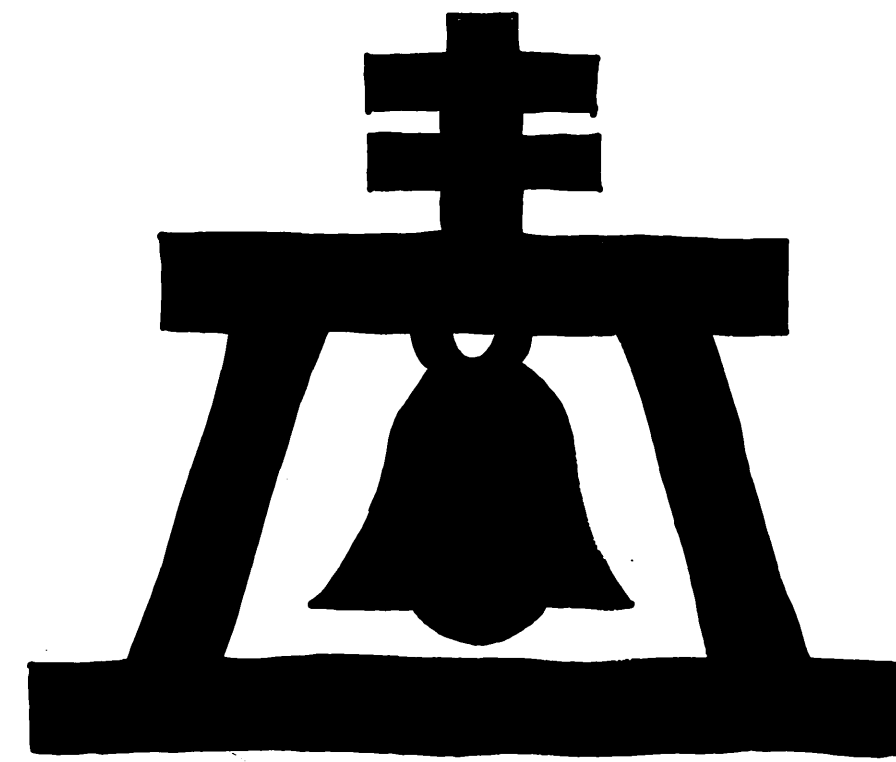


landscape architectural drawings for

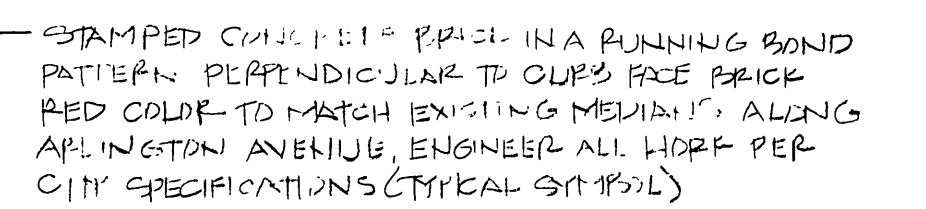
ARLINGTON COURTYARD

MEDIAN




GENERAL NOTES		VICINITY MAP	LOCATION MAP	SHEET INDEX																									
<p>1. All related work shall conform to the City of Riverside Park and Recreation Department Standards.</p> <p>2. Contact the Park Projects Inspector a minimum of 48 hours in advance at (714) 782-5223 to schedule inspection. Inspections shall be required:</p> <ul style="list-style-type: none">a) Prior to the installation of irrigation lines or components.b) Prior to installation of hardscape.c) When plant locations have been spotted in the field prior to digging plant pits.d) While digging plant pits and planting/relocating trees.e) After planting and all other indicated or specified work has been completed for start of maintenance.f) At end of maintenance/final acceptance (contractor/developer will be released from maintenance <u>only</u> upon receipt of written notification from the City that the Park and Recreation Department is assuming maintenance responsibilities). <p>3. The Contractor/Developer shall maintain all plantings for a minimum period of one (1) year.</p> <p>NOTE:</p> <ul style="list-style-type: none">* ALL WIRES UNDER CONCRETE SHALL BE SLEEVED PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.* ALL PIPING UNDER CONCRETE SHALL BE SEPARATELY SLEEVED PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.				<table><tbody><tr><td>TS</td><td>TITLE SHEET</td></tr><tr><td>L-1</td><td>CONSTRUCTION PLAN</td></tr><tr><td>L-2</td><td>IRRIGATION PLAN</td></tr><tr><td>L-3</td><td>LANDSCAPE PLAN</td></tr><tr><td>L-4</td><td>IRRIGATION & LANDSCAPE DETAILS</td></tr><tr><td>L-5</td><td>IRRIGATION SPECIFICATIONS</td></tr><tr><td>L-6</td><td>IRRIGATION & LANDSCAPE SPECIFICATIONS</td></tr><tr><td>L-7</td><td>CONSTRUCTION & LANDSCAPE SPECIFICATIONS</td></tr></tbody></table>		TS	TITLE SHEET	L-1	CONSTRUCTION PLAN	L-2	IRRIGATION PLAN	L-3	LANDSCAPE PLAN	L-4	IRRIGATION & LANDSCAPE DETAILS	L-5	IRRIGATION SPECIFICATIONS	L-6	IRRIGATION & LANDSCAPE SPECIFICATIONS	L-7	CONSTRUCTION & LANDSCAPE SPECIFICATIONS								
TS	TITLE SHEET																												
L-1	CONSTRUCTION PLAN																												
L-2	IRRIGATION PLAN																												
L-3	LANDSCAPE PLAN																												
L-4	IRRIGATION & LANDSCAPE DETAILS																												
L-5	IRRIGATION SPECIFICATIONS																												
L-6	IRRIGATION & LANDSCAPE SPECIFICATIONS																												
L-7	CONSTRUCTION & LANDSCAPE SPECIFICATIONS																												
DEVELOPER UNITED INCOME PROPERTIES 2236 ENCINITAS BOULEVARD, SUITE F-1 ENCINITAS, CA. 92024 STUART TANZ (619) 632-6300		<div>PC 2838M</div>																											
<p>R.O.W. SQUARE FOOTAGE TOTAL: 6950 S.F. TREE TOTAL: 8-15 GALLON</p> <p>LEONARD A. FILNER ASSOCIATES Landscape Architecture-Planning 307 East Chapman Avenue Orange, CA 92666 (714) 633-0261</p>																													
APPROVAL SIGNATURE BLOCK		CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT																											
<table><tbody><tr><td>PUBLIC WORKS</td><td>POC ONLY <i>Richard J. Duda</i> 4-28-90 UTILITIES (WATER)</td></tr><tr><td><i>Michael J. Telli</i> 5/1/90 UTILITIES (ELECTRIC)</td><td>PARKS & RECREATION</td></tr></tbody></table>		PUBLIC WORKS	POC ONLY <i>Richard J. Duda</i> 4-28-90 UTILITIES (WATER)	<i>Michael J. Telli</i> 5/1/90 UTILITIES (ELECTRIC)	PARKS & RECREATION	<table><tbody><tr><td>APPROVED BY</td><td>DATE</td><td>BY</td><td>APPROVED BY</td></tr><tr><td>PRINCIPAL ENGINEER</td><td>5/2/90</td><td><i>ma</i></td><td><i>Bany</i></td></tr><tr><td>PARK DEPARTMENT</td><td>5/2/90</td><td><i>ma</i></td><td>PUBLIC WORKS DIRECTOR</td></tr><tr><td>TRAFFIC DIVISION</td><td></td><td></td><td></td></tr><tr><td>CHIEF P. W. ENGINEER</td><td>5-7-90</td><td><i>rmc</i></td><td>DATE 5/8/90</td></tr></tbody></table> <p>DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____</p>				APPROVED BY	DATE	BY	APPROVED BY	PRINCIPAL ENGINEER	5/2/90	<i>ma</i>	<i>Bany</i>	PARK DEPARTMENT	5/2/90	<i>ma</i>	PUBLIC WORKS DIRECTOR	TRAFFIC DIVISION				CHIEF P. W. ENGINEER	5-7-90	<i>rmc</i>	DATE 5/8/90
PUBLIC WORKS	POC ONLY <i>Richard J. Duda</i> 4-28-90 UTILITIES (WATER)																												
<i>Michael J. Telli</i> 5/1/90 UTILITIES (ELECTRIC)	PARKS & RECREATION																												
APPROVED BY	DATE	BY	APPROVED BY																										
PRINCIPAL ENGINEER	5/2/90	<i>ma</i>	<i>Bany</i>																										
PARK DEPARTMENT	5/2/90	<i>ma</i>	PUBLIC WORKS DIRECTOR																										
TRAFFIC DIVISION																													
CHIEF P. W. ENGINEER	5-7-90	<i>rmc</i>	DATE 5/8/90																										
		<table><tbody><tr><td colspan="2">TITLE SHEET</td><td colspan="2">ACCOUNT NO.</td></tr><tr><td colspan="2">ARLINGTON COURTYARD 5963 ARLINGTON AVENUE R-17-856</td><td colspan="2">R-3075L TS</td></tr><tr><td colspan="2">TRACT 2327 PC#: 2838 M DR-40-889</td><td colspan="2">SHEET 1 OF 8</td></tr><tr><td colspan="2">HORIZ. SCALE: 1" =</td><td colspan="2">VERT. SCALE: 1" =</td></tr></tbody></table>				TITLE SHEET		ACCOUNT NO.		ARLINGTON COURTYARD 5963 ARLINGTON AVENUE R-17-856		R-3075L TS		TRACT 2327 PC#: 2838 M DR-40-889		SHEET 1 OF 8		HORIZ. SCALE: 1" =		VERT. SCALE: 1" =									
TITLE SHEET		ACCOUNT NO.																											
ARLINGTON COURTYARD 5963 ARLINGTON AVENUE R-17-856		R-3075L TS																											
TRACT 2327 PC#: 2838 M DR-40-889		SHEET 1 OF 8																											
HORIZ. SCALE: 1" =		VERT. SCALE: 1" =																											

1. All construction shall be plumb and true unless otherwise noted.
2. All construction shall conform to local and state governing codes and ordinances.
3. All concrete shall obtain a minimum compressive strength of 2000 PSI at 28 days.
4. Verify with project soils engineer for all reinforcing, base material, preparation, presaturation, etc... for all walls, sidewalks, footings, etc...
5. Refer to Civil Engineer's plans for additional information.
6. Allow for adjoining construction where applicable.
7. Refer to Civil Engineer's plans for information on subsurface drainline system, drain connections, etc...



