.0 or older format (either on CD-ROM or diskette); and
- b) “Issued for Tender” construction specifications, both in hard copy (two sets for the Project Manager) and electronically in a Microsoft Word 2000 or older format (either on CD-ROM or diskette, or via e-mail).

c) Draft electronic (Microsoft Word 2000 or older) version of the standard UBC Supply Management Request for Tender documents (available in the S:\Projects\Operating Manual\Section P (Contract Forms) folder), one hard copy plus CD-ROM/diskette (or via e-mail) as such:

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- for construction contracts less than or equal to \$50,000, a Request for Tender - Short Form package:

- title page
- receipt confirmation form
- instructions to tenderers
- tender form
- general conditions
- work contract conditions
- construction specifications (from Clause B.II.4.e iii) b) above), **or**

- for construction contracts greater than \$50,000, a Request for Tender - Long Form package ;

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- title page
- receipt confirmation form
- instructions to tenderers
- tender form
- supplementary conditions
- construction specifications (from Clause B.II.4.e iii) b) above)

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The Project Manager may elect to have the Design Leader (Project Architect or Consultant) prepare the draft Request for Tender documents and submit one hard copy plus CD-ROM/diskette (or via e-mail) to the Project Manager for review/adjustment.

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The Projects Data Clerk shall update the Projects Office Assignment/Status Report and FME Project Definitions Customer Expectation Notes.

5. Pre-Construction

a) In-house Construction

- i) The Project Manager shall, with the Estimating Manager, set the deadline for completion of the construction estimate, and shall advise both the Project Coordinator and Assigned Estimator of such.
- ii) A Class “A” Cost Estimate (Pre-Construction Check) shall be prepared to confirm total estimated costs adhere to the approved Project Budget. The estimate shall be prepared in accordance with **Work Procedure I-D-15, Project Estimates, Division B, Section 3 - Pre-Construction Check**, and the package shall include the construction schedule (Gantt chart or logic diagram), necessary scheduling data and Hazard Assessment (attached as [Schedule I](#) and based on safety assessments and any special safe work procedures submitted by the Trade Heads).
- iii) Upon approval of the Pre-Construction Check, the Project Manager shall:
 - a) Arrange with the Scheduler to have the Project raised to “Priority 2” status (start-up within one week of target start date). If the start or completion date is critical due to funding or user booking constraints, the Project Manager may request the Associate Director-Project Services to advise the Scheduler to raise the Project to “Priority 1” status (guaranteed start date) using the Priority 1 Assessment form (*Priority 1 Assessment – <rev. date>.doc* - attached as [Schedule E](#)).
 - b) Forward the Pre-Construction Check package to the Projects Data Clerk to:
 - Update the Budget field in the FME “C2150 PlantOps Construction” Planned Work Request;
 - Update the Budget field and Customer Expectation Notes in the FME Project Definitions and promote the “C2150 PlantOps Construction” Planned Work Request;
 - Update the Projects Office Assignment/Status Report; and
 - Make two (2) copies of the Pre-Construction Check package and return original to Project Manager, one for file and the other to the Service Centre Coordinator who shall:
 - Create Phases against the Construction Work Request for the various trade groups, based on the scheduling data, and appropriated as per the approved Construction Estimate with proper account distribution;
 - Print off the Work Request Phases for the trade shops and forward all to the Projects Office Clerk;
 - Forward a complete copy of the Pre-Construction Check package to the Resource Planner and Scheduler; and
 - Advise the Project Coordinator when finished.

Under no circumstances are trade shop Phases to be created without the Project Manager’s signature on the Pre-Construction Check or Construction Estimate.

- c] If significant changes to the “Issued for Pricing” drawings took place during the construction estimating stage, request a minimum 12 sets of “Issued for Construction” drawings be prepared by the Design Leader and sent to the Project Coordinator.
- d] Task the Project Coordinator (with the assistance of the Projects Office Clerk) with the:
- preparation of construction fire safety plan, necessary site signage (project identification, site safety board, etc.);
 - notifying the Facility Manager of potential dates of shutdowns;
 - confirming room closures with the Scheduler; and
 - instructing of the Projects Office Clerk to create and issue work packages to all relevant Trade Heads consisting of:
 - Hard copy of Work Request Phase (copies also to be sent to the Projects Data Clerk for filing);
 - Copy of complete Construction Estimate (not the entire Pre-Construction Check Estimate), including all trade estimates, scheduling data, outside suppliers and sub-contractors quotation packages received from the Assigned Estimator;
 - Copy of the approved Gantt Chart;
 - Set of “Issued for Construction” drawings (if prepared)
- e] Follow the necessary procedures as detailed in the collective agreements between the University and its unions (CUPE 116, IUOE 882) for the contracting out of portions of the work deemed to be outside the work or capability of the particular union. If all or part of the proposed construction is to be contracted out, an additional 1 to 6 weeks could be needed in the project schedule to allow for necessary agreements with the union(s).
- f] Upon agreement by the union, advise the Project Coordinator to formally tender out the external work, as well as major contracts with suppliers, in accordance with the UBC Purchasing Policy:
- \$0 - \$2,500 contracts – no verbal or written quote required, enter Purchase Order in FME and obtain electronic approval from Project Manager;
 - \$2,501 - \$10,000 contracts – minimum one written quote required, enter Purchase Order in FME and obtain electronic approval from Project Manager, stamp copy of quote with Purchase Order Number and forward to LBS Purchasing Clerk;
 - over \$10,000 contracts - UBC Purchasing Officer to receive a completed Tender/Proposal Call Request form (*Tender-Proposal Call Request - <rev. date>*) - attached as [Schedule F](#) including a copy of the Contracting Out approval and sufficient sets of drawings, as well as one of the following (via enclosed marked-up hard copy or via e-mail in Microsoft Word format):
 - Completed draft Request for Bid form (including necessary scope, specifications, schedule information) for supply contracts, **or**
 - Completed draft Request for Tender - Short Form package (title page, receipt confirmation form, instructions to tenderers, tender form, general conditions, work contract conditions and specifications) for construction contracts less than or equal to \$50,000, **or**

- Completed draft Request for Tender - Long Form package (title page, receipt confirmation form, instructions to tenderers, tender form, supplementary conditions and specifications) for construction contracts greater than \$50,000

to call for and receive bids. The Purchasing Officer shall e-mail a copy of the final Request for Tender package back to the Project Coordinator, obtain bids and send results back to the Project Coordinator. All Request for Bid and Request for Tender forms are available in the [S:\Projects\Operating Manual\Section P \(Contract Forms\) folder](#).

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If permitted by Supply Management, Project Coordinator may conduct tender call as long as the Request for Tender package is approved in advance by the UBC Purchasing Officer, and tenders are received at Supply Management offices.

In all of the above scenarios, if sub-contractor quotations were already received from the Assigned Estimator, no re-bidding is necessary. The LBS Purchasing Clerk issues hard copies of the Purchase Orders to the suppliers/sub-contractors, when approved.

- g] Review bids received from Supply Management with the Project Coordinator and approve award of contracts to successful bidders through entry of the Purchase Order in FME (if progress draws or change orders are expected from the contractor/supplier, the Project Contract shall be used instead of the Purchase Order) with electronic approvals from the Associate Director-Project Services and authorized Supply Management officials. Also approve award of contracts for supply of special long delivery time furnishings & equipment.

Any additional Phases required against the "C2150 Construction" Work Request to accommodate external contracts are to be requested by the Project Coordinator or Project Manager, complete with budget amounts, distributions and other pertinent information, to the Projects Office Clerk for setting up.

- iv) If the project is of significant size or complexity, a Site Supervisor may be required to oversee the day-to-day activities during construction. The Project Coordinator shall request assignment of a Site Supervisor through the Manager-Project Trades.
- v) The Project Coordinator shall discuss trade resource scheduling with the Scheduler to confirm the earliest possible start date and whether work can be completed by the set deadline, with some allowance for change orders during construction. The Project Manager shall be notified of the construction scheduling, who in turn will advise the Design Leader, Customer and Facility Manager.
- vi) The Trade Heads shall expedite material and equipment ordering as per [Clause 5. a\) iii\) f\)](#) above using the quotation packages received from the Assigned Estimator via the Project Coordinator (if received). No re-bidding of materials and/or equipment will be permitted without the pre-approval of the Project Manager.

b) Outsourced Construction

- i) The procedure to be followed in retaining and administering a General Contractor contract is outlined in **Work Procedure I-D-05, External Consultants & General Contractors Contracts, Section B – General Contractors**.
- ii) A Class "A" Cost Estimate (Pre-Construction Check) shall be prepared to confirm total estimated costs adhere to the approved Project Budget. The estimate shall be prepared in accordance with **Work Procedure I-D-15, Project Estimates, Division B, Section 3 - Pre-Construction Check**.

