

Review of the construction costs associated with the building of housing units by Dublin City Council



Presentation to Housing SPC
15th March 2023



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Dublin City Council

Agenda

- Background to Report
- Construction Costs Review
 - What was examined
 - Overview of Findings

Dr Seán Ó'Riordáin, Seán Ó'Riordáin and Associates

- Managing costs within the construction process

Gavin Doyle, A/ Chief Quantity Surveyor

- Examination of DCC Projects

Mary McQuillan, Senior Architect, Dublin City Council

- Learnings from the Report

Michelle Robinson, Senior Executive Officer



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Background

- Motion approved by the Housing SPC on 14th April 2021 to review the costs for DCC of building apartments
- Terms of Reference teased out with SPC over several meetings
- Executive engaged independent consultants to analyse costs associated with the construction of apartments in Dublin City; examine factors impacting costs and signpost areas for change could deliver great efficiencies
- Presentation of findings & recommendations November 2022
- Publication of report January 2023
- Members suggested a number of changes, now included in full in the report
- Report in final form issued to Members in January 2023
- Report for discuss at today's Meeting



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Provision of review of the construction costs associated with the building of housing units by Dublin City Council

Dr Seán Ó Riordáin



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Consultants Approach

- Analysis of construction costs paid by the City Council in the delivery of social housing
- Direct workshopping with Members and Staff of the Council
- Preparation of a comparative framework for cost comparison based upon the requirements of the SPC
- Review of various reports including those on Construction Costs published by Dublin City Council on 31st December 2020 and the Society of Chartered Surveyors Ireland report on the 26th of January 2021
- Consideration of the four-stage reporting process
- Analysis, following digitalisation of paper-based housing project costs
- Engagement with other stakeholders
- Consideration of current and previous national policy
- Review of international best practices on cost management of housing construction

