From Concept to Bid
Experiences of a Client’s Project Manager on a Complex University Campus Development

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# Client PM vs Contractor PM Roles

<table>
<thead>
<tr>
<th>Client PM</th>
<th>Contractor PM</th>
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</thead>
<tbody>
<tr>
<td>• Stakeholder consultation</td>
<td>• Physical delivery of the project in accordance with the client’s requirements</td>
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<tr>
<td>• Development of project brief to provide a functional expression of the client’s vision and strategy and needs</td>
<td>• Proper progress of the project</td>
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<tr>
<td>• Management of client’s expectations</td>
<td>• Deliver to time, cost and quality targets</td>
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<tr>
<td>• Procurement of pre-construction services</td>
<td>• Responsible for project health, safety and welfare</td>
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<tr>
<td>• Management of procurement process</td>
<td>• Requires high level of technical competence</td>
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Pre-Construction as part of the Development Process

RIBA Plan of Work 2013

The Plan of Work organizes the progress of designing, constructing, maintaining and operating buildings into a number of key Work Stages. The sequence or content of Work Stages may vary or they may overlap to suit the procurement method, the project programme and the client risk profile.

**Preparation**
- **1.** Preparation
- **2.** Concept Design
- **3.** Developed Design
- **4.** Technical Design
- **5.** Specialist Design
- **6.** Construction
- **7.** Use & Aftercare

**Description of Key Tasks**
- **Preparation**
  - Programme
  - Planning
  - Key Information Exchange

**Preparation**
- **1.** Preparation
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Preparation - Concept Design**
- Preparatory to Conceptual Design
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Preparation - Developed Design**
- Preparatory to Developed Design
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Preparation - Technical Design**
- Preparatory to Technical Design
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Preparation - Specialist Design**
- Preparatory to Specialist Design
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Preparation - Construction**
- Preparatory to Construction
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Preparation - Use & Aftercare**
- Preparatory to Use & Aftercare
  - Conceptual Design
  - Developed Design
  - Technical Design
  - Specialist Design
  - Construction
  - Use & Aftercare

**Process**
- The Plan of Work includes key stages for each of the RIBA Work Stages and sets out the associated roles and responsibilities. It should be used as a tool to support the delivery of projects.

**Programme**
- The Programme identifies the key activities and milestones for each of the RIBA Work Stages.

**Planning**
- The Planning section provides a framework for the planning of projects.

**Key Information Exchange**
- Information Exchange 1
- Information Exchange 2
- Information Exchange 3
- Information Exchange 4
- Information Exchange 5
- Information Exchange 6
- As Required
The importance of starting well

“The basis for success of a construction project .... is laid at the start of a project and during the planning stage.
Anything that is left out or handled wrongly during this stage can only be repaired to a limited extent during building construction.”

(Sommer, 2010)
Ability to Influence Construction Costs over Time

- **Ability to Influence Costs**
  - Concept Planning: 100%
  - Design: 100%
  - Procurement: 0%
  - Construction: 0%
  - Operation and Maintenance: 100%

- **Construction Costs**
  - Start: 0%
  - Construction: 100%
  - Project Time: 0%
Early Design influence on Life Cycle Costs

“On average, by the time 1% of project costs are spent, roughly 70% of the lifecycle cost of the building has been committed…”

(Inpro 2010)

Life Cycle Costs over Time

- Construction Commences
- Operation Commences
- 10 year Refurb
- 20 year Refurb

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<th>Year</th>
<th>% Cost each year</th>
<th>Total % Life Cycle Cost</th>
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% Life Cycle Cost vs. Year:

- 10 year Refurb
- 20 year Refurb

Construction Commences: Year 1
Operation Commences: Year 2
10 year Refurb: Year 20
20 year Refurb: Year 30
Dublin Institute of Technology (DIT)

- University level institution
- 10% of entire Irish 3rd level education sector
- 20,000 students
- 2,000 staff
- Degree awarding powers up and including PhD
DIT locations - 2013

- Bolton St.
- Chatham Row
- Cathal Brugha St.
- Aungier St.
- Kevin St.
- Rathmines
- Mountjoy Sq.
- Chatham Row
Reasons to consider moving

• Excessive estate costs
• Buildings outdated – significant investment required
• Different processes in different locations
• Lack of synergies
• Lack of space for expansion
• Lack of flexibility for change in provision
Options

1. **Stay in current locations** – high costs / little benefits
2. **Move to out-of-town green field site**
   - Space
   - Flexibility
   - Difficult to access
   - Isolated
3. **City-centre site**
   - Limited Space
   - Compact
   - Vibrant
   - Well connected
   - Good public transport

**Cost Benefit Analysis**
- Option 3 is cheaper than Option 1 by €200M
30 Ha site in the heart of Dublin.
Phases of the Project

- Preparation
- Design (Concept and Technical)
- Procurement
- Construction
- Operation and Maintenance

**Project Time**

- 2008
- 2012
- 2013
- 2014
- 2015
- 2017

**Time Now**

- Masterplan delivered
- SDZ Planning Achieved
- 1000 students on Campus
- PPPs in Construction
- 10,000 students on Campus
Phase 1. Preparation

