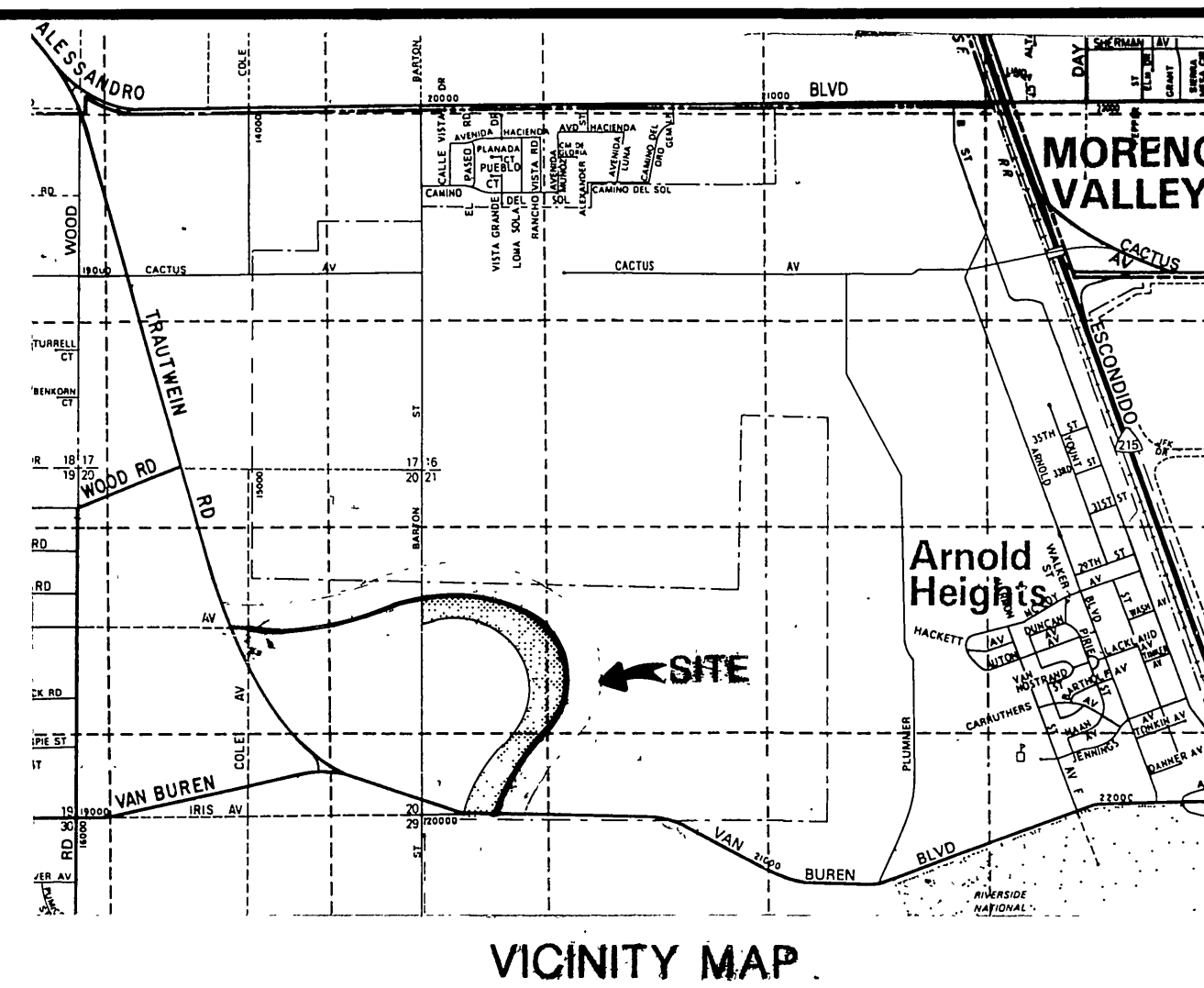


GENERAL NOTES

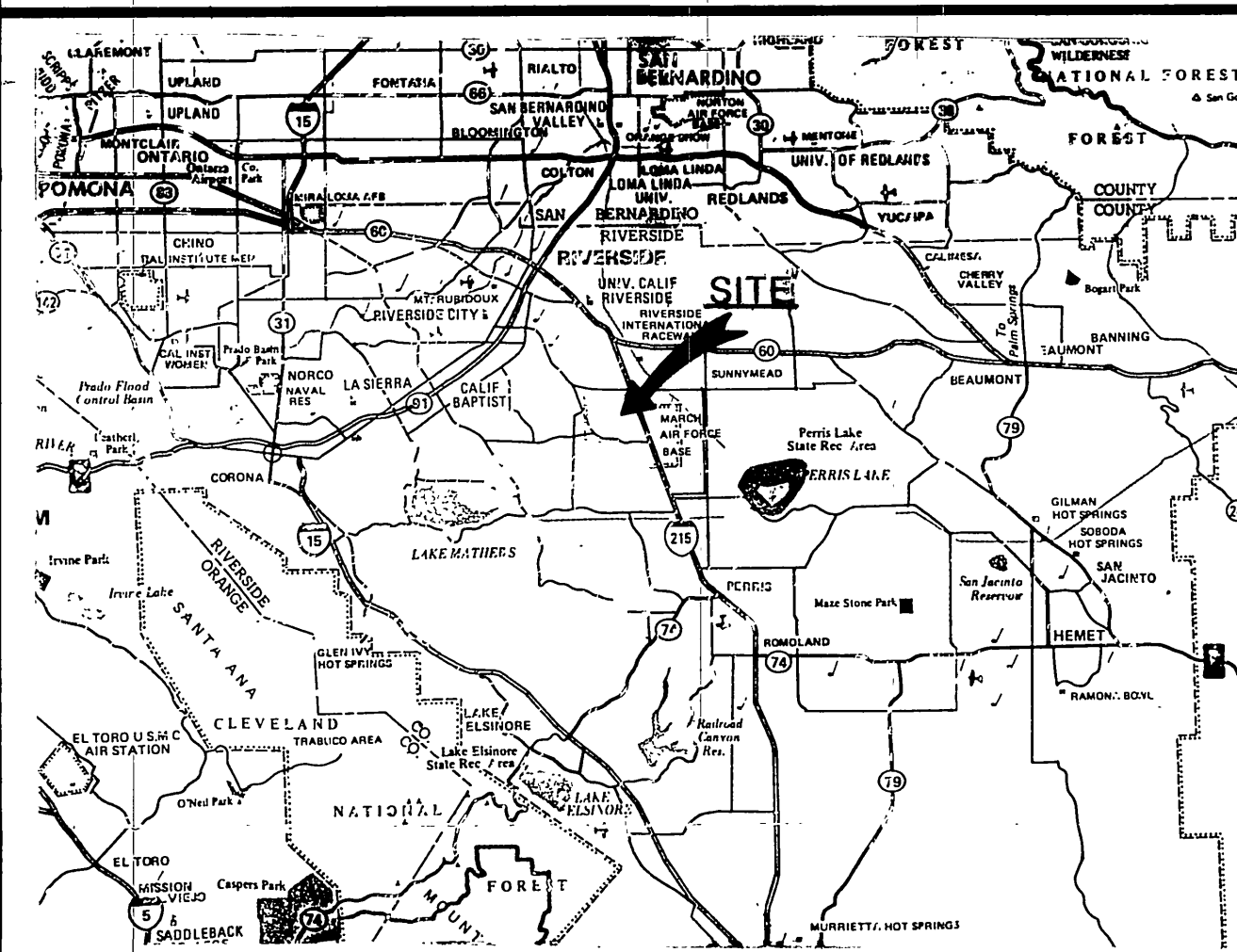
- All related work shall conform to the City of Riverside Park and Recreation Department Standards and City of Riverside policies.
 - When calling for inspections, contact the Park Projects Inspector a minimum of 48 hours in advance at (714) 782-5223 to schedule an inspection. A Field Notice will be issued as written approval for each stage of inspection. A verbal approval will not be acceptable. Inspections are required at the following times during the course of the project:
 - Prior to commencement of any work, for the purpose of a pre-construction meeting;
 - Prior to the installation of irrigation lines or components;
 - Prior to pouring concrete for inspection of hardscape formwork;
 - During hydrostatic pressure test of irrigation mainline prior to backfill of main line trench;
 - Inspection of lateral lines and heads prior to backfill of trenches;
 - Upon completion of fine grading, but prior to commencement of soil preparation, for acceptance of fine grading work;
 - Inspection of completed finish grading work after soil amendment work;
 - Upon completion of the irrigation system for a coverage test and demonstration of the system as fully operational.
 - When plant locations have been spotted in the field but prior to digging plant pits:
 - While digging plant pits and planting/relocating trees;
 - During application of pre-emergent chemical. Pre-emergent chemical treatment shall be applied at the following times during the contract:
 - before planting;
 - at the beginning of plant establishment period;
 - periodically as necessary during the plant establishment period; and
 - at end of plant establishment period;
 - After planting and all other indicated or specified work has been completed, for start of maintenance.
 - At formal quarterly inspections.
 - After completion of the maintenance period.
- NOTE: ALL WIRES UNDER PAVEMENT SHALL BE INSTALLED IN A SEPARATE SLEEVE FROM PIPING PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.
- ALL PIPING UNDER PAVEMENT SHALL BE INDIVIDUALLY SLEEVED PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.
- IRRIGATION SYSTEMS SHALL BE SPLIT AND VALVED IN A MANNER TO AVOID NON-PRESSURIZED LATERAL LINES UNDER STREETS. ONLY PRESSURE LINES ARE PERMITTED UNDER STREETS.
- ANGLED FITTINGS ARE NOT ALLOWED IN PIPE OR WIRE SLEEVING.

GENERAL NOTE:

- QUANTITY
- PLANTING SYMBOL
- TYPICAL PLANTING AREA -SEE ENLARGEMENT PLAN ON SHEET L-7.
- TYPICAL CONSTRUCTION AREA -SEE ENLARGEMENT ON SHEET L-6.
- SEE IRRIGATION LEGEND ON SHEET L-4.
- SEE PLANTING LEGEND ON SHEET L-3.



VICINITY MAP



LOCATION MAP

REVIEWED BY:
WESTERN MUNICIPAL WATER DISTRICT
SHEET L-1 THRU 10
Principal Engineer R.G.E. 21643
DATE: 12/13/90

Public Utilities Electrical
Planning Dept.

11-8-90
DATE

12-7-90
DATE

Underground Service Alert

Call: TOLL FREE
1-800
422-4133

PRIVATE ENGINEERING NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.



PREPARED UNDER THE DIRECTION OF:

REGISTERED CIVIL ENGINEER NO. _____
EXPIRATION DATE: _____ DATE: _____

APPROVED BY: _____



J.F. Davidson Associates, Inc.

ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE
3880 Lemon Street, Suite 300 11200 S. Mt. Vernon Ave., Suite "D" 73-080 El Paseo, Suite 106
P.O. Box 493 Riverside, CA 92502 Colton, CA 92324 Palm Desert, CA 92260
(714) 686-0844 (714) 925-1082 (818) 345-5591
FAX 714-686-5854 FAX 619-340-0529

SCALE: _____
DATE: 8/2/89

BENCH MARK: _____

MARK _____ REVISIONS _____ APPR. DATE _____
DESIGNED BY: JT DRAWN BY: JT CHECKED BY: AM

CITY OF RIVERSIDE, CALIFORNIA DEPARTMENT OF PUBLIC WORKS

APPROVED BY: _____ BY: _____ DATE: 12/13/90
PRINCIPAL ENGINEER PARK DEPARTMENT
TRAFFIC DIVISION
PLANNING DEPT.

APPROVED BY: _____ BY: _____ DATE: 11/3/91
DIRECTOR OF PUBLIC WORKS

COVER SHEET

TRACT 21834-1
REVERSE FRONTAGE LANDSCAPE
ORANGE TERRACE PKWY.

HORIZ. SCALE: 1" VERT. SCALE: 1"

PROJECT NO. 8911556

R-2900L

SHEET L-1 OF 10

FILE NO.:

INDEXED 1-18-91

CITY PRESSURE CALCULATIONS

WATER METER # A-4 SIZE 1 1/2
 ELEVATION 1741.4
 STATIC PRESSURE HIGH - LOW -
 SOURCE OF INFORMATION STEVE APPEL NMWD
 PHONE NUMBER 780-4120
 DATE OF INFORMATION 8/14/90

H.G.L. MEAN ELEVATION 1880 (REQUIRED IF STATIC PRESSURE UNKNOWN)

WATER METER
 ELEVATION (c) 1761.3
118.7 x .433 = 51.4
 REMOTE CONTROL VALVE A-3 SIZE 1 1/2
 MAXIMUM DEMAND 21.7 G.P.M.
 ELEVATION OF
 HIGHEST HEAD 1743.9
 PRESSURE @ R.C.V. 38.43 P.S.I.

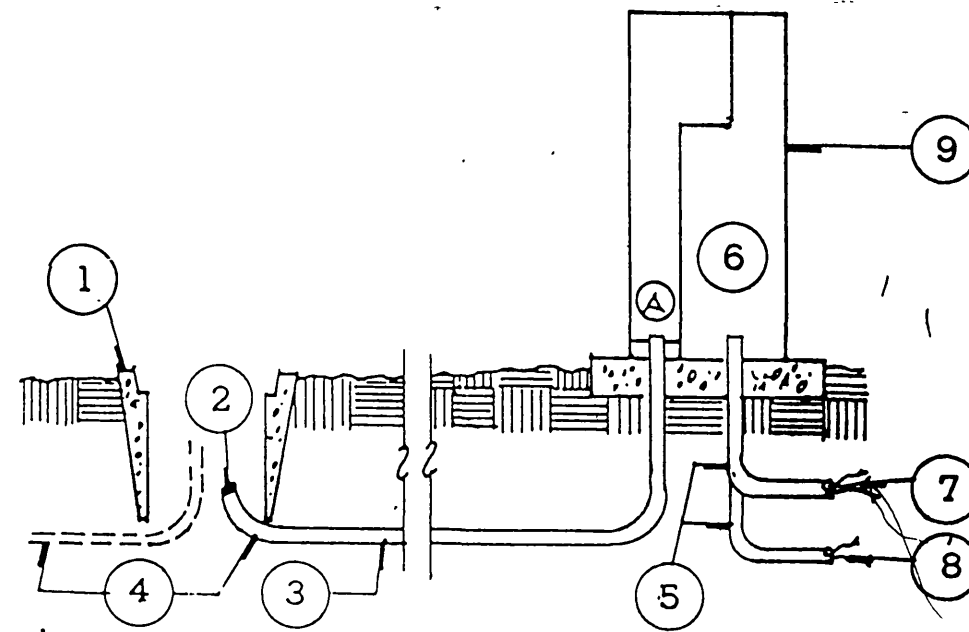
QTY.	SIZE	ITEM	P.S.I. LOSS
	1"	WATER METER	6
	1"	R.P. BACKFLOW DEVICE	9
2	1 1/2"	GATE VALVES	10
		MASTER VALVE	-
		PRESS. REG. (FALL OFF)	-
2 1/2	550	MAIN LINE	94
1 1/2	300	MAIN LINE	33
	1 1/2"	REMOTE CONTROL VALVE ASSEMBLY	2.5
		LATERAL LINE LOSS	5.2
		LATERAL LINE LOSS	-
		LATERAL LINE LOSS	-
		FITTINGS LOSS (10%)	85
		ELEVATION CHANGE (u)	7.1

TOTAL SYSTEM LOSSES: 21.9
 PRESSURE TO OPERATE HEAD: 20

TOTAL PRESSURE REQUIRED: 41.9
 LOWEST STATIC PRESSURE AVAILABLE: 51.4
9.5
 RESIDUAL WATER PRESSURE REQUIRED 13.0

PUMP REQUIRED

1. Electric Service Box (Full Box), by others per Public Utilities plans.
2. Insulating bushing-by others per Public Utilities specs.
3. 2" DB conduit per Public Utilities plans.
4. Service cables provided by Utilities Dept. Public Utilities Dept. will make service connections in Metered Pedestal A and Full Box, contractor shall not make connection.
5. 1" IIDG conduit to be installed by contractor.
6. Customer load section.
7. Contractor to make connection in customer load section and provide 2 - 10 and 1 - 112 cu. THW wires to pump. Provide 2' of wire beyond end of conduit and I.D. neutral.
8. Contractor to make connection in customer load section and provide 2 - 112 cu. THW wires to controller. Provide 2' of wire beyond end of conduit and I.D. neutral.
9. Metered Pedestal to be installed by contractor per E.U.S.S.R.C. drawing #308 Fig. 2B.



TYPICAL CITY METER PEDESTAL REQUIRED FOR SERVICING CONTROLLERS AND/OR PUMPS. REFER TO IRRIGATION DETAILS SHEET L-6

PLAN CROSS REFERENCES

FOR NOTES AND LEGEND, SEE SHEET L-2

FOR DETAILS, SEE SHEET L-5

FOR SPECIFICATIONS, SEE SHEET L-9

FOR CORRESPONDING CONSTRUCTION SEE SHEET L-5

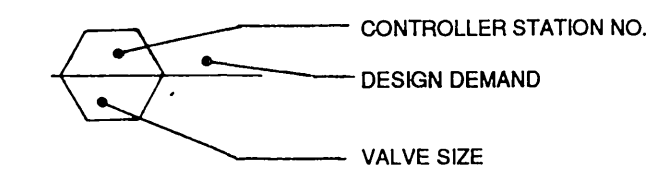
FOR CORRESPONDING PLANTING SEE SHEET L-5

IRRIGATION LEGEND

SYMBOL	MAKE	MODEL NO. - DESCRIPTION	PSI	GPM	RADIUS	PATTERN	DETAIL
⬇	RAIN BIRD	1812-10' Q.T.H-LA 12" P.U. TOP OF SLOPE	20	33,43,65	8' ADJ.	90°,120°,180°	A/L-8
⬇	RAIN BIRD	1812-12' Q.T.H 12" P.U. TOP OF SLOPE	20	53,70,105	10' ADJ.	" " "	" "
⬇	RAIN BIRD	1812-15' Q.T.H 12" P.U. TOP OF SLOPE	20	75,101,150	12' ADJ.	" " "	" "
⬇	RAIN BIRD	1812-SAM-10' Q.T.H-LA 12" P.U. TOE OF SLOPE	20	33,43,65	8' ADJ.	" " "	" "
⬇	RAIN BIRD	1812-SAM-12' Q.T.H 12" P.U. TOE OF SLOPE	20	53,70,105	10' ADJ.	" " "	" "
⬇	RAIN BIRD	1812-SAM-15' Q.T.H 12" P.U. TOE OF SLOPE	20	75,101,150	12' ADJ.	" " "	" "
⬇	RAIN BIRD	1812-SAM-15' EST. SST 12" P.U. TOE OF SLOPE	20	50,100	4X14/28	END/SIDE STRIP	" "
⬇	RAIN BIRD	1812-SAM-22 Q.H-SS 12" P.U. TOE OF SLOPE	20	67,133	14' ADJ.	90°,180°	" "
⬇	RAIN BIRD	1812-22Q.H-SS 12" P.U. TOP OF SLOPE	20	67,133	14' ADJ.	90°,180°	" "

⬇	RAIN BIRD	EF8-OP SERIES BRASS REMOTE CONTROL VALVE (PLAN SIZED)					B/L-8
⬇	NIBCO	T-113 LINE SIZED GATE VALVE WITH BRONZE TURNING HANDLE					C/L-8
⬇	FEBCO	(OR EQUAL) 1" REDUCED PRESS. BACKFLOW BY W.M.W.D. 1" WATER METER BY W.M.W.D. AT P.O.C.					E/L-8
⬇	RAIN BIRD	44 LRC QUICK COUPLER WITH LOCKING RUBBER COVER					F/L-8
⬇	RAIN BIRD	ISC-16 CONTROLLER WALL MNT. WITHIN A LA MEUR "V" ENCLOSURE WITH OPTIONS "A" & "B". INSTALLATION AND FINAL LOCATION PER APPROVAL OF CITY PLANNING DEPARTMENT INSPECTOR, INCLUDING CITY PULL BOXES.					D/L-8 G/L-8

- (---) APPROVED CL200 PVC LATERALS (STARTING WITH 3/4" DIA.) - 12" MIN. COVER
 (---) APP'D SCH. 315 PVC MAIN LINE (2" DIA & LARGER) - 18" MIN. COVER (SCH. 40 PVC: 1-1/2" DIA. AND SMALLER)
 (---) APP'D SCH. 40 PVC SLEEVE. EXTEND ENDS OF SLEEVES 12" BEYOND HARDSCAPE ABOVE - 18" MIN. COVER (PLAN SIZED)
 (---) APP'D SCH. 40 PVC ELECT. WIRE SLEEVES (2" DIA. TYP.) FOR LOW VOLTAGE UF SYSTEM



IRRIGATION NOTES

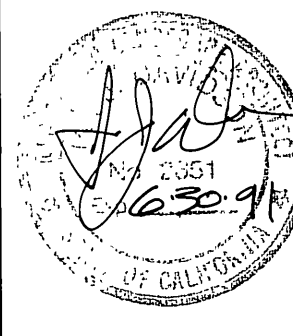
1. THIS SYSTEM IS DIAGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
2. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR REVISIONS NECESSARY.
3. SYSTEM DESIGN IS BASED ON MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION WITH MAXIMUM GPM DEMAND SPECIFIED. IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO CONSTRUCTION TO OWNER'S CONSTRUCTION REPRESENTATIVE.
4. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, CURBS, ETC. HE SHALL COORDINATE ALL HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR LOCATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADS, PAVING AND STRUCTURES.
5. MAINLINE FEEDER BETWEEN POINT OF CONNECTION, METER, AND BACKFLOW PREVENTER TO BE OF MATERIAL AS REQUIRED BY CURRENT WATER DISTRICT.
6. FINAL LOCATION OF THE AUTOMATIC CONTROLLER ENCLOSURE AND THE BACKFLOW PREVENTION DEVICE SHALL BE APPROVED BY THE CITY'S AND OWNER'S REPRESENTATIVE.
7. IN ADDITION TO THE SLEEVES SHOWN ON THE PLAN, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SLEEVES OF SUFFICIENT SIZE UNDER ALL PAVED AREAS PRIOR TO PAVING UPON APPROVAL OF THE OWNER'S REPRESENTATIVE, IF REQUIRED TO OPERATE SYSTEMS.
8. IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, STREETS, AND BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST NOZZLE RADIUS TO FIT UNUSUAL SITE CONDITIONS FOR APPROVAL PURPOSES AT NO EXTRA CHARGE.
9. QUALITY CONTROL OBSERVATION SEQUENCES ARE FOUND IN THE SPECIFICATIONS.
10. CLEAN-UP ON A DAILY BASIS PER OWNER'S REPRESENTATIVE APPROVAL.

Underground Service Alert



PRIVATE ENGINEERING NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL



PREPARED UNDER THE DIRECTION OF:

REGISTERED CIVIL ENGINEER NO. _____
 EXPIRATION DATE: _____ DATE: _____

APPROVED BY: _____



J.F. Davidson Associates, Inc.
 ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE
 3880 Lemon Street, Suite 300 11200 S. Mt. Vernon Ave., Suite "D" 73-080 El Paseo, Suite 106
 P.O. Box 493 Colton, CA 92324 Palm Desert, CA 92260
 Riverside, CA 92502 (714) 825-1082 (619) 346-5891
 (714) 686-0844 FAX 714-686-5854 FAX 619-340-0529

SCALE: NO SCALE
 DATE: 7/12/90

BENCH MARK: _____

MARK _____ REVISIONS _____ APPR. DATE _____
 DESIGNED BY: A.M. DRAWN BY: J.L. CHECKED BY: A.P.T.

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: _____ BY: _____ DATE: _____
 PRINCIPAL ENGINEER
 PARK DEPARTMENT
 TRAFFIC DIVISION
 CHIEF P.W. ENGR.
 PLANNING DEPT. _____

IRRIGATION NOTES & LEGEND

TRACT 21834-1
 REVERSE FRONTAGE
 LANDSCAPE
 ORANGE TERRACE PKWY.

