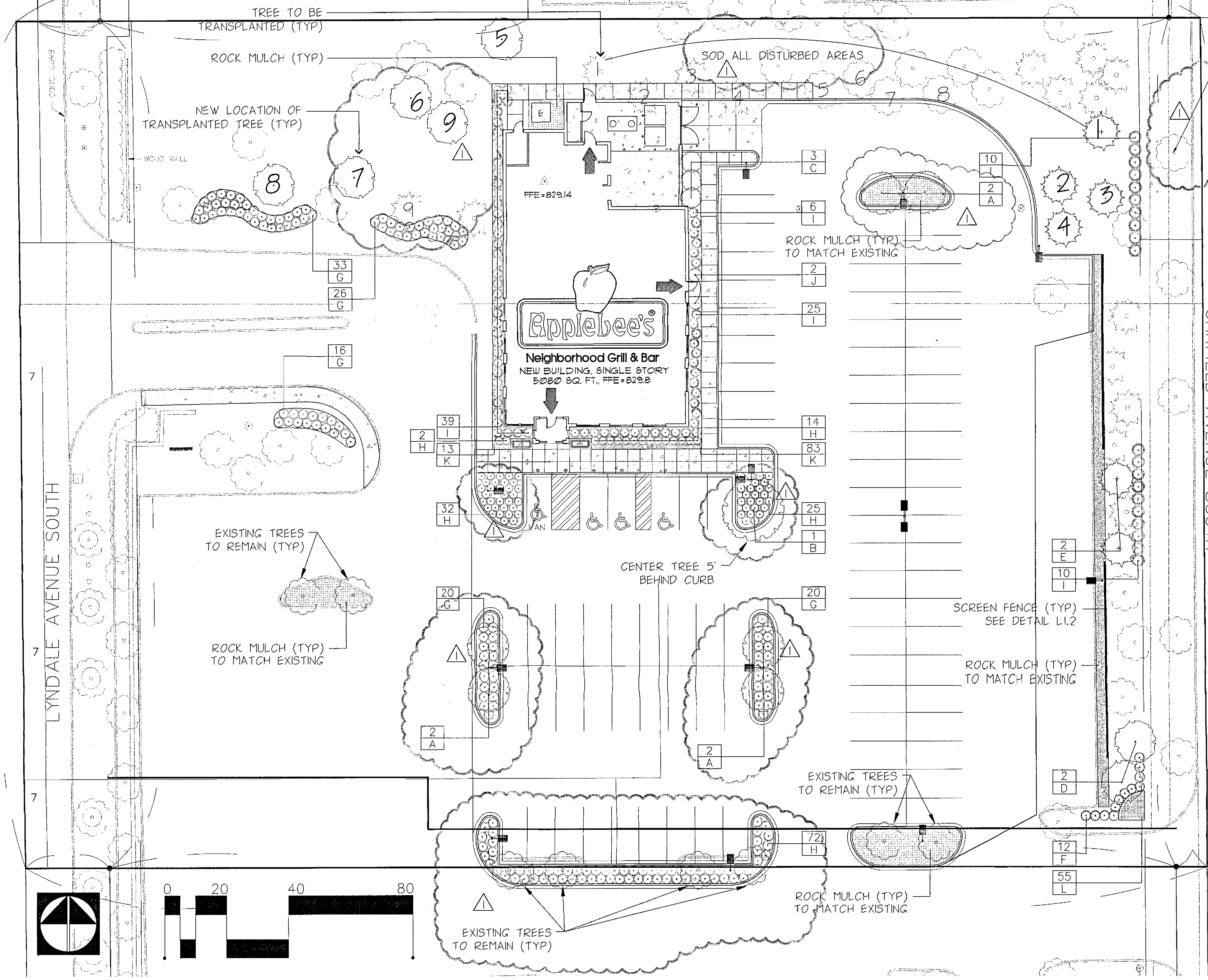
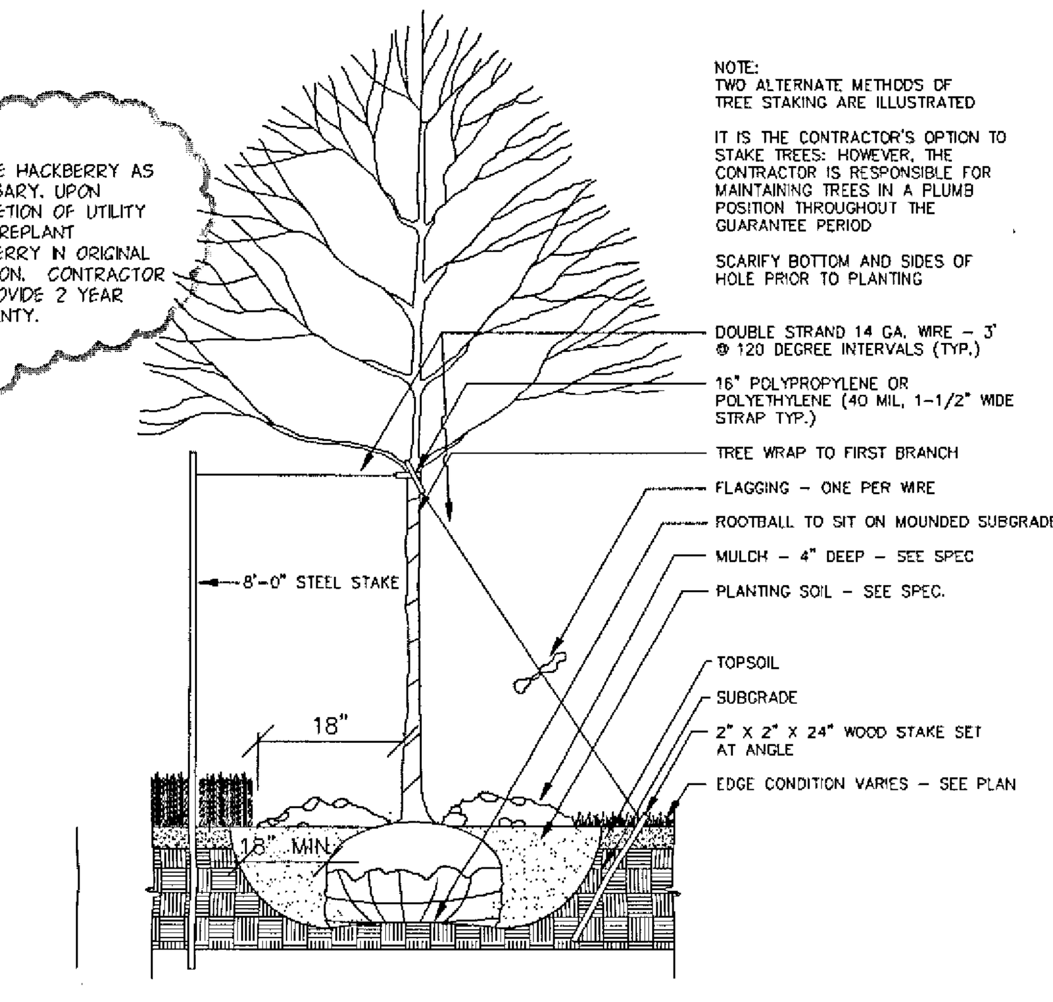