Other Research & Publications

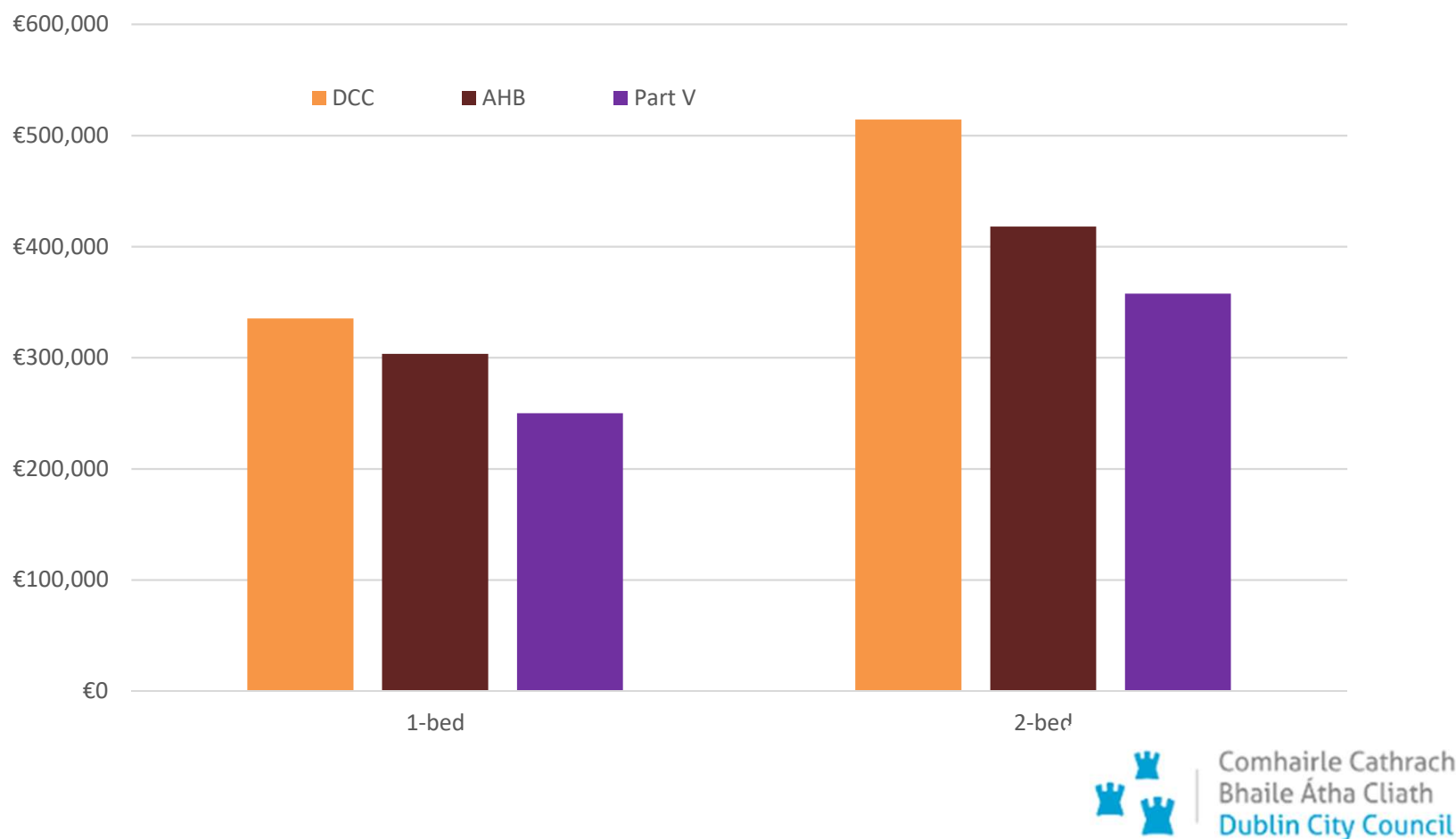
- The Dublin Delivery Group Report, 10th of August 2022
- Cost Considerations when providing public social housing, 25th February 2021
- Draft Dublin Development Plan 2022-2028
- Dublin City Council Housing Delivery Action Plan 2022-2026
- The Real Costs of New Apartment Delivery, Society of Chartered Surveyors Ireland, January 2021
- Property Report, Qtr 2, 2022, MyHome.ie
- Committee of Public Accounts: Examination of the 2019 Appropriation Account for Vote 34 – Housing, Planning and Local Government and Related Financial Matters, December 2021



Type of Data Reviewed

- Nature/background influences on scheme development
- Attributes of schemes and custom-made characteristics
- Unit types, scale, size, floor area
- Costs by type and costs associated with above
- Costs driven by policy shifts and approval processes
- Costs driven by demographic factors

Estimated weighted average all-in unit cost, by mode of delivery and bedroom number



Why do costs differ?

- Influencing factors include
 - Processes of Development
 - Public Procurement / Design and Build/ Turnkey / Developer owned site
 - Timing
 - Time of construction / Costs @ point in time / final account
 - Size of development / density of units
 - Planning Process
 - Stakeholder Engagement / approval process
 - Site location
 - Site history
 - Funding mechanisms
 - End product