<u> </u>	<u> </u>
PUBLIC WORKS	UTILITIES (WATER)
<u> </u>	<u> </u>
UTILITIES (ELECTRIC)	PARKS & RECREATION

MARK	REVISIONS	APPR	DATE
DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____			

	APPROVED BY	DATE	BY	APPROVED BY
	PRINCIPAL ENGINEER	5/2/90	WHE	 PUBLIC WORKS DIRECTOR
	PARK DEPARTMENT	4-18-90	PA	
	TRAFFIC DIVISION	—	—	
TE	CHIEF P. W. ENGINEER	5-7-90	PA6	
				DATE 5/8/90

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

COUNT NO.

R-3075L

L-1

SHEET 2 OF 8

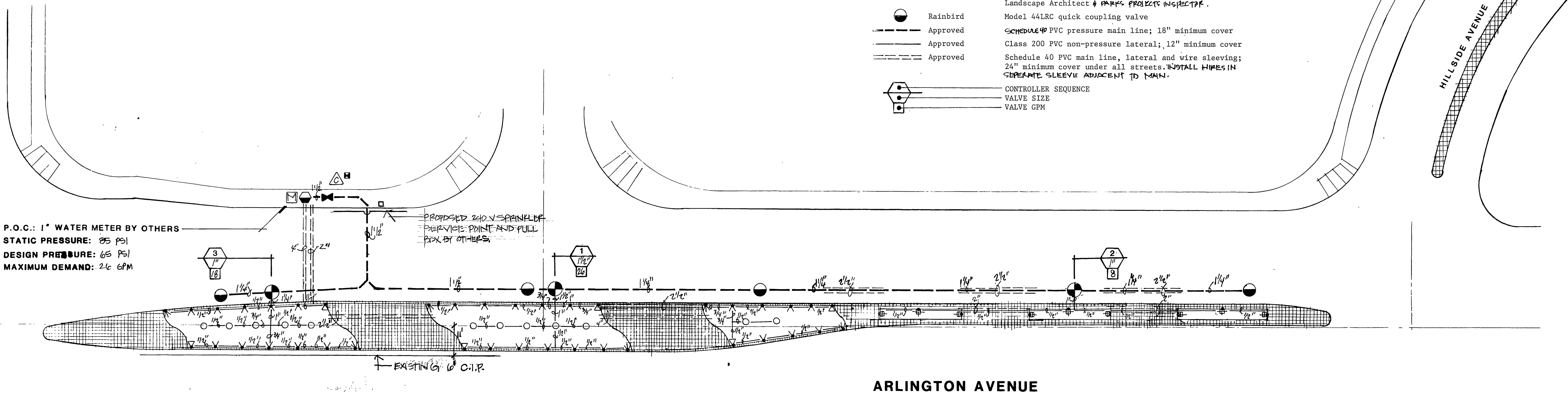
INDEXED 8-28-90 JH

IRRIGATION NOTES

1. All main line piping and control wires under paving shall be installed in separate sleeves. Main line sleeve size shall be a minimum of twice (2x) the diameter of the pipe to be sleeved. Control wire sleeves shall be of sufficient size for the required number of wires under the paving.
2. All lateral line under paving shall be PVC Schedule 40 pipe and shall be installed prior to paving. ~~SUBMIT UNDER ARLINGTON AVE UNDER STREET IMPROVEMENT PLANS R-3075~~
3. Pipe sizes shall conform to those shown on drawings. No substitutions of smaller pipe sizes shall be permitted, but substitutions of larger sizes may be approved. All damaged and rejected pipe shall be removed from the site at the time of said rejection.
4. Install all backflow prevention devices and all piping between the point of connection and the backflow preventer as per local codes and regulations.
5. Final location of the backflow preventer shall be approved by the ~~PARK PROJECTS INSPECTOR~~.
6. All sprinkler heads shall be set perpendicular to finish grade unless otherwise specified.
7. The Irrigation Contractor shall flush and adjust all sprinkler heads and valves for optimum coverage with minimal overspray onto walks, streets, walls, etc....
8. This design is diagrammatic. All piping, valves, etc... shown within paved areas is for design clarification only and shall be installed in planting areas wherever possible. The Contractor shall locate all valves in shrub areas.
9. It is the responsibility of the Irrigation Contractor to familiarize himself with all grade differences, location of walks, retaining walls, structures, and utilities. The Irrigation Contractor shall repair and replace all items damaged by his work. He shall coordinate his work with other contractors for the location and installation of pipe sleeves and laterals through walls, under roadways and paving, etc....
10. The sprinkler system design is based on a minimum operating pressure of 60 PSI and a maximum flow demand of 26 GPM. The Irrigation Contractor shall verify water pressures prior to beginning any construction and report any difference to the Owner or the Owner's authorized representative.
11. Do not willfully install the sprinkler system as shown on the drawings when it is obvious in the field that unknown obstructions, grade differences or differences in the area dimensions exist that might not have been considered in the engineering. Such obstructions or differences should be brought to the attention of the ~~PARKS PROJECT INSPECTOR~~.
12. All sprinkler equipment not otherwise detailed or specified shall be installed as per manufacturer's recommendations and specifications.
13. Refer to the specifications for additional information.

IRRIGATION LEGEND

SYMBOL	MANUFACTURER	CATALOG NUMBER	PSI	GPM	RADIUS	REMARKS
○	Rainbird	1806-PRS-10F-LA-SAM30	30	1.57	10 ft	Shrub pop-up
▽	Rainbird	1806-PRS-10H-LA-SAM30	30	0.79	10 ft	
▽	Rainbird	1806-PRS-10Q-LA-SAM30	30	0.39	10 ft	
⊕	Rainbird	1806-PRS-15SST-SAM30	30	1.21	4 x 30	
⊕	Rainbird	1806-PRS-15EST-SAM30	30	0.61	4 x 15	
▽	Rainbird	1806-PRS-15-VAL-SAM30	30	0.43	15 ft	
⊞	Approved					Water meter by others; 1" size. Final location approved by City.
⊞	Febco					Model 825Y reduced pressure backflow preventer; 1 1/4" size. Final location approved by City.
⊞	Nibco					Model T-113 brass gate valve; Line size.
⊞	Rainbird					Model RCN-4 automatic controller, pedestal mounted in a Le Meur enclosure. Location approved by City. Power by others. 240 V TRANSFORMER.
⊞	Rainbird					Model EPA-CP Series remote control valve; Sizes indicated.
⊞	WCS, Inc.					Rain Guard rain shut-off device with vandalproof casing; Installation and/or location under direction of the Landscape Architect & PARKS PROJECTS INSPECTOR.
⊞	Rainbird					Model 44LRC quick coupling valve
---	Approved					SCHEDULE 40 PVC pressure main line; 18" minimum cover
---	Approved					Class 200 PVC non-pressure lateral; 12" minimum cover
---	Approved					Schedule 40 PVC main line, lateral and wire sleeving; 24" minimum cover under all streets. INSTALL Wires IN SEPARATE SLEEVE ADJACENT TO MAIN.
---	Approved					CONTROLLER SEQUENCE
---	Approved					VALVE SIZE
---	Approved					VALVE GPM



P.O.C.: 1" WATER METER BY OTHERS
STATIC PRESSURE: 65 PSI
DESIGN PRESSURE: 65 PSI
MAXIMUM DEMAND: 26 GPM

PROPOSED 240V SPRINKLER
DEVICE: PRINT AND PULL
BOX BY OTHERS

EXISTING C.I.P.

