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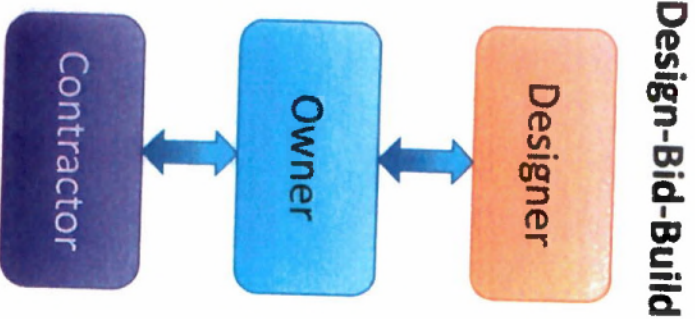


**Introduction to the Major Project
Delivery Methods at CDOT**

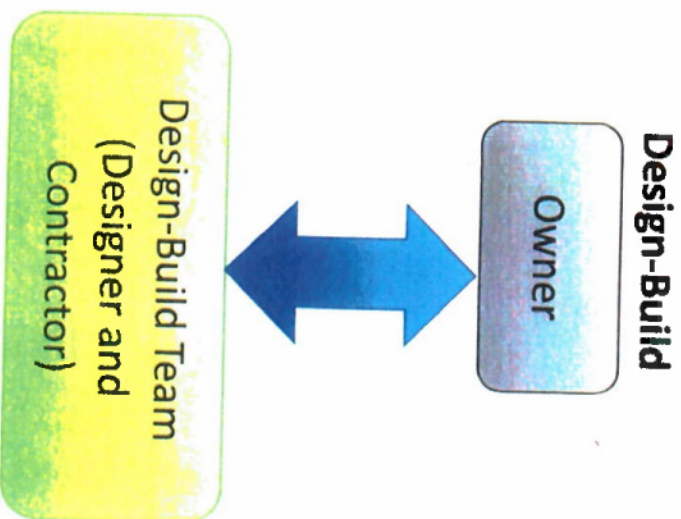
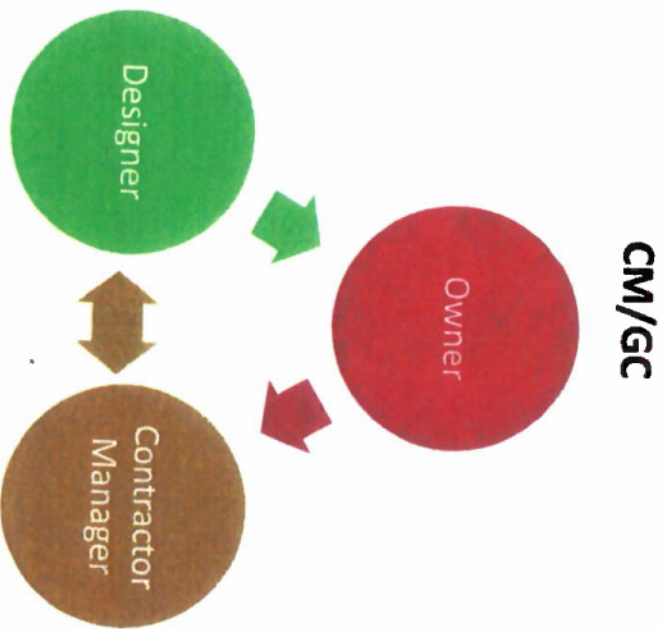


