10

PROJECT MILESTONE

RTD

Metro Rail Project
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

FINAL REPORT

For The Development Of Milestone 10:

FIXED FACILITIES

SEPTEMBER 1983

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

FINAL REPORT

For The Development Of Milestone 10:

FIXED FACILITIES

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FOREWORD

The Metro Rail Project, undertaken by the Southern California Rapid Transit District, will have a significant role in the future development of the Los Angeles SCRTD region. As part of the 1976 Regional Transportation Development Program, Metro Rail is designed to help solve the increasing transportation problems of Los Angeles' high-density urban center -- the regional core.

When Metro Rail goes into operation, it will have passed through the four conventional stages of rapid transit development: (1) planning and alternatives analysis; (2) preliminary engineering/environmental impact analysis; (3) final design and construction; and (4) operational testing. SCRTD successfully guided the project through the first phase, which ran from 1977 to 1980.

Since June 1980, SCRTD has been engaged in the preliminary engineering phase. This phase has three major objectives: to define and resolve major design and engineering issues; to provide precise location and design data for detailed environmental analysis; and to produce reliable cost estimates. During this intensive effort, the merits of all sound alternative configurations and designs have been investigated. This effort has encompassed the selection of a precise route alignment (where the trains will go), station locations (where the trains will stop), preliminary station designs (what the stations will look like), vehicle designs (what size the cars will be and how they will look), and construction methods (how facilities will be built). Simultaneous with the preliminary design work has been an extensive, detailed analysis of the possible environmental impacts of this project on the communities along Metro Rail's downtown-to-North Hollywood route.

Upon completion of the preliminary engineering phase and pending acquisition of necessary capital funding, the final design phase will commence. This will be followed by a 4- to 6-year construction period culminating with system inspection and testing.

The preliminary engineering phase of the Metro Rail Project is scheduled for completion in mid-1983. This phase has been proceeding under the policy direction of the SCRTD Board of Directors: Michael Lewis, President; Ruth E. Richter, Vice President; Jan Hall; Marvin L. Holen; John F. Day; Nate Holden; Nick Patsaouras; Jay Price; Charles H. Storing; Gordana Swanson; and George Takei. The preliminary engineering effort has been under the administrative and technical management of the Assistant General Manager for Transit Systems Development. SCRTD has also engaged the professional services of the following consulting firms for specialized consulting work: Daniel, Mann, Johnson, & Mendenhall/Parsons Brinckerhoff Quade and Douglas, Inc. (ways and structures); Lindvall-Richter Associates (seismic analysis); Kaiser Engineers (California) Corporation (subsystems); Harry Weese & Associates, Ltd. (station design); Booz, Allen & Hamilton, Inc. (systems analysis); Sedway/Cooke (environmental analysis); Converse Consultants (general geotechnical); Wilson-Ihrig Associates (noise and vibration); PSG/Waters (corrosion control); Gage-Babcock (fire protection); Schimpler-Corradino and Barton-Aschman (patronage estimates).

The Metro Rail project staff has been responsible for the direction and control of the consultants' work. Together, the project staff and the consultants form the Metro Rail Project Team.

During the past year, the decision-making process for major points of project development has been under way. The vital, interrelated points -- called milestones -- represent successive steps in establishing a final system plan that will become the basis for the detailed design and construction phases. This report, the tenth of the 12 milestone reports, addresses the design of Fixed Facilities.

EXECUTIVE SUMMARY

The Metro Rail Project, undertaken by the Southern California Rapid Transit District, will have a significant role in the future development of the Los Angeles region. Its impact will reach beyond giving the community an additional choice in how to get to work each day -- such development initiates potential for a wider variety of lifestyles, new housing options, greater employment opportunities, and commercial expansion.

The Project Team is currently completing the preliminary engineering phase of an 18-mile initial segment of the ultimate rapid transit network. Development of the project during preliminary engineering is being charted in 12 milestone reports, each corresponding to a vital, interrelated decision point of project development. To serve as a means of obtaining public input, extensive community participation programs have been established for each of the 12 milestones.

Milestone 3, Route Alignment Alternatives and Milestone 4, Station Location Alternatives provided the basis for making decisions on the location aspects of the project. The SCRTD Board, in adopting these two previous Milestones, has fixed the route alignment and the location of stations.

This report, Milestone 10 -- Fixed Facilities, documents the design resulting from the preliminary engineering phase of the project. For stations, this means that the number, size, and location of all basic elements are determined including park-and-ride/kiss-and-ride surface parking provisions, bus facilities, and pedestrian access. The same level of determinations is made for the other fixed facilities in the system. For the alignment, the exact horizontal and vertical location of the tracks is plotted and related track structures such as crossovers and pocket tracks are determined. The design of yard and maintenance facilities is defined and the general construction methods to be used are selected.

The conclusions reached in Milestone 10 define all the essential design requirements and limitations which provide the framework for the next stage of design, continuing preliminary engineering. During the continuing preliminary engineering phase all systems, materials, quantites, qualities, sizes, and finishes are determined. Then, during final design, contract drawings and documents for issuance to construction contractors for bidding are completed.

Milestone 10 Fixed Facilities is presented in five chapters. The background of the project and the Community Participation Program are presented in Chapter I. Chapter II introduces the reader to the various elements of station definitive design and then discusses each station individually, presenting the recommended definitive design conclusions. A set of plans including a site plan, floor plan and sections, and civil and utility rearrangement plans are presented for each station. The plans are accompanied by text describing the parameters leading to the station design. Chapter III describes Line, Yard and Maintenance Facilities, Miscellaneous Structures, and the Central Control Facility. Chapter IV presents the general construction methods to be used. The final chapter, Chapter V, Project Implementation, describes the next steps in the design of the system and outlines the recommended design and construction packages.

The information contained in this report was made available to the public in the form of a Preliminary Draft Report dated February 1983, a Draft Report dated March 1983 and a Draft Report Addendum dated April 1983. These reports were presented and distributed at a series of public meetings. Questions and comments were received from the public at meetings on February 22, 23, 24, 25, and 28 and March 21, 22, 23, 24, 1983, and at a Public Hearing on April 25, 1983.

Recommendations and SCRTD Board of Director's Actions

Based on design development during the Milestone 10 process and on the public meetings and hearings, the General Manager prepared a series of recommendations for Board actions necessary to adopt the Definitive Fixed Facilities Plans for the initial segment of the SCRTD Metro Rail Project. The following summarizes that process:

June 10, 1983 -- The General Manager made the specific recommendations below. For supporting data, see CONCLUSIONS AND RECOMMENDATIONS.

(1) Hollywood Bowl Station

It is my recommendation that the station not be constructed initially; however, I further recommend that the alignment and other elements be designed in such a manner that the future construction of the station is not precluded.

(2) Crenshaw Station

On May 31, 1983, the Los Angeles City Council determined that location of a station at Wilshire and Crenshaw Boulevards was compatible with the Park Mile Specific Plan. Since projected patronage and other transportation related considerations support a station at this location, it is recommended that the Wilshire/Crenshaw Station be added to the Project.

(3) Station Locations/Layouts

It is recommended that the specific locations and layouts represented in the station drawings be adopted. (See Recommended Alignment Map on Page xiv for station locations)

(4) Station Access

It is recommended, for reasons of cost control, that only the number of entrances required to accommodate the Year 2000 patronage be constructed initially. The station entrances and locations indicated in the station drawings are in accordance with this policy.

(5) Parking Provisions

It is recommended that park-and-ride facilities be provided at the Union, Wilshire/Fairfax, Fairfax/Beverly, Universal City, and North Hollywood stations and that kiss-and-ride facilities be located at the Wilshire/Alvarado, Wilshire/Vermont, and Hollywood/Cahuenga stations, as indicated on the station drawings. It is further recommended that only surface parking be initially provided, but that later construction of parking structures be accommodated.

(6) Bus Provisions

It is recommended that bus provisions, including off-street facilities at eight stations, be incorporated into the station design based upon requirements as approved in Milestone 9, Supporting Services Plan, and indicated on the station drawings.

(7) Bicycle Provisions

It is recommended that provisions for bicycle storage, at designated stations, and indicated in the drawings, be adopted. It is also recommended that a policy regarding bicycles on trains be deferred until the System Operating Plan is in the final stages of development.

(8) Pedestrian Provisions

It is recommended that provision for pedestrian movement, from approaches to and within the station sites, as indicated in the station layouts (Item No. 3), be adopted.

(9) Station Design Including Elements of Continuity/Variability

It is recommended that the station design philosophy and elements of continuity and variability, as described in this Board Report, be adopted.

(10) Art in Transit Policy

It is recommended that one-half of one percent of station structure cost be allocated for the Metro Rail Station art program.

(11) Ways and Structures Provisions

It is recommended that the alignment, yard and maintenance facility, central control facility, miscellaneous structures, and construction methods indicated in the drawings be adopted.

(12) Cost Reduction Items

It is recommended that the cost reduction items outlined in the April 21, 1983, Board Report, and modified by this Board Report, be adopted. It is further recommended that a continuing cost reduction and value engineering program be established to control costs.

June 16, 1983 -- The SCRTD Board of Directors adopted all General Manager recommendations except Item (1) Hollywood Bowl Station, which was deferred pending a staff report detailing provisions to be made for future incorporation of the station. A minor modification was made to Item (9) Station Design Including Elements of Continuity/Variability.

July 14, 1983 -- The SCRTD Board of Directors voted to include the Hollywood Bowl Station in the Metro Rail System. In addition, a modification in the makeup and function of the group selecting artists for and monitoring the station artwork program was proposed and adopted. This modification is explained in Item 10 of CONCLUSIONS AND RECOMMENDATIONS.

CONCLUSIONS AND RECOMMENDATIONS

(1) Hollywood Bowl Station

As noted in the Board of Director's action of July 14, 1983, sufficient merit was seen in Metro Rail servicing of Hollywood Bowl events to warrant inclusion of the station in the project.

(2) Crenshaw Station

The Crenshaw Station is viable from a transportation and cost benefit standpoint. In terms of patronage, the station will attract approximately 11,000 to 13,000 patron trips per day in the Year 2000, making it the 13th busiest station in the system. About half of these patrons will arrive by feeder bus, 30 percent will walk in, and 20 percent will utilize kiss-and-ride accommodations. This indicates that the station is significant in providing not only a bus interface but also connections to auto trips originating beyond the immediate station area. It thus serves an important role in the regional system. The cost of the station is comparable to that of other stations with similar capacity, and thus its relative cost effectiveness is good.

In its action of August 26, 1982, the Board, adopting those portions of Milestone 3 and 4 from Union Station through the Fairfax/Santa Monica Station, deferred consideration of a station at Wilshire and Crenshaw boulevards pending action by the Los Angeles City Council to clarify the intent of the applicable land use plans governing the siting of a station at this location.

On May 31, 1983, the City Council unanimously approved a report by its Planning Commission recommending that a Metro Rail Wilshire/Crenshaw Station be included in the project. Additionally, the City is developing measures to mitigate potential adverse impacts that might occur as a result of the station.

The station will be planned as a residential station, blending unobtrusively with the surrounding area, and providing visual and acoustical buffering for immediately adjacent neighbors. Examples of this station type can be found in Toronto, Atlanta, and Washington, D.C. Appropriate mitigation measures such as those to be proposed by the City of Los Angeles have been incorporated into the preliminary station site plan and will be refined in close cooperation with the City.

With the adoption of the Wilshire/Crenshaw Station, the double crossover formerly located at the east end of the Wilshire/La Brea Station is relocated to the east end of the Wilshire/Crenshaw Station. The traction power substation formerly located over the crossover at the Wilshire/La Brea Station is relocated to an above-grade location adjacent to the station entrance. The traction power substation formerly located off-street at Wilshire Boulevard and Mullen Avenue is relocated over the crossover at the Wilshire/Crenshaw Station.

(3) Station Locations/Layouts

Two basic station layouts have been developed, each of which responds to certain locational and patronage conditions.

The double-ended mezzanine station has a mezzanine over each end of the platform and, depending on the particular siting of the platform, each mezzanine can accommodate up to four street level entries (one from each corner of an intersection). Up to 14 escalators or stairs can be provided for movement between levels. This type of station has the capacity to handle large numbers of patrons and is proposed for the following stations:

Union Station
Civic Center
5th/Hill
7th/Flower
Wilshire/Fairfax*

*This station will have an unfinished second mezzanine. An alternate station location is being studied as an EIS mitigation measure.

Two mezzanines are also proposed at the North Hollywood station because of unique site conditions and functional requirements.

The second basic station layout consists of a single mezzanine. This type of station is not designed to handle as many patrons or accommodate as many entrances as a double-ended mezzanine station, and is less expensive to construct. Single mezzanines are proposed for the following stations:

Wilshire/Alvarado	Fairfax/Beverly
Wilshire/Vermont	Fairfax/Santa Monica
Wilshire/Normandie	La Brea/Sunset
Wilshire/Western	Hollywood/Cahuenga
Wilshire/Crenshaw	Hollywood Bowl
Wilshire/La Brea	Universal City

(4) Station Access

Specific station entrance locations and orientations are presented in Chapter II of this report. Station entrance arrangements are subject to continuing interaction with adjacent property owners and developers as the design progresses. Therefore, some future changes in orientation and configuration are possible.

Two types of off-street entrances are presently under design: plaza entrances are initially planned as open elements surrounded by paving and/or landscaping with no enclosing structures -- future development around such entrances is not precluded; a second type of entrance, into existing and concurrently planned development, will be at least partially enclosed by structure and will require a greater level of design interface control and coordination with the affected interests.

(5) Parking Provisions

9,500 park-and-ride spaces are planned for ultimate station development, in parking structures at each of the five stations accommodating such parking. The proposed initial fixed facility supply of approximately 3,100 surface spaces will reduce the number of projected park-and-ride patrons by two-thirds and result in a loss of total Metro Rail patrons once the parking facilities are filled to capacity.

It should be noted that the quantities of initial and ultimate parking spaces can be increased by trade-offs with private developers, who could provide Metro Rail parking as a part of their lease of SCRTD-owned land, or in response to other incentives.

(6) Bus Provisions

Off-street facilities are considered:

1) Where route(s) terminate
2) Where adjacent streets include on-street facilities for turnarounds/layover space
3) Where lines are intercepted because of Metro Rail
4) Where station locations are far enough from principal intersections to preclude effective bus/rail interface (Fairfax/Wilshire, Universal City)

Bus facilities are recommended at the following Metro Rail Stations:

1) Union Station: Off-street interface for busway lines
2) Vermont: Off-street terminal for Lines 18, 51, 201
3) Western: Off-street layover and staging for Line 209
4) Crenshaw: Off-street terminal for Lines 18, 47, 210 (50%)
5) Fairfax: Off-street terminal for Santa Monica freeway Lines 434, 601, 602, 604, 605, 607; Wilshire Boulevard Lines 20 (50%), 21 (50%), 22 (50%)
6) Beverly: Minor on-street for Park La Brea shuttle 215
7) Santa Monica: On-street for lines 4,220
8) Cahuenga: Off-street terminal for lines 26, 150, 210 (50%) and some 212, 217
9) Universal: Off-street terminal
   All Valley locals and expresses in vicinity: 150 (50%), 152, 159, 160, 423, Ventura Limited L-4
10) North Hollywood: Off-street terminal
    - o Three new limiteds (peak hours) L-1, L-2, L-3
    - o Most through routes deferred
    - o Local routes 97, 154, 167 and 183 operating east/west through station

(7) Bicycle Provisions

It is recommended that a nominal quantity of bicycle parking racks or lockers be provided at Metro Rail stations, except those in the Central Business District and at the Wilshire/Normandie Station where space is

unavailable. This parking will be located in close proximity to station entrances for convenience and security. If the initially provided bicycle parking is fully used, consideration will be given to providing additional facilities.

Regarding bicycles on trains, additional information is necessary to allow an informed policy decision regarding bicycle carry-ons that will respect the needs and desires of bicycle riders while not inconveniencing or threatening the safety of other patrons. This information will be available when the System Operating Plan is in its final stages of development. Present station access provisions will not preclude bicycle accommodation on trains.

(8) Pedestrian Provisions

Pedestrian flows in and around the stations have been accommodated in the station plans shown in Chapter II of this report. Of prime importance in station design is the movement of patrons, both horizontally and vertically, between the station entrance and the trains. Minimizing both travel times and capital/operating costs, as well as providing for ease of movement, are essential design goals.

For horizontal movements, the distances between travel points located at the same level have been held to the least practical amount, considering all functional factors. Vertical movements, i.e., connecting the various levels within the station, utilize stairs principally for down-travel plus a limited amount of up-travel, and escalators as the principal means of up-travel. For those stations with extremely long vertical movements, escalators have been proposed for down-travel as well. An elevator from street level to the free area of a mezzanine has been planned to make the system accessible to the handicapped at the primary entrance to each station. A second elevator will provide access from the paid area on the mezzanine to the platform level. The numbers of stairs and escalators provided at each station are determined by patronage forecasts and the directional split of patrons (boarding or deboarding) during the morning and evening hours. Additional stairs will be provided at each end of the platform to permit evacuation of the station during any emergency conditions.

The horizontal and vertical circulation at each station will be in accordance with the year 2000 ridership projections, times a growth factor of 1.5, to provide ultimate station capacity.

(9) Station Designs Including Elements of Continuity/Variability

As a philosophy of design, the District determined in Milestone 4 that each station shall be designed in accordance with its individual requirements including line location, patronage requirements, topographic and geologic configurations, economy of function and construction method, and surface interface requirements. A basic functional and structural design for each station has been established as a part of the Definitive Design process to provide a significant degree of standardization throughout the Metro Rail System. This is necessary in order to establish an identity for the system as a whole, thus enabling patrons to find their way easily even in a station new to them. Standardization is also necessary from the standpoint of economy and proper function. Certain standard items and prefabricated units, types and sizes of spaces, and relationships between spaces are recommended in all stations. Design elements are divided into two classifications:

The Elements of Continuity of the system are established by the District for purposes of station identity, functional consistency, and reduction of capital operations and maintenance costs; and the Elements of Variable Design, as established by the District, define the areas wherein individual design within specified parameters is allowed. Where such variability is permitted, it will be within controlled boundaries, such as a palette of acceptable choices. An exception is the artwork program, which permits more variability.

A listing of elements within these two headings includes the following:

Elements of Continuity

- Platform Configuration
- Mezzanine Configuration
- Standard Mechanical, Electrical Equipment Rooms
- Basic Structural Framing System
- Standard Air Handling System
- Stairs/Escalators/Elevators
- Signage and Related Graphics
- Communications Equipment and Housings
- Train Control Equipment
- Fare Collection Equipment
- Trash Receptacles
- Standard Platform Edge
- Standard Lighting Fixtures
- Standard Concession Vending Machines
- Standard Doors, Gates, and Hardware

Elements of Variability

- Site Development (Structures, Paving, Landscaping)
- Mezzanine Variations (if required by joint development)
- Public Space Finish Materials -- Limited palette (Floors, Walls, Ceilings)
- Connections to Private Development
- Lighting Fixture Location
- Railings
- Benches
- Artwork Program

(10) Art in Transit Policy

To help provide stations with an individual, unique identity, and to provide an aesthetic experience at each station, an artwork program is recommended. The program includes procedures for the acceptance of donated artwork and for the commissioning of artwork by the District.

To assist the District in selecting artists and reviewing the artwork to be provided, a two-tiered process will be instituted. The first tier will consist of the establishment of a Qualifications Committee composed of eminent experts in the field to be appointed by the General Manager with the approval of the Board of Directors. The Qualifications Committee will review and evaluate the qualifications of all artists who may have an interest in participating in the Art In Transit Program and in working directly with station design teams.

The second tier in the process will require a Selection Committee for each station. These committees, appointed by the General Manager, will each consist of the Station Architect as chairman, one representative of the Qualifications Committee, and a person elected or selected from the community organizations that exist in the Metro Rail Corridor. Upon selection of the artist(s), a standard commission and contract will be negotiated between each station design team and the artist(s) selected.

Based on an examination of City of Los Angeles provisions and several transit authorities, an amount of 1/2 of 1% of the estimated station structure cost for commissioned artwork appears appropriate.

(11) Ways and Structures Provisions

The following Ways and Structures facilities are shown and described in the Milestone 10 Final Report:

- o Alignment (tunnels, subway sections)
- o Yard and Central Maintenance Facility
- o Central Control Facility
- o Miscellaneous Structures (intermediate traction power substations, intermediate ventilation shafts)

Also described and illustrated are the construction methods proposed for the bored tunnels and for the cut-and-cover stations and line sections. Approximately 85 percent of the 18.6-mile project length will be constructed by tunnel boring machines.

(12) Cost Reduction Items

In the April 21, 1983, Board Report, an outline of the major cost reductions proposed for the fixed facilities was presented. Several further modifications to those cost reductions were required because of functional and patronage considerations. These modifications were presented in the June 10, 1983, Board Report. All cost reduction changes have been incorporated into the Milestone 10 Final Report.

April 21, 1983, Cost Reduction Items

Station:

1. Relocate traction power substations above-grade at:

   a. 5th/Flower Station on northeast corner of 7th and Figueroa streets.

   b. Wilshire/Vermont Station mid-block between Wilshire Boulevard and 6th Street west of Shatto Place.

   c. Wilshire/Western Station adjacent to entry on the northeast corner of Wilshire and Western.

   d. Wilshire/Fairfax Station off-street in the area designated for Metro Rail parking.

   e. La Brea/Sunset Station off-street adjacent to entry.

2. Consolidate ancillary spaces and reduce ancillary room sizes to the minimum required for functional and operational purposes at all stations.

3. Relocate and defer station entrances, as follows:

   a. Defer construction of the west entry to the Wilshire/Vermont Station.

   b. Defer construction of the east entry to the Wilshire/Fairfax Station.

   c. Relocate entrance to the Fairfax/Beverly Station approximately 100 feet to the south.

   d. Relocate entrance to Fairfax/Santa Monica Station from the northwest corner of intersection to the southwest corner.

   e. Delete entry from the bus platform at the Universal City Station, revise the bus platform for side boarding and relocate remaining entry to serve the bus area as well as the parking area and MCA.

   f. At the North Hollywood Station, reorient the north entry parallel to Lankershim Boulevard; relocate the south entry to a location parallel to Lankershim Boulevard between the Southern Pacific right-of-way and south Chandler Boulevard.

4. Delete or defer parking facilities as follows:

   a. Delete the proposed kiss-and-ride and bus layover facility on the west side of Vermont and provide a bus layover and a limited size kiss-and-ride facility east of Vermont at the Wilshire/Vermont Station.

   b. Delete that portion of the proposed bus terminal and park-and-ride area located between Stanley Avenue and Curson Avenue at the Wilshire/Fairfax Station.

   c. Continue to lease rather than acquire the existing SCRTD park-and-ride lot on Ventura Boulevard.

Ways and Structures:

1. Delete the test track and test track building in the main yard.

2. Delete main line connection to the wye located east of Union Station.

3. Delete yard leads to the east.

4. Delete double crossover east of the Wilshire/Vermont Station.

5. Change the pocket track located east of the Wilshire/La Brea Station to a double crossover.

6. Delete future branch line extension west of the Wilshire/Fairfax Station, but design so as not to preclude future connection.

7. Eliminate the dipped profile and establish a standard of 3% maximum grade unless physical or geological barriers require increased grades.

8. Delete double crossover west of the La Brea/Sunset Station.

9. Delete three 1,200-foot tail tracks north of the North Hollywood Station and replace with two 500-foot tracks.

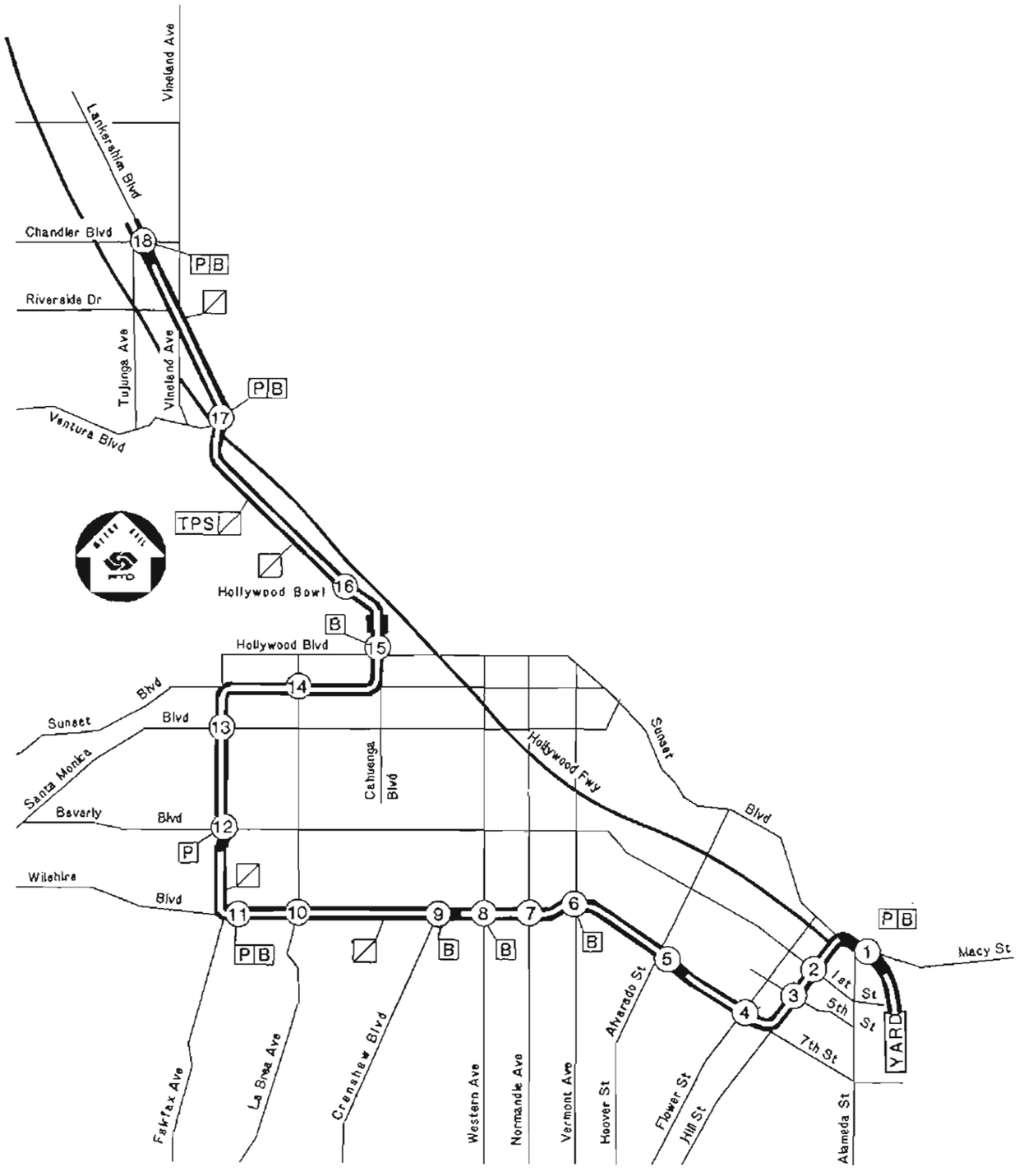
June 10, 1983 Cost Modifications

- Relocate present above-grade traction power substation at Fairfax/Santa Monica Station to below-grade location within the station box. No increase in box length is required.

- Add entry to Wilshire/Alvarado Station, east of Alvarado and north of present entrance.

- Add entry to Wilshire/Vermont Station west of Vermont.

- At the North Hollywood Station, move south entry to the south side of Chandler and reorient north entry to be perpendicular to Lankershim.



METRO RAIL PROJECT
RECOMMENDED ALIGNMENT STARTER SYSTEM

Legend

	Alignment
	Stations
	Cross over
	Pocket track
TPS	Intermediate Traction Power Substation With Vent Shaft
	Intermediate Vent Shaft
P	Parking
B	Bus Facilities
1	Union Station With Central Control Facility and TPS
2	Civic Center With TPS
3	5th/Hill
4	7th/Flower With TPS
5	Wilshire / Alvarado With TPS
6	Wilshire /Vermont With TPS
7	Wilshire / Normandie
8	Wilshire / Western With TPS
9	Wilshire / Crenshaw With TPS
10	Wilshire / La Brea With TPS
11	Wilshire / Fairfax With TPS
12	Fairfax / Beverly With TPS
13	Fairfax / Santa Monica With TPS
14	La Brea / Sunset With TPS
15	Hollywood / Cahuenga With TPS
16	Hollywood Bowl With TPS
17	Universal City With TPS
18	North Hollywood With TPS

FIGURE 1

I. INTRODUCTION

I. INTRODUCTION

A. BACKGROUND

The California State Legislature created the Southern California Rapid Transit District (SCRTD) in 1964 with a legislative mandate to design, construct, and operate a rail rapid transit system within the Los Angeles County area. The success of such a program is dependent upon the availability of funds. On three occasions, SCRTD attempted to obtain countywide voter approval of rapid transit funding through increases in local sales taxes. Finally, in June 1974, Proposition 5 was passed by a solid majority, allowing for the use of a portion of state gasoline taxes for rapid transit development. This measure provided a local source of funds for SCRTD to begin its rail rapid transit development program in Los Angeles.

SCRTD also received federal funding in 1974 to evaluate 16 transit corridors in the Los Angeles metropolitan area. A Rapid Transit Advisory Committee (RTAC), composed of representatives of local and state agencies, guided this effort. The result of the evaluations was the identification of a rapid transit corridor that justified further development and evaluation.

Based on the results of the RTAC study, a Regional Transit Development Program was adopted by state and local jurisdictions. In September 1976, representatives of the City of Los Angeles, Caltrans, Southern California Association of Governments, the County of Los Angeles, and SCRTD applied to the Urban Mass Transportation Administration (UMTA) for assistance in financing the Regional Transportation Development Program. Designed to focus on transportation problems in the Los Angeles area, this four-part program included improvements to the existing street system, freeway transit projects, a proposed Downtown People Mover System, and an evaluation of alternative transit solutions for the Regional Core, the approximately 55-square-mile portion of the metropolitan center of Los Angeles. The program was immediately endorsed by the newly established Los Angeles County Transportation Commission in 1977.

Having received UMTA and Proposition 5 funds to evaluate transit corridors, SCRTD began in 1977 an in-depth analysis for 11 alternatives: a "status quo", five rail-bus and five all-bus alternatives. The critical issues considered during the evaluation included:

- Which alternative could serve the largest number of people?
- Which corridor was experiencing the greatest surface traffic congestion without any plans for relief?
- Which alternative would reduce the greatest number of auto trips per day?
- Which corridor would best accommodate city and county land use plans?
- Which corridor might have the greatest impact on local air quality and energy savings?
- Which alternative would offer the best opportunity for efficient operations?
- Which alternative might provide the greatest economic benefits to the Los Angeles metropolitan area?

Concurrently, a comprehensive environmental impact analysis was conducted to examine the effects of each of the alternatives on the affected communities. In September 1979, the District Board of Directors selected its "preferred alternative" - an 18-mile rapid transit line extending from the Central Business District through the Wilshire Boulevard area to Fairfax Avenue, and northerly through Hollywood to North Hollywood.

The results of this analytical work were published in the final Alternatives Analysis/Environmental Impact Statement/Report (AA/EIS/EIR) and were submitted to UMTA for evaluation in April 1980. Two months later, SCRTD was allocated $12 million from UMTA and $3 million from local sources to begin the first phase of the 10-year project - preliminary engineering. This phase includes additional environmental analysis and the basic work leading to the final design and construction. UMTA noted that the Metro Rail Project is one of the most carefully studied and thoroughly justified projects of its kind in the country. It is the only new rail start for which the current federal and state administrations and Congress have been willing to grant funds for preliminary engineering.

To date, combined government funding totals approximately $39 million, which will allow completion of preliminary engineering. In addition, approximately $52 million has been received for continuing preliminary engineering, which will further advance designs, and $33 million has been made available for advanced site acquisition.

B. COMMUNITY PARTICIPATION PROGRAM

An important factor in the development of the Metro Rail Project has been regionwide public support. This broad-based support has been demonstrated on numerous occasions. Particularly impressive were the public hearings conducted in 1979 when businessmen, officials, organizations, and citizens from all areas of Los Angeles testified that this project was the one with which to begin rail rapid transit system development in the Los Angeles community.

As part of the process of designing and developing the rail system, the SCRTD Metro Rail Project Team is now involved with land use planning, service criteria, social issues, energy concerns, and environmental impact and aesthetic considerations. The Project Team recognizes that designers and decision makers must be responsive to the public's needs and desires.

Given the history of experiences in other cities, it is most essential that the Project Team maintain sensitivity to public concerns by means of a public participation process before definitive plans are made. An extensive Community Participation Program has been established to meet that need. The purpose of the Program, as adopted by the SCRTD Board of Directors, is to provide interested, concerned, and affected citizens of the Los Angeles area a means to interact with and provide input to the Project Team, city and county officials, and the Board in regard to Metro Rail preliminary engineering issues as well as on related areas of planning and development.

The key element of this Program is the policy decision-making process, or Milestone Process. Community participants help the Project Team make decisions on 12 basic, interrelated points of development - called milestones - that must be made during the preliminary engineering phase of the subway project. (These are the 12 most critical decision points of the project such as route selection, station location, vehicle design, and cost estimates.) It is through this mechanism that community participants are informed of and able to provide input to the most significant aspects of the Metro Rail Project.

This does not mean, however, that the District Board of Directors and involved local elected officials relinquish their respective responsibilities where decisions are concerned. But it does mean that important decisions are made with the overall values, needs, and priorities of the community in mind. Since the greatest amount of public interest is expected from those who live and work in the areas most directly affected by the Metro Rail Project, the Community Participation Program has been structured to encourage and accommodate participation by means of three levels of organization:

- The Sector Level. This base organization level has been divided into six key geographical areas along the subway alignment, called "sectors". Representatives from each of these sectors participate in the appropriate groups of the next level of organization. Special organized groups are encouraged to participate at this level.

- The Segment Level. Sector representatives form this second level of community organization. The sector representatives are grouped into three geographic segments along the alignment (i.e., the Central Business District segment, the Wilshire segment, and the Fairfax/-Hollywood/North Hollywood segment). They discuss issues that affect these three broad segments of the alignment. Representatives from each segment group participate in the next level of organization.

- The System Level. Segment participants join other interested citizens, established organizations, and special interest groups in forming this final level of community organization. The system level convenes meetings on more general issues that concern all segment and sector level groups. This level functions as the primary group for conflict resolution of Community and Project Team concerns and recommendations.

The above structure has been developed for citizens to review, comment on, and have input to the 12 project milestone reports that relate directly to the design, engineering, and environmental impact of the Metro Rail Project. These milestones are presented to the public in a series of community meetings throughout preliminary engineering. Through the community participation process, the public has three opportunities to review and comment on the Milestone 10 proposal:

- Preliminary Draft Report. At the community meetings the Project Team presents its initial recommendations and discusses the issues. Copies of the preliminary draft report are distributed to each participant for review and comment. Subsequent meetings may be necessary to answer participants' questions.

- Draft Report Meeting. A second public review occurs upon publication of a draft milestone report, which includes comments relative to the particular initial milestone data along with the Project Team's responses to that input.

- Board Hearing. Prior to adopting each milestone report, the SCRTD Board of Directors convenes a hearing, thus giving the participants a final opportunity to comment on that specific milestone.

These three key input points occur in the overall community participation process, which takes approximately 45 to 60 days to implement for each milestone. This process is conducted for each of the 12 milestones, thus meeting the mid-1983 preliminary engineering completion deadline. (See Table I-1 for a list of the project milestones and the general timetables for public reviews.)

SCRTD believes that through the Community Participation Program, the Metro Rail Project design alternatives adopted at the conclusion of preliminary engineering best represent the needs and desires of the community.

Table I-1

TIMETABLE FOR MILESTONE REVIEWS

Community Review Schedule		Milestone	SCRTD Board Hearing Date
March-April 1982	1.	Preliminary System/ Operational Plan	May 13, 1982
	2.	System Design Criteria	
May-June 1982	3.	Route Alignment	July 29, 1982
	4.	Station Location	December 8, 1982
June-July 1982	5.	Relocation Policy	August 12, 1982
August-September 1982	6.	Development/Land Use	November 17, 1982
September-October 1982	7.	Safety, Security, System Assurance	December 2, 1982
November-December 1982	8.	Systems and Subsystems	January 13, 1983
January-February 1983	9.	Supporting Service	March 9, 1983
February-March 1983	10.	Fixed Facilities	April 25, 1983
March-April 1983	11.	Cost Estimate	May 11, 1983
May-June 1983	12.	System Plan	June 27, 1983

II. STATION DESIGN

II. STATION DESIGN

A. DEFINITIVE DESIGN DESCRIPTION

During the Milestone 4 process, a number of station location alternatives were studied and numerous public meetings were held. Subsequently a specific location for each station was fixed by the SCRTD Board, forming the basis for the next step: Definitive Design. It is during this design phase that the major decisions regarding station design are reached. Among these decisions are the number and location of entries in accordance with the anticipated patronage demand; the fare collection configuration; platform type and size; and the number/locations of required stairs, escalators, and elevators. In addition, and no less importantly, the substantial mechanical and electrical ancillary spaces must be accommodated as efficiently as possible in order to minimize capital, operating and maintenance expenses. A decision made regarding any of these elements affects other decisions. For example, the need to place an entrance at a specific location can require a particular mezzanine configuration; conversely, the selection of a particular mezzanine layout will affect where entries can be placed.

The first part of this chapter describes in general terms the station design philosophy and its application to particular station elements such as entrances and other components. The remainder of the chapter presents station-specific information in support of station plans that illustrate the basic station and site layout.

1. General

All stations in the starter system are to be constructed in below-ground structures using the cut-and-cover method in existing streets or in off-street locations at the Union, Wilshire/Alvarado, Wilshire/Vermont, Fairfax/Beverly, Hollywood/Cahuenga, and Universal City stations.

Materials and finishes will be determined in the next stage of design following preliminary engineering, from a limited palette of choices to ensure high durability and straightforward maintenance within a pre-established budget. Signing will be unified throughout the stations with regard to placement and types of messages. All stairs, escalators, and elevators will be standardized with regard to finishes, spatial relations between vertical access devices, fare collection areas, mezzanines, and platforms. Lighting will be provided by a standard type of fixture although lighting placement may vary depending on the differing configurations provided in each station. All ancillary and equipment rooms will be standardized with regard to functional layouts, materials, lighting, and other utility requirements to permit a unified program for maintenance and to minimize capital costs.

2. Station Entrances

Plaza-type entrances and entrances within existing or planned developments are preferred; these off-street entrances have been planned to relate to business and urban activities in addition to serving their transit function. On-street entrances with stairs, escalators and elevators leading directly from the sidewalk to the fare collection areas have been avoided.

A number of factors have been considered in determining the number and location of entrances. Patronage projections and expected mode of arrival at each station are basic determinants. And, particular attention was given to rail, bus, and auto interface and pedestrian flows. Future development plans in each station area have been noted and the potential for joint development has been considered. Among the findings was the determination that expected patronage levels high enough to support the cost of constructing entrances at each end of a station (which requires two fare collection areas) occur only at stations in or near the Central Business District. Particular site considerations also lead to a double-ended station at North Hollywood and a potential second mezzanine at Wilshire/Fairfax.

The next determination - to have one or more entrance into each mezzanine - is based on both the projected patronage levels and site specific considerations. Determination of the entrance orientation - whether the entry parallels, runs perpendicular or at some other angle to the major street - is usually the result of weighing several considerations. The existence of below surface utility lines, anticipated pedestrian flows, and the location of bus stops helps determine the best orientation. When the entry is to be located on a developable parcel, consideration is given to maximizing the development potential of the parcel. This is usually accomplished by orienting the entry perpendicular to the major street, thus leaving the maximum frontage along the major street available for development. A final consideration relating to decisions concerning both entry locations and mezzanine configurations is the desire to maximize the potential for the construction of additional entrances by SCRTD or by others, either during initial construction or in the future.

3. Station Components

In addition to the entrances that will be at or near the surface as discussed above, all stations will have the following components:

- Mezzanine/Concourse. This component functions as a transition area between the entrance to the station and the train platform. It may be at a point between the surface and the platform(s) where it is called a mezzanine, or at street level where it is called a concourse. All stations on the starter line are mezzanine type stations.

CENTER MEZZANINE STATION AT PLATFORM LEVEL

FIGURE II-11

The mezzanine provides space for various functions and typically includes fare collection, directional and information signage, and amenities for the patron's needs such as telephones and maps. The space that a patron enters prior to fare collection is designated a "free" area, with a corresponding space after fare collection designated "paid" area.

The mezzanine may extend for the full length of the station, be at any point along the platform, or at one or both ends of the station. As mentioned above, the mezzanine configuration is determined by the expected patronage levels and the desired number and location of entrances.

- o Platforms. Metro Rail station platforms will be approximately 450 feet long to accommodate trains consisting of six 75-foot-long cars. The platform configuration proposed for all stations is a center type, where a single platform is flanked by the two tracks. Patron orientation is much easier with a center platform since a directional decision can be made at the platform. The cost of a station with a center platform is also typically lower compared to that of a side platform station.

- o Equipment Spaces. Electrified rail transit stations require substantial amounts of space to house such elements as traction power substations, electrical distribution rooms, and fan rooms. These areas are typically located at track level beyond the platforms and at mezzanine level beyond the public spaces.

  Where a pocket track (a train storage track usually located between through tracks) or a crossover track (a location where a train can switch from one track to another) is located at the end of a station, the station box - the area to be constructed by the cut-and-cover method - is extended. A traction power substation can then be located in this box over the crossover or pocket track. At the 7th/Flower, Wilshire/Vermont, Wilshire/Western, Wilshire/La Brea, Wilshire/Fairfax and La Brea/Sunset stations, no crossover or pocket tracks are provided and traction power substations are located above ground off-street. More than 30 different service and equipment rooms are needed to support the operation of the station. Certain spatial relationships must be maintained in the locating or placing of these rooms while at the same time keeping unusable space to a minimum.

4. Patron Movement Within Stations

Of prime importance in station design is the movement of patrons, both horizontally and vertically, between the station entrance and the trains. Minimizing both travel times and capital/operating costs, as well as providing for ease of movement, is an essential design goal.

For horizontal movements, the distances between travel points located at the same level have been held to the least practical amount, considering all functional factors. Vertical movements between the various levels within the station utilize stairs principally for down-travel plus a limited amount of up-travel, and escalators as the principal means of up-travel. For those stations with extremely long vertical movements, escalators have been proposed for down-travel as well. An elevator at the primary entrance to each station, connecting from street level to the free area of a mezzanine, has been planned to make the system fully accessible to the handicapped. A second elevator will provide access from the paid area on the mezzanine to the platform level. The numbers of stairs and escalators provided at each station are determined by patronage forecasts and the directional split of patrons (boarding or deboarding) during the morning and evening hours. Additional stairs will be provided at each end of the platform to permit evacuation of the stations during any emergency conditions.

5. Parking

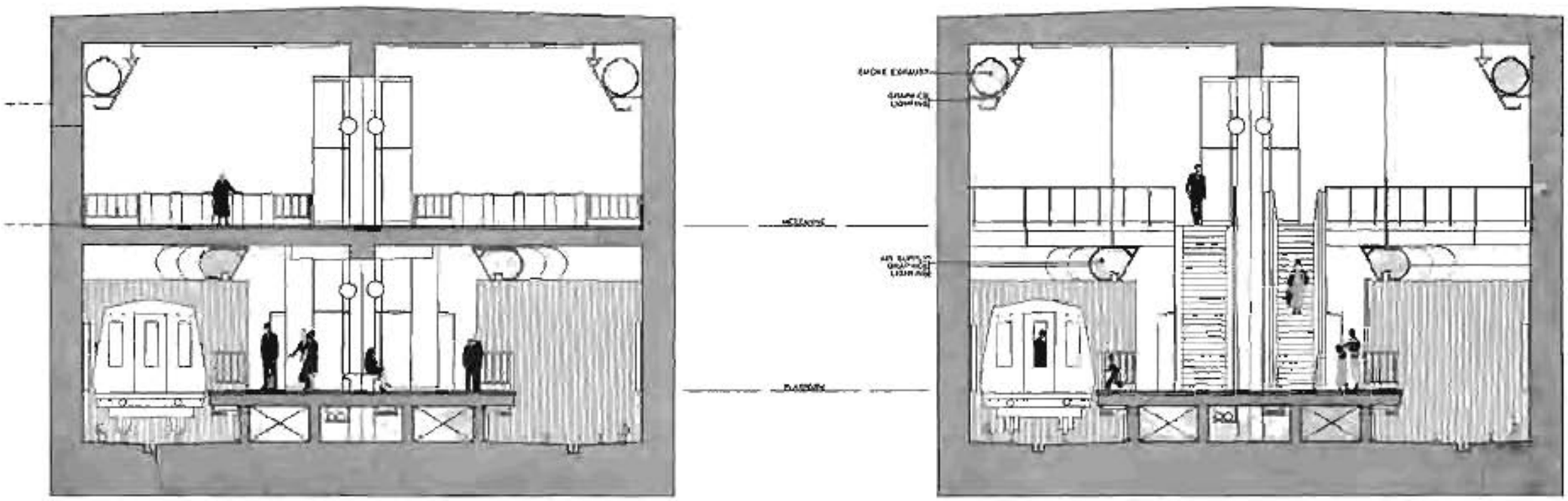
Patronage projections have been analyzed in terms of expected mode of access to each station. Based on this analysis, park-and-ride facilities have been programmed for Union Station, Wilshire/Fairfax Station, Fairfax/Beverly Station, Universal City Station, and North Hollywood Station. In each case, a footprint for a parking structure sized to meet the expected demand has been developed to determine the appropriate site requirements. However, as a cost-saving measure, the construction of parking structures will be deferred and initially only surface parking will be provided. Additional surface parking for kiss-and-ride use will be provided at the Wilshire/Alvarado, Wilshire/Vermont, and Hollywood/Cahuenga stations.

6. Bus-Rail Interface Planning

Depending on site considerations, such as existing street widths and the availability of undeveloped land in a station area, certain provisions are proposed for facilitating bus-rail connections. These provisions, which are discussed in the specific station descriptions, range from providing bus turnout lanes on existing streets to complete bus terminals with bus bays and layover space.

7. Construction

The cut-and-cover station construction method requires that the work progress from the street level down and involve some surface disruption in the immediate vicinity of the station itself. Chapter IV Construction Methods, describes the construction process in some detail.



TRANSVERSE SECTION A

TRANSVERSE SECTION B

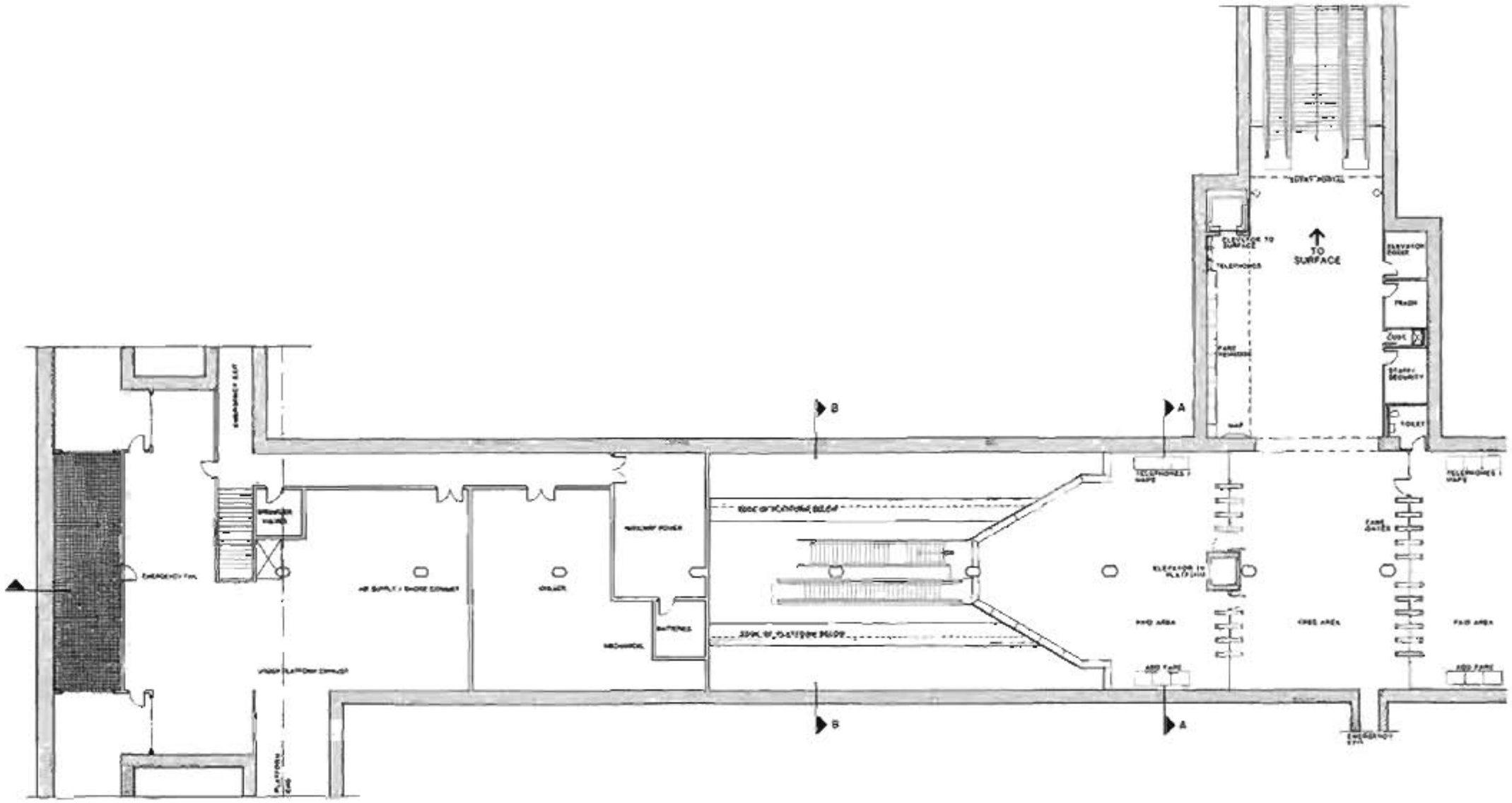
SCRTD METRO RAIL PROJECT

PROTOTYPICAL DESIGN ELEMENTS
CENTER MEZZANINE STATIONS

HARRY WEESE & ASSOCIATES
GENERAL ARCHITECTURAL CONSULTANTS

MAY 1983

FIGURE II-2



MEZZANINE PLAN

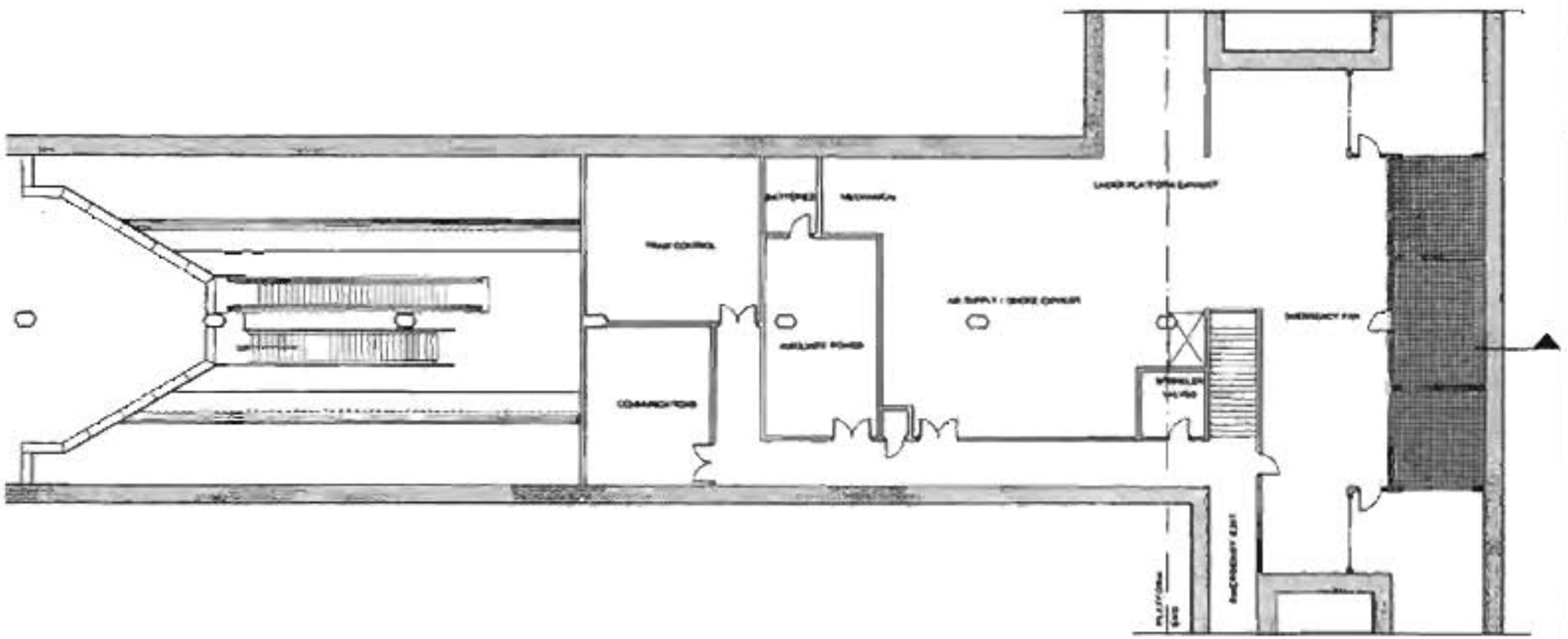
FIGURE II-3

RTD

SCRTD METRO RAIL PROJECT

PROTOTYPICAL DESIGN ELEMENTS

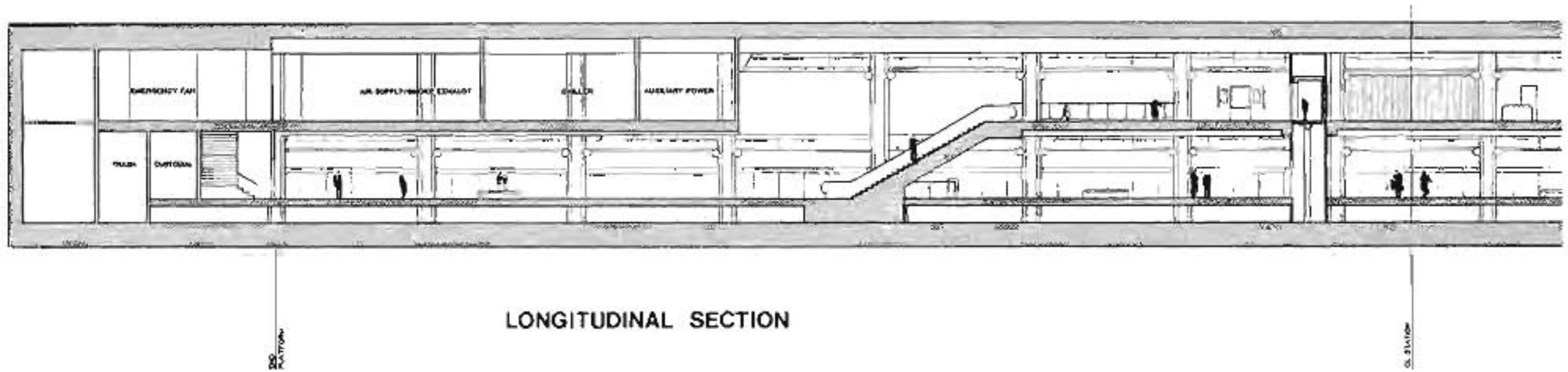
CENTER MEZZANINE STATIONS



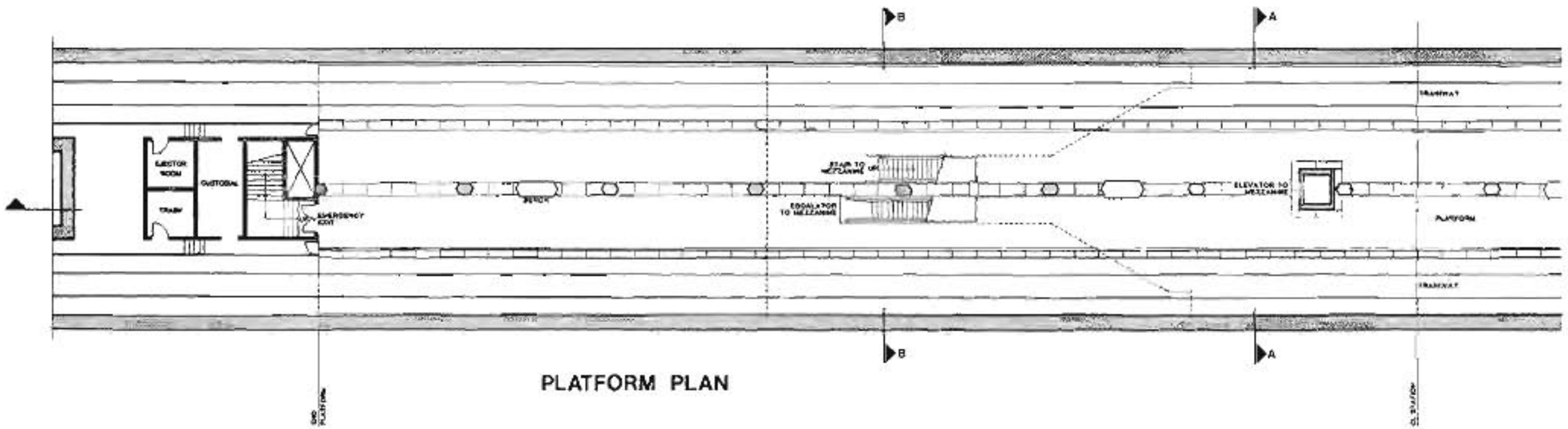
HARRY WEESE & ASSOCIATES
GENERAL ARCHITECTURAL CONSULTANTS

MAY 1983

FIGURE II-3

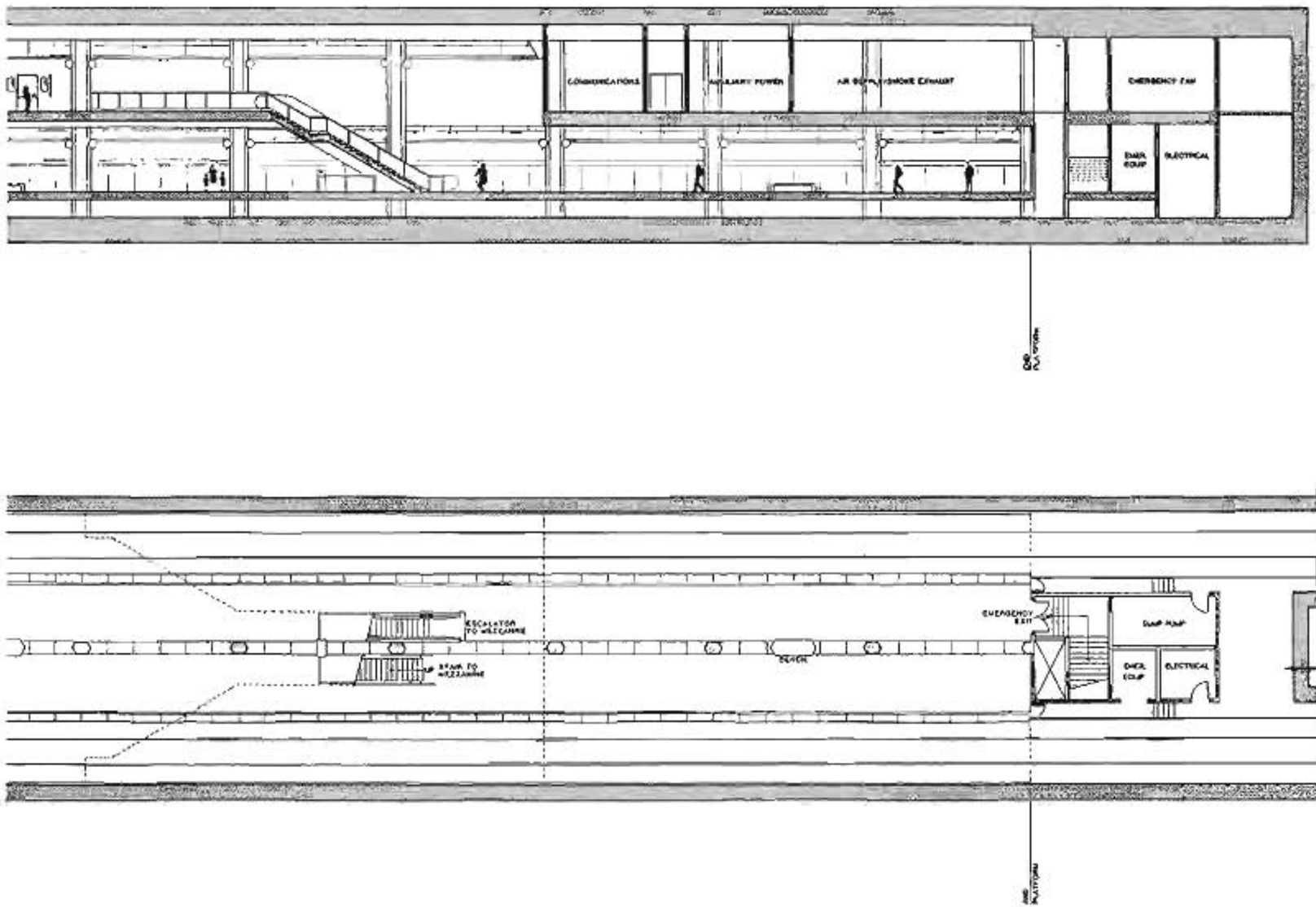


LONGITUDINAL SECTION



PLATFORM PLAN

FIGURE II-4



RTD

SCRTD METRO RAIL PROJECT

PROTOTYPICAL DESIGN ELEMENTS

CENTER MEZZANINE STATIONS

HARRY WEESE & ASSOCIATES
GENERAL ARCHITECTURAL CONSULTANTS

MAY 1983

FIGURE II-4

B. STATION SITE AND DESIGN REPORTS

Introduction

Architectural, Civil, and Utility Reorganization Plans for each station are included in this section. These plans present design conclusions regarding the functional disposition of the specific components of each station. They show, for example, how the fare gates relate to the escalators and elevators that bring people from the street into the mezzanine area, and how station entrances relate to surrounding sidewalk spaces and buildings.

The station entry locations, as shown, are those presently contemplated to be publicly funded; their final orientation is subject to conclusive negotiations with landowners and/or developers once funding for construction has been obtained by the District. The precise location of all other structures that will impact station areas, such as vent shafts, fresh air intakes, and emergency exit stair hatches, will be determined during the course of continuing preliminary engineering and final design.

The plans also indicate potential future entries at selected station locations. Where feasible, the District does plan on providing knock-out panels as part of station construction to permit future construction of additional entries as a result of subsequent commercial development in the station area. Knockout panels are a type of wall structure that can be removed to permit the easy and inexpensive addition of entrances to a station. The Civic Center and 5th/Hill Station plans, in particular, illustrate such future potential.

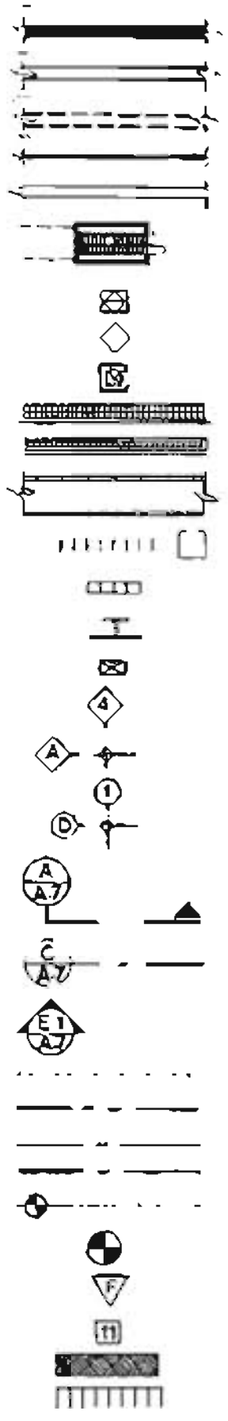
The development of off-street facilities for long-term rail transit parking, kiss-and-ride, and bus facilities presented in this report indicate the recommended extent of development of these facilities with regard to property acquisition and quantities.

Tables II-1 and II-2 explain the symbols and abbreviations used on the General Plans presented below.

Abbreviations

A.F.C.	AUTOMATIC FARE COLLECTOR
APX.	APPROXIMATE
@	AT
ATTDT.	ATTENDANT
BM.	BEAM
BET.	BETWEEN
B.R.S.	BLAST RELIEF SHAFT
B.S.	BOTH SIDES
BOT.	BOTTOM
BLDG.	BUILDING
C.B.	CATCH BASIN
CLG.	CEILING
C.L. or ℄	CENTER LINE
CCTV	CLOSED CIRCUIT TELEVISION
COL.	COLUMN
CONC.	CONCRETE
COND.	CONDENSER
CONDT.	CONDUIT
CONT.	CONTINUOUS
C.O.	CONVENIENCE OUTLET
DET.	DETAIL
DIA. or ϕ	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DWG.	DRAWING
E.	EAST
ELECT.	ELECTRICAL
EL.	ELEVATION
ELEV.	ELEVATOR
ENT.	ENTRANCE
ESC.	ESCALATOR
EXH.	EXHAUST
E.F.	EXHAUST FAN
EXIST.	EXISTING
EXT.	EXTERIOR
F.O.C.	FACE OF CONCRETE
F.O.S.	FACE OF STRUCTURE
F.O.W.	FACE OF WALL
FT.	FEET
FIN.	FINISH
F.E.	FIRE EXTINGUISHER
FL.	FLOOR
F.A.I.	FRESH AIR INTAKE
GRTG.	GRATING
HVAC	HEATING, VENTILATING AIR CONDITIONING
HT.	HEIGHT
HORZ.	HORIZONTAL
IN.	INCH
I.D.	INSIDE DIAMETER
INT.	INTERIOR
JT.	JOINT
K.O.P.	KNOCK OUT PANEL
LVL.	LEVEL
LTG.	LIGHTING
LKR	LOCKER
MACH.	MACHINE
MAX.	MAXIMUM
MECH.	MECHANICAL
MEZZ.	MEZZANINE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
N.	NORTH
N.T.S	NOT TO SCALE
NO. or #	NUMBER
O.D.	OUTSIDE DIAMETER
PLAT.	PLATFORM
PLUMB.	PLUMBING
PT.	POINT
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.A.	PUBLIC ADDRESS
R.O.W.	RIGHT-OF-WAY
RM.	ROOM
SEC.	SECTION
SGNL	SIGNAL
S.	SOUTH
S.F.	SQUARE FOOT
STD.	STANDARD
STA.	STATION
S.P.	SUMP PUMP
SWBD.	SWITCHBOARD
TEL.	TELEPHONE
T.O.C.	TOP OF CONCRETE
T.O.R.	TOP OF RAIL
T.P.S.	TRACTION POWER SUBSTATION
TRANSF.	TRANSFORMER
TYP	TYPICAL
U.P.E.	UNDER PLATFORM EXHAUST
UTIL.	UTILITY
VENT	VENTILATION
VERT	VERTICAL
WT.	WEIGHT
W.	WEST
W/	WITH
W.P.	WORKING POINT

Symbols



NEW BUILDING

EXISTING BUILDING TO REMAIN

EXISTING BUILDING TO BE REMOVED

WINDOW WALL

ARCHITECTURAL FENCE

STREET ENTRANCE PARAPET, STAIR AND ESCALATOR

EMERGENCY HATCH AT SIDEWALK

BUS STOP

ELEVATOR

FLUSH GRATING AT SIDEWALK

GRATING ON TOP OF 10 FT. 'HEADHOUSE'

PLATFORM EDGES

FARE GATES AND STATION AGENT'S BOOTH

FARE VENDORS

TELEPHONES

SHAFTS

EXISTING COLUMN REFERENCE GRID

NEW COLUMN REFERENCE GRID

SECTION

DETAIL

ELEVATION

LIMIT OF WORK LINE

PROPERTY LINE

CENTER LINE OF STREET

CENTER LINE OF TRACK

STATIONING LINE

ELEVATION AT ENTRY

REVISION

ROOM TYPE

EARTH

BICYCLE PARKING

UNION STATION

Background

The Metro Rail Station at old Union Station will be located under the loading platforms of the Los Angeles Union Passenger Terminal (LAUPT). This area is at the edge of the downtown core, adjacent to El Pueblo de Los Angeles State Historic Park (a major tourist attraction) and close to the Civic Center and Little Tokyo.

The station site is bounded by Alameda Street to the west, Macy Street to the north, Vignes Street to the east, and Highway 101 to the south. Located within this area is the Union Station Terminal Building, freight buildings, surface parking, tracks, and a vacant, unimproved area east of the tracks.

Immediately to the north of the site is the Post Office Terminal Annex. The area to the east of the site is being developed primarily with governmental facilities. The County Jail and the City of Los Angeles Piper Technical Center are located there.

Intercity bus and railroad services operate from Union Station and local SCRTD buses use the turnaround at the north end of the terminal as a bus stop. Also, the State Department of Transportation (CALTRANS) has planned an extension of the El Monte Busway that will provide a bus stop for express buses serving the San Gabriel Valley on the southwest corner of the Union Station site (Alameda Street and Highway 101). There is pending litigation under a joint powers agreement between CALTRANS and the City of Los Angeles to acquire Union Station. In a separate action, CALTRANS is pursuing acquisition of a small portion of the LAUPT site to accommodate the extension to the El Monte Busway.

Union Station is on the National Register of Historic Places.

Station Site Design Parameters

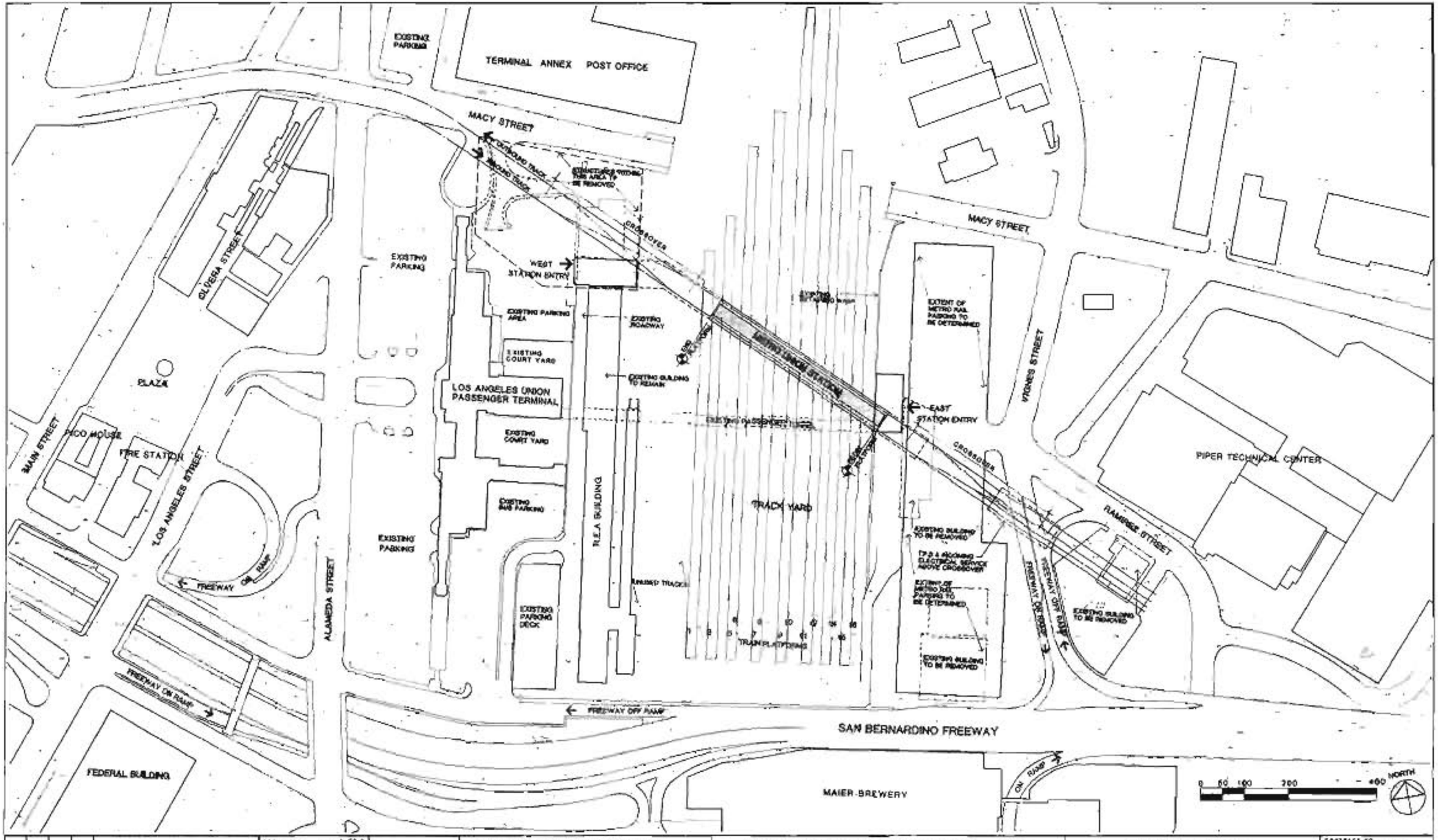
The Central Control Facility for Metro Rail system will be located adjacent to the east entrance to the Union Station. A bus terminal is planned for construction to the northeast of the east entrance. Parking will also be located adjacent to the east station entrance. Initially, 350 parking spaces will be provided in a surface park-and-ride area. Construction of a parking structure having spaces for 2,500 autos will be considered at a later date. The small demand for kiss-and-ride parking at this station will be accommodated either on surface streets or in a portion of the parking area. An off-street bus terminal will also be located northeast of the station entry, adjacent to the park-and-ride area.

Station Design Parameters

Union Station will be the first station on the alignment. Passengers walking to the station will come primarily from the downtown area to the west of the site. However, passengers arriving by auto and bus will arrive predominantly from the east. These passenger arrival characteristics combined with high projected patronage levels led to the station being designed with an entry at each end of the platform. Since the railroad tracks are at a higher elevation than each point of entry, the mezzanines at each end of the station will be at the existing entry grade level and will extend under the tracks. Having the east mezzanine at grade permits the development of a headhouse (above-grade entry) structure, which can house a portion of the ancillary space requirements.

The Metro Rail Union Station east entrance will be located and designed to permit access from the existing Union Station railroad platform access tunnel (passageway). This will permit intercity train travelers to easily access the Metro Rail system.

Escalators and stairs will provide access from each mezzanine to a center platform. And, the mezzanine design will permit the retrofitting of additional devices if required to accommodate future patronage.



DESIGNED BY HWA	HARRY WEESE & ASSOCIATES TIPPETTS-ABBETT-McCARTHY-STRATTON ENVIRONMENTAL COLLABORATIVE, INC. GIN WONG ASSOCIATES General Architectural Consultants, Stations	SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT METRO RAIL PROJECT RTD	UNION STATION SITE PLAN PRELIMINARY	CONTRACT NO. A135 DRAWING NO. A-1 SCALE 1" = 100' SHEET NO. 10 OF 31
DRAWN BY M.PONDEXTER				
CHECKED BY J.TEN				

FIGURE II-6

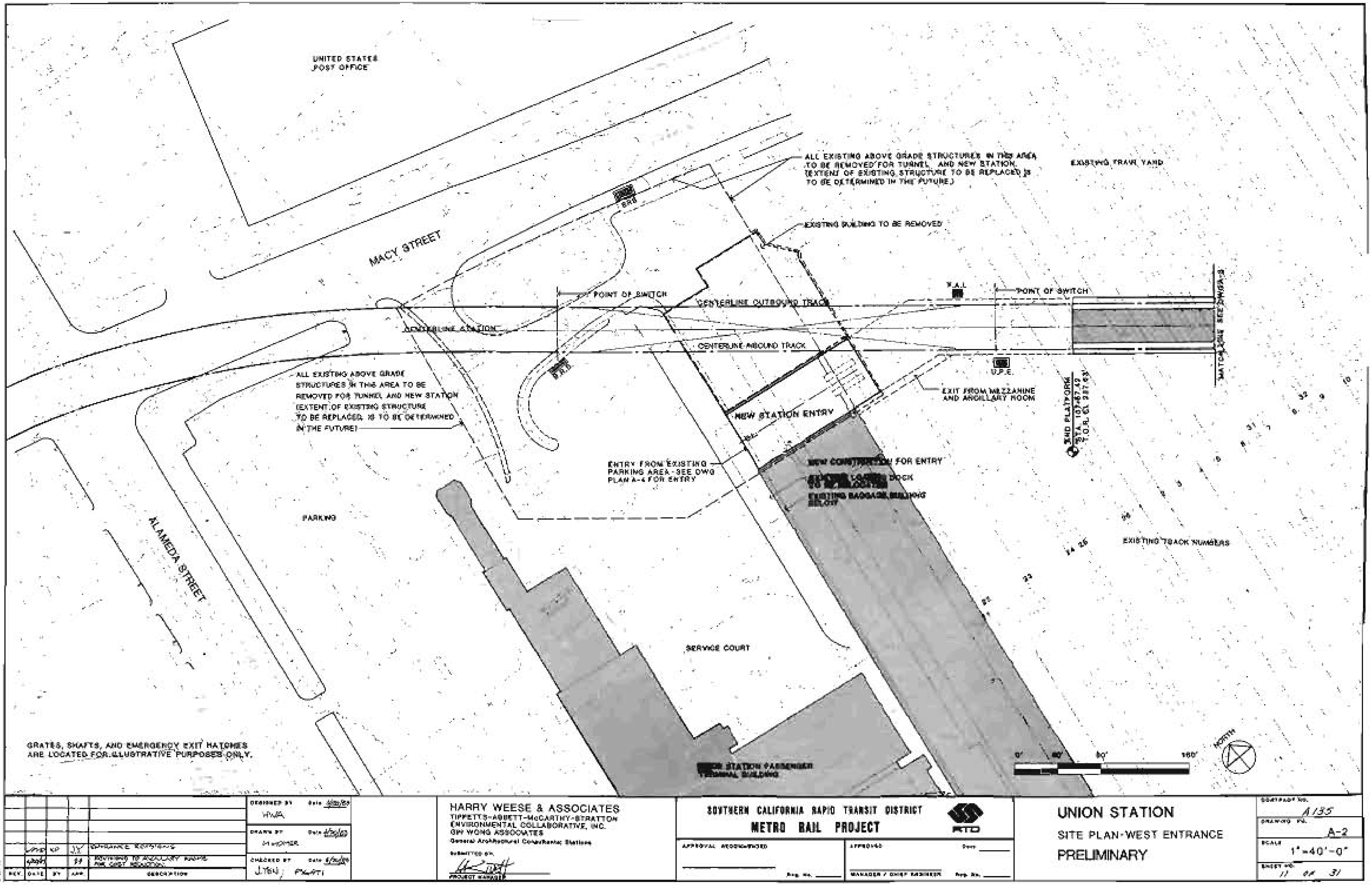
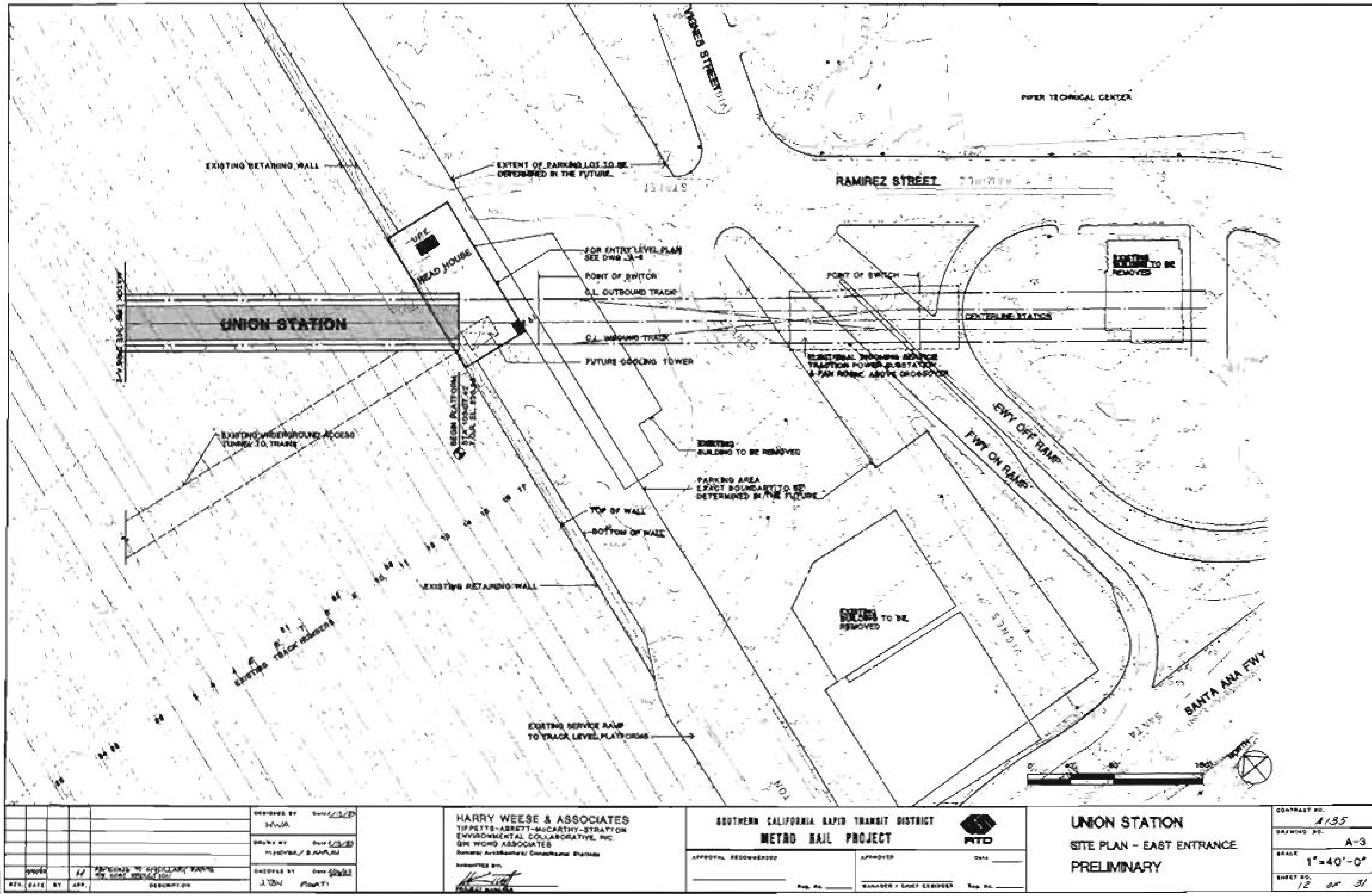
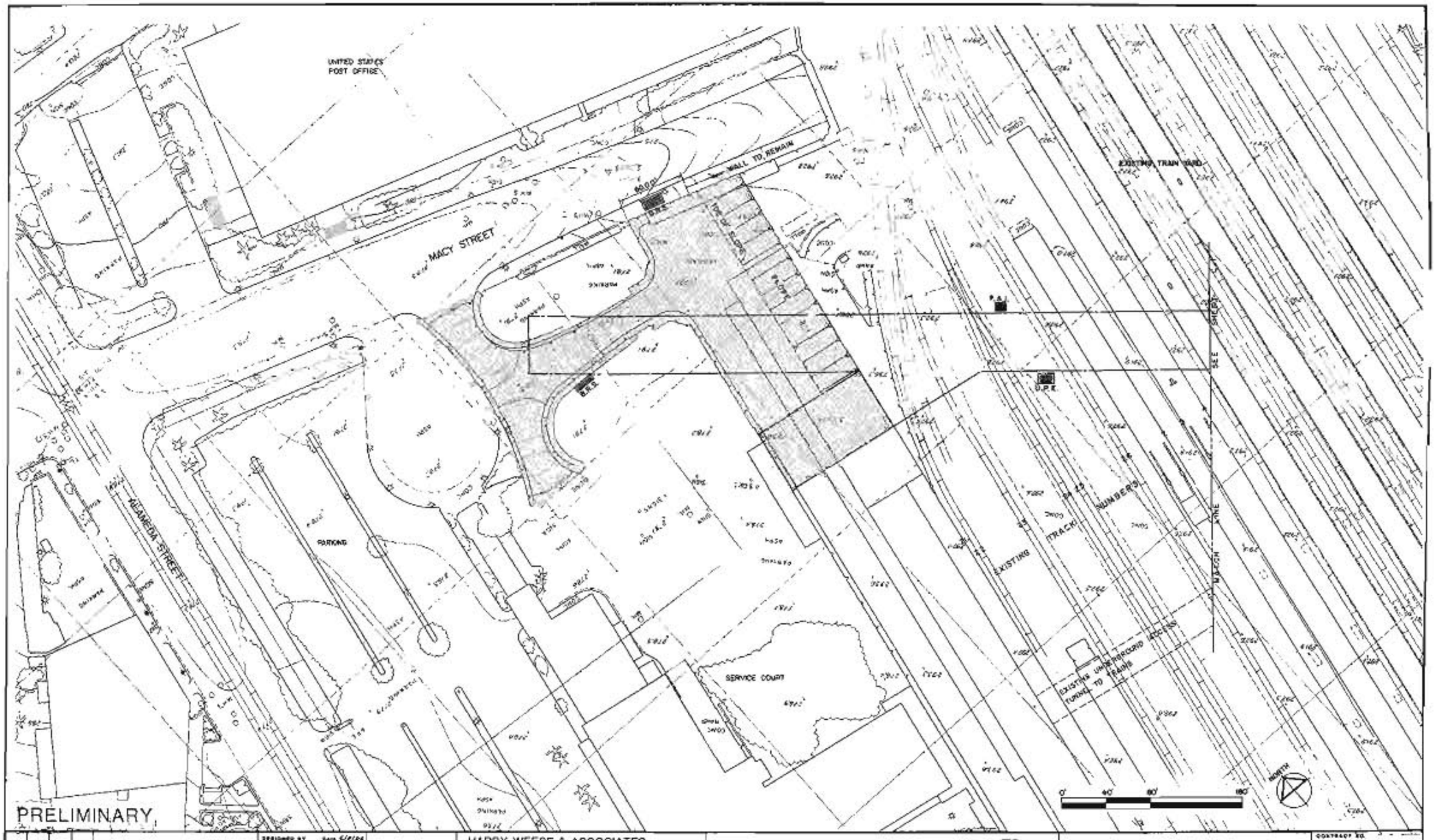

UNITED STATES POST OFFICE
MACY STREET
ALAMEDA STREET
ALL EXISTING ABOVE GRADE STRUCTURES IN THIS AREA TO BE REMOVED FOR TUNNEL AND NEW STATION. (EXTENT OF EXISTING STRUCTURE TO BE REPLACED IS TO BE DETERMINED IN THE FUTURE)
EXISTING TRAIN YARD
EXISTING BUILDING TO BE REMOVED
POINT OF SWITCH
CENTERLINE OUTBOUND TRACK
CENTERLINE STATION
CENTERLINE INBOUND TRACK
EXIT FROM MEZZANINE AND ANCILLARY ROOM
NEW STATION ENTRY
ENTRY FROM EXISTING PARKING AREA - SEE DWG PLAN A-4 FOR ENTRY
FOR ENTRY
PARKING
SERVICE COURT
EXISTING TRACK NUMBERS
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
STATION PASSENGER TERMINAL BUILDING
NORTH
0'
80'
160'
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
UNION STATION
SITE PLAN-WEST ENTRANCE
PRELIMINARY
A135
A-2
1"=40'-0"
11 OF 31

FIGURE II-6



VIGNES STREET
PIPER TECHNICAL CENTER
RAMIREZ STREET
EXISTING RETAINING WALL
EXTENT OF PARKING LOT TO BE DETERMINED IN THE FUTURE
HEAD HOUSE
FOR ENTRY LEVEL PLAN SEE DWG A-4
POINT OF SWITCH
C.L. OUTBOUND TRACK
UNION STATION
C.L. INBOUND TRACK
FUTURE COOLING TOWER
CENTERLINE STATION
EXISTING BUILDING TO BE REMOVED
FWY OFF RAMP
FWY ON RAMP
EXISTING UNDERGROUND ACCESS TUNNEL TO TRAINS
BEGIN PLATFORM
BUILDING TO BE REMOVED
PARKING AREA EXACT BOUNDARY TO BE DETERMINED IN THE FUTURE
TOP OF WALL
BOTTOM OF WALL
EXISTING RETAINING WALL
EXISTING TRACK NUMBERS
EXISTING BUILDING TO BE REMOVED
SANTA ANA FWY
EXISTING SERVICE RAMP TO TRACK LEVEL PLATFORMS
NORTH
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
UNION STATION
SITE PLAN - EAST ENTRANCE
PRELIMINARY
CONTRACT NO. A135
DRAWING NO. A-3
SCALE 1"=40'-0"
SHEET NO. 12 OF 31

FIGURE II-7



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/15/83
DRAWN BY S.AN / RGL Date 6/15/83
CHECKED BY JLD Date 6/15/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED Eng. Mgr. Date
APPROVED MANAGER / CHIEF ENGINEER Date Reg. No.