2 Stages

• Project Strategy

• Project Brief
Stage 1. Project Strategy

**Outputs Required**
- Approved Initial Business Case and Strategic Brief

**Tasks**
- The Initial Business Case
  - Why build?
  - Why now?
  - What resources are available?
- Strategic Brief
  - Project requirements
  - What to build
  - Initial timelines
DIT New Urban Campus: A means to an end

- **New ways of learning**: meeting students’ needs
- **Consolidation of 10% + of Irish higher ed sector**
- **Reduction in costs**  
  - More effective use of facilities/space  
  - Lower operational costs
- **Increased/enhanced efficiency**  
  - Fit-for-purpose facilities  
  - Co-location of functions  
  - Improved cross functional working
- **Improved Productivity**  
  - More effective team working  
  - More effective support infrastructure

- ....... **A Focus for Change**
**DIT New Urban Campus - Grangegorman**

**Challenge**
- Move from 39 locations to one location in by early 2020s

**Context**
- National increase of 30% in 18-24 age group by 2025
- Limited availability of capital funding

**Scale**
- 20,000 students, 2,000 staff
- 140,000m² academic space, 270,000m² overall
- Part of a campus of 380,000m² shared with health and primary education

........ *A New Urban Quarter*
Stage 2. Project Brief

**Outputs Required**
- Approved Project Brief, Masterplan, Strategic Plan, Achieve Strategic Development Zone status, realistic stakeholder expectations

**Tasks**
- Initial Stakeholder Management
  - Identify the Stakeholders
  - Develop and implement Stakeholder Engagement process
- Initial Stakeholder Engagement Consultation
  - Identify Project Objectives
    - Cost
    - Time
    - Sustainability
    - Quality
  - Identify spaces requirement
    - Specialist spaces
    - Generic spaces
    - Initial Schedule of Accommodation
- Early Project Development Planning
  - Pre planning discussions
  - Masterplanning
  - Project execution planning
- Feasibility Assessment
  - Overall Building size related to available budget
  - Schedule of Accommodation related to available budget
- Compile Project Brief (to include):
  - All above stages, plus,
  - Initial Project Programme
  - Procurement matrix
  - Initial Risk assessment
  - Initial Services requirements
2009 Urban Design Award  US Institute of Architects
2009 World Architecture Festival
2010 Chicago Athenaeum/ Europe American Architecture Award
2012 AIA Honor Award
Milestones up to end of 2012

1999 – Government decision
2001 – Consultants report
2002 – Government decision
2004 – HEA Capital Review
2005 – New Dublin City Development Plan (2005-11)
2005 – GDA Act
2006 – GDA Chairman John Fitzgerald Appointed
2007 – CEO GDA Appointed
2007 – Masterplanners appointed
2008 – Masterplan delivered
2009 – “Joining the Dots” Employment Study
2010 – Government decision
2011 – Strategic Plan adopted
2011 – SDZ draft Planning Scheme granted DCC
2011 – An Bord Pleanala Hearing
2012 – Land Transferred from HSE
2012 – An Bord Pleanala Decision adopts Planning Scheme
2012 – Funding released under Stimulus Package
2012 – First two planning Applications Granted
Phase 2. Concept Design

Outputs Required

- Output Specification, Massing and adjacency drawings, Room data sheets, Operational policies, Risk assessment, Sustainability strategy, Procurement strategy, Health and Safety strategy, Project programme, Funding plan, Handover strategy, Project execution plan

Tasks

- Full scale stakeholder engagement to establish:
  - Detailed space requirements
  - Adjacencies
  - Massing
  - Room data sheets
  - Operational policies for business units
  - Output specification

- Develop the following:
  - Procurement strategy
  - Project execution plan
  - Funding plan
  - Risk assessment
  - Sustainability strategy
  - Health and Safety strategy
  - Project programme
  - Handover strategy

- Compile Final Project Brief to include all of the above
Central Quad Concept
Concept East Quad
Progress to date

- Site works contractor commenced
- Refurbishment of 8,000m² of historical structures designed and in procurement
- Research building (4,400m²) going to tender August 2013 (D&B)
- 2 PPPs (total c.40,000m²) going to procurement Sept 2013
- Funding options being explored for further projects required by 2017:
  - 600 bed student residencies + cafeteria
    - concession type contract via private funding
  - Library building
    - traditional contract in partnership with DCC
  - Sports facilities
    - traditional contract or concession type contract
Further development (beyond 2017)

All areas provisional

- Sports (2000m² from central funding + 6,000m² additional funding)
- Academic Hub (4,000m² Top House + 5,000m² +5,000m²)
- Relocation of Focus Building (3,000m²)
- Business Quad (8,500m²)
- Engineering/Built Environment Quad (27,000m²)
- Other Learning spaces (7,000m²)
- Student Centre/Student Support/Recreation (7,000m²)
- Second Cafeteria (7,500m²)
- Refurb of remaining of protected structures (2,000m²)
- 900 further Student Beds (total 57,000m²)
- Retail (3,600m²)
- Maintenance/Services/Utilities (2,800m²)
- Industry/Incubation Centre (10,800m²)
- Additional Sports (7,000m²)
- Additional research space (6,300m²)
- Additional performance space (3,600m²)
- Further Expansion spaces (34,000m²)
Summary

- Pre-construction is a long process
- It is political – on several levels!
- Managed stakeholder engagement is essential for success

“A good start is half the battle”
Finally

Client PM role is different to Contractor PM role
But the skills required are the same!