ARLINGTON AVENUE



PC 2838M

LEONARD A. FILNER ASSOCIATES
Landscape Architecture - Planning
307 East Chapman Avenue
Orange, CA 92666
(714) 333-0261



APPROVAL SIGNATURE BLOCK	
PUBLIC WORKS	P.O.C. ONLY Richard J. Duda 4/24/90 UTILITIES (WATER)
UTILITIES (ELECTRIC)	Michael P. Tull 5/1/90 PARKS & RECREATION

MARK	REVISIONS	APPR	DATE
DESIGNED BY	DRAWN BY	CHECKED BY	

CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT			
APPROVED BY	DATE	BY	APPROVED BY
PRINCIPAL ENGINEER	5/6/90	WAA	Barry Paul
PARK DEPARTMENT	5/6/90	WAA	PUBLIC WORKS DIRECTOR
TRAFFIC DIVISION	5-7-90	WAA	DATE 5/6/90
CHIEF P. W. ENGINEER			

IRRIGATION PLAN ARLINGTON COURTYARD	
5963 ARLINGTON AVENUE	
R-17-856	
DR-40-889	
HORIZ. SCALE: 1" =	VERT. SCALE: 1" =

ACCOUNT NO.	R-3075L
	L-2
SHEET	3 OF 8

INDEXED 8-28-90 4H

GENERAL NOTES

1. All related work shall conform to the City of Riverside Park and Recreation Department Standards.
2. Contact the Park Projects Inspector a minimum of 48 hours in advance at (714) 782-5223 to schedule inspection. Inspections shall be required:
- a) Prior to the installation of irrigation lines or components.
 - b) Prior to installation of hardscape.
 - c) When plant locations have been spotted in the field prior to digging plant pits.
 - d) While digging plant pits and planting/relocating trees.
 - e) After planting and all other indicated or specified work has been completed for start of maintenance.
 - f) At end of maintenance/final acceptance (contractor/developer will be released from maintenance only upon receipt of written notification from the City that the Park and Recreation Department is assuming maintenance responsibilities).
3. The Contractor/Developer shall maintain all plantings for a minimum period of one (1) year.

NOTES:

- ALL WIRES UNDER CONCRETE SHALL BE SLEEVED PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.
- ALL PIPING UNDER CONCRETE SHALL BE SEPARATELY SLEEVED PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.

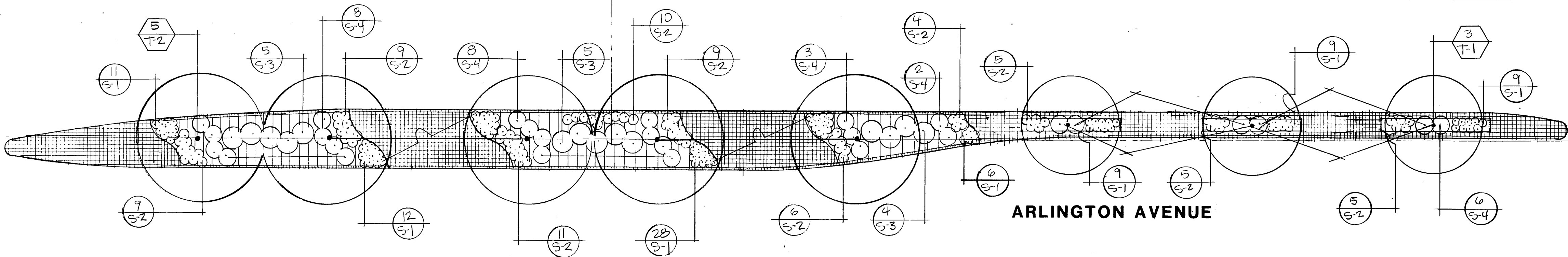
PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
T-1	Lagerstroemia indica	Crape Myrtle	15 Gal	Red flower standards
T-2	Magnolia grandiflora	Southern Magnolia	15 Gal	'Majestic Beauty'
S-1	Agapanthus africanus	African Daylily	1 Gal	'Peter Pan'
S-2	Agapanthus africanus	African Daylily	1 Gal	'Rancho White'
S-3	Lantana montevidensis	Lantana	5 Gal	'Spreading Sunset'
S-4	Raphiolepis indica	Indian Hawthorne	5 Gal	'Ballerina'
	Armeria maritima/Common Thrift from flats planted at 12" on center triangular			

MORNINGSIDE AVENUE

HILLSIDE AVENUE

ARLINGTON AVENUE



LEONARD A. FILNER ASSOCIATES
Landscape Architecture-Planning
307 East Chapman Avenue
Orange, CA 92666
(714) 933-0341



APPROVAL SIGNATURE BLOCK

PUBLIC WORKS	UTILITIES (WATER)
UTILITIES (ELECTRIC)	PARKS & RECREATION

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

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY	APPROVED BY
PRINCIPAL ENGINEER	5/2/90	WCA	PUBLIC WORKS DIRECTOR
PARK DEPARTMENT	5/2/90	WCA	
TRAFFIC DIVISION			
CHIEF P.W. ENGINEER	5-2-90	WCA	