PLANTING DETAILS



DECIDUOUS TREE
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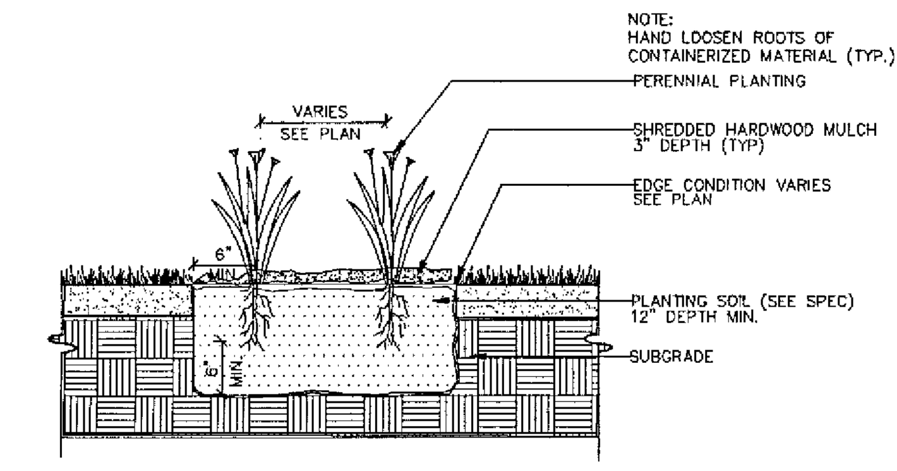
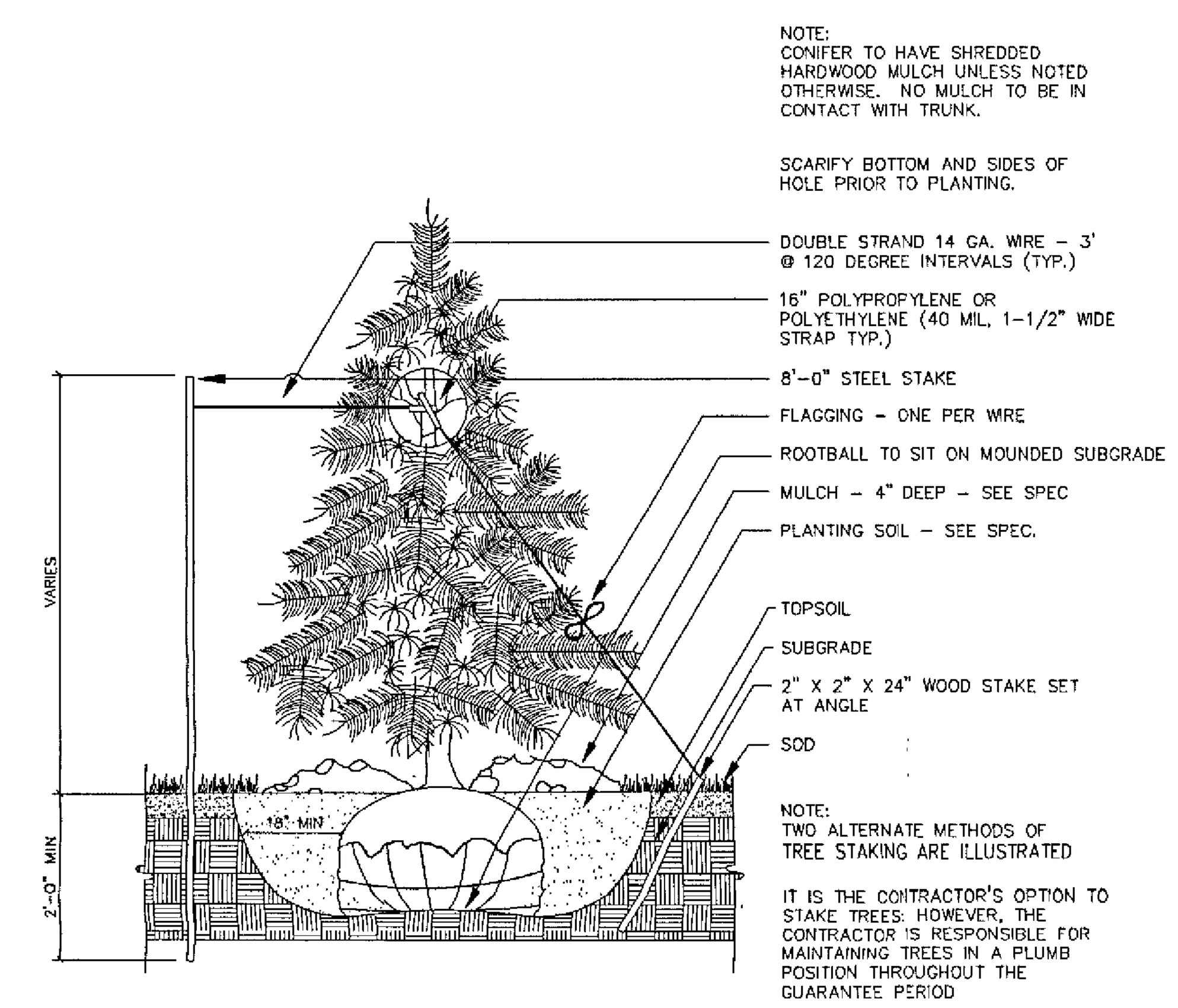
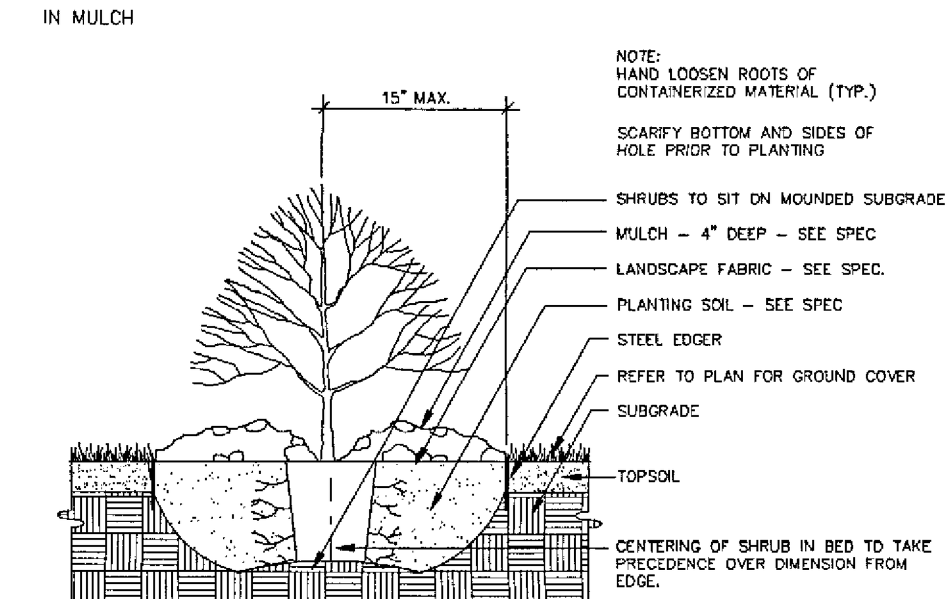


PERENNIAL PLANTING (TYP)
NOT TO SCALE



CONIFEROUS TREE
IN MULCH



SHRUB
WITH STEEL EDGER

CITY OF BLOOMINGTON, MN
LANDSCAPE PLAN APPROVED
By [signature] for CA
Director of Planning
Date 9/11/97

PLANTING NOTES

1. CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID. HE SHALL INSPECT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.

2. VERIFY LAYOUT AND ANY DIMENSIONS SHOWN AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN AND/OR INTENT OF THE PROJECT'S LAYOUT.

3. ASSURE COMPLIANCE WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK OR MATERIALS SUPPLIED.

4. CONTRACTOR SHALL PROTECT ALL EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING PLANTING OPERATIONS. ANY DAMAGE TO SAME SHALL BE REPAIRED AT NO COST TO THE OWNER.

5. CONTRACTOR SHALL VERIFY ALIGNMENT AND LOCATION OF ALL UNDERGROUND AND ABOVE GRADE UTILITIES AND PROVIDE THE NECESSARY PROTECTION FOR SAME BEFORE CONSTRUCTION / MATERIAL INSTALLATION BEGINS (MINIMUM 10' – 0" CLEARANCE).

6. ALL UNDERGROUND UTILITIES SHALL BE LAID SO THAT TRENCHES DO NOT CUT THROUGH ROOT SYSTEMS OF ANY EXISTING TREES TO REMAIN.

7. EXISTING CONTOURS, TRAILS, VEGETATION, CURB/GUTTER AND OTHER EXISTING ELEMENTS BASED UPON INFORMATION SUPPLIED TO LANDSCAPE ARCHITECT BY OTHERS. CONTRACTOR SHALL VERIFY ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION AND NOTIFY LANDSCAPE ARCHITECT OF SAME.

8. THE ALIGNMENT AND GRADES OF THE PROPOSED WALKS, TRAILS AND/OR ROADWAYS ARE SUBJECT TO FIELD ADJUSTMENT REQUIRED TO CONFORM TO LOCALIZED TOPOGRAPHIC CONDITIONS AND TO MINIMIZE TREE REMOVAL AND GRADING. ANY CHANGE IN ALIGNMENT MUST BE APPROVED BY LANDSCAPE ARCHITECT.

GRADING NOTES

9. FILL/CUT AS NECESSARY TO PROVIDE A 1% MINIMUM GRADE AWAY FROM BLDGS. WITHIN LIMITS OF CONSTRUCTION.

10. WHERE EXISTING TREES AND/OR SIGNIFICANT SHRUBS MASSINGS ARE FOUND ON SITE, WHETHER SHOWN ON THE DRAWING OR NOT, THEY SHALL BE PROTECTED AND SAVED UNLESS NOTED TO BE REMOVED AND/OR ARE IN AN AREA TO BE GRADED. ANY QUESTION REGARDING WHETHER PLANT MATERIAL SHOULD REMAIN OR NOT SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO REMOVAL.

LANDSCAPE INSTALLATION

11. COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.

12. NO PLANTING WILL BE INSTALLED UNTIL COMPLETE GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.

13. SOD ALL DISTURBED AREAS.

14. WHERE SOD/SEED ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.

15. SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAT 3:1 OR IN DRAINAGE SWALES, THE SOD SHALL BE STAKED TO THE GROUND.

16. ALL PLANT MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN. UNLESS NOTED OTHERWISE, DECIDUOUS SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIDIED SHRUB HEIGHT. ORNAMENTAL TREES SHALL HAVE NO V CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3? ABOVE ROOT BALL. STREET AND BOULEVARD TREES SHALL BEGIN BRANCHING NO LOWER THAN 6? ABOVE FINISHED

17. PLAN TAKES PRECEDENCE OVER PLANT SCHEDULE IF DISCREPANCIES IN QUANTITIES EXIST. SPECIFICATIONS TAKE PRECEDENCE OVER NOTES.

18. ALL PROPOSED PLANTS SHALL BE LOCATED AND STAKED AS SHOWN ON PLAN. LANDSCAPE ARCHITECT MUST APPROVE ALL STAKING OF PLANT MATERIAL PRIOR TO ANY AND ALL DIGGING.

19. NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED UNLESS APPROVAL IS REQUESTED OF THE LANDSCAPE ARCHITECT BY THE LANDSCAPE CONTRACTOR PRIOR TO THE SUBMISSION OF A BID AND/OR QUOTATION.

20. ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN THE FIELD. SHOULD AN ADJUSTMENT BE ADVISED, THE LANDSCAPE ARCHITECT MUST BE

21. ALL PLANT MATERIALS SHALL BE FERTILIZED UPON INSTALLATION WITH DRIED BONE MEAL, OTHER APPROVED FERTILIZER MIXED IN WITH THE PLANTING SOIL PER THE MANUFACTURER'S INSTRUCTIONS OR MAY BE TREATED FOR SUMMER AND FALL INSTALLATION WITH AN APPLICATION OF GRANULAR 0-20-20 OF 12 OZ PER 2.5? CALIPER PER TREE AND 6 OZ PER SHRUB WITH AN ADDDITIONAL APPLICATION OF 10-10-10 THE FOLLWING SPRING IN THE TREE SAUCER.

22. ALL PLANTS TO BE INSTALLED AS PER PLANTING DETAILS.

23. ALL PLANTING AREAS RECEIVING GROUND COVER, PERENNIALS, ANNUALS, AND/OR VINES SHALL RECEIVE A MINIMUM OF 8" DEPTH OF PLANTING SOIL CONSISTING OF AT LEAST 45 PARTS TOPSOIL, 45 PARTS PEAT OR MANURE AND 10 PARTS SAND.

24. WRAPPING MATERIAL SHALL BE CORRUGATED PVC PIPING 1? GREATER IN CALIPER THAN THE TREE BEING PROTECTED OR QUALITY, HEAVY, WATERPROOF CREPE PAPER MANUFACTURED FOR THIS PURPOSE. WRAP ALL DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO 12-1 AND REMOVE ALL WRAPPING AFTER 5-1.

25. STEEL EDGER TO BE USED TO CONTAIN SHRUBS, PERENNIALS AND ANNUALS WHERE BED MEETS SOD/SEED UNLESS NOTED OTHERWISE.

26. ALL SHRUB BED MASSINGS ADJACENT TO BUILDING AND PARKING LOT ISLANDS TO RECIEVE 4" DEEP STONE MULCH AND FIBER MAT WEED BARRIER ALL OTHER SHRUB BED MASSINGS TO RECEIVE 4" DEEP SHREDDED HARDWOOD MULCH AND FIBER MAT WEED BARRIER.