III. Implementation Phase

1. Construction – General

- a) Notification of project construction to all affected parties and construction start-up procedures on site shall take place in complete conformance with **Work Procedure I-D-29, Construction Notification and Start-up** before any work takes place on site.
- b) The Project Manager shall administer the construction stage. Specific duties include, but are not limited to:
 - i) Monitor progress, cost and quality of construction, regularly updating the Customer in writing.
 - ii) Attend as many site meetings as possible.
 - iii) Attempt to resolve issues, if any, which involve University services and departments.
 - iv) Review and approve (or on invoices greater than \$100,000, recommend for approval by the Associate Director) payments to suppliers and contractors (refer to **Work Procedure I-D-05, External Consultants & General Contractors Contracts, Section B.II – Processing Construction Invoices**).
 - v) Process all Change Orders:
 - a) Any changes in the work due to unforeseen site conditions or revisions by the Customer, design professionals or building inspectors, which result in additional costs or time will require issuance of a “Change Order” by the Design Leader, approved by the Project Manager and paid for out of the project contingency. If the change is initiated by the Customer and deemed an increase in Project scope, the Project Manager will arrange for the Change Order and any related documents to also be signed off by the Customer and request that the Project Budget adjusted by way of increased appropriation and that the Project Schedule be extended accordingly.
 - b) Change Orders shall be managed and prepared in accordance with **Work Procedure I-D-28, Change Orders & Amendments**.
 - vi) Receive from the Design Leader, review and approve the Contractor’s claim for Substantial Performance;
 - vii) Attend all construction completion site reviews (commissioning, substantial performance, final completion);
 - viii) Specifically on **in-house** construction projects:
 - a) Report to the Scheduler any schedule variations greater than 25%; and
 - b) At the 50% complete construction stage, conduct a formal review of construction costs and schedule to date with the Project Coordinator, with the Site Supervisor, Trade Heads and Estimators attending the meeting. Any adjustments needed to bring costs and schedule back on course, if necessary, shall be discussed, agreed to, and subsequently implemented.
 - ix) Specifically on **outsourced** construction projects:
 - a) Coordinate the design and installation of telephone and data cabling and hardware, handled by IT Services (unless instructed otherwise by the Customer);
 - b) Ensure the Contractor receives a copy of the UBC Contractor’s Handbook;

- c] Arrange for necessary keys and means of access for the Contractor;
 - d] Receive from the Contractor all requests for shutdowns using the Request for Service Shutdown form (*Service Shutdown Request.doc* - attached as [Schedule G](#)); review, ensure all required sections completed, sign-off and submit to Work Control no later than ten (10) days before the shutdown is required;
 - e] Receive door hardware shop drawings from the Contractor, forward to the Head Locksmith for approval, return the approved shop drawings back to the Contractor including advisement that the hardware may be ordered; Design Leader to be copied; and
 - f] Arrange for replacement of construction lock cylinders with permanent lock cylinders and keys by the Locksmith Shop.
- c) The Design Leader shall assist the Project Manager in the administration of the construction stage. Specific duties include, but are not limited to:
- i) Interpretation of the construction documents, including answering questions, issuing site instructions and clarification sketches to the Project Coordinator or Contractor;
 - ii) Carrying out necessary field reviews of the Work, including reviews by sub-consultants, at intervals appropriate to the progress of construction to be familiar with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the construction documents;
 - iii) Reviewing all submittals (shop drawings, product data, samples) in a timely fashion;
 - iv) Attending regular site meetings (on outsourced construction projects, leading the meeting, taking and distributing minutes);
 - v) Recommending any necessary changes or alternatives;
 - vi) Receiving, reviewing and recommending monthly progress claims from the Contractor, including preparation of a Certificate of Payment (outsourced construction projects);
 - vii) At construction completion, assembling all Letters of Assurance from the Design Team and forwarding to Regulatory Services in support of an Occupancy Permit application;
 - viii) On outsourced construction projects, receiving, reviewing and recommending the Contractor's claim for Substantial Performance and upon approval by the Project Manager, posting the Notice of Substantial Performance and notifying the Contractor of the date of Total Performance; and
 - ix) Attending all construction completion site reviews (commissioning, substantial performance, total performance), including preparing deficiency lists and holdback amounts.

2. In-house Construction

- a) The Project Coordinator shall advise the Design Leader as to how many sets of "Issued for Construction" documents will be required and the Design Leader shall ensure delivery of such. If no or a few minor changes were made to the documents during the pre-construction phase, existing documents – each set retrieved from the trade estimator and forwarded to the Design Leader for "red-lining" to reflect the changes – may be re-issued to the Project Coordinator.
- b) The Project Coordinator shall control all activities during construction, and steer the construction stage through to completion. Specific duties include, but are not limited to:

- i) Following all steps listed in the Project Coordinator Construction Checklist (*PRCD Const Checklist - <rev. date>.doc*, attached as [Schedule K](#))
 - ii) Overall construction cost and schedule management, including on-going review, analysis and weekly reporting back to the Project Manager as to Project progress and costs;
 - iii) On-going refinement scheduling of trades and contractors (internal and external), including weekly update meetings with the Scheduler;
 - iv) Directing the efforts of the Site Supervisor (if assigned);
 - v) Receipt of invoices, review and recommendation of payments to suppliers and contractors;
 - vi) On-going liaison with the Design Team, including the scheduling and running of regular site meetings;
 - vii) Ensuring that necessary shop drawings and submittals are prepared and submitted to the Design Leader in accordance with the specified quality and completeness, and as per the agreed-to submittal schedule;
 - viii) Estimating in support of Change Orders, including coordinating involvement of the estimators;
 - ix) Coordination of regulatory inspections, as well as field reviews by the design professionals to ensure the work complies with the approved design documents and building codes;
 - x) Coordination of the design and installation of telephone and data cabling and hardware, handled by IT Services (unless instructed otherwise by the Customer);
 - xi) Coordination of the supply and/or installation of any other special built-in equipment required by the Customer;
 - xii) Receiving completed work orders from the Trade Heads, signing-off and forwarding to the Project Clerk for closing; and
 - xiii) Maintenance of the "Project Construction Binder", containing key correspondence, estimates, schedules, copies of contracts and purchase orders, change orders, permits and other pertinent documentation.
- c) The Trade Heads are responsible for:
- i) Daily scheduling and supplying the Project, in strict adherence with the approved construction schedule, with skilled, trained trades personnel, knowledgeable of:
 - a) UBC Policies & Procedures
 - b) WCB and other workplace safety regulations
 - c) building and other industry codes and regulations
 - d) the project specific requirements, including access restrictions, hazard assessments, fire safety plans and general site safety requirements, plans & specifications, and
 - e) good, productive, safe building practices;
 - ii) Procurement and on-time delivery of materials and equipment, complete with necessary documentation ([Note Clause II. 5. a\) vi\) above](#));
 - iii) Daily tracking of labour costs and resource levels associated with the Project and advising the Site Supervisor or Project Coordinator (if no Site Supervisor assigned) of any variance in schedule or costs, in a timely fashion;
 - iv) Making regular site reviews and attending to issues as they occur;

- v) Monitoring and taking steps necessary to ensure quality workmanship and the highest possible level of productivity;
 - vi) Requesting necessary shutdowns through Work Control, using the Request for Service Shutdown form (*Service Shutdown Request.doc* - attached as [Schedule G](#)) and copying the Project Coordinator;
 - vii) Receiving, reviewing and processing time cards and invoices;
 - viii) Preparing shop drawings, submittals and as-built drawings;
 - ix) Applying for trade permits and requesting regulatory inspections;
 - x) Requesting electrical inspections from the Technical Services electrical inspector;
 - xi) Sending completed work orders to the Project Coordinator for closing-off; and
 - xii) Delegating tasks to, and supervising the work of any Sub-Heads.
- d) The Site Supervisor, if one is assigned on larger projects (typically \$100,000 and greater), is the on-site Plant Operations representative specifically is responsible for:
- i) Organizing, and supervising the work of trades and contractors (internal and external) assigned to the site;
 - ii) Taking direction from the Project Coordinator as and when required;
 - iii) Advising the Project Coordinator of any occurrences which might adversely affect the construction costs and/or schedule;
 - iv) Ensuring that all personnel who perform work on site are familiar with the project requirements, access restrictions, hazard assessments, fire safety plans and general safety requirements for the site (including site safety meetings and inspections);
 - v) Initiating appropriate action to correct any problems or situations on-site;
 - vi) Facilitating inspections by Regulatory Services, the Design Team, Technical Services officials and/or the Customer;
 - vii) Receiving of goods at the job site, safe and secure storage of such;
 - viii) Ensuring site security and lockup at the end of each shift;
 - ix) Coordinating regular and final cleaning of the site, including waste and debris removal; and
 - x) Ensuring that employees work in a correct/safe manner and in accordance with all normal site safety standards, practices and procedures.
 - xi) If no Site Supervisor is assigned to the Project, the Project Coordinator shall ensure with Trade Heads and Sub-Heads prior to job start-up that between the Project Coordinator and assigned site personnel, all of the above duties are adequately covered off.
- e) Regular site meetings involving the Design Leader, Project Coordinator, Project Manager, Site Supervisor (if assigned), Scheduler, Trade Heads, selected sub-contractors, and key design professionals shall be held during the course of construction to discuss progress, site and design issues, etc. The Project Coordinator shall lead the meeting, take minutes and arrange for typing and distribution to all parties. The Project Manager may invite the Customer and/or Facility Manager to these meetings as deemed necessary.
- f) At completion of construction, Project Close-out shall take place, which is coordinated by the Project Coordinator and includes:

- i) A walk-through involving the Design Leader, Project Manager, Project Coordinator, Customer, Design Team and Technical Services officials to confirm that no deficiencies remain in the work;
 - ii) Coordinating with the Trade Heads and sub-contractors to undertake necessary remedial work to correct any observed deficiencies;
 - iii) Following all steps listed in the Project Coordinator Post-Construction Checklist (*PRCD Post-Const Checklist - <rev. date>.doc*, attached as [Schedule L](#))
 - iv) Commissioning of equipment by engineers (either in-house or external), and necessary training of staff;
 - v) The Design Leader arranging for final building inspections and Occupancy Permit by Regulatory Services;
 - vi) Move-in of Customer's furniture and equipment (unless Customer instructs otherwise);
 - vii) Ensuring that record documentation (red-lined as-built drawings, O&M manuals, warranties, etc.) is completed and turned over to the Design Leader for completeness review and submittal to the Records Office for updating record plans; and
 - viii) Project sign-off by the Design Leader, Project Coordinator and Technical Services officials, using the Construction Acceptance Report (*Const Acceptance - <rev. date>.doc*) form (attached as [Schedule H](#)). The Project Coordinator shall file a copy of the Acceptance Report in the Project Construction Binder and forward the original to the Project Manager.
- g) The Project Coordinator shall ensure the Project Construction Binder is complete and filed.

