B26-15
4397 WESTGROVE
FINAL
00-406 WESTGROVE PARKING LOT

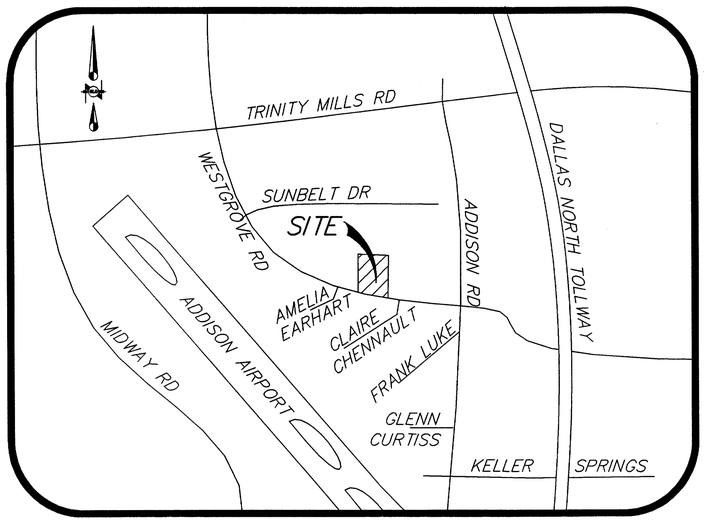
CONSTRUCTION PLANS

FOR

WESTGROVE PARKING LOT

FOR

JOHN S. DRYDEN
14580 BELTWOOD PKWY EAST SUITE 104
DALLAS, TEXAS
PHONE: (972) 934-2233
FAX: (972) 934-2090



Vicinity Map
NTS

INDEX

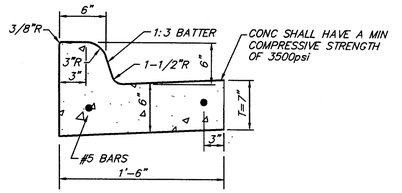
RAYMOND L. GOODSON JR., INC.
5445 LA SIERRA
SUITE 300, LB 17
DALLAS, TEXAS 75231
(214) 739-8100

STATE OF TEXAS
CHAO-SHING FANG
68314
REGISTERED
PROFESSIONAL ENGINEER
10-31-00

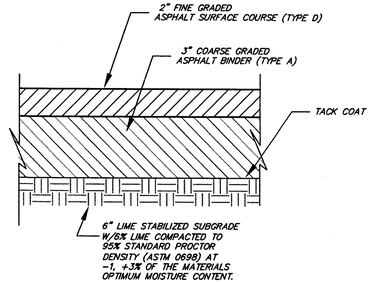
1/7

B26-15
4397 WESTGROVE

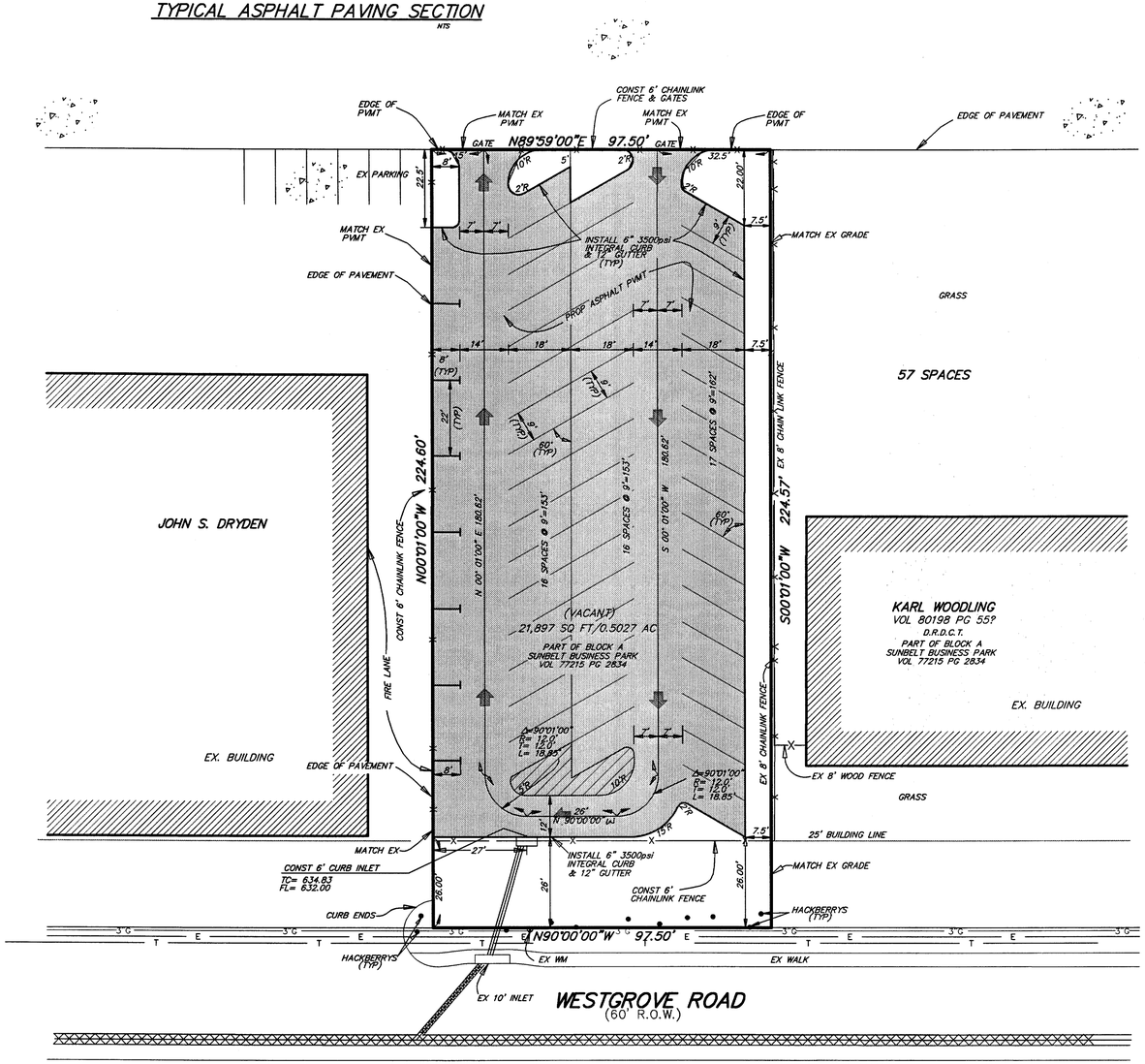
P:\Civil\00406\040600V.dwg Tue Oct 31 08:36:34 2000 Fxworth

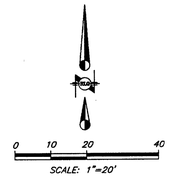


SEPARATE CURB & 12" GUTTER
NTS



TYPICAL ASPHALT PAVING SECTION
NTS





PAVING GENERAL NOTES

1. All materials and workmanship shall conform to the Town of Addison standards and specification, and to the Standard Specifications for Public Works Construction for North Central Texas, latest edition and the Town of Addison ddendum thereto.

2. The paving contractor shall be responsible for the adjustment of water and sanitary sewer appurtenances in accordance with the standard details and specifications of the Town of Addison.

3. Asphalt shall meet the requirments of Texas Highway Department standard specifacations. The contractor may use a mix design currently being used on Town of Addison or Texas Highway Department projects.

4. All dimensions are to face of curb unless otherwise noted.

5. All concrete shall have a min. compressive strength of 3500psi at 28 days.

6. Contractor shall obtain and pay for all permits required.

7. Contractor shall dispose of surplus dirt, debris, etc., legally offsite. All work areas shall be cleaned up at the completion of the work.

8. Contractor shall provide all safety devices for the protection of the public.

9. All parking stalls to be marked by a 4" wide painted white stripe as indicated on the drawings.

10. Concrete pavement and structures shall be backfilled as soon as possible after forms are removed.

LEGEND

6" SEPARATE CURB & 12" GUTTER

6" ASPHALT PAVEMENT

BENCHMARKS:

1.) SQUARE CUT ON INLET IN NORTHEAST CORNER @ SUNBELT DRIVE AND WESTGROVE RD.
ELEV =628.54

BENCHMARKS:

2.) SQUARE CUT IN BASE OF STREET LIGHT IN CENTER LINE OF EXCEL PKWY, WEST OF ADDISON RD.
ELEV =644.41

SHEET NO.
2
7

PAVING & DIMENSIONAL CONTROL PLAN

4397 WESTGROVE RD

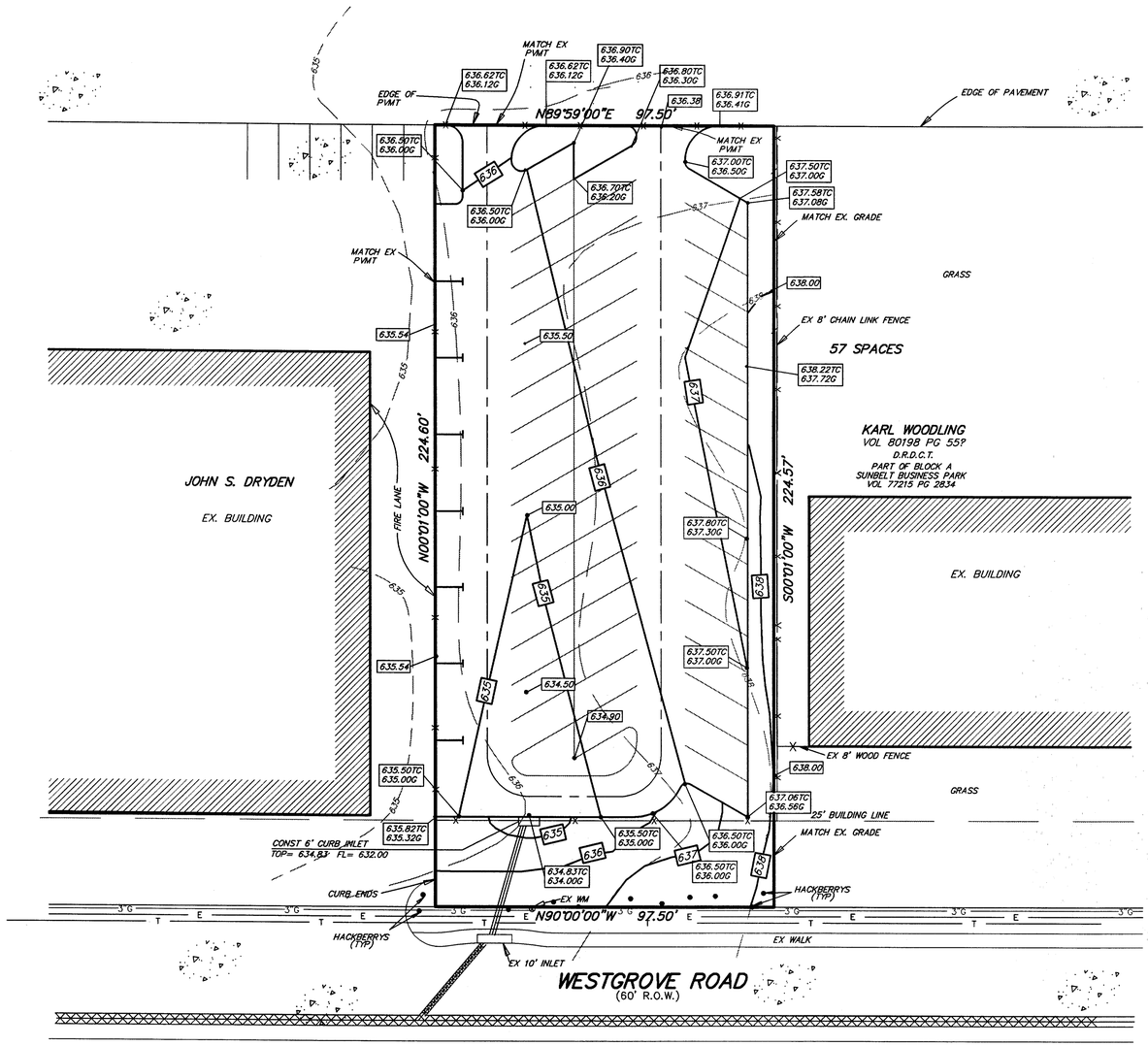
JOHN S. DRYDEN COMPANY

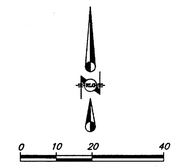
TOWN OF ADDISON, TEXAS

RAYMOND L. GOODSON JR., INC. CONSULTING ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG	RLG	10-23-00	1"=20'	0406PAV	00	406

P:\Civil\00406\0406PAV.dwg Tue Oct 31 08:36:02 2000 Foworth





GRADING GENERAL NOTES

1. All materials and workmanship shall conform to the Town of Addison standards and specifications, and to the Standard Specifications for Public Works Construction for North Central Texas, latest edition and the Town of Addison addendum thereto.