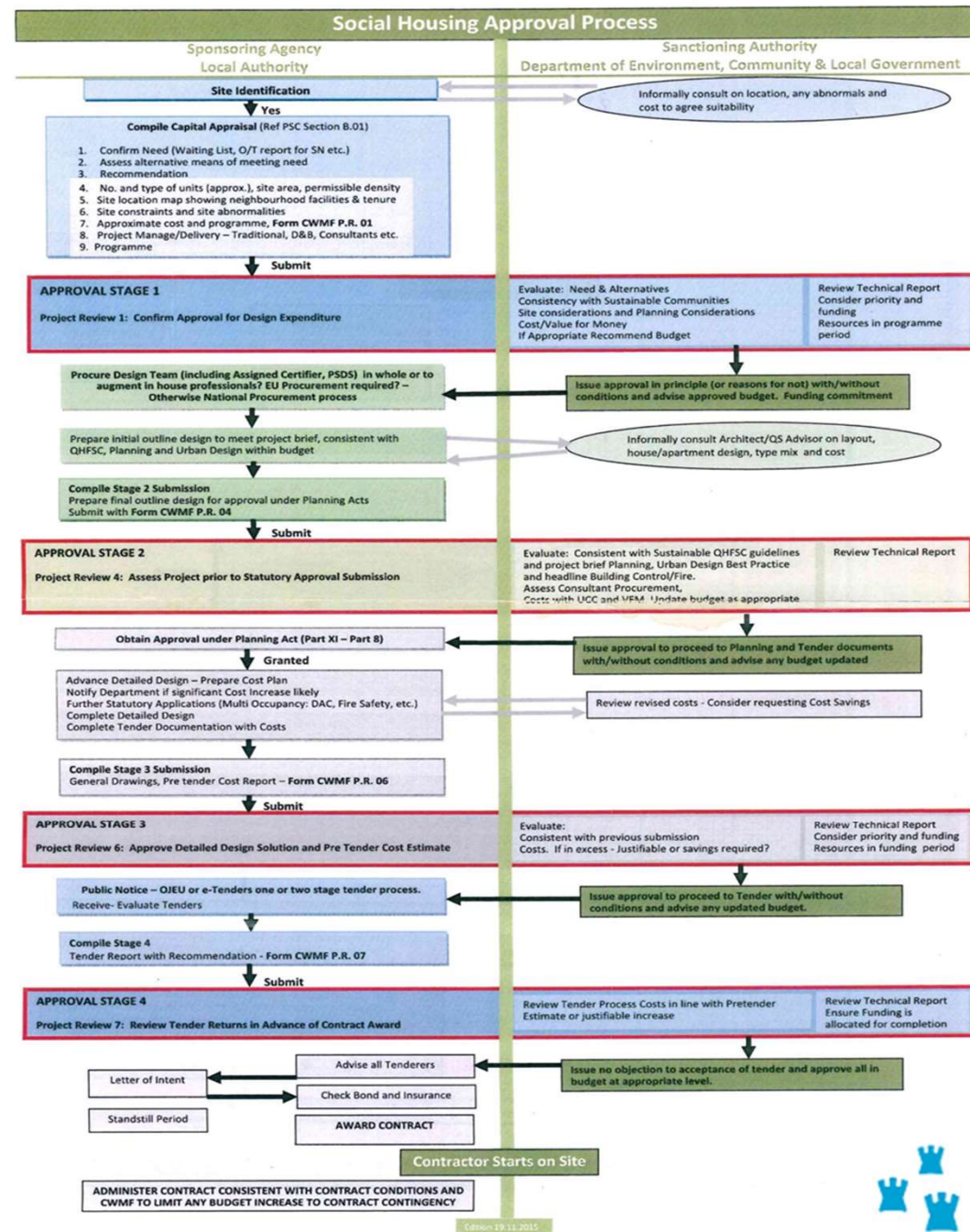


Why do costs differ – Findings

- City Council costs influenced by
 - Process of Securing Developer
 - open procurement process – non negotiable outcome
 - Developer forward funds risk
 - Zero gain from repeat business
 - Complexity of undertaking capital projects can limit pool of contractors
 - Nature of Public Works Contract (PWC)
 - Size of site / density of units
 - Housing mix on site e.g. costs associated with 3 bedroom apartments, dual aspect etc;
 - Requirement for provision of additional community facilities
 - Playgrounds; high quality open space design; improvement of local infrastructure or services
 - Complexity of Regeneration sites
 - Not a spontaneous process
 - Multiple stakeholder engagement process – additional time, costs, resources
 - Decanting process required, proximity to neighbours etc.
 - Quality First
 - Lifecycle costs built in to model



Four Stage Process



Learnings

- Ongoing review of costs is providing an opportunity to implement learnings in a real time environment
- DCC is undertaking a review of internal processes with QS, City Architects, Development to improve processes
- Need to increase awareness with all stakeholders of Time = Money
- Good public housing comes at a cost which needs to be monitored and understood