LANDSCAPE PLAN
ARLINGTON COURTYARD
5963 ARLINGTON AVENUE
R-17-856
DR-40-889

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



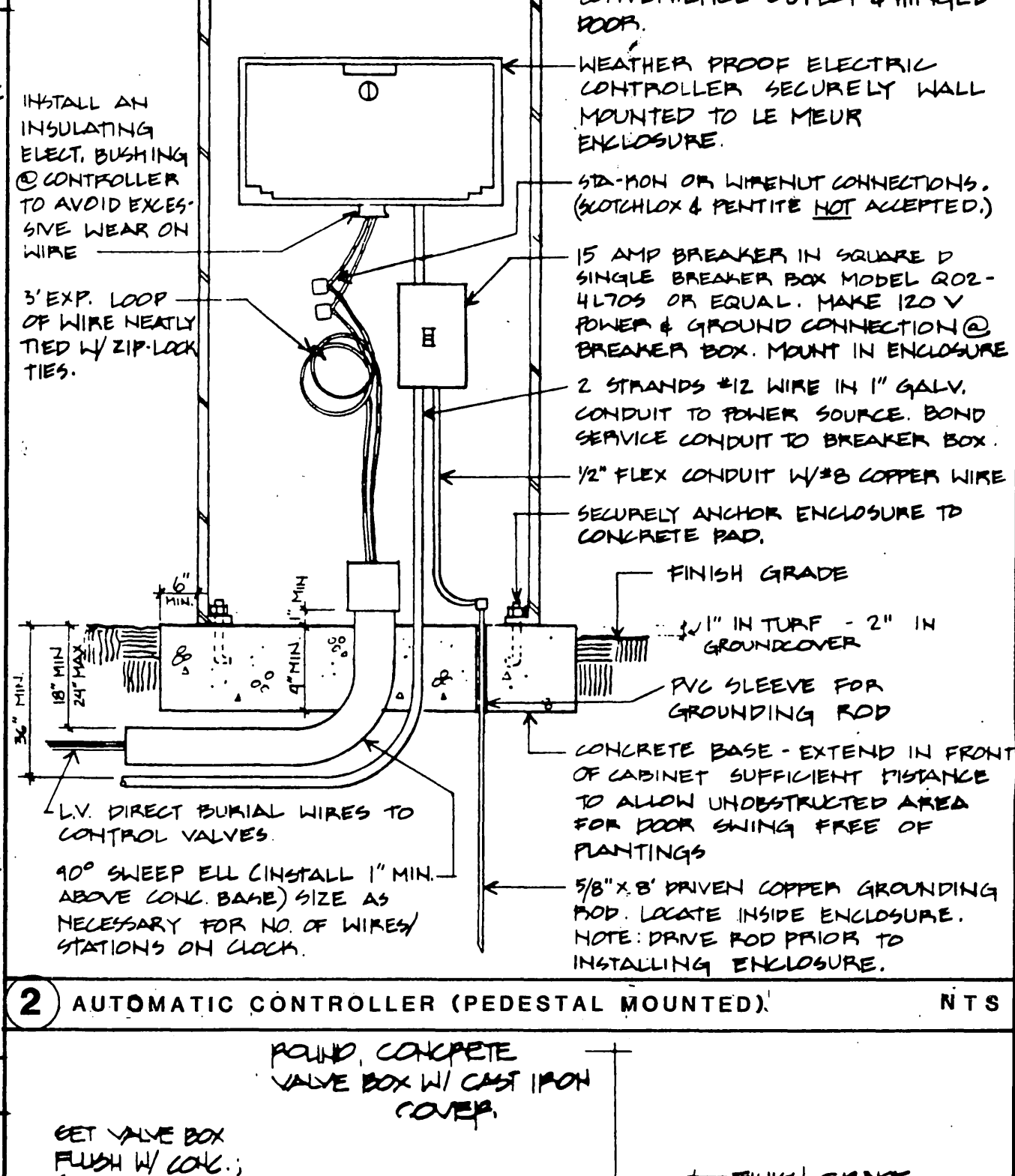
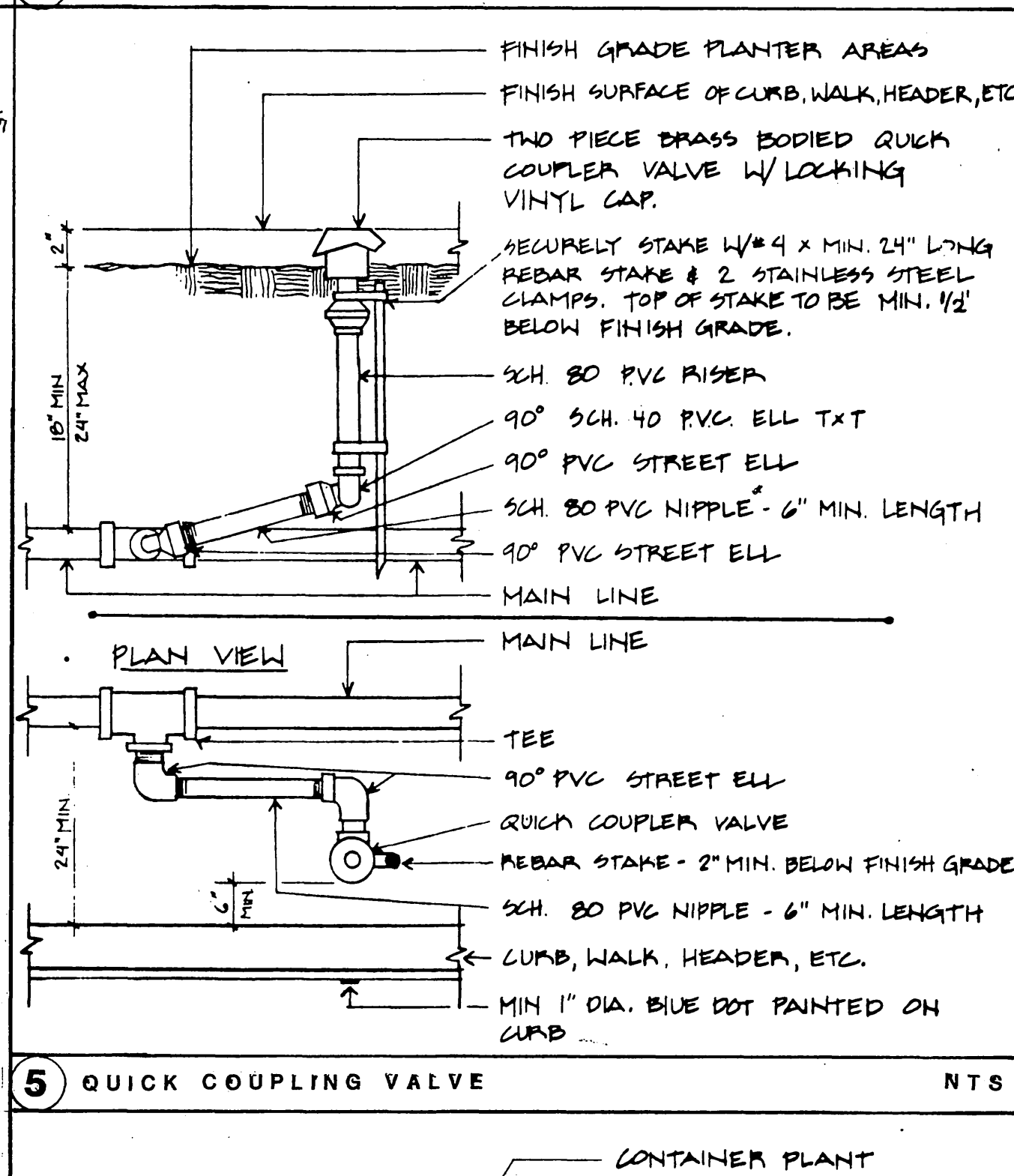