2. All areas to receive paving shall be stripped to effectively remove all vegetation, top soil, and debris, if present. Debris shall be disposed of legally offsite. Topsoil shall be stockpiled for landscaping purposes.

3. The contractor shall establish interior drainage swales to remove rainfall from the site. Water must not be allowed to pond in tree grub holes. The site should be graded such that positive surface drainage away from the work areas is established and maintained at all times. Water must not be allowed to pond on the surface during construction.

4. The contractor shall provide for sediment and erosion control as required by the Town of Addison throughout the construction of the project. The filter fabric nets will be placed at the toe of slope or in the flow line of ditches and along perimeter of the project. Erosion control shall be used until landscaping is complete and ground cover is established.

5. All areas that will receive fill shall be proof-rolled to identify weak zones. All weak zones must be removed and replaced prior to fill placement.

6. Limestone or other rock-like materials used as fill should be compacted to at least 95 percent of standard proctor maximum dry density. No individual rock pieces larger than 4 inches in diameter should be used as fill. Additionally, no rock fill should be used within 1 ft below the bottom of floor or pavement slabs.

7. Fill materials should be placed in loose lifts, between 6 and 9 inches thick, and each lift compacted to a minimum of 95 percent of the maximum dry density as defined in ASTM D 698 at optimum to +3 percent above optimum moisture content. Each lift should be inspected and approved by a qualified engineering technician, supervised by a geotechnical engineer before another lift is added.

8. Testing is required, and shall be performed by a laboratory approved by the engineer/owner and paid for by the owner.

9. It will be the responsibility of the contractor to locate and protect all public utilities, in the construction of this project. All manholes, cleanouts, valve boxes, fire hydrants, etc., must be adjusted to proper line and grade by the contractor prior to and after the placing of permanent paving. Utilities must be maintained to proper line and grade during the construction of paving for this project.

LEGEND

- 635 — PROPOSED CONTOUR LINE
- 635.00 — EXISTING SPOT ELEVATION
- 635.50TC 635.00G — PROPOSED SPOT ELEVATION
- —635— EXISTING CONTOUR LINE

BENCHMARKS:

1.) SQUARE CUT ON INLET IN NORTHEAST CORNER @ SUNBELT DRIVE AND WESTGROVE RD.
ELEV =628.54

BENCHMARKS:

2.) SQUARE CUT IN BASE OF STREET LIGHT IN CENTER LINE OF EXCEL PKWY, WEST OF ADDISON RD.
ELEV =644.41

STATE OF TEXAS
CHAO-SHING FANG
68314
REGISTERED PROFESSIONAL ENGINEER
10-31-00

SHEET NO.
3
7

GRADING PLAN

4397 WESTGROVE ROAD

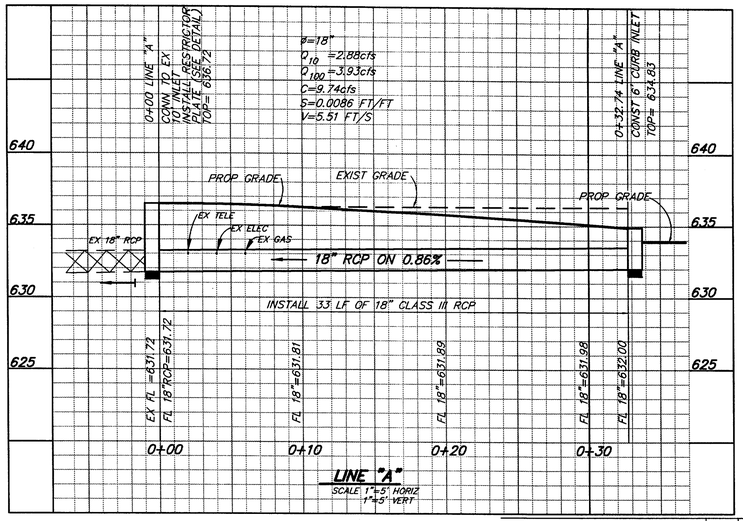
JOHN S. DRYDEN COMPANY

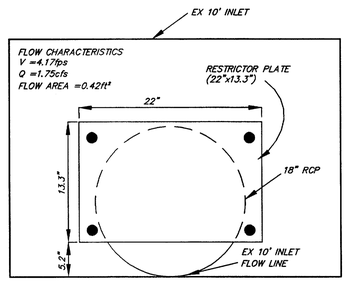
TOWN OF ADDISON, TEXAS

RAYMOND L. GOODSON JR., INC. CONSULTING ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG	RLG	10-23-00	1"=20'	0406GRD	00	406

P:\Civil\00406\0406GRD.dwg Tue Oct 31 08:46:09 2000 Foxworth





RESTRICTOR PLATE DETAIL
NTS

CAUTION!!!
CONTACT:

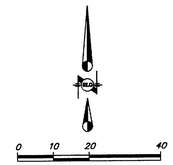
LONE STAR GAS CO.	1-800-344-8377
SOUTHWESTERN BELL TEL. CO.	1-800-395-0440
T. U. ELECTRIC CO.	1-800-233-2133
TEXAS ONE CALL SYSTEM	1-800-245-4545

AT LEAST 48 HOURS PRIOR TO CONSTRUCTION

DRAINAGE AREA CALCULATIONS

AREA	AREA (ACRES)	C	$T_{(MIN)}$	I_{10}	I_{100}	Q_{10} (cfs)	Q_{100} (cfs)	REMARKS
A	0.50	0.9	10	6.36	8.74	2.88	3.93	PROP 6' INLET
EX 10' INLET	0.9	10	6.36	8.74	4.50	6.50		

Q=CIA



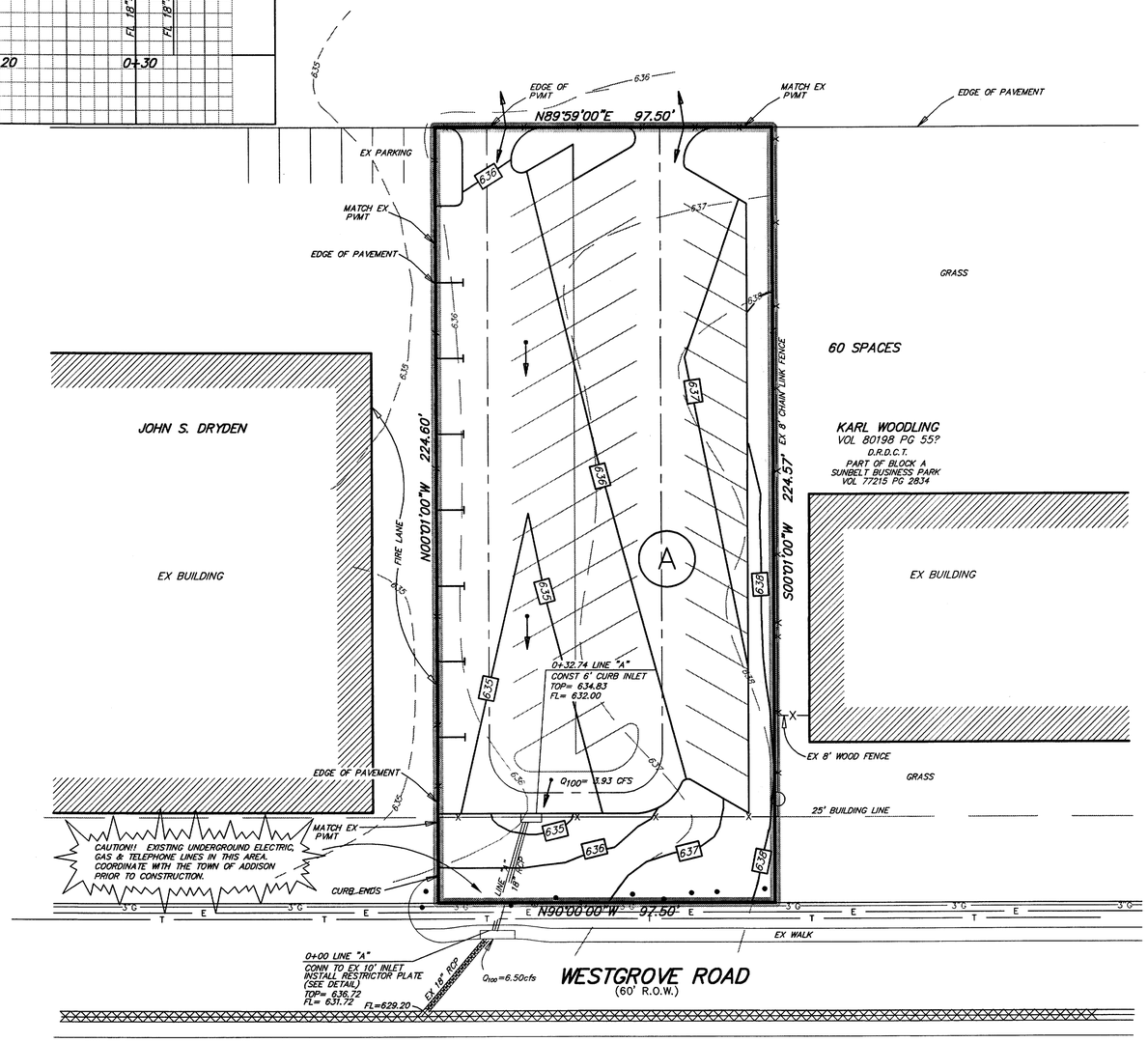
DETENTION CALCULATIONS

EXIST CONDITION DRAIN TO WEST
I_{100}=8.74 FOR TC=10min C= 0.45
DRAINAGE AREA A:
Q_{100}= (0.45)(8.74)(0.50)= 1.97 CFS

PROP CONDITION DRAIN TO SOUTH
I_{100}= 8.74 FOR TC=10min C= 0.90
DRAINAGE AREA A:
Q_{100}= (0.90)(8.74)(0.50) = 3.93 CFS

Q RELEASE THROUGH DETENTION= 1.97cfs
DETENTION STORAGE IS PROVIDED THROUGH THE 18" RCP AND THE PROPOSED 6' CURB INLET

TOTAL PROVIDED DETENTION STORAGE = 106 CF



RESTRICTOR PLATE CALCULATIONS:

Q= CA(2GH)^1/2
Q= DISCHARGE ALLOWED (1.97 CFS)
C= COEFFICENT OF DISCHARGE (0.7, UNPAINTED METAL)
G= GRAVITY (32.2 FPS)
A= AREA OF DISCHARGE ALLOWED (UNKNOWN)
H= HEAD (DEPTH OF FLOW DURING 100-YR STORM IN 18" RCP, 0.66 FT)

AREA OF DISCHARGE ALLOWED= 0.43 SQ.FT
FLOW AREA PROVIDED= 0.42 SQ.FT
DISCHARGE THROUGH RESTRICTOR PLATE= 1.75 CFS
PLATE SIZE= 22" X 13.3"

BENCHMARKS:

1.) SQUARE CUT ON INLET IN NORTHEAST CORNER @ SUNBELT DRIVE AND WESTGROVE RD.
ELEV =628.54

BENCHMARKS:

2.) SQUARE CUT IN BASE OF STREET LIGHT IN CENTER LINE OF EXCEL PKWY, WEST OF ADDISON RD.
ELEV =644.41

LEGEND

635 — PROPOSED CONTOUR LINE
FLOW ARROW
DRAINAGE DIVIDE LINE
(A) DRAINAGE AREA NUMBER

STATE OF TEXAS
CHAO-SHING FANG
68314
REGISTERED PROFESSIONAL ENGINEER
10-31-00

SHEET NO.
4
7

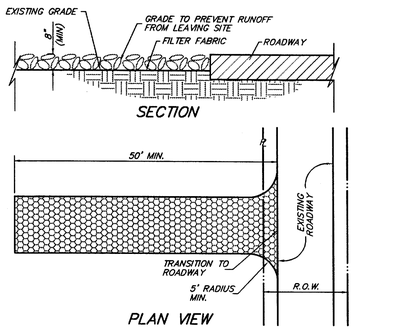
DRAINAGE PLAN

4397 WESTGROVE RD

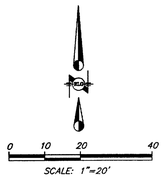
JOHN S. DRYDEN COMPANY
TOWN OF ADDISON, TEXAS
RAYMOND L. GOODSON JR., INC. CONSULTING ENGINEERS

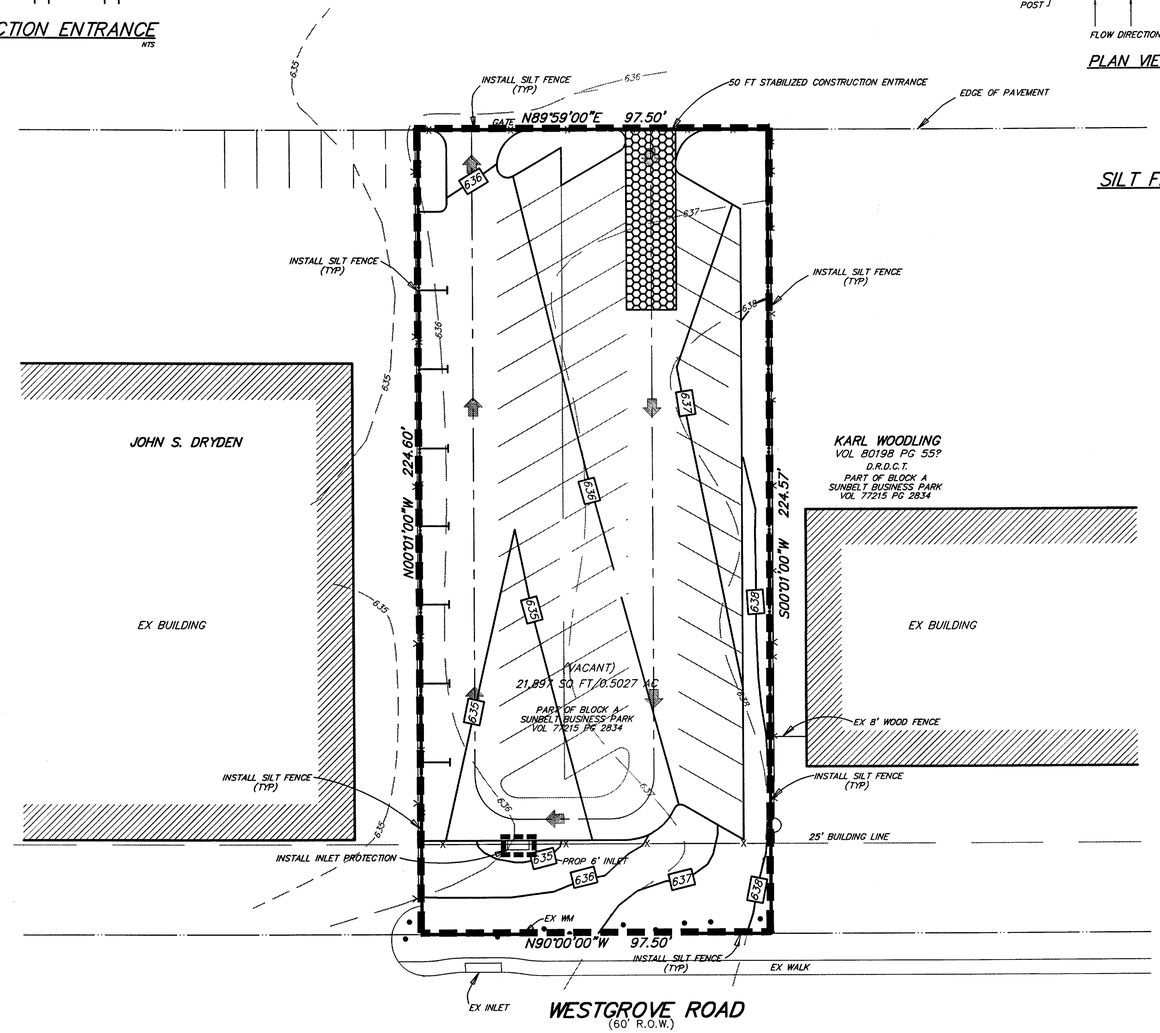
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG	RLG	10-23-00	1"=20'	0406DAM	00	406

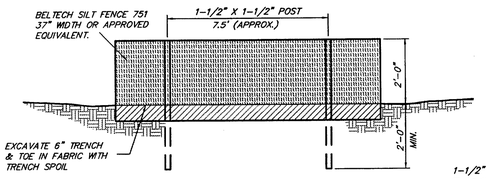
P:\Civil\0406\0406DAM.dwg Tue Oct 31 09:30:31 2000 Foxworth

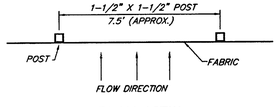


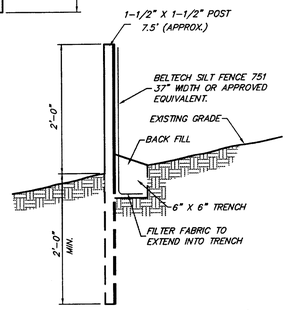
STABILIZED CONSTRUCTION ENTRANCE
NTS



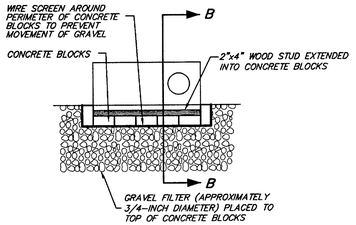




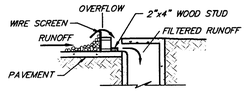




SILT FENCE DETAIL
NTS



INLET PROTECTION PLAN
NTS



CROSS-SECTION B-B
NTS

LEGEND

- INSTALL INLET PROTECTION
- INSTALL SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE

EROSION CONTROL - GENERAL NOTES

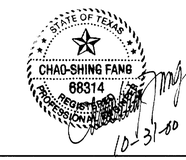
1. All procedures and materials used for erosion control shall be approved by the Town of Addison
2. It shall be the contractor's responsibility to use whatever means are necessary to control and limit silt and sediment leaving this site. Specifically, the contractor shall protect all public street, alleys, streams, storm drain systems and inlets from erosion deposits. The contractor shall comply with storm water pollution prevention management practices per the Town of Addison and EPA Requirements.
3. Silt fencing shall be Beltech silt fence 751 37" width or approved equal. Accumulated sediment shall be graded away from fence periodically when necessary.
4. Prior to commencing any construction, perimeter silt fence shall be installed at the locations shown on the plans and a stabilized construction entrance will be constructed per the Erosion Control and Storm Water Pollution Prevention Plans as applicable.
5. Plant materials must be suitable for use under local climate and soil conditions. In general, hydro seeding or sodding bermuda grass is acceptable during the summer months (May 1 to August 30). Winter rye or fescue grass may be planted during times other than the summer months as a temporary measure until such time as the permanent planting can be made.
6. As inlets are completed, temporary sediment barriers and inlet protection shall be installed in accordance with the Town of Addison Specifications.
7. At the completion of the paving and final grading, the disturbed area(s) shall be revegetated in accordance with the plans and specifications.
8. Silt fence and inlet sediment barriers shall remain in place until revegetation has been completed.
9. Disturbed areas that are seeded or sodded shall be checked periodically to see that grass coverage is properly maintained. Disturbed areas shall be watered, fertilized, and reseeded or resodded, if necessary.
10. If the erosion control is removed for construction and/or access purposes, the contractor shall replace it at the end of each work day.
11. Erosion protection may be added or deleted per the Town of Addison.

BENCHMARKS:

1.) SQUARE CUT ON INLET IN NORTHEAST CORNER @ SUNBELT DRIVE AND WESTGROVE RD.
ELEV =628.54

BENCHMARKS:

2.) SQUARE CUT IN BASE OF STREET LIGHT IN CENTER LINE OF EXCEL PKWY, WEST OF ADDISON RD.
ELEV =644.41

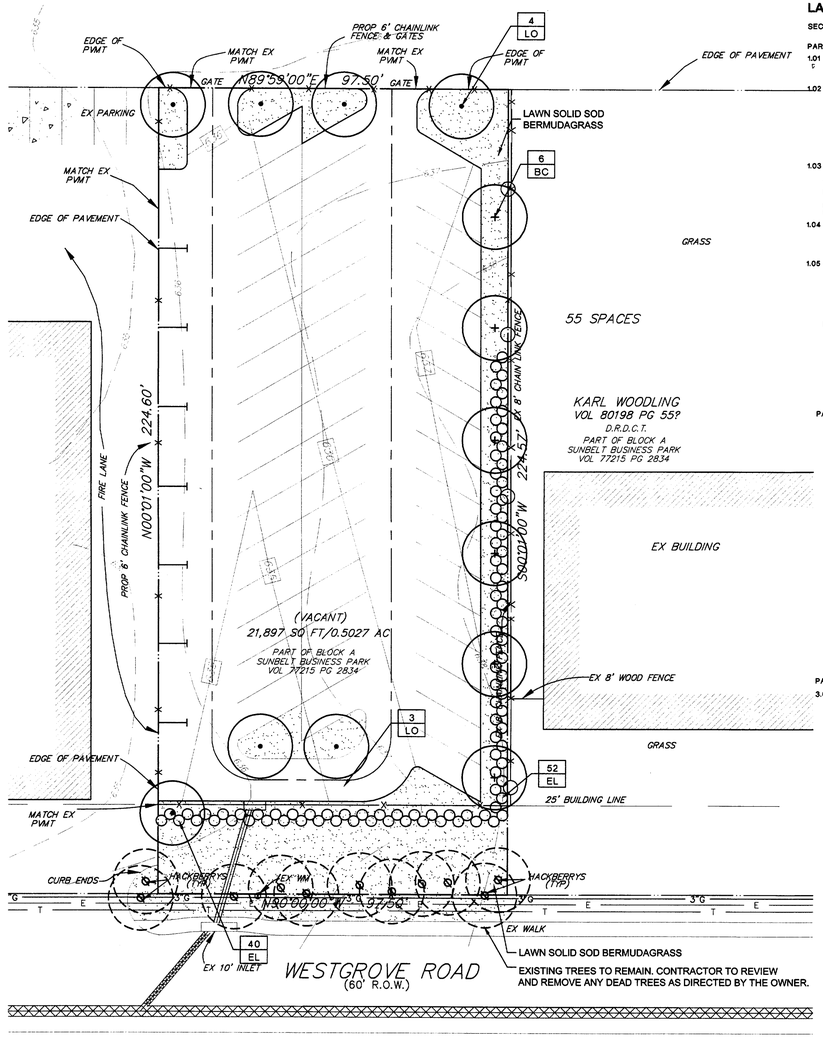


SHEET NO.
5
7

EROSION CONTROL PLAN
4397 WESTGROVE RD
JOHN S. DRYDEN COMPANY
TOWN OF ADDISON, TEXAS
RAYMOND L. GOODSON JR., INC. CONSULTING ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
RLG	RLG	10-23-00	1"=20'	0406PAV	00	406

P:\Civil\00406\0406EC.dwg Tue Oct 31 08:47:18 2000 Foxworth



LANDSCAPE PLAN
1"=20'-0"
0 10 20 40

PLANT LEGEND

QUANTITY / PLANT TYPE	
SYMBOL	PLANT TYPE
B.C.	Bald Cypress
EL.	Elaeagnus
L.O.	Live Oak

PLANT LIST

TREES

BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
Quercus virginiana	Live Oak	7	65 gal.	cont., 3" caliper, 15' ht., 5' spread min., matching
Taxodium distichum	Bald Cypress	6	65 gal.	cont., 3" caliper, 15' ht., 5' spread min., matching

NOTE: ALL TREES TO HAVE STRAIGHT TRUNKS AND BE MATCHING WITHIN VARIETIES

SHRUBS/GROUNDCOVER

BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
Elaeagnus pungens	Elaeagnus	92	5 gal.	cont. full, 24" spread, 24" o.c.
Cynodon dactylon	Common Bermudagrass			refer to notes

NOTE: Plant list is an aid to bidders only. Contractor shall verify all quantities on plan. All heights and spreads are minimums. All plant material shall meet or exceed remarks as indicated.

LANDSCAPE TABULATIONS

SITE REQUIREMENTS
Requirements: 20% of gross site to be landscape
Total Site: 21,897 s.f.
Required: 4,379.4 s.f. (20%) — Provided: 5,323.59 s.f. (24.31%)

STREET FRONTAGE
Requirements: 20' buffer along street frontage
(1) tree 4" cal. per 20 l.f., (8) shrubs per 20 l.f.

Westgrove Drive: 97.5 l.f.
Required: (5) trees, 4" cal. (40) shrubs, 5 gal.
Provided: (11) trees, existing refer to notes (40) shrubs, 5 gal.

PARKING LOT SCREEN
Requirements: 20" ht., 3' o.c., double staggered row
Provided

PERIMETER LANDSCAPE
Requirements: 5' wide buffer, (1) 4" cal. tree and (8) shrubs per 35 l.f.

East Property Line: 224.57 l.f.
Required: (7) trees, 4" cal. (52) shrubs, 5 gal.
Provided: (7) trees, 4" cal. (52) shrubs, 5 gal.

PARKING LOT - INTERIOR LANDSCAPE
Requirement: 10% of the parking area must be landscape
Parking lot: 16,846.95 s.f.
Required: 1,684.70 s.f. (10%)
Provided: 1,724.40 s.f. (10.24%)

PARKING LOT
Requirement: (1) tree per 10 regular spaces
Total Parking: 57 spaces
Required: (6) trees
Provided: (6) trees, 4" cal.

LANDSCAPE SPECIFICATIONS

SECTION 02900

PART 1 - GENERAL

1.01 REFERENCED DOCUMENTS

A. Refer to bidding requirements, special provisions, general provisions, and schedules for additional requirements.

1.02 DESCRIPTION OF WORK

A. Work Included: Furnish all supervision, labor, materials, services, equipment and appliances required to complete the work covered in conjunction with the landscaping covered in these specifications and landscaping plans, including:
1. Planting (trees, shrubs, groundcover, and grass)
2. Bed preparation and fertilization
3. Notification of sources
4. Water and Maintenance until final acceptance
5. Guarantee

1.03 REFERENCES

A. American Standard for Nursery Stock published by American Association of Nurserymen - 2nd October 1980, Edition.
B. American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.
C. Texas Association of Nurserymen, Grades and Standards.
D. Horton Third, 1978 - Cornell University.

1.04 NOTIFICATION OF SOURCES

A. The Contractor shall, within ten (10) days following acceptance of bid, notify the Owner and Landscape Architect of the sources of plant materials and bed preparation required for the project.

1.05 JOB CONDITIONS

A. General Contractor to complete the following punch list: Prior to Landscape Contractor initiating any portion of landscape installation, General Contractor to leave bed areas one-half (1/2") inch minimum, three (3") inches maximum below finish grade of sidewalks, drives and curbs. The remainder of the site (all lawn areas) to be left one (1") inch below finish grade of sidewalks, drives and curbs. Construction debris including: rock/stone over 1", trash, wire, etc. shall be removed prior to Landscape Contractor beginning any work.
B. Storage of materials and equipment at the job site will be at the risk of the Landscape Contractor. The Owner cannot be held responsible for theft or damage.

PART 2 - PRODUCTS (cont.)

F. Grass Areas:
1. Solid Sod: Blocks of sod should be laid joint to joint (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.
2. Hydromulch: Shall be extra hulled and treated lawn type seed, delivered to the site in its original unopened container, and shall meet State Law requirements.

G. Steel Curbing: Shall be Ryerson "Estate Curbing", 1/8" x 4" w/ stakes 4' on center.

H. Hydroseeding Fiber Mulch:
1. Cellulose fiber mulch shall be natural wood fiber mulch produced from grinding clean, whole waste wood chips. The mulch shall be designed for use in conventional mechanical planting, hydraulic planting, or hydromulching of grass seed. The mulch shall be such that when applied the material shall form a strong, moisture retaining mat.
2. The hydromulch shall be composed of virgin wood cellulose fibers and contain no germination or growth-inhibiting factors. It shall have a consistent texture which disperses evenly and remain suspended in agitated water. It shall have a temporary green dye and the following property analysis:

Moisture Content	9.0% +/- 3% O.D. Basis
Organic Matter	99.2% +/- 0.6%
Ash Content	0.8% +/- 0.2%
pH	4.8% +/- 0.5%
Water Holding Capacity (grams of water per 100 grams of fiber)	1150 minimum

3. The mulch shall contain a biodegradable tackifier agent included in its manufacturer or as a separate additive in the rates specified by the manufacturer. The purpose of the tackifier is to further enhance the erosion control properties of the wood fiber mulch.

PART 3 - EXECUTION

3.01 BED PREPARATION & FERTILIZATION

A. Landscape Contractor to inspect all existing conditions and report any deficiencies to the Landscape Architect and General Contractor.

LANDSCAPE NOTES

1. Contractor shall verify all existing and proposed site elements and notify Architect of any discrepancies. Survey data of existing conditions was supplied by others.
2. Contractor shall locate all existing underground utilities and notify Architect of any conflicts. Contractor shall exercise caution when working in the vicinity of underground utilities.
3. Contractor is responsible for obtaining all required landscape and irrigation permits.
4. Contractor to provide a minimum 2% slope away from all structures.
5. All planting beds and lawn areas to be separated by steel edging. No steel to be installed adjacent to sidewalks or curbs.
6. All landscape areas to be 100% irrigated with an underground automatic irrigation system.
7. All lawn areas to be Solid Sod Bermudagrass, unless otherwise noted on the drawings.

SOLID SOD NOTES

1. Fine grade areas to achieve final contours indicated. Leave areas to receive topsoil 3" below final desired grade in planting areas and 1" below final grade in turf areas.
2. Adjust contours to achieve positive drainage away from buildings. Provide uniform rounding at top and bottom of slopes and other breaks in grade. Correct irregularities and areas where water may stand.
3. All lawn areas to receive solid sod shall be left in a maximum of 1" below final finish grade. Contractor to coordinate operations with on-site Construction Manager.
4. Topsoil shall be obtained from stockpile soil on site. In the event stockpiled topsoil is not available, imported topsoil shall be brought in. Imported topsoil shall be natural, friable soil from the region, known as bottomland soil, free from lumps, clay, toxic substances, roots, debris, vegetation, stones, containing no salt and black to brown in color.
5. Contractor to coordinate with on-site Construction Manager for availability of existing topsoil.
6. Plant sod by hand to cover indicated area completely. Insure edges of sod are touching. Top dress joints by hand with compost to fill voids.
7. Roll grass areas to achieve a smooth, even surface, free from unnatural undulations.
8. Water sod thoroughly as sod operation progresses.
9. Contractor shall maintain all lawn areas until final acceptance. This shall include, but not limited to: mowing, watering, weeding, cultivating, cleaning and replacing dead or bare areas to keep plants in a vigorous, healthy condition.
10. Contractor shall guarantee establishment of an acceptable turf area and shall provide replacement from local supply if necessary.
11. If installation occurs between September 1 and March 1, all sod areas to be over-seeded with Winter Ryegrass, at a rate of (4) pounds per one thousand (1000) square feet.

1.06 MAINTENANCE AND GUARANTEE

A. Maintenance:
1. The Landscape Contractor will be held responsible for the maintenance of all work from the time of tree delivery to the site, to the time of planting and until final acceptance by the Owner or Landscape Architect. No trees, groundcover or grass will be accepted unless they are approved by the Owner or Landscape Architect.
2. Maintenance shall include watering of trees and plants, cultivation, weeding, spraying, edging, pruning of trees; mowing of grass, cleaning up and all necessary work of maintenance.
3. A written notice requesting final inspection and acceptance should be submitted to the Owner or Landscape Architect at least seven (7) days prior to completion. An on-site inspection by Owner, Landscape Contractor, and Landscape Architect will be completed prior to written acceptance.
4. After final acceptance of installation, the Landscape Contractor will not be required to do any of the above listed work.

B. Guarantee:
1. Trees, shrubs, and groundcover shall be guaranteed for a twelve (12) month period after final acceptance. The Contractor shall replace all dead materials, material rejected, or damaged as soon as weather permits and upon notification by the Owner and Landscape Architect. Plants, including trees, which have partially died so that shape, size, or symmetry has been damaged, shall be considered subject to replacement. In such cases, the opinion of the Owner or Landscape Architect shall be final.
a. Plants used for replacement shall be of the same kind and size as those originally planted and shall be planted as originally specified. All work, including materials, labor and equipment used in replacements, shall be at no cost to the Owner. Replacement plants shall carry a twelve (12) month guarantee from time of replacement. Any damage, including ruts in the lawn of bed areas, incurred as a result of making replacements shall be immediately repaired.
b. At the direction of the Landscape Architect, plants may be replaced at the start of the next year's planting season, but within such cases, dead plants shall be removed from the premises immediately upon notification.
c. When plant replacements are made, plants, soil, and fertilizer and mulch, due to replacement, are subject to inspection and inspected for full compliance with Contract requirements. All replacements are to be included under "Work" of this section.
2. The Owner agrees that for the guarantee to be effective, he will water plants per the Landscape Contractors recommended watering schedule and cultivate beds once a month after final acceptance.
3. The above guarantee shall not apply where plants die after acceptance because of injury by storms, hail, freeze, insects, diseases, injury by humans, machines or theft.