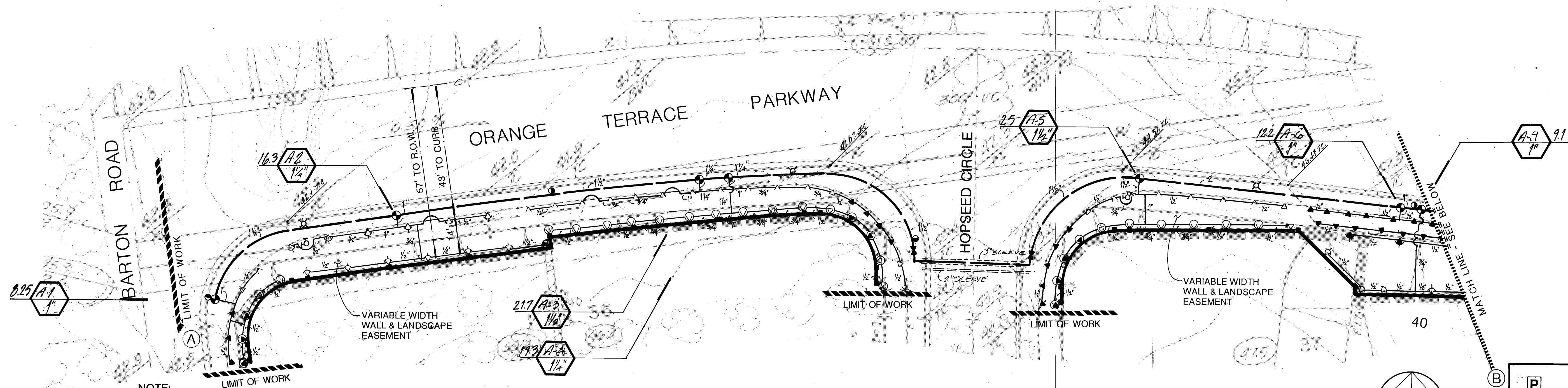
PROJECT NO. 8911556

R-2900L

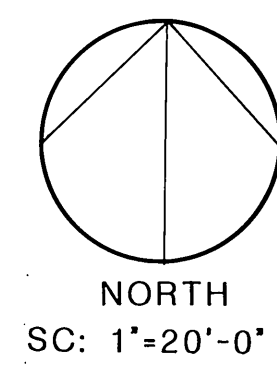
SHEET L-2 OF 10

FILE NO.:

INDEXED 1-18-91



NOTE:
PROJECT ENDS AT LOT 1 (PHASE 1)



ELECTRICAL POINT OF CONNECTION
FOR IRRIGATION CONTROLLER
±140 BEYOND LIMIT OF WORK
STREET LIGHTING PULL BOX
BY PUBLIC UTILITIES CONTRACTOR
120/240 VOLTS AVAILABLE

P
2 HP SINGLE PHASE PUMP BY SO. CAL. PUMP
WITH 80" LONG ALUM. CENTER, SPLIT PUMP
ENCLOSURE BY STRONG BOX. REFER TO
SPECS. AND DETAILS ON SHT. L-6. DEVELOPER
TO PROVIDE POWER TO LOCATION PER
SPECIFICATIONS ON SHT. L-9.

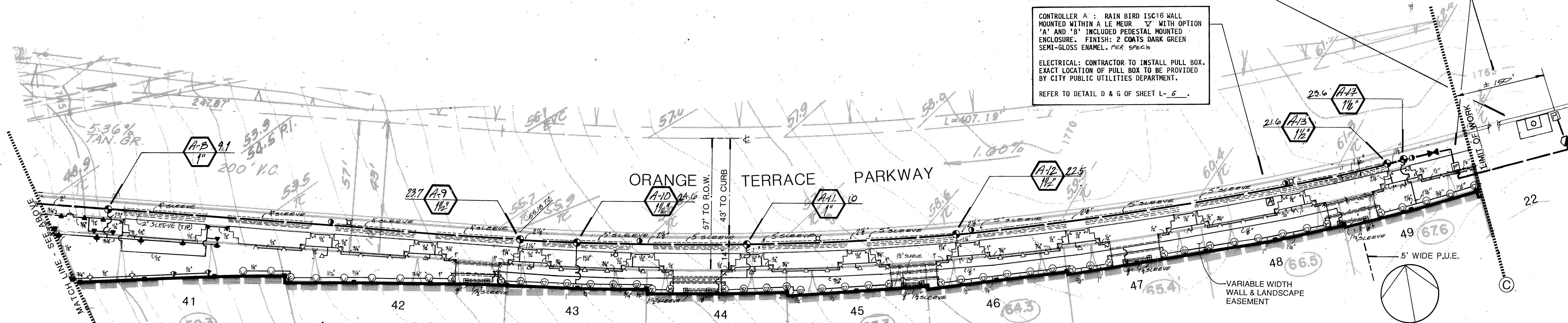
WATER METER FOR THIS PHASE IS LOCATED
±150' BEYOND LIMIT OF WORK.

P.O.C. 'A'
1" DOMESTIC WATER METER.
W.M.W.D. SHALL INSTALL SERVICE LINE, METER
AND 1" FEBCO 825-Y REDUCED PRESSURE
BACKFLOW PREVENTER.
AVAILABLE PRESSURE = 51.5 P.S.I.
MAX. DEMAND = 24.6 G.P.M.
RESIDUAL PRESSURE = 9.5 P.S.I. @ METER.

CONTROLLER A : RAIN BIRD ISC16 WALL
MOUNTED WITHIN A LE MEUR 'Z' WITH OPTION
'A' AND 'B' INCLUDED PEDESTAL MOUNTED
ENCLOSURE. FINISH: 2 COATS DARK GREEN
SEMI-GLOSS ENAMEL. PER SPECS.

ELECTRICAL: CONTRACTOR TO INSTALL PULL BOX.
EXACT LOCATION OF PULL BOX TO BE PROVIDED
BY CITY PUBLIC UTILITIES DEPARTMENT.

REFER TO DETAIL D & G OF SHEET L-6.



NOTE: (SHTS L-3)
CONTRACTOR TO PROVIDE 2 EXTRA PILOT WIRES TO END OF MAIN LINE.
PIGTAIL & BUNDLE INSIDE A CONCRETE R.C.V. BOX & STORE FOR FUTURE USE.
SIZING OF LATERALS START WITH 3/4" - NO 1/2" CLASS 200 P.V.C. USED
AS LATERAL LINES. ALL LINES SHALL BE TRENCHED.
NO ABOVE GROUND IRRIGATION LINES ALLOWED.

PLAN CROSS REFERENCE
FOR NOTES AND LEGEND, SEE SHEET L-2
FOR DETAILS, SEE SHEET L-6
FOR SPECIFICATIONS, SEE SHEET L-9
FOR CORRESPONDING CONSTRUCTION, SEE SHEET L-10
FOR CORRESPONDING PLANTING, SEE SHEET L-11

NOTE:
MAIN LINE TO BE LOCATED NO LESS THAN 12" FROM TOE OF SLOPE

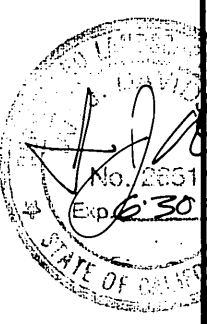
PHASE 1

Underground Service Alert



PRIVATE ENGINEERING NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH
GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION
CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY
FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION
OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND
NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR
FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL
HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED,
IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT,
EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN
PROFESSIONAL.



PREPARED UNDER THE DIRECTION OF:

REGISTERED CIVIL ENGINEER NO. _____
EXPIRATION DATE: _____ DATE: _____
APPROVED BY: _____



J.F. Davidson Associates, Inc.
ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE

3880 Lemon Street, Suite 300 11200 S. Mt. Vernon Ave., Suite "D" 73080 El Paseo, Suite 106
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Riverside, CA 92502 (714) 825-1082 (619) 346-5691
(714) 888-0844 FAX 714-688-9554 FAX 619-340-0529

SCALE: 1"=20'-0"

DATE: 8/2/89

BENCH MARK:

MARK	REVISIONS	APPR.	DATE
DESIGNED BY: MM	DRAWN BY: MM	CHECKED BY: ART	

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: _____	BY: _____	DATE: _____
PRINCIPAL ENGINEER	DATE: 1/1/91	
PARK DEPARTMENT	DATE: 1/1/91	
TRAFFIC DIVISION	DATE: 1/1/91	
CHIEF P.W. ENGR.	DATE: 1/1/91	
PLANNING DEPT.	DATE: 1/1/91	

IRRIGATION PLAN
TRACT 21834-1
REVERSE FRONTAGE
LANDSCAPE
ORANGE TERRACE PKWY.

PROJECT NO. 8911556	R-2900L
SHEET 1-3 OF 10	FILE NO.:

INDEXED 1-18-91 44

STAMPED CONCRETE (DRY SHAKE)

SECTION 03355 - STAMPED CONCRETE (DRY SHAKE)

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

The General and Special Provisions of the Specification as well as the "Standard Specifications for Public Works Construction", current addition, shall apply except as modified herein.

1.02 SCOPE OF WORK:

Exterior slabs as shown on drawings
Forming
Cement, finish
Curing
Placing of sleeves and drain lines under slabs

1.03 QUALITY ASSURANCE:

The work shall be performed by qualified personnel trained to obtain the textured finish specified herein. The contractor shall provide written evidence to the Park Department that the installer for this work has satisfactorily completed at least three installations.

1.04 SAMPLE POUR:

The contractor shall provide a sample pour on site of sufficient size, minimum 10 S.F., to demonstrate the required stamped concrete work, including dust-on color, wax curing and finishing compounds. A minimum period of 28 days will be required for adequate curing of the sample pour prior to inspection. Stamped concrete work shall not be performed prior to the inspection and written approval of the sample by the Park Projects Inspector. If not approved, additional sample panels will be required until approval is achieved. All other portions of the stamped concrete work shall match the color and finish of the approved sample pour.

1.05 DEFECTIVE WORK:

Defective sections shall be removed and replaced. Inconsistencies in color will be considered as defective work. No extension of time will be allowed for correcting defective work.

1.06 INSPECTIONS:

Inspections are required. Contractor shall call for inspection a minimum of 48 hours (two working days) prior to need.

The contractor shall call for inspection at specific steps in the construction process including those points in time when:

- 1) All sleeve and drainline installation is complete, but prior to backfill of trenches.
- 2) All form work is placed and all subgrade work is complete, but prior to pour

Contractor shall notify the Park Projects Inspector, (714) 782-5223, a minimum of 48 hours prior to pouring any concrete.

Any work covered prior to inspection shall be opened to view by the Contractor at his expense if so directed by the Inspector.

PART 2 - MATERIALS

2.01 All materials shall conform to Section 201 of the Standard Specifications, except as modified in the following subsections.

2.02 CONCRETE:

Concrete shall conform to Concrete Class Use Table, Section 201-1, of the Standard Specifications and shall be a 5-sack mix, with a maximum 4-inch slump, 2,000 pounds per square inch ultimate compressive strength at 28 days. No admixtures will be allowed. 4" THICK SLABS ON GRADE.

2.03 DRY SHAKE COLOR:

The required color shall be: **A-50-P SLATE - GRAY**
by L. M. Scofield, or City approved equal.

PART 3 - EXECUTION

3.01 GENERAL:

All work shall conform to the requirements of Section 303 of the Standard Specifications.

Install concrete and cement finish work true to lines, dimensions and levels

Color conditioning dust-on shall be added to the concrete using the dry shake Method 'A' per Std. Spec's Section 303-6.3.1.

3.02 PLACING CONCRETE:

Transport, place and spread in a manner to prevent segregation of aggregate. Reinforcing shall be supported by metal or plastic chairs; concrete supports shall not be used. Reference Section 303-1.7.1, 303-6.2.

3.03 CONCRETE FINISH:

While the concrete is still in the plastic stage of set, the forming tools shall be applied to make the patterned surface. The pattern used shall be: **ASHLAR SLATE, BOMACRON**
All per Standard Spec's Section 303-6.4.

After finishing, apply color hardener.

A pigmented, heavy duty wax curing and finishing compound shall be applied. The wax compound in the matching color shall be applied uniformly in accordance with manufacturer's printed instructions.

The sealed surface shall be polished using a fine brush which removes residual dust from the surface.

Protect all finished concrete from graffiti. Contractor shall be responsible for providing concrete watchmen. A graffitied finish will not be acceptable.

Remove and replace defective concrete with new materials. Permission to patch any defective area shall not be a waiver of the Park and Recreation Department's right to require complete removal of defective work if patching does not restore quality and appearance of work.

No advertising impression, stamp, or mark of any description other than the specified pattern will be permitted in the cement finish.

3.04 CURING:

Per Standard Specification Section 303-6.5.

END OF SECTION

MH/0447/c
07/06/90

PLAN CROSS REFERENCES

FOR NOTES AND LEGEND, SEE SHEET L-4
FOR DETAILS, SEE SHEET L-7 & 8
FOR SPECIFICATIONS, SEE SHEET L-10
FOR CORRESPONDING IRRIGATION, SEE SHEET L-3
FOR CORRESPONDING CONSTRUCTION, SEE SHEET L-5

PLANTING LEGEND

SYMBOL	ITEM NO.	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	DETAIL
Trees	T-1	Lagerstroemia indica	Crape Myrtle 'Purple'	15 Gal.	Plant at 30' OC Min.	A,B,G
	T-2	Magnolia grandiflora 'Majestic Beauty'	Southern Magnolia	15 Gal.	Plant at 45' OC Min.	A,B,G
Shrubs	S-1	Abelia grandiflora 'Edward Goucher'	N.C.N.	5 Gal.	Plant at 48" OC	C
	S-2	Raphiolepis indica 'Clara'	White India Hawthorne	5 Gal.	Plant at 36" OC	F
	S-3	Raphiolepis indica 'Pink Lady'	Pink Lady Hawthorne	5 Gal.	Plant at 36" OC	C
	S-4	Xylosma congestum 'Compacta'	N.C.N.	5 Gal.	Plant at 48" OC	C
Vine	V-1	Madagascar unguis-cati	Cat's Claw	5 Gal.	Attach to walls per plan	F
Groundcovers	G-2	Trachelospermum jasminoides	Star Jasmine	Flats	At 12" OC Triangulate	E
	G-3		Medium Grind Shredded Mulch		2" thick all planters Source: Blue Ribbon Landscape Orange, California (714)633-3666	D

(NOTE: Contractor shall remove 3" soil and replace with 2" of shredded mulch). F.G. shall be 3" below fin. surface, wherever mulch is installed.

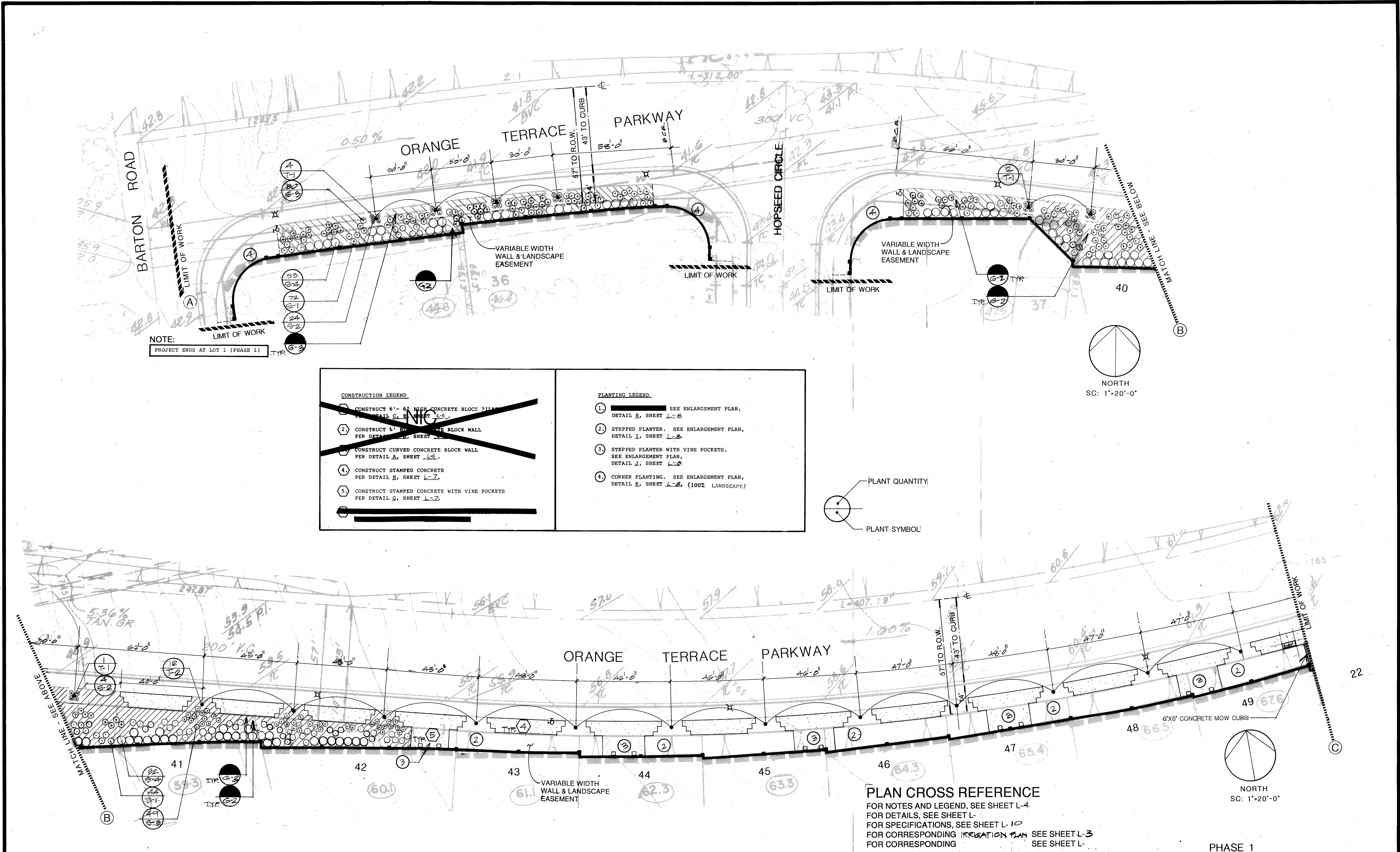
PLANTING NOTES

- CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF SITE CONDITIONS WHICH PREVENT INSTALLATION PER PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE LIABLE FOR REMOVING AND RE-INSTALLING IRRIGATION EQUIPMENT, AND REPLANTING AREAS WHICH ARE NOT INSTALLED PER PLAN AND SPECIFICATIONS.
- REFER TO PLANTING SPECIFICATIONS FOR INSPECTION/CERTIFICATION SCHEDULE.
- IRRIGATION SYSTEM SHALL BE INSTALLED PRIOR TO PLANT MATERIALS.
- TREES AND SHRUBS SHALL BE PLANTED AFTER CONCRETE PLACEMENT, BUT NOT BEFORE IRRIGATION COVERAGE TEST NO. 1 HAS BEEN APPROVED. (SEE SPECIFICATIONS)
- PLACE TREES BETWEEN IRRIGATION HEADS WHEREVER POSSIBLE.
- LANDSCAPE CONTRACTOR SHALL TAKE FOUR (4) SOIL SAMPLES FROM THE SITE AT LOCATIONS APPROVED BY THE PARK PROJECTS INSUR. THE SAMPLES SHALL BE TAKEN AT A DEPTH OF 12" AFTER ROUGH GRADING AND SUBMITTED TO AN APPROVED SOIL AND PLANT LABORATORY FOR AGRICULTURAL SUITABILITY TESTING. THE COST OF TESTING SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- THE RECOMMENDATIONS OF THE SOIL REPORT SHALL SUPERSEDE THE SOIL PREPARATION AND BACKFILL MIX SPECIFICATIONS (SEE SPECIFICATIONS). THE CONTRACTOR SHALL SUBMIT A COPY OF ALL SOILS REPORTS TO THE PARK PROJECTS INSUR PRIOR TO MODIFICATION OF THESE SPECIFICATIONS.
- SHREDDED MULCH INSTALLATION: INSTALL SHREDDED MULCH IN ALL SHRUB AND GROUND COVER AREAS PER SPECIFICATIONS, UNLESS OTHERWISE INDICATED ON PLANS.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF ANY DAMAGED LANDSCAPE AREAS BEYOND THE LIMIT OF WORK THAT IS A DIRECT RESULT OF THE LANDSCAPE CONSTRUCTION AND/OR HIS SUB-CONTRACTOR. REPLACEMENT ITEMS SHALL BE EXACT DUPLICATE OF ORIGINAL WORK OR PLANTS, UNLESS OTHERWISE APPROVED BY THE
- ~~WHEREVER GROUND COVER AREAS ARE ADJACENT TO TURF INSTALL CONCRETE MOWSTRIP OR HEADERBOARD AS INDICATED ON DRAWINGS.~~
- CLEAN-UP SHALL TAKE PLACE ON A DAILY BASIS UNLESS OTHERWISE APPROVED BY THE, PARK PROJECTS INSUR.