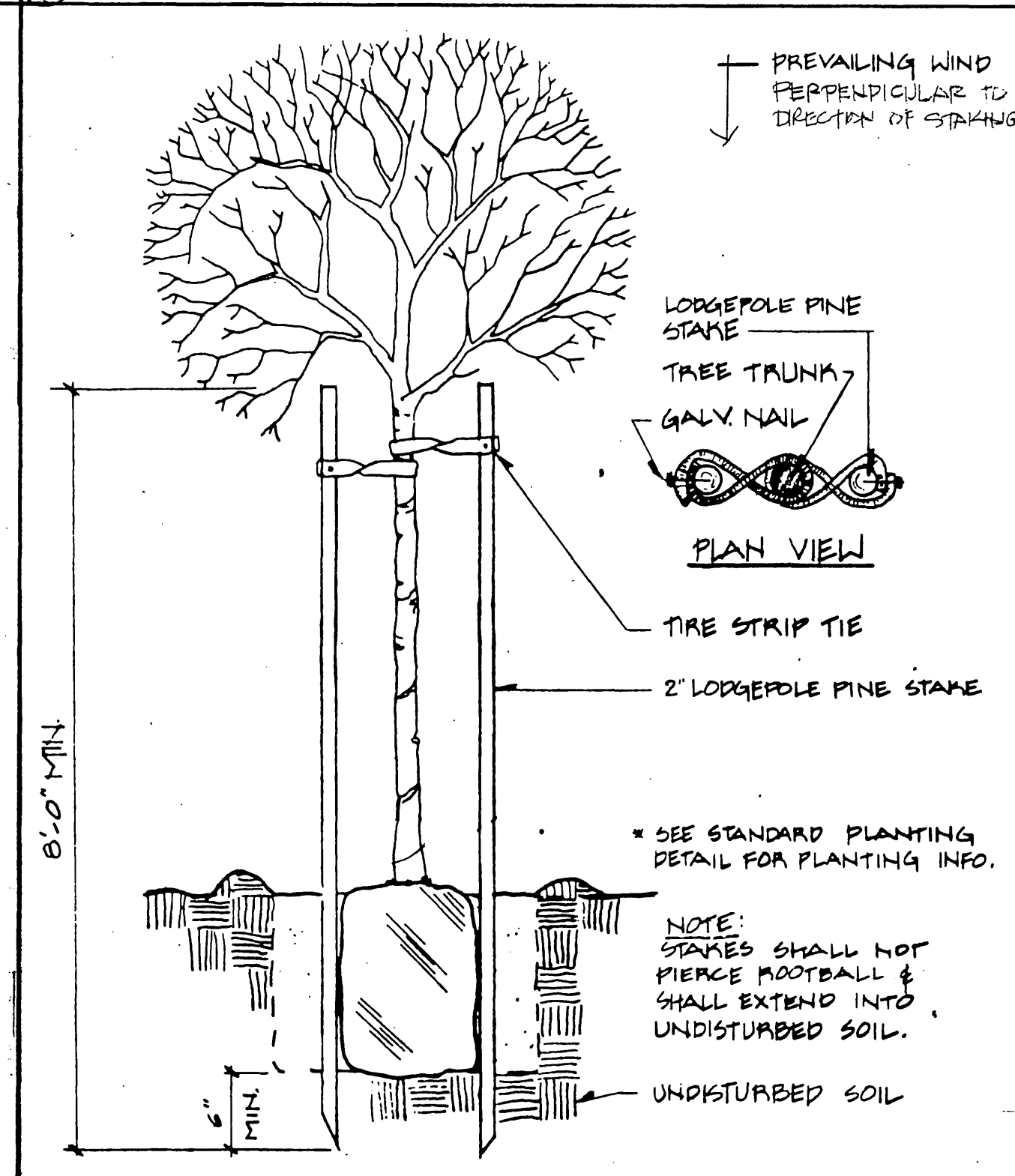
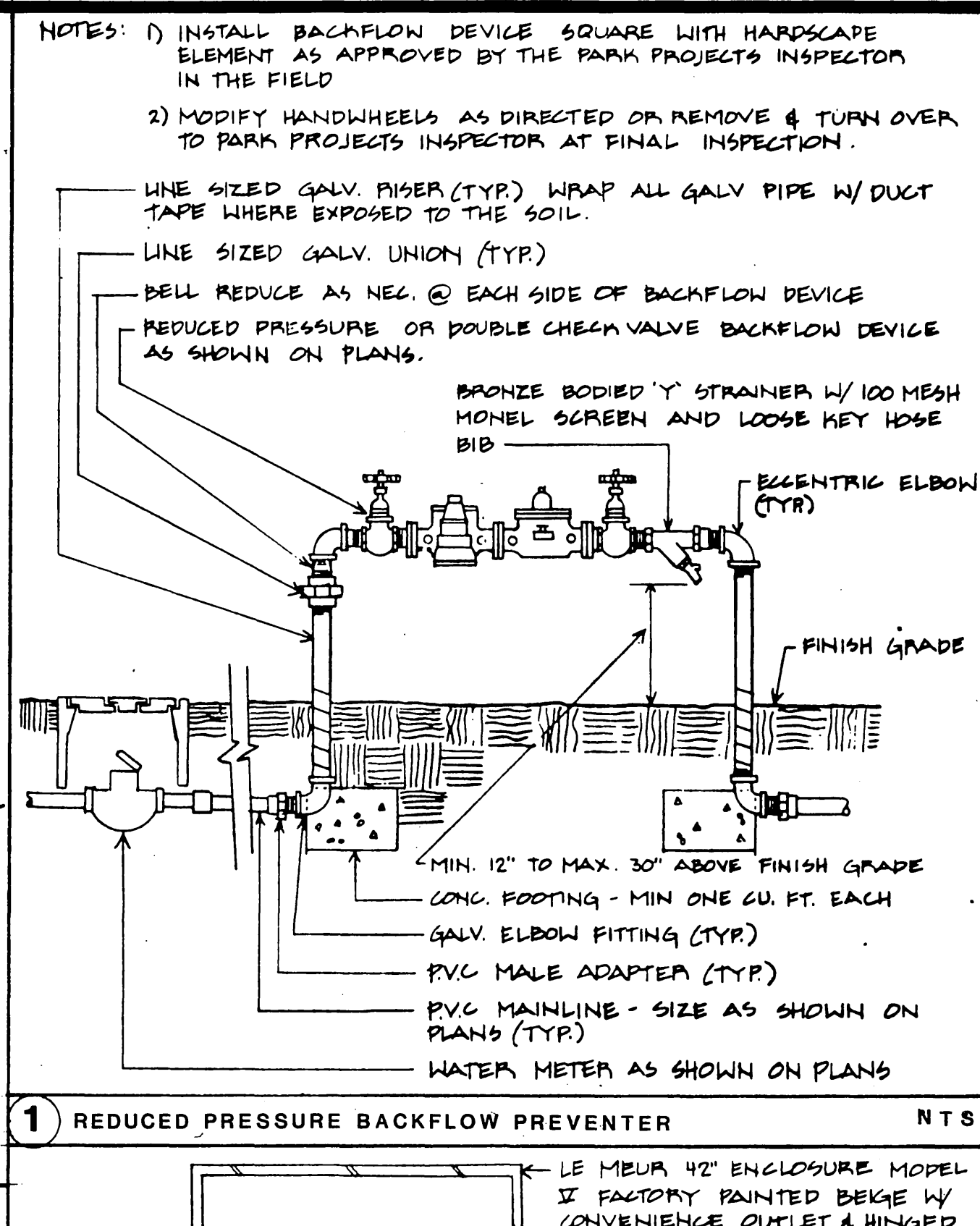
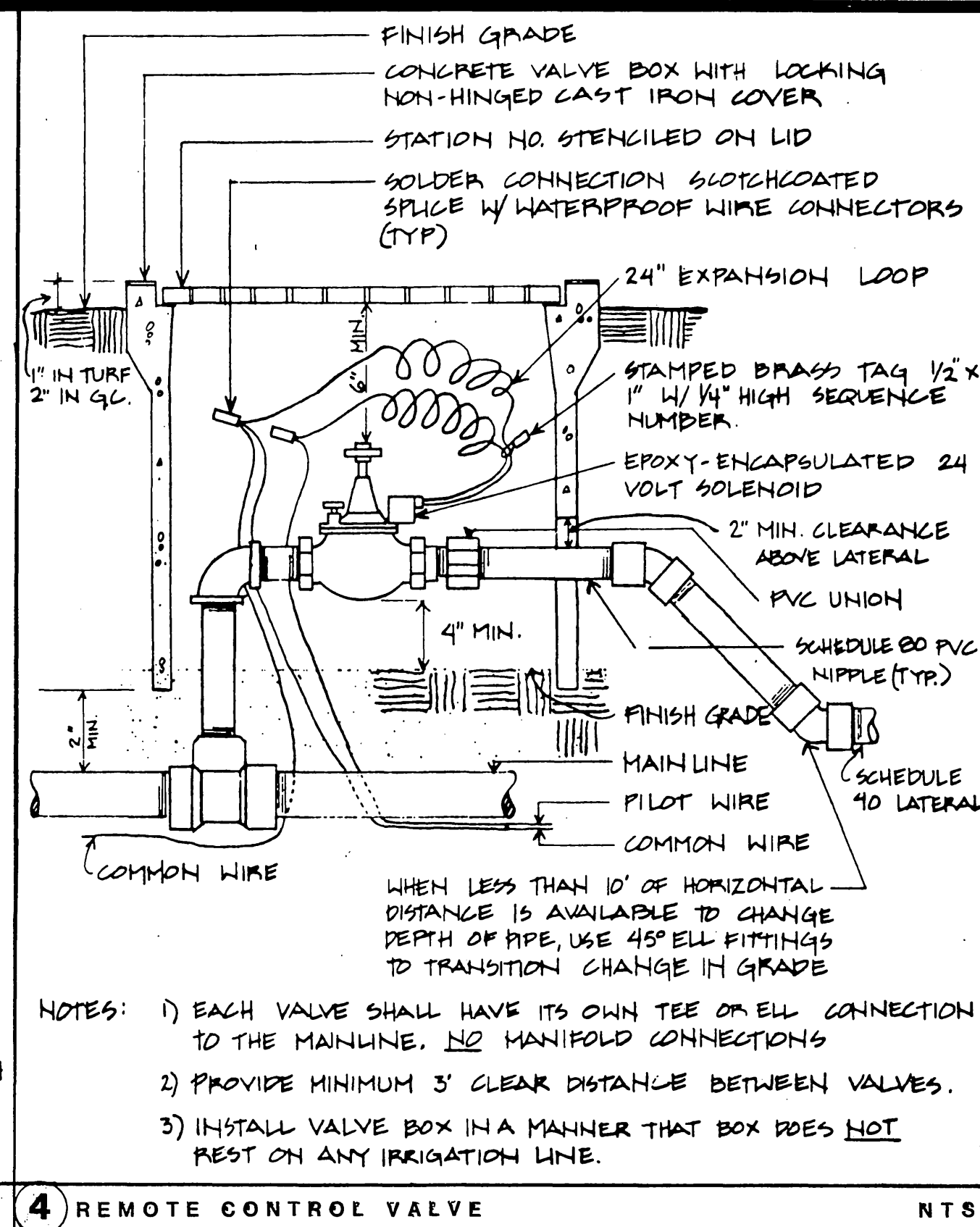
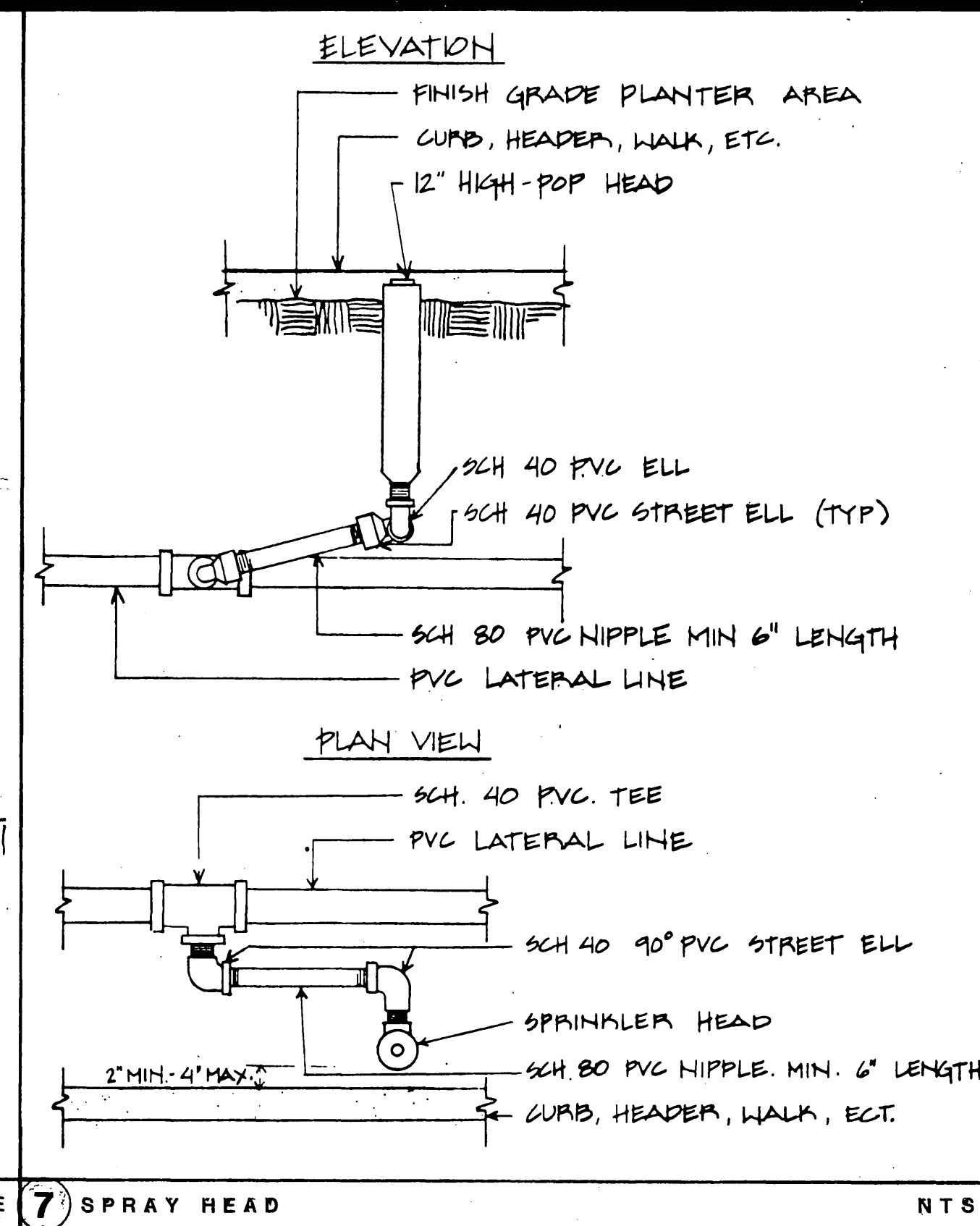
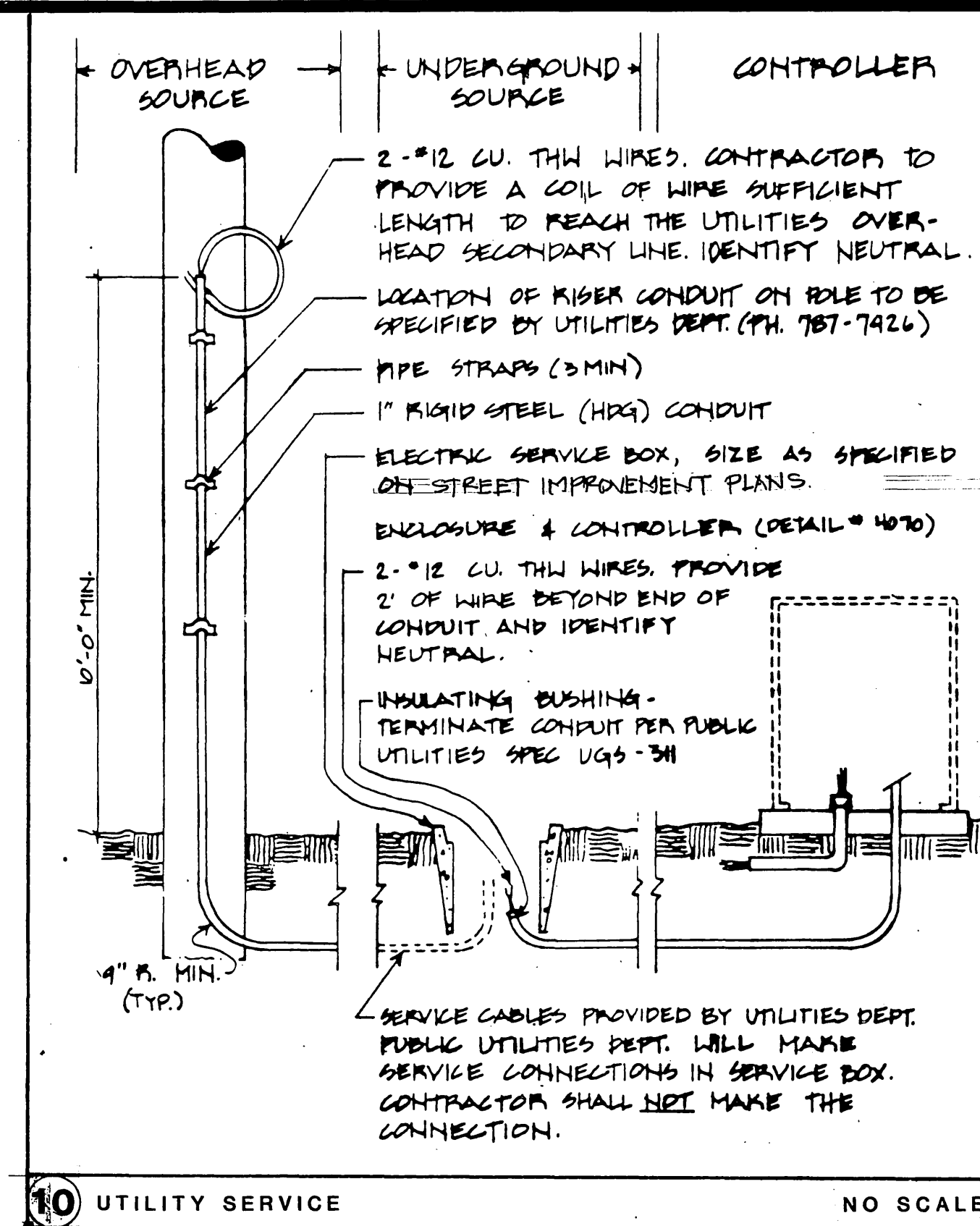
1"=20'

