

**FILE COPY**

FIRST ANNUAL WORK PLAN  
for  
CONSTRUCTION  
MANAGEMENT  
PRECONSTRUCTION  
SERVICES

for the  
LOS ANGELES **METRO RAIL**  
PROJECT

*Presented to*  
Southern California  
Rapid Transit District

SCRTD  
1984  
.F57  
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A JOINT VENTURE OF THE RALPH M. PARSONS COMPANY, DILLINGHAM CONSTRUCTION, INC. AND DE LEUW, CATHER & COMPANY

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*JH*  
8/2/84

REFERENCE: Contract No. 3369  
CM - MR - 34

August 1, 1984

Southern California Rapid Transit District  
425 South Main Street  
Los Angeles, California 90013

**RECEIVED**  
**SCRTD - TSD**  
**CONSTRUCTION MANAGEMENT**

AUG 2 1984

Attention: Mr. James A. Strosnider  
Director, Construction Management

ITEM # 370

Subject: CM 1st Annual Work Plan  
Phase I - Preconstruction Services  
July 30, 1984 Revision

FILE # FILE

Gentlemen:

Enclosed for your approval are five (5) copies of our 1st Annual Work Plan revised July 30, 1984 covering Phase I-Preconstruction Services (only) for the period 6 July 84 through 30 June 85. The revisions are based on the various discussions with and direction received from SCRTD during the past ten (10) days and have been incorporated to make the plan compatible with the funding provided by UMTA in June 84. Phase II - Construction Services cost, schedule, scope and fixed fee will be negotiated and added to the Plan when funding is made available to RTD and you exercise the option for these services.

Your early review and approval will be appreciated.

Very truly yours,

*Robert S. O'Neil*  
Robert S. O'Neil  
Construction Manager

Enclosure  
1st Annual Work Plan - Revised  
Phase I - Preconstruction Services (only)

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METRO RAIL CONSTRUCTION MANAGEMENT SERVICES

FIRST ANNUAL WORK PLAN  
FOR  
PRECONSTRUCTION SERVICES

Prepared for  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

16 March 1984

Revised 27 March 1984  
Revised 20 July 1984  
Revised 30 July 1984

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PARSONS-DILLINGHAM CONSTRUCTION-DE LEUW, CATHER, A JOINT VENTURE  
100 West Walnut Street  
Pasadena, California 91124

FOREWORD

This document presents the First Annual Work Plan for the period 6 July 1984 thru 30 June 1985 for the Metro Rail Construction Management Services contract. It encompasses Phase I - Preconstruction Services only; construction services will be added when the RTD exercises the option for Phase II. The plan is based on the Starter Line System Description and the overall Preliminary Master Schedule prepared by the Southern California Rapid Transit District (contained in the Request for Proposal for Construction Management Services), the Level II schedules dated 20 February 1984 which were provided by SCRTD during negotiations, the Systems Design Status Report dated 5 July 1984, the Facilities Design Status Report dated 12 July 1984, and the revised work scope phasing defined in the Notice to Proceed dated 6 July 1984. The Annual Work Plan is organized as follows:

- Section 1 - Project Description and Work Basis
- Section 2 - Project Participants and Their Interrelationships
- Section 3 - Scope of Services
- Section 4 - Organization and Responsibilities
- Section 5 - Annual Work Plan Schedule
- Section 6 - Staffing Plan
- Section 7 - Work Breakdown Structure
- Section 8 - Cost Data and Budget

SECTION 1

PROJECT DESCRIPTION AND WORK BASIS

This Annual Work Plan (AWP) has been prepared to cover Phase I - Preconstruction Services for the first Construction Management Services contract period extending from 6 July 1984 to 30 June 1985. It is based on the project description outlined below and on the scope of work, schedules, and staffing plan presented in the subsequent sections of this plan and is consistent with the funding limitations/ qualifications imposed by UMTA on the \$105 million grant to RTD in June 1984.

1.1 PROJECT DESCRIPTION

The project is the design and construction of the initial segment, or Starter Line, of the ultimate rapid transit network for the Los Angeles urbanized area. The initial segment is a conventional heavy rail system 18.6 miles in length with 18 stations serving the Central Business District, Wilshire Boulevard, Fairfax, Hollywood and North Hollywood areas. The general alignment of the Project is shown in Figure 1-1. The entire 18.6-mile main line route is in subway configuration. The yard and shop area is an at-grade facility located between 1st and 6th Street and between the Los Angeles River and Santa Fe Avenue in an area currently occupied by the Santa Fe Railway. Access tracks from the yard and shop will enter a tunnel in the vicinity of the Santa Ana Freeway and will connect the yard and shop to the southernmost station on the line at Union Station. Within this Starter Line, the stations and line segments from Union Station to and including the Wilshire/Alvarado Station (about 4.4 miles) and the at-grade yards and shops are defined as the minimal operable segment for UMTA funds.

1.2 SCHEDULE

The District's Preliminary Master Schedule for the Project is presented in Figure 1-2. The phasing shown in the four-segment design and construction phasings previously established by the District has been modified by changing the end of the phase 1 (design) from Wilshire/Vermont to Wilshire/Alvarado and the start of phase 2 to Wilshire/Alvarado.

1.3 WORK BASIS

The work basis for this plan consists of the Scope of Services defined in Section 3 and the schedules presented in Section 5.

At the start of the year, the CM Team staff will be located in the Parsons World Headquarters in Pasadena. The Team will transition to the Project office in downtown Los Angeles when the facilities are ready for occupancy.

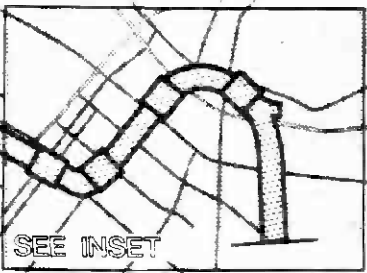
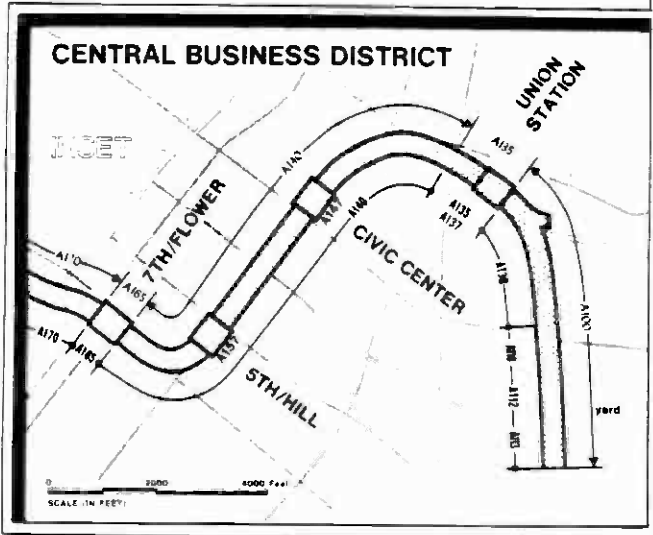
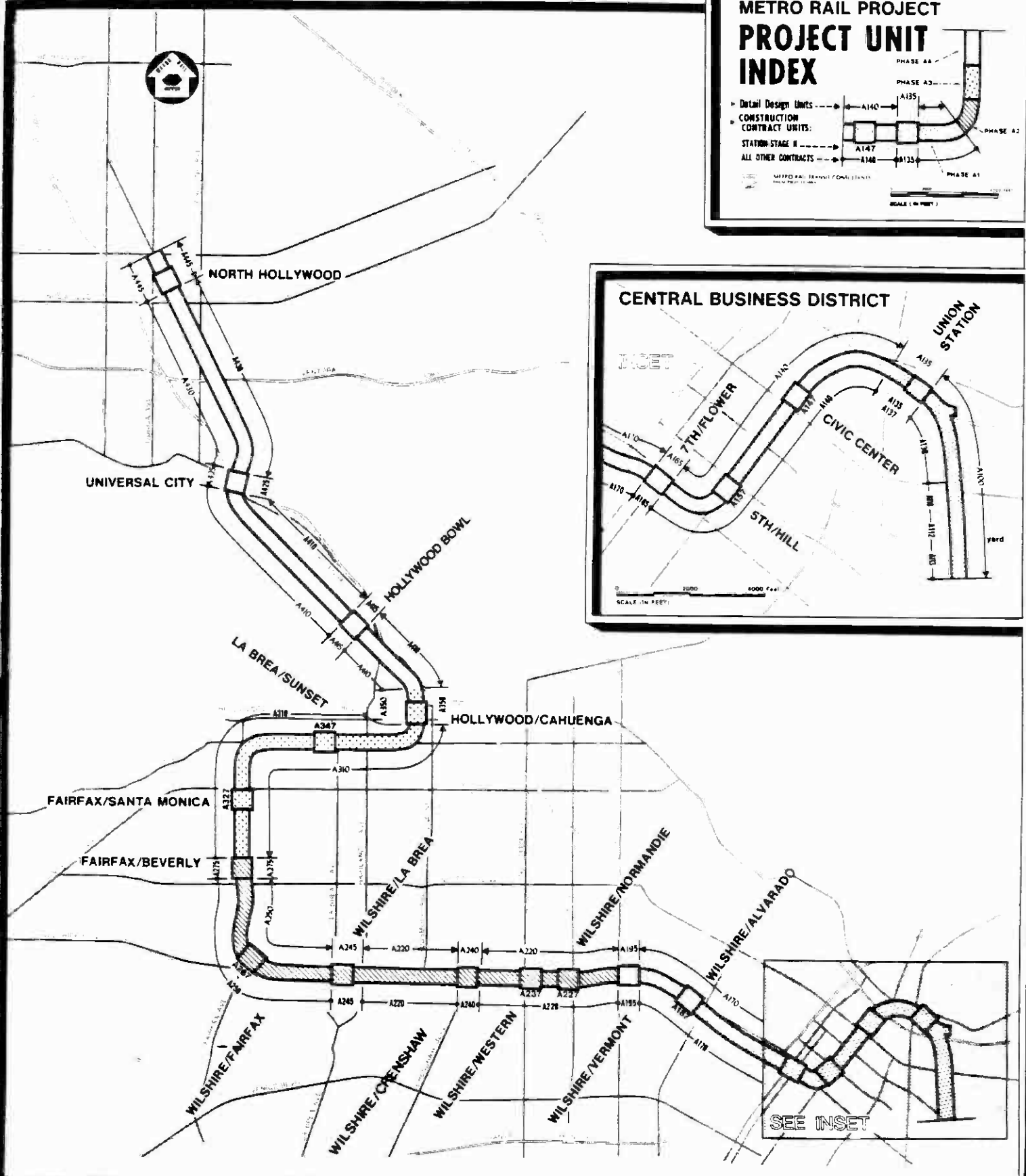
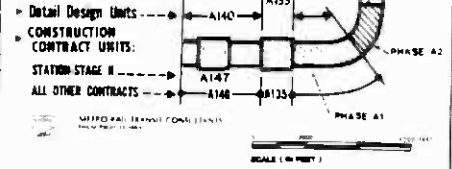
# SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