27. ALL EVERGREEN TREES TO RECEIVE 4" DEEP SHREDDED HARDWOOD MULCH WITH NO MULCH IN DIRECT CONTACT WITH TREE TRUNK.

28. ALL ANNUAL AND PERENNIAL PLANTING BEDS TO RECEIVE 3" DEEP SHREDDED HARDWOOD MULCH WITH NO WEED BARRIER.

29. VERIFY PROPOSED IRRIGATION SYSTEM LAYOUT AND CONFIRM COMPLETE LIMITS OF IRRIGATION PRIOR TO SUPPLYING SHOP DRAWINGS.

30. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN IRRIGATION LAYOUT PLAN AND SPECIFICATION AS A PART OF THE SCOPE OF WORK WHEN BIDDING. THESE SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO ORDER AND/OR INSTALLATION. IT SHALL BE THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO INSURE THAT ALL SODDED/SEEDED AND PLANTED AREAS ARE IRRIGATED PROPERLY, INCLUDING THOSE AREAS DIRECTLY AROUND AND ABUTTING BUILDING FOUNDATION.

31. THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE OWNER WITH A WATERING/LAWN IRRIGATION SCHEDULE APPROPRIATE TO THE PROJECT SITE CONDITIONS AND TO PLANT MATERIAL GROWTH REQUIREMENTS.

32. IF THE LANDSCAPE CONTRACTOR IS CONCERNED OR PERCEIVES ANY DEFICIENCIES IN THE PLANT SELECTIONS, SOIL CONDITIONS OR ANY OTHER SITE CONDITION WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR GUARANTEE, HE MUST BRING THESE DEFICIENCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO PROCUREMENT AND/OR INSTALLATION.

33. CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR THE OWNER ACCEPTANCE INSPECTION OF ALL LANDSCAPE AND SITE IMPROVEMENTS.

34. CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIALS UNTIL TIME OF OWNER ACCEPTANCE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO OWNER ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL PROVIDE THE OWNER WITH A MAINTENANCE PROGRAM INCLUDING, BUT NOT NECESSARILY LIMITED TO, PRUNING, FERTILIZIATION AND DISEASE/PEST CONTROL.

35. CONTRACTOR SHALL GUARANTEE NEW PLANT MATERIAL THROUGH ONE CALENDAR YEAR FROM THE DATE OF OWNER ACCEPTANCE.

36. WARRANTY (ONE FULL GROWING SEASON) FOR LANDSCAPE MATERIALS SHALL BEGIN ON THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT AFTER THE COMPLETION OF PLANTING OF ALL LANDSCAPE MATERIALS. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED.

37. REPRODUCIBLE AS-BUILT DRAWING(S) OF ALL LANDSCAPE INSTALLATION AND SITE IMPROVEMENTS UPON COMPLETION OF CONSTRUCTION INSTALLATION AND PRIOR TO PROJECT ACCEPTANCE.

38. UNLESS NOTED OTHERWISE THE APPROPRIATE DATES FOR SPRING PLANT MATERIAL INSTALLATION AND SEED/SOD PLACEMENT IS FROM THE TIME GROUND HAS THAWED TO JUNE 15.

39. FALL SODDING IS GENERALLY ACCEPTABLE FROM AUGUST 15 – NOVEMBER 1. FALL SEEDING FROM AUGUST 15 – SEPTEMBER 15; DORMANT SEEDING IN THE FALL SHALL NOT OCCUR PRIOR TO NOVEMBER 1. PLANTING OUTSIDE THESE DATES IS NOT RECOMMENDED. ANY ADJUSTMENT MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

40. CONIFEROUS PLANTING MAY OCCUR FROM AUGUST 15 – OCTOBER 1 AND FALL DECIDUOUS PLANTING FROM THE FIRST FROST UNTIL NOVEMBER 15. PLANTING OUTSIDE THESE DATES IS NOT RECOMMENDED. ANY ADJUSTMENT MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

41. LANDSCAPE CONTRACTOR SHALL ESTABLISH TO HIS SATISFACTION THAT SOIL AND COMPACTION CONDITIONS ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AT AND AROUND THE BUILDING SITE.

PLANTING SCHEDULE

KEY	QTY	COMMON NAME / SCIENTIFIC NAME	ROOT	SIZE	REMARKS
		DECIDUOUS TREES			
A	6	SPRING SNOWCRAB	BB	2-1/2"	FULL FORM
		MALUS SP. (SPRINGSNOW)		col.	
B	1	SUNBURST HONEYLOCUST	BB	2-1/2"	STRAIGHT, SINGLE LEADER
		GLEDITSIA TRAIGANTHOS 'SUNBURST'		col.	FULL CROWN
C	3	ALLEGHENY SERVICEBERRY	BB	6'	MULTI STEMMED, 3 CANE MIN.
		AMELANCHIER LAEVIS		ht.	FULL CROWN
D	2	PRAIRIE FIRE CRABAPPLE	BB	2"	STRAIGHT, SINGLE LEADER
		MALUS 'PRAIRIE FIRE'		col.	FULL CROWN
		CONIFEROUS TREES			
E	2	BLACK HILLS SPRUCE	BB	6'	FULL FORM TO GROUND
		PICEA GLAUCA DENSATA		ht.	
		SHRUBS			
F	12	ALPINE CURRANT	POT	24"	SPACE 3'-0" O.C.
		RIBES ALPINUM		ht.	
G	115	ANTHONY WATERER SPIREA	POT	24"	SPACE 5'-0" O.C.
		SPIRAEA JAPONICA 'ANTHONY WATERER'		ht.	
H	145	CAREFREE BEAUTY ROSE	POT	24"	SPACE 3'-0" O.C.
		ROSA X SP. 'CAREFREE BEAUTY'		ht.	
I	84	MINT JULEP JUNIPER	POT	36"	SPACE 4'-0" O.C.
		JUNIPERUS CHINENSIS 'MINT JULEP'		SPRD.	
J	2	WINGED EUONYMUS	POT	24"	SPACE 3'-0" O.C.
		EUONYMUS ALATUS		ht.	
		PERENNIALS			
K	96	STELLA D'ORO DAYLILY	POT	4"	SPACE 12" O.C.
		HEMEROCALLIS 'STELLA D'ORO'			
L	55	ASSORTED DAYLILY	POT	4"	SPACE 12" O.C.
		HEMEROCALLIS SP.			

RECEIVED
DIVISION OF CITY PLANNING
SEP 09 1997
CITY OF BLOOMINGTON
MINNESOTA

Approved Plan

Applebee's
Neighborhood Grill & Bar

OWNERS/DEVELOPERS:
APPLEBEE'S INTERNATIONAL, INC.
4551 W. 107th Street
Suite 100
Overland Park, Kansas 66207
(913)967-4005 fax(913)341-1695

CITY OF
BLOOMINGTON, MN

BID ISSUE

NOTES:

LANDSCAPE ARCHITECTS:
Damon Farber Associates
253 Third Avenue S.
Minneapolis, Minnesota 55415
(612)332-7522 fax(612)332-0936
e-mail: dfainc@aol.com

CIVIL SHEET INDEX

SHEET	TITLE
C0.1	TITLE SHEET
C1.1	EXISTING CONDITIONS PLAN
C2.1	SITE PLAN
C3.1	GRADING & EROSION CONTROL PLAN
C4.1	UTILITY PLAN
C6.1	ENLARGED PLAN
C7.1	CONSTRUCTION DETAILS
C7.2	CONSTRUCTION DETAILS
E1.1	SITE ELECTRICAL PLAN
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE SPECIFICATIONS
L2.1	IRRIGATION PLAN

DATE	REVISION	REV.
5/01/97	CITY SUBMITTAL	
6/19/97	95% COMPLETE OWNER REVIEW	
6/25/97	BID ISSUE	
9/4/97	ADDENDUM #1	1

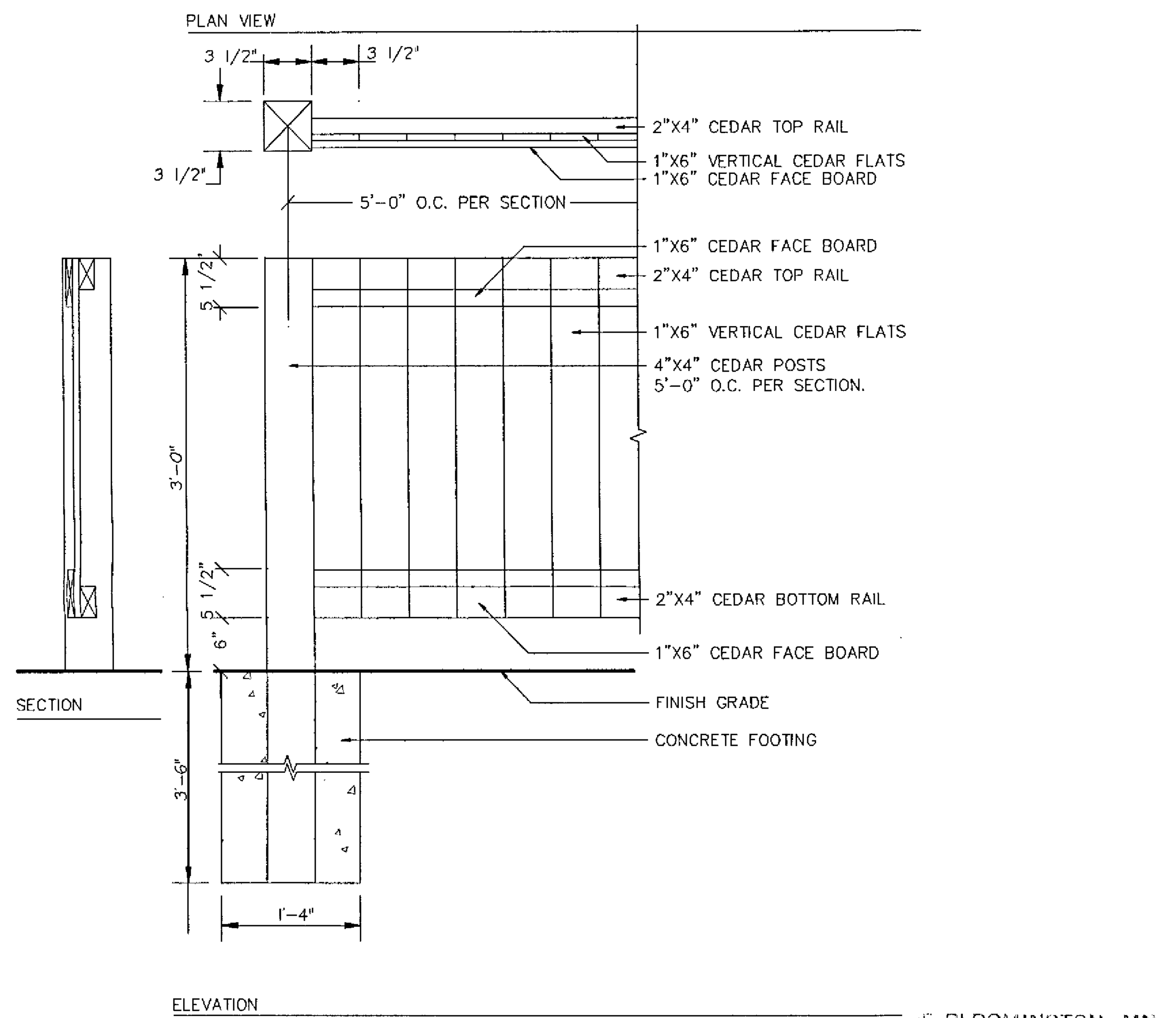
Quality Managment Review:
By: SARA MORE Date: 6/24/97
CERTIFICATION:
I hearby certify that the plan was prepared by me, or under my direct supervision and that I am a duly registered Landscape Architect under the laws of the state of Minnesota
[signature]
Damon Farber Registration #12538

