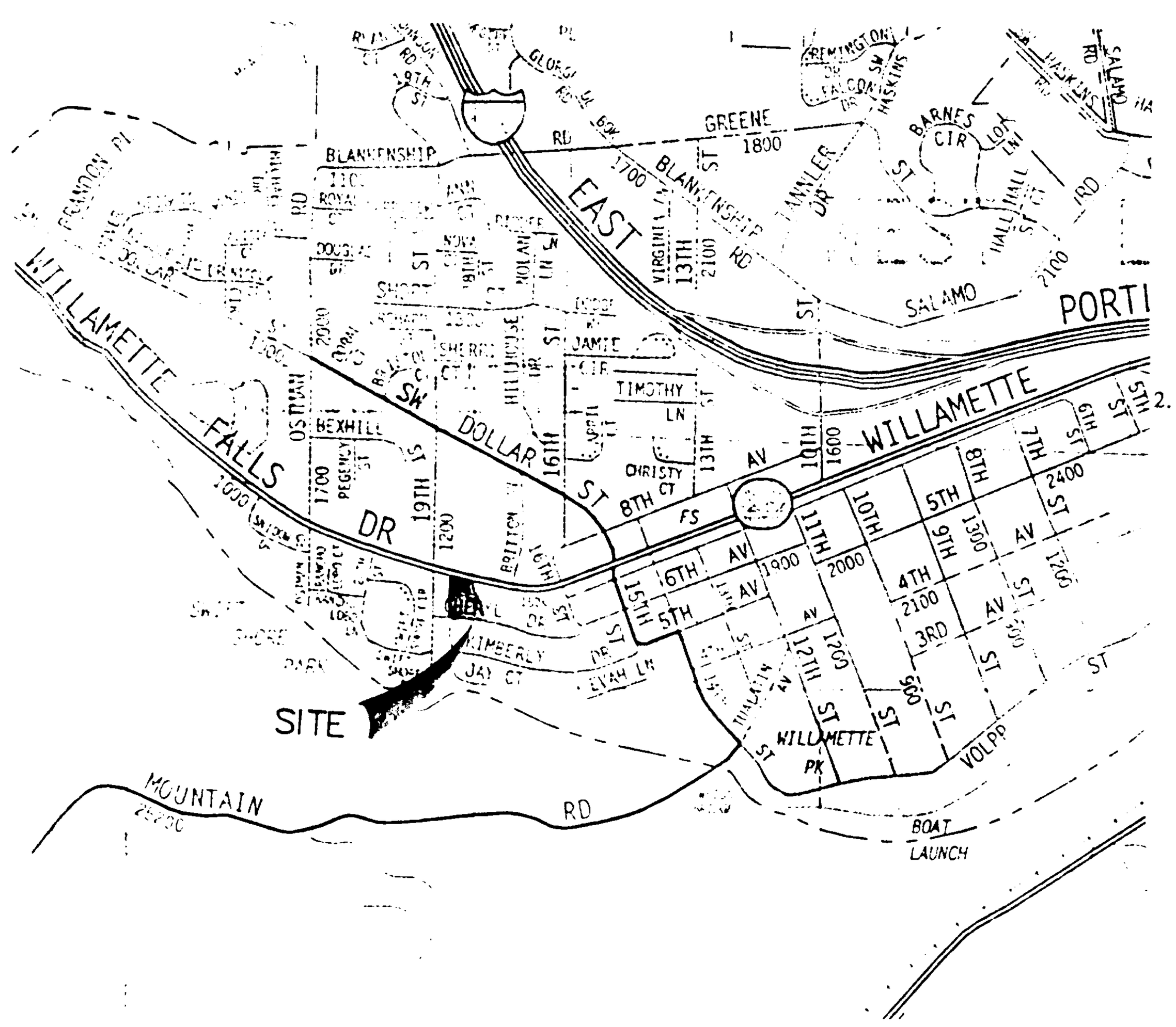
SOUTHERN EXPOSURE VIEW ESTATES

DEVELOPED BY

GREG HUBLOU
4221 SE CONCORD ROAD
MILWAUKIE, OR 97267

SEPTEMBER 1997



VICINITY MAP

SISUL ENGINEERING
375 PORTLAND AVE.
GLADSTONE, OR. 97027
(503) 657-0188

RECOMMENDATION

Based on the findings above and information provided, staff recommends approval of the 10-lot subdivision and planned unit development, located on property between Willamette Falls Drive and Cheryl Drive, Tax Lot 2700 of Map T3S R1E 2BC, as shown in Exhibits B through E, and as modified by and including the attached conditions of approval.

1. Regarding tree preservation:

Condition of approval 1 is hereby amended to read as follows:

a. As many trees as feasible are to be saved on site. Tree may be removed for placement of utilities and construction of street improvements. CDC 24.100(B)(1). Tree may be removed for buildings and driveway approaches only after building permits are approved for construction on those lots from which the trees are to be removed. All proposed tree removal shall first be reviewed and approved by the City Arborist.

b. A tree preservation easement shall be established, described and recorded with both Phase I and Phase II final plats, as shown and as modified on Exhibit B. The easement shall be surveyed and shall be described consistent with the following:

Extending the full length of the western edge of lot 5, for a width of 20 feet east from the western property line, to meet with the easement area extending south from lot 6 onto lot 5 at a point 10 feet south of the common property line. At this point of meeting, the width shall be approximately 52 feet, and shall be in alignment with the eastern lot line of lot 6. The easement on lot 6 shall start at a point approximately 86 feet north from the southern property line, and follow the 92-foot contour line across lot 6, and extend easterly to the eastern property line of lot 6. From this point, the easement shall extend south to encompass the remaining southern portion of lot 6, and extend onto lot 5 for approximately 10 feet to meet with the 20-foot wide strip on the western edge of lot 5.

c. Within the conservation easement on Lots 5 and 6, trees may be removed if they are dead or diseased or pose a hazard to people or property, subject to approval of the City Arborist, or if they must be removed to accommodate improvements to Cheryl Drive consistent with City standards or approved modifications thereto.

2. To assure adequate protection of trees on site prior to any site work starting on the property, the following shall be completed:

Condition of approval 2 is hereby amended to read as follows:

a. The applicant shall install temporary fencing (e.g., snow fencing) at least 10 feet beyond the dripline of all trees within areas of any site work or near construction areas. "Site work" areas and "near any construction areas" shall be defined as any area that could receive dirt or debris or have the ground traversed with equipment or have the natural grade modified.

b. If it is not feasible to place temporary fencing 10 feet from the dripline of trees to be retained, it shall be installed out of the root zone and in a manner that prohibits any contact with the tree trunk.

c. The City Arborist shall inspect and approve all on-site tree protection measures, and tree pruning, including placement of protection fences prior to the start of site work. It is the applicant's responsibility to contact the City Arborist and arrange for this approval to take place. No permits from Engineering, Planning or Building Departments shall be issued without approval from the City Arborist regarding tree protection measures, and regarding proposed tree pruning of "trees to remain" on the site.

d. All tree protection measures shall remain in place and fully functional for the entire time that site work and construction is taking place.

3. Street dedication, including additional right-of-way for Cheryl Drive frontage, shall be dedicated to the City without any reservations or restrictions. This additional right of way shall be approved by the City Engineer.

4. Minimum yard setbacks shall be as follows:

Condition of approval 4 is hereby amended to read as follows:

4. Minimum yard setbacks shall be as follows: front yard, 15 feet; side yard, 5 feet; rear yard, 15 feet, except as amended by condition 5.

5. Per Section 24.170, minimum perimeter yard setbacks to neighboring properties from PUD lot edges that are on the perimeter of this development shall be 20 feet for rear yards, and 7-1/2 feet for side yards (R-10 base zone). Therefore, since no rear yards abut neighboring non-PUD properties, the side yard setbacks for lots 1, 5, 6 and 10 shall be 7-1/2 feet.

Condition of approval 5 is hereby amended to read as follows:

5. The side yard setbacks for lots 1 and 10 shall be 7-1/2 feet.

6. Per Section 55.100 (B), the parking for the future homes shall be placed behind the building line of homes as they appear from the right-of-way (i.e., Willamette Falls Drive and Cheryl Drive). This shall include placement of garages.