NOVEMBER 1983



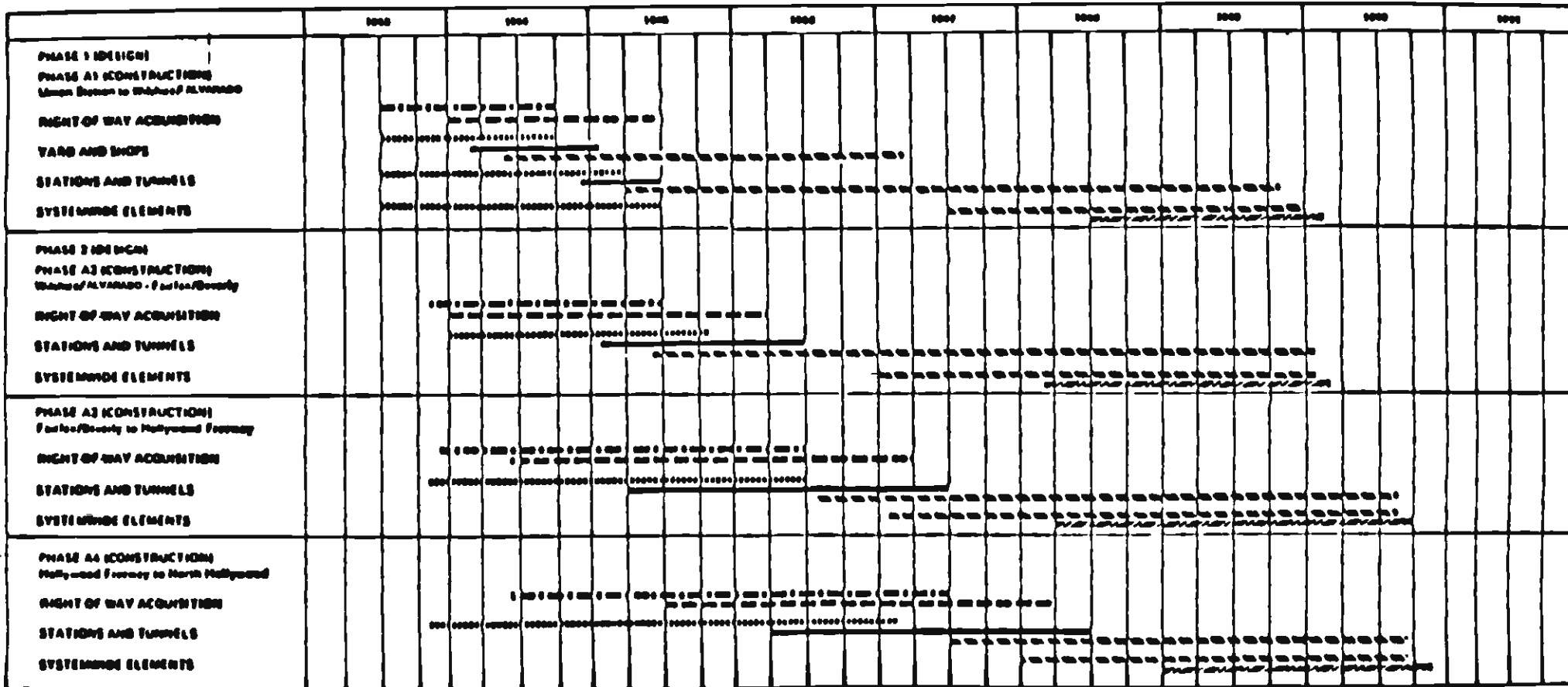
FIGURE 1-1

## METRO RAIL PROJECT PROJECT UNIT INDEX



**FIGURE 1-2**

**PRELIMINARY MASTER SCHEDULE  
RIGHT-OF-WAY, DESIGN, ADVERTISE/AWARD, CONSTRUCTION, INSTALLATION/TEST**



----- RIGHT OF WAY ACQUISITION  
 ----- RIGHT OF WAY PURCHASE  
 ----- DESIGN  
 ----- ADVERTISE/AWARD  
 ----- CONSTRUCTION  
 ----- INSTALLATION/TEST

SECTION 2

PROJECT PARTICIPANTS AND THEIR INTERRELATIONSHIPS

The identification of and the various interrelationships among the participants in construction of the Metro Rail Starter Line are defined in this section.

2.1 PROJECT PARTICIPANTS

Major participants during design and construction are the Southern California Rapid Transit District, the General Consultant (responsible for overall design), the Parsons Construction Management Team (responsible for construction management services), equipment suppliers, and the general construction contractors. The identification and broad responsibilities of each are presented below together with a discussion of their interrelationships.

2.2 PARTICIPANT RESPONSIBILITIES AND INTERRELATIONSHIPS

In general, the responsibilities of and interrelationships among the major participants are as follows:

2.2.1 SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

The Southern California Rapid Transit District has overall responsibility for all aspects of the Metro Rail Project. In that connection the District will provide overall project management and supervision, and has final approval of all construction drawings and specifications, change orders, procurements, acceptance of construction and equipment installation, and contractor payments.

2.2.2 GENERAL CONSULTANT

The General Consultant (GC) is a joint venture of Daniel, Mann, Johnson and Mendenhall/Parsons, Brinckerhoff, Quade and Douglas/Kaiser Engineers/Harry Weese and Associates, operating under the name Metro Rail Transit Consultants (MRTC), and is under direct contract with the District. The GC has overall design responsibility, and provides the Construction Manager with preliminary and final designs, drawings, specifications, and cost estimates for constructibility and cost savings review. The GC also provides preliminary construction contract packaging, identification of long-lead procurements, and construction and procurement schedules for CM review. Material from the GC to the CM is transmitted through the District.

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Review comments and recommendations by the CM are returned to the District for screening and forwarding to the GC. The District will resolve any differences of opinion that arise from the CM review. The CM will not deal directly with any design, engineering, supply, or manufacturing subcontractor under contract to or supporting the GC, but will work through the District and GC whenever contact is necessary.

### 2.2.3 CONSTRUCTION MANAGER

The CM is a joint venture of The Ralph M. Parsons Company, Dillingham Construction, Inc. and De Leuw, Cather & Company. Under contract to the District, the CM is responsible for constructibility review of designs, schedules, cost estimates, and bid documents; assistance in procurement of long-lead materials and equipment; assistance in selecting construction contractors; supervision and inspection of construction; and the scheduling and cost control of construction. The CM is also responsible for certain systems aspects of the Project, including systems integration, supervision of systems installation, startup, testing, and systems certification.

Management of the joint venture is represented by the Construction Manager who is responsible to a joint venture Executive Board, which supports the performance of the Construction Manager and also provides a direct point of contact between the District and the management of the joint venture companies. Subcontractors are under contract to the joint venture.

### 2.2.4 GENERAL CONSTRUCTION CONTRACTORS AND EQUIPMENT SUPPLIERS

Construction contractors and equipment suppliers selected for the Construction Phase will be under contract to the District. The CM, acting as agent for the District, will manage and supervise the construction contractors. The CM assists in the selection of construction contractors; performs onsite supervision, quality control, and safety inspection of all construction; reviews detailed schedules prepared by the contractors; reviews and evaluates shop drawings and change order requests; certifies contractor payments; verifies contractor compliance with Equal Employment Opportunity requirements; establishes a community relations program; and exercises cost and scheduling control. Final approval of changes or revisions recommended by the CM and the authority to direct their implementation rests with the District. The CM will oversee the work performed by equipment suppliers, performing expediting and shop inspection services and coordinating and scheduling delivery, checkout and acceptance testing.

SECTION 3

SCOPE OF SERVICES

The First Annual Work Plan for Construction Management Services to the Southern California Rapid Transit District for the Metro Rail Project encompasses pre-construction activities, during which the CM will provide management, administrative, and technical personnel and services to perform constructibility and cost effectiveness reviews of designs, schedules, cost estimates, and bid documents. Initial work will focus on the review of Metro Rail project design criteria and standards, directive drawings, and the constructibility and work effectiveness of preliminary and final designs. As design documents, cost estimates, schedules and bid packages are completed, the CM will perform studies, as required, in the areas of cost comparison, use of materials, and construction methods; establish baseline schedules and costs for control of construction contractors; and assist the District in the identification of long-lead time, materials and equipment.

At the beginning of this work plan, the CM will mobilize its organization to provide all support services and personnel necessary to assist RTD up to the initiation of Metro Rail Construction. The CM offices of Equal Opportunity and Community Relations will assist the District in assuring equal opportunity to all organizations and personnel associated with the Metro Rail construction and in acquainting citizens with the Metro Rail construction program. The CM will also provide specialty support in labor relations, when and as requested by the District prior to commencement of construction.

3.1 SCOPE OF SERVICES AND STATEMENT OF WORK

CM activities during the First Annual Work Plan will consist of: Phase I - Preconstruction Services; Phase II - Construction Services will be added when the RTD exercises its option for these services when contractor funding is made available. Preconstruction Services are those CM services up to the point of advertising for bids described in the following statement of work. Based on UMTA funding limitations, these services include review of preliminary and final design of the yards and shops for the first five stations and related line segments, i.e. from Union Station through the Wilshire/Alvarado Station and for the system-wide elements (this amounts to approximately 4.4 miles of the initial 18.6-mile segment of Starter Line) and design review from Wilshire/Alvarado to North Hollywood limited to Continuing Preliminary Engineering (85%) level.

The specific services to be provided by the CM during the Preconstruction Phase will be as follows:

3.1.1 PHASE I - PRECONSTRUCTION SERVICES

A. Evaluate Criteria and Standards

Evaluate criteria and standards for cost effectiveness and constructibility and recommend cost-savings measures, if appropriate.

B. Review Standard and Directive Drawings

Review standard and directive drawings and provide an evaluation of cost effectiveness and constructibility and recommend cost-savings measures.

C. Review Preliminary Designs and Specifications

Review the preliminary designs and specifications prepared by the Metro Rail Section Designers for cost effectiveness and constructibility and recommend cost-saving measures.

D. Evaluate Construction Cost Estimate

Evaluate preliminary and final construction cost estimates prepared by the Metro Rail Section Designers for reasonableness.

E. Provide Studies of Alternate Materials and Construction Methods

Provide comparative cost studies of alternate materials and construction methods.

F. Review Contract Packaging and Long-Lead Procurement

Review contract packaging and long-lead procurements prepared by the Metro Rail Section Designers and, if appropriate, recommend modifications.

G. Review Construction and Procurement Schedules

Review construction and procurement schedules prepared by the Metro Rail Section Designers and, if appropriate, recommend modifications. Initiate long-lead procurement schedules for Phase I.

H. Provide Comparative Cost Studies

Provide comparative cost studies of alternate materials and systems.

I. Prepare CM Procedures

Prepare and submit to the District, for review and approval, the CM's Policies and Procedures for management of construction and procurement. These Policies and Procedures will include:

- (1) Descriptions of the CM management organization and allocation of responsibilities.

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- (2) Procedures governing the establishment, operation, and maintenance of the CM Los Angeles Project office.
- (3) Procedures for the management of construction changes.
- (4) Procedures for assurance of the quality of construction work.
- (5) Procedures for assuring that necessary permits and licenses for all construction are secured.
- (6) Procedures for the coordination of work by, and between, contractors.
- (7) Procedures for monitoring and controlling compliance with the safety requirements by job site personnel, visitors, and the public.
- (8) Procedures for coordinating utility requirements, traffic control, and other construction related activities with public and private agencies affected by construction.
- (9) Procedures for ensuring configuration control of procurement items.
- (10) Comprehensive safety plan and procedures.
- (11) Resident engineer's procedures manual.
- (12) Detailed staffing plan for construction phase.
- (13) Construction cost and schedule procedures manual.
- (14) Other procedures deemed necessary by the CM for control and execution of his work.

J. Provide Management and Administrative Support

Provide management and administrative support necessary to ensure a cohesive effort and timely response on the part of the CM's staff.