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CONTENT

- CAPITAL WORKS MANAGEMENT FRAMEWORK – STAGE (III) *TENDER* [PR06 – PR07]
- CAPITAL WORKS MANAGEMENT FRAMEWORK – STAGE CONSTRUCTION (IV) [PR07 - PR07a]
- CAPITAL WORKS MANAGEMENT FRAMEWORK – STAGE HANDOVER (V) *TENDER*
- CHANGES TO THE CONTRACT SUM WITHIN THE “CONSTRUCTION STAGE”
- DISPUTE MANAGEMENT – LOOKING FORWARD

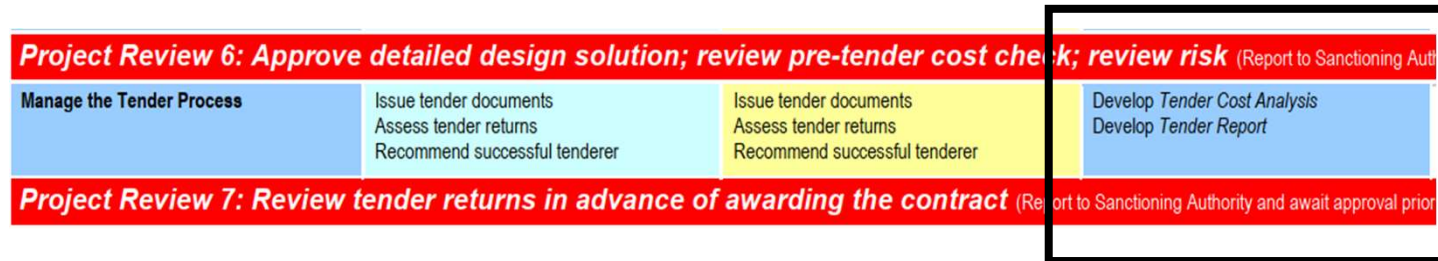
- **CAPITAL WORKS MANAGEMENT FRAMEWORK**
 - **MAIN PROJECT PROCESSES**



	Project Management	Design Activities (Building)	Design Activities (Civil Eng.)	Cost Control Activities	Risk and Value Management	Documents for Approval
Stage (i) Feasibility Study / Preliminary Report	Manage outputs: Project Definition (through 16 N+ overall parameters) Manage technical experts' appointment (if required)	Conduct Feasibility Studies Develop Definitive Project Brief Appoint technical experts (if required) Appoint PSDP (if required)	Conduct Preliminary Report Conduct design studies Develop Definitive Project Brief Appoint technical experts (if required) Appoint PSDP (if required)	Conduct cost assessment of Feasibility Studies / Preliminary Report (capital and maintenance costs)	VM: Confirm strategic functional performance Review Feasibility Studies / Preliminary Report options Identify VM strategies Develop functional performance model RM: Identify and assess risk relating to the Project Execution Plan Develop high-level Risk Management Plan	Project Management Structure Preliminary Project Brief Preliminary Output Specification Feasibility Study and Cost Plan Design Brief Final Output Specification Definitive Project Brief Project Execution Plan Risk Management Plan
Stage (ii) Design	Project Review 1: Confirm approval for design expenditure (Report to Sanctioning Authority and await approval prior to proceeding)					
	Manage procurement strategy Manage design consultant appointment Manage assessment of output requirements	Appoint Design Team / Design Team Leader Assess output requirements	Appoint Design Team / Lead Consultant Develop design standards Assess output requirements	Check / assess budget	VM: Consider VM in relation to procurement strategy RM: Identify risk in relation to procurement Agree risk allocation	Definitive Procurement Strategy Contract Type Proposal Project Team Selection Report
	Project Review 2: Confirm requirements; review procurement strategy (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
	Manage Outline Design process	Develop Outline Sketch Scheme Appoint PSDP (if not appointed earlier)	Develop Preliminary Planning Appoint PSDP (if not appointed earlier)	Develop Outline Cost Plan	VM: Consider VM in relation to Outline Sketch Scheme / Preliminary Planning RM: Consider RM in relation to Outline Sketch Scheme	Outline Sketch Scheme (Building) Preliminary Planning drawings (C. Eng.) Outline Cost Plan
	Project Review 3: Assess project design and Outline Cost Plan (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