PROJECT :
APPLEBEE'S RESTAURANT
Bloomington, Minnesota

Landform Engineering Company
Landform Engineering Company • 926 Twelve Oaks Center
15500 Wayzata Boulevard • Wayzata, Minnesota 55391
(612)475-3272 • fax/data(612)475-3159
info@landform.net

DATE: 3/9/97
FILE NAME: L1010BL1.DWG
PROJECT NO. AP97003
©1995
LANDSCAPE PLAN
L1.1

SCREEN FENCE DETAIL



WOOD FENCE DETAIL

NOT TO SCALE

...F BLOOMINGTON, MN
...SCAPE PLAN APPROVED
by Cafun Doefs for CA
Director of Planning
Date 9/11/97

SPECIFICATIONS

SECTION 02930 – SODDING

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Sodding
2. Fertilizing
3. Watering and mowing

B. Related Sections:

1. Conditions of the Contract and Division 1 – General Requirements govern provisions of this section.
2. Section 02200 – Earthwork; Topsoil
3. Section 02811 – Landscape Irrigation
4. Section 02950 – Trees, Shrubs and Groundcover

1.02 REFERENCE

A. Minnesota Department of Transportation, Standard Specifications for Construction, 1995 Edition, including all Supplements.

B. American Sod Producers Association, Inc. (ASPA): Guideline Specifications to Sodding (undated).

C. Federal Specifications (Fed. Spec.): O-F-241D; Fertilizers, Mixed, Commercial.

1.03 PROTECTION

A. Monuments: Carefully maintain benchmarks, monuments and other reference points, if disturbed or destroyed, have replaced or relocated by a registered surveyor at Contractor's expense.

B. Protection: Contractor shall protect all that is to remain and shall conduct all sodding operations in a manner that will not damage or jeopardize the surrounding plant life designated on the Drawings as proposed or to remain.

1.04 SUBMITTALS

A. Submit soil test results to landscape architect prior to beginning of landscape operations.

PART 2 – PRODUCTS

2.01 SOD

A. Sod shall be nursery grown as classified in the ASPA Guideline Specifications to Sodding. Sod shall be 100% mineral sod. Sod grown in peat soils will not be accepted.

B. Sod shall be used in all areas to be sodded, and shall require the following mixture:

Botanical Name   Common Name Mixture Percent (Min)

Poa pratensis   Kentucky Blue Grass 75

Acceptable varieties include park, newport, glade, rugget, touch down, rugby and parade.

C. Sod shall be free from noxious weeds, relatively free from all other weeds and free from roots, stones and any other objectionable materials. Sod shall resist normal handling without undue breaking or tearing.

D. Before sod is cut, it shall be raked free of debris and the top growth trimmed to a height of approximately 2".

E. Sod shall be cut in uniform strips 18" minimum width and to a uniform thickness so a dense root system will be retained, but be exposed on the bottom side of the sod. When sod is cut, it shall be sufficiently moist to withstand exposure and handling during transplant operations. If necessary, sod shall be watered before cutting.

2.02 FERTILIZER

A. Fertilizer: Shall be a commercial formula containing at least the minimum analysis of 0% total Nitrogen, 26% Phosphoric Acid, 26% water soluble Potash (0-26-26) applied at the rate of 20 pounds per 1000 square feet.

2.03 WATER

A. Contractor shall supply water as necessary to assure that plant material is uniformly moistened and maintained in a moist condition until the work has been approved by the landscape architect and responsibility for maintenance accepted by the owner.

2.04 TOPSOIL

A. Topsoil shall be obtained from the soil horizons normally designated as "A" or "B" as defined by the Sciences Society of America, or shall be obtained from alluvial deposits. In addition, topsoil borrow shall meet the following requirements:

Material passing No. 10 sieve 85%
Clay 15%
Silt 40%
Sand 40%
Organic matter 3%
pH 6.1%

B. Subsoil and topsoil to be tested for its structure and ability to support plant growth prior to beginning landscape operations. Tests shall be submitted to the landscape architects and appropriate amendments should be made (if necessary) thereafter. All soils test costs shall be borne by the Contractor.

C. Soil Amendments (if required):

1. Lime: Natural limestone containing not less than 85% of total carbonates, ground so that not less than 90% passes a 10 mesh sieve and not less than 50% passes a 100 mesh sieve.
2. Aluminum sulfate: Commercial grade.
3. Peat humus: FS Q-P-166 and with texture and pH range suitable for intended use.
4. Bone meal: Commercial, raw, finely ground; 4% nitrogen and 20% phosphoric acid.
5. Super phosphate: Soluble mixture of treated minerals; 20% available phosphoric acid.
6. Sand: Clean washed, free of toxic materials.
7. Perlite: Conforming to National Bureau of Standards PS23.
8. Vermiculite: Horticultural grade, free of toxic substances.
9. Sawdust: Rotted sawdust, free of chips, stones, sticks, soil or toxic substances and with 7.5 lbs of nitrogen uniformly mixed into each cubic yard of sawdust.
10. Manure: Well rotted, unbleached stable or cattle manure containing not more than 25% by volume straw, sawdust or other bedding materials and containing no chemicals or ingredients harmful to plants.
11. Peat moss: Peat moss shall be partially decomposed sphagnum moss, brown in color, and delivered to the job site in bales marked with the name of the manufacturer. Before using, the peat moss shall be thoroughly shredded into small particles.
12. MnDOT Grade 2 compost: Humus rich compost derived from leaves and yard waste or animal poultry manure, texture similar to shredded peat.

PART 3 – EXECUTION

3.01 GROUND PREPARATION

A. The grading of all areas to within 4" of final grade and the placing of 4" topsoil for final grading is specified in Section 02200, Earthwork.

B. Immediately prior to sodding, Contractor shall loosen the topsoil to a depth of 3" on all areas except slopes steeper than 3 horizontally to 1 vertically, using discs, harrows and tiller rakes to produce fine grade. On slopes steeper than 3 to 1 use cultivating equipment in general direction at right angles to the direction of surface drainage wherever practical.

3.02 FERTILIZING

A. Fertilizer shall be applied to a properly prepared soil bed prior to sodding with a mechanical spreader and thoroughly mixed in top 3" by means of a meeker harrow, by weighted chain link fence, or other approved method. Fertilizer must be dry and free flowing when applied.

3.03 SODDING

A. Precautions shall be taken to prevent sod from drying out and from heating. Sod that shows visible signs of heating shall not be incorporated in the project.

B. Strips shall be placed tightly against each other so that no open joints are apparent. Joints between ends of strips shall be staggered at least one foot between adjacent rows. Sod shall be placed without stretching.

C. On slopes, the sodding shall begin at the bottom and progress upward with strips laid transverse to the flow of water. If necessary to protect sod already laid, the Contractor shall furnish ladders or treaded planks for workmen.

D. At the top of the slopes, sod will be laid so water from adjacent areas will have free flow into sodded areas.

E. No sodding shall be done earlier than August 15th nor later than November 1st, for fall sodding; or earlier than April 15th nor later than June 1st for spring sodding. Changes in above dates only if directed in writing by the Landscape Architect, specifying exact date of installation and length of guarantee period.

F. Sod shall be watered and compressed into the underlying soil by rolling, or tamped into place. The initial watering and rolling shall provide firm contact and bond between the sod and the underlying soil. The rolling shall result in a smooth, even surface free of humps and depressions but shall not cause excessive compaction.

G. Keep sod continuously moist and well watered for 14 days after laying. Thereafter, water sod until soil is soaked at least once every four days unless natural rainfall has provided equivalent water.

H. Protect sodded areas with warning signs during maintenance period.

3.04 WATERING AND MOWING

A. Watering of all turf areas shall be performed by the Contractor as necessary to assure that sodded areas are uniformly moistened and maintained in a moist condition until the work has been approved by the Landscape Architect and responsibility for maintenance accepted by the Owner.

B. Sodded areas shall be trimmed to a height of 2", if the growth exceeds 3" during the construction period, prior to acceptance by the Owner. Immediately remove heavy clippings after mowing and trimming.

3.05 ESTABLISHMENT AND REPLACEMENT

A. Any sod which fails to become established during the first 30 days after Owner acceptance shall be replaced immediately by the contractor at the direction of the Landscape Architect.

B. The Contractor shall be liable to mow all sodded areas until Owner acceptance of the project.

3.06 CLEAN-UP

A. All soil manure, or similar material brought into paved areas by work operations shall be removed promptly, keeping these areas clean at all times. Upon completion of sodding, excess soil, stones, and debris not previously cleaned up shall be disposed of off site.

B. All ground areas disturbed as a result of sodding shall be restored to their original condition or to the desired new appearance.

END OF SECTION

SPECIFICATIONS

SECTION 02811 – LANDSCAPE IRRIGATION

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Pipe and fittings, valves, sprinkler heads, emitters, bubblers and accessories.
2. Control system.

B. Related Sections:

1. Conditions of Contract and Division 1 – General Requirements govern provisions of this section.
2. Section 02200 – Earthworks.
3. Section 02930 – Sodding.
4. Section 02950 – Trees, Plants and Ground Covers.
5. Division 16: Electrical Service.

1.03 REFERENCES

A. ANSI/ASTM D2564 – Solvent Cement for Poly Vinyl Chloride (PVC) Plastic Pipe and Fittings.

B. ASTM B32 – Solder Metal.

C. ASTM B42 – Seamless Copper Pipe, Standard Sizes.

D. ASTM B88 – Seamless Copper Water Tube.

E. ASTM D2235 – Solvent Cement for Acrylonitrile – Butadiene – Styrene (ABS) Plastic Pipe and Fittings.

F. ASTM D2241 (PVC) Plastic Pipe (SDR-PR). SDR-15, PE 3408 PolyFlexible.

G. FS O-F-506 – Flux, Soldering; Paste and Liquid.

H. NEMA 250 – Enclosures for Electrical Equipment (1000 Volts Maximum).

1.04 SYSTEM DESCRIPTION

A. Electric solenoid controlled underground irrigation system, with pressure blow-out drain.

B. Source Power: 120 volt, 5 A., Single phase.

C. Low voltage Controls: 24 volt, 2 A.

1.05 SUBMITTALS

A. Shop Drawings: Indicate piping layout to water source, location of sleeves under pavement, location and coverage of sprinkler heads, components, plant and landscaping features, site structures and schedule of fittings to be used. Plan shall include design calculations including pipe sizing, pressure loss, and pressure at base of heads. Drawing must be stamped approved by landscape architect before proceeding with any work.