K. Develop Community Relations Program

When requested by the District, provide liaison with the District's community Relations Department to develop or coordinate program of "Construction Impact" meetings and other programs to minimize community-associated problems.

L. Establish and Coordinate EEO Program

Pursuant to the District's Disadvantaged and Women-Owned Business and Equal Employment Opportunity Programs, provide an office of equal opportunity which will coordinate the CM's programs with the District's programs. This office will be staffed by EEO and DBE personnel and will prepare a work plan for conducting reviews of contractor compliance with the relevant Federal EEO and DBE rules and regulations and for stimulating DBE/WBE interest in bidding on Metro work, both as prime and subcontractors.

M. Review Final Design Documents

Review final designs, drawings, specifications, and bid documents for cost savings and constructibility. This work will be performed for systemwide and specific construction packages prior to solicitation of bids.

N. Evaluate Final Cost Estimates

Provide an evaluation of the engineer's cost estimate at 100 percent design completion.

O. Evaluate Final Contract Packaging, Long-Lead Procurements, and Schedules

Evaluate final contract packaging, long-lead procurements, and schedules. Recommend modifications for cost savings and constructibility.

P. Participate in District Management Meetings

Participate in periodic District Management Meetings to make presentations, provide backup information, and make recommendations pertinent to issues under discussion.

Q. Prepare Monthly Status Reports

Prepare and submit monthly reports on the status of the CM's activities.

R. Develop Plans for Obtaining Permits, Licenses, Certificates, and Insurance

Perform advance planning to ensure that Project construction contractors obtain all required permits, licenses, certificates, and insurance.

S. Develop Plans for Construction Interfacing and Coordination with Other Agencies and Entities

Develop plans for coordinating all aspects of construction work with all local municipal authorities, other governmental agencies, utility companies and others who may be involved in the Project.

T. Attend Conferences with Outside Agencies and Entities

When requested by the District, attend conferences with officials of the District, governmental agencies, or other persons.

U. Provide Field Office Space

Provide Field office space as is necessary to Phase I CM services.

V. Consult on Monitoring Equipment Specifications

Consult with the District on specifying the various items of monitoring equipment.

W. Develop Construction Safety Program

Prepare a construction safety program and obtain District approval for its implementation.

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X. Assist in Seeking Government Approvals

When requested, assist the District in negotiating with, or seeking approvals from, such governmental agencies as have jurisdiction over the work to be performed.

Y. Assist in and Coordinate Preconstruction Survey

Assist in and coordinate Preconstruction Survey with OCIP Consultant.

SECTION 4

ORGANIZATION AND RESPONSIBILITIES

The project organization for achieving the Scope of Services defined for the First Annual Work Plan for Construction Management Services is presented in this section together with the responsibilities of key personnel designated to carry out these services.

4.1 CONCEPT OF ORGANIZATION

Although it is a joint venture with subcontractors, the Construction Management Team functions as a unified organization, structured to be fully responsive to the needs of the project, with all members integrated into the project organization and working under the management control of the Construction Manager.

4.2 ORGANIZATION FOR CONSTRUCTION MANAGEMENT SERVICES

The following subsections present a brief discussion of the CM organization.

4.2.1 PROJECT ORGANIZATION

Figure 4-1 presents the basic functional organization chart for the Construction Management Team for Phase I - Preconstruction Services. Also shown by dotted lines are the additional organizational elements for Phase II - Construction Services.

Figure 4-2 presents the personnel positions for Phase I. This organization provides clear lines of authority and responsibility. The Construction Manager reports directly to the SCRTD Project Manager. Three Deputy CM's each with well-defined areas of responsibility, report directly to the Construction Manager. The primary line of authority flows from the District Project Manager to the Parsons Construction Manager and then to three Deputy Construction Managers. Work orders, instructions, and directives flow from the District Project Manager to the CM, who makes assignments to the DCM's as appropriate for execution. Reports, recommendations, and directed deliverables flow upward through this same Central Management Group.

A Deputy for Administration and Staff Support, reporting to the Construction Manager, manages the day-to-day activities of the special staff.

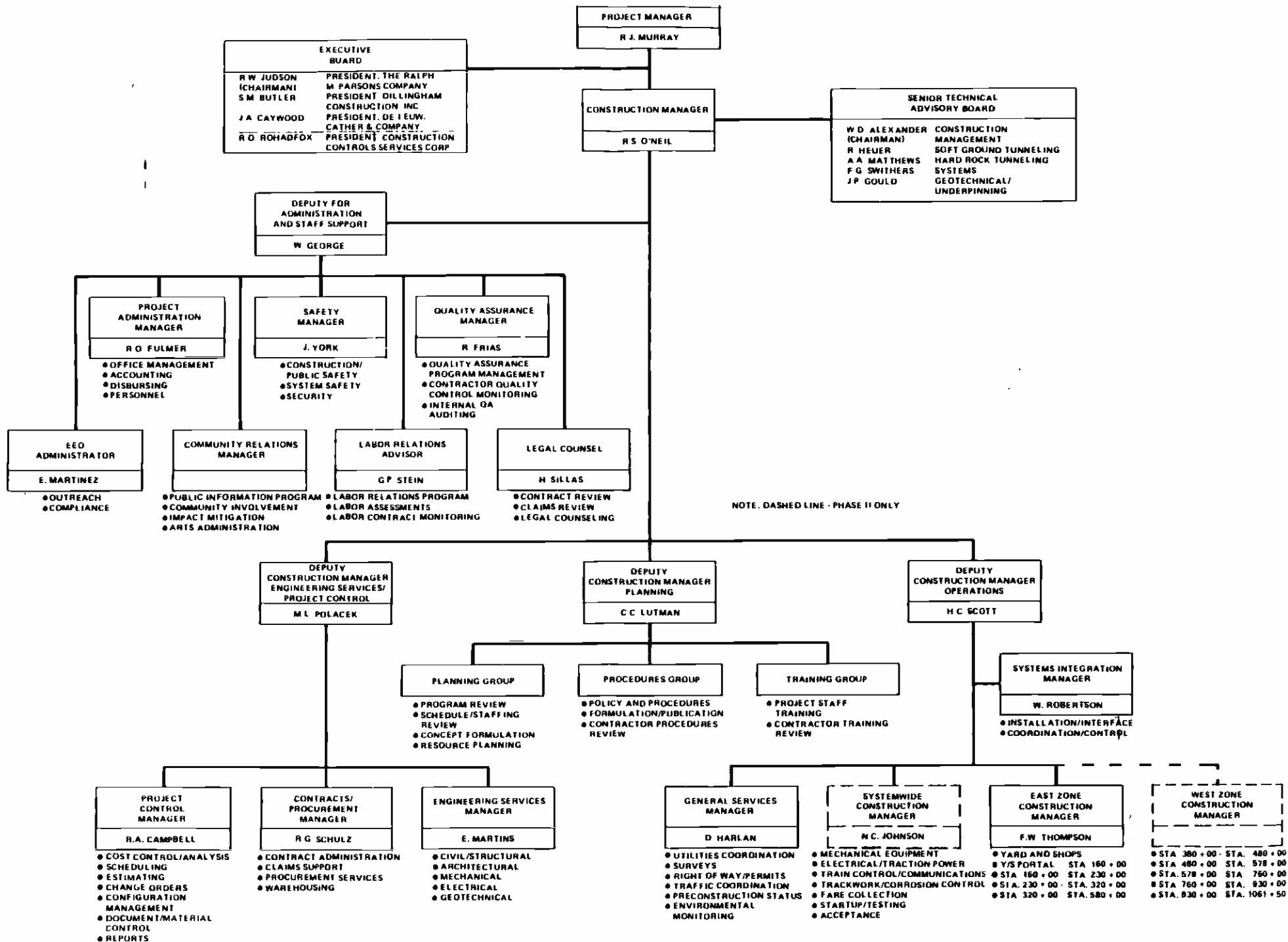
4.2.2 SPECIAL STAFF

A staff of specialists is provided to assist the Construction Manager in management areas, including project administration, community relations, EEO administration, safety, labor relations, quality assurance, and legal counsel.

**PD CD FUNCTIONAL ORGANIZATION  
PHASE I - PRECONSTRUCTION SERVICES**

FIGURE 4-1

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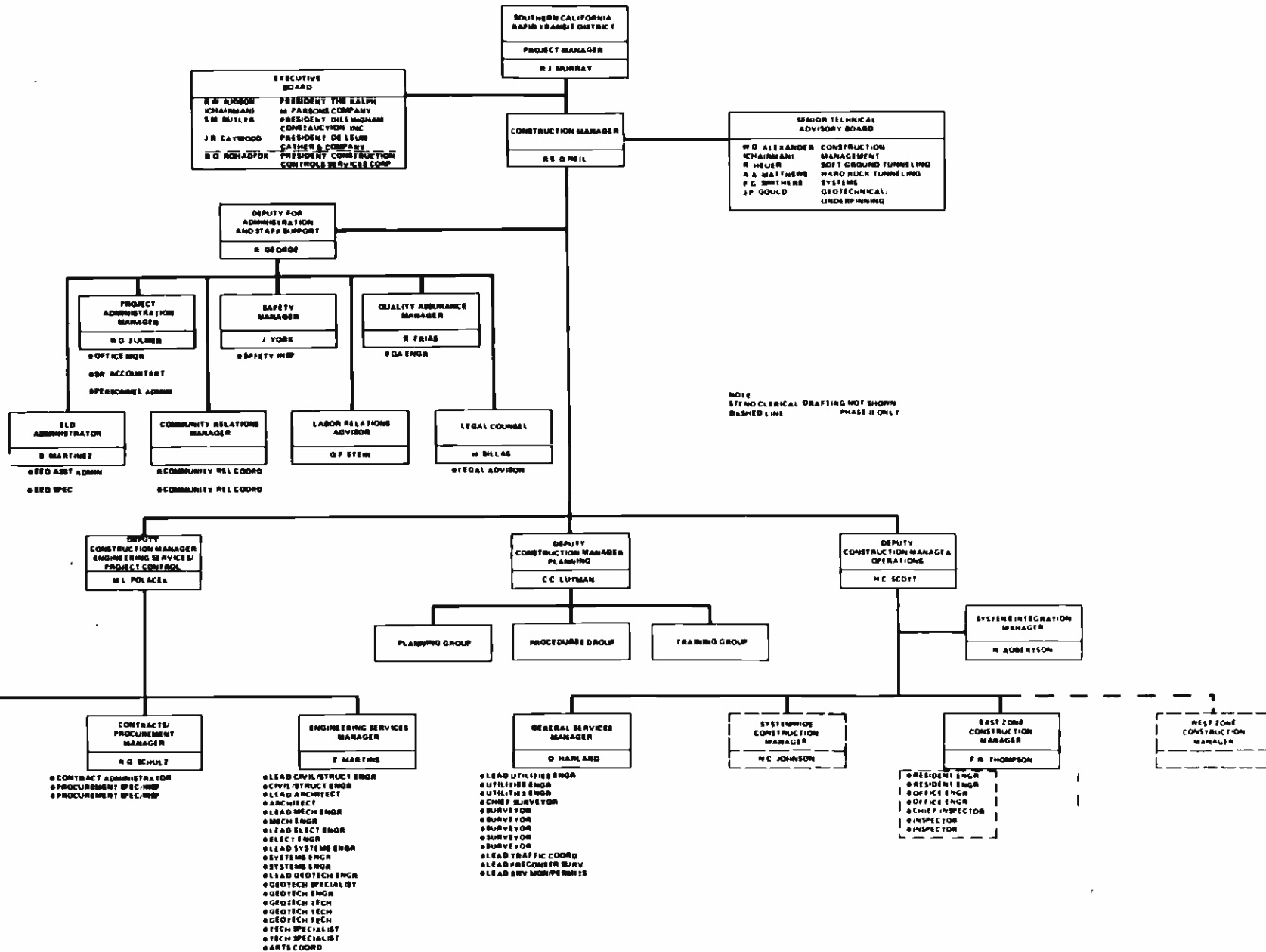
NOTE: DASHED LINE - PHASE II ONLY

4-2



PCCD CM ORGANIZATION  
 PHASE I - PRECONSTRUCTION SERVICES  
 7/30/84

FIGURE 4-2



4-3

#### 4.2.3 EXECUTIVE BOARD

The joint venture firms comprising the Construction Management Team are represented by an Executive Board to which the CM is responsible internally for the performance of this project. This Board also provides an alternate point of contact between the District and the top management of the member firms, if the District so desires.