UNION STATION
CIVIL SITE PLAN-WEST ENTRANCE

CONTRACT NO. A 135
DRAWING NO. C-2
SCALE 1" = 40' - 0"
SHEET NO. 14 OF 31

FIGURE II-8

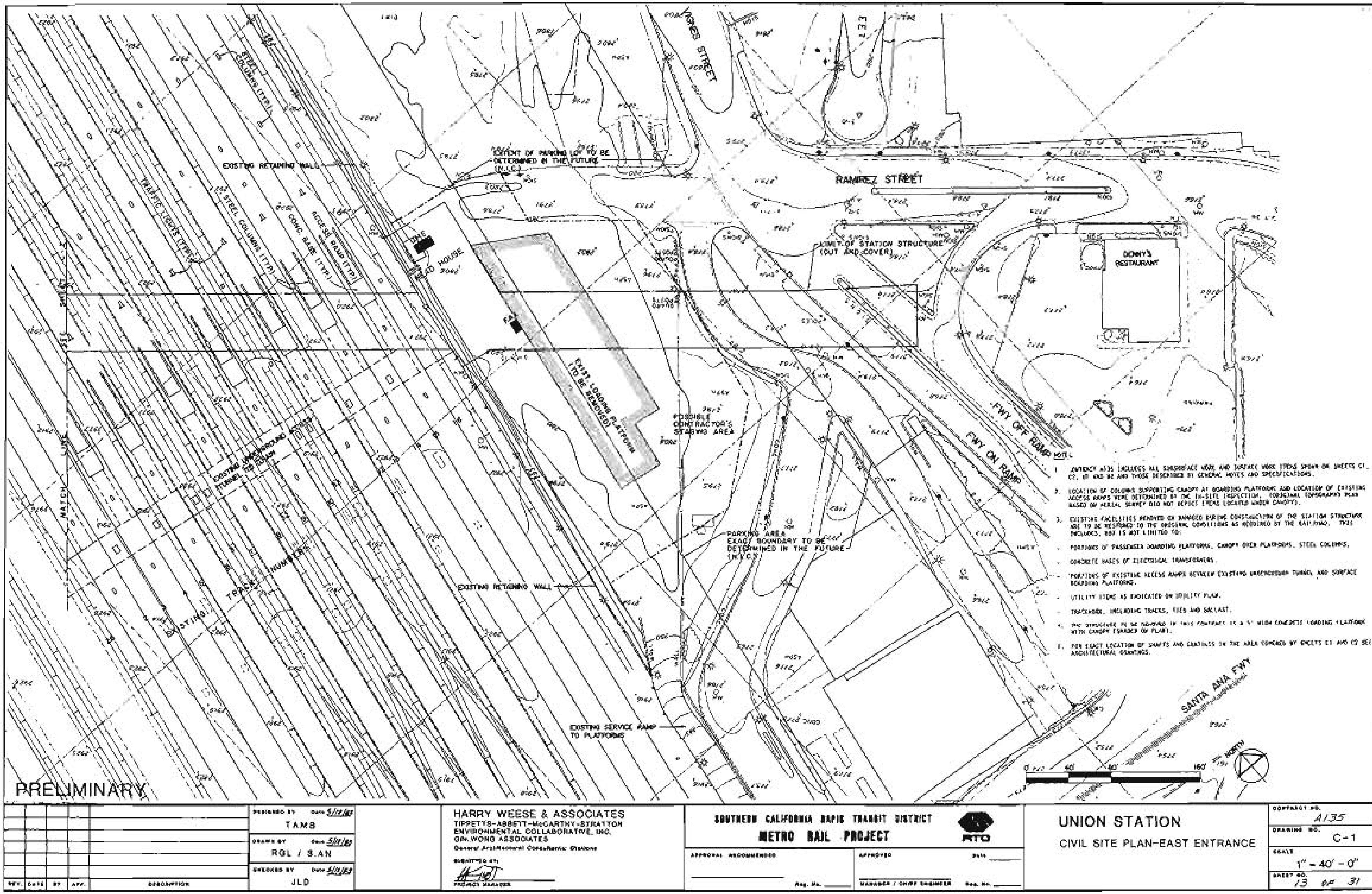
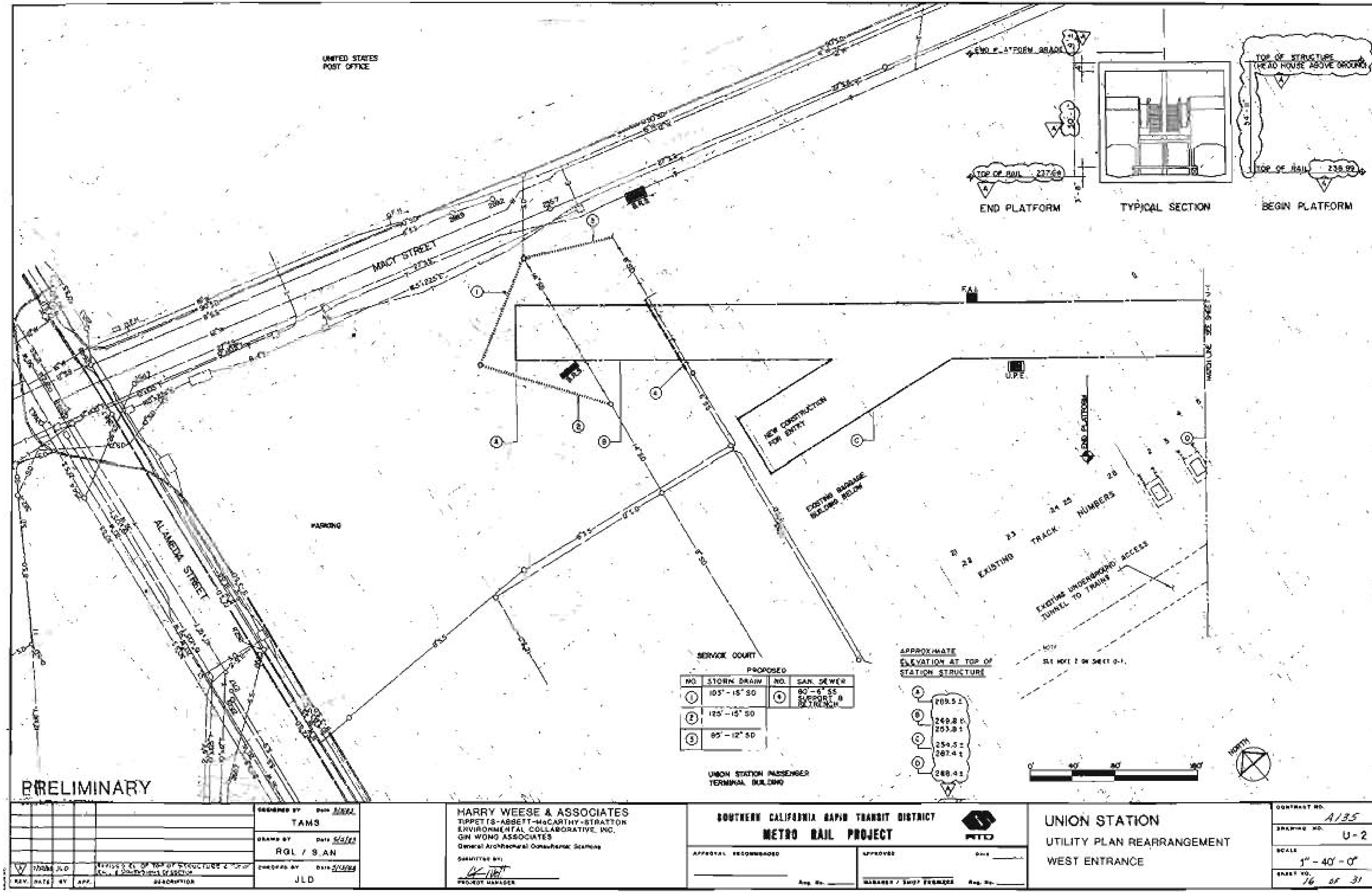

VIGNES STREET
RAMIREZ STREET
EXISTING RETAINING WALL
EXTENT OF PARKING LOT TO BE DETERMINED IN THE FUTURE (N.I.C.)
TRAFFIC LIGHTS (TYP)
STEEL COLUMNS (TYP)
CONC. BASE (TYP)
ACCESS RAMP (TYP)
HEAD HOUSE
LIMIT OF STATION STRUCTURE (CUT AND COVER)
DENNY'S RESTAURANT
EXIST. LOADING PLATFORM (TO BE REMOVED)
POSSIBLE CONTRACTOR'S STAGING AREA
FWY OFF RAMP
FWY ON RAMP
NOTE:
EXISTING UNDERGROUND ACCESS TUNNEL TO REMAIN
PARKING AREA EXACT BOUNDARY TO BE DETERMINED IN THE FUTURE (N.I.C.)
EXISTING TRACK NUMBERS
EXISTING RETAINING WALL
EXISTING SERVICE RAMP TO PLATFORMS
SANTA ANA FWY
MATCH LINE
NORTH
PRELIMINARY
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GPI, WONG ASSOCIATES
TAMS
RGL / S.AN
JLD
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
UNION STATION
CIVIL SITE PLAN-EAST ENTRANCE
A135
C-1
1" = 40' - 0"
13 OF 31

FIGURE II-9



UNITED STATES POST OFFICE
MACY STREET
ALAMEDA STREET
PARKING
END PLATFORM
TYPICAL SECTION
BEGIN PLATFORM
TOP OF RAIL 227.64
TOP OF RAIL 236.89
TOP OF STRUCTURE HEAD HOUSE ABOVE GROUND
NEW CONSTRUCTION FOR ENTRY
EXISTING BAGGAGE BUILDING BELOW
EXISTING TRACK NUMBERS
EXISTING UNDERGROUND ACCESS TUNNEL TO TRAINS
END PLATFORM
U.P.E.
SERVICE COURT
PROPOSED
NO. STORM DRAIN
1 105' - 15" SD
2 125' - 15" SD
3 85' - 12" SD
NO. SAN. SEWER
4 80' - 6" SS SUPPORT & RETRENCH
APPROXIMATE ELEVATION AT TOP OF STATION STRUCTURE
A 269.5 ±
B 249.8 ± 253.8 ±
C 254.5 ± 267.4 ±
D 268.4 ±
UNION STATION PASSENGER TERMINAL BUILDING
NORTH
PRELIMINARY
TAMS
RGL / S.AN
JLD
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations
PROJECT MANAGER
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
UNION STATION
UTILITY PLAN REARRANGEMENT
WEST ENTRANCE
CONTRACT NO. A135
DRAWING NO. U-2
SCALE 1" - 40' - 0"
SHEET NO. 16 OF 31

FIGURE II-10

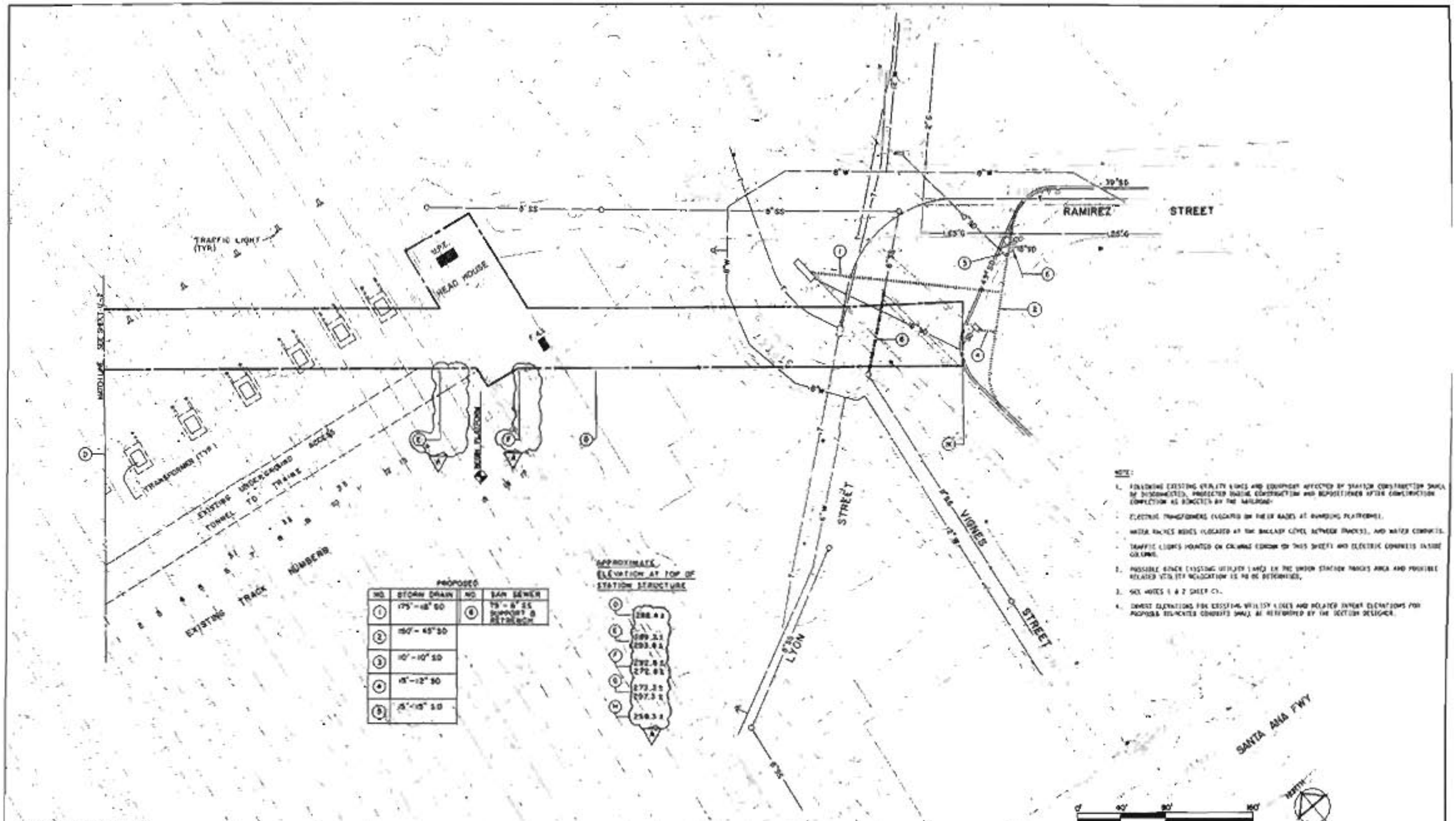
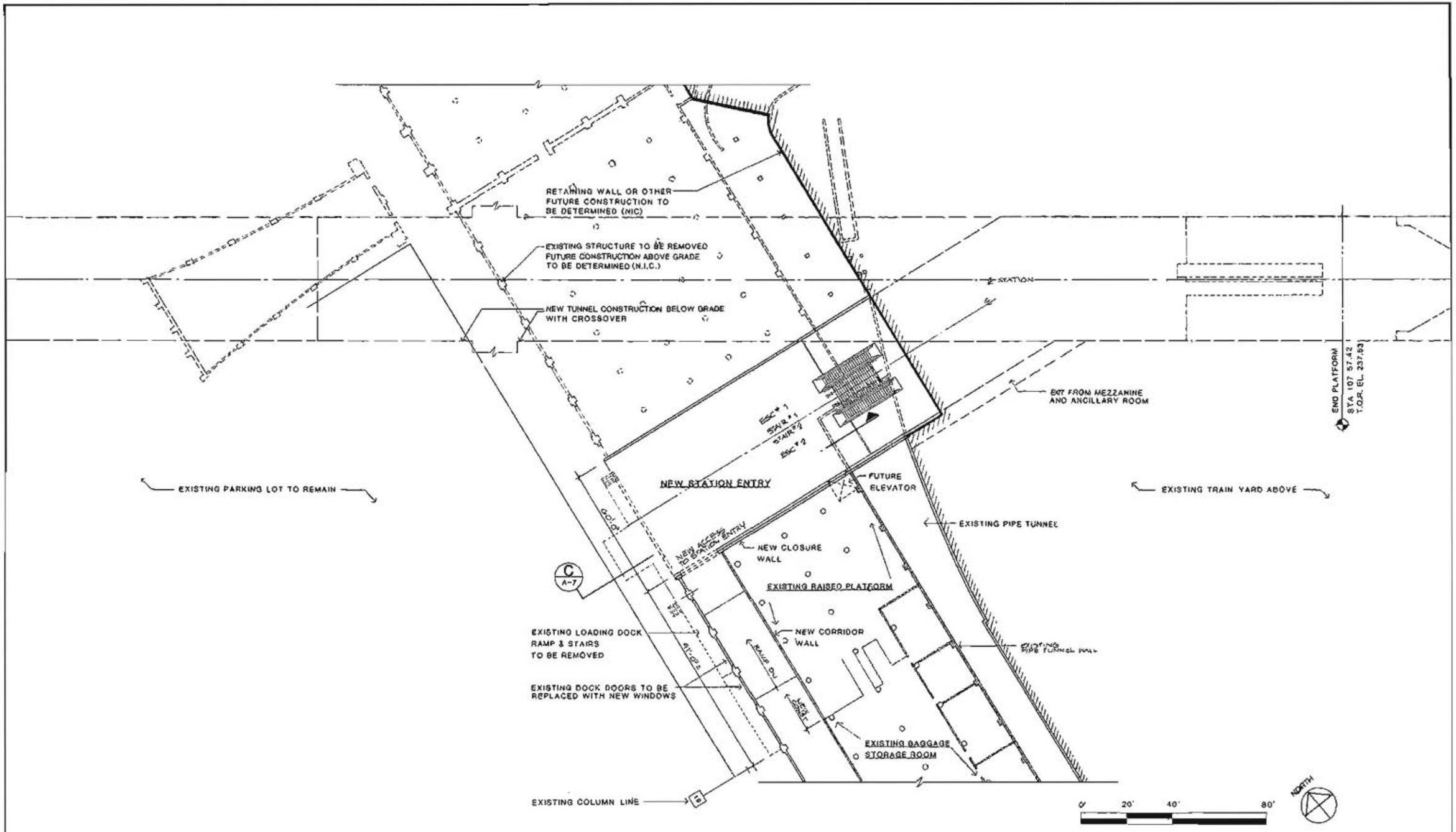

RAMIREZ STREET
STREET
LYON
VIGNES STREET
SANTA ANA FWY
TRAFFIC LIGHT (TYP.)
MATCH LINE, SEE SHEET U-2
HEAD HOUSE
TRANSFORMER (TYP.)
EXISTING UNDERGROUND ACCESS TUNNEL TO TRAINS
EXISTING TRACK NUMBERS
PROPOSED
NO. STORM DRAIN NO. SAN SEWER
APPROXIMATE ELEVATION AT TOP OF STATION STRUCTURE
NOTE:
PRELIMINARY
TAMS
RGL / S.AN
JLD
HARRY WEESE & ASSOCIATES
FIPPERT-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
UNION STATION
UTILITY PLAN REARRANGEMENT
EAST ENTRANCE
CONTRACT NO. A135
DRAWING NO. U-1
SCALE 1" - 40' - 0"
SHEET NO. 15 of 31

FIGURE II-11



REV.	DATE	BY	APP.	DESCRIPTION
	6-03-83	SD	JY	ENTRANCE [illegible]
	6/24/83		FP	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 4/26/83
DRAWN BY M. HOFFNER Date 4/26/83
CHECKED BY J. YEN Date 4/26/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Staffords
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Date ____ Rep. No. ____
APPROVED Date ____ MANAGER / CHIEF ENGINEER Rep. No. ____

UNION STATION
STATION ENTRY PLAN
WEST ENTRANCE
PRELIMINARY

CONTRACT NO. A135
DRAWING NO. A-4
SCALE 1"=20'-0"
SHEET NO. 17 OF 31

FIGURE II-12

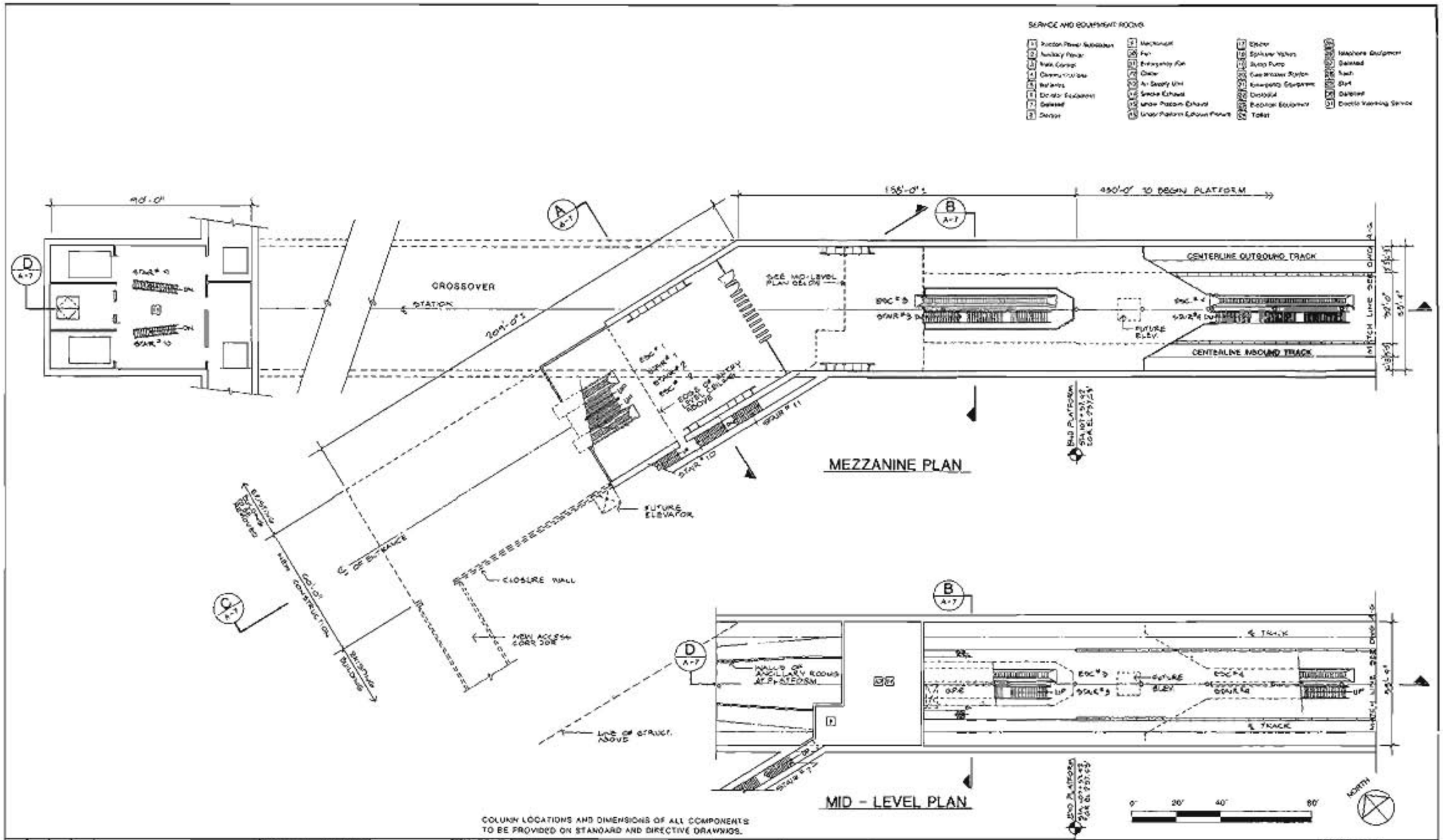
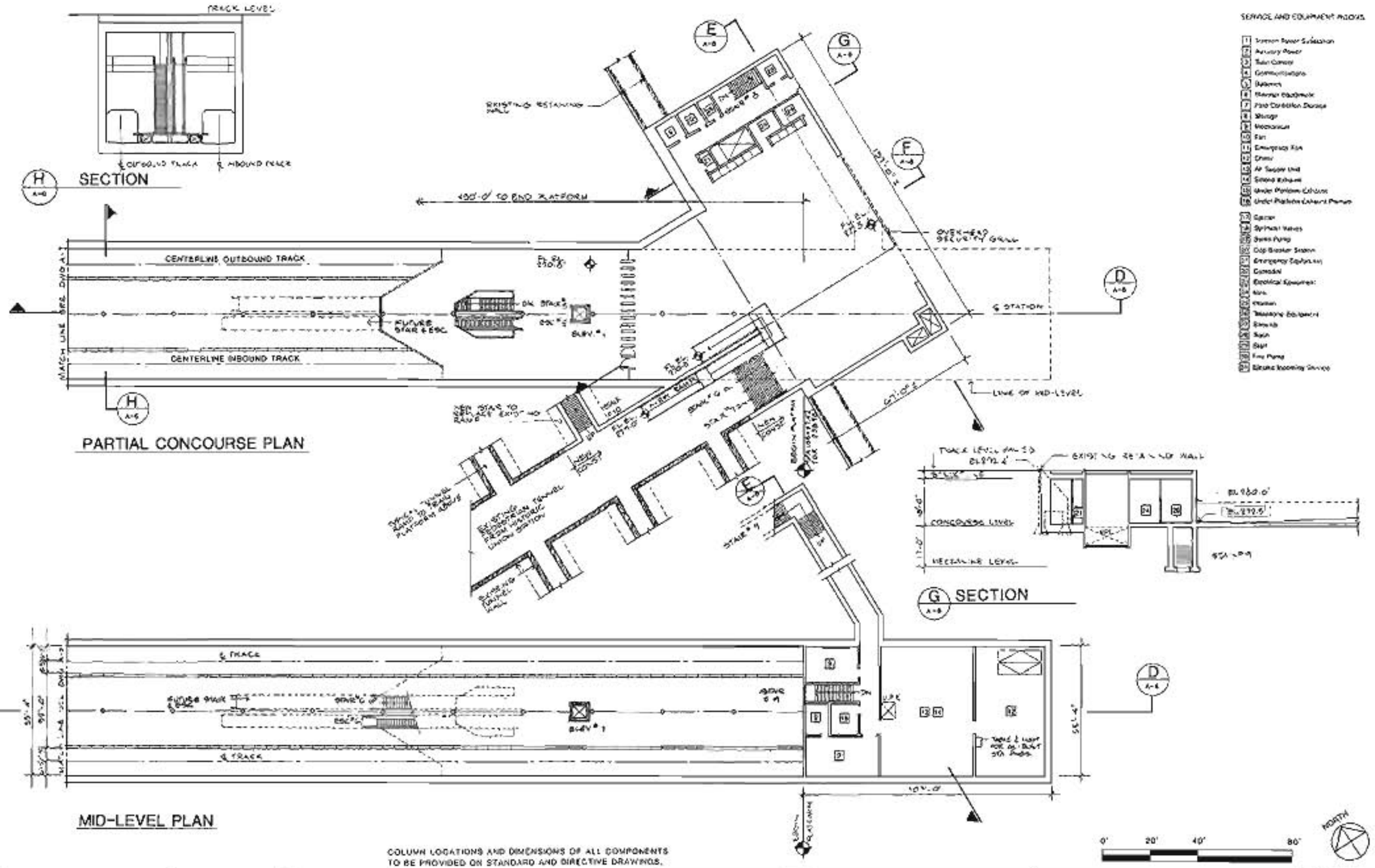

SERVICE AND EQUIPMENT ROOMS
Traction Power Substation
Auxiliary Power
Train Control
Communication
Batteries
Security Equipment
Switchgear
Mechanical
Fan
Emergency Fan
Chiller
Air Supply Unit
Smoke Exhaust
Under Platform Exhaust
Under Platform Exhaust Plenum
Elevator
Ejector
Sump Pump
Fire Protection System
Emergency Equipment
Janitorial
Electrical Equipment
Toilet
Machine Equipment
Switchgear
Tank
Duct
Ductbank
Electric Warning Service
90'-0"
CROSSOVER
STATION
209'-0"±
155'-0"±
450'-0" TO BEGIN PLATFORM
CENTERLINE OUTBOUND TRACK
CENTERLINE INBOUND TRACK
SEE MID-LEVEL PLAN BELOW
FUTURE ELEV.
MATCH LINE SEE DWG A-6
MEZZANINE PLAN
FUTURE ELEVATOR
CLOSURE WALL
NEW ACCESS CORRIDOR
LINE OF STRUCT. ABOVE
WALLS OF ANCILLARY ROOMS AT PLATFORM
MID - LEVEL PLAN
0' 20' 40' 80'
NORTH
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
UNION STATION
MEZZANINE LEVEL PLAN
WEST ENTRANCE
PRELIMINARY
CONTRACT NO. A135
DRAWING NO. A-5
SCALE 1"=20'-0"
SHEET NO. 18 OF 31

FIGURE II-13



COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.

					DESIGNED BY HWA	Date 5/15/85
					DRAWN BY A. VERMA	Date 5/14/85
					CHECKED BY JVBN	Date 6/20/85
REV.	DATE	BY	APP.	DESCRIPTION		

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
OIN WONG ASSOCIATES
General Architectural Consultants Steering

SUBMITTED BY
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED — Dept. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

UNION STATION
PLANS / SECTIONS EAST ENTRANCE
PRELIMINARY

CONTRACT NO. A 135
DRAWING NO. A-6
SCALE 1"=20'-0"
SHEET NO. 19 of 31

FIGURE II-14

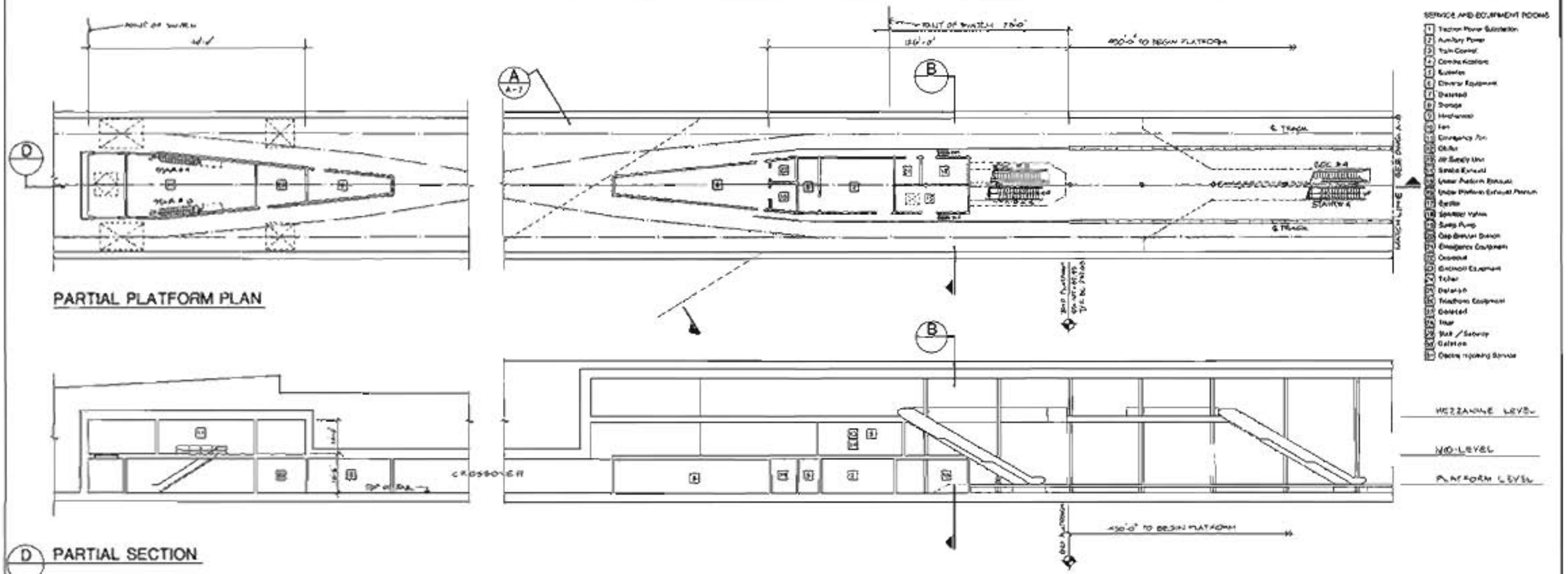
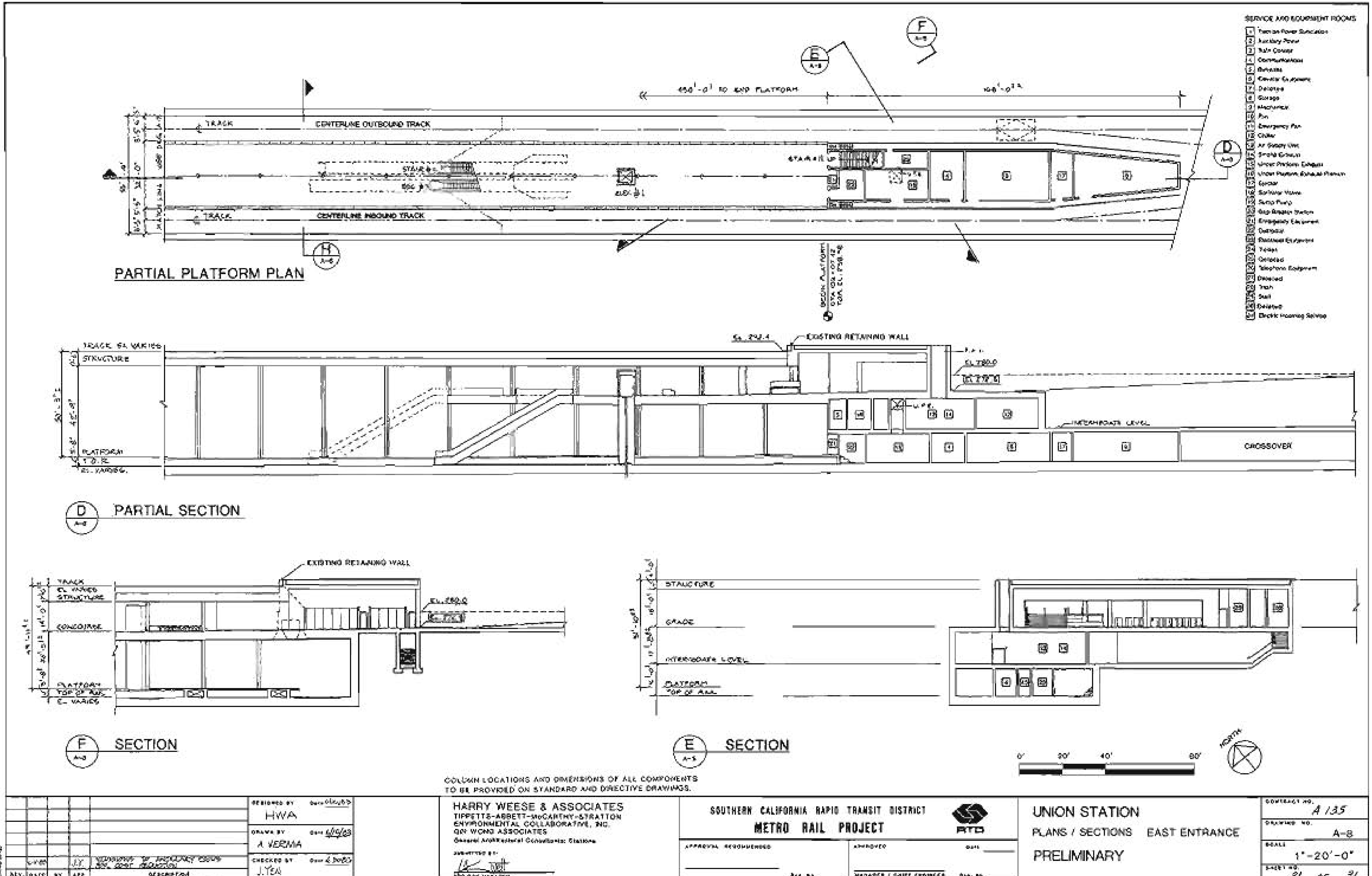

PARTIAL PLATFORM PLAN
D PARTIAL SECTION
C SECTION
B SECTION
A SECTION
SERVICE AND EQUIPMENT ROOMS
MEZZANINE LEVEL
MID-LEVEL
PLATFORM LEVEL
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
UNION STATION
PLATFORM LEVEL PLAN
WEST ENTRANCE
PRELIMINARY
A135
A-7
1"-20'-0"
20 OF 31

FIGURE II-15



SERVICE AND EQUIPMENT ROOMS
Traction Power Substation
Auxiliary Power
Train Control
Communications
Storage
Mechanical
Fan
Emergency Fan
Chiller
Air Supply Unit
Smoke Exhaust
Under Platform Exhaust
Under Platform Exhaust Plenum
Sump Pump
Telephone Equipment
Trash
Staff
PARTIAL PLATFORM PLAN
CENTERLINE OUTBOUND TRACK
CENTERLINE INBOUND TRACK
TO END PLATFORM
ELEV. #1
EXISTING RETAINING WALL
PLATFORM
STRUCTURE
INTERMEDIATE LEVEL
CROSSOVER
PARTIAL SECTION
CONCOURSE
TRACK
GRADE
SECTION
SECTION
NORTH
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.
HWA
A. VERMA
J. YEN
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GOY WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
UNION STATION
PLANS / SECTIONS EAST ENTRANCE
PRELIMINARY
A 135
A-8
1"=20'-0"
21 OF 31

FIGURE II-16

CIVIC CENTER STATION

Background

The Civic Center Station will be located under Hill Street between Temple and 1st streets. Various Federal, State, County, and City office buildings are located in the station vicinity including the County Courthouse, Hall of Records, County Law Library, City Hall, Hall of Administration, State Office Building, Criminal Courts, and the Hall of Justice. Immediately to the west of Hill Street is the Civic Center Mall and to the east is the Court of Flags creating a major axis running from the Water and Power Building and the Music Center to the City Hall.

The southwest corner of 1st and Hill is part of several undeveloped parcels, two of which are owned by Los Angeles County. The Music Center's Performing Arts Council, in conjunction with the Community Redevelopment Agency, has announced plans for a large mixed-use development project with three theatres and office, residential, and commercial buildings for this site.

Station Site Design Parameters

A significant number of transfers are expected between the bus and rail systems at this station. The buses will be continuing in service and not terminating at this location. To accommodate this need, two bus pull-out lanes are proposed - one on the west side of Hill, just to the south of 1st Street, the other on the east side of Hill adjacent to the Court of Flags. The program for this station site does not call for park-and-ride, kiss-and-ride, or off-street bus facilities. Ridership will be provided by pedestrian traffic and by patrons transferring from buses. Pedestrian traffic at the intersection of 1st and Hill moves along both sides of each street in approximately equal flows. At the north end of the station, however, the pedestrian flow is heaviest along the east-west axis running to the south of the Court of Flags. Entry locations (discussed in the next section) have been located to serve these movements while having a minimum impact on public parkland.

Station Design Parameters

In response to the patronage levels projected for this station and the expected pattern of pedestrian flow, the Civic Center Station has been planned with entries and mezzanines at each end of the platform. The entries at the south end of the station are proposed for the southwest and northeast corners of 1st and Hill. The entry on the southwest corner will be designed to accommodate future development of the site. The northeast entry is designated for future construction. The north entry to the station will be located adjacent to the Court of Flags and will be designed to enhance this public park space.

A traction power substation will be located over the train room and ancillary space will be provided at the mezzanine and platform levels at each end of the station.

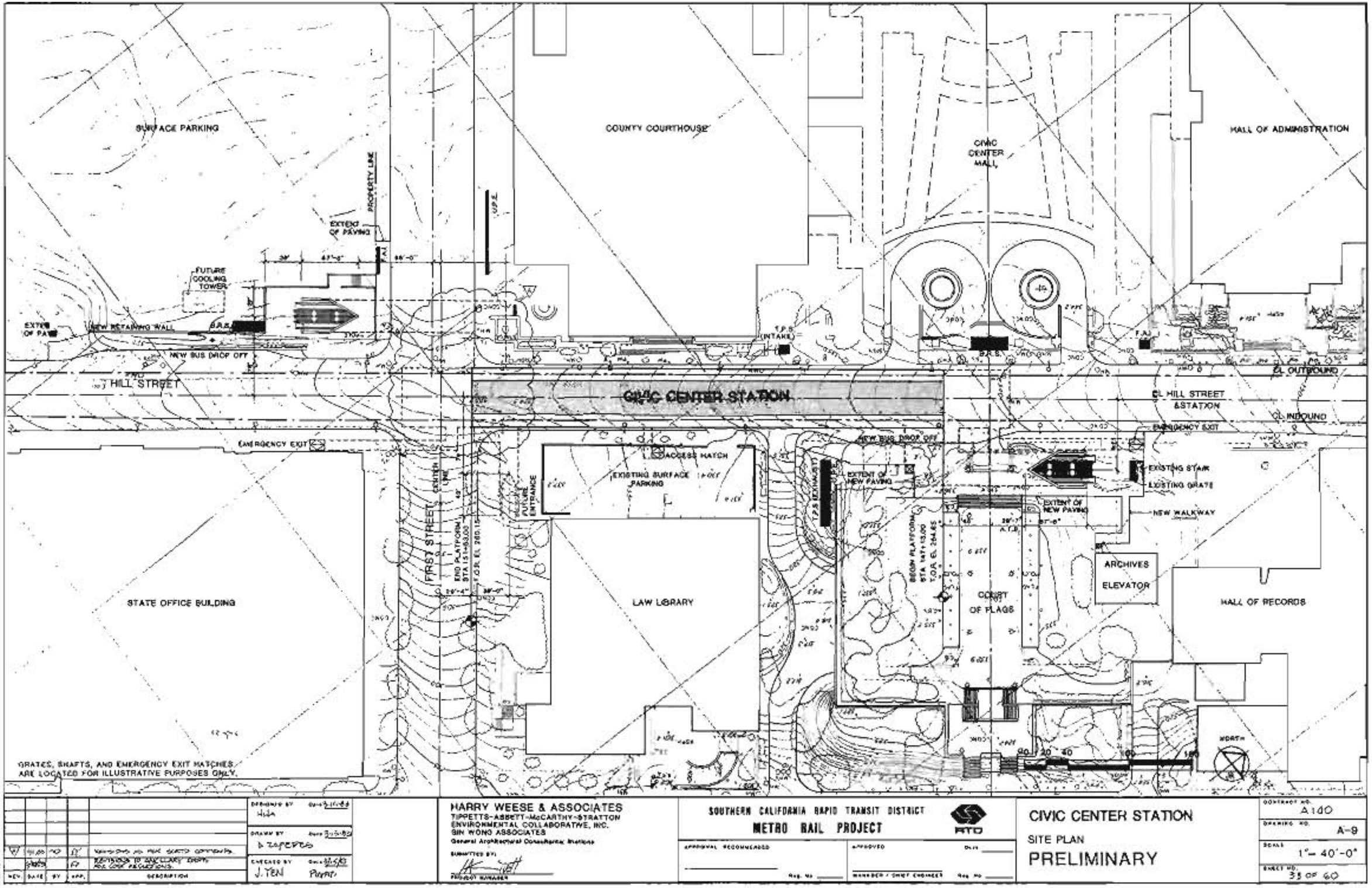

SURFACE PARKING
COUNTY COURTHOUSE
CIVIC CENTER MALL
HALL OF ADMINISTRATION
PROPERTY LINE
EXTENT OF PAVING
FUTURE COOLING TOWER
EXTENT OF PAVING
NEW RETAINING WALL
B.R.S.
NEW BUS DROP OFF
HILL STREET
T.P.S. (INTAKE)
CIVIC CENTER STATION
EL OUTBOUND
EL HILL STREET &STATION
EL INBOUND
EMERGENCY EXIT
ACCESS HATCH
EXISTING SURFACE PARKING
FIRST STREET
FUTURE ENTRANCE
END PLATFORM STA 151+63.00
T.O.R. EL 280.15
NEW BUS DROP OFF
EXTENT OF NEW PAVING
EXISTING STAIR
EXISTING GRATE
NEW WALKWAY
EXTENT OF NEW PAVING
BEGIN PLATFORM STA 149+13.00
T.O.R. EL 284.85
ARCHIVES ELEVATOR
COURT OF FLAGS
HALL OF RECORDS
STATE OFFICE BUILDING
LAW LIBRARY
NORTH
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
SIN WONG ASSOCIATES
General Architectural Consultants Statistics
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
CIVIC CENTER STATION
SITE PLAN
PRELIMINARY
A140
A-9
1"= 40'-0"
35 OF 60

FIGURE II-17

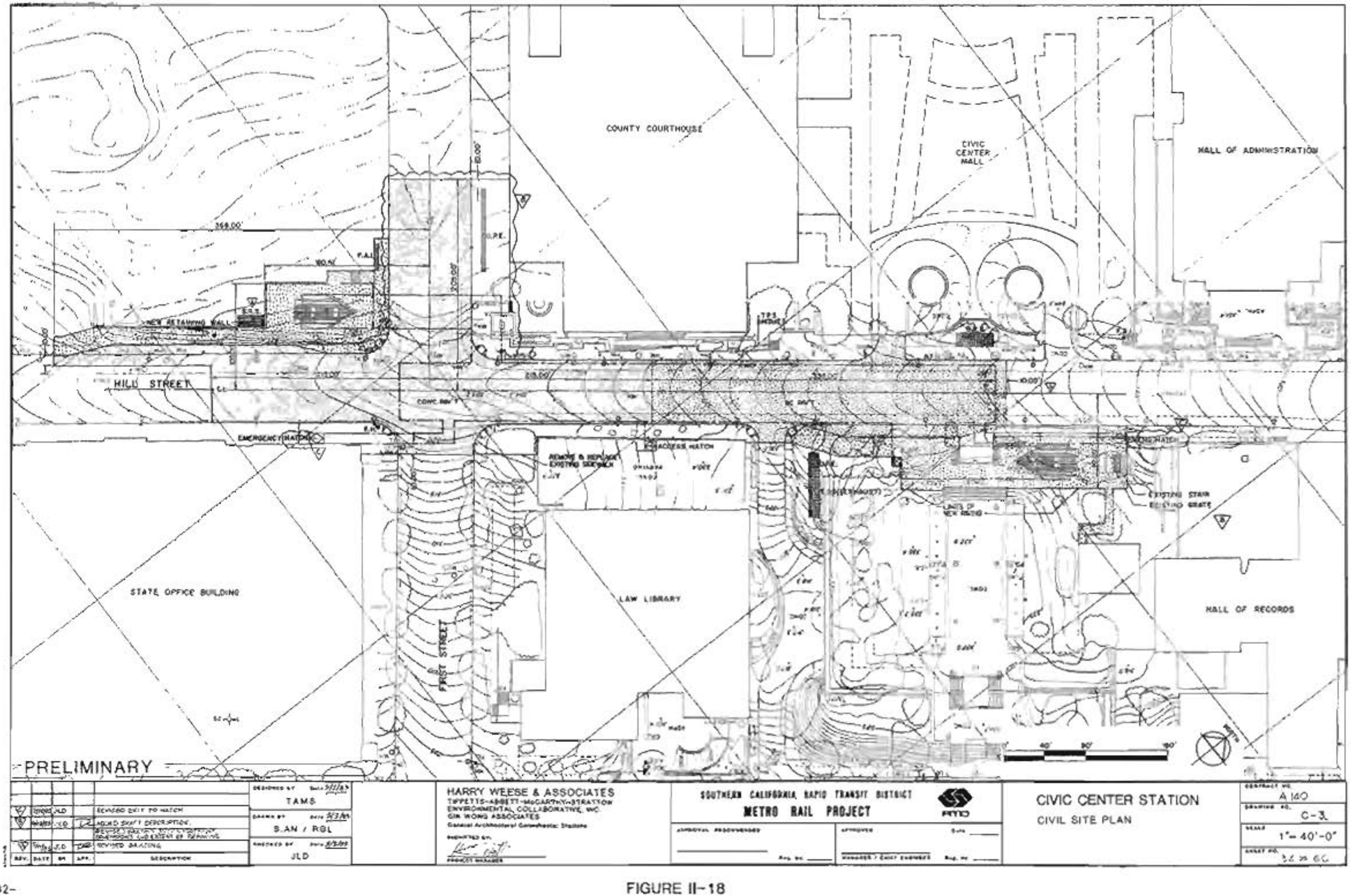
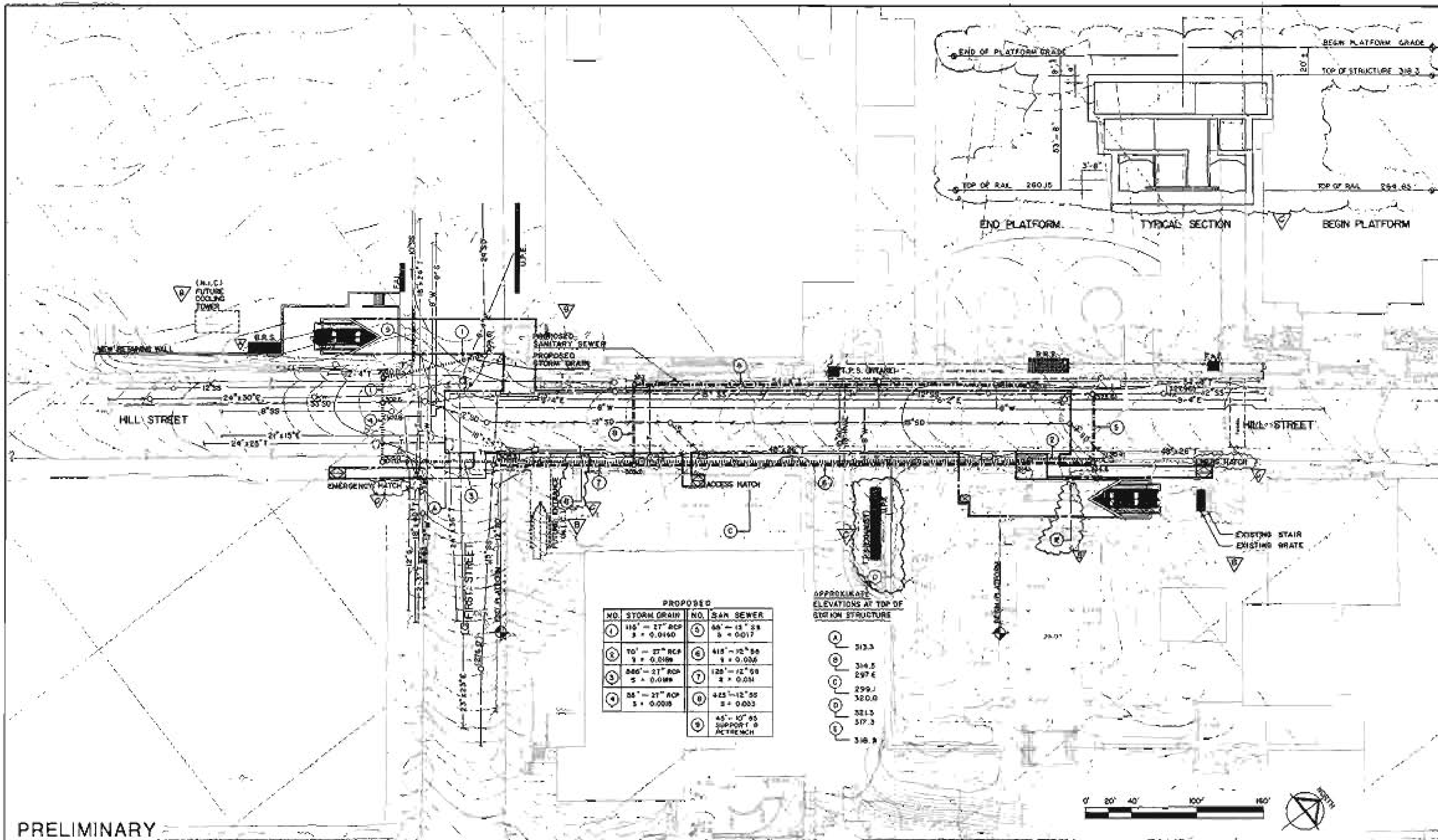

COUNTY COURTHOUSE
CIVIC CENTER MALL
HALL OF ADMINISTRATION
HILL STREET
NEW RETAINING WALL
EMERGENCY HATCH
REMOVE & REPLACE EXISTING SIDEWALK
ACCESS HATCH
EXISTING STAIR
EXISTING GRATE
STATE OFFICE BUILDING
LAW LIBRARY
FIRST STREET
HALL OF RECORDS
PRELIMINARY
TAMS
S.AN / RGL
JLD
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
PYTO
CIVIC CENTER STATION
CIVIL SITE PLAN
A 140
C-3
1"= 40'-0"

FIGURE II-18



PROPOSED

NO.	STORM DRAIN	NO.	SAN. SEWER
1	115' — 27" RCP S = 0.0160	5	65' — 12" SS S = 0.017
2	70' — 27" RCP S = 0.0189	6	415' — 12" SS S = 0.036
3	386' — 27" RCP S = 0.0188	7	128' — 12" SS S = 0.031
4	35' — 27" RCP S = 0.0038	8	425' — 12" SS S = 0.033
		9	45' — 10" SS SUPPORT @ AC TRENCH

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
C		JLD		REVISED EL'S AT TOP OF STRUCTURE, TYPICAL SECTION AND FORWARD VAULT TO HATCH
B		JLO		REVISED EXISTING, SHAFT DESCRIPTION AND STATION FOOTPRINT, ADDED (N.I.C.)
A		JLO		REVISED GRATE

DESIGNED BY TAMS DATE 5/1/83
DRAWN BY RGL / S.AN DATE 5/3/83
CHECKED BY JLD DATE 5/9/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants, Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — MANAGER / CHIEF ENGINEER — Reg. No. — DATE

CIVIC CENTER STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A140
DRAWING NO. U-3
SCALE 1" = 40'-0"
SHEET NO. 35 OF 60

FIGURE II-19

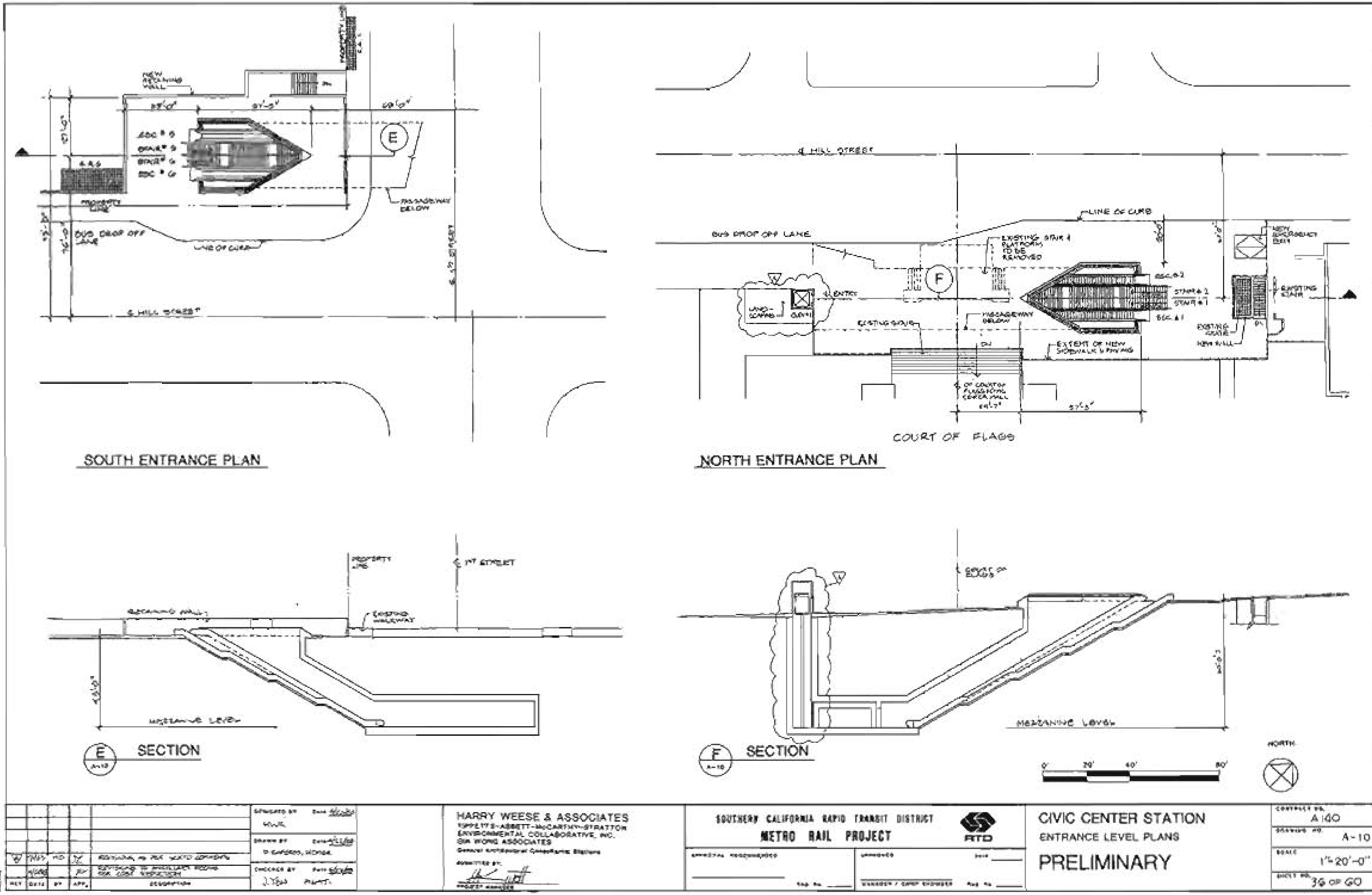
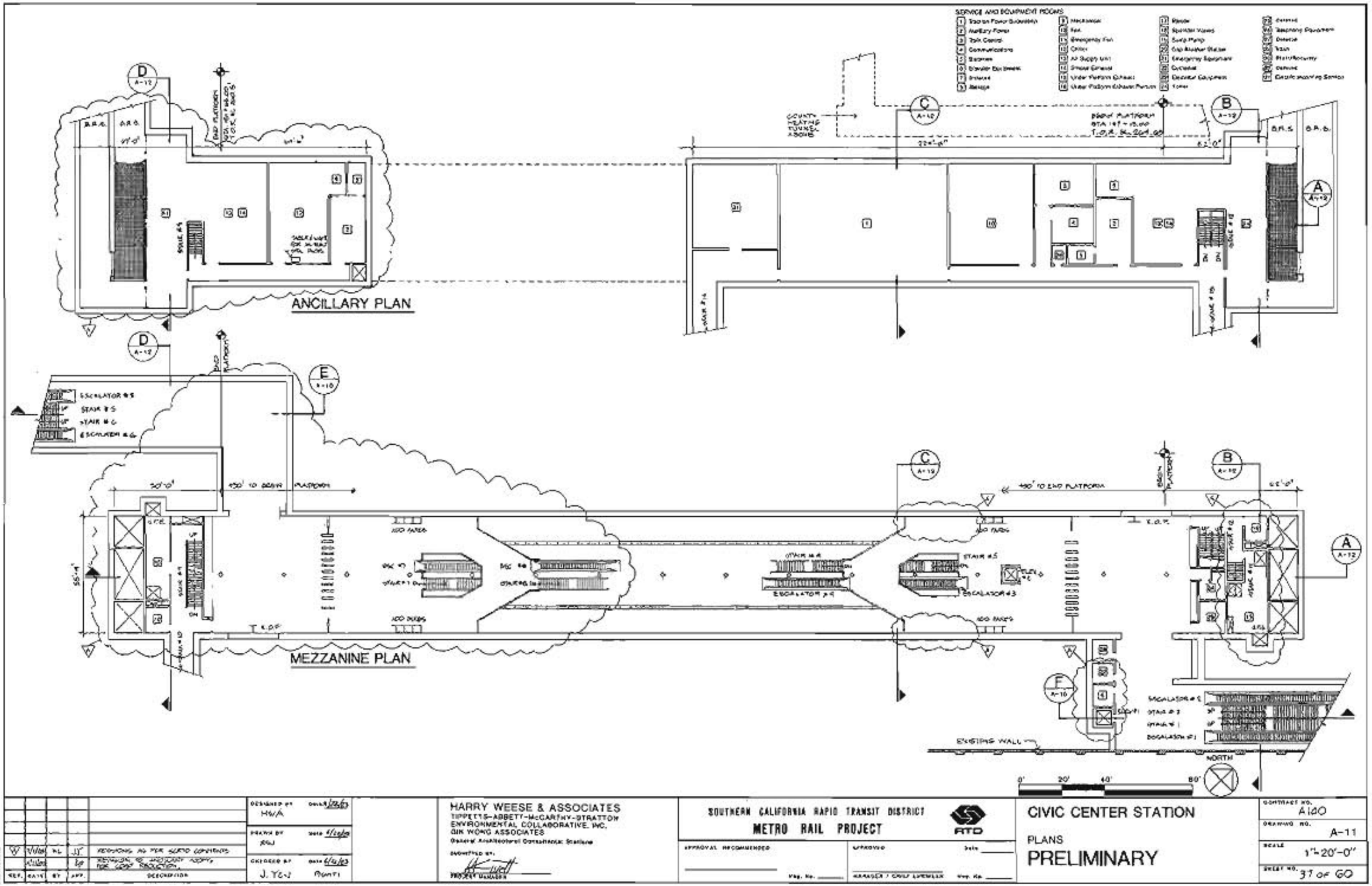

SOUTH ENTRANCE PLAN
NORTH ENTRANCE PLAN
S HILL STREET
BUS DROP OFF LANE
LINE OF CURB
PASSAGEWAY BELOW
PROPERTY LINE
NEW RETAINING WALL
E
F
LINE OF CURB
EXISTING STAIR
EXTENT OF NEW SIDEWALK & PAVING
NEW EMERGENCY EXIT
EXISTING STAIR
NEW WALL
COURT OF FLAGS
SECTION
SECTION
RETAINING WALL
EXISTING WALKWAY
PROPERTY LINE
MEZZANINE LEVEL
MEZZANINE LEVEL
NORTH
0'
20'
40'
80'
HARRY WEESE & ASSOCIATES
ENVIRONMENTAL COLLABORATIVE, INC.
GIA WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
CIVIC CENTER STATION
ENTRANCE LEVEL PLANS
PRELIMINARY
A 140
A-10
1"=20'-0"
36 OF 60

FIGURE II-20



HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIK WONG ASSOCIATES

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

CIVIC CENTER STATION

PLANS
PRELIMINARY

CONTRACT NO. A140
DRAWING NO. A-11
SCALE 1"=20'-0"
SHEET NO. 37 OF 60

FIGURE II-21

PLATFORM PLAN

A SECTION

D SECTION

C SECTION

B SECTION

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

CIVIC CENTER STATION
PLAN & SECTIONS
PRELIMINARY

CONTRACT NO. A140
DRAWING NO. A-12
SCALE 1"-20'-0"
SHEET NO. 38 OF 60

FIGURE II-22

5TH/HILL STATION

Background

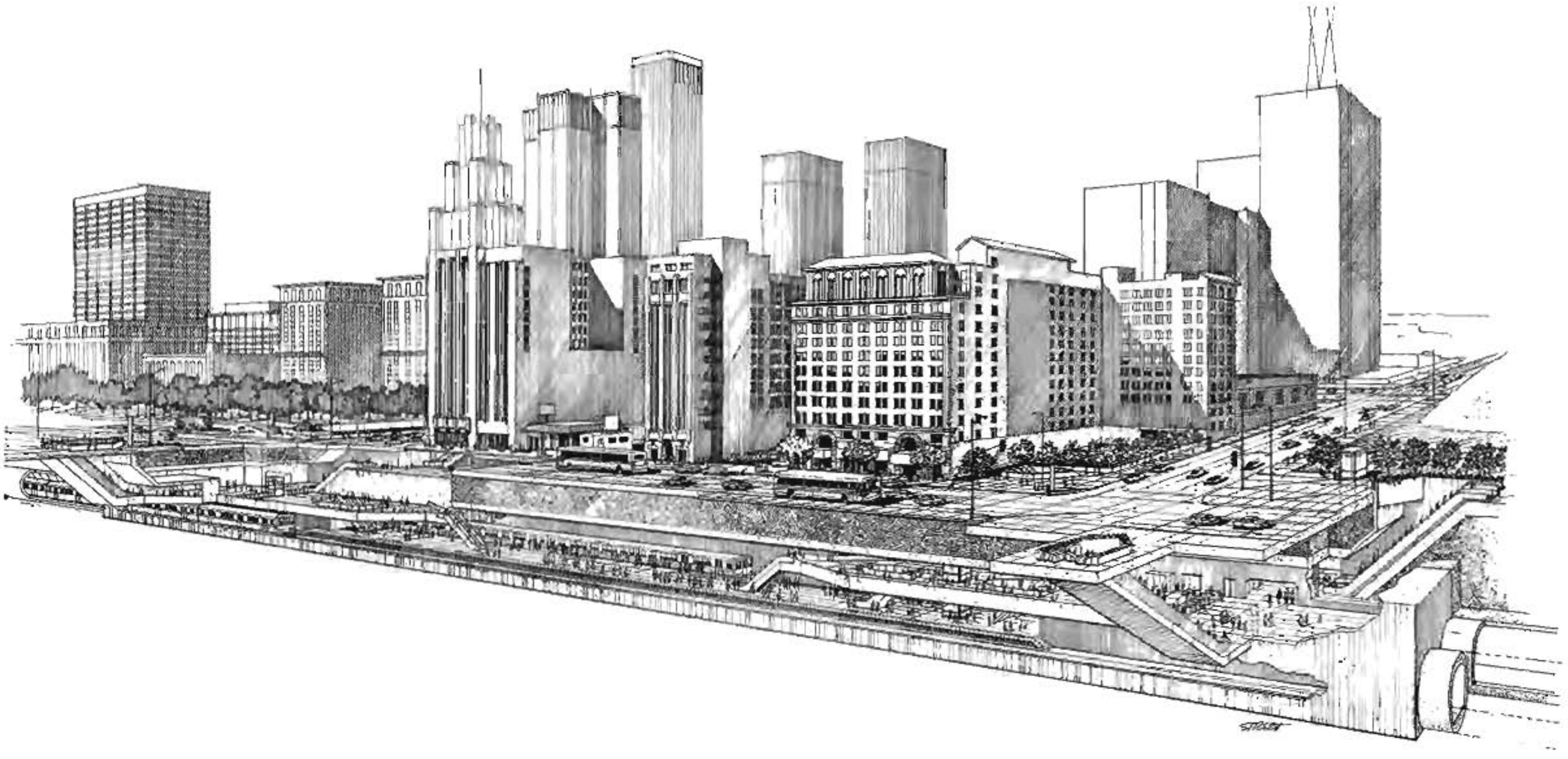
The 5th/Hill Station will be located under Hill Street between 4th and 5th streets. The surrounding area contains the International Jewelry Center, the Grand Central Market, the Biltmore Hotel, and many retail, commercial, and office buildings. Pershing Square Park is at the south end of the station and is the focus for the surrounding area. Several major new developments are proposed for this area including the California Plaza $1.2 billion mixed-use development on the northwest corner of 4th and Hill and the proposed expansion of the International Jewelry Center on the southeast corner of 5th and Hill.

Station Site Design Parameters

The primary site design concern at this station is to orient the entrances to pedestrian flows and to design the entrances so as to minimize adverse impacts on the future development of the entry sites. The major bus transfer point for the station will be at the 5th and Hill intersection. Three corners of the intersection are developed, which increases the complexity of locating entrances. The 4th and Hill end of the station will be the primary access point for pedestrians from east of Hill Street and from the proposed California Plaza Development. There is a strong desire by the Community Redevelopment Agency to see a pedestrian link (possibly a mechanized device) between Hill Street and a new pedestrian plaza to be developed above Hope and Grand as part of this development project, which, if constructed, would be a major pedestrian path to the north station entries.

Station Design Parameters

This station has the highest patronage projection for the system and is planned with mezzanines at each end of the platform. The mezzanines have been located so as to not preclude the locating of entries on any or all four corners of the 4th and Hill and 5th and Hill intersections. At the 4th and Hill intersection, two initial entries are proposed: one on the northwest corner serving the proposed California Plaza project and other pedestrian traffic from the west, another located on the northeast corner to serve pedestrian movements from the east and north. Both sites have projects proposed for them, but are currently undeveloped. The final orienta tion of the entries may be modified to permit their integration into future development. Two initial entries are also proposed for the 5th and Hill intersection. It is proposed that one entry be built into the existing 411 West 5th Street Building. This will require careful design to protect and enhance the commercial viability of the ground floor of the building. The other entry is proposed for the corner adjacent to the International Jewelry Center. The site is presently undeveloped but is expected to house an expansion of the Jewelry Center. This entry is oriented parallel to Fifth Street to accommodate pedestrian flow from Broadway and Spring streets. The entry orientation may be changed to permit its integration into future development. No traction power substation is required at this station.



STATION AT 5TH / HILL

FIGURE II-23

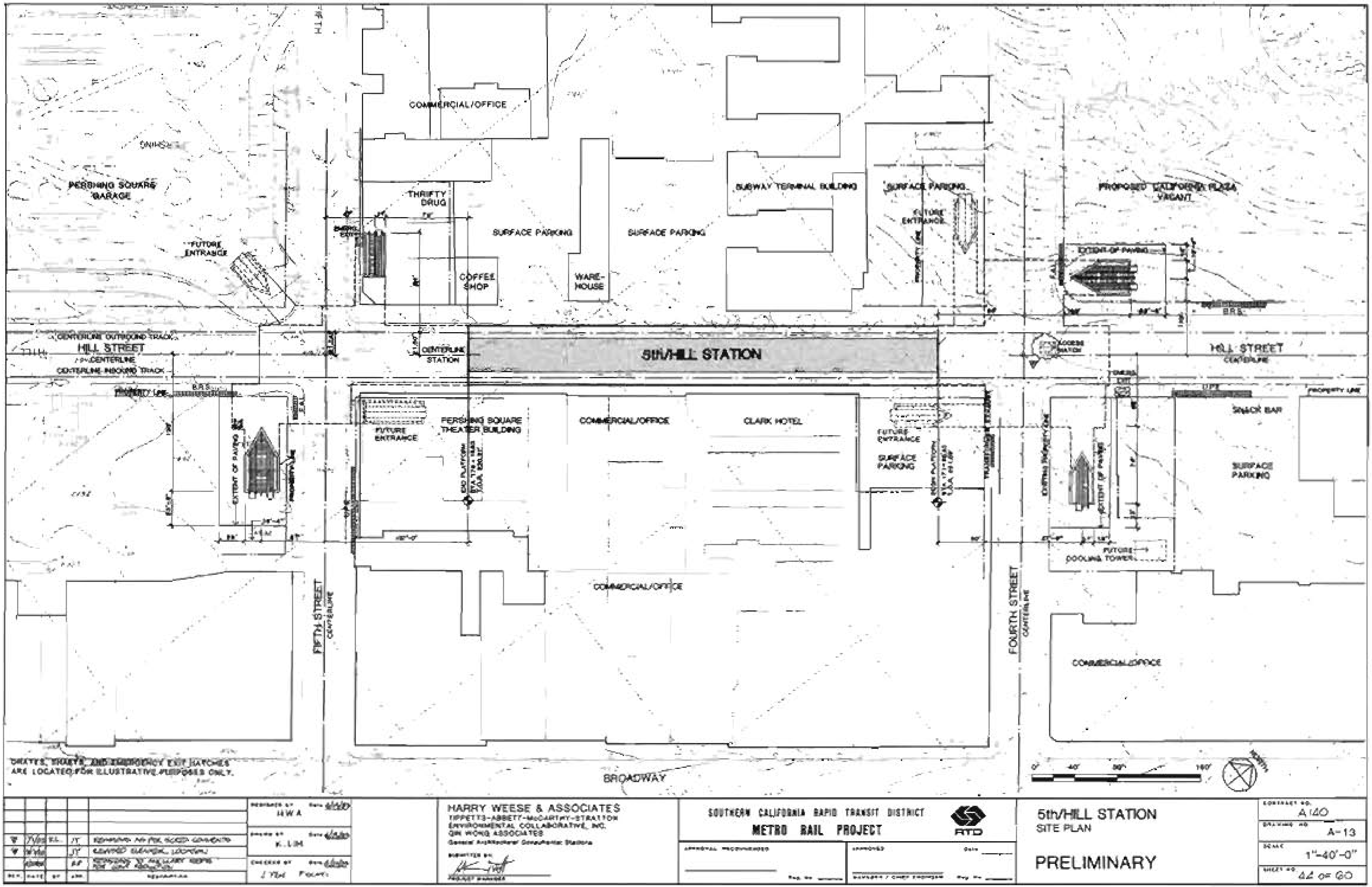

COMMERCIAL/OFFICE
PERSHING SQUARE GARAGE
FUTURE ENTRANCE
THRIFTY DRUG
COFFEE SHOP
SURFACE PARKING
SURFACE PARKING
WARE-HOUSE
SUBWAY TERMINAL BUILDING
SURFACE PARKING
FUTURE ENTRANCE
PROPOSED CALIFORNIA PLAZA VACANT
EXTENT OF PAVING
CENTERLINE OUTBOUND TRACK
HILL STREET
CENTERLINE
CENTERLINE INBOUND TRACK
CENTERLINE STATION
5th/HILL STATION
HILL STREET
CENTERLINE
PROPERTY LINE
PERSHING SQUARE THEATER BUILDING
FUTURE ENTRANCE
COMMERCIAL/OFFICE
CLARK HOTEL
FUTURE ENTRANCE
SURFACE PARKING
SNACK BAR
SURFACE PARKING
FUTURE COOLING TOWER
EXTENT OF PAVING
COMMERCIAL/OFFICE
FIFTH STREET CENTERLINE
FOURTH STREET CENTERLINE
COMMERCIAL/OFFICE
BROADWAY
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
0' 40' 80' 160'
NORTH
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
5th/HILL STATION
SITE PLAN
PRELIMINARY
A140
A-13
1"-40'-0"
44 OF 60

FIGURE II-24

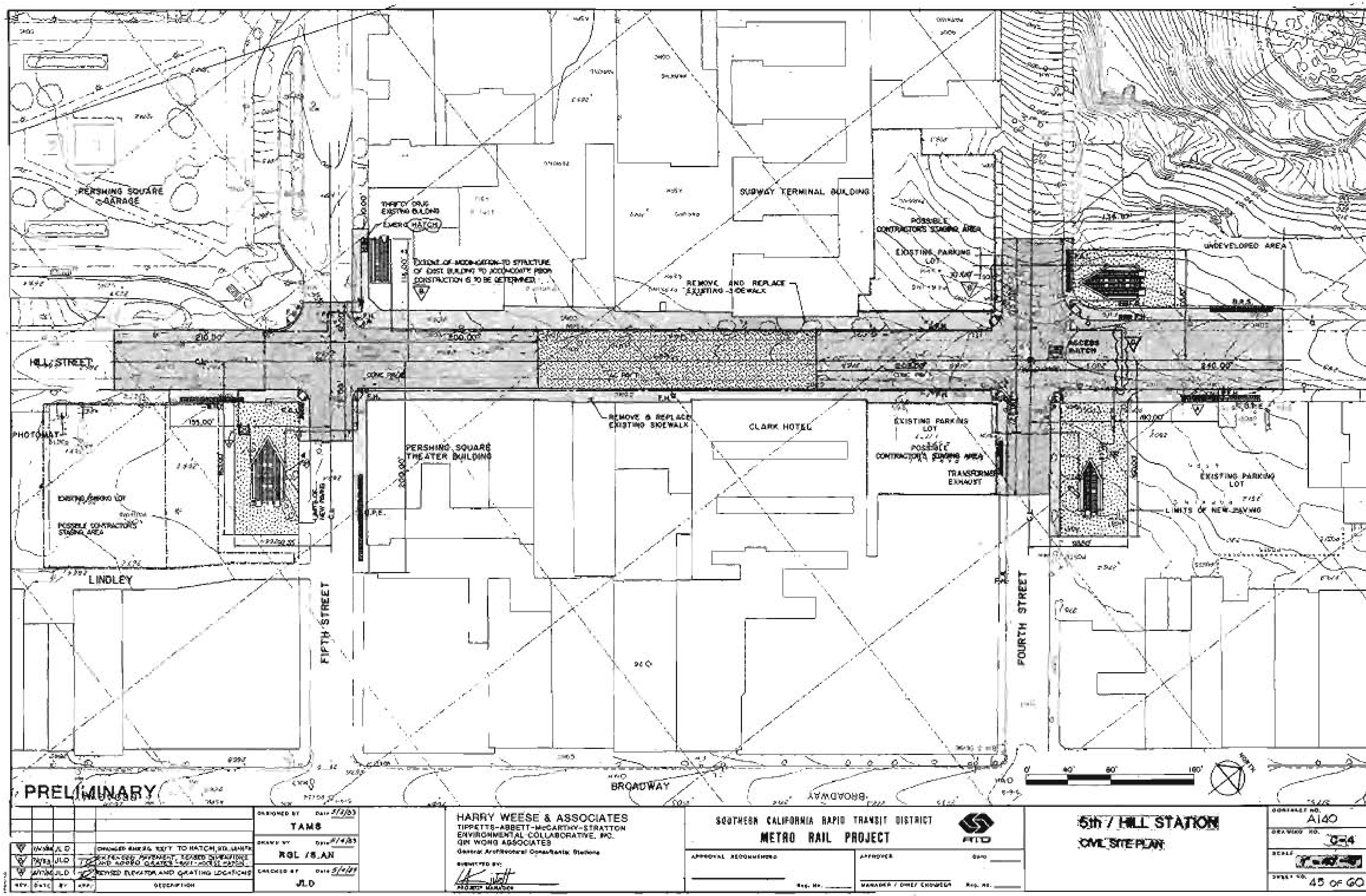
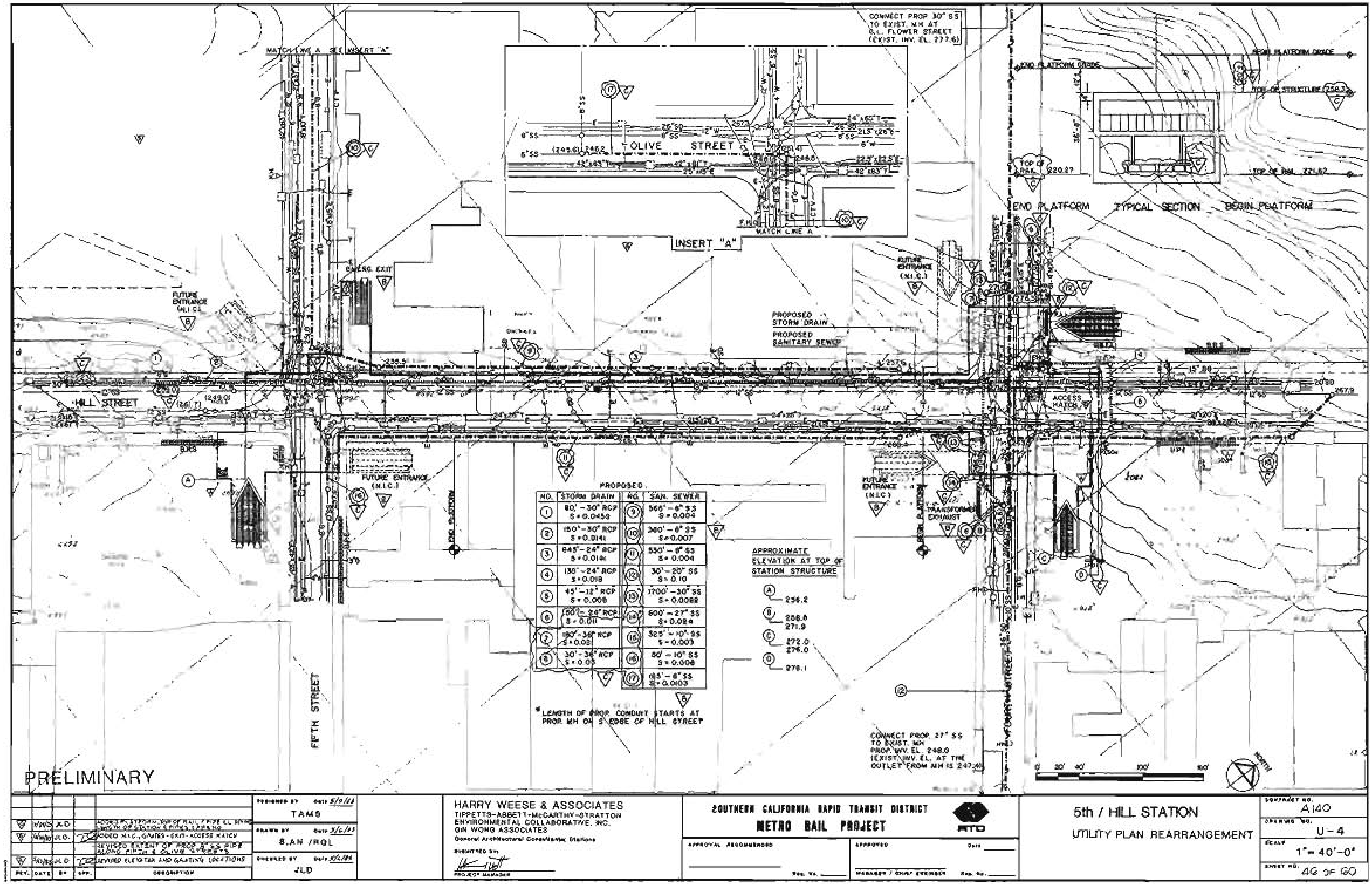

PERSHING SQUARE GARAGE
THRIFTY DRUG EXISTING BUILDING
EXTENT OF MODIFICATION TO STRUCTURE OF EXIST. BUILDING TO ACCOMMODATE PROM CONSTRUCTION IS TO BE DETERMINED
SUBWAY TERMINAL BUILDING
POSSIBLE CONTRACTORS STAGING AREA
EXISTING PARKING LOT
UNDEVELOPED AREA
REMOVE AND REPLACE EXISTING SIDEWALK
HILL STREET
ACCESS HATCH
PHOTOMAT
EXISTING PARKING LOT
POSSIBLE CONTRACTORS STAGING AREA
PERSHING SQUARE THEATER BUILDING
REMOVE & REPLACE EXISTING SIDEWALK
CLARK HOTEL
EXISTING PARKING LOT
POSSIBLE CONTRACTORS STAGING AREA
TRANSFORMER EXHAUST
EXISTING PARKING LOT
LIMITS OF NEW PAVING
LINDLEY
FIFTH STREET
FOURTH STREET
BROADWAY
PRELIMINARY
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
5th / HILL STATION
CIVIL SITE PLAN
A140
C-4
45 OF 60

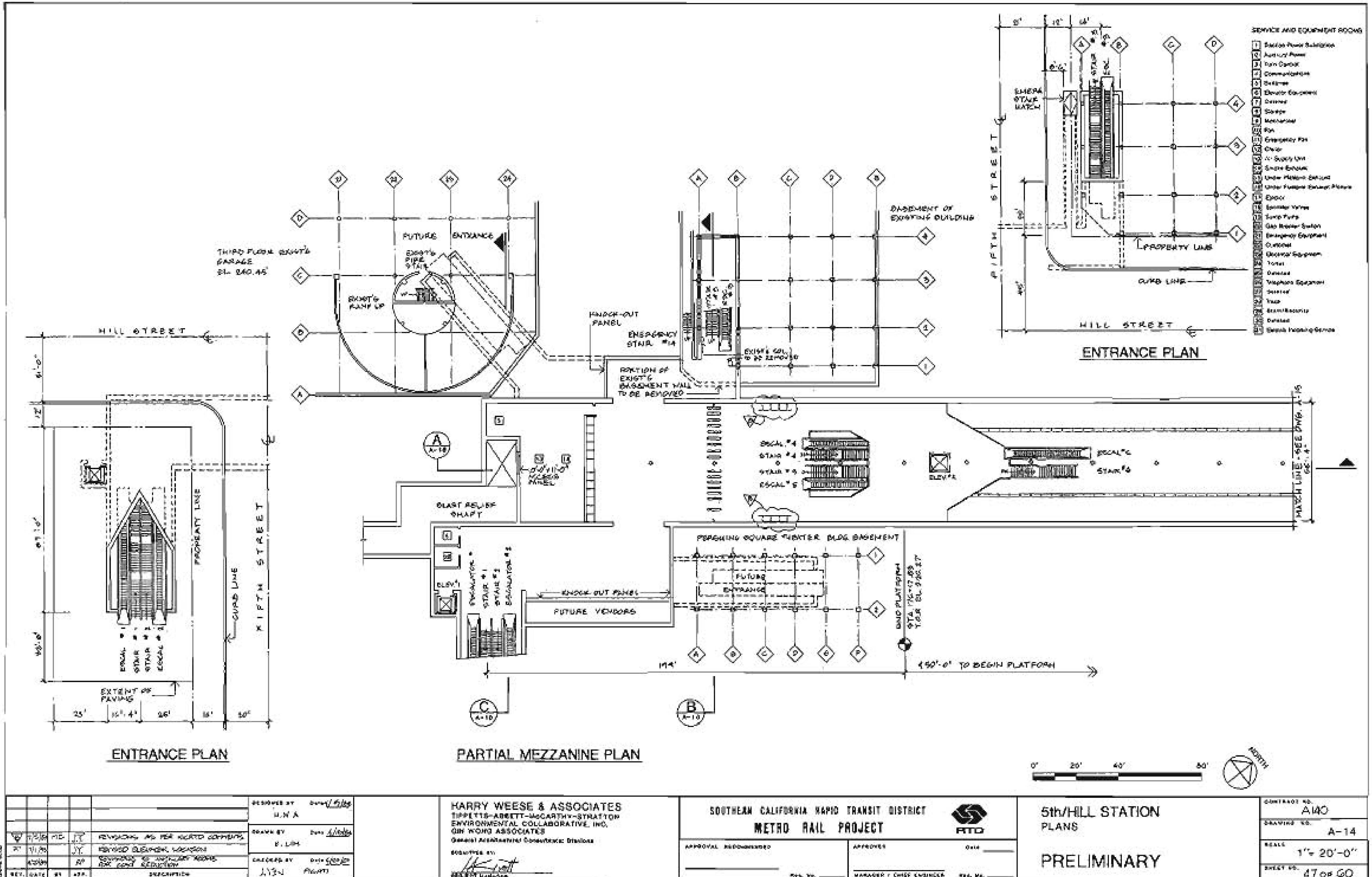
FIGURE II-25



PROPOSED

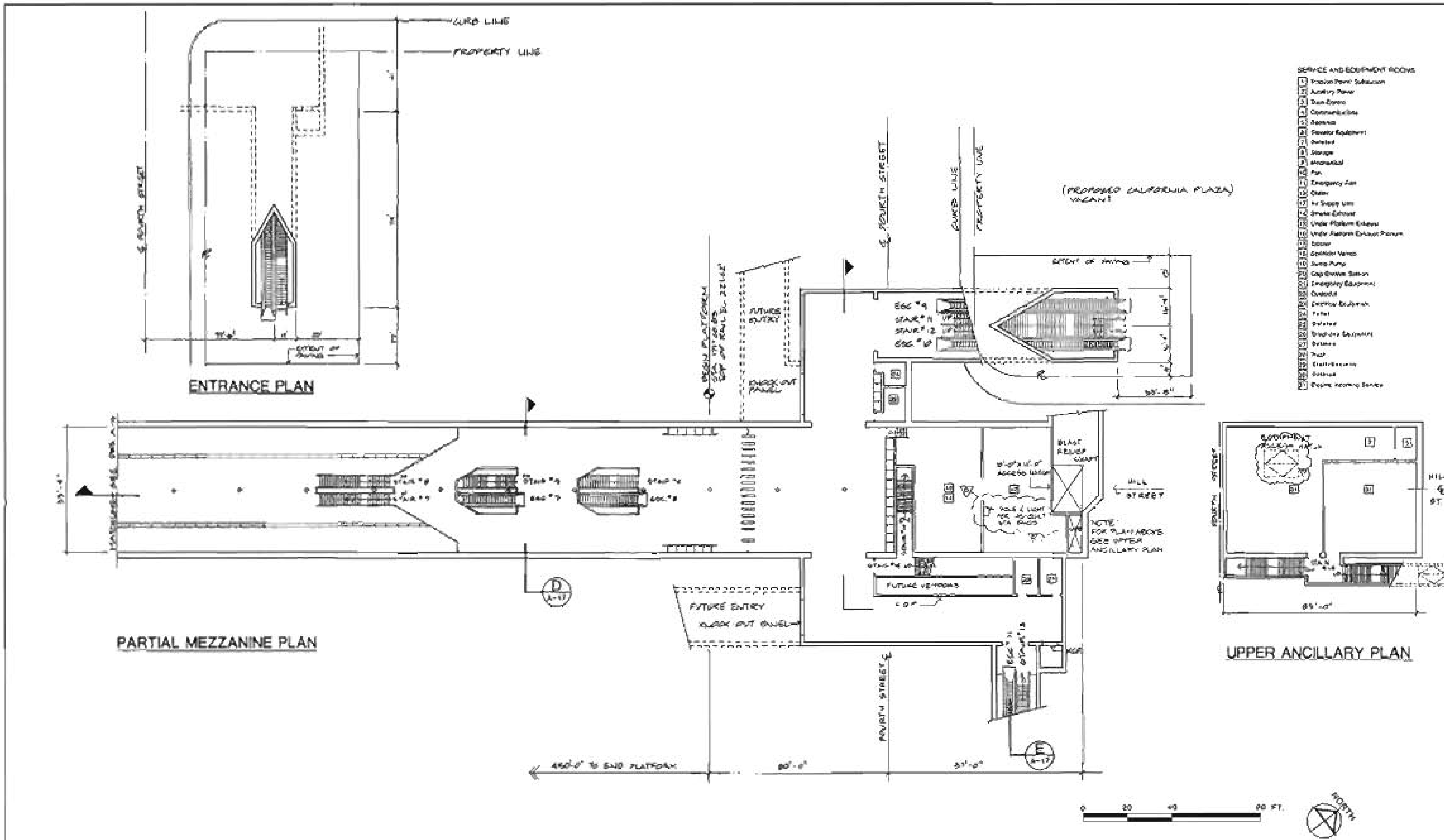
NO.	STORM DRAIN	NO.	SAN. SEWER
1	80' – 30" RCP S = 0.0450	9	566' – 8" SS S = 0.004
2	150' – 30" RCP S = 0.0141	10	380' – 8" SS S = 0.007
3	645' – 24" RCP S = 0.0141	11	530' – 8" SS S = 0.004
4	130' – 24" RCP S = 0.018	12	30' – 20" SS S = 0.10
5	45' – 12" RCP S = 0.008	13	1700' – 30" SS S = 0.0088
6	180' – 24" RCP S = 0.011	14	600' – 27" SS S = 0.024
7	180' – 36" RCP S = 0.03	15	325' – 10" SS S = 0.003
8	30' – 36" RCP S = 0.03	16	80' – 10" SS S = 0.008
		17	165' – 8" SS S = 0.0103

FIGURE II-26



ENTRANCE PLAN
PARTIAL MEZZANINE PLAN
ENTRANCE PLAN
HILL STREET
FIFTH STREET
PROPERTY LINE
CURB LINE
EXTENT OF PAVING
FUTURE ENTRANCE
BLAST RELIEF SHAFT
KNOCK-OUT PANEL
EMERGENCY STAIR #14
BASEMENT OF EXISTING BUILDING
PERSHING SQUARE THEATER BLDG BASEMENT
FUTURE VENDORS
KNOCK OUT PANEL
150'-0" TO BEGIN PLATFORM
SERVICE AND EQUIPMENT ROOMS
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
5th/HILL STATION
PLANS
PRELIMINARY
A140
A-14
1" = 20'-0"
47 OF 60
NORTH

FIGURE II-27



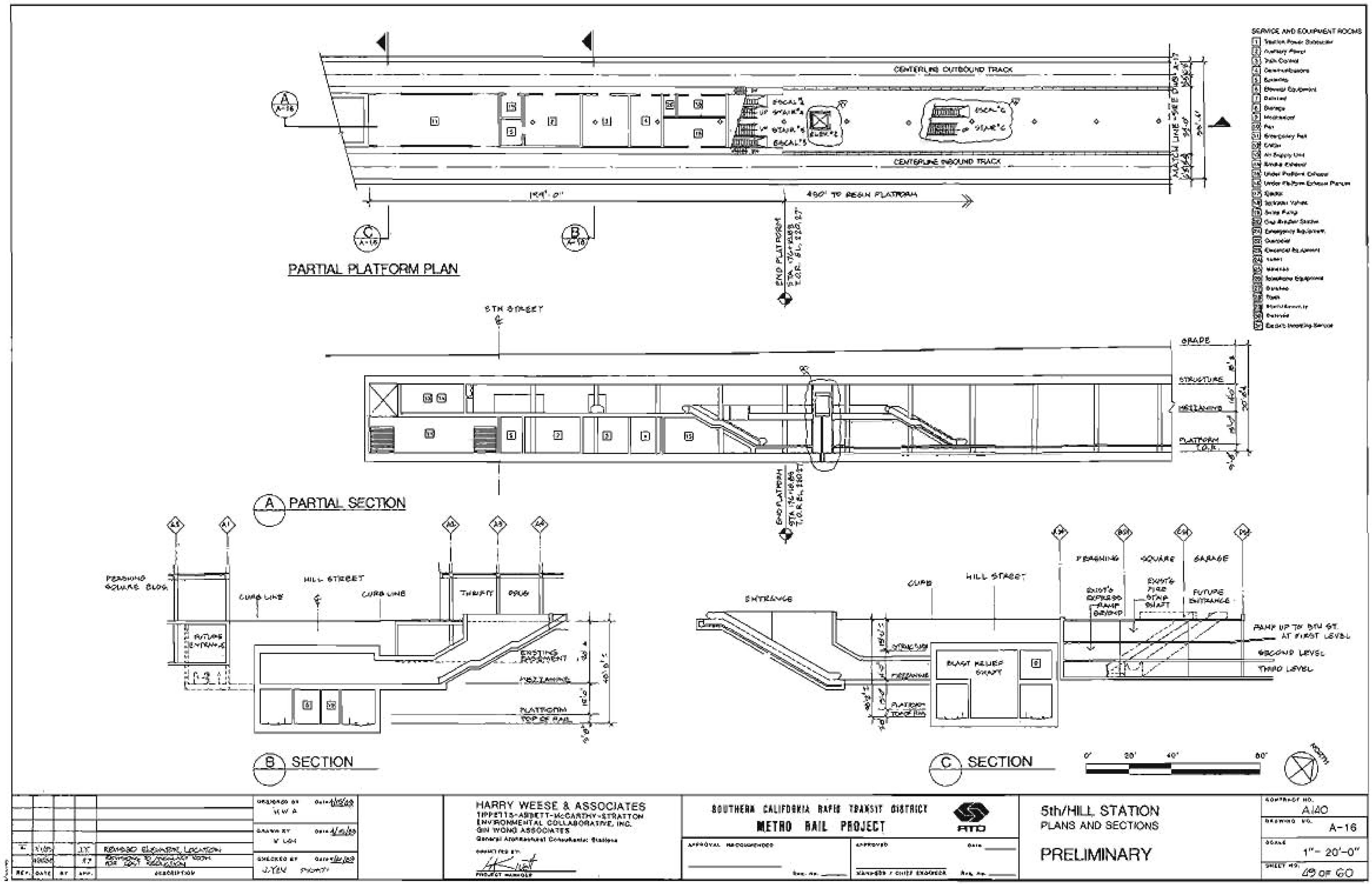
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants, Stations

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

5th/HILL STATION
PLANS
PRELIMINARY

CONTRACT NO. A140
DRAWING NO. A-15
SCALE 1"=20'-0"
SHEET NO. 48 OF 60

FIGURE II-28



PARTIAL PLATFORM PLAN
CENTERLINE OUTBOUND TRACK
CENTERLINE INBOUND TRACK
SERVICE AND EQUIPMENT ROOMS
5TH STREET
GRADE
STRUCTURE
MEZZANINE
PLATFORM
A PARTIAL SECTION
HILL STREET
CURB LINE
FUTURE ENTRANCE
ENTRANCE
HILL STREET
PERSHING SQUARE GARAGE
RAMP UP TO 5TH ST. AT FIRST LEVEL
SECOND LEVEL
THIRD LEVEL
BLAST RELIEF SHAFT
B SECTION
C SECTION
NORTH
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
5th/HILL STATION
PLANS AND SECTIONS
PRELIMINARY
A140
A-16
1"= 20'-0"
49 OF 60

FIGURE II-29

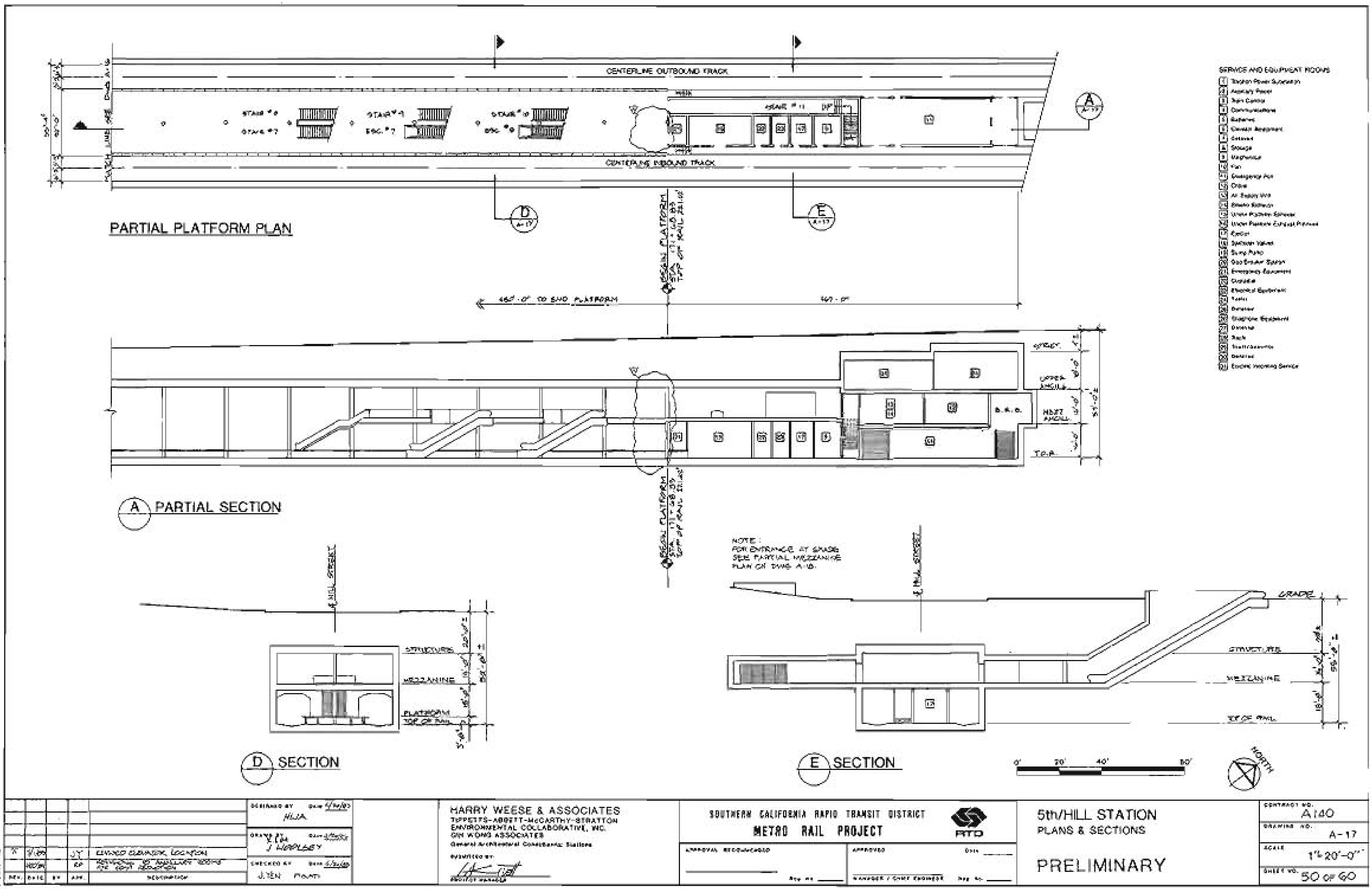

CENTERLINE OUTBOUND TRACK
CENTERLINE INBOUND TRACK
PARTIAL PLATFORM PLAN
SERVICE AND EQUIPMENT ROOMS
A PARTIAL SECTION
STREET
UPPER MEZZ.
MEZZ. ANCIL.
T.O.R.
NOTE: FOR ENTRANCE AT GRADE SEE PARTIAL MEZZANINE PLAN ON DWG A-16.
STRUCTURE
MEZZANINE
PLATFORM TOP OF RAIL
GRADE
TOP OF RAIL
D SECTION
E SECTION
NORTH
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
5th/HILL STATION
PLANS & SECTIONS
PRELIMINARY
CONTRACT NO. A140
DRAWING NO. A-17
SCALE 1"=20'-0"
SHEET NO. 50 OF 60

FIGURE II-30

7TH/FLOWER STATION

Background

The 7th/Flower Station will be located under 7th Street between Hope and Figueroa streets. Land uses in the station area are high-rise office towers, street level retail and commercial space, department stores, and restaurants. First Interstate Tower, Robinson's Department Store, Arco Plaza, Hilton Hotel, Barker Brothers, and the Broadway Plaza are major activity centers in the immediate vicinity. 7th Street is a major auto, bus, and pedestrian artery through the Central Business District . The immediate area contains very little undeveloped land, with the notable exception being the southwest corner of Figueroa and 7th streets. This site is the location for the proposed Pacific Plaza Project, which will provide over three million square feet of office and commercial/retail space. Three historic landmark buildings are located in the vicinity of 7th and Figueroa - the Barker Brothers Building, Global Marine House, and Engine Company No. 28.

Station Site Design Parameters

Due to the geometry of the alignment and the station configuration it appears most economical to locate the traction power substation needed at this station in an off-street location. Since the entry proposed for the northeast corner of 7th and Figueroa will require the acquisition of the existing structure on this site, the substation and its ancillary space are to be located on the cleared site. The entry at this location will be the primary entry to the station and will include an elevator to provide handicapped accessibility from the surface to the station mezzanine. The entry and substation will be located on the site in a manner to facilitate future development.

The second entry to the station will be constructed into the corner of the Central Bank Building at 7th and Hope. This entry will be designed to minimize its impact on the commercial space located in this corner of the building. No special provisions for buses and autos are planned at this station.

Station Design Parameters

In response to the moderately high patronage projection for this station, it has been planned with a mezzanine at each end providing access to a center platform. The west mezzanine has been configured to permit the future construction of an entry from the proposed Pacific Plaza Project. The east mezzanine has been configured with a single entry. However, the future addition of an entry from the garden level of the Broadway Plaza is possible. Station ancillary space will be located at each end of the platform.

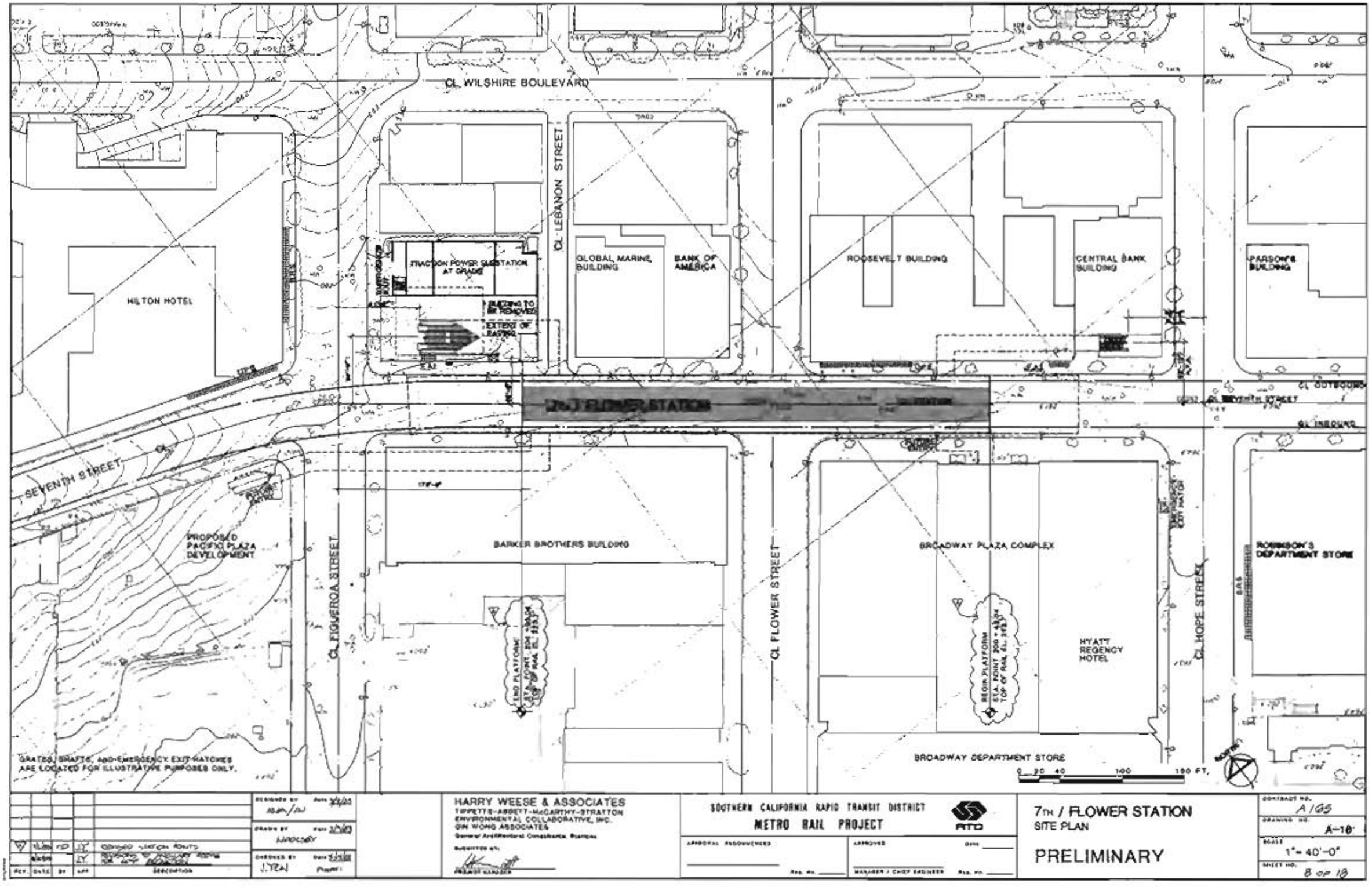

CL WILSHIRE BOULEVARD
CL LEBANON STREET
TRACTION POWER SUBSTATION AT GRADE
EXTENT OF EXCAVATION
GLOBAL MARINE BUILDING
BANK OF AMERICA
ROOSEVELT BUILDING
CENTRAL BANK BUILDING
PARSONS BUILDING
HILTON HOTEL
SEVENTH STREET
PROPOSED PACIFIC PLAZA DEVELOPMENT
CL FIGUEROA STREET
BARKER BROTHERS BUILDING
CL FLOWER STREET
BROADWAY PLAZA COMPLEX
HYATT REGENCY HOTEL
CL HOPE STREET
ROBINSON'S DEPARTMENT STORE
BROADWAY DEPARTMENT STORE
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
0 20 40 100 150 FT.
HARRY WEESE & ASSOCIATES
TUDETTE-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
7TH / FLOWER STATION
SITE PLAN
PRELIMINARY
CONTRACT NO. A165
DRAWING NO. A-18
SCALE 1"= 40'-0"
SHEET NO. 8 OF 18

FIGURE II-31

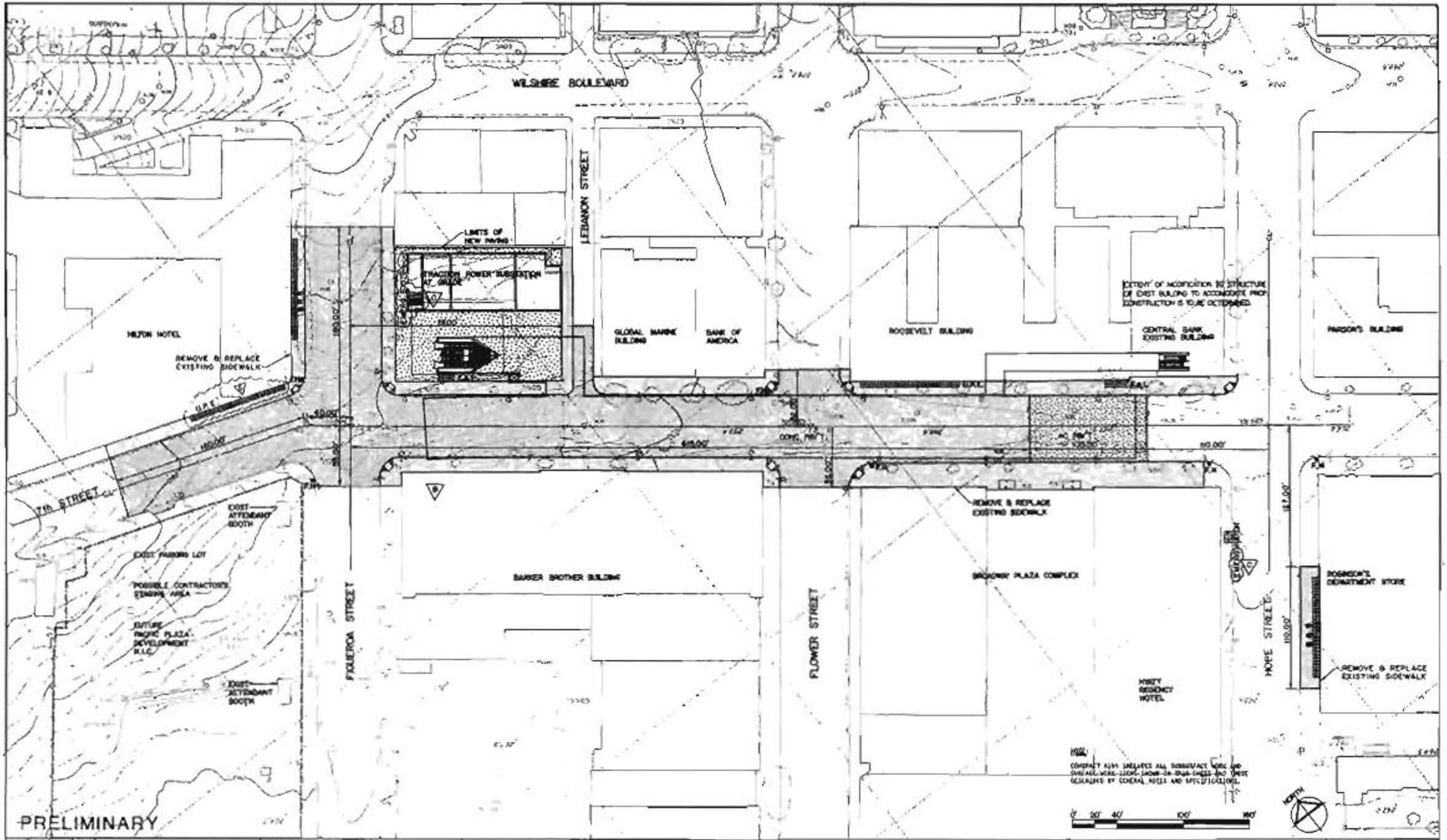
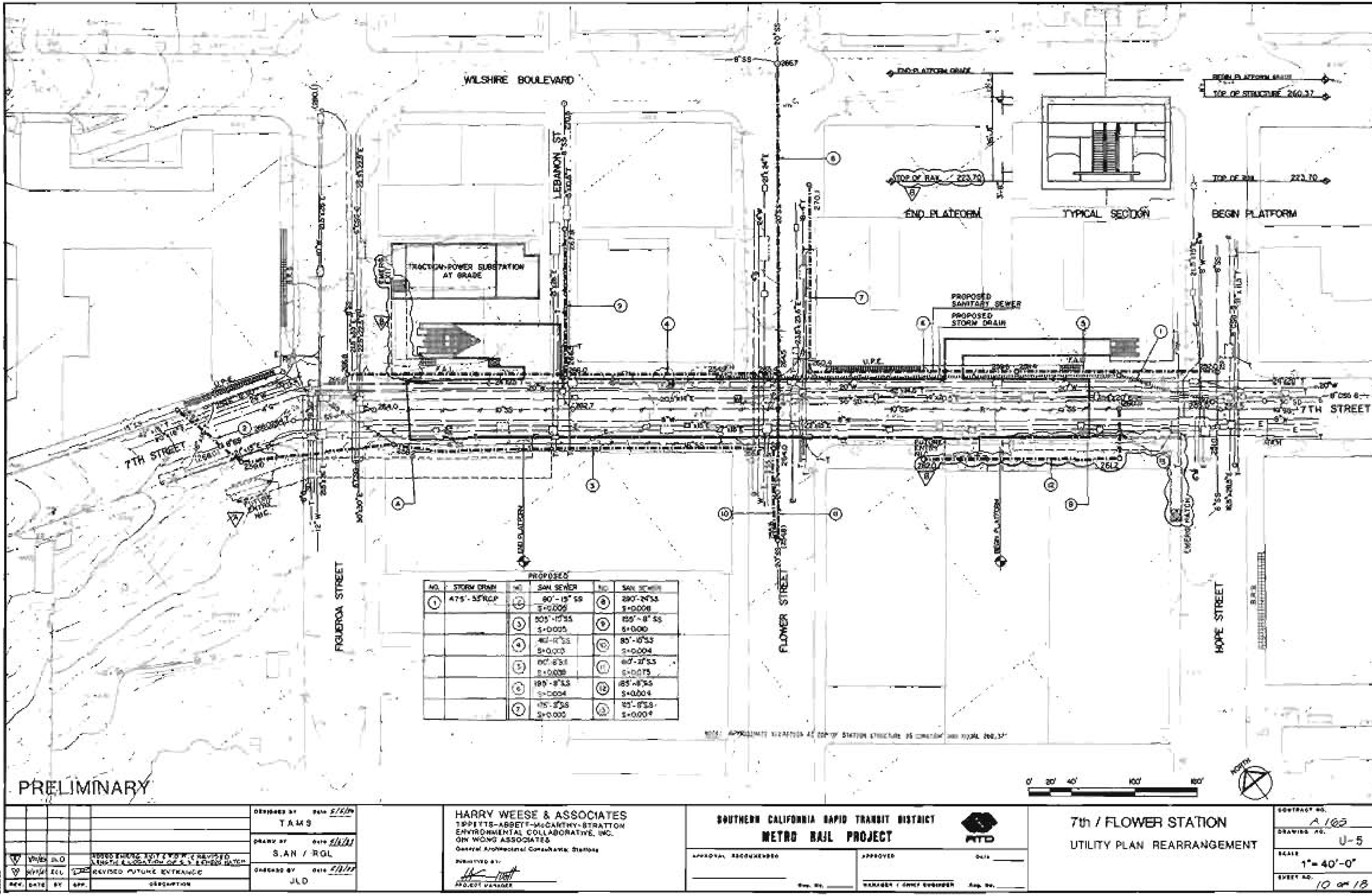

WILSHIRE BOULEVARD
LEBANON STREET
LIMITS OF NEW PAVING
TRACTION POWER SUBSTATION AT GRADE
HILTON HOTEL
REMOVE & REPLACE EXISTING SIDEWALK
GLOBAL MARINE BUILDING
BANK OF AMERICA
ROOSEVELT BUILDING
CENTRAL BANK EXISTING BUILDING
PARSON'S BUILDING
7th STREET
EXIST. ATTENDANT BOOTH
EXIST. PARKING LOT
POSSIBLE CONTRACTOR'S STAGING AREA
FUTURE PACIFIC PLAZA DEVELOPMENT K.I.C.
EXIST. ATTENDANT BOOTH
FIGUEROA STREET
BARKER BROTHER BUILDING
FLOWER STREET
BROADWAY PLAZA COMPLEX
REMOVE & REPLACE EXISTING SIDEWALK
HOPE STREET
ROBINSON'S DEPARTMENT STORE
REMOVE & REPLACE EXISTING SIDEWALK
HYATT REGENCY HOTEL
NORTH
0' 20' 40' 100' 200'
PRELIMINARY
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
7th / FLOWER STATION
CIVIL SITE PLAN
CONTRACT NO. A 165
DRAWING NO. C-5
SCALE 1" = 40'-0"
SHEET NO. 9 OF 18
DESIGNED BY TAMS
DRAWN BY RGL / S.AN
CHECKED BY JLD

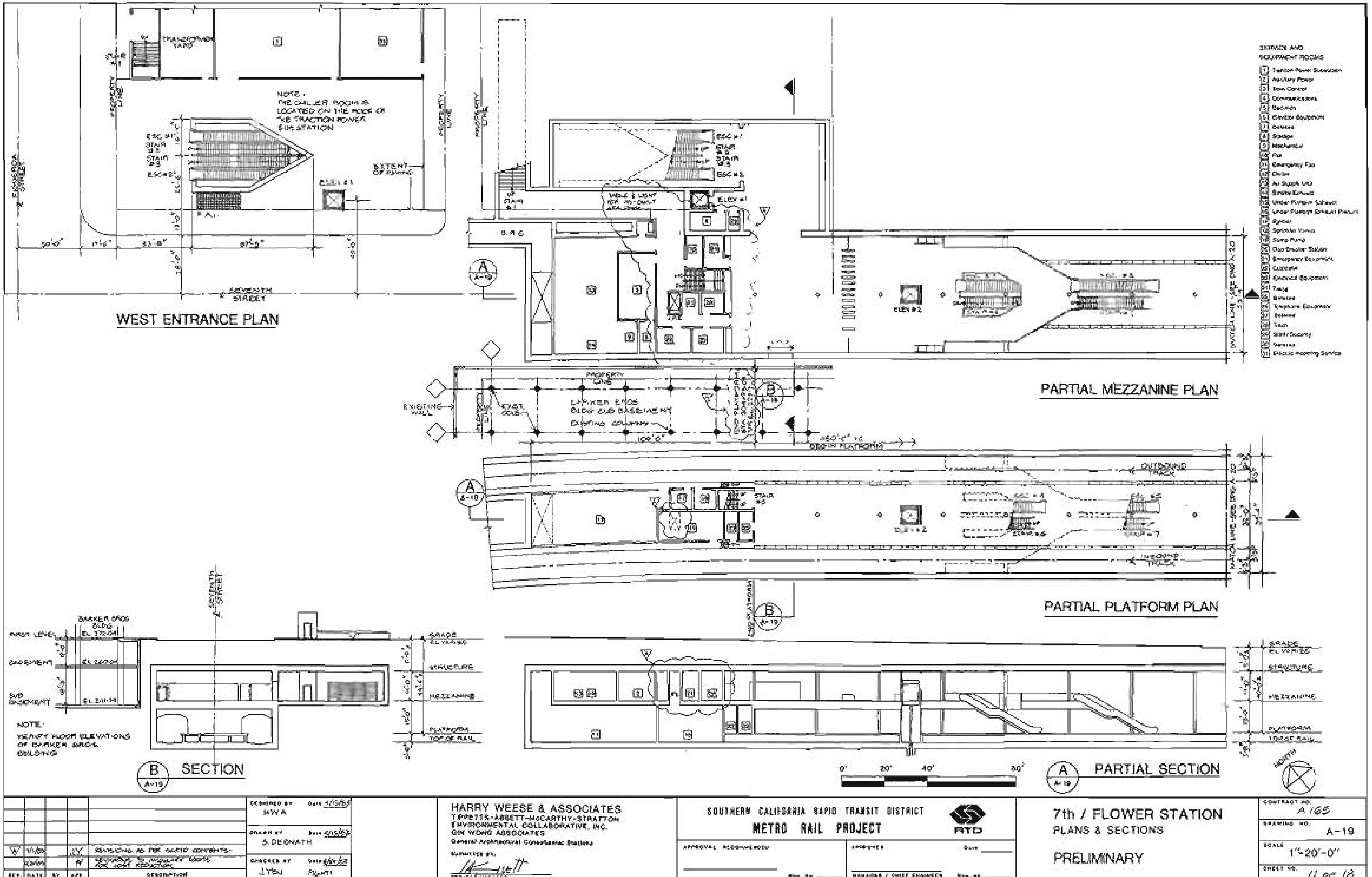
FIGURE II-32



PROPOSED

NO.	STORM DRAIN	NO.	SAN. SEWER	NO.	SAN. SEWER
1	475'-55"RCP	2	90'-15" SS S=0.005	8	290'-24"SS S=0.008
		3	505'-15"SS S=0.005	9	155'-8" SS S=0.010
		4	410'-15"SS S=0.003	10	85'-15"SS S=0.004
		5	110'-8"SS S=0.008	11	60'-21"SS S=0.075
		6	195'-8"SS S=0.004	12	185'-8"SS S=0.004
		7	175'-8"SS S=0.000	13	95'-8"SS S=0.004

FIGURE II-33



WEST ENTRANCE PLAN
PARTIAL MEZZANINE PLAN
PARTIAL PLATFORM PLAN
SECTION
PARTIAL SECTION
SEVENTH STREET
NOTE: THE CHILLER ROOM IS LOCATED ON THE ROOF OF THE TRACTION POWER SUBSTATION
OUTBOUND TRACK
INBOUND TRACK
GRADE
STRUCTURE
MEZZANINE
PLATFORM
TOP OF RAIL
HARRY WEESE & ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
7th / FLOWER STATION
PLANS & SECTIONS
PRELIMINARY
A-19
1"=20'-0"

FIGURE II-34

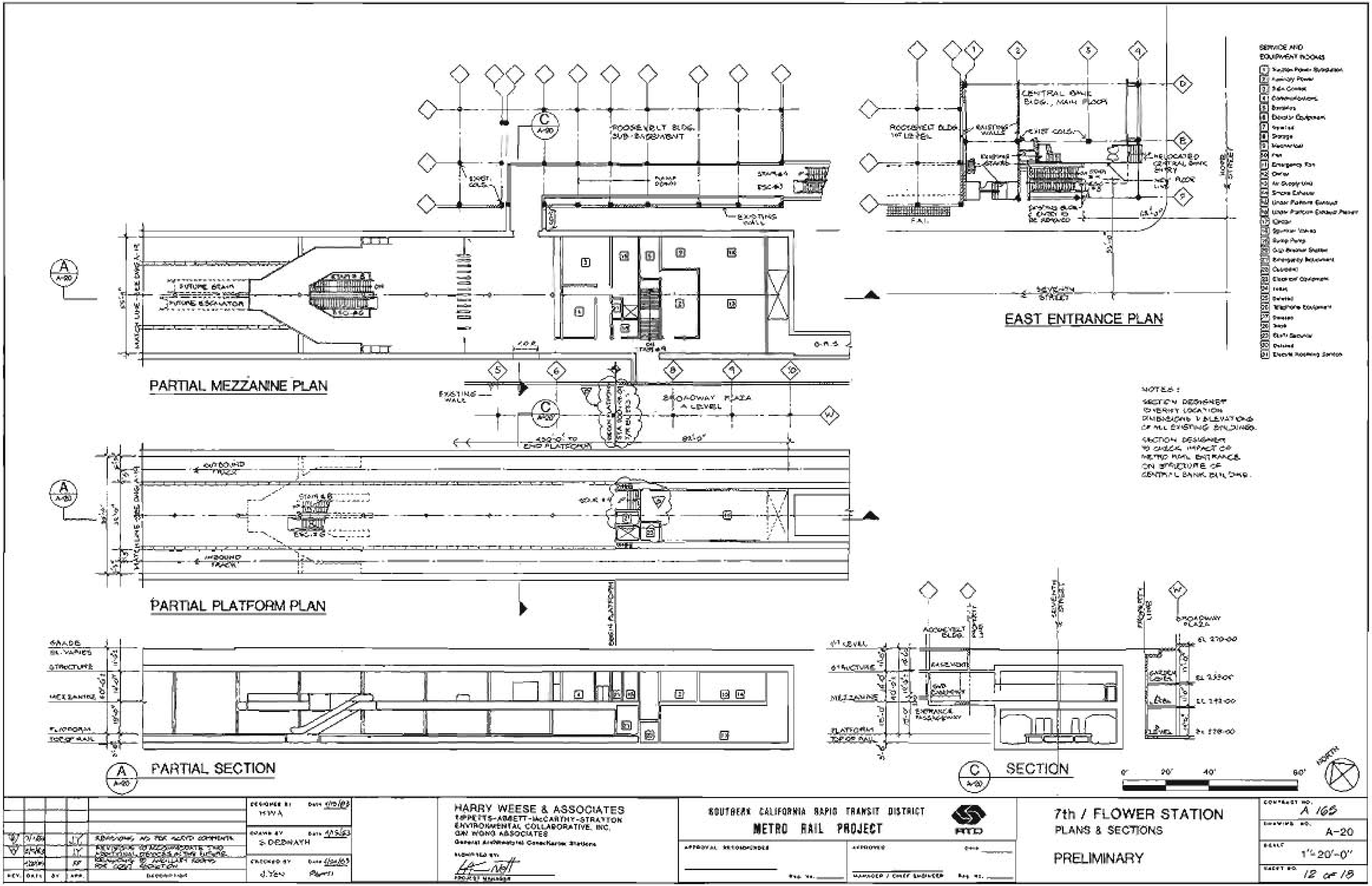

PARTIAL MEZZANINE PLAN
EAST ENTRANCE PLAN
PARTIAL PLATFORM PLAN
PARTIAL SECTION
SECTION
ROOSEVELT BLDG. SUB-BASEMENT
CENTRAL BANK BLDG., MAIN FLOOR
BROADWAY PLAZA A LEVEL
SEVENTH STREET
HOPE STREET
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
7th / FLOWER STATION
PLANS & SECTIONS
PRELIMINARY
A 165
A-20
1"=20'-0"
12 of 18

FIGURE II-35

WILSHIRE/ALVARADO STATION

Background

The Wilshire/Alvarado Station will be located off-street at mid-block between 7th Street and Wilshire Boulevard, extending from Bonnie Brae to Alvarado streets. This station is located in the Westlake area. MacArthur Park, a heavily used public space, is just across Alvarado street from the station site. The block facing along Alvarado and 7th streets contains low-rise retail buildings with several mid-rise office buildings located along Wilshire. The center of the block is primarily devoted to parking.