7. Street improvements

Condition of approval 7 is hereby amended to read as follows:

7. The applicant shall complete public street improvements before the City approves the final plat. Such improvements shall be done to meet all applicable City standards, or approved modifications thereto, and shall be consistent with Public Works Department Staff Report findings, Exhibit K. This shall include a 6-foot wide sidewalk and a 6-foot wide planter strip abutting the curb except along Cheryl Drive, where the City may approve sidewalks abutting the curb. At the two points where the private accessway intersects Willamette Falls Drive, the applicant shall align a 6-foot wide pedestrian way with the sidewalk and improve it with a specially textured or colored crossing that is clearly defined and visible.

8. Per Section 55.100(B)(7)

Condition of approval 8 is hereby amended to read as follows:

8. The applicant shall improve a minimum 6-foot wide pedestrian walkway on the south side of the accessway between its two intersections with Willamette Falls Drive public right of way and between that walkway and the entry to each dwelling unit. Such walkways shall have a specially textured, colored or clearly defined surface.

9. Erosion control measures

Condition of approval 9 is hereby amended to read as follows:

9. Erosion control measures that comply with CDC Chapter 85 shall be in place on site prior to any site work. The applicant shall ask the City to inspect the erosion control measures in place prior to starting other development on the site, and shall assure they are maintained in good functional condition until development of the relevant area of the site is complete. It is the applicant's responsibility to arrange for the inspection and approval of erosion control measures on site. Grading of the site shall be limited to the amount necessary to accommodate street improvements, utility installation and driveway approaches. Grading for homes and driveway approaches shall take place after building permits are approved for construction on individual lots.

10. Clear vision areas

Condition of approval 10 is hereby amended to read as follows:

10. Clear vision areas shall be established and maintained for clear lines of sight at the intersections of all private driveways and the accessway onto Willamette Falls Drive. No vegetation, other than trees, shall be allowed to be installed or allowed to grow to a height in excess of three feet above the average curb elevation at or within 30 feet of the driveway/accessway edges. Trees within 30 feet of the driveway/accessway edges shall be trimmed to remove all branches lower than eight feet above the average curb elevation.

11. The two pedestrian crossings, located within the Willamette Falls Drive public right of way, at the entrance and exit of the accessway, shall be constructed to meet all applicable ADA access requirements.

12. The new lots created shall meet or exceed the minimum lot size of 9,000 square feet (single family detached), and 8,000 square feet (duplex) required by Chapter 24 for development in the R-4.5 zone on Type I and Type II lands (lots 1 through 8).

13. A common access easement agreement

Condition of approval 13 is hereby amended to read as follows:

13. Before the City approves the final plat for lots 6 through 10, the applicant shall submit to the planning director reciprocal easements giving owners of all lots served by the accessway the right to use the accessway and the responsibity to maintain it. The applicant also shall submit to the planning director a common maintenance agreement requiring the owners of lots 6 through 10 to contribute an equal share toward the cost of maintenance of the private accessway and shall require them to assure the accessway is maintained in good condition.

14. Street trees shall be planted along Willamette Falls Drive and Cheryl Drive street frontages. The placement, species, size and other pertinent factors relating to the successful installation of street trees shall be approved through the City Arborist at the City Parks and Recreation Department. Street trees shall be installed prior to final building permit signature and release of each phase of this development. It is the applicant's responsibility to arrange for approval of street tree selection and installation measures.

15. The applicant shall provide five-foot utility easements along the front and rear property lines of each lot, and 15-foot wide public storm sewer utility easements, as shown on Exhibit C.

16. All utilities shall be undergrounded. Utility improvements shall be consistent with Public Works Department Staff Report, Exhibit K.

17. The applicant shall prepare a final plat for Phase I (lots 1 through 5) of this development for City approval within one year of the decision date. The applicant shall prepare a final plat for Phase II within two years of the decision date.

18. Prior to final plat approval, all easements, including joint access, public access, tree preservation, and public utility, shall be shown and documented on each of the final plats.

19. The applicant shall record each of the approved plats with Clackamas County.

Condition of a[illegible] [illegible]ed to read as follows:

20. No [illegible] direct driveway access [illegible] Acc[illegible] [illegible]sed lot 6 shall be p[illegible] way [illegible] from Willamette F[illegible]

Condition of a[illegible] 21 is added to read as follows:

21. The app[illegible] shall obtain design [illegible] approval of all structures to be develope[illegible] on the site prior [illegible] of building permits as required by CDC 55.100.B.

Condition of approval 22 is added to read as follows:

22. Building envelope shall be sh[illegible] on the face of the final plat [illegible] documents filed with the plat [illegible]ds to the property. Cons[illegible] on individual lots shall be res[illegible] to the area within th[illegible] unless modified by the planning director.

DATED this 9th day of [illegible], 199[illegible]

Larry Epstein, AICP
City of West Linn [illegible] Officer

INDEX

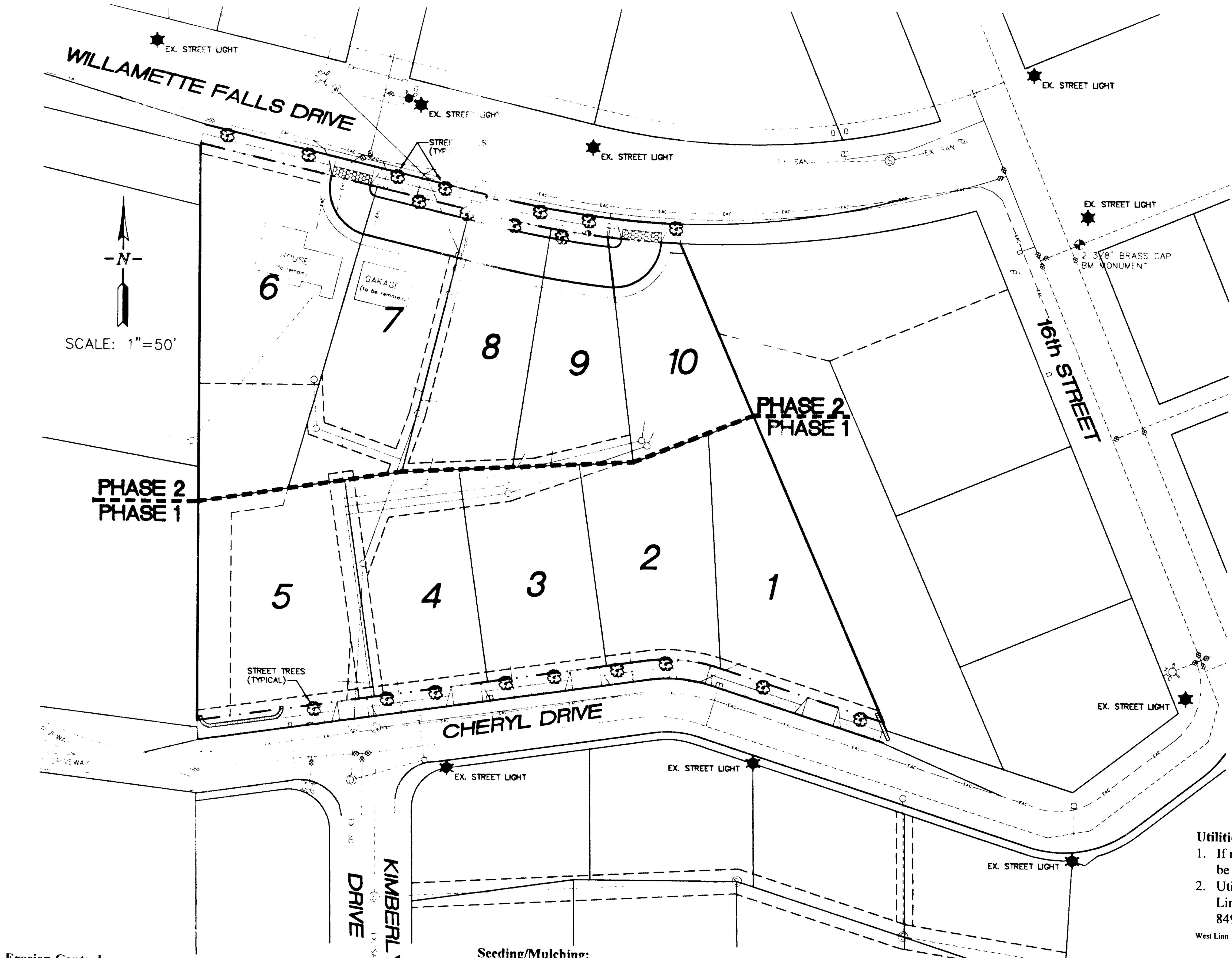
AS-BUILT

MOST RECENT REVISION TO THIS SET OF PLANS:

REGISTERED PROFESSIONAL ENGINEER
18530
EXP 6/30/99
OREGON
APRIL 19, 1996
JOSEF K. HITZ

11/16/98

SOUTHERN EXPOSURE '98



Erosion Control:

Summary:

1. The intent of the requirement is to prevent siltation from reaching storm drain systems and drainage ways.
2. The minimum measures need to be made on all projects.
   a) A gravel pad, at least 50 feet long, is required where vehicles will leave the construction site.
   b) A sediment barrier is to be constructed of straw bales or a sediment fence where noted in the details or where sediment will cross outside the work area.
   c) Where excavated material is placed on hard surfaces (such as streets) material must be broomed or scraped clean as soon as possible.
   d) Riprap exits from all culverts and storm drain pipes draining into the ditches or swales. Riprap is to be Class 50 riprap or larger or as noted elsewhere in the plans.
   e) Reseed or cover disturbed areas as soon as is possible and practical but no later than the completion of construction on the other phases of work. Erosion control measures such as hay bales and silt fences must remain in place until seeded areas show growth substantial to prevent erosion.

General:

1. Approval of this erosion control (ESC) plan does not constitute an approval of permanent road or drainage design (e.g. size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).
2. The implementation of these ESC plans and the construction, maintenance, replacement, and upgrading of these ESC facilities is the responsibility of the applicant/contractor until all construction is completed and approved, and vegetation of landscaping is established.
3. The ESC facilities on this plan must be constructed in conjunction with all clearing and grading activities, and in such a manner as to ensure that sediment laden water does not enter the drainage system or violate applicable water standards.
4. The ESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these ESC facilities shall be upgraded as needed for unexpected storm events and to ensure that sediment laden water does not leave the site.
5. The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.
6. The ESC facilities on inactive sites shall be inspected and maintained a minimum of once a month, or within 24 hours following a storm event.
7. At no time shall more than one foot of sediment be allowed to accumulate within a trapped catch basin. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment laden water into the downstream system.
8. Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.

Seeding/Mulching:

1. All areas disturbed during construction to be graded to drain and compacted to a minimum of 90% of AASHTO T-99 immediately after installation of utilities or grading.
2. Recommended Seed Mixture: 80% ELKA Dwarf Perennial Ryegrass and 20% Creeping Red Fescue, by weight. Application Rate shall be 100 pounds minimum per acre.
3. Fertilizer shall be 12-16-8 with 50% of the nitrogen derived from UREA FORMALDEHYDE, and applied at a rate of 400 pounds per acre.
4. Seed and mulch at a rate of 2000 lbs/Ac with heavy bonding agent or netting and anchors. Mulch shall be a wood cellulose fiber or other material suitable for hydromulching.
5. Temporary or Permanent Hydroseeding or acceptable seeding and mulching must be provided whenever perennial cover cannot be established on sites which will be exposed for 60 days or more.

Sediment Fence:

1. The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6 inch overlap, and both ends securely fastened to the post.
2. The filter fabric fence shall be installed to follow the contours, where feasible. Then fence posts shall be spaced a maximum of six feet apart and driven securely into the ground a minimum of 18 inches.
3. A trench shall be excavated, roughly 6 inches wide by 6 inches deep, upslope and adjacent to the wood post to allow the filter fabric to be buried. Bury the bottom of the fabric 6" vertically below finished grade. All areas of filter fabric trench shall be compacted.
4. The filter fabric shall be installed with stitched loops over fence posts. The fence post shall be constructed of 2" x 2" fir, pine, or steel. The fence post must be a minimum of 48" long. The filter fabric shall not be stapled or attached to existing trees.
5. Sediment fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
6. Sediment fences shall be inspected by applicant/contractor immediately after each rainfall, and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Erosion Control 6/29/95

General Grading and Erosion Control (Residential)

1. Clean waste material excavated from road cut or trenching areas not used in street fill areas may be spread evenly across lot areas in depths of less than one foot, except where noted otherwise on the plans.
2. During construction, straw bales, cutoff trenches or some other method of runoff control shall be used to prevent erosion and/or siltation from crossing outside the work area boundaries.
3. Large organic material, miscellaneous pipe or construction material must be removed from the site and disposed of properly.

Mstr 11-28-97

Utilities:

1. If not noted on the plans utility information and crossing locations will have to be obtained from the utilities.
2. Utility contacts are as follows: PGE - Cindy Manselle, 650-1411; TCI Cable - Linda Petersen, 243-7497, U.S. West Communications - Jackie Lollar 242-8496.

West Linn 10-21-97

Erosion Control:

1. A sediment fence/barrier must be constructed at the points where sediment will cross outside the construction area. The sediment barrier shall be a sediment fence. Minimum locations of sediment barrier are noted on the Erosion Control Plans.
2. If more than one foot of sediment builds up behind the sediment barriers, the contractor will be required to clean out the sediment and keep the barrier in good repair.
3. If dirt mounds or piles are created, sediment barriers shall be placed around the mounds or piles.
4. Areas of site to be landscaped must be seeded or covered with some ground protection cover prior to removal of the erosion control measures. Seeded areas must have as a minimum, seed and mulch at 2000 lbs/ac with bonding agent.
5. The implementation of these erosion/sedimentation control (ESC) plans and the construction, maintenance, replacement and upgrading of these ESC facilities, is the responsibility of the applicant/contractor until all construction is completed and approved, and permanent vegetation is established.
6. The ESC facilities shown on this plan must be constructed prior to all clearing and grading activities, and in such a manner as to insure that sediment does not enter the drainage system or violate applicable water standards.
7. The ESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these ESC facilities shall be upgraded as needed for unexpected storm events, or as directed by the inspector, to insure that sediment does not leave the site.
8. The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to insure their continued functioning.
9. Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration the project. Additional measures may be required to insure that all paved areas are kept clean for the duration of the project.
10. All projects with exposed ground surfaces anticipated between October 1 and April 30 must apply seeding/mulching or other type of cover, immediately after ground surfaces are exposed from grading/clearing operations.

Basic Erosion 6-29-95

General Grading and Erosion Control

1. Clean waste material excavated from road cut or trenching areas not used in street fill areas may be spread evenly across lot areas in depths of less than one foot, except where noted otherwise on the plans.
2. During construction, straw bales, cutoff trenches or some other method of runoff control shall be used to prevent erosion and/or siltation from crossing outside the work area boundaries.
3. Large organic material, miscellaneous pipe or construction material must be removed from the site and disposed of properly.
4. No filling or cutting shall be done outside of approved grading areas.

West Linn 12-10-97

Storm Drains:

1. Ten inch and larger storm drain pipe shall be Class 3, non-reinforced, concrete pipe conforming to ASTM C14, PVC pipe conforming to ASTM D-3034 or *seamless* PVC pipe conforming to ASTM F794. (PW Rib). Where required, reinforced concrete pipe shall conform to ASTM C-76, Class IV. Rubber joints are required for all concrete pipe. Eight inch and smaller storm drain pipe shall conform to ASTM D-3034 PVC pipe.
2. Gutter inlets shall be poured in-place concrete with a minimum compressive strength of 3000 psi. Frame shall be fabricated of structural steel, ASTM A-7, A-36, A-273.
3. Manhole base may be poured in-place concrete or precast. Manhole risers and tops shall be precast sections with a minimum compressive strength of 4000 psi. Tops shall be eccentric cones except where insufficient headroom requires flat tops. Some or all of the storm drain manholes required will be oversized manholes. Interior dimensions noted on the plans are minimums. Check will manhole manufacturer for actual size needed for type of pipe to be used.
4. All manholes located in easement areas require tamper proof lids. All manhole rims not in pavement area to be set 12 inches above proposed grade.
5. Cleanout pipe, fittings, and joints shall be the same specifications as for pipe. Castings are shown on detail and shall conform to ASTM A48 (Grade 30). Cleanout riser shall match downstream pipe diameter.
6. Granular backfill is to be compacted to 95% maximum dry density per AASHTO T-99 test method and native material shall be compacted to 85% of in-place dry density of surrounding soil.
7. Riprap where noted on the plans is to be Class 50 in accordance with Oregon State Highway Division specification 714.
8. Storm drains shall be tested for deflection with a mandrel equal to 95% of the pipe size being tested. In addition, storm lines shall be video inspected by the contractor per APWA, Division III, Section 303.3.11. All tests shall be witnessed by the Engineer.
9. A plumbing permit from the City of West Linn Building Department is required for storm drains beyond the first cleanout.
10. All materials, installation, tests, and inspections to be in strict accordance with APWA's Standard Specifications for Public Works Construction and the supplemental standards and specifications of the City of West Linn Street/Utility Design and Construction Standards.