ACCOUNT NO.
R-3075L
L-3

SHEET 4 OF 8

INDEXED 8-28-90

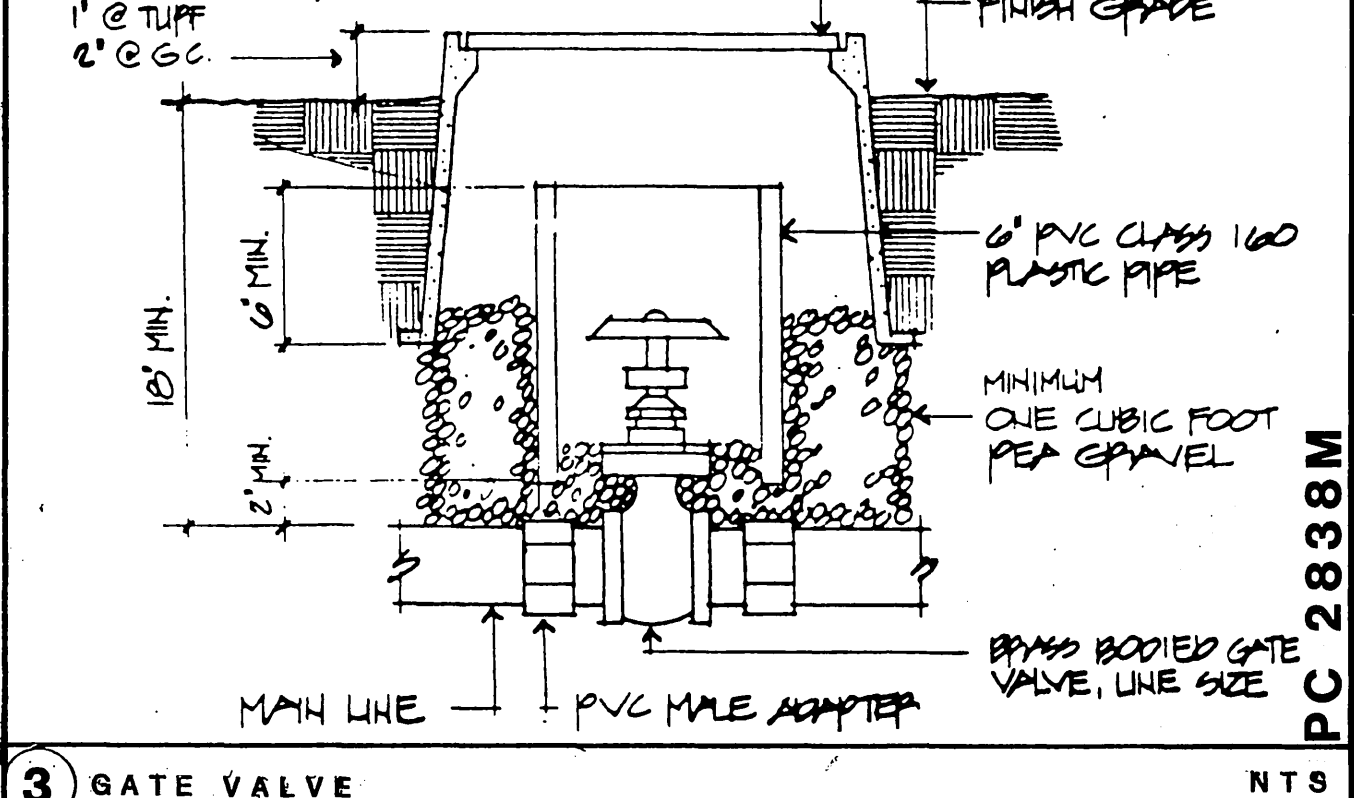
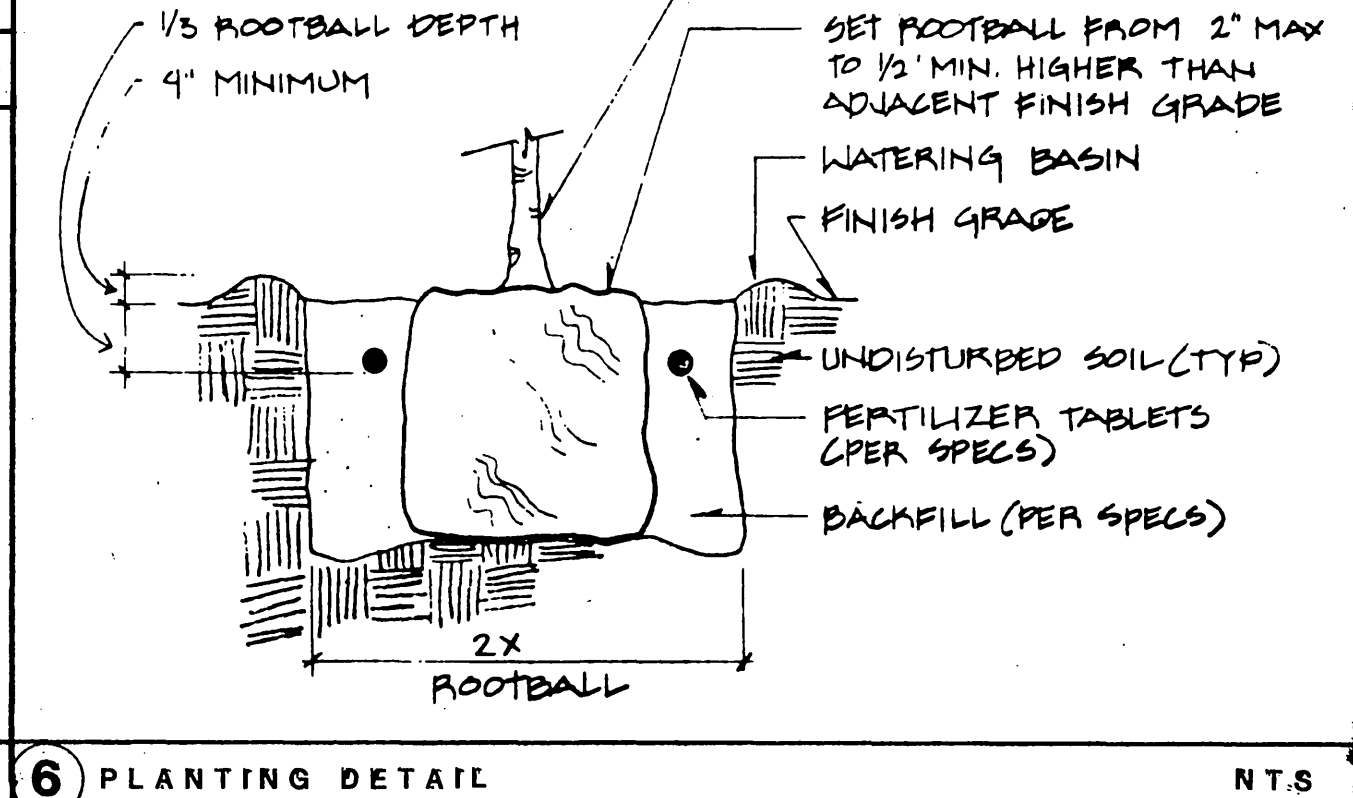
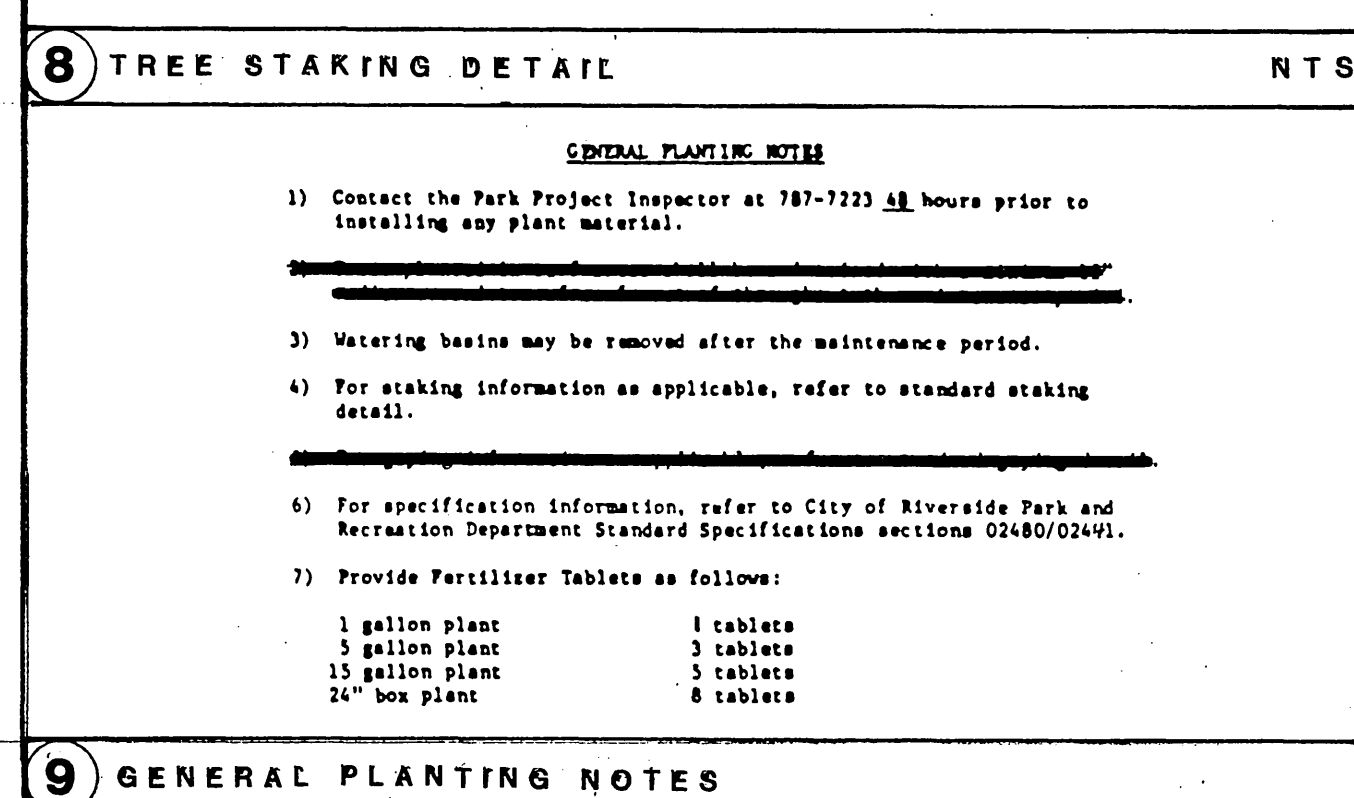
PC 2838M