STAMPED CONCRETE SPECIFICATIONS

Underground Service Alert  Call: TOLL FREE 1-800-422-4133 TWO WORKING DAYS BEFORE YOU DIG	PRIVATE ENGINEERING NOTE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. 	PREPARED UNDER THE DIRECTION OF: REGISTERED CIVIL ENGINEER NO. _____ EXPIRATION DATE: _____ DATE: _____ APPROVED BY: _____	 J.F. Davidson Associates, Inc. ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE 3880 Lemon Street, Suite 300 P.O. Box 493 Riverside, CA 92502 (714) 686-5944 FAX 714-686-5954 11200 S Mt Vernon Ave, Suite "D" Colton, CA 92324 (714) 825-1082 73-080 El Paseo, Suite 105 Palm Desert, CA 92260 (619) 346-6691 FAX 619-340-0529	<table><tr><td>MARK</td><td>REVISIONS</td><td>APPR.</td><td>DATE</td></tr><tr><td>DESIGNED BY <u>A.M.</u></td><td>DRAWN BY <u>J.L.</u></td><td>CHECKED BY <u>ART</u></td><td></td></tr></table>	MARK	REVISIONS	APPR.	DATE	DESIGNED BY <u>A.M.</u>	DRAWN BY <u>J.L.</u>	CHECKED BY <u>ART</u>		CITY OF RIVERSIDE, CALIFORNIA DEPARTMENT OF PUBLIC WORKS <table><tr><td>APPROVED BY</td><td>BY</td><td>DATE</td><td>APPROVED BY</td></tr><tr><td>PRINCIPAL ENGINEER</td><td><u>[Signature]</u></td><td><u>1/14/91</u></td><td><u>[Signature]</u></td></tr><tr><td>PARK DEPARTMENT</td><td><u>[Signature]</u></td><td><u>1/14/91</u></td><td>DIRECTOR OF PUBLIC WORKS</td></tr><tr><td>TRAFFIC DIVISION</td><td><u>[Signature]</u></td><td><u>1/14/91</u></td><td></td></tr><tr><td>CHIEF P.W. ENGR.</td><td><u>[Signature]</u></td><td><u>1/14/91</u></td><td></td></tr><tr><td>PLANNING DEPT.</td><td><u>[Signature]</u></td><td><u>1/14/91</u></td><td></td></tr></table>	APPROVED BY	BY	DATE	APPROVED BY	PRINCIPAL ENGINEER	<u>[Signature]</u>	<u>1/14/91</u>	<u>[Signature]</u>	PARK DEPARTMENT	<u>[Signature]</u>	<u>1/14/91</u>	DIRECTOR OF PUBLIC WORKS	TRAFFIC DIVISION	<u>[Signature]</u>	<u>1/14/91</u>		CHIEF P.W. ENGR.	<u>[Signature]</u>	<u>1/14/91</u>		PLANNING DEPT.	<u>[Signature]</u>	<u>1/14/91</u>		PLANTING NOTES AND LEGEND TRACT 21834-1 REVERSE FRONTAGE LANDSCAPE ORANGE TERRACE PKWY.	PROJECT NO. 8911556 R-2900L SHEET <u>L-4</u> OF <u>10</u> FILE NO.: _____
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INDEXED 1-18-91 L4



Underground Service Alert Call: TOLL FREE 1-800-422-4133	PRIVATE ENGINEERING NOTE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.		PREPARED UNDER THE DIRECTION OF: REGISTERED CIVIL ENGINEER NO. _____ EXPIRATION DATE: _____ DATE: _____ APPROVED BY: _____		J.F. Davidson Associates, Inc. ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE 3880 Lemon Street, Suite 300 P.O. Box 493 Riverside, CA 92502 (714) 686-0844 FAX 714-686-5954 11200 S. Mt. Vernon Ave., Suite "D" Colton, CA 92324 (951) 825-1092 FAX 951-340-0529 73-080 El Paseo, Suite 106 Palm Desert, CA 92260 (818) 346-5991 FAX 818-340-0529		CITY OF RIVERSIDE, CALIFORNIA DEPARTMENT OF PUBLIC WORKS APPROVED BY: _____ BY: _____ DATE: 1/14/91 PRINCIPAL ENGINEER PARK DEPARTMENT TRAFFIC DIVISION CHIEF P.W. ENGR. DATE: 1/13/91 PLANNING DEPT.		CONSTRUCTION PLANTING PLAN TRACT 21834-1 REVERSE FRONTAGE LANDSCAPE ORANGE TERRACE PKWY. PROJECT NO. 8911556 R-2900L SHEET L-5 OF 10 FILE NO.: _____	
	SCALE: 1"=20'-0" DATE: 8/2/89 BENCH MARK: _____		DESIGNED BY: ES DRAWN BY: JT CHECKED BY: AM		MARK REVISIONS APPR. DATE _____ _____ _____		HORIZ. SCALE: 1"=20'-0" VERT. SCALE: 1"=2'-0" INDEXED 1-18-91 LKH			

IRRIGATION PUMP

- [illegible]

IRRIGATION PUMP OPTIONAL EQUIPMENT

- [illegible]

LEGEND

1. DISCHARGE FLANGED TEE
2. CHAMFION FLANGE
3. PRESSURE GAUGE
4. PRESSURE GAUGE
5. BYPASS - 2" DIA. MIN.
6. BUTTERFLY VALVE
7. FLOW SWITCH TO BE INSTALLED IN SECTION HEADER WIRED TO PUMP PANEL
8. COMPANION FLANGE
9. BUTTERFLY VALVE
10. BUTTERFLY VALVE
11. FLANGED 90 COMBINATION PRESSURE REGULATING AND NON-SLAM CHECK VALVE
12. BAILEY # 400 APC OR CLA-WAE 9" DIA
13. FLANGED CONCENTRIC REDUCER
14. PUMP AND MOTOR
15. CONTROLLER (3 PHASE, 230 VOLT)
16. CONTROLLER SUPPORT
17. SEALTITE CONDUIT
18. SUPPORT LEG
19. GALVANIZED STEEL SKID WITH ANCHOR BOLTS FOR EARTHQUAKE PROTECTION
20. GALVANIZED STEEL SKID, WITH 4 9/16" HOLES

IRRIGATION PUMP

NOTE: INTAKE AND DISCHARGE LINES BETWEEN PUMP AND PVC MAINLINE SHALL BE GALVANIZED PIPE. GALVANIZED NIPPLE AND UNION SHALL BE USED FOR CONNECTION.

- IRRIGATION PUMP INSTALLATION NOTES:**

- (1) The CONSTANTFLO irrigation pump skid unit shall be factory built and supplied by Southern California Pump Company (714-966-1095). The pump unit shall be installed by contractor as shown on Plans and Details. The pump unit shall be installed per local codes including certification as required.
- (2) The services of a factory trained representative shall be made available on the job-site to check installation and perform the start-up, and instruct operating personnel. A report of start-up data, including voltage and amperage readings, pressure gauge readings, and general operating characteristics shall be submitted to the Landscape Architect for record purposes. Three sets of operating and maintenance manuals and control panel wiring diagrams shall be provided to the contractor.

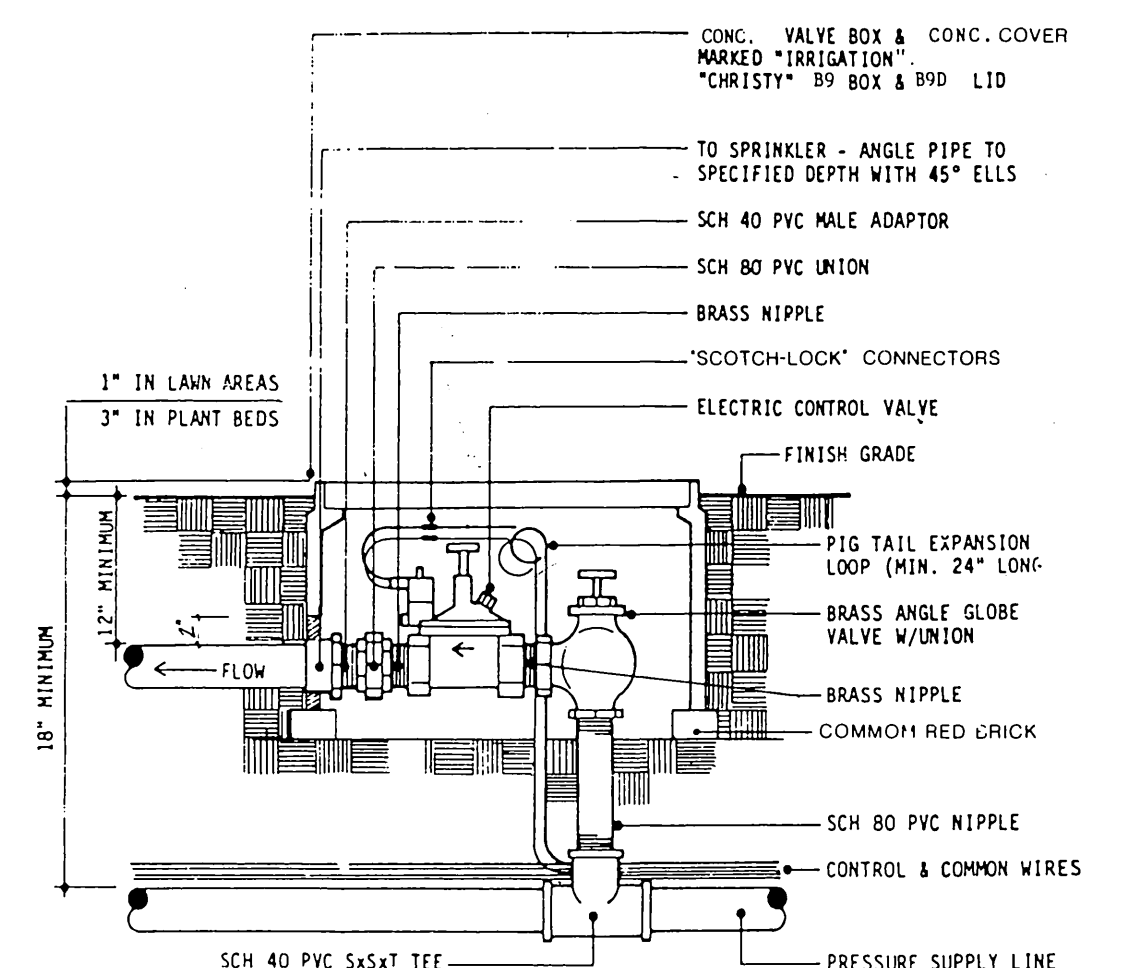
Diagram illustrating the cross-section of a trench, showing various layers and components:

- FINISH GRADE
- CLEAN BACKFILL - SEE SPECS. FOR MATERIAL, 90% COMPACTION REQUIRED
- NON-PRESSURE LATERAL LINE SHAKE PIPE IN TRENCH
- CONTROL WIRES - BUNDLE AND TAPED AT 10" O.C. AND INSTALL ADJACENT TO PRESSURE SUPPLY LINE
- PROVIDE 2" OF CLEAN BACKFILL
- PRESSURE SUPPLY LINE
- FINISH GRADE IN TRENCH
- 12" MIN.
- 18" MINIMUM

(H) TYPICAL TRENCHING
J.F. DAVIDSON ASSOCIATES, INC.

-
- 1) INSTALL BACKFLOW DEVICE SQUARE WITH HANDSCAPE ELEMENT AS APPROVED BY THE PAIN PROJECTS INSPECTOR IN THE FIELD
 2) MODIFY HANDWHEELS AS DIRECTED OR REMOVE & TURN OVER TO PAIN PROJECTS INSPECTOR AT FINAL INSPECTION
- LINE SIZED GALV. PIPE (TYP.) W/ RAP ALL GALV. PIPE W/ DUCT TAPE WHERE EXPOSED TO THE SOIL.
 LINE SIZED GALV. UNION (TYP.)
 BELL REDUCE AS NEC. @ EACH SIDE OF BACKFLOW DEVICE
 REDUCED PRESSURE OR DOUBLE CHECK VALVE BACKFLOW DEVICE AS SHOWN ON PLANS.
 BRONZE BODIED Y STRAINER 1/100 MESH MONEL SCREEN AND LOOSE KEY HOSE BID
 ECCENTRIC ELBOW (TYP.)
 FINISH GRADE
 MIN 12" TO MAX 30" ABOVE FINISH GRADE
 CONC. BODDING - MIN ONE (1) FT. DIA.
 GALV. ELBOW FITTING (TYP.)
 PVC MALE ADAPTER (TYP.)
 PVC MAINLINE - SIZE AS SHOWN ON PLANS (TYP.)
 WATER METER AS SHOWN ON PLANS

(E) REDUCED PRESSURE/DOUBLE CHECK VALVE
BACKFLOW DEVICE DETAIL NO. 4011
 BY W.M.W.D.



VALVE NUMBER TO CONTROL WIRE.
(B) REMOTE CONTROL VALVE WITH
SHUT-OFF VALVE & UNION
J.F. DAVIDSON ASSOCIATES, INC

4/4/90

SPECIAL PROJECT
PACIFIC STRONG BOX

Type Project: Pump Enclosure

For: J.F. Davidson Associates, Inc.

Project Reference Number: 101

Description: Pump enclosure, center split/end pivot.
80" long (2 40" sections), 40" high, 34" wide.

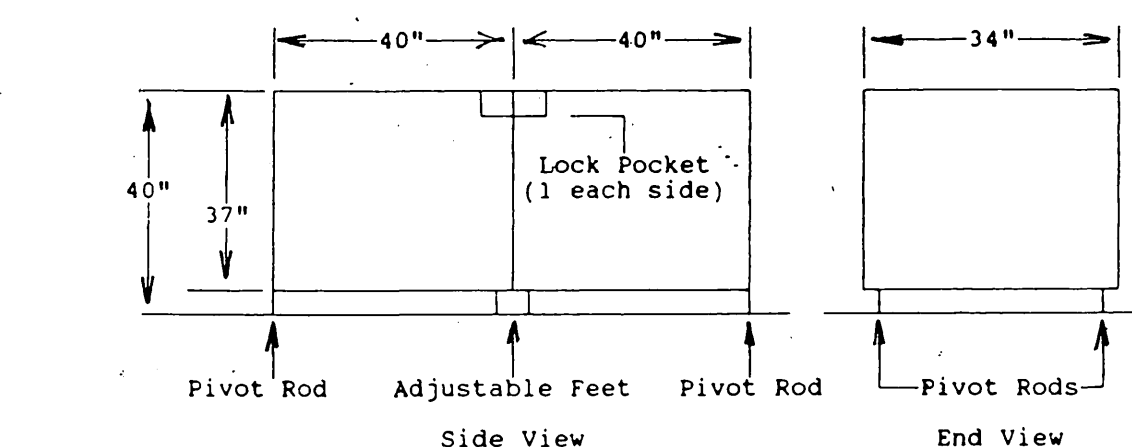
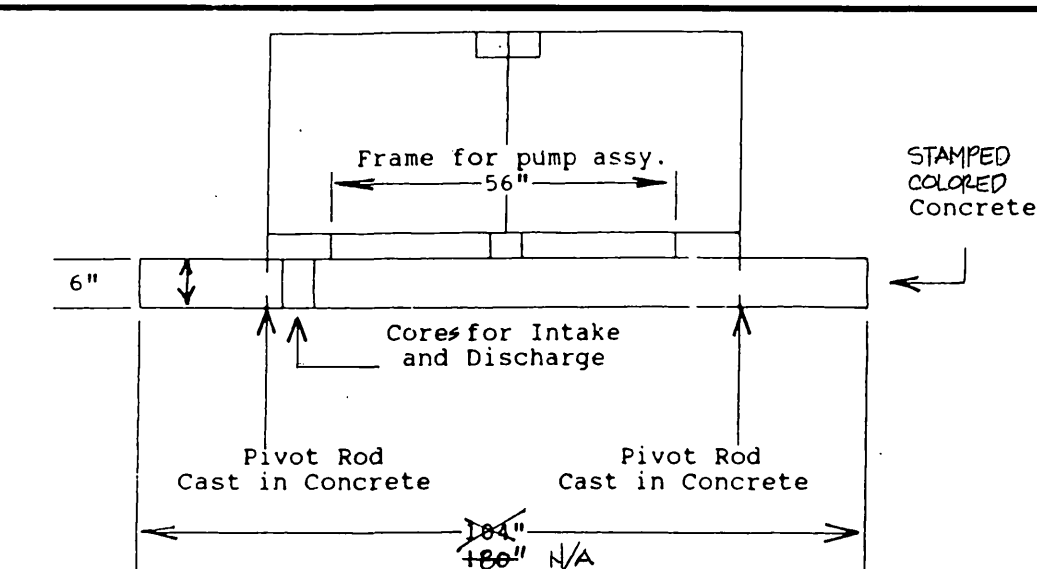
AVAILABLE: TSI (714) 784-7437

Material: 5052-H32 marine grade aluminum 1/8", stainless hardware.

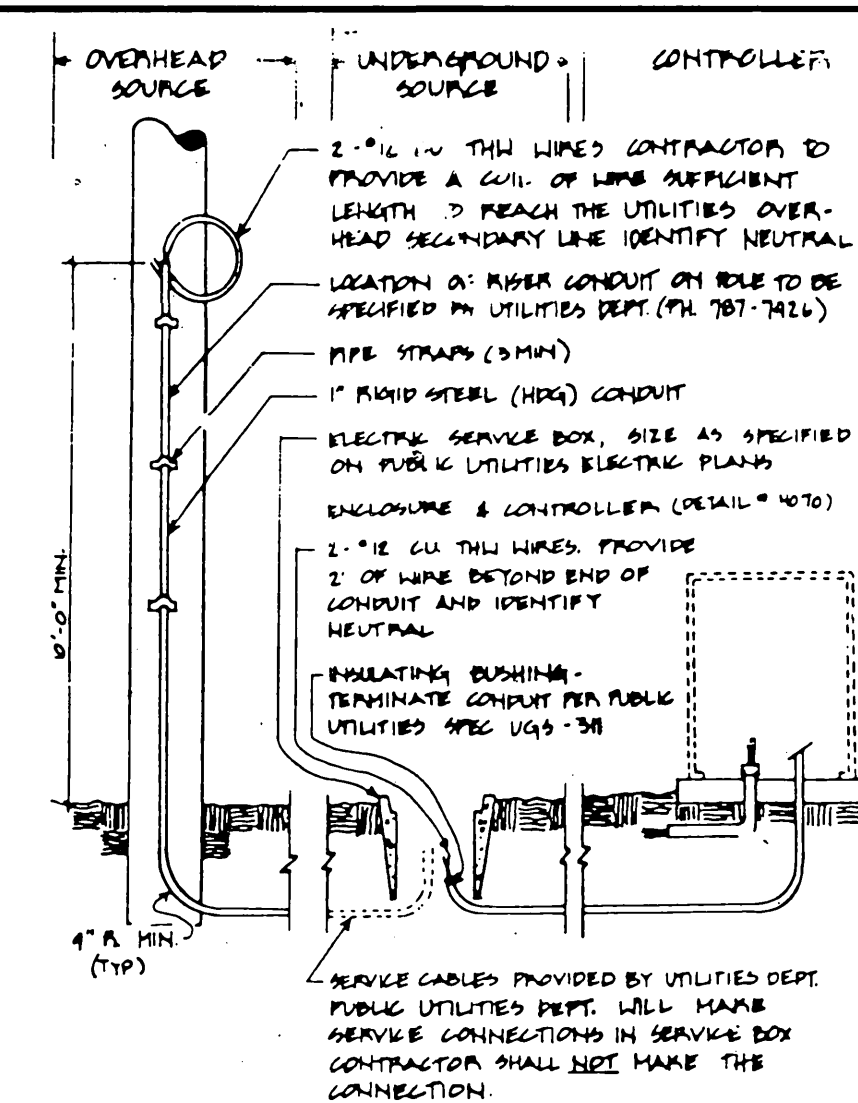
Finish: Natural.

Weight: 160 lbs. (80 lb. per side)

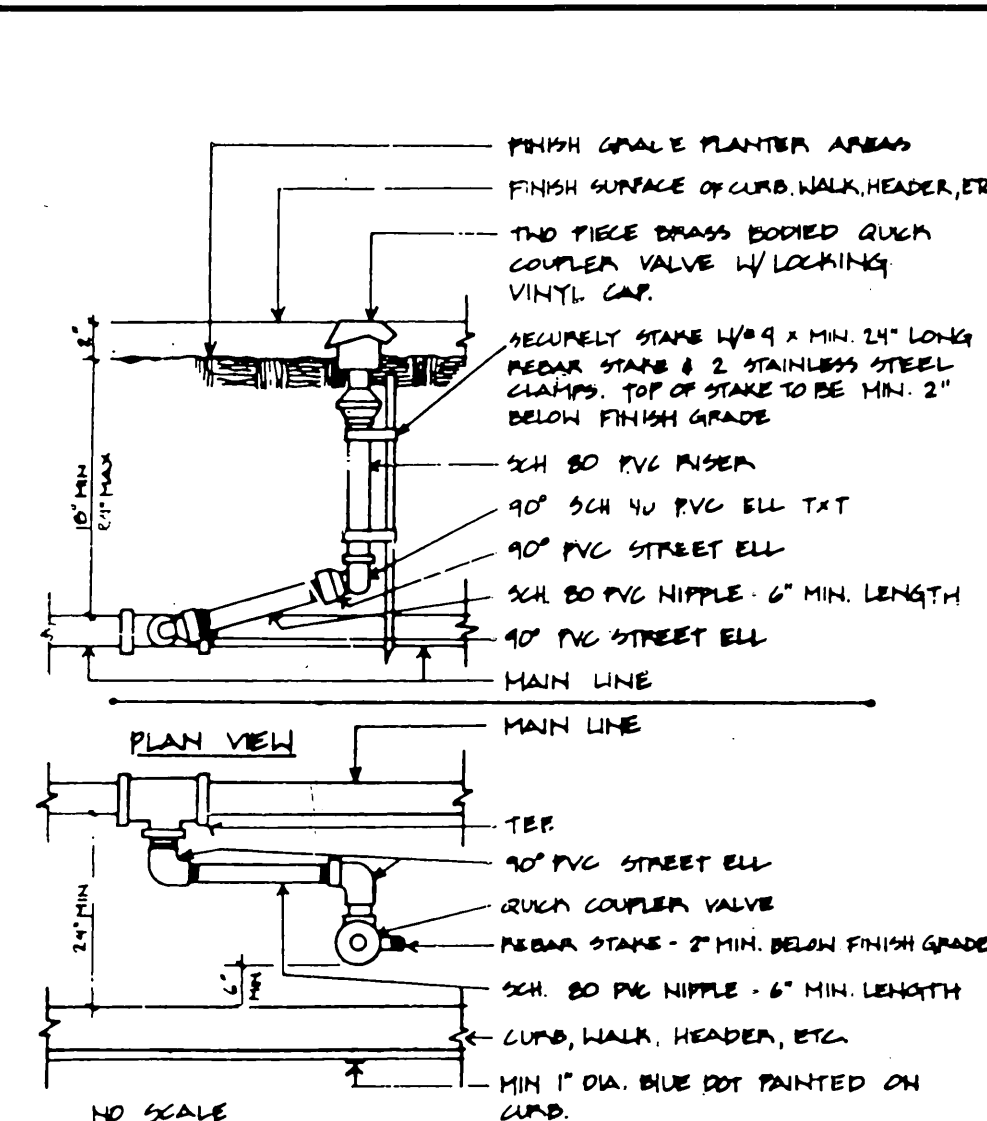
Delivery: 4 Weeks

 PUMP ENCLOSURE PUMP ENCLOSURE

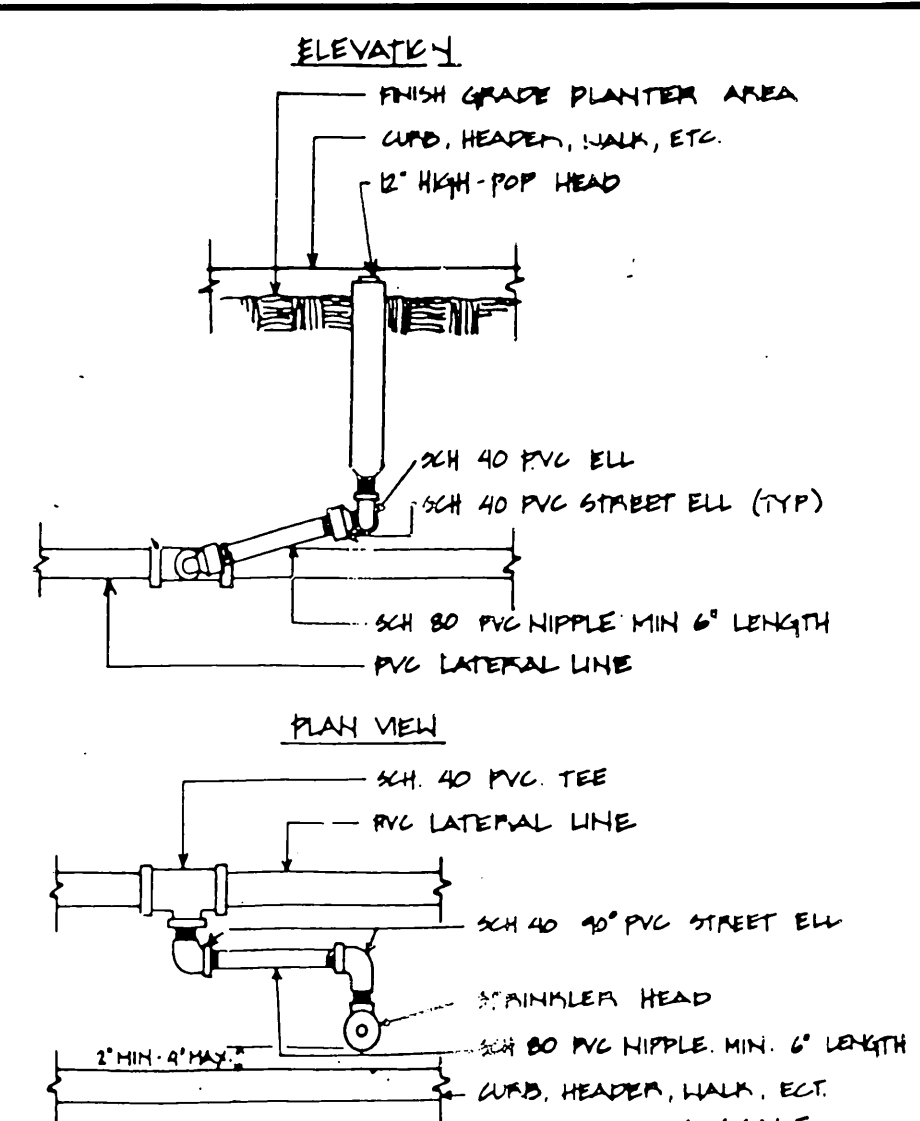
NOTE:
DO NOT INSTALL CONCRETE
PAD IN THIS PHASE.



G UTILITY SERVICE
DETAIL NO. 4060



(F) QUICK COUPLER



(A) SPRAY HEAD/BUBBLER
DETAIL NO. 4040



PREPARED UNDER THE DIRECTION OF _____

 REGISTERED CIVIL ENGINEER NO. _____
 EXPIRATION DATE _____ DATE _____

 APPROVED BY _____



J.F. Davidson Associates, Inc.

