

DESIGN BUILD TEAMING



What Works Best – and Why

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Most Design and Construction Firms,
as well as Owners, AGREE:

**Design-Build Project Success
is heavily dependent on having the
Right team, doing the Right things
at the Right time.**

What is the Right Teaming
Arrangement, and how do we get it ?

Design- Build Environment

The Design – Build Team is under a single contract with the Client to be both the designer and constructor of record, and deliver a completed quality facility on time.

It takes various skills and resources from a variety of entities working together concurrently, efficiently and effectively to succeed.



WHY IS IT DIFFERENT ?

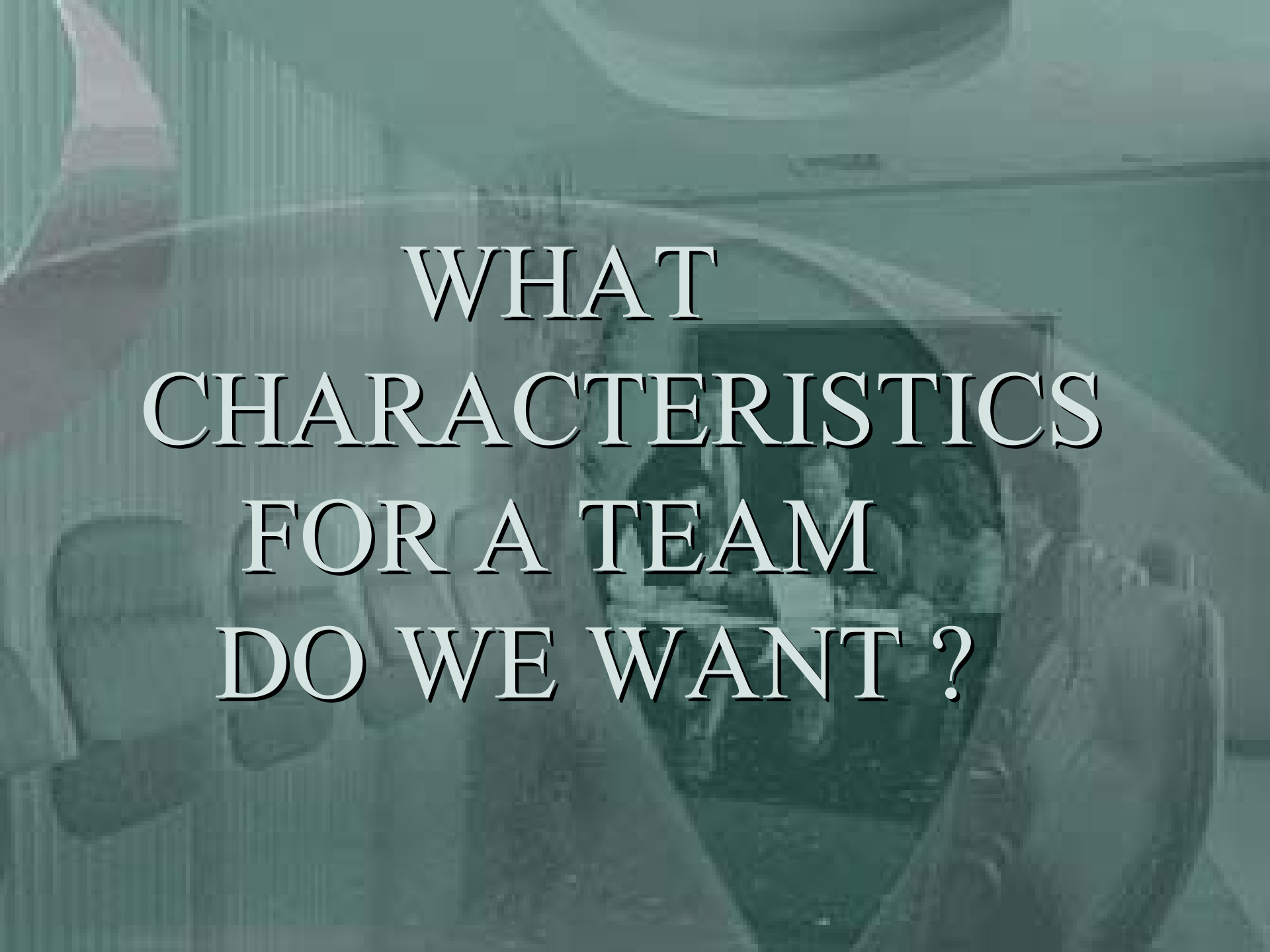
- Compressed Schedule w/ concurrent “interdependent” activities in design, procurement and construction
- More interfaces (hand-offs) within project team – more opportunities for fumbles
- Cost / schedule risk as design details develop for final quantities, design and construction requirements, etc.
- Continuous new information and obstacles that need “integrated” solutions
- New teams and learning curves – marriage of different cultures, attitudes, preferences, prejudices, and traditional AGENDAS