	Manage Developed Design process Manage procurement process	Develop Developed Sketch Scheme Prepare submission for statutory approval	Continue Preliminary Planning Prepare submission for statutory approval	Develop Developed Cost Plan Develop Whole Life Cost Appraisal	VM: Carry out value engineering Assess buildability of the design Consider VM in relation to Detailed Sketch Scheme RM: Identify residual risks Consider RM in relation to Detailed Sketch Scheme Suitability assessment of contractors	Developed Sketch Scheme Developed Cost Plan Statutory Approval Submission
	Project Review 4: Assess project prior to statutory approval (Report to Sanctioning Authority and await approval prior to proceeding)					
Stage (iii) Tender	Manage statutory submission process	Submit for statutory approval Review statutory approval outcome	Submit for statutory approval Review statutory approval outcome	Review Developed Cost Plan	VM: Review any planning conditions for value management impact. RM: Review any planning conditions for risk impact.	Developed Cost Plan (reviewed)
	Project Review 5: Assess outcome from statutory approval (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
	Manage the Detailed Design Process	Develop Detailed Design (not design-and-build) Prepare tender documents	Develop Detailed Planning (Design) (not design-and-build) Prepare tender documents	Conduct Detailed and Pre-Tender Cost Checks and Whole Life Cost Update in advance of preparing tender documents	VM: Review suitability assessment of contractors for VM potential RM: Review suitability assessment of contractors for risk impact	Tender Documentation Detailed Pre-tender Cost Check Whole Life Cost Update Contractor List Selection
	Project Review 6: Approve detailed design solution; review pre-tender cost check (Report to Sanctioning Authority and await approval prior to proceeding)					
Stages (iv) Construction & (v) Handover	Manage the Tender Process	Issue tender documents Assess tender returns Recommend successful tenderer	Issue tender documents Assess tender returns Recommend successful tenderer	Develop Tender Cost Analysis Develop Tender Report	VM: Assess tender returns for VM potential RM: Assess tender returns for risk impact	
	Project Review 7: Review tender returns in advance of awarding the contract (Report to Sanctioning Authority and await approval prior to proceeding)					
	Manage the implementation / construction process Manage change control Manage contract	Develop Detailed Design (Design and Build) Implement design	Develop Detailed Planning (Design and Build) Implement design	Manage change control for costs Prepare final account	VM: Monitor residual risk Manage construction risk RM: Monitor residual risk Manage construction risk	
	Manage the Project Review	Conduct design review	Conduct design review	Develop Analysis of Outturn Cost	VM: Evaluate value achieved RM: Evaluate the risk management and risk mitigation process Consider operational risk reviews	

Cost Control During The Construction Stage; Project Review Gateway 6 – 7 & 7 – 8a

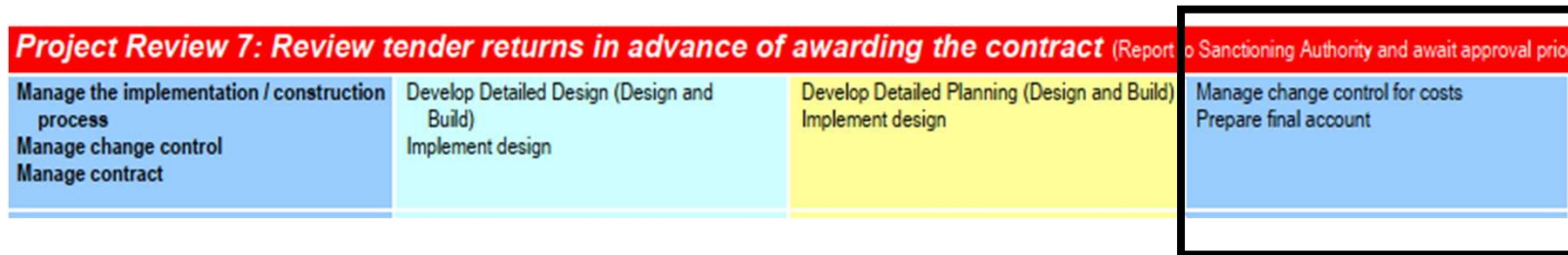
CAPITAL WORKS MANAGEMENT FRAMEWORK – STAGE (III) TENDER [PR06 – PR07]