Station Site Design Parameters

The station will be constructed by the cut-and-cover method. As a result, the mid-block area will be cleared and could possibly be available for new development upon completion of station construction. Consideration may be given to the creation of a mid-block mall or pedestrian pathway from Alvarado to Westlake.

The station will also receive a significant number of passengers transferring from buses running on Alvarado. To facilitate this transfer movement a bus turnout lane is planned for the east side of Alvarado in front of the station. No special provisions are planned for long-term parking, however, a kiss-and-ride parking area will be located on the west side of Westlake Avenue.

Station Design Parameters

Patronage is projected to be high at this station. In response, the station has been designed with three entrances: one on each side of the west end of the station box and one on the east side of Westlake Avenue. To accommodate the three entrances, the station has been designed with two mezzanines. Patrons will move by escalator, stair, or elevator down to a mezzanine. After obtaining a fare card, they may pass through fare gates located on the mezzanine and proceed down to the platform level. Ancillary space will be provided at each end of the station and a double crossover track will be located at the east end of the station. A traction power substation will be located below grade over the crossover track.

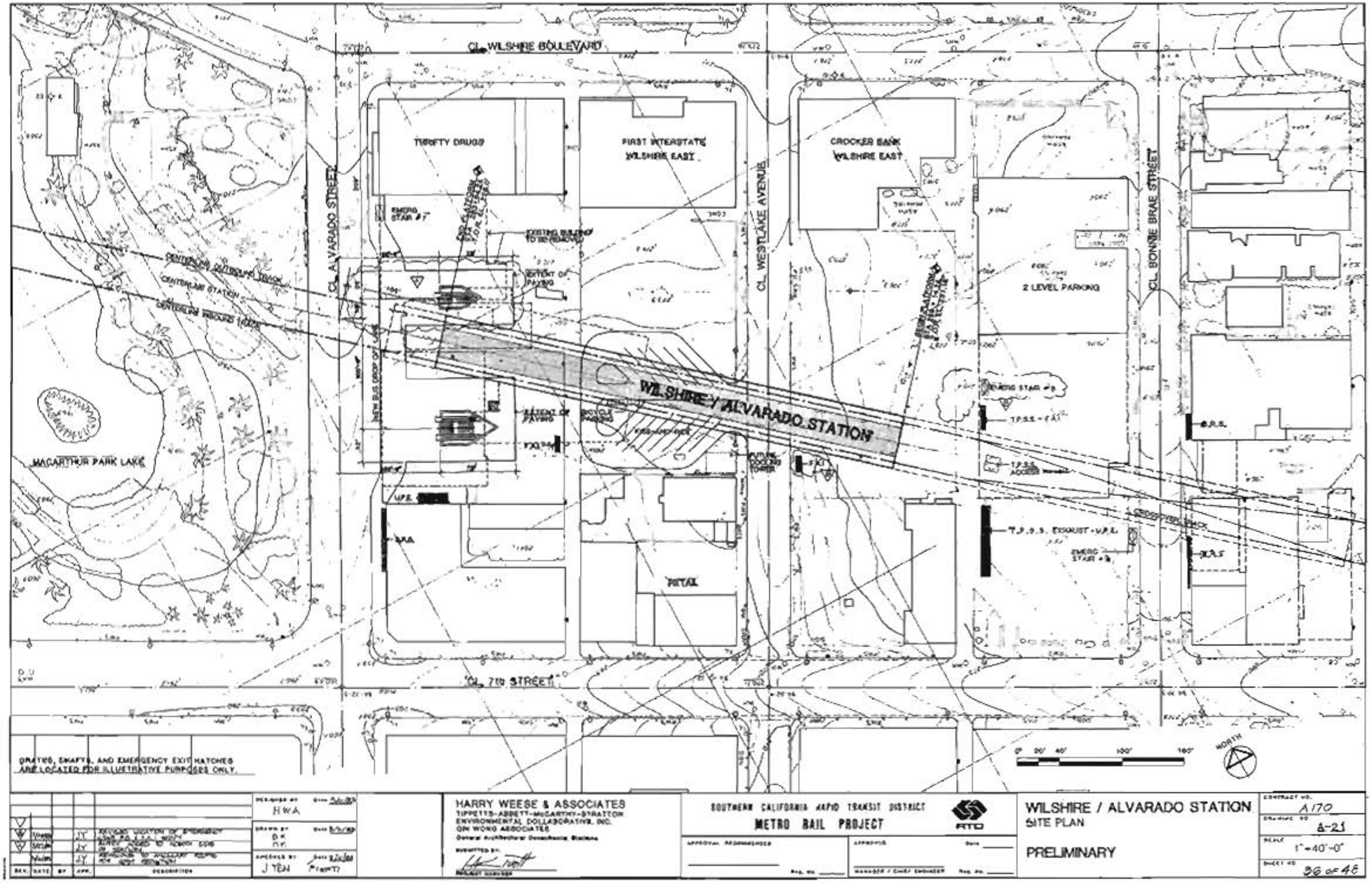

WILSHIRE BOULEVARD
ALVARADO STREET
WESTLAKE AVENUE
BONNIE BRAE STREET
7th STREET
TARGET DRUGS
FIRST INTERSTATE WILSHIRE EAST
CROCKER BANK WILSHIRE EAST
2 LEVEL PARKING
WILSHIRE / ALVARADO STATION
MACARTHUR PARK LAKE
RETAIL
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
HARRY WEESE & ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
WILSHIRE / ALVARADO STATION
SITE PLAN
PRELIMINARY
A170
A-21
1"=40'-0"
36 OF 48

FIGURE II-36

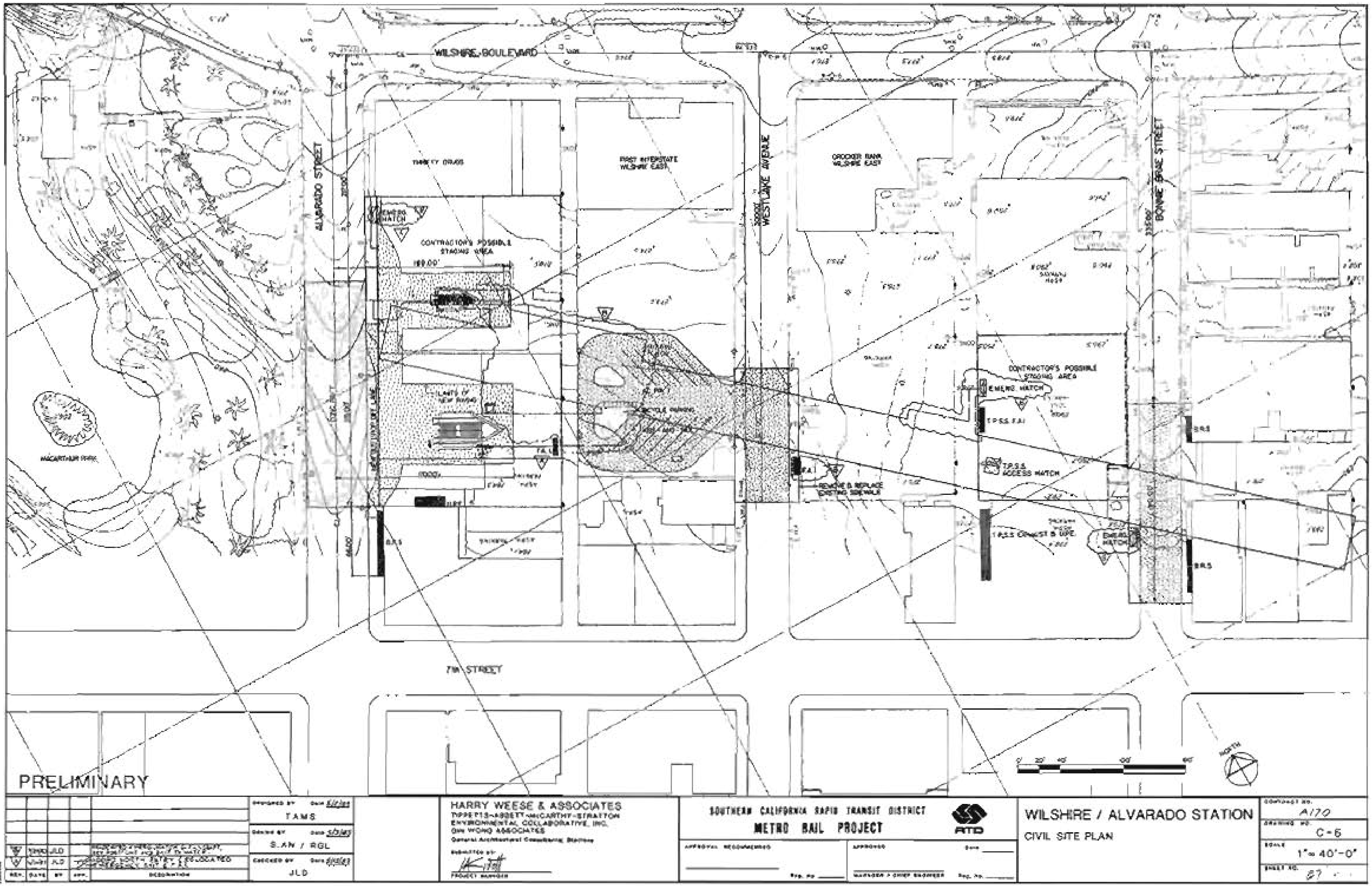
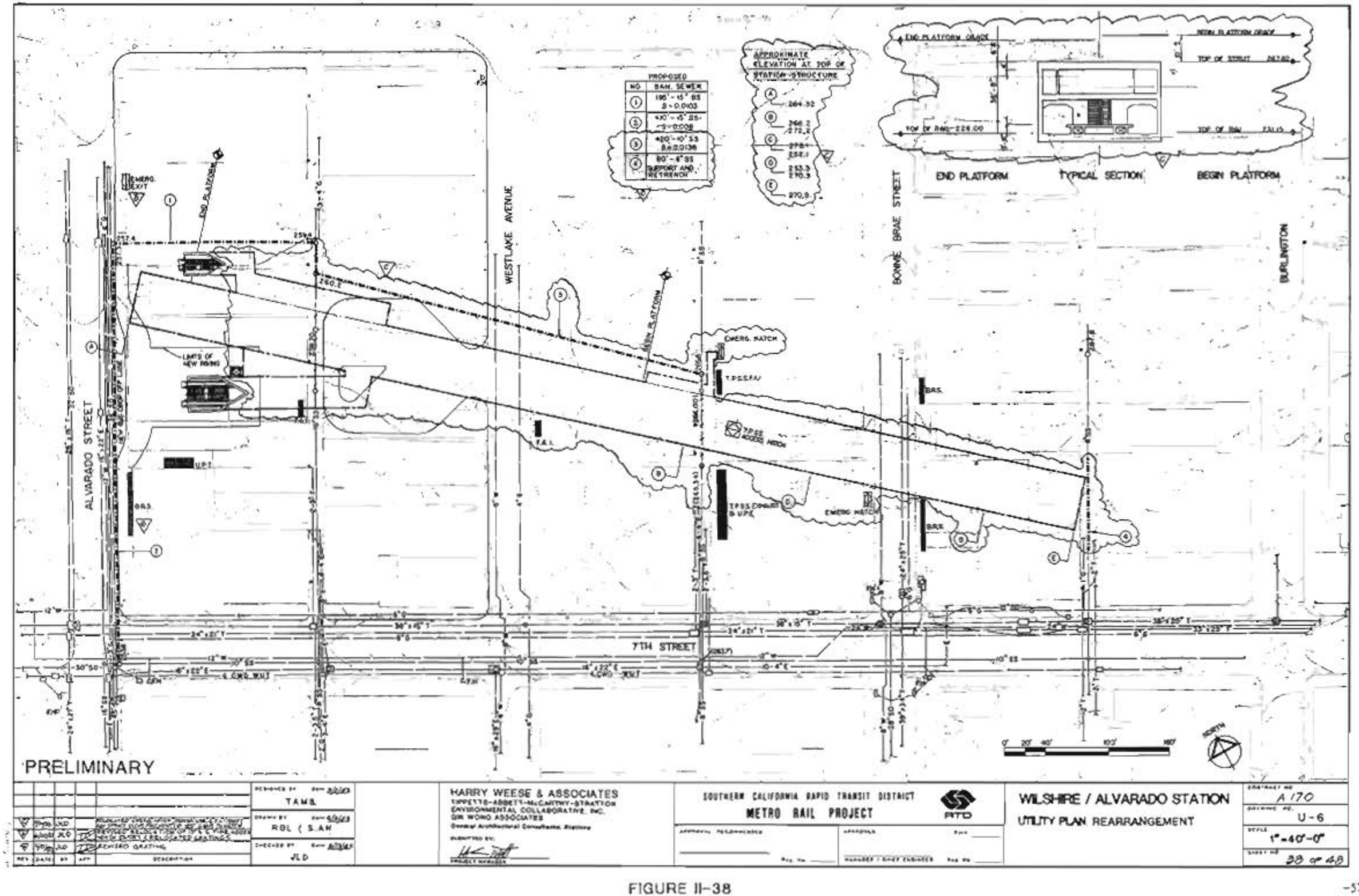

WILSHIRE BOULEVARD
ALVARADO STREET
WESTLAKE AVENUE
BONNIE BRAE STREET
7TH STREET
MACARTHUR PARK
CONTRACTOR'S POSSIBLE STAGING AREA
CONTRACTOR'S POSSIBLE STAGING AREA
EMERG. HATCH
T.P.S.S. ACCESS HATCH
REMOVE & REPLACE EXISTING SIDEWALK
PRELIMINARY
HARRY WEESE & ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE / ALVARADO STATION
CIVIL SITE PLAN
TAMS
JLD
C-6
1" = 40'-0"

FIGURE II-37



REVISED BY TAMB	HARRY WEESE & ASSOCIATES TIPPETTS-ABBETT-McCARTHY-STRATTON ENVIRONMENTAL COLLABORATIVE, INC. DIN WONG ASSOCIATES Design Architectural Consultants, Pasadena	SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT METRO RAIL PROJECT RTD	WILSHIRE / ALVARADO STATION UTILITY PLAN REARRANGEMENT
DRAWN BY RBL (S.AH			CONTRACT NO. A 170
CHECKED BY JLD			DRAWING NO. U-6
			SCALE 1"=40'-0"
			SHEET NO. 38 OF 48

FIGURE II-38

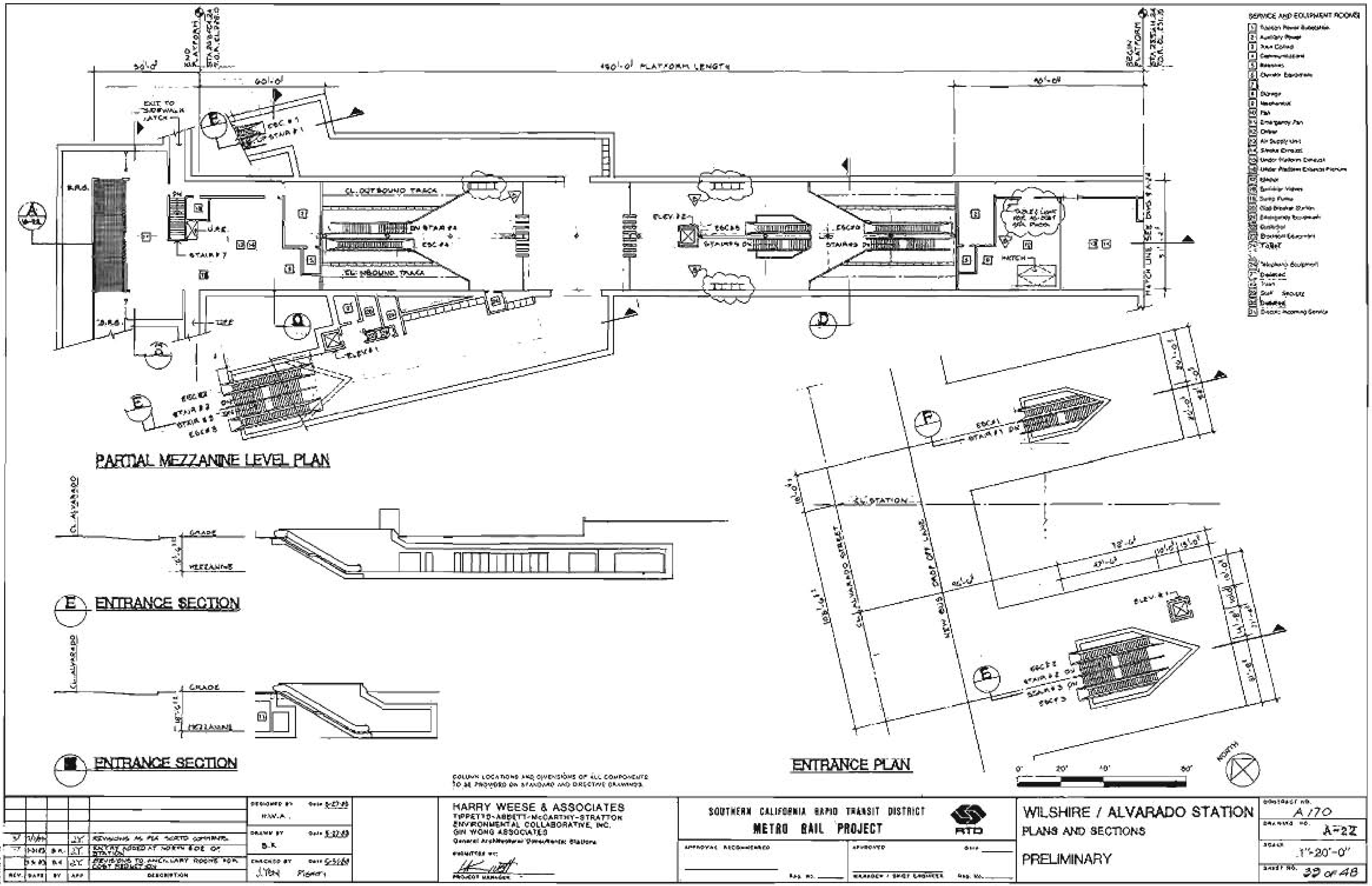

PARTIAL MEZZANINE LEVEL PLAN
ENTRANCE SECTION
ENTRANCE SECTION
ENTRANCE PLAN
SERVICE AND EQUIPMENT ROOMS
PLATFORM LENGTH
CL OUTBOUND TRACK
CL INBOUND TRACK
CL ALVARADO STREET
NEW BUS DROP OFF LANE
CL STATION
GRADE
MEZZANINE
NORTH
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE / ALVARADO STATION
PLANS AND SECTIONS
PRELIMINARY
A170
A-22
1"=20'-0"
39 OF 48

FIGURE II-39

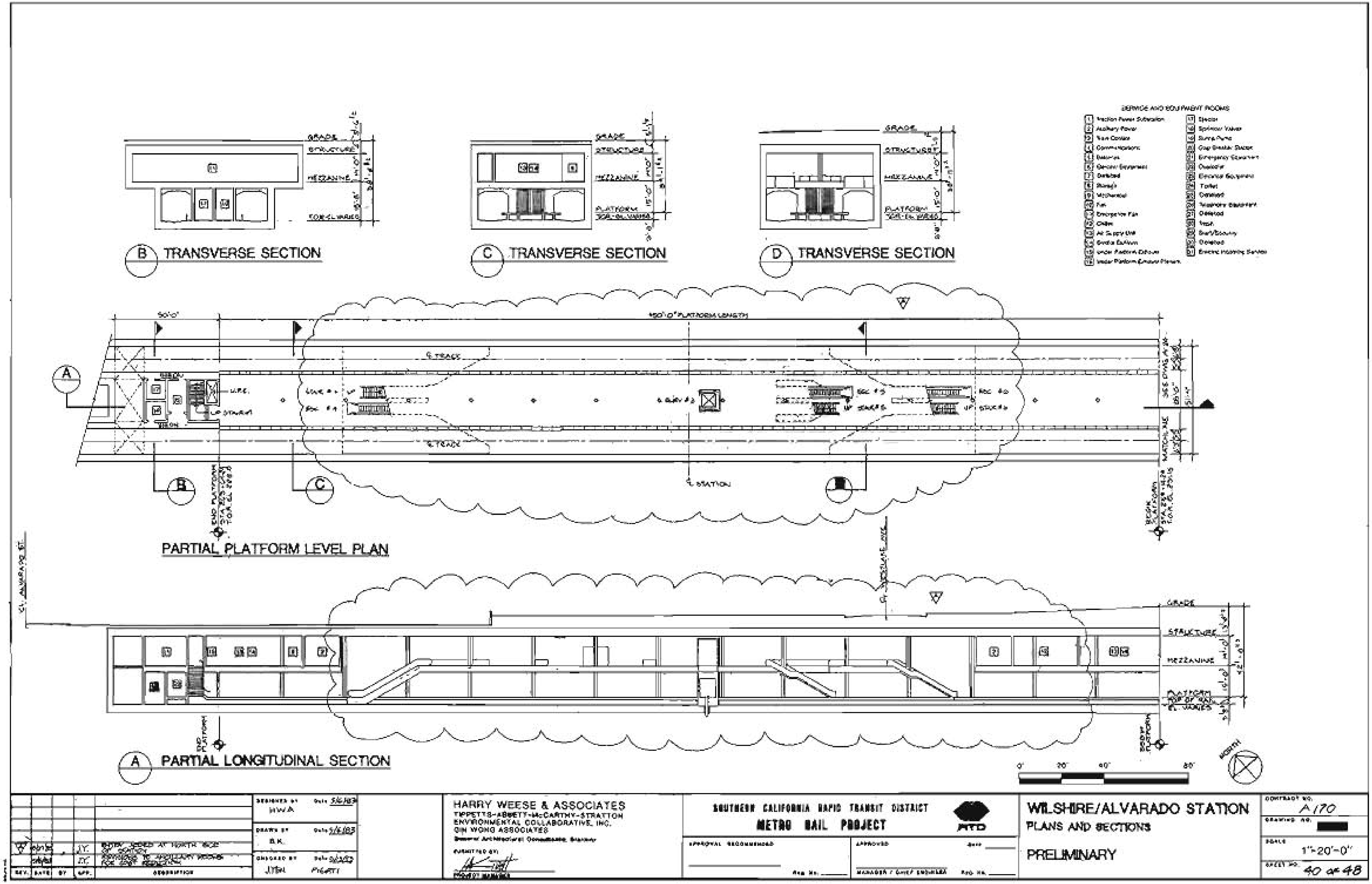
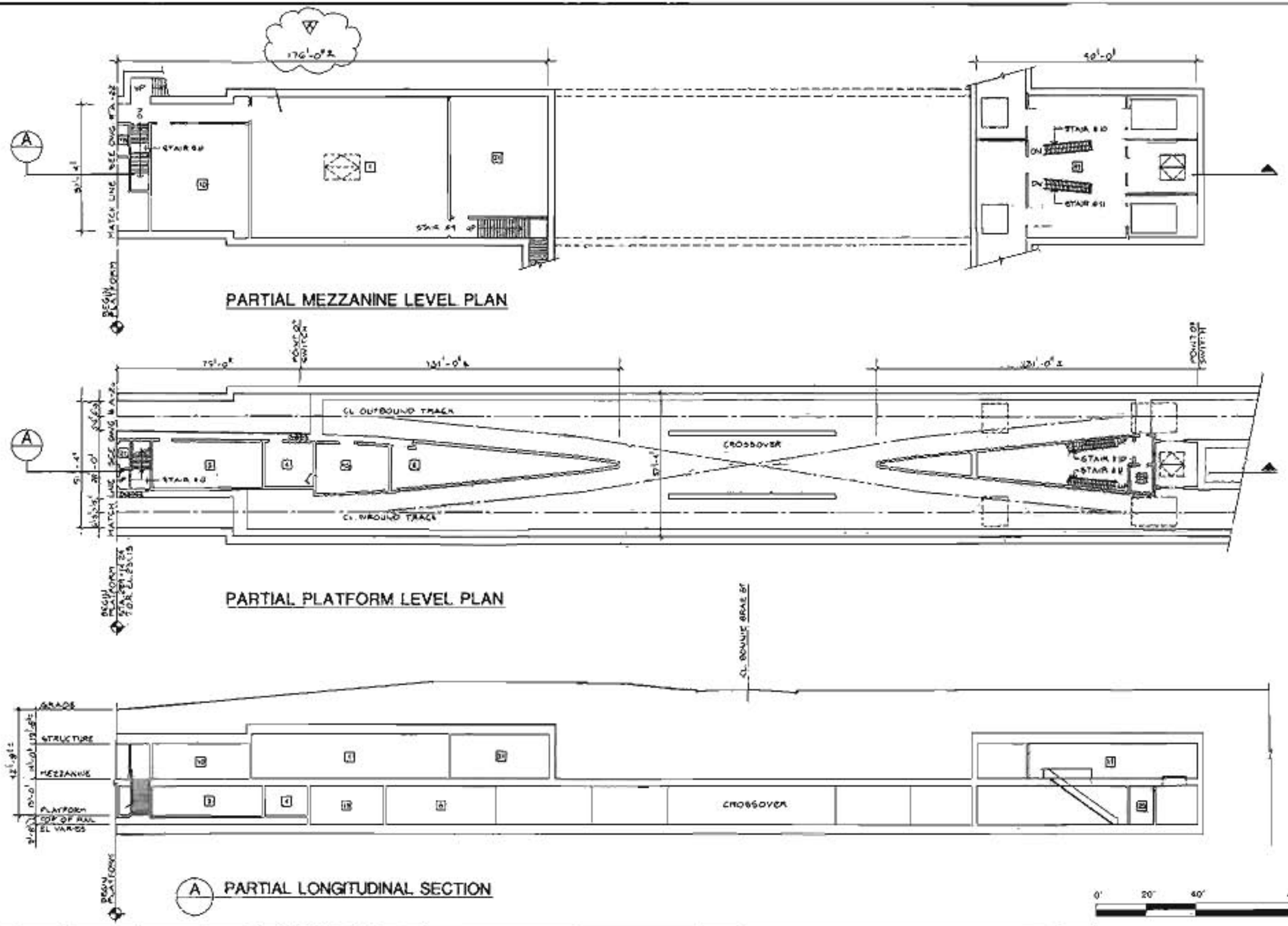

B TRANSVERSE SECTION
C TRANSVERSE SECTION
D TRANSVERSE SECTION
GRADE
STRUCTURE
MEZZANINE
PLATFORM
SERVICE AND EQUIPMENT ROOMS
PARTIAL PLATFORM LEVEL PLAN
A PARTIAL LONGITUDINAL SECTION
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE/ALVARADO STATION
PLANS AND SECTIONS
PRELIMINARY
A170
1"=20'-0"
40 of 48

FIGURE II-40



HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

WILSHIRE / ALVARADO STATION
PLANS AND SECTIONS

PRELIMINARY

CONTRACT NO. A170
DRAWING NO. A-22
SCALE 1"=20'-0"
SHEET NO. 41 of 48

FIGURE II-41

WILSHIRE/VERMONT STATION

Background

The Wilshire/Vermont Station will be located off-street at mid-block between Wilshire Boulevard and 6th Street straddling Vermont Avenue. The block facings in the immediate area of the station have primarily office and retail development. Development along Wilshire includes some high-rise structures; low-rise development predominates along the north-south streets. The surrounding area is primarily residential. A Bank of America branch is located adjacent to the station on the northeast corner of Wilshire and Vermont and a service station is located on the other adjacent corner. Bullock's Wilshire, a historic landmark, is located nearby on Wilshire. The mid-block area, which will be impacted the most by station construction, is primarily used for parking. The Vermont bus lines that serve the station location have one of the highest patronage levels in the city.

Station Site Design Parameters

A major factor considered in the site design for this station is the transit interface between bus and Metro Rail. Some buses will be terminating at this location while others will be picking up and dropping off passengers and continuing on. It is planned for all buses continuing in service to load and unload in bus turnout lanes located on each side of Vermont, each adjacent to a station entry. Bus bays for terminating coaches will be located off-street just north of the east station entry. Bus layover spaces (e.g., spaces where a bus can be parked until it is time to start its next run) will also be provided. In addition, a bus turnout lane is planned for the south side of 6th Street just to the west of Vermont to serve buses running on 6th Street.

A small number of kiss-and-ride parking spaces are also planned for the site. The station entries will be oriented toward Wilshire, the direction of the major pedestrian flow. The location of the station entries will offer strong potential for future adjacent and air-rights development.

Station Design Parameters

The station is planned with two mezzanines, one at each end of the station. To facilitate the bus-rail transfer, two entries are planned, one on each side of Vermont. Each mezzanine will have stairs and escalators at each end connecting to a center platform. The entrance on the east side of Vermont (adjacent to the off-street bus area) is the primary station entrance and will have an elevator from the surface to the mezzanine level to provide handicapped access. A second elevator will run from the paid zone of the mezzanine down to the center platform. Ancillary space will be provided at each end of the station. A traction power substation will be located at grade adjacent to the off-street bus facility.

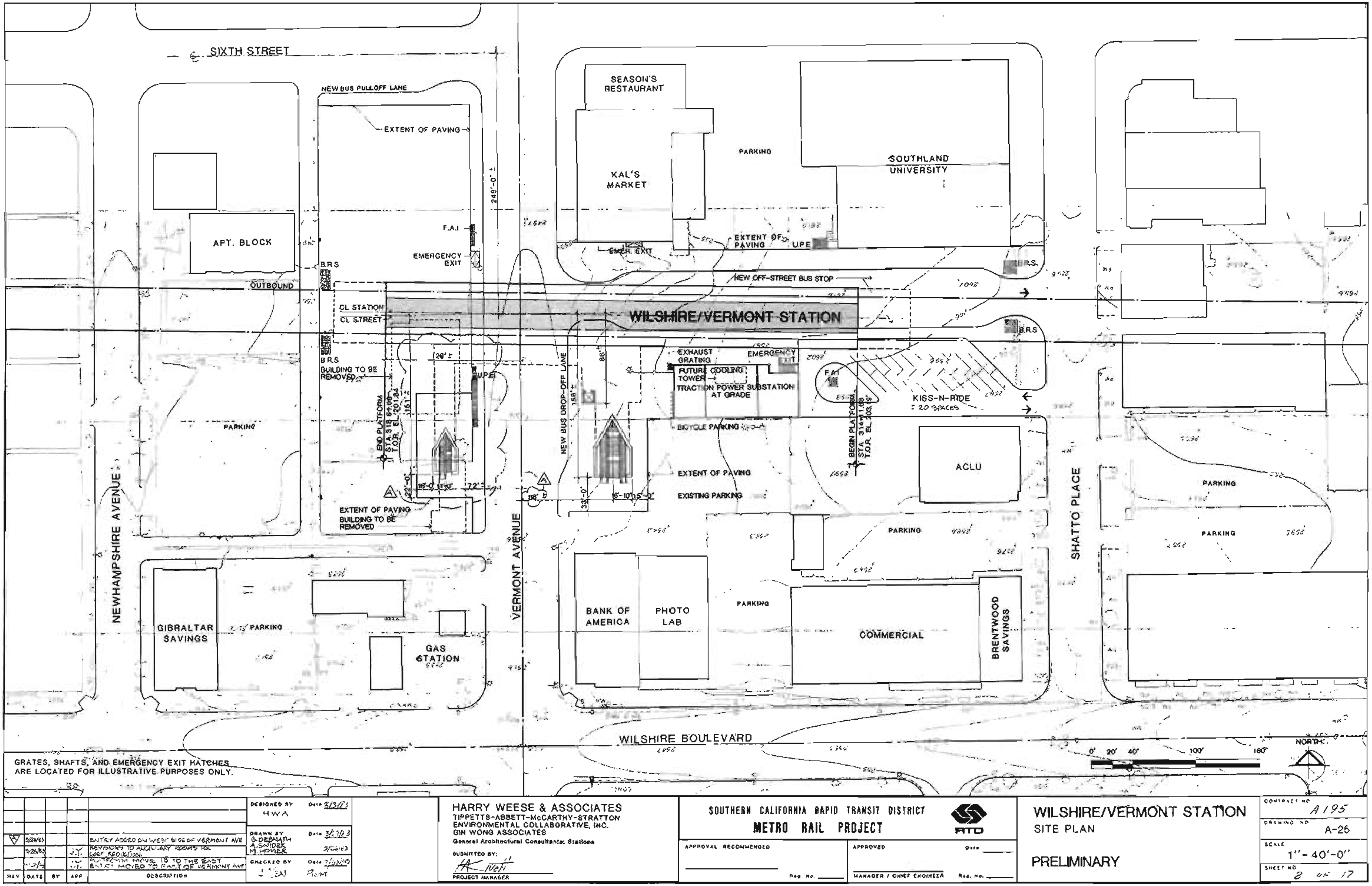
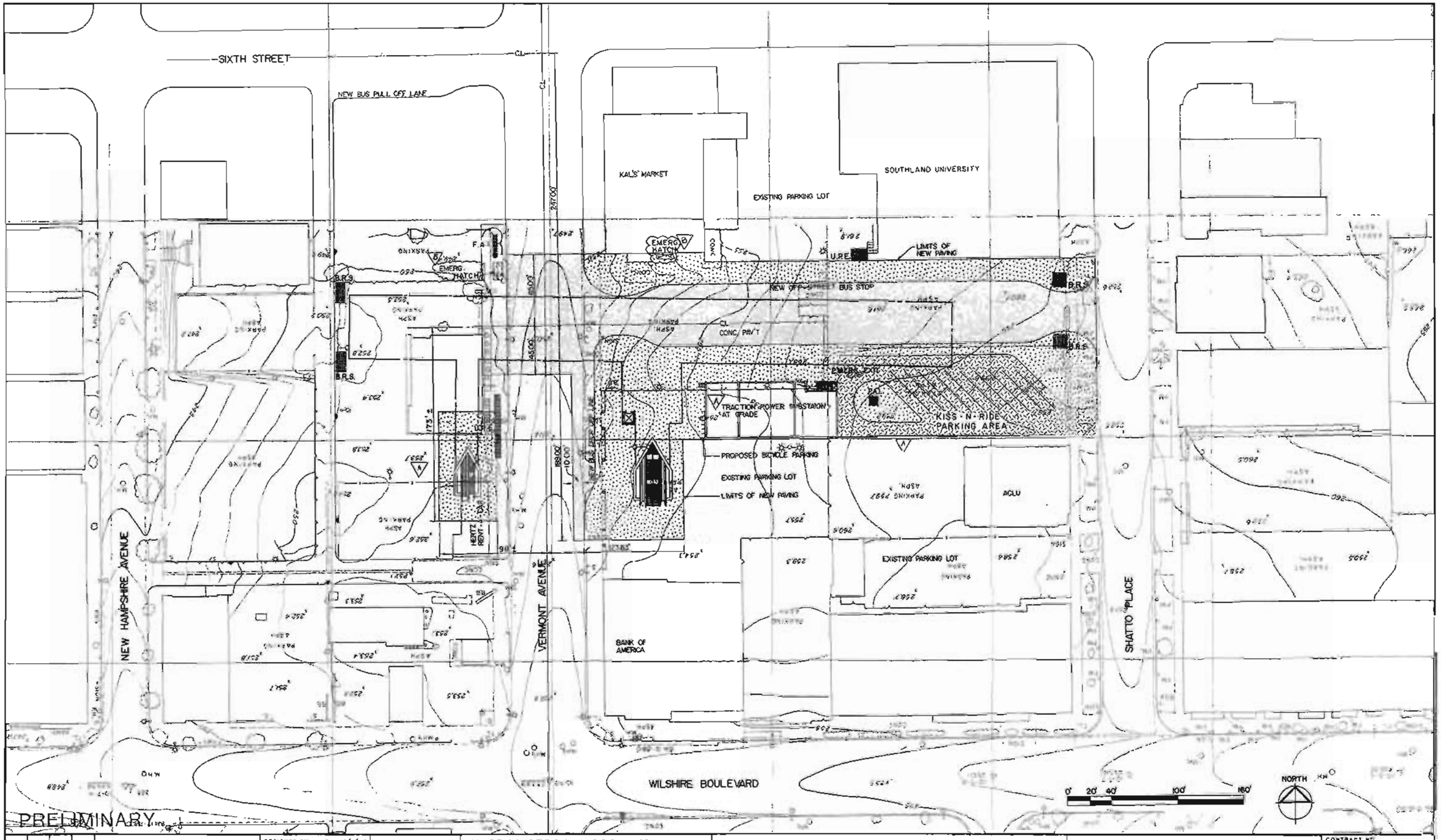

SIXTH STREET
NEW BUS PULLOFF LANE
EXTENT OF PAVING
249'-0" ±
SEASON'S RESTAURANT
KAL'S MARKET
PARKING
SOUTHLAND UNIVERSITY
APT. BLOCK
F.A.I
EMERGENCY EXIT
B.R.S
EMER. EXIT
EXTENT OF PAVING
UPE
NEW OFF-STREET BUS STOP
OUTBOUND
CL STATION
CL STREET
WILSHIRE/VERMONT STATION
EXHAUST GRATING
EMERGENCY EXIT
FUTURE COOLING TOWER
TRACTION POWER SUBSTATION AT GRADE
KISS-N-RIDE 20 SPACES
BUILDING TO BE REMOVED
END PLATFORM STA 318 64.09 T.O.R. EL 201.84
NEW BUS DROP-OFF LANE
BICYCLE PARKING
BEGIN PLATFORM STA 314+11.09 T.O.R. EL 203.18
ACLU
PARKING
EXTENT OF PAVING
EXISTING PARKING
EXTENT OF PAVING
BUILDING TO BE REMOVED
NEWHAMPSHIRE AVENUE
VERMONT AVENUE
SHATTO PLACE
GIBRALTAR SAVINGS
PARKING
GAS STATION
BANK OF AMERICA
PHOTO LAB
COMMERCIAL
BRENTWOOD SAVINGS
WILSHIRE BOULEVARD
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
NORTH
0' 20' 40' 100' 160'
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
PROJECT MANAGER
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE/VERMONT STATION
SITE PLAN
PRELIMINARY
CONTRACT NO A195
DRAWING NO A-26
SCALE 1"=40'-0"
SHEET NO 2 OF 17

FIGURE II-42



REV.	DATE	BY	APP.	DESCRIPTION
B	7/20/83	JLD		REVISED EXIT TO MATCH
A	6/9/83	JLD		REVISED NEW ENTRANCE & REVISED EXTENT OF PAVING ALONG VERMONT AVE & KISS-N-RIDE AREA
				REVISED STATION LENGTH & REVISED GRATINGS

DESIGNED BY TAMS Date 5/13/83
DRAWN BY S.AN / RGL Date 5/13/83
CHECKED BY JLD Date 5/13/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural-Consultants; Stations

SUBMITTED BY: _____ PROJECT MANAGER

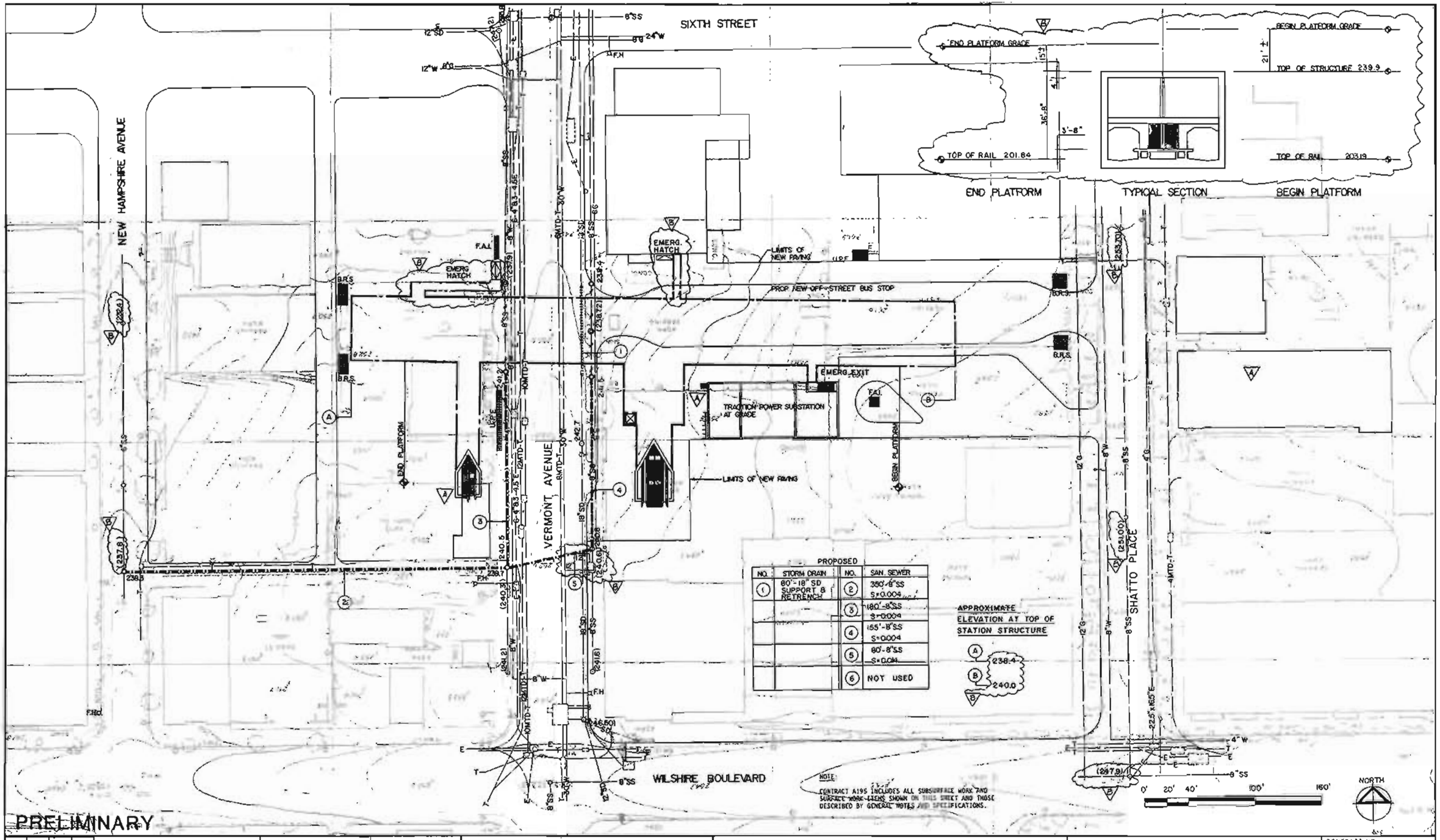
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED _____ Reg. No. _____
APPROVED _____ Date _____
MANAGER / CHIEF ENGINEER Reg. No. _____

WILSHIRE/VERMONT STATION
CIVIL SITE PLAN

CONTRACT NO. A195
DRAWING NO. C-7
SCALE 1" = 40'-0"
SHEET NO. 9 OF 17

FIGURE II-43



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
V	7/20/83	JLD		REVISED INV ELEVS, TOP OF STRUCT ELEV, TYP SECTION & CHANGED EXIT TO HATCH.
V	4/11/83	JLD		REDUCED STATION LENGTH, ADDED NEW ENTRY & REVISED GRATINGS

DESIGNED BY TAMS Date 6/2/83
DRAWN BY RGL / S.AN Date 5/3/83
CHECKED BY JLD Date 5/19/83

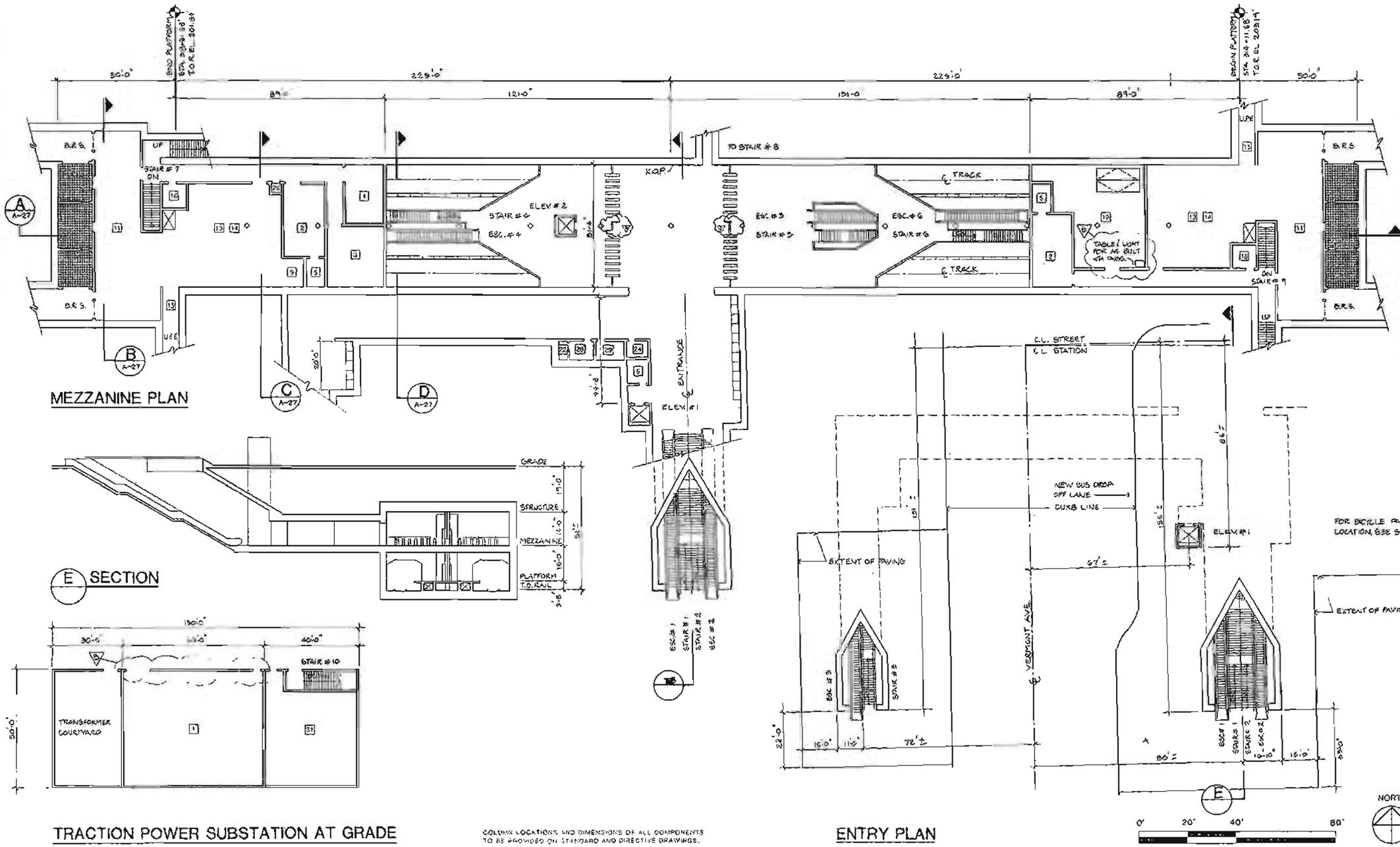
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE/VERMONT STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO A195
DRAWING NO U-7
SCALE 1"= 40'-0"
SHEET NO 10 OF 17

FIGURE II-44



COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.

REV.	DATE	BY	APP.	DESCRIPTION
7	1/16/85		JY	REVISIONS AS PER SCRTD COMMENTS
8	5/6/85		JY	ENTRY ADDED ON WEST SIDE OF VERMONT
	5/26/85		JY	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 5-26-85
DRAWN BY M. HOMER Date 5-26-85
CHECKED BY J'IEN PIGATT Date 5-26-85

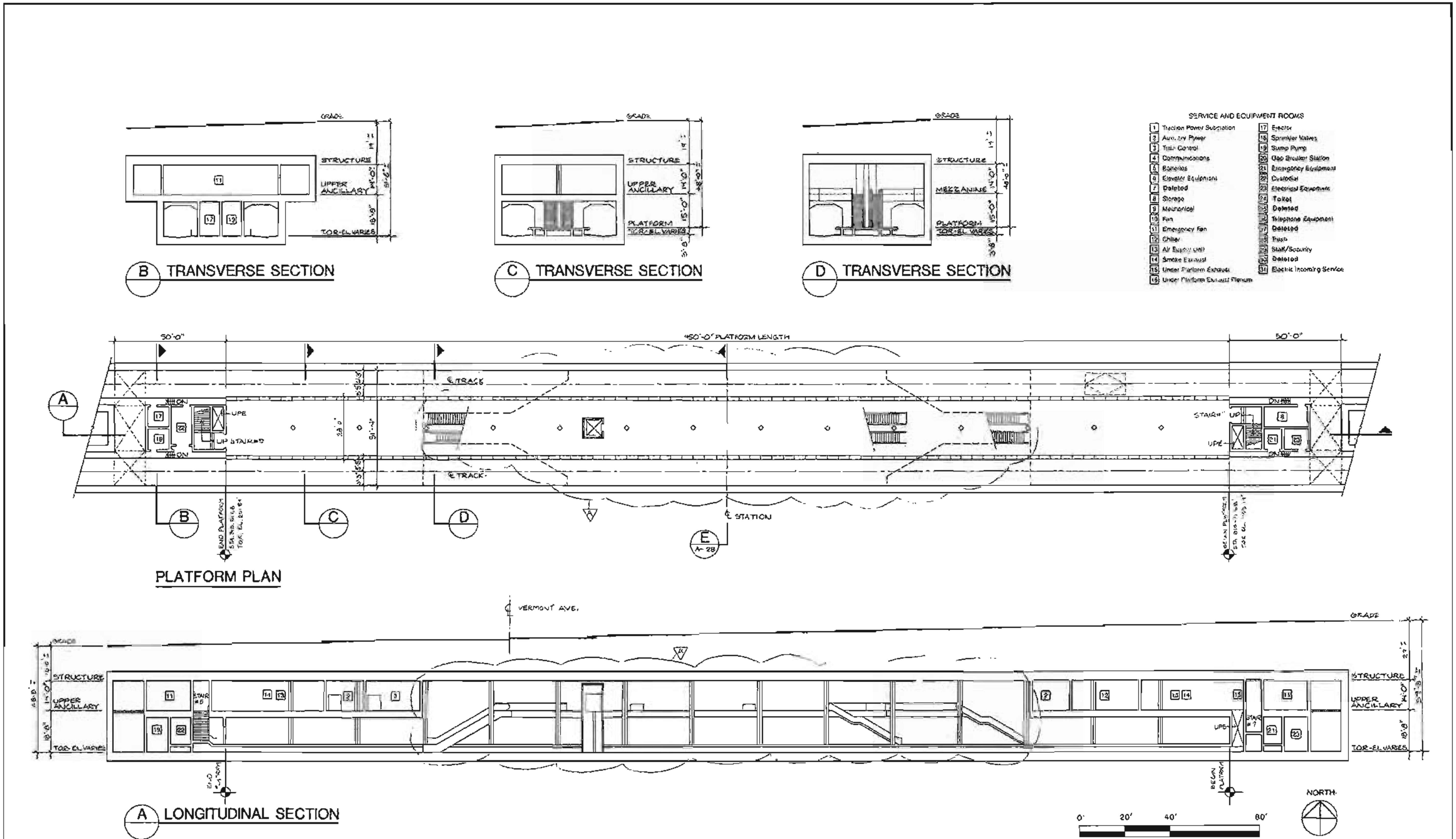
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED Date ____ Reg. No. ____
APPROVED Date ____ MANAGER / CHIEF ENGINEER Reg. No. ____

WILSHIRE/VERMONT STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A195
DRAWING NO. A-28
SCALE 1"-20'0"
SHEET NO. 11 OF 17

FIGURE II-45



REV.	DATE	BY	APP.	DESCRIPTION
▽	9/24/83	J.Y.		ENTRY ADDED ON WEST SIDE OF VERMONT.
	9/13/83	J.Y.		REVISIONS TO ANCILLARY ROOMS PER

DESIGNED BY — N/A
DRAWN BY — M. HOMER
CHECKED BY

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

WILSHIRE/VERMONT STATION
PLATFORM PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A195
DRAWING NO. A-27
SCALE 1"=20'-0"
SHEET NO. 12 of 17

FIGURE II-46

WILSHIRE/NORMANDIE STATION

Background

The Wilshire/Normandie Station will be located under Wilshire Boulevard between Ardmore and Normandie streets. A number of high-rise office buildings are located along Wilshire near the station location. In addition, two major hotels are close by. The Wilshire Hyatt Hotel is immediately adjacent to the station and the Ambassador Hotel is one block away. Areas to the north and south of Wilshire are residential in character. The Ambassador Hotel, the Wilshire Christian Church (on the northeast corner of Wilshire and Normandie), and the Brown Derby are historic landmarks.

Several sites fronting on Wilshire are being considered for new development. A six-story office building is planned for the site adjacent to the Glendale Federal Bank and the owners of the Ambassador Hotel are considering the development of the area in front of the hotel. There have also been plans for developing the Brown Derby site.

Irolo Street next to the Glendale Federal Bank is little used and at the request of the adjacent landowners is under consideration for vacation by the City of Los Angeles.

Station Site Design Parameters

Major utilities passing through the intersection of Normandie and Wilshire have limited the opportunity to locate an entrance east of Normandie. West of Normandie the right-of-way of Irolo Street offers the opportunity to locate the required entry on public land not needed for other transportation purposes. The entry will, to the extent possible, be designed and located to complement the proposed development on the adjacent site. Because of the bend in Normandie, southbound buses will need a turnout lane near the intersection of Normandie and Irolo. This will improve the flow of traffic on Normandie and will be convenient for transferring passengers.

The feasibility of locating a station entrance on the northwest corner of Normandie and Wilshire (presently occupied by the Hyatt Conference Center) was investigated and found to be difficult to design and expensive to construct; it nevertheless remains an option for future development.

Station Design Parameters

Major utility conflicts have been avoided by locating the station platform west of Normandie. The strong desire to locate the station entrance close to Normandie to facilitate bus transfer and pedestrian access led to the station being designed with an end mezzanine, with the entry located in Irolo Street. As indicated above, a second entry onto this mezzanine is possible but the moderate patronage projected for this station suggests that it will not be necessary. Ancillary space will be provided at each end of the station. A traction power substation is not required at this location.

KEMPER INSURANCE

ARDMORE AVENUE

WILSHIRE - HYATT HOTEL

CONFERENCE BUILDING

NORMANDIE AVENUE

CL NORMANDIE AVENUE

WILSHIRE CHRISTIAN CHURCH

ATLANTIC RICHFIELD COMPANY

MARIPOSA AVENUE

EQUITABLE BUILDING

NORMANDIE AVENUE STATION

WILSHIRE BOULEVARD

CL OUTBOUND TRACK

CL WILSHIRE BOULEVARD STATION

CL INBOUND TRACK

PROPERTY LINE

PARAMOUNT PLAZA

TITLE INSURANCE

GLENDALE FEDERAL SAVINGS

EXTENT OF PAVING

30'-0"

84'-0" N.T.S.

100'-0" N.T.S.

← SITE OF PROPOSED OFFICE DEVELOPMENT

CENTRAL PLAZA TISHMAN COMPLEX

NEW BUS DROP-OFF LANE

END PLATFORM STA. POINT 360+19.90 T.O.R EL. 188.10'

BEGIN PLATFORM STA. POINT 345+68.80 T.O.R EL. 168.76'

GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.

NORTH

0' 20' 40' 100' 180'

REV.	DATE	BY	APP.	DESCRIPTION
	9/22/83			REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS

DESIGNED BY HWA Date

DRAWN BY K. LIM, A. SNIDER Date 7/4/83

CHECKED BY R. PIGATI / J. YEN Date 7/5/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: _____ PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED _____ Reg. No. _____

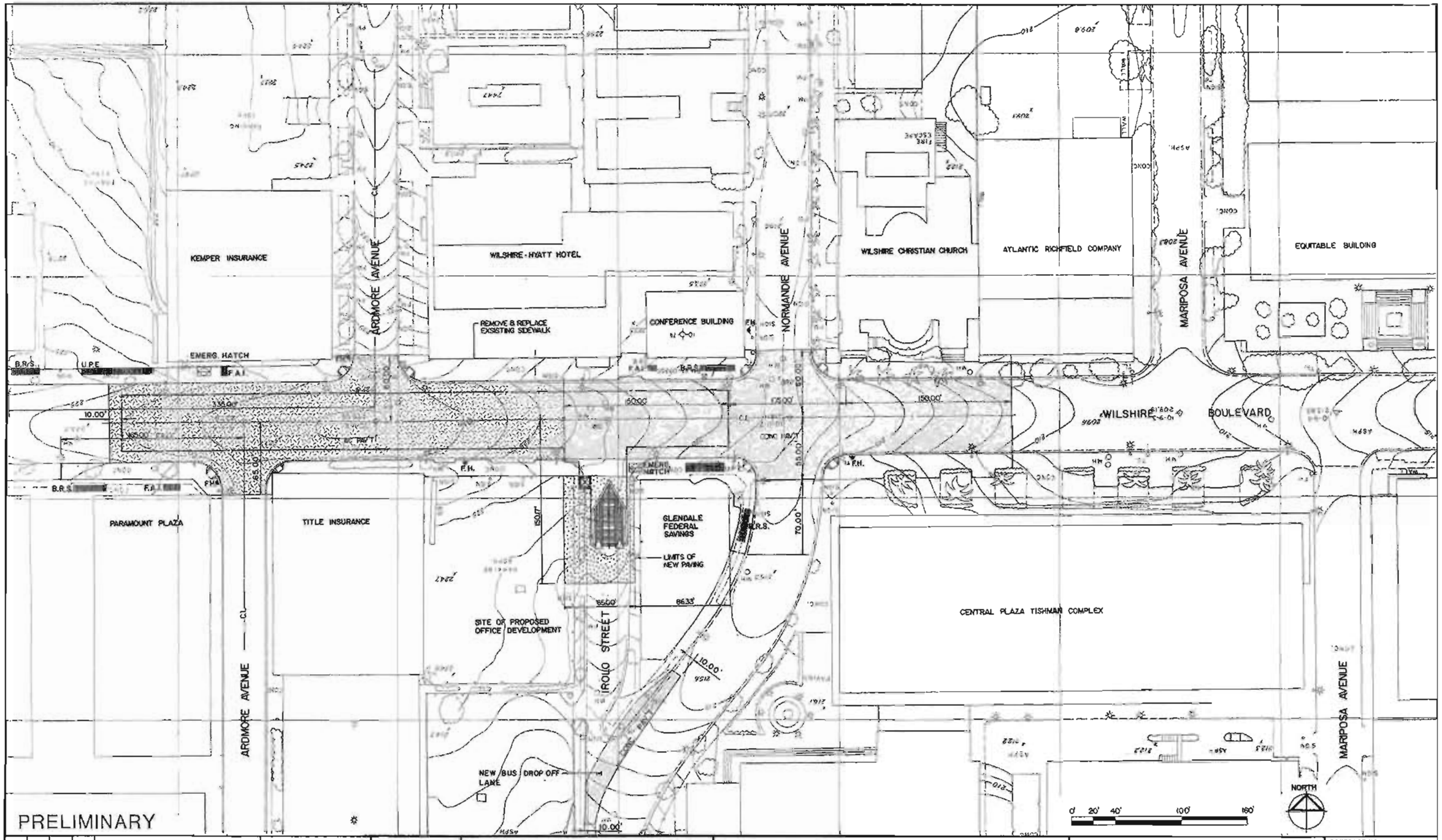
APPROVED _____ Date _____
MANAGER / CHIEF ENGINEER Reg. No. _____

WILSHIRE/NORMANDIE STATION
SITE PLAN

PRELIMINARY

CONTRACT NO. A220
DRAWING NO. A-28
SCALE 1"= 40'-0"
SHEET NO. 44 OF 63

FIGURE II-47



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 5/17/83
DRAWN BY RGL Date 5/19/83
CHECKED BY JLD Date 5/23/83

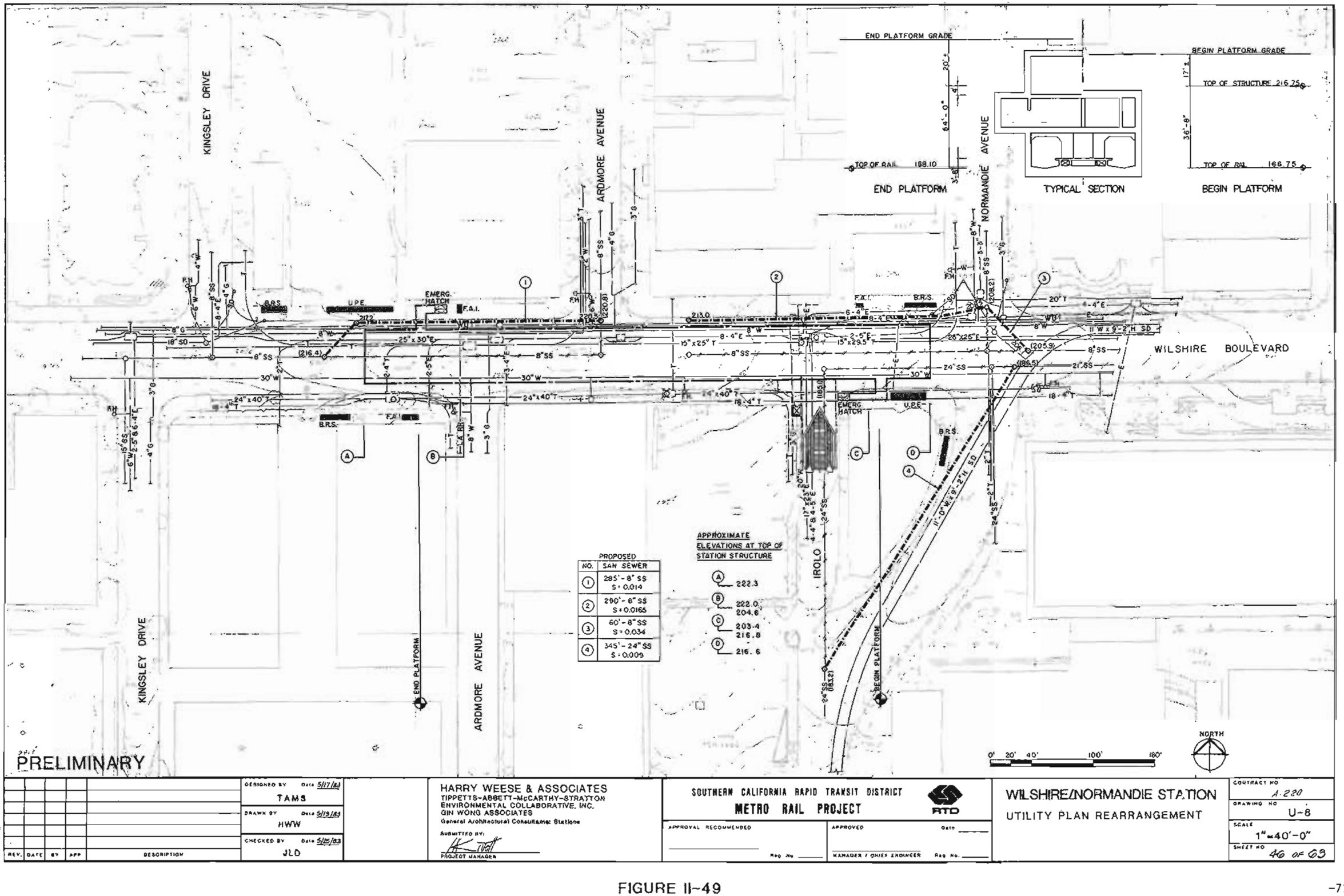
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED
Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE/NORMANDIE STATION
CIVIL SITE PLAN

CONTRACT NO. A-220
DRAWING NO. C-8
SCALE 1"= 40'-0"
SHEET NO. 40 of 37

FIGURE II-48



REV.	DATE	BY	APP	DESCRIPTION

DESIGNED BY TAMS Date 5/17/83
DRAWN BY HWW Date 5/19/83
CHECKED BY JLD Date 5/25/83

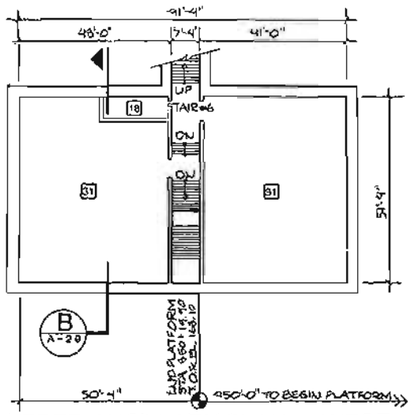
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants/ Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Date — Reg No
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg No.

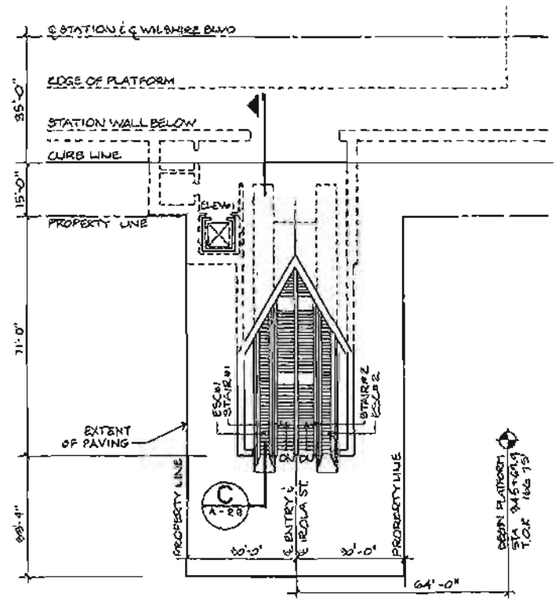
WILSHIRE/NORMANDIE STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO A.220
DRAWING NO U-8
SCALE 1"=40'-0"
SHEET NO 46 of 63

FIGURE II-49

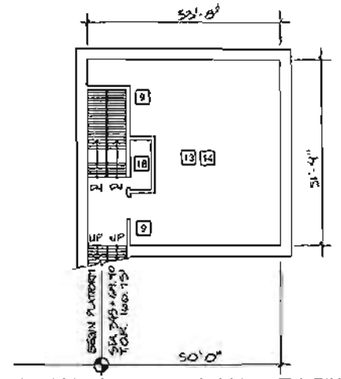


UPPER ANCILLARY PLAN - WEST

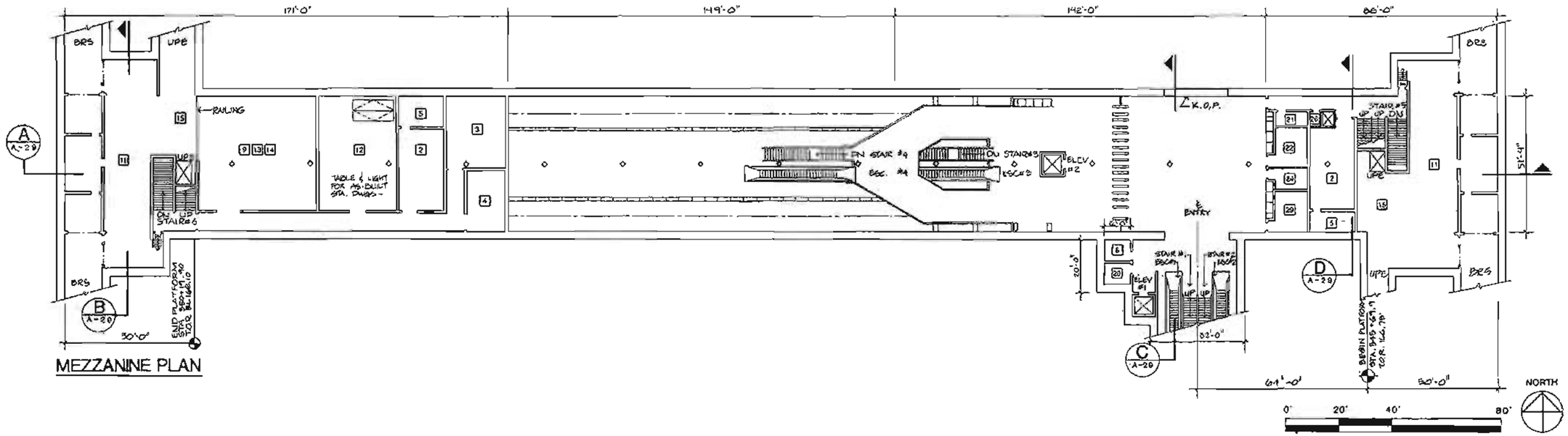


STATION ENTRY PLAN

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gap Breaker Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. Toilet
25. Deleted
26. Telephone Equipment
27. Deleted
28. Trash
29. Staff/Security
30. Deleted
31. Electric Traction Service



UPPER ANCILLARY PLAN - EAST



MEZZANINE PLAN

REV.	DATE	BY	APP.	DESCRIPTION
	4/22/83		RP	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS

DESIGNED BY HWA Date 4/21/83
DRAWN BY K. LIM, A. SNIDER Date 4/21/83
CHECKED BY J. YEN Date 4/21/83 FIGATI

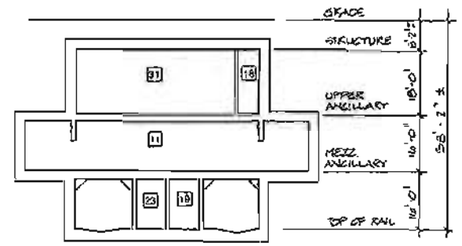
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

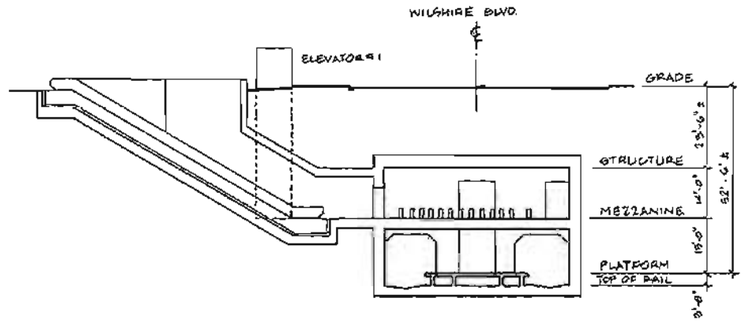
WILSHIRE/NORMANDIE STATION
PLANS
PRELIMINARY

CONTRACT NO. A220
DRAWING NO. A-29
SCALE 1"=20'-0"
SHEET NO 47 OF 63

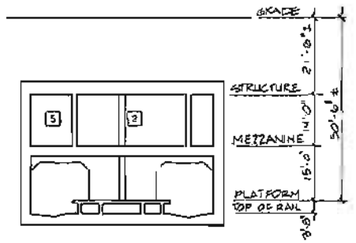
FIGURE II-50



B SECTION



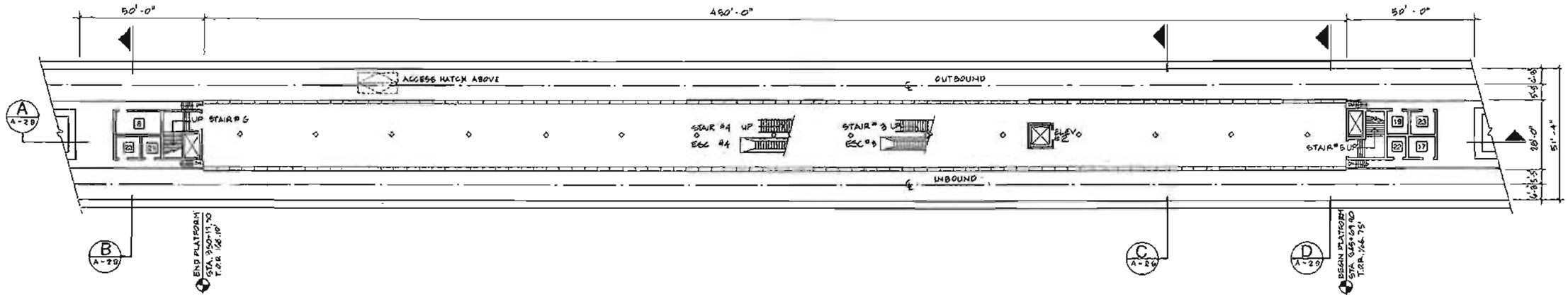
C SECTION



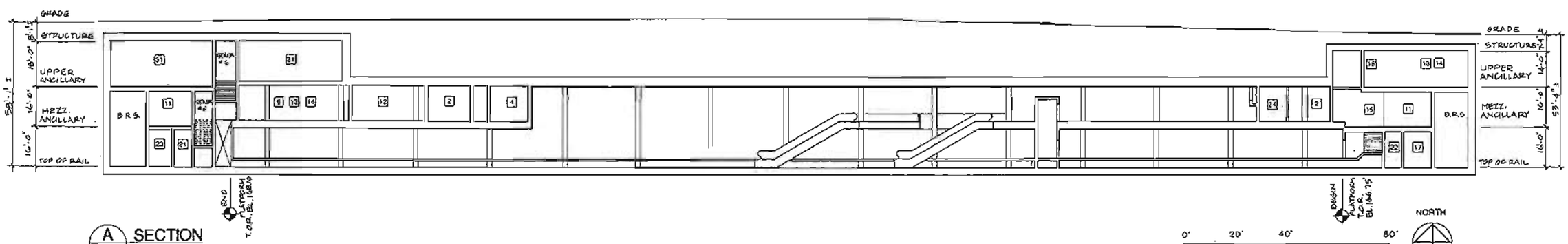
D SECTION

SERVICE AND EQUIPMENT ROOMS

1	Traction Power Substation	17	Ejector
2	Auxiliary Power	18	Sprinkler Valves
3	Train Control	19	Sump Pump
4	Communications	20	Gap Breaker Station
5	Collectors	21	Emergency Equipment
6	Elevator Equipment	22	Custodial
7	Deleted	23	Electrical Equipment
8	Storage	24	Toilet
9	Mechanical	25	Deleted
10	Fan	26	Telephone Equipment
11	Emergency Fan	27	Deleted
12	Chiller	28	Trash
13	Air Supply Unit	29	Station/Security
14	Smoke Exhaust	30	Deleted
15	Under Platform Exhaust	31	Electric Incoming Service
16	Under Platform Exhaust Plenum		



PLATFORM PLAN



A SECTION

REV	DATE	BY	APP.	DESCRIPTION
1	11/28/83	RY		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS

DESIGNED BY M.W.A. Date 4/20/83
DRAWN BY K. LIM, K. SNIDER Date 4/20/83
CHECKED BY J. YEN Date 4/21/83 FINAL

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants/ Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED Reg. Mr. ____
APPROVED Date ____ MANAGER / CHIEF ENGINEER Reg. No. ____

WILSHIRE/NORMANDIE STATION
PLANS AND SECTIONS
PRELIMINARY

CONTRACT NO. A220
DRAWING NO. A-30
SCALE 1"=20'-0"
SHEET NO 48 OF 63

FIGURE II-51

WILSHIRE/WESTERN STATION

Background

The Wilshire/Western Station will be located under Wilshire Boulevard between Western and Oxford Streets. This area is on the western edge of a high-rise segment of the Wilshire Corridor office core. The other major streets have low - to medium-rise mixed-use buildings. The remainder of the surrounding area is in residential use. All four corners of the intersection of Wilshire and Western are developed. The historic landmark Wiltern Theater is located on the southeast corner and is undergoing renovation. A Union Bank building is on the southwest corner the Pierce National Life Insurance Building is on the northwest corner, and a one-story Thrifty Drug Store is on the northeast corner adjacent to the McKinley Building, another historic landmark.

Station Site Design Parameters

All corners of the intersection of Western and Wilshire were investigated as potential entry locations. It was determined that it would be difficult and costly to construct a station entry at all but one corner location. The northeast corner is occupied by the smallest structure and was therefore selected for the single entry planned for this station. The station is expected to have a relatively high volume of bus-rail transfers and, therefore, bus turnout lanes on each side of Western north of Wilshire are planned. Certain bus lines will terminate at this station and will need to turn around and, at times, lay over. To facilitate the bus operation, a "bus only" right-of-way connecting Western Avenue to Oxford Street is proposed. The right-of-way would be sufficiently wide to have one parking lane and one passing or through lane. The station entry will be oriented parallel to Western to facilitate future site development.

Station Design Parameters

The station has been planned with a single mezzanine centered over the length of the platform. This configuration will permit an entry to be constructed into the Union Bank Building if needed in the future to meet patronage requirements, or if constructed by others. Ancillary space will be located at each end of the station. Because a crossover or pocket track is not located at either end of this station, the required traction power substation will be located at grade adjacent to the station entrance.

WILSHIRE / WESTERN STATION ENTRY

VIEW LOOKING SOUTHWEST

FIGURE II-52

SCRTD Metro Rail
HWA
May 1983

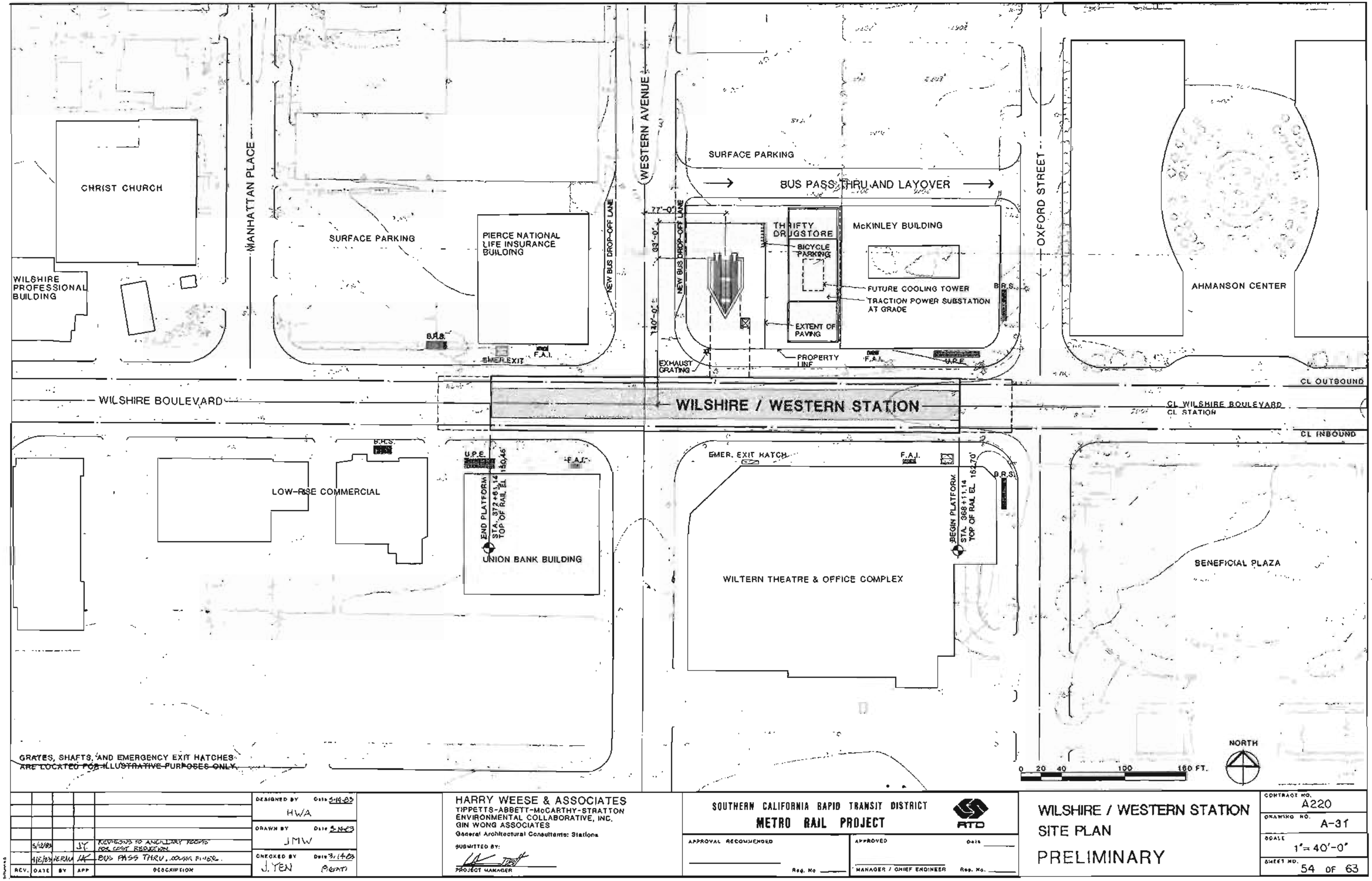
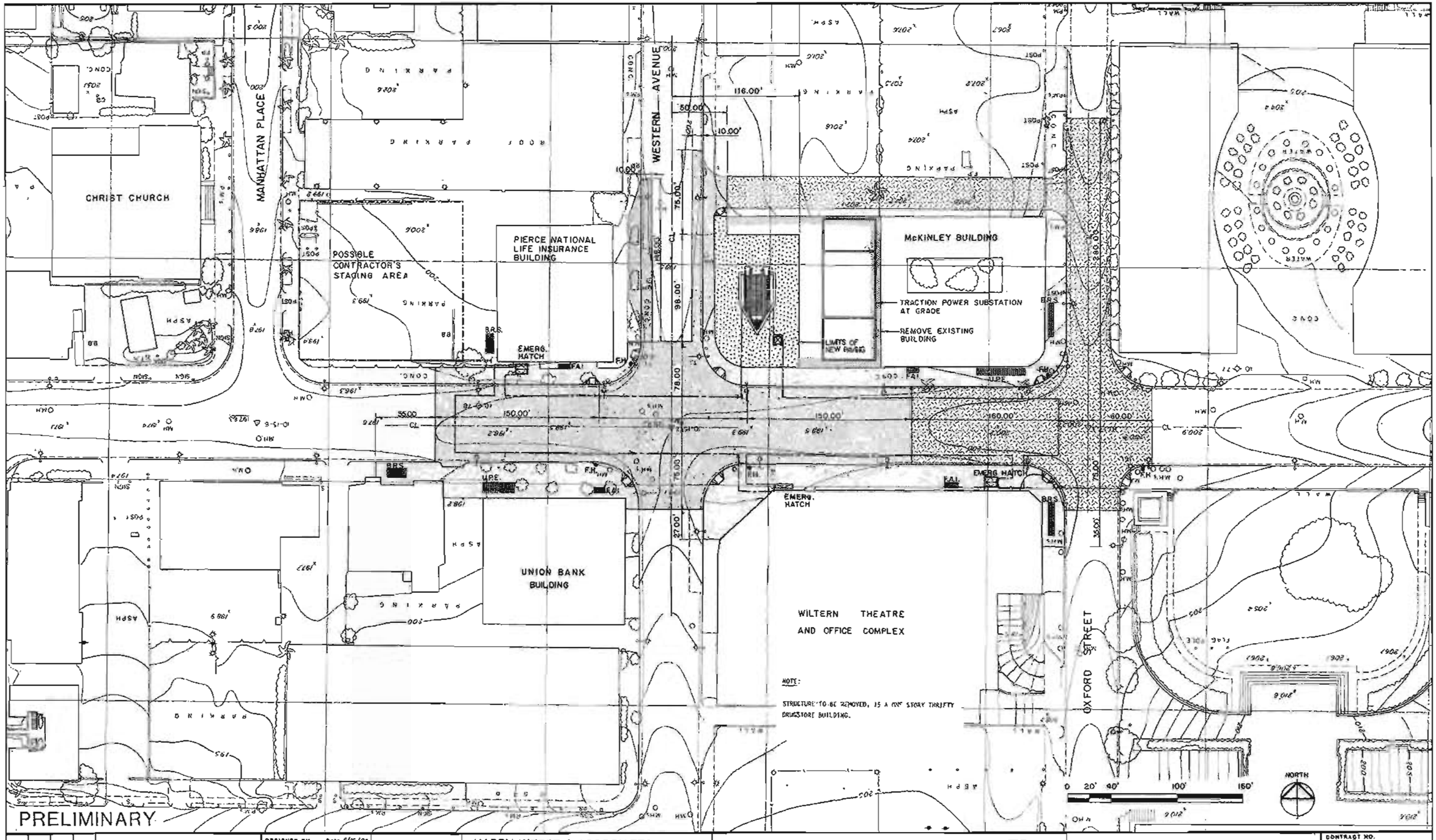

CHRIST CHURCH
WILSHIRE PROFESSIONAL BUILDING
MANHATTAN PLACE
SURFACE PARKING
PIERCE NATIONAL LIFE INSURANCE BUILDING
NEW BUS DROP-OFF LANE
WESTERN AVENUE
SURFACE PARKING
BUS PASS THRU AND LAYOVER
THRIFTY DRUGSTORE
BICYCLE PARKING
McKINLEY BUILDING
FUTURE COOLING TOWER
TRACTION POWER SUBSTATION AT GRADE
EXTENT OF PAVING
PROPERTY LINE
EXHAUST GRATING
OXFORD STREET
AHMANSON CENTER
B.R.S.
EMER.EXIT
F.A.I.
U.P.E.
WILSHIRE BOULEVARD
WILSHIRE / WESTERN STATION
CL OUTBOUND
CL WILSHIRE BOULEVARD
CL STATION
CL INBOUND
LOW-RISE COMMERCIAL
END PLATFORM STA. 372+61.14 TOP OF RAIL EL 150.46
UNION BANK BUILDING
EMER. EXIT HATCH
BEGIN PLATFORM STA. 368+11.14 TOP OF RAIL EL 152.70
WILTERN THEATRE & OFFICE COMPLEX
BENEFICIAL PLAZA
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
NORTH
0 20 40 100 160 FT.
DESIGNED BY HWA
DRAWN BY JMW
CHECKED BY J. YEN
REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION
BUS PASS THRU, COOLING TOWER
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE / WESTERN STATION
SITE PLAN
PRELIMINARY
CONTRACT NO. A220
DRAWING NO. A-31
SCALE 1"= 40'-0"
SHEET NO. 54 OF 63

FIGURE II-53



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 5/16/83
DRAWN BY S.AN Date 5/18/83
CHECKED BY JLD Date 5/19/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

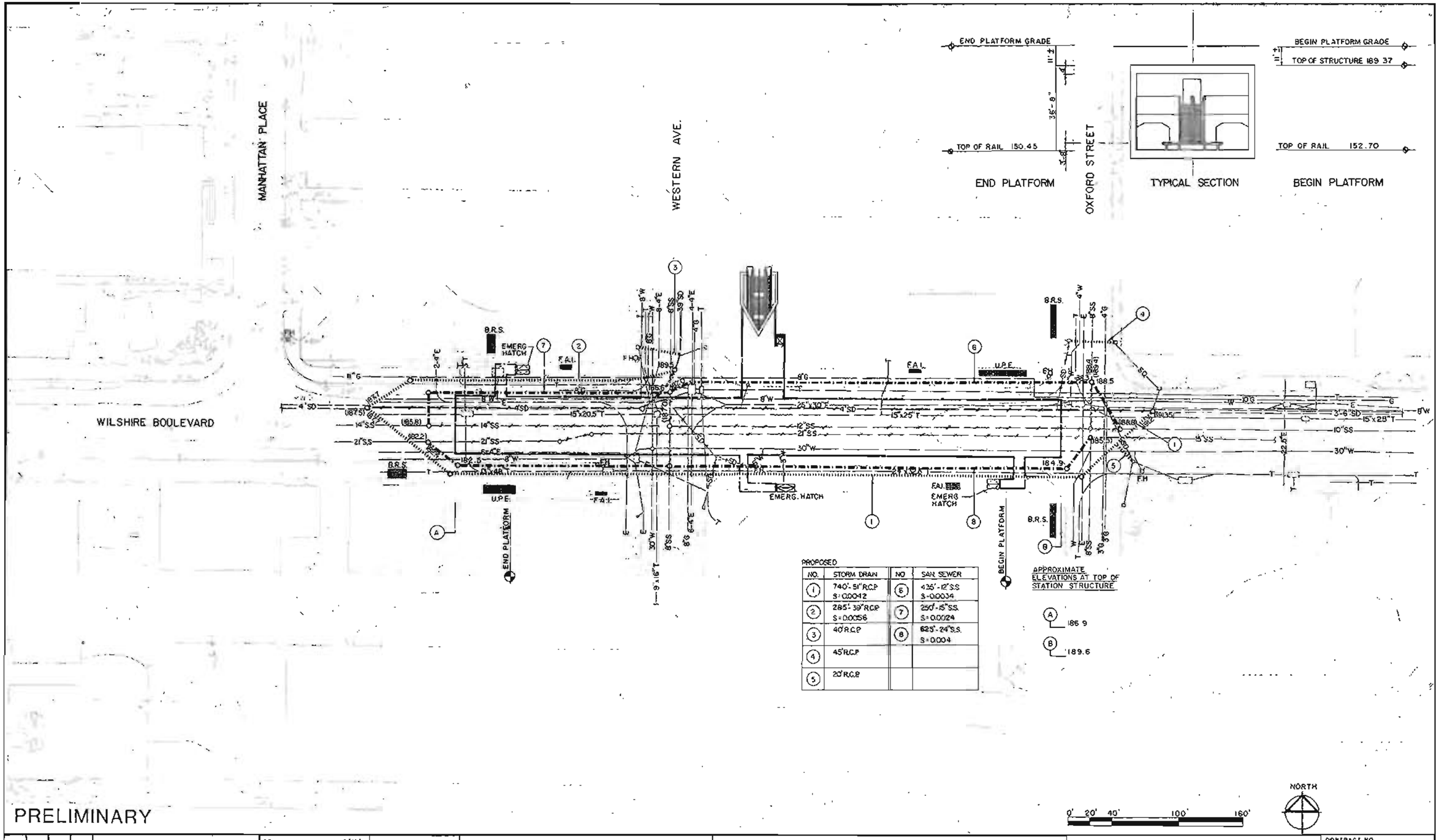
APPROVAL RECOMMENDED
Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE / WESTERN STATION
CIVIL SITE PLAN

CONTRACT NO. A220
DRAWING NO. C-9
SCALE 1"=40'-0"
SHEET NO. 55 OF 63

FIGURE II-54



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 5/16/83
DRAWN BY S.AN Date 5/12/83
CHECKED BY JLD Date 5/25/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE / WESTERN STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A220
DRAWING NO. U-9
SCALE 1"= 40'-0"
SHEET NO. 56 OF 63

FIGURE II-55

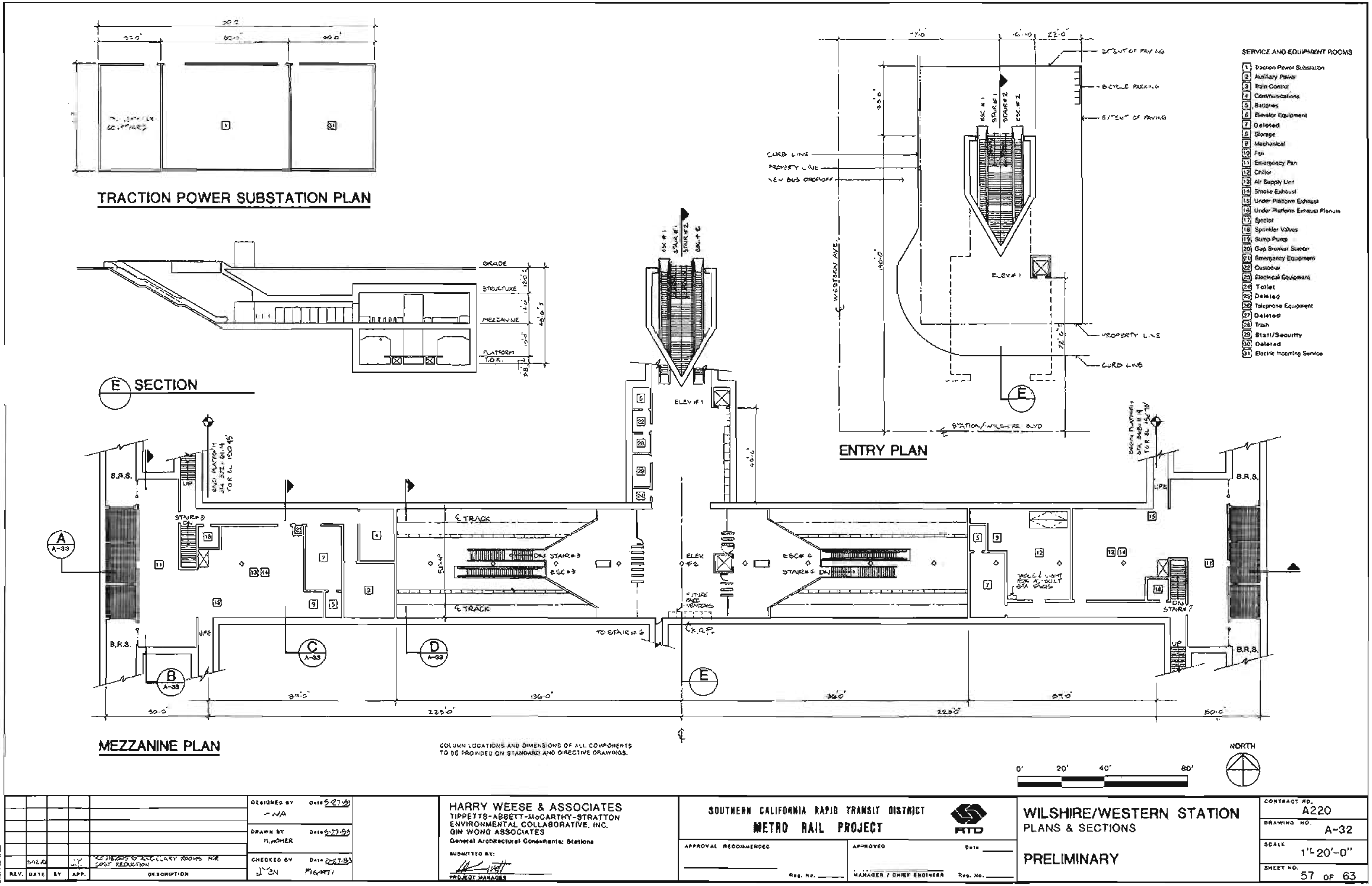
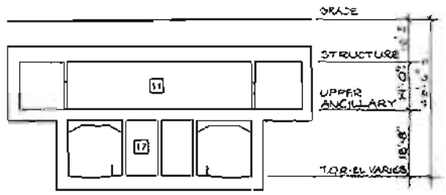
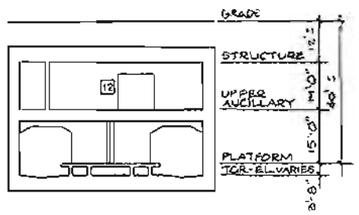

TRACTION POWER SUBSTATION PLAN
E SECTION
GRADE
STRUCTURE
MEZZANINE
PLATFORM
T.O.R.
ENTRY PLAN
EXTENT OF PAVING
BICYCLE PARKING
CURB LINE
PROPERTY LINE
NEW BUS DROPOFF
WESTERN AVE.
STATION/WILSHIRE BLVD
ELEV #1
SERVICE AND EQUIPMENT ROOMS
1 Traction Power Substation
2 Auxiliary Power
3 Train Control
4 Communications
5 Batteries
6 Elevator Equipment
7 Deleted
8 Storage
9 Mechanical
10 Fan
11 Emergency Fan
12 Chiller
13 Air Supply Unit
14 Smoke Exhaust
15 Under Platform Exhaust
16 Under Platform Exhaust Plenum
17 Ejector
18 Sprinkler Valves
19 Sump Pump
20 Gap Breaker Station
21 Emergency Equipment
22 Custodial
23 Electrical Equipment
24 Toilet
25 Deleted
26 Telephone Equipment
27 Deleted
28 Trash
29 Staff/Security
30 Deleted
31 Electric Incoming Service
B.R.S.
℄ TRACK
STAIR #3
ESC #3
ESC #6
STAIR #6
STAIR #7
TO STAIR #6
MEZZANINE PLAN
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.
NORTH
0' 20' 40' 80'
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE/WESTERN STATION
PLANS & SECTIONS
PRELIMINARY
CONTRACT NO. A220
DRAWING NO. A-32
SCALE 1"=20'-0"
SHEET NO. 57 OF 63

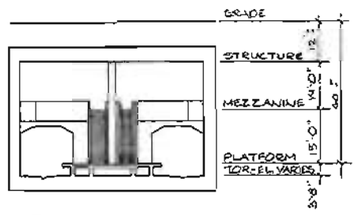
FIGURE II-56



B TRANSVERSE SECTION



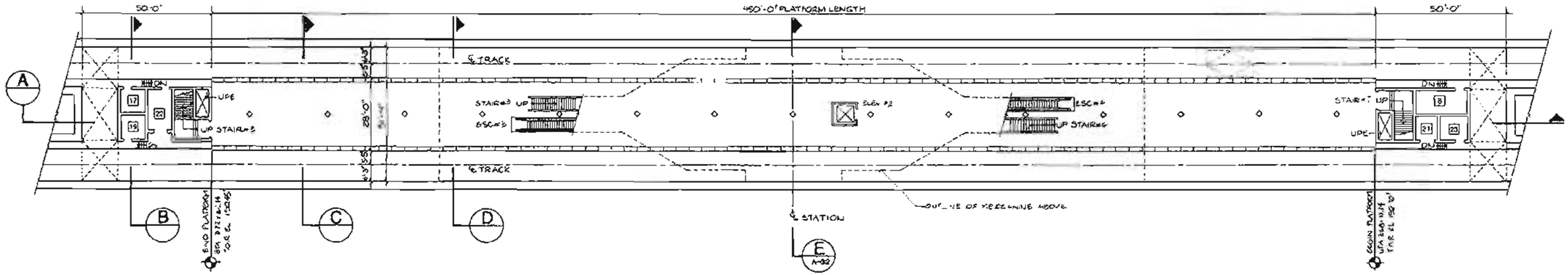
C TRANSVERSE SECTION



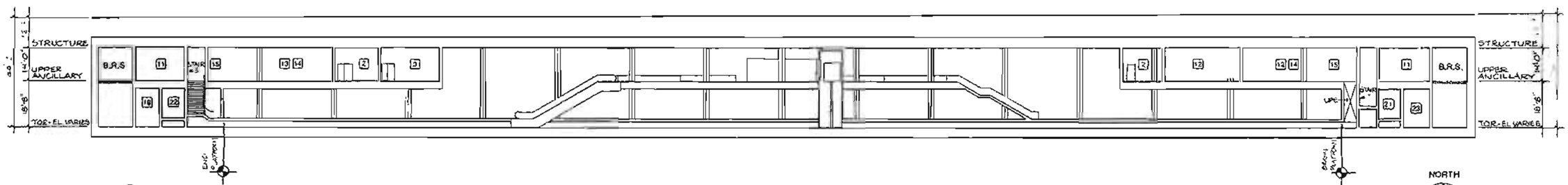
D TRANSVERSE SECTION

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. **Deleted**
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gas Blocker Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. Toilet
25. **Deleted**
26. Telephone Equipment
27. **Deleted**
28. Trash
29. Staff/Security
30. **Deleted**
31. Electric Incoming Service



PLATFORM PLAN



A LONGITUDINAL SECTION

REV.	DATE	BY	APP.	DESCRIPTION
	5-27-83	MK	CL	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 5-27-83
DRAWN BY M. OMER Date 5-17-83
CHECKED BY Date 5-17-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

WILSHIRE/WESTERN STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A220
DRAWING NO. A-33
SCALE 1"=20'-0"
SHEET NO. 58 OF 63

FIGURE II-57

WILSHIRE/CRENSHAW STATION

Background

The Wilshire/Crenshaw Station will be located under Wilshire Boulevard between Lorraine Boulevard and Bronson Avenue. The surrounding land use is primarily low-density residential with apartments and commercial office buildings along Wilshire Boulevard in the station vicinity. Construction was initiated and halted for a 140,000-square-foot office building on the northwest corner of Wilshire and Lorraine.