B. Product Data: Provide component and control system and wiring diagrams.

C. Samples: Provide one outlet of each type with housing. Accepted samples may not be used in the work.

1.06 DESIGN STANDARDS AND CRITERIA

A. Irrigation design shall provide 100% coverage of all planting beds and sodded/seeded areas indicated on landscape drawings.

B. Minimum precipitation rate:

1. 1.5 inches/hour – spray head zones
2. .45 inches/hour – rotor head zones

C. Design pressures: At last head in circuit, minimum 30 P.S.I. at base of head for sprays, 40 P.S.I. at base of head for rotors.

D. Design shall separate sodded/seeded areas from planting bed areas with separate zones to prevent overwatering/underwatering of different moisture requirements.

1.07 OPERATION AND MAINTENANCE DATA

A. Provide instructions for operation and maintenance of system and controls, seasonal activation and shutdown, and manufacturer's parts catalog.

B. Provide schedule indicating length of time each valve is required to be open to provide a determined amount of water.

1.08 QUALIFICATIONS

A. Manufacturer: Provide underground irrigation system as a complete unit produced by a single acceptable manufacturer (see Part 2), including heads, valves, controls and accessories.

B. Installer: Company specializing in performing the work of this section with minimum three years documented experience.

1.09 REGULATORY REQUIREMENTS

A. Conform to applicable local and state laws and ordinances, and with all the established codes for piping and component requirements.

B. Arrange for, obtain and pay for necessary permits, bonds and fees.

1.10 EXAMINATION OF SITE

A. Verify site conditions. The submission of the Contractor's proposal shall be considered evidence that a site examination has been made.

1.11 PRE-INSTALLATION CONFERENCE

A. Convene one week prior to commencing work of this Section.

1.12 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on shop drawings.

1.13 COORDINATION

A. Coordinate the work with site backfilling, site grading and delivery of plant material.

B. The contractor shall confine his operations to the areas to be improved and to the area allotted him for material and equipment storage.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Acceptable manufacturers:

1. Toro
~~2. Rainbird~~
~~3. Hunter or equal~~

B. All materials shall be new, first class, especially designed for the intended use.

2.02 CONTROLLER BOX

~~A. Contractor to tie new system into existing controller.~~

2.03 PIPING

A. Pressure main piping on the supply side of the zone valves or lateral piping greater than 1-1/2" diameter shall be class 160 PVC or equal. All fittings shall be solvent welded, schedule 40 socket type PVC. All solvent cement shall be compatible for PVC pipe and fittings and used in accordance with manufacturer's specifications. Solvent cement shall be suitable for potable water.

B. Lateral piping less than 1-1/2" diameter on the discharge side of the zone valves shall be 100 psi polyethylene pipe or equal. Fittings shall be nylon or Hi-Max with stainless steel clamps or equal.

2.04 SLEEVES

A. Sleeves to be installed under drives and sidewalks and shall be class 160 PVC or equal and of the appropriate size and depth to accommodate piping.

B. Sleeves shall extend beyond the edge of paving or construction by 12" minimum.

C. The contractor shall submit a sleeving plan and necessary PVC conduit to appropriate contractor for installation.

D. Sleeves should be held a minimum of 15 below surface.

2.05 VALVES

A. A 3/4" Brass Quick Coupler Valve shall be provided to winterize the system by the blowout method, including two valve keys.

B. Automatic Remote Control Valves shall operate each zone and shall be sized as per manufacturer's recommendations. Valves shall be housed in AMETEK or equal locking valve box with cover marked with the zone number. Valves shall be capable of being run manually.

C. Backflow Preventers shall be pressure or reduced pressure depending upon the designed water pressure for this area and location of water source. Backflow to be Febco or approved equal and installed per manufacturer's guidelines and city/state codes. Backflow preventer is to be located in the building unless otherwise noted. Submit type of backflow preventer to be used to Landscape Architect for approval.

2.05 OUTLETS

A. Sprinkler Heads shall be of the appropriate type as recommended by the manufacturer.

2.06 WIRE

A. Color coded control wire shall be Underwriter's Laboratory 14 gauge min. wire approved for direct burial as required by control equipment. Connections shall be waterproof type.

2.07 BOOSTER PUMP

A. The contractor shall be responsible to properly size and provide, if necessary, a booster pump as required to comply with manufacturer's design pressure, specified design pressure and city/state codes.

PART 3 – EXECUTION

3.01 PROTECTION

A. Protect trees, shrubs, lawns, sidewalks, drives, curbs and other features on or adjacent to the site from damage from the work of this section.

3.02 WORKMANSHIP

A. All material shall be installed in accordance with local trade practice and codes and in accordance with approved design shop drawings and the manufacturer's recommendations.

3.03 EXAMINATION

A. Verify site conditions.

B. Verify location of existing utilities.

C. Verify that required utilities are available and that adequate water pressure is available and in proper location, and ready for use.

3.04 WATER SUPPLY

A. Tie into existing main line as indicated on drawings.

B. Install the irrigation system from the appropriate source in the building and take the system from the water source through the building wall to the site.

3.05 TRENCHING

A. Trench Size:

1. Minimum Width: 6 inches.
2. Minimum Cover Over Installed Supply Piping: 20 inches.
3. Minimum Cover Over Installed Branch Piping: 12 inches.
4. Minimum Cover Over Installed Outlet Piping: 12 inches.

B. Trench to accommodate grade changes and slope to drains.

C. Maintain trenches free of debris, material, or obstructions that may damage pipe.

D. PVC Mains and wires must be trenched and installed together in a single trench. Pulling by vibration plow will be accepted for circuit pipe only.

E. Install a 6" base of pea gravel or similar drainage backfill at all valve boxes.

3.06 INSTALLATION

A. Install pipe, valves, controls, and outlets in accordance with manufacturer's instructions. Install locations finder tape over supply lines.

B. Connect to utilities.

C. Set outlets and box covers at finish grade elevations.

D. Provide for thermal movement of components in system.

E. Use threaded cut-off riser for risers to each outlet.

F. Install control wiring in accordance with Division 16. Provide 10 inch expansion coil at each valve to which controls are connected, and at 100 ft intervals. At each connection to the valve, sufficient slack shall be provided to facilitate service. There shall be no splices between valve boxes. Contractor to comply with all applicable state and local electrical codes.

G. After piping is installed, but before outlets are installed and backfilling commences, open valves and flush system with full head of water.

H. Coordinate pipe installation with Division 15 and conduit installation.

I. Piping shall be securely capped at the end of each days work to prevent entrance of foreign material.

3.07 FIELD QUALITY CONTROL

A. Prior to backfilling, test system for leakage at main piping for whole system to maintain 100 psi pressure for one hour.

B. System is acceptable if no leakage or loss of pressure occurs during test period.

3.08 BACKFILLING

A. Provide 3 inch sand cover (passing a No. 4 sieve) over piping.

B. Backfill material shall be free from rock, large stone or other unsuitable substances. Backfilling of trenches containing plastic piping shall be done when pipe is cool to avoid excessive contraction. All backfill material will be compacted in 6" layers as it is brought up to finish grade as to insure that no settling occurs. Compact using water. Protect piping from displacement.

3.09 ADJUSTING

A. Adjust control system to achieve time cycles required.

B. Adjust head types to prevent as much as possible any overspray onto walks and roadways. No spray is permitted on buildings.

C. Adjust head types for full water coverage as directed.

D. Location of Heads: Shop drawing design location is approximate. Make minor adjustments as necessary to avoid plantings and other obstructions.

3.11 DEMONSTRATION

A. Provide system demonstration.

B. Instruct Owner's personnel in operation and maintenance of system, including adjusting of sprinkler heads. Use operation and maintenance material as basis for demonstration.

3.12 PROJECT RECORD DOCUMENTS

A. Record actual locations of underground irrigation system including head locations. Submit for approval before final payment is issued.

B. A copy of records of inspections and tests, as well as records of corrective actions taken, shall be furnished to the landscape architect by the contractor.

3.13 EXTRA MATERIALS

A. Furnish extra components:

1. Two sprinkler heads of each type and size.
2. Two valve keys for manual valves.
3. Two valve box keys.
4. Two keys for valve markers.
5. Two wrenches for each type head core and for removing and installing each type head.

3.14 GUARANTEE

A. For a period of one year from date of final acceptance of the work performed under this contract, the Contractor shall promptly furnish, without cost to the Owner, any and all parts which prove defective in material or workmanship. In the fall, following the installation, the Contractor shall drain the system for winter and the following spring shall put the system back into operation without cost to the Owner.

3.15 CLEANING PROCESS

A. The Contractor shall at all times keep the premises on which the work is being done, and the adjoining premises, clean of rubbish caused by his work.

END OF SECTION

SECTION 02950 – TREES, SHRUBS AND GROUNDCOVER

PART 1 – GENERAL

1.01 SUMMARY

A. Section includes:

1. Excavation below grade for trees and shrubs.
2. Planting soil.
3. The furnishing, planting, wrapping and pruning of plant materials.
4. Fertilizing.
5. Edging.
6. Mulching.
7. Clean-up.

B. Related Sections:

1. Conditions of Contract and Division 1 – General Requirements govern provisions of this section.
2. Section 02811 – Irrigation System
3. Section 02930 – Sodding

C. Unit Prices

1. Contractor shall:
a. Provide a lump sum bid price proposal for all materials, labor, incidental items, maintenance and guarantee required for complete planting of trees, shrubs and groundcover.

1.02 REFERENCE

A. Minnesota Department of Transportation, Standard Specifications for Construction, 1995 Edition, including all Supplements.

B. American National Standards Institute (ANSI): Z60.1-1986, American Standard for Nursery Stock.

C. American Society for Testing and Materials (ASTM): D 2607-69; Peats, Mosses, Humus and related products.

D. Federal Specification (Fed. Spec.): O2-F-241D; Fertilizers, Mixed, Commercial.

1.03 SUBMITTALS

A. Plant installation schedule: Plant installation schedule shall be submitted a minimum of 30 days before beginning plant installation. Schedule shall specify planting season (spring or fall), dates, locations, and plant materials to be installed. Once accepted, revise only as approved in writing, after documentation of reasons for delays.