- **Cost Control within the “Tender Stage”**
 - The Most Economically Advantageous Tender (MEAT) is the method of assessment used as the selection procedure i.e. Value For Money [VfM]
 - The Award Criteria RATIO can range but an average is 70 [Cost]: 30 [Quality]
 - [Public v Private] In the *Tender Cost Analysis* the issued Tender Sum by a Tenderer is fixed and no direct negotiation can be employed by a Contracting Authority [under Open/ Restrictive Procedure]

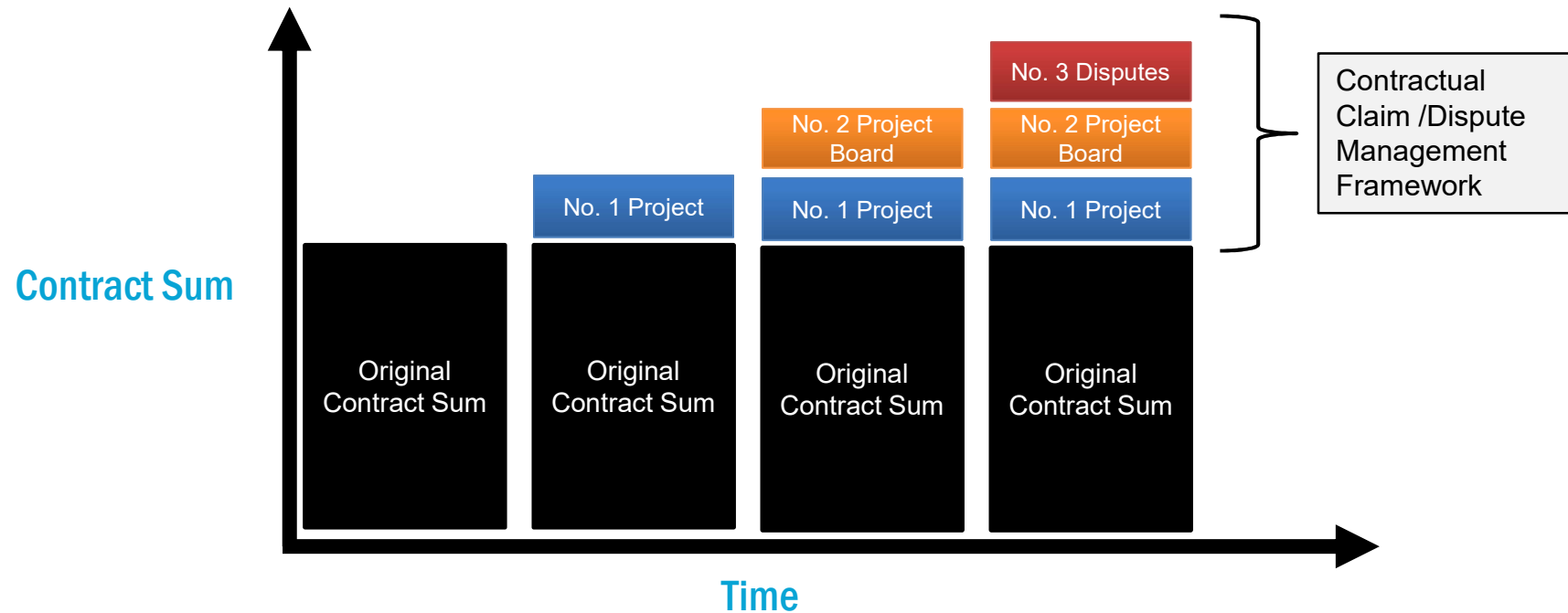
- **Project Management within the “Tender Stage”**
 - Regarding Time Lines; there may be an “expectation” vs “actual” constraint i.e. the effect of policies & legislation upon the program of a development
 - Procurement Strategy; “FIT FOR PURPOSE” Frameworks are being established, which is positive, to achieve one of the key principles of the “Directive”, which is “Open Completion”, tendering must occur on a Project-by-Project basis.