Station Site Design Parameters

A major factor influencing the site design for the Wilshire/Crenshaw Station is that four bus lines will terminate at the station, creating a need for an off-street bus turnaround with layover and boarding bays. The site offers certain opportunities and constraints for providing this service. The major constraint is accommodating a bus turning radius while confining most of the bus movements within the proposed site. However, the site dimensions are adequate to accomplish this goal while still providing space to construct walls and planted berms to adequately buffer the site from the surrounding residential area. The site boundary on the south is an existing wall adjacent to the first existing structure south of Wilshire Boulevard. This wall would be renovated or reconstructed and extended through to Lorraine Boulevard. A ten-foot-wide planting berm will be constructed along the north side of the wall. A landscaped and paved bus platform island will be constructed and the station entry will be located in this island. Four bus loading and drop-off bays would be provided, two on each side of the island. In addition, three bus layover positions would be provided. The proposed design minimizes bus-auto conflicts. The site, through the use of raised planted berm areas, will be an attractive addition to the community.

Station Design Parameters

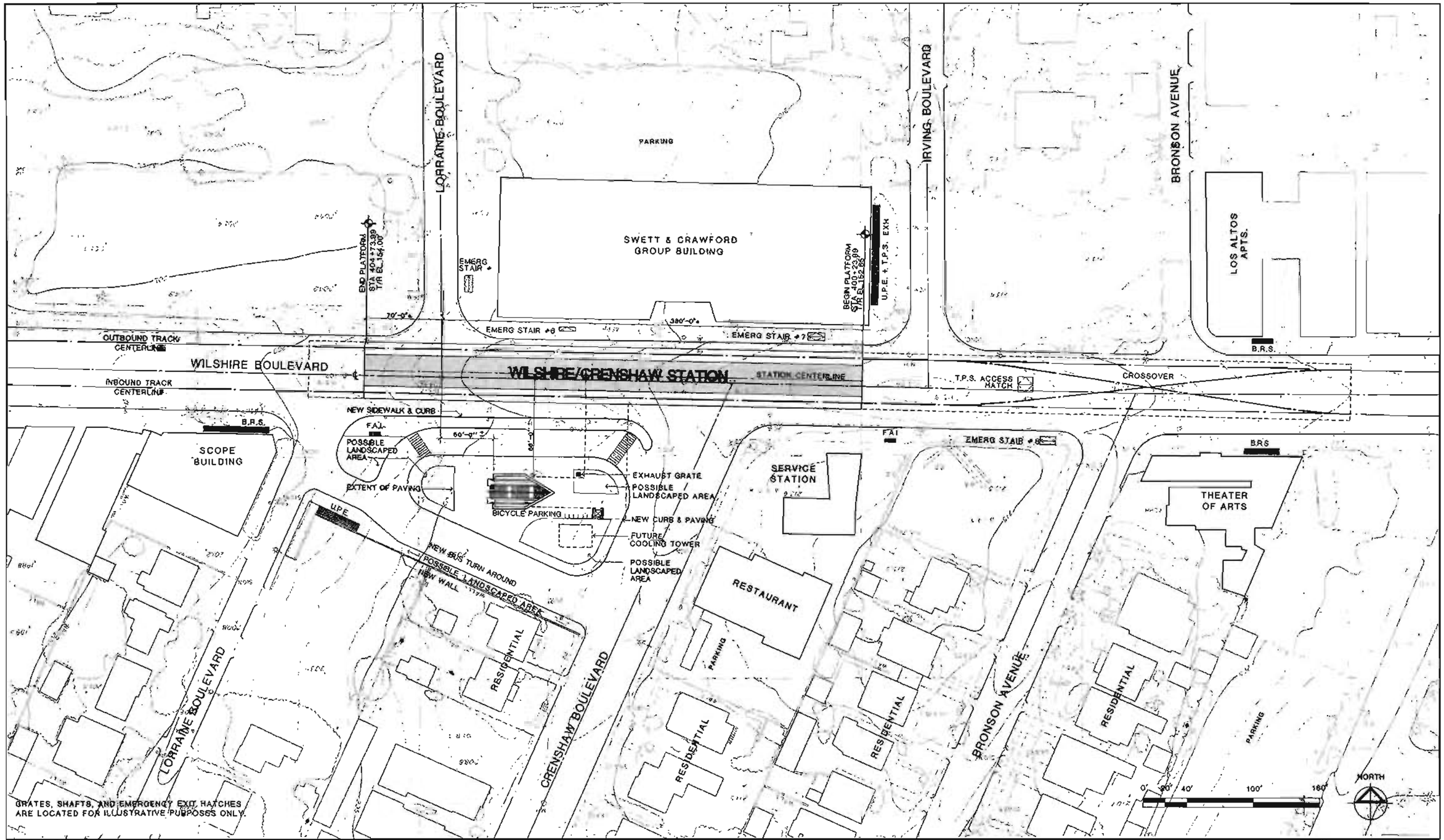
This station, which is projected to have moderate patronage levels, is planned with a single mezzanine located near the midpoint of the station. A paired stair and escalator will provide access from each side of the mezzanine to the center island platform. A double crossover track will be located on the east end of the station and a traction power substation will be located over the crossover track. Station ancillary space will be provided at each end of the station.

WILSHIRE / CRENSHAW STATION ENTRANCE

VIEW LOOKING SOUTHEAST ACROSS WILSHIRE BLVD.
BETWEEN CRENSHAW & LORRAINE BLVDS.

SCRTD Metro Rail
HWA
March 1983

FIGURE II-58



REV.	DATE	BY	APP.	DESCRIPTION
	5/1/83	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY H.W.A. Date 2-17-83
DRAWN BY S. DEBNATH Date 2/17/83
CHECKED BY J. YEH Date 6-19-83

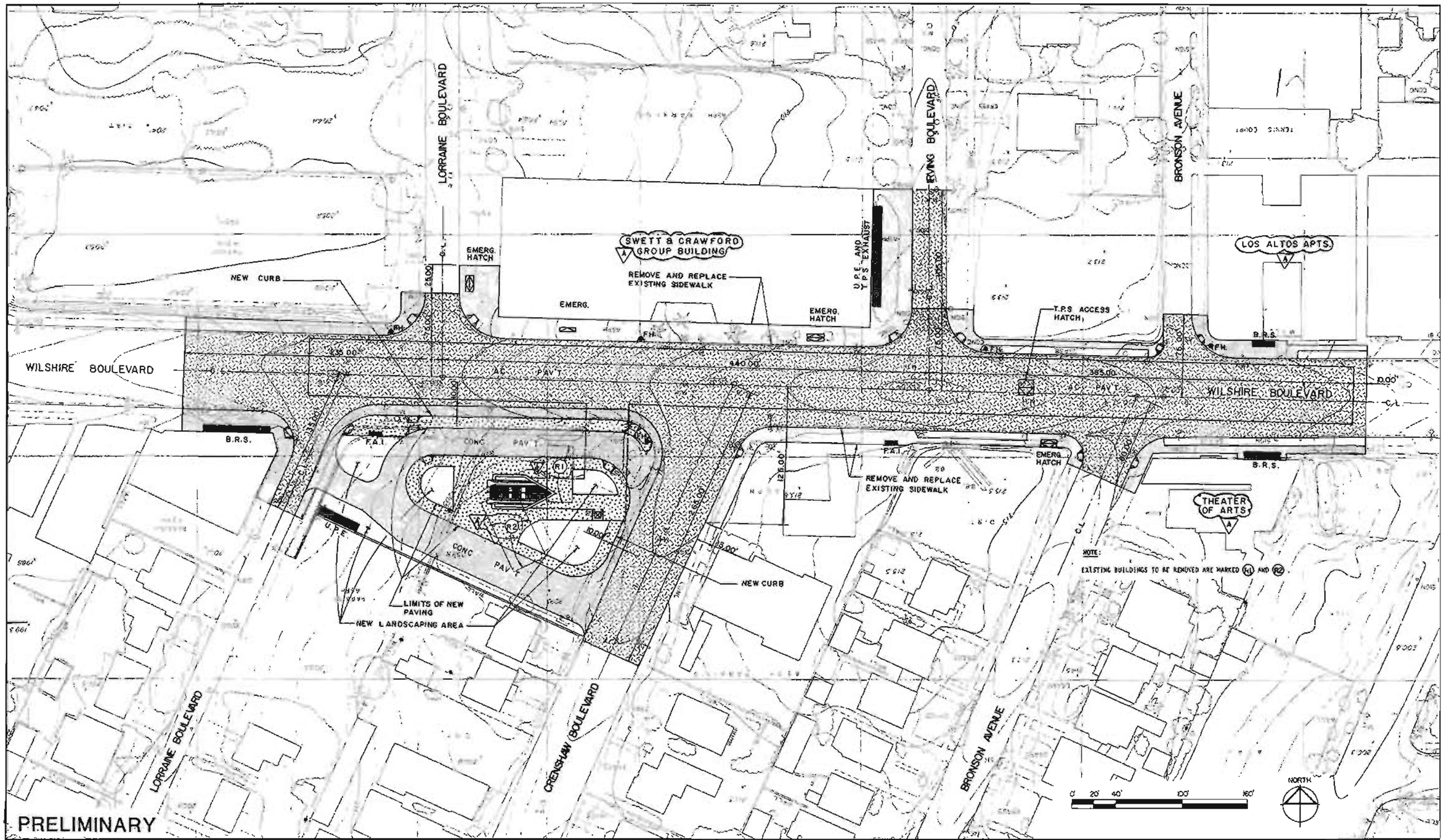
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE/CRENSHAW STATION
SITE PLAN
PRELIMINARY
CW-A-1

CONTRACT NO
DRAWING NO A-34
SCALE 1" = 40'-0"
SHEET NO

FIGURE II-59



REV.	DATE	BY	APP.	DESCRIPTION
7	7/16/84	JLD	TS	ADDED NAME OF EXIST. BLDGS AND REVISED NOTE ON BLDG. REMOVAL.

DESIGNED BY TAMS Date 6/8/83
DRAWN BY HWW Date 6/10/83
CHECKED BY JLD Date 6/10/83

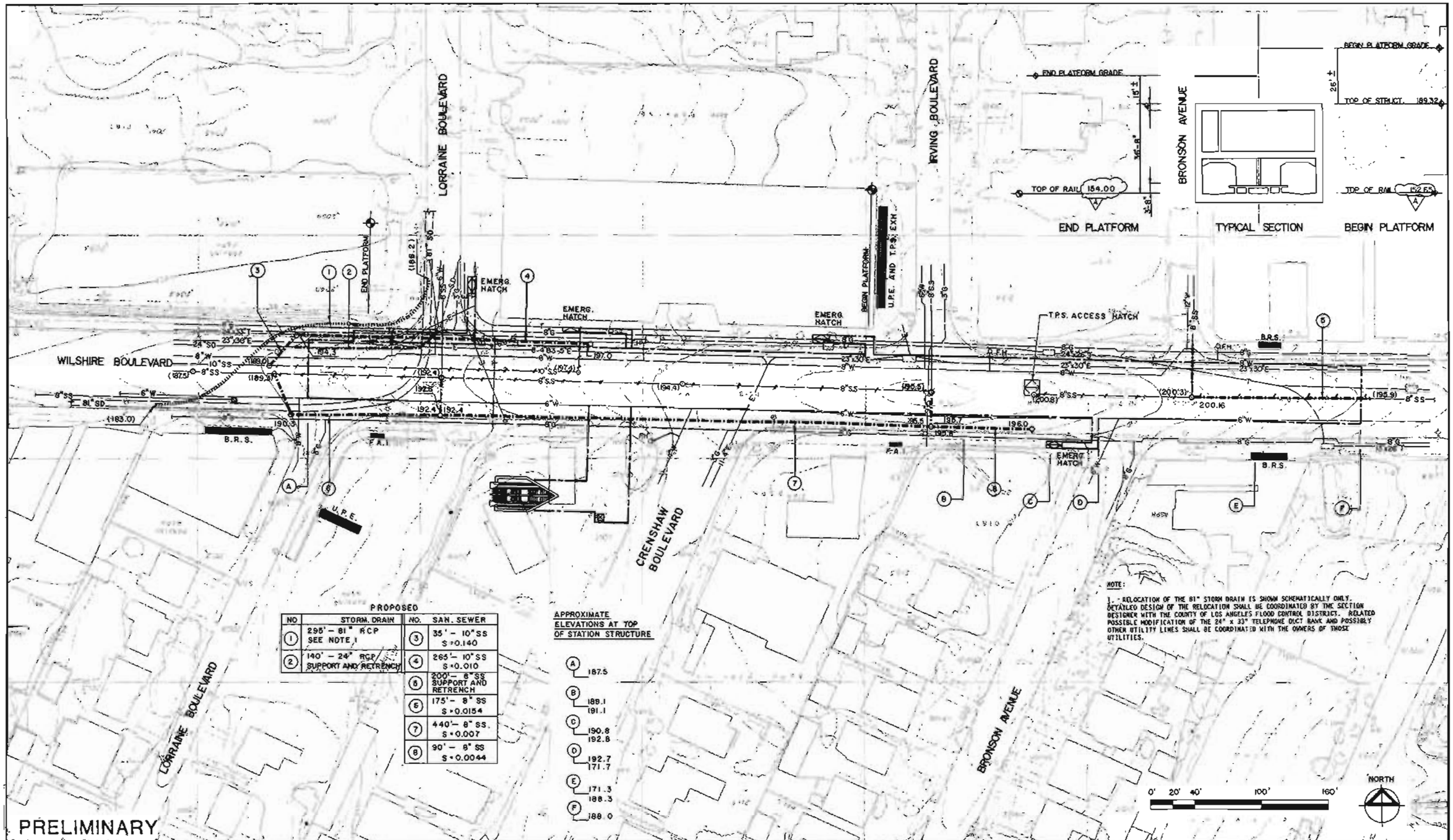
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
Rep. Hy
APPROVED Date
MANAGER / CHIEF ENGINEER Rep. No.

WILSHIRE/CRENSHAW STATION
CIVIL SITE PLAN

CONTRACT NO.
DRAWING NO. C-10
SCALE 1" = 40'-0"
SHEET NO.

FIGURE II-60



PROPOSED

NO	STORM. DRAIN
1	295' – 81" RCP SEE NOTE 1
2	140' – 24" RCP SUPPORT AND RETRENCH

NO.	SAN. SEWER
3	35' – 10"SS S=0.140
4	265' – 10"SS S=0.010
5	200' – 8"SS SUPPORT AND RETRENCH
6	175' – 8" SS S=0.0154
7	440' – 8" SS. S=0.007
8	90' – 8" SS S=0.0044

APPROXIMATE ELEVATIONS AT TOP OF STATION STRUCTURE

A	187.5
B	189.1 / 191.1
C	190.8 / 192.8
D	192.7 / 171.7
E	171.3 / 188.3
F	188.0

NOTE:

1. RELOCATION OF THE 81" STORM DRAIN IS SHOWN SCHEMATICALLY ONLY. DETAILED DESIGN OF THE RELOCATION SHALL BE COORDINATED BY THE SECTION DESIGNER WITH THE COUNTY OF LOS ANGELES FLOOD CONTROL DISTRICT. RELATED POSSIBLE MODIFICATION OF THE 24" x 33" TELEPHONE DUCT BANK AND POSSIBLY OTHER UTILITY LINES SHALL BE COORDINATED WITH THE OWNERS OF THOSE UTILITIES.

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
2	11/9/83	JLD		REVISED STA PLATFORM EL.

DESIGNED BY TAMB Date 6/8/83
DRAWN BY HWW Date 6/10/83
CHECKED BY JLD Date 6/10/83

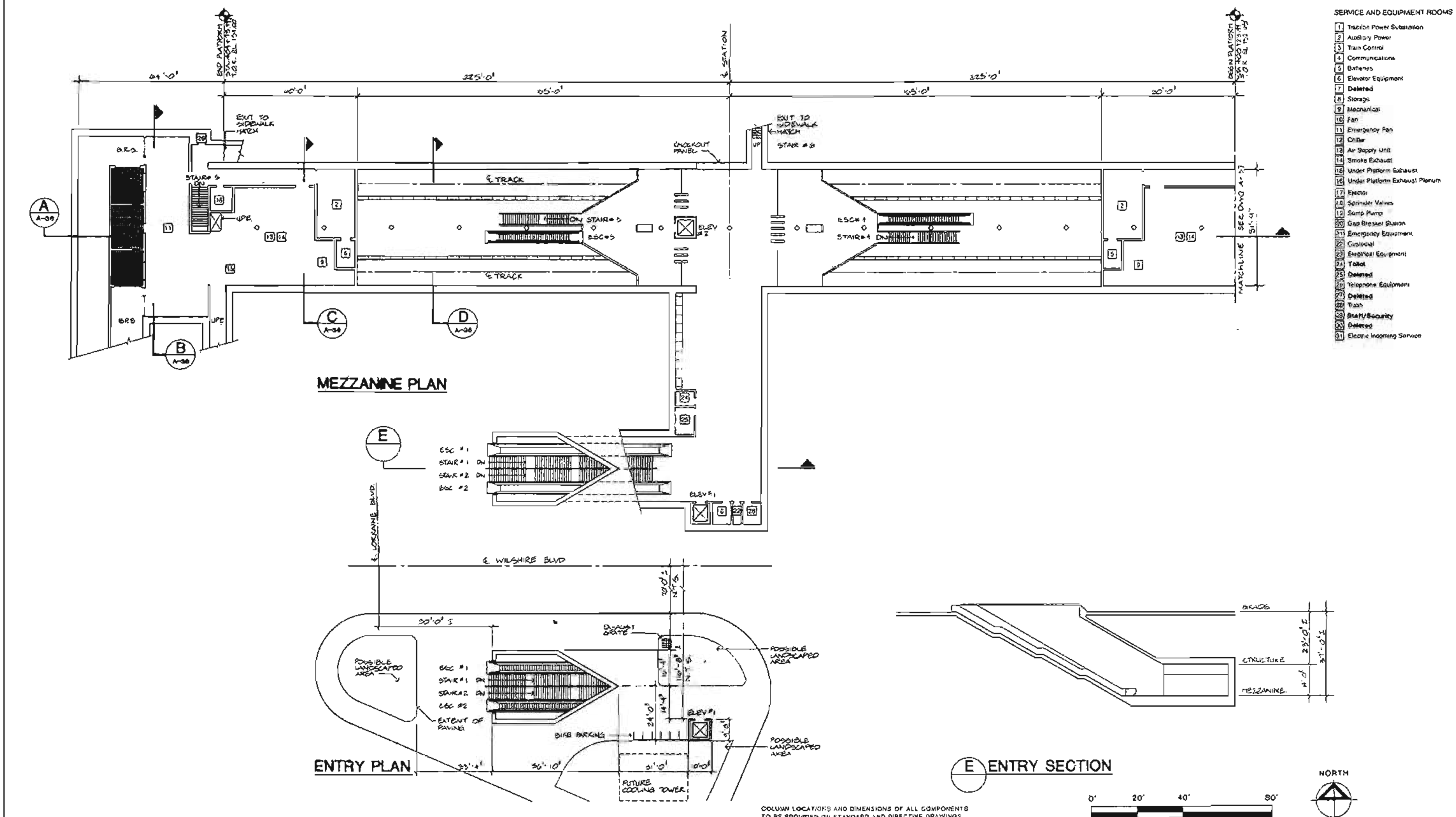
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Date
Rep. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Rep. No.

WILSHIRE/CRENSHAW STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO
DRAWING NO. U-10
SCALE 1"=40'-0"
SHEET NO.

FIGURE II-61



REV.	DATE	BY	APP.	DESCRIPTION
	5-21-85	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS

DESIGNED BY H.W.A.
DRAWN BY M.W.D. Date 5-24-85
CHECKED BY

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
APPROVED
MANAGER / CHIEF ENGINEER

WILSHIRE/CRENSHAW STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO.
DRAWING NO. A-35
SCALE 1"=20'-0"
SHEET NO.

FIGURE II-62

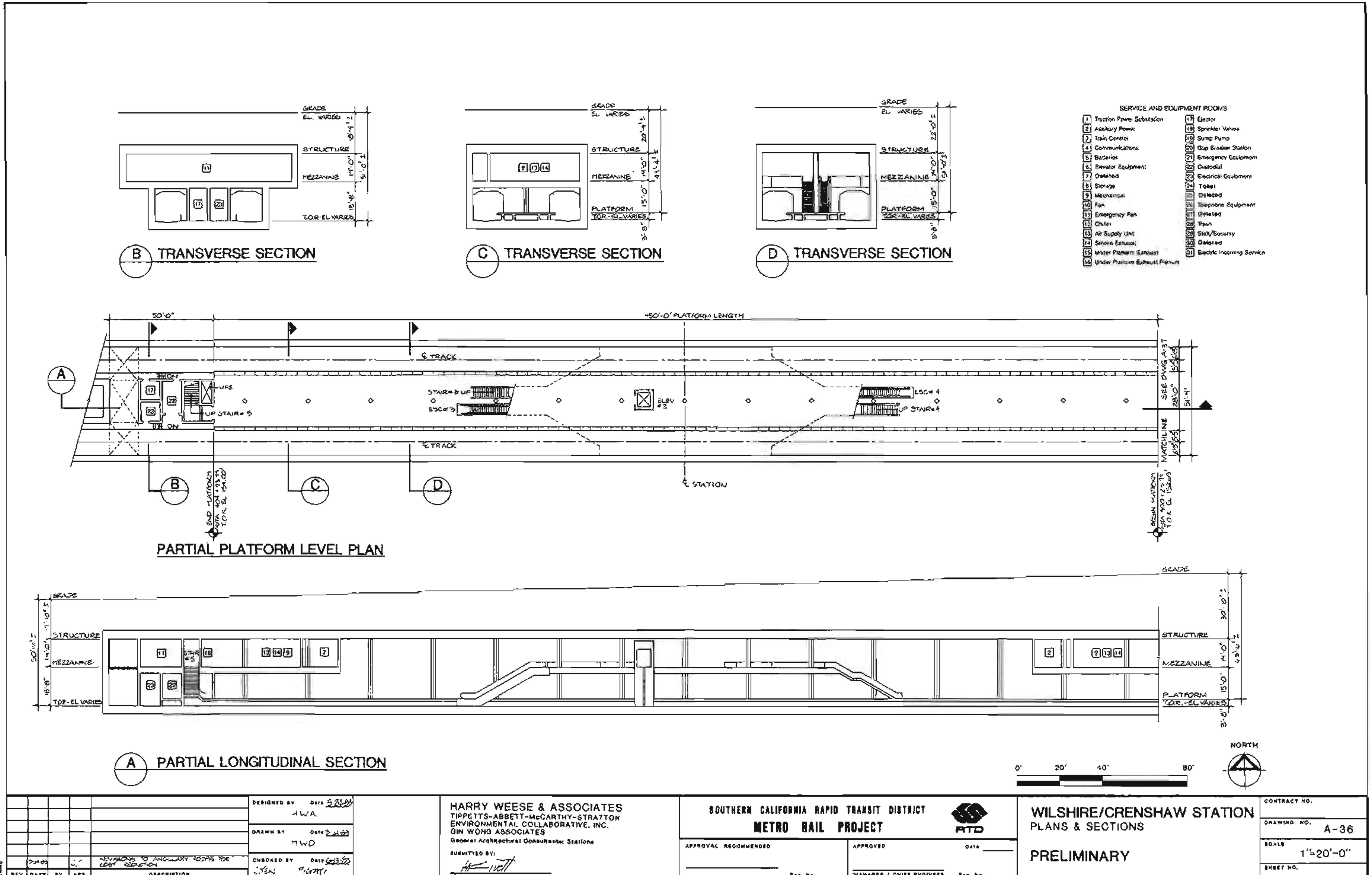
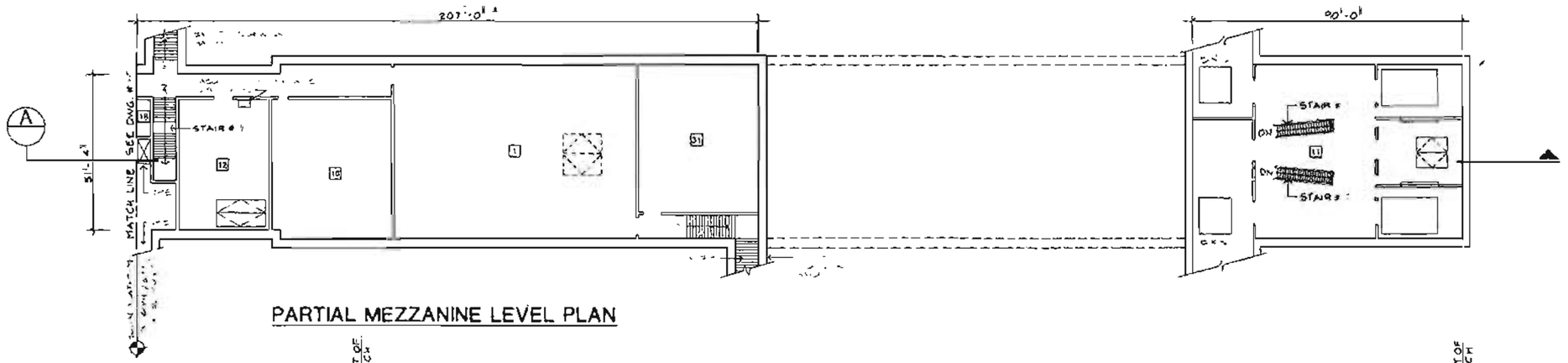

B TRANSVERSE SECTION
C TRANSVERSE SECTION
D TRANSVERSE SECTION
GRADE
STRUCTURE
MEZZANINE
PLATFORM
T.O.R.-EL VARIES
SERVICE AND EQUIPMENT ROOMS
1 Traction Power Substation
2 Auxiliary Power
3 Train Control
4 Communications
5 Batteries
6 Elevator Equipment
7 Deleted
8 Storage
9 Mechanical
10 Fan
11 Emergency Fan
12 Chiller
13 Air Supply Unit
14 Smoke Exhaust
15 Under Platform Exhaust
16 Under Platform Exhaust Plenum
17 Ejector
18 Sprinkler Valves
19 Sump Pump
20 Gap Breaker Station
21 Emergency Equipment
22 Custodial
23 Electrical Equipment
24 Toilet
25 Deleted
26 Telephone Equipment
27 Deleted
28 Trash
29 Staff/Security
30 Deleted
31 Electric Incoming Service
450'-0" PLATFORM LENGTH
℄ TRACK
℄ STATION
MATCHLINE SEE DWG A-37
PARTIAL PLATFORM LEVEL PLAN
A PARTIAL LONGITUDINAL SECTION
NORTH
0' 20' 40' 80'
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
WILSHIRE/CRENSHAW STATION
PLANS & SECTIONS
PRELIMINARY
DRAWING NO. A-36
SCALE 1"=20'-0"

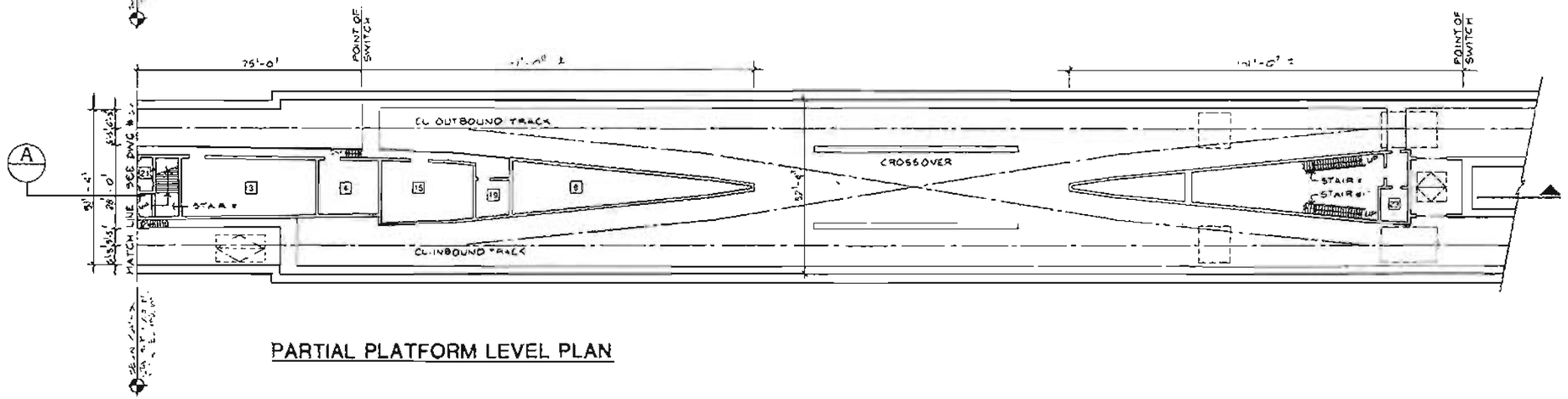
FIGURE II-63

SERVICE AND EQUIPMENT ROOMS

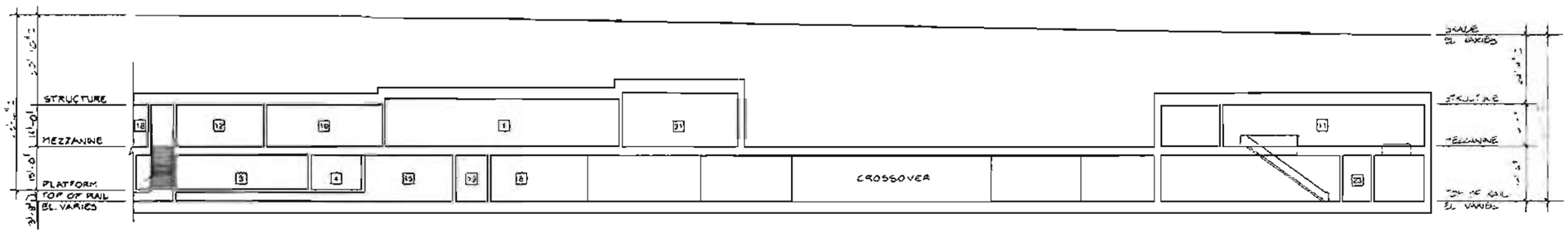
1 Traction Power Substation
2 Auxiliary Power
3 Train Control
4 Communications
5 Batteries
6 Elevator Equipment
7 Deleted
8 Storage
9 Mechanical
10 Fan
11 Emergency Fan
12 Chiller
13 Air Supply Unit
14 Smoke Exhaust
15 Under Platform Exhaust
16 Under Platform Exhaust Plenum
17 Electric
18 Sprinkler Valves
19 Sump Pump
20 Gap Breaker Station
21 Emergency Equipment
22 Custodial
23 Electrical Equipment
24 Toilet
25 Deleted
26 Telephone Equipment
27 Deleted
28 Trash
29 Staff / Security
30 Deleted
31 Electric Incoming Service



PARTIAL MEZZANINE LEVEL PLAN



PARTIAL PLATFORM LEVEL PLAN



A PARTIAL LONGITUDINAL SECTION

NORTH

0' 20' 40' 80'

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY Date
DRAWN BY Date
CHECKED BY Date

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants; Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

WILSHIRE/CRENSHAW STATION
PLANS & SECTION
PRELIMINARY

CONTRACT NO.
DRAWING NO. A-37
SCALE 1"= 20'-0"
SHEET NO.

FIGURE II-64

WILSHIRE/LA BREA STATION

Background

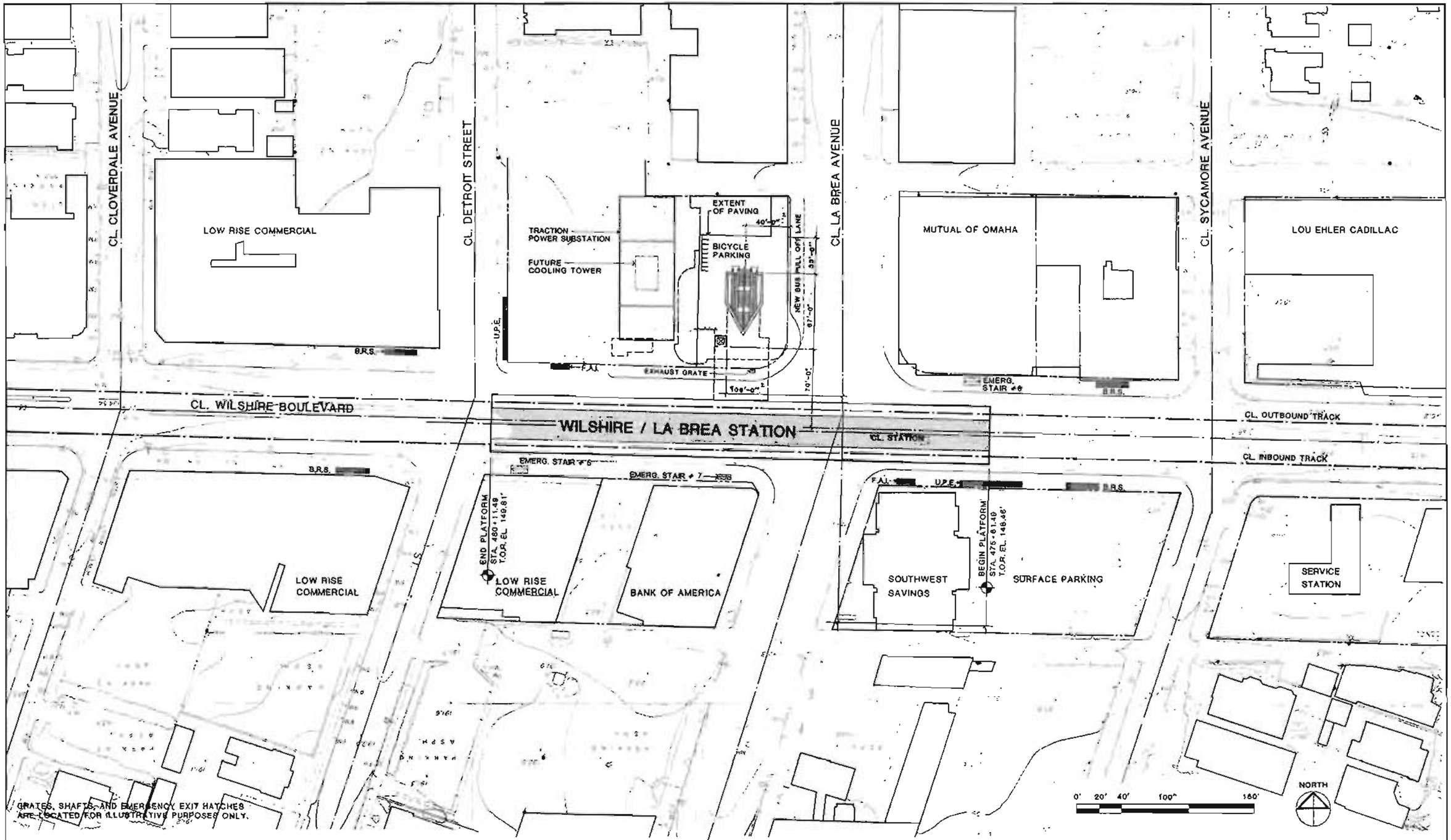
The Wilshire/La Brea Station will be located under Wilshire Boulevard between Detroit Street and Sycamore Avenue. The surrounding area along Wilshire contains mostly low-rise commercial and retail development with the exception of the medium-rise historic landmark Mutual of Omaha Building, which is located on the northeast corner of the intersection of Wilshire and La Brea. The areas north and south of Wilshire are residential in character. Presently, there are no major destinations or public spaces and attractions at this location. The many underutilized parcels of land which exist in the station vicinity will have increased development potential as a result of the construction of the Metro Rail station.

Station Site Design Parameters

The moderate patronage level projected for this station requires only a single entrance. The northwest corner of the Wilshire/La Brea intersection is the least developed and is therefore proposed for the entry. The site is occupied by low-rise commercial structures and surface parking. To facilitate bus-rail transfer, a bus turnout lane is proposed on the west side of La Brea adjacent to the station entry. The entry is oriented parallel to the La Brea axis to preserve the maximum frontage along Wilshire for future development and to increase the convenience of the bus-rail transfer.

Station Design Parameters

Based on the moderate patronage projection, this station has been planned with a single mezzanine. It will have a center platform with ancillary space provided at each end of the station. A traction power substation will be constructed at grade adjacent to the station entrance.



DEV.	DATE	BY	APP.	DESCRIPTION
	6/93	B.K.	J.Y.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY Date 2/1/93 KWA
DRAWN BY Date 6/30/93 B.K./M.D.
CHECKED BY Date 7/6/93 R. Pigott

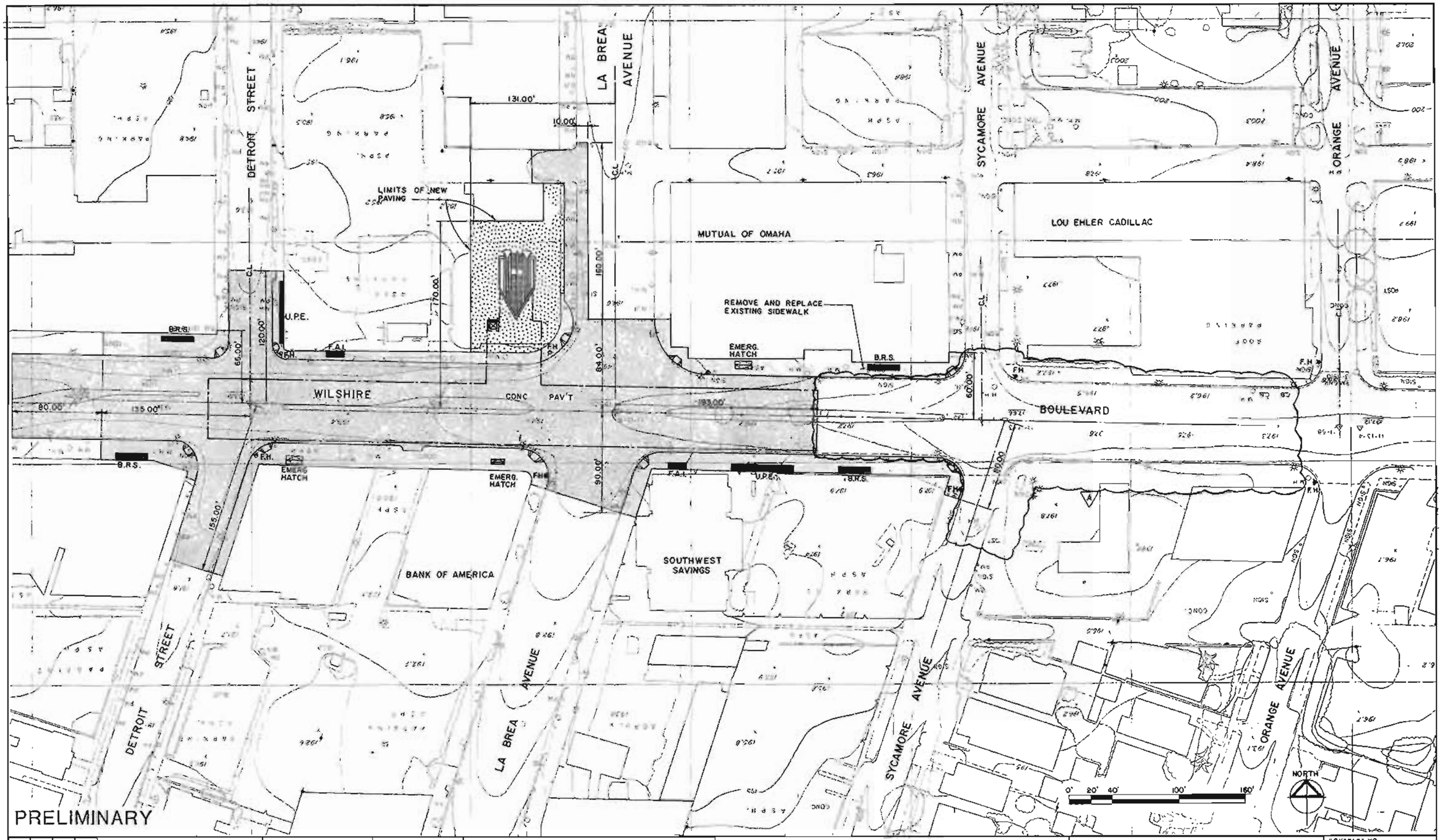
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants; Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

WILSHIRE / LA BREA STATION
SITE PLAN
PRELIMINARY

CONTRACT NO. A245
DRAWING NO. A-38
SCALE 1"= 40'-0"
SHEET NO. 9 OF 21

FIGURE II-65



REV.	DATE	BY	APP.	DESCRIPTION
1	6/16/83	JLD		REVISED EXTENT OF PROP. CONC. PAVING & REPLACEMENT OF EXIST. SIDEWALK

DESIGNED BY TAMS Date 6/3/83
DRAWN BY HWW Date 6/7/83
CHECKED BY JLD Date 6/8/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: _____ PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED _____ Reg. No. ____
APPROVED _____ Date ____ MANAGER / CHIEF ENGINEER Reg. No. ____

WILSHIRE / LA BREA STATION
CIVIL SITE PLAN

CONTRACT NO A245
DRAWING NO C-11
SCALE 1-40'-0"
SHEET NO. 10 of 21

FIGURE II-66

CONNECT PROP 42" SD TO EXIST. 36" SD.
INVERT ELEVATIONS AT JUNCTION:
AT 42" SD EL. 190.7 (PROP)
AT 36" SD EL. 181.2 (EXIST)

DETROIT STREET

LA BREA AVENUE

SYCAMORE AVENUE

ORANGE AVENUE

WILSHIRE BOULEVARD

TOP OF W PIPE EXIST. EL. 182.4 (DWP)

TOP OF W PIPE EXIST. EL. 182.1 (DWP)

END PLATFORM

BEGIN PLATFORM

U.P.E.

F.A.I.

B.R.S.

EMERG. MATCH

F.H.

END PLATFORM GRADE

TOP OF RAIL 149.81

END PLATFORM

TYPICAL SECTION

BEGIN PLATFORM GRADE

TOP OF STRUCTURE 185.13

TOP OF RAIL 148.46

BEGIN PLATFORM

PROPOSED

NO.	STORM DRAIN	NO.	SAN. SEWER	NO	WATER LINE
1	455'-27"RCP S=0.006	4	250'-12" SS S=0.004	8	210'-57"RCP SEE NOTES 1&3
2	908'-42"RCP S=0.003	5	120'-8" SS S=0.004		
3	178'-42"RCP S=0.075	6	340'-30" SS S=0.002		
		7	320'-24" SS S=0.0078		

* STRETCH OF 80'± TO BE SUPPORTED IN PLACE DURING THE STATION CONSTRUCTION.

** LENGTH OF PROPOSED 42" CONDUIT STARTS AT PROPOSED CHANGE OF GRADE POINT (PROP'D EL. 188.0) ON SOUTH EDGE OF WILSHIRE BOULEVARD.

APPROXIMATE ELEVATIONS AT TOP OF STATION STRUCTURE

A 186.6

B 185.0

NOTE:

1. RELOCATION OF THE 57" WATER LINE IS SHOWN SCHEMATICALLY ONLY. DETAILED DESIGN SHALL BE COORDINATED BY THE SECTION DESIGNER WITH THE CITY OF LOS ANGELES WATER AND POWER DEPARTMENT.
2. CONTRACT A245 INCLUDES ALL SUBSURFACE WORK AND SURFACE WORK ITEMS SHOWN ON THIS SHEET AND THOSE DESCRIBED BY GENERAL NOTES AND SPECIFICATIONS.
3. EXISTING ELEVATIONS AT THE TOP OF 57" WATER MAIN WERE INTERPOLATED FROM THE INFORMATION BASED ON THE DWP ON-SITE SURVEY.

0' 20' 40' 100' 160'

NORTH

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
7	7/5/83	JLD	TC	COMPLETED CROSS-OVER, REVISED RELOCATION OF SS PIPE & EL. OF STATION PLATFORM

DESIGNED BY TAMS Date 6/10/83
DRAWN BY HWW Date 6/9/83
CHECKED BY JLD Date 6/9/83

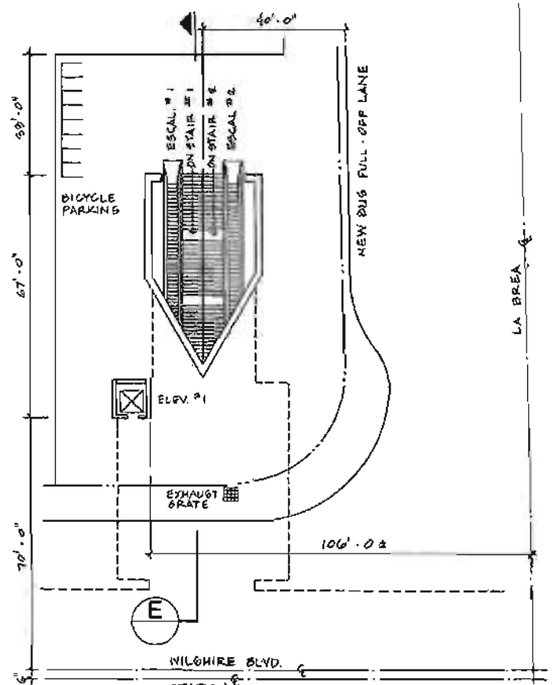
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED ____ Reg. No. ____
APPROVED ____ Date ____
MANAGER / CHIEF ENGINEER Reg. No. ____

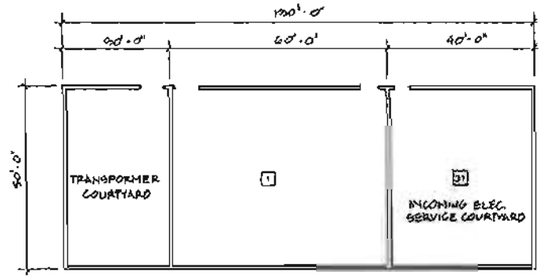
WILSHIRE / LA BREA STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A245
DRAWING NO. U-11
SCALE 1"=40'-0"
SHEET NO. 11 OF 21

FIGURE II-67



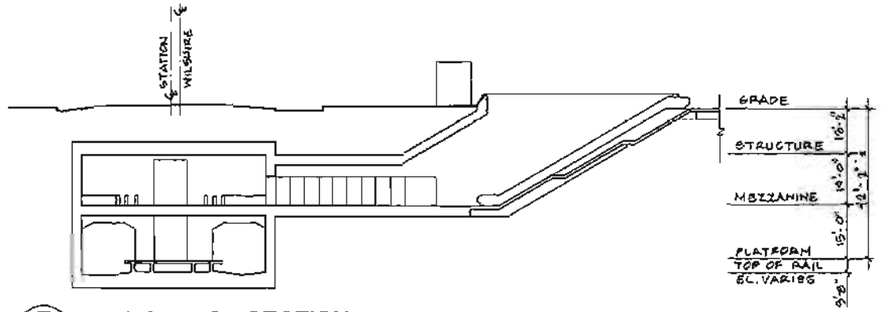
ENTRANCE LEVEL PLAN



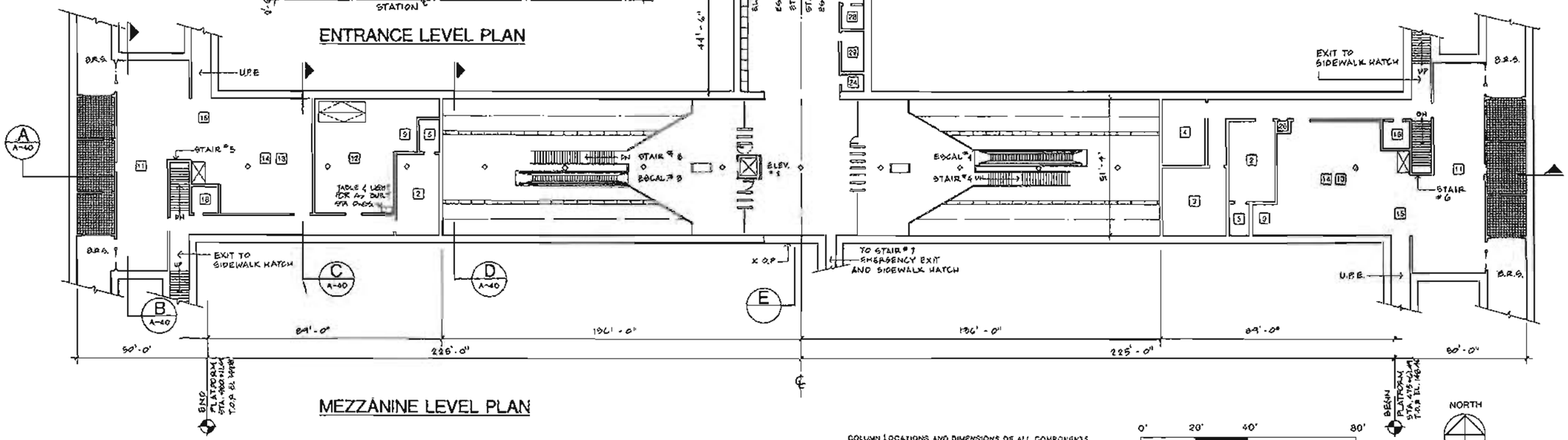
TRACTION POWER SUBSTATION PLAN

SERVICE AND EQUIPMENT ROOMS

1 Traction Power Substation	17 Ejector
2 Auxiliary Power	18 Sprinkler Valves
3 Train Control	19 Sump Pump
4 Communications	20 Gap Breaker Station
5 Batteries	21 Emergency Equipment
6 Elevator Equipment	22 Custodial
7 Deleted	23 Electrical Equipment
8 Storage	24 Toilet
9 Mechanical	25 Deleted
10 Fan	26 Telephone Equipment
11 Emergency Fan	27 Deleted
12 Chiller	28 Trash
13 Air Supply Unit	29 Staff /Security
14 Smoke Exhaust	30 Deleted
15 Under Platform Exhaust	31 Electric Incoming Service
16 Under Platform Exhaust Plenum	



E TRANSVERSE SECTION



MEZZANINE LEVEL PLAN

COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.

0' 20' 40' 80'

NORTH

REV	DATE	BY	APP	DESCRIPTION
	7/1/88		J.Y.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION.

DESIGNED BY H.W.A. Date 6/20/88
DRAWN BY K.LIM Date 6/20/88
CHECKED BY J.YEN Date 6-30-88

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
BIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED
Rep. No.

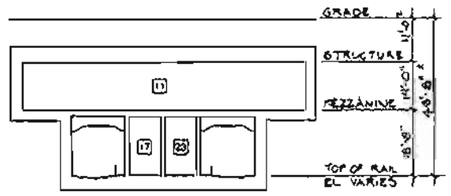
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE/LA BREA STATION
PLANS AND SECTIONS

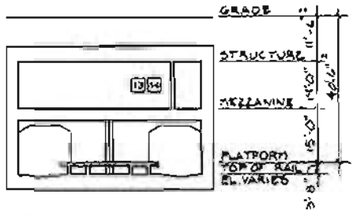
PRELIMINARY

CONTRACT NO. A245
DRAWING NO. A-39
SCALE 1"=20'-0"
SHEET NO. 12 OF 21

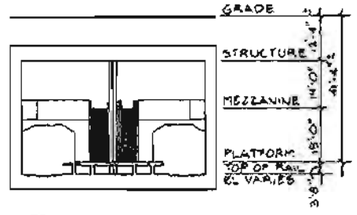
FIGURE II-68



B TRANSVERSE SECTION



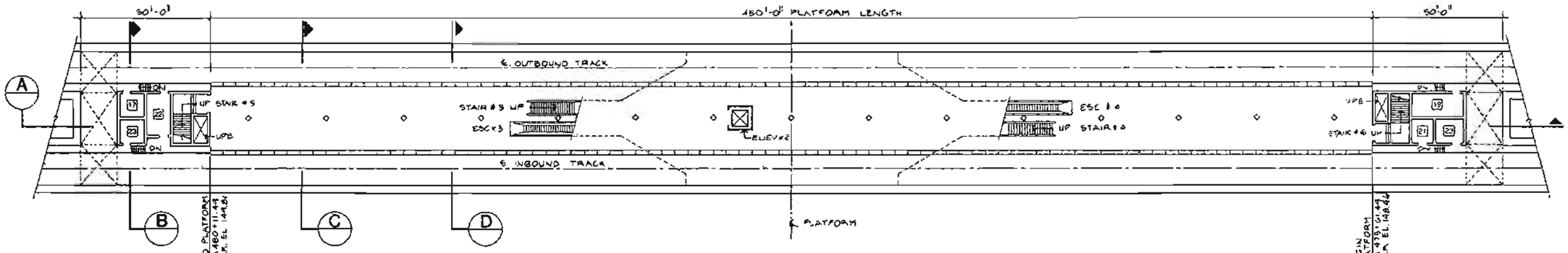
C TRANSVERSE SECTION



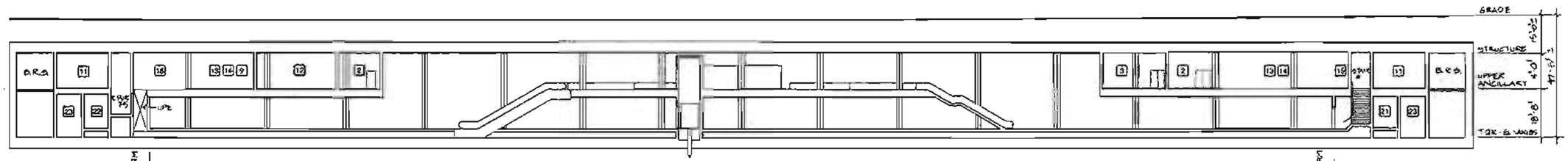
D TRANSVERSE SECTION

SERVICE AND EQUIPMENT ROOMS

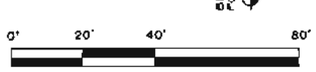
1 Traction Power Substation	17 Ejector
2 Auxiliary Power	18 Sprinkler Valves
3 Train Control	19 Sump Pump
4 Communications	20 Gap Breaker Station
5 Batteries	21 Emergency Equipment
6 Elevator Equipment	22 Custodial
7 Deleted	23 Electrical Equipment
8 Storage	24 Toilet
9 Mechanical	25 Deleted
10 Fan	26 Telephone Equipment
11 Emergency Fan	27 Deleted
12 Chiller	28 Trash
13 Air Supply Unit	29 Staff/Security
14 Smoke Exhaust	30 Deleted
15 Under Platform Exhaust	31 Electric Incoming Service
16 Under Platform Exhaust Plenum	



MEZZANINE LEVEL PLAN



A LONGITUDINAL SECTION



NORTH

6-3-83	B.R.	J.Y.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION	
REV. DATE	BY	APP.	DESCRIPTION	

DESIGNED BY H.W.A. Date 6-3-83
DRAWN BY B.R. / M.D. Date 6-3-83
CHECKED BY J.YEH P.PETTI Date 6-3-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED Date
Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE / LA BREA STATION
PLANS AND SECTIONS
PRELIMINARY

CONTRACT NO. A245
DRAWING NO. A-40
SCALE 1"=20'-0"
SHEET NO. 13 OF 21

FIGURE II-69

WILSHIRE/FAIRFAX STATION

Background

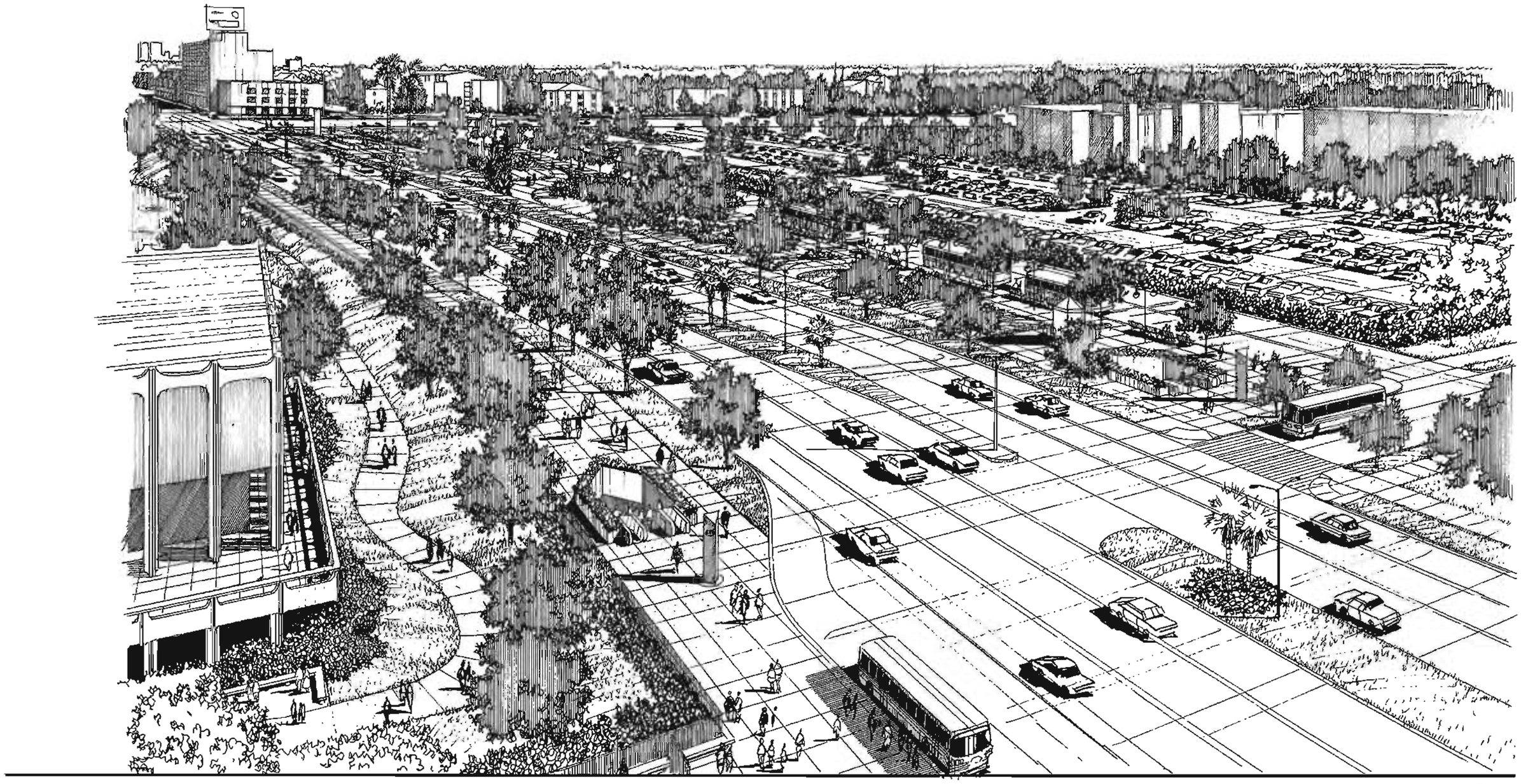
The Wilshire/Fairfax Station will be located under Wilshire Boulevard between Curson and Spaulding avenues. The surrounding area is heavily residential but also contains major public attractions. The Los Angeles County Museum of Art, the Rancho La Brea Tar Pits, and the Page Museum of Natural History are all located on the north side of Wilshire adjacent to the station. Two blocks west of the station at the intersection of Fairfax and Wilshire is a major retail shopping area containing both the May Company and Ohrbach's department stores. The May Company is considering plans to redevelop its properties by building a major multi-use complex. Adjacent to the station on the south side of Wilshire is a large undeveloped parcel of land. The surrounding residential areas contain high-rise, multi-family and single-family housing units.

Station Site Design Parameters

This is the last station along Wilshire Boulevard before the alignment turns north along Fairfax Avenue. As the westernmost station on the Wilshire Corridor, it will be a major receptor for patrons arriving by auto and bus from the south and west. Surface parking for 200 autos will be provided; the construction of a parking structure with 1,000 spaces will be considered at a future date. In addition, a major off-street bus facility is planned. A bus turnout lane will be provided on the south side of Wilshire just west of Stanley Avenue. Wilshire and Fairfax buses terminating at the station will unload in this turnout and passengers transferring to Metro Rail will use a station entrance adjacent to the turnout to access the station. The buses will then use the terminal to turn around and/or lay over. To minimize traffic conflicts and congestion the future parking facility is proposed with entry only from Spaulding Avenue and exit only onto Stanley. The bus terminal will, conversely, have entry only from Stanley and exit only onto Spaulding. The two facilities have been sited to permit the concurrent or future development of the Wilshire frontage. The bus terminal is entirely on-grade and can accommodate development in the air space over it. The proposed station site development will require acquisition of existing structures along Wilshire, west of Stanley.

Station Design Parameters

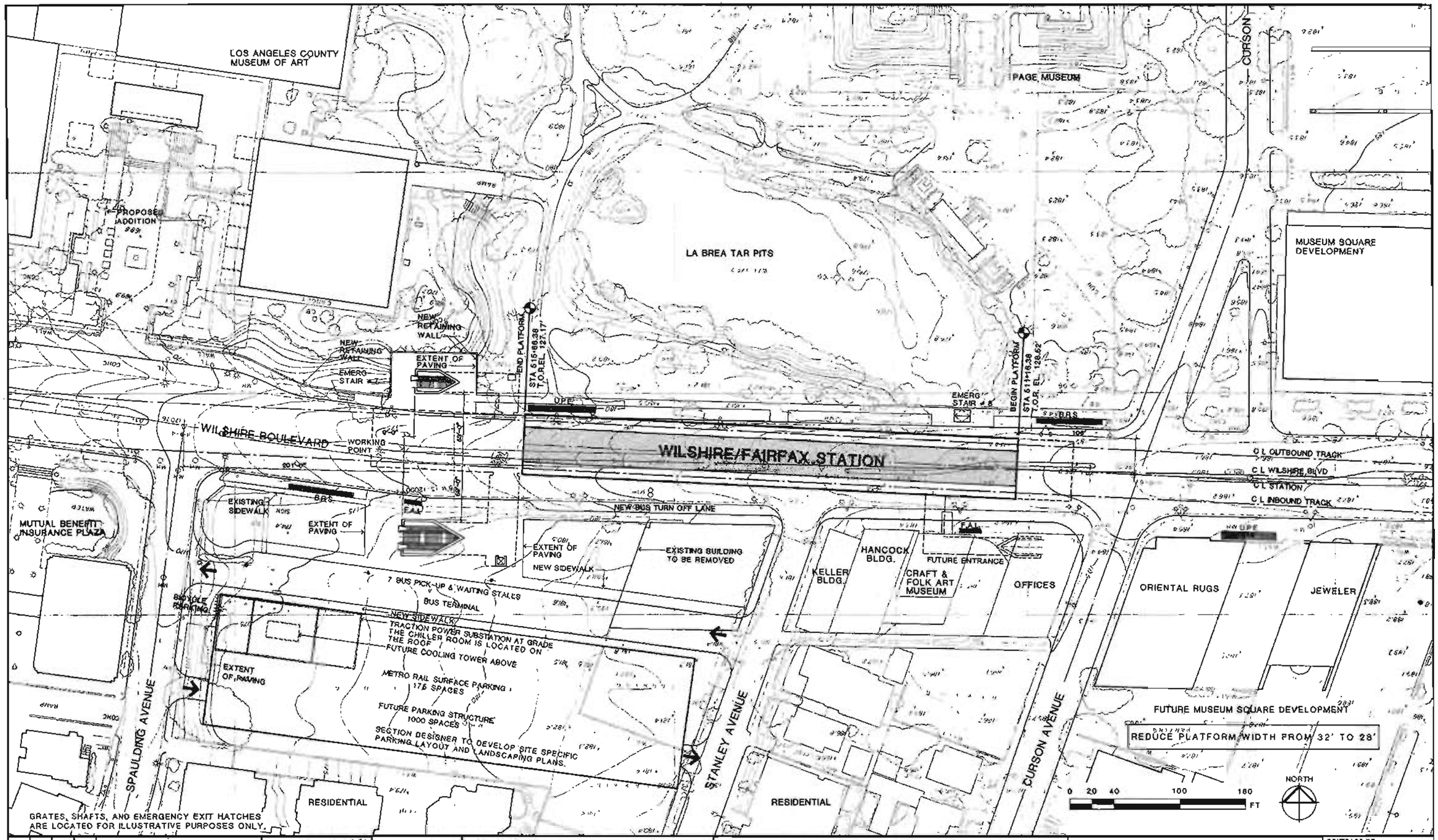
At the west end of the station, two entrances will be constructed leading onto a single mezzanine. The northwest entrance will be oriented to serve the County Museum of Art and pedestrian traffic from the west; the southwest entrance will serve the bus terminal and pedestrian traffic from the south and west. At the east end of the station, another mezzanine will be constructed but will be left unfinished to permit additional entrances to be constructed at a future time. Ancillary space will be provided at each end of the station, and a traction power substation will be located at ground level in the area designated for parking.



WILSHIRE / FAIRFAX STATION
VIEW LOOKING SOUTHEAST

SCRTD Metro Rail
HWA
March 1983

FIGURE II-70



REV.	DATE	BY	APP.	DESCRIPTION
	6-2-83		J.Y.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY H.W.A. Date 6-8-83
DRAWN BY M. HOMER Date 6-8-83
CHECKED BY J. YEN Date 6-30-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

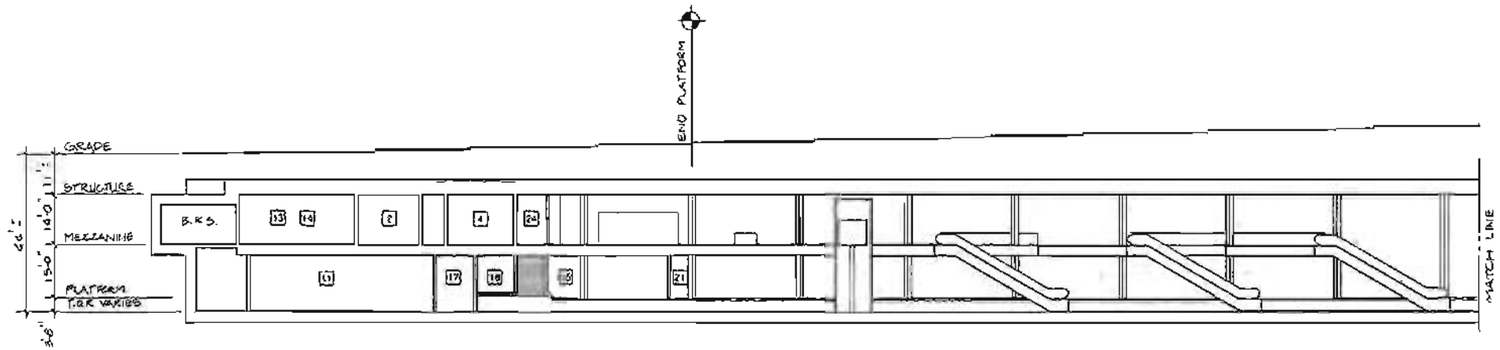
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED Reg. No.
APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

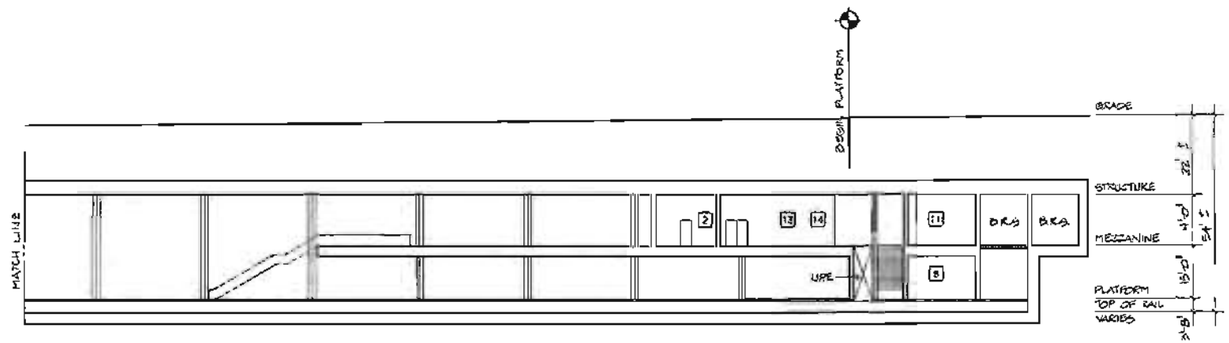
WILSHIRE / FAIRFAX STATION
SITE PLAN
PRELIMINARY

CONTRACT NO. A-250
DRAWING NO. A-42
SCALE 1"=40'-0"
SHEET NO. 27 of 34

FIGURE II-71



A PARTIAL LONGITUDINAL SECTION



A PARTIAL LONGITUDINAL SECTION

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. **Deleted**
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Sump
18. Sprinkler Valves
19. Sump Pump
20. Gap Breaker Station
21. Emergency Equipment
22. Controller
23. Electrical Equipment
24. **Toilet**
25. **Deleted**
26. Telephone Equipment
27. **Deleted**
28. Trash
29. **Staff/Security**
30. **Deleted**
31. Electric Incoming Service

0' 20' 40' 80'

REV.	DATE	BY	APP.	DESCRIPTION
	6-883	J.Y.		REVISION TO AUXILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 6-883
DRAWN BY M.HAMER Date 6-883
CHECKED BY J. YEN Date 6-30-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Date ____ Reg. No ____
APPROVED — Date ____ MANAGER / CHIEF ENGINEER — Reg. No. ____

WILSHIRE/FAIRFAX STATION
SECTIONS
PRELIMINARY

CONTRACT NO A-250
DRAWING NO. A-45
SCALE 1"=20'-0"
SHEET NO. 32 OF 34

FIGURE II-72

NOTE :
REDUCE PLATFORM WIDTH
FROM 32' TO 28'

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gas Breaker Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. Toilet
25. Deleted
26. Telephone Equipment
27. Deleted
28. Vault
29. Staff/Security
30. Deleted
31. Electric Incoming Service

ENTRY PLAN

MEZZANINE PLAN

TRACTION POWER SUBSTATION PLAN

E ENTRY SECTION

F ENTRY SECTION

PLATFORM PLAN

COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS

NORTH

REV.	DATE	BY	APP	DESCRIPTION
	6-2-89		J.Y.	REVISIONS TO ANCILLARY BLDGS FOR COST REDUCTION

DESIGNED BY H.W.A. Date
DRAWN BY M.W.D. Date 6-6-89
CHECKED BY J.YEN Date 6-8-89

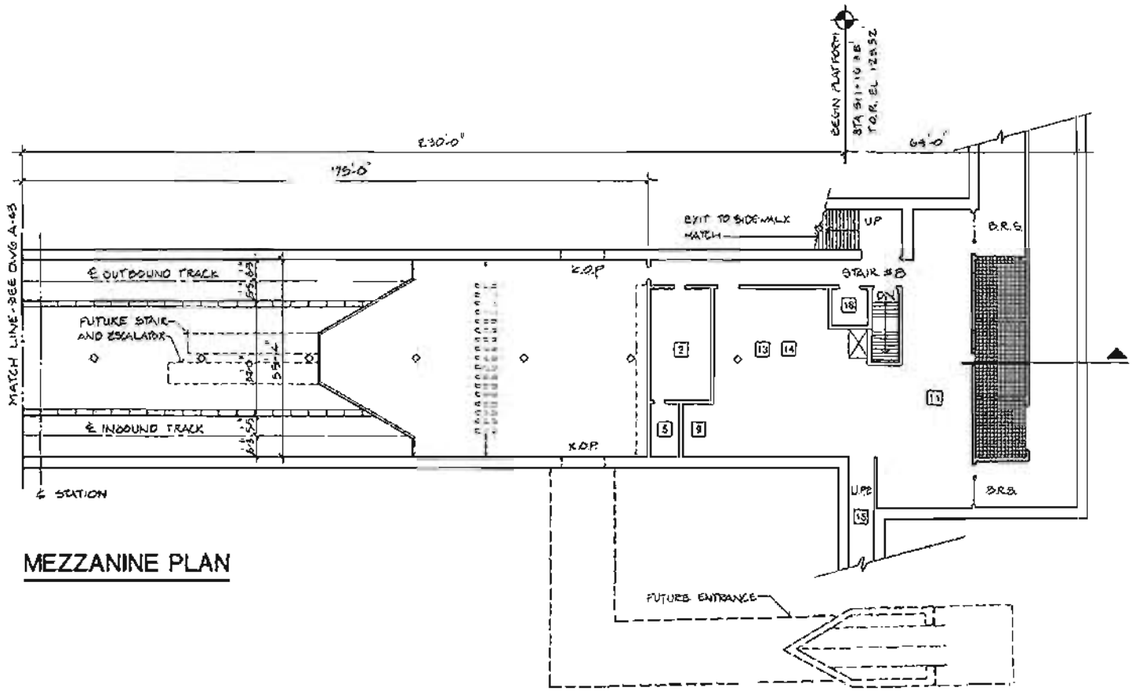
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Rec. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

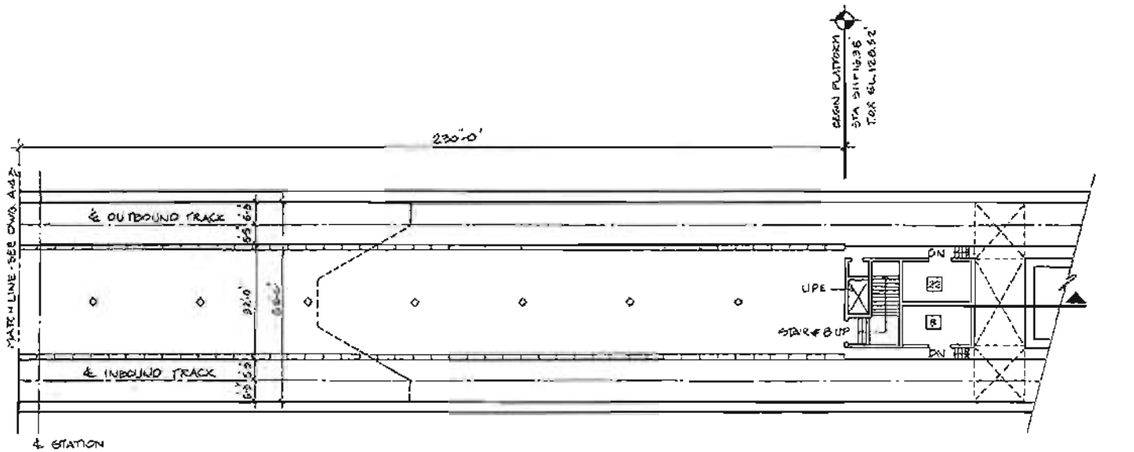
WILSHIRE/FAIRFAX STATION
PLANS
PRELIMINARY

CONTRACT NO. A-250
DRAWING NO. A-43
SCALE 1" = 20'-0"
SHEET NO. 30 OF 34

FIGURE II-73

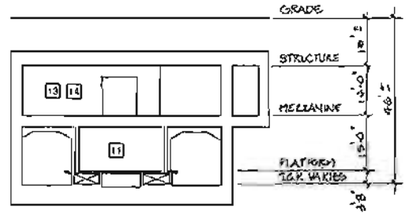


MEZZANINE PLAN

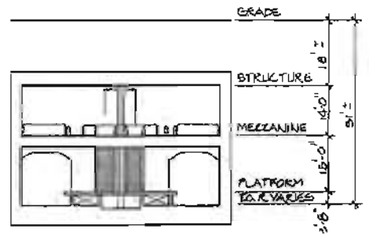


PLATFORM PLAN

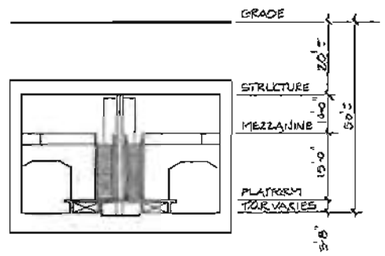
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.



B SECTION



C SECTION



D SECTION

NOTE :
REDUCE PLATFORM WIDTH FROM 32' TO 28'

1 Traction Power Substation
2 Auxiliary Power
3 Train Control
4 Communications
5 Batteries
6 Elevator Equipment
7 Deleted
8 Storage
9 Mechanical
10 Fan
11 Emergency Fan
12 Chiller
13 Air Supply Unit
14 Smoke Exhaust
15 Under Platform Exhaust
16 Under Platform Exhaust Plenum
17 Ejector
18 Sprinkler Valves
19 Sump Pump
20 Gas Enclosure Station
21 Emergency Equipment
22 Custodial
23 Electrical Equipment
24 Toilet
25 Deleted
26 Telephone Equipment
27 Deleted
28 Trash
29 Staff/Security
30 Deleted
31 Electric Metering Service

0' 20' 40' 80'

NORTH

REV.	DATE	BY	APP	DESCRIPTION
	6-8-83		J.Y.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS

DESIGNED BY HWA Date 6-8-83
DRAWN BY M. HOMER Date 6-8-83
CHECKED BY J.YEN Date 6-30-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED
Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

WILSHIRE/FAIRFAX STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A-250
DRAWING NO. A-44
SCALE 1"=20'-0"
SHEET NO. 31 of 34

FIGURE II-74

FAIRFAX/BEVERLY STATION

Background

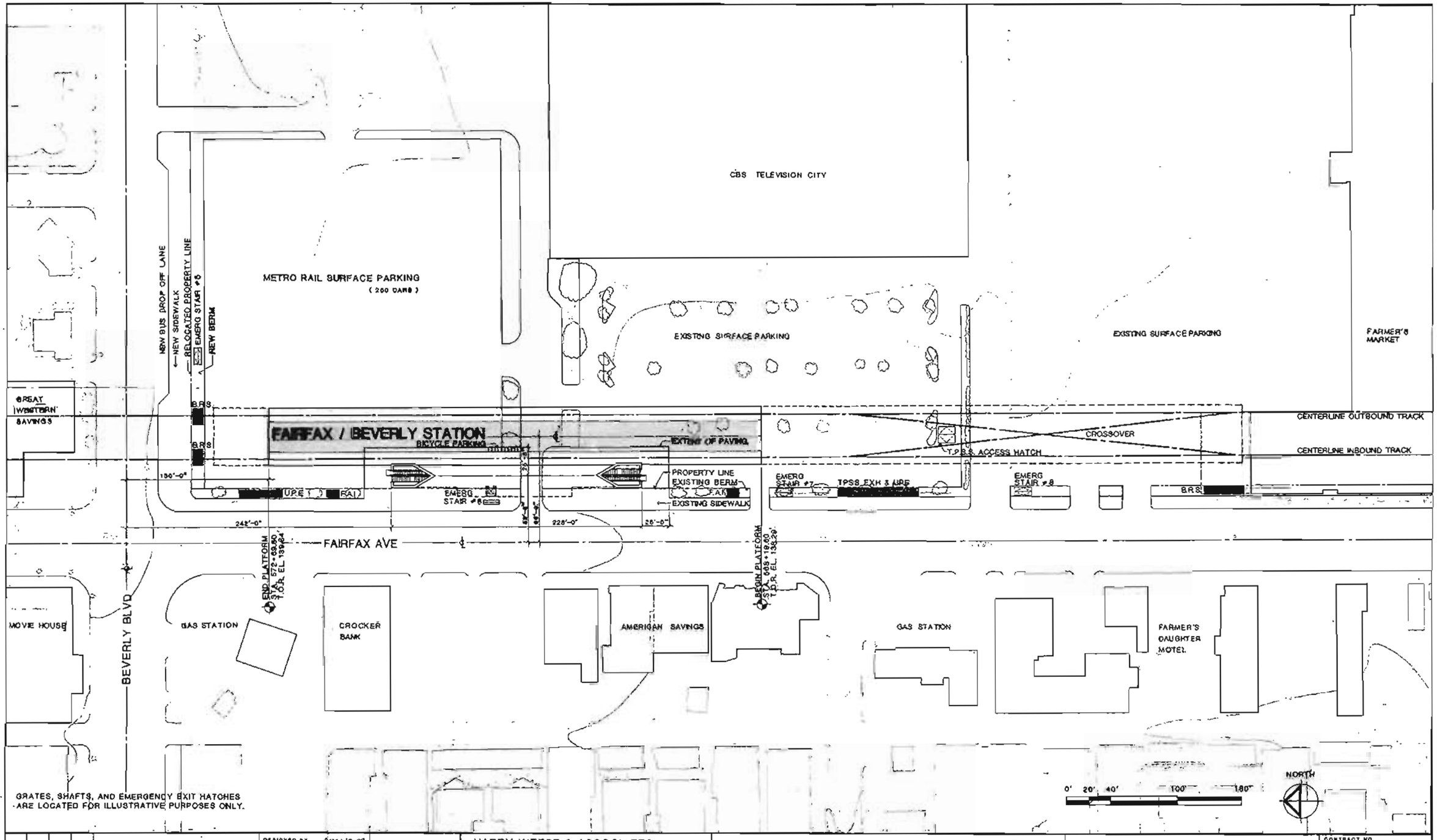
The Fairfax/Beverly Station will be located off-street on a north-south axis about 100 feet east of and parallel to Fairfax. The north end of the station will be just south of Beverly Boulevard. The proposed station site is currently a surface parking lot for CBS Television City. Immediately to the south of the station is the historic landmark, Farmer's Market--a major tourist and retail attraction. Other land use in the area is characterized by retail, commercial, and mixed uses along Fairfax and Beverly, with an immediate shift to residential housing on other streets. The land use west of the station is primarily low-density, single-family housing; to the east are medium and high-density apartments. Pedestrian activity is high throughout the area, particularly during the daytime hours.

Station Site Design Parameters

The station is planned with two entrances, each parallel to Fairfax, one oriented to Beverly and the other to the south. A bus turnout lane is proposed on the south side of Beverly adjacent to the station entry to serve bus lines running on Beverly and for a possible neighborhood shuttle bus service. A future parking structure accommodating 1,000 parking spaces will be developed for this location, but only surface parking will be provided initially.

Station Design Parameters

The two entries planned for this station will provide access to a mezzanine centered over the length of the platform. Access from mezzanine to platform will be by stairs, escalators, or an elevator. Ancillary space will be provided at each end of the station and a double crossover track will be located at the south end of the station. A traction power substation will be located over the crossover track.



REV.	DATE	BY	APP	DESCRIPTION
	5/11/83	J.YEN		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION
	9/8/83	J.YEN	A.C.	METRO RAIL SURFACE PARKING

DESIGNED BY HWA Date 10-83
DRAWN BY A. SNIDER Date 10-83
CHECKED BY J.YEN Date 2/16/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED Reg. No.
APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

FAIRFAX / BEVERLY STATION
SITE PLAN
PRELIMINARY

CONTRACT NO. A 275
DRAWING NO. A-46
SCALE 1"=40'-0"
SHEET NO. 7 OF 19

FIGURE II-75

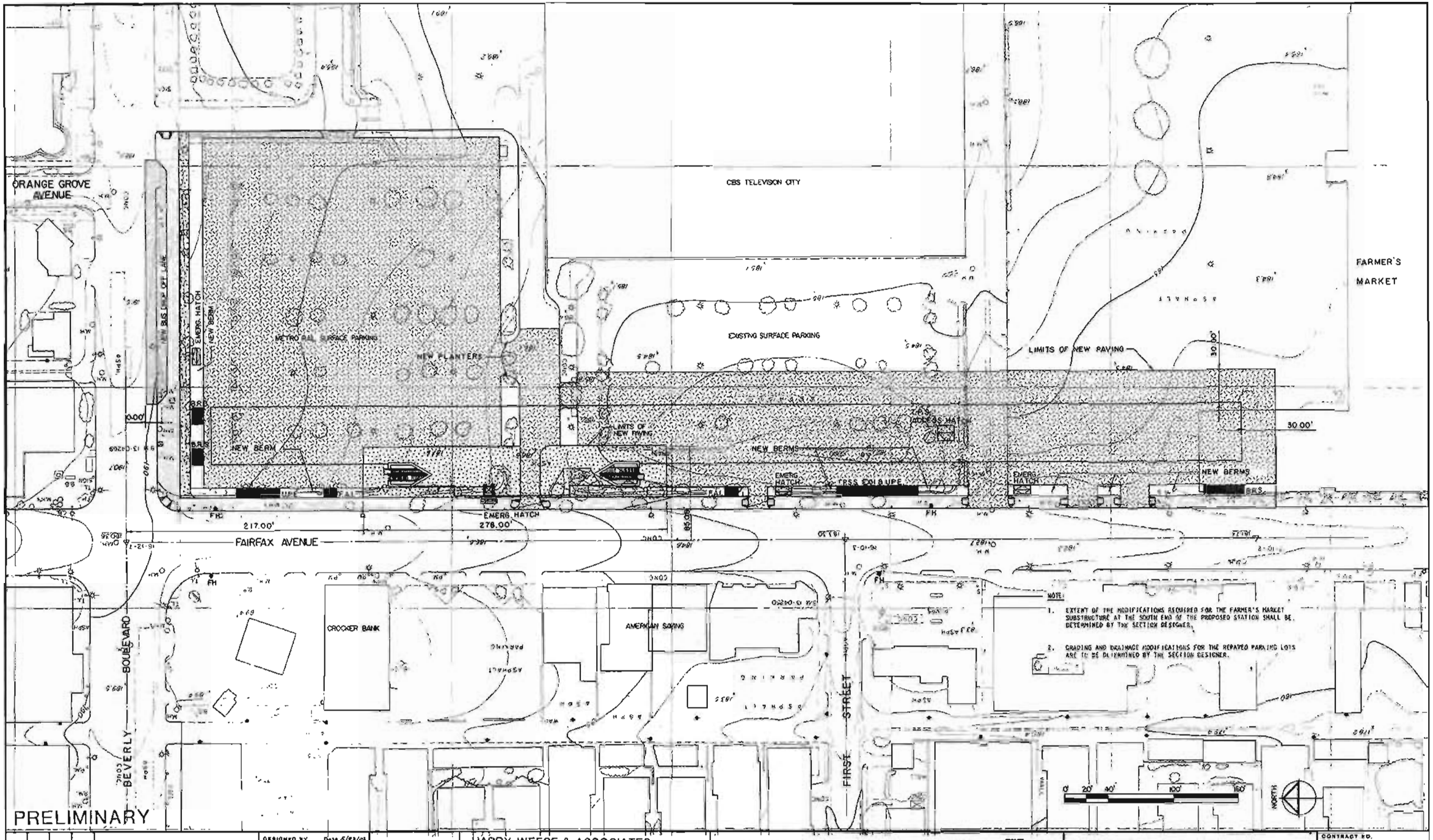
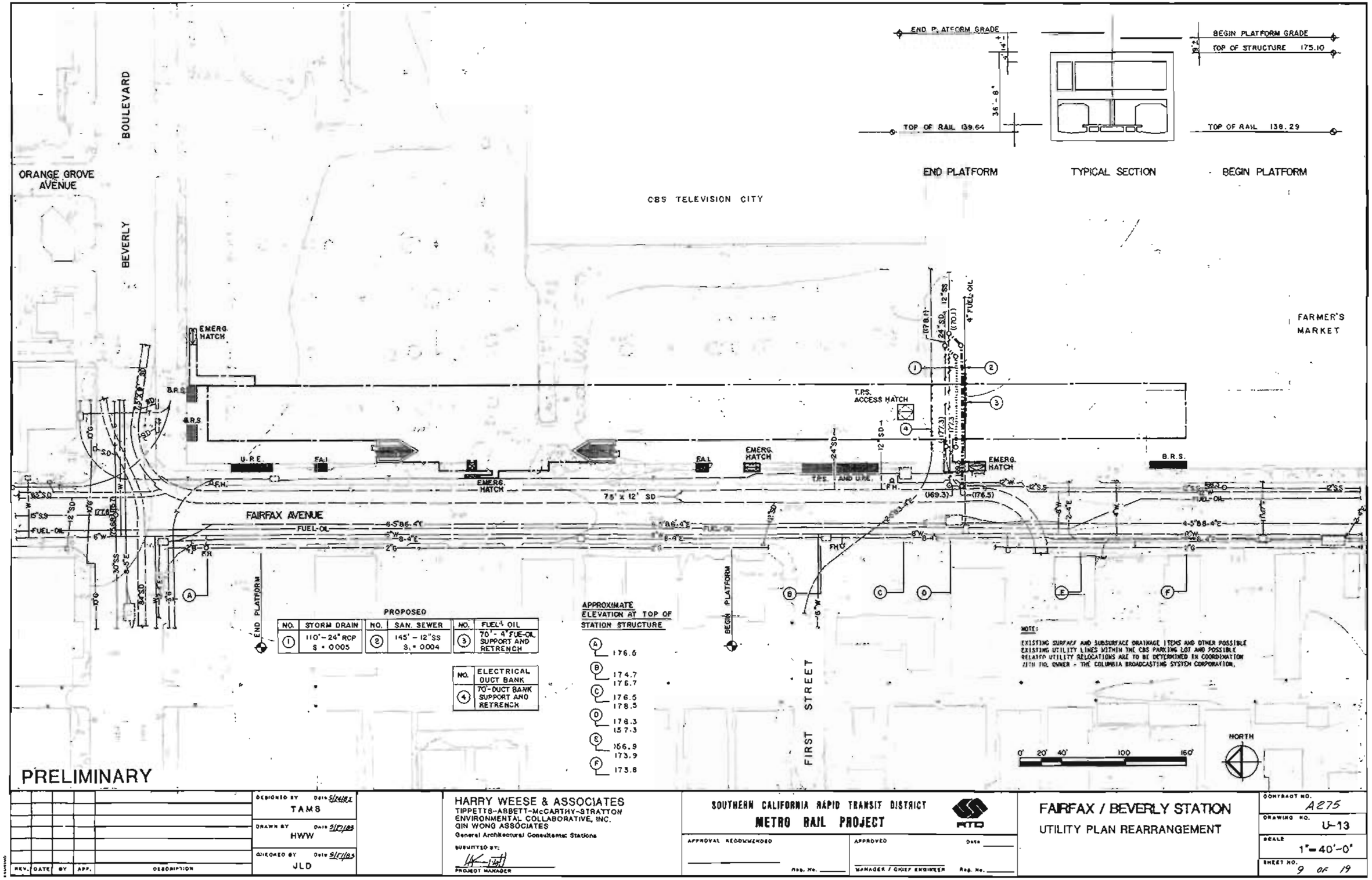

ORANGE GROVE AVENUE
CBS TELEVISION CITY
FARMER'S MARKET
METRO RAIL SURFACE PARKING
NEW PLANTERS
EXISTING SURFACE PARKING
LIMITS OF NEW PAVING
NEW BUS TURN OFF LANE
EMERG. HATCH
NEW BERM
LIMITS OF NEW PAVING
NEW BERMS
TRSS EXPANSION
EMERG. HATCH
NEW BERMS
EMERG. HATCH
217.00'
278.00'
FAIRFAX AVENUE
CROCKER BANK
AMERICAN SAVING
BEVERLY BOULEVARD
FIRST STREET
30.00'
NOTE:
1. EXTENT OF THE MODIFICATIONS REQUIRED FOR THE FARMER'S MARKET SUBSTRUCTURE AT THE SOUTH END OF THE PROPOSED STATION SHALL BE DETERMINED BY THE SECTION DESIGNER.
2. GRADING AND DRAINAGE MODIFICATIONS FOR THE REPAVED PARKING LOTS ARE TO BE DETERMINED BY THE SECTION DESIGNER.
0' 20' 40' 100' 60'
NORTH
PRELIMINARY
DESIGNED BY TAMS Date 5/23/83
DRAWN BY HWW Date 5/27/83
CHECKED BY JLD Date 5/27/83
REV. DATE BY APP. DESCRIPTION
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants/etc Stations
SUBMITTED BY:
PROJECT MANAGER
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
Reg. No.
APPROVED
Date
MANAGER / CHIEF ENGINEER
Reg. No.
FAIRFAX / BEVERLY STATION
CIVIL SITE PLAN
CONTRACT NO. A275
DRAWING NO. C-13
SCALE 1"=40'-0"
SHEET NO. 8 OF 19

FIGURE II-76



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 5/24/83
DRAWN BY HWW Date 5/27/83
CHECKED BY JLD Date 5/27/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

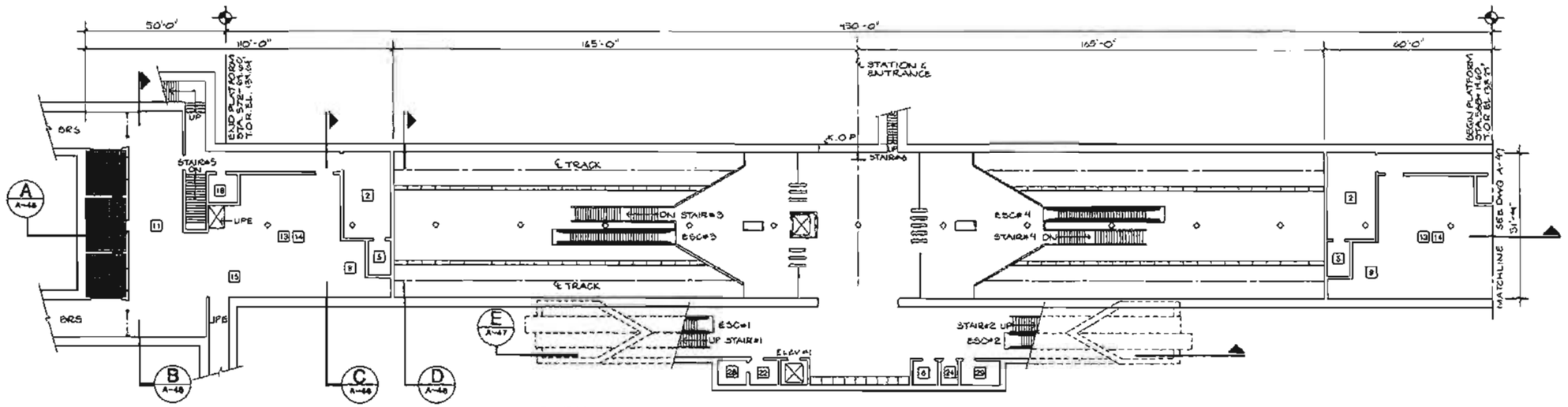
APPROVAL RECOMMENDED
Dept. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

FAIRFAX / BEVERLY STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A275
DRAWING NO. U-13
SCALE 1"=40'-0"
SHEET NO. 9 OF 19

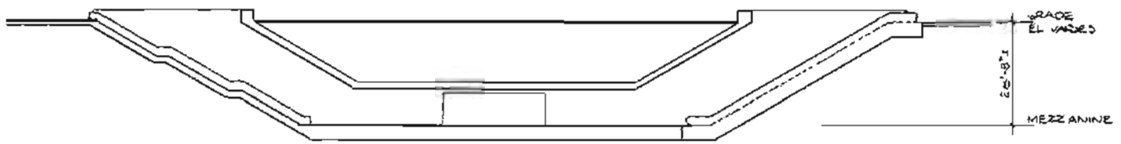
FIGURE II-77



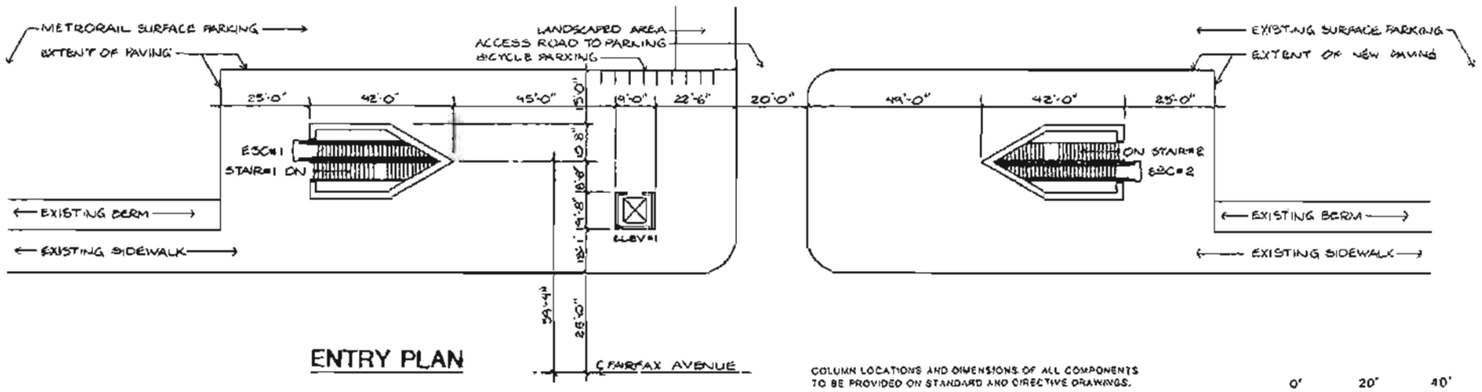
PARTIAL MEZZANINE LEVEL PLAN

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gas Breaker Station
21. Emergency Equipment
22. Deleted
23. Electrical Equipment
24. Toilet
25. Deleted
26. Telephone Equipment
27. Deleted
28. Trash
29. Staff/Security
30. Deleted
31. Electric Incoming Service



E SECTION THROUGH ENTRY



ENTRY PLAN

COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.