3.01 BED PREPARATION & FERTILIZATION (cont.)

B. All planting areas shall be conditioned as follows:
1. Prepare new planting beds by scraping away existing grass and weeds as necessary. Till existing soil to a depth of six inches prior to fertilizer and compost application. Apply fertilizer as per manufacturer's recommendations. Add six (6") inches of compost and till into a depth of six (6") inches of the native soil. Apply organic fertilizer such as Sustane or Green Sense at the rate of twenty-five (25) pounds per one thousand (1,000) square feet.
2. All planting bed areas shall receive a two (2") inch layer of specified mulch.
3. Backfill for tree pits shall be as follows: Use existing topsoil on site, free from large clumps, rock, debris, caliche, subsoils, etc., placed in nine (9") inch layers and watered in thoroughly.

C. Grass Area:
1. Areas to be Solid Sod Bermudagrass: Blocks of sod should be laid joint to joint, (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.
2. Areas to be Hydromulch Common Bermudagrass: Hydromulch with bermudagrass seed at a rate of two (2) pounds per one thousand (1,000) square feet. Use a 4' x 8' batter board against the bed areas.

3.02 INSTALLATION

A. Maintenance of plant materials shall begin immediately after each plant is delivered to the site and shall continue until all construction has been satisfactorily accomplished.

B. Plant materials shall be delivered to the site only after the beds are prepared and are ready for planting. All plantings of nursery materials shall be thoroughly protected from drying during delivery and during storage. Plants which cannot be planted after delivery on the same date, shall be well protected against the possibility of drying by wind and sun. Balls of earth of B & B plants shall be kept covered with soil or other acceptable material. All plants remain the property of the Contractor until final acceptance.

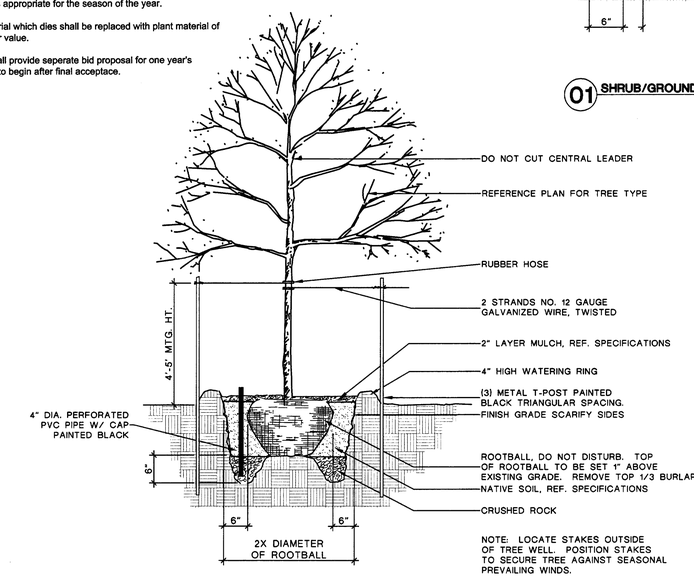
C. Position the trees and shrubs or stake their intended locations as per the plans.

D. Contractor shall stake the location of trees, shrubs, groundcover beds, etc., and obtain Landscape Architect's approval prior to installation.

E. Excavate pits with vertical sides and horizontal bottom. Tree pits shall be large enough to permit handling and planting without injury to balls of earth or roots and shall be of such depth that, when planted and settled, the crown of the plant shall bear the same relation to the finish grade that it did to soil surface in place of growth.

MAINTENANCE NOTES

1. The Owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of all landscape.
2. All landscape shall be maintained in a neat and orderly manner at all times. This shall include mowing, edging, pruning, fertilizing, watering, weeding and other such activities common to landscape maintenance.
3. All landscape areas shall be kept free of trash, litter, weeds and other such material or plants not part of this plan.
4. All plant material shall be maintained in a healthy and growing condition as is appropriate for the season of the year.
5. All plant material which dies shall be replaced with plant material of equal or better value.
6. Contractor shall provide seperate bid proposal for one year's maintenence to begin after final acceptace.



02 TREE PLANTING DETAIL
NOT TO SCALE

1.06 MAINTENANCE AND GUARANTEE (cont.)

B. Guarantee (cont.)
4. Acceptance for all landscape work shall be given after final inspection by the Owner and/or Landscape Architect, provided the job is in a completed, undamaged condition, and there is 100% coverage in all lawn areas. At this time, the Owner will assume maintenance on the accepted work.

C. Repairs: Any necessary repairs under the Guarantee must be made within ten (10) days after receiving notice, weather permitting, and in the event the Landscape Contractor does not make repairs accordingly, the Owner, without further notice to Contractor, may provide materials and men to make such repairs at the expense of the Landscape Contractor.

1.07 QUALITY ASSURANCE

A. General: Comply with applicable Federal, State, County, and Local regulations governing landscape materials and work.

B. Personnel: Employ only experienced personnel who are familiar with the required work. Provide full-time supervision on site by a qualified foremen with a minimum of 5 years field experience.

C. Selection of Plant Material:
1. Make contact with suppliers immediately upon obtaining notice of contract acceptance to select and book materials. Develop a program of maintenance (pruning and fertilization) which will insure the purchased materials will meet and/or exceed project specifications.
2. Landscape Architect will provide a key identifying each tree location on plan. Written verification and photographs of all plant material will be required to document material selection, source, and delivery schedules to site.
3. Owner and/or Landscape Architect shall inspect all plant materials, when reasonable, at place of growth for compliance with requirements for genus, species, cultivar/variety, size and quality. Owner and/or Landscape Architect retains the right to further inspect materials after arrival at the site and during installation for size and condition of root balls, limbs, branching habit, insects, injuries, and latent defects. Owner and/or Landscape Architect may reject unsatisfactory or defective material at any time during process of work. Remove rejected materials from the site immediately. Plants damaged in transit or at job site shall be rejected.

3.02 INSTALLATION (cont.)

F. Shrub and tree pits shall be no less than two (2') feet, twenty-four (24") inches wider than the lateral dimension of earth ball and six (6") inches deeper than its vertical dimension. Remove and haul from site all rocks or stones over one (1") inches in diameter. Plants should be thoroughly moist before removing containers.

G. Dig a wide, rough sided hole exactly the same depth as the height of the ball, especially at the surface of the ground. The sides of the hole should be rough and jagged, never slick or glazed.

H. Run a perk test. Fill the hole with water and wait until the next day. If the water does not drain overnight, contact the Landscape Architect.

I. Backfill only with the existing soil that came from the hole. When the hole is dug in solid rock, topsoil from the same area should be used. Some rock mixed into the soil is beneficial. Topsoil from the immediate area should be used for the top one to three (1" - 3") inches of backfill, if possible. Remove burlap from the top of the ball, as well as all nylon, plastic string and even wire mesh. Container trees will usually be pot bound.

J. Do not wrap trees.

K. Do not over prune.

L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball unplanted and mulch with at least two (2") inches of specified mulch.

M. All plant beds and trees to be mulched with shredded hardwood spread to a minimum settled thickness of two (2") inches over entire area of bed or pit.

N. Obstruction below ground: In the event rock or underground construction work or obstructions are encountered in any plant pit excavation work to be done under this section, alternate locations may be selected by the Landscape Architect. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Plants
1. Quantities: the drawings and specifications are complimentary; anything called for on one and not the other is as binding as if shown and called for on both. The plant schedule is an aid to bidders only. Confirm all quantities on plan.
2. Quality and size: Plant materials shall conform to the size given on the plan, and shall be sound, healthy, with well formed tops and fibrous root systems. The plants shall be free from injurious insects, diseases, injuries to the bark or roots, broken branches, objectionable disfigurements, and are to be of specimen quality.
3. Approval: All plant materials shall be subject to the approval of the Owner and/or Landscape Architect. All plants which are found unsuitable in growth, or in any unhealthy, badly shaped, or undersized condition, will be rejected by the Landscape Architect, either before or after planting, and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plants as specified.
4. Trees shall be healthy, full-branched, well-shaped and shall meet the trunk diameter and height requirements of the plant schedule. Balled and Burlapped shall be firm, neat, slightly tapered, and well wrapped in burlap. Any tree loose in the ball or with broken ball at time of planting will be rejected. Balls shall be ten (10") inches in diameter for each one (1") inch of trunk diameter, measured six (6") inches above ball.
a. Nomenclature conforms to customary nursery usage; for clarification, the term "multi-trunk" defines a plant having three (3) or more trunks of nearly equal diameter.
5. Pruning: All pruning of trees and shrubs, as directed by Landscape Architect, shall be executed by Landscape Contractor at no additional cost to the Owner.

B. Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material. "Vital Earth", "Back-to-Earth", or approved equal.

C. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.

D. Mulch for planting bed areas shall be Shredded Hardwood Mulch.

E. Organic Fertilizer: Fertileid, Sustane, or Green Sense as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.

3.02 INSTALLATION (CONT.)

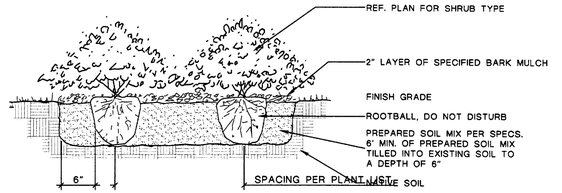
O. Pruning and Mulching: Each area shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant and in the manner fitting its use in the landscape design.
1. Dead wood or suckers and broken or badly bruised branches shall be removed General tipping of all branches is not permitted.
2. Pruning shall be done with clean sharp tools.
3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of specified mulch two (2") inches in depth. This limit of the specified mulch for trees shall be the diameter of the plant pit.

P. Steel Curbing Installation:
1. Curbing shall be aligned as indicated on plans.
2. All steel curbing shall be free of kinks or abrupt bends.
3. Top of curbing shall be 3/4" maximum higher than existing grade.
4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
5. Do not install steel edging along sidewalks.

3.03 CLEANUP AND ACCEPTANCE

A. Cleanup: During the work, the premises shall be kept neat and orderly at all times. Storage areas for all materials shall be so organized that they, too, are neat and orderly. All trash and debris shall be removed from the site as work progresses
B. Keep paved areas clean by sweeping or hosing at end of each days' work.