3. Outsourced Construction

- a) The Contractor shall advise the Design Leader as to how many sets of "Issued for Construction" documents will be required and the Design Leader shall ensure delivery of such.
- b) The Contractor shall control all site activities during construction in conformance with the contract documents. Specific duties include, but are not limited to:
 - i) Overall construction cost and schedule management, including on-going review, analysis and weekly reporting back to the Project Manager as to Project progress and costs;
 - ii) Ensuring all necessary trade permits (including provincial electrical, elevator and pressure vessel) are taken out by sub-contractors prior to construction start;
 - iii) Ensuring that all personnel who perform work on site are familiar with the project requirements, access restrictions, hazard assessments, fire safety plans and general safety requirements for the site (including site safety meetings and inspections);
 - iv) Initiating appropriate action to correct any problems or situations on-site;
 - v) Attending regular site meetings, and ensuring attendance of specific sub-contractors when called upon;
 - vi) Coordination of regulatory inspections, as well as field reviews by the design professionals to ensure the work complies with the approved design documents and building codes;
 - vii) Ensuring that necessary shop drawings and submittals are prepared and submitted to the Design Leader in accordance with the specified quality and completeness, and as per the agreed-to submittal schedule;

- viii) Responding to all correspondence and Contemplated Change Orders in a timely fashion;
- ix) Receiving of goods at the job site, safe and secure storage of such;
- x) Ensuring site security and lockup at the end of each shift;
- xi) Coordinating regular and final cleaning of the site, including waste and debris removal;
- xii) Cooperation with the installation of telephone and data cabling and hardware by IT Services;
- xiii) Coordination of the supply and/or installation of any other special built-in equipment required by the Customer; and
- xiv) Preparing and submitting to the Design Leader (in accordance with **Work Procedure I-D-05, External Consultants & General Contractors Contracts, Section B.II – Processing Construction Invoices**):
 - a) monthly progress claims, complete with statutory declarations (from second progress claim onwards) that all accounts due have been paid and letters from the Worker's Compensation Board confirming that all assessments in respect of the Work have been paid to date;
 - b) application for a declaration of Substantial Performance when Work is substantially complete;
 - c) application for release of Builder's Lien holdback on the date of expiration of the statutory lien holdback period; and
 - d) application for release of deficiency holdback upon Final Completion.
- c) Regular site meetings involving the Design Leader, Contractor, Project Manager, selected sub-contractors, and key design professionals shall be held during the course of construction to discuss progress, site and design issues, etc. The Design Leader shall lead the meeting, take minutes and arrange for typing and distribution to all parties. The Project Manager may invite the Customer and/or Facility Manager to these meetings as deemed necessary.
- d) At substantial completion of construction, Project Close-out shall take place (in accordance with **Work Procedure I-D-05, External Consultants & General Contractors Contracts, Section B.II – Processing Construction Invoices**), which is coordinated by the Project Manager and includes:
 - i) A Substantial Performance site review involving the Design Leader, Project Manager, Contractor, Customer, Design Team and Technical Services officials to identify any deficiencies in the Work;
 - ii) Timely remediation of deficiencies by the Contractor by the date set for Final Completion by the Design Leader;
 - iii) Commissioning of equipment by engineers (either in-house or external), and necessary training of staff;
 - iv) The Design Leader arranging for final building inspections and Occupancy Permit by Regulatory Services;
 - v) The Contractor ensuring that record documentation (red-lined as-built drawings, O&M manuals, warranties, etc.) is completed and turned over to the Design Leader for completeness review and submittal to the Records Office for updating record plans;

- vi) A Final Completion site review involving the Design Leader, Project Manager, Contractor, Customer, Design Team and Technical Services officials to confirm that no deficiencies remain in the work;
- vii) Move-in of Customer's furniture and equipment (unless Customer instructs otherwise) by in-house forces; and
- viii) The Project Manager obtaining Project sign-off by the Design Leader, Contractor and Technical Services officials, using the Construction Acceptance Report (*Const Acceptance* – <rev. date>.doc - attached as [Schedule H](#)).

4. Post Construction

Upon final construction completion, the Project Manager shall:

- a) Undertake a review of final Project costs and schedule and, on in-house constructed projects, set up a Project Evaluation (post mortem) involving the Project Manager, Design Leader, Project Coordinator and Estimator. The purpose of the evaluation is to discuss what went right, what could be improved upon and what information could be used in the future on similar projects (i.e. cost data for future estimates).
- b) Review actual in-house labour charges (including PM fees, Design Office hourly charges, trades hourly charges) and arrange through the Projects Data Clerk to bill out the actual UBC Admin Levy (2% of the in-house labour charges) through a Work Request Journal Entry.
- c) Meet with the Customer to discuss final Project costs, obtain any comments or feedback regarding the Project delivery, and duly sign-off on the Construction Acceptance Report. Arrange for the Projects Office Clerk to deliver copies of the final Acceptance Report to the Customer, Facility Manager and Design Leader, with the original retained by the Project Manager and filed in the Project Folder.
- d) Advise the Projects Data Clerk to update the Projects Office Assignment/Status Report to show project completion, and change the status of Project and all outstanding Work Requests to "90-COMplete".
- e) Once all costs are in and accounted for, including final Project Management fees, advise LBS Finance to change the status of all Work Requests to "99-CLOSED".
- f) Handle any follow-up with the Customer after project completion, i.e. defects or warranty work; any deficiencies or defects encountered in the one-year warranty period (effective the date of Substantial Performance) are to be reported to the Design Leader and Contractor (or Project Coordinator for in-house construction) for remedial action.
- g) At one year anniversary of the Substantial Performance, advise the Customer that the Project is finally complete and to refer all future issues to the Facility Manager.

C. MINOR WORK

1. If the Work is deemed as "Minor Work" (estimated to take between 2 and 20 worker days to complete or between \$1,000 and \$10,000 in value), the Service Centre Coordinator shall:
 - a) Enter the Customer Request Package into FME via a "Planned Work Request":
 - Customer contact information,

- Work Request Type (P - Project Services),
 - Category (MW – Minor Works)
 - Title (consisting of building name or site location, room number(s) and maximum five word project descriptor)
 - Property (*Building Name* – can be accessed by Zoom function, then Select)
 - Phase (48)
 - Description (same as Title)
 - Shop (48-Projects – Trades Office)
 - Work Code (C1200 – Project Management)
 - Priority (SET BY MGR)
 - Labour Class (CRAFT RATE)
- b) Send a copy of the Customer Request Package, complete with routing sheet and copy of the Planned Work Request, to the Project Trades Clerk.
2. The Projects Trades Clerk, upon receiving the Customer Request Package, shall:
- a) Refer the package to a Minor Works Supervisor, based on schedule and prime discipline (architectural vs. electrical/mechanical);
 - b) Enter the Minor Work in the Plant Operations Minor Works Tracking Database;
 - c) Set up the “Project Definitions” on FME:
 - Project Number (top right corner of Customer Request Form),
 - Project Name (consisting of building name or site location, room number(s) and maximum five word project descriptor),
 - Project Type (USER FUNDED),
 - Project Status (05-OPEN),
 - Estimator (name of assigned Minor Works Supervisor)
 - Shop (48 – Projects Trades Office)
 - Shop Person (name of assigned Minor Works Supervisor)
 - d) Update the Planned Work Request “Shop Person” with the name of the assigned Minor Works Supervisor and Project (accessed by Zoom function); and
 - e) Contact the Customer the same day to advise that the Customer Request Package has been received and who the Minor Works Supervisor will be.
3. The Minor Works Supervisor shall:
- a) Review the Customer Request Package and, within 24 hours of its receipt, make contact with the Customer to set up an appointment on-site to review and assess the work; if deemed necessary or beneficial, the Facility Manager and/or Technical Services Representative shall also be invited to the site review;
 - b) Prior to the appointment with the Customer:
 - check the asbestos database for potential issues in the proposed Work area and arrange for written clearance from the Asbestos Coordinator;
 - check with the Manager-Project Trades for recent political issues with the Customer and/or in the proposed Work area;