B. Substitutions will not be permitted. If proof is submitted that any plant specified is not obtainable, a written proposal will be considered for use of the nearest equivalent size or variety with an equitable adjustment of contract price.

1.04 QUALITY ASSURANCE

A. Codes: Plant materials shall comply with local, state and federal laws relating to inspection for diseases and insect infestation.

B. Grading Standards: Plant stock shall conform to the code of standards set forth in the current edition of American Standards for Nursery Stock (ANSI).

C. Plant Names and Labels: The nomenclature used in the Drawings and Specifications conforms, with few exceptions, to that of the current edition of Standardized Plant Names as adopted by the American Joint Committee on Horticultural Nomenclature.

D. Workmen: Landscaping work shall be performed by personnel familiar with planting procedures, and work shall be carried out under the supervision of a qualified planting foreman.

E. Labeling: Label at least one tree and one shrub per shrub bed of each variety with a securely attached waterproof tag bearing legible designation of botanical and common name.

F. Inspection: The Landscape Architect may inspect trees and shrubs (at place of growth or at site before planting) for compliance with requirements for genus, species, variety, size and quality. Landscape Architect retains right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from project site.

1.05 DELIVERY, STORAGE AND HANDLING

A. Notify Landscape Architect in advance of delivery of trees, shrubs and other plant material and manner of shipment. Furnish itemized list of actual quantity and sizes.

B. When shipment of plant material is made by truck, pack to provide adequate protection against climate and breakage during transit and tie to prevent whipping. Cover tops to prevent damage.

C. Deliver all packaged material in original, undamaged containers. Packaging to clearly identify manufacturer, brand, name, analysis of contents and net weight.

D. Deliver plant material direct from nursery. Heel-in immediately upon delivery if not to be planted within four hours, covering with moist soil, mulch or other approved medium to protect from drying. Store plants in shade and protect from weather.

E. Do not drop plant materials or pick up balled plants by stems or trunks.

F. Handle packaged materials in such a manner as to prevent contamination or spillage.

G. No plant shall be bound with wire or rope so as to damage the bark or spread of the branches.

H. Apply anti-desiccant using power spray to provide an adequate film over trunks, branches, stems, twigs and foliage. If deciduous trees or shrubs are moved in full-leaf, spray with anti-desiccant at nursery before moving and again 2 weeks after planting. Spray coniferous plants that are planted in the fall.

1.06 JOB CONDITIONS

A. Proceed with the complete landscape work as rapidly as portions of site become available, working within seasonal limitations.

B. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by both parties concerned.

C. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting.

D. Planting operations shall be conducted under favorable weather conditions during either the Spring planting season, from time ground has thawed to June 15, or the Fall planting season, September 30 until November 15. During the Fall planting season coniferous material planting shall be conducted August 15 to October 1. Coordinate planting with specified maintenance periods to provide maintenance up to date of Owner's acceptance.

E. Coordination with Lawns: Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to Landscape Architect. If planting of trees and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations.

F. Contractor shall be responsible for coordinating the installation of the underground irrigation system. Refer to specification 02811.

PART 2 – PRODUCTS

2.01 PLANTING SOIL

A. Planting soil shall be fertile, friable natural loam containing a liberal amount of humus and be capable of sustaining vigorous plant growth. Planting soil is to be of even consistency and composed of 1 lb. of 5-10-5 commercial fertilizer per cubic yard of planting soil and 75% fine clay loam, 15% peat and 10% well rotted cow manure. The mixture shall be free from hard pack, subsoil, stones, rubble, chemicals,

2.02 PLANT MATERIALS

A. Deciduous Trees: Provide trees of height and caliper listed scheduled or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed.

1. Provide balled and burlapped (B & B) deciduous trees.

B. Deciduous Shrubs: Provide shrubs of the height shown or listed and with not less than minimum number of canes required by ANSI Z60.1 for type and height of shrub required.

1. Provide balled and burlapped (B & B) deciduous shrubs.

C. Coniferous and Broad-leafed Evergreens: Provide evergreens of sizes shown or listed. Dimensions indicate minimum spread for spreading and semi-spreading type evergreens and height for other types, such as globe, dwarf, cone, pyramidal, broad up-right, and columnar. Provide normal quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown.

1. Provide balled and burlapped (B & B) evergreens.

2.03 DIGGING AND HANDLING

A. Protection from extremes in exposure and rough handling shall be provided for all plant materials during transport and storage. All precautions customary in good trade practice shall be taken in preparing plants for transplanting, in accordance with the American Standard for Nursery Stock. Workmanship that fails to meet the highest standards will be rejected.

B. All plant materials shall be assembled in one location on the job site to permit inspection and approval by the Landscape Architect. The Contractor shall notify the Landscape Architect 48 hours prior to planting so that a mutually agreeable time may be arranged for inspection. Stock with broken root balls or loose containers, and stock which shows evidence of being root bound, overgrown or recently canned, or in the opinion of the Landscape Architect is damaged or improperly cared for, shall be removed from the site immediately and replaced at the Contractor's expense with another plant meeting the original Specifications.

C. Dig balled and burlapped (B & B) plants with firm natural balls of earth, of sufficient diameter and depth to include all fibrous and feeding roots. No plants moved with a ball will be accepted if the ball is cracked or broken before or during planting operations except upon special approval of the Landscape Architect.

D. Roots or balls of all plants shall be adequately protected at all times from sun and drying winds.

E. All balled and burlapped plants which cannot be planted immediately upon delivery shall be set on the ground and shall be well protected with soil, wet moss, or other acceptable material. Bare rooted plants which cannot be planted immediately shall be protected with soil, wet moss or heeled in trenches immediately upon delivery.

F. Plants shall not be pruned prior to approval by the Landscape Architect.

2.04 MISCELLANEOUS LANDSCAPE MATERIALS

A. Edging

1. Steel Edging: 3/16" x 4" Ryerson commercial steel edging (or approved equal) of size shown on drawings fabricated in sections with loops pressed from or welded to face of sections at 2'-6" o.c. to receive stakes. Provide tapered steel stakes 15" long. Finish edging sections and stakes with manufacturer's standard green or black paint. Install in locations indicated on plan.

B. Stakes and Braces: Wood stakes and braces shall be common lumber of the sizes in the following table:

Tree Size	Brace Stakes	Guy Stakes
1" – 3-1/2"	2" X 2" X 9'-0"	2" X 2" X 2'-0"
4" & over	Not applicable	2" X 2" X 3'-0"
Conifers	Not applicable	2" X 2" X 3'-0"

C. Guy Wires: Guy wires shall be a good commercial quality of galvanized wire. Wire used to guy trees up to four inches shall be No. 12 gauge; wire used to guy trees four inches and over shall be No. 9 gauge.

D. Hose collars: Hose collars shall be new two ply fabric bearing garden hose not less than 1/2" inside diameter.

E. Tree Wrapping Material: Material shall be first quality four inch wide rolls of bituminous impregnated tape, corrugated or crepe paper, specifically manufactured for tree wrapping, and having qualities to resist insect infestation.

F. Mulch: Organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs or plants and consisting of the following:
1. Shredded hardwood

G. Maintenance strip, planting adjacent to building and parking lot islands with weed fabric
1. 1-1 buff Limestone (to match existing)
2. Landscape Fabric: DeWitt ProWeed Barrier or equal

2.05 WATER

A. Contractor shall supply water required as necessary to assure that plant material is uniformly moistened and maintained in a moist condition until the work has been approved by the Landscape Architect and responsibility for maintenance accepted by the Owner.

PART 3 – EXECUTION

3.01 OBSTRUCTIONS BELOW GROUND

A. In the event that rock or underground construction work or obstructions are encountered in any plant pit excavation work to be done under this Contract, 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 or roots when plant is properly set at the required grade. The Contractor shall be responsible for the removal of such rock or underground obstructions encountered.

3.02 PERCOLATION TEST

A. Contractor shall perform a percolation test for any planted area where insufficient drainage due to poor soils, compacted soils or other conditions will result in lowered plant performance.

B. The contractor shall dig planting pits per details and specifications. After planting pits have been properly dug as outlined in the details and specifications, the contractor shall fill one pit in each group of plantings two-thirds full of water. Upon the elapse of one hour of time, if any water remains standing in the planting pit, the contractor shall install a planting pit drainage system.

3.03 PLANTING PIT DRAINAGE SYSTEM

A. Tree planting pits which fail to meet percolation tests shall be installed with a drainage system to meet the following standards:

1. Tree planting pits shall have a 4 diameter augured hole drilled to a minimum of 42 .
2. Augured hole shall be filled with 3/4 diameter drain rock.
3. Drain hole shall then be covered with a 6 diameter piece of filter fabric staked or stapled in place to prevent dislodging during planting operations.
4. Contractor to perform another percolation test. If water remains standing after one hour of time, additional drainage holes shall be installed in the planting pit.

3.04 TREE PLANTING

A. Layout: All tree locations will be staked by the Contractor in the field to conform to the Drawings. Locations shall be approved by the Landscape Architect prior to digging and placement. No material shall be planted without approval of the Landscape Architect. Where overhead obstructions are encountered, tree relocation shall be designated by the Landscape Architect.

B. Planting Pits: Shall be as per planting details.

C. Planting Soil Preparation: Mix bone meal per the manufacturer's label instructions or 1 lb. of 5-10-5 commercial fertilizer per cubic yard of topsoil and then one part peat moss with five parts topsoil. Mix all components thoroughly before backfilling. Mix two thirds of planting soil with 1/3 existing soil for all planting pits.

D. Setting of Trees: before setting the trees, pits shall be backfilled with topsoil to a depth of twelve (12) inches, thoroughly tamped and watered. All plants shall be placed at such a level so that after settlement, the natural relationship between the original grade at which the plant grew, and the present one shall be the same. Trees shall be planted plumb, oriented for desired effect as directed by the Landscape Architect. Planting soil shall be tamped under and around the base of each ball to fill all voids and shall be placed in 6 to 8 inch layers, each thoroughly tamped and puddled. Burlap shall be removed from the top of balls and adjusted to prevent air pockets. No burlap shall be pulled from under the balls.