STATUS	N.T.S.
DATE	09/02/88

	BENCH MARK
--	------------

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: 1/13/91 APPROVED BY: [Signature]
 DESIGNER: 1/13/91
 CHECK DEPARTMENT: 1/13/91 DIRECTOR OF PUBLIC WORKS
 CHECK DIVISION
 CHECK WENOR: 1/13/91 DATE: 1/13/91
 PLANNING DEPT: 1/13/91

IRRIGATION DETAILS

TRACT 21834--
REVERSE FRONTAGE
LANDSCAPE
ORANGE TERRACE PKWY

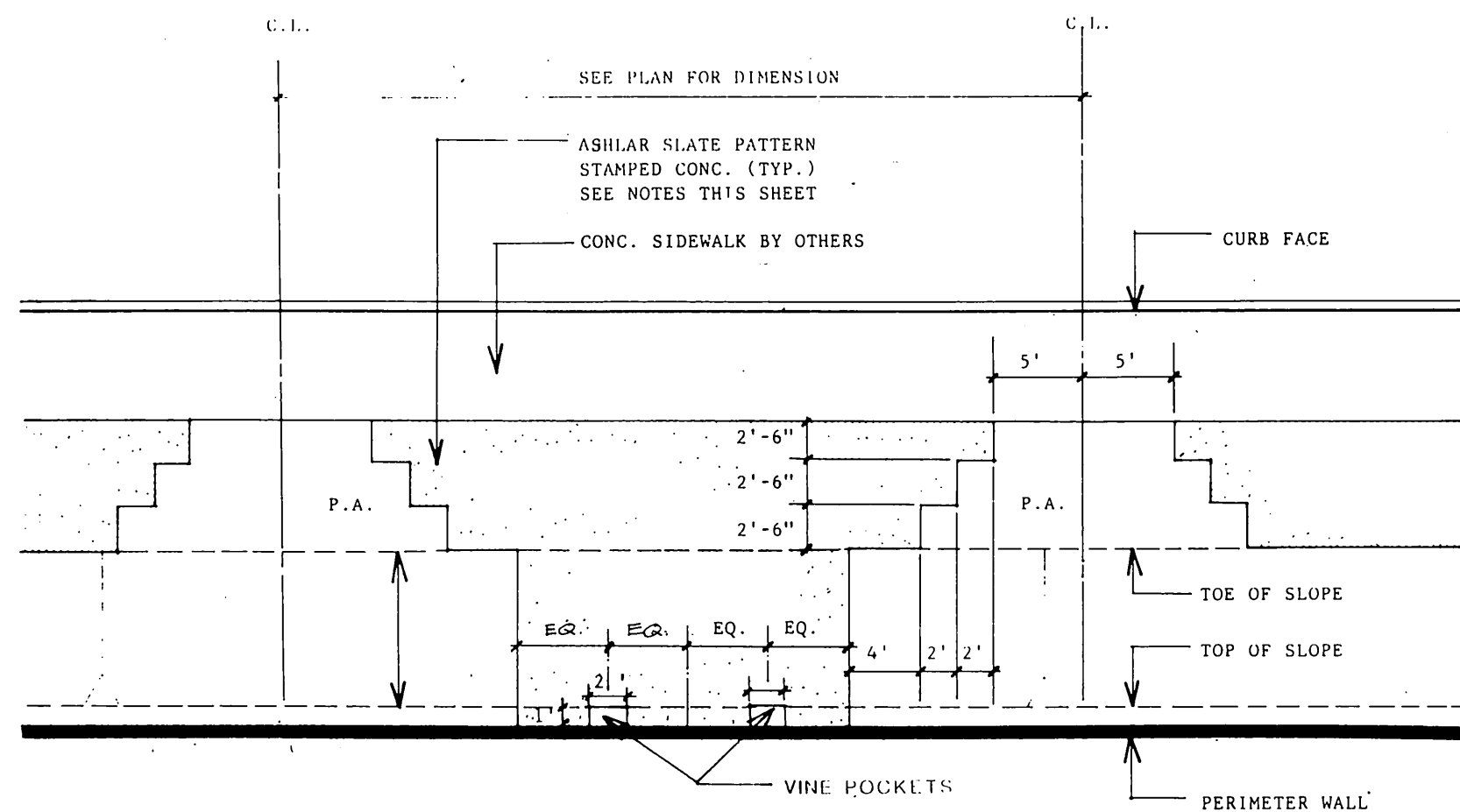
PROJECT NO. 8911556

R-2900L

SHEET L-6 OF 10

FILE NO

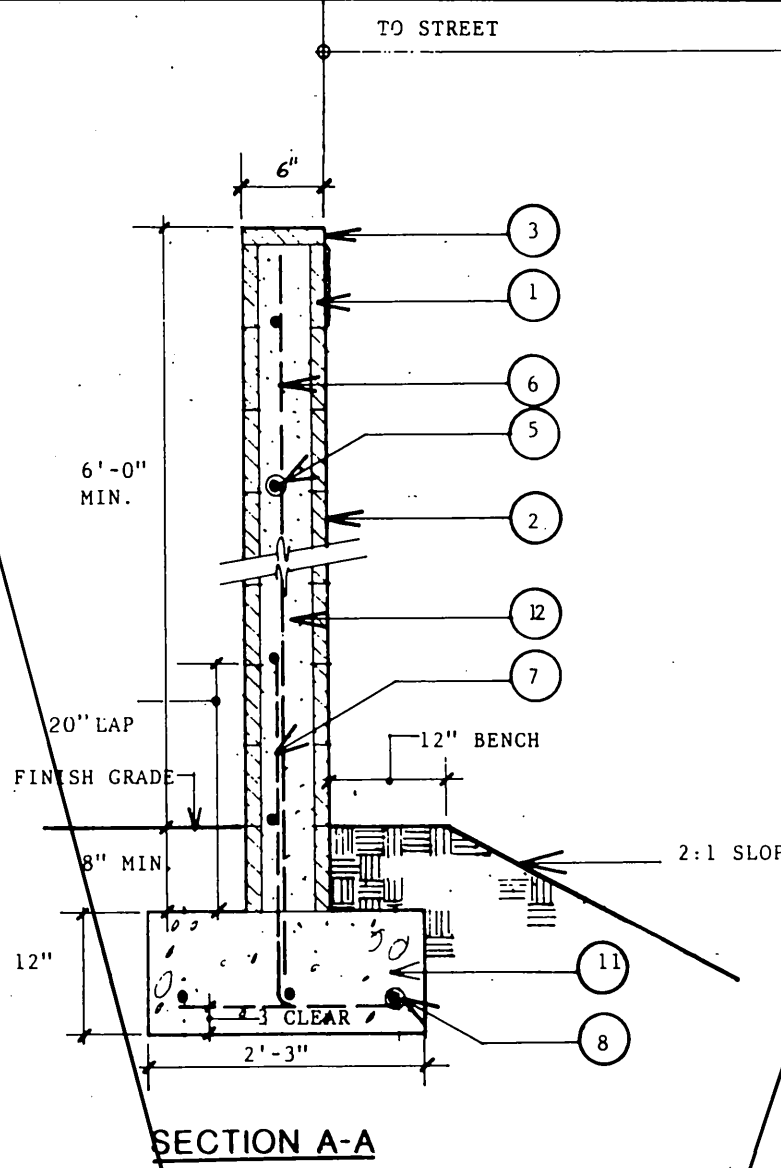
INDEXED 1-18-91 LTH



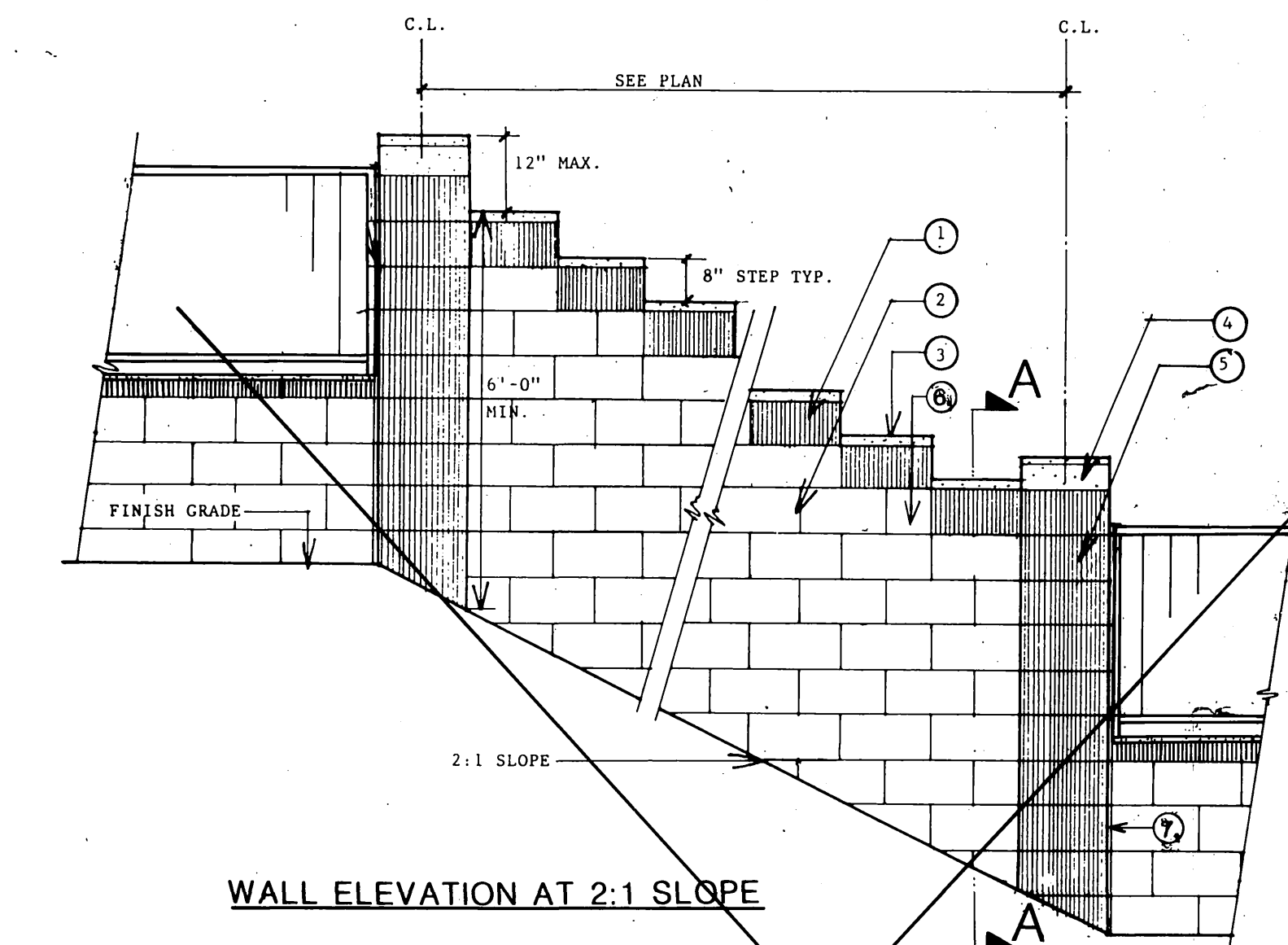
G STAMPED CONCRETE WITH VINE POCKETS BLOW-UP
N.T.S.

TEXTURED PAVING NOTES

1. ACCENT BAND: 4" THICK CONCRETE BAND, 4,000 P.S.I. DESIGN MIX, STAMP - LOW PROFILE/LOW WAFLE BOMANITE 12"X12" TILE PATTERN OR APPROVED EQUAL. REFER TO BULLETIN 309. COLOR NO. C-22, CORAL RED CHROMIX. ADMIXTURE BY L.M. SCOFIELD. CLEAR SEALER - 2 COATS OF CEMENTONE CLEAR SEALER BY L.M. SCOFIELD. APPLY PER MANUFACTURER'S INSTRUCTION NO. A-703. TEXTURE - ASHLAR SLATE BOMACRON.
2. STAMPED CONCRETE AREAS: 4" THICK SLAB ON GRADE, 4,000 P.S.I. DESIGN MIX STAMP-ASHLAR SLATE BOMACRON PATTERN BY BOMANITE, OR APPROVED EQUAL. REFER TO SPEC'S. COLOR NO. C-14, FRENCH GREY CHROMIX. ADMIXTURE BY L.M. SCOFIELD. CLEAR SEALER - 2 COATS OF CEMENTONE CLEAR SEALER BY L.M. SCOFIELD. APPLY PER MANUFACTURER'S INSTRUCTION NO. A-703. TEXTURE - ASHLAR SLATE BOMACRON.
3. CONTROL JOINTS: BETWEEN BOMANITE BAND AND BOMACRON ASHLAR SLATE PATTERN SHALL BE A COLD JOINT. BETWEEN BOMANITE BAND AND BACK OF CURB SHALL BE A COLD JOINT.
4. INSTALLATION PROCESS: BOMANITE TEXTURED PAVING OR APPROVED EQUAL. REFER TO BULLETIN 309.

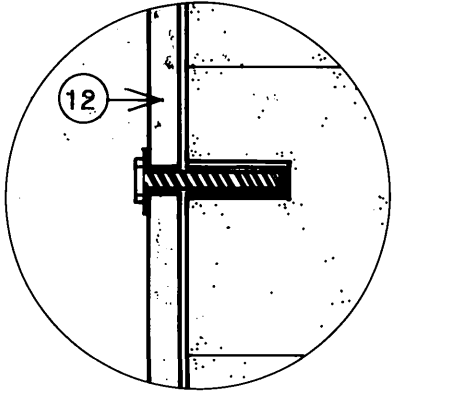


D CONCRETE BLOCK WALL
N.T.S.



B WALL ELEVATION AT 2:1 SLOPE
N.T.S.

NOTE: WROUGHT-IRON FENCE PANEL APPLIES TO PHASE 5 ONLY. FULL 6" HIGH MASONRY WALL CONSTRUCTED FOR THIS PHASE.

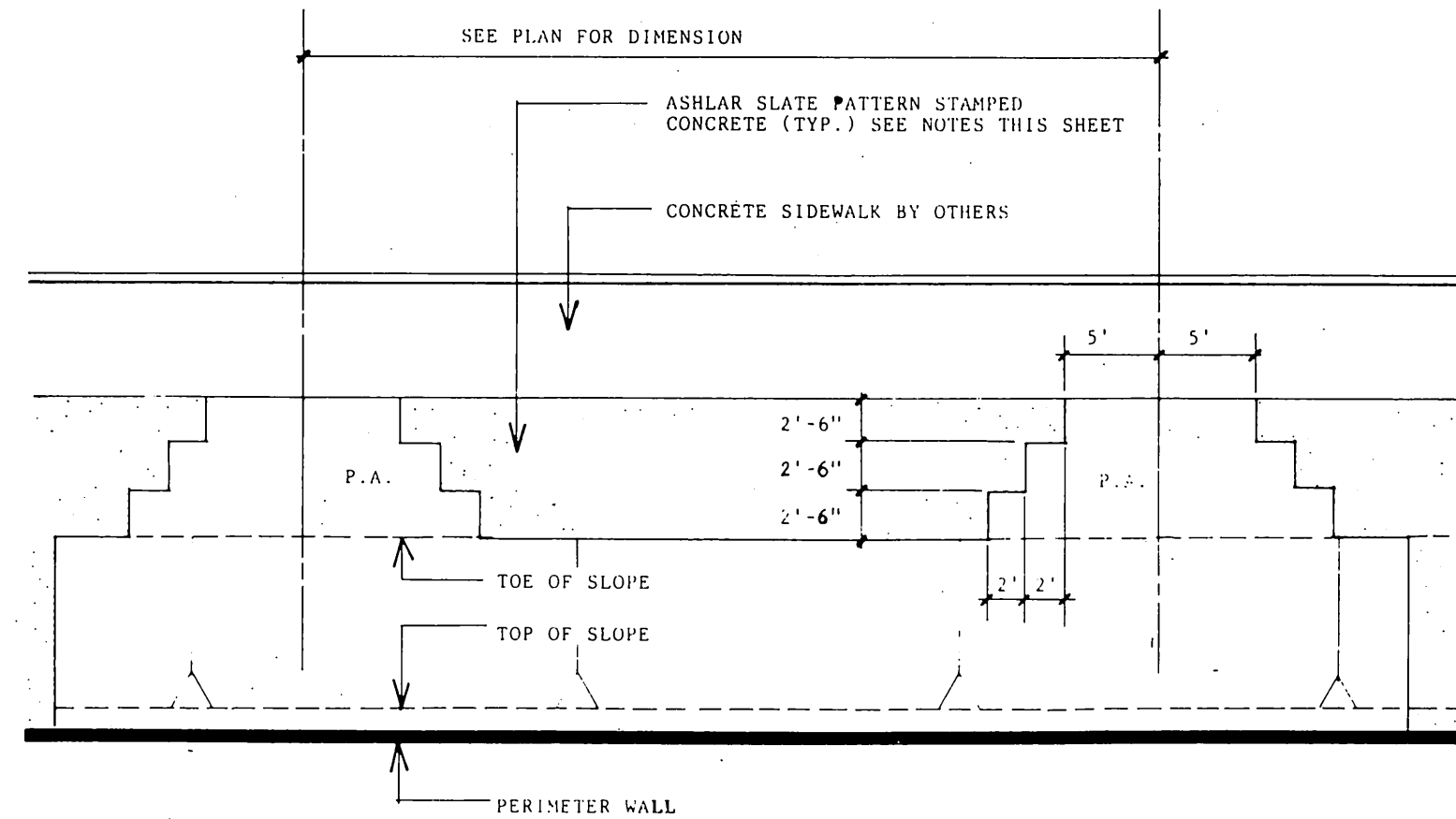


WALL CONSTRUCTION LEGEND

1. 8" x 8" x 16" GRAY ORCO (MEDIUM WEIGHT) VERTICAL SCORED SPLIT FACE BLOCK.
2. 8" x 8" x 16" SPLIT FACE BLOCK GRAY ORCO MEDIUM WEIGHT WITH SCORED MORTAR JOINTS.
3. 2" x 8" x 16" PRECISION CAP.
4. 4" x 8" x 16" PRECISION BLOCK.
5. PLASTER SECTION, SEE DETAIL E.
6. PERIMETER WALL SECTION, SEE DETAIL D.
7. 1/8" WIDE VERTICAL JOINT TYPICAL AT PLASTER AT P.L.
8. 8" x 4" x 16" GRAY ORCO (MEDIUM WEIGHT). VERTICAL SCORED SPLIT FACE BLOCK.
9. 2" SQ. TUBULAR STEEL POST - 11 GA.
10. 1/2" x 2" SQ. TUBULAR RAIL, TOP AND BOTTOM - 11 GA.
11. 3/4" SQ. TUBULAR STEEL TUBE - 11 GA.
12. 3" x 8" x 6" GALV. EXPANSION BOLTS (TYP.).
13. TYPICAL TUBULAR STEEL PARGEL INSTALLATION BETWEEN PLASTERS - 3 FT. HIGH BY 8 FT. PANEL AND ONE 3 FT. HIGH BY 7.5 FT. PANEL. CONFIRM ON-SITE DIMENSIONS WITH LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE PRIOR TO FABRICATION. FABRICATION OF PANELS WITHOUT MEASUREMENT CONFORMANCE WILL SUBJECT CONTRACTOR TO REFABRICATION OF PANELS TO FIT SITE CONDITIONS WITHOUT EXTRA COST TO DEVELOPER.

NOTE: WROUGHT IRON TO RECEIVE ONE SHOP COAT YELLOW OXIDE PRIMER, ONE FIELD COAT RED OXIDE PRIMER, AND ONE COAT EXTERIOR ENAMEL - BLACK.

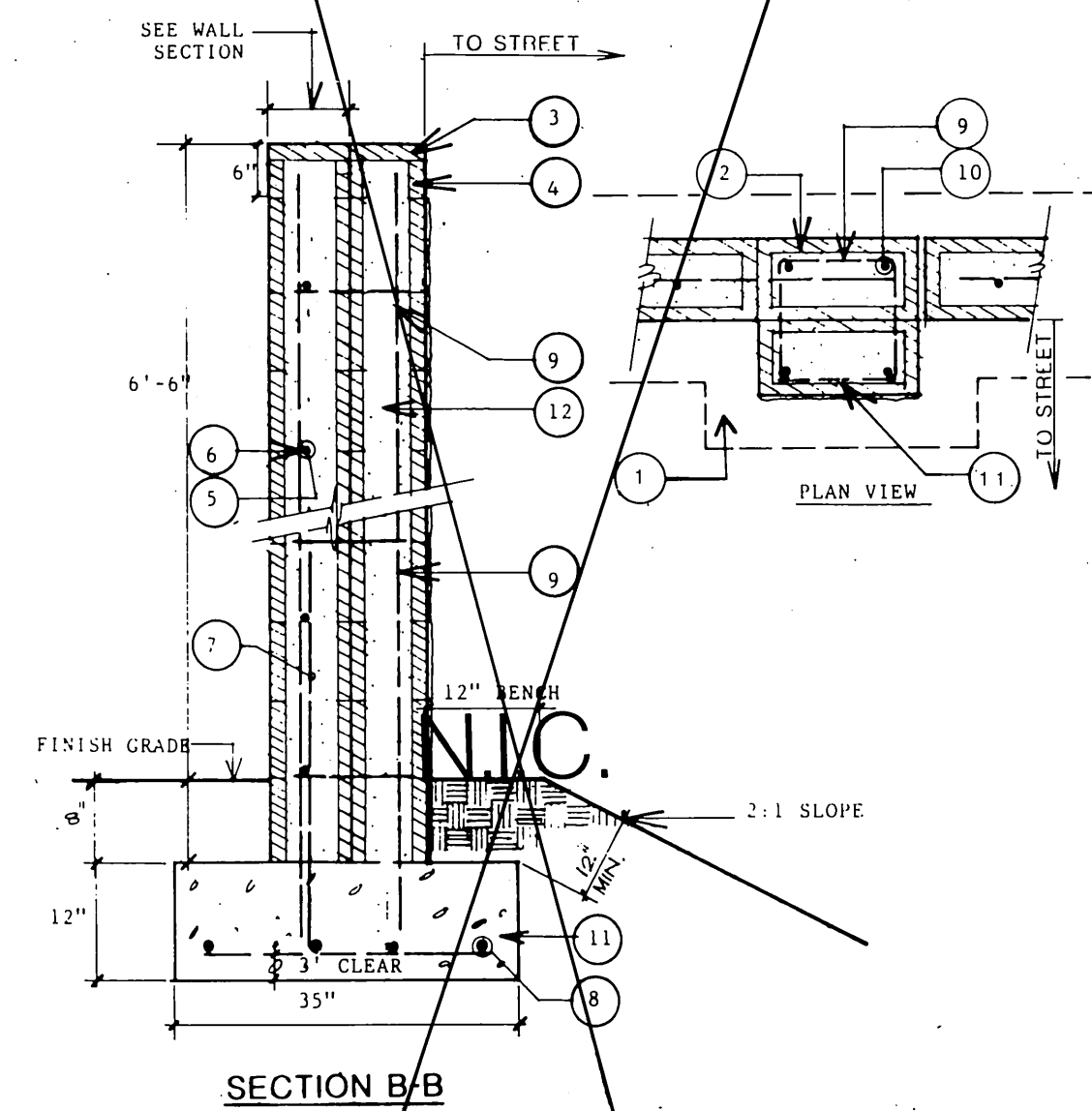
CONTRACTOR TO SUBMIT ALTERNATE BIDS FOR:
1. GALVANIZED FENCE W/ 2 COATS OF ENAMEL PAINT.
2. STEEL FENCE W/ POLYESTER POWDER COATINGS



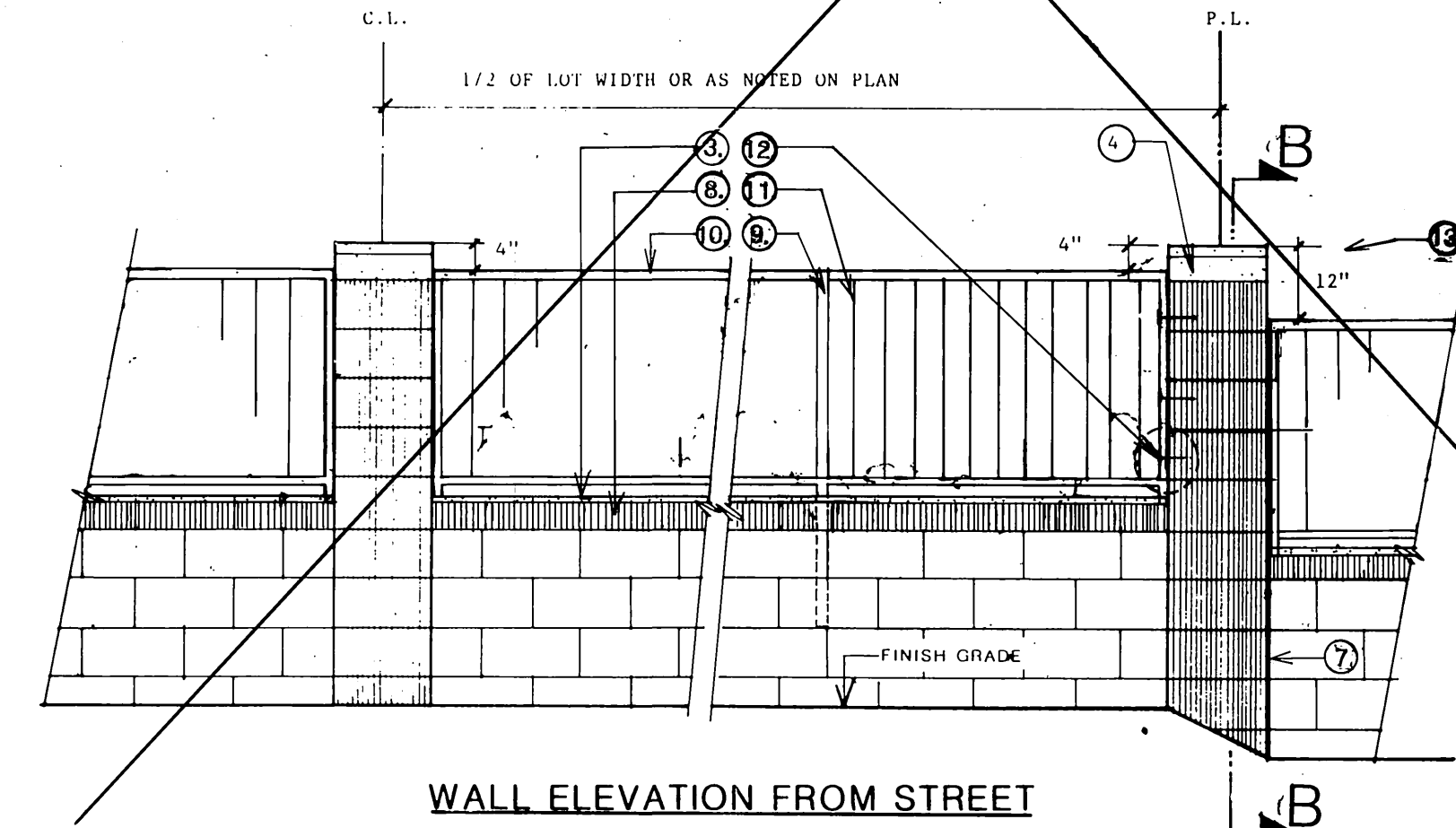
H STAMPED CONCRETE BLOW-UP
N.T.S.