- query Technical Services for any potential building system issues in the proposed Work area; and
 - check whether a shutdown of services will be required, thus adding at least ten (10) days to the work schedule;
- c) Meet with the Customer on-site to review and assess the work. At this meeting, the Customer's expectations as to cost (funding limit, etc.), quality, delivery time, etc. of the work are to be queried, as well as a discussion of options that could possibly better suit the Customer's expectations;
- d) After the site review, obtain architectural or engineering input from either the Design Office or Technical Services as required (i.e. if electrical work adds more than three 120V 30A circuits or one 208V 30A 1 ϕ circuit, involves any 3 ϕ loads, or involves any additional lighting – then input from the Electrical Engineer is required); and
- e) prepare and present to the Customer a Minor Works cost estimate in accordance with **Work Procedure I-D-15, Project Estimates, Section C (Minor Works Estimates)**.
4. Once the Customer approves the estimate, the Minor Works Estimate form is sent either
- via the Facility Manager; or
 - via Work Control; or
 - via the Minor Works Supervisor; or
 - directly by the Customer
- to the Project Trades Clerk with the Client's Authorization to Proceed section completed, including signature and FMIS account code.
5. The Project Trades Clerk shall:
- a) confirm a work start date with the Scheduler and advise the Customer of that date;
 - b) promote the Planned Work Request to a "Work Request", and update:
 - Status (05-OPEN)
 - Budget (via the upper "More" button, based on approved cost estimate)
 - Estimated Start and End Dates
 - Distribution for Phase 48 - set at Offset Dept "ECNW" and Fixed Amount set at the Minor Works Supervision Fee and UBC Admin Levy (2%) (from the approved estimate)
 - c) update the Minor Works Tracking Database;
 - d) forward the trade hours breakdown and hazard assessment, and request the Service Centre Coordinator to:
 - create Phases against the Work Request for the various trade groups, based on the estimated person-hours, and appropriated as per the approved Minor Works Estimate with proper account distribution; and
 - print off the Work Request Phases to the trade shop printers.
 - e) advise the Minor Works Supervisor upon completion to enable construction start-up.
6. The Minor Works Supervisor, upon receiving the Work Request, shall arrange for necessary trades scheduling (through the Scheduler and Trade Heads) and materials procurement (either directly or

via the Trade Shops), advise the Facility Manager of the Minor Work start date, and implement the work.

7. If the work involves any electrical installation, the Head Electrician shall call for regular inspections by the Technical Services electrical inspector and final sign-off.
8. Any shutdowns required during the work shall be arranged for by the Trade Head responsible through Work Control and communicated to the Minor Works Supervisor and Customer. The Trade Head shall ensure all requests for shutdowns are made using the Request for Service Shutdown form (*Service Shutdown Request.doc* - attached as [Schedule G](#)), that all required sections are completed and signed-off, and that the form is submitted to Work Control no later than ten (10) days before the shutdown is required.
9. Any materiel changes to doors, walls, electrical panels, etc. not requiring a building permit but varying the floor plan shall be neatly marked on a key plan with dimensions by the Minor Works Supervisor and submitted to the Records Office.
10. Upon work completion, the Minor Works Supervisor shall:
 - a) Inspect the Work site and arrange for any deficiencies to be remedied in a timely fashion;
 - b) Notify the Facility Manager that the Work is complete and ready for use;
 - c) Organize and attend a final walk-through inspection with the Customer;
 - d) Obtain Work Request sign off by the Customer; and
 - e) return the signed-off Work Request to the Project Trades Clerk.
11. The Project Trades Clerk shall:
 - a) Calculate and bill out (through a Work Request Journal Entry) the Minor Works Supervision Fee and UBC Admin Levy (2%), based on the final job costs.
 - b) Contact the Customer for a follow-up, querying the quality and delivery of the Work and any other pertinent comments the Customer may have;
 - c) Assign final supervision costs to the Work Request, update Expectations notes and change Work Request status to "90-COMPLETED";
 - d) Update the Minor Works Tracking Database, indicating the completion of Work, comments from the Customer and final costs; and
 - e) Once all costs are in and accounted for, advise LBS Finance to change the status of Work Request to "99-CLOSED".
12. If the Work is that of a single, specialized trade, i.e.:
 - Paint Shop;
 - Locksmith Shop;
 - Sheetmetal Shop;
 - Carpentry (Millwork) Shop;
 - Landscaping Shop; or
 - Moving Crew

then the Work Request may be routed by the Service Centre Coordinator to the Trade Head of that specific shop and the role of the "Minor Works Supervisor" is replaced with the "Trade Head" in the above process.

5. Appendices & Schedules

Appendices:

- A. [Project Review Notification List](#)
- B. [Project Binder Filing Index](#)

Schedules:

- A. [Customer Request Form](#)
- B. [Professional Services Estimate Form](#)
- C. [Notification of Project Form](#)
- D. [Design Review Comment Sheet](#)
- E. [Priority 1 Assessment Form](#)
- F. [Tender/Proposal Call Request Form](#)
- G. [Request for Service Shutdown Form](#)
- H. [Construction Acceptance Report Form](#)
- I. [Hazard Assessment Form](#)
- J. [Project Coordinator Pre-Construction Checklist](#)
- K. [Project Coordinator Construction Checklist](#)
- L. [Project Coordinator Post-Construction Checklist](#)

APPENDIX A - PROJECT REVIEW NOTIFICATION LIST

Department/Title	New Project Start-Up		Schematic Design Completion (25% Design)		Design Development Completion (50% Design)		Construction Documents Completion (95% Design)		Notification of Construction Start-up	
	< \$250K	≥ \$250K	< \$250K	≥ \$250K	< \$250K	≥ \$250K	< \$250K	≥ \$250K	< \$250K	≥ \$250K
Land & Building Services										
Associate Vice President	X	X		X		X		X	X	X
Director, UBC Utilities	X	X		X		X		X	X	X
Director, Transportation Planning		X		X		X		X		X
Director, Sustainability Office	X	X	X	X		X		X		
Energy Manager	X	X	X	X		X	X	X		
Supervisor, LBS HS&E	X								X	
UBC Plant Operations										
Director, UBC Plant Operations	X	X		X		X		X		X
Associate Director, Project Services	X	X	X	X		X	X	X	X	X
Associate Director, Operations Engineering	X	X				X	X	X	X	X
Associate Director, Building Operations (circulates to Trades Supervisors)	X		X				X		X	X
Associate Director, Municipal & Business Services								X	X	X
Manager, Design Office (circulates to Project Architects)	X	X	X	X		X	X	X	X	X
Manager, Technical Services (circulates to Technical Services staff)	X	X	X	X		X	X	X	X	X
CRDM Program Manager	X	X							X	X
Resource Planner	X	X					X		X	X
Project Manager	X	X	X	X		X	X	X	X	X
Project Coordinator (In-house Const'n)							X		X	
Facility Manager	X	X					X	X	X	X
Head Locksmith							X	X		
Campus Planning & Development										
University Architect/Landsc. Architect	X	X	X	X		X	X	X	X	X
Director, Planning	X	X		X		X		X	X	X
Space Administration Manager	X	X		X		X		X	X	X
Capital Programs Manager	X	X	X	X		X	X	X	X	X
Physical Access Advisor	X	X	X	X		X	X	X	X	X
Associate Director, Campus & Community Planning	X	X		X		X		X	X	X
Space Inventory Manager									X	X
Other										
Manager, Network Facilities	X	X	X	X		X	X	X	X	X
Director, Campus Security							X		X	X
Director, Parking & Access Control						X	X	X	X	X
Secure Access Manager	X	X		X		X	X	X	X	X
Manager, Fire Protection Services									X	X
Director, Health, Safety & Environment									X	X
Major Contracts Officer (Supply Mgt.)							X	X	X	X
Manager, Risk & Insurance (Treasury)							X	X	X	X
Director, Classroom Services	X	X	X	X		X	X	X	X	X
Director, Disability Resources Centre									X	X
Workers Compensation Board									X	X
User/Customer	X	X	X	X		X	X	X	X	X

APPENDIX B – PROJECT BINDER FILING INDEX

1. Planning, Functional Programs, and Background
2. Correspondence – General
3. Meeting Minutes
4. Estimates
5. Schedules
6. Transmittals, Drawing Comments, Shop Drawing Transmittals
7. Statutory Approvals
8. Asbestos
9. Financial
10. Architect Agreement and Fee Correspondence
11. Purchase Orders and Small Contracts
12. Invoices – Consultants and Testing
13. Invoices – General Contractor, Other Contractors, Equipment, etc.
14. Contemplated Change Orders
15. Change Orders
16. Site Instructions
17. Architect, Clerk of Works, Landscape Architect Reports
18. Structural – Reports, Correspondence, Soil Tests, Concrete Tests
19. Mechanical – Reports, Mechanical Correspondence
20. Electrical – Reports, Electrical Correspondence
21. Plant Operations – Work Requests, Correspondence, Shutdown Notices
22. Tender Form, Letter of Intent, Bonds, Insurance, Agreement
23. Legal – Liens, Lawyer Correspondence, Money Claims, Fair Wage Correspondences
24. User's Equipment and Furniture (P.O.'s and Contracts in Tab 11)
25. Communications – Telephone, Computer, CCTV
26. Substantial Completion Certificate, Deficiency Reports, Warranty Reports
27. Guarantees, Spare Materials Receipts, Provincial Certificate
28. As-Built Drawings and Maintenance Manuals
29. Commissioning – Reports and Correspondence
30. Finish Hardware and Signs – Schedules and Correspondence
31. Power Smart

SCHEDULE A



UBC Land & Building Services
 2329 West Mall
 Vancouver, BC Canada V6T1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6969

CUSTOMER REQUEST

CUSTOMER REQUEST NO.
(Pre-printed number)