CAPITAL WORKS MANAGEMENT FRAMEWORK – STAGE (III) TENDER [PR06 – PR07]



- **Cost Control within the “Construction Stage”**
 - The Progress Claim Cycle [cl. 11 “Payment”] ensures rigor and compliance regarding the assessment and payment of construction costs during the construction phase of a Project.
- **Changes to the Contract Sum within the “Construction Stage”**
 - 1. Project Level:** Change Orders, Claims, Emp. Claims, VEP; Administered by Emp. Representative
 - 2. Project Board Level:** Project Board Agreements – Administered by Project Board Members
 - 3. Conciliation [+Adjudication]:** Recommendations /Decisions - Administered by Conciliator /Adjudicator

CHANGES TO THE CONTRACT SUM DURING THE “CONSTRUCTION STAGE”



DISPUTE MANAGEMENT – LOOKING FORWARD

- Department of Housing and Community will roll out measures to prevent /reduce Claims /Disputes arising via the “*Project Outturn Review*” Reports i.e. dispute avoidance via Lessons Learnt

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Dublin City Council - Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)



Dominick Hall-72 homes



Cornamona Court-61 homes



Springvale-81 homes



Dorset Street -163 homes



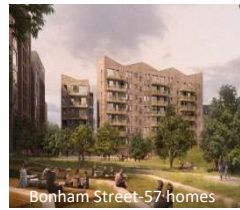
Dolphin House Phase 1b-28 homes



Sean Foster Place-30 homes



Glin Court-32 homes



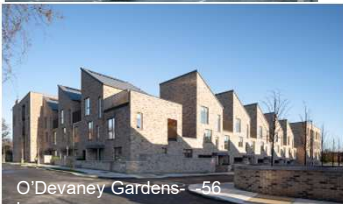
Bonham Street-57 homes



Constitution Hill -124 homes



St Annes Court -102 homes



O'Devaney Gardens- 56 homes



St Finbarrs Court-46 homes



Bunratty Road-78 homes



Matt Talbot Court 92



Crumlin Rafter 38 homes



Margaret Kennedy Road -54



Infirmary Road 38 homes



Cork Street-55 homes



Phase One - Cromcastle
Cromcastle Court 149 homes



St Andrews Court 102 homes



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Dublin City Council- Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

Qualitative requirements

- Urban Design and Regeneration
- Places for People
- Housing for All
- Home Performance Index
- Quality Standards
- Construction & Material Quality
- Regulatory Compliance
- Robust Maintenance



Dublin City Council - Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

Sean Foster Place

- Restricted brownfield City Centre site
- Remakes the street facade and urban block
- Creates active frontage of appropriate scale
- Provision of 30 no. homes for social housing
- Mix of 1, 2 and 3 bed apartments /duplexes
- Meets DHLGH accommodation standards
- Addresses universal design issues
- Provision of homes for wheelchair users
- NZEB pilot project achieving A2/A3 BER
- Addresses Climate Change Issues- Biodiversity and Sustainable drainage solutions
- Optimises natural lighting and solar gain
- Landscaped shared residential courtyard



Photo credit: Donal Murphy and Marie Louise Halfpenny



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Dublin City Council- Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

O'Devaney Gardens

- First phase of regeneration project
- Unique building form and streetscape
- Integrates well into receiving environment
- Maintains routes and permeability
- Considered public and private domain
- Addresses privacy and security concerns
- Open spaces enhanced by landscaping
- Optimises accommodation standards
- Creative use of standard components
- Quality fittings and fixtures
- Achieves BER A2/A3 energy rating
- IGBC Home Performance Index Certified



Photo credit: Donal Murphy



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Dublin City Council- Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