TEXTURED PAVING NOTES

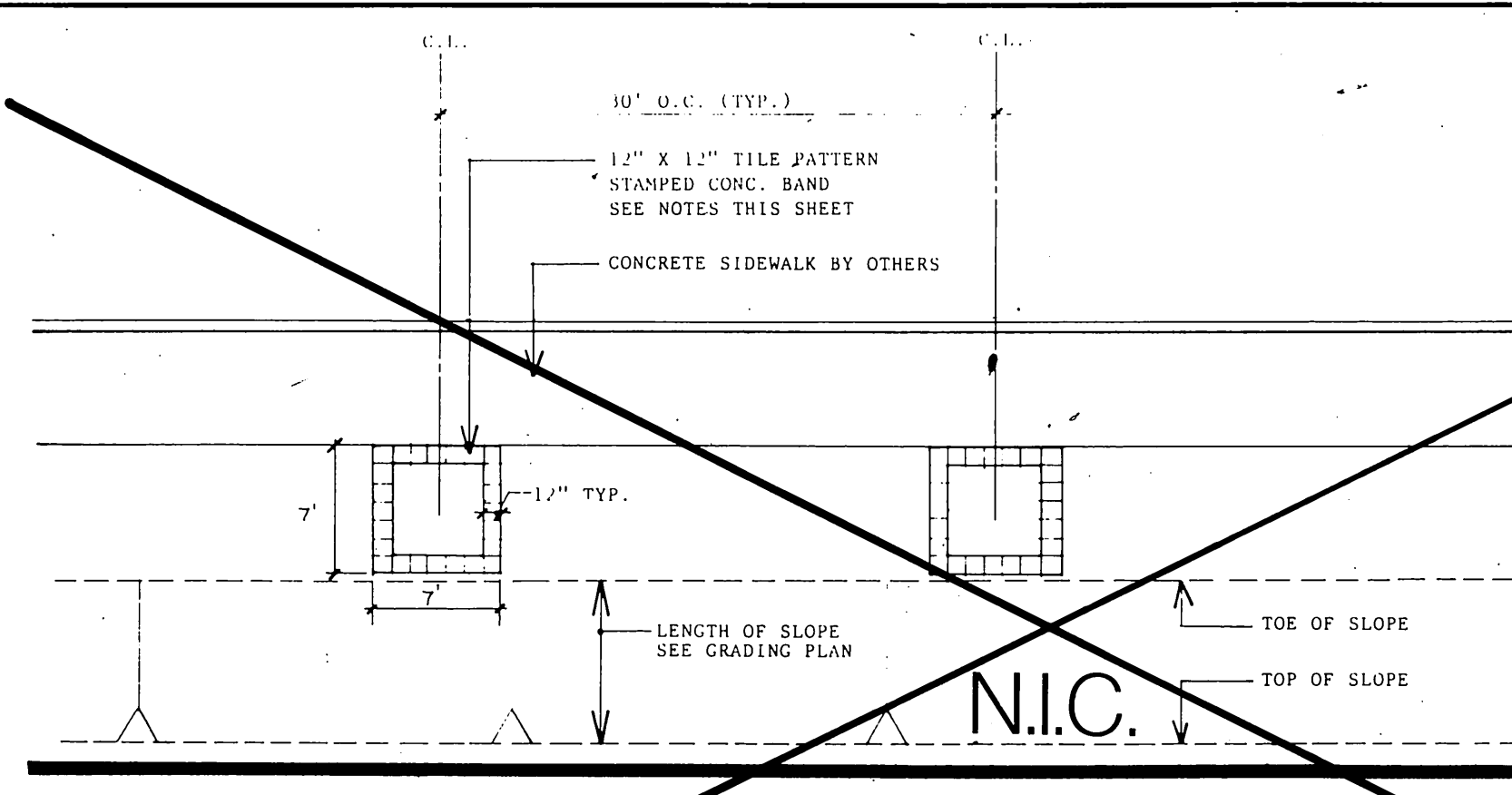
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4. INSTALLATION PROCESS: BOMANITE TEXTURED PAVING, OR APPROVED EQUAL. REFER TO BULLETIN 309.



E CONCRETE BLOCK PILASTER: 16" SQ.
N.T.S.



B WALL ELEVATION
N.T.S.



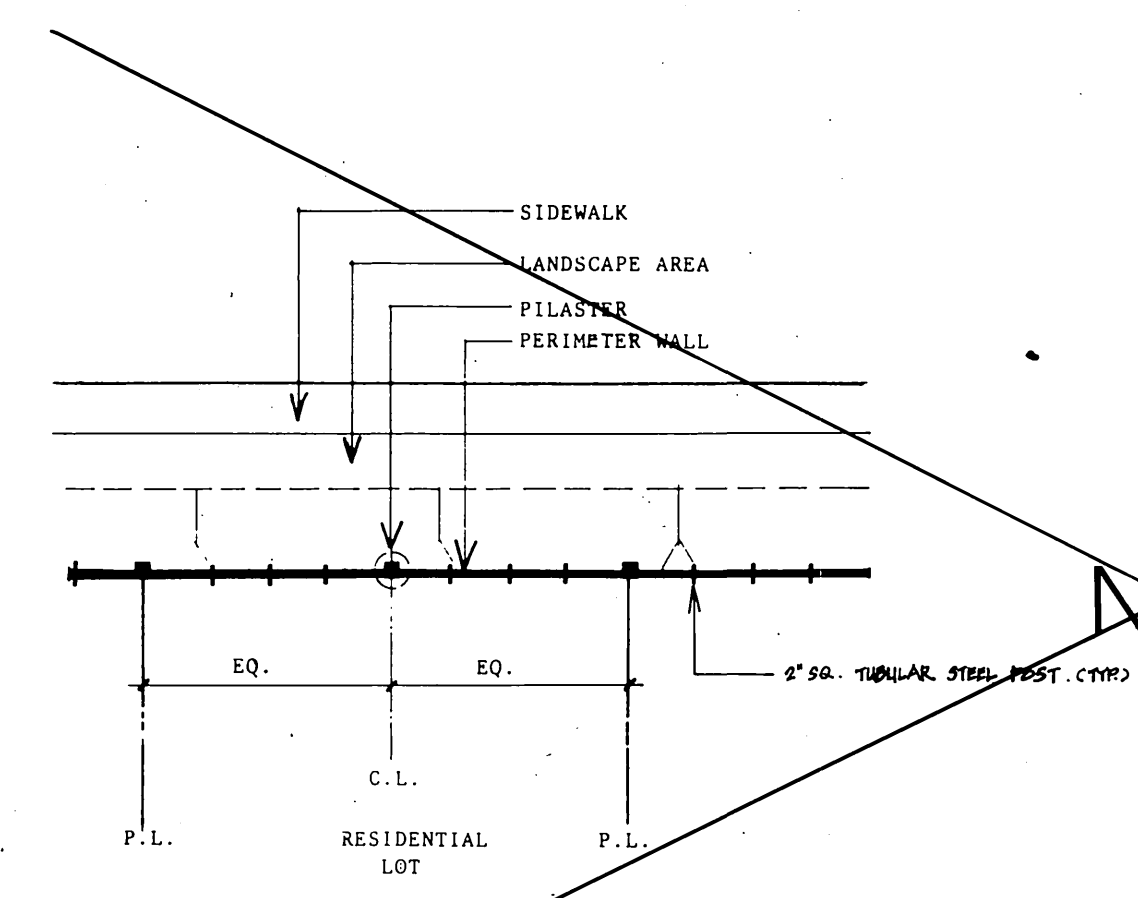
I 5'X5' PLANTER BLOW-UP
N.T.S.

TEXTURED PAVING NOTES

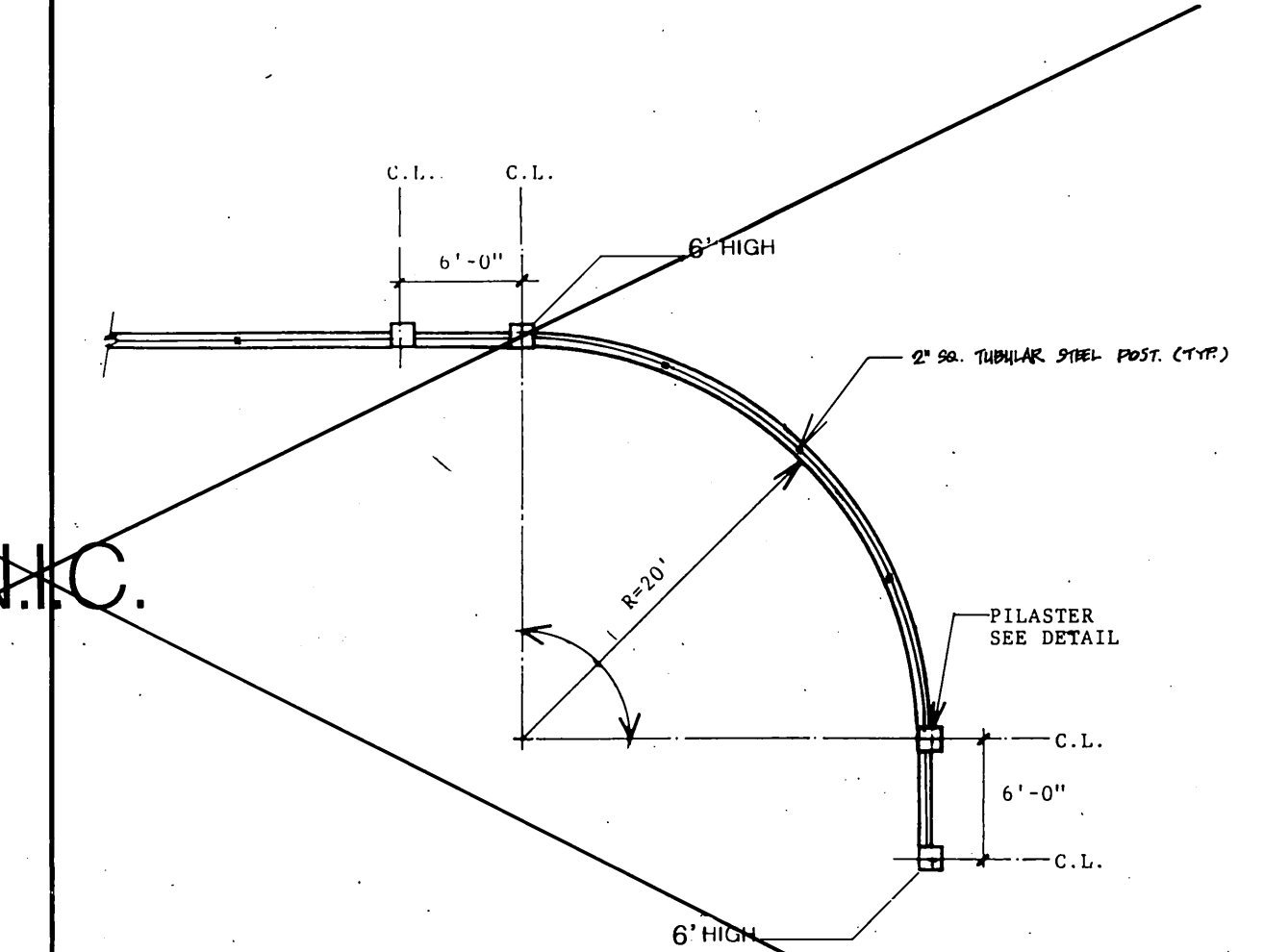
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2. STAMPED CONCRETE AREAS: 4" THICK SLAB ON GRADE, 4,000 P.S.I. DESIGN MIX STAMP-ASHLAR SLATE BOMACRON PATTERN BY BOMANITE, OR APPROVED EQUAL. REFER TO BULLETIN 405. COLOR NO. C-14, FRENCH GREY CHROMIX. ADMIXTURE BY L.M. SCOFIELD. CLEAR SEALER - 2 COATS OF CEMENTONE CLEAR SEALER BY L.M. SCOFIELD. APPLY PER MANUFACTURER'S INSTRUCTION NO. A-703. TEXTURE - ASHLAR SLATE BOMACRON.
3. CONTROL JOINTS: BETWEEN BOMANITE BAND AND BOMACRON ASHLAR SLATE PATTERN SHALL BE A COLD JOINT. BETWEEN BOMANITE BAND AND BACK OF CURB SHALL BE A COLD JOINT.
4. INSTALLATION PROCESS: BOMANITE TEXTURED PAVING, OR APPROVED EQUAL. REFER TO BULLETIN 309.

- LEGEND:**
1. 8" x 8" x 8" GRAY ORCO (MEDIUM WEIGHT) VERTICAL SCORED SPLIT FACE BLOCK.
 2. 8" x 8" x 16" SPLIT FACE BLOCK GRAY ORCO (MEDIUM WEIGHT) WITH SCORED MORTAR JOINTS.
 3. 2"x8"x16" CONC. PRECISION CAP.(GRAY)
 4. 4"x8"x16" CONC. PRECISION CAP.(GRAY)
 5. NO. 4 HORIZONTAL REBAR AT 32" O.C.
 6. NO. 4 VERTICAL REBAR AT 24" O.C.
 7. NO. 4 "L" BAR AT 24" O.C. ALTERNATE BEND EACH BAR.
 8. (3) NO. 4 REBAR CONT.
 9. NO. 2 HORIZONTAL TIES AT 24" O.C.
 10. (4) NO. 4 VERTICAL BAR AT PILASTER.
 11. 2000 P.S.I. CONC. FOOTING, 35' SQ
 12. SOLID GROUT ALL CELLS.

F WALL LEGEND
N.T.S.



C WALL LAYOUT
N.T.S.



A CURVED WALL AT CORNER
N.T.S.

Underground Service Alert

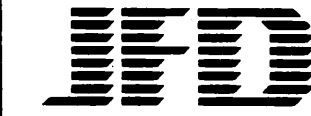


PRIVATE ENGINEERING NOTE



PREPARED UNDER THE DIRECTION OF

APPROVED BY



J.F. Davidson Associates, Inc.

DATE: 09/02/88

REVISION

DATE

BY

DATE

BY

DATE

BY

DATE

BY

DATE

**CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS**

APPROVED BY: *[Signature]*
DIRECTOR OF PUBLIC WORKS
DATE: 11/13/91

CONSTRUCTION DETAILS

**TRACT 21834-1
REVERSE FRONTAGE
LANDSCAPE
ORANGE TERRACE PKWY**

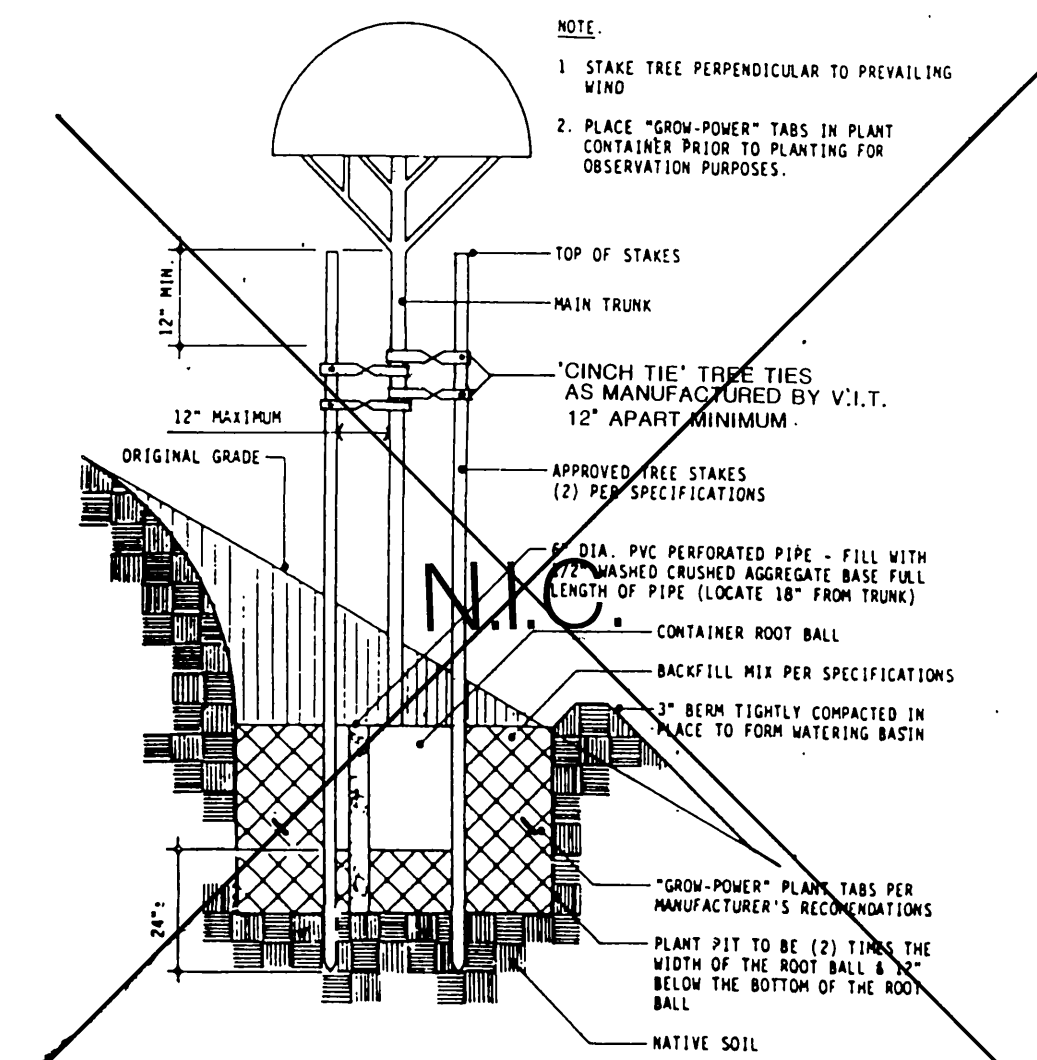
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R-2900L