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Low Bid



Major Types of Project Delivery CDOT Uses

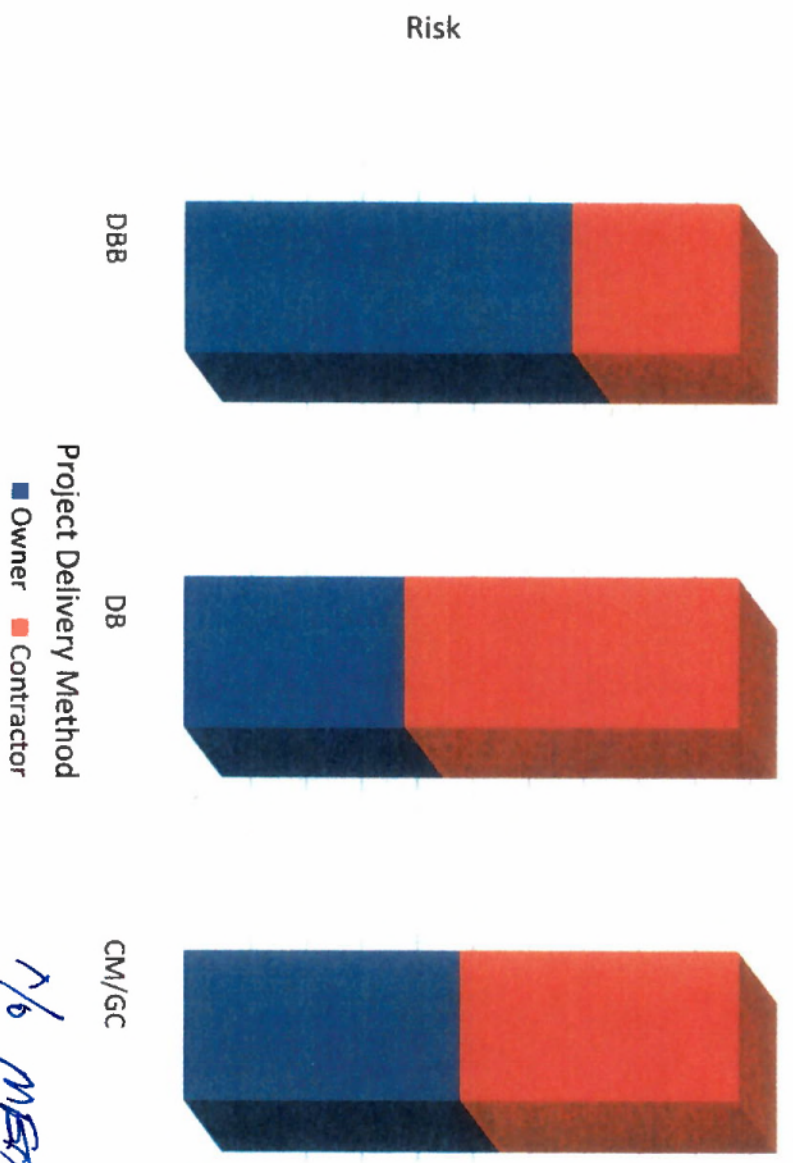




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Risk Allocation by Project Delivery Method