#### 4.2.4 SENIOR TECHNICAL ADVISORY BOARD

A Senior Technical Advisory Board of noted specialists in the fields of hardrock tunneling, soft/granular soils tunneling, systems elements, and general construction management services is available to the CM and the Executive Board on an as-required basis. The specialists assist in the resolution of special problems when so requested.

#### 4.2.5 RESPONSIBILITIES

The responsibilities of the key personnel within the CM organization are defined below, subject to approval of the District.

##### A. Construction Manager

The Construction Manager has overall responsibility for the construction management services contract. He is the prime point of contact with the District and interfaces directly with the District's Project Manager. He reports internally to an Executive Board comprising a senior officer of each joint venture firm and one of the subcontractors, and has complete authority from the Board to take any necessary action to ensure the highest level of performance in response to the District's needs. He is authorized to commit the joint venture for services within the limits of the negotiated cost budget and schedule. He assigns personnel to the project subject to District approval.

The Construction Manager has complete responsibility for providing all CM services to the District, including planning, scheduling, cost control, community relations, administration, engineering and engineering support, procurement, and when Phase II is initiated, construction management, as defined by the terms of the contract.

The Construction Manager is supported by a Deputy for Administration and Staff Support, who manages the activities of the Special Staff and the Project Administration Manager. Through the Project Administration Manager, the Deputy for Administration is responsible for project support services.

##### B. Deputy Construction Manager - Engineering Services/Project Control

The Deputy Construction Manager for Engineering Services/Project Control, is responsible for engineering services, project control, and contracts and procurement. His responsibility for engineering services is exercised through an Engineering Services Manager who has a full-discipline staff of engineers and specialists to review criteria and standards, review design drawings for constructibility and cost effectiveness, conduct shop drawing reviews, perform special engineering studies and analyses to include value-engineering analysis, and prepare as-built drawings.

The DCM's project control responsibilities include planning and scheduling, cost control and analysis, estimating, review of cost estimates, change control, claims support, document control, and publications. Under contracts and procurement, he is responsible for the administration of the prime contract, of all subcontracts to the joint venture, and for all procurement directed by the District, as well as procurement for joint venture needs. In both project control and contracts/ procurement, he is supported by a functional area manager.

C. Deputy Construction Manager - Planning

The Deputy Construction Manager for Planning is responsible for all construction planning during the CPE and Final Design Phases. He prepares such plans as directed by the Construction Manager and performs program review and analysis to determine the adequacy of existing plans. He analyzes the packaging and scheduling of construction contracts put out to bid for maximum efficiency, cost savings, and compliance with applicable construction codes and standards; he also monitors and recommends changes in the utilization of manpower, material, and equipment resources. His responsibilities include looking ahead in the currently planned construction program to identify potentially adverse impacts on schedule and budget and identifying alternative work-around plans to overcome the problem. He monitors job performance to identify deficiencies in technical or managerial skills and recommends an appropriate training program or other corrective action to overcome the deficiency.

D. Deputy Construction Manager - Operations

The Deputy Construction Manager for Operations is responsible for all field construction operations, field engineering, specialized support services, and systems integration. During Phase I - Preconstruction Services, he assists in design reviews for constructibility, materials selection and construction packaging, in development of construction planning and scheduling, in preparation of procedures and in performing special studies. He is assisted by two Zone Construction Managers who supervise the Resident Engineers assigned to each line segment or station. In addition, he is assisted by a Systemwide Construction Manager, who is supported by Resident Engineers responsible for trackwork, traction power, train control and communications, mechanical systems (such as elevators, escalators, fare collection boxes, and HVAC), systems testing and startup, and final acceptance; and a General Services Manager responsible for interfacing with utility companies, topographic surveys and monumentation, traffic coordination, preconstruction surveys, instrumentation monitoring, and environmental monitoring. Detailed responsibilities of the sub-tier managers are presented below.

Each Zone Construction Manager is directly responsible for the construction management of approximately one-half the length of the Starter Line, the dividing line being between Western Avenue and Crenshaw Boulevard. Specific construction contracts are assigned to each Zone CM. The Zone CM's are the primary construction managers in the field and are responsible for all CM field operations within their zone to include construction supervision and inspection, systems installation, relocations, surveys, field engineering, systems startup and testing, community relations, final acceptance, system certifications, and contract administration. They maintain an adequate staff to meet their responsibilities, assisted as required by personnel from other elements of the project staff, and they allocate these resources to the Resident Engineers in the performance of their duties.

A Resident Engineer is assigned to manage each sectional element of the project under the supervision of the Zone CM. He is the hands-on field manager and performs all CM activities required onsite for his section.

The Systems Integration Manager is responsible to the DCM-Operations for the proper interfacing, coordination, and control of systems and site work. In cooperation with the Zone CM and the Systemwide Construction Manager, he identifies and resolves interface problems and prepares any required procedures, schedules, drawings, and specifications in this regard.

The Systemwide Construction Manager is directly responsible for construction and/or installation of all systems that are common to the entire project. He coordinates with the Zone CM's and the Systems Integration Manager to effectively integrate his contract work with that assigned to the zone. Under the supervision of the cognizant Zone CM, he conducts startup and testing of all segments of the systems assigned to him and assists the Zone CM in the final acceptance and certification of such systems. The Systemwide Construction Manager is supported by Resident Engineers to handle the onsite work.

The General Services Manager is directly responsible for performing construction surveys and monumentation, coordination of utility relocations, traffic coordination, permits, preconstruction surveys, and instrumentation and environmental monitoring. He is responsible for coordinating these activities with ongoing field construction (through the Zone CM's) and with the Community Relations Manager.

The General Services Manager is supported by a Chief Utility Coordinator and a staff of specialized Utility Coordinators familiar with all utility requirements of the contract documents, municipal standards and specifications, standards of the industry (including ANSI and AWWA), and standards of affected utility companies. They establish contact with all utility owners, both municipal and non-government, who may be affected by the Metro Rail construction. They meet with the utility owners' representatives before work on each construction contract begins so that all can be advised of the extent of their involvement. They will continue to meet as the situation may dictate either on a regular basis or on demand.

Any problem or question of interpretation of contract specifications or standards is to be referred to the cognizant Utility Coordinator for resolution. The Manager of Engineering Services provides any engineering or drafting support that may be required in this effort.

The Utility Coordinators are assigned areas of responsibility to provide continuity in matters relating to utilities. They are available to assist Zone Managers, Resident Engineers, contractors, or District representatives in any such matters and to participate with other Construction Management personnel in meetings with the District and municipal authorities as may be required.

The Utility Coordinators are responsible for the management or supervision of the work authorization or work order process for work performed directly by utility owners or their contractors. They also ensure that all such work has been completed before payment is made by the District.

The General Services Manager is supported by a Chief Traffic Coordinator and his staff, who are responsible for enforcing contractor compliance with traffic maintenance requirements of the contracts, municipal regulations and specifications, and the Manual on Uniform Traffic Control Devices. They also provide assistance to the Resident Engineers and contractors in any required traffic diversions or detours. They establish a rapport with local traffic and police officials so that problems that may arise will be alleviated as quickly and smoothly as possible.

Traffic Coordinators are assigned to construction sites or areas as conditions may require. They perform their duties under the direction of the Chief Traffic Coordinator, but work with and through the Resident Engineers in all contacts with contractors.

As public events are scheduled by local authorities and business or civic groups, the CM assigns responsibility for coordinating construction-related activities to the General Services Manager who, with the assistance of the Community Relations Manager as required, determines the scope of the events and all related requirements of the local authorities. The General Services Manager advises Zone Construction Managers of all restraints that must be placed on construction activities during, preceding, or following special events. These managers assign such special actions as required to the appropriate Resident Engineer.

During Phase I a Zone Construction Manager and the Systems Integration Manager will assist in developing the CM plans and procedures for Phase II activities, in review of design drawings and specifications for constructibility, cost effectiveness, materials selection and contract packaging, review of schedules and cost estimates, and in performing general construction planning. The General Services Manager and his staff also participate in Phase I services by performing the advanced planning, coordination and efforts required in advance of construction.

#### E. Community Relations Manager

The Community Relations Manager is responsible for coordination with the District to develop an aggressive community relations program that will provide a conduit between the community and the construction effort, solicit public opinion, identify actual and potential problem areas, and offer corrective or preventive actions to mitigate or avoid conflict with the public. The Community Relations Manager also reviews and monitors the public relations programs of all construction contractors to ensure that they are consistent with the District's objectives and are effectively managed, and is responsible for organizing and conducting special events.

#### F. EEO Administrator

The EEO Administrator prepares and monitors an EEO program for the CM Team pertaining to its personnel management and to the construction and supply contracting programs. She reviews and monitors the EEO practices of all construction contractors and suppliers, offering counseling where necessary and reporting performance against District goals. In addition, she is responsible for the administration of the DBE/WBE program.

G. Labor Relations Advisor

The Labor Relations Advisor administers and coordinates the labor practices of the general construction contractors and sub-tier contractors, primarily to avoid labor problems rather than reacting to them. He is responsible for evaluating and assessing project labor needs, maintaining a harmonious relationship between management and labor, and developing their interest in and support of the project. He assists and advises the Resident Engineers in methods to prevent or resolve labor problems. This is achieved through regularly scheduled labor-management meetings, reviewing contractor payrolls to verify that proper wage rates are being paid for each skill, and ensuring compliance with applicable labor statutes. The Labor Relations Advisor also maintains close liaison with his counterparts in the District and in regulatory agencies at all levels of government and provides assistance and advice to the District, including participation in the formulation of project labor agreements.

H. Safety Manager

The Safety Manager establishes safety guidelines to be incorporated into a total project safety program covering systems, construction, and public safety. He reviews bid documents for safety requirements, monitors contractor safety programs for compliance with approved guidelines and prepares and maintains the project safety procedures manual. He also prepares security guidelines, prepares and implements the emergency preparedness program for the project, and monitors jobsites for security, as well as safety.

I. Quality Assurance Manager

The Quality Assurance Manager establishes the quality assurance program in cooperation with the District covering all aspects of construction, installation, testing, and acceptance. He reviews and monitors quality control procedures prepared and conducted by contractors for compliance with the requirements of the QA program and conducts internal QA audits of the CM Team as directed by the Construction Manager.

J. Legal Counsel

The Legal Counsel provides legal services to the CM and Executive Board primarily in the areas of reviewing proposed contract language (construction and procurement), contract interpretation, disputes, claims, and EEO matters.