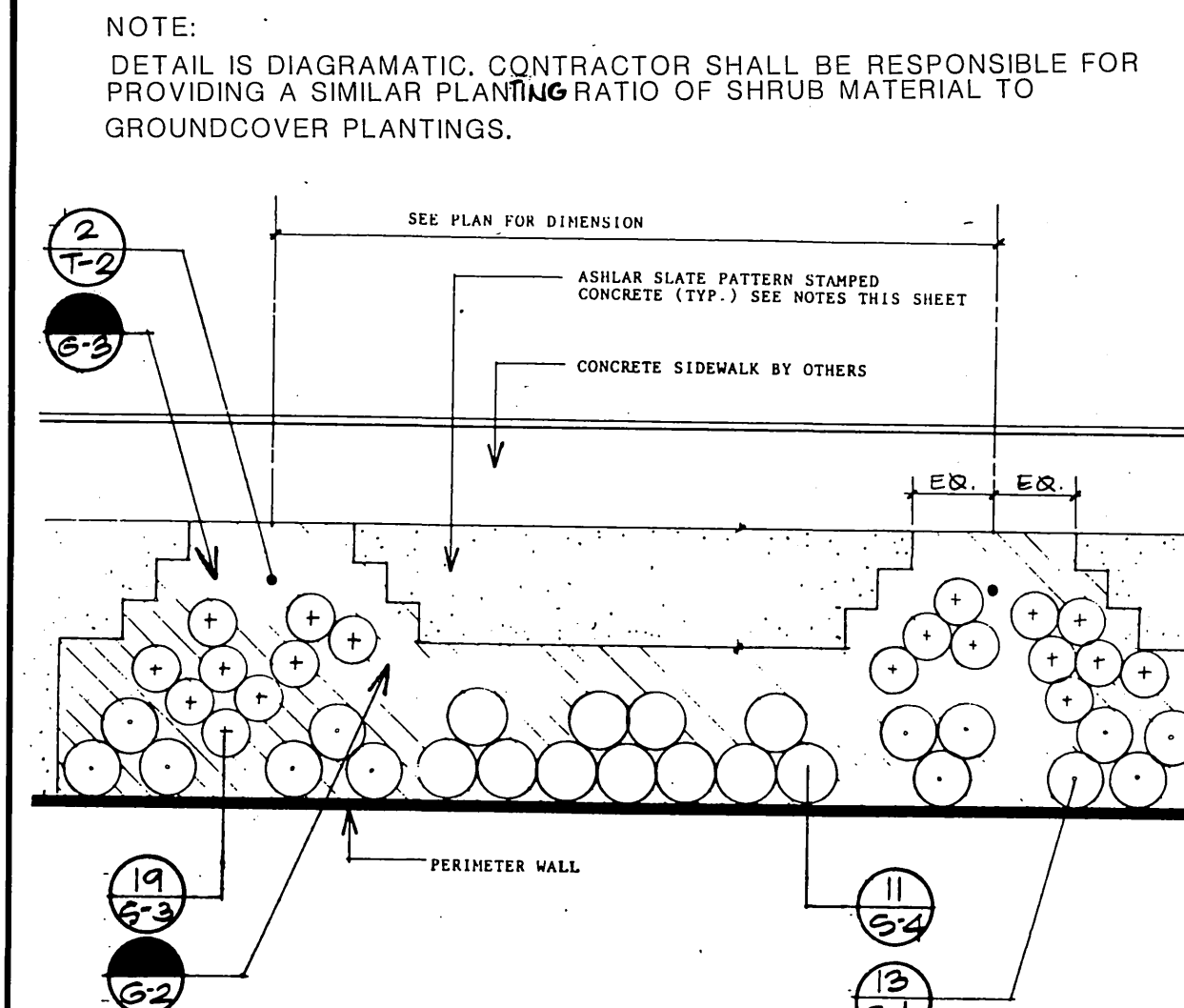
SHEET L-7 OF 10

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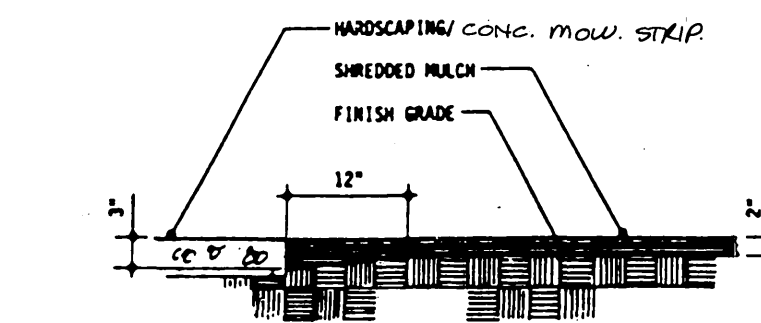
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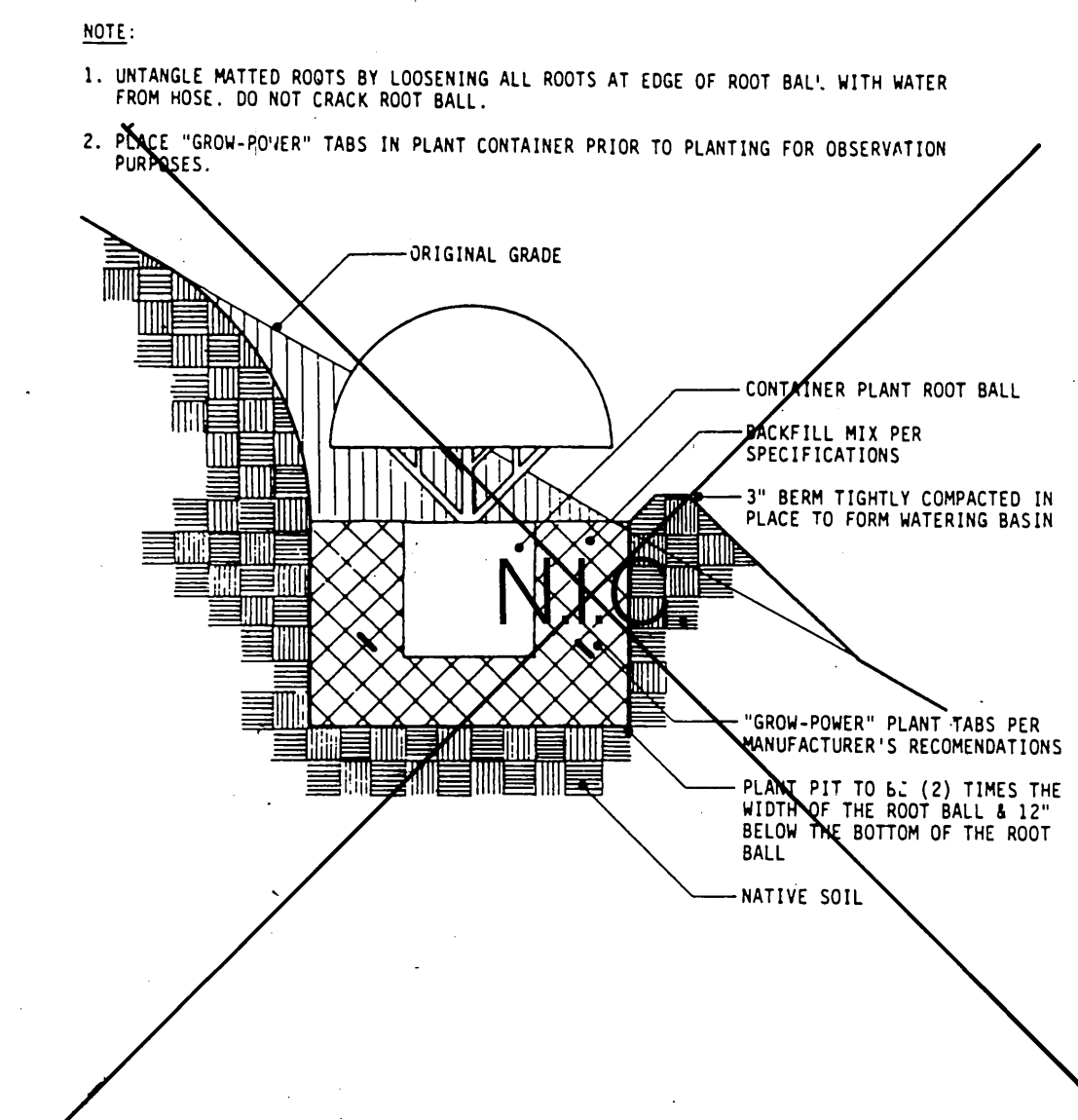
L DOUBLE STAKED TREE ON SLOPE
J.F. DAVIDSON ASSOCIATES, INC. NTS



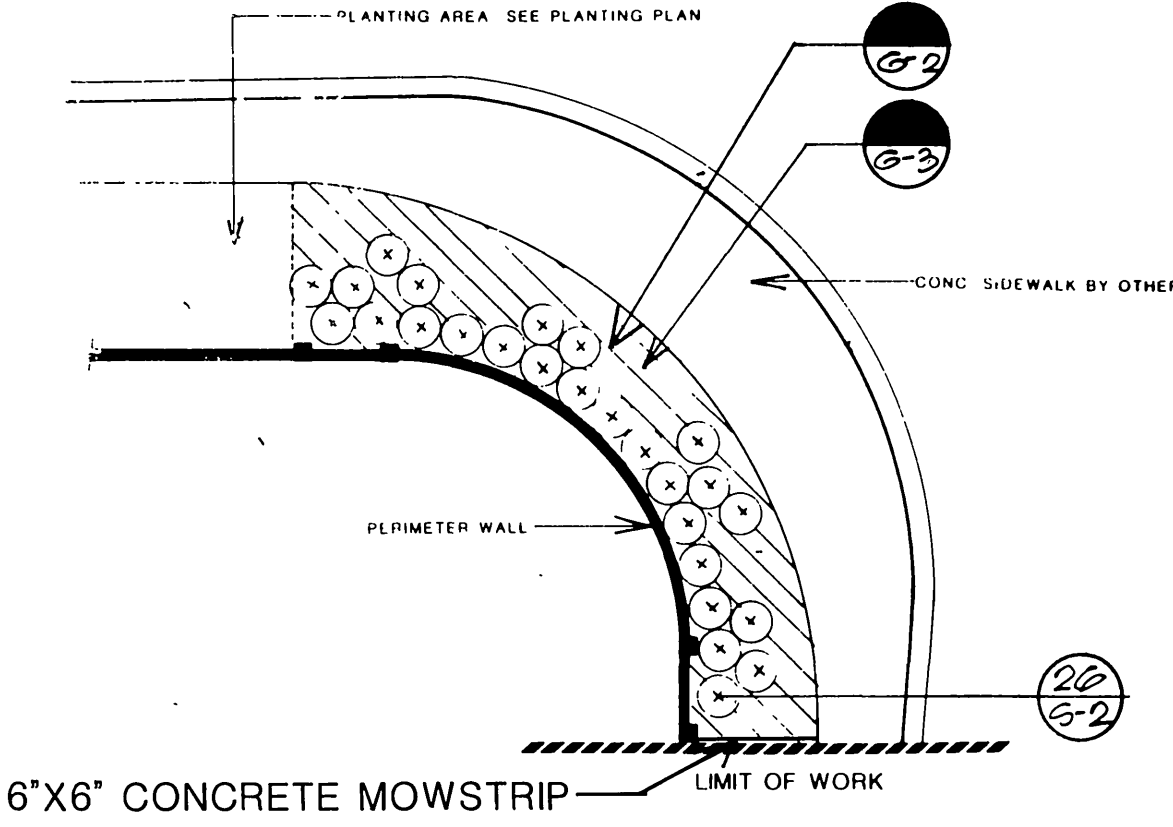
I STEPPED PLANTER NTS ENLARGEMENT PLAN



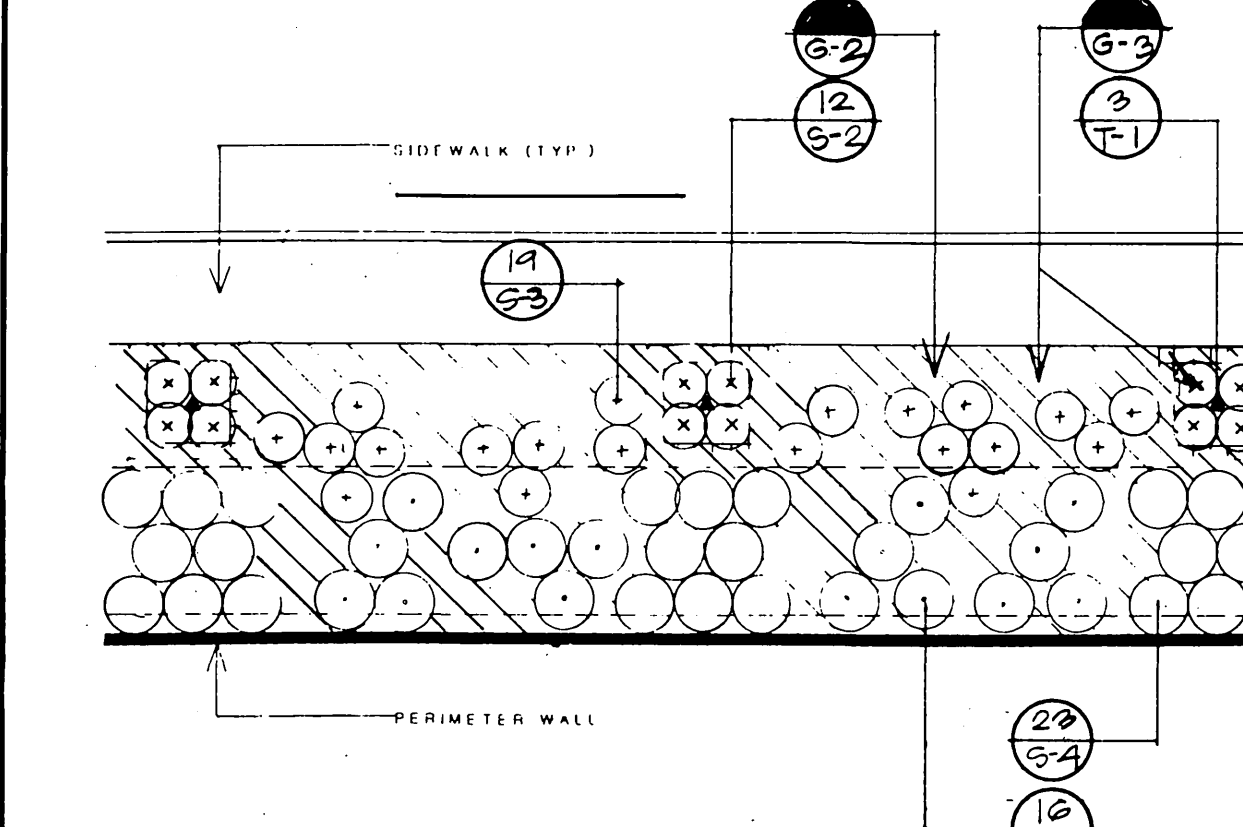
D SHREDDED MULCH IN PLANT BED
J.F. DAVIDSON ASSOCIATES, INC.



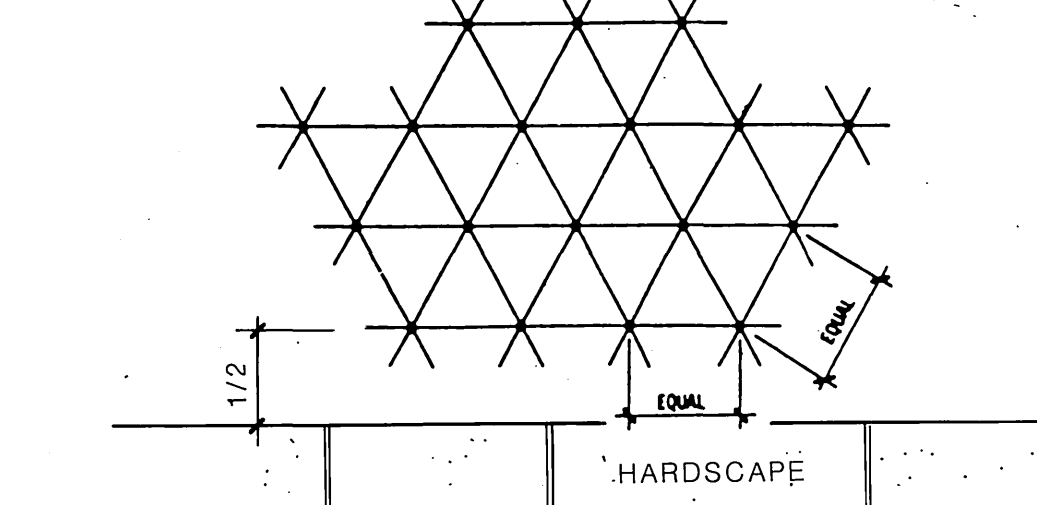
C CONTAINER PLANTING ON SLOPE
J.F. DAVIDSON ASSOCIATES, INC.



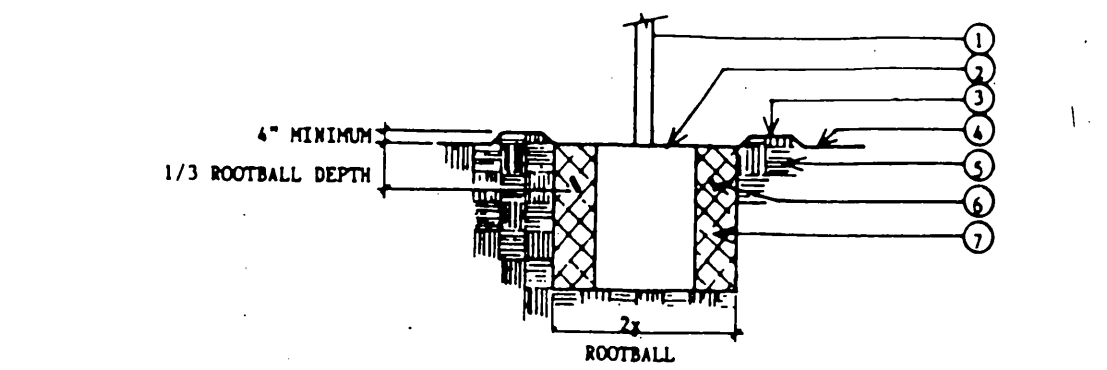
K CORNER PLANTING ENLARGEMENT PLAN NTS



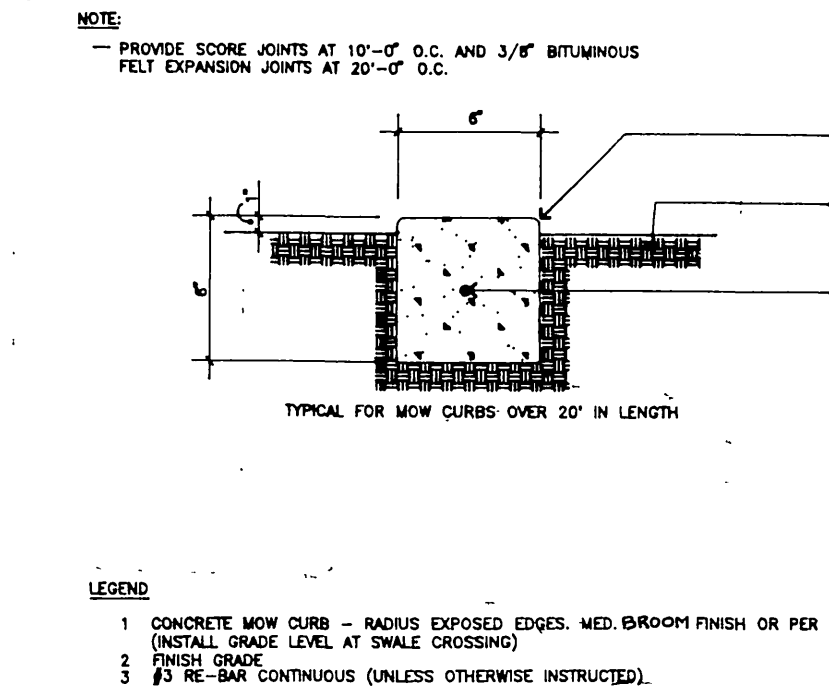
H 5' X 5' PLANTER NTS ENLARGEMENT PLAN



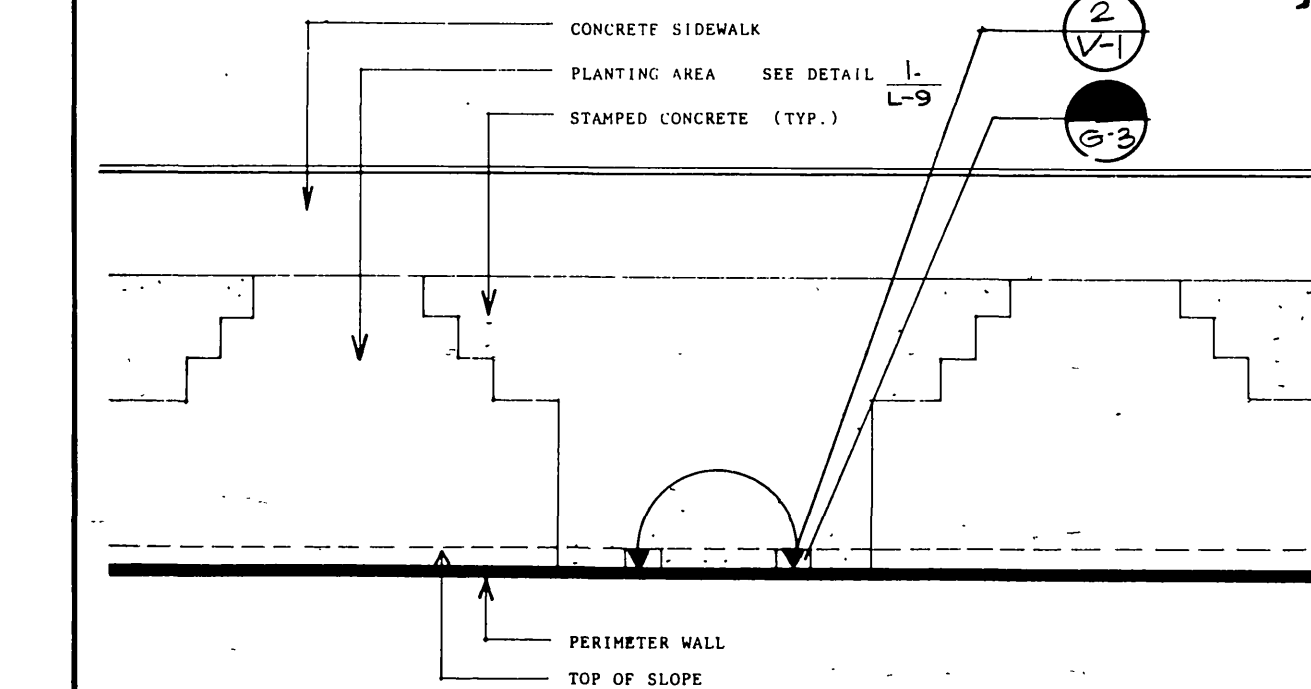
E SHRUB & GROUND COVER SPACING
J.F. DAVIDSON ASSOCIATES, INC.