Design Build Team

- Lead constructor
- Lead designer
- Specialty constructors
- Specialty designers
- Specialty consultants
- Specialty design - builders
- Major suppliers
- Supply - installers
- Other suppliers

Some Issues in Forming a Team

- Can this Team win – why and how
- Who will do what – roles & responsibilities
- How will we associate – P/S, JV
- How will we share risks and rewards
- Who pays for what – pursuit costs
- Who will provide what Team positions
- What are bases for pricing the project
- How will we execute the pursuit

A group of people in a meeting, with a man in a suit pointing at a screen. The image is overlaid with a semi-transparent teal filter.

WHAT
CHARACTERISTICS
FOR A TEAM
DO WE WANT ?



Successful Teaming Characteristics

- Common vision of the Project - technical and financial objectives, and client expectations
- Confidence and trust in each others commitment and abilities
- Shared motivations and incentives for a high level of performance

Successful Teaming

Means & Methods

- Senior Leadership interest & involvement
- Open & constructive communication
- Full & supportive cooperation / coordination
- Leverage collective knowledge & experience – synergy of working together
- Focus on big picture for overall benefits
- Respect & understanding of each other's roles and responsibilities

Evidence of Good Teaming



- All parties are represented in key meetings
- Key specialists for critical areas are made available where and when required
- Communication is frequent and strong within the team, and between parties at various levels
- All parties commitment is early and consistent
- Few surprises, and problems are addressed jointly to achieve the best overall solutions

Key Parties Must be Committed

The story of the chicken verses the “pig”



- In making eggs, the chicken is involved;
- In making sausage, the pig is committed.

Evidence of Bad Teaming



- Too little, too late assignment and commitment of staff.
- Design is planned and performed in a traditional approach - only faster; *no integrated planning*
- No constructability review during design
- Design not delivered in sequence for construction
- No schedule interface / integration meetings
- Limited design – const. team communications at site
- *No common feeling that we're all in this together and working to make our total team successful*

Successful Teaming

”Golden Rule”

Design, procurement, construction, testing & startup must be planned and performed **in coordination with, and consideration of, each other with mutual accountability**

“AN INTEGRATED TEAM”

Integrated Team Advantages:

- **More efficiency (synergy and problem solving)**
- **Less cost and schedule surprises (communication)**
- **More flexibility (fewer performance barriers)**
- **Better interface management (less fumbles)**
- **Focus on team solutions rather than “who shot John”**
- **Better quality (common interest & authority)**
- **Better risk management (improved communication, coordination, and less internal disputes)**

Design Build

Prime Contracting Alternatives

- **Sole Entity:** Integrated firm, General Contractor, Designer, or Supplier) w/ sub-consultant(s), sub-contractor(s), and suppliers
- **JV / LLC:** Entity comprising 2 or more parties w/ sub-consultants, subcontractors & suppliers.
 - Work-share JV; each party risk & reward
 - Integrated Joint Venture; share all risks & rewards

Regardless of whether the
Design-Build Team is a
Prime-Sub or Joint Venture,
we can establish the operating
and financial approach to create
an Integrated Team

**HOW DO WE GET
INTEGRATED TEAMING
AND
HOW DOES IT WORK**

?? ??