1. Before setting the trees, the bottom and sides of the tree pits are to scarified to depth of 3". The scarified soil shall be mixed with the planting soil to provide a transition soil zone between the planting soil and existing soil.
2. All plants shall be placed at such a level so that after settlement, the natural relationship between the original grade at which the plant grew, and the present one shall be the same. Trees shall be planted plumb, oriented for desired effect as directed by the Landscape Architect.
3. String/rope holding the burlap in place shall be cut from around trunk. Burlap shall be removed from the top of balls and adjusted to prevent air pockets. No burlap shall be pulled from under the balls.
4. When the hole has been 2/3 backfilled with "planting" soil in successive 8" layers, water shall be poured in filling the hole, and allowed to soak away so that all voids or air pockets under or around the roots are eliminated. After the water has soaked away, the hole shall be completely backfilled with "planting soil." After the backfill settles, additional soil shall be filled in to the level of the finished grade.
5. Dish top of backfill to allow for mulching.
6. Mulch pits, trenches and planted areas. Provide not less than 2" thickness of shredded hardwood mulch except where noted on drawing to receive 4" of rock mulch and finish level with adjacent finish grades.

3.05 PRUNING

A. All trees shall be neatly pruned after planting in accordance with the best standard practices. The tree shall be pruned to preserve its natural form and character and in a manner appropriate to its particular requirements. In general, no more than one third of the deciduous trees shall be removed be thinning or shortening of branches and no leaders shall be cut. All pruning shall be done with clean, sharp tools. All cuts over 1/2 inch in diameter shall be immediately covered with an approved tree paint having an asphaltic base which dries and hardens after application. All trees shall meet specified size, quality, and all other requirements after pruning.

3.06 WRAPPING

A. All deciduous trees (except Hackberry, Birch and Poplar) shall be wrapped with material as specified. The wrapping bandage shall be secured at top and bottom of the trunk. The bandage shall cover the entire surface of the trunk to the height of the first branches. Bandaging shall start at the base of the tree unless otherwise specified and be made secure by painting with approved type tree paint having an asphaltic base which dries and hardens after application.

3.07 SHRUB PLANTING

A. Layout: Beds and pit locations shall be approved by the Landscape Architect in accordance with the plant list and tentative locations shown on the Drawings. The general form of the planting bed shall be staked out and excavating performed within the stakes.

B. Planting Pits: Planting pits shall have vertical sides. The diameter of the pits shall be one foot greater than the diameter of the ball of the shrub. The depth of the pit shall be enough to accommodate the ball or roots of the shrub when the shrub is set to finish grade, allowing for six inches of compacted planting soil below the roots of the plant.

C. Setting of Shrubs: All materials shall be planted in the same relation to the finish grade as they had before transplanting. Plants shall have planting soil (with bone meal or 5-10-5) tamped under the root balls. All burlap, ropes, stakes, etc., shall be taken off the sides and tops of B & B shrubs and removed from the hole before backfilling, but no burlap shall be pulled out from under the balls. Mix two thirds planting soil with one third existing for all planting pits.

D. When the hole has been 2/3 backfilled with "planting soil" in successive 8" layers, water shall be poured in filling the hole, and allowed to soak away so that all voids or air pockets under or around the roots are eliminated. After the water has soaked away, the hole shall be completely backfilled with "planting soil". After the backfill settles, additional soil shall be filled in, to the level of the finish grade. A shallow saucer of soil shall be formed around the edge of each hole to hold additional water.

E. Pruning: All shrubs shall be neatly pruned or thinned immediately after planting in accordance with best standard practices. Broken or badly bruised branches shall be removed with a clean cut. Each shrub shall be pruned to preserve its natural form or character and in a manner appropriate to its particular requirements. All pruning and thinning shall be done with sharp, clean tools. All cuts over 1/2 inch shall be painted with approved tree paint having an asphaltic base. All shrubs shall meet specified size, quality and all other requirements after pruning.

F. Mulch: Type shall be indicated on the Drawings and applied to all shrub beds and pits to a depth of 4 inches unless otherwise specified.

3.08 PLANTERS

A. Soil: Install planter soil mix. After settling occurs, soil shall be approximately 2 below top of planter.

3.09 MAINTENANCE

A. The Contractor shall be required to make periodic checks on the total project to make certain that the materials are properly watered, cultivated, pruned, and that all guys and stakes are in proper adjustment, and that the sum of all conditions are contributing to the satisfactory progress of the materials, until such time as the work is approved by the Landscape Architect or Architect and accepted by the Owner.

3.10 PLANT WATERING AND MAINTENANCE

A. The Contractor shall be required to make periodic checks on the total project to make certain that the materials are properly watered, cultivated and pruned and that all guys and stakes are in proper adjustment, and that the sum of all conditions are contributing to the satisfactory progress of the materials.

B. The Contractor is responsible to maintain and water the plant material until such time as the work is approved by the Landscape Architect and accepted by the Owner.

C. The Contractor shall monitor the planting material to assure that, if the site is irrigated, overwatering does not occur. Contractor shall be responsible for providing the owner a watering schedule for trees, shrubs and groundcover.

3.10 INSPECTION AND ACCEPTANCE

A. Inspection of this work will be made by the Landscape Architect or Architect at the conclusion of the planting period upon written notice by the Contractor at least five days prior to anticipated date. Condition of shrubs and trees will be noted and recorded for reference at end of guarantee period.

B. After inspection, the Contractor will be notified in writing by the Landscape Architect or Architect if there are any deficiencies of the requirements for Owner acceptance of the work.

3.11 GUARANTEE AND REPLACEMENT

A. Plants and trees shall be guaranteed for one year after Owner acceptance and shall be alive and in satisfactory condition at the end of guarantee period. Such guarantee excludes vandalism.

B. At the end of the guarantee period, inspection will be made by the Landscape Architect or Architect upon written notice by the Contractor at least five days before the anticipated date. Any shrub or tree required under this Contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be removed from the site, and shall be replaced as soon as conditions permit during the normal planting season.

C. If there is dispute regarding the condition and satisfactory establishment of a rejected plant, the Contractor may elect to allow such plant to remain through another complete growing season at which time the rejected plant or tree shall be replaced if found to be dead, unhealthy or badly impaired.

D. All replacements shall be shrubs and trees of the same kind and size as specified in the plant list. Replacement costs shall be borne by the Contractor.

E. Replacement plantings required at the end of the guarantee period are not to be guaranteed. These trees and shrubs are subject to inspection and rejection by the Landscape Architect before and after planting.

3.12 CLEAN UP

A. Any soil, manure, peat or similar material which has been brought onto paved areas by hauling operations or otherwise shall be removed promptly, keeping the area clean at all times. Upon completion of the planting, all excess soil, stones, and debris which have not previously been cleaned up shall be removed from site or disposed of.

B. All ground area disturbed as a result of planting operations shall be restored to their original condition or to the desired new appearance.

END OF SECTION

fence detail
GM

RECEIVED
DIVISION OF CITY PLANNING
SEP 09 1997
CITY OF BLOOMINGTON
MINNESOTA

Applebee's®
Neighborhood Grill & Bar

OWNERS/DEVELOPERS:

APPLEBEE'S INTERNATIONAL, INC.
4551 W. 107th Street
Suite 100
Overland Park, Kansas 66207
(913)967-4005 fax(913)341-1695

CITY OF
BLOOMINGTON, MN

BID ISSUE

NOTES:

LANDSCAPE ARCHITECTS:

Damon Farber Associates
253 Third Avenue S.
Minneapolis, Minnesota 55415
(612)332-7522 fax(612)332-0936
e-mail: dfainc@aol.com

CIVIL SHEET INDEX

SHEET	TITLE
C0.1	TITLE SHEET
C1.1	EXISTING CONDITIONS PLAN
C2.1	SITE PLAN
C3.1	GRADING & EROSION CONTROL PLAN
C4.1	UTILITY PLAN
C6.1	ENLARGED PLAN
C7.1	CONSTRUCTION DETAILS
C7.2	CONSTRUCTION DETAILS
E1.1	SITE ELECTRICAL PLAN
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE SPECIFICATIONS
L2.1	IRRIGATION PLAN

DATE	REVISION	REV.
5/01/97	CITY SUBMITTAL	
6/19/97	95% COMPLETE OWNER REVIEW	
6/25/97	BID ISSUE	

Quality Management Review:

By: SARA MORE   Date: 6/24/97

CERTIFICATION:

I hearby certify that the plan was prepared by me, or under my direct supervision and that I am a duly registered Landscape Architect under the laws of the state of Minnesota

Damon Farber (signature)
Damon Farber   Registration #12538

PROJECT :

APPLEBEE'S RESTAURANT
Bloomington, Minnesota

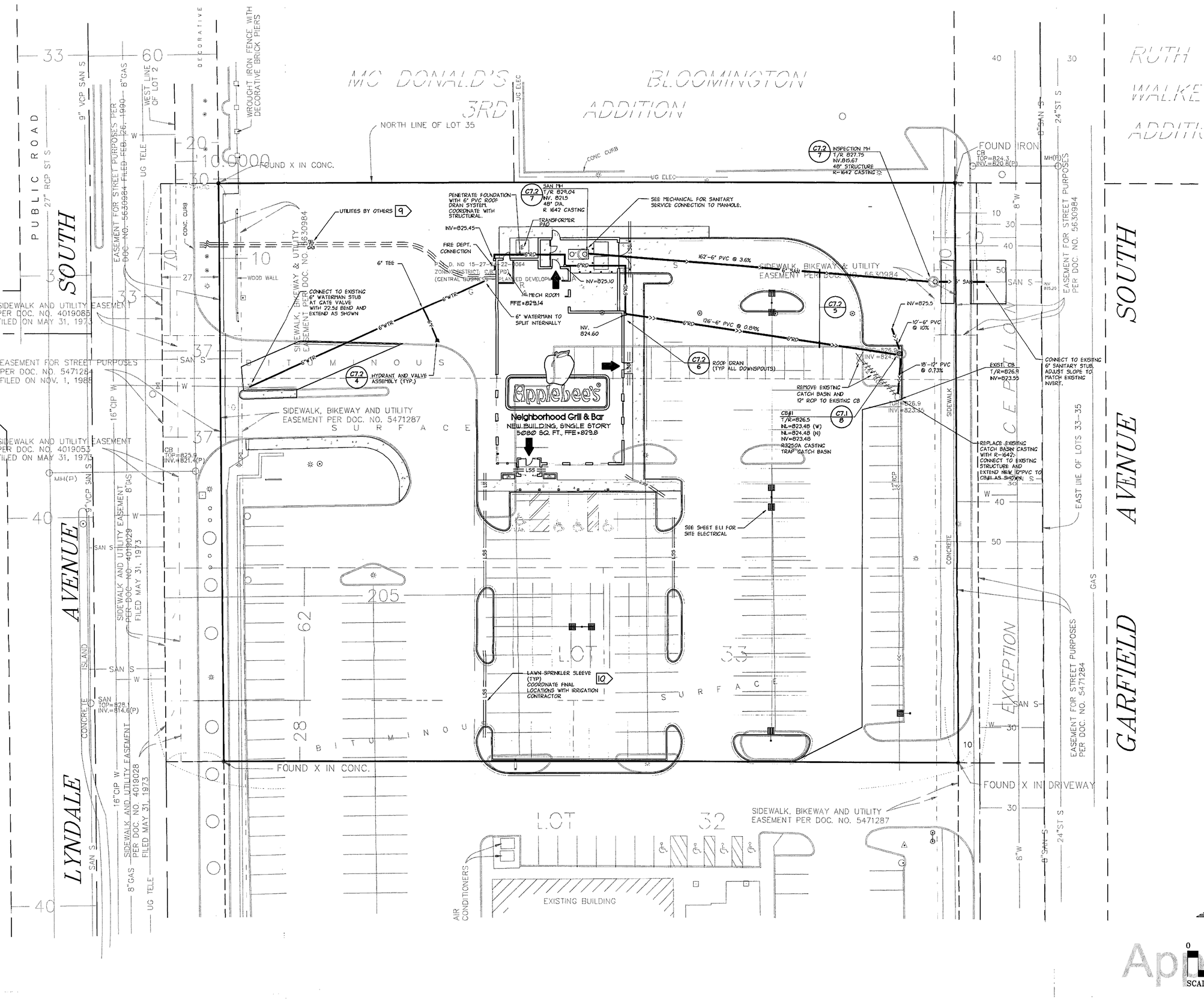
Landform Engineering Company

Landform Engineering Company • 926 Twelve Oaks Center
15500 Wayzata Boulevard • Wayzata, Minnesota 55391
(612)475-3272 • fax/data(612)475-3159
info@landform.net