PLEASE COMPLETE ALL OF SECTION I

SECTION I: CUSTOMER SECTION – TO BE COMPLETED BY THE REQUESTOR

CONTACT NAME:	FAX NO.:	PHONE NO.:
---------------	----------	------------

REQUESTOR'S NAME:	FAX NO.:	PHONE NO.:
-------------------	----------	------------

CHARGE REQUEST TO:
 FACULTY / DEPARTMENT NAME:

FMIS CHARTFIELDS												
Speed Chart												Account

BUILDING NAME AND/OR AREA WHERE WORK IS REQUIRED:	Floor #	Room #(s)	Project# (if any)
---------------------------------------------------	---------	-----------	-------------------

DETAILED DESCRIPTION OF WORK REQUIRED: *(detailed scope of work, including any architectural, electrical, communications, heating/cooling, moving works, etc. - attach additional information, i.e. continuation of scope description, sketches, key plans, product data)*

REASON FOR WORK REQUESTED:

DATE WORK IS TO BE COMPLETED BY: _____ DESIRED START: _____ SEE ATTACHMENTS

PROCEED WITHOUT ESTIMATE	ESTIMATE REQUIRED * <i>*(NOTE: FOR REQUESTS \$1,000 AND OVER ONLY)</i>
SIGNATURE _____	SIGNATURE _____
DATE _____	DATE _____

SECTION II: PLEASE DO NOT FILL OUT – FOR PLANT OPERATIONS DEPARTMENT USE ONLY

New Job Strategy Committee:													
Project Services	Projects	M. Works											
Technical Services													
Facility Services	FM	BSWS	UTLW										
Utilities	UELE	UMEZ	UPRC	UPLM	USTM								
Routine	BRIC	CAIT	CRPM	CRPS	DISP	ELEC (21)	FLS (46)	GARD	HLND 27	GLAZ	LABR (42)	LOCK	
	MECH	MMIC	MTE 1 / 2	PLST	PLUM	PNTR	ROOF	SHTM	SIGN	STMF	STORES	UPHO	
Other:	Municipal	Mech.	Elec.	Arch.									

<p>FACILITY MANAGER</p> <p>SIGNATURE _____</p> <p>NAME: _____ ZONE # _____</p> <p>DATE: _____</p>	<p>Work Control (SCC):</p> <p>Assigned FME WR# _____</p> <p>ISSUED BY: _____</p> <p>DATE: _____</p>
----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

WHITE COPY – FAX OR FORWARD TO THE FACILITY MANAGER PINK COPY – KEEP FOR YOUR FILE

SCHEDULE B



UBC Plant Operations
 LBS Projects Services - Design Office
 2329 West Mall
 Vancouver, BC Canada V6T 1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6119

PROFESSIONAL SERVICES ESTIMATE

To: Project Manager: _____ Fax: _____ Tel: _____
From: _____ Fax: _____ Tel: _____
Work Requester: _____ Fax: _____ Tel: _____
Facility Manager: _____ Fax: _____ Tel: _____
Delivered By: Fax Hand Inter-office Mail Date: _____

Project Information:
 Building Name: _____ Work Request No.: _____
 Project Name: _____ UBC Project No.: _____

Architectural/Engineering Services Fee:

The following is our estimate of professional services required for the subject Project, which is based on the information received in the work request package, our site meeting of _____, our schedule of rates, and the Construction Class C (Project Budget) B (Preliminary Design) A (Pre-Construction) Estimate of \$ _____.

	Feasibility Study	Design Services	Construction Services	Total
Architectural	\$ _____	\$ _____	\$ _____	\$ _____
Structural	_____	_____	_____	_____
Mechanical	_____	_____	_____	_____
Electrical	_____	_____	_____	_____
Other Consultants	_____	_____	_____	_____
Drafting for M&E	_____	_____	_____	_____
Disbursements	_____	_____	_____	_____
Total Fee:	\$ _____	\$ _____	\$ _____	\$ _____

Comments:

Conditions:

This estimate is good for 90 days. Work to be done during normal working hours, unless noted otherwise.
 Costs incurred by Project Services will be charged out on a "time and materials" basis up to the Total Estimated Price. Any work additional to the original work request and design package will be considered as extra work to this estimate, will be costed out on a time and materials basis, and must be approved in writing by the Client in advance of the work proceeding.

Prepared By: (Design Leader/Consultant)	Signature	Name	Position	Date
Reviewed/Submitted By:	Signature	Name	Position Design Manager	Date
Reviewed/Approved By:	Signature	Name	Position Project Manager	Date

Client Authorization To Proceed: (Feasibility Study Only)

Signature	Date
Name	Position
Account No.	Funding Source

Comes to:

- | | | | | |
|-------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> Design Manager
Fax: _____ | <input type="checkbox"/> Structural Engineer
Fax: _____ | <input type="checkbox"/> Electrical Engineer
Fax: _____ | <input type="checkbox"/> ITS / Comp & Comm
Fax: 822-5116 | <input type="checkbox"/> _____
Fax: _____ |
| <input type="checkbox"/> Architect
Fax: _____ | <input type="checkbox"/> Mechanical Engineer
Fax: _____ | <input type="checkbox"/> Cable Facilities
Fax: 822-2108 | <input type="checkbox"/> _____
Fax: _____ | <input type="checkbox"/> _____
Fax: _____ |

SCHEDULE C



UBC Plant Operations

2329 West Mall
 Vancouver, BC Canada V6T 1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6969

NOTIFICATION OF PROJECT

- New Project 25% Design 50% Design
 Complete Design Construction Start

Issued by: _____ Date: _____

Project Name:	Project Ref. No.:
Location:	Room No(s):
Scope of Work:	
Anticipated Construction Start:	Anticipated Completion:
Approx. Construction Value: \$	Reviewed by Scheduler:

NOTES:

The drawings and specifications are available for your review in the University Services Building, Room 1100 and in the Campus Planning & Development Building, Room 220

If you have any comments, please ensure to make them on the Comment Sheet attached to the drawings by no later than < date >.

Please Contact Any Of The Following Project Personnel For Further Information:

Project Manager:

Designer:

Facility Manager:

DISTRIBUTION:

DEPARTMENT	CONTACT	TITLE	FAX/E-Mail
Client/User:	<input type="checkbox"/>		
Land & Building Services:	<input type="checkbox"/>	Geoff Atkins	Associate Vice President e-mail
	<input type="checkbox"/>	Gordon Apperley	Director, UBC Utilities e-mail
	<input type="checkbox"/>	Gordon Lovegrove	Director, Transportation Planning e-mail
	<input type="checkbox"/>	Freda Pagani, Jorge Marques	Sustainability Office e-mail
	<input type="checkbox"/>	Gail Townsley	LBS HS&E Supervisor e-mail
Campus Planning & Development:	<input type="checkbox"/>	Thomas Llewellyn	University Archited/Landscape Architect e-mail
	<input type="checkbox"/>	Fred Pritchard	Director, Campus Planning e-mail
	<input type="checkbox"/>	David Grigg	Assoc. Director, Campus & Community Planning e-mail
	<input type="checkbox"/>	Suzanne Pookkay	Capital Programs Manager e-mail
	<input type="checkbox"/>	Catherine Alkenbrack	Space Administration Manager e-mail
	<input type="checkbox"/>	John Lane	Physical Access Advisor e-mail/hand
	<input type="checkbox"/>	Peter Jia	Space Inventory Manager e-mail
UBC Plant Operations:	<input type="checkbox"/>	David Barnes	Director e-mail
	<input type="checkbox"/>	Frank Geyer	Assoc. Director Project Services e-mail
	<input type="checkbox"/>	David Woodson	Assoc. Director Operations Engineering e-mail
	<input type="checkbox"/>	Dan Leslie	Assoc. Director Building Operations e-mail
	<input type="checkbox"/>	John Metras	Assoc. Director Municipal Services e-mail
	<input type="checkbox"/>	Allan Cheng	Manager Design Office e-mail
	<input type="checkbox"/>	Marion Lis, Rolf Kullak	Technical Services e-mail
	<input type="checkbox"/>	John Sacré	CRDM Program Manager e-mail
	<input type="checkbox"/>	Luc De Beir	Resource Planner e-mail
	<input type="checkbox"/>		Project Manager e-mail
	<input type="checkbox"/>		Project Coordinator e-mail
	<input type="checkbox"/>		Facility Manager e-mail
	<input type="checkbox"/>		e-mail
	<input type="checkbox"/>		e-mail
IT Services:	<input type="checkbox"/>	John Gaudreau	Manager Network Facilities 2-2108
Campus Security:	<input type="checkbox"/>	Iain McLellan	Administration Manager 2-3541
Parking & Access Control:	<input type="checkbox"/>	Danny Ho	Director 2-3773
Vancouver Fire & Rescue Services:	<input type="checkbox"/>	Stuart Affleck	Manager Fire Protection Services 2-8299
Health, Safety & Environment:	<input type="checkbox"/>	Wayne Greene	Director 2-6650
Supply Management:	<input type="checkbox"/>	Al Lackie	Major Contracts Officer 2-3261
Financial Services, Treasury:	<input type="checkbox"/>	John Welch	Manager Risk & Insurance 2-1224
Registrar's Office, Classroom Services:	<input type="checkbox"/>	Justin Marples	Director 2-5945
Disability Resources Centre:	<input type="checkbox"/>	Janet Mee	Director 2-6655
Workers Compensation Board:	<input type="checkbox"/>	New Project Notification	276-3247
Contractor:	<input type="checkbox"/>		