Two Issues for Integrating a Team

- **Operating Approach** - How the project is planned and managed
 - Project decision making (who, how, what, when)
 - Project organization (roles & responsibilities)
 - Project procedures (communication, QA/QC, coordination, approvals, cost / schedule controls)
- **Financial Approach** - How risks and rewards for technical and financial performance allocated are shared

Requirements for an Integrated Team

- Must have willingness to work together rather than just protect their piece of pie
- Senior management must be integrated and must be proactive to create staff understanding and buy-in
- Design-build manager **MUST** represent Integrated Team interests
- Integrated procedures and systems must be established; eg; planning activities, cost/schedule controls, progress reviews, change controls



Integrated Team Approach

- Joint project planning - work packaging
- Joint project scheduling - interfaces/milestones
- Jointly meet contract requirements
- Joint negotiations with client - changes
- Joint budgeting and “detail” project review
- Joint management “involvement” and oversight of each other’s role
- Jointly address/resolve project issues & problems

Preferred Profile for Integrated Team Partners

- Enlightened senior leadership – innovative and recognizes advantages - synergies and added value
- Client service focused – similar culture
- Can get operations level staff buy-in / participation
- Willing to pay “fair share” of pursuit cost
- Willing to integrate team – reporting /communication
- Willing to mutually set price and schedule

Constructor Led, Designer Led, or
Joint Venture

The Design Build Integrated Team
MUST BE

SCHEDULE DRIVEN

“Begin with the End in Mind”

Integrated Planning Procurement

- What - do we buy?
- Who - do we buy it from?
- Who - is buying what (office /site)
- Where - do we buy it?
- When - is it required on site?
- How - is it packaged (interfaces)?
- Who - has responsibility for performance ?
- How - is the risk allocated?



Financial Example during Proposal (Designer as Sub)

- Reimbursed cost for design of scope definition at cost + overhead on agreed budget – No Profit
- Reimbursement of 3rd parties at cost – No Profit
- Shared cost for design build proposal document
- Success fee – if party is not part of profit pool
- Each pay own costs for management, marketing, team meetings, integrated planning and positioning, estimating and the like



Financial Example during execution (Designer as Sub)

- Bonuses /penalties for performance on items that designer can control
 - Changes in design quantities
 - Schedule of submittals / drawing issues
 - Accuracy of design deliverables (E&O)
- Bonus for “value added” changes
 - 50% of added value (agreed estimated amount)