**POCO**

A JOINT VENTURE OF THE RALPH M. PARSONS COMPANY DILLINGHAM CONSTRUCTION INC. AND DE LEUW CATHER & COMPANY

SECTION 5

ANNUAL WORK PLAN SCHEDULE

This section presents the overall schedule for the First Annual Work Plan, Phase I - Preconstruction Services.

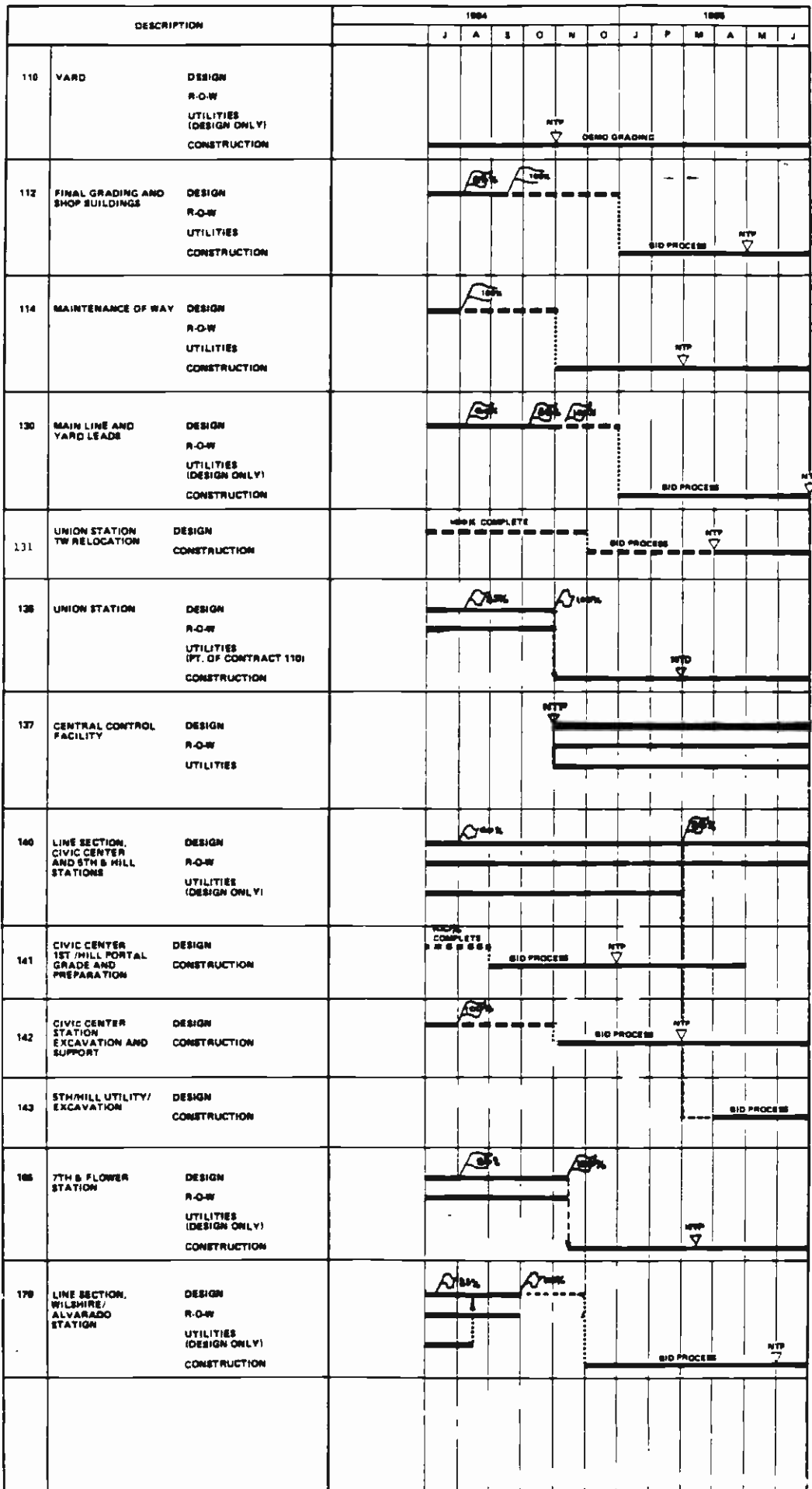
DESCRIPTION		1984						1985						
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
PHASE 1 - PRECONSTRUCTION	3.1.1	MOBILIZE	[Solid bar]											
		ESTABLISH CENTRAL OFFICE	[Solid bar]											
		ADAPT TRACS MANAGEMENT SYSTEM	[Solid bar]											
		INCORPORATE WBS	[Solid bar]											
		A. EVALUATE CRITERIA AND STANDARDS	[Solid bar]											
		B. REVIEW STANDARDS AND DIRECTIVE DRAWINGS	[Solid bar]											
		C. REVIEW PRELIM. DESIGNS AND SPECIFICATIONS	[Solid bar]											
		D. EVALUATE CONSTRUCTION COST ESTIMATES	[Solid bar]											
		E. PROVIDE STUDIES OF ALTERNATE MATL'S/CONSTR.	[Solid bar]											
		F. REVIEW CONTRACT PACKAGING AND LONG-LEAD PROC.	[Solid bar]											
		G. REVIEW CONSTRUCTION AND PROCUREMENT SCHEDULES	[Solid bar]											
		H. PROVIDE STUDIES OF ALTERNATE MATL'S AND SYSTEMS	[Solid bar]											
		I. PREPARE AND SUBMIT CM'S POLICIES AND PROCEDURES	[Solid bar]											
		J. PROJECT MANAGEMENT	[Solid bar]											
		K. DEVELOP COMMUNITY RELATIONS PROGRAM	[Solid bar]											
		L. ESTABLISH AND COORDINATE EEO PROGRAM	[Solid bar]											
		M. REVIEW FINAL DESIGN DOCUMENTS	[Solid bar]											
		N. EVALUATE FINAL COST ESTIMATES	[Solid bar]											
		O. EVALUATE FINAL CONTRACT PACKAGING, LONG-LEAD PROCUREMENT	[Solid bar]											
		P. PARTICIPATE IN DISTRICT MANAGEMENT MEETINGS	[Solid bar]											
		Q. PREPARE MONTHLY STATUS REPORTS	[Dashed bar]											
		R. DEVELOP PLANS FOR OBTAINING PERMITS, LICENSES, CERTIFICATES	[Dashed bar]											
		S. DEVELOP PLANS FOR CONSTRUCTION INTERFACING AND AGENCY COORD.	[Dashed bar]											
		T. ATTEND CONFERENCES WITH OUTSIDE AGENCIES	[Dashed bar]											
		U. PROVIDE FIELD OFFICE SPACE	[Dashed bar]											
V. CONSULT ON MONITORING EQUIPMENT SPECIFICATIONS	TBD													
W. DEVELOP CONSTRUCTION SAFETY PROGRAM	[Solid bar]													
X. ASSIST IN SEEKING GOVERNMENT APPROVALS	[Dashed bar]													
Y. ASSIST IN AND COORDINATE PRECONSTRUCTION SURVEY	[Solid bar]													
CM SERVICES DELIVERABLES	● CRITERIA AND STANDARDS EVALUATION REPORT	[Dashed bar]												
	● PRELIMINARY COST ESTIMATE EVALUATION REPORT	TBD												
	● ALTERNATE MATERIALS/EQUIPMENT STUDY REPORT	TBD												
	● CM'S POLICIES AND PROCEDURES	[Dashed bar]												
	● MONTHLY REPORTS	[Dashed bar]												

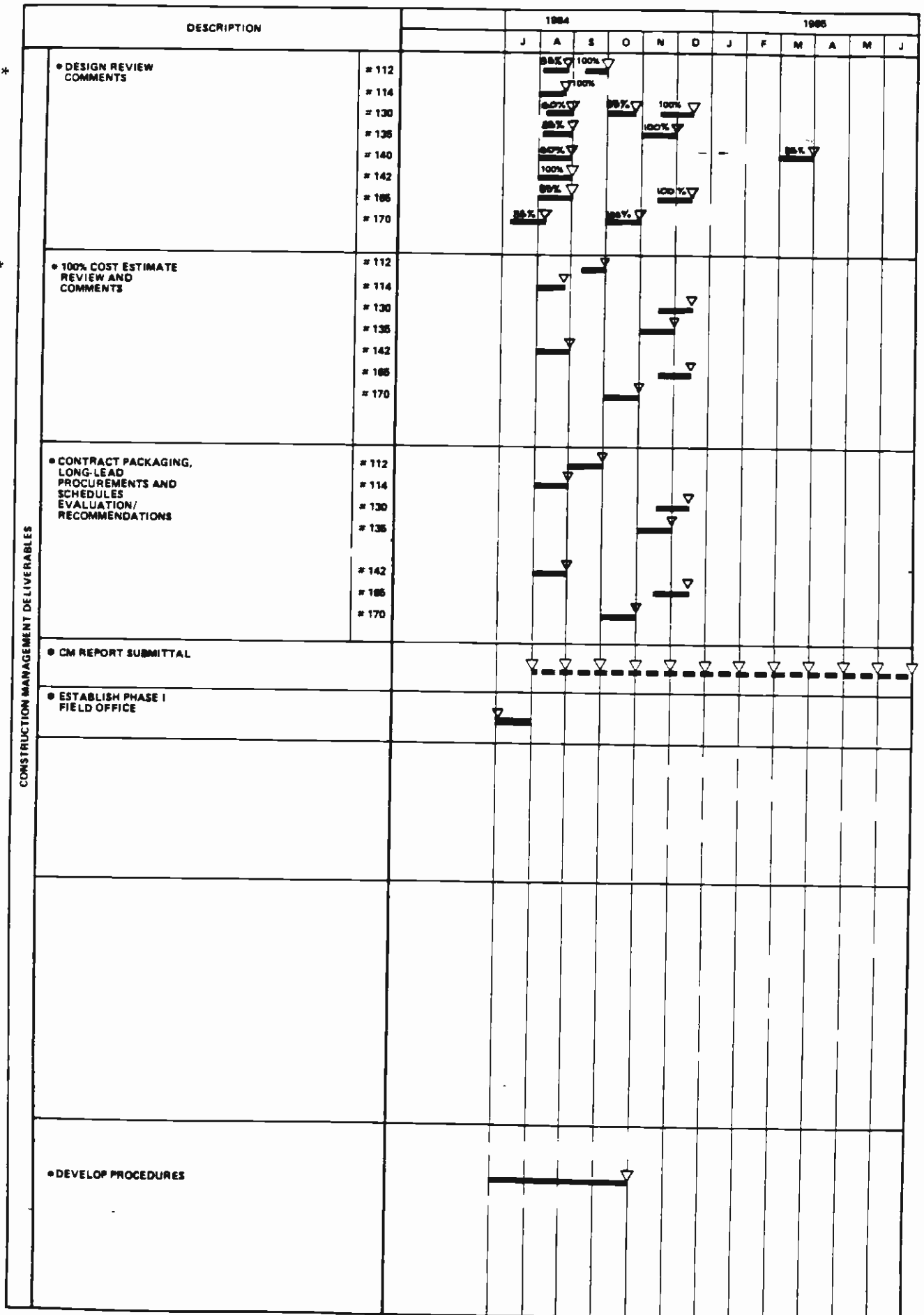
LEGEND

Continuous [Solid bar]  
 Intermittent [Dashed bar]