West Linn 12-10-97

Streets:

1. New street sections are to be cleared of all surface vegetation and other miscellaneous structures or materials. Grub improvement areas to remove all buried vegetative matter and debris to a depth of 8" below subgrade. Properly dispose of all waste material.
2. Immediately following fine grading operations proof roll subgrade areas to achieve 95% of maximum density for a 6" depth per AASHTO T-99 test method. Embankment or fills are to be constructed in 6" maximum lifts with each lift being compacted to 95% maximum dry density prior to proceeding with the next lift. Areas to receive fill are to be inspected by City of West Linn personnel prior to placement of the fill. Where required by the City of West Linn or the Engineer, the Contractor shall have fill areas tested for compaction by a certified testing lab. Such testing will be at the contractor's expense.
3. Aggregate base rock shall be 1"-0" crushed rock as per Oregon State Highway Division specifications. Aggregate base is to be compacted in 6" maximum lifts to 95% of maximum dry density per AASHTO T-99 test. City of West Linn requires a proof roll with a loaded 10 yard dump truck of the subgrade prior placement of the rock and again after placement of the base rock and prior to paving. All underground utilities including laterals, services and power or gas conduits will be in place before subgrade proof roll will take place.
4. Asphalt concrete is to be Class 'C' A.C. as per Oregon State Highway Division specifications. Pave only during dry weather and when the temperature is 40° or warmer. The top lift of asphalt concrete shall not be placed prior to receiving permission form the City of West Linn Engineering Department.
5. Construct curb and gutter using Class 'A' 3300 psi concrete with maximum 1½" aggregate size. Contraction joints at 15' maximum on centers. Three inch weepholes are to be installed on all lots uphill or even with the street. Generally weepholes shall be located at the center and lowest edge of curb for each lot. Curb depressions for handicap ramps shall be centered between curb returns at intersections unless otherwise noted on the plans.
6. All materials, installation, tests, and inspections to be in strict accordance with APWA's Standard Specifications for Public Works Construction and the supplemental standards and specifications of the City of West Linn Street/Utility Design and Construction Standards.
7. A street construction encroachment permit or similar permit may be required from the City of West Linn. Construction permit fees or other similar fees or bonding required of the contractor will be the contractor's responsibility to obtain.

West Linn 12-10-97

Keystone Retaining Wall Specifications:

1. Retaining walls shall be segmental concrete units (Keystone or approved equal) conforming to ASTM C90, C140, and C145. The units shall have a width to height ratio of 2.25, the face area shall be one square foot, and the bonds nominally located at midpoint of vertically adjacent units, in both straight and curved alignments. All units shall be sound and free of cracks, or other defects that would interfere with the proper laying of the unit or significantly impair the strength or permanence of the construction.
2. The segmental concrete units shall have a minimum compressive strength of 3000 psi. Unit depth shall be greater than or equal to 20 inches and the maximum horizontal gap between erected units less than or equal to 1/2 inch. The vertical setbacks and horizontal curves shall be as noted on the plans. Units shall be installed per manufacturers recommendations.
3. Base leveling pad shall be compacted crushed rock (3/4"-0) with a minimum thickness of 8 inches. Leveling pad shall be compacted to 95% of the maximum dry density as determined by AASHTO T-99 and placed per construction drawings.
4. One inch minus drain rock shall be placed within or behind the segmental concrete units, one cubic foot per each square foot of wall face.
5. Reinforced backfill shall be native, onsite material placed in 8 inch lifts and compacted to 95% of the maximum density as determined by AASHTO T-99.
6. The owner shall retain services of a Geotechnical Engineer and/or geotechnical testing lab to provide testing services and to certify that the structural fill meets the compaction requirements stated above. Frequency of testing shall be at minimum intervals of 2 feet vertically and 100 feet horizontally for each separate retaining wall or at intervals recommended by Geotechnical Engineer or testing lab.

General Notes:

1. The Design Engineer will be responsible for inspection of the proposed improvements with oversight from the City's Public Works and Engineering staff.
2. A work schedule will be required from the contractor so that the Engineer can have an inspector onsite at the appropriate times. If the work schedule is revised the contractor is to notify the Engineer of the changes. Additionally, the contractor is to give the Engineer at least 24 hours notice of any testing requiring the presence of the Engineer and/or City staff.
3. The contractor is to receive the approval of the Engineer of any proposed changes to the plans or standard requirements.
4. A Building Department Plumbing Permit is required for utilities beyond the first cleanout or meter on private property.
5. A Public Improvement Guarantee Agreement and a pre construction meeting with the City of West Linn are required prior to beginning construction.
6. Prior to site clearing, construction "snow" fencing shall be placed around trees to be preserved 10 feet beyond the dripline of the trees and shall remain in place throughout the infrastructure improvements.

West Linn 12-18-97

Water Supply

1. Water mains shall be ductile iron pipe conforming to AWWA C151 Class 52. Pipe is to have cement mortar lining and bituminous seal coat conforming to AWWA C104. Joints are to be push-on joint. Pipe fittings are to be of the same material and class as pipe and of domestic origin.
2. Water mains to have a minimum cover of 36".
3. Thrust blocks are to be provided at all changes in direction and branches. Thrust blocking concrete strength is to be 2000 psi. See details for thrust block sizing. Pour thrust blocks against undisturbed earth.
4. Gate valves shall be a double disc type conforming to AWWA C500. Butterfly valves shall be Class 150 B short body type in conformance with AWWA C504. Valve boxes shall be Rich Model 925 or equal.
5. Check with the City of West Linn as to allowable makes of fire hydrants. Pumper outlet is to face the direction of access. Fire hydrants are to be installed per the requirements of City of West Linn's Fire Department.
6. Granular backfill is to be compacted to 95% maximum dry density per AASHTO T 99 test method and native material shall be compacted to 85% of in-place dry density of surrounding soil. Backfill under streets shall be in accordance with Class 'B' backfill as indicated on the detail sheet of the plans.
7. Service laterals shall be type K. Lateral sizes shall be 1". For double services two 1" water services shall be laid side by side. Corporation stops shall be Ford or approved equal. Curb stop shall be 1" Ford meter stop. Meter boxes shall be equal to Brooks #31. Meter boxes are to be installed 3/4" above finish grade.
8. All waterlines will be pressure tested and purification tested before connection to the city water system. Pressure test shall be conducted at 180 psi and shall meet the requirements of APWA, Division IV, Section 402.3.04.
9. Chlorination is to be done in accordance to specification 300.0403(F) (pages 77 through 83) of the City of West Linn's Street/Utility Design and Construction Standards. Standard includes flushing the waterlines prior to chlorination, acceptable methods of chlorination (adding chlorine tablets at joint ends is not an acceptable method), retention period, and final flushing requirements.
10. See detail of how new pipe is be filled. Do not connect new pipe to existing pipe prior to testing. The City of West Linn requires acceptance of new waterline prior to connection to existing water system.
11. A plumbing permit from the City of West Linn Building Department is required for service lateral installations beyond the water meter.
12. All materials, installation, tests, and chlorination to be in strict accordance with the standards and codes of the City of West Linn and the Oregon State Health Division Administrative Rules, Chapter 333.