Financial Example

during proposal and execution

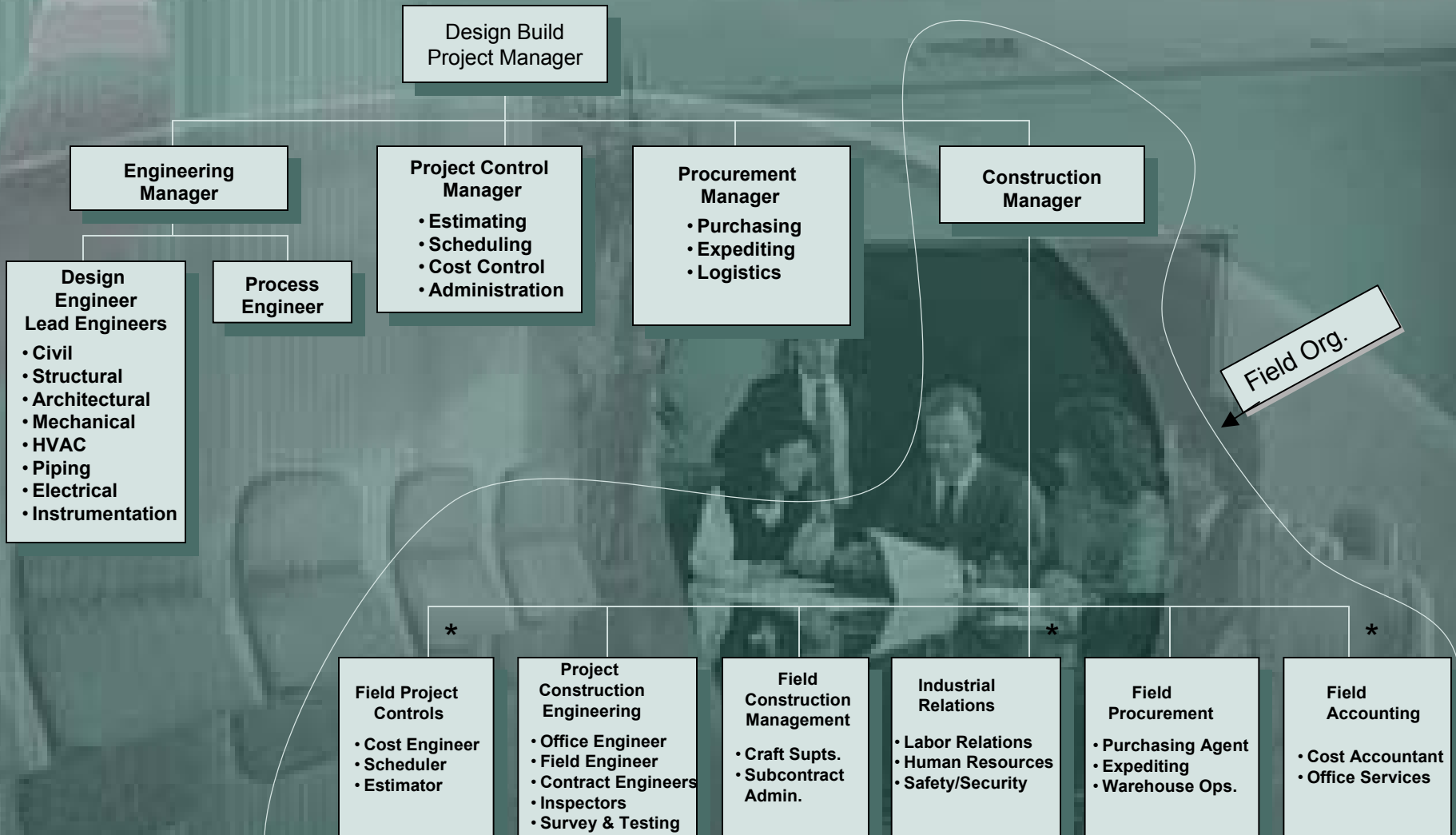
(Designer and Constructor in 50 / 50 Joint Venture)

- Equal sharing of proposal costs above what DBB effort would be normally.
- Mutually establishing proposal scope, schedule and price
- Equal sharing of bonding and insurance
- Agreed cost bases for each party's resources
- Integrated project budget and equal sharing of total profit / loss (design and const.)

Design - Procurement - Construction Integration Results

- Site arrangement accommodates - - access, laydown, construction equipment selection
- Site cuts and fills are balanced to eliminate waste
- Building design accommodates more efficient forming methods and material handling
- Building & plant systems specified to optimize procurement of equipment and materials
- Construction QA /QC planning done with design, and executed by design firm field staff at site

TYPICAL INTEGRATED ORGANIZATION



* NOTE: May be conducted offsite from Regional/Area Office depending on size/duration of projects.

Design Build Integrated Project JV Organization



Client

JV Design Build
Project Manager

Management
Committee
JV Firms
Representatives

Project Design Manager
Design Partner

Project Construction
Manager
Construction Partner

Design Team
Site Civil
Process
Structural
Architecture
Mechanical
Electrical
I & C