SCHEDULE E



UBC Plant Operations
 2329 West Mall
 Vancouver, BC Canada V6T 1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6969

PRIORITY 1 PROJECT ASSESSMENT

The intent of this form is to identify any known conditions that assist in justifying that a project be classified as "Priority 1" (guaranteed staffing to ensure committed start & end dates)

PART I – COMPLETED BY PROJECT MANAGER	
SUBMITTED BY:	<i>signature</i>
WORK REQUEST NUMBER:	<i>date</i>
PROJECT NAME:	
PRIORITY 1 CRITERIA <i>(check off one or more)</i>	EXPLANATIONS/DATES
<input type="checkbox"/> Definitive End Date / Short Timeline	
<input type="checkbox"/> Room Booking Required	
<input type="checkbox"/> Shutdown Required	
<input type="checkbox"/> Project Funding	
<input type="checkbox"/> Seasonal Work	
<input type="checkbox"/> Must be done during a school break period	
<input type="checkbox"/> University priority (i.e. work committed to, for quick response, by the Director, AVP or VP)	
<input type="checkbox"/> Operational necessity (i.e. if the work is not expedited, teaching and research functions will be severely effected)	
<input type="checkbox"/> Other:	

PART II – COMPLETED BY SCHEDULING / WORK CONTROL	
PRIORITY 1 EVALUATION	
Number of Priority 1 jobs booked by the same Project Manager for the same time period:	
% of Workforce booked as Priority 1 for the requested time period (max. 40%):	
Jobs impacted by dictating this start date (list):	
Earliest Priority 1 Start Date without bumping other projects:	
RECOMMENDATION TO ASSOCIATE DIRECTOR	
<input type="checkbox"/> APPROVE <input type="checkbox"/> DISCUSS <input type="checkbox"/> DENY	<i>signature</i> <i>date</i>
APPROVED BY ASSOCIATE DIRECTOR	<i>signature</i> <i>date</i>

SCHEDULE F



UBC Plant Operations
LBS Projects Services
 2329 West Mall
 Vancouver, BC Canada V6T 1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6969

TENDER/PROPOSAL CALL REQUEST

Contractor Tender Call Consultant Proposal Call

To:		From:	
Department/Company: UBC Supply Management		Department/Division: LBS Project Services	
Tel:	Fax:	Tel:	Fax:
Delivered By: <input type="checkbox"/> Hand <input type="checkbox"/> Inter-office Mail <input type="checkbox"/> Courier		Date:	RFT No.:

PROJECT INFORMATION :			
Building Name:		Project Manager:	Tel Fax
Project Name:		Project Architect (Design Office):	Tel Fax
Project Number:	Estimated Construction Value: \$	Prime Consultant:	
Proposed Tender Briefing Date:	Required Tender Closing Date:	Attention:	Tel Fax
Special Instructions:			
<input type="checkbox"/> Request for Tender documents (incl. specifications) e-mailed to UBC Purchasing Officer			

DOCUMENTS ENCLOSED :					
	Document	Title	No. of Copies	Rev. No.	Dated
<input type="checkbox"/>	Bid/Proposal Invitation List				
<input type="checkbox"/>	Terms of Reference (Consultants)				
<input type="checkbox"/>	Issued for Tender Drawing Sets				
<input type="checkbox"/>	Approved Contracting Out Request				

Copies to:
 Project Manager Design Manager Design Leader Other: Other:

**University of British Columbia
REQUEST FOR SERVICE SHUTDOWN**

INSTRUCTIONS

- a) Requestor fills in Parts 1 and 2. *Note: all applicable fields in Sections 1 & 2 must be completed or request shall be returned to Requestor.* Attach Service Connection Permit, if applicable.
- b) Applications must be submitted to UBC Plant Operations Work Control via:
 - i) University Services Building, 2329 West Mall (hours 7:30 am - 3:30 pm; tel. 822-2173), or
 - ii) fax (604) 822-3493, or
 - iii) e-mail to tc.plantops@ubc.ca
- c) A minimum of ten (10) working days notice is required for a routine shutdown. Shutdowns that will involve a significant impact on clients may require more time to coordinate.
- d) For emergency shutdowns contact: UBC Plant Operations Trouble Calls at (604) 822-2173

Part 1 - REQUESTOR INFORMATION

UBC Contact/Project Manager, Trade Head, or Coordinator

Print Name:		Signature:	
UBC Department/Group: (e.g. Plant Operations, C&CP, Utilities, Housing, UBC Properties Trust)		Telephone:	
		Fax:	
		Email:	
Project Title/ Description:		Work Request No:	
		Date of Application:	

Attach Service Connection Permit (if applicable)

Permit No. _____ (if applicable)

Feed to Building - Utilities

Connection within Building - Plant Operations

Contractors and Consultants (if applicable)

Consulting Firm:		Telephone:	
		Fax:	
		Email:	
Print Name:		Signature:	
General Contractor:		Telephone:	
		Fax:	
		Email:	
Print Name:		Signature:	
Sub Contractor:		Telephone:	
		Fax:	
		Email:	
Print Name:		Signature:	

Part 2 - SHUTDOWN REQUIREMENTS (to be filled out by Requestor)

Locations/Buildings Requiring Service Shutdown			
Types Of Services/Systems Which Will Be Shut Down			
Requested Date For <i>Work</i> to Start:		Requested Time For <i>Work</i> to Start:	
Requested Date For <i>Work</i> to Finish:		Requested Time For <i>Work</i> to Finish:	
Reason for Shutdown (work being performed)			

Part 3 - SHUTDOWN INFORMATION

(filled out by Lead Trade Head isolating system or Lead Trade performing work)

3.1 Service Down Time and Buildings/Rooms Affected:

Requested Date & Time for <i>Service Shutdown to Start</i> :		Requested Date & Time for <i>Service to be Restored (end of Shutdown)</i> :	
If Fumehood Shutdown, Indicate Level Required	Level 1	Level 2	Level 3

3.2 UBC Trades Staff Required Involved in Shutdown:

Number of Trade Staff Required - UBC PLANT OPERATIONS							
MMIC:CAIT		MTE1		MTE2		STMF	
PLUM:M/P		ELEC:M/P		CRPM:M/P		DISP	
SHTM:M/P		ROOF		LABR:M/P		LOCK	
Number of Trade Staff Required - UBC UTILITIES							
UME(Util)		USTM(Util)		UPLM(Util)		UELE(Util)	
Number of Trade Staff Required - UBC HOUSING							
PLUM		ELEC		STMF		CRPM	

Part 4 - APPROVALS

(to be coordinated/distributed by Work Control & Facility Manager)

(A)	M&P SUPERVISOR / MANAGER	(print name)	(signature)
(B)	HEAD AUTOMATION	(print name)	(signature)
(C)	TRADE HEAD (lead trade doing work)	(print name)	(signature)
(D)	TRADE HEAD (lead trade isolating system)	(print name)	(signature)
(E)	FACILITY MANAGER	(print name)	(signature)
(F)	WORK CONTROL	(print name)	(signature)

Part 5 - DISTRIBUTION RECORD (after all approvals obtained)

- Original retained by Plant Operations Work Control
- Shutdown Notification issued by UBC Plant Operations per standard distribution list
- Copy sent to Requestor(s) identified in Part 1
- Copy sent to all who signed approvals in Part 4



UBC Plant Operations

LBS Projects Services
 2329 West Mall
 Vancouver, BC Canada V6T 1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6969

CONSTRUCTION ACCEPTANCE REPORT

PROJECT INFORMATION	
Building Name	Work Request No.
Project Name	UBC Project No.
Project Manager	Work Order No.

CONSTRUCTION COMPLETION CERTIFICATION			
<u>ARCHITECT OR DESIGN LEADER</u>			
I have inspected the construction and I hereby certify that the Work has been performed according to the plans and specifications and to my satisfaction.			
Name	Organization	Signature	Date
<u>ELECTRICAL ENGINEER</u>			
I have witnessed tests of the electrical installation under working load and I hereby certify that the Work has been performed according to the plans and specifications and to my satisfaction.			
Name	Organization	Signature	Date
<u>MECHANICAL ENGINEER</u>			
I have witnessed tests of the mechanical installation under working load and I hereby certify that the Work has been performed according to the plans and specifications and to my satisfaction.			
Name	Organization	Signature	Date
<u>CONTRACTOR OR PROJECT COORDINATOR</u>			
I hereby certify that the Work has been executed and completed in accordance with the plans and specifications, with all noted defects and deficiencies remedied and the Work fully operational.			
Name	Organization	Signature	Date

PROJECT COMPLETION CERTIFICATION/ACCEPTANCE			
<u>PROJECT MANAGER CERTIFICATION</u>			
I hereby certify that the Project has been executed and completed in accordance with the approved scope, budget and schedule, with the final reconciliation of project costs (actual and forecast to complete final documentation) attached as Appendix 'A'.			
Name	Organization	Signature	Date
	LBS Project Services		
<u>WORK REQUESTER ACCEPTANCE</u>			
On the basis of the above certifications, I hereby accept the completed Project on behalf of the Department or Faculty or Ancillary requesting the Work.			
Name	Organization	Signature	Date

Copies to:

- Work Requester
 Project Manager
 Design Leader
 Project Coordinator
 Projects Data Clerk
 Work Control
 Other: _____