West Linn 12-10-97

Sanitary Sewer:

1. Pipe shall be PVC sewer pipe conforming to ASTM D-3034-SDR 35. Minimum stiffness shall be 46 psi and joint type shall be elastomeric gasket conforming to ASTM D-3212.
2. Manhole base shall be poured in-place concrete base with a minimum compressive strength of 2500 psi or precast. Manhole risers and tops shall be precast sections with minimum compressive strength of 4000 psi. Tops shall be eccentric cones except where insufficient headroom requires flat tops. Inverts shall be constructed so as to provide smooth flow-through characteristics. PVC pipe shall be connected to manhole by means of an elastomeric gasket, an approved waterstop, or flexible sleeve. Cement grout for connecting PVC sewer pipe to manhole will not be permitted.
3. All manholes located in easement areas require tamper proof lids. All manhole rims not in pavement area to be set 12 inches above proposed grade.
4. Cleanout pipe, fittings, and joints shall be the same specifications as for pipe. Castings are as shown on detail and shall conform to ASTM A48 (Grade 30). Cleanout riser shall match downstream pipe diameter.
5. Granular backfill is to be compacted to 95% maximum dry density per AASHTO T-99 test method and native material shall be compacted to 85% of in-place dry density of surrounding soil.
6. PVC service laterals shall be 4" pipe conforming to the same specifications as the sewer mains. Service laterals shall be installed to a point beyond the line of the sewer or utility easement as shown on the plan. The service lateral shall be plugged with a 4" rubber ring plug, and the location of the lateral's end marked with a 2" x 4" stake.
7. Sanitary sewer pipe and appurtenances shall be tested for leakage in accordance with APWA Division III requirements. Leakage tests will include required APWA air pressure test for sewer lines and required APWA vacuum test of manholes. All PVC pipe shall be tested for deflection. Deflection shall be tested with a mandrel equal to 95% of the pipe size being tested. In addition, sewer lines shall be video inspected by the contractor per APWA, Division III, Section 303.3.11. All tests shall be witnessed by the Engineer.
8. A plumbing permit from the City of West Linn Building Department is required for sanitary sewer laterals beyond the first cleanout.
9. All materials, installation, tests, and inspections to be made in strict accordance with City of West Linn's Street/Utility Construction Standards, with APWA's Standard Specifications for Public Works Construction, and with the Uniform Plumbing Code.

West Linn 12-10-97

AS-BUILT

REGISTERED PROFESSIONAL ENGINEER
18,530
OREGON
APRIL 19, 1996
JOSEF K. HITZ
11/16/98

REVISIONS	BY
REVISED PER CITY REVIEW. 12/17/97	JH

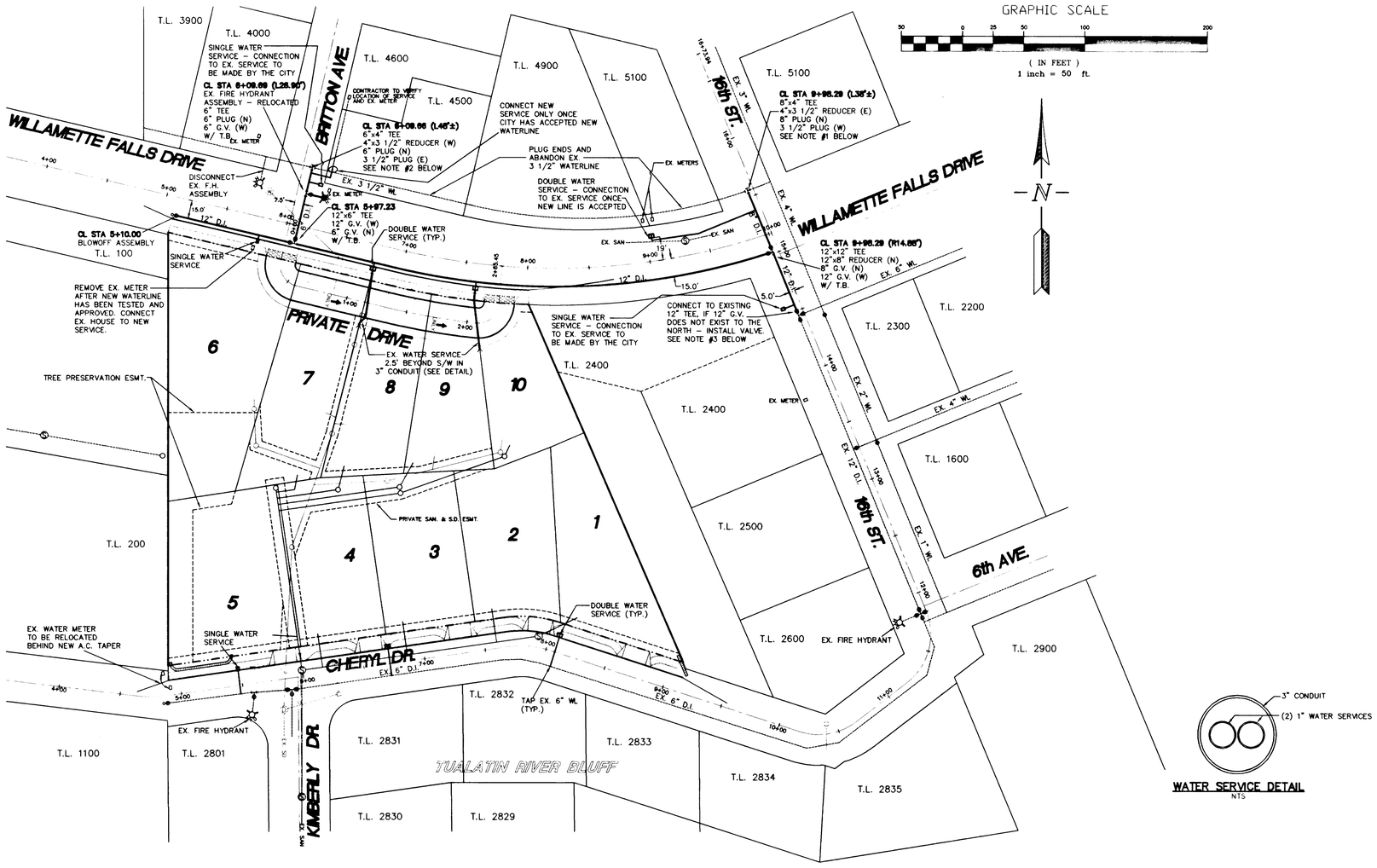
SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Notes

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	SEP. 1997
SCALE	NOTED
DRAWN	JH
JOB	96-24
SHEET	1
OF 8	SHEETS



REVISIONS	BY
REVISED PER CITY REVIEW, 12/17/97	JH
AS-BUILT 10/06/98	LD

SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Waterline Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