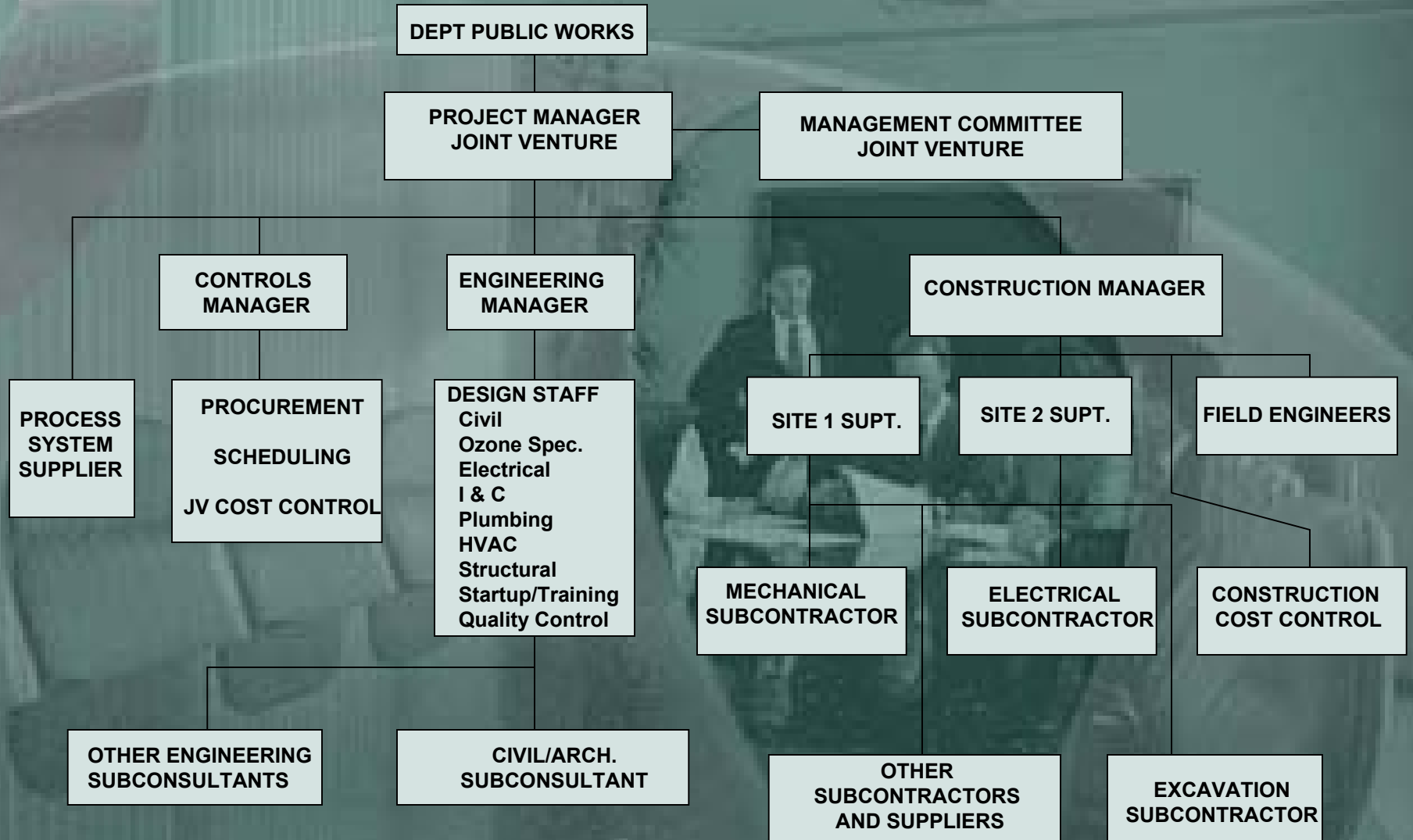
Procurement
Purchasing
Subcontracts

Project Controls
Cost Engineer
Scheduler

Site Const. Mgmt.
Field Const. Mgr.
Proj. Field Engr.
Admin. Support

INTEGRATED PROJECT JV ORGANIZATION

Water Plant Project





An “Integrated Design Build Team”
gives the best opportunity to meet or
exceed the project goals of schedule,
quality, cost and safety – mitigate risk ,
and exceed client expectations!

