

THE FIRM

PROJECT MANAGEMENT APPROACH

Architectural Programming

The first task in initiating the design process is to confirm the team's comprehensive understanding of the "design problem." The method employed to accomplish this is a series of tasks called "problem seeking," or *architectural programming*. Simply described, an architectural program is the documentation of the process which has led to the statement of an architectural problem and the requirements needed to offer a solution.

The methodology employed in architectural programming includes a period of intense work sessions involving a team of architects / engineers and user (client) representatives where the various building requirements are discussed and documented. These work sessions are termed on-site programming sessions since they normally require the A/E team to set up at the user's home base.

Subsequent to this intense period of data collection, the information is analyzed, refined and presented - first in draft form for user review, and finally for formal acceptance. This approved programming document serves as the basis for the design of the facility. (See chart "Owner Involvement Matrix" - attached).

The methodology employed to support the *implementation of site long-range planning, facility conceptual design and the schematic design process* employ extensive, interactive sessions. These are intense work sessions led by the Design Team Leader with architects, engineers, facility users, client long range planners, land planners with local code expertise, facility safety, maintenance, and administration personnel, and specialized consultants participating as required. ADP Marshall usually conducts these sessions at the client's data base location, thereby enhancing the availability of personnel and data. ADP Marshall staffs these





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session with project managers, architects, engineers, designers, drafters, construction specialists, and model builders, and provides all documentation and graphics display material required. Data is gathered, organized, displayed, and confirmed with the client. Design requirements are then identified, prioritized, graphically displayed, tested, and full team agreement is achieved. The client thus becomes an integral part of the design requirements and solutions process. The Schematic Design, which results from this process, is a product of, and thus fully understood by, all participating team members. Client, designer, and all participants are experts on the "how and why" of the design evolution. Furthermore, the design process is graphically documented and available for using in support of the approval process.

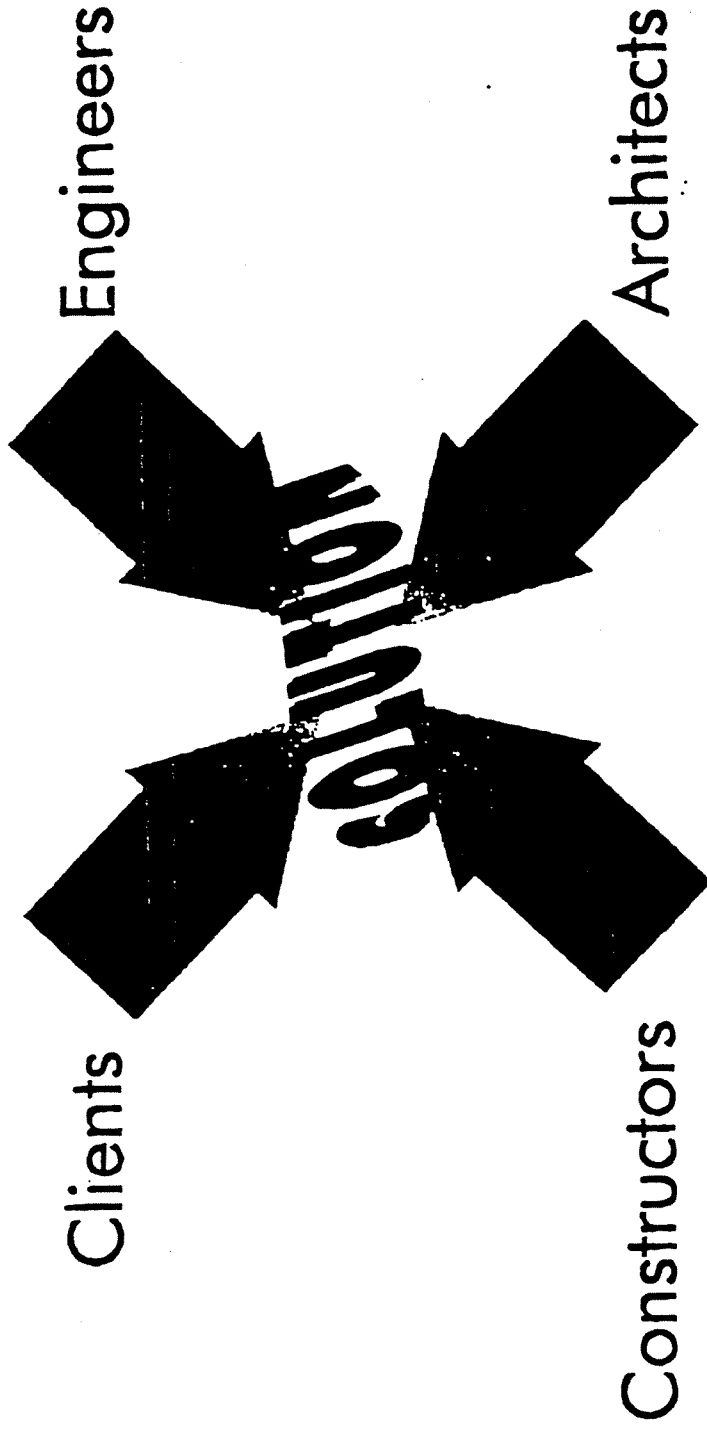
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CLIENT PERSONNEL	TASKS	Project Kick-Off	Program Development Session	Program Review & Approval	Site Usage Plan	PD Development Session Production Areas	Laboratory Areas Plan Refinement	Laboratory Areas Plan Review & Approval	Site Planning & Computer Building Planning Session	Site Planning Refinement Owner Review	Complete PD Review & Approval
Administrative Management		●	●	●	○	○		●	○	○	●
Facilities Engineering		●	●	○	●	●	○	●	●	●	●
Laboratory Users		○	●	○	○	●	●	●	○		●
Support Function Users		○	●	○		●			●	●	●
Safety Representatives		●	●	○		●		○	○	○	○
Special Systems Representatives		●	●	●	●	○		○	●	○	●
Project Manager		●	●	●	●	●	●	●	●	●	●