DATE: 3/9/97
FILE NAME: L1020BL1.DWG
PROJECT NO. AP97003

LANDSCAPE SPECIFICATIONS

L1.2



SCALE IN FEET 0 20 40

Applebee's Neighborhood Grill & Bar

OWNER/DEVELOPERS:

APPLEBEE'S INTERNATIONAL, INC.
4551 W. 107th Street
Suite 100
Overland Park, Kansas 66207
(913)967-4005 fax(913)341-1695

CITY OF BLOOMINGTON, MN

BID ISSUE

NOTES:
1. MAINTAIN 7.5' COVER ON ALL NEW WATERMAIN.
2. PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF FLARED END SECTION.
3. PIPE MATERIALS:
WATERMAIN DIP CLASS 52
WATER SERVICE 1.5" COPPER DOMESTIC TYPE 'K'
SAN SEWER PVC SDR 26
STORM SEWER 12" RCP CLASS 5
4. SEE ELECTRICAL SITE PLAN FOR ADDITIONAL SITE ELECTRICAL INFORMATION.
5. ALL CONNECTIONS TO CITY UTILITIES TO BE IN ACCORDANCE WITH CITY OF BLOOMINGTON STANDARDS.
6. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF SERVICES CONNECTIONS AND CONTINUATION OF SERVICES WITHIN BUILDING.
7. ADJUST ALL STRUCTURES, PUBLIC AND PRIVATE, TO PROPOSED GRADES WHERE DISTURBED. COMPLY WITH ALL REQUIREMENTS OF UTILITY OWNERS.
8. VERIFY ALL CONNECTIONS TO EXISTING UTILITY SERVICES PRIOR TO CONSTRUCTION.
9. COORDINATE WITH ALL INDIVIDUAL PRIVATE UTILITY OWNERS TO PROVIDE ELECTRIC, NATURAL GAS, TELEPHONE, AND CATV SERVICE TO PROPOSED BUILDING.
10. COORDINATE WITH IRRIGATION CONTRACTOR TO PROVIDE LAWN SPRINKLER SLEEVES AS REQUIRED.
11. CONTACT COPPER ONE FOR EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN LOCATED UTILITIES AND THE EXISTING CONDITIONS PLAN SHOULD BE NOTED AND FORWARDED TO THE ENGINEER.
12. OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WITHIN ANY USE OF PUBLIC RIGHT-OF-WAYS.

CIVIL SHEET INDEX

SHEET	TITLE
C0.1	TITLE SHEET
C1.1	EXISTING CONDITIONS PLAN
C2.1	SITE PLAN
C3.1	GRADING & EROSION CONTROL PLAN
C4.1	UTILITY PLAN
C5.1	ENLARGED PLAN
C7.1	CONSTRUCTION DETAILS
C7.2	CONSTRUCTION DETAILS
E1.1	SITE ELECTRICAL PLAN
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE SPECIFICATIONS
L2.1	IRRIGATION PLAN

DATE	REVISION	REV.
5/01/97	CITY SUBMITTAL	
6/19/97	90% COMPLETE OWNER REVIEW	
6/25/97	BID ISSUE	

QUALITY MANAGEMENT REVIEW:
BY: SARA MORE DATE: 6/24/97

CERTIFICATION:
I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly registered Professional Engineer under the laws of the state of MINNESOTA.
Stephen M. Johnson
Registration No. 15414 Date 6/24/97

PROJECT :

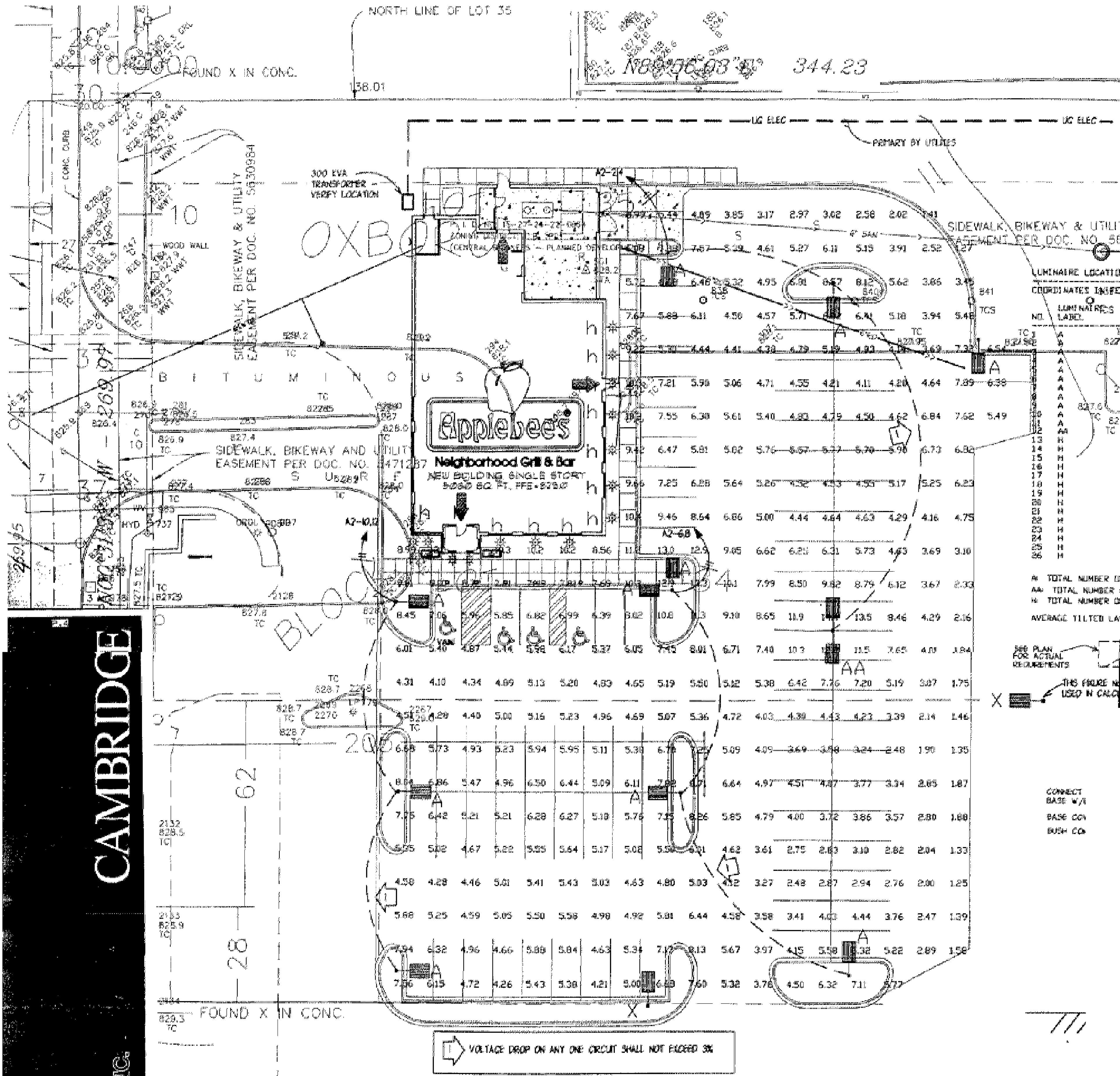
APPLEBEE'S RESTAURANT

Bloomington, Minnesota

Landform Engineering Company • 920 Twelve Oaks Center
15500 Wayzata Boulevard • Wayzata, Minnesota 55391
(612)475-3272 • fax/data(612)475-3150
info@landform.net

DATE: 3/3/97
FILE NAME: C40BLDWG
PROJECT NO. AP97003

UTILITY PLAN
C4.1



CAMBRIDGE

BUILDING LIGHTING, INC.

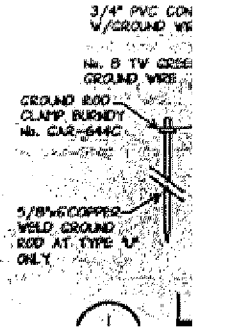
OBSTRUCTIVE SHAPE : BLDG.

HEIGHT = 14
TRANSMITTANCE = 0
REFERENCE POINT:
X = 18.25 Y = 135 Z = 0

PLANE : LOT ONLY

~~POINT SPACING LEFT-TO-RIGHT = 10 ft~~
POINT SPACING TOP-TO-BOTTOM = 10 ft
LOWER LEFTHAND CORNER OF PLANE:
X = 5 Y = 5 Z = 0
UPPER RIGHTHAND CORNER OF PLANE:
X = 189 Y = 255 Z = 0
LIGHT METER IS NORMAL TO PLANE

AVERAGE fc = 5.36
MAXIMUM fc = 14.4
MINIMUM fc = .73
AVERAGE/MINIMUM = 7.34
MAXIMUM/MINIMUM = 19.73
TOTAL NUMBER OF POINTS = 361



FIXTURE SCHEDULE

Label	Quantity	Lamp Watts	Source	Mounting Ht.	Description\Catalog Number\Manufacturer
A	11	(1)400	SPR. MHAL.	30'-0"	SPAULDING CEI-STD-PM-M400-IV-MT-DBZ (SINGLE)

Approved Plan