NORTH

0' 20' 40' 80'

REV.	DATE	BY	APP.	DESCRIPTION
	5/1/83			REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS

DESIGNED BY HWA Date 5/1/83
DRAWN BY A SNIDER Date 5/1/83
CHECKED BY J.TEN Date 6-6-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

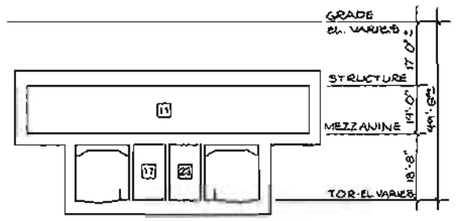
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

FAIRFAX / BEVERLY STATION
PLANS AND SECTION

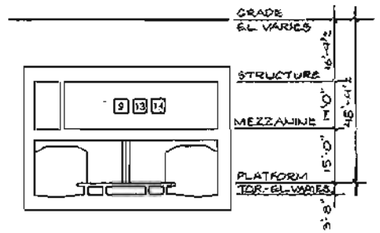
PRELIMINARY

CONTRACT NO A275
DRAWING NO. A-47
SCALE 1"=20'-0"
SHEET NO. 10 OF 19

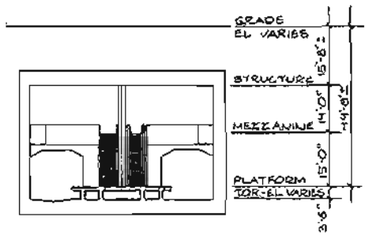
FIGURE II-78



B TRANSVERSE SECTION



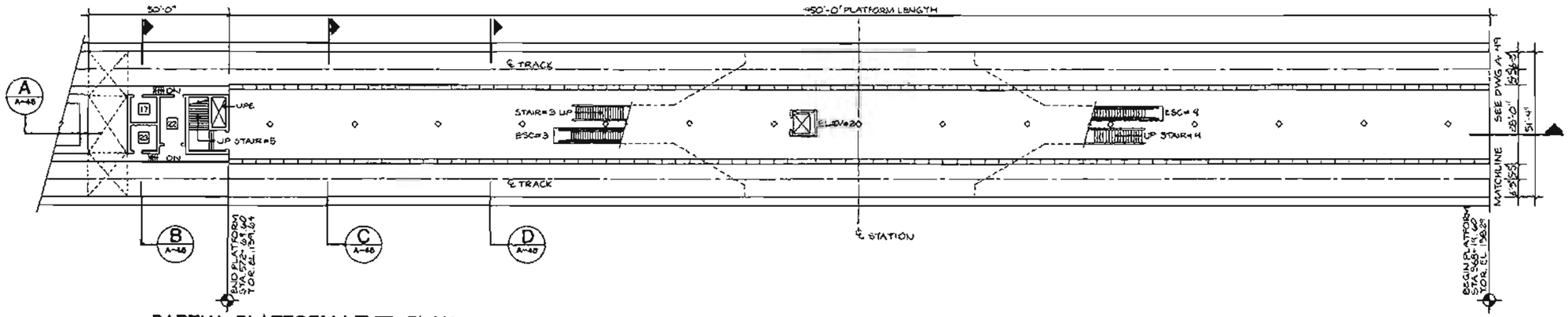
C TRANSVERSE SECTION



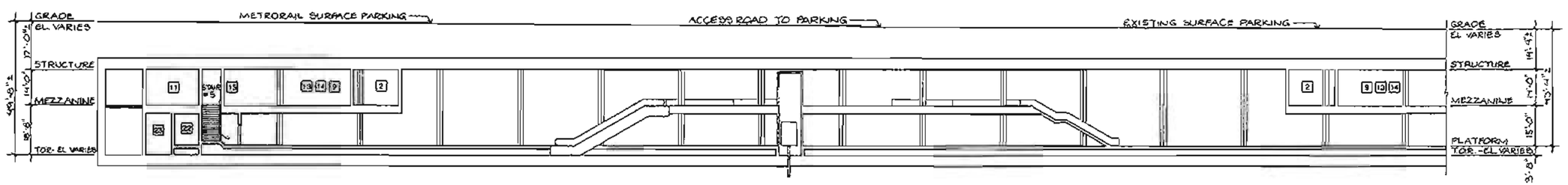
D TRANSVERSE SECTION

SERVICE AND EQUIPMENT ROOMS

1 Traction Power Substation	17 Ejector
2 Auxiliary Power	18 Sprinkler Valves
3 Train Control	19 Sump Pump
4 Communications	20 Gap Breaker Station
5 Batteries	21 Emergency Equipment
6 Elevator Equipment	22 Custodial
7 **Deleted**	23 Electrical Equipment
8 Storage	24 Toilet
9 Mechanical	25 **Deleted**
10 Fan	26 Telephone Equipment
11 Emergency Fan	27 **Deleted**
12 Chiller	28 Train
13 Air Supply Unit	29 Staff/Security
14 Smoke Exhaust	30 **Deleted**
15 Under Platform Exhaust	31 Electric Incoming Service
16 Under Platform Exhaust Plenum	



PARTIAL PLATFORM LEVEL PLAN



A PARTIAL LONGITUDINAL SECTION

NORTH

0' 20' 40' 80'

						DESIGNED BY HWA Date 5/11/83	
						DRAWN BY A. SNIDER Date 5/11/83	
	5/11/83		JT	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTIONS		CHECKED BY JTEN Date 6/6/83	
REV.	DATE	BY	APP.	DESCRIPTION			

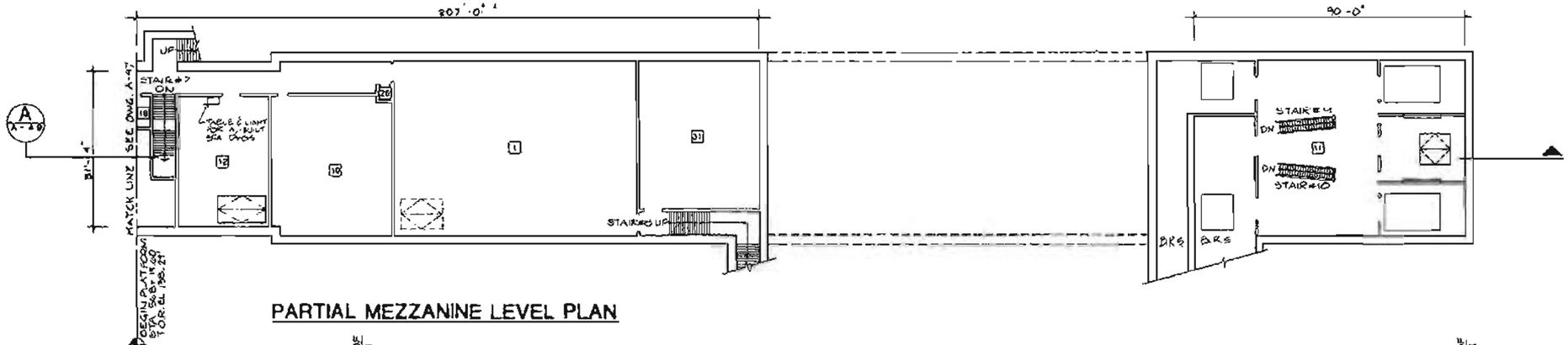
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No. —
APPROVED — Date —
MANAGER / CHIEF ENGINEER — Reg. No. —

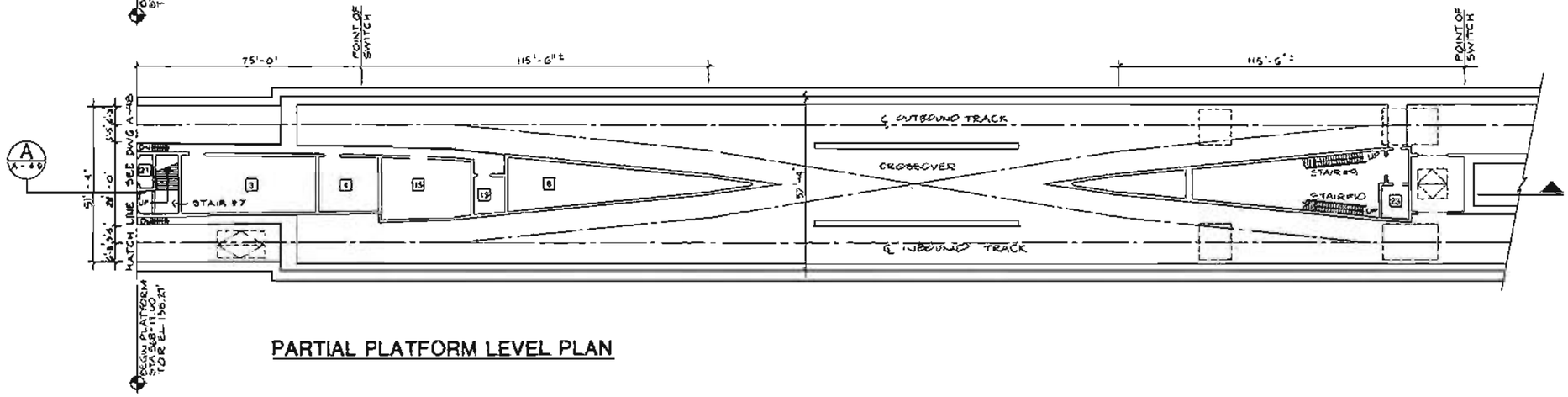
FAIRFAX / BEVERLY STATION
PLANS AND SECTIONS
PRELIMINARY

CONTRACT NO. A275
DRAWING NO. A-48
SCALE 1"=20'-0"
SHEET NO. 11 OF 19

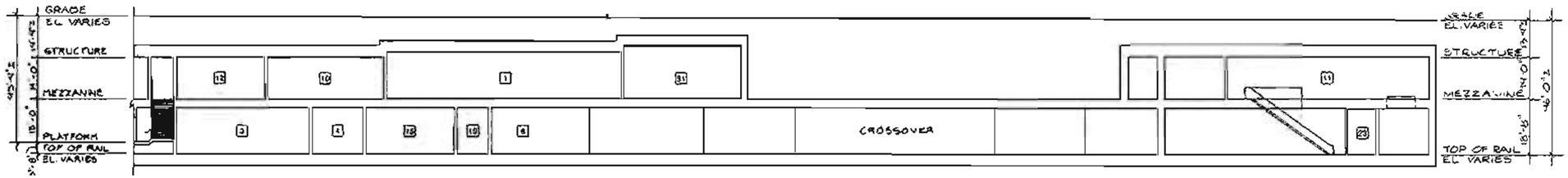
FIGURE II-79



PARTIAL MEZZANINE LEVEL PLAN



PARTIAL PLATFORM LEVEL PLAN



A PARTIAL LONGITUDINAL SECTION

0' 20' 40' 80'

NORTH

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gap Breaker Station
21. Emergency Equipment
22. Quiznos
23. Electrical Equipment
24. Toilet
25. Deleted
26. Telephone Equipment
27. Deleted
28. Trash
29. Staff / Security
30. Deleted
31. Electric Incoming Service

REV.	DATE	BY	APP.	DESCRIPTION
	5/11/83			REVISIONS TO AUXILIARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 5/11/83
DRAWN BY A. SNIDER Date 5/11/83
CHECKED BY Date 5-11-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED Reg. No.

APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

FAIRFAX / BEVERLY STATION
PLANS AND SECTION

PRELIMINARY

CONTRACT NO. A275
DRAWING NO. A-48
SCALE 1"=20'-0"
SHEET NO. 12 OF 19

FIGURE II-80

FAIRFAX/SANTA MONICA STATION

Background

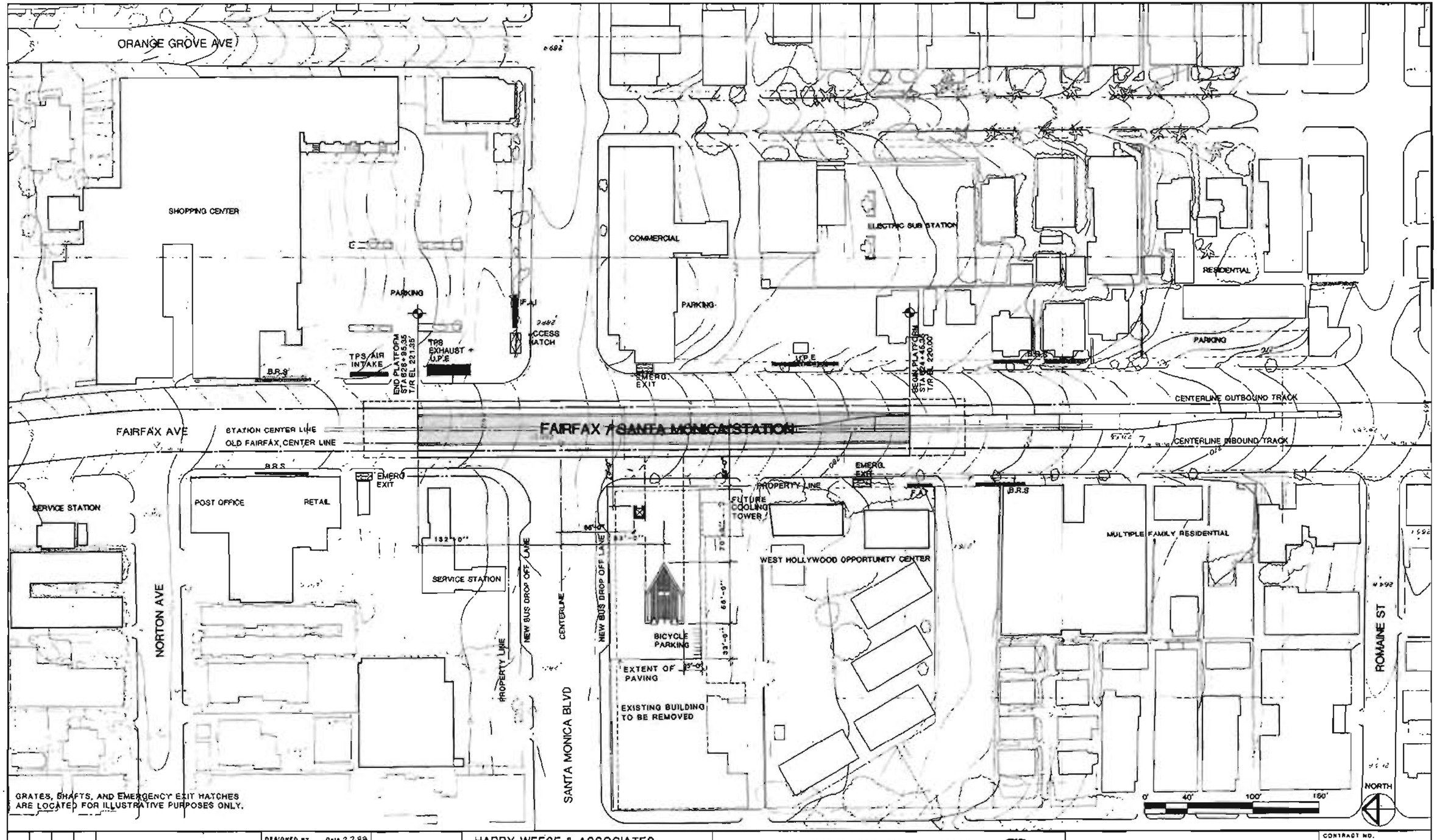
The Fairfax/Santa Monica Station will be located under Fairfax Avenue between Romaine and Norton streets. Land use along the major streets in this station area is primarily low-rise, storefront retail and small neighborhood shopping centers. There are many vacant lots and parking lots interspersed with a gererally low level of development. Land use off the major streets is primarily residential land uses with a variety of housing types.

Station Site Design Parameters

In addition to patrons arriving on foot to the station, the major mode of access will be via bus. The buses will be primarily arriving from and departing to the west and some buses may terminate at the station. The single entry to this station will be located on the southwest corner of the intersection of Fairfax and Santa Monica. Bus turnout lanes are proposed for the north and south sides of Santa Monica adjacent to the station entry. Locating the entry on this corner will require the demolition of an existing commercial building. However, the corner will have a great development potential after the entry is in place.

Station Design Parameters

A single mezzanine will provide sufficient space to meet the projected moderate patronage demand but still permit the later construction of additional station entries if future development or patronage warrants the addition. The station is planned with a center platform and with ancillary space provided at each end of the station. A traction power substation will be located in the station structure.



REV.	DATE	BY	APP.	DESCRIPTION
1	6/28/84	MP	J.Y.	REVISION TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 2-7-83
DRAWN BY A SNIDER Date 2-7-83
CHECKED BY J. YEN Date 6/12/84 (PRINT)

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

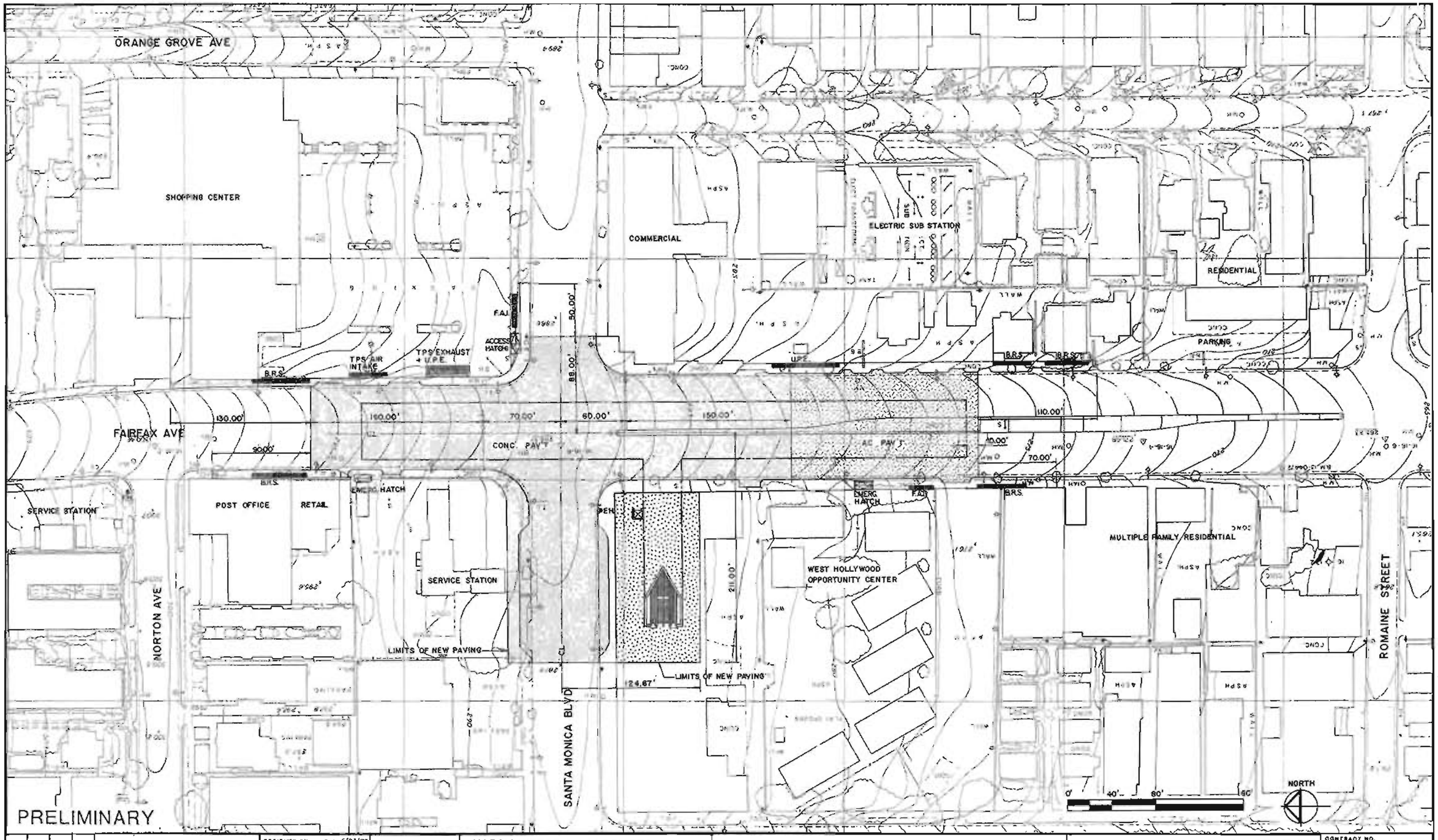
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

FAIRFAX / SANTA MONICA STATION
SITE PLAN
PRELIMINARY

CONTRACT NO. A310
DRAWING NO. A-50
SCALE 1"= 40'-0"
SHEET NO. 48 of 67

FIGURE II-81



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 5/23/83
DRAWN BY H W W Date 5/25/83
CHECKED BY JLD Date 5/26/83

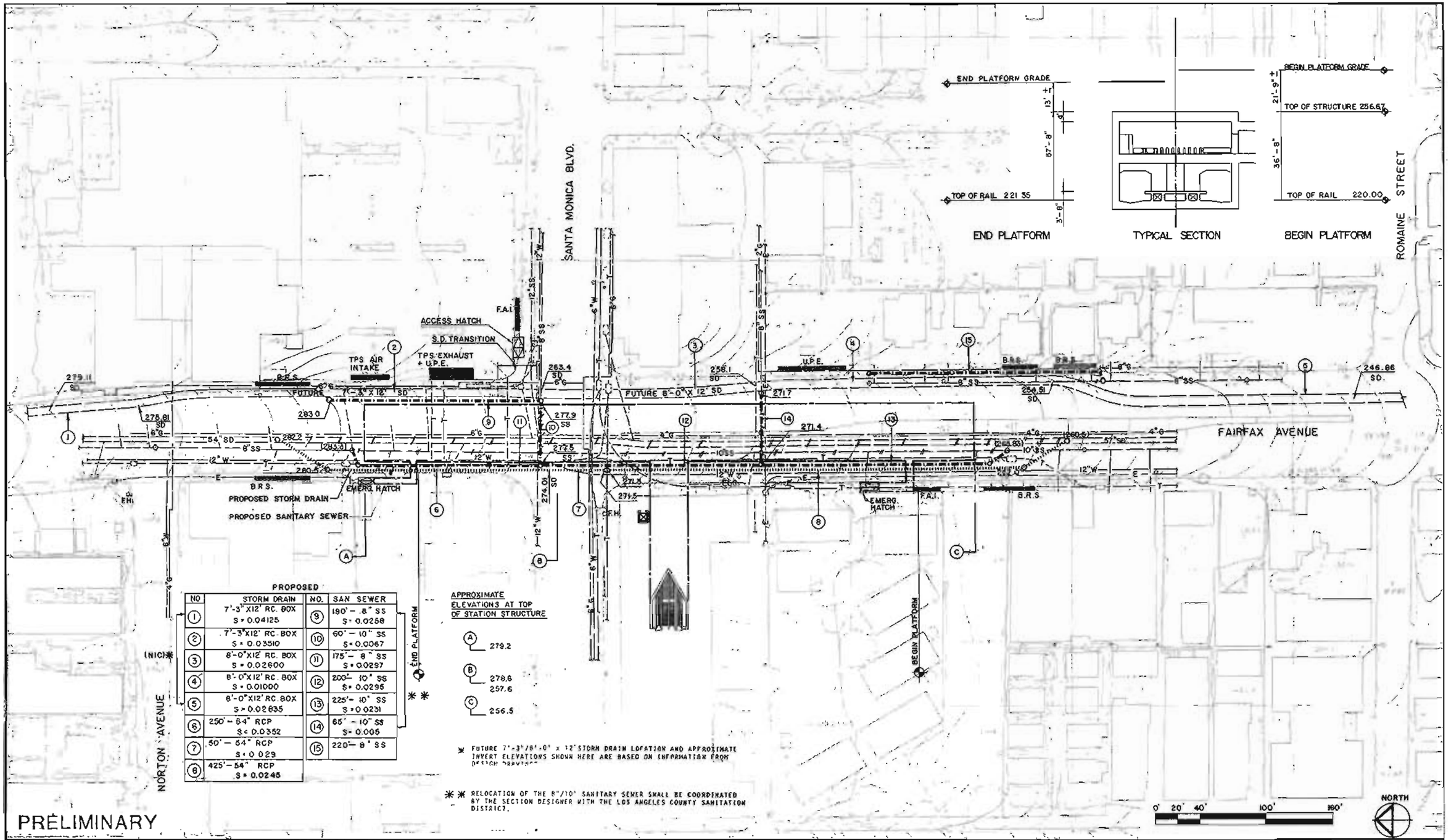
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

FAIRFAX/SANTA MONICA STATION
CIVIL SITE PLAN

CONTRACT NO. A310
DRAWING NO. C-14
SCALE 1"=40'-0"
SHEET NO. 49 OF 67

FIGURE II-82



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 5/16/85
DRAWN BY H W W Date 5/23/85
CHECKED BY JLD Date 5/25/85

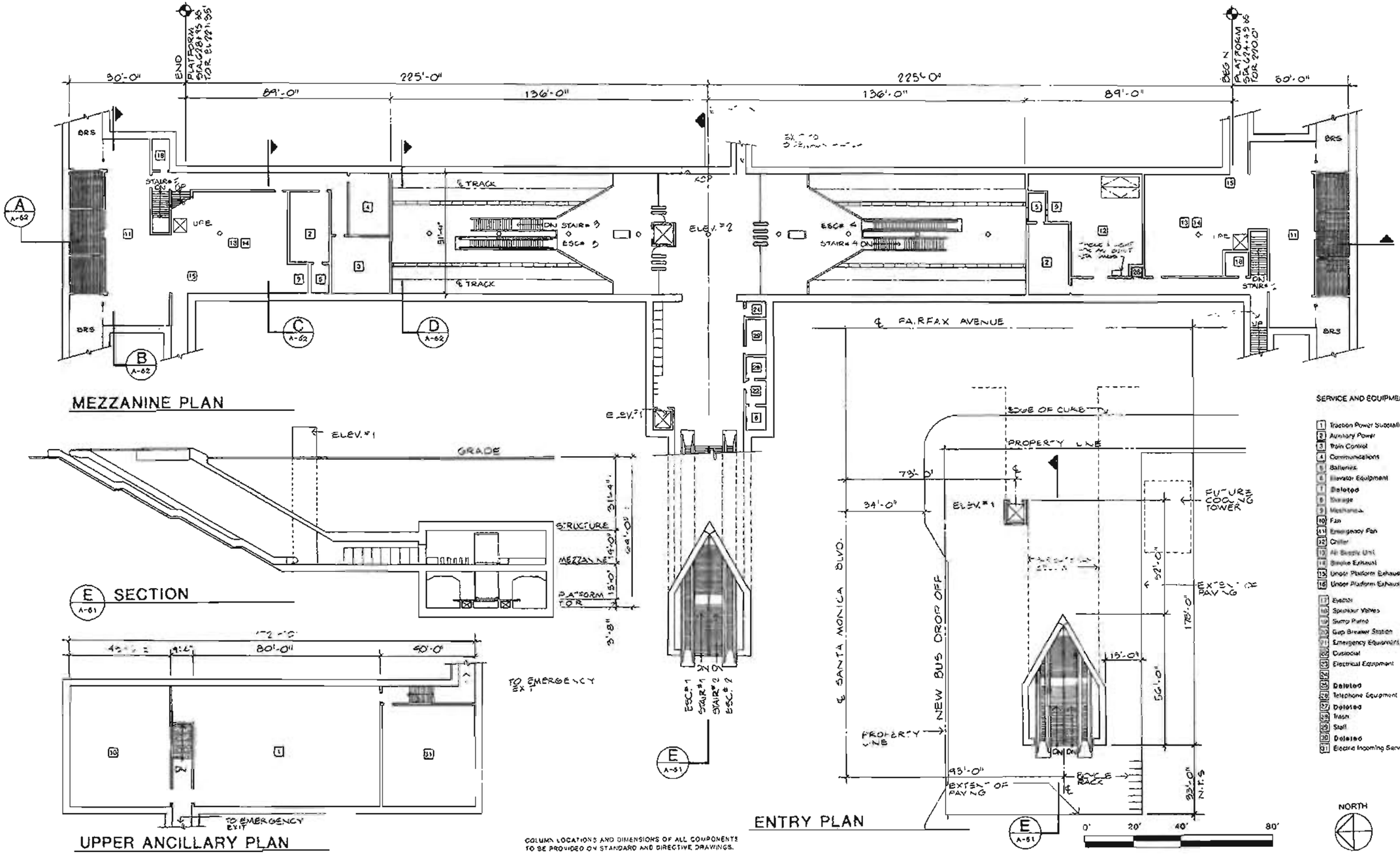
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

FAIRFAX/SANTA MONICA STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A310
DRAWING NO. U-14
SCALE 1"= 40'-0"
SHEET NO. 30 OF 7

FIGURE II-83



SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gap Breaker Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. Deleted
25. Telephone Equipment
26. Deleted
27. Trash
28. Staff
29. Deleted
30. Electric Incoming Service

COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.

REV.	DATE	BY	APP.	DESCRIPTION
1	6-3-83	UP		REVISION TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY H.A. Date 5-3-83
DRAWN BY M.POINDEXTER Date 5-13-83
CHECKED BY J.YEN / D.GATI Date 6-6-83

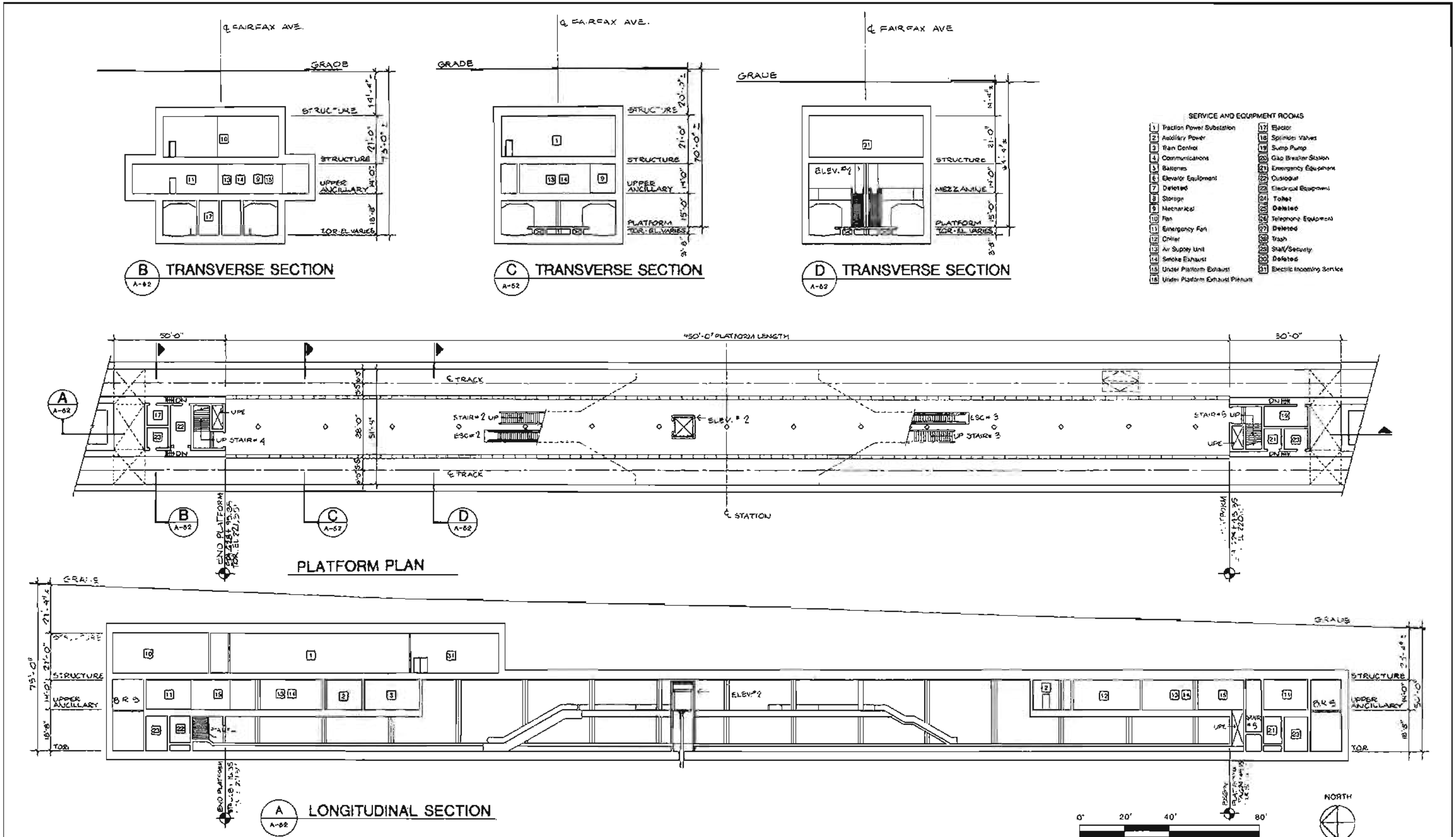
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED — Date — Asst. Mgr.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Asst. Mgr.

FAIRFAX / SANTA MONICA STATION
PLANS AND SECTIONS
PRELIMINARY

CONTRACT NO. A310
DRAWING NO. A-51
SCALE 1"=20'-0"
SHEET NO 31 OF 67

FIGURE II-84



REV.	DATE	BY	APP.	DESCRIPTION
1	5-17-84	VP		REVISION TO ANCILLARY ROOMS FOR CUT REDUCTION

DESIGNED BY — DATE 6-6-83
DRAWN BY M. POINDEXTER — DATE 5-13-83
CHECKED BY — DATE 6-6-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

FAIRFAX / SANTA MONICA STATION
PLANS AND SECTIONS
PRELIMINARY

CONTRACT NO. A 3.5
DRAWING NO. A-62
SCALE 1"=20'-0"
SHEET NO. 52 OF 67

FIGURE II-85

LA BREA/SUNSET STATION

Background

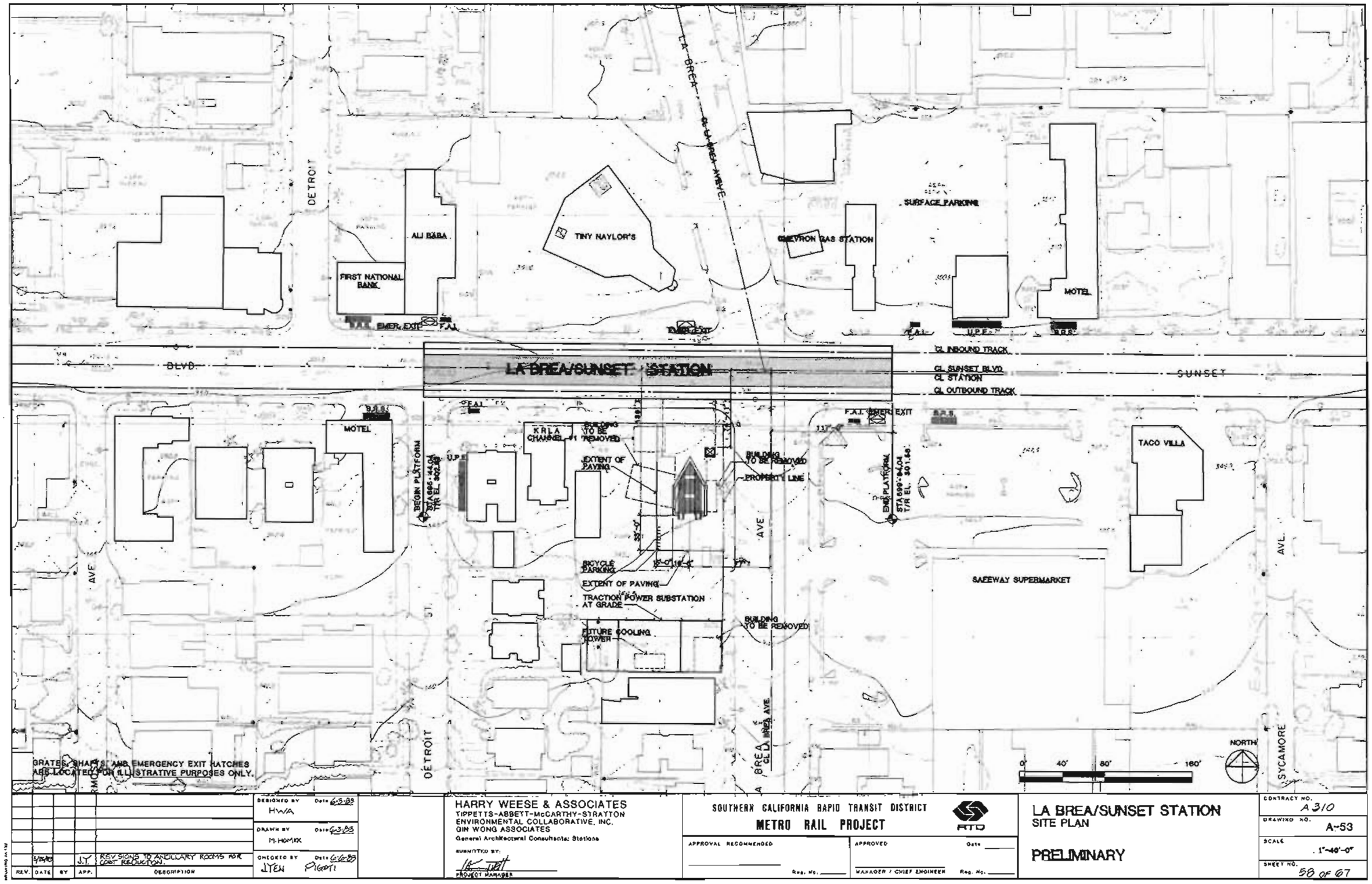
The La Brea/Sunset Station will be located under Sunset Boulevard between Formosa and La Brea avenues. The station area is characterized by mixed-use development. The major streets, Sunset and La Brea, have low-rise commercial facilities. The areas behind the major streets are primarily single-family residential. Hollywood High School is located nearby. A Safeway Supermarket is located on the southeast corner of La Brea and Sunset, service stations are on the northeast and southwest corners, and a Tiny Naylor's Restaurant is on the northwest corner.

Station Site Design Parameters

The expected patronage for this station is among the lowest on the system. It is planned with a single entry to be located on the southwest corner of the intersection of Sunset and La Brea. The construction of the entry will require the removal of an existing service station, but the site will have future development potential.

Station Design Parameters

In response to the low patronage projection the station is planned with a single mezzanine. The station will have a center platform with ancillary space provided at each end of the station. The required traction power substation will be located at grade immediately to the south of the station entrance.



REV.	DATE	BY	APP.	DESCRIPTION
	5/2/89	J.T.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION.

DESIGNED BY HWA Date 6-3-89
DRAWN BY M. HOMEK Date 6-3-89
CHECKED BY JTEN PIGOTT Date 6-6-89

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

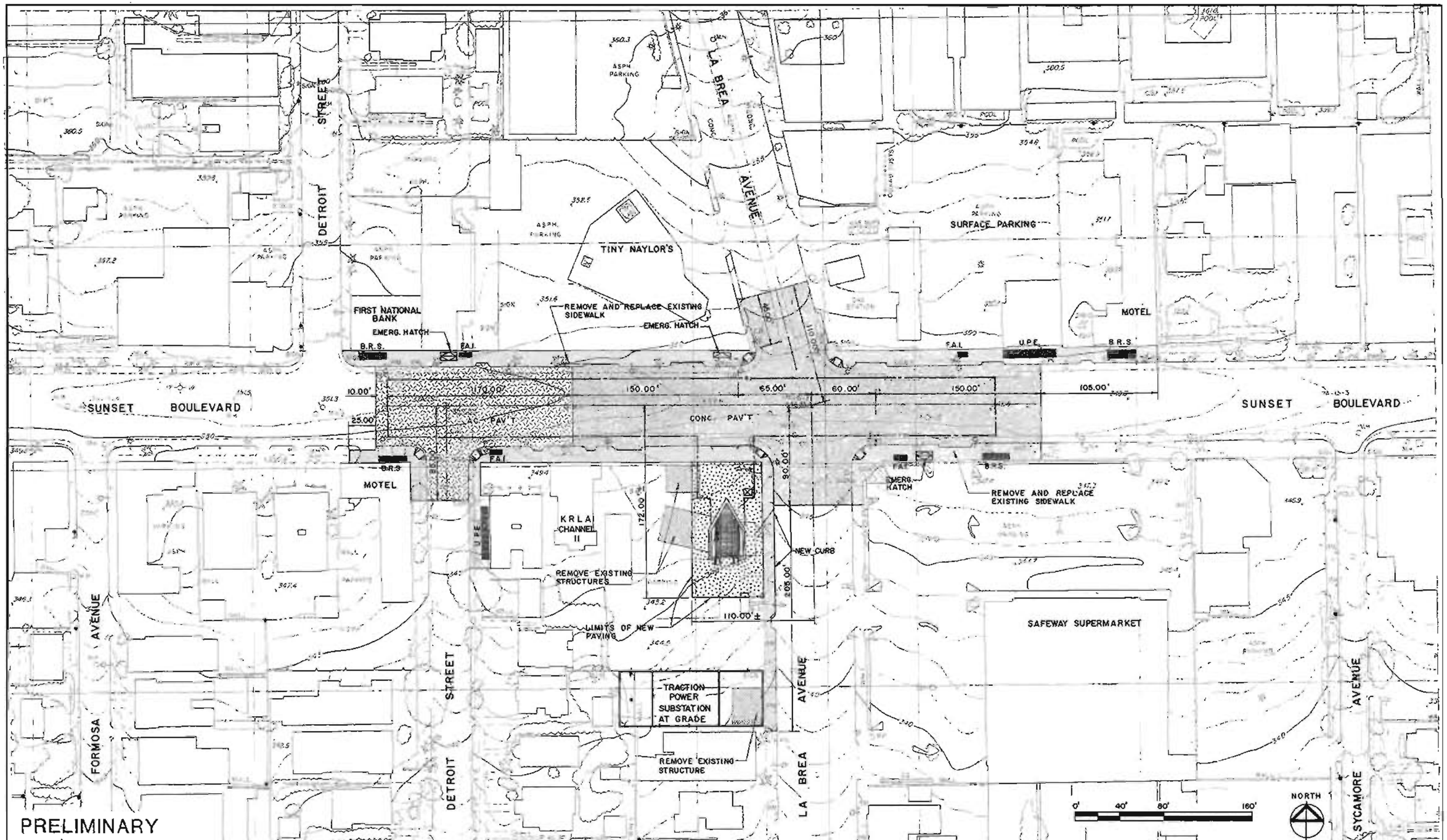
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED _____ Reg. No. _____
APPROVED Date _____
MANAGER / CHIEF ENGINEER Reg. No. _____

LA BREA/SUNSET STATION
SITE PLAN
PRELIMINARY

CONTRACT NO. A 310
DRAWING NO. A-53
SCALE 1"-40'-0"
SHEET NO. 58 OF 67

FIGURE II-86



REV	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/2/83
DRAWN BY HWW Date 6/2/83
CHECKED BY JLD Date 6/2/83

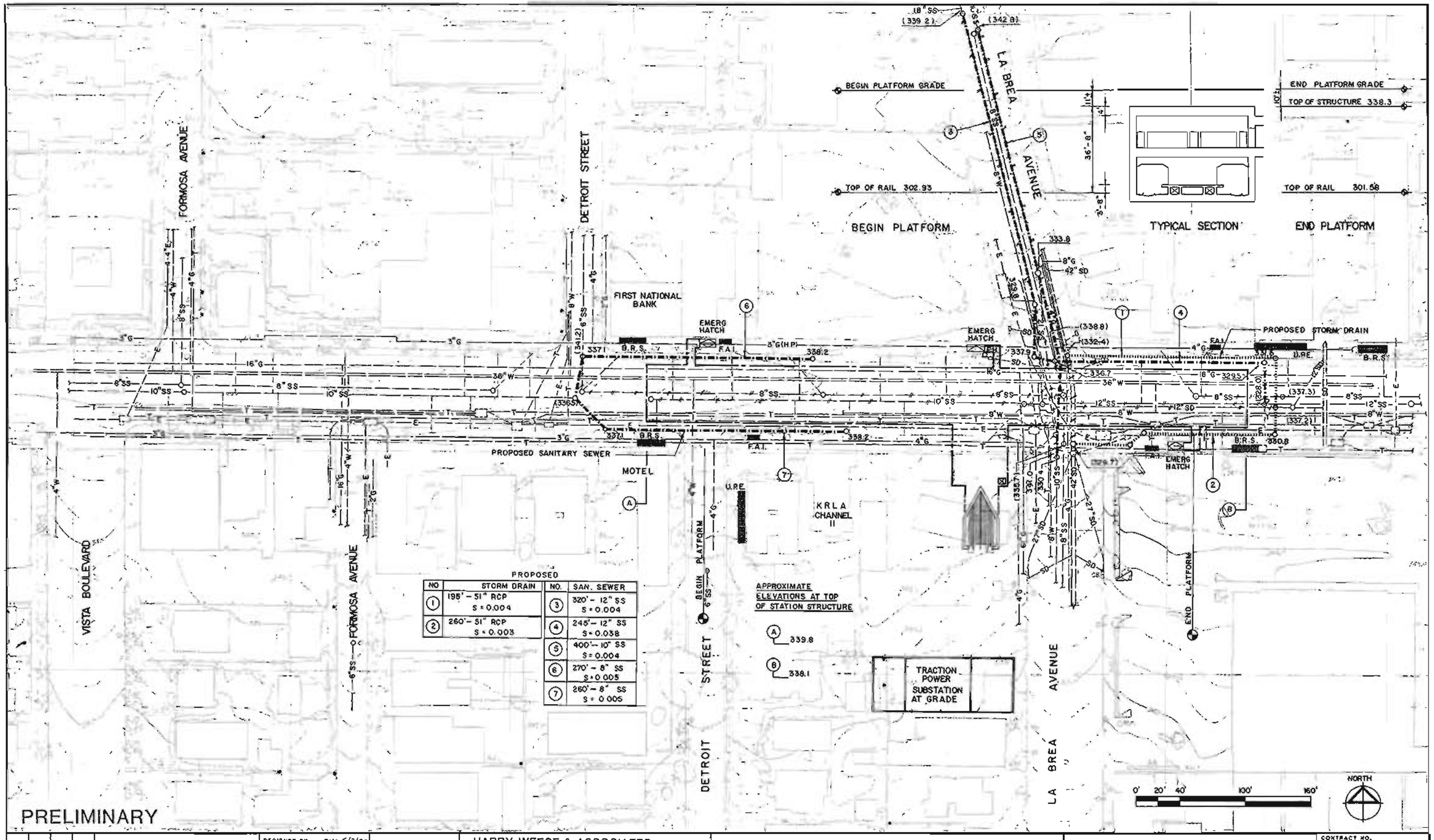
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Dept. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Dept. No.

LA BREA / SUNSET STATION
CIVIL SITE PLAN

CONTRACT NO. A310
DRAWING NO. C-15
SCALE 1" = 40' - 0"
SHEET NO. 59 OF 67

FIGURE II-87



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/3/83
DRAWN BY HWW Date 6/6/83
CHECKED BY JLD Date 6/6/83

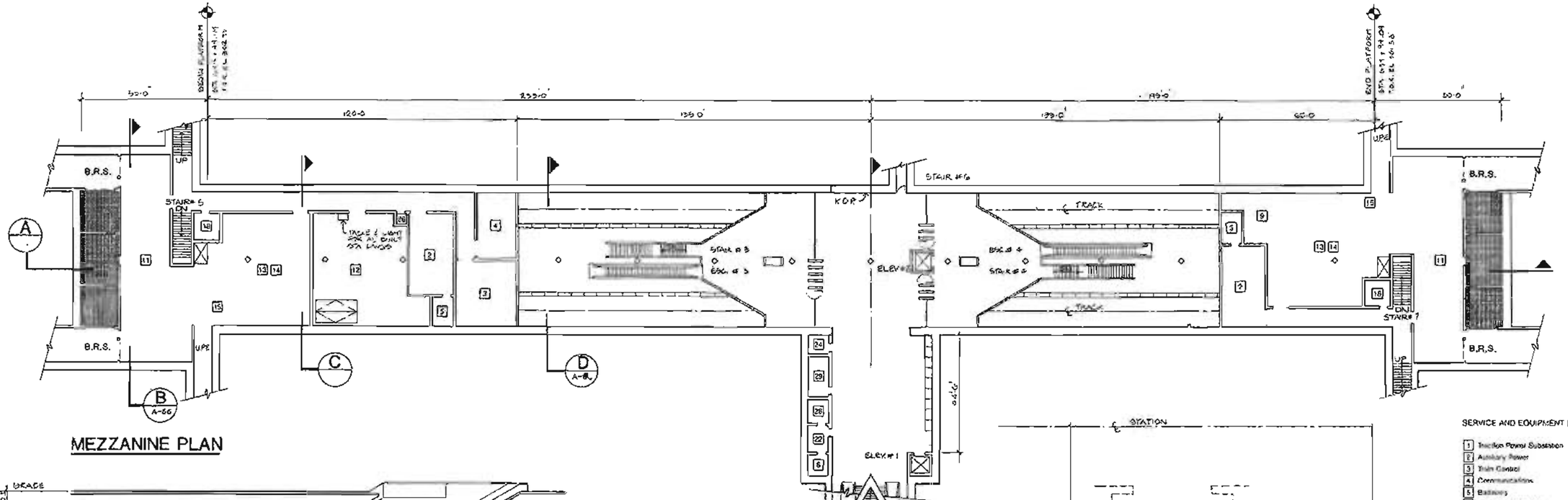
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants; Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Rep. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Rep. No.

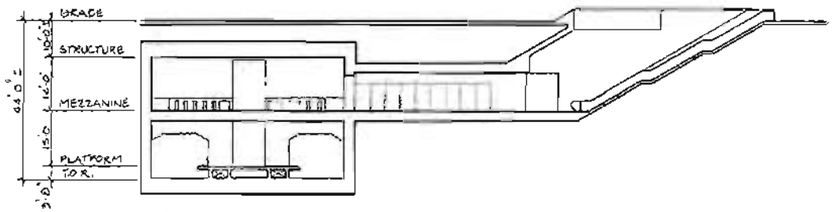
LA BREA / SUNSET STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A310
DRAWING NO. U-15
SCALE 1"=40'-0"
SHEET NO. 60 of 67

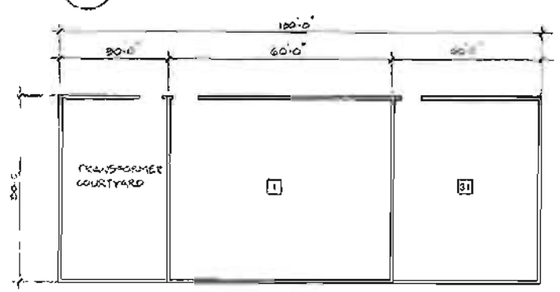
FIGURE II-88



MEZZANINE PLAN

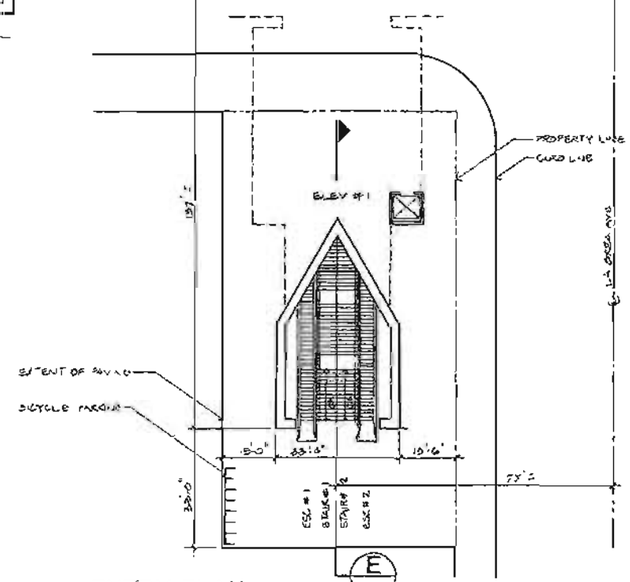


E SECTION



TRACTION POWER SUBSTATION PLAN

COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.



ENTRY PLAN

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. **Deleted**
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gas Shutoff Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. **Toilet**
25. **Deleted**
26. Telephone Equipment
27. **Deleted**
28. Trash
29. **Staff/Security**
30. **Deleted**
31. Electric Incoming Service

REV	DATE	BY	APP.	DESCRIPTION
	6/2/83	JT		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 6/6/83
DRAWN BY M. HOMER Date 6/6/83
CHECKED BY J.YEN PIGATI Date 6/6/83

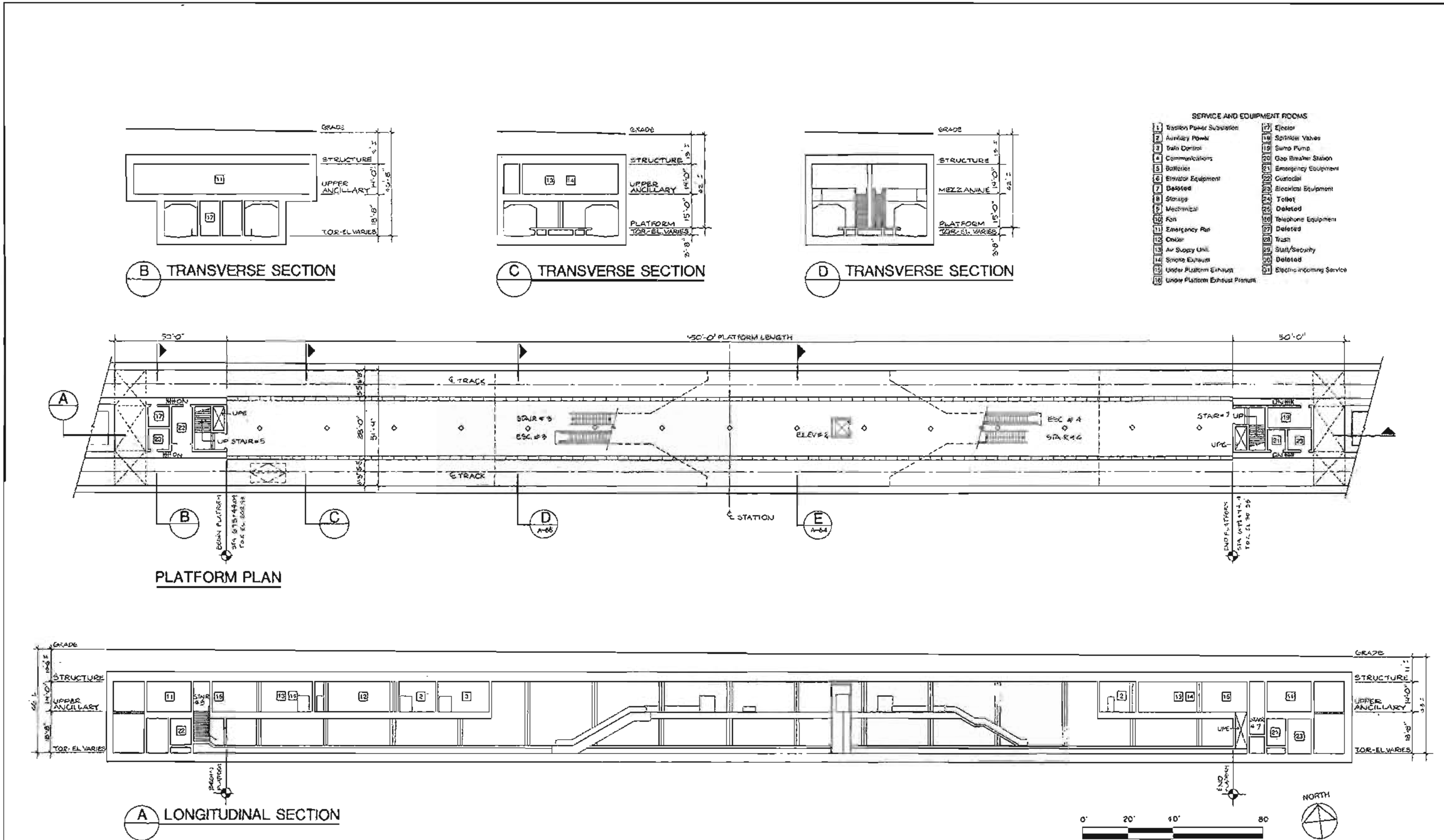
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

LA BREA/SUNSET STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A310
DRAWING NO. A-54
SCALE 1"=20'-0"
SHEET NO. 61 OF 67

FIGURE II-89



	9/28/83		J.Y.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION		
REV.	DATE	BY	APP.	DESCRIPTION		

DESIGNED BY HWA Date 6-6-83
DRAWN BY Date 6-6-83
CHECKED BY Date 6-6-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

LA BREA/SUNSET STATION
PLANS & SECTIONS

PRELIMINARY
FOR STUDY PURPOSES ONLY

CONTRACT NO. A 010
DRAWING NO. A-55
SCALE 1"=20'-0"
SHEET NO. 65 OF 67

FIGURE II-90

HOLLYWOOD/CAHUENGA STATION

Background

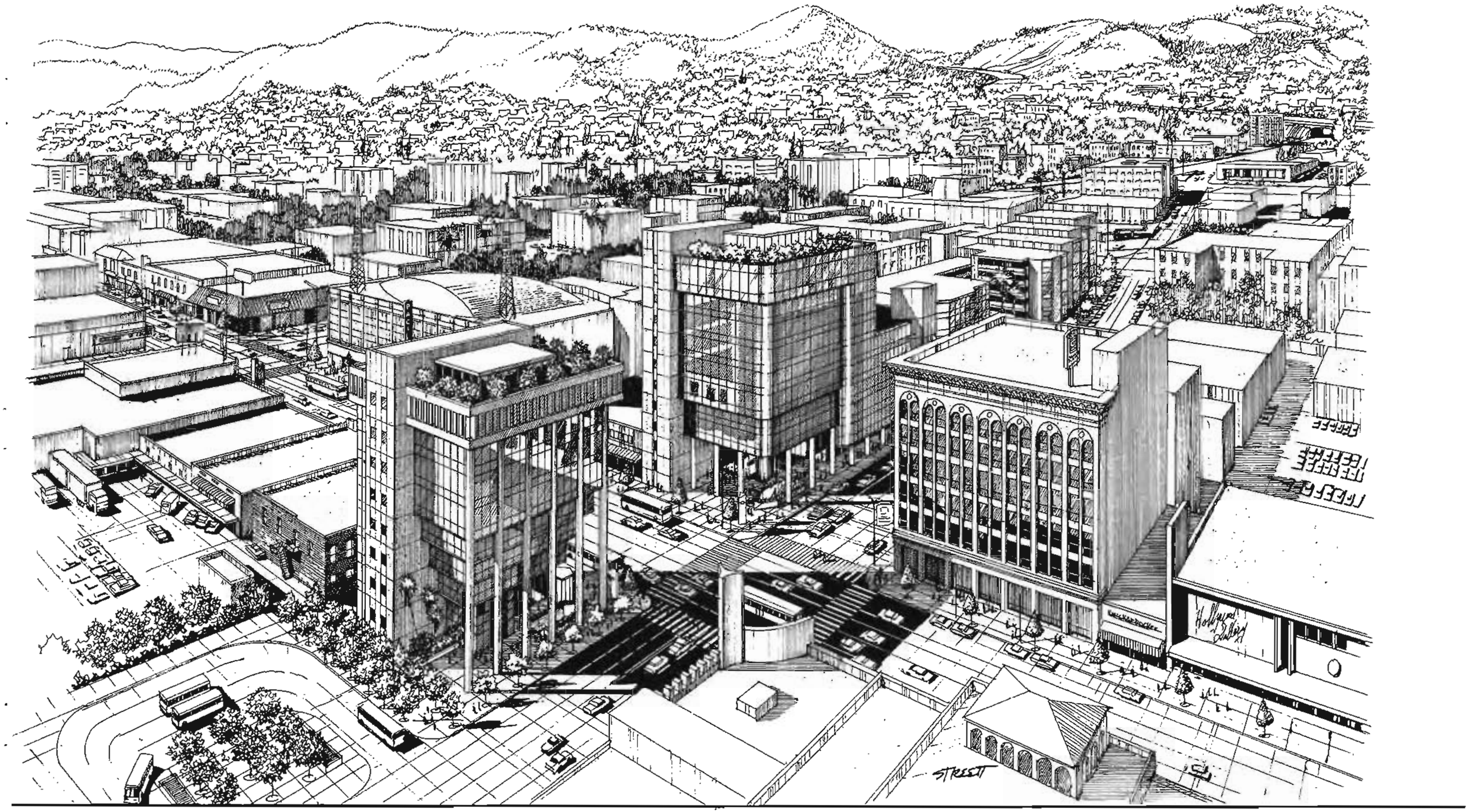
The Hollywood/Cahuenga Station will be located off-street running north-south along the west side of Cahuenga Boulevard from a point just south of Hollywood Boulevard up to Yucca Street. The station area is in the commercial center of Hollywood. The development along Hollywood Boulevard is low- and medium-rise commercial with a number of theaters and other entertainment users. A mixture of commercial and industrial buildings is located on Cahuenga Boulevard. North of Hollywood Boulevard and west of Cahuenga are high density residential areas.

Station Site Design Parameters

In addition to serving passengers whose destination is the station area, many station users will be transferring to buses running on Hollywood Boulevard. Some bus lines will terminate at the station and others will continue on. In response to expected pedestrian activity and the bus movements, the station has been planned with two entries, one on the northwest and one on the southwest corner of Hollywood and Cahuenga. An area immediately to the south end of the station is planned for use as a bus turnaround and layover area. This area will also be used as a staging area for buses serving the Hollywood Bowl. A pocket track will be located at the north end of the station. Both the station and the pocket track will be constructed by the cut-and-cover method which, will result in the removal of most of the existing structures facing on Cahuenga Boulevard between Hollywood Boulevard and Yucca Street. The portion of the area adjacent to a station entry will, upon completion of station construction, be available for new development. A 99-space kiss-and-ride facility will be located at the southwest corner of Cahuenga Boulevard and Yucca Street. The off-street station location will reduce traffic impacts normally caused by construction activities.

Station Design Parameters

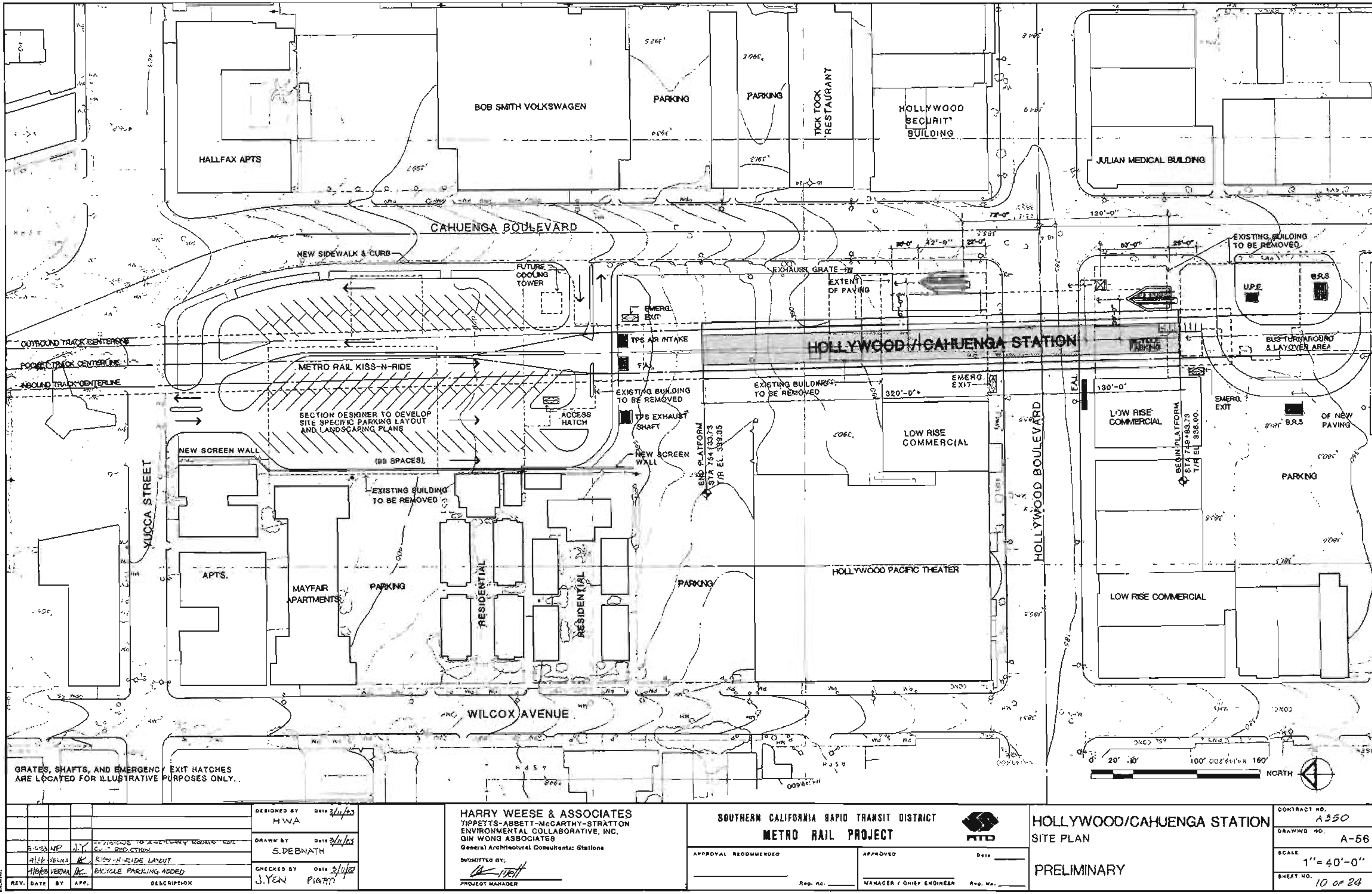
The station, which has moderate patronage projections, is planned with a single mezzanine connecting to two station entries. Ancillary space will be provided at each end of the station and a traction power substation will be located over the pocket track described above.



HOLLYWOOD / CAHUENGA STATION
VIEW LOOKING NORTHWEST

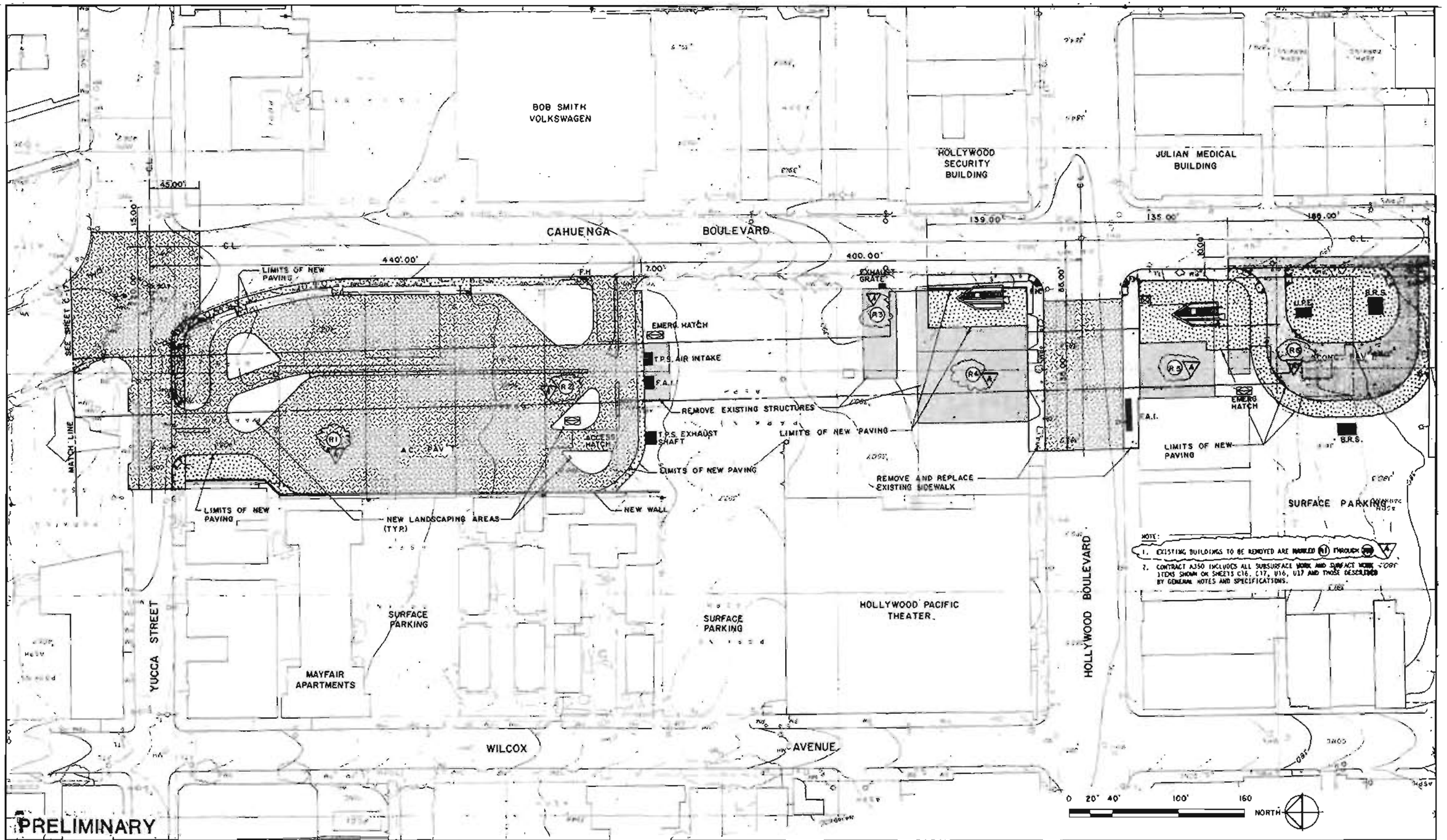
SCRTD Metro Rail
HWA
March 1983

FIGURE II-91



HALLFAX APTS
BOB SMITH VOLKSWAGEN
PARKING
PARKING
TICK TOCK RESTAURANT
HOLLYWOOD SECURITY BUILDING
JULIAN MEDICAL BUILDING
CAHUENGA BOULEVARD
NEW SIDEWALK & CURB
FUTURE COOLING TOWER
EMERG. EXIT
TPS AIR INTAKE
F.A.
EXHAUST GRATE
EXTENT OF PAVING
EXISTING BUILDING TO BE REMOVED
BUS TURNAROUND & LAYOVER AREA
U.P.E.
B.R.S
BUILDING UNDER CONSTRUCTION
OUTBOUND TRACK CENTERLINE
POCKET TRACK CENTERLINE
INBOUND TRACK CENTERLINE
HOLLYWOOD/CAHUENGA STATION
METRO RAIL KISS-N-RIDE
SECTION DESIGNER TO DEVELOP SITE SPECIFIC PARKING LAYOUT AND LANDSCAPING PLANS
(99 SPACES)
EXISTING BUILDING TO BE REMOVED
ACCESS HATCH
TPS EXHAUST SHAFT
NEW SCREEN WALL
NEW SCREEN WALL
EXISTING BUILDING TO BE REMOVED
320'-0"
EMERG. EXIT
130'-0"
120'-0"
LOW RISE COMMERCIAL
LOW RISE COMMERCIAL
EMERG. EXIT
OF NEW PAVING
END PLATFORM STA 754+33.73 T/R EL. 339.05
BEGIN PLATFORM STA 749+83.73 T/R EL. 338.00
HOLLYWOOD BOULEVARD
PARKING
YUCCA STREET
APTS.
MAYFAIR APARTMENTS
PARKING
RESIDENTIAL
RESIDENTIAL
PARKING
HOLLYWOOD PACIFIC THEATER
LOW RISE COMMERCIAL
WILCOX AVENUE
GRATES, SHAFTS, AND EMERGENCY EXIT HATCHES ARE LOCATED FOR ILLUSTRATIVE PURPOSES ONLY.
0' 20' 40' 100' 160'
NORTH
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
PROJECT MANAGER
DESIGNED BY HWA
DRAWN BY S. DEBNATH
CHECKED BY J. YEN
KISS-N-RIDE LAYOUT
BICYCLE PARKING ADDED
REV. DATE BY APP. DESCRIPTION
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
APPROVED
MANAGER / CHIEF ENGINEER
HOLLYWOOD/CAHUENGA STATION
SITE PLAN
PRELIMINARY
CONTRACT NO. A350
DRAWING NO. A-56
SCALE 1"= 40'-0"
SHEET NO. 10 OF 24

FIGURE II-92



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	6/30/83	JLD	DZ	REVISED BLDG REMOVAL NOTE

DESIGNED BY TAMS Date 6/13/83
DRAWN BY RGL Date 6/13/83
CHECKED BY JLD Date 6/13/83

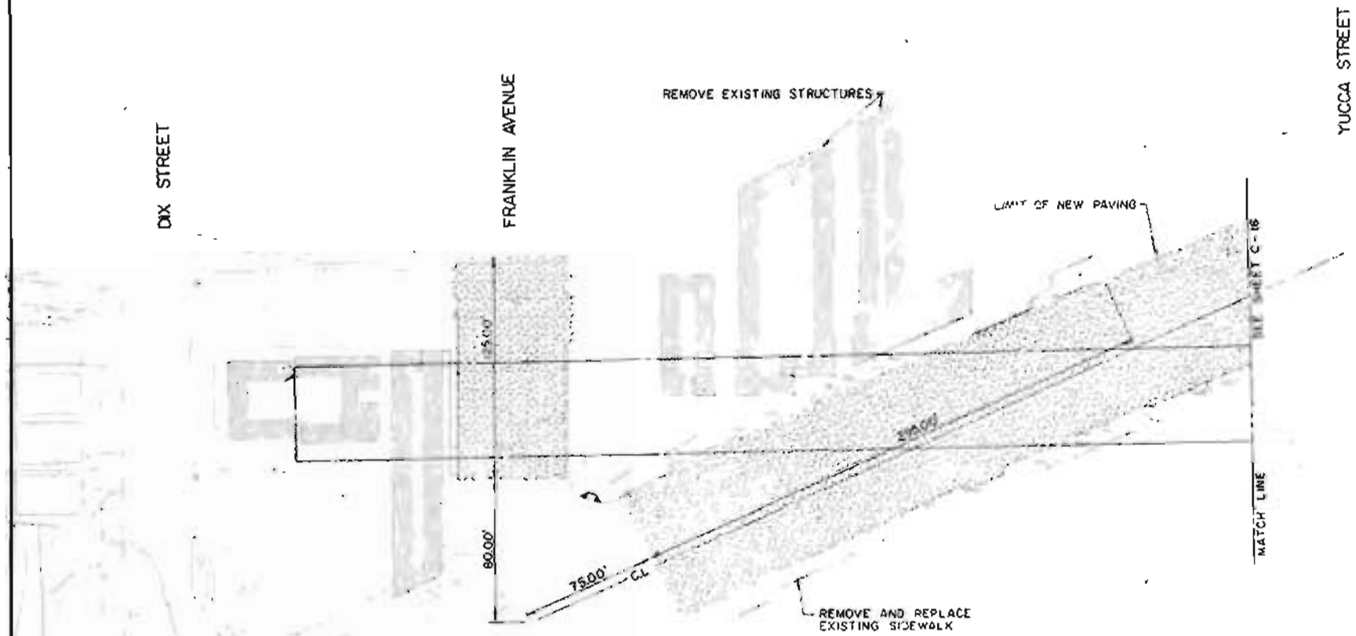
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

HOLLYWOOD/CAHUENGA STATION
CIVIL SITE PLAN
SOUTH END

CONTRACT NO. A 350
DRAWING NO. 0-16
SCALE 1" = 40' - 0"
SHEET NO. 11 OF 24

FIGURE II-93



CAHUENGA BOULEVARD

YUCCA STREET

WILCOX AVENUE

0' 20' 40' 100' 160'

NORTH

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMB Date 6/16/87

DRAWN BY RGL Date 6/16/87

CHECKED BY JED Date 6/16/87

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

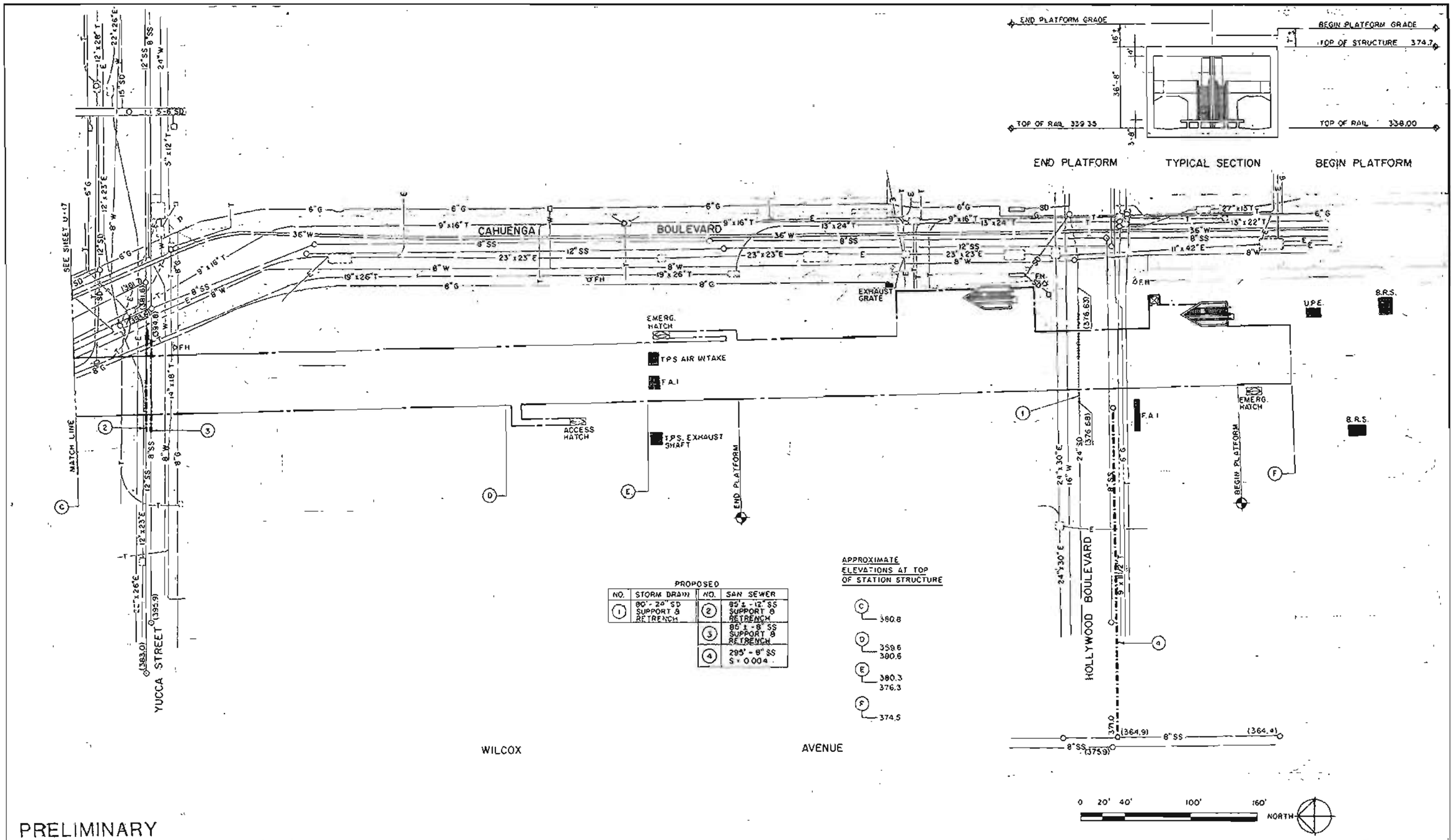
APPROVAL RECOMMENDED
Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD/CAHUENGA STATION
CIVIL SITE PLAN
NORTH END

CONTRACT NO. A350
DRAWING NO. C-17
SCALE 1"=40'-0"
SHEET NO. 12 OF 24

FIGURE II-94



PRELIMINARY

REV.	DATE	BY	APP	DESCRIPTION

DESIGNED BY TAMS Date 6/10/83
DRAWN BY RGL Date 6/10/83
CHECKED BY JLD Date 6/10/83

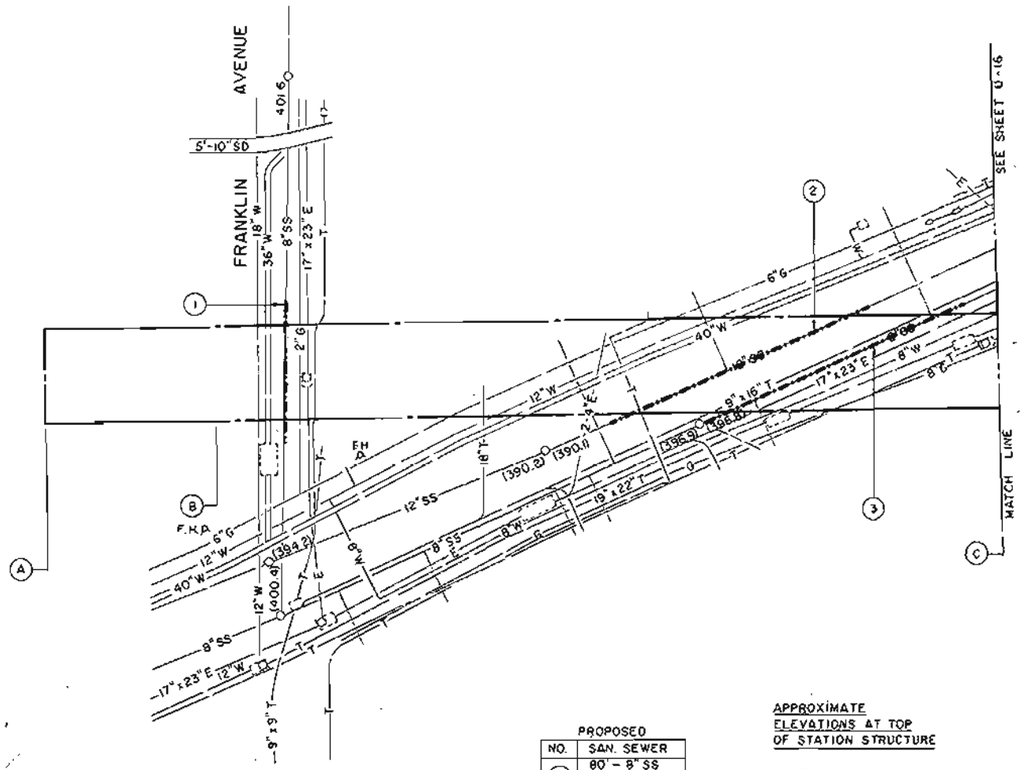
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — R&E NO.
APPROVED — Date — MANAGER / CHIEF ENGINEER — R&E NO.

HOLLYWOOD/CAHUENGA STATION
UTILITY PLAN REARRANGEMENT
SOUTH END

CONTRACT NO. A350
DRAWING NO. U-16
SCALE 1"= 40'-0"
SHEET NO. 13 OF 24

FIGURE II-95



PROPOSED

NO.	SAN. SEWER
1	80' - 8" SS SUPPORT & RETRENCH
2	160' - 8" SS SUPPORT & RETRENCH
3	160' - 8" SS SUPPORT & RETRENCH

APPROXIMATE ELEVATIONS AT TOP OF STATION STRUCTURE

A — 379.4

B — 379.1, 362.1

C — 360.8

CAHUENGA BOULEVARD

YUCCA STREET

WILCOX AVENUE

0 20' 40' 100' 160' NORTH

PRELIMINARY

ALV	DATE	BY	APP	DESCRIPTION

DESIGNED BY TAMS Date 6/10/83

DRAWN BY RGL Date 6/10/83

CHECKED BY JLD Date 6/10/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED Reg. No.

APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD/CAHUENGA STATION
UTILITY PLAN REARRANGEMENT
NORTH END

CONTRACT NO. A350
DRAWING NO. U-17
SCALE 1" = 40' - 0"
SHEET NO. 14 OF 24

FIGURE II-96

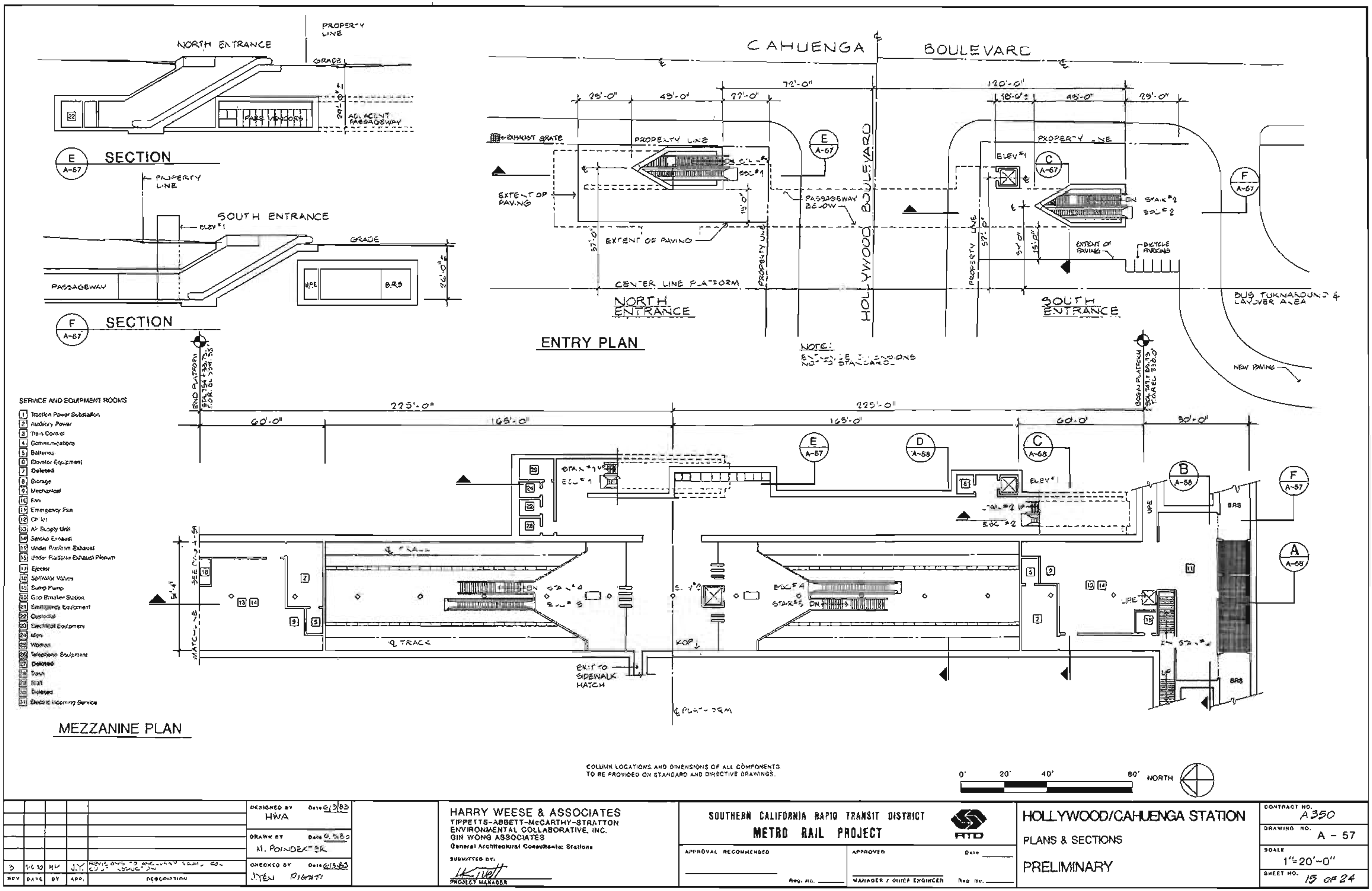
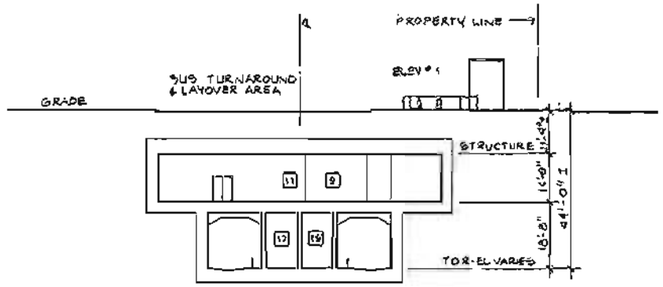
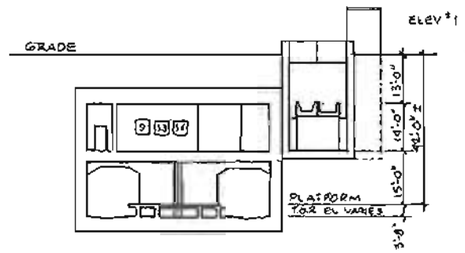

NORTH ENTRANCE
PROPERTY LINE
GRADE
FARE VENDORS
ADJACENT PASSAGEWAY
SECTION
SOUTH ENTRANCE
PASSAGEWAY
UPE
BRS
SECTION
CAHUENGA BOULEVARD
HOLLYWOOD BOULEVARD
EXHAUST GRATE
EXTENT OF PAVING
PASSAGEWAY BELOW
CENTER LINE PLATFORM
NORTH ENTRANCE
SOUTH ENTRANCE
BICYCLE PARKING
BUS TURNAROUND & LAYOVER AREA
NEW PAVING
ENTRY PLAN
SERVICE AND EQUIPMENT ROOMS
1 Traction Power Substation
2 Auxiliary Power
3 Train Control
4 Communications
5 Batteries
6 Elevator Equipment
7 Deleted
8 Storage
9 Mechanical
10 Fan
11 Emergency Fan
12 Chiller
13 Air Supply Unit
14 Smoke Exhaust
15 Under Platform Exhaust
16 Under Platform Exhaust Plenum
17 Ejector
18 Sprinkler Valves
19 Sump Pump
20 Gap Breaker Station
21 Emergency Equipment
22 Custodial
23 Electrical Equipment
24 Men
25 Women
26 Telephone Equipment
27 Deleted
28 Trash
29 Staff
30 Deleted
31 Electric Incoming Service
225'-0"
225'-0"
EXIT TO SIDEWALK HATCH
MEZZANINE PLAN
COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.
NORTH
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
HOLLYWOOD/CAHUENGA STATION
PLANS & SECTIONS
PRELIMINARY
CONTRACT NO. A350
DRAWING NO. A - 57
SCALE 1"=20'-0"
SHEET NO. 15 OF 24

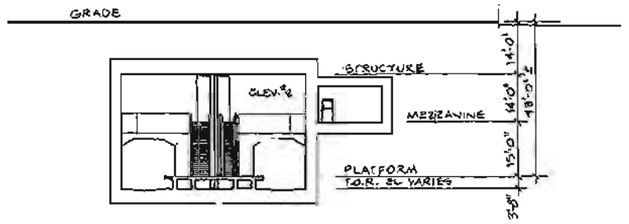
FIGURE II-97



B A-58 TRANSVERSE SECTION



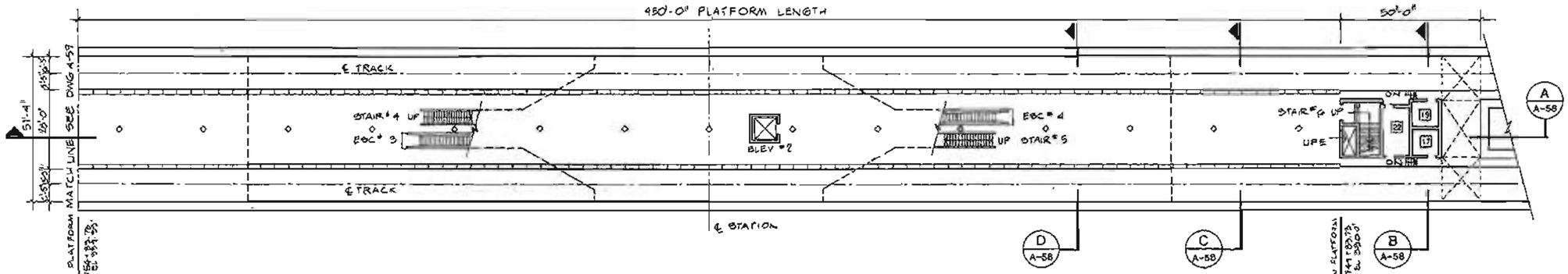
C A-58 TRANSVERSE SECTION



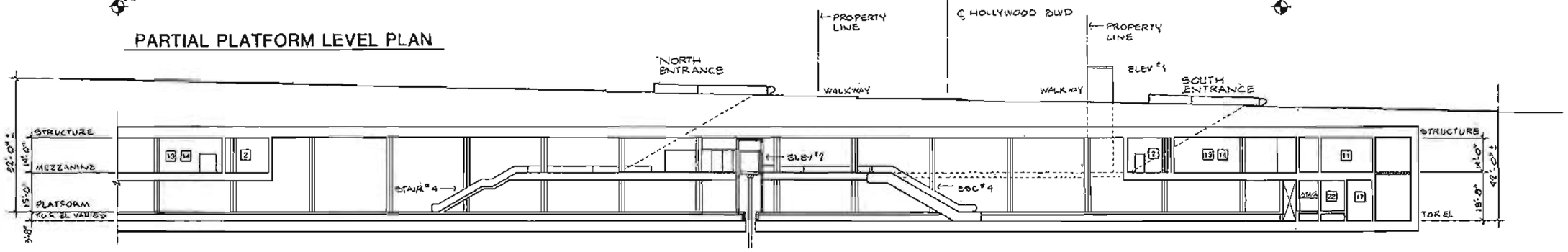
D A-58 TRANSVERSE SECTION

SERVICE AND EQUIPMENT ROOMS

1 Traction Power Substation	17 Elevator
2 Auxiliary Power	18 Sprinkler Valves
3 Train Control	19 Sump Pump
4 Communications	20 Gap Breaker Station
5 Batteries	21 Emergency Equipment
6 Elevator Equipment	22 Custodial
7 Deleted	23 Electrical Equipment
8 Storage	24 Men
9 Mechanical	25 Women
10 Fan	26 Telephone Equipment
11 Emergency Fa.	27 Deleted
12 Chiller	28 Trash
13 Air Supply Unit	29 Staff
14 Smoke Exhaust	30 Deleted
15 Under Platform Exhaust	31 Electric Incoming Service
16 Under Platform Exhaust Plenum	



PARTIAL PLATFORM LEVEL PLAN



A A-58 PARTIAL LONGITUDINAL SECTION

0' 20' 40' 80' NORTH

REV	DATE	BY	APP.	DESCRIPTION
3	5/6/83	MD	J.Y.	REVISION TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 6/3/83
DRAWN BY M. POINDEXTER Date 6/3/83
CHECKED BY J.YEN PIGATI Date 6/3/83

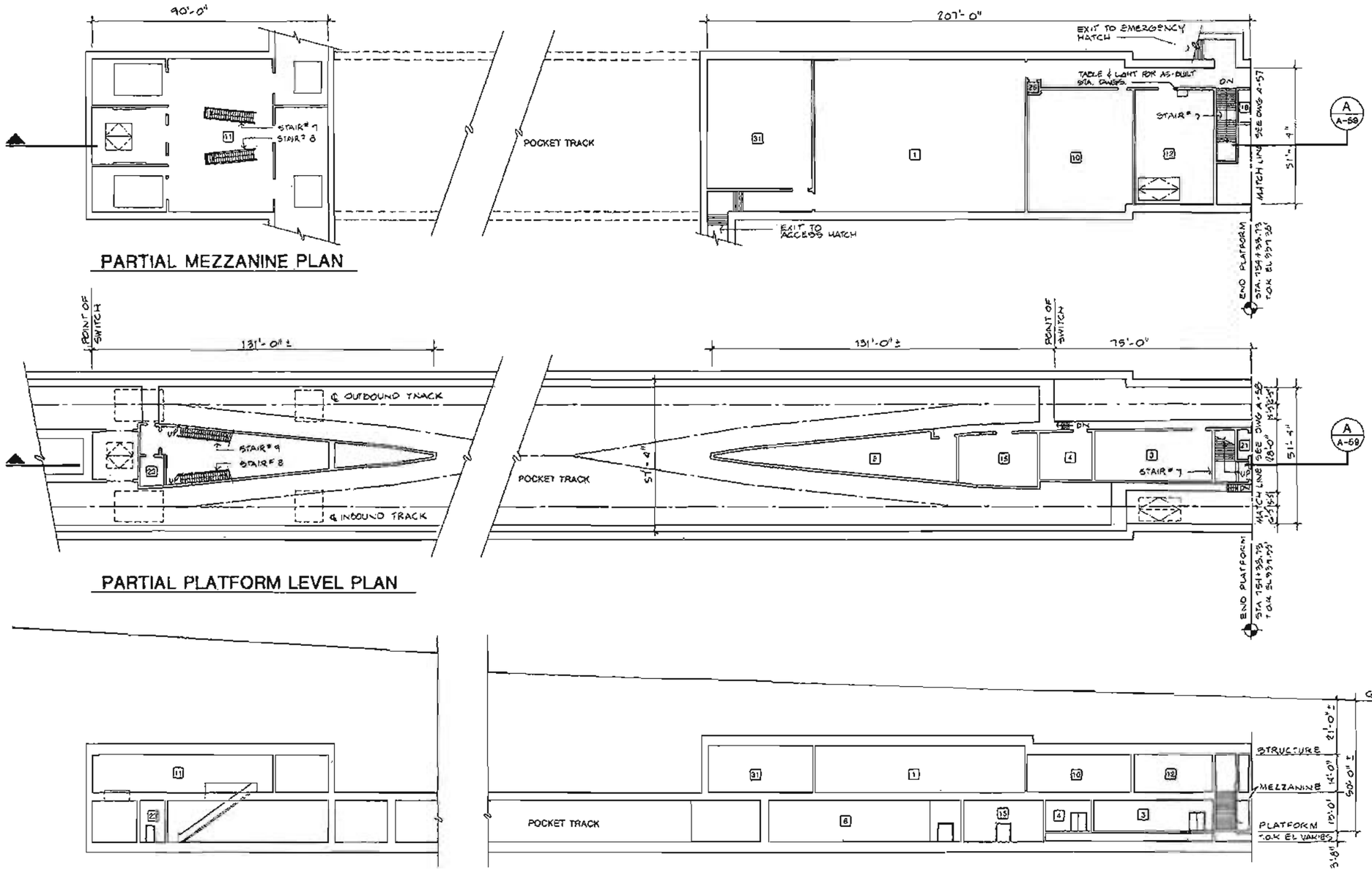
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD/CAHUENGA STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A 350
DRAWING NO. A - 58
SCALE 1"=20'-0"
SHEET NO. 16 OF 24

FIGURE II-98



PARTIAL MEZZANINE PLAN

PARTIAL PLATFORM LEVEL PLAN

PARTIAL LONGITUDINAL SECTION

A / A-59

SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gap Breaker Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. Men
25. Women
26. Telephone Equipment
27. Deleted
28. Trash
29. Staff
30. Deleted
31. Electric Incoming Service

REV.	DATE	BY	APP.	DESCRIPTION
3	6/6/85	MD	J.Y.	REVISIONS TO ELEVATION ROOMS FOR EL. CHANGE

DESIGNED BY HWA Date 6/5/85
DRAWN BY M. POINDEXTER Date 6/3/85
CHECKED BY J.TEN PIANTI Date 6/6/85

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

HOLLYWOOD/CAHUENGA STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A350
DRAWING NO. A - 59
SCALE 1"=20'-0"
SHEET NO. 17 OF 24

FIGURE II-99

HOLLYWOOD BOWL STATION

Background

The Hollywood Bowl - an open-air amphitheater - is a major entertainment center attracting large audiences for performances presented over an 11-week season. During the 1982 season there were 77 shows with a total attendance of 715,000 persons. The Ford Theater, a sister facility to the Hollywood Bowl, is located on the east side of the Hollywood Freeway. Attendance at Ford Theater performances totaled 52,000 in 1982.

The area to the North of the Hollywood Bowl is Los Angeles County parkland. The surrounding developed areas are a mix of low- and medium-density residential land uses.