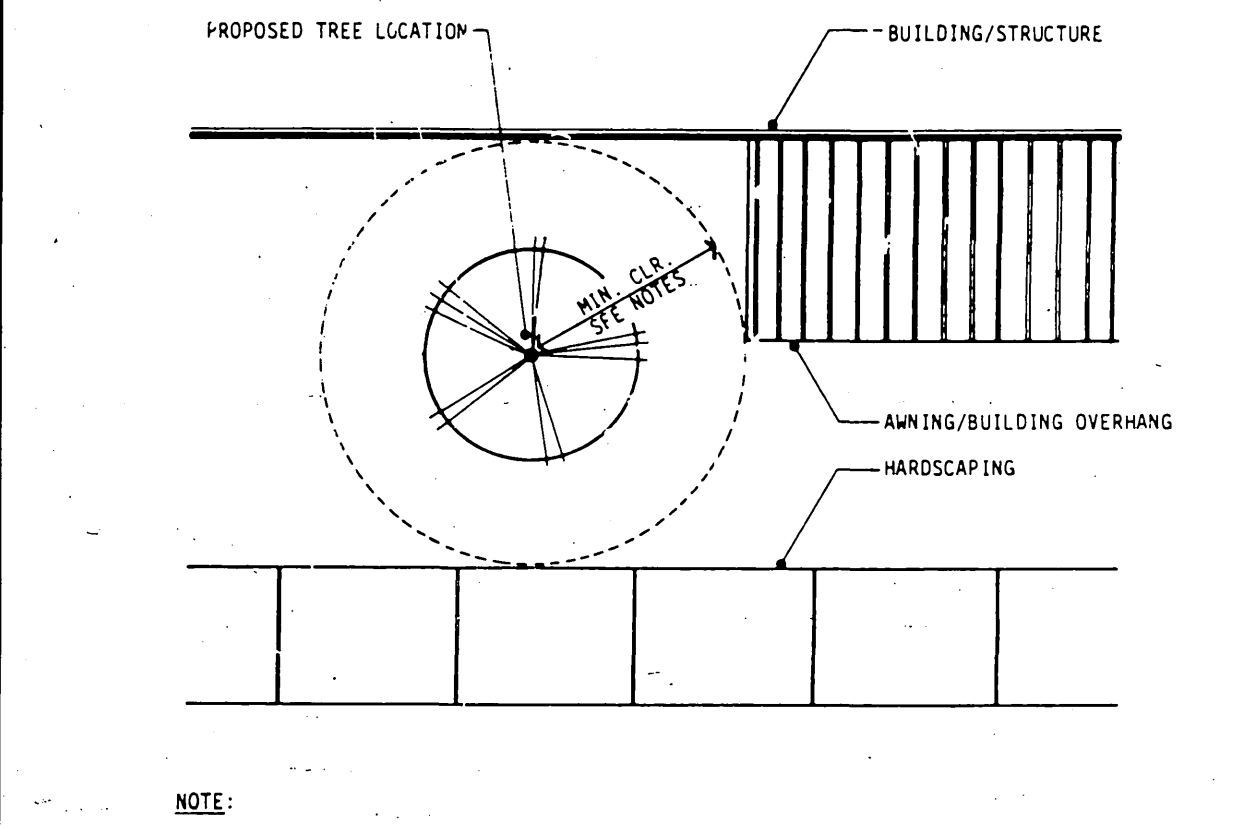
B PLANTING DETAIL
DETAIL NO. 1001



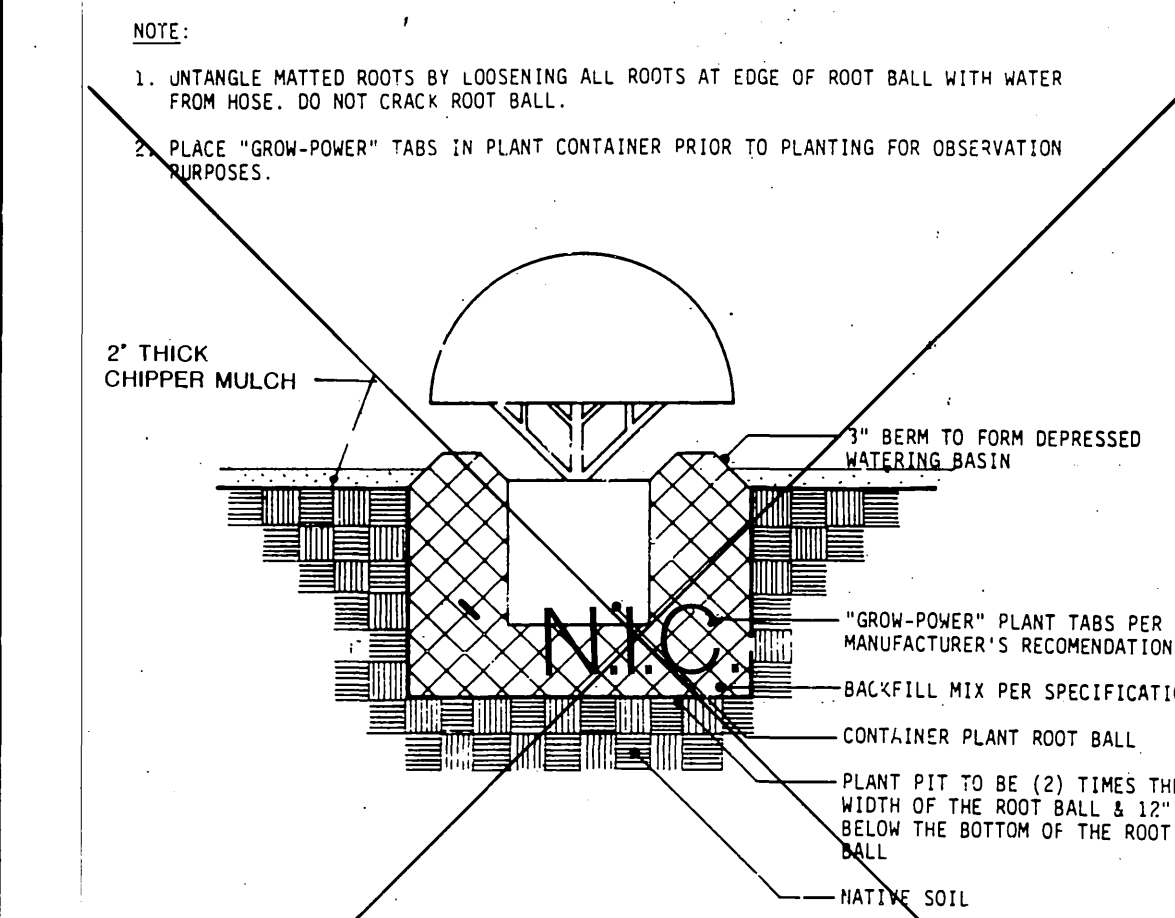
M CONCRETE MOWSTRIP



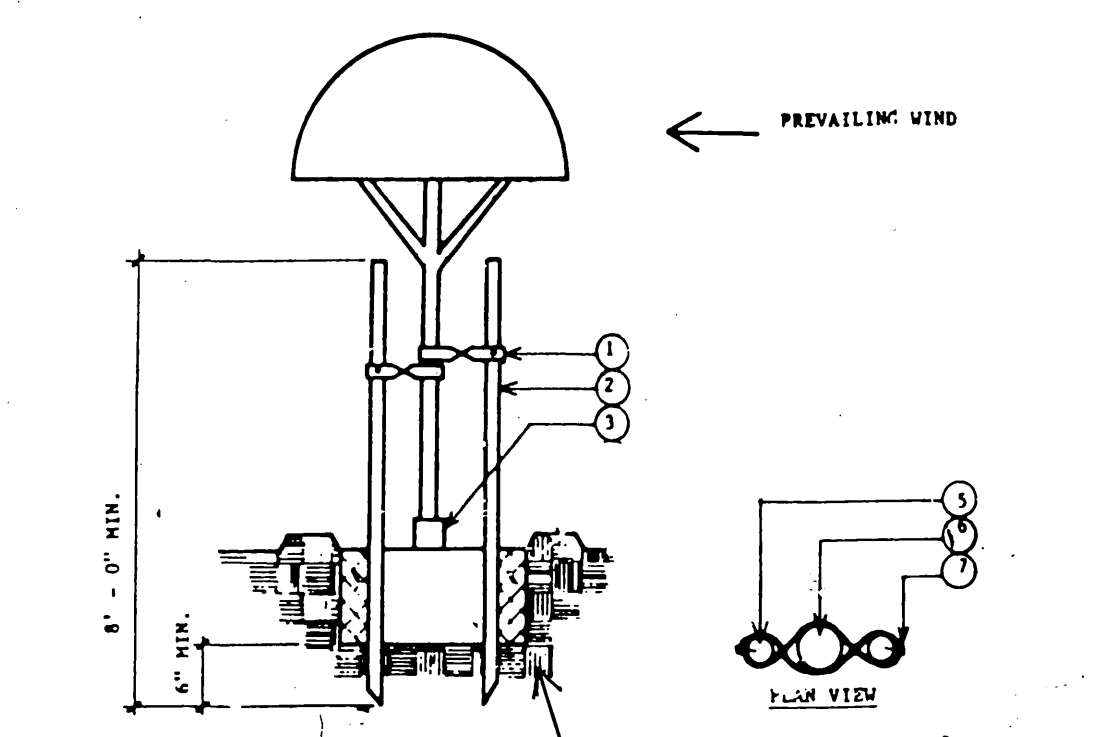
J VINE POCKETS ENLARGEMENT PLAN



G TREE SPACING REQUIREMENTS
J.F. DAVIDSON ASSOCIATES, INC.



F CONTAINER PLANTING WITH 2' THICK CHIPPER MULCH
J.F. DAVIDSON ASSOCIATES, INC.



A DOUBLE STAKING DETAIL
DETAIL NO. 1002
J.F. DAVIDSON ASSOCIATES, INC.

SECTION 02441 - IRRIGATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

The provisions of the "Standard Specifications for Public Works Construction", current edition, shall apply except as modified herein.

1.02 SCOPE:

A. General:

The work of this section shall include the furnishing of all labor, materials, equipment and services necessary to provide complete operating irrigation systems, including 120 volt electrical service to the controller, all as shown on the drawings and as specified.

B. Related Work Specified Elsewhere:

Site Clear and Grub 02110
Site Grading 02210
Selected Site Demolition 02111
Paving 02480
Electrical 16530

1.03 SUBMITTALS:

A. Materials List:

Contractor shall submit a complete materials list for approval by the City prior to performing any work. Catalog data and full descriptive literature must be submitted whenever the use of items different than those specified is requested. Notarized certificate must be submitted by plastic pipe and fitting manufacturer indicating that material complies with specifications, unless material has been previously approved.

Material list shall be submitted using the following format:

Item	Description	Manufacturer	Model No.
1	Pressure Supply Line	Lasco	Sch. 40
2	Lawn Head	Rainbird	2400
etc.	etc.	etc.	etc.

B. "Record" Prints:

(1) Record accurately on one set of blue-line prints all changes in the work constituting departures from the original contract drawings, including changes in pressure and non-pressure line locations.

(2) The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the City. Prior to final inspection of work, submit record prints to City for approval.

(3) Dimension from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavement, etc.) Data to be shown on record prints shall be recorded day-to-day as the project is being installed.

(4) Show locations and depths of the following items:

- Point of connection.
- Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).
- Gate valves.
- Sprinkler control valves.
- Quick coupling valves.
- Routing of control wires.
- Related equipment (as may be directed).

(5) Maintain record prints onsite at all times.

1.04 INSPECTIONS:

A. Inspections will be required for:

- Pressure test of irrigation main line.
- Coverage test.
- Final inspection/start of maintenance.
- Final acceptance.

B. Inspection Requests:

Contractor shall notify the Park Projects Inspector in advance for requesting all inspections as follows:

Pressure supply line installation and testing - 36 hours (1-1/2 working days)
System layout - 36 hours (1-1/2 working days)
Coverage tests - 36 hours (1-1/2 working days)
Final inspection - 48 hours (two working days)

When inspections have been conducted by other than the Park Projects Inspector, the Contractor shall show evidence of when and by whom these inspections were made.

No inspection will commence without "record" prints. In the event the Contractor calls for an inspection without up to date "record" prints, without completing previously noted corrections, or without preparing the system for inspection, the inspection will be cancelled and the Contractor back charged for the direct costs of all City personnel time and consultant time lost.

C. Closing in undisputed work:

Do not allow or cause any of the work of this section to be covered up or enclosed until it has been inspected, tested and approved by the City.

D. Coverage test:

When the sprinkler system is completed, Contractor shall perform a coverage test in the presence of the City to determine if the water coverage for planting areas is complete and adequate. This test must be accepted by the City before planting can commence.

E. Hydrostatic test:

(1) Prior to the installation of any valves, all pressure lines shall be tested under a hydrostatic pressure of 150 psi for a period of not less than two hours, with all ends of lines capped and the line fully charged with water after all air has been expelled from the line.

(2) All hydrostatic tests shall be made in the presence of the City. No pressure line shall be backfilled until it has been inspected, tested, approved in writing, and the mainline and valve locations have been noted on the "as-built" record drawings.

(3) Contractor shall furnish necessary force pump and all other test equipment.

1.05 TURNOVER ITEMS:

A. Controller Charts:

- Record prints must be approved by City before charts are prepared.
- Provide one controller chart (of the maximum size controller door will allow) for each automatic controller. Chart shall show the area covered by controller.
- The chart is to be a reduced copy of the actual "record" print. In the event the controller sequence is not legible when the print is reduced, it shall be enlarged to a readable size.
- Chart shall be marked with a different color to show the area of coverage for each station.
- When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being minimum 20 mils in thickness. Chart shall be installed in the controller enclosure using velcro fasteners.
- Controller charts shall be completed prior to final inspection.

B. Operation and Maintenance Manuals:

Within 10 calendar days prior to acceptance of construction, prepare and deliver to the City all required descriptive materials, properly prepared in two individually bound copies of the operation and maintenance manual. The manual shall describe the material installed and shall be in sufficient detail to permit operating personnel to identify, operate, and maintain all equipment. Spare parts lists and related manufacturer's information shall be included for each equipment item installed. Each complete, bound manual shall include the following information:

- Index sheet stating Contractor's address and telephone number, including names and addresses and telephone numbers of local manufacturer's representatives.
- Complete operating and maintenance instructions on all major equipment.

C. Materials to be furnished:

- Supply as part of this contract the following items:

- 45 additional sprinkler heads of each type and spray pattern shown.
- Two (2) wrenches for disassembly and adjustment of each type sprinkler head installed.
- Two keys for each automatic controller.
- Two couplers with a 3/4" bronze hose bib, bent nose type with hand wheel and two coupler keys.
- One valve box cover key.
- "As-built" record drawings.
- Remove and turn over backflow device valve handles.
- Documentation of Water Department's inspection and acceptance of backflow device.

D. The above items shall be turned over to the City at the conclusion of the project - final inspection.

1.06 GUARANTEE:

A. General:

The entire sprinkler system, including all work done under this contract, shall be guaranteed against all defects and fault of material and workmanship for a period of one (1) year following the filing of the Notice of Completion. All materials used shall carry a manufacturer's guarantee of one (1) year.

Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to the City within ten (10) calendar days of receipt of written notice from the City. When the nature of the repairs as determined by the City constitute an emergency (e.g., broken pressure line) the City may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the City by the Contractor, all at no additional cost to the City.

B. Form of Guarantee:

Guarantee shall be submitted on Contractor's own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted, and that the work, materials, and equipment as installed will fulfill the requirements of the guarantee included in the specifications. We agree to repair or replace any or all of our work, together with any other adjacent work which may be displaced by so doing, that may prove to be defective. In its workmanship or materials within a period of one (1) year from date of acceptance of the above named project by the City of Riverside, California, at no additional cost to the City. We shall make such repairs or replacements within 10 calendar days following written notification by the City. When the immediate repair or replacement of the work is necessary to ensure the public safety and welfare, which would be endangered by continued use of the facility, such circumstance will be deemed an emergency. In the event of such an emergency after the City contacts our firm and after authorizing 24 hours to initiate repairs, if we fail to initiate and diligently complete such repairs in a timely manner, the Director may direct City forces to perform such functions as he may deem necessary to correct the work and immediately place the facility back in operational condition. If such procedure is implemented, we shall bear all expenses incurred by the City. In all cases, the judgment of the Director shall be final in determining whether an operational emergency exists. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from the City (other than an operational emergency), we authorize the City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefor upon demand.

PROJECT: _____

LOCATION: _____

SIGNED: _____

ADDRESS: _____

PHONE: _____

C. After the system has been completed, the Contractor shall instruct the Parks Department Representative in the operation and maintenance of the system and shall furnish a complete set of operating instructions.

D. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to City's satisfaction by the Contractor without any additional expense to the City. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

PART 2 - MATERIALS

2.01 GENERAL:

All materials shall conform with Section 212 of the Standard Specification except as modified herein.

2.02 PIPE AND FITTINGS:

A. Pipe - General:

- Pressure supply lines 2 inches in diameter and up to 8 inches in diameter shall be either Class 315 solvent weld PVC or Class 200 rubber gasket type PVC. Solvent weld type PVC supply line shall not be used together on the same pressure supply line.
- Pressure supply lines 1-1/2 inches in diameter and smaller shall be minimum schedule 40 PVC.
- Non-pressure lines shall be minimum Class 200 PVC.

B. Steel Pipe:

Amend Standard Specifications Section 212-2.1.2 to read: "All steel pipe shall be hot-dipped galvanized, and add: "All fittings for steel pipe shall be 250 pound rated galvanized malleable iron, banded pattern. Pipe sizes indicated on the drawings are nominal inside diameter, unless otherwise noted."

C. Plastic Pipe:

Add the following to Standard Specifications Section 212-2.1.3: All plastic pipe shall bear the following markings: manufacturer's name, nominal pipe size, schedule or class, type of material, pressure rating in PSI, NSF seal of approval, and date of extrusion.

Amend Standard Specification Section 212-2.1.3 to read: All plastic pipe fittings shall be standard weight schedule 40 and shall be injection molded of an improved PVC fitting compound. All threaded plastic fittings shall have injection molded threads. No cut threads will be accepted on PVC pipe and fittings. All tees and elbows shall be manufactured in injection molds that are side gated. All threaded nipples shall be standard weight schedule 80 with molded threads.

Amend first sentence of Standard Specification Section 212-2.1.4 to read: "All rubber gasket PVC pipe, couplings, and fittings shall conform to ASTM D 2241 Type I, Grade 1, 2000-PSI design stress", and add the following to the section: "Couplings, rubber gaskets, and fittings shall be as approved by the pipe manufacturer. Ring-type rubber gasket couplings shall permit a five (5) degree deflection of the pipe at each coupling (2-1/2 degrees each side) without exfiltration or infiltration, cracking or breaking."

D. Asbestos Cement Pipe:

Add the following to Standard Specifications Section 212-2.1.6: Fittings for A.C.P. connection laterals shall be cast iron tees and bossed couplings except as follows:

- Double strap service clamps with rubber seals and flat bronze straps may be used for connections of 50 percent or less than the diameter of pipe.
- Tapped A.C.P. couplings with brass inserts may be used for connections of 3/4, 1, 1-1/4, 1-1/2 and 2 inches.

2.03 VALVES AND VALVE BOXES:

A. Manual Control Valves:

Add the following to Standard Specifications Section 212-2.2.3: Anti-siphon-type valves shall be all bronze with swivel-type replaceable seating members and an approved vacuum breaker as an integral part of assembly.

B. Remote Control Valves:

Add the following to Standard Specifications Section 212-2.2.4: Valves shall be spring-loaded, self-cleaning, packless diaphragm actuated, of a normally closed type. Valves shall be of the same manufacturer and series as the automatic controller.

Valve solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, and shall be 24 volt A.C., 2.0 watt maximum (2" and smaller valves).

Valve shall close against flow without chatter and with minimum closing surge pressure (minimum 5 seconds closing time per valve).

Valve shall be completely serviceable in the field without removing valve body from line.

C. Quick-Coupling Valves:

Add the following to Standard Specifications Section 212-2.2.6: Quick coupling valves shall have locking vinyl cover and shall be 1" in size.

D. Gate Valves:

All gate valves shall be capable of withstanding a minimum working pressure of not less than 150 psi.

E. Valve Boxes:

Add the following to Standard Specifications Section 212-2.2.7: All remote control valve boxes shall be rectangular concrete boxes with non-hinged locking cast-iron covers. Valve station number shall be stenciled in two-inch-high 12" numerals on cover using epoxy resin base paint of a contrasting color. Gate valve boxes shall be round concrete boxes with non-hinged locking cast iron covers marked either "Gate Valve" or "G. V." with letters cast or tooled in the cover.

2.04 BACKFLOW PREVENTER:

Add the following to Standard Specifications Section 212-2.3: The backflow prevention unit shall be a reduced pressure type vacuum breaker of the size, manufacture, and model number as indicated on the drawings. If not indicated, the device shall be the same size as the water service and the manufacturer and model number shall be as approved by the City.

2.05 ELECTRICAL MATERIALS

A. Conduit:

Amend Standard Specifications Section 212-3.2.1 to read: Conduit below paving shall be schedule 40 PVC of sufficient size to carry all proposed wiring. Wiring shall be in a separate sleeve.

B. Wire:

Add the following to Standard Specifications Section 212-3.2.2:

All common wire shall be white with a colored stripe. Stripe color shall be different for each controller installed. All control wire shall be of one color other than white or green. A different color control wire shall be used for each controller installed.

C. Electrical Service:

Materials for electrical service shall comply with the standard specifications, governing utility agency standards, and requirements of all applicable codes.

2.06 CONTROLLER UNIT:

Add the following to Standard Specifications Section 212-3.3:

Controllers shall be wall mounted type, as indicated on the drawings, with a heavy duty watertight case and locking hinged cover.

2.07 IRRIGATION HEADS:

All irrigation heads shall be as shown on the plans and shall conform with Section 212-2.4 of the Standard Specifications.

PART 3 - EXECUTION

3.01 GENERAL:

All work shall conform with Section 308 of the Standard Specifications except as modified herein. No work of this section other than sleeving under pavement shall commence prior to the completion and acceptance of all grading work specified in Section 02210.

Add the following to Standard Specifications Section 308-5.1:

A. Water Supply:

Connections to or the installation of the water supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional cost to the City.

B. Electrical Service:

Contractor shall provide electrical service as necessary and make 120V connection to the irrigation controllers.

C. Code Requirements:

Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.

In the event any equipment or methods indicated on the drawings or in specifications is in conflict with local codes, immediately notify the Inspector prior to installing. If this notification is not provided, the Contractor shall assume full responsibility for the cost of all revisions necessary to comply with code.

D. Grades:

Before starting work of this section, the contractor shall obtain the written acceptance of the City of the fine grades, and written authorization for the work of this section to proceed. Contractor is to keep within the specified material depths with respect to finish grade. Failure to obtain such written acceptance may subject the contractor to adjusting the grades or depths of lines in order to achieve acceptable depths of cover, all as directed by the City and at no additional cost to the City.

E. Coordination with work of other trades:

Make all necessary measurements in the field to ensure precise fit of items in accordance the original design. Contractor shall coordinate the installation of all irrigation materials with all other work. Special attention shall be given to coordination of piping locations versus tree and shrub locations and sleeve locations versus pavement installation to avoid conflicts.

Contractor shall maintain record drawing blueprint on site at all times. Upon completion of work, transfer all as-built information on changes and dimensions to reproducible repla prints. The changes and dimensions shall be recorded in a legible and workmanlike manner, to the satisfaction of the Park Projects Inspector.

3.02 TRENCHING AND BACKFILLING:

A. Trenching:

(1) Add the following to Standard Specifications Section 308-2.2: Dig trenches and support pipe continuously on bottom of ditch. Where lines occur under paved areas, depth dimensions shall be considered below subgrade.

(2) Amend Standard Specifications Section 308-2.2.2 to read: Water lines continuously pressurized minimum 18 inches, maximum 24 inches (These measurements are to be from subgrade elevation for piping under pavement.)

(3) Amend Standard Specifications Section 308-2.2, paragraph 3) to read: Lateral sprinkler lines - minimum 12 inches and maximum 16 inches.

(4) Add the following to Standard Specifications Section 308-2.2: Where it is necessary to excavate adjacent to existing trees, the contractor shall avoid injury to trees and tree roots. Excavation in areas where 2-inch and larger roots occur shall be done by hand. All roots 2 inches and larger in diameter shall be tunneled under and shall be heavily wrapped with wet burlap to prevent scarring or drying. Where trenching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making a clean cut through the roots. Roots 1 inch and larger in diameter shall be painted with two coats of tree seal or approved equal. Trenches adjacent to trees shall be closed within 24 hours.

(5) Permanent Resurfacing: Add the following to Standard Specifications Section 308-5.1: All surface improvements damaged or removed as a result of the contractor's operations shall be reconstructed by the contractor to the same dimensions, except for pavement thickness, and with the same type materials used in the original work. Trench resurfacing shall be 1 inch greater in thickness than existing pavement. Concrete pavement shall be removed and replaced in "full panels" with no horizontal dimension less than five (5) feet. Contractor shall review the planned limits and lines of concrete removal and replacement with the Park Projects Inspector prior to sawcutting for removal work.

B. Backfill:

Amend Standard Specifications Section 308-2.2 to read: Backfill shall be uniformly tamped in 4-inch layers under and around the pipe for the full width of the trench and the full length of the pipe. Materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.

Flooding in lieu of tamping is not allowed without specific prior written approval of the Soils Engineer and the Park Projects Inspector.

Under no circumstances shall the wheels of any vehicle not designed for the purpose of soils compaction be used to compact backfill.

3.03 PIPE INSTALLATION:

A. General: Add the following to Standard Specifications Section 308-5.2.1:

(1) Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. However, no hydraulic driving is permitted under asphaltic concrete pavement.

(2) Cutting or breaking of existing pavement is not permitted except as approved by Park Projects Inspector. When approved, all necessary repairs and replacements will be made at no additional cost to the City.

(3) Carefully inspect all pipe and fittings before installation, removing all dirt, scale and burrs and reaming; install pipe with all markings up for visual inspection and verification.

(4) Contractor shall install concrete thrust block per the manufacturer's recommendations at all changes of direction and terminal points of pressure pipe.

(5) Parallel lines shall not be installed directly over one another. Provide a minimum of 12" horizontal separation for all parallel lines.

(6) For plastic-to-metal connections, work the metal connections first. Use non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise.

(7) All piping under pavement shall be sleeved using schedule 40 PVC sleeves. Each line shall be separately sleeved.

(8) Do not install multiple assemblies ("manifold") on plastic lines. Provide each equipment assembly (e.g., MFC, quick coupler, gate valve, head, backflow device) with its own connection to its service line.

B. Plastic Pipe: Add the following to Standard Specifications Section 308-5.2.3:

(1) Exercise care in handling, loading, unloading and storing plastic pipe and fittings, store plastic pipe and fittings under cover until ready to install; transport plastic pipe on a vehicle with a bed long enough to allow pipe to lay flat, avoid undue bending and any concentrated external load.

(2) 360° applicators shall be used to apply primer and solvent on pipe sizes 2-1/2 inches and larger.

3.04 BACKFLOW INSTALLATION: BY J.M.H.M.P.

Add the following to Standard Specifications Section 308-5.3: Install backflow assemblies at ~~locations~~ approved in the field by the Park Projects Inspector and at heights requiring special codes.

3.05 VALVE AND VALVE BOX INSTALLATION:

Amend Standard Specifications Section 308-5.3 to read: Valves shall be the same size as the pipe line in which they are installed unless otherwise specified on plans. Valves shall be installed a minimum of three feet in horizontal distance apart, each with its own connection to the pressure main line.

Amend Standard Specifications Section 308-5.3 to read: Install quick couplers and valve boxes per Parks and Recreation Department standard details.