REGISTERED PROFESSIONAL ENGINEER
10,530
OREGON
APRIL 19, 1996
JOSEF K. HITZ
11/16/98

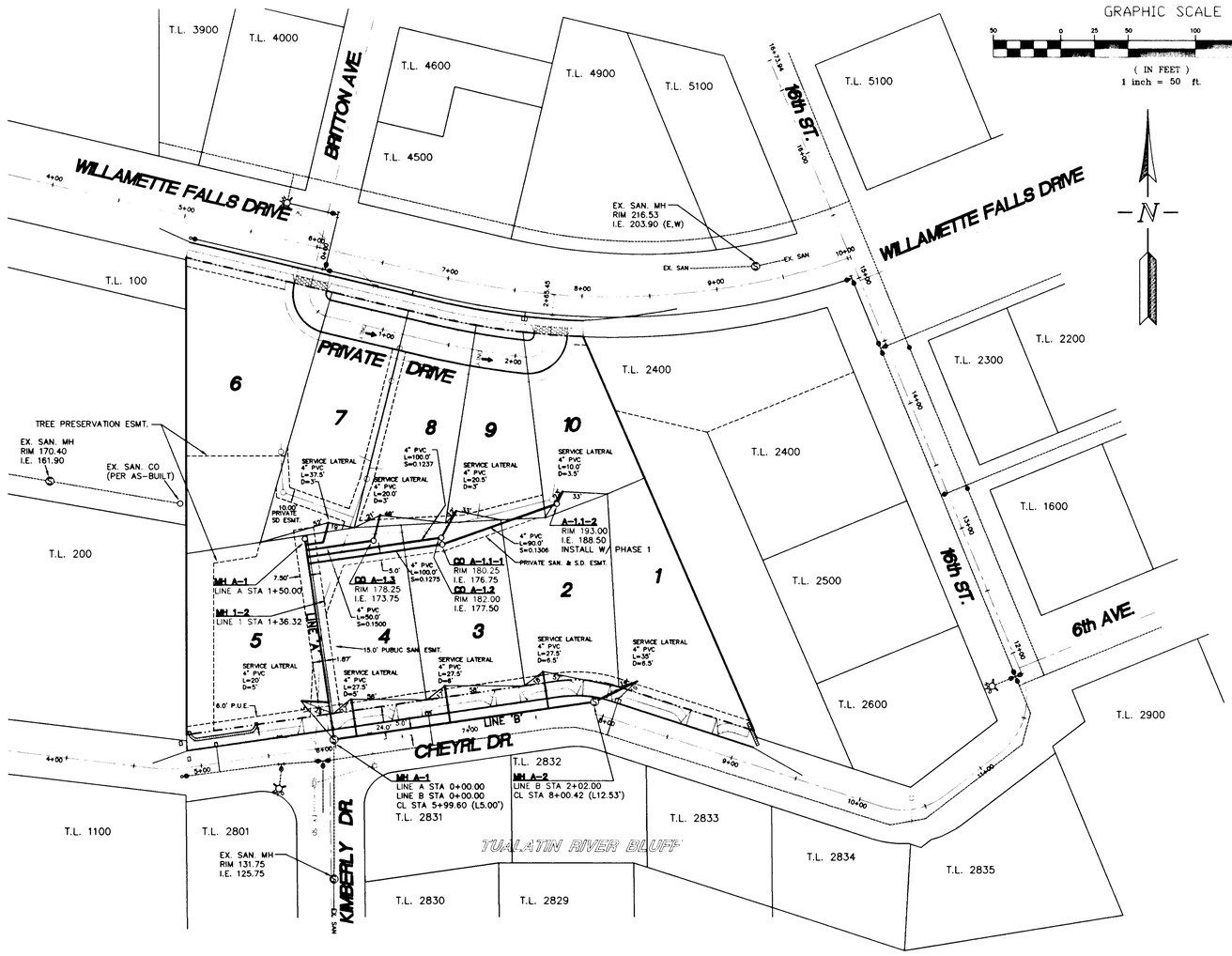
DATE	SEP. 1997
SCALE	NOTED
DRAWN	JH
JOB	96-24
SHEET	2
OF 8	SHEETS

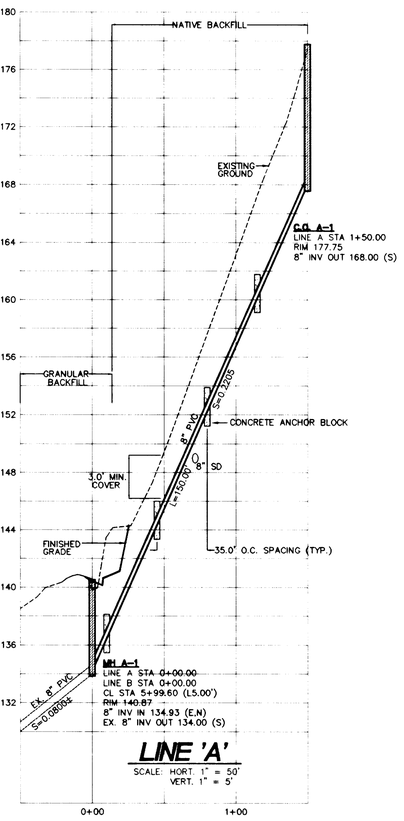
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

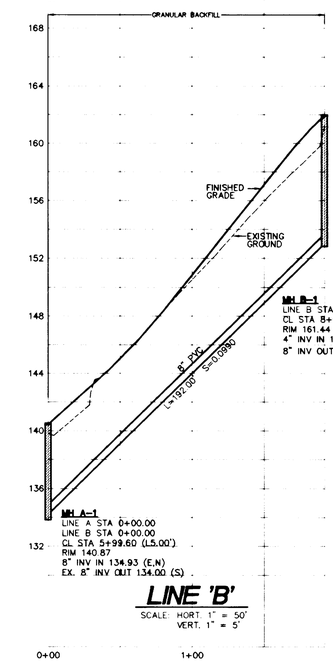
AS-BUILT





LINE 'A'

SCALE: HORT. 1" = 50'
VERT. 1" = 5'



LINE 'B'

SCALE: HORT. 1" = 50'
VERT. 1" = 5'

REGISTERED PROFESSIONAL ENGINEER
18,530
OREGON
APRIL 19, 1996
JOSEF K. HITZ
11/14/98

REVISIONS	BY
AS-BUILT 09/16/98	LD

SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Sanitary Sewer Plan and Profiles

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	SEP. 1997
SCALE	NOTED
DRAWN	JH
JOB	96-24
SHEET	3
OF 8	SHEETS

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

N

T.L. 3900 T.L. 4000 T.L. 4600 T.L. 4900 T.L. 5100 T.L. 5100 T.L. 4500 T.L. 2200 T.L. 2300 T.L. 2400 T.L. 2400 T.L. 1600 T.L. 2500 T.L. 2600 T.L. 2900 T.L. 200 T.L. 1100 T.L. 2801 T.L. 2832 T.L. 2831 T.L. 2833 T.L. 2834 T.L. 2835 T.L. 2830 T.L. 2829

BRITTON AVE

WILLAMETTE FALLS DRIVE

16th ST.

6th AVE.

CHEYRIL DR.

KIMBERLY DR.

PRIVATE DRIVE

TUALATIN RIVER BLUFF

1 2 3 4 5 6 7 8 9 10

NEW PROPERTY CORNER STA: 5+06.25 OFFSET: 31.92 R

10:1 A.C. TAPER

20:1 A.C. TAPER

6.0' P.U.E.

6.0' S/W.

TO BE CONST BY HOMEBUILDER

TREE PRESERVATION ESMT.

ROCK WALL

NEW PROPERTY CORNER STA: 9+08.72 OFFSET: 24.00 L

EXISTING DRIVEWAY

INSTALL MONUMENT BOX ● CL INTERSECTION

MH 1-1 (POL. CONTROL MH)
CL STA 5+86.39 (L7.50')
LINE 1 STA 0+32.73

CL 1-1
CL STA 5+60.00

CL 4-1
CL STA 6+49.09
SEE SHEET 5

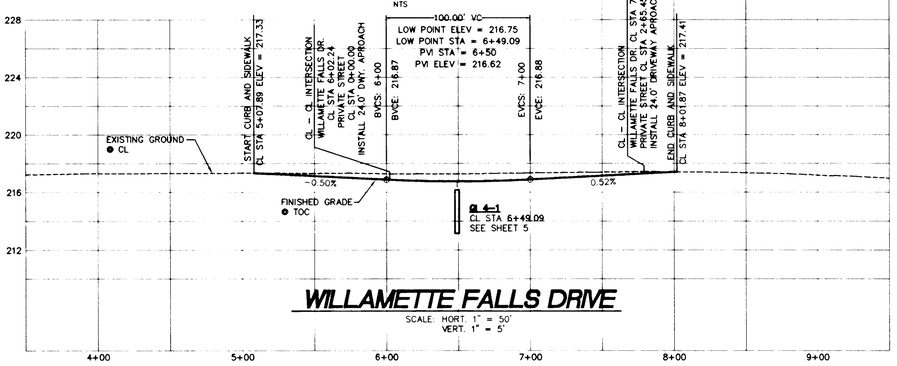
1 1/2" OF CLASS 'C' A.C.
1 1/2" OF CLASS 'B' A.C.
SAWCUT
5' to 6.5'
18'
EX. STREET SECTION
2" OF (3/4"-0") C.R.
7" OF (1 1/2"-0") C.R.