-  **Participation Imperative**
 Design of project relies on input from this person or group of persons.
-  **Participation for Coordination**
 This person or group should participate or be kept informed for continuity.
-  **Key Decision Point**
 This person or persons must make decisions to keep project moving.
-  **Participation Recommended**
 This person or group should participate, but absence is not detrimental.

▶ The Squatters Process

• Problem Seeking - Problem Solving



The "Squatters" Approach Delivers

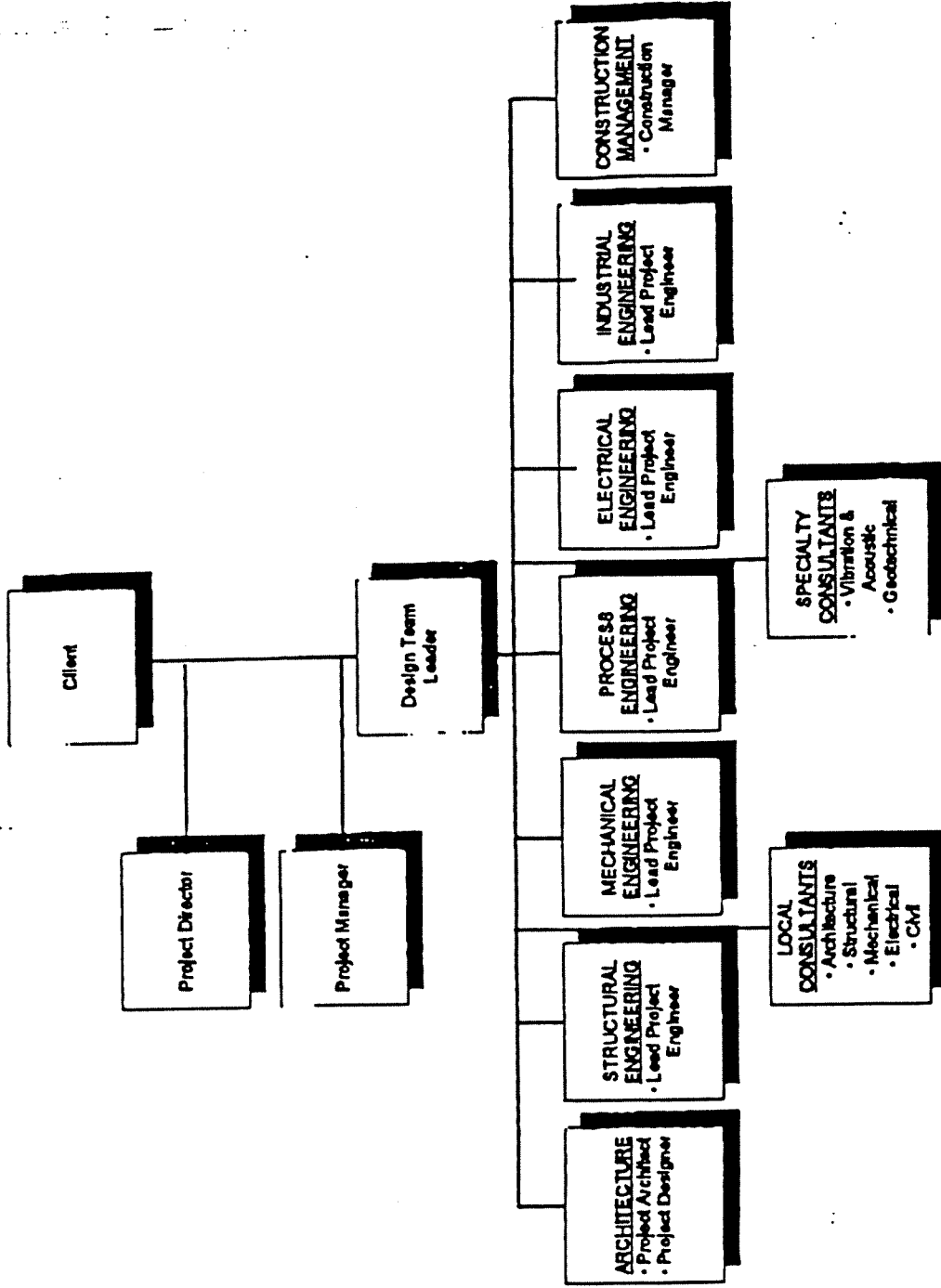
- A Team Approach
- An Organized Process
- A Framework for Joint Decision Making
As a Team
- A Way to Achieve an Objective Analysis

The "Squatters" Approach Delivers

- A Method to Funnel Information to Achieve Action
- A Concise Communication Method for the Whole Team
- A Means to Establish Issues and Concepts Early in the Project
- An On-Site Comprehensive Design Process