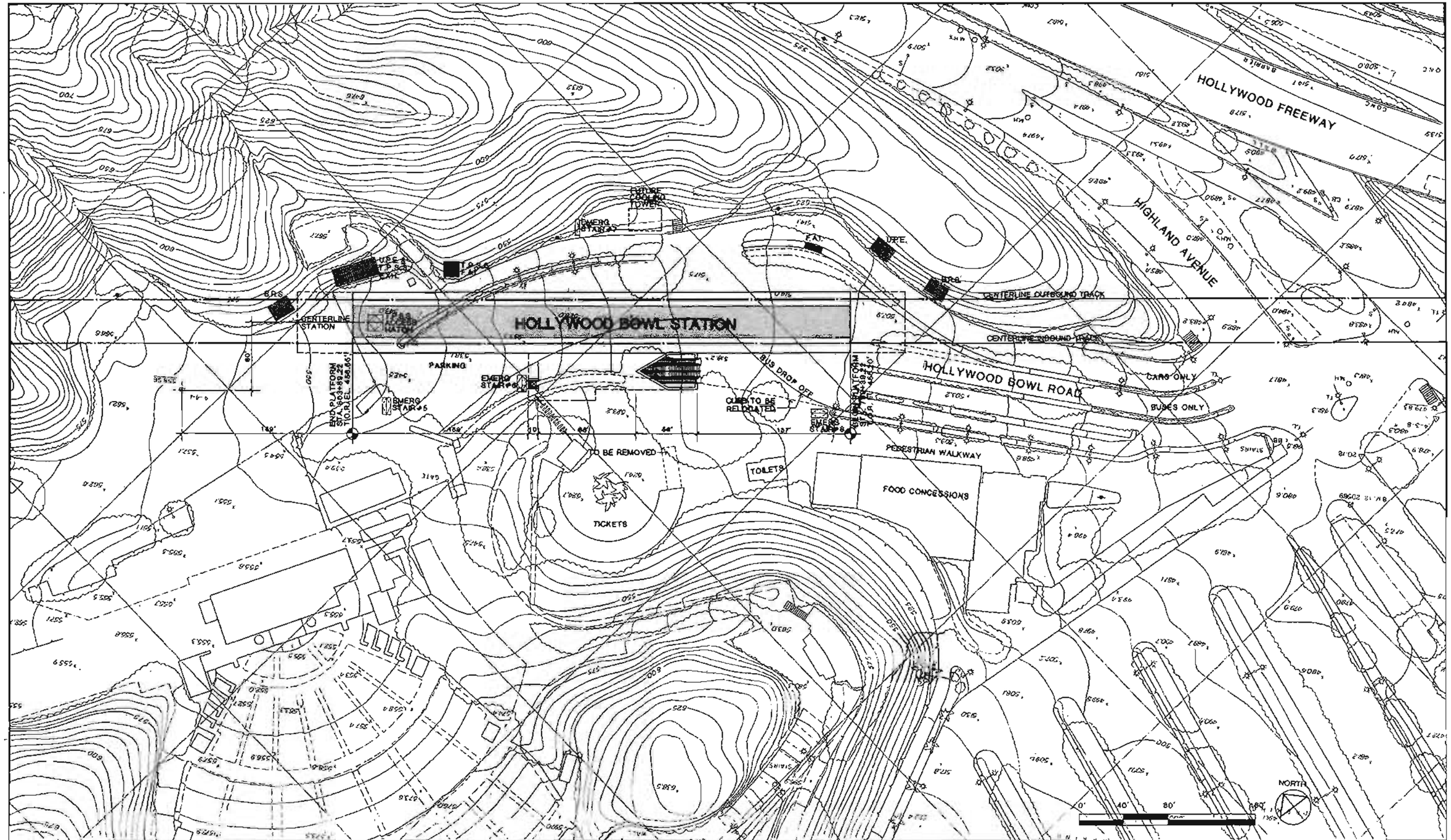
Station Site Design Parameters

Patronage for the station is expected to be the lowest on the system. However, the peak-hour patronage during Bowl events will be quite high. Since it would be very expensive to provide space below ground to hold crowds, it is planned that admission into the at-grade station entrance will be manually metered after performances to prevent overload of the mezzanine and platform. For the convenience of the transit patrons, the station entrance is located close to the entrance to the Bowl, adjacent to the ticket offices. The entrance has been oriented to have the least conflict with the pedestrian flow of the non-user.

Since the provision of transit-related park-and-ride, kiss-and-ride and bus facilities would conflict with the use of the area for Bowl activities, none is presently planned.

Station Design Parameters

The station has been designed with a single mezzanine centered on the length of the station. Passengers can access the station platform from either end of the mezzanine, which both maximizes the passenger-handling capacity of the mezzanine and promotes a more even distribution of passengers along the platform. There will be two escalators and two stairs from entry to mezzanine and from mezzanine to platform. Ancillary space will be provided at each end of the station and a traction power substation will be located below grade over the ancillary space on the outbound end of the station.



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY Date

DRAWN BY Date

CHECKED BY Date

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:

PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED

Reg. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD BOWL STATION

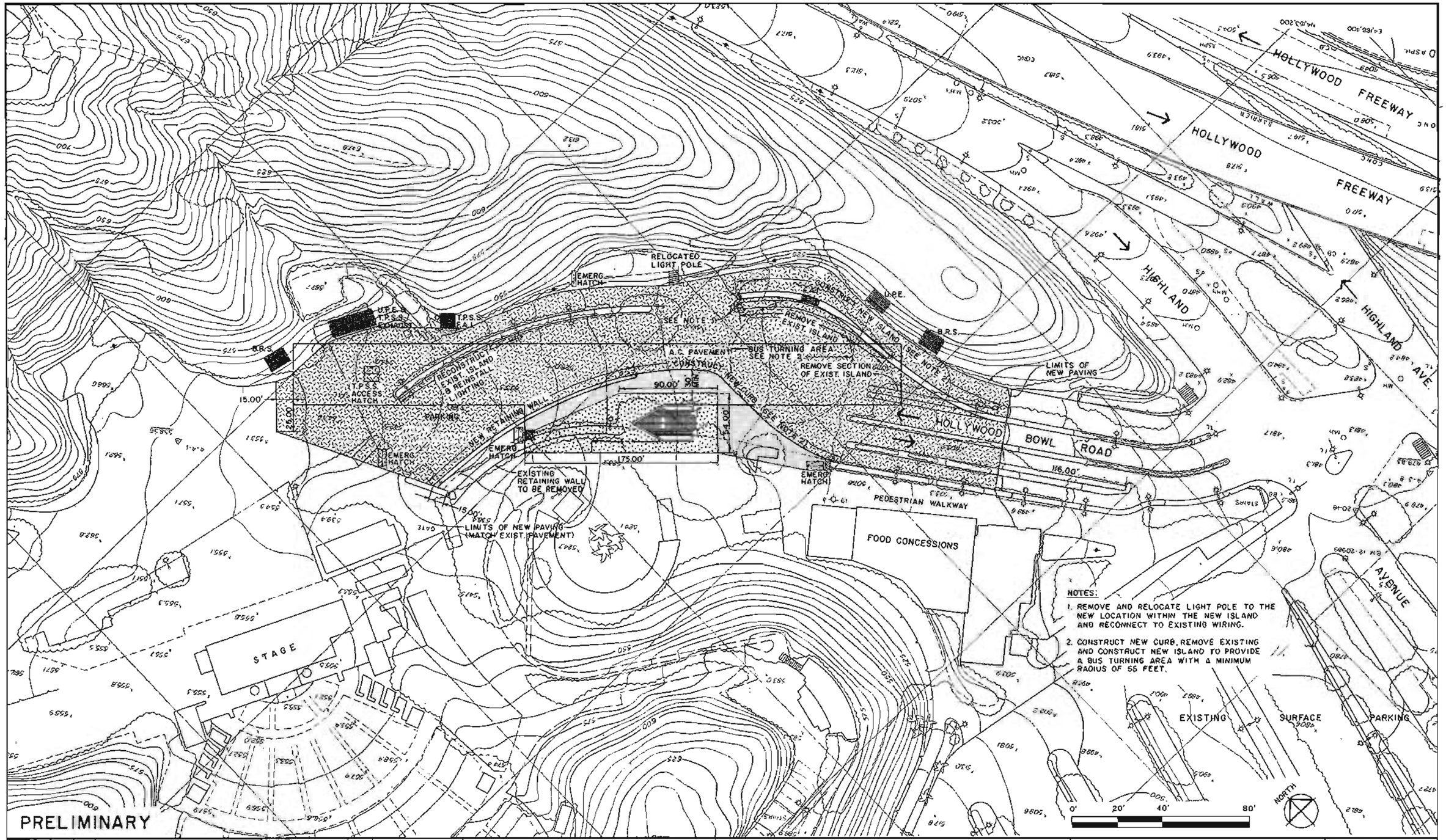
CONTRACT NO.

DRAWING NO. A-60

SCALE 1" = 40' - 0"

SHEET NO.

FIGURE II-100



NOTES:

1. REMOVE AND RELOCATE LIGHT POLE TO THE NEW LOCATION WITHIN THE NEW ISLAND AND RECONNECT TO EXISTING WIRING.
2. CONSTRUCT NEW CURB, REMOVE EXISTING AND CONSTRUCT NEW ISLAND TO PROVIDE A BUS TURNING AREA WITH A MINIMUM RADIUS OF 55 FEET.

PRELIMINARY

Rev.	Date	By	App.	Description

DESIGNED BY TAMS Date 8/30/83
DRAWN BY R.G.L. Date 8/27/83
CHECKED BY J.L.D. Date 8/30/83

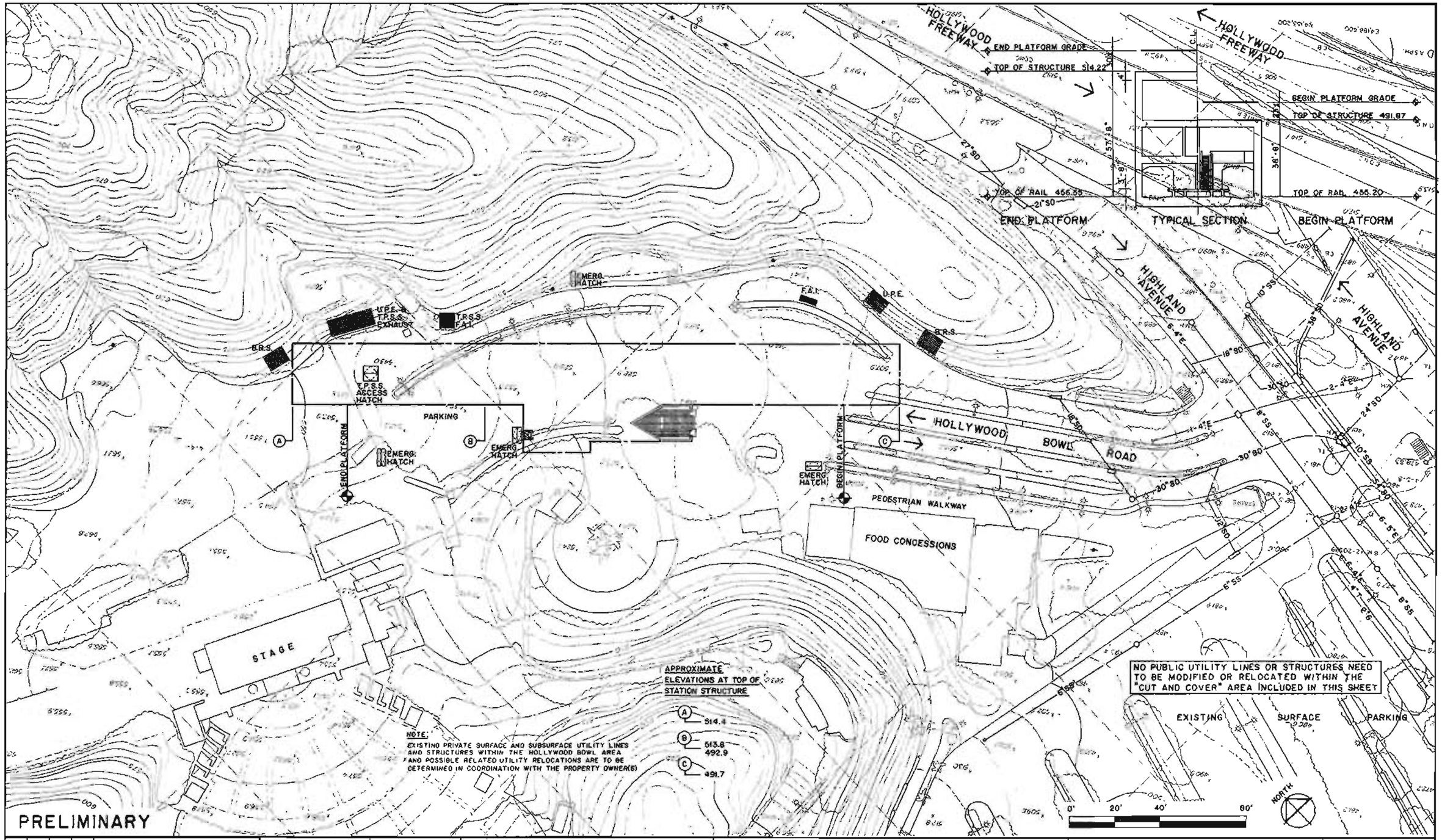
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD BOWL STATION
CIVIL SITE PLAN

CONTRACT NO.
DRAWING NO. C-18
SCALE 1"=20'-0"
SHEET NO.

FIGURE II-101



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY Date 8/26/83
TAMS

DRAWN BY Date 8/26/83
R.G.L.

CHECKED BY Date 8/26/83
J.L.D.

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:

PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED

Reg. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD BOWL STATION
UTILITY PLAN REARRANGEMENT

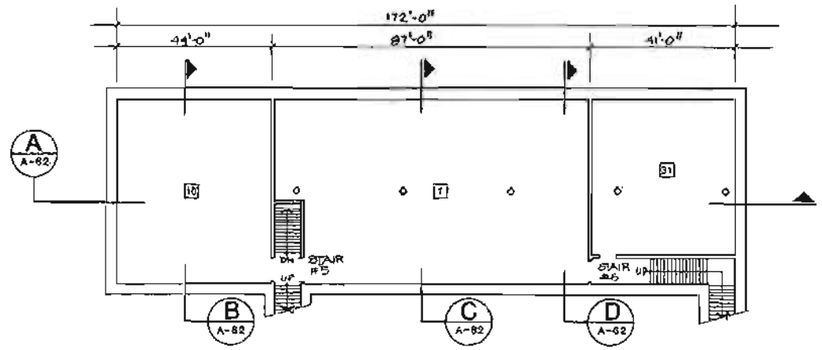
CONTRACT NO.

DRAWING NO. U-18

SCALE 1"=20'-0"

SHEET NO.

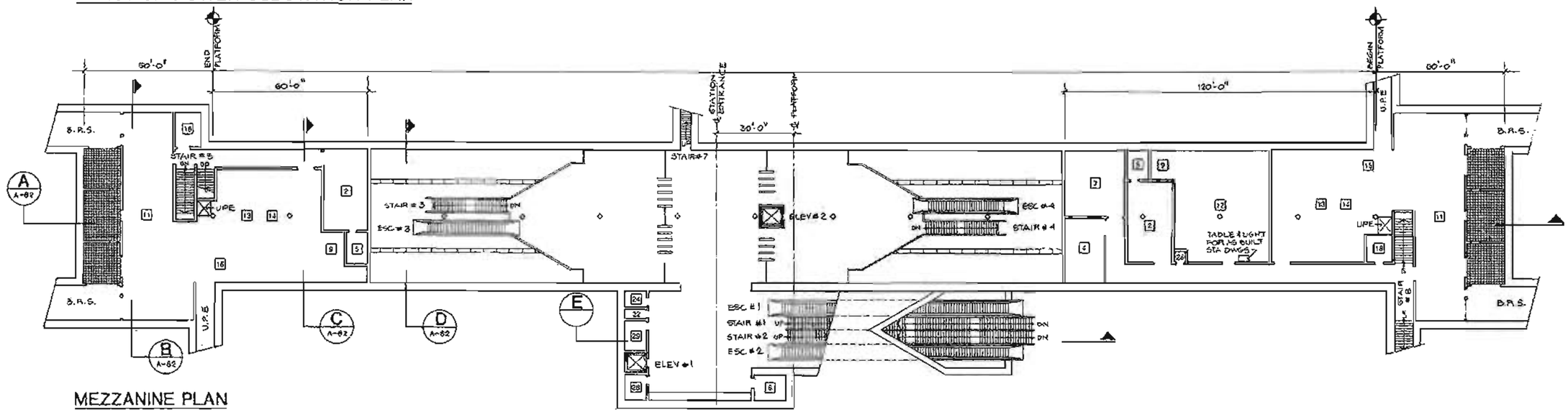
FIGURE II-102



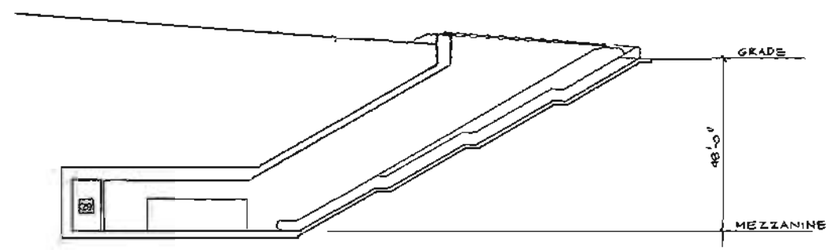
TRACTION POWER SUBSTATION PLAN

SERVICE AND EQUIPMENT ROOMS

1 Traction Power Substation	17 Ejector
2 Auxiliary Power	18 Sprinkler Valves
3 Train Control	19 Sump Pump
4 Communications	20 Gap Breaker Station
5 Batteries	21 Emergency Equipment
6 Elevator Equipment	22 Custodial
7 Deleted	23 Electrical Equipment
8 Storage	24 Toilet
9 Mechanical	25 Deleted
10 Fan	26 Telephone Equipment
11 Emergency Fan	27 Deleted
12 Chiller	28 Trash
13 Air Supply Unit	29 Staff/Security
14 Smoke Exhaust	30 Deleted
15 Under Platform Exhaust	31 Electric Incoming Service
16 Under Platform Exhaust Plenum	



MEZZANINE PLAN



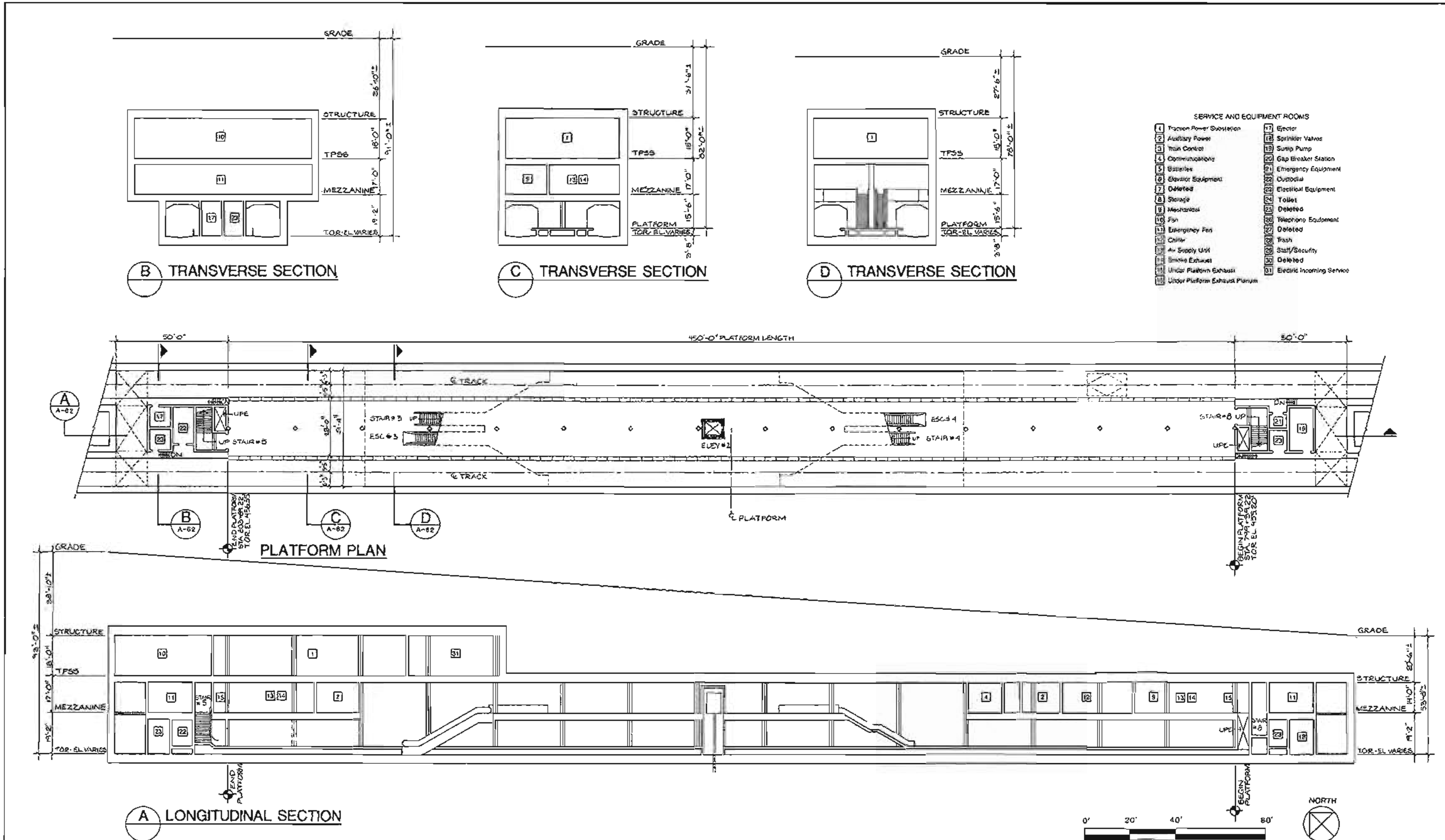
E SECTION THROUGH ENTRY

0' 20' 40' 80'

NORTH

REV.	DATE	BY	APP	DESCRIPTION	DESIGNED BY Date	HARRY WEESE & ASSOCIATES TIPPETTS-ABBETT-McCARTHY-STRATTON ENVIRONMENTAL COLLABORATIVE, INC. GIN WONG ASSOCIATES General Architectural Consultants: Stations SUBMITTED BY: PROJECT MANAGER	SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT METRO RAIL PROJECT APPROVAL RECOMMENDED Reg. No. APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.	HOLLYWOOD BOWL STATION PLANS & SECTION PRELIMINARY	CONTRACT NO. DRAWING NO. A-61 SCALE 1"=20'-0" SHEET NO.
					DRAWN BY Date		
					CHECKED BY Date		

FIGURE II-103



					DESIGNED BY	Date
					DRAWN BY	Date
					CHECKED BY	Date
REV.	DATE	BY	APP.	DESCRIPTION		

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

HOLLYWOOD BOWL STATION
PLANS AND SECTIONS

CONTRACT NO.
DRAWING NO. A-62
SCALE 1"=20'-0"
SHEET NO.

FIGURE II-104

UNIVERSAL CITY STATION

Background

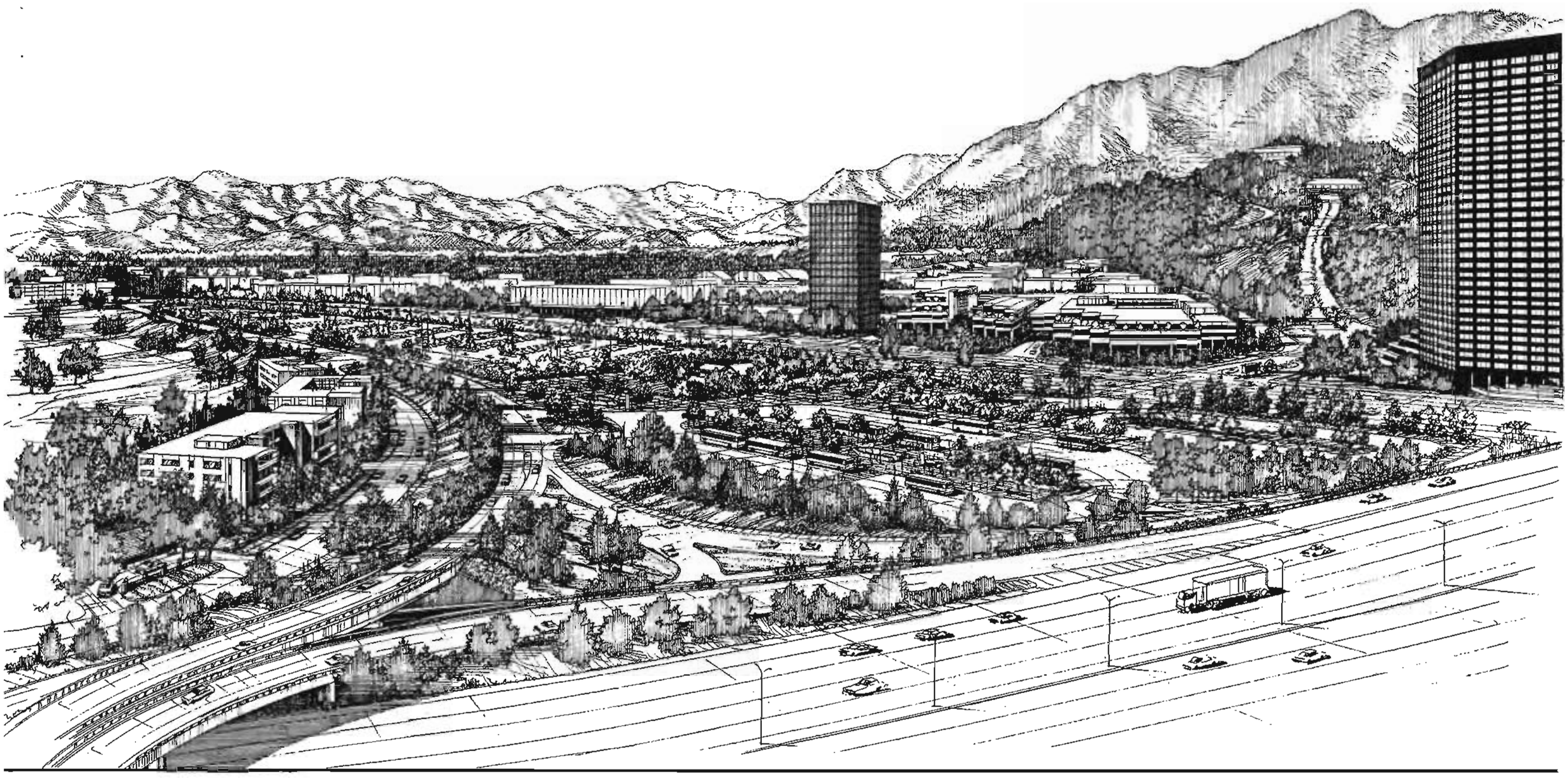
The Universal City Station will be located off-street in an area bounded by Lankershim Boulevard on the east, Universal Place on the south, and Bluffside Drive on the west and north. MCA Headquarters and Universal Studios are located immediately to the east. Areas to the west are either residential or parkland. Within the station site boundaries is located the Campo de Cahuenga--a historical landmark park. The Hewlett Packard Company, which currently occupies a facility in the station area, is relocating to new facilities in the near future. A 36-tory, 700,000 square foot office building, which will be the headquarters for the Getty Oil Corporation, is under construction on the east side of Lankershim adjacent to the Hollywood Freeway.

Station Site Design Parameters

The program for the station site includes a future parking structure, but surface parking only will be provided initially. Additionally, there will be a 40-space kiss-and-ride area and a bus terminal with boarding locations for 8 bus lines and layover capacity for 10 buses. Vehicular access to the site will be improved by the construction of a separate roadway, parallel to but separate from Bluffside Drive, over the Hollywood Freeway to Vineland Avenue. Also, Universal Place will be changed to a one-way westbound street. Extensive landscaped berms will be provided to further mitigate adverse impacts from the new roadway and overpasses. The station site entry from Lankershim will be configured to permit Universal Studio Trams to cross Lankershim and load/unload passengers convenient to a station entry. The existing SCRTD park-and-ride lot west of the Hollywood Freeway and the site between the new access road and Ventura Boulevard will be used to provide additional surface parking. Buses accessing the station by the new access road will pick up and discharge patrons at these surface lots, thus providing a shuttle service to the station. Landscaping and setbacks will be used to provide the proper setting for Campo de Cahuenga. All other structures in the station area will be removed. The station entries and vehicular access areas are being designed to provide a parklike setting and to enhance the neighborhood.

Station Design Parameters

Two entrances are planned for this station. One will be oriented to serve the bus terminal and the other will be oriented towards Lankershim Boulevard and will serve the parking area and pedestrian arrivals. The entrance will lead to a single mezzanine located in the center of the station. Ancillary space will be provided at each end of the station with a traction power substation located below grade over the ancillary space at the south end of the station.

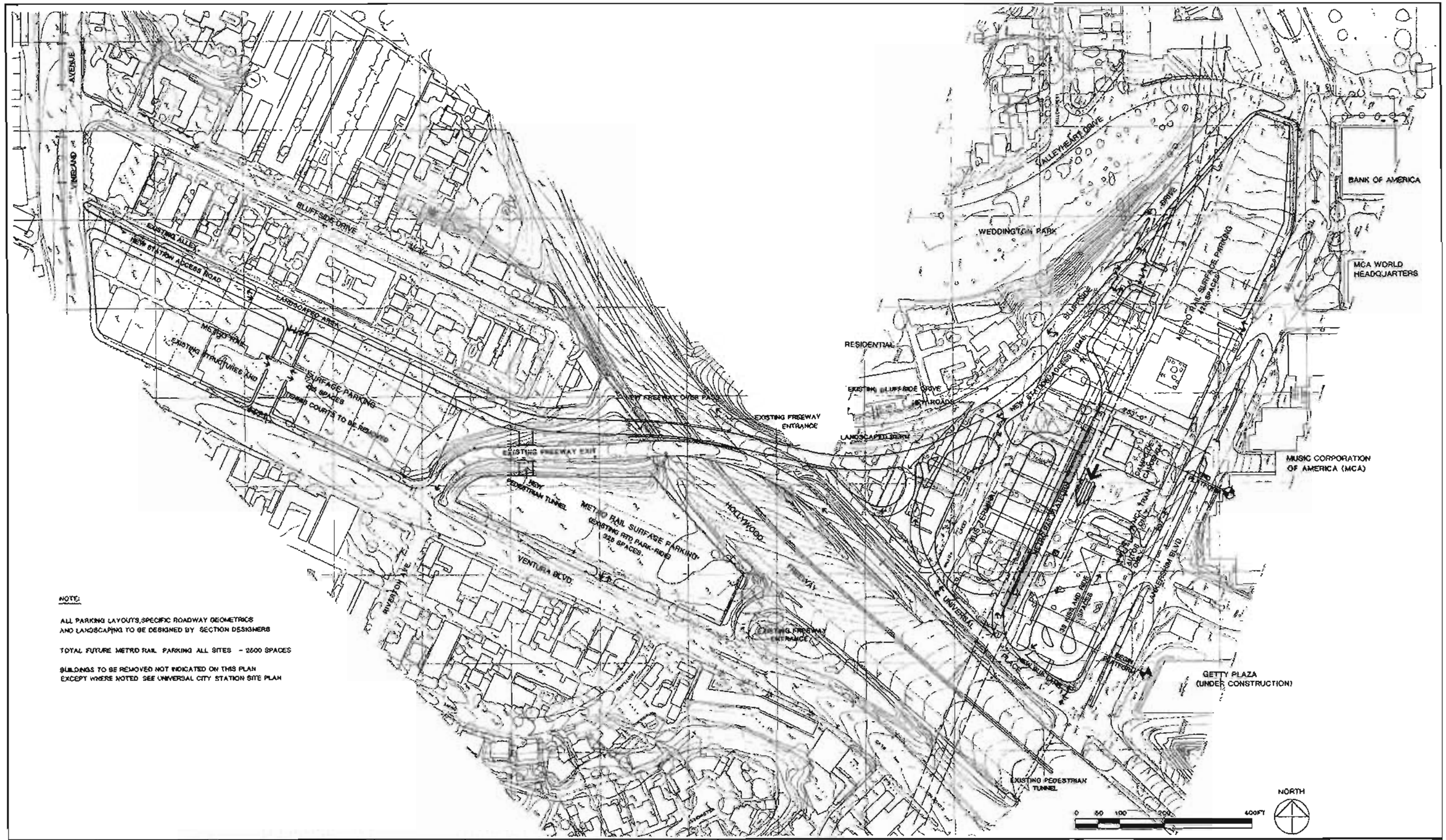


PROPOSED UNIVERSAL CITY METRO RAIL STATION

HOLLYWOOD FREEWAY, LANKERSHIM BLVD.
& PROPOSED NEW ACCESS ROAD

SCRTD Metro Rail
HWA
February,1983

FIGURE II-105



NOTE:

ALL PARKING LAYOUTS, SPECIFIC ROADWAY GEOMETRICS AND LANDSCAPING TO BE DESIGNED BY SECTION DESIGNERS

TOTAL FUTURE METRO RAIL PARKING ALL SITES - 2600 SPACES

BUILDINGS TO BE REMOVED NOT INDICATED ON THIS PLAN EXCEPT WHERE NOTED SEE UNIVERSAL CITY STATION SITE PLAN

REV.	DATE	BY	APP.	DESCRIPTION
	6-14-85	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR GOAL REDUCTION.

DESIGNED BY H.W.A. Date 6/14/85
DRAWN BY K. LIM Date 6/14/85
CHECKED BY J. YEN Date 6/20/85

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: _____ PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED _____ Reg. No. _____

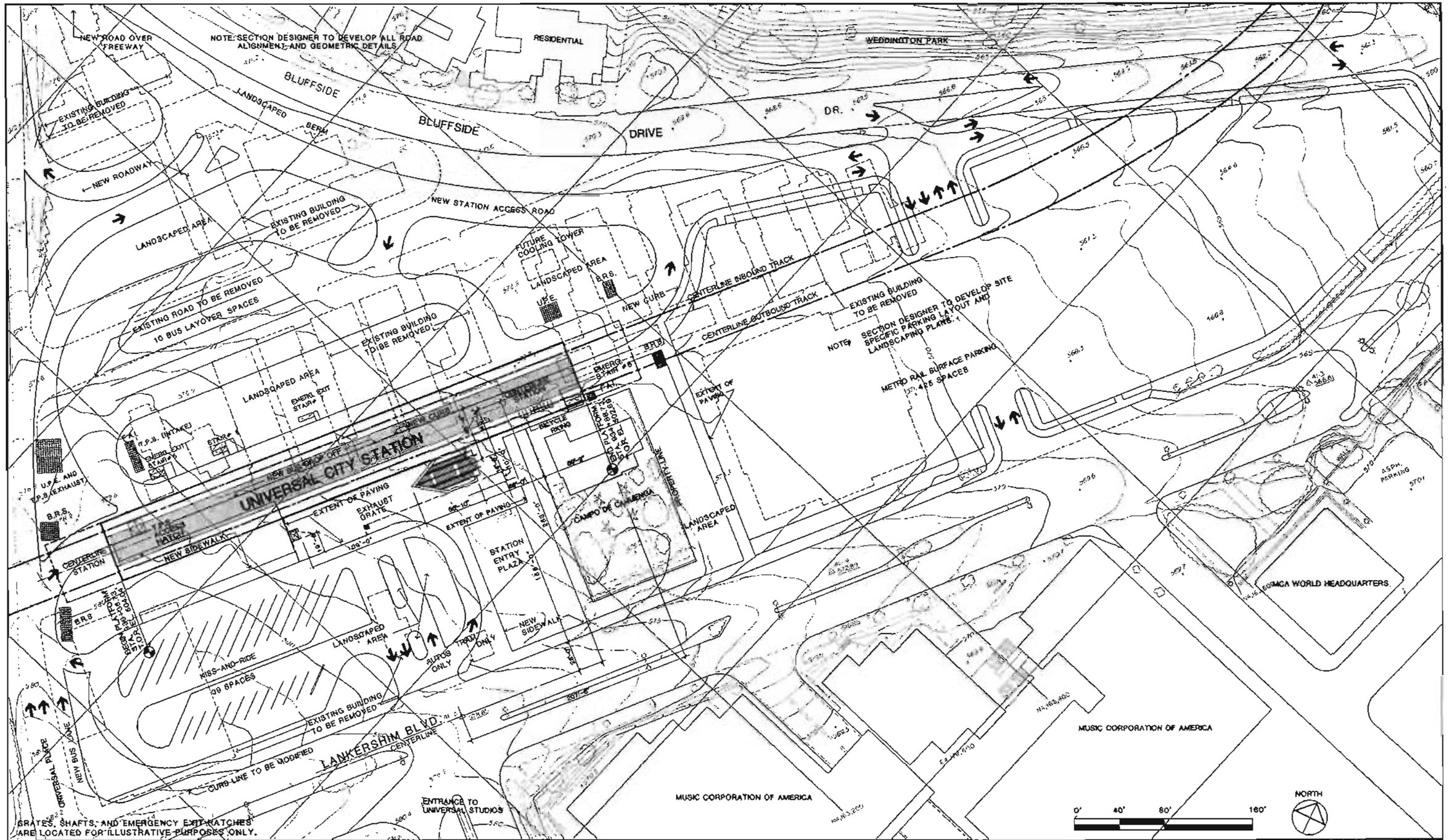
APPROVED _____ Date _____
MANAGER / CHIEF ENGINEER Reg. No. _____

UNIVERSAL CITY STATION
VICINITY PLAN

PRELIMINARY

CONTRACT NO. A 425
DRAWING NO. A-63
SCALE 1"= 100'
SHEET NO. 8 OF 20

FIGURE II-106



REV	DATE	BY	APP	DESCRIPTION
	6-4-82		J.T.	REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 5-22-82
DRAWN BY A. SNIDER/K. LIM Date 6-9-82
CHECKED BY J.TEN Date 6-30-82

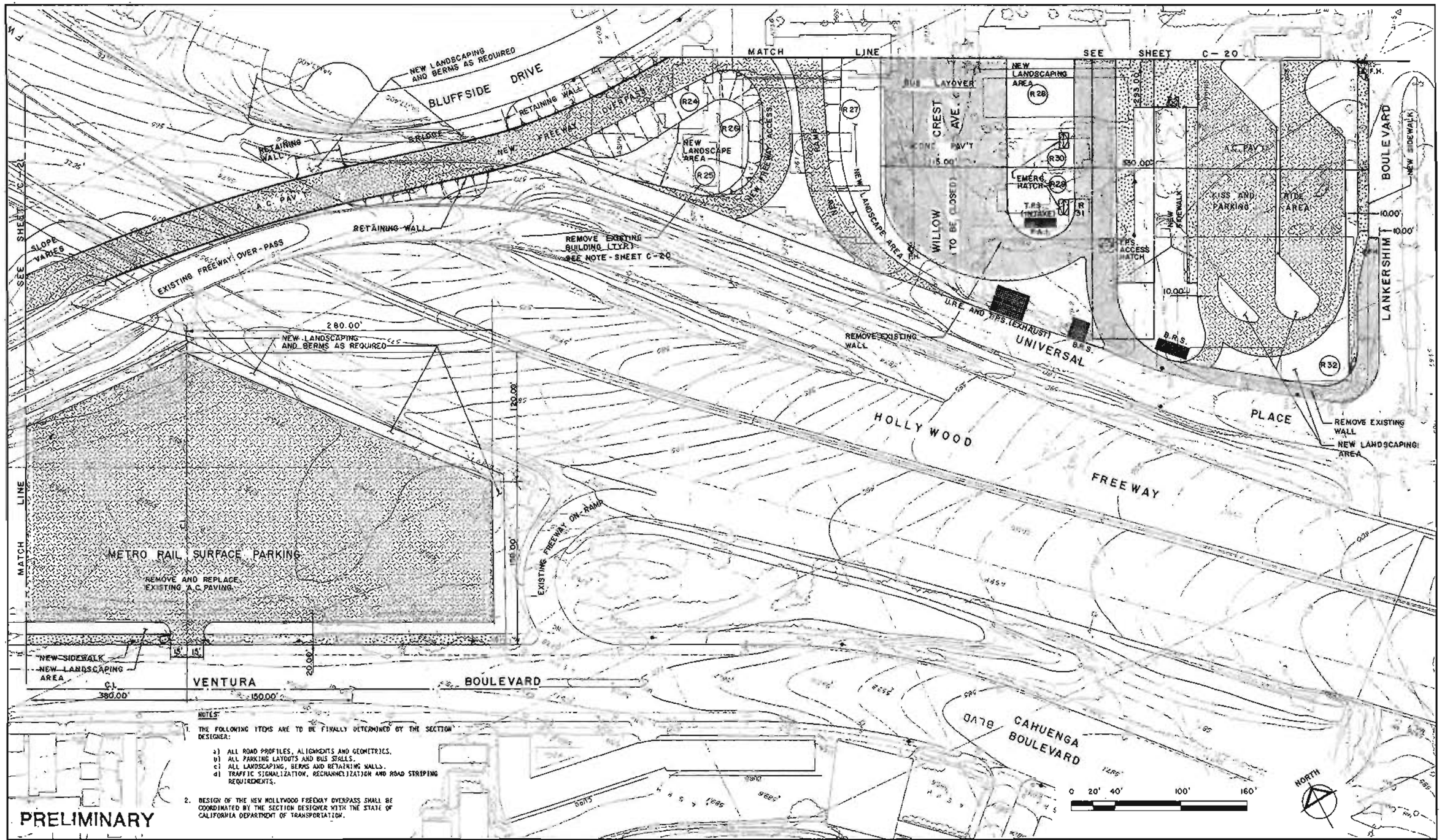
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants/ Stations
SUBMITTED BY
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED ____ Date ____ Reg. No. ____
APPROVED ____ Date ____ MANAGER / CHIEF ENGINEER Reg. No. ____

UNIVERSAL CITY STATION
SITE PLAN
PRELIMINARY

CONTRACT NO. A425
DRAWING NO. A-64
SCALE 1"-40'-0"
SHEET NO. 9 OF 20

FIGURE II-107



NOTES:

1. THE FOLLOWING ITEMS ARE TO BE FINALLY DETERMINED BY THE SECTION DESIGNER:
   a) ALL ROAD PROFILES, ALIGNMENTS AND GEOMETRICS.
   b) ALL PARKING LAYOUTS AND BUS STALLS.
   c) ALL LANDSCAPING, BERMS AND RETAINING WALLS.
   d) TRAFFIC SIGNALIZATION, RECHANNELIZATION AND ROAD STRIPING REQUIREMENTS.
2. DESIGN OF THE NEW HOLLYWOOD FREEWAY OVERPASS SHALL BE COORDINATED BY THE SECTION DESIGNER WITH THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION.

PRELIMINARY

REV	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/16/83
DRAWN BY HWW Date 6/17/83
CHECKED BY JLD Date 6/18/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

UNIVERSAL CITY STATION
CIVIL SITE PLAN
SOUTH END

CONTRACT NO. A425
DRAWING NO. C-19
SCALE 1" = 40'-0"
SHEET NO. 10 OF 20

FIGURE II-108

NOTE:

1. EXISTING BUILDINGS TO BE REMOVED ARE MARKED (R1) THROUGH (R34)
2. CONTRACT A425 INCLUDES ALL SUBSURFACE WORK AND SURFACE WORK ITEMS SHOWN ON SHEETS C19, C20, C21, 1/19 AND THOSE DESCRIBED BY GENERAL NOTES AND SPECIFICATIONS.
3. THE FOLLOWING ITEMS ARE TO BE FINALLY DETERMINED BY THE SECTION DESIGNER:
   a) ALL ROAD PROFILES, ALIGNMENTS AND GEOMETRICS.
   b) ALL PARKING LAYOUTS AND BUS STALLS.
   c) ALL LANDSCAPING, BERMS AND RETAINING WALLS.
   d) TRAFFIC SIGNALIZATION, RECHANNELIZATION AND ROAD STRIPING REQUIREMENTS.

END RETAINING WALL
VALLEY HEART DRIVE
WILLOW CREST
LIMITS OF NEW PAVING
NEW BERM WITH LANDSCAPING
BLUFFSIDE ROAD
NEW LANDSCAPING AREA
WILLOW CREST AVE. (TO BE CLOSED) CONC PAV'T
REMOVE EXISTING BUILDING (TYP) SEE NOTE THIS SHEET
BUS LAYOVER
NEW LANDSCAPING AREA
U.G.E.
B.R.S.
EMERG. HATCH
SEE SHEET C-19
MATCH LINE
+293.00
EXHAUST GRATE
LANDSCAPE ENTRY PLAZA
CAMPO DE CAHUENGA (TO REMAIN)
END PLATFORM
NEW LANDSCAPING AREA
LIMITS OF NEW PAVING
A.C. PAV'T
NEW SIDEWALK NEW LANDSCAPING AREAS
LANKERSHIM BOULEVARD
METRO RAIL SURFACE PARKING
REMOVE WALL
A.C. PAV'T
NEW LANDSCAPING AREA
DRIVE
F.H.
0 20' 40' 80' 160'
NORTH

PRELIMINARY

REV.	DATE	BY	APP	DESCRIPTION

DESIGNED BY TAMS Date 6/15/83
DRAWN BY HWW Date 6/17/83
CHECKED BY JLD Date 6/18/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

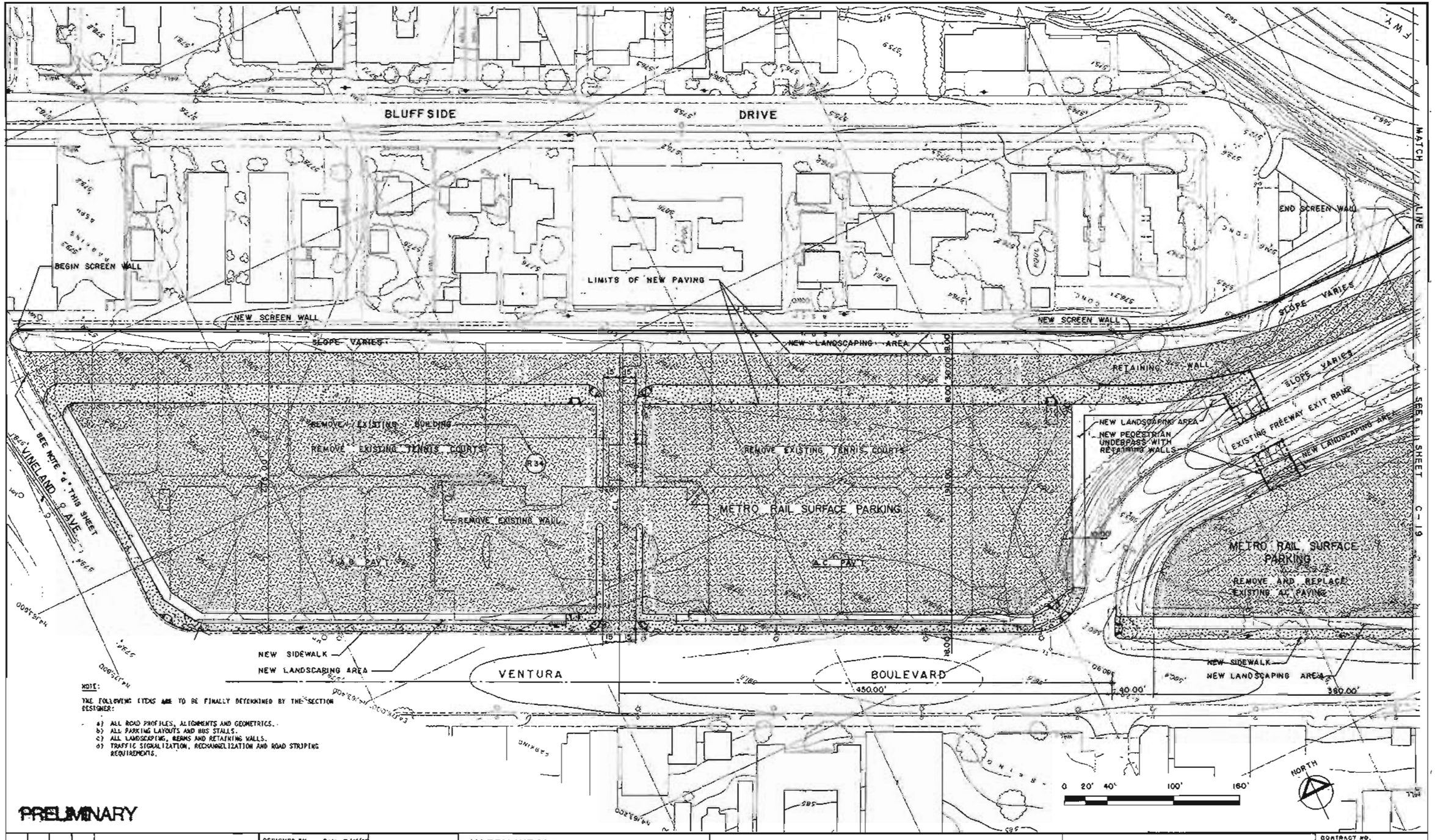
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED — Rep. No. ____
APPROVED — Date ____
MANAGER / CHIEF ENGINEER — Rep. No. ____

UNIVERSAL CITY STATION
CIVIL SITE PLAN
NORTH END

CONTRACT NO. A425
DRAWING NO. C-20
SCALE 1" = 40'-0"
SHEET NO. 11 OF 20

FIGURE II-109



NOTE:

THE FOLLOWING ITEMS ARE TO BE FINALLY DETERMINED BY THE SECTION DESIGNER:

a) ALL ROAD PROFILES, ALIGNMENTS AND GEOMETRICS.
b) ALL PARKING LAYOUTS AND BUS STALLS.
c) ALL LANDSCAPING, BERMS AND RETAINING WALLS.
d) TRAFFIC SIGNALIZATION, RECHANNELIZATION AND ROAD STRIPING REQUIREMENTS.

PRELIMINARY

REV	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/15/83
DRAWN BY HWW Date 6/17/83
CHECKED BY JLD Date 6/18/83

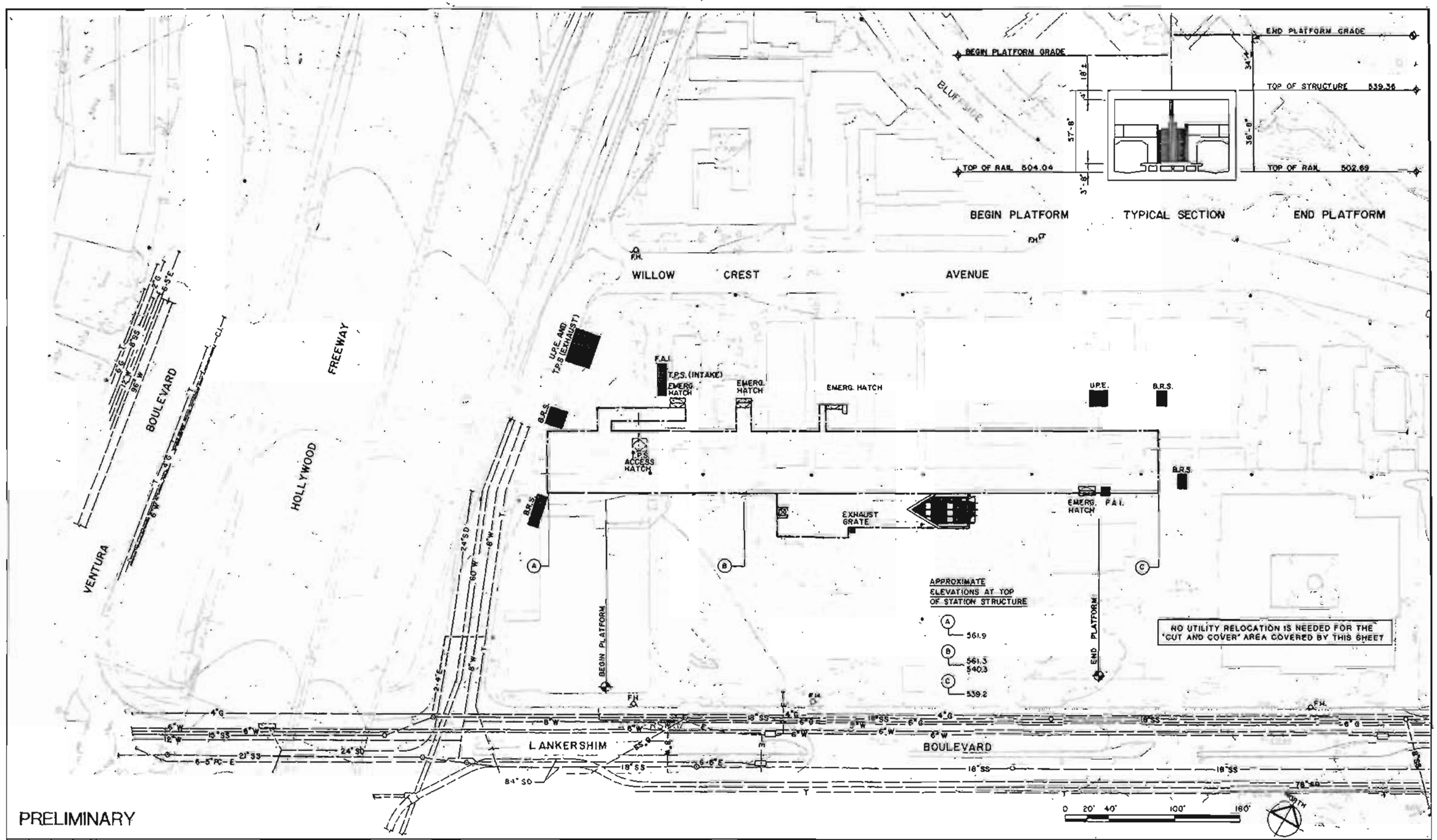
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

UNIVERSAL CITY STATION
CIVIL SITE PLAN
SURFACE PARKING - WEST

CONTRACT NO. A425
DRAWING NO. C-23
SCALE 1" = 40' - 0"
SHEET NO. 12 OF 21

FIGURE II-110



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/17/83
DRAWN BY HWW/RGL Date 6/17/83
CHECKED BY JLD Date 6/17/83

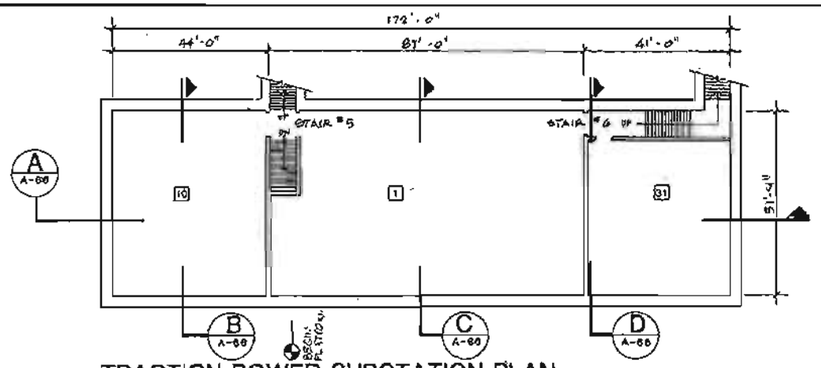
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Date
Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

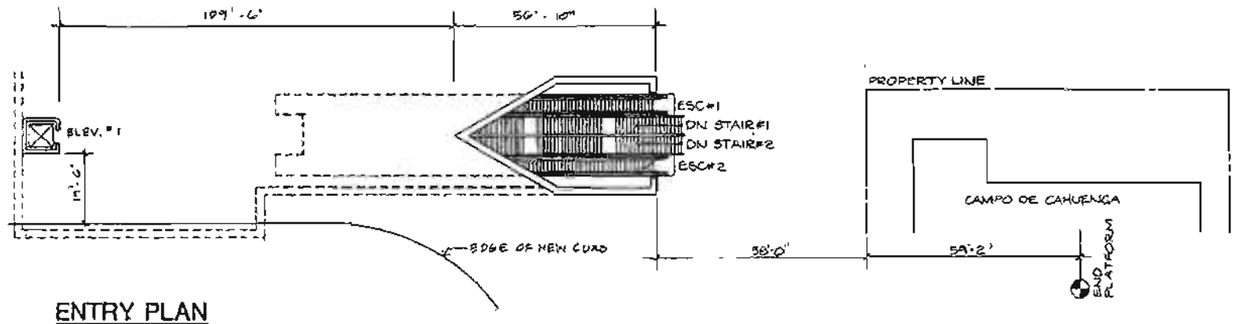
UNIVERSAL CITY STATION
UTILITY PLAN REARRANGEMENT

CONTRACT NO. A425
DRAWING NO. U-19
SCALE 1" = 40' - 0"
SHEET NO. 13 OF 80

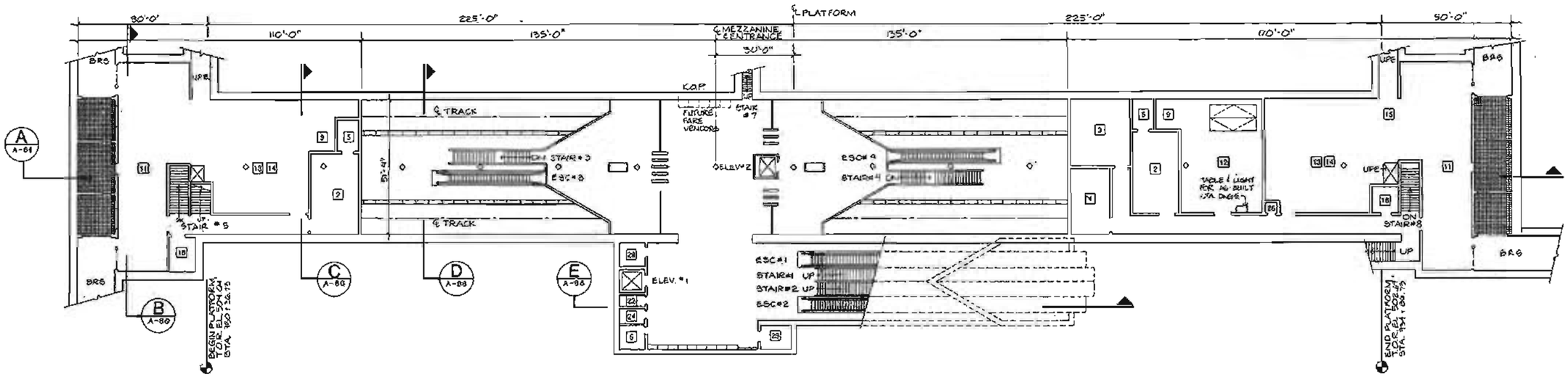
FIGURE II-111



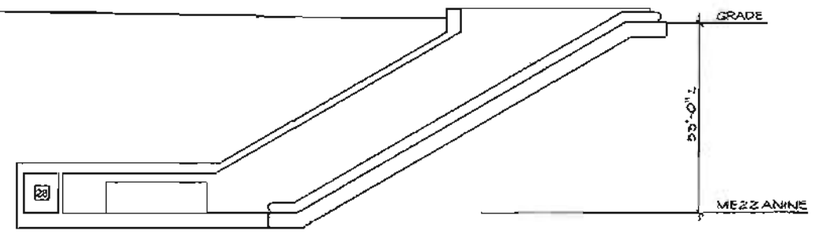
TRACTION POWER SUBSTATION PLAN



ENTRY PLAN



MEZZANINE PLAN



E SECTION THROUGH ENTRY

SERVICE AND EQUIPMENT ROOMS

1	Traction Power Substation	17	Ejector
2	Auxiliary Power	18	Sprinkler Valves
3	Train Control	19	Sump Pump
4	Communications	20	Gap Breaker Station
5	Batteries	21	Emergency Equipment
6	Elevator Equipment	22	Custodial
7	Deleted	23	Electrical Equipment
8	Storage	24	Toilet
9	Mechanical	25	Deleted
10	Fan	26	Telephone Equipment
11	Emergency Fan	27	Deleted
12	Chiller	28	Trash
13	Air Supply Unit	29	Staff/Security
14	Smoke Exhaust	30	Deleted
15	Under Platform Exhaust	31	Electric Incoming Service
16	Under Platform Exhaust Plenum		

COLUMN LOCATIONS AND DIMENSIONS OF ALL COMPONENTS TO BE PROVIDED ON STANDARD AND DIRECTIVE DRAWINGS.

0' 20' 40' 80'

NORTH

REV.	DATE	BY	APP.	DESCRIPTION
	6/13/83	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 6/15/83
DRAWN BY A.SNIDER/K.UM Date 6/15/83
CHECKED BY J.YEH Date 6-30-83

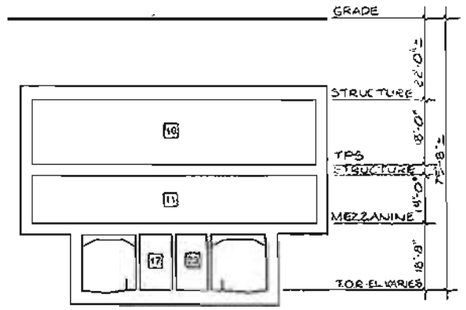
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Dept. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

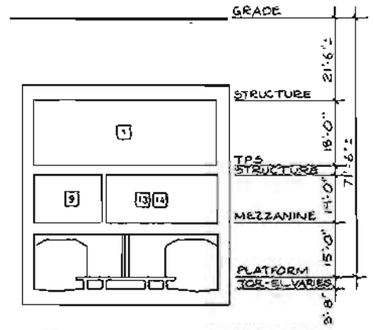
UNIVERSAL CITY STATION
PLANS AND SECTION
PRELIMINARY

CONTRACT NO. A425
DRAWING NO. A-65
SCALE 1"=20'-0"
SHEET NO. 14 OF 20

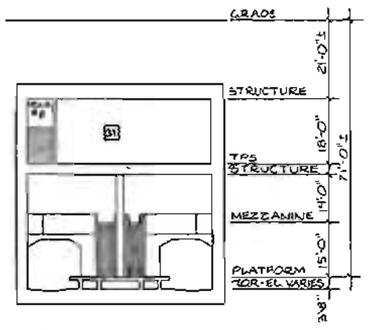
FIGURE II-112



B TRANSVERSE SECTION



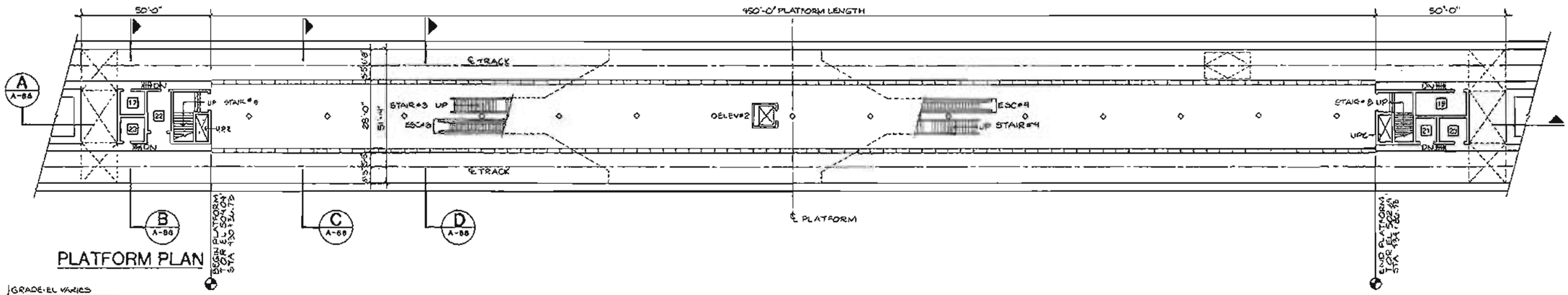
C TRANSVERSE SECTION



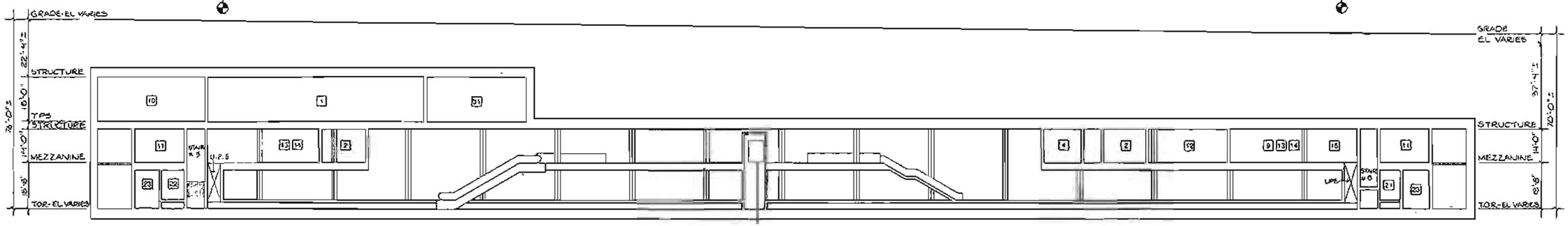
D TRANSVERSE SECTION

SERVICE AND EQUIPMENT ROOMS

1	Traction Power Substation	17	Ejector
2	Auxiliary Power	18	Sprinkler Valves
3	Train Control	19	Sump Pump
4	Communications	20	Gap Breaker Station
5	Batteries	21	Emergency Equipment
6	Elevator Equipment	22	Custodial
7	Deleted	23	Electrical Equipment
8	Storage	24	Toilet
9	Mechanical	25	Deleted
10	Fan	26	Telephone Equipment
11	Emergency Fan	27	Deleted
12	Chiller	28	Trash
13	Air Supply Unit	29	Staff/Security
14	Smoke Exhaust	30	Deleted
15	Under Platform Exhaust	31	Electric Incoming Service
16	Under Platform Exhaust Plenum		



PLATFORM PLAN



A LONGITUDINAL SECTION

0' 20' 40' 80'

NORTH

REV.	DATE	BY	APP.	DESCRIPTION
	6-15-88	J.Y.		REVISIONS TO AUXILIARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 5.25.83
DRAWN BY A SNIDER Date 5.25.83
CHECKED BY J.YEN Date 6-20-88

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED Reg. No.
APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

UNIVERSAL CITY STATION
PLAN AND SECTIONS

PRELIMINARY

CONTRACT NO. A425
DRAWING NO. A-66
SCALE 1"=20'-0"
SHEET NO. 15 OF 80

FIGURE II-113

NORTH HOLLYWOOD STATION

Background

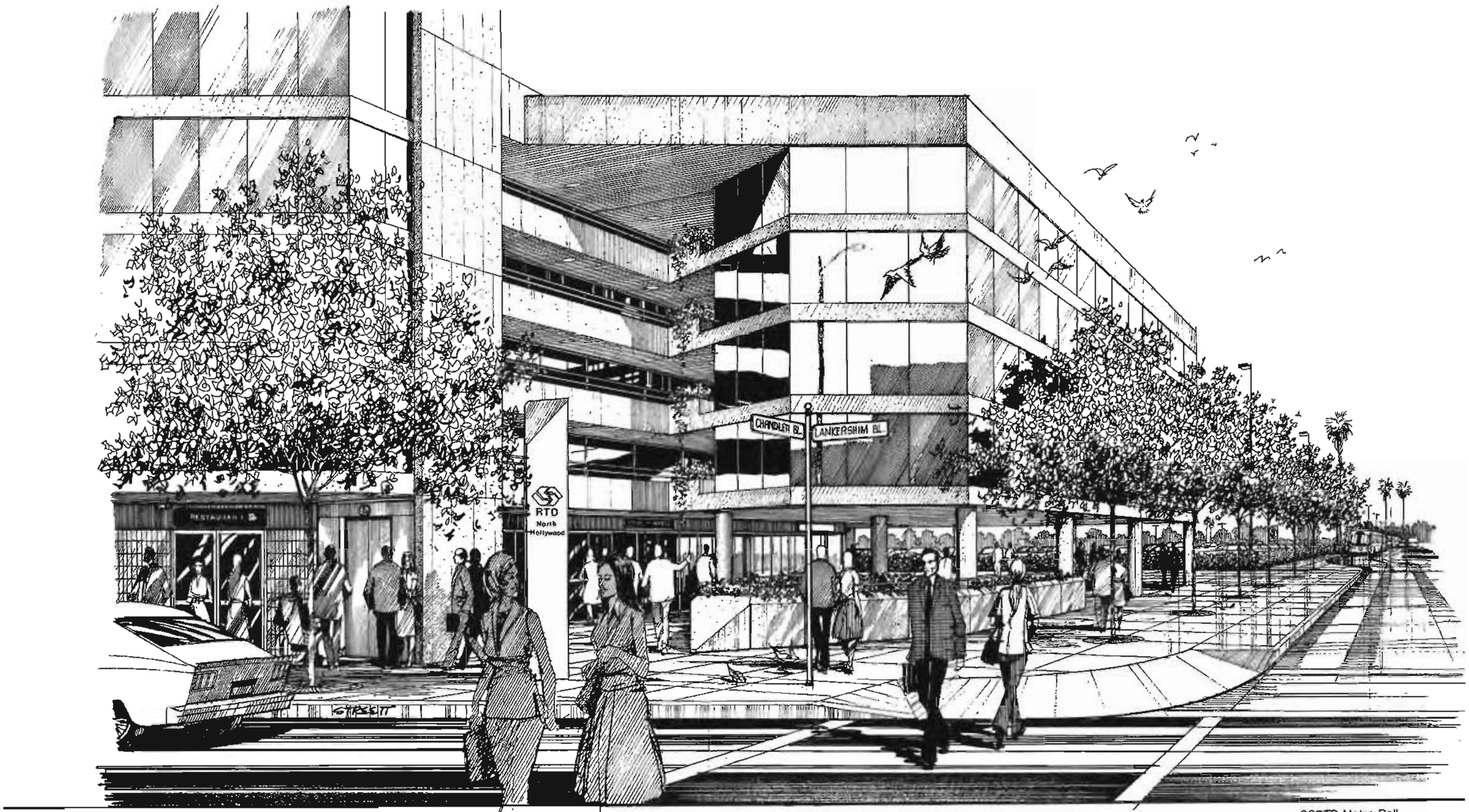
The North Hollywood Station will be located under Lankershim Boulevard spanning Chandler Boulevard. The area around the station has many different land uses. The Burbank Line of the Southern Pacific Railroad runs within the wide median divider of Chandler Boulevard. Auto dealerships are located along Lankershim to the north. Low-rise commercial/retail space predominates along Lankershim to the south. The area along Chandler is used for industrial and warehousing purposes. An office/warehouse facility extending from Tujunga westward along Chandler was recently completed. The station lies within the boundaries of the North Hollywood Redevelopment Area. The first phase of redevelopment is planned for the area south of Chandler and east of Lankershim. Residential land use exists to the north and east of the station.

Station Site Design Parameters

The plan for the station site includes surface parking for 1,180 autos, with possible future construction of a 2,500-space parking structure. The main parking site will be bounded by Fair and Cumpston avenues and Lankershim and Chandler boulevards. To accommodate this parking area, Fair Avenue will be relocated to the east, and the North Chandler right-of-way will be relocated to the south. A bus terminal facility, including a layover area, will be located on the north side of the relocated North Chandler Boulvard. A 65-space kiss-and-ride facility will be located in the median between the Southern Pacific tracks and the South Chandler right-of-way. To serve both the redevelopment area and the surface parking area, the station has been planned with two entrances and two mezzanines. The future parking structure will be set back to permit commercial/retail development along Lankershim.

Station Design Parameters

To accommodate the two widely spaced entrances, the station has been planned with a mezzanine at each end of the platform. A double crossover track will be located at the south end of the station and two tail tracks at the north end. The station tail tracks and crossover track areas will all be constructed by the cut-and-cover method and a traction power substation will be located over the crossover track.



NORTH HOLLYWOOD STATION ENTRANCE
VIEW LOOKING NORTHEAST

SCRTD Metro Rail
HWA
March 1983

FIGURE II-114

ALLEN KANE FORD

AUTO SERVICE BAYS

ELMER AVENUE

EXISTING RESIDENTIAL

KLUMP AVENUE

EXISTING RESIDENTIAL

BONNER AVENUE

CUMPSTON STREET

NEW SIDEWALK LINE

LANKERSHIM BOULEVARD

WILSHIRE BOULEVARD

CROSS ROADS CHEVROLET

LOW RISE COMMERCIAL

TUJUNGA WASH

TRACK

NEW SIDEWALK LINE

EXISTING BUILDINGS TO BE REMOVED

METRO RAIL SURFACE PARKING (550 SPACES)

FUTURE PARKING STRUCTURE (2500 SPACES)

SECTION DESIGNER TO DEVELOP SITE-SPECIFIC PARKING LAYOUT AND LANDSCAPING PLANS

AUTO WORKSHOP

WINCHELL'S DONUTS

BACKSTAGE CAR & TRUCK RENTAL

CHANDLER BOULEVARD (EXISTING)

END PLATFORM STA 1062+54.81 TOP OF RAIL EL. 661.36

CHANDLER NORTH (PROPOSED)

FUTURE COOLING TOWER

BICYCLE PARKING

EXTENT OF PAVING

6 BUSES LOADING & UNLOADING

BUS TERMINAL & LAYOVER AREA

6 BUSES LAYOVER AREA

NEW SIDEWALK LINE

FAIR AVENUE (EXISTING)

FAIR AVENUE (RELOCATED)

CHANDLER NORTH (PROPOSED)

MATCHLINE SEE DWG. A-68

NORTH

0' 40' 80' 160'

REV.	DATE	BY	APP	DESCRIPTION
	7/1/83	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY HWA Date 6-6-83

DRAWN BY S DEBNATH Date 6/6/83

CHECKED BY J.YEN Date 6-30-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED Reg. No.

APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

NORTH HOLLYWOOD STATION
SITE PLAN - NORTH

PRELIMINARY

CONTRACT NO. A445
DRAWING NO. A-67
SCALE 1" = 40'-0"
SHEET NO. 11 OF 26

FIGURE II-115

MATCHLINE SEE DWG. A-67

CHANDLER NORTH (PROPOSED)

SOUTHERN PACIFIC SERVICE TRACK TO BE REMOVED

SOUTHERN PACIFIC TRACK TO REMAIN

SECTION DESIGNER TO DEVELOP SITE-SPECIFIC PARKING LAYOUT AND LANDSCAPING PLANS

METRO RAIL SURFACE PARKING AND KISS-&-RIDE (TOTAL CAPACITY: 230 SPACES)

HENDRICK'S BUILDER SUPPLY CO.

EXISTING BUILDINGS TO BE REMOVED

FAIR AVENUE (EXISTING)

FAIR AVENUE (RELOCATED)

NEW SIDEWALK LINE

CHANDLER SOUTH (EXISTING)

EXTENT OF PAVING

LINES OF EXISTING STRUCTURE

BEGIN PLATFORM STA 1048+09.57 TOP OF RAIL EL 590.00

LOW RISE COMMERCIAL

LOW RISE COMMERCIAL

BAKMAN AVENUE

WEDDINGTON STREET

B.R.S.

NORTH

0' 40' 80' 160'

REV.	DATE	BY	APP.	DESCRIPTION
	2/6/85	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION.

DESIGNED BY H.W.A. Date 6-14-83

DRAWN BY S. DEBNATH Date 6/14/83

CHECKED BY J.TEN Date 6-30-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:

PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

RTD

APPROVAL RECOMMENDED — Reg. No.

APPROVED — Date

MANAGER / CHIEF ENGINEER — Reg. No.

NORTH HOLLYWOOD STATION
SITE PLAN - SOUTH

PRELIMINARY

CONTRACT NO. A445
DRAWING NO. A-68
SCALE 1" = 40'-0"
SHEET NO. 12 OF 26

FIGURE II-116

HENDRICK'S BUILDER SUPPLY CO.

CHANDLER BOULEVARD SOUTH

AVENUE

WEDDINGTON STREET

BAKMAN AVENUE

MATCH LINE SEE SHEET C-23

SOUTHERN PACIFIC TRACK TO REMAIN

METRO RAIL SURFACE PARKING

EXIST. BUILDINGS TO BE REMOVED

R28 R29 R30 R31 R32 R33

FAIR AVENUE (EXISTING)

FAIR AVENUE (RELOCATED)

240.00

REMOVE AND REPLACE EXISTING SIDEWALK

LIMITS OF NEW PAVING

88.00'

LANKERSHIM BOULEVARD

ACCESS RAMP

REMOVE AND REPLACE EXISTING SIDEWALK

REMOVE AND REPLACE EXISTING SIDEWALK

B.R.S.

F.H.

100.00'

NOTE:

1. EXISTING BUILDINGS TO BE REMOVED ARE MARKED (R1) THROUGH (R33)
2. CONTRACT A445 INCLUDES ALL SUBSURFACE WORK AND SURFACE WORK ITEMS SHOWN ON SHEETS C22, C23, U20, U21 AND THOSE DESCRIBED BY GENERAL NOTES AND SPECIFICATIONS.
3. THE FOLLOWING ITEMS ARE TO BE FINALLY DETERMINED BY THE SECTION DESIGNER:
   a) ALL ROAD PROFILES, ALIGNMENTS AND GEOMETRICS.
   b) ALL PARKING LAYOUTS AND BUS STALLS.
   c) ALL LANDSCAPING, BERMS AND RETAINING WALLS.
   d) TRAFFIC SIGNALIZATION, RECHANNELIZATION AND ROAD STRIPING REQUIREMENTS.

0 20' 40' 100' 180'

NORTH

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/1/83

DRAWN BY RGL Date 6/1/83

CHECKED BY JLD Date 6/1/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED Reg. No.

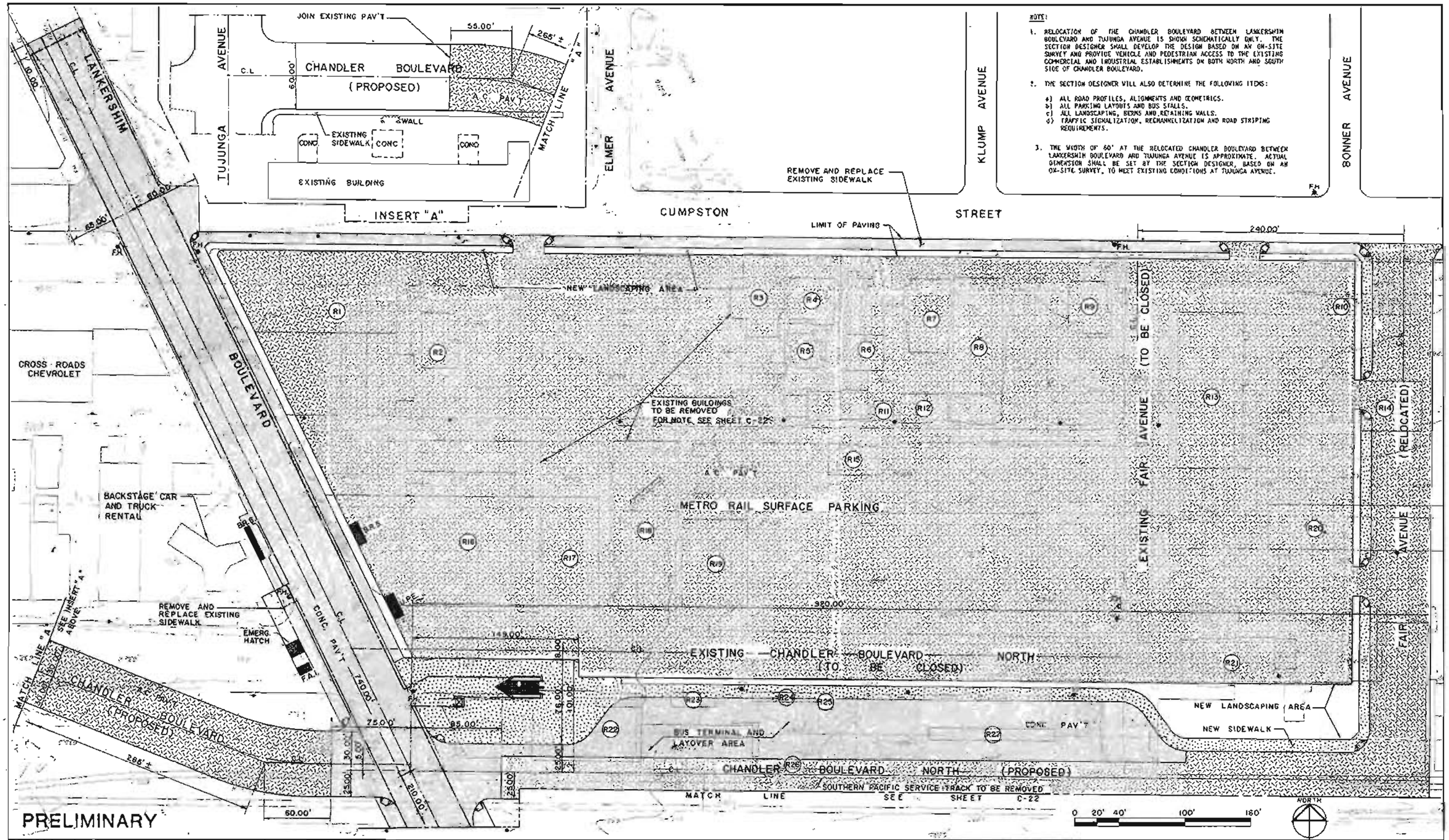
APPROVED Date MANAGER / CHIEF ENGINEER Reg. No.

NORTH HOLLYWOOD STATION
CIVIL SITE PLAN
SOUTH END

CONTRACT NO. A445
DRAWING NO. C-22
SCALE 1"=40'-0"
SHEET NO. 13 of 26

-152-

FIGURE II-117



REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/17/83
DRAWN BY RGL Date 6/17/83
CHECKED BY JLD Date 6/17/83

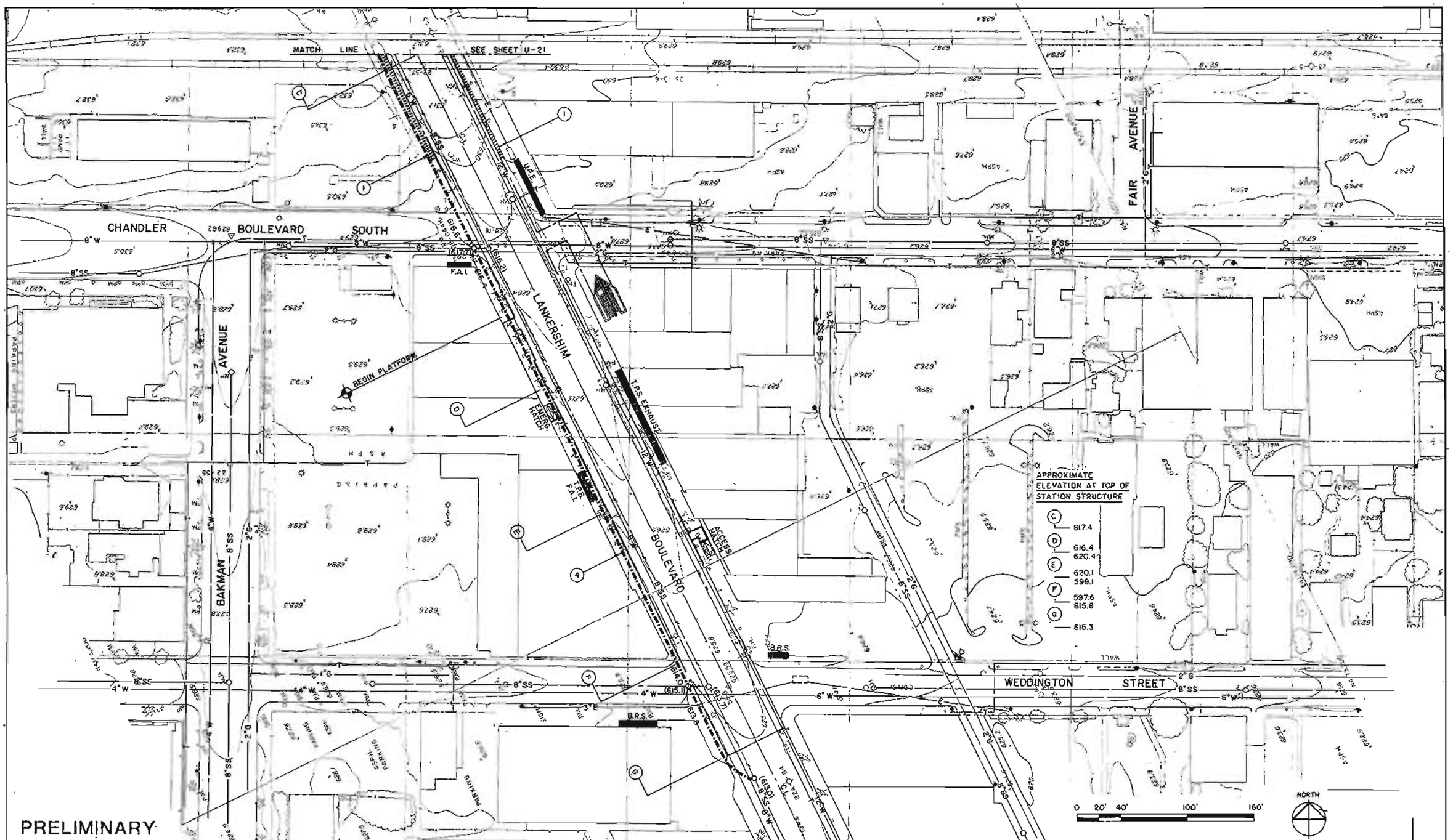
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Date — RAIL No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — RAIL No.

NORTH HOLLYWOOD STATION
CIVIL SITE PLAN
NORTH END

CONTRACT NO. A445
DRAWING NO. C-23
SCALE 1"=40'-0"
SHEET NO. 18 OF 22

FIGURE II-118



DESIGNED BY	Date 6/17/83
TAMS	
DRAWN BY	Date 6/17/83
RGL	
CHECKED BY	Date 6/17/83
JLD	

REV. | DATE | BY | APP. | DESCRIPTION

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY:
PROJECT MANAGER

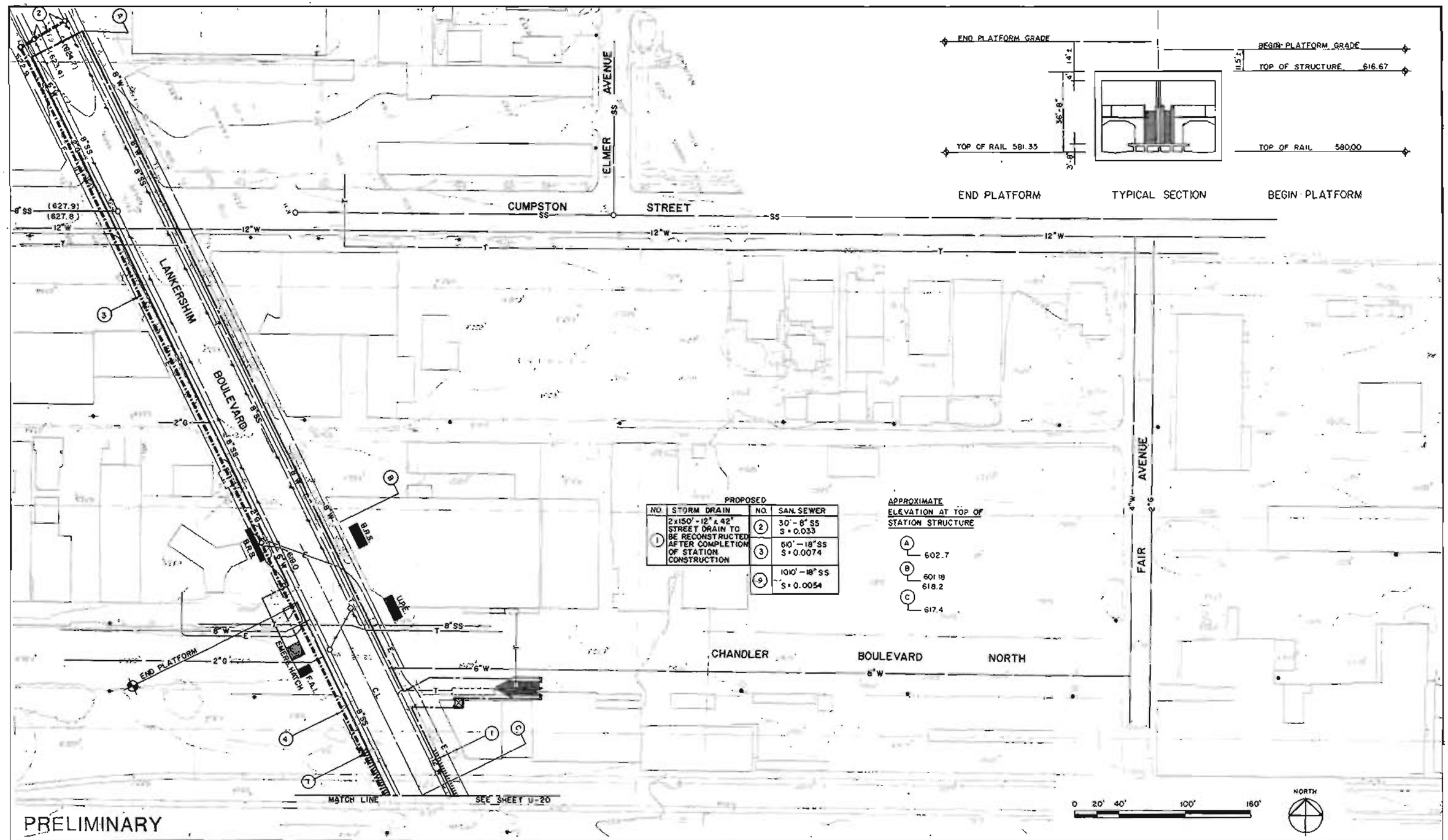
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

NORTH HOLLYWOOD STATION
UTILITY PLAN REARRANGEMENT
SOUTH END

CONTRACT NO. A445
DRAWING NO. U-20
SCALE 1"-40'-0"
SHEET NO. 15 OF 26

FIGURE II-119



PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY TAMS Date 6/17/83
DRAWN BY RGL Date 6/17/83
CHECKED BY JLD Date 6/17/83

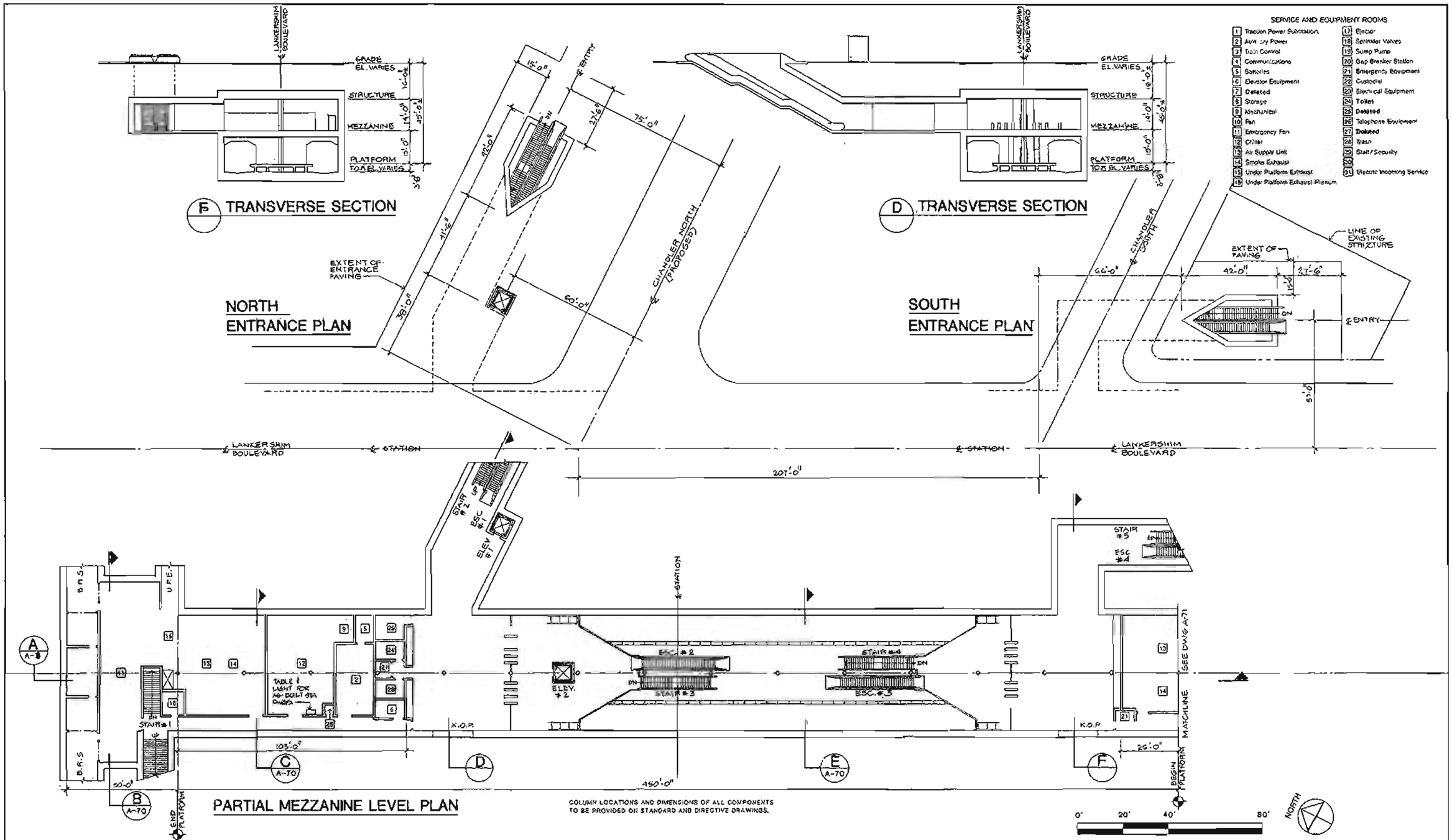
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

NORTH HOLLYWOOD STATION
UTILITY PLAN REARRANGEMENT
NORTH END

CONTRACT NO. A 445
DRAWING NO. U-21
SCALE 1"=40'-0
SHEET NO. 16 of 26

FIGURE II-120



REV.	DATE	BY	APP.	DESCRIPTION
	7/6/83	J.Y.		REVISIONS TO ANCILLARY ROOMS FOR COST REDUCTION

DESIGNED BY: M.V.A. Date 6/15/83
DRAWN BY: S. DEBNATH Date 6/15/83
CHECKED BY: J.YEN Date 6-30-83

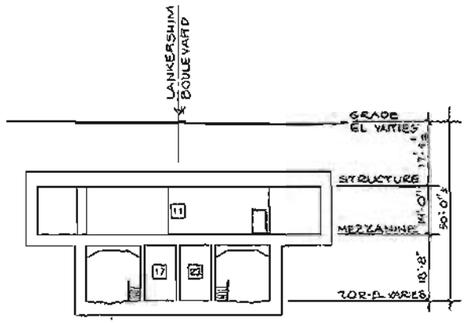
HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

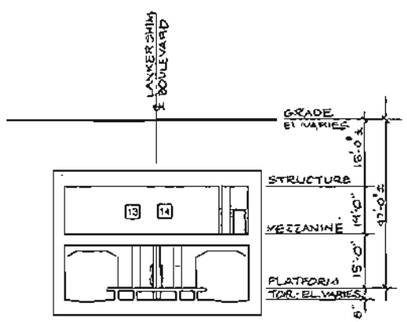
NORTH HOLLYWOOD STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A445
DRAWING NO. A-69
SCALE 1"=20'-0"
SHEET NO. 17 OF 26

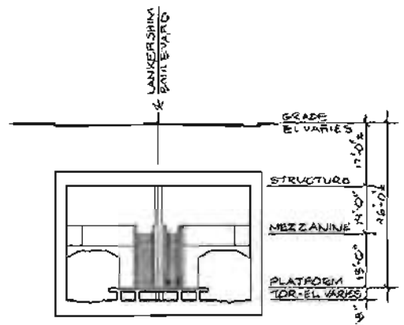
FIGURE II-121



B TRANSVERSE SECTION



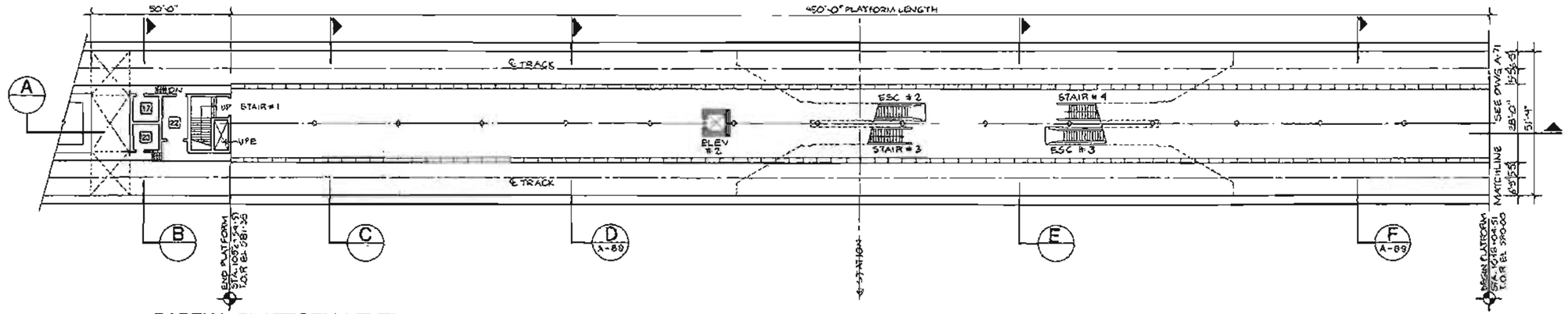
C TRANSVERSE SECTION



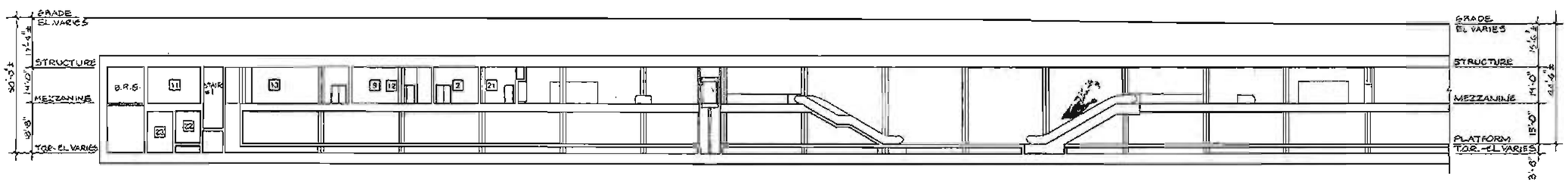
E TRANSVERSE SECTION

SERVICE AND EQUIPMENT ROOMS

1	Traction Power Substation	17	Ejector
2	Auxiliary Power	18	Sprinkler Valves
3	Train Control	19	Sump Pump
4	Communications	20	Gap Breaker Station
5	Batteries	21	Emergency Equipment
6	Elevator Equipment	22	Cassette
7	Deleted	23	Electrical Equipment
8	Storage	24	Toilet
9	Mechanical	25	Deleted
10	Fan	26	Telephone Equipment
11	Emergency Fan	27	Deleted
12	Chiller	28	Trash
13	Air Supply Unit	29	Staff/Security
14	Smoke Exhaust	30	Deleted
15	Under Platform Exhaust	31	Electric Incoming Service
16	Under Platform Exhaust Plenum		



PARTIAL PLATFORM LEVEL PLAN



A PARTIAL LONGITUDINAL SECTION

0' 20' 40' 80'

NORTH

REV.	DATE	BY	APP.	DESCRIPTION
	11/6/83	J.Y.		REVISIONS TO ANCILLARY ROOMS PER COST REDUCTION

DESIGNED BY HWA Date 6-6-83
DRAWN BY S DEBNATH Date 6/6/83
CHECKED BY J.YEN Date 6/30/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations

SUBMITTED BY: PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

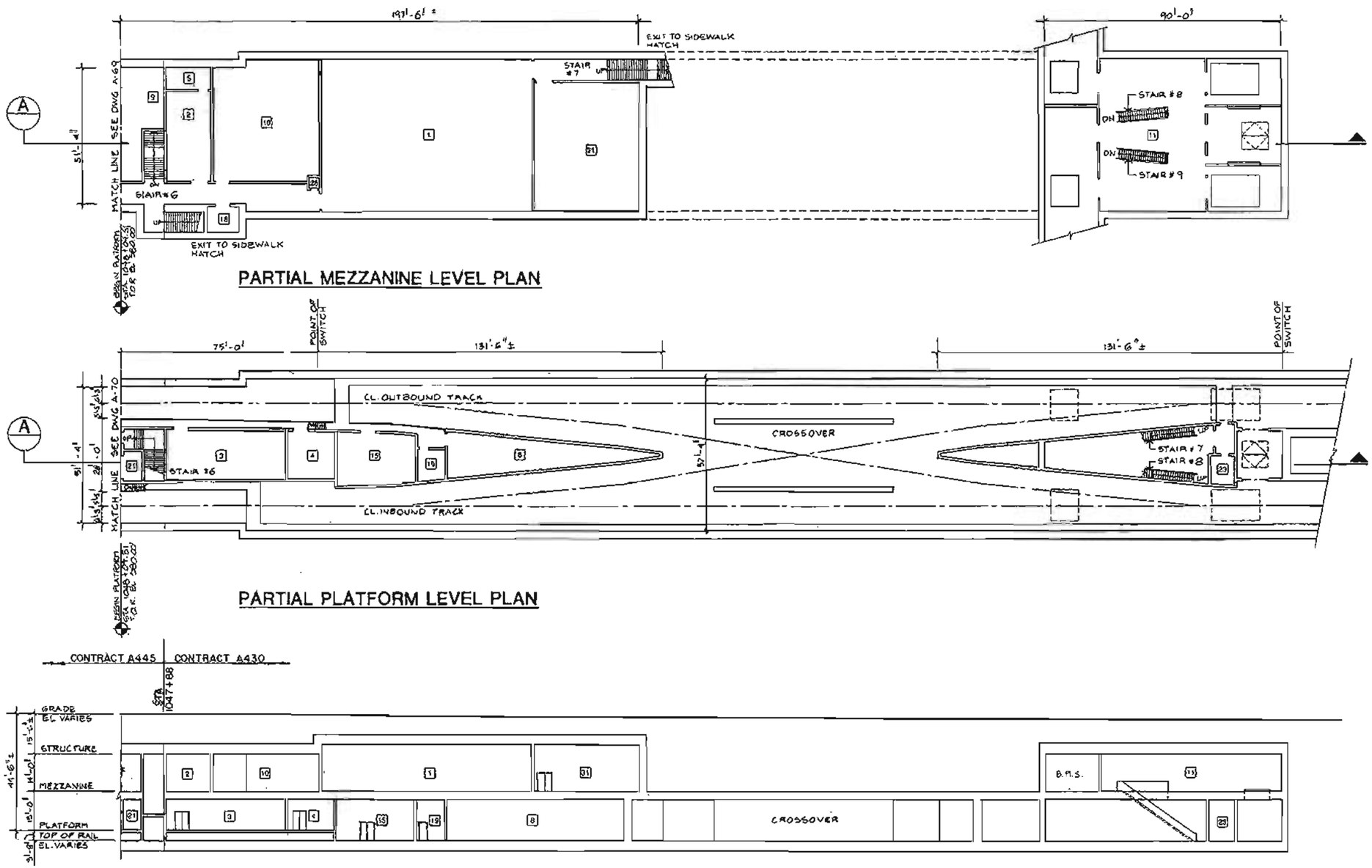
APPROVAL RECOMMENDED — Rep No. ____
APPROVED — Date ____ MANAGER / CHIEF ENGINEER — Rep No. ____

NORTH HOLLYWOOD STATION
PLANS & SECTIONS

PRELIMINARY

CONTRACT NO. A 645
DRAWING NO. A-70
SCALE 1"=20'-0"
SHEET NO. 180 of 26

FIGURE II-122



SERVICE AND EQUIPMENT ROOMS

1. Traction Power Substation
2. Auxiliary Power
3. Train Control
4. Communications
5. Batteries
6. Elevator Equipment
7. Deleted
8. Storage
9. Mechanical
10. Fan
11. Emergency Fan
12. Chiller
13. Air Supply Unit
14. Smoke Exhaust
15. Under Platform Exhaust
16. Under Platform Exhaust Plenum
17. Ejector
18. Sprinkler Valves
19. Sump Pump
20. Gap Breaker Station
21. Emergency Equipment
22. Custodial
23. Electrical Equipment
24. Toilet
25. Deleted
26. Telephone Equipment
27. Deleted
28. Trash
29. Staff / Security
30. Deleted
31. Electric Incoming Service

REV.	DATE	BY	APP.	DESCRIPTION
	7/1/83		J.Y.	REVISIONS TO ANCILLARY ROOMS PER CBM REDUCTION

DESIGNED BY HWA Date 6-16-83
DRAWN BY S DEBNATH Date 6/14/83
CHECKED BY J.YEN Date 6-30-83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED
Reg. No.
APPROVED
Date
MANAGER / CHIEF ENGINEER
Reg. No.