UBC Plant Operations
LBS Project Services

Appendix 'A' to Construction Acceptance Report
Final Project Cost Reconciliation

Project: _____ Work Request No.: _____
 Location: _____ UBC Project No.: _____
 Work Requester: _____ Work Order No.: _____
 Project Manager: _____ Date: _____

<p>Approved Project Budget:</p> <p><u>Initial Approved Budget:</u></p> <p>1.0 Design & Technical Fees: _____</p> <p>2.0 Construction Costs: _____</p> <p>3.0 Miscellaneous Costs: _____</p> <p>4.0 Project Contingency: _____</p> <p>5.0 Project Management: _____</p> <p>6.0 Total Project Estimate: \$ _____ -</p> <p><u>Approved Budget Amendments*:</u></p> <p>Number: <input type="text"/> Value: _____</p> <p>Current Project Budget: \$ _____ -</p> <p><u>Pending Budget Amendments*:</u></p> <p>Number: <input type="text"/> Value: _____</p> <p>Projected Project Budget: \$ _____ -</p> <hr/> <p>Noteworthy Items:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Completed by: _____</p> <p><small>*Budget Amendments = cost of scope changes authorized by the Work Requester.</small></p>	<p>Actual Project Cost to Date:</p> <p><u>Design & Technical Charges:</u></p> <p>1.1 Architectural: _____</p> <p>1.2 Structural: _____</p> <p>1.3 Mechanical: _____</p> <p>1.4 Electrical: _____</p> <p>1.5 _____ : _____</p> <p>1.6 _____ : _____</p> <p>1.7 _____ : _____</p> <p style="text-align: right;">Sub-total: \$ _____ -</p> <p><u>Construction Charges:</u></p> <p>2.1 Labour: _____</p> <p>2.2 Materials: _____</p> <p>2.3 Contracts: _____</p> <p style="text-align: right;">Sub-total: \$ _____ -</p> <p><u>Miscellaneous Charges:</u></p> <p>3.1 IT Services: _____</p> <p>3.2 Furniture/Equip: _____</p> <p>3.3 Miscellaneous: _____</p> <p>3.4 Permits/Fees: _____</p> <p style="text-align: right;">Sub-total: \$ _____ -</p> <p><u>Project Management:</u></p> <p style="text-align: right;">Total: \$ _____ -</p> <p>Forecast Charges to Complete Project:</p> <p>1.0 Design & Technical: _____</p> <p>2.0 Construction: _____</p> <p>3.0 Miscellaneous: _____</p> <p>Project Management: _____</p> <p style="text-align: right;">Total: \$ _____ -</p> <p>Forecast Final Project Cost: \$ _____ -</p> <p><i>Projected Financial Variance:</i> \$ _____ -</p>
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SCHEDULE I



University of British Columbia

**Level 2 Assessment:
Hazard Identification & Risk Assessment**

To be completed prior to the start of work by designated project coordinator or supervisor.

Project:		Start Date:	
Description of work to be done:		Work Request or Order #:	
Inherent Site Conditions			
Yes No <input type="checkbox"/> <input type="checkbox"/> Asbestos assessment complete and posted <i>(If yes, read completed memo on safety board)</i> <input type="checkbox"/> <input type="checkbox"/> Confined spaces entry required <input type="checkbox"/> <input type="checkbox"/> Pre/post-tensioned concrete (if coring) <input type="checkbox"/> <input type="checkbox"/> Roof top with Fume hood - access required <input type="checkbox"/> <input type="checkbox"/> Hidden/buried Utilities Impacted <i>(If yes, Complete Hidden Utilities Assessment Form)</i>	Yes No <input type="checkbox"/> <input type="checkbox"/> Laboratories Lab Chemicals in the way Bio-hazards work surfaces disturbed Radiation work surfaces disturbed Working in/on Fumehoods	Yes No <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Yes No <input type="checkbox"/> <input type="checkbox"/> PCBs
(If yes to any of above, provide details below.)			
Work Generated Hazards:			
Yes No <input type="checkbox"/> <input type="checkbox"/> Industrial Radiography <input type="checkbox"/> <input type="checkbox"/> Traffic Control <input type="checkbox"/> <input type="checkbox"/> Work Area Organization and Control <input type="checkbox"/> <input type="checkbox"/> Overhead High Voltage wires <input type="checkbox"/> <input type="checkbox"/> Danger Trees <input type="checkbox"/> <input type="checkbox"/> High Voltage Equipment <input type="checkbox"/> <input type="checkbox"/> Excavations over 1.2m (4 ft) depth <i>(If yes to any of above, provide details below.)</i>	Yes No <input type="checkbox"/> <input type="checkbox"/> Generation of harmful contaminants (welding fumes, silica, CO, SO ₂) <input type="checkbox"/> <input type="checkbox"/> Lock-out required <input type="checkbox"/> <input type="checkbox"/> Falls over 3m (10 ft) <input type="checkbox"/> <input type="checkbox"/> Falls over 7.5 m (25 ft) <i>(If yes, Complete Fall Protection Plan Form)</i> <input type="checkbox"/> <input type="checkbox"/> Site Specific Fire Plan Required <input type="checkbox"/> <input type="checkbox"/> Contractor Coordination required <input type="checkbox"/> <input type="checkbox"/> Manual Materials Handling (Reduce)	<input type="checkbox"/> <input type="checkbox"/> Others	
Identified hazard:		Required work procedures:	
List personal protective equipment required:			
Designated Project Coordinator or Supervisor:			
Comments:			
Approved: _____		Date: _____	
Manager			

Distribution: complete during planning stages, copies remains in the project file and to be posted in a prominent location at the work site.



University of British Columbia
**Level 2 Assessment:
Hazard Identification & Risk Assessment**

To be completed prior to the start of work by designated project coordinator or supervisor.

Identified hazard:	Required work procedures:

Approved: _____ Date: _____
 Manager

Distribution: complete during planning stages, copies remains in the project file and to be posted in a prominent location at the work site.

Appendix G



**PROJECT COORDINATOR
 PRE-CONSTRUCTION CHECKLIST**

Project		Client Contact	Tel
Location		Department	Fax
Project Number	Construction Work Request No.	Design Leader	Tel
Project Manager	Tel	Project Coordinator	Tel

Task	Date Completed
<input type="checkbox"/> Project Coordinator Assigned	
<input type="checkbox"/> Receive copy of approved Project Budget Construction Estimate: \$	
<input type="checkbox"/> Create Project Construction Binder	
<input type="checkbox"/> Receive and review 75% complete Design Drawings from Design Leader	
<input type="checkbox"/> Identify long delivery materials and equipment, advise Estimating	
<input type="checkbox"/> Receive 100% complete Design Drawings from Project Trades Clerk	
<input type="checkbox"/> Ensure Building Permit applied for (if required)	
<input type="checkbox"/> Ensure <input type="checkbox"/> Network Facilities, <input type="checkbox"/> Media Services, <input type="checkbox"/> Secure Access advised of work (as required)	
<input type="checkbox"/> Pre-pricing meeting with Estimators, Heads	
<input type="checkbox"/> Receive draft Construction Estimate, GANTT Schedule, Catalogue Cuts/Product Data from Estimator	
<input type="checkbox"/> Receive Safety Assessment Sheets and Specialized Work Procedures from Heads	
<input type="checkbox"/> Assemble Hazard & Safety Assessment Form, obtain sign-off from Project Manager	
<input type="checkbox"/> Submit final Construction Estimate, GANTT Schedule and Hazard & Safety Assessment Form to Project Manager	
<input type="checkbox"/> Obtain authorization to commence Construction Start-up from Project Manager	
<input type="checkbox"/> Obtain building permit	
<input type="checkbox"/> Obtain construction start date from Scheduling of:	
<input type="checkbox"/> Prepare Notification of Project Construction Form, submit to Project Manager <i>(ref. Work Procedure I-D-29, Procedure 1d-f)</i>	
<input type="checkbox"/> Ensure completed Notification of Project Construction Form issued by Projects Clerk	
<input type="checkbox"/> Contact the LBS Asbestos Coordinator to see if the work is covered by the University's standing "Notice of Project" (NOP) with the WCB or if project specific NOP is needed. <i>(ref. Work Procedure I-D-29, Procedure 1g)</i>	
<input type="checkbox"/> Review project with <input type="checkbox"/> Network Facilities, <input type="checkbox"/> Media Services, <input type="checkbox"/> Secure Access	
<input type="checkbox"/> Schedule Pre-Construction Meeting through Projects Clerk	
<input type="checkbox"/> Prepare and set up on site the Project Information Board and Project Safety Board <i>(ref. Work Procedure I-D-29, Procedure 2b)</i>	
<input type="checkbox"/> Conduct Pre-Construction Meeting	
<input type="checkbox"/> Ensure Pre-Construction Meeting minutes prepared, reviewed and sent through Projects Clerk	



**PROJECT COORDINATOR
CONSTRUCTION CHECKLIST**

Project		Client Contact	Tel
Location		Department	Fax
Project Number	Construction Work Request No.	Design Leader	Tel
Project Manager	Tel	Project Coordinator	Tel