1/6 Metrics For this

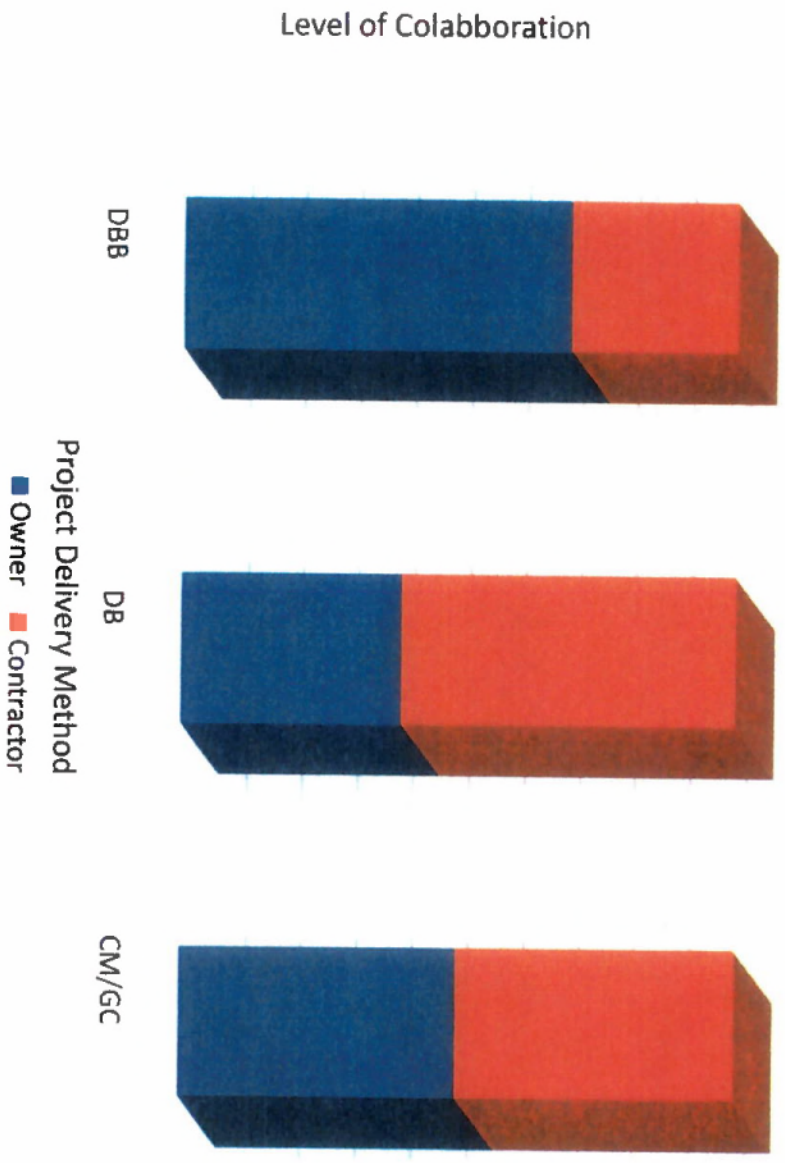


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Level of Collaboration
by Project Delivery Method





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What Risk is getting Allocated?

To be able to understand What Risks are being allocated we must first understand the foundation of all Change Orders.

There is a US Supreme Court Case that took place in 1918 that provides foundation of all contractor proposed Change Orders.

United States versus Spearin (ca.1918)

The Essence of the Spearin doctrine states:

An Owner that advertises a project for Construction, Warrants the Contract Documents (Plans, Specifications, and Bid Schedule) against Erroneous and Omitted information.

Standard For 103 YAS





What Risk is getting Allocated?

- By changing the relationship between the Designer and the Contractor the Owner is able to mitigate the risk for "Errors and Omission", and assign it to the party that is best able handle it.
- Risk does not only manifest in the form of negative impact it also provides opportunity when properly allocated.

What metrics can we use to measure effectiveness?

- *But* ~~Design~~ Alternative Delivery "Should" Reduce the amount of Contractor Proposed Change Orders on a project
- Cost Certainty can be established earlier
- Schedule Certainty can be established earlier.



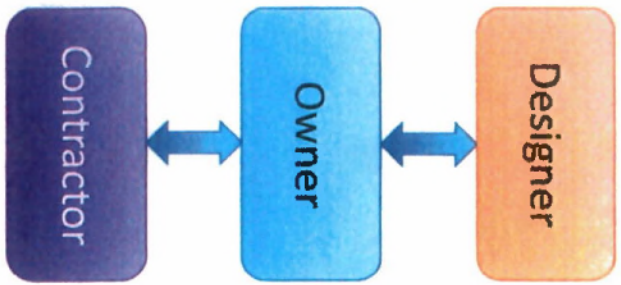


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Common Types of Project Delivery Method at CDOT

low BIDD
Design-Bid-Build



- This contracting method is the **highest risk** to the owner-
- Requires the Scope to be independently interpreted
 - Design is completed to a "Standard of Care"
 - Because of the "Spearin Doctrine"* the Owner is required to Warrant the Contract against Erroneous and Omitted information.
- CDOT*

*Supreme Court Ruling: US vs. Spearin (ca. 1918)



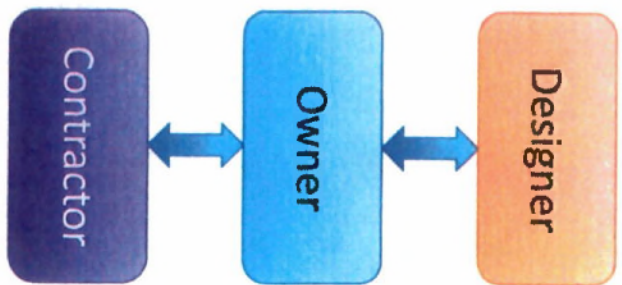


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Low Bid

Design-Bid-Build



Considerations and Keys to Success.