NORTH HOLLYWOOD STATION
PLANS & SECTIONS
PRELIMINARY

CONTRACT NO. A430 & A445
DRAWING NO. A-71
SCALE 1"=20'-0"
SHEET NO. 19 OF 26

FIGURE II-123

III. WAYS AND STRUCTURES DESIGN

III. WAYS AND STRUCTURES DESIGN

A. ALIGNMENT DESCRIPTION, PLANS AND PROFILES

In the following description, the alignment is divided into four segments. These four segments correspond to the phased construction of Metro Rail. Each of the segments could be built and put into operation sequentially if necessary. Each segment description is related to the attached detailed Plan and Profile Drawings.

Los Angeles CBD - Union Station to Wilshire/Vermont Station

This route segment is shown in Figures III-1, 2, 3, 4, 5, and 6 of the Plan and Profile Drawings. Beginning at the storage and maintenance yard adjacent to the Los Angeles River, the line runs to Union Station. This portion of the line will be constructed by cut-and-cover methods and includes the yard leads. From the Metro Rail Union Station, which is located under the railroad boarding platforms, the alignment runs generally northwesterly to enter Macy Street at Alameda Street. Union Station and the adjacent crossover structure will be constructed by cut-and-cover methods. The line segments through this section will be constructed by tunnel methods. All stations and adjacent crossover structures in this segment are proposed for cut-and-cover construction procedures.

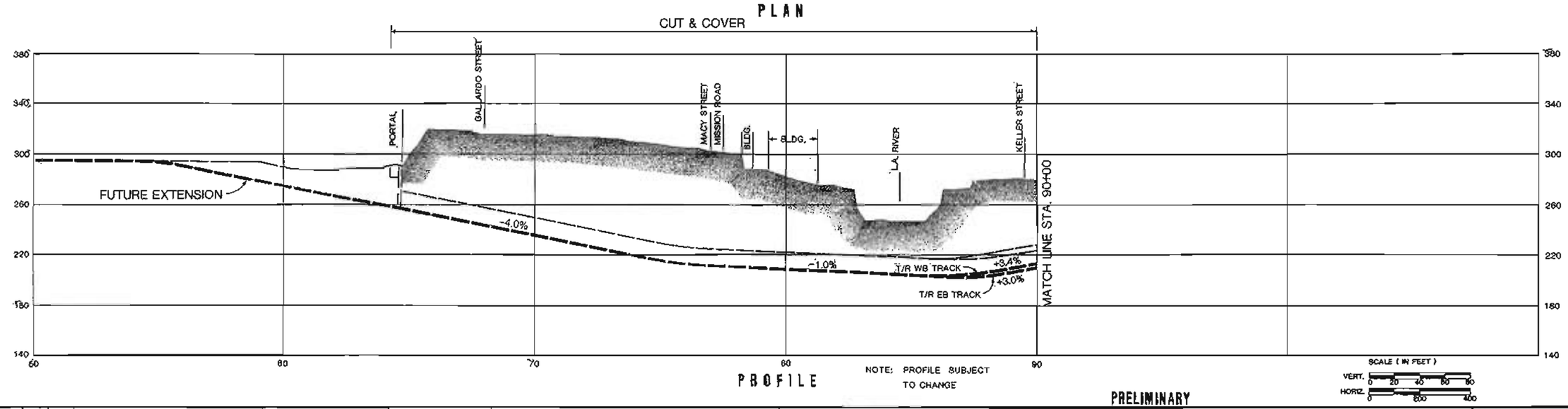
After entering Macy Street right-of-way, the alignment curves to the west, then on a short tangent enters another curve to the southwest under the Santa Ana Freeway and thence into the Hill Street right-of-way at Temple street. The alignment continues along Hill Street to the Civic Center Station northeasterly of 1st Street.

Leaving the Civic Center Station, the alignment continues southwesterly along Hill Street to the 5th/Hill Station located between 4th and 5th streets. After leaving the 5th/Hill Station, the alignment continues in Hill Street to about 6th Street where it begins a 1,000-foot-radius curve westerly to enter 7th Street at about Grand Avenue. From there it proceeds to the 7th/Flower Station, which is centered on Flower Street.

Leaving the 7th/Flower Station, the alignment remains under 7th, to avoid the Hilton Hotel, and continues under 7th Street crossing under the Harbor Freeway. The alignment remains under 7th Street to about Burlington Avenue where it enters an off-street alignment between 7th and Wilshire to reach the Wilshire/Alvarado Station located on the diagonal between Wilshire Boulevard and 7th Street and just east of Alvarado Street as shown on Sheet 5 of the Plan and Profile Drawings. A double crossover is to be constructed just east of the Alvarado Station.

Upon leaving the Wilshire/Alvarado Station, the alignment proceeds on the diagonal westerly crossing under the lake in MacArthur Park to enter the Wilshire Boulevard right-of-way at Parkview Street as shown on Sheet 5 of the Plan and Profile Drawings. The alignment then runs under Wilshire Boulevard to Hoover Street where Wilshire turns due west while the Metro Rail alignment will continue northwesterly entering an off-street alignment midway between Wilshire Boulevard and 6th Street to reach the off-street Wilshire/Vermont Station. This station would be located mid-block between Wilshire and 6th, straddling Vermont Avenue.

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 80 160
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAY Date 2/2/83
DRAWN BY IONESCU MANUEL / CASTILLO / MACIS Date 2/3/83
CHECKED BY LOGAN Date 3/3/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

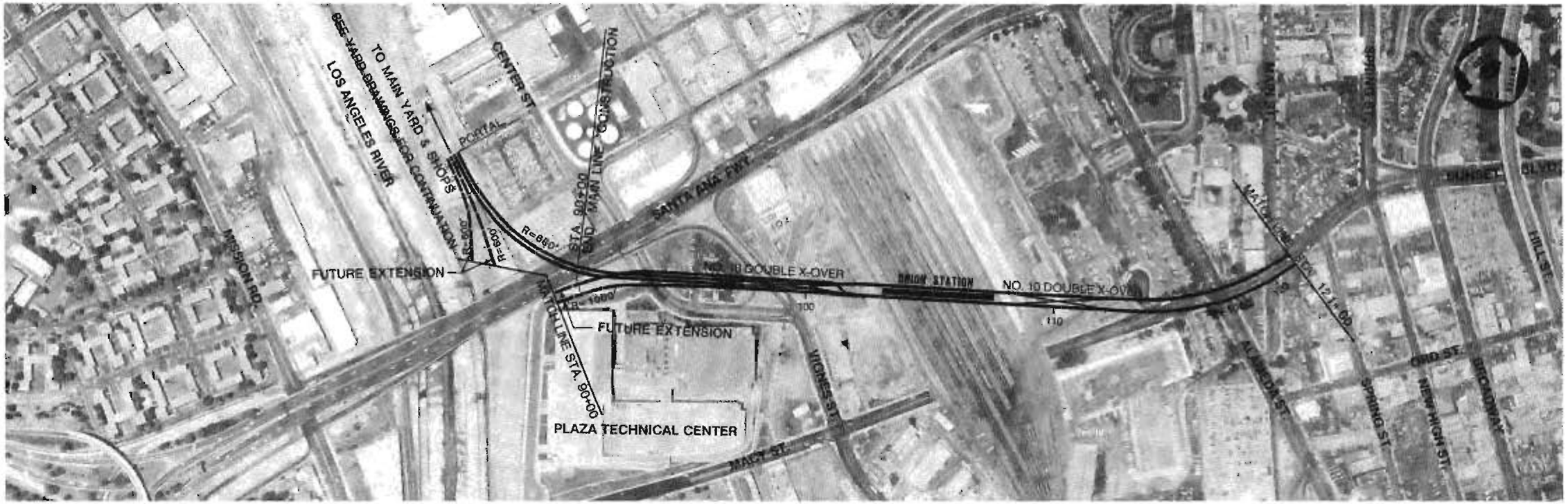
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

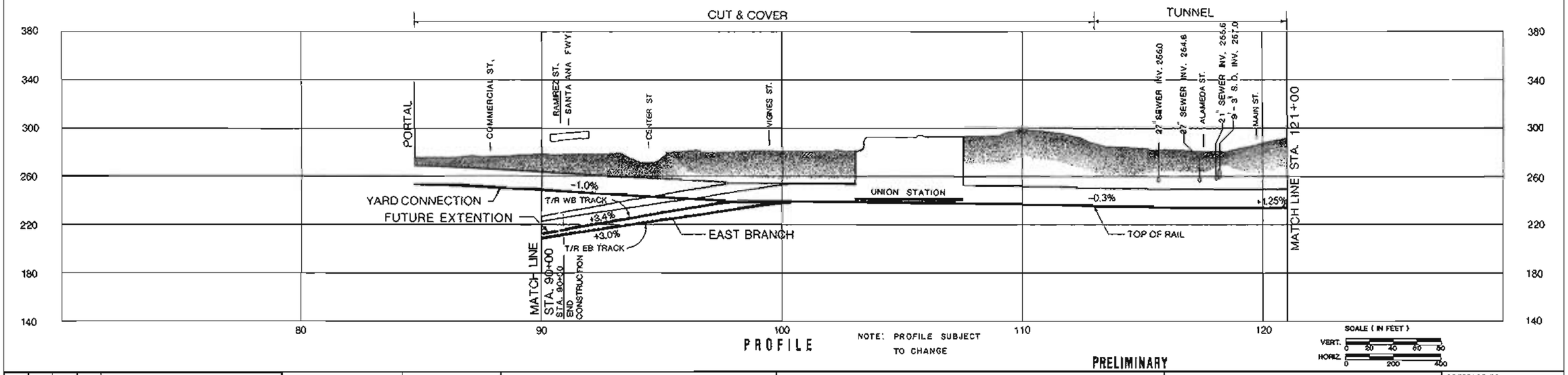
MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 64+70 TO STATION 90+00

CONTRACT NO.
DRAWING NO. AP-1B AAA-C-D01
SCALE AS SHOWN
SHEET NO. 1 OF 21

FIGURE III-1



PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

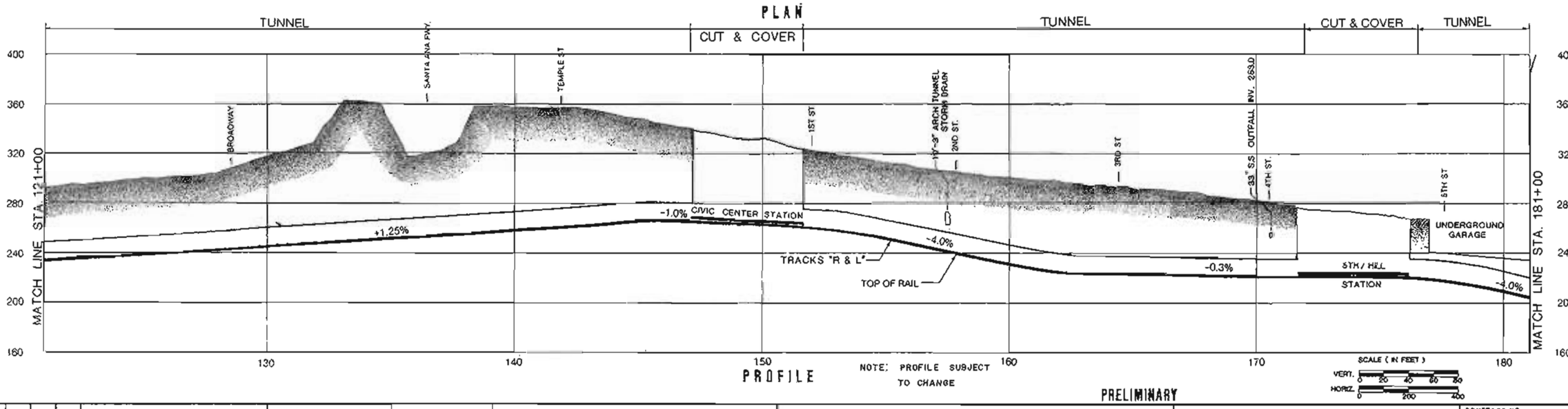
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 90+00 TO STATION 121+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-002
SCALE AS SHOWN
SHEET NO. 2 OF 21

FIGURE III-2

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg No.

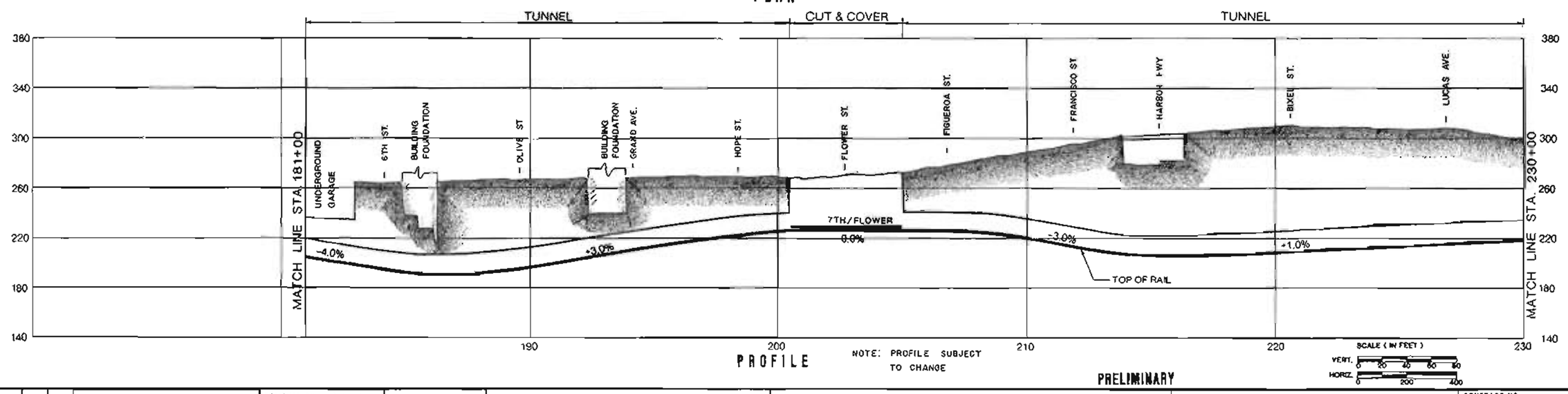
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 121+00 TO STATION 181+00

CONTRACT NO.
DRAWING NO. AP-18 AAA-C-003
SCALE AS SHOWN
SHEET NO. 3 OF 21

FIGURE III-3

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	5/11/83	G.W.L.		REVISED PROFILE

DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/3/83
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY,
PROJECT MANAGER Reg. No.

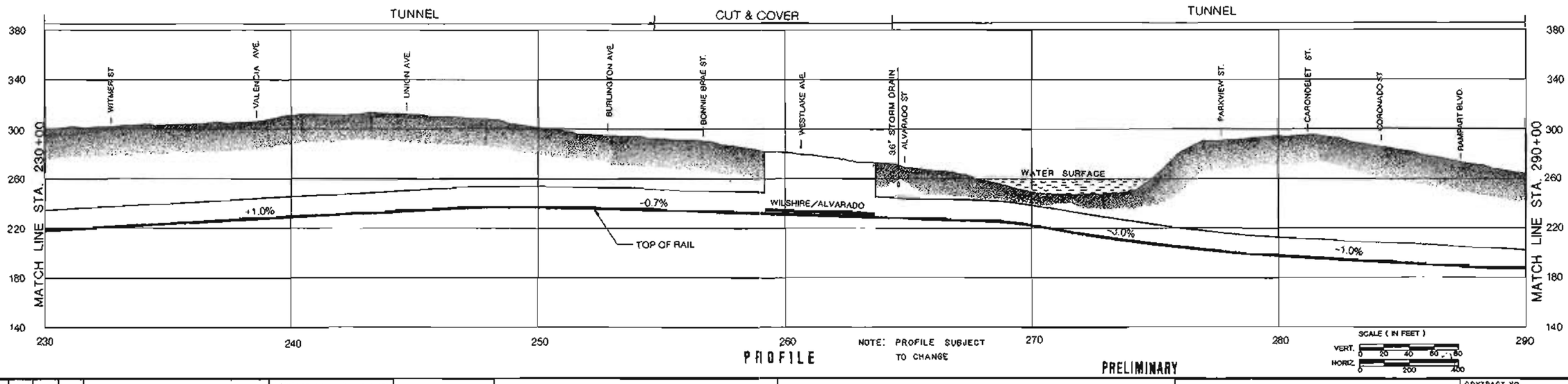
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 181+00 TO STATION 236+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-004
SCALE AS SHOWN
SHEET NO. 4 OF 21

FIGURE III-4

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	3/11/83	D.W.L.		REVISED PROFILE

DESIGNED BY CZYZEWSKI GARCIA/DHINSA/KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultants-Ways and Structures
SUBMITTED BY.
PROJECT MANAGER Reg.No.

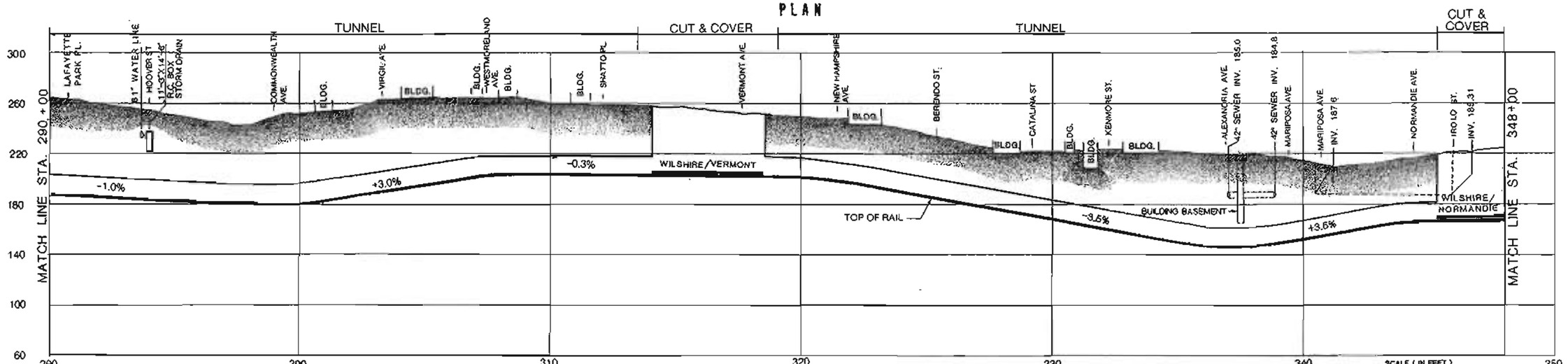
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 230+00 TO STATION 290+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-005
SCALE AS SHOWN
SHEET NO. 5 OF 21

FIGURE III-5

PLAN



PROFILE

NOTE. PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 60 80
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	3/11/83	G.W.L.		REVISED PROFILE

DESIGNED BY Date 2/2/83
CZYZEWSKI
GARCIA / DHINSA / KARAT

DRAWN BY Date 3/9/83
IONESCU
MANUEL / CASTILLO / MACIS

CHECKED BY Date 2/9/83
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures

SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE
STATION 290+00 TO STATION 348+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-008
SCALE AS SHOWN
SHEET NO. 6 OF 21

FIGURE III-6

Vermont Street to Fairfax/Beverly Station
Figures III-6, 7, 8, 9 and 10)

Through this section, all line segments are proposed for construction by tunneling methods and all stations, crossovers, or pocket track structures by cut-and-cover methods.

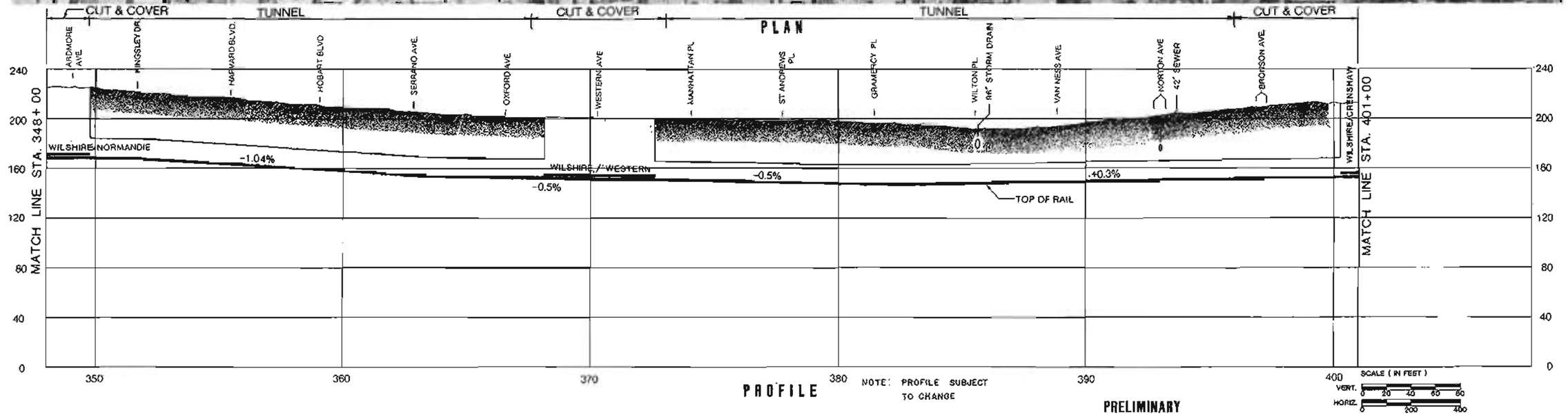
Leaving the Wilshire/Vermont Station, the alignment enters a set of reversing curves to reach the Wilshire Boulevard right-of-way at Alexandria Avenue. From that point, the alignment continues west under Wilshire Boulevard, through the Wilshire/Normandie Station located just east of Normandie, to the Wilshire/Western Station located just east of Western Avenue.

Leaving the Wilshire/Western Station, the alignment continues under Wilshire Boulevard to the Wilshire/Crenshaw Station. A double crossover is to be constructed just ahead of this station. The alignment continues along Wilshire to the Wilshire/La Brea Station that straddles La Brea Avenue. A mid-line ventilation station is to be constructed between the Wilshire/Crenshaw and Wilshire/La Brea stations near the Mullen Avenue intersection. After leaving the Wilshire/La Brea Station, the alignment continues west under Wilshire Boulevard to the Wilshire/Fairfax Station.

After leaving the Wilshire/Fairfax Station, the line to North Hollywood turns north off a number 15 turnout from the Wilshire line. The inbound line passes under the future outbound line to Santa Monica, and a side-by-side configuration with the North Hollywood outbound line enters the Fairfax right-of-way.

After entering Fairfax Avenue near 6th Street, the alignment continues north under Fairfax to a point north of 4th Street, then the alignment passes through a set of short reverse curves to enter an off-street alignment under the western edge of the Farmers' Market and the CBS parking lot before reaching the Fairfax/Beverly Station just south of Beverly Boulevard, as shown on Sheet 10 of the Plan and Profile Drawings. A double crossover is to be constructed just south of the station.

A mid-line ventilation structure is to be constructed, by cut-and-cover methods, at a point near 6th Street where the line enters Fairfax.



					DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAT	Date 2/2/83
					DRAWN BY IONESCU MANUEL/CASTILLO/MACIS	Date 2/9/83
1	3/2/83	D.W.L.		ADDED OPTIONAL ORENSHAW STATION	CHECKED BY LOGAN	Date 2/9/83
REV.	DATE	BY	APP.	DESCRIPTION		

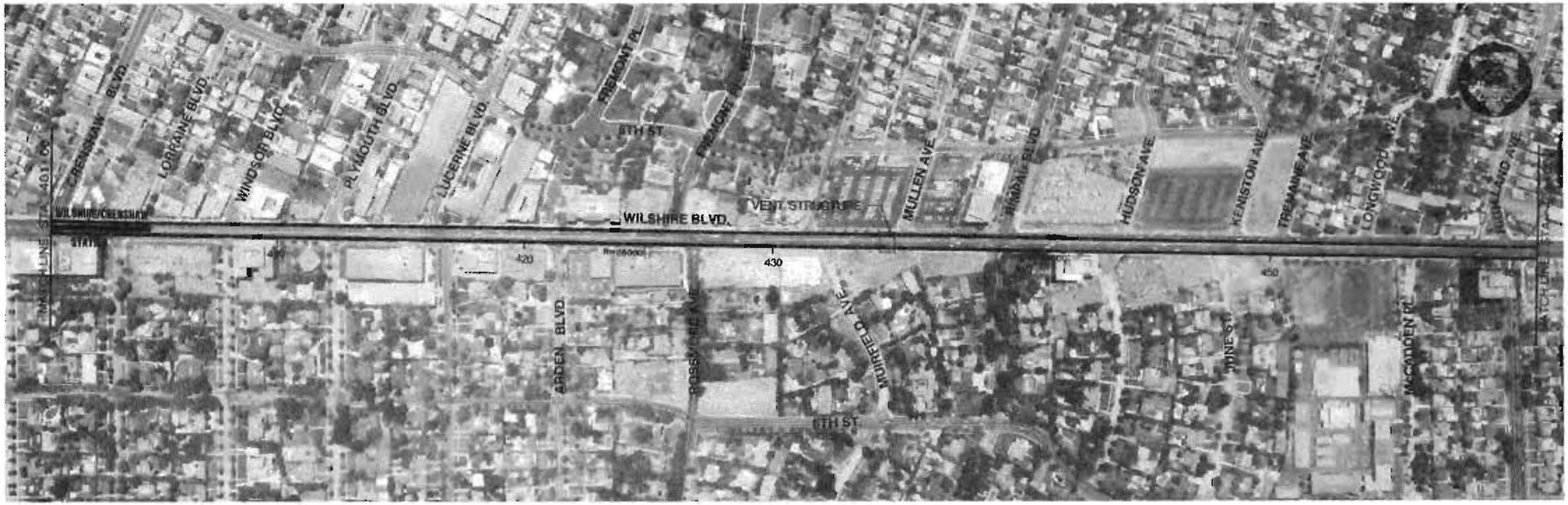
DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg.No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

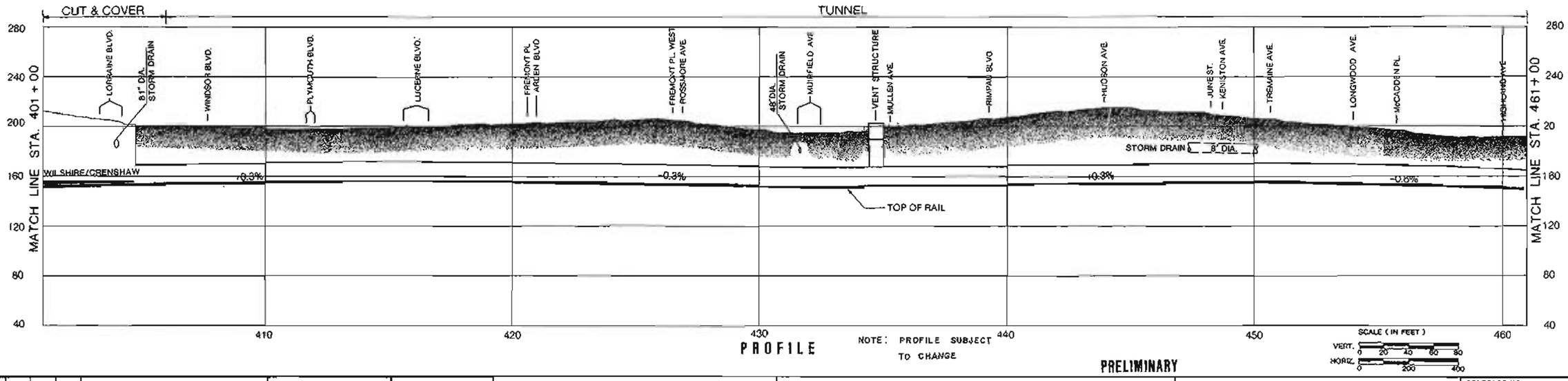
MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 348+00 TO STATION 401+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-007
SCALE AS SHOWN
SHEET NO. 7 OF 21

FIGURE III-7



PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 60 80
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
2	3/11/83	D.W.L.		ADDED TRACTION POWER SUBSTATION
1	3/2/83	D.W.L.		ADDED OPTIONAL CRENSHAW STATION

DESIGNED BY Date 2/2/83
CZYZEWSKI
GARCIA / OHINSA / KARAT
DRAWN BY Date 2/9/83
IONESCU
MANUEL/CASTILLO/ MACIS
CHECKED BY Date 2/9/83
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg No.

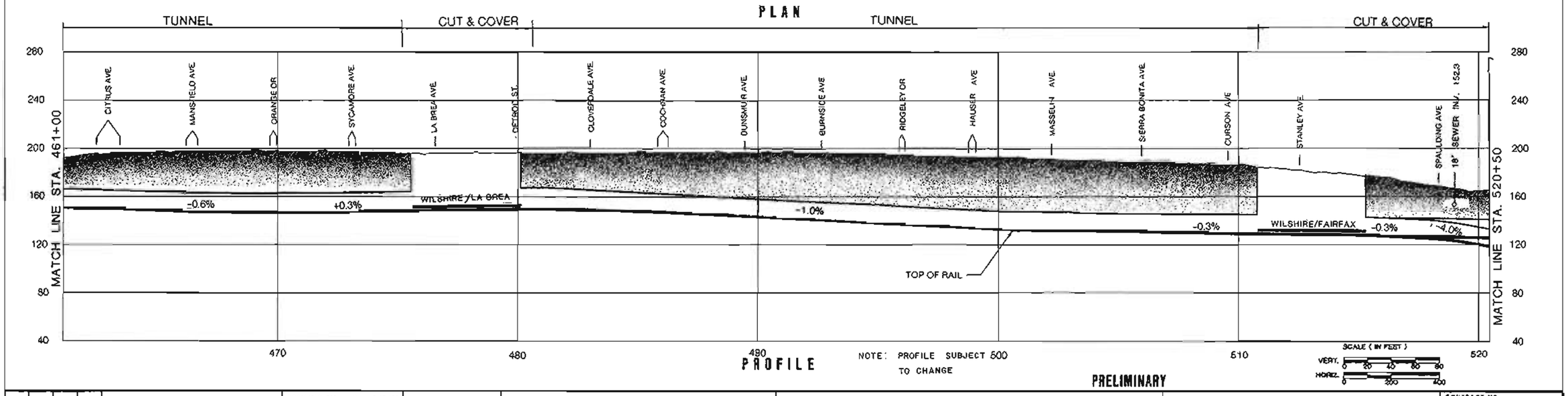
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 401+00 TO STATION 461+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-008
SCALE AS SHOWN
SHEET NO. 8 OF 21

FIGURE III-8

PLAN



PROFILE

NOTE: PROFILE SUBJECT 500 TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAT Date 2/2/83

DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/9/83

CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures

SUBMITTED BY:

PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

RTD

APPROVAL RECOMMENDED

DEPUTY CHIEF ENGINEER Reg. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE
STATION 461+00 TO STATION 520+50

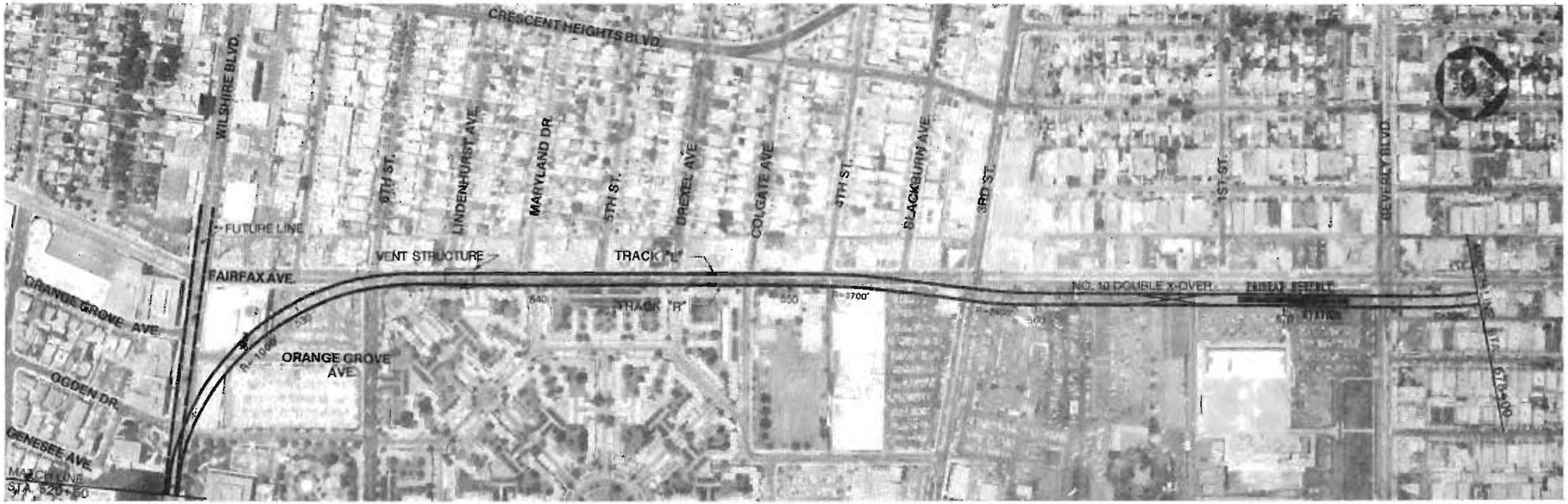
CONTRACT NO.

DRAWING NO. AP-16 AAA-C-009

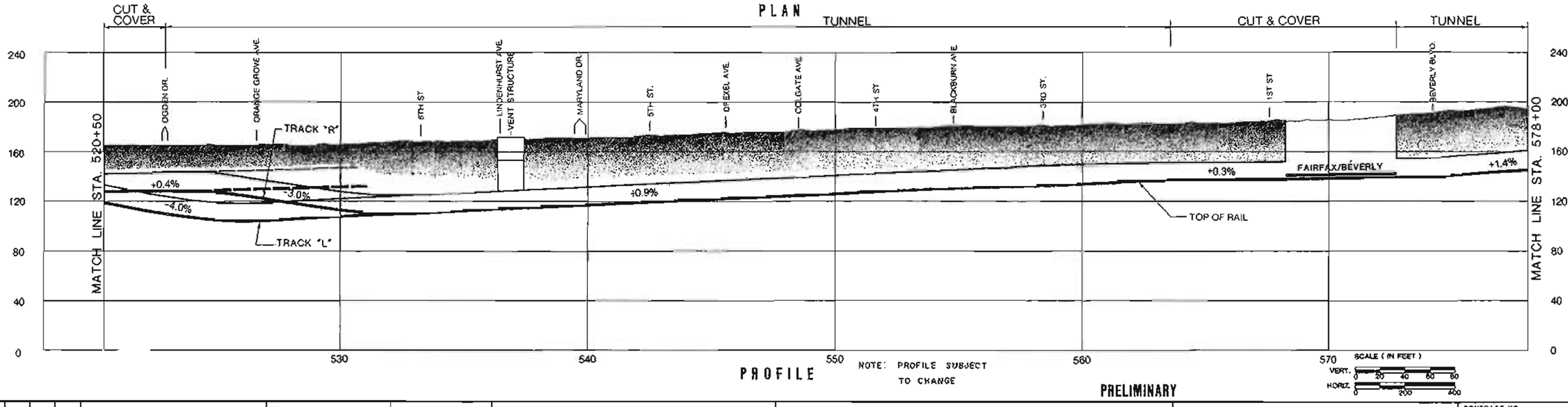
SCALE AS SHOWN

SHEET NO. 9 OF 21

FIGURE III-9



PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	8/31/83	D.W.L.		REVISED VENT STRUCTURE

DESIGNED BY CZYZEWSKI GARCIA / OHINSA / KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL / CASTILLO / MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 520+50 TO STATION 578+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-010
SCALE AS SHOWN
SHEET NO. 10 OF 21

FIGURE III-10

Fairfax/Beverly to Hollywood/Cahuenga Station
Figures III-10, 11, 12, 13, 14 and 15)

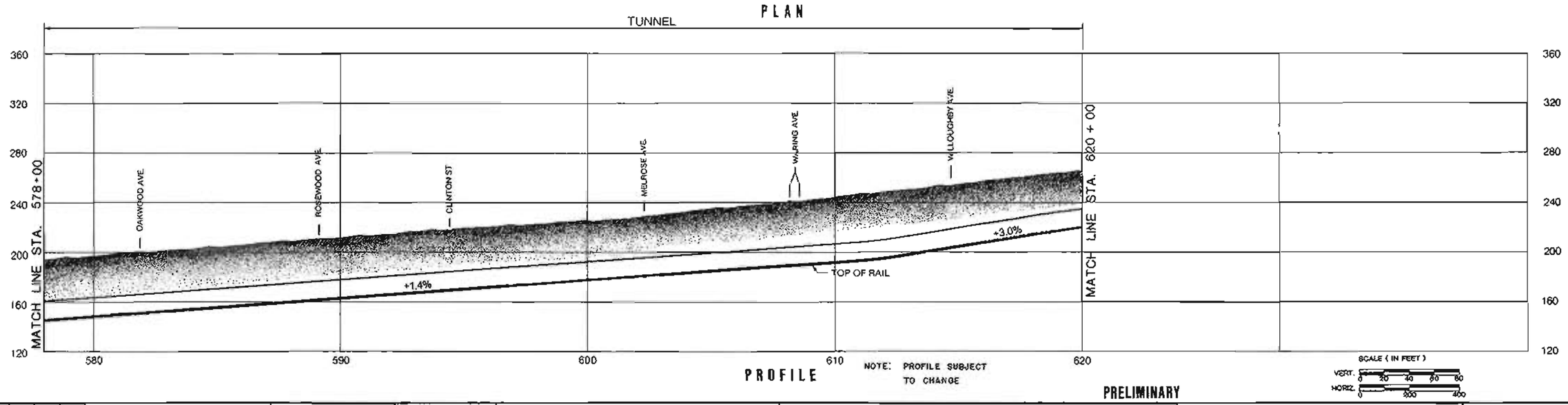
Through this segment, all line segments are proposed for construction by tunneling methods and all stations, crossovers, or pocket track structures by cut-and-cover methods.

After leaving the Fairfax/Beverly Station, the alignment passes through a set of short reverse curves and returns to the Fairfax Avenue right-of-way north of Oakwood Avenue and then proceeds north under Fairfax to the Fairfax/Santa Monica Station that straddles Santa Monica Boulevard.

The Metro Rail alignment through this segment remains under Fairfax Avenue extending north to a point north of Fountain Avenue where it curves eastward under the Sunset Boulevard right-of-way at Stanley Avenue. The alignment continues east to the La Brea/Sunset Station just west of La Brea Avenue.

After leaving the La Brea/Sunset Station the alignment continues easterly under the Sunset Boulevard right-of-way to Hudson Avenue where it curves northerly to an off-street alignment west of Cahuenga Boulevard to the Hollywood/Cahuenga Station that straddles Hollywood Boulevard. Just north of the station a pocket track for storage of a six-car train is to be constructed.

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY Date 2/2/88
CZYZEWSKI
GARCIA / OHINSA / KARAT

DRAWN BY Date 2/9/88
IONESCU
MANUEL/CASTILLO/MACIS

CHECKED BY Date 2/9/88
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures

SUBMITTED BY:

PROJECT MANAGER Reg.No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED

DEPUTY CHIEF ENGINEER Reg. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Reg. No.

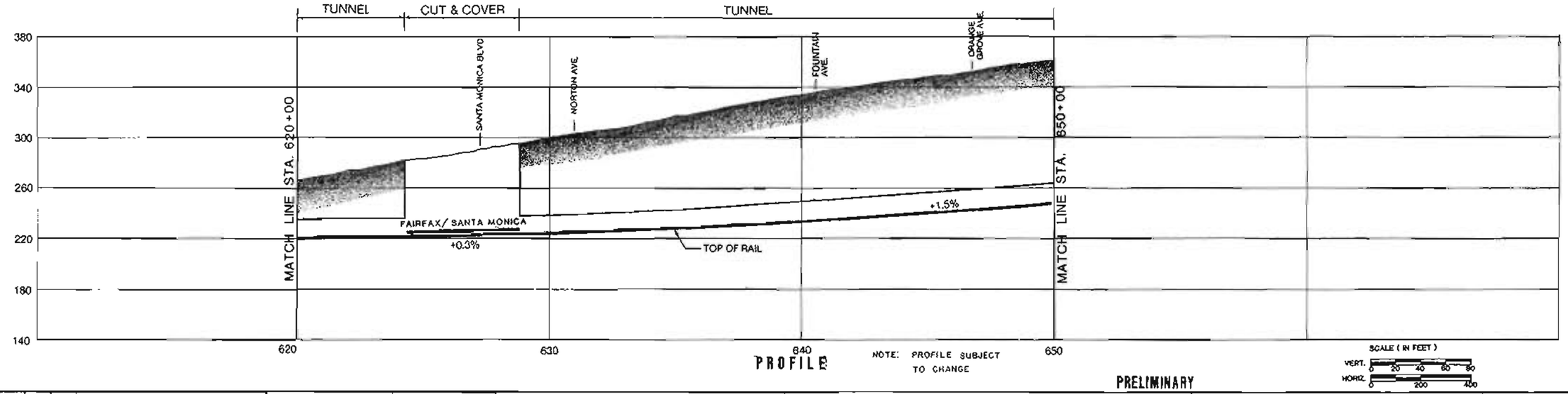
MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE
STATION 578+00 TO STATION 620+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-011
SCALE AS SHOWN
SHEET NO. 11 OF 21

FIGURE III-11

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 80 80
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY Date 2/2/83
CZYZEWSKI
GARCIA / DHINSA / KARAY

DRAWN BY Date 2/9/83
IONESCU
MANUEL/CASTILLO/MACIS

CHECKED BY Date 2/9/83
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant-Ways and Structures

SUBMITTED BY:

PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED

Reg. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE

STATION 620+00 TO STATION 650+00

CONTRACT NO.

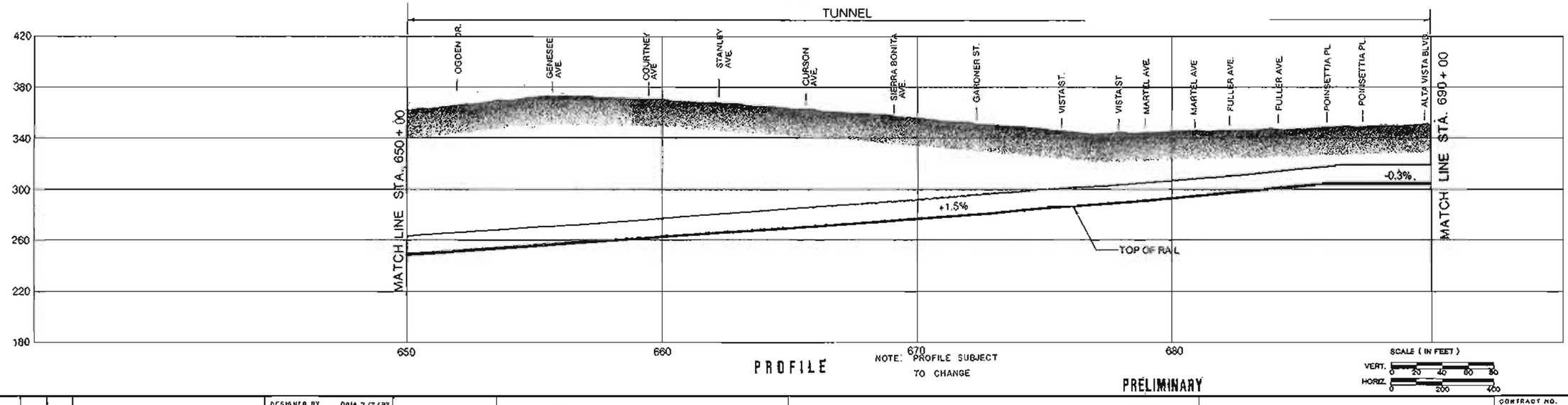
DRAWING NO. AP-10 AAA-C-012

SCALE AS SHOWN

SHEET NO. 12 OF 21

FIGURE III-12

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 60 80
HORIZ. 0 200 400

PRELIMINARY

NO.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY CZYZEWSKI Date 2/2/83
GARCIA/DHINSA/KARAT
DRAWN BY IONESCU Date 2/9/83
MANUEL/CASTILLO/MACIS
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.

APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

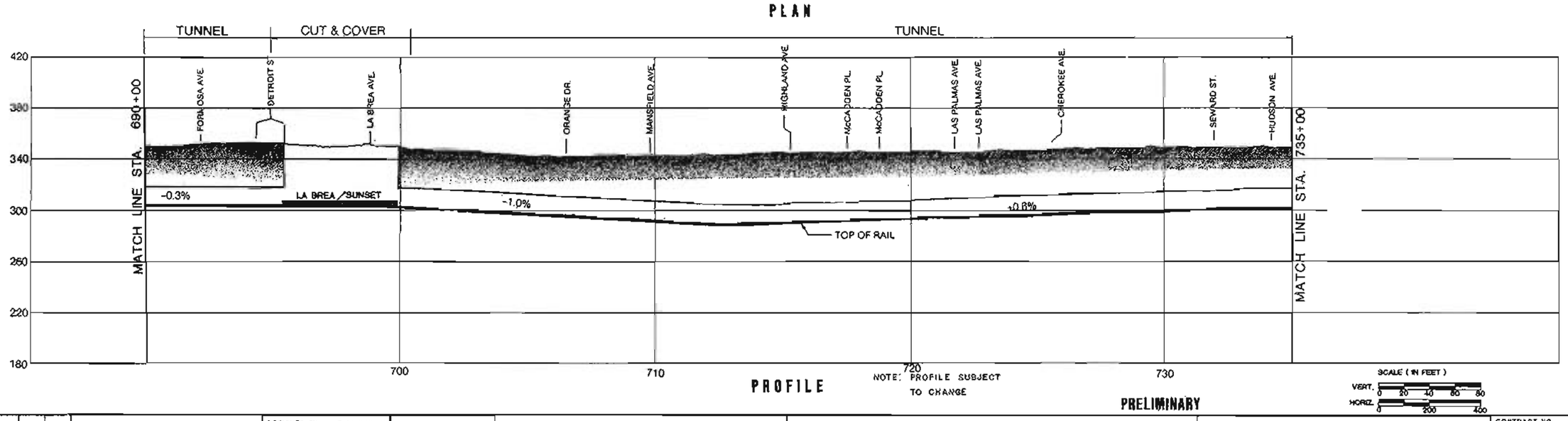
MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE
STATION 650+00 TO STATION 690+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-013
SCALE AS SHOWN
SHEET NO. 13 OF 21

FIGURE III-13

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

SCALE (IN FEET)
VERT. 0 20 40 80 80
HORIZ. 0 200 400

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY CZYZEWSKI GARCIA/OHINSA/KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

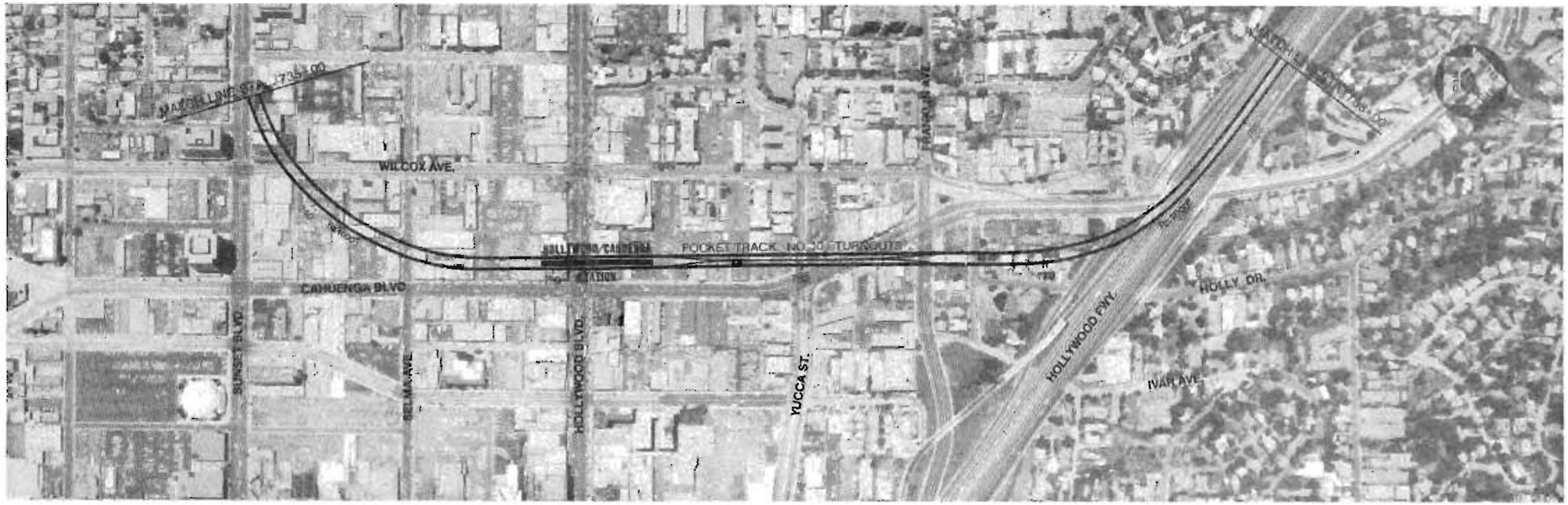
DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 690+00 TO STATION 735+00

CONTRACT NO.
DRAWING NO AP-16 AAA-C-014
SCALE AS SHOWN
SHEET NO. 14 OF 21

FIGURE III-14



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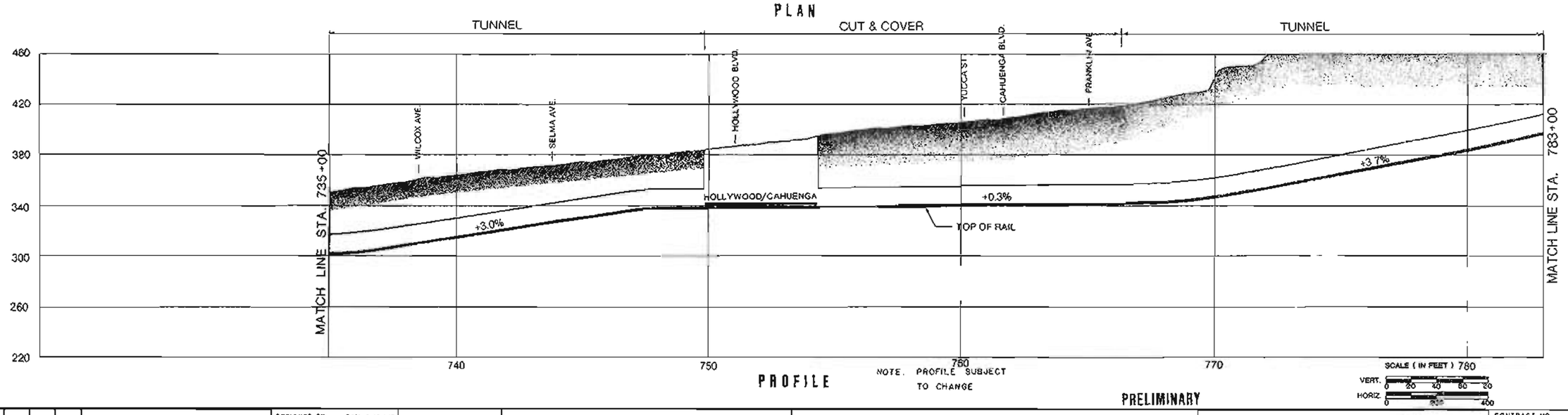


PROFILE

NOTE. PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 80 120
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	3/23/83	D.W.L.		ADDED OPTIONAL PROFILE

DESIGNED BY CZYZEWSKI GARCIA / DHINSA / KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL / CASTILLO / MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY.
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 735+00 TO STATION 783+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-015
SCALE AS SHOWN
SHEET NO. 15 OF 21

FIGURE III-15

Hollywood/Cahuenga Station to North Hollywood Station
Figures III-15, 16, 17, 18, 19, 20 and 21)

As in other sections, all line segments are proposed for construction by tunneling methods and all stations, crossovers, or pocket track structures by cut-and-cover methods.

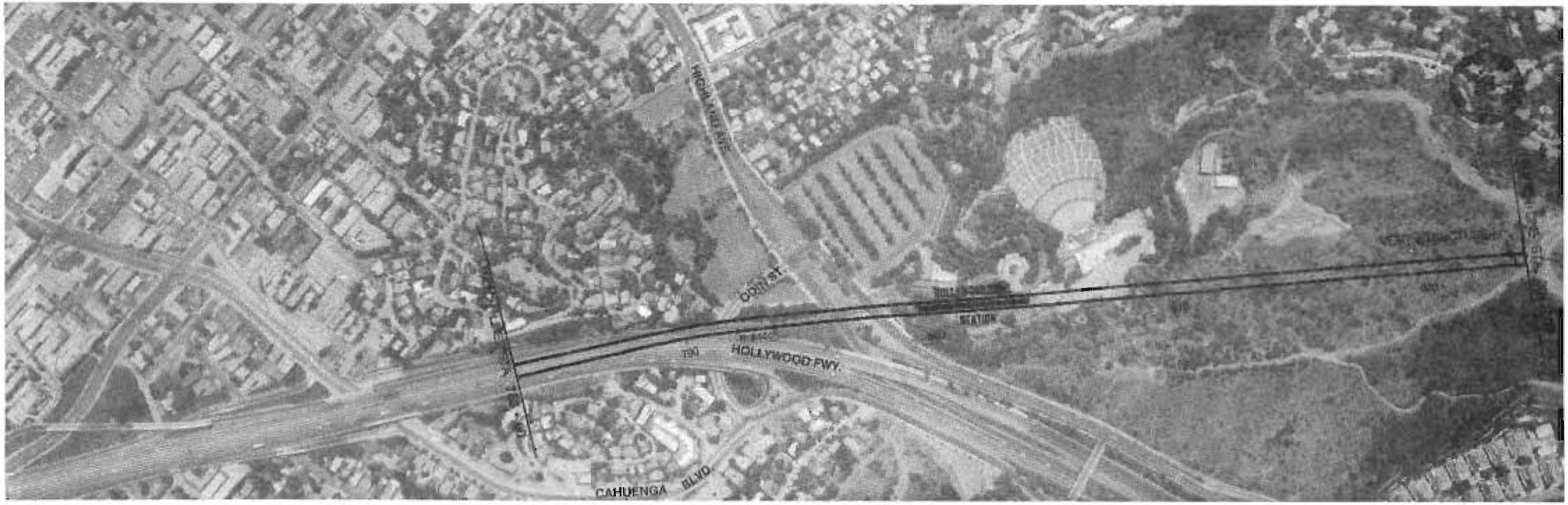
After leaving the Hollywood/Cahuenga Station, the alignment continues to the Hollywood Freeway, then curves westerly under the Hollywood Freeway. Near Highland Avenue, the alignment leaves the freeway right-of-way and proceeds to the Hollywood Bowl Station located near the entrance to the Hollywood Bowl. The line rises sharply to accommodate a shallower depth for the station. After leaving the station, the line continues in a deep tunnel under the Santa Monica mountains to the Universal City Station.

Mid-line ventilation structures (two) are to be built, partially by cut-and-cover and partially by tunneling methods, in the line between the Hollywood Bowl Station and the Universal City Station.

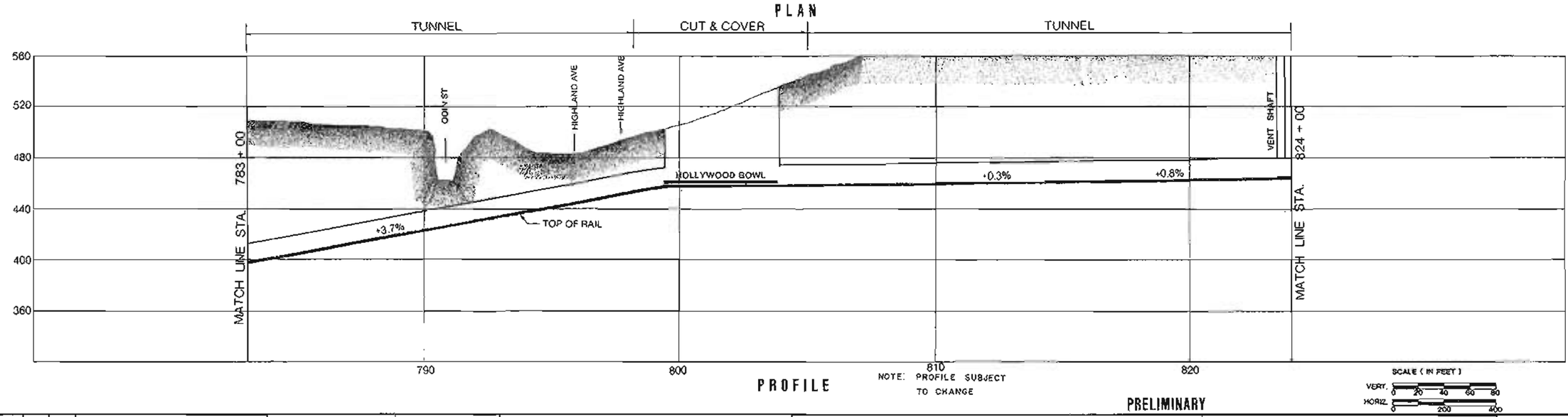
The Universal City Station is off-street west of and parallel to Lankershim Boulevard just north of the Hollywood Freeway.

After leaving the Universal City Station, the alignment will begin a 1500-foot-radius curve to enter the Lankershim Boulevard right-of-way at about the Los Angeles River. After entering Lankershim, the alignment will continue north to the North Hollywood Station, which is centered on the Chandler Boulevard right-of-way. This will be the terminal station for the initial phase Metro Rail Project.

A double crossover is to be constructed ahead of the station. Beyond the station a two-cell box structure tail track will be provided.



PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 60 80
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
2	3/11/83	D.W.L.		REVISED VENT STRUCTURE ADDED SUBSTATION
1	3/2/83	D.W.L.		ADDED OPTIONAL HOLLYWOOD BOWL STATION

DESIGNED BY Date 2/2/83
CZYZEWSKI
GARCIA/OHINSA/KARAT

DRAWN BY Date 2/9/83
IONESCU
MANUEL/CASTILLO/MACIS

CHECKED BY Date 2/9/83
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures

SUBMITTED BY:

PROJECT MANAGER Req. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED

DEPUTY CHIEF ENGINEER Req. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Req. No.

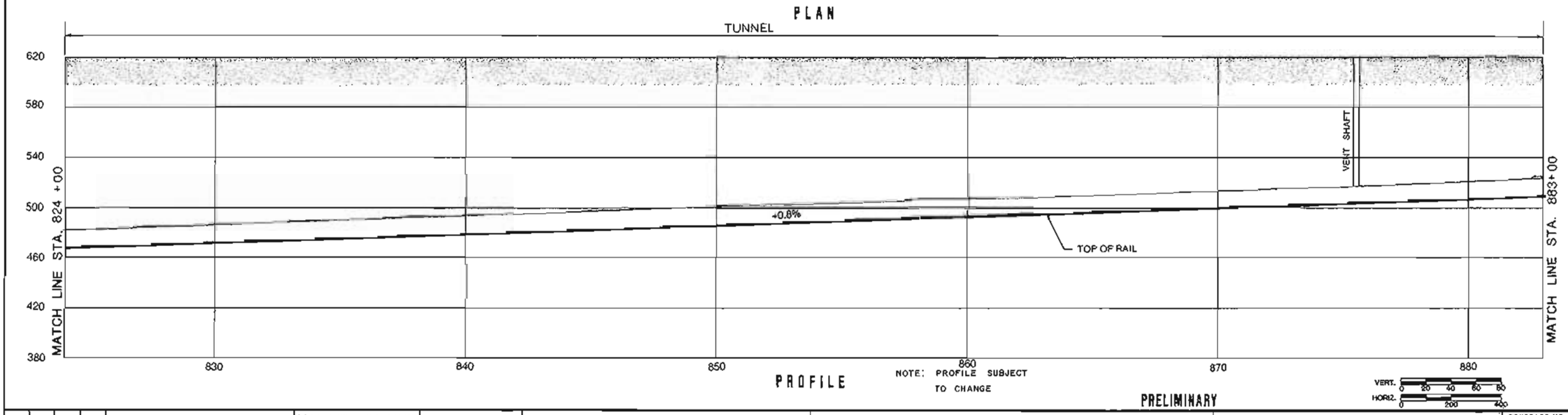
MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE
STATION 783+00 TO STATION 824+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-016
SCALE AS SHOWN
SHEET NO. 16 OF 21

FIGURE III-16

PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
2	2/1/83	D.W.L.		REVISED VENT STRUCTURE ADDED SUBSTATION
1	2/2/83	D.W.L.		ADDED OPTIONAL PROFILE

DESIGNED BY CZYZEWSKI GARCIA/DHINSA/KARAT Date 2/2/83
DRAWN BY IONESCU MANUEL/CASTILLO/MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

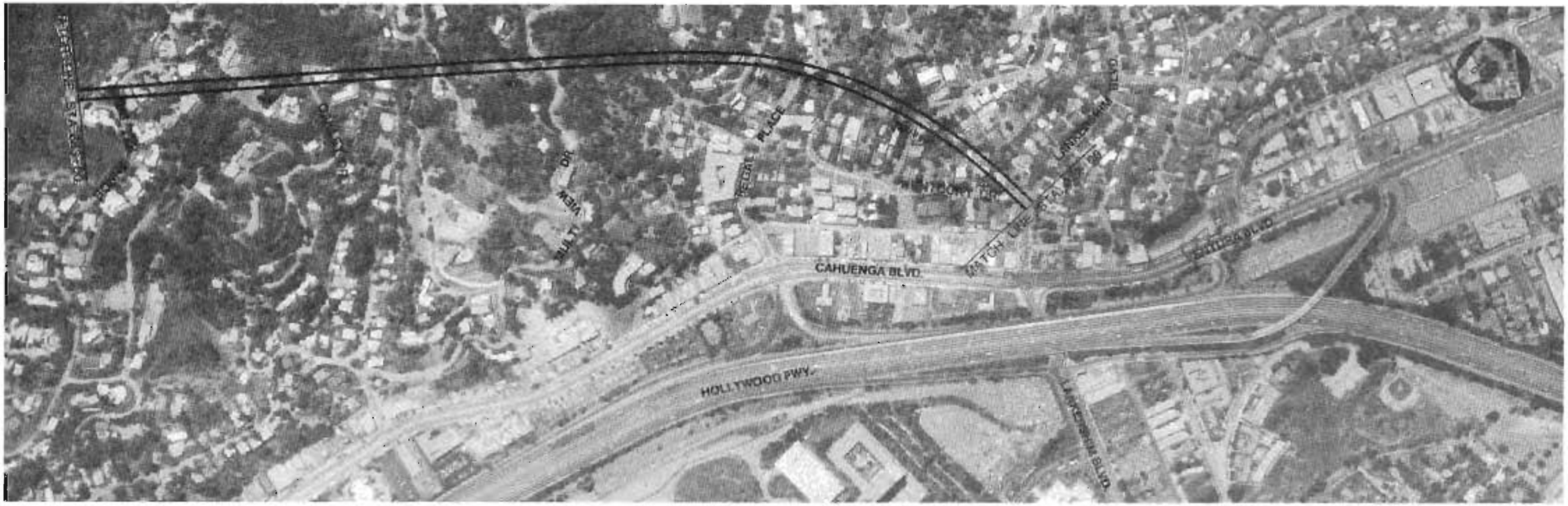
DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 824+00 TO STATION 883+00

CONTRACT NO.
DRAWING NO. AP-18 AAA-C-017
SCALE AS SHOWN
SHEET NO. 17 OF 21

FIGURE III-17



PRELIMINARY

NO.	DATE	BY	APP	DESCRIPTION
1	3/2/83	D.W.L.		ADDED OPTIONAL PROFILE

DESIGNED BY Date 2/2/83
CZYZEWSKI
GARCIA / DHINSA / KARAT

DRAWN BY Date 2/9/83
IONESCU
MANUEL / CASTILLO / MACIS

CHECKED BY Date 2/9/83
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant Ways and Structures

SUBMITTED BY:

PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED

DEPUTY CHIEF ENGINEER Reg. No.

APPROVED Date

MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS

ALIGNMENT PLAN AND PROFILE

STATION 883+00 TO STATION 922+00

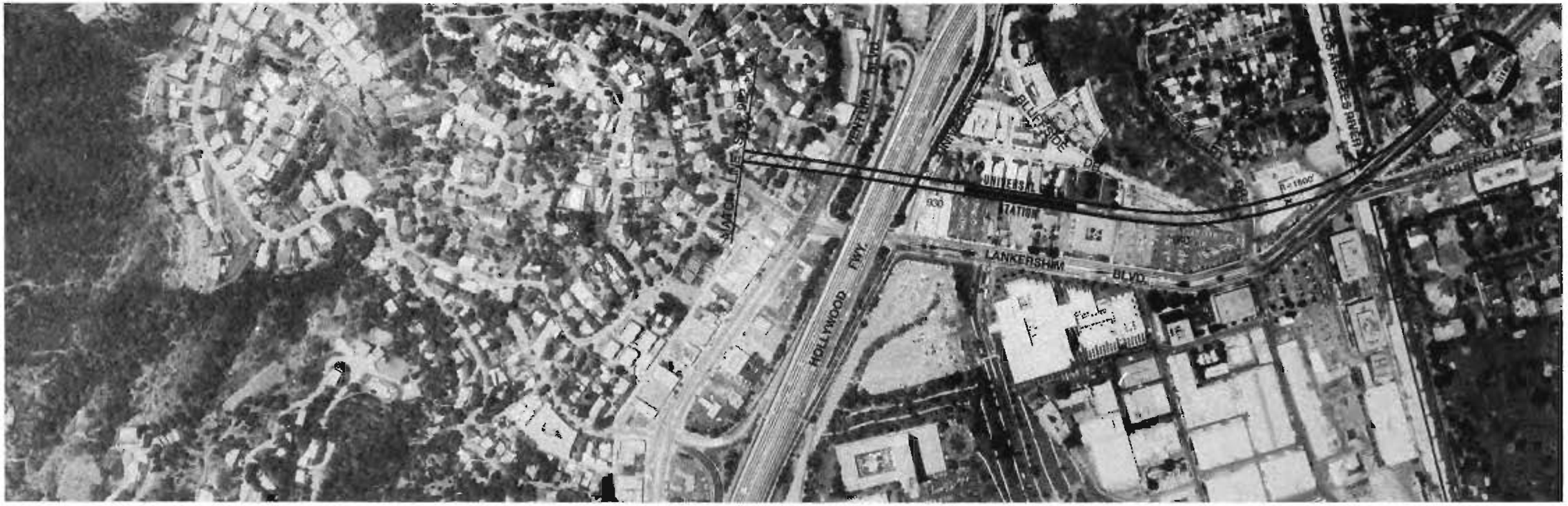
CONTRACT NO.

DRAWING NO. AP-10 AAA-C-018

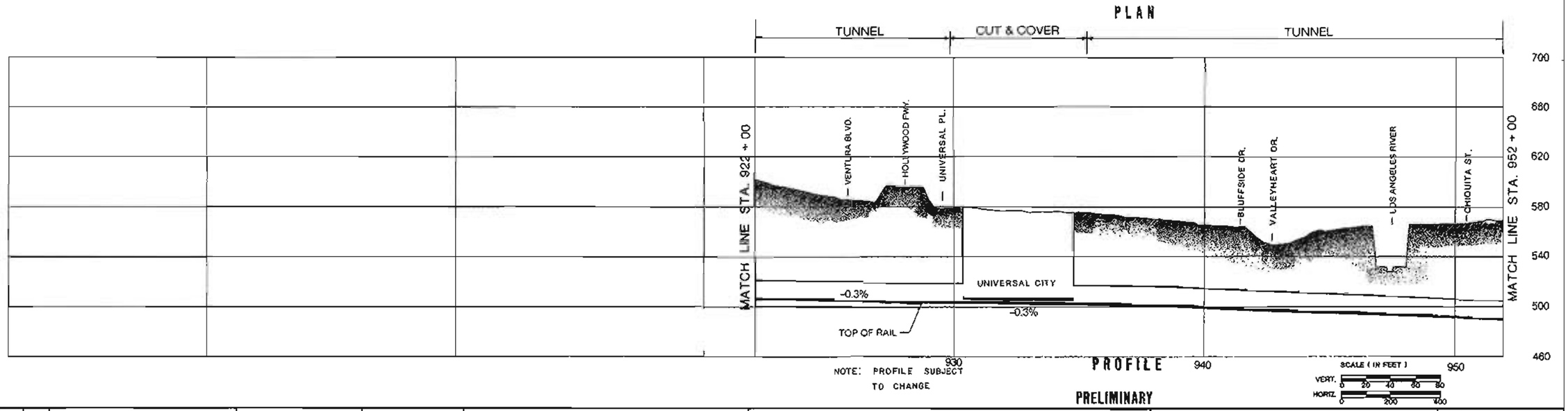
SCALE AS SHOWN

SHEET NO. 18 OF 21

FIGURE III-18



PLAN



NOTE: PROFILE SUBJECT TO CHANGE

PROFILE

PRELIMINARY

NO.	DATE	BY	APP.	DESCRIPTION
2	2/13/80	D.W.L.		REVISED PROFILE
1	3/2/83	D.W.L.		ADDED OPTIONAL PROFILE

DESIGNED BY CZYZEWSKI/GARCIA/KARAY Date 2/2/83
DRAWN BY IONESCU/MANUEL/CASTILLO/MACIS Date 2/9/83
CHECKED BY LOGAN Date 2/9/83

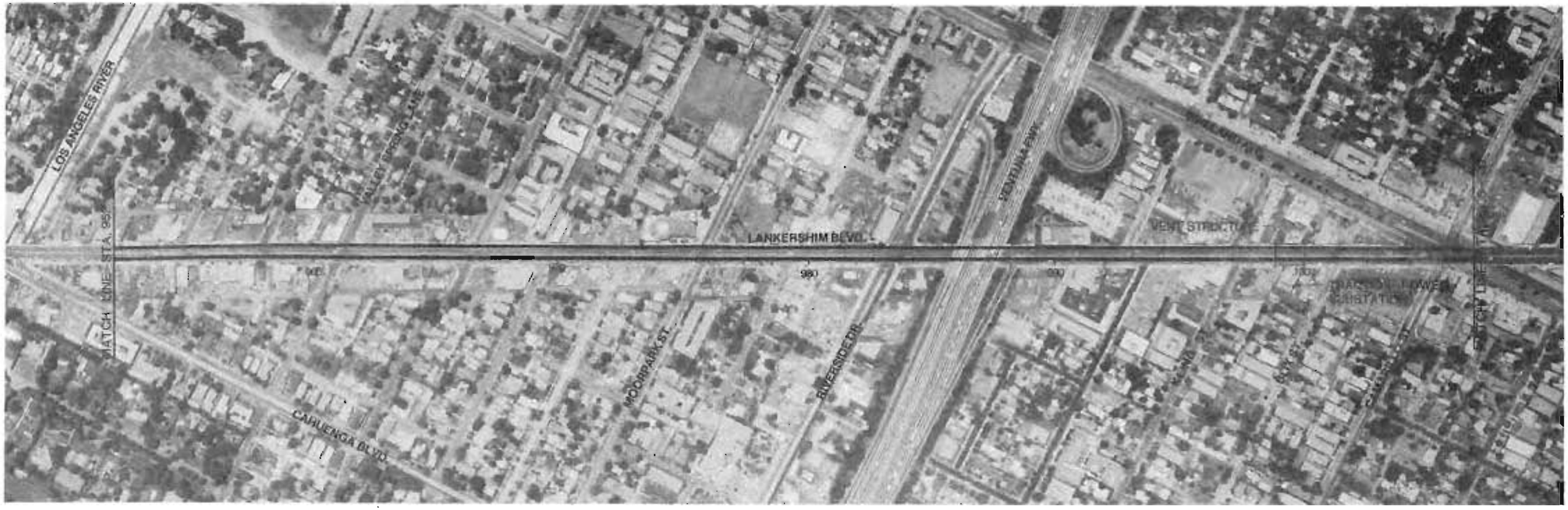
DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

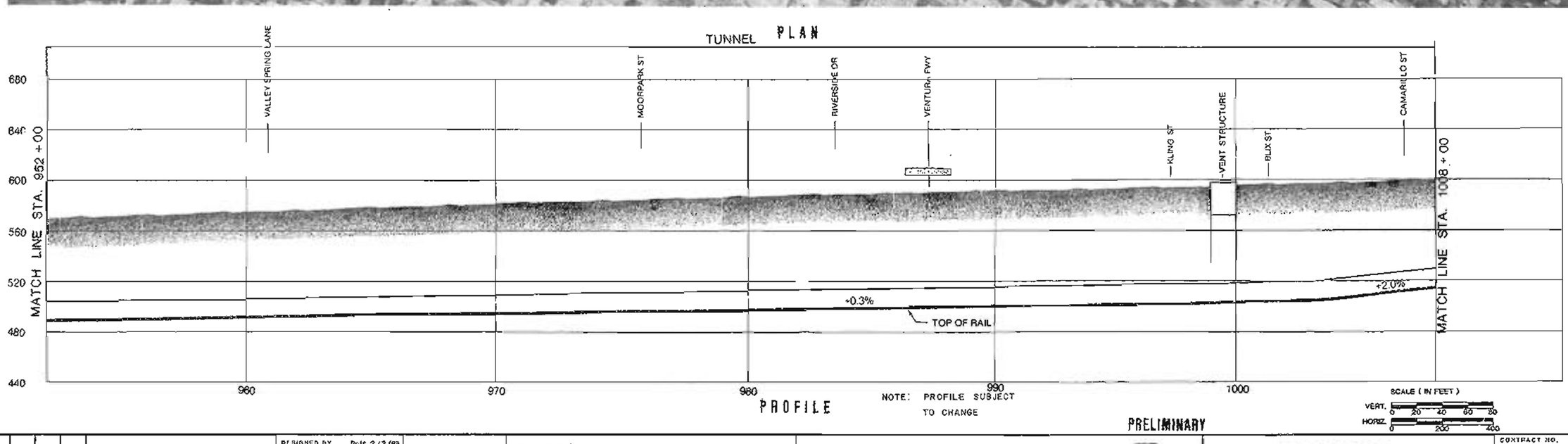
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 922+00 TO STATION 952+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-019
SCALE AS SHOWN
SHEET NO. 19 OF 21

FIGURE III-19





PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
1	2/21/83	O.W.R.		REVISED PROFILE - ADDED SUBSTATION

DESIGNED BY Date 2/2/83
CZYZEWSKI/GARCIA/KARAT
DRAWN BY Date 2/9/83
IONESCU
MANUEL/CASTILLO/MACIS
CHECKED BY Date 2/9/83
LOGAN

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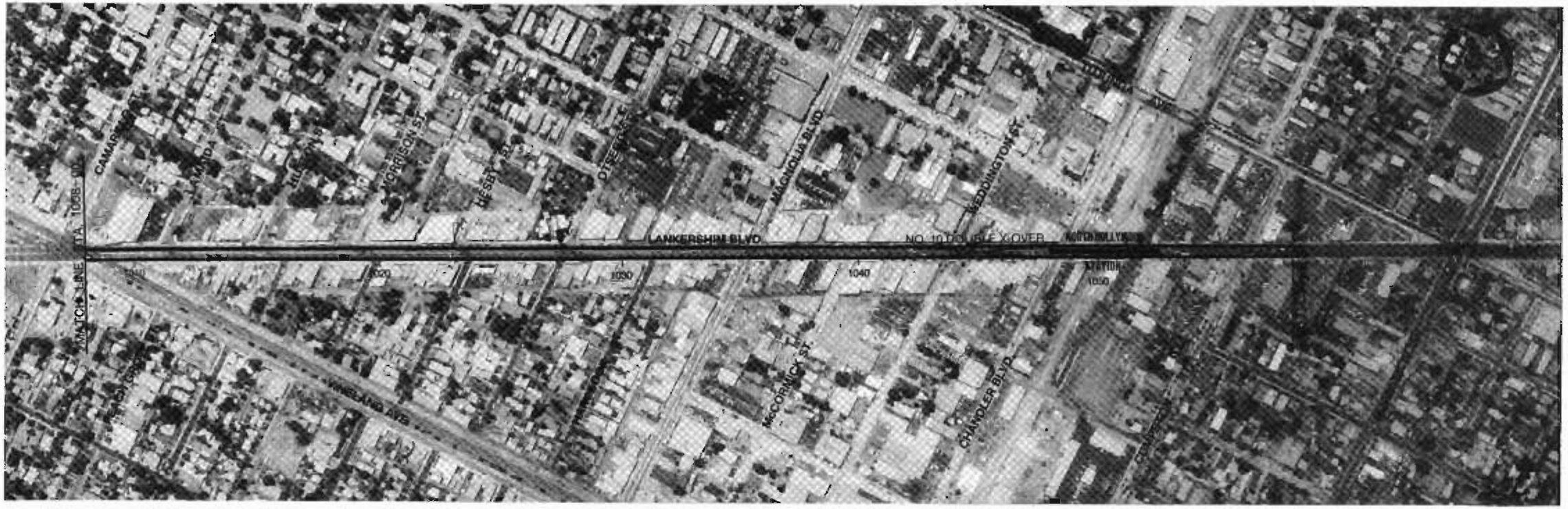
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg. No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

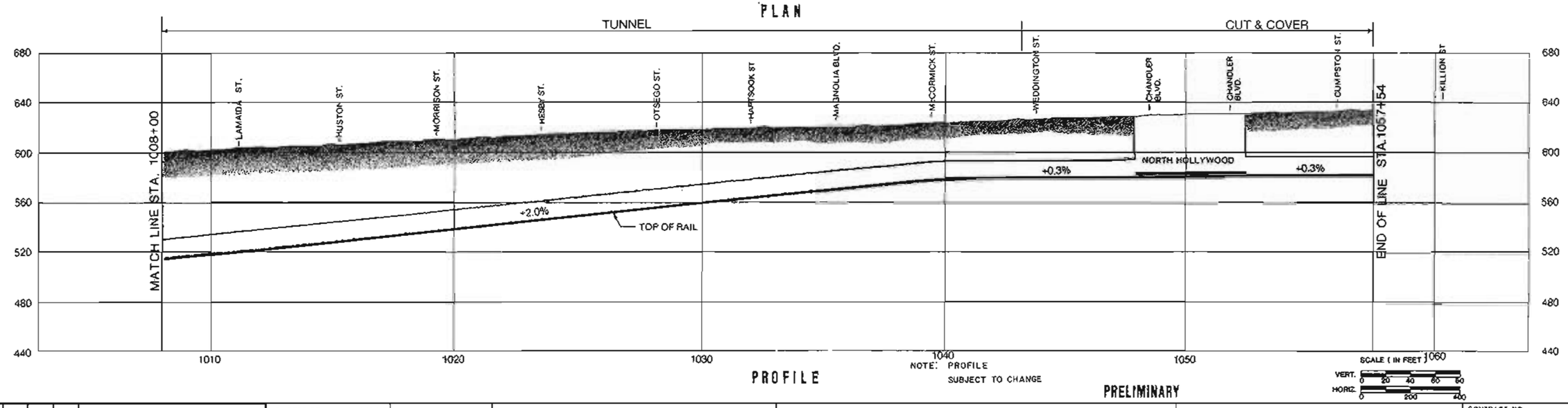
MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 952-00 TO STATION 1008+00

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-020
SCALE AS SHOWN
SHEET NO. 20 OF 21

FIGURE III-20



PLAN



PROFILE

NOTE: PROFILE SUBJECT TO CHANGE

SCALE (IN FEET)
VERT. 0 20 40 60 80
HORIZ. 0 200 400

PRELIMINARY

REV.	DATE	BY	APP.	DESCRIPTION
5	3/11/83	D.W.L.		REVISED PROFILE

DESIGNED BY Date 2/2/83
CZYZEWSKI/GARCIA/KARAT
DRAWN BY Date 2/9/83
IONESCU
MANUEL/CASTILLO/MACIS
CHECKED BY Date 2/9/83
LOGAN

DMJM/PBQD
A Joint Venture
General Engineering Consultant-Ways and Structures
SUBMITTED BY:
PROJECT MANAGER Reg.No.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
DEPUTY CHIEF ENGINEER Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MILESTONE 10
DEFINITIVE FIXED FACILITIES PLANS
ALIGNMENT PLAN AND PROFILE
STATION 1008+00 TO STATION 1061+50

CONTRACT NO.
DRAWING NO. AP-16 AAA-C-021
SCALE AS SHOWN
SHEET NO. 21 OF 21

FIGURE III-21

B. YARD AND MAINTENANCE FACILITY DESIGN REPORT

The Southern California Rapid Transit District Metro Rail Project will require a comprehensive support system of yards and shops to provide for the storage of transit vehicles and for the proper and cost-effective maintenance of the systems equipment and plant. This system of yards and shops will allow for the expeditious movement of trains between the yards and the revenue tracks without congestion or delay, and the safe and economical movement of trains and cars within the yard.

The yard and shops facilities reflect complex and demanding functional requirements, as pertains not only to these facilities, but their relationship to the rest of the system. The yard is comprised of a number of related elements, each having unique operational requirements as well as those imposed by the relationships of the elements to each other. The shops are supported by a number of unique and, in many cases, complex equipment repair and service shops.

For the 18-mile starter line, the design of a single yard and certain shops has been based upon an ultimate operating capacity of six-car trains operating at two-minute headways. At this capacity, the transit car fleet will consist of 214 cars (107 married pairs), with 180 cars for revenue service, 12 for standby consists, and 22 for a maintenance margin. For the maintenance and storage of these transit cars, one main yard with shops will be provided. Operating storage will be provided by two underground stub-ended tail tracks, 500 feet long, beyond the North Hollywood Station.

1. Yard Site

The main yard will be located on a site east of the Central Business District of Los Angeles. It will be located between the Santa Fe Railway to the east, which is immediately west of the Los Angeles River, and Santa Fe Avenue on the west. This yard site extends south from the Santa Ana Freeway to a point about 1,100 feet south of the 6th Street Bridge. The site provides for a yard area of approximately 45 acres.

This yard site has a number of constraints. These are: existing highway bridges for the Santa Ana Freeway, 1st Street, 4th Street, and 6th Street crossing the yard site; an Amtrak Coach Yard south of the 7th Street Bridge; and the Santa Fe Railway Facilities in this area. The yard layout must provide for maintaining the main track of the Santa Fe Railway, a principal lead, five storage tracks and track connections between the Santa Fe Railway and the freight spurs located west of the yard site. A yard at this site will require the removal, construction and relocation of railroad tracks and facilities.

2. Yard Layout

The main yard will extend about 5,900 feet from a point between the Santa Ana Freeway and the 1st Street Bridge southward to a point below the 6th Street Bridge. The east-west dimension varies, with the widest point being just north of the 4th Street Bridge. At this point the yard will be 800 feet wide. North of the 1st Street Bridge and south of the 4th Street Bridge, the yard narrows appreciably. The width of the site allows placement of the storage yard next to the main shops. The length of the site plus the narrowness of the available land at each end of the site rules out placing the storage yard and main shops end to end.

3. Yard Facilities

Entrance to the main yard will be provided from Union Station. Leaving Union Station, the future main tracks will descend so that they can pass under the Los Angeles River. The yard leads will ascend from Union Station, pass over the eastbound main track (future) and under the Santa Ana Freeway and a relocated freight spur to a portal at the north end of the yard. This portal will provide for four tracks. Two will be the yard leads from Union Station. The remaining two tracks when built, will be the yard leads to the Metro Rail future eastward extension.

Immediately south of the portal is the transfer zone of the main yard. From the portal, the four yard leads proceed through an interlocking that allows each lead to have access to any one of the four transfer tracks. The most westerly track at the south end of the interlocking provides the lead into the maintenance-of-way shop and its storage tracks. The transfer tracks connect to the storage tracks, main shop tracks, the wash track, and the blowdown pit track. The layout described above allows access of any of the four leads from the mainline into any portion of the yard.

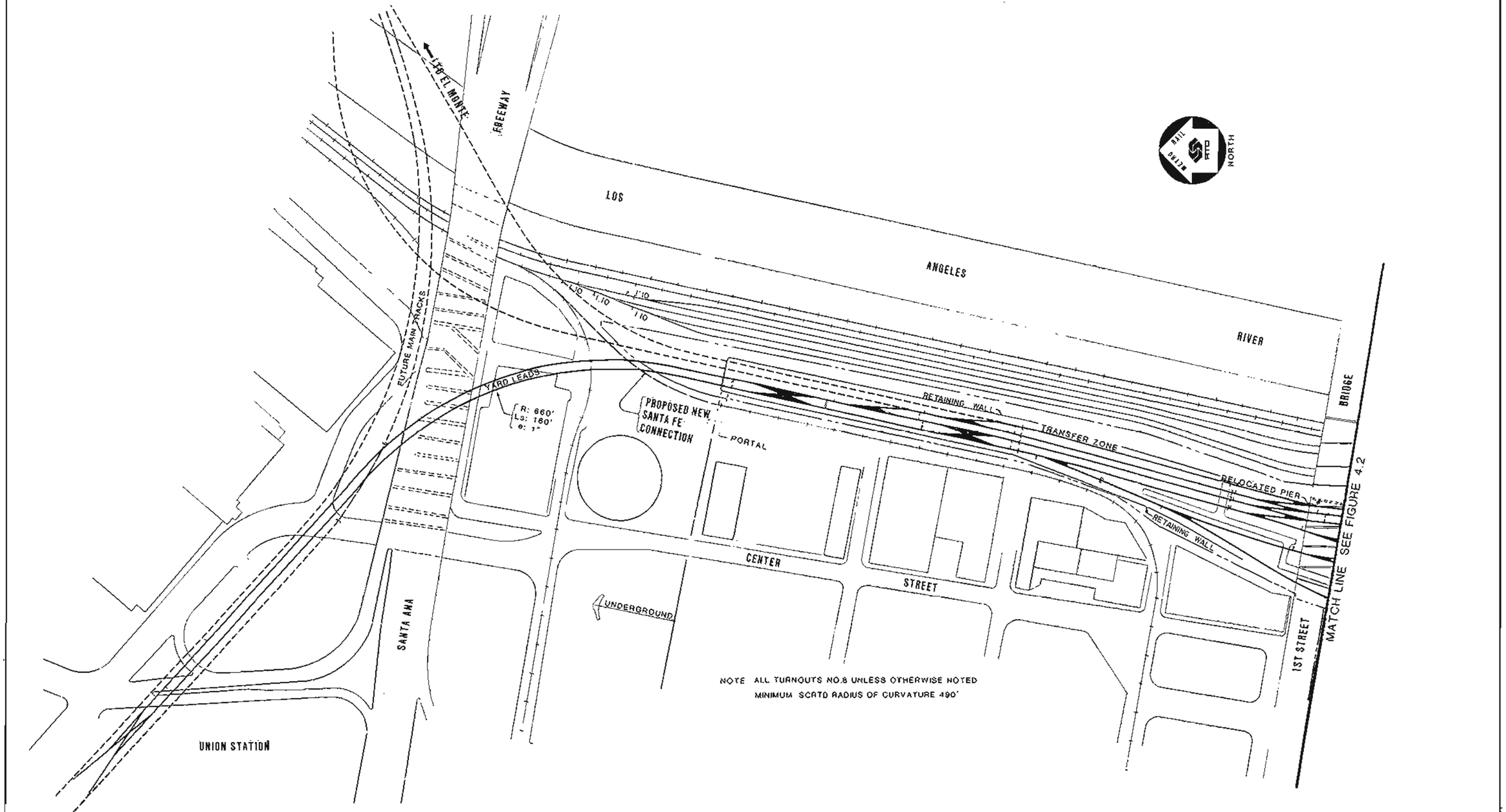
The main body of the yard south of the transfer zone consists of the storage yard located on the east side of the yard. The storage yard is arranged to include as many as 11 tracks, each having a capacity of 18 cars, or three six-car trains, for a maximum total capacity of 198 cars. The tracks are alternately spaced at 14 feet and 19 feet centers. The storage yard is double ended, with access at each end between all other yard elements. Between the storage yard and the main repair shop will be the wash tracks, the blowdown pit, and the runaround track.

Adjacent to the storage yard will be the interior car cleaner's building, a small, single-level industrial type building containing an office, storage, equipment room, and employee facilities. This building will support the interior car cleaning activities in the storage yard.

The main shop is located west of the storage yard just north of the 4th Street Bridge. It is an industrial-type building, containing high bays for the heavy repairs and service and inspection areas. There are two-level areas on the west side of the building and in the center, separating the two high bays. These areas contain various component repair shops, support shops, employee facilities, offices, administrative areas, the stores, and equipment rooms. There is a loading dock adjacent to the stores, as well as access to the heavy repair bay where equipment may be unloaded from rail or highway vehicles. Rail access to the shop is at both ends. There are three tracks, each containing three married-pair positions through the service and inspection area; two tracks, each containing two married-pair positions; and a single track for the wheel-truing equipment in the heavy repair area. An additional track is through the blowdown facility, which is located along the east side of the building. The yard control tower is placed in a centralized position over the blowdown pit adjacent to the main shop building.

To support the maintenance-of-way activities, support shops and administrative facilities will be provided in the maintenance-of-way shop. The maintenance-of-way shop is a single-story, industrial type building comprised of a high bay containing general repair and automotive repair areas and an adjacent, single-level area containing various smaller shops, stores, shop equipment rooms, employee facilities, and office and administrative areas. There is a loading dock adjacent to the stores, and road and rail access to the north end of the general repair area.

At the south end of the yard, all tracks within the main body of the yard connect into one of two tail tracks (800 feet and 1,050 feet in length). These tail tracks are between two operating railroad tracks. The easterly tail track provides a crossover to connect into the test track. Operations of the yard at the south end will be based on reverse moves. As an example, a train leaving the wash track would enter either of the tail tracks in a southward movement. It would then reverse direction and proceed northward into the storage yard.



REV.	DATE	BY	APP.	DESCRIPTION
1	7/8/83	D.C.		MODIFIED TO COMPLY WITH MILESTONE II

DESIGNED BY Date
O. P. STANSKE
DRAWN BY Date 1/18/83
DEL CASTILLO
CHECKED BY Date 1/21/83
D. MALICK

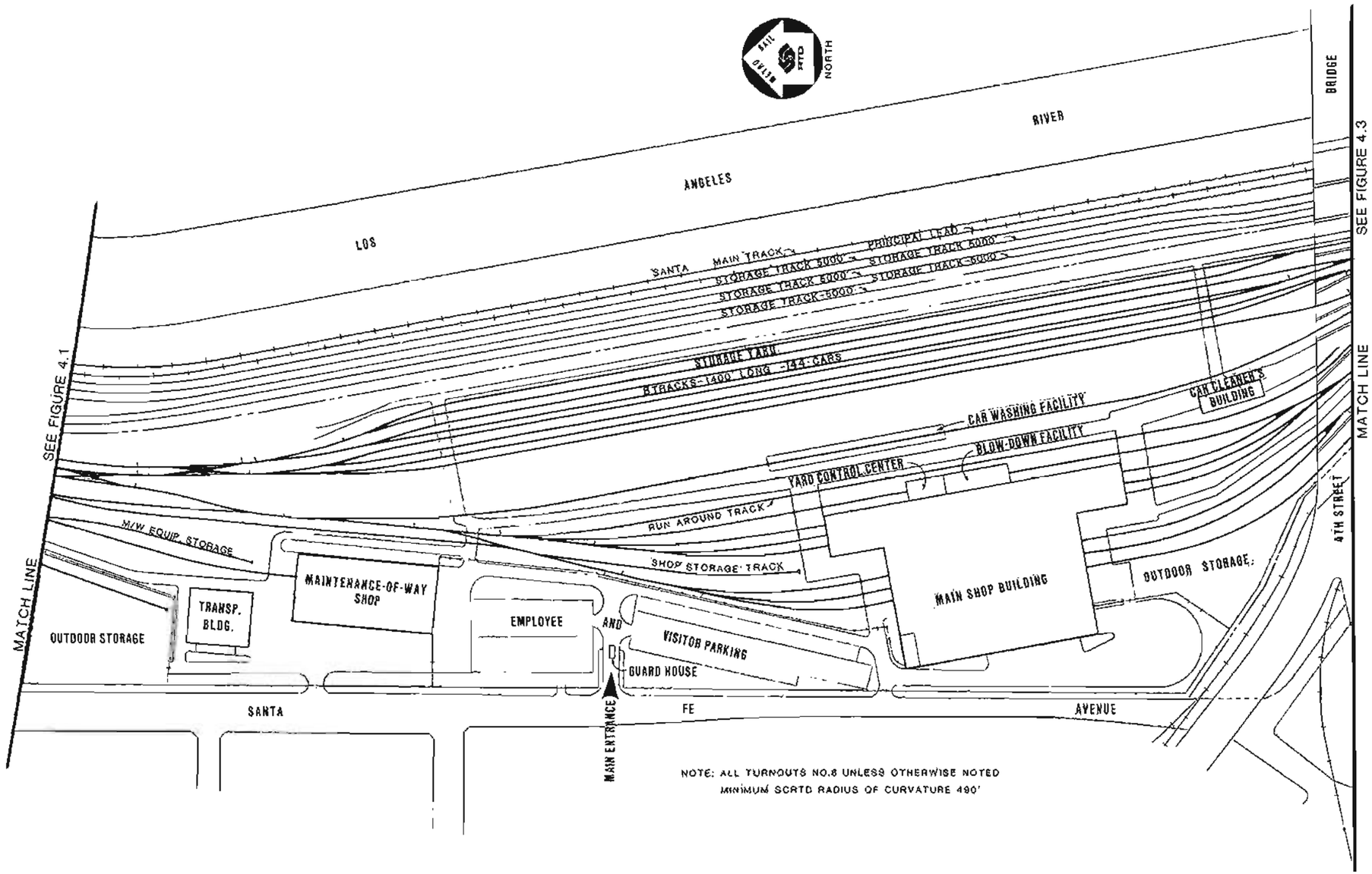
DMJM/PBQD
A Joint Venture
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED
Req. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Req. No.

MAIN YARD AND SHOPS
YARD LAYOUT
TRANSFER ZONE AREA

CONTRACT NO.
DRAWING NO. AC-14AAG-C-013(1)
SCALE 1":100'-0"
SHEET NO FIGURE 4.1

FIGURE III-22



NOTE: ALL TURNOUTS NO.8 UNLESS OTHERWISE NOTED
MINIMUM SCRTD RADIUS OF CURVATURE 490'

1	7/6/83	O.C		MODIFIED TO COMPLY WITH MILESTONE II	
REV.	DATE	BY	APP.	DESCRIPTION	

DESIGNED BY G. P. STANSKE Date 1/19/83
DRAWN BY DEL CASTILLO Date 1/18/83
CHECKED BY D. MALICK Date 1/21/83

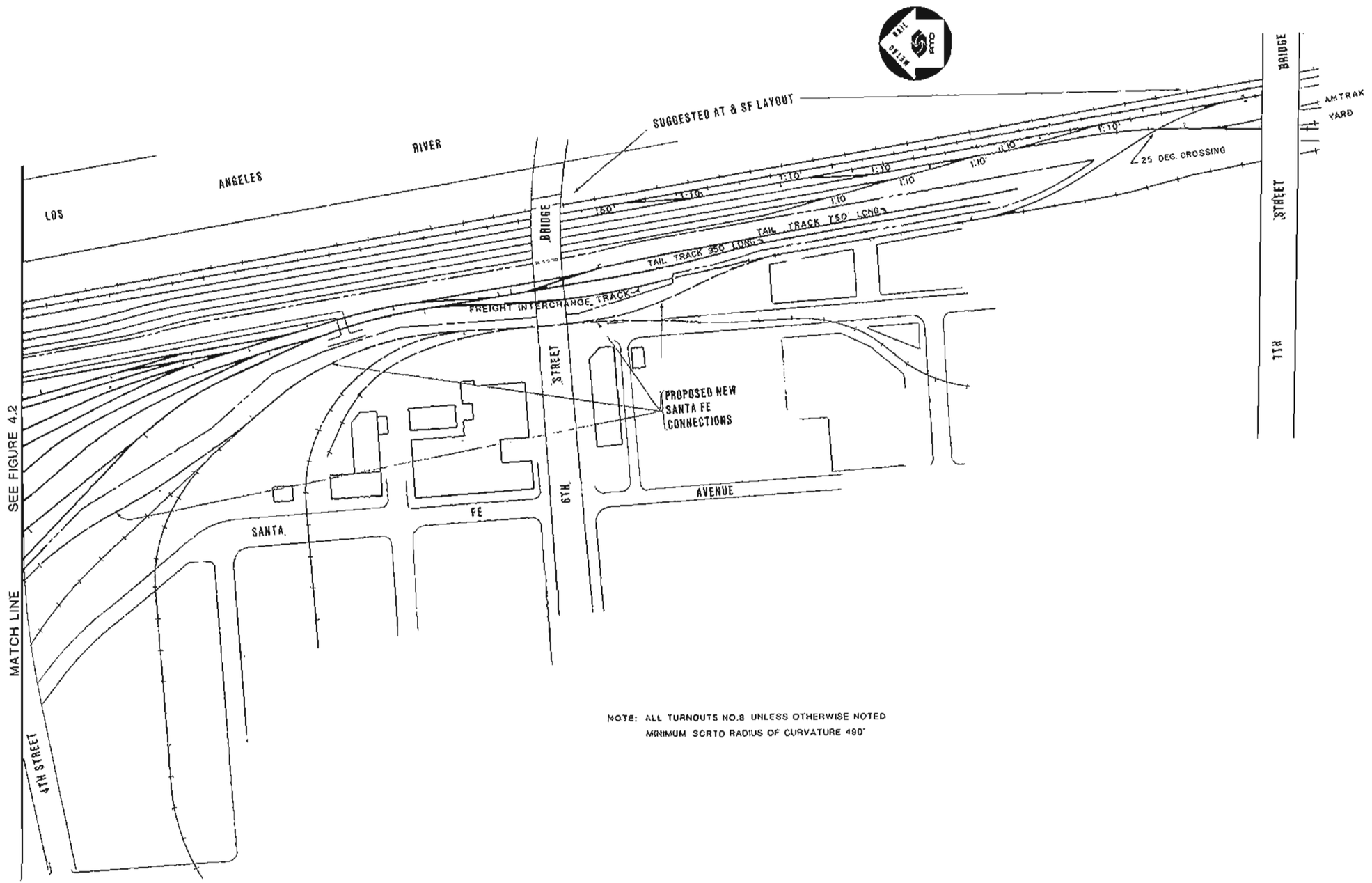
DMJM/PBQD
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
APPROVAL RECOMMENDED — Dwg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Dwg. No.