END OF SECTION

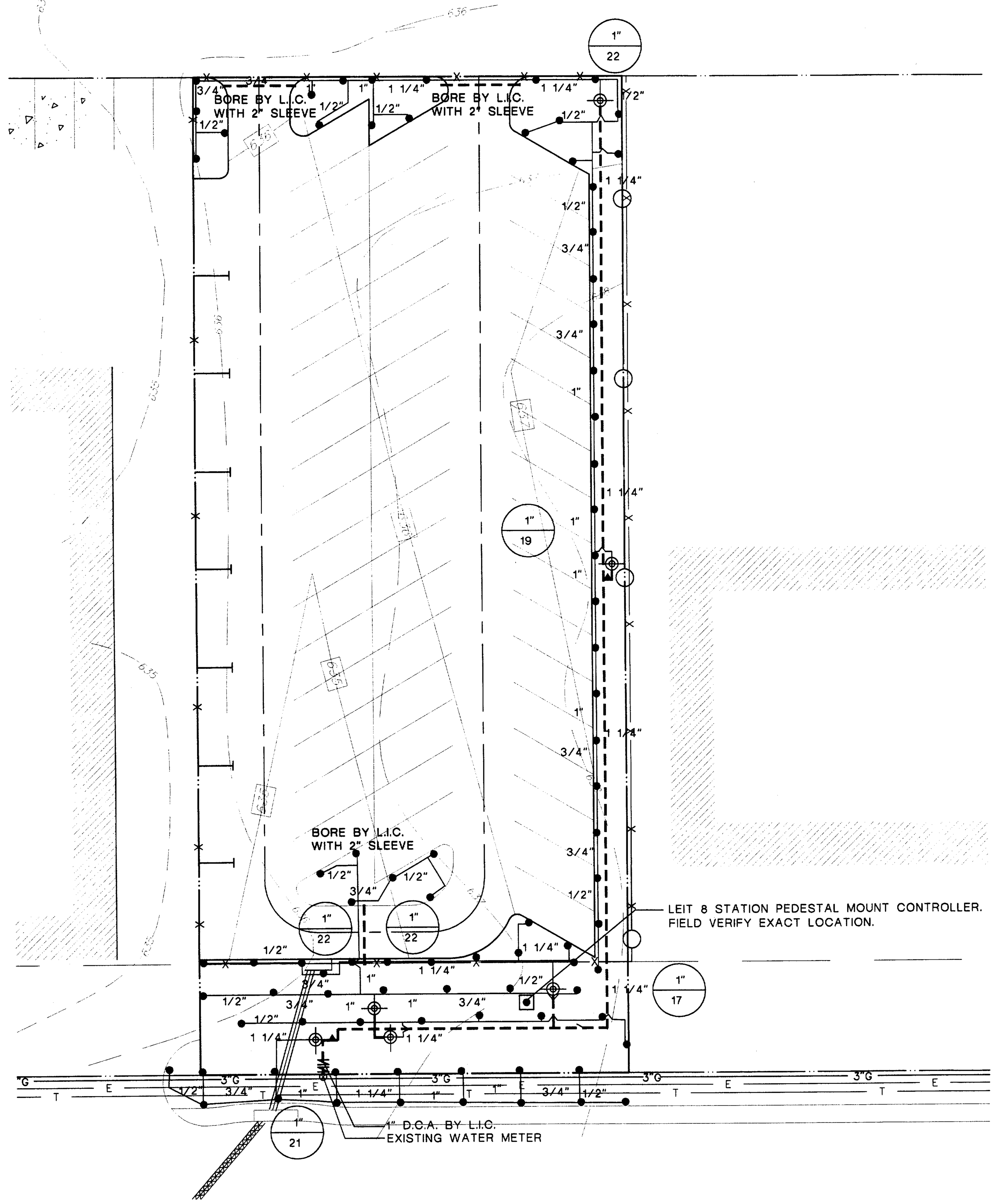


01 SHRUB/GROUNDCOVER DETAIL
NOT TO SCALE

smr
landscape architecture
STEVEN M. RAHN, INC.
The Brewery Building
703 McKinney Ave.
Suite 438 LB 107
Dallas, Texas 75202
Tel 214.871.0083
Fax 214.871.0545
email smr@airmail.net

LANDSCAPE PLAN
4397 WESTGROVE RD
TOWN OF ADDISON, TEXAS
RAYMOND L. GOODSON JR., INC. CONSULTING ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BDA	BKR	10.31.00	1"=20'			L1.0



IRRIGATION PLAN

1"=20'-0"

0 10 20 40

IRRIGATION SPECIFICATIONS

SECTION 02810

PART 1 - GENERAL

1.01 SCOPE

A. Provide complete sprinkler installation as detailed and specified herein, including furnishing all labor, materials, and equipment for the proper installation. Work includes but is not limited to:
1. Trenching and backfill.
2. Automatic controlled system.
3. Upon completion of installation, supply drawings showing details of construction including location of mainline piping, manual and automatic valves, electrical supply to valves, and specifically exact location of automatic valves.

B. NOTE: All sleeves as shown on plans will be furnished by General Contractor. Meter and power source to be provided by General Contractor.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. See Irrigation Plans. See plans for controller, heads, and valves.

1.03 APPLICABLE STANDARDS

A. ASTM
B. D2464 - Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings Threaded, Schedule 40
C. D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings Socket Type, Schedule 40
D. D2564 - Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings
E. Standard recommended practice for:
1. D2855 - Making Solvent - Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.

1.04 MAINTENANCE AND GUARANTEE

A. Materials and workmanship shall be fully guaranteed for one (1) year after final acceptance.

B. Provide maintenance of system, including raising and lowering of heads to compensate for lawn growth, cleaning and adjustment of heads, raising and lowering of shrub heads to compensate for shrub growth, for one (1) year after completion of installation.

C. Guarantee is limited to repair and replacement of defective materials or workmanship, including repair of backfill settlement.

1.05 SUBMITTALS

A. Use of materials differing in quality, size, or performance from those specified will only be allowed upon written approval of Owner/Landscape Architect. The decision will be based on comparative ability of material or article to perform fully all purposes of mechanics and general design considered to be possessed by item specified.

Bidders desiring to make a substitution for specified sprinklers shall submit manufacturer's catalog sheet showing full specification of each type of sprinkler proposed as a substitute, including discharge in GPM maximum allowable operating pressure at sprinkler.

Section 02810 - 01

1.05 A. (cont.)

Approval of substitute sprinkler shall not relieve Contractor of his responsibility to demonstrate that final installed sprinkler system will operate according to intent of originally designed and specified system.

B. It is the responsibility of the Irrigation Contractor to demonstrate that final installed sprinkler system will operate according to intent of originally designed and specified system. If Irrigation Contractor notes any problems in head spacing or potential coverage, it is his responsibility to notify the Landscape Architect in writing, before proceeding with work. Irrigation Contractor guarantees 100% coverage of all areas to be irrigated.

1.06 TESTING

A. Perform testing required with other trades, including earthwork, paving, and plumbing, to avoid unnecessary cutting, patching and boring.

1.07 COORDINATION

A. Coordinate installation with other trades, including earthwork, paving, and plumbing, to avoid unnecessary cutting, patching and boring.

PART 2 - PRODUCTS

2.01 GENERAL

A. Sprinkler Mains: Sprinkler Mains are that portion of piping from water source to operating valves. This portion of piping is subject to surges, being a closed portion of sprinkler system. Hydrant lines are considered a part of sprinkler main.

B. Lateral Piping: Lateral piping is that portion of piping from operating valve to sprinkler heads. This portion of piping is not subject to surges, being an "open end" portion of sprinkler system.

2.02 POLY VINYL CHLORIDE PIPE (PVC)

A. PVC pipe shall be manufactured in accordance with commercial standards noted herein.

B. Marking and Identification: PVC pipe shall be continuously and permanently marked with the following information: manufacturer's name, pipe size, type of pipe, and material, SDR number, product standard number, and the NSF (National Sanitation Foundation) seal.

C. PVC Pipe Fittings: Shall be of the same material as the PVC pipe specified and shall be compatible with PVC pipe furnished.

2.03 COPPER TUBING

A. Hard, straight, lengths of domestic manufacture only. No copper tube of foreign extrusion or any so-called irrigation tubing (thin wall) shall be used.

2.04 COPPER TUBE FITTINGS

A. Cast brass or wrought copper, sweat-solder type.

Section 02810 - 02

2.05 WIRE

A. Type UF with 4-64" insulation which is Underwriter's Laboratory approved for direct underground burial when used in a National Electric Code Class II Circuit (30 volts AC or less).

2.06 SCHEDULE 80 PVC NIPPLES

A. Composed of Standard Schedule 40 PVC Fittings and PVC meeting noted standards. No clamps or wires may be used. Nipples for 1812 heads and shrub risers to be nominal one-half (1/2") inch diameter by eight (8") inches long, where applicable.

B. Polyethylene nipples six (6") inches long to be used on all 1804 and 1806 pop-up spray heads.

2.07 MATERIALS - See Irrigation Plan

A. Sprinkler heads in lawn area as specified on plan.
B. PVC Pipe: Class 200, SPR 21
Copper Tubing (City Connection): Type "M"
24V Wire: Size 14, Type U.F.
C. Electric valves to be all plastic construction as indicated on plans.
D. Refer to drawing for backflow prevention requirements and flow valve. Coordinate exact location with Landscape Architect.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Staking: Before installation is started, place a stake where each sprinkler is to be located, in accordance with drawing. Staking shall be approved by Landscape Architect before proceeding.
B. Excavations: Excavations are unclassified and include earth, loose rock, rock or any combination thereof, in wet or dry state. Backfill trenches with material that is suitable for compaction and contains no lumps, clods, rock, debris, etc. Special backfill specifications, if furnished take preference over this general specification.
C. Backfill: Flood or hand-tamp to prevent after settling. Hand rake trenches and adjoining area to leave grade in as good or better condition than before installation.
D. Piping Layout: Piping layout is diagrammatic. Route piping around trees and shrubs in such a manner as to avoid damage to plantings. Do not dig within ball of newly planted trees or shrubs.

3.02 PIPE INSTALLATION

A. Sprinkler Mains: Install a four (4") inch minimum trench with a minimum of twelve (12") inches of cover.
B. Lateral Piping: Install a four (4") inch wide minimum trench deep enough to allow for installation of sprinkler heads and valves, but in no case, with less than eight (8") inches of cover.
C. Trenching: Remove lumber, rubbish, and large rocks from trenches. Provide firm, uniform bearing for entire length of each pipe line to prevent uneven settlement. Wedging or blocking of pipe will not be permitted. Remove foreign matter or dirt from inside of pipe before welding, and keep piping clean by approved means during and after laying of pipe.

Section 02810 - 03

3.03 PVC PIPE AND FITTING ASSEMBLY

A. Solvent: Use only solvent recommended by manufacturer to make solvent-welded joints. Thoroughly clean pipe and fittings of dirt, dust and moisture before applying solvent.
B. PVC to metal connection: Work metal connections first. Use a non-hardening pipe dope such as Permatex No. 2 on threaded PVC adapters into which pipe may be welded.

3.04 COPPER TUBING AND FITTING ASSEMBLY

A. Clean pipe and fitting thoroughly and lightly sand pipe connections to remove residue from pipe. Attach fittings to tubing in an approved manner using 50-50 soft solid core solder.

3.05 SHRUB SPRAY HEADS (FIXED)

A. Shrub Spray Heads: Supply in accordance with materials list, with nozzling in accordance with drawings. Drawings indicate size of nozzling and degree of arc. Determine correct degree of arc of nozzle (if conditions warrant) by area to be covered and by wind conditions that may affect coverage.
B. Height: Install heads on PVC Schedule 80 risers sufficiently high to water under shrubs and plants, or as directed by the Landscape Architect.

3.06 POP-UP SPRAY HEADS

A. Supply pop-up spray heads in accordance with materials list and plan. Attach sprinkler to lateral piping with a semi-flexible polyethylene nipple not less than tree (3") inches or more than six (6") inches long.