GENERAL PLANTING NOTES

- 1) Contact the Park Project Inspector at 787-7223 48 hours prior to installing any plant material.
- 2) Watering basins may be removed after the maintenance period.
- 3) For staking information as applicable, refer to standard staking detail.
- 4) For specification information, refer to City of Riverside Park and Recreation Department Standard Specifications sections 02480/02491.
- 5) Provide Fertilizer Tablets as follows:

1 gallon plant	1 tablet
3 gallon plant	3 tablets
15 gallon plant	5 tablets
20\"/>	



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 as shown on the drawings and as specified.

B. Related Work Specified Elsewhere:

Landscape Planting	02480
Electrical	16530
Earthwork and Grading	02200
Clearing and Demolition	02100

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 etc.	Rainbird	2400 etc.

B. "Record" Prints:

- 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.
- 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.
- 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.
- 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).
- 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 inspection shall be performed by the City in the presence of owner or his representative.
- 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 (1½ working days)
System layout - 36 hours (1½ working days)
Coverage tests - 36 hours (1½ 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 uninspected 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 shall be accomplished before any planting.

E. Hydrostatic test:

- 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.

- All hydrostatic tests shall be made in the presence of the City. No pressure line shall be backfilled until it has been inspected, tested and approved in writing.

- 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 understand, 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, including names and addresses 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:
 - 4% 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.
 - A backflow device valve handles and Water Department inspection documentation.
- The above items shall be turned over to the City at the conclusion of the project - final inspection.

- 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.

1.06 GUARANTEE:

- 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.

- Form of Guarantee: Guarantee shall be submitted on Contractors own letterhead as follows:

FORM OF:
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 expected. We agree to repair or replace any defects in materials or workmanship which may develop during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the City. We shall make such repairs or replacements within 10 calendar days following written notification by the City. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from the City, we authorize the City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT: _____
LOCATION: _____

SIGNED: _____
ADDRESS: _____
PHONE: _____

- 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.

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:

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

- 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 and ring type pipe shall not be used together on the same pressure supply line.

- Pressure supply lines 1½ inches in diameter and smaller shall be minimum schedule 40 solvent weld 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,...." 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 and (d): 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 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 ells shall be side gated. All threaded nipples shall be standard weight schedule 80 with molded threads.

~~Amend Standard Specification Section 212-2.1.4 to read: All rubber gasket PVC pipe couplings and fittings shall conform to ASTM D 9004, Type 1, Grade 1, 2000 PSI design stress. Couplings, rubber gaskets, and fittings shall be approved by the pipe manufacturer. (Add the following to same.) Ring-type rubber gasket couplings shall permit full rotation of the pipe at each coupling (2½" each side) without deflection or inflation, cracking or breaking.~~

~~Section 212-2.1.5, fittings for A.C.P. connection to pipe shall be cast iron tee and bossed couplings except as follows:~~

~~(1) Double clamp coupling clamps with rubber seal and first bronze clamp may be used for connections of 50 percent or less than the diameter of pipe.~~

~~(2) Tapped A.C.P. couplings with brass inserts may be used for connections of 3/4" to 1½" and 2 inches.~~

2.03 VALVES AND VALVE BOXES:

~~Manual Control Valves~~

~~Add the following to Standard Specifications Section 212-2.2.1: All siphon-type valves shall be all-bronze with vertical type reproducible 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 activated, 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 (2") 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 as approved by the Public Utilities Department, Water Division, Backflow Technician, and as indicated on the drawings.

2.05 ELECTRICAL MATERIALS (LOW VOLTAGE):

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.

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 cast 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.

3.01 GENERAL:

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

Add the following to Standard Specifications Section 308-5.1:

- 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.

- Electrical Service: Contractor shall make 120V connection to the irrigation controllers.

- 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.

- Grades: Before starting work, carefully check grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.

- Coordination with work of other trades: Make all necessary measurements in the field to ensure precise fit of items in accordance with 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 and tree and shrub locations to avoid conflicts.

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

3.02 TRENCHING AND BACKFILLING:

A. Trenching:

- 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.

- 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.)

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

- 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.

- 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.