FIGURE 5-1  
 FIRST ANNUAL WORK PLAN FOR  
 PHASE I - PRECONSTRUCTION SERVICES





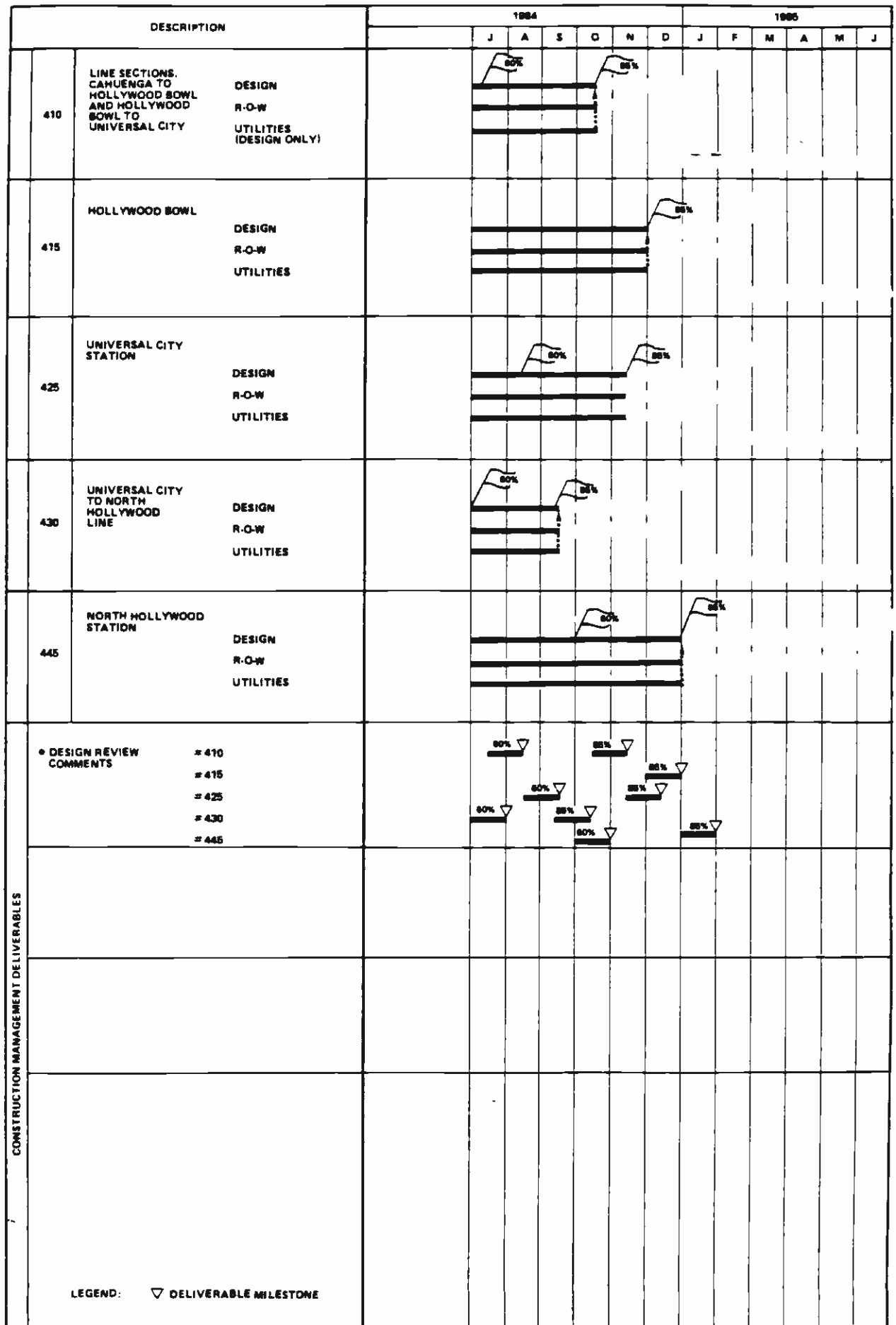


BASED ON LEVEL II SCHEDULE 2/20/84

DESCRIPTION			1994							1995								
			J	A	S	O	N	D	J	F	M	A	M	J				
188	WILSHIRE/VERMONT	DESIGN R-O-W UTILITIES (DESIGN ONLY)																
220	LINE SECTION WILSHIRE/NORMANDIE WILSHIRE/WESTERN	DESIGN R-O-W UTILITIES (DESIGN ONLY)							80%						85%			
240	CRENSHAW STATION	DESIGN R-O-W UTILITIES (DESIGN ONLY)			80%					85%								
245	LA BREA STATION	DESIGN R-O-W UTILITIES (DESIGN ONLY)		80%														
250	LINE SECTION AND WILSHIRE/FAIRFAX STATION	DESIGN R-O-W UTILITIES (DESIGN ONLY)							80%						85%			
275	FAIRFAX/BEVERLY STATION	DESIGN R-O-W UTILITIES (DESIGN ONLY)			80%					85%								
*DESIGN REVIEW COMMENTS		* 220 * 240 * 245 * 250 * 275			80%					80%					85%			
CONSTRUCTION MANAGEMENT DELIVERABLES																		

BASED ON LEVEL II SCHEDULE 2/26/94

CONTRACT		1984						1985							
		J	A	S	O	N	D	J	F	M	A	M	J		
310	LINE SECTION FAIRFAX/ SANTA MONICA AND LA BREA/ SUNSET	DESIGN R-O-W UTILITIES (DESIGN ONLY)						80%							80%
350	HOLLYWOOD/ CAHUENGA (HOLLYWOOD/ CAHUENGA TO INVERT)	DESIGN R-O-W UTILITIES (DESIGN ONLY)						80%		80%					
• DESIGN REVIEW COMMENTS = 310 = 350								80%		80%					80%
CONSTRUCTION MANAGEMENT DELIVERABLES															
LEGEND: ▽ DELIVERABLE MILESTONE															

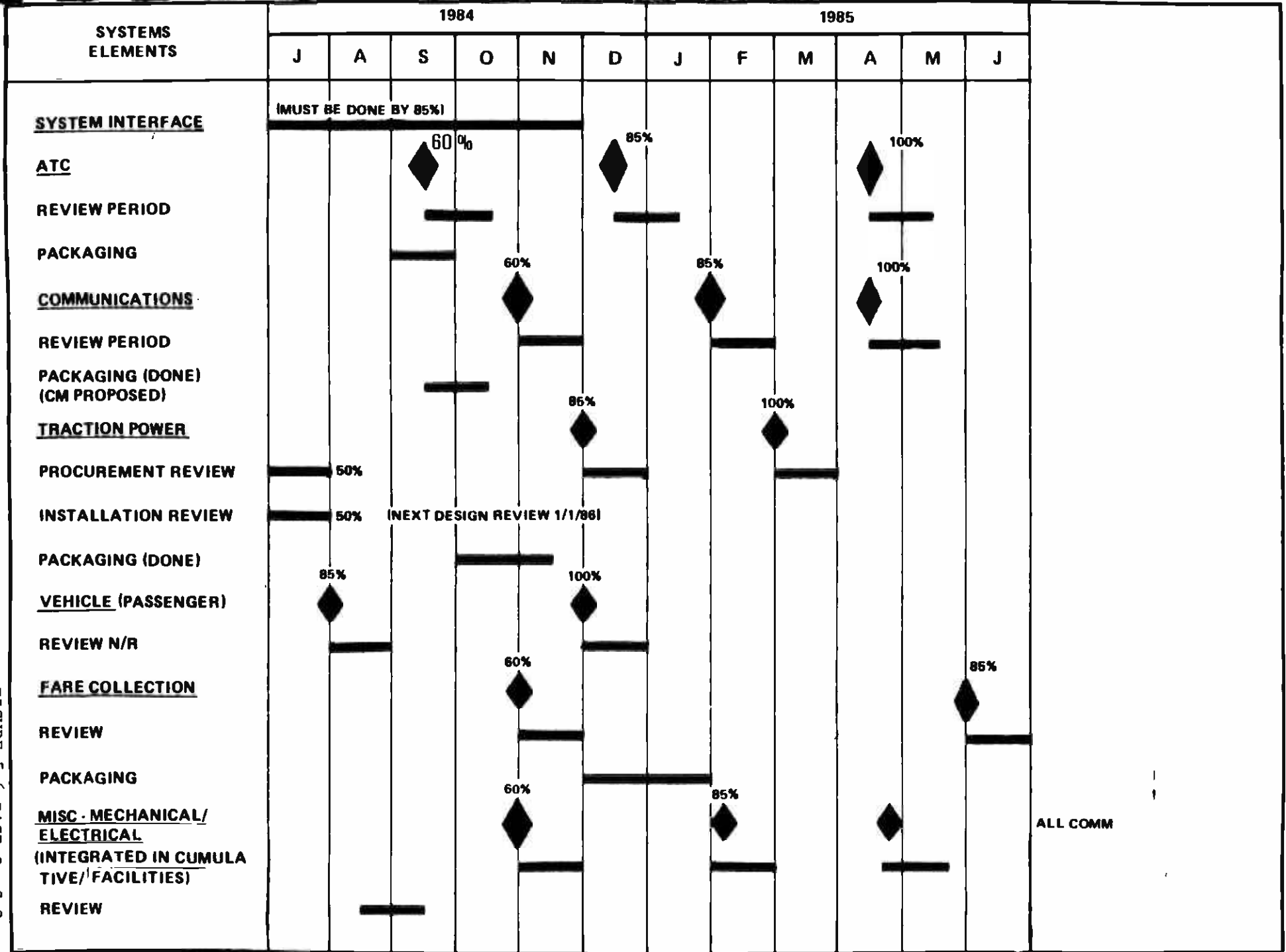


BASED ON LEVEL II SCHEDULE 2/20/84



5-9

FIGURE 5-6 PAGE 2 OF 2



ALL COMM



**PDCD**

A JOINT VENTURE OF THE RALPH M. PARSONS COMPANY DILLINGHAM CONSTRUCTION INC. AND DE LEUW CATHER & COMPANY

SECTION 6

STAFFING PLAN

This section presents the manloading by discipline for the First Annual Work Plan, Phase I - Preconstruction Services.