STREET TREES LOCATIONS TO BE APPROVED BY CITY ARBORIST

30' HALF R.O.W. 30' ACCESS & UTILITY ESMT.
6' 6' SW 6'
18' HALF STREET 24' DRIVEWAY
NEW STREET SECTION 7.0'±
2.50%
18" ● 5:1 MAX
2:1 MAX
STD. CURB & GUTTER
STD. CURB
EXISTING STREET SECTION 11.0'±
MATCH NEW SURFACE TO EXISTING
1 1/2" LIFT OF CLASS 'C' A.C. OVER 1 1/2" LIFT OF CLASS 'B' A.C. OVER 2" OF (3/4"-0") & 7" OF (1 1/2"-0") CRUSHED ROCK

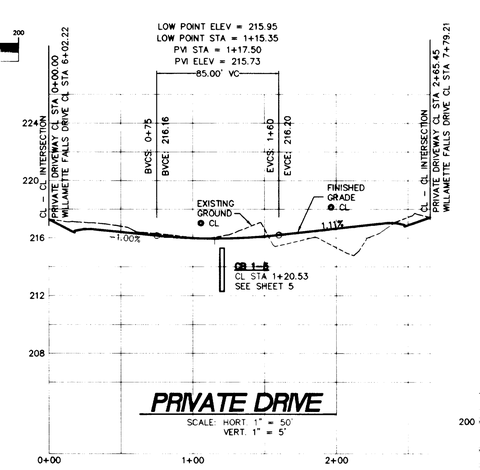
WILLAMETTE FALLS DRIVE / DRIVEWAY SECTION

NTS



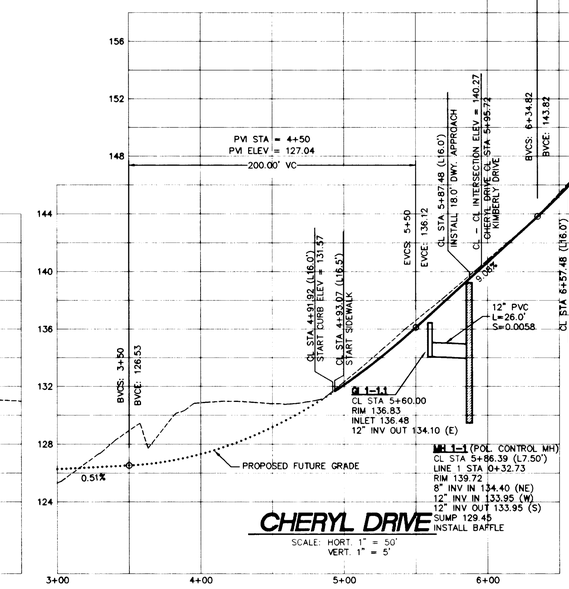
WILLAMETTE FALLS DRIVE

SCALE: HORT. 1" = 50'
VERT. 1" = 5'



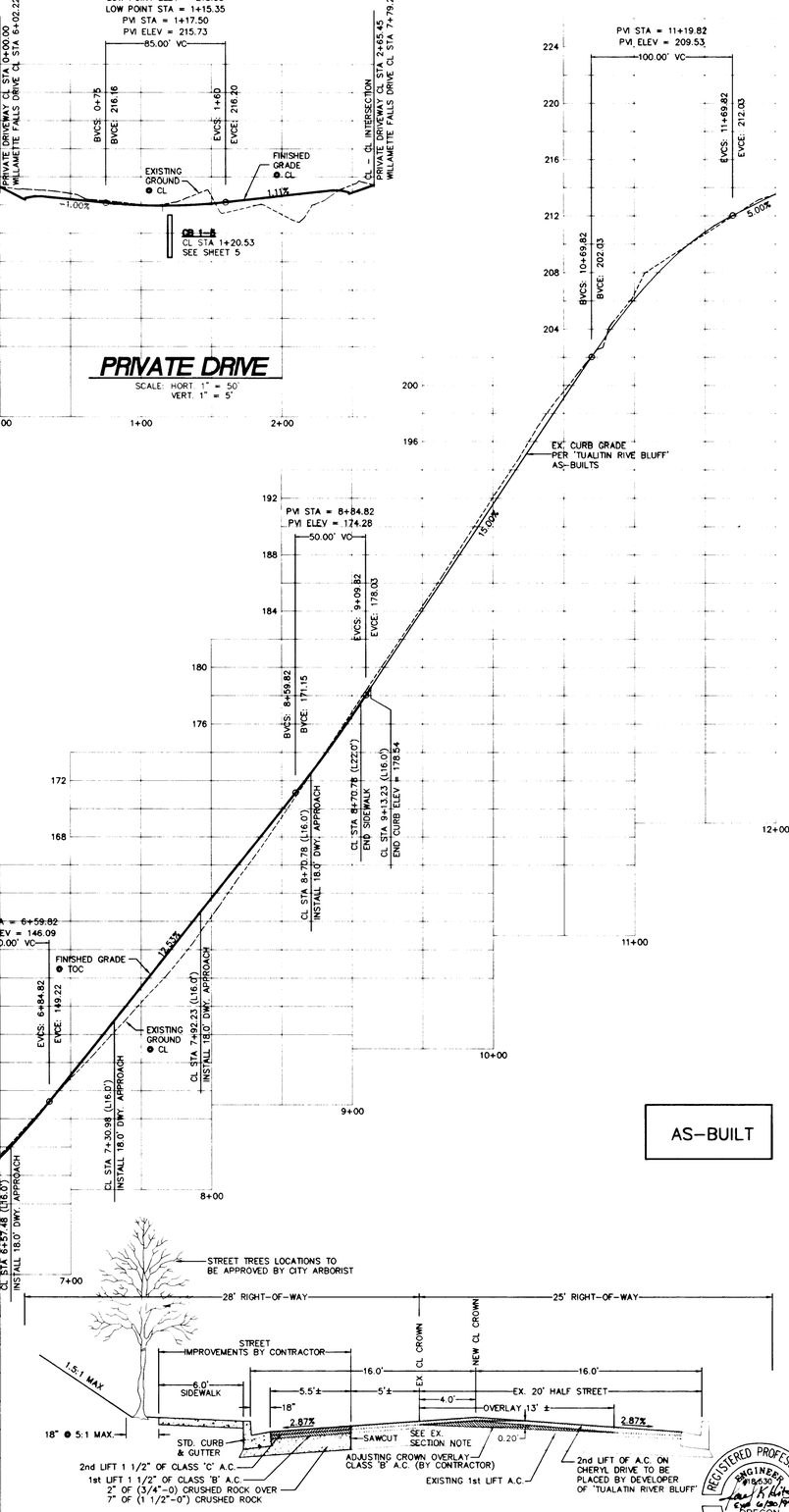
PRIVATE DRIVE

SCALE: HORT. 1" = 50'
VERT. 1" = 5'



CHERYL DRIVE

SCALE: HORT. 1" = 50'
VERT. 1" = 5'



AS-BUILT

STREET TREES LOCATIONS TO BE APPROVED BY CITY ARBORIST

28' RIGHT-OF-WAY 25' RIGHT-OF-WAY

STREET IMPROVEMENTS BY CONTRACTOR

EX. CL CROWN NEW CL CROWN

6.0' SIDEWALK 16.0' 16.0'
5.5'± 5'± 4.0'
18" EX. 20' HALF STREET
OVERLAY 13' ±
1.5:1 MAX
2.87% 2.87%
18" ● 5:1 MAX
STD. CURB & GUTTER
SAWCUT
SEE EX SECTION NOTE
0.20'
ADJUSTING CROWN OVERLAY CLASS 'B' A.C. (BY CONTRACTOR)
EXISTING 1st LIFT A.C.
2nd LIFT OF A.C. ON CHERYL DRIVE TO BE PLACED BY DEVELOPER OF 'TUALATIN RIVER BLUFF'
2nd LIFT 1 1/2" OF CLASS 'C' A.C.
1st LIFT 1 1/2" OF CLASS 'B' A.C.
2" OF (3/4"-0") CRUSHED ROCK OVER
7" OF (1 1/2"-0") CRUSHED ROCK