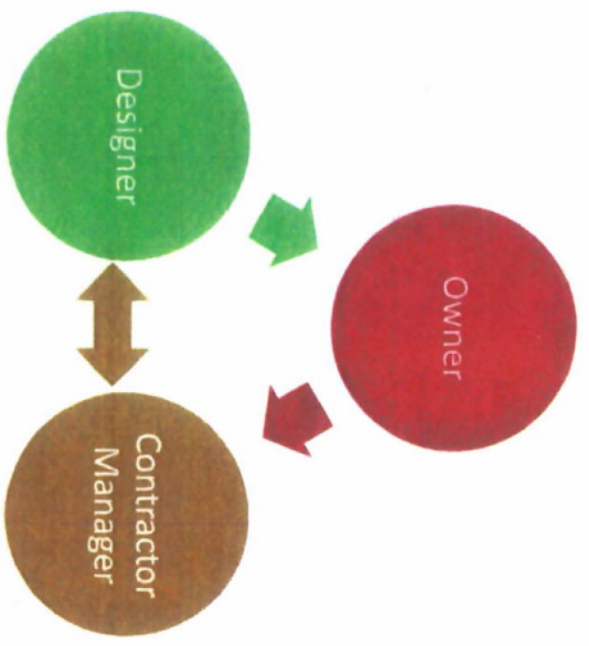
- Large pool of expertise to draw upon for managing:
 - Scope
 - Schedule
 - Budget
- Contractor competition is the greatest of all the delivery methods.
- Market determines pricing
- Executive Management has a firm grasp on this delivery method.





Common Types of Project Delivery Method at CDOT

CM/GC



This contracting method includes a method for **Risk Sharing-**

- The Contractor is integrated into the Design/Development Team
- Ongoing constructability review allows adequate scope Definition
- Owner Contractor and Designer can develop shared risk pools to account for quantity uncertainty and the potential for unknown conditions
- Contractor manages risks such as escalation, commodity fluctuations



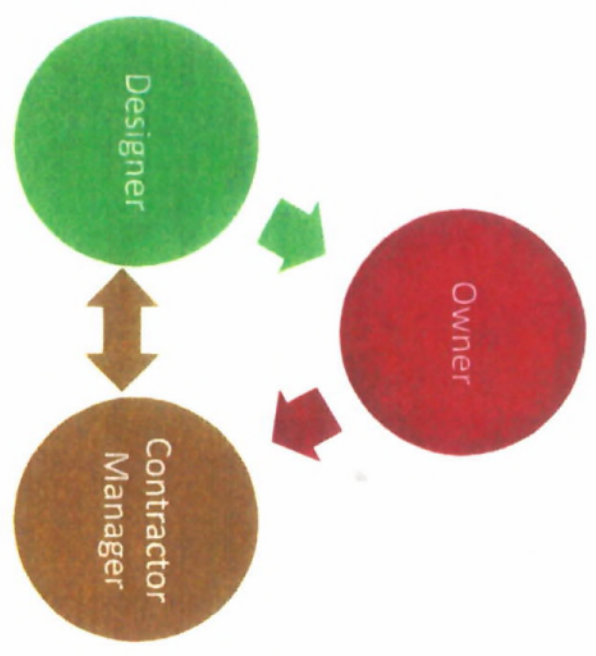


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Consideration and Keys to Success

CM/GC

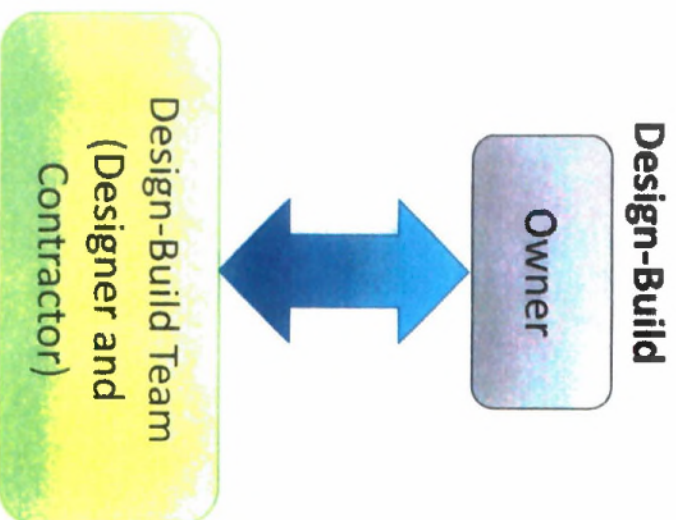


- The CM Contract and the GC Contract should be divorced and independent of each other.
 - The CM is a professional Services Contract
 - Award of a GC contract is dependent on the Successful negotiation of a “Construction Agreed upon Price”
 - If you are unable to Successfully negotiate a Cap the owner will advertise the package out for bid.
- “Open by” Schedule Constraints can weaken the Owner in negotiation.
- Construction starts earlier but the finish can drag on
- Works really well with projects where the scope is difficult to define