MANLOADING BY DISCIPLINE  
FIRST ANNUAL WORK PLAN - CM PRECONSTRUCTION SERVICES

Figure 6-1 Sheet 1 of 2  
Revised 7/30/84

7/6/84 - 6/30/85

	1984						1985						Man Months	Man Hours @ 157 Hrs/M
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Construction Manager	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Deputy CM/Operations	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Deputy CM/Engng. Svcs./Proj. Control	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Deputy CM/Planning	1/2	1/2	1/2	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	3-3/4	589 ✓
Deputy Administration/Staff Support	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Administrative Aest./Secretaries	4	6	10	12	12	12	12	12	12	12	12	12	128	20,096 ✓
Technical Advisory Board														1,136 ✓
														AS REQUIRED
Manager - Community Relations	-	1	1	1	1	1	1	1	1	1	1	1	11-1/2	1,086 ✓
Community Relations Coordinator	-	-	-	-	-	-	1	1	1	1	1	1	6	942 ✓
Arts Coordinator														AS REQUIRED
Legal Advisor														AS REQUIRED
EEO Administrator	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727 ✓
EEO Assistant Administrator	-	-	-	1	1	1	1	1	1	1	1	1	9	1,413 ✓
EEO Specialist	-	-	-	-	-	-	1	1	1	1	1	1	6	942 ✓
Manager - Safety/Security	1/2	1	1	1	1	1	1	1	1	1	1	1	11-1/2	1,806 ✓
Manager - Quality Assurance	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Labor Relations Advisor														AS REQUIRED
														622
Manager - Project Controls	1/2	1	1	1	1	1	1	1	1	1	1	1	11-1/2	1,806 ✓
Lead Estimator	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727 ✓
Estimator	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727 ✓
Lead Cost Engineer/Analyst	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Cost Engineer/Analyst	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727 ✓
Lead Planner/Scheduler	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Planner/Scheduler	-	1	1	1	1	1	2	2	2	2	2	2	17	2,669 ✓
Lead Change Control Analyst	-	-	-	1	1	1	1	1	1	1	1	1	10	1,570 ✓
Lead Claims Analyst/Engineer	-	-	-	-	-	-	-	1	1	1	1	1	5	785 ✓
Lead Document Control Specialist	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727 ✓
Manager - Contracts/Procurement	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Contract Administrator	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884 ✓
Procurement Specialist/Inspector	-	1	1	1	2	2	2	2	2	2	2	2	19	2,983 ✓

753

1806

942

1,413

1,806

1,806

1,884

1,884

1,570

1,884

2,983

6-2

MANLOADING BY DISCIPLINE  
FIRST ANNUAL WORK PLAN - CM PRECONSTRUCTION SERVICES

Figure 6-1 Sheet 2 of 2  
Revised 7/30/84

7/6/84 - 6/30/85  
1984 1985

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Man Months	Man Hours
Manager - Project Administration	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884
Office Manager	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884
Senior Accountant	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884
Personnel Administrator	1	1	1	1	1	1	1	1	1	1	1	1	12	1,884
Manager - Engineering Services	1/2	1	1	1	1	1	1	1	1	1	1	1	11-1/2	1,806
Lead Civil/Structural Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Civil/Structural Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Lead Architect	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Architect	-	-	-	-	-	-	1	1	1	1	1	1	6	942
Lead Mechanical Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Mechanical Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Lead Electrical Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Electrical Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Lead Systems Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Systems Engineer	-	1	1	1	1	1	1	1	2	2	2	2	15	2,355
Lead Geotechnical Engineer	1/2	1	1	1	1	1	1	1	1	1	1	1	11-1/2	1,806
Geotechnical Engineer Specialist	-	-	-	-	-	-	AS REQUIRED			-	-	-	-	942
Geotechnical Technician	-	-	-	2	2	2	2	2	2	2	2	2	18	2,826
Technical Specialist	-	-	-	-	-	-	AS REQUIRED			-	-	-	-	2,350
Manager - General Services	1/2	1	1	1	1	1	1	1	1	1	1	1	11-1/2	1,806
Lead Utilities Engineer	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Utilities Engineer	-	-	1	2	2	2	2	2	2	2	2	2	19	2,983
Chief of Surveys	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Surveyors	-	-	-	2	2	2	5	5	5	5	5	5	36	5,652
Lead Traffic Coordinator	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Lead Pre-Construction Status Surveys	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Lead Environmental Mon/Permit. Eng.	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Zone CM	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
Manager - Systems Integration	-	1	1	1	1	1	1	1	1	1	1	1	11	1,727
<b>TOTAL OF CATEGORIES</b>	<b>20+</b>	<b>48+</b>	<b>54+</b>	<b>62+</b>	<b>63+</b>	<b>63+</b>	<b>70+</b>	<b>71+</b>	<b>72+</b>	<b>72+</b>	<b>72+</b>	<b>72+</b>	<b>1</b>	<b>124,491</b>

6-3

9.31 JV  
S/L

SECTION 7

WORK BREAKDOWN STRUCTURE

Following is a matrix showing the interrelationship of organizational responsibilities to the work breakdown structure.

LEGEND

● PRIMARY RESPONSIBILITY

● PARTICIPATION

FIRST ANNUAL WORK PLAN  
FOR CM SERVICES

PHASE I  
PRECONSTRUCTION

7-2

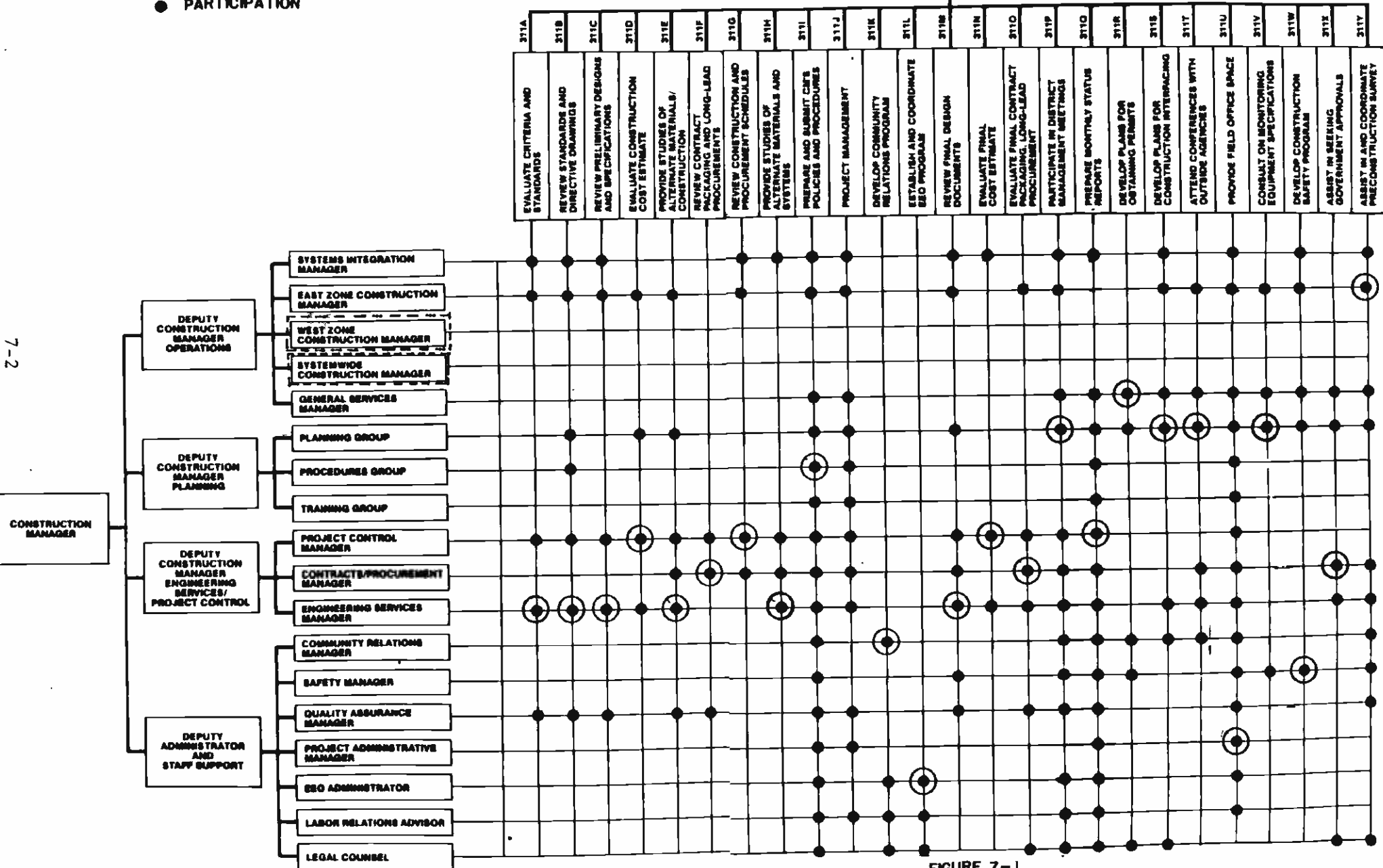


FIGURE 7-1

DASHED LINE - PHASE II ONLY

CM WBS/ORGANIZATIONAL RESPONSIBILITY MATRIX PHASE I - PRECONSTRUCTION SERVICES

**POCO**

A JOINT VENTURE OF THE RALPH M. PARSONS COMPANY DILLINGHAM CONSTRUCTION INC. AND DE LEUW CATHER & COMPANY

SECTION 8

COST DATA AND BUDGET

This section presents the cost estimate for the First Annual Work Plan, Phase I - Preconstruction Services, together with monthly and cumulative cash flow curves.

**COST AND PRICE ANALYSIS - RESEARCH AND DEVELOPMENT CONTRACTS**

Form approved  
Budget Bureau No. 84-R-128

This form is to be used in lieu of FAA Form 3515 as provided under FAPH 2-16-260-2. It will be executed and submitted with proposals in response to "Requests for Proposals" for the procurement of research and development services. If your cost accounting system does not permit analysis of costs as required, contact the purchasing office for further instructions.

PURCHASE REQUEST NUMBER  
**018404**

NAME AND ADDRESS OF OFFERER  
Parsons Metro Rail Team Joint Venture  
100 West Walnut St., Pasadena, CA 91124

TITLE OF PROJECT  
Metro Rail Construction Management

DETAIL DESCRIPTION		ESTIMATED HOURS	RATE/HOUR	TOTAL ESTIMATED COST (Dollars)
<b>1. DIRECT LABOR (Specify)</b>				
Total Joint Venture Direct Labor		80,337	22.86	1,836,866
<b>TOTAL DIRECT LABOR</b>				1,836,866
<b>2. BURDEN (Overhead - specify) DEPARTMENT OR COST CENTER BURDEN RATE % BASE \$ BURDEN \$</b>				
Payroll Expense		33%	1,836,866	606,166
Overhead		30%	1,836,866	551,059
<b>TOTAL BURDEN</b>				1,157,225
<b>3. DIRECT MATERIAL</b>				
<b>TOTAL MATERIAL</b>				
<b>4. SPECIAL TESTING (including field work at Government installations)</b>				
<b>TOTAL SPECIAL TESTING</b>				
<b>5. SPECIAL EQUIPMENT (If direct charge - specify in Exhibit B on reverse)</b>				
<b>6. TRAVEL (If direct charge)</b>				
A. TRANSPORTATION			66,950	
B. PER DIEM OR SUBSISTENCE			25,500	
<b>TOTAL TRAVEL</b>				92,450
<b>7. CONSULTANTS (Identify - purpose - rate)</b>				
Senior Technical Advisor - 142 days @ \$700			99,400	
<b>TOTAL CONSULTANTS</b>				99,400
<b>8. SUBCONTRACTS (Specify in Exhibit A on reverse)</b>				
				2,029,878
<b>9. OTHER DIRECT COSTS (Specify in Exhibit B on reverse - explain royalty costs, if any)</b>				
				1,167,701
<b>TOTAL DIRECT COST AND BURDEN</b>				6,383,520
<b>10. GENERAL AND ADMINISTRATIVE EXPENSE (Rate % of line nos.)</b>				
<b>TOTAL ESTIMATED COST</b>				6,383,520
<b>11. FIXED FEE OR PROFIT (State basis for amount in proposal)</b>				206,329
<b>TOTAL ESTIMATED COST AND FIXED FEE OR PROFIT</b>				6,589,849