4-1.8

▲ Squatters Team Organization

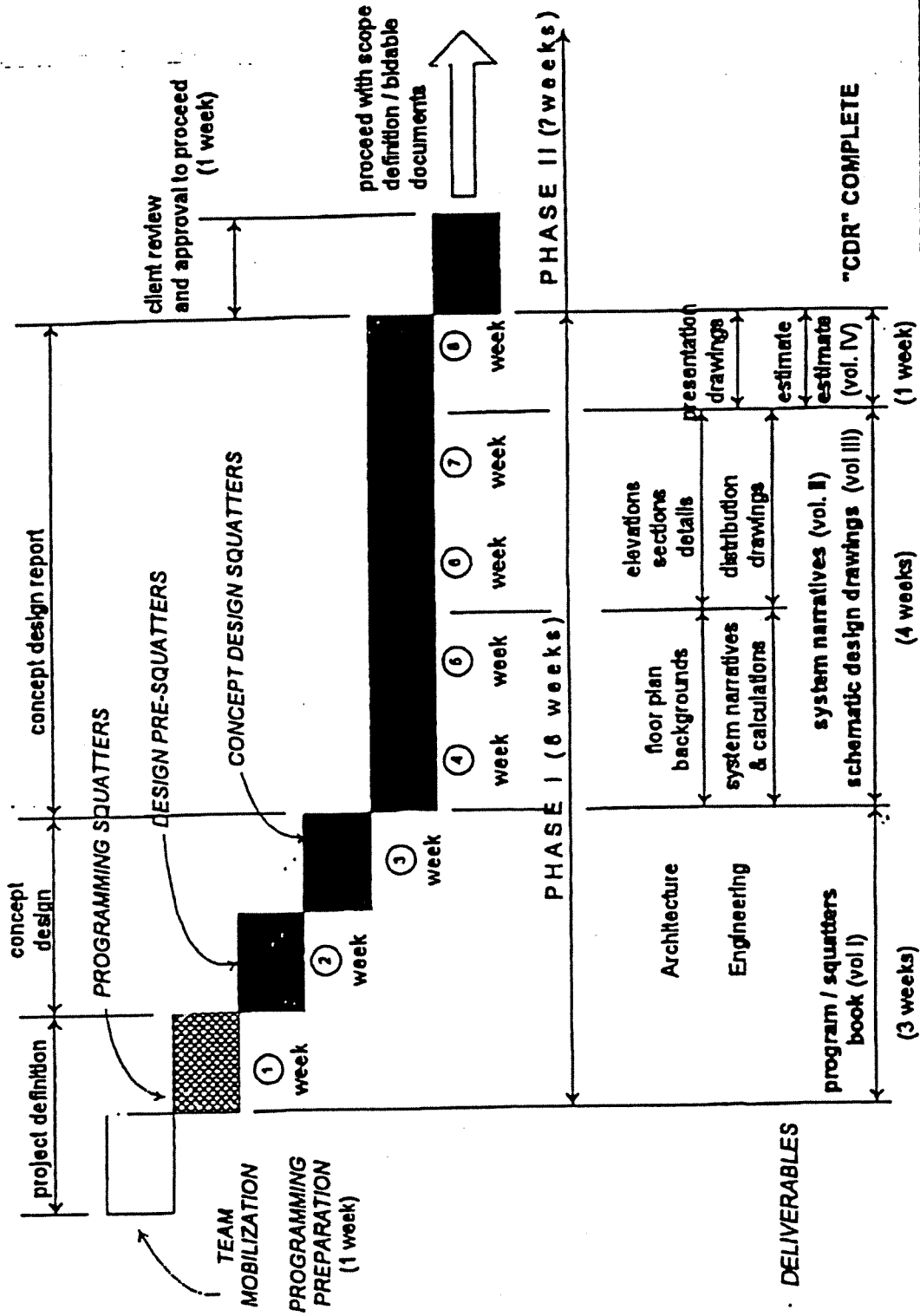


User Interface Required

- Facility Engineers
 - Mechanical
 - Electrical
 - Chemical
 - Process Engineers
 - Cell managers
 - Cell users
 - Safety
 - Hazmat
 - Safety
 - Environmental
 - Security
 - Operations
 - Shipping/receiving
 - Tech services
 - Stores
 - Chemical handling
 - Process maintenance
 - Administration
 - Employee services
 - food services
 - training
 - Offices
 - engineering
 - management
 - facilities
-
-

4-1.10

Concept Design Process



4-1.11

Fluff , like cream, rises to the top. It is an observed truism. It is also a mathematical certainty, as shown in the following mathematical proof.

Given, as we all know:

$$\mathbf{KNOWLEDGE = POWER}$$

$$\mathbf{TIME = MONEY}$$

And as all engineers know from freshman engineering:

$$\mathbf{POWER = \frac{WORK}{TIME}}$$

Substituting , we get:

$$\mathbf{KNOWLEDGE = \frac{WORK}{MONEY}}$$

Solving for MONEY, we have:

$$\mathbf{MONEY = \frac{WORK}{KNOWLEDGE}}$$

Thus, MONEY approaches infinity as KNOWLEDGE approaches zero.

In other words, the LESS you KNOW the MORE MONEY you MAKE.