Common Types of Project Delivery Method at CDOT



This contracting method includes a method for **Risk Sharing and Risk Transfer-**

- Competitive Procurement process encourages Innovation and Risk Taking
- Risks are assigned to the party (Owner or Contractor) that is best equipped to manage those risks.

As mentioned previously.

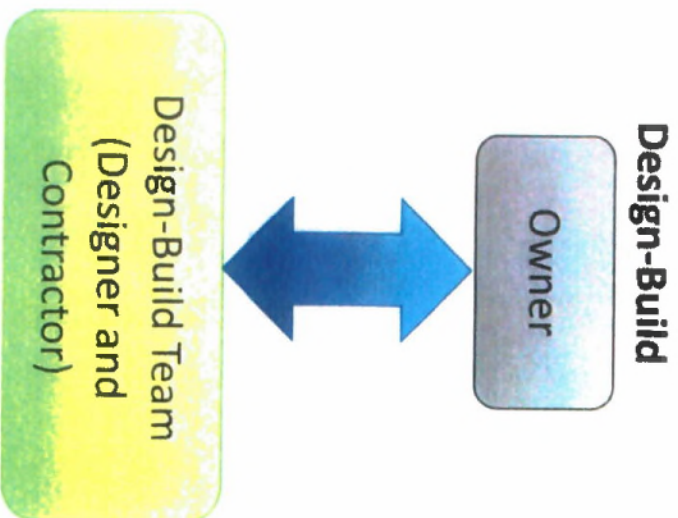
- Examples of risks that the owner is best equipped to handle (i.e. ROW, FHWA Approvals, Third Party Coordination, Insurance)
- Risks the Contractor if often best equipped to handle include Schedule, Quality, Commodity and escalation, Quantity uncertainty, Errors and Omissions (Spearin Doctrine does not apply in Design-Build)



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Consideration and Keys to Success



- The Scope of a Design-Build Project is the Technical Requirements.
 - Is it not measured in Cubic Yards or Linear Feet
 - It is measured in Conformance or Non-Conformance to the Contract
- Project Intensity requires “Dedicated Resources” to ensure that the critical path remains clear.
- Partnering needs to be more than a Platitude
 - Owner, Designer, and Contractor need to be united in pursuit of the project Goals.
- The “Culture of No” needs to be supplanted by “How can we make this work”
- Design-Build is not an excuse to compromise Safety, Ethics, or Quality.



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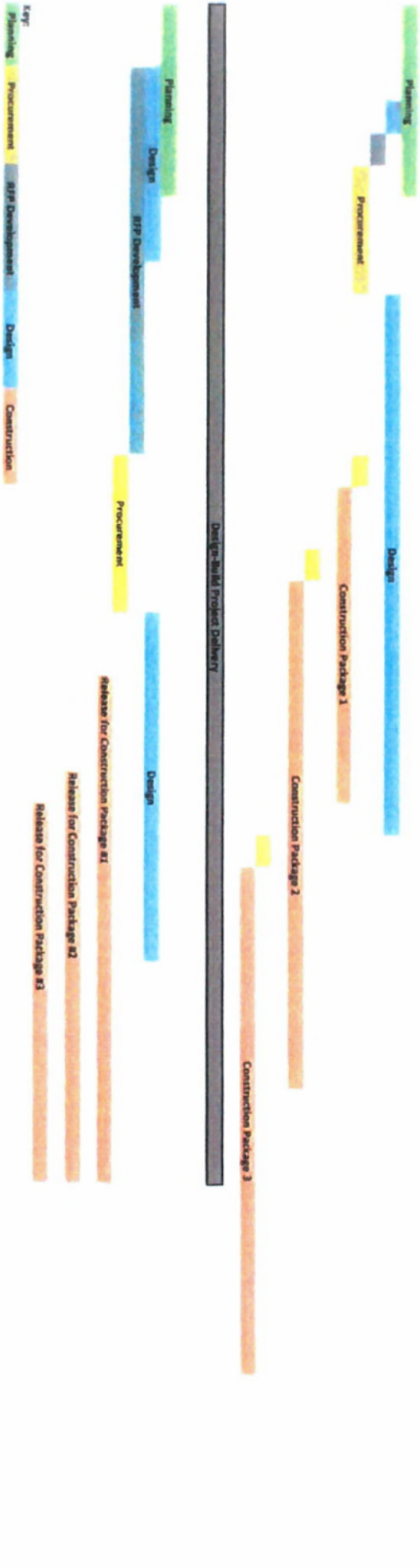