OVERHEAD RATE AND GENERAL AND ADMINISTRATIVE RATE INFORMATION

15

A. GOVERNMENT AUDIT PERFORMED  
See Individual Firms 4400-2's

DATE OF AUDIT

ACCOUNTING PERIOD COVERED

B. NAME AND ADDRESS OF GOVERNMENT AGENCY MAKING AUDIT

C. DO YOUR CONTRACTS PROVIDE NEGOTIATED OVERHEAD RATES?  NO  YES (If yes, name Agency negotiating rates)

D. (If no Government rates have been established furnish the following information)

DEPARTMENT OR COST CENTER	RATE	BASE	TOTAL INDIRECT EXPENSE POOL	BASE FOR TOTAL

16 EXHIBIT A - SUBCONTRACT INFORMATION (If more space needed, use blank sheets, identifying item number)

NAME AND ADDRESS OF SUBCONTRACTOR(S)	SUBCONTRACTED WORK	SUBCONTRACT	
		TYPE	AMOUNT
1. Better Personnel Employment Services 7837 Pacific Blvd, St. 10, Hunt Bch. CA 90255	Secretarial Services	CPFF	160,372
2. Construction Control Services Corp. 5815 Uplander Way, Culver City, CA 90230	Project Controls, Construction Management, Inspection	CPFF	236,082
3. Dames & Moore 445 S. Figueroa, Ste. 3500, L.A., CA 90071	Geotechnical Engineering	CPFF	55,019
4. Engineering-Science, Inc. 125 W. Huntington Dr., Arcadia, CA 91006	Environmental Engineering	CPFF	85,836
5. Hayakawa Associates 1180 S. Beverly Dr., L.A., CA 90035	Mechanical Engineering, Inspection	CPFF	236,273
6. Jacobs Associates 500 Sansome, San Francisco, CA 94111	Construction Eng.-Tunnels, Cost Estng., Claims Control	CPFF	356,069
7. Jenkins, Gales & Martinez, Inc. 9841 Airport Blvd, Ste. 730, L.A., CA 90045	Architecture, Inspection	CPFF	165,203
8. Martin & Huang International 1800 Wilshire Blvd, Ste. 300, L.A. CA 90057	Civil/Structural Engineering, Inspection	CPFF	153,592
9. NPCC, Inc. CM 2665 Main St, Ste. 220, Sta. Monica, CA 90405	Resident Engineering and Inspection	CPFF	58,317
10. Ochoa & Sillas 617 S. Olive, Los Angeles, CA 90014	Legal Services-EEO, Claims	MH Rate	240,200
11. Randolph & Tate Associates 315 S. June St., Los Angeles, CA 90020	Arts Program Coordination/ Inspection	CPFF	42,366
12. Vanir Construction Management, Inc. 660 J St., Ste. 295, Sacramento, CA 95814	EEO, Surveying, Construction Management	CPFF	240,549
SUBTOTAL			2,029,898

17. EXHIBIT B - OTHER DIRECT COSTS (Specify. If more space needed, use blank sheets, identifying item number)

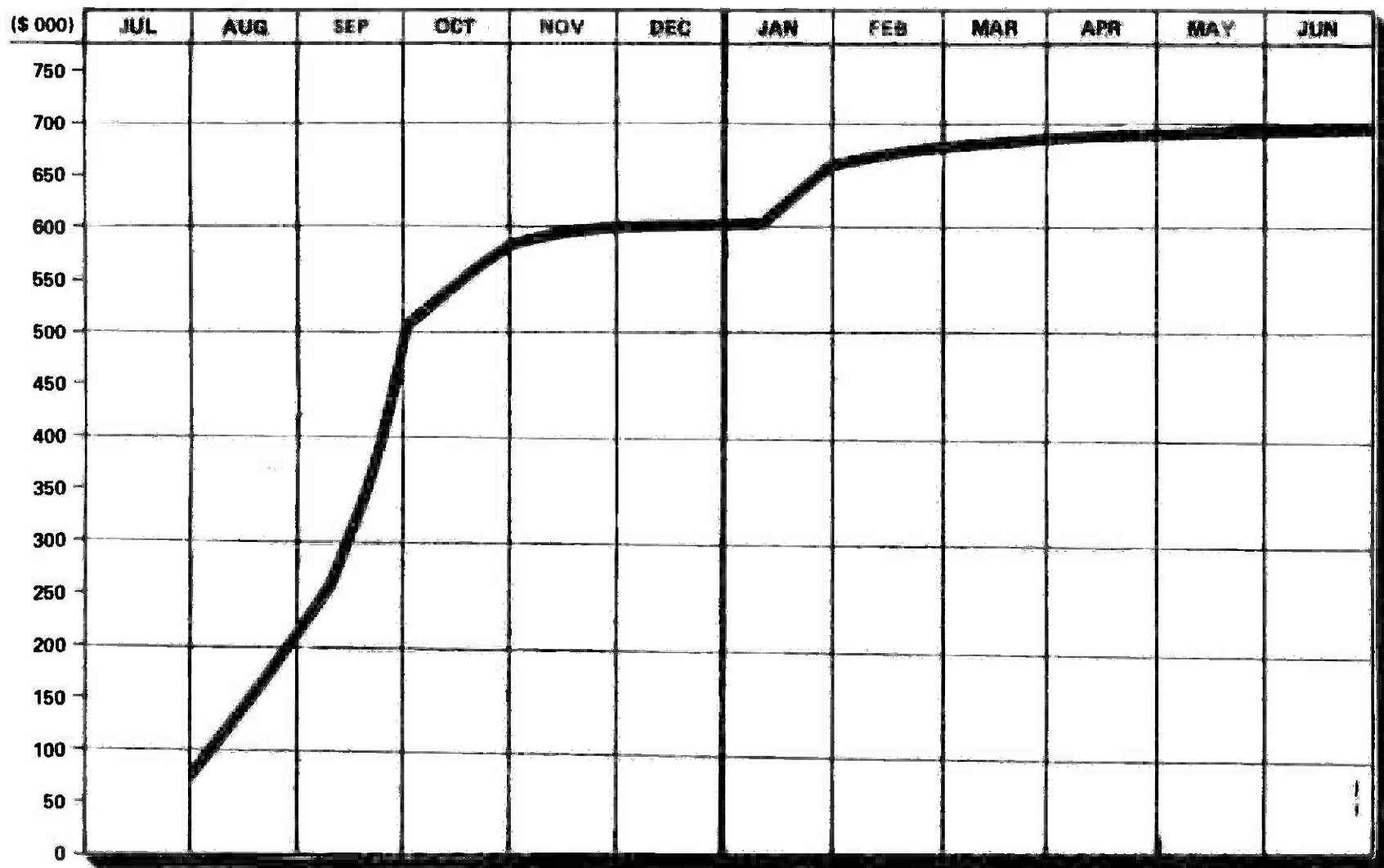
Item 9 - Office Space	250,200
Office Furniture & Equipment	177,180
Relocation to Los Angeles	154,500
Project Vehicles & Maintenance	261,732
Reproduction, Supplies, Communication & Postage	210,136
Copier Lease	48,703
Miscellaneous Expenses	65,250
TOTAL	1,167,701

**CERTIFICATE**

The labor rates and overhead costs are correct and other estimated costs have been determined by generally accepted accounting principles. Bidder represents: (a) that he  has,  has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to which or whom he owes his contract, and (b) that he  has,  has not, paid or agreed to pay to any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract, and agrees to furnish information relating to (a) and (b) above, as requested by the Contracting Officer.

(For interpretation of the representation including the term "bona fide employee," see Code of Federal Regulations, Title 48, Part 101.)

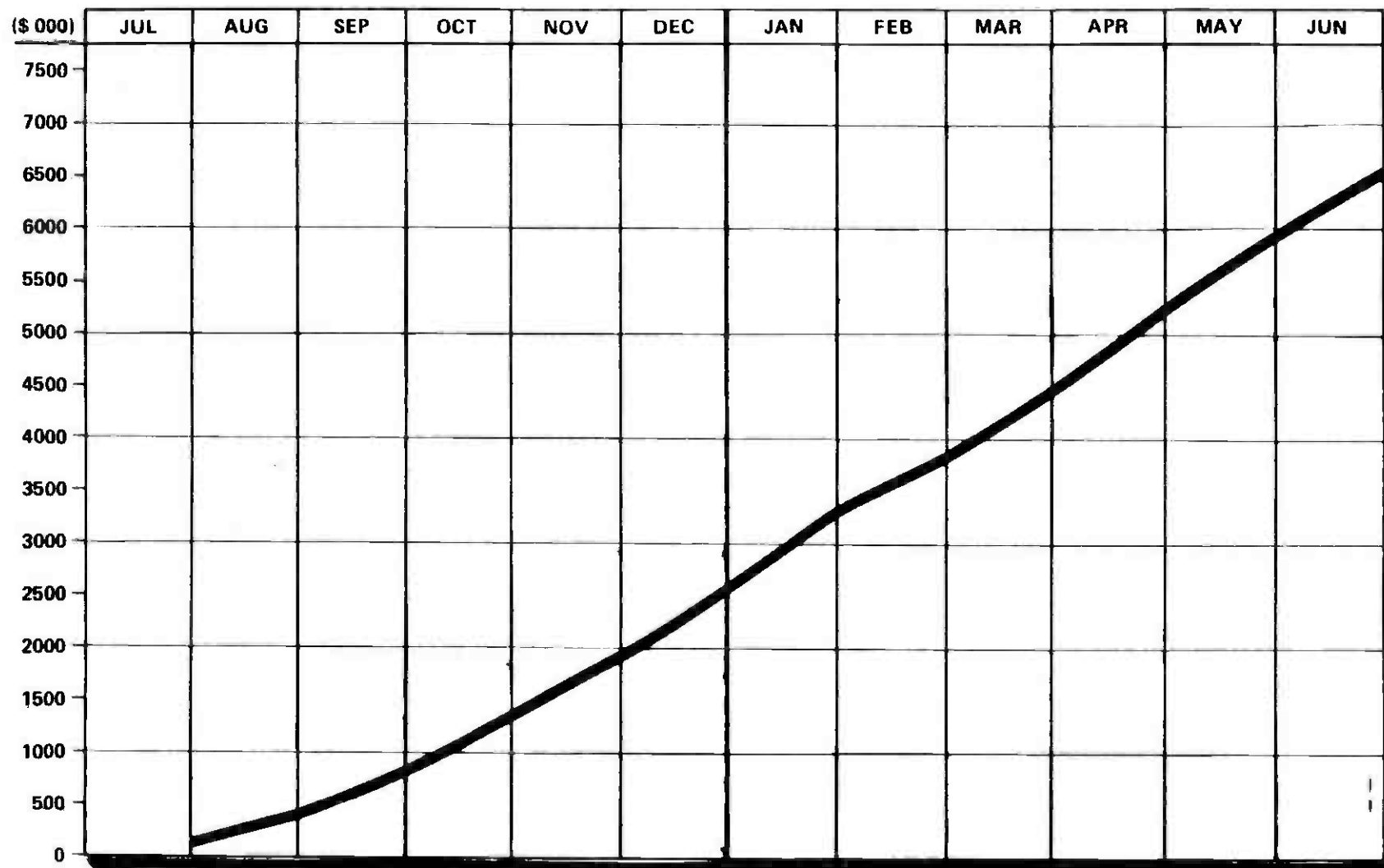
NUMBER OF CONTRACTOR EMPLOYEES <input type="checkbox"/> 500 AND UNDER <input type="checkbox"/> OVER 500 <input checked="" type="checkbox"/> OVER 500 <input type="checkbox"/> OVER 1,000	STATE INCORPORATED IN
DATE July 30, 1984	SIGNATURE AND TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR R.W. Judson Chairman, Joint Venture Committee



Monthly Cash Flow  
First Annual Work Plan for CM Services

FIGURE 8-1





Cumulative Cash Flow  
 First Annual Work Plan for CM Services

FIGURE 8-2

8-5