Dominick Hall

- First Phase Of Regeneration Project
- Restricted Urban Brownfield Site
- Mixed Use Development
- 72 No. Homes For Social Housing
- Mix Of 1, 2 And 3 Bed Apartments & Houses
- Existing Community Re-housed
- Community And Commercial Uses
- Creates Active Street Frontage
- Improved Pedestrian Environment
- Landscaped Residential Courtyard
- Play Areas And Gardens
- Private Balconies And Open Space Provision
- Communal Heating System Using Heat Pumps
- Achieves BER A2/A3 Energy Rating



Photo credit Paul Tierney



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Dublin City Council - Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

Margaret Kennedy Road

- First phase of regeneration project
- Significant enabling works contracts
- Accommodation for existing and new tenants
- 54 no. homes for social housing
- Mix of 1,2 and 3 bed apartments and houses
- Creates frontage to future park
- New roads and links to adjacent streets
- Optimises accommodation standards
- Simple palette of traditional, robust materials
- Considered and consistent detailing
- Achieves BER A2/A3 energy rating



Photo credit :Donal Murphy



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Dublin City Council- Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

Role Of The Clerk Of Works

- Prepare and issue report/s to DCC City Architects (Client) & copy to ER for information purposes
- Notify ER of any non-compliance with approved details/standards, any identify defective works/materials
- Take photographic records of progress on site and quality of workmanship, defects, omissions, etc.
- Check dimensions generally on site for compliance with Works Requirements and notify any discrepancies to the ER
- Bring any H&S issues noted to the attention of the Site Management & the ER
- Record worker/subcontractors numbers present on site daily



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Dublin City Council- Direct Delivery Housing Projects - (PW-CF1 & PW-CF2 contracts)

Cost/Quality/Value For Money Factors

- **Inflation**

Programme /Timelines, Market Costs V Estimates

- **Site Selection & Abnormals**

Brownfield, Inner City, Demolition, Enabling Works, Utilities, Archaeology

- **Regeneration**

Community Involvement, Existing Communities

Unit Sizes And Mix, Housing Type

- **Regulation And Standards**

- **Process/Procedure**

Procurement, Public Works Contract, Optimal Risk Transfer, Less Flexibility

- **Construction Methodologies**

- **Value For Money**

Public Sector Values, Life Cycle Costs-Maintenance

- **Construction Management**

Cost, Change, Dispute Management



Dominick Hall
Photo: Niall O Connell



O Devaney Gardens
Photo: Donal Murphy



Dorset Street
Scott Tallon Walker/Levitt Bernstein



St Annes Court
Grafton Architects

Recommendations

1. ICMS/BIM system being developed should be fully embedded into the Council's Housing Delivery Plan and with the four-step approval process of the Department of Housing
2. Staff development/induction and continuous professional development to underpin cost management processes of the Council
3. Timely and comprehensive briefing of Members
4. Provide comparative data based upon the ICMS/BIM platform
5. Construction inflation monitoring under the ICMS system to be used to provide real time inflationary pressures
6. Revisit the Housing Needs Model for the City



Actions Taken

Staff Development

- Developed role of Project Manager
 - Responsible for key aspects of the programme, particularly the process/budget/timelines
- Recruited Project Managers
 - Assigned to key project / streams of delivery
- Provided standardised training in
 - Office of Government Procurement Project Management
 - Public Spending Code
 - UCD Diploma in Project Management



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Actions Taken

- Data sharing with Members
 - Revised monthly Supply Report
 - March Supply Report x Pages
 - Data provided under standardised headings on x no. of projects
 - Briefing to all members at Monthly Council Meeting
 - Special SPC Meeting held 1st February to detail progress on Housing Action Plan & delivery under different modes of delivery
 - Engagement with SPC on Costings Report
 - Future engagement on Project Management System



Actions Taken

- Development of new Project Management System
 - Tender advertised
 - Contractor Appointed
 - System being designed and trialled
- The new PM system will provide a more efficient way of managing the delivering housing programmes
- Housing projects will be migrated onto the new PMS system on a phased basis
- Expected that the first phase will be moved onto the system in Q2 2023 and steadily thereafter

- Questions & Answers