LEONARD A. FILMER ASSOCIATES
Landscape Architecture - Planning
307 East Ocean Avenue
Orange, CA 92668
(714) 333-0281



PC 2838M

CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT				IRRIGATION SPECIFICATIONS		ACCOUNT NO. R-3075L L-5	
APPROVED BY PRINCIPAL ENGINEER PARK DEPARTMENT TRAFFIC DIVISION CHIEF P. W. ENGINEER				APPROVED BY PUBLIC WORKS DIRECTOR		DR - 40-889	
DATE 5/8/90				DATE 5/8/90		SHEET 6 OF 8	
DESIGNED BY DRAWN BY CHECKED BY				HORIZ. SCALE: 1" =		VERT. SCALE: 1" =	

INDEXED 8-28-90

- B. Backfill:
- (1) Add the following to Standard Specifications Section 308-5.2: Provide sand backfill a minimum of 6 inches over and under all piping under paved areas.
- (2) Amend Standard Specifications Section 308-2.2 to read: Backfill shall be tamped in 4-inch layers under the pipe and uniformly on both sides 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 Park and Recreation Department.
- Under no circumstances shall truck wheels be used to compact soil.
- 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 Parks Department Representative. 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 blocking 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 a 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) Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet.
- 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 2½ inches and larger.
- 3.04 BACKFLOW INSTALLATION:
- Add the following to Standard Specifications Section 308-5.3: Install backflow assemblies at locations approved in the field by the Park Department Inspector and at heights required by local 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 pipeline in which they are installed unless otherwise specified on plans.
- 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. No valves or valve boxes shall be installed within a designated athletic playing field.
- 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 exact location of the controllers shall be as approved by the City before installation. The Contractor shall coordinate the electrical service with this location. The controllers shall be wall mounted within a Le Mur vandal resistant enclosure, unless noted otherwise on the plan. Controller enclosure shall be located in shrub areas and/or adjacent to other hard-scape items. Enclosure shall be painted with two coats of paint, color as approved; submit samples. Maintenance access shall be provided.
- The irrigation system shall be programmed to operate during the periods of minimal use of the design area.
- 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.

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; guying and staking trees; planting shrubs and groundcover; soil erosion control; maintenance; plant establishment; guarantees; and replacements.

1.03 SOILS TEST:

The Contractor shall notify the Park Projects Inspector upon completion of fine grading and prior to commencement of soil preparation work. The City will obtain 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, auger 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 GUARANTEE:

- A. 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.
- B. 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.
- C. Replacement shall be made in accordance with City standards.
- D. 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:

- A. Upon completion of fine grading and prior to commencement of soil preparation, for acceptance of fine grading work and taking of soils samples.
- B. Inspection of completed finish grading work following soil amendment work.
- C. When container plants and/or bare root stock are spotted for planting, but before planting holes are excavated.
- D. When planting and all other indicated or specified work has been completed.
- E. During application of pre-emergent chemical.
- F. At start of plant establishment period.
- G. 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:

- A. 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:

- A. 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 (P ₂ O ₅)	10%
Derived from calcium phosphate	
Soluble Potash (K ₂ O)	5%
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	

- B. Commercial fertilizer shall bear the manufacturer's guaranteed statement of analysis and shall meet the following minimum requirements: 16% nitrogen, 6% phosphoric acid, and 8% potash.
- C. Organic Soil Amendment:
- Shall be type 1 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 mineral with the State Department of Agriculture in compliance with Article 2 "Fertilizing Materials", Section 1030 of the Agriculture Code.

2.05 PLANTS:

- A. 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 of not less than 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.

- B. Amend the Standard Specifications Section 212-1.4.2 and 212.1.4.3: All tree and shrub 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.
- C. Add to Standard Specifications, new Section 212-1.4.6: Rooted cuttings will also be acceptable.
- D. 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:

- A. Top soil shall be free of noxious weed seed and shall be of a loam characteristic, fertile and friable.
- B. Wood shavings shall be leached nitrogen fortified and shall be free of foreign matter.
- C. 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 10% wood shavings and 90% site soil with fertilizer and soil conditioners as specified for container plants.

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

2.07 HEADERS, STAKES AND TIES:

- A. Add the following to Standard Specifications Section 212-1.5.3:
- (1) Tree stakes shall be straight-grained lodgepole pine, or City approved equal. Stakes shall be free from knots, checks, split, or disfigurements.
- (2) 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.

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 one-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:

- A. Upon completion of all fine grading work per Section 02210 Grading, and prior to soil preparation, perform weed control measures as follows:
1. 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.
 2. Apply a contact weed killer and allow sufficient time to obtain complete kill of all weeds germinated.
 3. Repeat step one above.
 4. Repeat step two above.

3.03 SOIL PREPARATION:

Add the following to Standard Specifications Section 308-2.3:

- A. All fine grading and mounding per Section 02210 and weed control measures shall be completed prior to soil preparation.
- B. 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.
- C. The following soil amendments shall be added per 1,000 square feet. ~~on all planting areas with gradients less than 3%~~ (agronomic soil test recommendations shall take precedence where these minimum amounts are exceeded):
- (1) 6 cubic yards organic amendment.
 - (2) 15 pounds commercial fertilizer.
 - (3) 100 pounds gypsum.
 - (4) Soil sulfur per soils report.

3.04 FINISH GRADING:

The Contractor shall finish grade all planting areas filling as needed or removing surplus dirt, raking 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 to existing roads, curbs, swales, and/or a sidewalks 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.

3.06 PLANTING:

- A. Amend the Standard Specifications Section 308-4.5 to coordinate with Section 2.06 herein for specified backfill mix.
- B. Add the following to the Standard Specification Section 308-4.5:
- (1) Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8".
 - (2) 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.
 - (3) 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.
- C. Add the following to Standard Specifications Section 308-4.7:
- (1) ~~On slopes exceeding 3:1 ratio, apply 5 green AgriForm tablets, one per plant in lieu of soil preparation work.~~

LEONARD A. FLINER ASSOCIATES
Landscape Architecture - Planning
327 East Green Avenue
Orange, CA 92668
(714) 683-0881



CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT				IRRIG/LAND SPECS ARLINGTON COURTYARD 5963 ARLINGTON AVENUE R-17-856		ACCOUNT NO. R-3075L L-6	
APPROVED BY _____ DATE _____ BY _____ PRINCIPAL ENGINEER PARK DEPARTMENT TRAFFIC DIVISION CHIEF P.W. ENGINEER				APPROVED BY _____ DATE _____ PUBLIC WORKS DIRECTOR		SHEET 7 OF 8	
DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____				DATE 5/8/90		HORIZ. SCALE: 1" = _____ VERT. SCALE: 1" = _____	

INDEXED 8-28-90

- (2) 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.
- (3) 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) 782-5223, 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.

3.09 WATERING:

Add the following to Standard Specifications Section 308-4.9.5:

- A. It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until final acceptance of the work.
- B. 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.
- C. 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.
- D. Irrigation:
- (1) 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.
- (2) 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:

- (1) 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.
- (2) Permanent power to remote controllers shall be established.
- (3) Written acceptance of the City must be obtained to start the plant establishment period.
- (4) 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 and turf 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 138 Gelgy 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 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 of 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.

(1) 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.

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

(3) 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.

(4) 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:

A. When the contractor believes he has completed the plant establishment period and the entire project is ready for final acceptance, he shall 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.

B. 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 plantings from flats as necessary to fill in all bare areas. Such plantings shall be planted a minimum of 10 days prior to the end of the plant establishment period and shall have roots "knit-in" to the native soil.

C. 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 adjacent streets, curbs, gutters; wash down all walkways, and trails; and remove construction equipment from the premises.

SECTION 03355 - STAMPED CONCRETE

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 be required to 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 integral color, wax curing and finishing compounds. Stamped concrete work shall not be performed prior to the inspection and written approval of the sample by the Park Projects Inspector. All other portions of the stamped concrete work shall match the color and finish of the approved sample pour. A MINIMUM PERIOD OF 20 DAYS WILL BE REQUIRED FOR ADEQUATE CURING OR SAMPLE POUR PRIOR TO INSPECTION.

1.05 DEFECTIVE WORK:

No patching will be permitted to correct 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 these points in time when:

- 1) All sleeve and drainline installation is complete but prior to back fill of trenches.
2) All form work is placed but prior to pouring.
3) All subgrade work is complete but prior to pouring

Contractor shall notify the Park Project 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.

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, 3,000 pounds per square inch ultimate compressive strength at 28 days. No admixtures, other than integral color admixture, will be allowed.

2.03 INTEGRAL COLOR:

The required color shall be:
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 admixture shall be added to the concrete using the integral color Method 'B' per Std. Spec's Section 303-6.3.2(a).

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 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 by 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.

LEONARD A. FELNER ASSOCIATES
Landscape Architecture - Planning
307 East Chapman Avenue
Orange, CA 92668
(714) 888-0888



CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT				LANDSCAPE SPECIFICATIONS		ACCOUNT NO.		
APPROVED BY PRINCIPAL ENGINEER <i>5/8/90 WJA</i> DATE <i>5/8/90</i> TRAFFIC DIVISION <i>JA</i> CHIEF P. W. ENGINEER <i>5/7/90 KGL</i>				APPROVED BY <i>Ray B. Bell</i> PUBLIC WORKS DIRECTOR DATE <i>5/8/90</i>		ARLINGTON COURTYARD 5963 ARLINGTON AVENUE R-17-856 DR-40-888		R-3075L L-7 SHEET <u>8</u> OF <u>8</u>
DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____				HORIZ. SCALE: 1" = _____		VERT. SCALE: 1" = _____		INDEXED 8-28-90 <i>4/1</i>

PC 2838M