Task	Date Completed
<input type="checkbox"/> Site Supervisor assigned (if necessary) Name: _____ Cel: _____	
<input type="checkbox"/> Progress Meeting schedule established: Frequency: _____ Day & Time: _____	
<input type="checkbox"/> Shop Drawing submittal/review schedule established with Heads, Design Team	
<input type="checkbox"/> Ensure long delivery materials and equipment are ordered	
<input type="checkbox"/> Ensure shutdown applications made as required	
<input type="checkbox"/> Ensure regulatory inspections called for and completed (per checklist below)	
<input type="checkbox"/> Ensure field reviews called for and completed (per checklist below)	
<input type="checkbox"/> All Shop Drawings & Product data reviewed by Design Team	
<input type="checkbox"/> 50% Construction Completion cost and schedule review completed	
<input type="checkbox"/> Commissioning and testing of equipment and training of staff completed	
<input type="checkbox"/> Request Final Construction Clean, burnishing of floors, etc. from Facility Services	
<input type="checkbox"/> Confirm work completion by <input type="checkbox"/> Network Facilities, <input type="checkbox"/> Media Services, <input type="checkbox"/> Secure Access	
<input type="checkbox"/> Request Substantial Completion Review from Design Leader	
<input type="checkbox"/> Substantial Completion Review completed by Design team	
<input type="checkbox"/> Deficiency List received from Design Leader, assigned to supervisor looking after remediation	
<input type="checkbox"/> Remedied Deficiency List received, Final Completion Review requested from Design Leader	
<input type="checkbox"/> Ensure final regulatory documents (Schedule C's, fire alarm system verifications, etc.) assembled and delivered to Design Leader	
<input type="checkbox"/> Request Final Inspection (Occupancy Permit) from Chief Building Inspector	
<input type="checkbox"/> Final Inspection completed, Occupancy Permit received	
<input type="checkbox"/> Final Completion Review completed by Design team	
<input type="checkbox"/> Construction Completion Report prepared (with Project Information and Construction Completion Certification sections filled-in and signed off by Design Team) and submitted to Project Manager	

Regulatory Inspections Checklist (cross-out and initial those not required):	Date Completed
<input type="checkbox"/> Below Grade Works (only required for exterior work):	
<input type="checkbox"/> Foundation Formwork/Rebar	
<input type="checkbox"/> Dampproofing/Waterproofing	
<input type="checkbox"/> Perimeter Drainage (<i>drain tiles, RWLs, drainage service connections</i>)	
<input type="checkbox"/> Underground Services	
<input type="checkbox"/> Backfills	
<input type="checkbox"/> Vapour Barriers	

CONSTRUCTION CHECKLIST (CONT'D)

Project		Location	
Task		Date Completed	
Regulatory Inspections Checklist (cont'd)			
<input type="checkbox"/> Plumbing (including sprinklers) Rough-in			
<input type="checkbox"/> Electrical (including fire alarm) Rough-in			
<input type="checkbox"/> Framing			
<input type="checkbox"/> Insulation, Vapour & Air Barriers			
<input type="checkbox"/> Fire Separations			
<input type="checkbox"/> HVAC/Mechanical			
<input type="checkbox"/> Ductwork/Equipment (check of supports, mountings, access, clearances, seismic restraints, etc.)			
<input type="checkbox"/> Fire Dampers			
<input type="checkbox"/> Natural Gas			
<input type="checkbox"/> Boilers & Pressure Vessels			
<input type="checkbox"/> Fire Systems			
<input type="checkbox"/> Sprinkler Systems			
<input type="checkbox"/> Fire Alarm & Emergency Lighting Systems			
<input type="checkbox"/> Emergency Generators			
<input type="checkbox"/> Fire Extinguishers			
<input type="checkbox"/> Final Plumbing			
<input type="checkbox"/> Final Electrical			
<input type="checkbox"/> Final Building (Occupancy)			
Field Reviews Checklist (cross-out and initial those not required):			
<input type="checkbox"/> Below Grade Works (reviewed by geotechnical engineer)			
<input type="checkbox"/> Excavation (when excavation to subgrade completed)			
<input type="checkbox"/> Backfills (after each level of bedding/backfills completed and compacted to required densities)			
<input type="checkbox"/> Formwork & Rebar (reviewed by structural engineer prior to concrete pour)			
<input type="checkbox"/> Concrete (reviewed by struct. engineer & architect after formwork removed and dampproofing applied)			
<input type="checkbox"/> Plumbing (including sprinklers) Rough-in (reviewed by mechanical engineer)			
<input type="checkbox"/> Electrical (including fire alarm) Rough-in (reviewed by electrical engineer)			
<input type="checkbox"/> Framing (reviewed by struct. engineer &/or architect)			
<input type="checkbox"/> HVAC/Mechanical (reviewed by mechanical engineer when concealed work completed, prior to enclosing walls, ceilings)			
<input type="checkbox"/> Masonry (reviewed by structural engineer when masonry block/rebar work completed, prior to bond beam/column concrete)			
<input type="checkbox"/> Structural Steel, Handrails, Guardrails, Misc. Metals (reviewed by architect &/or structural engineer)			
<input type="checkbox"/> Firestopping (reviewed by architect, mechanical &/or electrical engineers)			
<input type="checkbox"/> GWB, Plaster, Stucco, Doors, Windows (reviewed by architect prior to painting)			
<input type="checkbox"/> Roofing, Cladding (reviewed as specified by architect &/or building envelope engineer)			
<input type="checkbox"/> Final Mechanical (reviewed by mechanical engineer when systems ready for testing & commissioning)			
<input type="checkbox"/> Final Electrical (reviewed by electrical engineer when systems ready for testing & commissioning)			
<input type="checkbox"/> Substantial Completion (reviewed by entire design team when all work completed & ready for use)			
<input type="checkbox"/> Final Completion (reviewed by pertinent design team members when deficiency work completed)			



UBC Plant Operations
LBS Projects Services
 2329 West Mall
 Vancouver, BC Canada V6T 1Z4
 Tel: (604) 822-2172 Fax: (604) 822-6969

**PROJECT COORDINATOR
 POST-CONSTRUCTION CHECKLIST**

Project		Client Contact	Tel
Location		Department	Fax
Project Number	Construction Work Request No.	Design Leader	Tel
Project Manager	Tel	Project Coordinator	Tel
Task			Date Completed
<input type="checkbox"/> Client's furniture and equipment moved-in and operational			
<input type="checkbox"/> Assemble and submit to Design Leader all Record Documentation (as-built drawings, warranties, O&M manual, product data, etc. as required by the drawings and/or specifications)			
<input type="checkbox"/> Compile final construction costing	Final Construction Cost: \$		
<input type="checkbox"/> Final project review with Project Manager			
<input type="checkbox"/> Obtain from Project Manager Final Construction Completion Report, signed off by Client			
<input type="checkbox"/> Close and file Project Binder			
<input type="checkbox"/> Arrange for closure of all project work orders			



UBC Plant Operations
LBS Projects Services
 2329 West Mall
 Vancouver, B.C. Canada V6T 1Z4
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OPERATING MANUAL ADDENDUM

Work Procedure: I-D-23 Departmental Funded Projects	Revision Date: 31 Oct 02	Addendum No.: 1
FME Standard Operating Procedure: Minor Works	Revision Date: 31 Oct 02	Issued By: Frank Geyer
FME Standard Operating Procedure:	Revision Date:	Date of Issue: 16 December 2002

WORK PROCEDURE I-D-23

1. Page 26, Clause B. III. 4. c) – delete in its entirety and replace with:
 - c) **Complete Appendix ‘A’ to the Construction Acceptance Report (Final Project Cost Reconciliation), save an electronic copy in the S:\Projects\Project Mgt\Estimates\ (Project Manager’s last name)\Closing financials folder, meet with the Customer to present and discuss final Project costs, obtain any comments or feedback regarding the Project delivery, and duly sign-off on the Construction Acceptance Report. Arrange for the Projects Data Clerk to deliver copies of the final Construction Acceptance Report to the Customer, Facility Manager and Design Leader, with the original retained by the Project Manager and filed in the Project Folder.**

2. Page 27, Clause C. 1. b) – delete in its entirety and replace with:
 - b) **Set up the “Project Definitions” on FME:**
 - **Project Number (top right corner of Customer Request Form),**
 - **Project Name (consisting of building name or site location, room number(s) and maximum five word project descriptor),**
 - **Project Type (USER FUNDED),**
 - **Project Status (05-OPEN);**
 - **Shop (48 – Projects Trades Office); and**
 - c) **Send a copy of the Customer Request Package, complete with routing sheet and copy of the Planned Work Request, to the Project Trades Clerk.**

3. Page 27, Clause C. 2. c) – delete in its entirety and replace with:
 - c) **Update the Project Definitions:**
 - **Estimator (name of assigned Minor Works Supervisor)**
 - **Shop Person (name of assigned Minor Works Supervisor)**

STANDARD OPERATING PROCEDURE (MINOR WORKS)

1. Page 2, Step 1 – delete 2) in its entirety and replace with:
 - 2) **Sets up the Project Definitions on FME: Work Management/ Work Management/ Entry/ Project/ Project Entry, with the following information entered into the Project Entry Screen from the work request form:**
 - **Project Number (Cxxxxx - from Customer Request form) and Project Name**
 - **Project Type (USER FUNDED)**

Operating Manual Addendum

- **Project Status (05-OPEN)**
- **Shop (48 – Projects Trades Office)**

3) Sends a copy of the Customer Request Package, complete with routing sheet and copy of the Planned Work Request, to the Project Trades Clerk

2. Page 2, Step 2 – delete 3) in its entirety and replace with:

- 3) **Updates the Project Definitions:**
- **Estimator (name of assigned Minor Works Site Supervisor)**
 - **Shop Person (name of assigned Minor Works Site Supervisor)**