MAIN YARD AND SHOPS
YARD LAYOUT
CENTRAL AREA

CONTRACT NO.
DRAWING NO. AC-14AAG-C-0141
SCALE 1":100'-0"
SHEET NO. FIGURE 4.2

FIGURE III-23



REV	DATE	BY	APP.	DESCRIPTION
1	7/6/83	D.C.		MODIFIED TO COMPLY WITH MILESTONE II

DESIGNED BY G. P. STANSKE Date
DRAWN BY DEL CASTILLO Date
CHECKED BY D. MALICK Date 1/21/83

DMJM/PBQD
A Joint Venture
General Engineering Consultant/-Ways and Structures
SUBMITTED BY:
PROJECT MANAGER

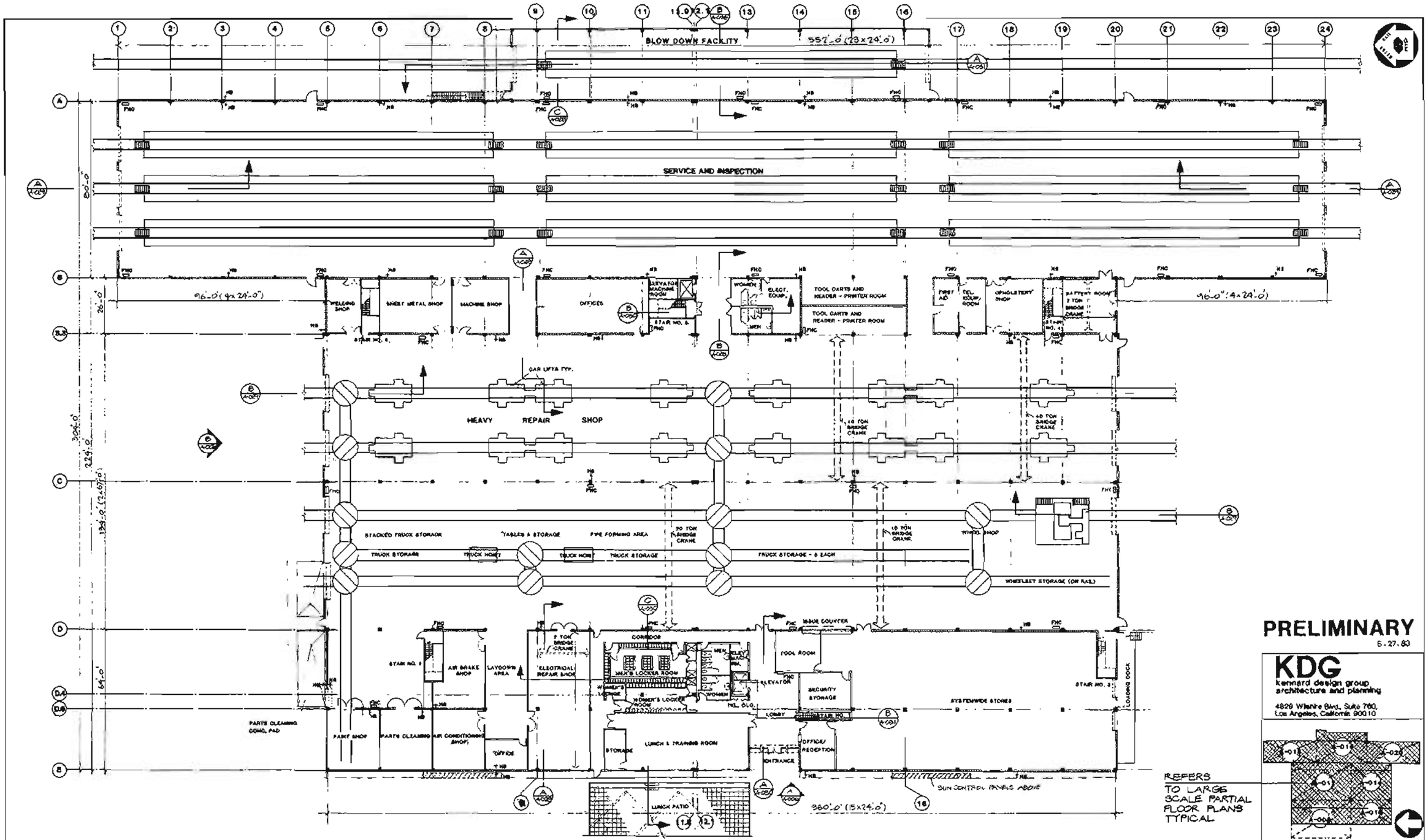
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED Reg. No.
APPROVED Date
MANAGER / CHIEF ENGINEER Reg. No.

MAIN YARD AND SHOPS
YARD LAYOUT
TAIL TRACK AREA

CONTRACT NO.
DRAWING NO. AC-14AAG-C-015(1)
SCALE 1":100'-0"
SHEET NO. FIGURE 4.3

FIGURE III-24



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5.27.83

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REFERS TO LARGE SCALE PARTIAL FLOOR PLANS TYPICAL

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DESIGNED BY Date 6-20-83
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General-Engineering Consultant-Ways and Structures
SUBMITTED BY
PROJECT MANAGER

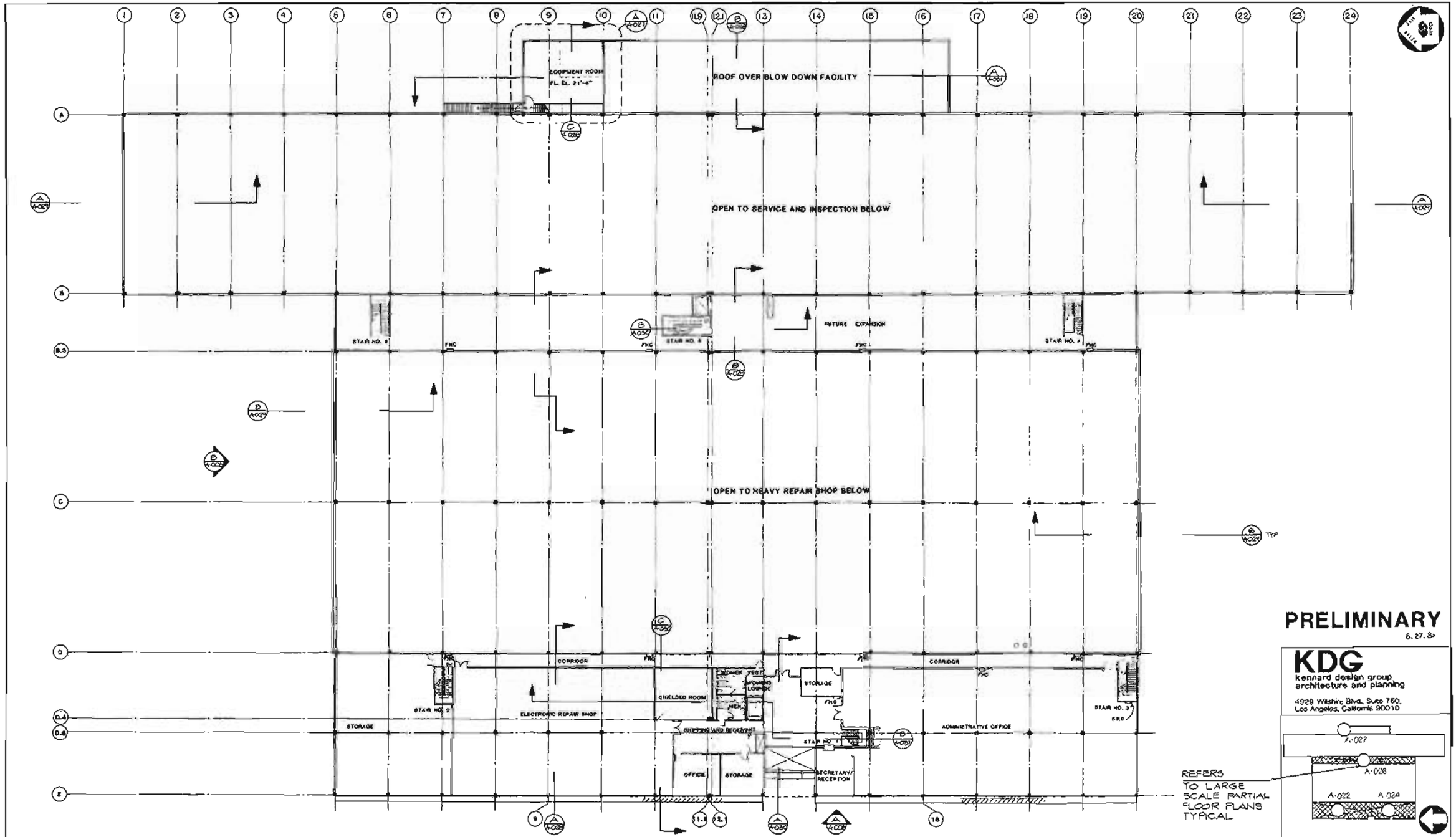
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED — Engr. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

MAIN YARD AND SHOPS
MAIN SHOP BUILDING
FIRST FLOOR PLAN

CONTRACT NO. A-100
DRAWING NO. AP-16AAB-A-002(0)
SCALE 1/20"-1'-0"
SHEET NO A-002 | 61 OF 173

FIGURE III-25



PRELIMINARY

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METRO RAIL PROJECT
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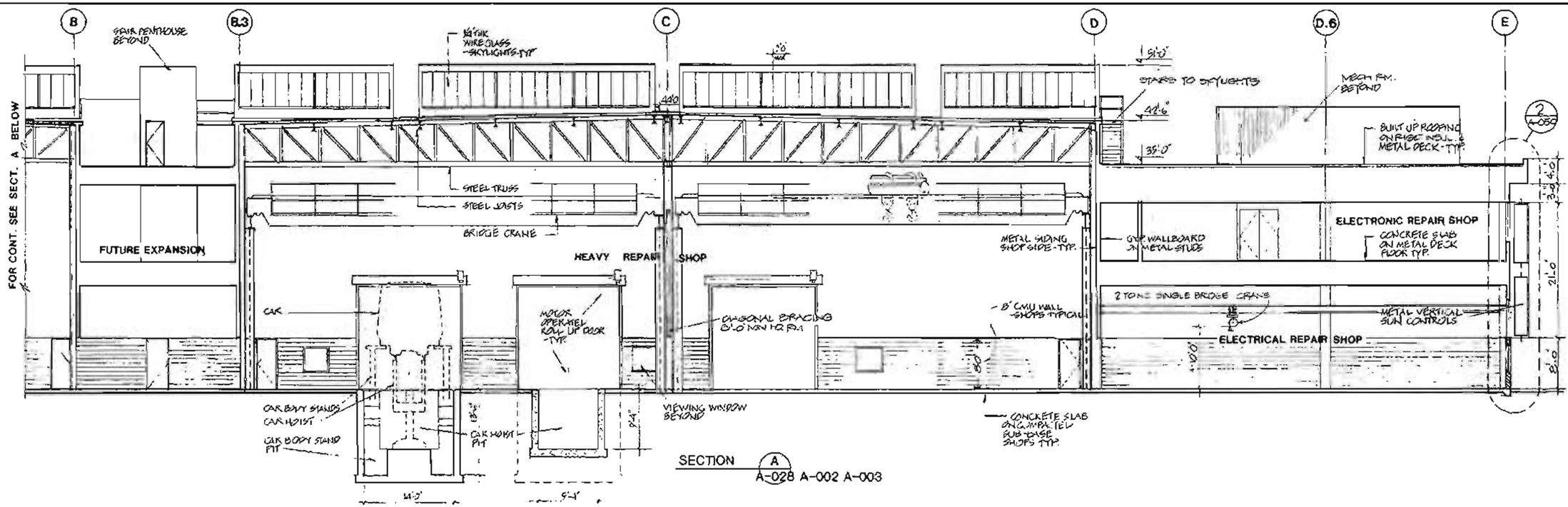
MAIN YARD AND SHOPS
MAIN SHOP BUILDING
SECOND FLOOR PLAN

CONTRACT NO. A-100
DRAWING NO. AP-16AAB-A-003(0)
SCALE 1/20"-1'-0"
SHEET NO. A-003 62 OF 173

FIGURE III-26



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6·27·83

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General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER

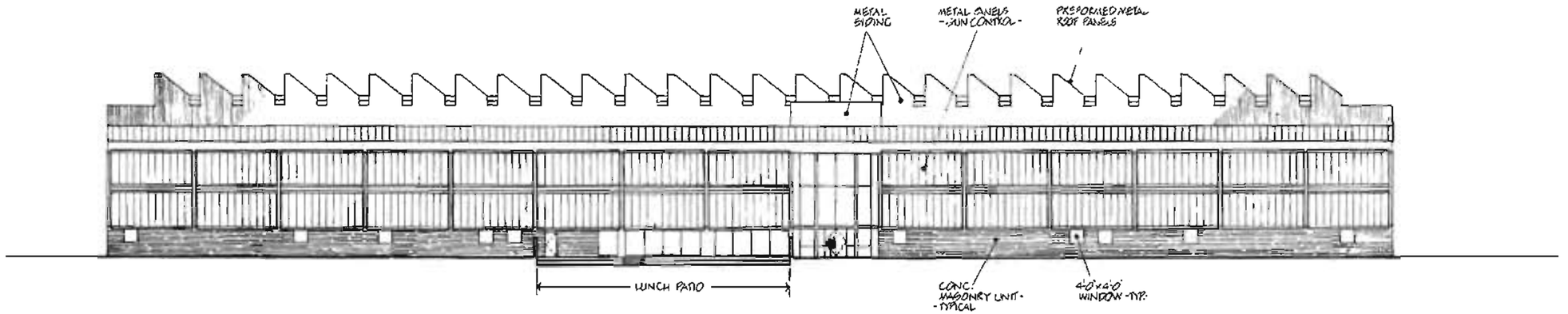
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

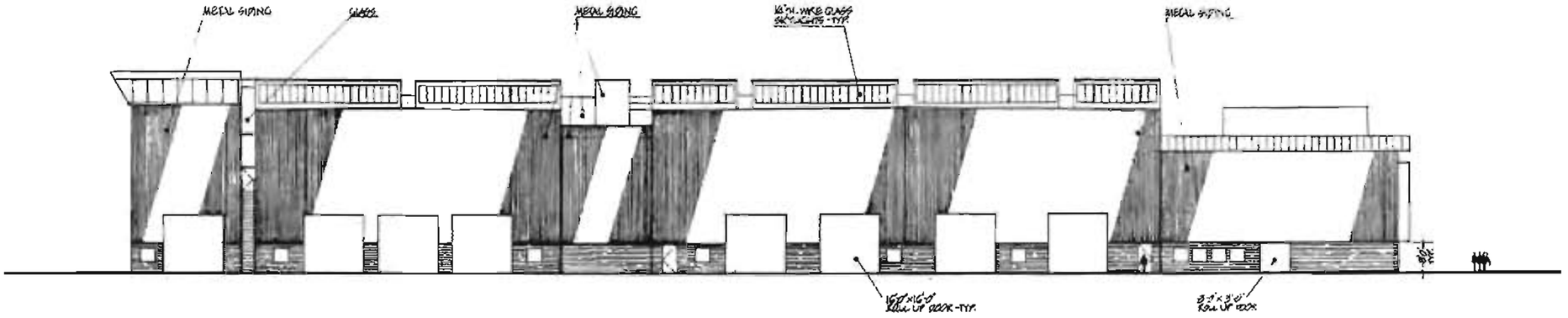
MAIN YARD AND SHOPS
MAIN SHOP BUILDING
BUILDING SECTIONS

CONTRACT NO. A-100
DRAWING NO AP-16AAB-A-028(0)
SCALE 1/8"-1'-0"
SHEET NO. A-028 | 87 OF 173

FIGURE III-27



WEST ELEVATION (A) A-006 A-002



NORTH ELEVATION (B) A-002 A-006

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General Engineering Consultant-Ways and Structures
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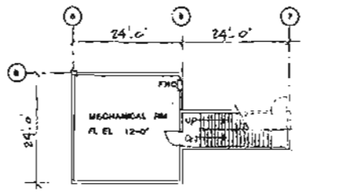
METRO RAIL PROJECT
RTD

APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

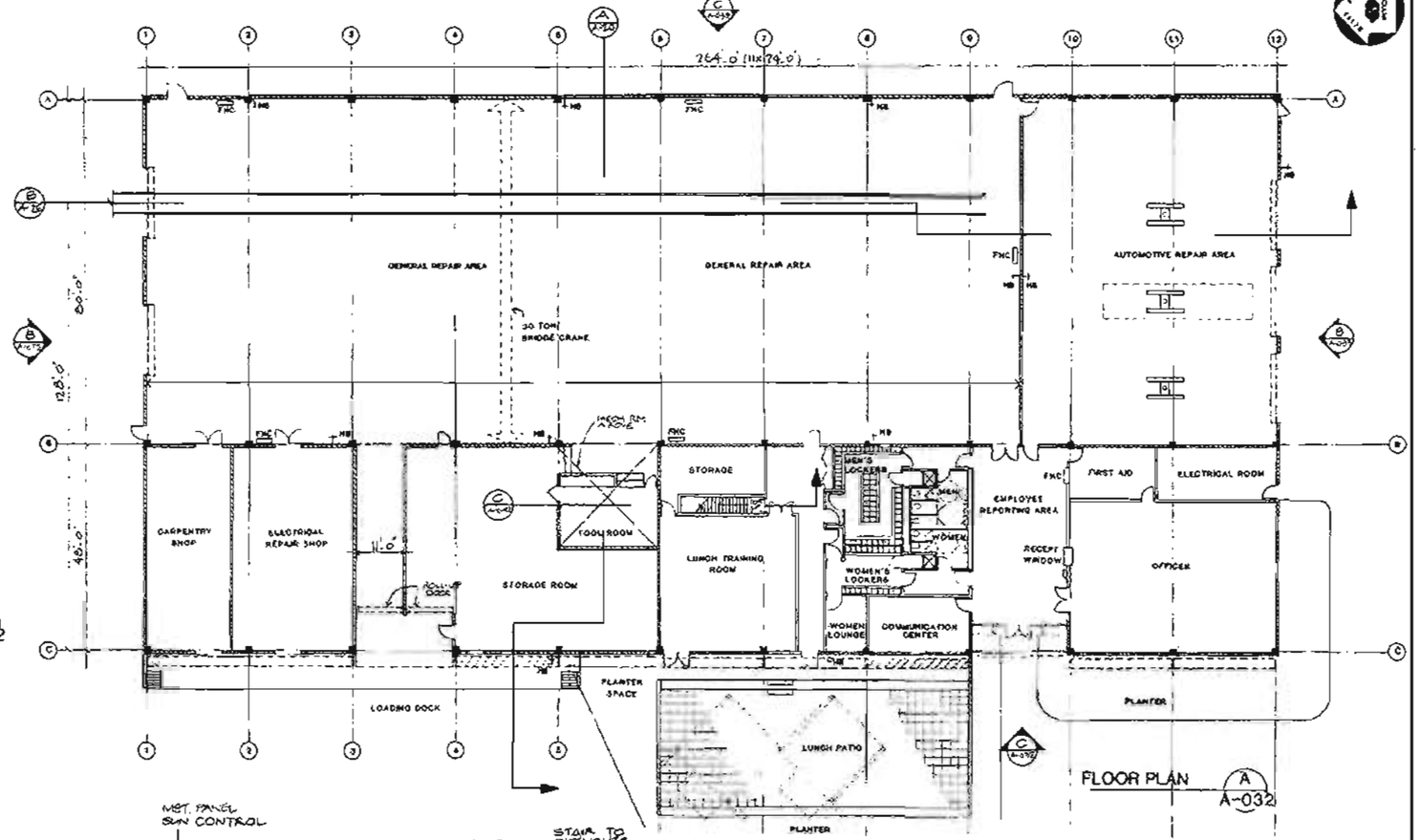
MAIN YARD AND SHOPS
MAIN SHOP BUILDING
BUILDING ELEVATION

CONTRACT NO. A-100
DRAWING NO. AP-16AAB-A-006(0)
SCALE 1/16"-1'-0"
SHEET NO. A-006 65 OF 173

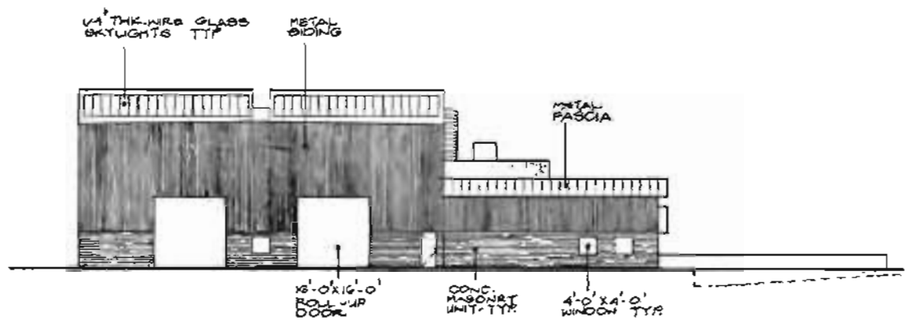
FIGURE III-28



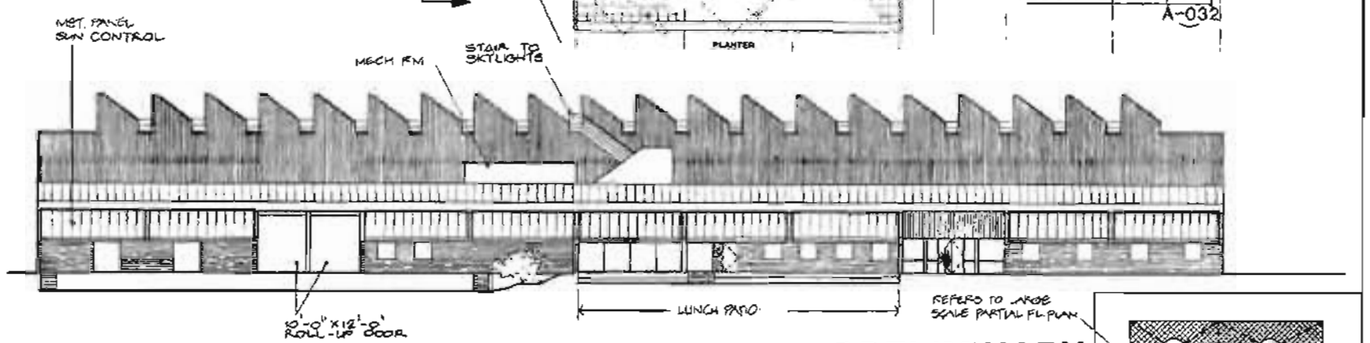
MECHANICAL ROOM PLAN D A-032



FLOOR PLAN A A-032

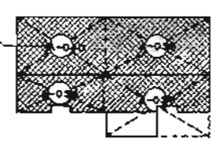


NORTH ELEVATION B A-032



WEST ELEVATION C A-032

REFER TO LARGE SCALE PARTIAL FL PLAN



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General Engineering Consultant-Ways and Structures
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD

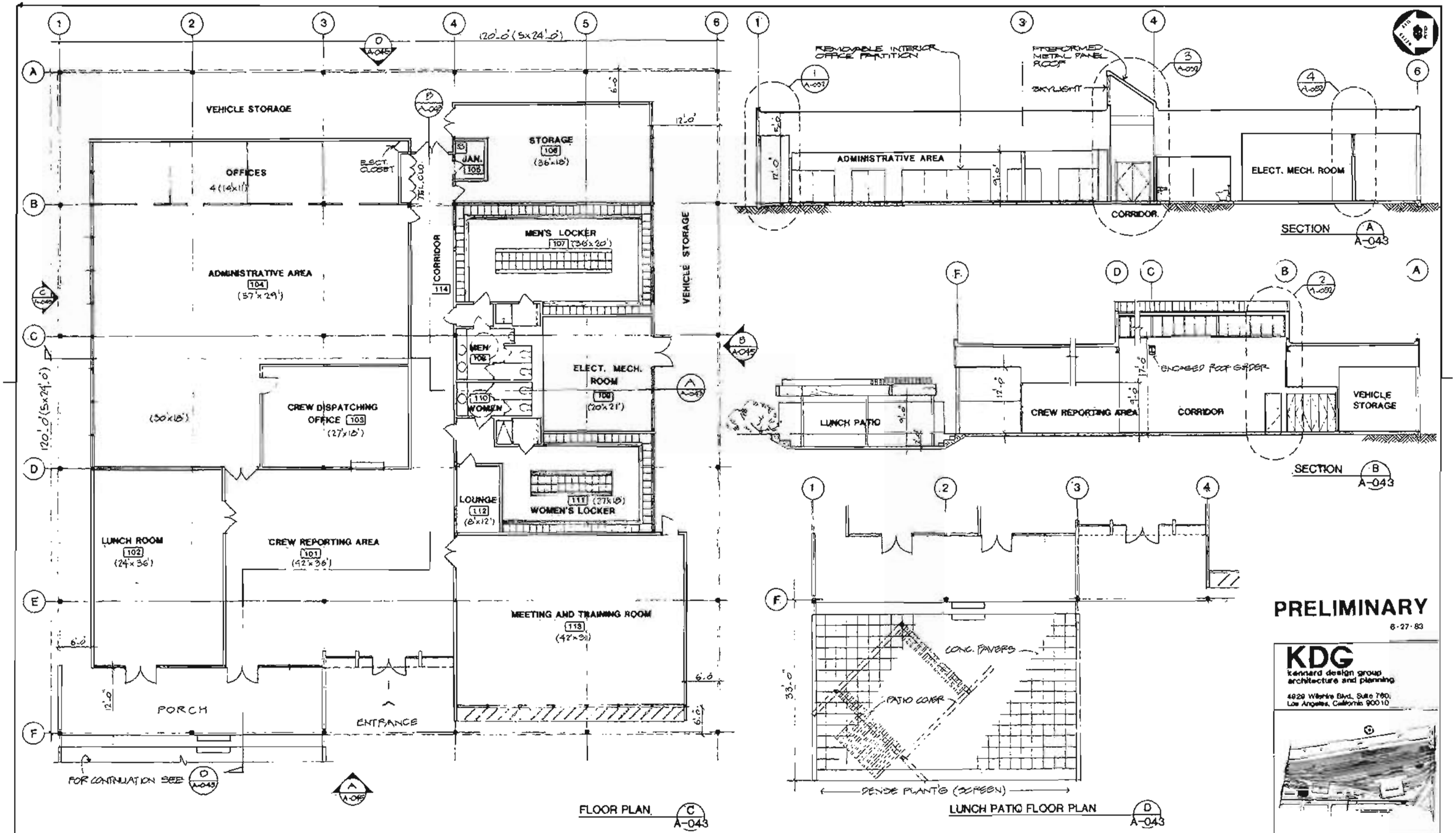
APPROVAL RECOMMENDED — Reg. No. ____
APPROVED — Date ____ MANAGER / CHIEF ENGINEER — Reg. No. ____

MAIN YARD AND SHOPS
MAINTENANCE-OF-WAY SHOP BUILDING
FIRST FLOOR PLAN AND BUILDING ELEVATIONS

CONTRACT NO. A-100
DRAWING NO. AP-16AAB-A-032(0)
SCALE 1/16"-1'-0"
SHEET NO. A-032 | 91 OF 173

-194-

FIGURE III-29



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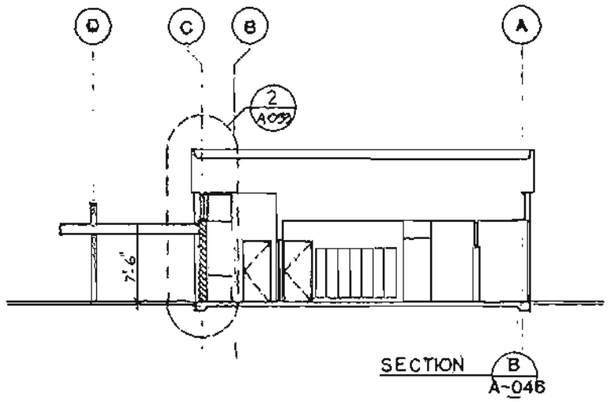
General Engineering Consultant - Ways and Structures
SUBMITTED BY:
PROJECT MANAGER

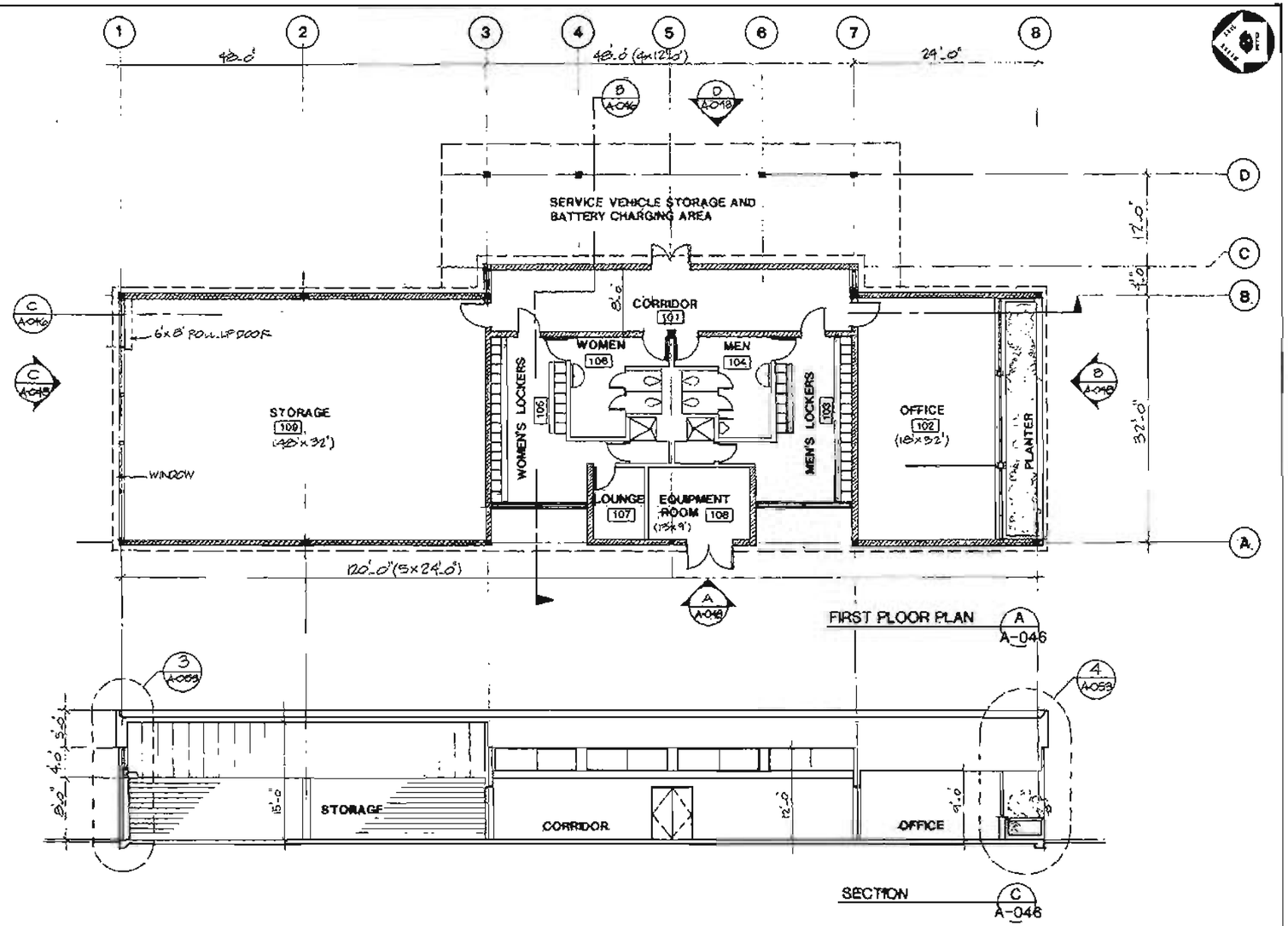
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
ATD
APPROVAL RECOMMENDED — Reg. No.
APPROVED — Date
MANAGER / CHIEF ENGINEER — Reg. No.

MAIN YARD AND SHOPS
TRANSPORTATION BUILDING
FIRST FLOOR PLAN AND BUILDING SECTIONS

CONTRACT NO A-100
DRAWING NO. AP-18AA8-A-043(0)
SCALE 1/8"-1'-0"
SHEET NO. A-043 | 102 OF 173

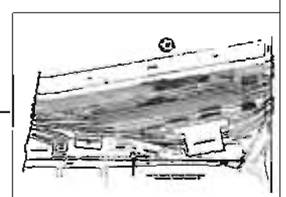
FIGURE III-30





FIRST FLOOR PLAN A A-046

PRELIMINARY
6.27.83



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REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY Date 6-20-83
DRAWN BY Date 6-20-83
CHECKED BY Date 6-20-83

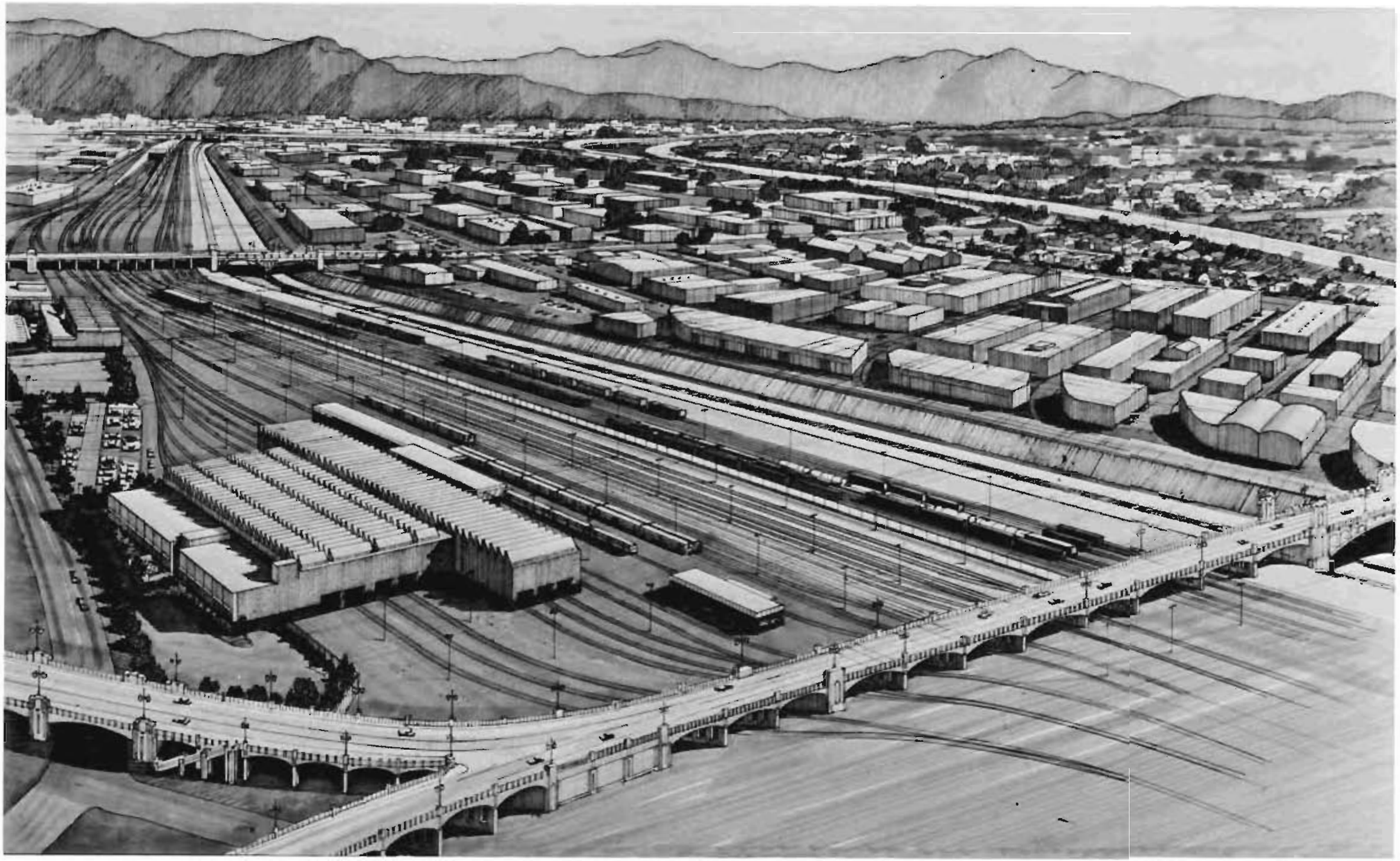
DMJM/PBQD
A joint venture
General Engineering Consultant-Ways and Structures
SUBMITTED BY
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Date — Reg. No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

MAIN YARD AND SHOPS
CAR CLEANER'S BUILDING
FIRST FLOOR PLAN
AND BUILDING SECTIONS

CONTRACT NO A-100
DRAWING NO AP-16AAB-A-046(0)
SCALE 1/8"= 1'-0"
SHEET NO. A-046
105 OF 173

FIGURE III-31



NORTHEAST VIEW OF MAIN YARD & SHOPS

SCRTD Metro Rail
HWA

FIGURE III-32

DATA PROCESSING ROOM

EQUIPMENT ROOM

SURVEILLANCE AND SECURITY CENTER

COMPUTER STORAGE

TRAIN CONTROL COMPUTERS

HARDCOPY PRINTER

COMPUTER STORAGE

COMPUTER STORAGE

SUBSYSTEMS SUPERVISORY COMPUTERS

MASTER CLOCK

OPERATOR'S CONSOLE

TO/FROM RADIO TELE-PHONE

TCOE TELE-PHONE CABINET

DTS CABINET

PA POWER AMPLIFIER

TO/FROM WAYSIDE

FIRE & SECURITY CONTROL PANEL

CTS CABINET

DTS CABINET

VOICE RECORDER

RADIO BASE STATIONS

TO ANTENNA

MONITOR (TYP) (36)

RADIO REMOTE CONTROLLER

RADIO CHANNELS
1. TRAIN OPERATIONS
2. MAINTENANCE
3. EMERGENCY
4. TRANSIT POLICE CHANNELS (2)

TELEPHONE
1. ATEL
2. ETEL

TRANSIT POLICE DISPATCHER DESK

PA/INTERCOM
1. CCIC

VIDEO RECORDER

RADIO CHANNELS
1. SECURITY

TELEPHONE
1. ATEL

PA/INTERCOM
1. CCIC

SURVEILLANCE CONSOLE (6 MONITORS)

OPERATIONS CENTER

HARDCOPY PRINTER

FACILITIES ALARMS & INDICATIONS

FIRE/SECURITY DISPLAYS & CONTROL

VOICE RECORDER

RADIO REMOTE CONTROLLER

RADIO CHANNELS
1. TRAIN OPERATIONS
2. MAINTENANCE
3. EMERGENCY
4. TRANSIT POLICE CHANNEL (2)

TELEPHONES
1. ATEL
2. ETEL
3. DIRECT LINE

PA/INTERCOM
1. STATION PA
2. CCIC
3. STATION INTERCOM

EMERGENCY TELEPHONE IDENTIFICATION

COMMUNICATIONS CONSOLE

COMMUNICATIONS

RADIO REMOTE CONTROLLER

1. FIRE DEPT. CHANNELS

VOICE RECORDER

TELEPHONES
1. ATEL
2. DIRECT LINE

PA/INTERCOM
1. STATION PA
2. CCIC

EMERGENCY TELEPHONE AT EMP IDENTIFICATION

FIRE DEPT.

DISPLAY COMPUTER INTERFACE

TRACTION POWER STATUS DISPLAY

CRT INTERFACE

TRACTION POWER CONSOLE

TRACTION POWER CONTROL

DISPLAY COMPUTER INTERFACE

TRAIN CONTROL STATUS DISPLAY

HARDCOPY PRINTER

CRT INTER-FACE

TRAIN CONTROL CONSOLE

RADIO CHANNELS
1. TRAIN OPERATIONS
2. EMERGENCY
3. MAINTENANCE

TELEPHONES
1. ATEL
2. DIRECT LINE

PA/INTERCOM
1. CCIC

RADIO SPEAKER (TYP)

CRT WITH KEYBOARD (TYP. OF 4)

CRT INTER-FACE

OPERATIONS SUPERVISOR CONSOLE

TRAIN CONTROL CONSOLE

RADIO REMOTE CONTROLLER

RADIO CHANNELS
1. TRAIN OPERATIONS
2. MAINTENANCE
3. EMERGENCY
4. SECURITY

TELEPHONE
1. ATEL
2. ETEL

PA/INTERCOM
1. CCIC

RADIO CHANNELS
1. TRAIN OPERATIONS
2. EMERGENCY
3. MAINTENANCE

TELEPHONE
1. ATEL

PA/INTERCOM
1. CCIC

TELETYPE TO YARD CONTROL (UNION STATION)

TRAIN CONTROL

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY A. P. ADELA Date 3/1/82

DRAWN BY Y. S. OH Date 3/1/82

CHECKED BY D.S. WELLINGTON Date 4/5/83

Kaiser Engineers California

SUBMITTED BY _____ PROJECT MANAGER 10863 REG NO.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT

APPROVAL RECOMMENDED _____ Reg. No. _____

APPROVED _____ Date _____ MANAGER / CHIEF ENGINEER Reg. No. _____

FUNCTIONAL CENTER
CENTRAL CONTROL

CONTRACT NO.

DRAWING NO. 16CAC-C-002

SCALE NONE

SHEET NO. 2

FIGURE III-33

C. CENTRAL CONTROL FACILITY

Central Control will be the nerve center of the System and, as such, the focus of system operation. To enable efficient and safe system operations it will contain displays, controls, consoles, communications equipment, and operating personnel. It will be staffed continously during revenue service and as required during other hours. Upon detection of a failure or emergency condition affecting System operation, the Control Center personnel will implement corrective action to restore or maintain Metro Rail operation.

Central Control will be divided into the following areas: operations center, surveillance and security center, data processing room, communications and electrical equipment room(s). Figure III-33 illustrates the relationships between the various control components.

1. Operations Center

The Operations Center will contain status displays and controls for the automatic train control system and traction power system. The operating personnel will coordinate all activities within the operations room that affect revenue service operation from control consoles. Each display and control console will be equipped with radio, telephone, and intercom communications. Central Control personnel will have provision for public address announcements to a selected train or all trains in revenue service. Data communications will be provided from field locations to Central Control for supervision of automatic train control and traction power systems.

a. Automatic Train Control. All train locations and movements will be monitored throughout the revenue line to enable the Central Control personnel to determine whether trains are operating on schedule within an acceptable limit. Train movements between stations, at interlockings, and to and from the yards, will be displayed on a train status board. The illuminated train status board will also indicate the position and status of each track switch throughout the mainline and yard lead tracks.

   All movement of trains between the yard and the revenue line will be coordinated between Yard Control personnel and Central Control personnel through a high-speed printer with backup provided by telephone communications.

b. Traction Power. All traction power circuits throughout the revenue line will be monitored and controlled to enable Central Control personnel to manage the traction power system for proper train operation. Circuit breaker and power rail status will be displayed on a traction power status board.

2. Communications Center

The Communications Center will contain status displays for facilities alarms and indications, fire/security displays and controls, a supervisory computer hard copy printer, and a communications console. The communications console will be equipped with radio, administrative emergency telephones, station public address, and intercoms. The console will be capable of making public address announcements in individual or all passenger stations. Direct line communications to local fire and police will be provided to coordinate their activities. A voice recorder will record all emergency telephone and radio communications with Central Control. The intercoms will be able to communicate directly with the patron assistance intercoms in each of the stations when the stations are unattended or if the station attendant is unable to answer a call. The intercoms will also allow communications among all of the consoles and desks located within Central Control.

3. Surveillance and Security Center

a. T.V. Monitor Center

A T.V. Monitor Center will contain video monitors (three monitors per passenger station) and a control console. Each video monitor normally will show sequenced image from the passenger stations. The console will have the capability to stop the sequencing and display the scene from only one camera. A video recorder will be provided to record selected video information. The console will be equipped with a telephone set and an intercom unit.

b. Security Center

The Security Center will contain a security console. The security console will be equipped with radio, a telephone set, and an intercom unit. From this center all Metro Rail security forces will be directed.

4. Data Processing Room

The Data Processing Room will contain the dual redundant automatic train control computers, the dual redundant supervisory computers, the Management Information System Computer, and data processing support equipment.

5. Communications Equipment Room

The Communications Equipment Room will contain the cable transmission subsystem cabinet, the data transmission subsystem cabinet, telephone exchange(s), radio base stations(s), voice recorders and and other communications auxiliary equipment.

D. MISCELLANEOUS STRUCTURES

1. Intermediate Traction Power Substation

Eighteen traction power substations (facilities to rectify and convert alternating current to the direct current used to power the Metro Rail trains) are required for the SCRTD 18.6-mile starter line. Sixteen of the 18 traction power substations will be located in or near the passenger stations. One traction power substation will be located in the train yard and the remaining traction power substation will be located in the Hollywood Hills, west of Passmore Drive, south of Bonnie Hill Drive, and north of Woodrow Wilson Drive. The Intermediate Traction Power substation in the Hollywood Hills will be approximately 50 feet by 150 feet in size and will be designed to be compatible with the area in which it is located. Figure III-34 shows a typical plan for an aboveground traction power substation.

A train control room and space for mechanical ventilation equipment will also be provided at the site of the intermediate traction power substation. Additionally, a train control room will be constructed adjacent to the intermediate ventilation shaft at Lankershim and Kling, described below.

Intermediate Ventilation Shafts

Ventilation shafts, in addition to those associated with stations, may be required at intermediate locations between widely spaced stations. The purpose of these ventilation shafts is to relieve the piston effect caused by trains moving in a tunnel. These shafts also serve as emergency fan shafts by which air can be drawn into the tunnels and air or smoke can be exhausted during an emergency. Fans would only be used in emergency situations to augment the natural functioning of the shaft. The shaft must penetrate the surface, preferably in an off-street, off-sidewalk location. However, in some cases the penetration may be through sidewalk grates. In an off-street, off-sidewalk configuration the vent may be through a chimney-like structure rising 10 feet to 12 feet above surrounding or adjacent surfaces. Intermediate ventilation shafts are proposed at the following locations:

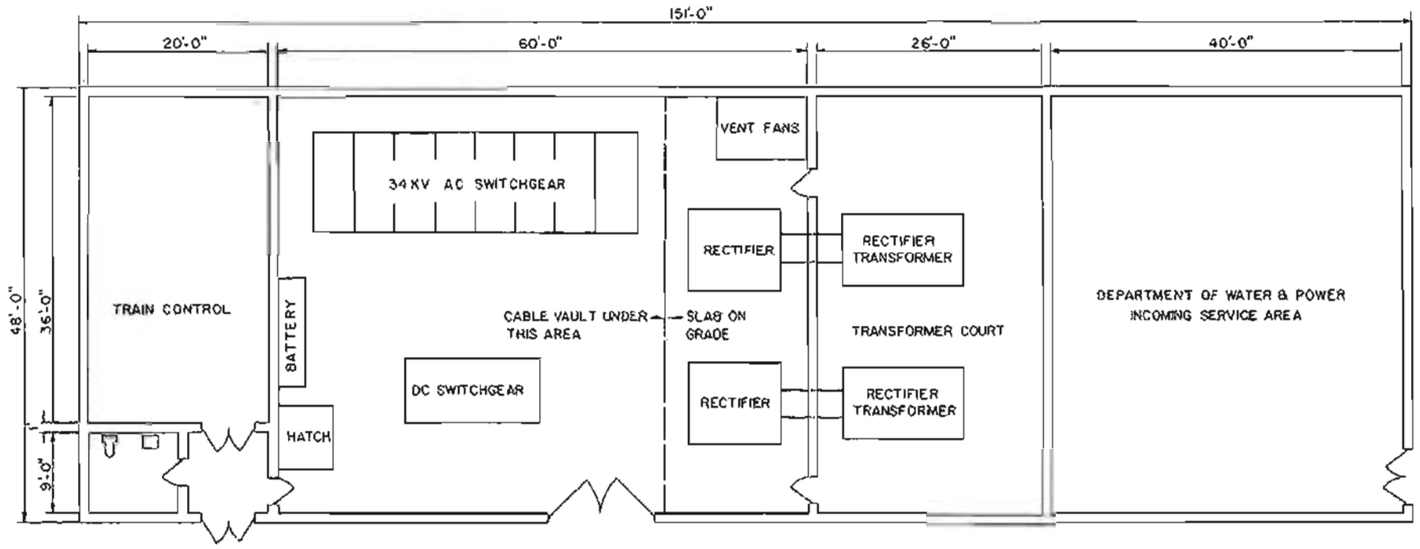
a. On the north side of Wilshire Boulevard mid-block between Murfield Road and Rimpau Boulevard.

b. At the intersection of Fairfax Avenue and 6th Street.

c. In the Hollywood Hills, west of the Hollywood Bowl and east of Mulholland Drive.

d. In the Hollywood Hills, west of Passmore Drive, south of Bonnie Hill Drive, and north of Woodrow Wilson Drive (adjacent to the intermediate traction power substation).

e. On the east side of Lankershim Boulevard, mid-block between Kling Street and Blix Street.



ABOVE GROUND
INTERMEDIATE TRACTION POWER SUBSTATION
EQUIPMENT PLAN

NOTES

1. ELECTRICAL INCOMING SERVICE AREA IS 40'X48' WITH 16' MASONRY WALL, NO ROOF. SLAB ON GRADE.
2. STRUCTURE FOR SWITCHGEAR, RECTIFIER & TRAIN CONTROL IS 80'X48', 16' CLEAR HEIGHT, MASONRY STRUCTURE, BAR JOIST, BUILT-UP ROOF.
3. CABLE VAULT SIZE IS APPROX. 40'X48' WITH 8' CLEAR HEIGHT.
4. TRANSFORMER COURT SIZE IS 26'X48', 16' MASONRY WALL, NO ROOF, GRAVEL FILLED SURFACE, CONCRETE FOUNDATIONS FOR TRANSFORMERS.

REV.	DATE	BY	APP.	DESCRIPTION

DESIGNED BY J. CHANG Date 3/9/83
DRAWN BY M. UDRESCU Date 3/9/83
CHECKED BY J. CHANG Date 3/10/83

HARRY WEESE & ASSOCIATES
TIPPETTS-ABBETT-McCARTHY-STRATTON
ENVIRONMENTAL COLLABORATIVE, INC.
GIN WONG ASSOCIATES
General Architectural Consultants: Stations
SUBMITTED BY:
PROJECT MANAGER

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
METRO RAIL PROJECT
RTD
APPROVAL RECOMMENDED — Reg No.
APPROVED — Date — MANAGER / CHIEF ENGINEER — Reg. No.

ABOVE GROUND
INTERMEDIATE TRACTION POWER SUBSTATION
EQUIPMENT PLAN

CONTRACT NO.
DRAWING NO.
SCALE 1/8"=1'-0"
SHEET NO.

FIGURE III-34

IV. CONSTRUCTION METHODS

IV. CONSTRUCTION METHODS

A. STATION CONSTRUCTION METHODS

The underground stations of the Metro Rail Project will be constructed by cut-and-cover methods. Depths of trench excavations will be as shallow as possible consistent with a minimum earth cover allowance for utilities, the structural thicknesses required for the several levels of slabs, and the interior vertical heights dictated by clearance requirements. Width of the trench excavations will depend on the platform and trackway widths and the calculated thickness of the structural walls. The widths of construction are further augmented by the thickness of the support of excavation sheeting systems installed. Figures IV-1 through IV-6 illustrate various aspects of station construction.

Since the underground stations are located in built-up urban areas, their construction must take into consideration the influence on adjacent structures, the impact on vehicular and pedestrian traffic, the effect on buried utilities, and the necessity of final restoration of the street surfaces.

Various types of construction equipment will be operating at street level and below ground creating some visual impacts and perhaps even visual attractions. Noise emanating from this equipment will have to be maintained within acceptable levels. Transport of excavated muck and delivery of construction materials will be phased to minimize additional traffic flow in and around the project area.

1. Vehicular and Pedestrian Traffic

The construction of a cut-and-cover station in the roadway portion of the street will temporarily interfere with the normal flow of traffic, causing some lanes to be closed to vehicles for short durations. Some lanes could be closed to non-construction vehicles, except emergency vehicles, for the entire period of construction.

The roadway widths in the Central Business District (CBD) are such that the widths of the Hill Street and the 7th/Flower Street stations' cut-and-cover construction will overlap the sidewalks by varying amounts. In such cases, a program to direct pedestrian traffic movement will be instituted.

2. Building Data

Consideration of adjacent buildings, with respect to the excavation for underground stations, is necessary to determine whether or not to underpin their foundations, or whether a protection type sheeting system is more suitable in lieu of underpinning. Building data will help determine whether tie-backs might be used or if only internal bracing of the sheeting is feasible. The concern for the integrity of the adjacent structures will also influence excavation and bracing procedures. Where subsidewalk vaults occur within the outline of the station construction, these vaults must be removed.

3. Geotechnical Conditions

Substrata conditions will determine whether a pervious type sheeting system such as soldier pile and timber lagging can be used, or whether a closed type, such as interlocking sheet piling or concrete diaphragm wall, should be employed. The geology will also determine whether sheeting elements such as soldier piles or interlocking sheet piles can be driven to depths below subgrade, or whether predrilling or trench excavation prior to sheeting installation is necessary to accomplish the depth requirements.

Soil types can also affect the type of bracing selected. Tar sands and soft clays, for instance, will preclude the use of tie-backs. Excavation in soft clays will often limit successive depths of excavation below installed braces resulting in more tiers of bracing than would be employed in more competent material such as dense sand.

4. Underground Utilities

Subject to other constraints, underground stations will be located to avoid conflicts with the space occupied by utilities, but in certain instances the positioning of the station proper or locations of entrances and vent shafts dictates that conflicting utilities be relocated to clear the way for the station structures. This relocation to a new permanent location that would not be affected by the station construction work is generally performed prior to the construction of the subway station.

Utilities, such as high-pressure water mains and gas lines, which represent a hazard during cut-and-cover station construction and are not to be permanently relocated away from the work site, are removed from the cut-and-cover area temporarily to prevent any accidental damage to them and thus to the work and personnel. They are relocated temporarily by the station contractor at the early stages of his cut-and-cover operations and reset in essentially their original locations during the final backfilling above the constructed station. Utilities which need not be relocated, either permanently or temporarily, are uncovered during the early stages of excavation. These buried utilities, with the possible exception of sewers, are generally found within several feet of the street surface. They can be reinforced, if necessary, and supported by hanging from deck beams.

5. Sheeting Systems

A sheeting system of soldier piles and timber lagging has inherent characteristics that permit loss of ground such that important adjacent structures, whose foundations are within the zone of influence, would need to be underpinned to safeguard their integrity. In lieu of underpinning, the safety of adjacent structures can be accomplished by use of sheeting system types, which in conjunction with proper excavation and bracing procedures, can serve as protection to the adjacent structures. These sheeting systems have a degree of inherent stiffness which, together with controlled bracing supports, can acquire a serviceable amount of rigidity. The sheeting systems include interlocking sheet piling and reinforced concrete cylinders. Interlocking sheet piling would serve in relatively shallow cuts, such as those for entrances, while the others would be used for deep cuts.

6. Selection of Sheeting and Underpinning/Protection

Present indications are that a soldier pile and timber lagging sheeting system would most likely be selected for virtually all of the cut-and-cover station constructions. This is because of the feasibility of its installation in the soil conditions known to exist along the route, the economy of the system, the minimum amount of underpinning that would be required in conjunction therewith, and the avoidance of a large amount of slurry use in the built-up urban environment. Soldier piles can also be installed between existing utility line house connections, thereby avoiding the need to shift or relocate them.

The tabulation that follows shows the present assessment of sheeting systems proposed for the support of excavation for each of the Metro Rail stations. This tabulation is based on present limited knowledge of foundation characteristics of buildings adjacent to the stations. Also, since underpinning could cause some disruptions to the use of basement areas in some buildings, the economic value of such disruptions might rule in favor of utilizing a protection wall system of sheeting with total elimination of underpinning. Further studies of costs and public impacts will be made as more data become available.

Table IV-1

PROPOSED SHEETING SYSTEMS

Station	Soldier Pile & Timber Lagging	Underpinning Required with SPTL	Optional Use of Protection Wall
Union Station	Yes	None	No
Civic Center	"	Minimal	Maybe
5th/Hill	"	Moderate	Yes
7th/Flower	"	Moderate	Yes
Wilshire/Alvarado	"	Possible, Minimal	No
Wilshire/Vermont	"	None	No
Wilshire/Normandie	"	None	No
Wilshire/Crenshaw	"	Possible, Minimal	No
Wilshire/Western	"	Possible, Minimal	No
Wilshire/La Brea	"	Possible, Minimal	No
Wilshire/Fairfax	"	Moderate	Yes
Fairfax/Beverly	"	Possible, Minimal	Maybe
Fairfax/Santa Monica	"	Possible, Minimal	No
La Brea/Sunset	"	Possible, Minimal	No
Hollywood/Cahuenga	"	Possible, Minimal	No
Hollywood Bowl	"	None	No
Universal City	"	Possible, Minimal	Yes
North Hollywood	"	Possible, Minimal	No

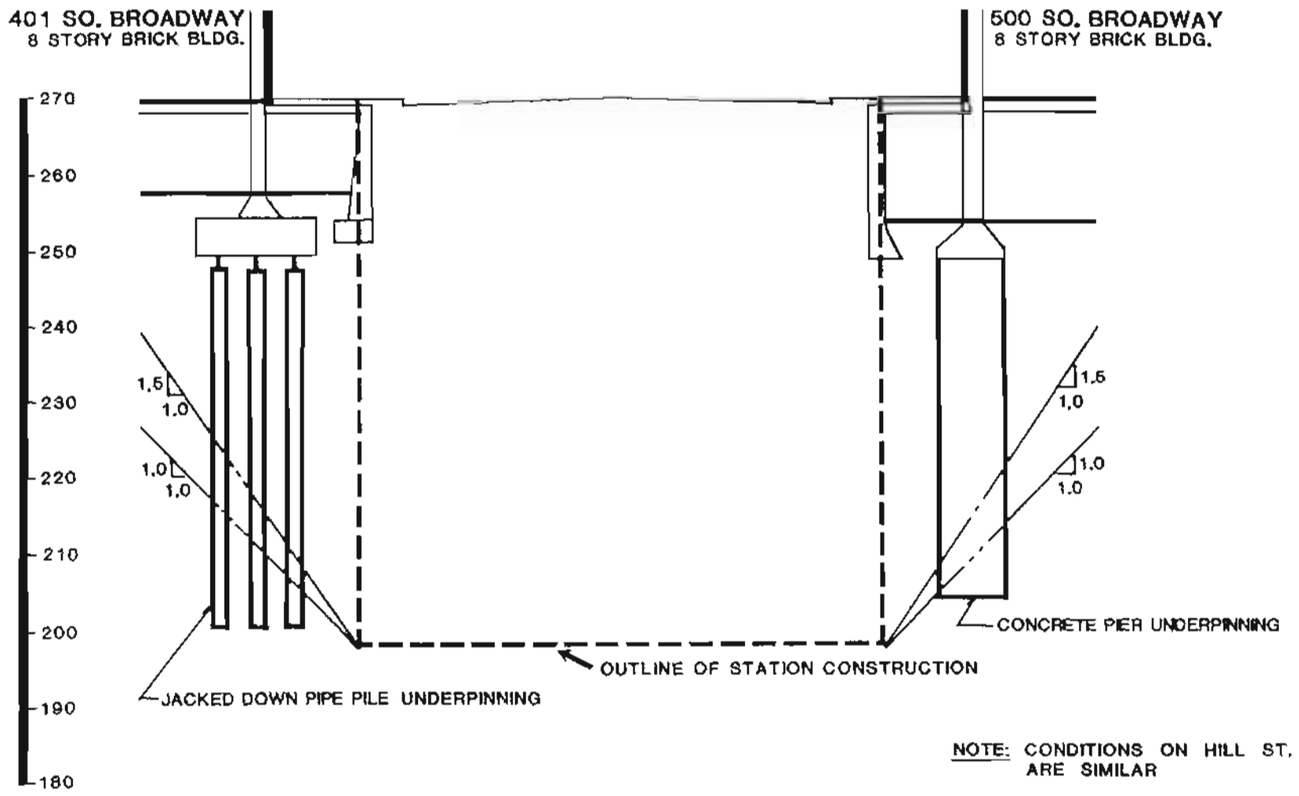

401 SO. BROADWAY
8 STORY BRICK BLDG.
500 SO. BROADWAY
8 STORY BRICK BLDG.
270
260
250
240
230
220
210
200
190
180
1.5
1.0
1.0
1.0
1.5
1.0
1.0
1.0
JACKED DOWN PIPE PILE UNDERPINNING
OUTLINE OF STATION CONSTRUCTION
CONCRETE PIER UNDERPINNING
NOTE: CONDITIONS ON HILL ST. ARE SIMILAR

FIGURE IV-1

7. Demolition of Subsidewalk Vaults

When the station arrangements make the removal of subsidewalk vaults unavoidable, knowledge of the vault structural details will assist the contractor in determining the demolition work he will have to perform. Initially, the portions of the subsidewalk vaults that are demolished are those that have to be cleared to enable the installation of the support of excavation sheeting systems. The demolition will involve at least portions of the sidewalk slab, the base slab, and intermediate level slabs, if more than one level of vault spaces is involved, and any cross-walls that might interfere with the sheeting arrangement. The outside retaining wall may or may not have to be demolished initially, depending upon whether the sheeting line falls inside the vault space or coincides with the retaining wall line. If not demolished initially, then the retaining wall is demolished during general excavation for the station structure. After removal of the subsidewalk vault, a structural closure wall is installed along the building line to seal the basement.

8. Maintenance of Traffic

The most economical and least time consuming condition for cut-and-cover station construction is one that permits the contractor to use equipment operating at street level. Auger drills, pile drivers, and bucket excavators are employed for the installation of sheeting systems. Clam shell buckets are used for excavation, and high capacity trucks carry the muck away for disposal. Flat bed carriers transport reinforcing steel to the work site for cranes to lower the rebars down into the open trench. Ready-mix trucks bring concrete to the job and dump either by chutes to the pour area or into buckets for cranes to lower to the concreting locations. Cranes are required for the lowering and lifting of structural steel used for cross-lot bracing.

Equipment employed for cut-and-cover station construction is heavy duty and for large volumes. Such equipment requires certain amounts of space when standing still, more for swinging, and additional for maneuvering. Review of expected equipment use shows that the contractor will be occupying a minimum 35-foot width of street surface with 40 feet or more desirable allowance for each of the various work operations.

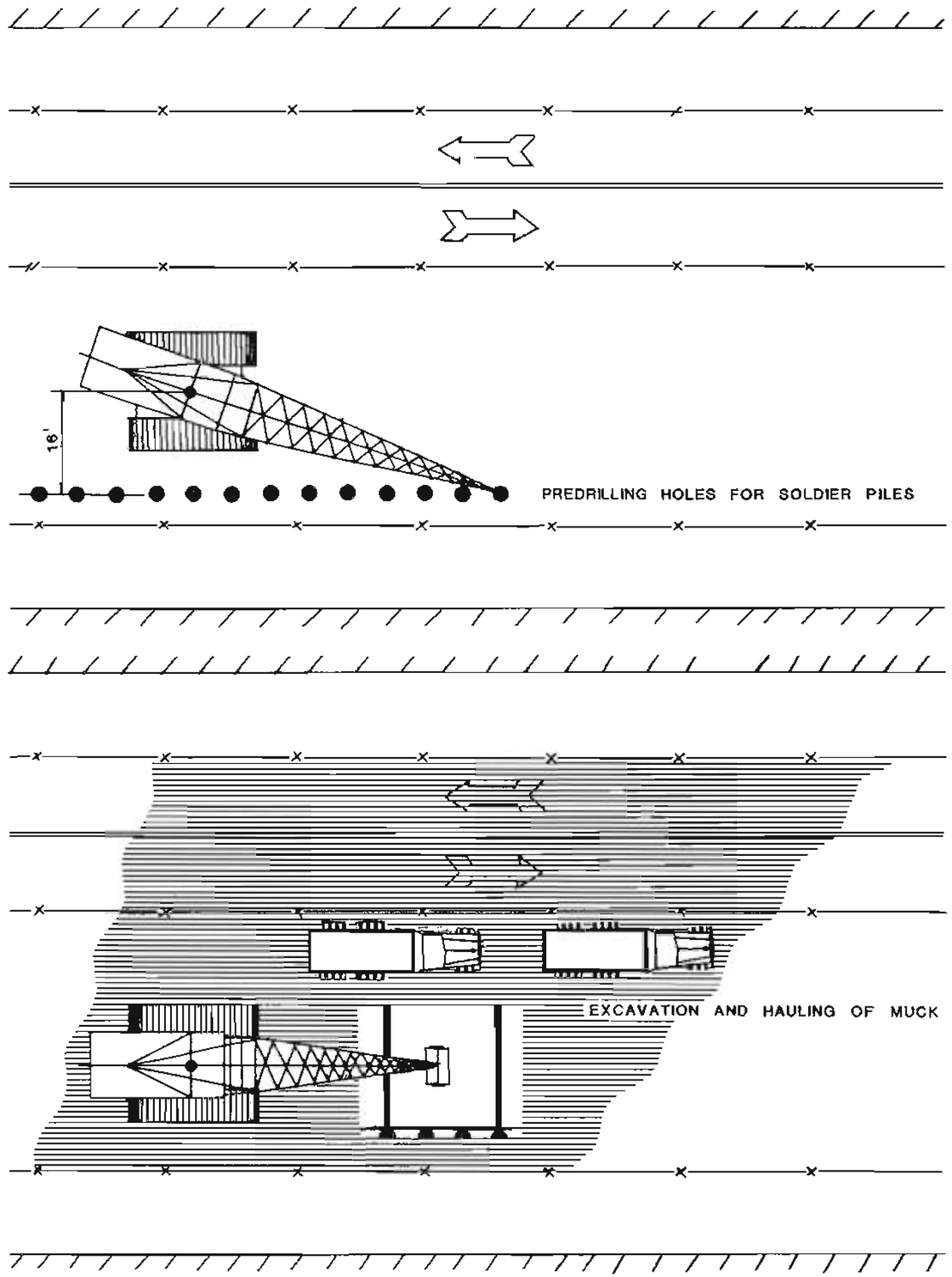


FIGURE IV-2

Because of the width of street surface that the contractor will occupy to perform the cut-and-cover construction operations, the flow of vehicular traffic will be limited in the direction parallel to the longitudinal axis of the station and will also be shifted from one side of the street to the other for the various states of construction. It has been determined that during the duration of cut-and-cover work on either Hill Street or 7th that approximately two lanes of vehicular traffic can be accommodated at any time. On wider sections of Wilshire Boulevard, it should be possible to maintain three lanes of vehicular traffic at all times during the construction of the stations.

Intersecting street traffic such as 4th Street, 5th Street, Flower Street, etc., will have intermittent reductions in traffic lanes to no more than half the present number while decking is installed and later when decking is removed and the street restored. During the period when all the decking is in place at the intersections, full cross-street lanes of traffic can be maintained.

9. Installation of Soldier Piles and Bearing Piles

In order to install the soldier piles for the support of the excavation the sheeting system, it is necessary to auger out holes for the placement of the piles. The predrilling of holes is necessary because of the types of soils encountered along the project route and because the depths of penetrations required for the station excavations make it impossible to drive the lengths of steel piles involved.

The contractor will first occupy one side of the street to install one line of soldier piles and the intermediate line of bearing piles. The amount of street width that this equipment requires will reduce the lanes of traffic on streets such as Hill and 7th to two lanes, and on the western portion of Wilshire Boulevard to three lanes; at this stage the traffic is still utilizing the existing pavement. After the contractor has decked the first side of the street, traffic is shifted onto the decked portion and the contractor moves his equipment to the other side of the street to install the second line of soldier piles.

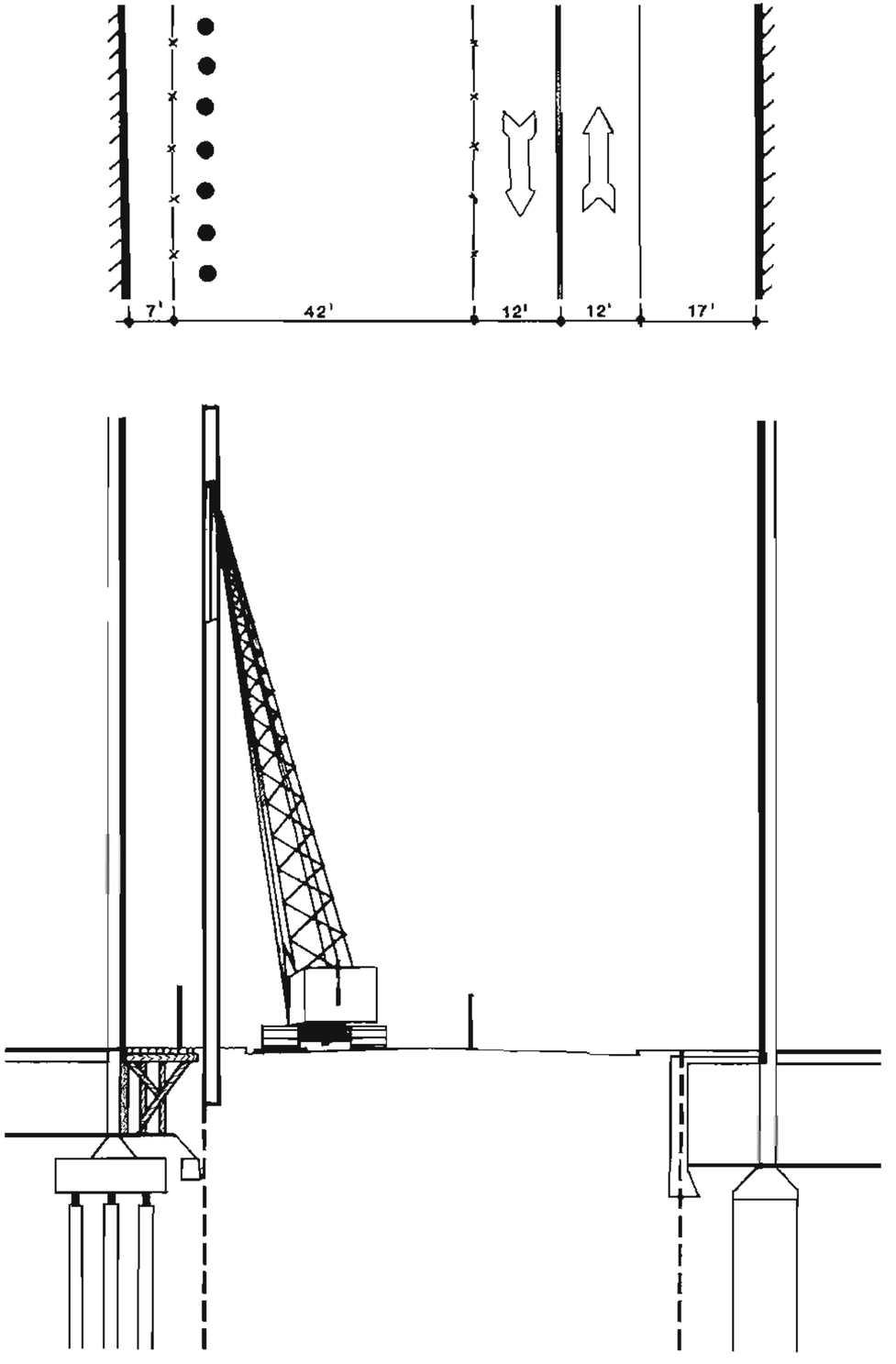


FIGURE IV-3

10. Installation of Decking

It is assumed that none of the streets will be closed to either vehicular or pedestrian traffic where construction will take place in a street location. It is expected that the maximum amount of traffic flow will be taking place consistent with the practical surface needs of the contractor, as discussed previously. To satisfy the traffic flow and the contractor's operations, the site of the cut-and-cover work for the station core will be completely decked and where subside-walk vaults have been demolished, decking will be provided to replace the sidewalks destroyed.

The decking will be installed in stages. After the line of sheeting on one side of the station and the bearing piles near the centerline of the station have been installed, the deck beams and decking are placed on the one side of the street. After shifting of traffic to the decked portion of street and completion of sheeting installation on the other side of station, the deck beams and decking are placed for the remaining half of the street. Openings or removable panels are provided for raising and lowering of material. Decking at cross-streets is installed in stages to allow at least half of existing lanes for traffic at any time, then full cross-street traffic is possible when all decking is in place.

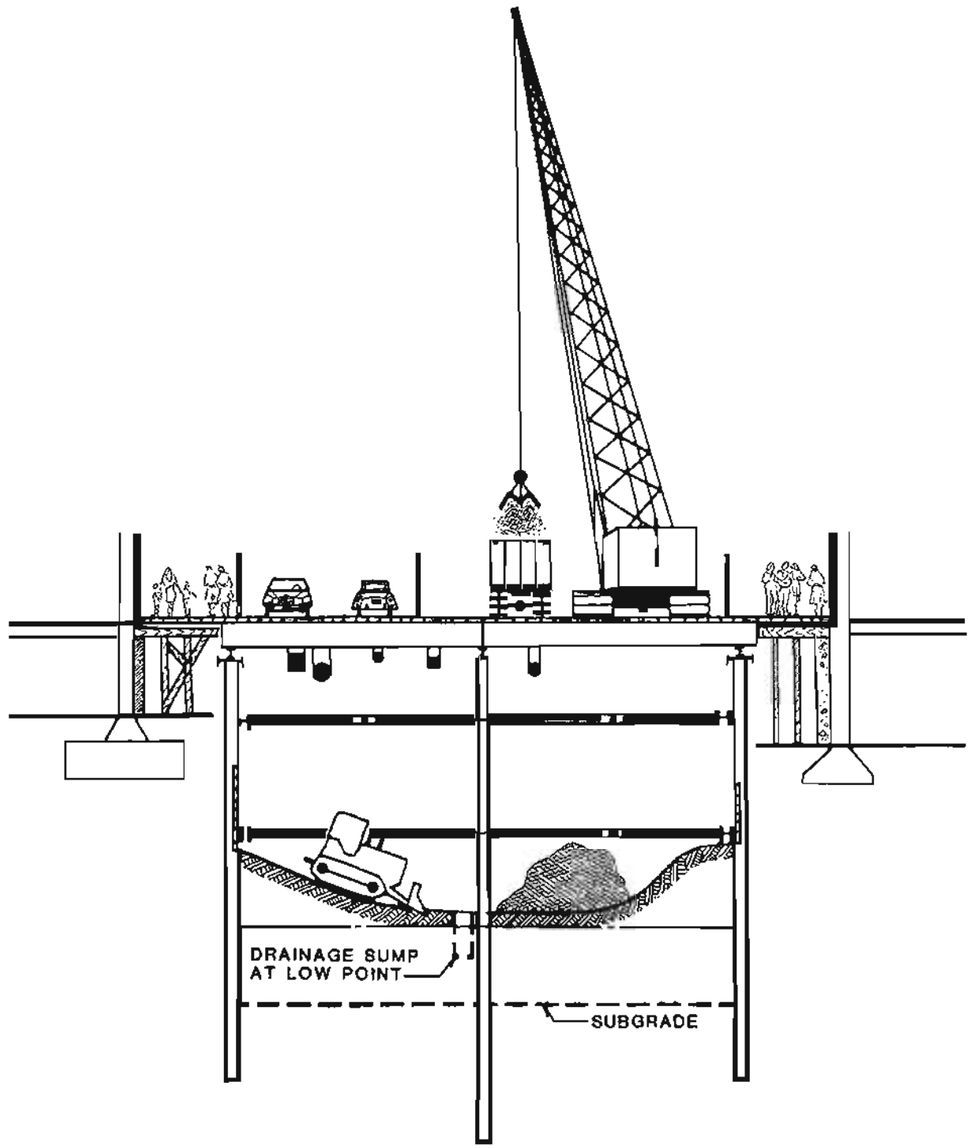
11. Excavation and Bracing

After the sheeting system and required interior bearing piles have been installed and prior to the placement of the deck beams, general excava-tion is made for a shallow depth, say to eight feet below street surface. This shallow excavation is for the purpose of uncovering the buried utilities as well as to provide room for continuing the excavation below the erected decking.

Water mains and gas mains are relocated out of the excavation area since these utilities are deemed hazardous and are restored to their original positions, more or less, during the final backfilling operations.

As the deck beams are installed, the utilities that can remain in the trench area - such as telephone, traffic, electric, etc. - are cradled and picked up and hung from the deck beams. Sewer lines may show up at this shallow depth and will likewise be hung from the deck beams during the initial excavation stage or they may be deeper and uncovered fully after additional depth of excavation has been accomplished. Sometimes heavy utilities such as large sewer pipes are supported by an auxiliary set of beams spanning between sheeting systems rather than hanging them from the deck beams.

With the decking installed, the utilities supported, and the contractor's equipment occupying a prescribed area of the street surface, the major excavation work can proceed. The method of removing the muck for hauling away from the job site is entirely a choice to be made by the contractor. A typical operation would be for bulldozers and/or overhead loaders to move the dirt to a central pickup point or several such points, where a clam shell bucket, from a crane sitting on the decking, can hoist the material and place it into trucks waiting at the street surface.



EXCAVATION AND BRACING

FIGURE IV-4

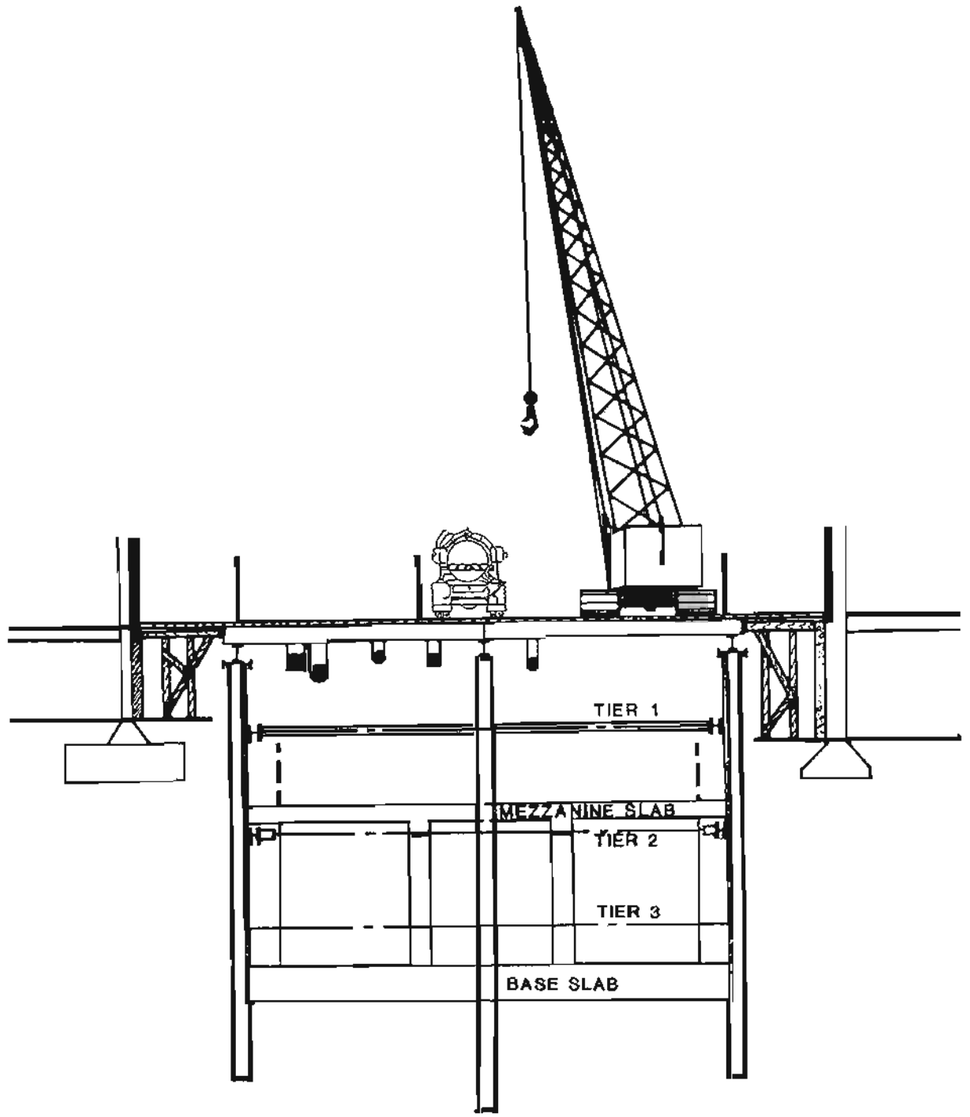
Bracing will be required at all cut-and-cover stations. An internal bracing system rather than tie-backs will be used because, for the relatively narrow trenches involved, they will prove to be more economical. Also in certain station locations, such as Civic Center, 5th/Hill and 7th/Flower, the presence of adjacent building structures would preclude the use of tie-backs. Therefore, a planned sequence of excavation and installation of internal bracing will proceed downward until subgrade is reached.

12. Structure Installation and Bracing Removal

The station floor also known as invert or base slab, will be installed first. The slab is poured in longitudinal lengths of 30 to 50 feet and for the full transverse width. Invert slabs are generally poured in alternate sections so that the placement of reinforcing steel and the pouring of concrete do not interfere with each other.

After a reasonable length of continuous base slab has been completed, the installation of exterior walls and any interior column elements can proceed up to the underside of slab level that is to be supported by the walls and/or columns. Thus, the wall and column pour lifts might be to an upper track level, a mezzanine level, or a roof level. Then the suspended slabs are poured.

The exterior entrances are constructed after the station core has been completed.



STRUCTURE INSTALLATION AND BRACING AND REMOVAL

FIGURE IV-5

13. Backfilling and Surface Restoration

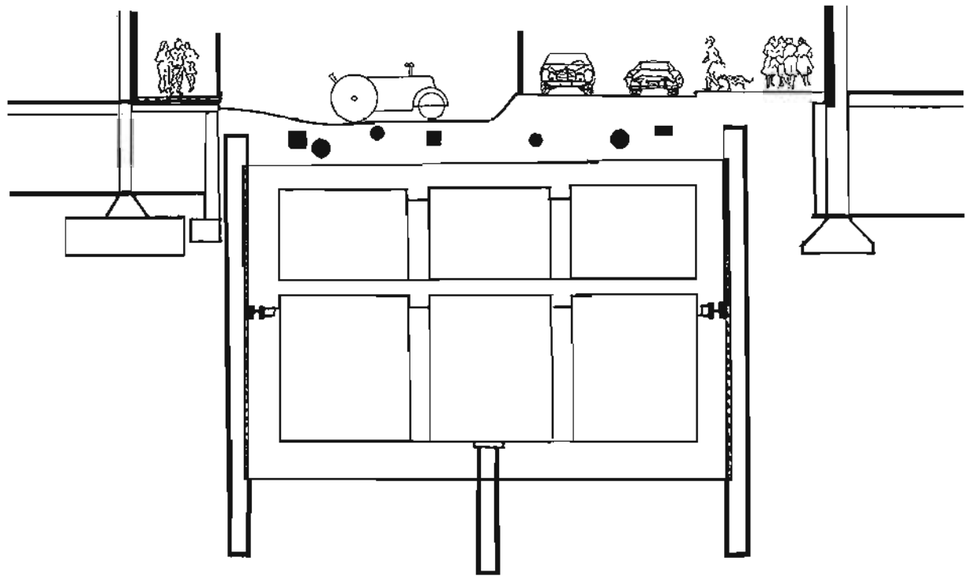
After the station structure has been completed and the roof slab allowed to cure for a specified period, the backfilling operation can begin. Where the subsidewalk vaults have been demolished, and a structural concrete closure wall, of necessity, has already been provided, the vault space is filled with compacted backfill. Prior to the backfilling operation, the continuous sidewalk decking is removed, but access to building entrances is maintained by special bridgings.

During the backfilling operations, the utilities are restored to their permanent locations. The gas mains and water mains are brought back from their temporary locations. New sewer manholes and cable/duct vaults are usually built to replace the old ones either because the old ones are in poor condition or the locations of these structures within the station area have been changed for the restoration layout of the utilities.

Where the sidewalks have been demolished because of the cut-and-cover construction, they must be restored. This is done after the backfilling of vault spaces has beem completed or the reclaiming by the owner of the remaining vault area has been accomplished.

After the backfill has been completed on one side of the street, the permanent street pavement is installed to accommodate the lanes of traffic, two or three, that have been programmed for maintenance at all times along the particular street. Vehicular traffic shifts to the paved side and the contractor then shifts his operations to the other side of the street where he completes the remaining backfilling and utilities restoration work and can restore the sidewalk and the remainder of the street pavement.

With the restoration of roadway pavement and restoration of full vehicular traffic, the work of cut-and-cover subway structure is completed insofar as the station structure is concerned and continuing activity involving station finishes and equipment installations can continue beneath the surface with little, if any, disruption to street use by vehicles and pedestrians.



BACKFILLING AND SURFACE RESTORATION

FIGURE IV-6

B. LINE CONSTRUCTION

The line sections of the SCRTD Metro Rail Project will be constructed principally by bored tunneling methods, the twin tunnels varying in depth from 25 feet to approximately 125 feet. beneath city streets and up to 700 feet in depth beneath the Santa Monica Mountains.

In general the twin tunnels will be in the conventional side by side configuration. Frequent intervals along the line cross-passages will be mined between the tunnels to provide passenger access to the adjacent tunnel in the event of a safety-related incident requiring passenger evacuation.

Certain special structures will be constructed by cut-and-cover methods. These include crossovers, which allow the trains to switch tracks along the line; pocket tracks, which allow storage of defective trains between the running tracks; and ventilation shafts which house ventilation fans used for extracting excess heat from the line tunnels.

Finally, certain sections of non-revenue line beyond the terminal stations will be constructed by cut-and-cover construction. These include the underground lead tracks to the train storage yards and maintenance facilities east of Union Station and the three stub-ended tail tracks north of North Hollywood Station.

1. The Bored Tunnels

The twin bored tunnels connecting each station along the line will be contructed using mechanized tunnel boring machines (TBMs) which continuously support the ground during the tunneling operation. A typical TBM is shown in Figure IV-7. At the rear of these machines are tunnel liner erection devices that erect the precast segments that make up the permanent lining to the tunnels in the form of rings of precast concrete between 3 feet and 4 feet wide and approximately 17 feet 6-inches internal diameter. These rings serve to carry the earth and rock loads and to prevent groundwater from entering the tunnels and causing corrosion damage to the trains and fixed electrical/mechanical systems within the tunnels.

The tunnel boring machines (TBMs) will be placed in the ground generally at station or crossover structure excavations and driven to the next station or crossover using the previously placed tunnel liner rings to thrust off. When the TBM reaches the next station or crossover it will be skidded through the station excavation to recommence construction of the next section of tunnel. Alternatively, the construction contractor may elect to lift the machines out using heavy mobile cranes and replace them at the other end of the station excavation in order to avoid interfering with the construction of the station.

A tunnel staging site will be required at the starting point of each tunnel drive for tunnel liner storage; spoil removal, storage and loading facilities; and construction personnel facilities and offices. These sites may be combined with the station staging sites but will

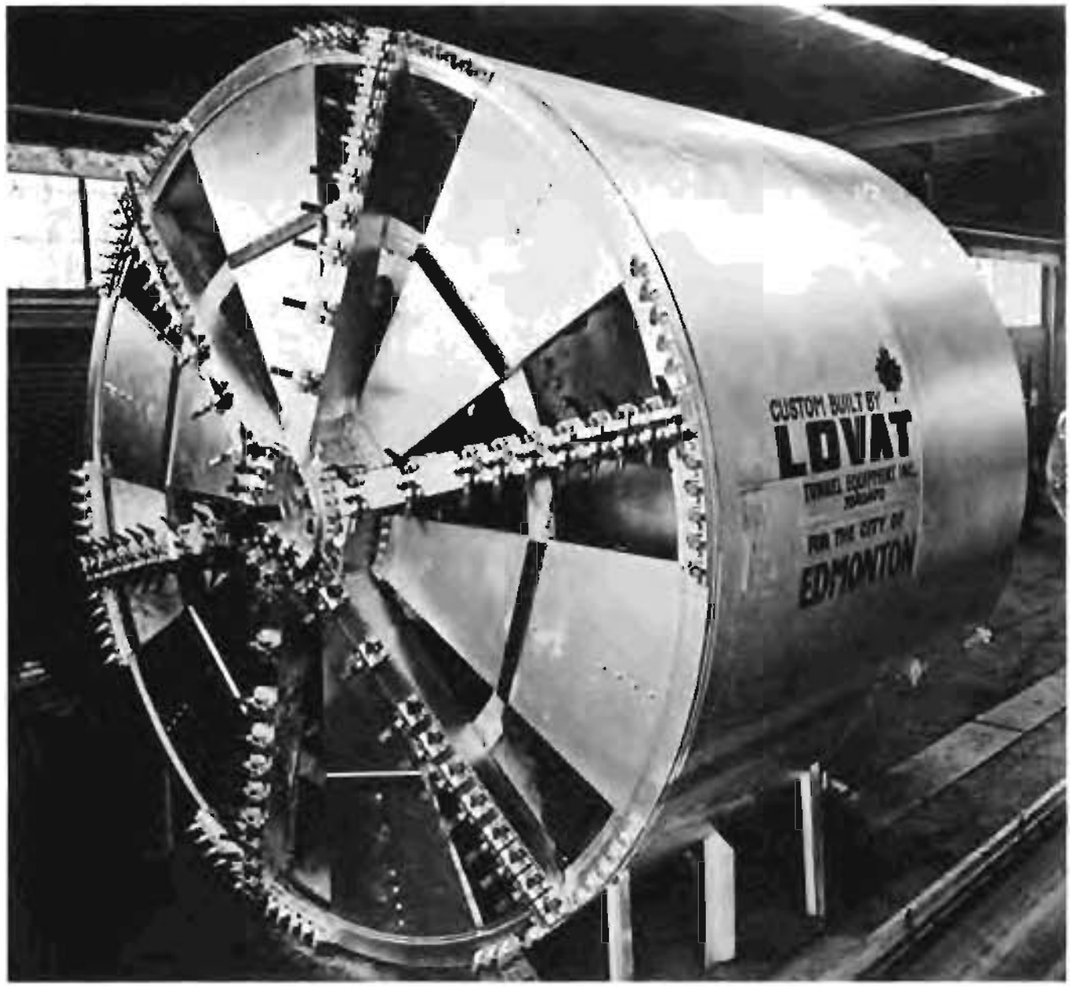


FIGURE IV-7

necessitate 2,500 to 5,000 square yards in area. They may be located in the excavations for the crossovers or on adjacent land leased temporarily for the purpose.

Upon completion of tunnel excavation and lining, the cross-passages between the twin tunnels will be constructed by hand mining methods from openings formed in the tunnel liners. In addition, tunnel openings to ventilation shafts and low-point drainage sumps will be constructed.

Following these activities, first stage track bed construction will be carried out, together with the construction of an emergency evacuation walkway along the side of each tunnel to provide a safe evacuation route for passengers clear of the trainways.

2. Crossovers and Pocket Tracks

The crossover and pocket track structures are generally located immediately adjacent to stations and will be constructed, by cut-and-cover methods like the stations. Accordingly, all the design and construction requirements that are applicable to the station will be applicable to the crossovers and pocket tracks.

Crossover structures are approximately 450 feet long and pocket tracks are approximately 1,100 feet long; , both consist of a concrete box approximately 60 feet wide. At several locations, traction power substations will be located on top of these structures since a considerable amount of underground space is available between the top of the crossover boxes and the ground surface.

3. Line Ventilation Shafts

Between certain stations on the line, cut-and-cover ventilation shafts will be constructed to house ventilation fans used for extracting hot air from the tunnels. These shafts are generally required on sections of the line more than a mile between stations such as between the North Hollywood and Universal City stations.

Two types of shaft will be constructed; the first for tunnels with less than 50 feet of cover and the second for tunnels with more than 50 feet of cover.

The first type of shaft consists of a 50-foot-wide, three-cell horizontal concrete box 20 feet high joining openings in the top of the tunnels to a vertical shaft penetrating the ground in a convenient off-street location. Three ventilation fans and their control equipment are housed in this horizontal concrete box.

The second type of shaft is used when the tunnels exceed 50 feet in depth such as beneath the Santa Monica Mountains. Here, a 20-foot diameter shaft will be sunk from the ground surface down to openings in the side of the tunnels. This type of shaft could be excavated from the bottom up using a raise bore drill so that all the excavated material is removed from the tunnels below, rather than from the shaft top. This would significantly reduce the impact of construction around the shaft top. The fans are then housed in a fan house at the top of the shaft just below ground level.

V. IMPLEMENTATION

V. IMPLEMENTATION

A. DESIGN COMPLETION

With the completion of preliminary engineering, the design of all fixed facilities is approximately 30 percent complete. During the next phase of the project, continuing preliminary engineering, design work will be completed to the 50 % level for most facilities and to 85 % for some. Upon approval of the Environmental Impact Statement and approval by the funding authorities, a final design phase will complete the designs, ready for construction bidding. The goal of preliminary engineering was to define all elements of the Project and develop realistic cost estimates. Cost estimates have been presented in Milestone 11. The station and alignment plans presented in this report constitute the "General Plans" for fixed facilities and will guide the architects and engineers who will be further developing these designs during the next phase of the Project.

SCRTD has selected qualified architectural and engineering firms for each of the continuing preliminary engineering design units. These design units have been determined based on the analysis of a number of factors such as:

- o Maximizing use of required expensive construction equipment such as Tunnel Boring Machines
- o Planning design units to coincide with construction units
- o Arranging scheduling and phasing to reduce total design time
- o Encouraging wider competition by qualified firms for design work
- o Providing manageable scopes of work

In some cases, design units consist of a station only or a line segment only; in other cases a design unit will have both station and line elements. The objective of the continuing preliminary engineering work is to bring the design work on six stations and two tunnel segments from 30 % complete to 85 % complete. And, for the remaining 12 stations and five tunnel segments, to bring the design work from 30 % complete to 50 % complete. Figure V-1 lists and illustrates the design units.

B. CONSTRUCTION

When the design of a particular phase has been completed and all the contract drawings, specifications, and quantities produced, the individual contracts will be offered to qualified and experienced contractors to bid on. The lowest bids fulfilling all the technical, financial, and other requirements of the SCRTD will be accepted and at the earliest possible time the successful contractors will be given permission to proceed with the construction.

The entire Metro Rail Project is divided into 18 separate construction contracts. Ten contracts consist of the construction of single stations; two contracts consist of the construction of single lengths of twin-bore tunnel and five contracts consist of one or two stations together with connecting lengths of twin-bore tunnel. The remaining contract consists of the main storage yards and the connecting tunnels to Union Station.

The duration of each of these contracts conforms to the overall project schedule which provides for four phase openings along the line covering an 18-month period.

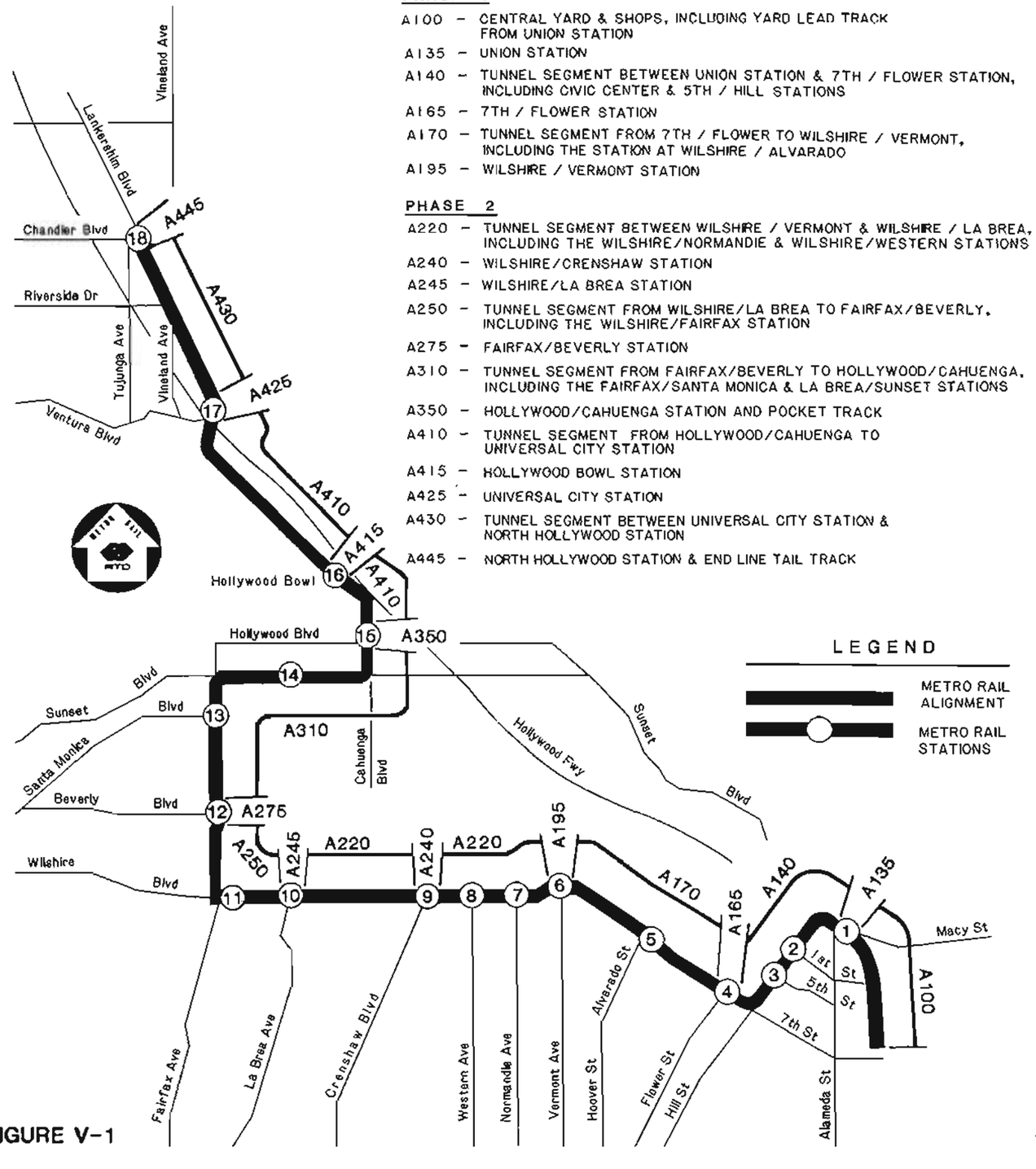
C. SCHEDULE

The schedule for completion of the design and construction of the project is shown in Figure V-2.

Southern California Rapid Transit District

Metro Rail Project

DESIGN UNITS



PHASE 1

- A100 – CENTRAL YARD & SHOPS, INCLUDING YARD LEAD TRACK FROM UNION STATION
- A135 – UNION STATION
- A140 – TUNNEL SEGMENT BETWEEN UNION STATION & 7TH / FLOWER STATION, INCLUDING CIVIC CENTER & 5TH / HILL STATIONS
- A165 – 7TH / FLOWER STATION
- A170 – TUNNEL SEGMENT FROM 7TH / FLOWER TO WILSHIRE / VERMONT, INCLUDING THE STATION AT WILSHIRE / ALVARADO
- A195 – WILSHIRE / VERMONT STATION

PHASE 2

- A220 – TUNNEL SEGMENT BETWEEN WILSHIRE / VERMONT & WILSHIRE / LA BREA, INCLUDING THE WILSHIRE/NORMANDIE & WILSHIRE/WESTERN STATIONS
- A240 – WILSHIRE/CRENSHAW STATION
- A245 – WILSHIRE/LA BREA STATION
- A250 – TUNNEL SEGMENT FROM WILSHIRE/LA BREA TO FAIRFAX/BEVERLY, INCLUDING THE WILSHIRE/FAIRFAX STATION
- A275 – FAIRFAX/BEVERLY STATION
- A310 – TUNNEL SEGMENT FROM FAIRFAX/BEVERLY TO HOLLYWOOD/CAHUENGA, INCLUDING THE FAIRFAX/SANTA MONICA & LA BREA/SUNSET STATIONS
- A350 – HOLLYWOOD/CAHUENGA STATION AND POCKET TRACK
- A410 – TUNNEL SEGMENT FROM HOLLYWOOD/CAHUENGA TO UNIVERSAL CITY STATION
- A415 – HOLLYWOOD BOWL STATION
- A425 – UNIVERSAL CITY STATION
- A430 – TUNNEL SEGMENT BETWEEN UNIVERSAL CITY STATION & NORTH HOLLYWOOD STATION
- A445 – NORTH HOLLYWOOD STATION & END LINE TAIL TRACK

FIGURE V-1

METRO RAIL PROJECT- IMPLEMENTATION SCHEDULE (NORMAL)

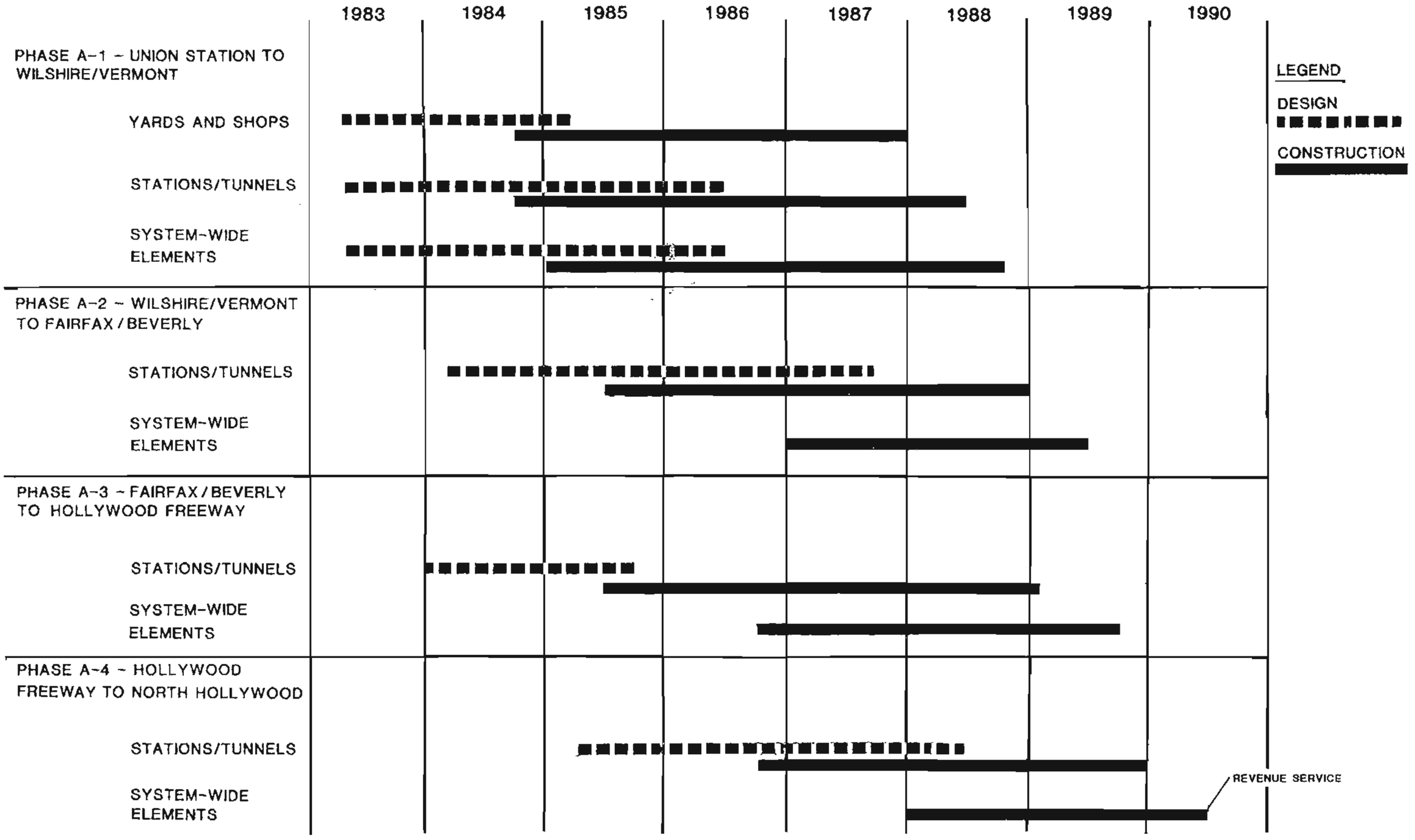


FIGURE V-2