3.07 VALVES

A. Supply valves in accordance with materials list and sized according to drawings. Install valves in a level position in accordance with Manufacturer's Specifications. See plan for typical installation of electric valve, valve box.

3.08 WIRING

A. Supply wiring from the automatic sprinkler controls to the valves. No conduit will be required for U.F. wire unless otherwise noted on the plan. Wire shall be tucked under the piping.

B. A separate wire is required from the control to each electric valve. A common neutral wire is also required from each control to each of the valves served by each particular control.

C. Bundle multiple wires and tape them together at ten (10') foot intervals. Install ten (10") inch expansion coil at not more than one hundred (100') foot intervals. Make splices waterproof.

3.09 AUTOMATIC SPRINKLER CONTROLS

A. Supply in accordance with Irrigation Plan. Install according to manufacturer's recommendations.

Section 02810 - 04

3.10 TESTING

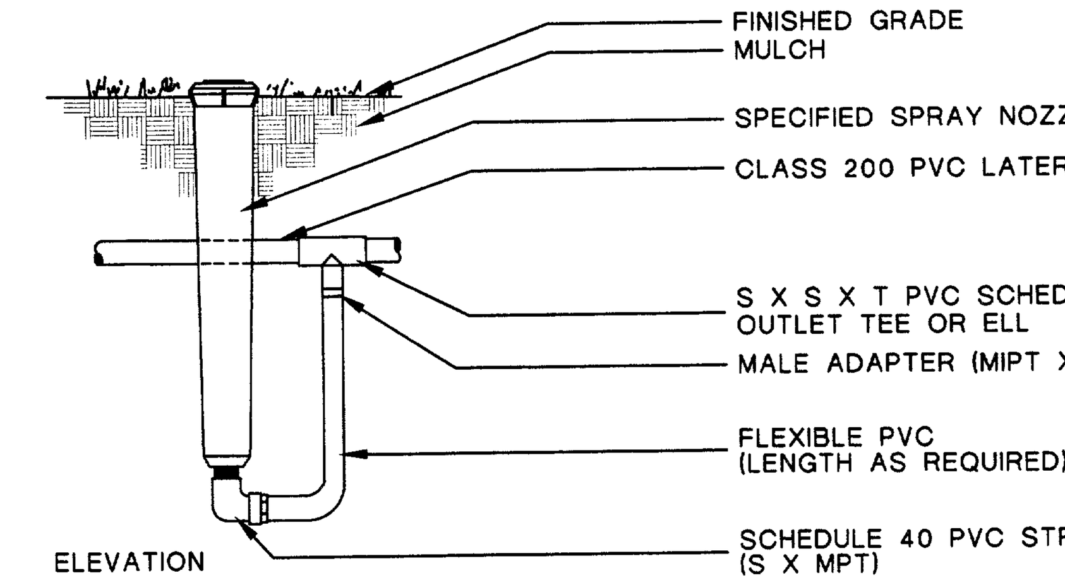
A. Sprinkler Mains: Test sprinkler main only for a period of twelve (12) to fourteen (14) hours under normal pressure. If leaks occur, replace joint or joints and repeat test.

B. Complete tests prior to backfilling. Sufficient backfill material may be placed in trenches between fittings to insure stability of line under pressure. In each case, leave fittings and couplings open to visual inspection for full period of test.

3.11 FINAL ADJUSTMENT

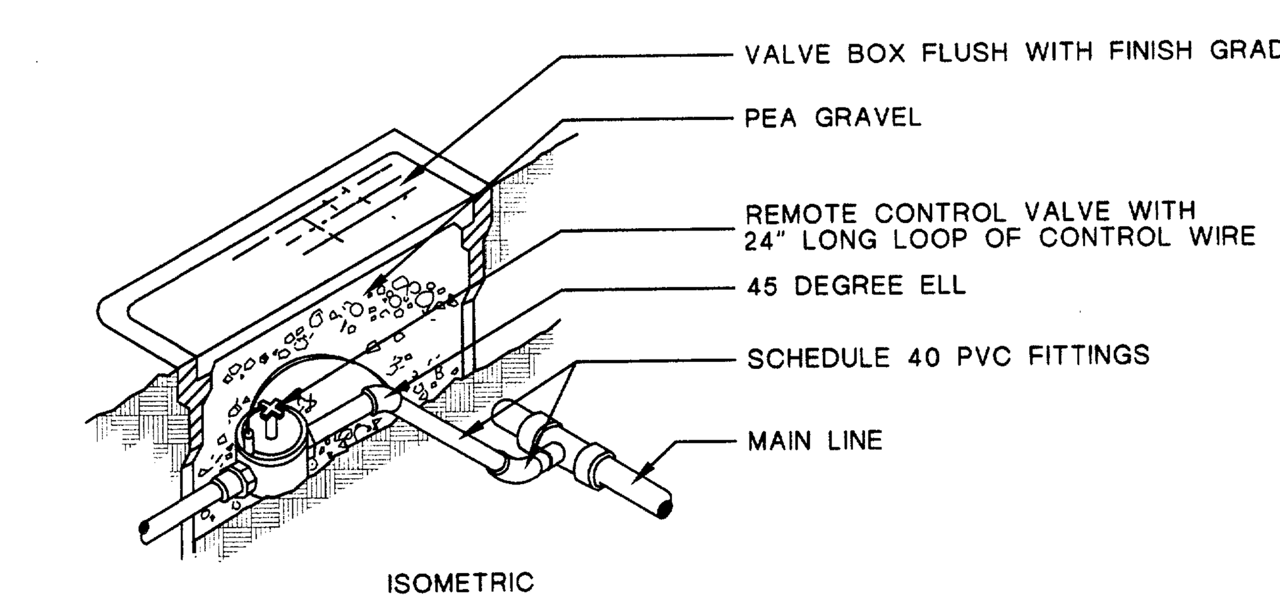
A. After installation has been completed, make final adjustment of sprinkler system in preparation for Landscape Architect's final inspection. Completely flush system to remove debris from lines and turning on system. Check sprinklers for proper operation and proper alignment for direction of flow. Check each section of spray heads for operating pressure and balance to other sections by use of flow adjustment and top of each valve. Check nozzling for proper coverage. Prevailing wind conditions may indicate that arch of angle of spray should be other than shown on drawings. In this case, change nozzles to provide correct coverage.