Add the following to Standard Specifications Section 308-5.3: Valves shall be installed in shrub areas whenever possible.

3.06 SPRINKLER HEAD INSTALLATION:

Amend Standard Specifications Section 308-5.4.1 to read: Sprinkler heads shall be installed as designated on the drawings and per Parks and Recreation standard details.

3.07 CONTROLLER INSTALLATION:

Add the following to Standard Specifications Section 308-5.3: The controller location, as shown on the plans, is diagrammatic. The final location of the controller shall be as approved by the Park Projects Inspector before installation. The Contractor shall coordinate the electrical service with this location. The controller shall be well mounted within a 16 hour vandal resistant enclosure, unless noted otherwise on the plan. Controller enclosure shall be located in shrub areas and/or adjacent to other landscape items. Enclosure shall be painted with two coats of paint, color as approved; submit samples. A 4" thick concrete slab for maintenance access shall be provided, size approximately 15 sq. ft., line, grade and dimensions as directed by the Park Projects Inspector.

Following establishment of the irrigation system shall be programmed to operate during the periods of minimal use of the project area (i.e., 11:00 p.m. through 6:00 a.m.).

3.08 WIRING:

Add the following to Standard Specifications Section 308-5.5: All splice connections shall occur in a valve box. All wire runs between the valve and the controller shall be a continuous run with no splices unless noted otherwise on the plan.

All low voltage wiring splices shall be made-up as soldered connections, wrapped with a minimum of two (2) layers of electrical tape and sealed with Scotch-coat. Scotch-lok, Uni-pack, Penn-tite, or other similar type connectors are not acceptable.

3.09 FINISHING AND TESTING:

Add the following to Standard Specifications Section 308-5.6.2: Centerload all plastic pipe prior to pressure testing. Amend Standard Specifications Section 308-5.6.2 to read: Pressure test the mains - minimum 2 hours at 150 PSI. Add the following to Standard Specifications Section 308-5.6.2: The entire system shall be operating properly before any planting operations commence.

3.10 COMPLETION CLEANING:

Add the following to Standard Specifications Section 308: Upon completion of the work, Contractor shall smooth all ground surfaces, remove excess materials, rubbish, debris, etc., sweep adjacent streets, curbs, gutters, walkways and trails, and remove construction equipment from the premises.

END OF SECTION

Underground Service Alert



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PRIVATE ENGINEERING NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE LIABILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL



PREPARED UNDER THE DIRECTION OF:

REGISTERED CIVIL ENGINEER NO. _____

EXPIRATION DATE: _____ DATE: _____

APPROVED BY: _____



J.F. Davidson Associates, Inc.
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SCALE: NO SCALE

DATE: 7/12/90

BENCH MARK:

DESIGNED BY: A.M.

MARK

REVISIONS

APPR. DATE

DATE

DESIGNED BY: A.M.

DRAWN BY: J.L.

CHECKED BY: A.E.T.

SECTION 02400 - PLANTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

The provisions of the "Standard Specifications for Public Works Construction" shall apply except as modified herein.

1.02 SCOPE:

The work required is indicated on the drawings and includes, but is not necessarily limited to: soil preparation; finish grading (as distinguished from fine grading per Section 02210); planting trees; gully and staking trees; planting shrubs and groundcover; hydroseeding turf; soil erosion control; maintenance; plant establishment; guarantees; and replacements.

1.03 SOILS TESTS:

The Contractor shall notify the Park Projects Inspector upon completion of fine grading and prior to commencement of soil preparation work. The City will provide agronomic soils tests for all planting areas after completion of fine grading and prior to start of soil preparation work. Tests will be performed by an approved agronomic soils testing laboratory and will include a fertility and suitability analysis with written recommendations for soil preparation, planting backfill mix, sugar hole requirements, and post plant fertilization program. The soils report recommendations shall take precedence over the minimum amendment and fertilizer application rates specified herein only when they exceed the specified minimums. Contractor shall allow a minimum two week period for the soils testing work commencing upon acceptance of the fine grading work per Section 02210 by the Park Projects Inspector.

1.04 GUARANTEES:

- All trees installed under the contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (1) year following final acceptance.
- During the guarantee period, any material found to be dead, missing, or in poor condition shall be replaced by the contractor within ten (10) days of written notification. Park and Recreation Department shall be the sole judge as to the condition of the material.
- Replacement shall be made in accordance with City standards.
- Material and labor involved in replacing plant material shall be provided by the contractor at no additional cost to the City.

1.05 INSPECTIONS:

Inspections will be required. The Contractor shall contact the Park Projects Inspector at least 48 hours (2 working days) in advance of an anticipated inspection. An inspection will be required at each of the steps listed below:

- Upon completion of fine grading and prior to commencement of soil preparation, for acceptance of fine grading work and taking of soils samples.
- Inspection of completed finish grading work following soil amendment work.
- When container plants and/or bare root stock are spotted for planting, but before planting holes are excavated.
- When planting and all other indicated or specified work has been completed.
- During application of pre-emergent chemical.
- At start of plant establishment period.
- At end of the plant establishment period, prior to final acceptance of the project for maintenance by the City, this acceptance for maintenance will be confirmed in writing by the Park and Recreation Department.

1.06 SUBMITTALS:

- The following written certifications are required to be submitted to the Park Projects Inspector upon delivery of the respective materials to the job site:
 - Total Quantity of commercial fertilizers, by type
 - Total Quantity of soil amendments and conditioners, by type
 - Total Quantity of mulch
 - Total Quantity of Iron sulphate

1.07 PLANT ESTABLISHMENT PERIOD:

The length of the Plant Establishment Period shall be a minimum of ONE (1) YEAR. See also Subsection 3.08 of this section regarding start of plant establishment period.

PART 2 - MATERIALS

2.01 GENERAL:

All materials shall conform with Section 212 of the Standard Specifications except as modified herein.

2.02 FERTILIZER, SOIL AMENDMENTS AND CONDITIONERS:

Add the following to Standard Specifications Section 212-1.2.3:

- Planting Tablets: tightly compressed long-lasting, slow-release fertilizer tablets weighing 21 grams, with a potential acidity of not more than 5 percent by weight and having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis:

GUARANTEED ANALYSIS

Total Nitrogen (N) 20%
Derived from urea formaldehyde
7.0% water soluble nitrogen
13.0% water insoluble nitrogen

Available Phosphoric Acid (P₂O₅) 10%
Derived from calcium phosphate

Soluble Potash (K₂O) 5%
Derived from potassium sulfate

Combined Calcium (Ca) 2.6%
Derived from calcium phosphates

Combined Sulfur (S) 1.6%
Derived from ferrous and potassium sulfates

Iron (expressed as elemental Fe) 35%
Derived from ferrous sulfate

- Commercial fertilizer shall bear the manufacturer's guaranteed statement of analysis and shall meet the following minimum requirements: 16% nitrogen, 6% phosphoric acid, and 6% potash.

C. Organic Soil Amendment:

Shall be type I organic soil amendment, wood based product, nitrogen stabilized.

D. Soil Conditioners:

Add to Standard Specifications, new Section 212-1.2.6: Inorganic conditioners shall be agricultural grade gypsum, soil sulfur and iron sulfate. Iron sulphate shall be ferric sulphate or ferrous sulphate in pelleted or granular form containing not less than 18.5% iron, expressed as metallic iron, and shall be registered as an agricultural material with the State Department of Agriculture in compliance with Article 2 "Fertilizing Materials", Section 1030 of the Agriculture Code.

2.03 SEED:

Add the following to Standard Specifications Section 212-1.3:

Turf Seed Mix	Proportion	Purity	Germination
Perennial Ryegrass (50% Penn. Blue, 50% Derby)	20%	95%	90%
P3 Bluegrass (50% Ruby, 50% Breeze)	20%	98%	80%
Un-Hulled Bermuda (Certified Arizona Common)	20%	98%	85%

(Note: For applications in May through September, use Hulled Bermuda.)

Seeding rate: 218 pounds per acre (5 pounds per 1,000 square feet)

2.04 HYDROSEEDING MATERIALS:

Add the following to Standard Specifications Section 212-1.3:

Water: All water used shall be potable domestic water as drawn from the City pressure main. See General Provisions section 200.5 regarding temporary construction water and charges for water drawn from City fire hydrants.

Seed: Turf seed mix as specified.

Mulch: Fiber shall be produced from cellulose such as wood pulp or similar organic material and shall be of such character that it will disperse into a uniform slurry when mixed with water. The fiber shall be of such character that when used in the applied mixture, an absorptive or porous mat, but not a membrane, will result on the surface of the ground. Materials which inhibit germination or growth shall not be present in the mixture.

Binding Agent: Dry powder organic concentrate, Ecology Controls M-Blender or equal, as available from Robinson Fertilizer Company 714/538-3575.

Fertilizers:

- 16-5-12 (N-P-K) resin coated prills, Agriform, or City approved equal.
- Single super phosphate 0-18-0.

2.05 PLANTS:

Add the following to Standard Specifications Section 212-1.4.1:

All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of plants in accordance with the standards of practice recommended by the American Association of Nurserymen. The root condition of plants furnished in containers shall be determined by removal of earth from the roots of not less than two plants nor more than 2% of the total number of plants of each species or variety except when container-grown plants are from several different sources; in which case, the roots from each source shall be two plants of each species or variety from each source shall be checked by the Park Projects Inspector at his option. The selection of plants to be checked will be made by the Park Projects Inspector.

All plants rendered unsuitable for planting shall be considered as samples, and replacements shall be provided at no additional cost. In case the sample plants are found to be defective, the entire lot or lots of plants represented by the defective samples will be rejected.

- Amend the Standard Specifications Section 212-1.4.2 and 212-1.4.3: All trees and shrubs supplied by contractor shall be of the specified standard height and diameter set by the American Standard for Nursery Stock. The height of the trees shall be measured from the root crown to the last division of the terminal leader and the diameter shall be measured six (6) inches above the crown roots. The trees shall stand erect without support.

- Add to Standard Specifications, new Section 212-1.4.6: Rooted cuttings will also be acceptable.

- Bare root stock shall conform to the American Nurseryman's Association standards. Minimum caliper shall be two (2) inch diameter and minimum height shall be twelve (12) feet.

2.06 BACKFILL MATERIAL

Add the following to the Standard Specifications Section 212:

- Top soil shall be free of noxious weed seed and shall be of a loam characteristic, fertile and friable.

- Wood shavings shall be leached nitrogen fortified and shall be free of foreign matter.

- Soil used for backfill of planting pits for container plants shall be enriched using the following blend per cubic yard (agronomic soil test recommendations to be reviewed prior to soil mixing):

60% site soil
3 lbs. gypsum
40% wood shavings
2 lbs. iron sulphate
2 lbs. commercial fertilizer

Bare root stock backfill shall consist of 100% wood shavings and 90% site soil with fertilizer and soil conditioners as specified for container plants.

- All soil backfill shall be bulk mixed, not individually mixed at each plant pit.

2.07 HEADERS, STAKES AND TIES:

Add the following to Standard Specifications Section 212-1.5.3:

- Tree stakes shall be straight-grained lodgepole pine, or City approved equal. Stakes shall be free from knots, checks, split, or disfigurements.

- Tree ties shall be made from tire casing, 22" long by 3/4" wide, fastened to tree stake with two galvanized 5d roofing nails each.

- Add the following new section to Standard Specifications Section 212-1.5(6): Concrete Curbings shall be 5 sack mix with a maximum slump test of four inches (4"). Provide sufficient concrete forming and stakes (maximum 3' o.c.) to provide continuous line without waving.

2.08 JUTE NETTING:

Jute netting shall be new and shall be of uniform, plain-weave, flame-retardant mesh. The mesh shall be dyed green and shall be made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than half its normal diameter. Jute netting shall be furnished in rolled strips and shall meet the following requirements:

Width - 48 inches, with a tolerance of one inch wider or narrower.

Minimum 78 warp ends per width of roll.

Minimum 41 weft ends per yard of length.

Weight shall average 1.22 pounds per linear yard, with a tolerance of 5 percent heavier or lighter.

PART 3 - EXECUTION

3.01 GENERAL:

All work shall conform with Section 308 of the Standard Specification, except as modified herein.

3.02 WEED CONTROL MEASURES:

Add the following to Standard Specifications Section 308-2.4:

- Upon completion of all fine grading work per Section 02210 Grading, and prior to soil preparation, perform weed control measures as follows:

- Irrigate all areas designated to be planted for a minimum of 10 minutes per setting, two settings per day for seven days to germinate all weed seed possible.

- Apply a contact weed killer and allow sufficient time to obtain complete kill of all weeds germinated.

- Repeat step one above.

- Repeat step two above.

3.03 SOIL PREPARATION:

Add the following to Standard Specifications Section 308-2.3:

- All fine grading and mounding per Section 02210 and weed control measures shall be completed prior to soil preparation.

- This work shall not commence until the agronomic soils test has been completed. Should 30 calendar days elapse between completion of soil preparation and commencement of planting, all areas shall be prepared again.

- Planting areas with slopes 3:1 and steeper shall not be soil prepared. In lieu of soil preparation, such slopes will require all planting areas with gradients less than 3:1, a layer of soil amendments shall be spread and rototilled into the soil to a minimum depth of 4 inches, or as recommended by the soils report, to the soil shall be loose, friable, and free from rocks, sticks, and other objects undesirable to planting.

- The following soil amendments shall be added per 1,000 square feet to all planting areas with gradients less than 3:1 (agronomic soil test recommendations shall take precedence where these minimum amounts are exceeded):

- 6 cubic yards organic amendment.
- 15 pounds commercial fertilizer.
- 100 pounds gypsum.
- Soil sulfur per soils report.

3.04 FINISH GRADING:

The Contractor shall finish grade all planting areas (filling as needed or removing surplus dirt) taking care to remove all rocks and debris over 1 inch in diameter, and floating to a smooth uniform grade. All areas shall slope to drain. Flow lines shall be established as shown on the plans and as directed. All fill material placed within the top 12" from finish grade elevations in all planting areas shall be topsoil.

All landscape areas shall be finish graded, (as distinguished from fine grading specified in Section 02210), to "dress out", maintain, and/or re-establish finish grades and flow lines as approved prior to amending the soil. Contractor shall call for inspection upon completion of finish grading work. Contractor shall not proceed with planting work until finish grades have been inspected and accepted by the Park Projects Inspector.

3.05 EROSION CONTROL:

Add new section to the Standard Specifications: 308-4.6(f) Jute Netting:

All slopes areas exceeding 3:1 shall receive jute netting. Netting shall also be provided during the maintenance period, when and as directed by the Park Projects Inspector, along flow lines and other locations where erosion is evident. Jute netting shall be installed loosely, up and down the slope. The installed netting shall fit the soil surface contour and shall be held in place by 3-inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at approximately 24-inch spacing. Jute netting strips shall overlap along the sides at least 6 inches. Ends of strips shall be buried into the soil at least 6 inches. Lap all ends of rolls a minimum of 24".

3.06 PLANTING:

- Amend the Standard Specifications Section 308-4.5 to coordinate with Section 2.06 herein for specified backfill mix.

- Add the following to the Standard Specification Section 308-4.5:

- Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8".

- Backfill using specified soil mix to within 8" of finish grade. At this depth, place the plant fertilizer tablets Agriform 20-10-5, 21 grams each, or City approved equal. A minimum of 1 tablet for 1 gallon, 3 tablets for 5 gallons, 5 tablets for 15 gallons, and 8 tablets for a 24" box. Complete backfilling to finish grade.

- Trees (other than relocated palms) shall be planted at such a depth that the crown roots bear the same relative position to finish grade as they did to the soils where they were grown. Backfill after planting shall be compacted carefully into place without injuring the roots of the tree or breaking up the ball of earth surrounding the roots.

- Add the following to Standard Specifications Section 308-4.7:

- On slopes exceeding 3:1 ratio, apply 5 gram Agriform tablets, one per plant in lieu of soil preparation work.

- Mulch and fertilize groundcover areas using 1.5 cubic yards of wood shavings and 5 lbs. of the specified commercial fertilizer per 1,000 square feet. Repeat fertilization at 30 day intervals throughout the duration of the contract up to 4 applications, after which decrease frequency to once every 90 days.

- All groundcover and bare dirt areas are to be treated with a pre-emergent chemical (subject to approval by the Park Inspector prior to application). Chemicals are to be applied by a licensed Pest Control Agent. This treatment shall be applied at the following times during the contract: a) before planting, b) at beginning of plant establishment period, and c) at end of plant establishment period. The Park Projects Inspector, (714) 885-5223, shall be given a minimum of 48 hours (2 working days) notice prior to each application. No chemicals shall be applied other than in the presence of the Inspector.

3.07 TREE STAKING:

Amend the Standard Specifications Section 308-4.6.1 and 308-4.6.2 to read: Stake trees per Park and Recreation Department standard detail.

3.08 TURF PLANTING:

Add the following to Standard Specifications Section 308-4.8.2, b:

Mixing of hydroseed slurry: Mixing shall be performed in a tank, with a built-in continuous agitation and recirculation system of sufficient operating capacity to produce a homogeneous slurry of fiber, M-Blender, seed, fertilizer and water in the designated unit proportions.

Fiber 1,000 lbs./acre

Fertilizers:

NPK Single superphosphate 820 lbs./acre

Seed as specified in Section 2.03

M-Blender 100 lbs./acre on slopes exceeding 5:1

Water 3,000 gal./acre

Agricultural Grade Gypsum 500 lb./acre

With agitation system operating at part speed, water shall be added to the tank, good recirculation shall be established. Materials shall be added in such a manner that they are uniformly blended into the mixture in the following sequence:

When tank is 1/3 filled with water:

Add binding agent - 1/2 acre requirement.

Add seed - 50 pound bales of fiber.

Add seed - 1/2 acre requirement.

Add fertilizer - 1/2 acre requirement.

Agitate mixture at full speed when the tank is half-filled with water. Add remainder fiber requirement, 5 bales before tank is 3/4 full. Add remainder fertilizers, seed and gypsum. Slurry distribution should begin immediately.

Area to be hydroseeded shall be moistened to a depth of six inches just prior to application.

Application: hydroseed slurry shall be applied under high pressure evenly and result in a uniform coat on all areas to be treated. Care shall be exercised to assure that plants in place are not subjected to the direct force of the application. Slurry shall be immediately removed from walks, structures, plants, etc., that are inadvertently sprayed.

All bare spots shall be reseeded by the Contractor within 10 days. The Contractor shall be responsible for all reseeded areas for as long after seeding as is acceptable until acceptable germination and establishment is realized and approved by the City.

The slurry shall not be sprayed on undersigned areas. Any slurry spilled or sprayed into areas other than those designated to receive spray shall be cleaned up at the Contractor's expense to the satisfaction of the City.

3.09 WATERING:

Add the following to Standard Specifications Section 308-4.9.5:

- It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until final acceptance of the work.

- Immediately after planting, apply water to each plant. Apply water in a moderate stream in the planting hole until the material about the roots is completely saturated from the bottom of the hole to the top of the ground.

- Apply water in sufficient quantities and as often as seasonal conditions require to keep the planted areas moist at all times, well below the root system of plants.

- Irrigation:

- Contractor shall properly and completely maintain the irrigation system. A balanced water program shall be maintained to ensure proper germination and growth until final acceptance of the work. Plants which cannot be watered sufficiently with the irrigation system shall be watered by means of a hose.

- All controllers are to have each station individually adjusted on a weekly basis. System shall be set considering the application rate each area is capable of receiving. The system shall operate on short intervals, with the cycle repeating at a later time to reduce runoff.

3.10 MAINTENANCE:

Amend the Standard Specifications Section 308-6 to read: All areas within the work limits of this contract shall be maintained by the contractor for the duration of the contract until final acceptance.

3.11 START OF PLANT ESTABLISHMENT: Add the following to Standard Specifications Section 308-6:

A. Criteria For Start of Plant Establishment Period:

- The plant establishment period shall not start until all elements of the project that impact the landscape are completed in accordance with the contract documents. Projects will not be segmented into phases.

- Permanent power to remote controllers shall be established.

- The plant establishment period for the project shall not begin until after the first mowing of the newly-planted turf areas. New turf shall not be mowed until attaining a minimum height of 2 inches. All turf shall be maintained at a mowing height of 1 1/2 inches.

- Written acceptance of the City must be obtained to start the plant establishment period.

- If the project maintenance fails to continuously meet standards required, the plant establishment period "day count" will be suspended and will not recommence until the Contractor has corrected all deficiencies.

3.12 MAINTENANCE TASKS: Add the following to Standard Specifications Section 308-6:

A. General:

During the contract period provide all watering, weeding, fertilizing and cultivation and spraying necessary to keep the plants in a healthy growing condition and to keep the planted areas neat, edged, and attractive. All shrubs planted by the contractor shall be pinched and pruned as necessary to encourage new growth and to eliminate rank sucker growth. Old wilted flowers and dead foliage shall be immediately pinched or cut off. Do not prune trees without written approval of the City.

B. Iron Chlorosis:

After planting and during the plant establishment period, in the event that any plantings exhibit iron chlorosis symptoms, apply FE 13B Gelly or equivalent at manufacturer's recommended rates.

C. Replacement Plantings:

During the plant establishment period, should the appearance of any planting installed by the Contractor indicate weakness, that plant shall be replaced immediately with a new, healthy plant. At the end of the plant establishment period, all plant materials shall be in a healthy, growing condition and spaced as indicated on the plans.

D. Fertilization:

The Contractor shall apply commercial fertilizer to all groundcover areas at a rate of 5 pounds per 1,000 square feet, at 30-day intervals, for 3 applications as a minimum, above and beyond the original soil preparation application.

E. Planting Establishment:

All planting areas that do not show a prompt establishment of plant material shall be replanted at 10-day intervals until the plant material is established. If a good rate of growth has not been demonstrated within 30 days of first planting/hydroseeding, the Contractor shall be responsible to determine the appropriate horticultural practices necessary to obtain good growth. The Contractor shall obtain agronomic soils testing of all areas not showing good growth and shall provide copies of the test results to the City to verify the appropriateness of all maintenance work performed. If additional soil amendments are needed, up to a maximum 25% beyond the application rate specified, such amendments shall be provided by the Contractor at no additional cost to the City.

F. Grading and Drainage:

During the plant establishment period all flow lines shall be maintained to allow for free flow of surface water. Displaced material which interferes with drainage shall be removed and placed as directed. Low spots and pockets shall be graded to drain properly. Jute netting shall be installed at flow lines and other locations where erosion is evident, when directed by the Park Projects Inspector.

- Damage to planting areas shall be repaired immediately and throughout the plant establishment period. Depressions caused by vehicles, bicycles, or foot traffic shall be filled and leveled. Replant damaged areas.

- All paved areas shall be washed and maintained in a neat and clean condition at all times.

- All subsurface drains and inlets shall be periodically cleared of debris, leaves and trash and flushed with clear water to avoid build up of silt and debris.

- Debris and trash shall be removed from the site weekly at a minimum.

G. Disease and Pest Control:

Add the following to Standard Specifications Section 308-6: Throughout the plant establishment period, all plants shall be maintained in a disease and pest free condition. A licensed pest control operator shall be retained by the Contractor to recommend and apply all pesticides, herbicides, and fungicides. Exterminate gophers, moles, and all other rodents, and repair damage.

3.13 END OF PLANT ESTABLISHMENT PERIOD:

- When the contractor believes he has completed the plant establishment period and the entire project is ready for final acceptance, he will request inspection of the project. The City will inspect the project for final acceptance. Deficiencies noted during inspection shall extend the plant establishment period until all are corrected.

- All planting areas shall show a good rate of growth and shall be well established "filled in" plantings free of voids. Bare areas will be unacceptable. Contractor shall provide sod or plantings from flats as necessary to fill in all bare areas. Such sod or plantings shall be planted a minimum of 10 days prior to the end of the plant establishment period and shall have roots "knot-in" to the native soil.

- Final acceptance shall occur only upon written acceptance of the project for maintenance by the City.

3.14 CLEAN UP:

Upon completion of the work, the Contractor shall smooth all ground surfaces; remove excess materials, rubbish, debris, etc.; sweep all streets, curbs, gutters; wash down all walkways, and trails; and remove construction equipment from the premises.