Associated Timelines of CDOT's Project Delivery Methods

Traditional Project Delivery



Design-Build Project Delivery

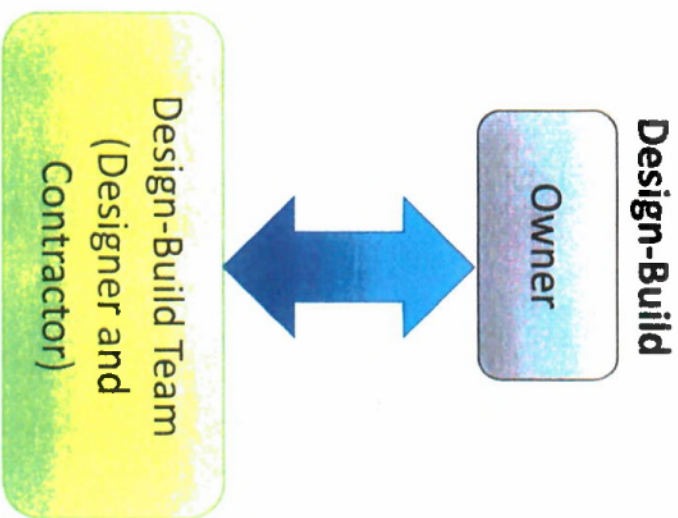
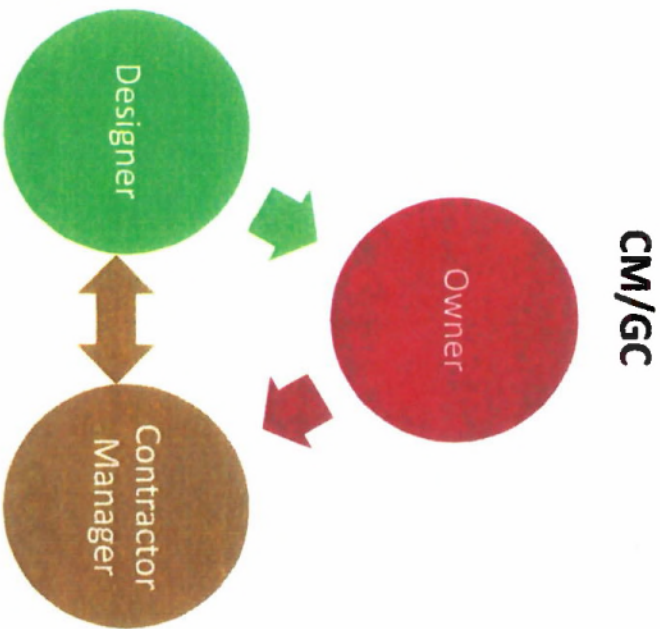
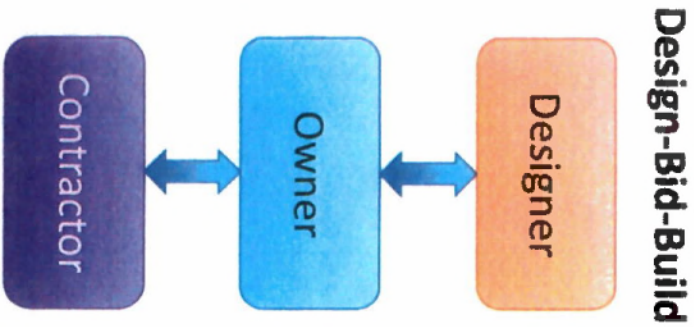




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Common Types of Contract CDOT Uses





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For more detail and discussion

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