Section 02810 - 05



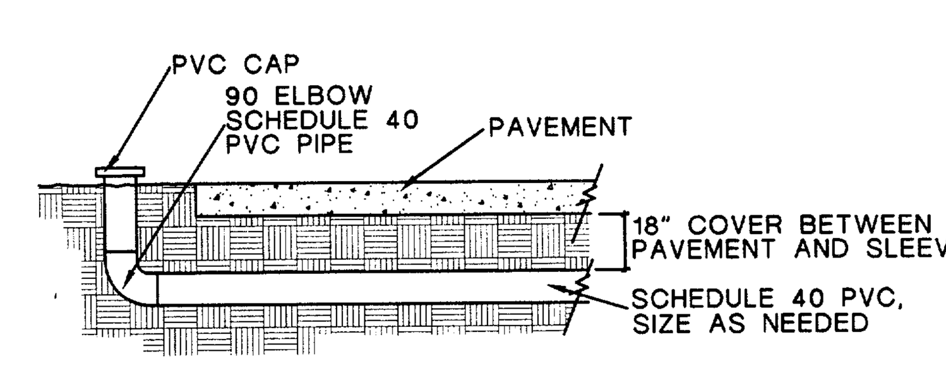
01 HIGH POP-UP SPRAY ASSEMBLY

NOT TO SCALE



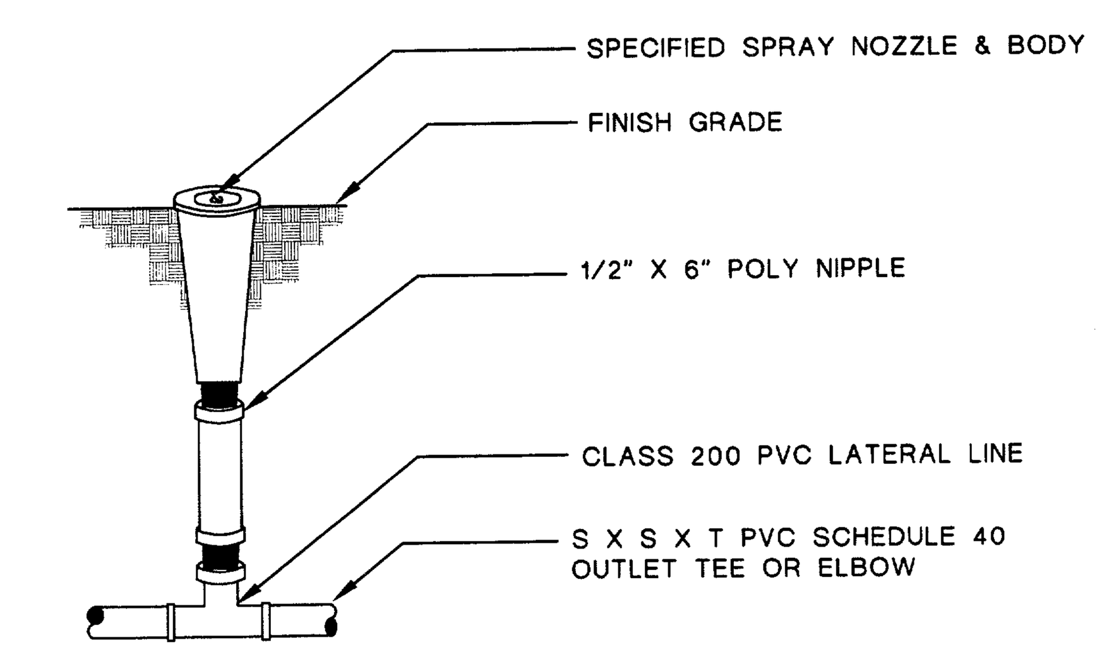
02 REMOTE CONTROL VALVE

NOT TO SCALE



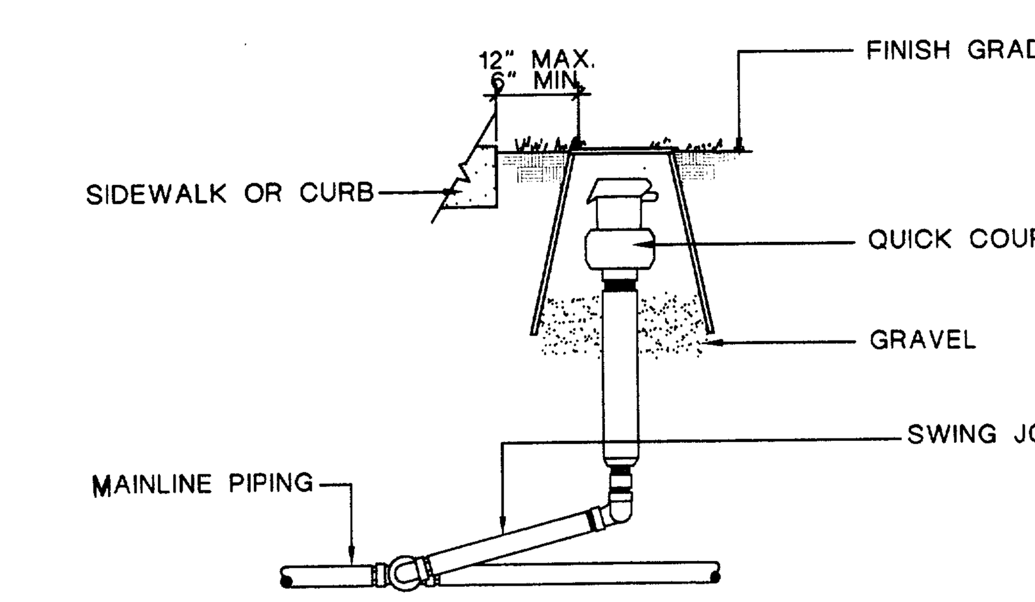
03 SLEEVE DETAIL

NOT TO SCALE



04 POP-UP LAWN SPRAY ASSEMBLY

NOT TO SCALE



05 QUICK COUPLER

NOT TO SCALE

IRRIGATION NOTES

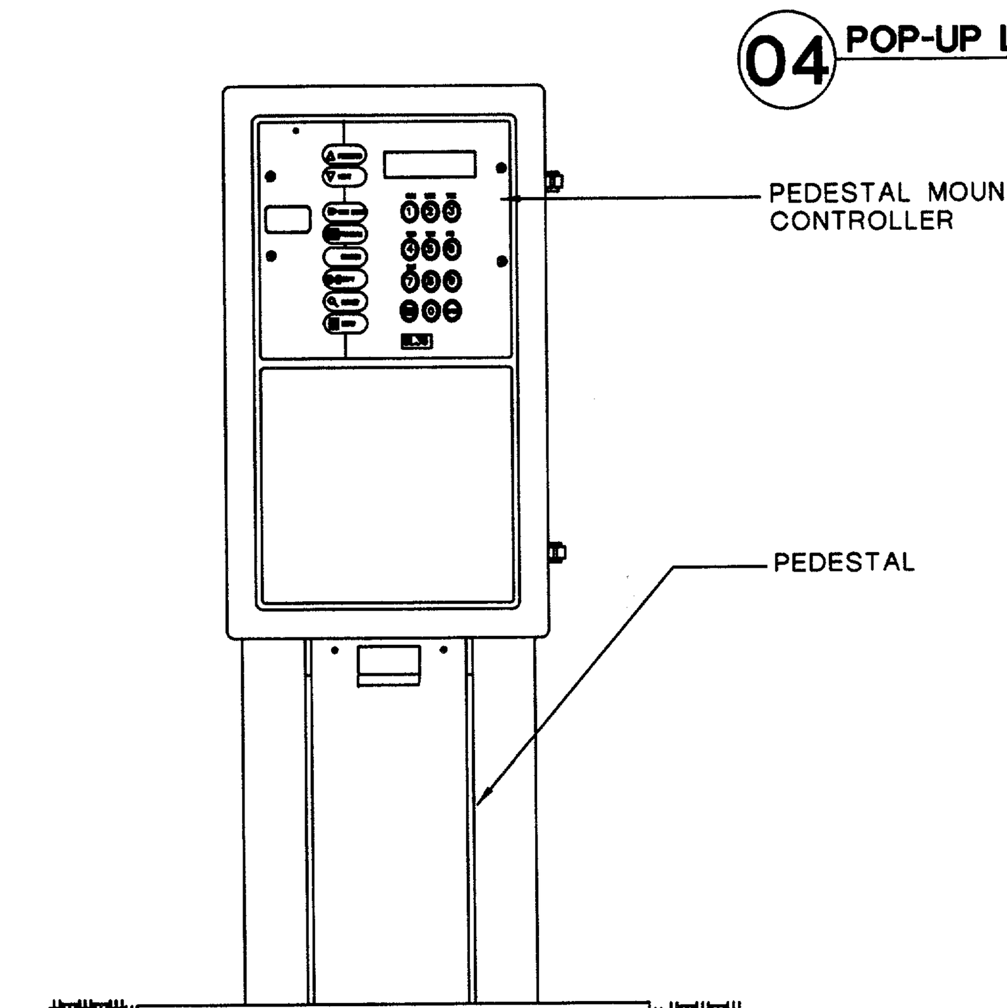
1. All sprinkler equipment numbers reference the Weathermatic equipment catalog unless otherwise indicated.
2. LAWN SPRAY HEADS are #35P installed as per detail shown.
3. SHRUB SPRAY HEADS are #37P installed as per detail shown.
4. ELECTRIC CONTROL VALVES shall be #11000 CR installed per detail shown. Size valves as sown on plan. Valves shall be installed in value boxes large enough to permit manual operation, removal of solenoid and/or valve cover without any earth excavation.
5. QUICK COUPLING VALVES shall be #VO75R installed per detail shown. Swing joints shall be constructed using 3/4" Schedule 80 elbows. Contractor shall supply owner with three (3) #CO75 couplers and three (3) #10 swivel hose ells as part of this contract.
6. AUTOMATIC CONTROLLER shall be installed at location shown. Power (120V) shall be located in a junction box within five (5') feet of controller location by other trades.
7. All 24 volt valve wiring is to be UF 14 single conductor. All wire splices are to be permanent and waterproof.
8. SLEEVES shall be installed by General Contractor. Sleeve material shall be Schedule 40. Size as indicated on plan.
9. Ten days prior to start of construction, Landscape or Irrigation Contractor shall verify static water pressure. If static pressure is less than 50 P.S.I., do not work until notified to do so by Owner.
10. All main line and lateral piping to a minimum of 12 inches of cover. All piping under paving shall have a minimum of 18" of cover.
11. The Irrigation Contractor shall coordinate installation of the system with the Landscape Contractor so that all plant material will be watered in accordance with the intent of the plans and specifications.
12. The Irrigation Contractor shall select the proper arc and radius for each nozzle to insure 100% and proper coverage of all lawn areas and plant material. All nozzles shall be Weathermatic 400 Series. All nozzles in parking lot islands and planting beds shall be low angle to minimize overspray on pavement surfaces. No water will be allowed to spray on building.

IRRIGATION LEGEND

- ● WEATHERMATIC 35P POP-UP LAWN HEAD
- Ø WEATHERMATIC 37P POP-UP SHRUB HEAD
- ○ TORO SUPER 700 ROTARY FC 6
- ◒ TORO SUPER 700 ROTARY PC 3
- ⊠ 106.5 BUBBLER (2 PER TREE)
- ⊕ WEATHERMATIC 11000 SERIES ELECTRIC VALVE
- ▲ WEATHERMATIC V075R QUICK COUPLER
- ⊡ CONTROLLER, SIZE AS INDICATED
- WATER METER, SIZE AS INDICATED
- D.C.A., SIZE AS INDICATED
- ——— PVC CLASS 200 LATERAL LINE
- — — — PVC CLASS 200 MAINLINE
- = = = PVC SCHEDULE 40 SLEEVING
- VALVE SIZE / GPM

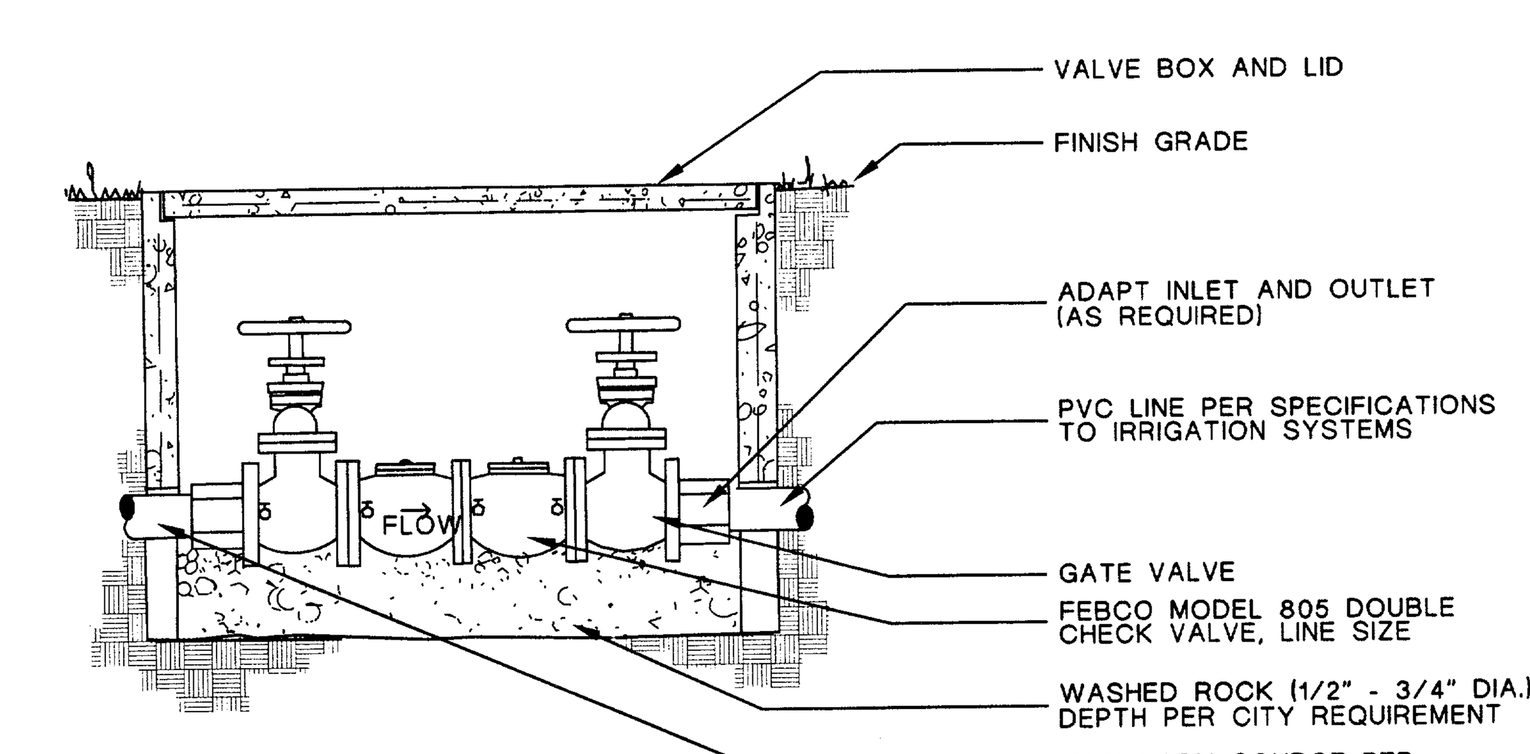
SLEEVING NOTES

1. Contractor shall lay sleeves and conduits at twenty-four (24") inches below finish grade of the top of pavement.
2. Contractor shall extend sleeves one (1') foot beyond edge of all pavement.
3. Contractor shall cap pipe ends using PVC caps.
4. All sleeves shall be Schedule 40 PVC pipe.
5. Contractor shall furnish Owner and Irrigation Contractor with an 'as-bulit' drawing showing all sleeve locations.



06 PEDESTAL MOUNTED CONTROLLER

NOT TO SCALE



07 BACKFLOW PREVENTER

NOT TO SCALE

STATE OF TEXAS · JOHN JAY MANSFIELD · 86 · LICENSED IRRIGATOR

smr
landscape architecture
STEVEN M. RAHN, INC.
The Brewery Building
703 McKinney Ave.
Suite 438 LB 107
Dallas, Texas 75202
Tel 214.871.0083
Fax 214.871.0545
email smr@airmail.net

IRRIGATION PLAN

4397 WESTGROVE RD

TOWN OF ADDISON, TEXAS

RAYMOND L. GOODSON JR., INC. CONSULTING ENGINEERS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
BDA	BKR	10.31.00	1"=20'			L1.02