CHERYL DRIVE TYPICAL SECTION

NTS

REGISTERED PROFESSIONAL ENGINEER #816530 Josef K. Hitz EXP. 6/30/99 OREGON APRIL 19, 1996 JOSEF K. HITZ
11/16/98

REVISIONS	BY
REVISED PER CITY REVIEW 12/17/97	JH
AS BUILT 9/15/98	JW

SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

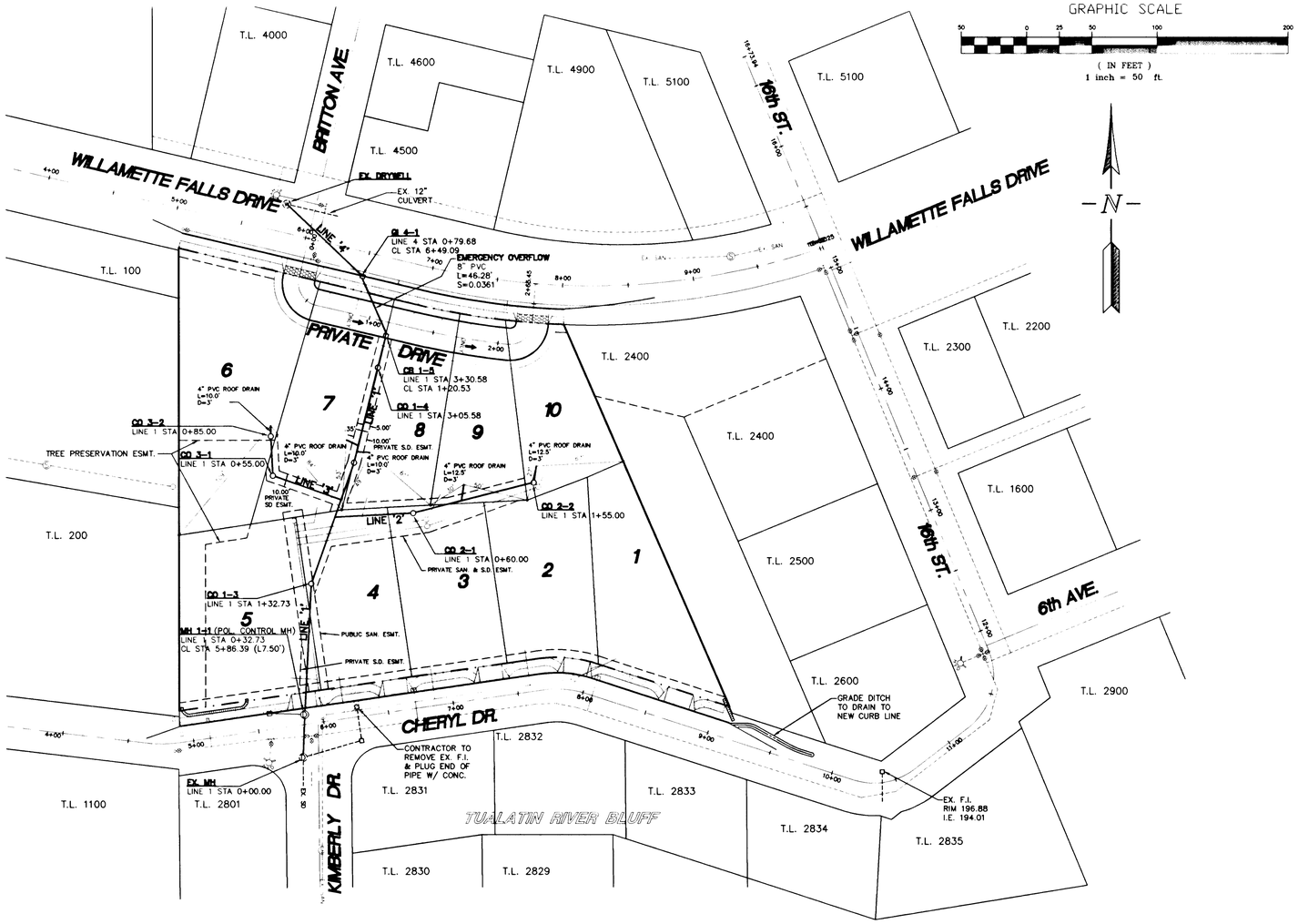
Street Plan and Profiles

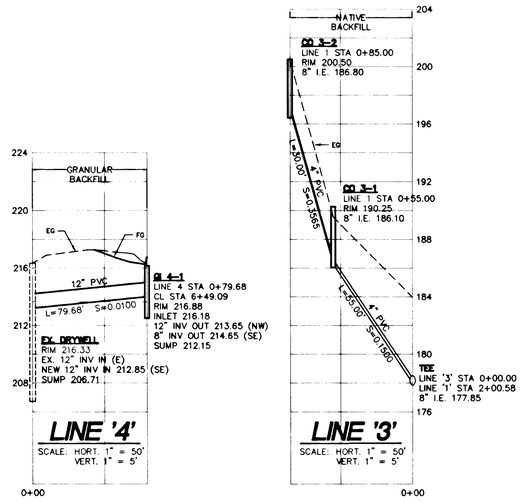
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

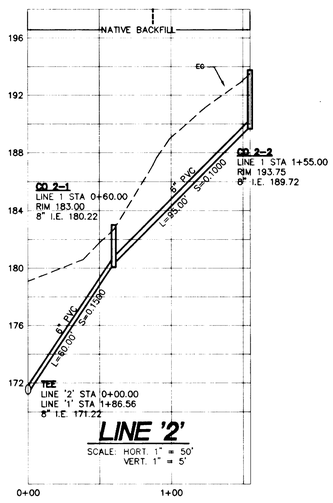
DATE	SEP. 1997
SCALE	NOTED
DRAWN	JH
JOB	96-24
SHEET	4
OF	8 SHEETS

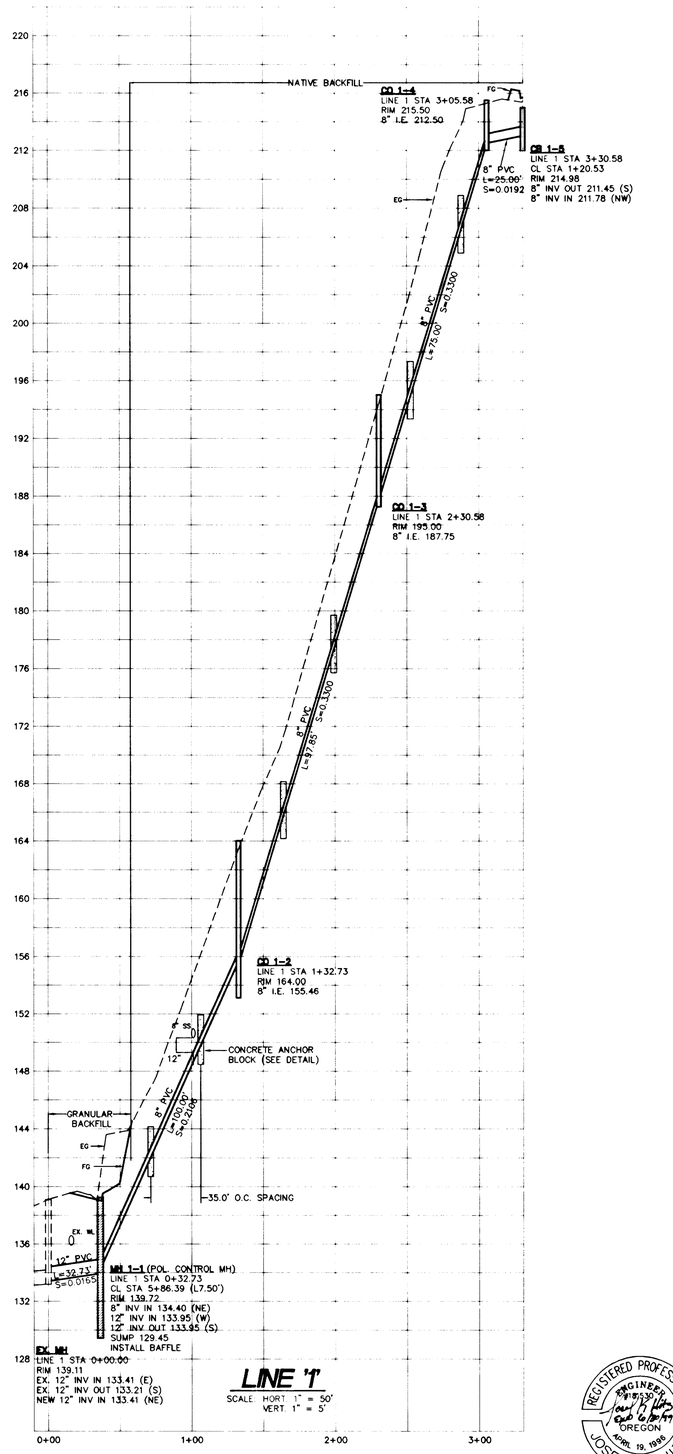
AS-BUILT

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.









REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 19, 1996
JOSEF K. HITZ
11/14/97

REVISIONS	BY
REVISED PER CITY REVIEW. 12/17/97	JH
AS BUILT 9/15/98	JW

SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Storm Drain Plan and Profiles

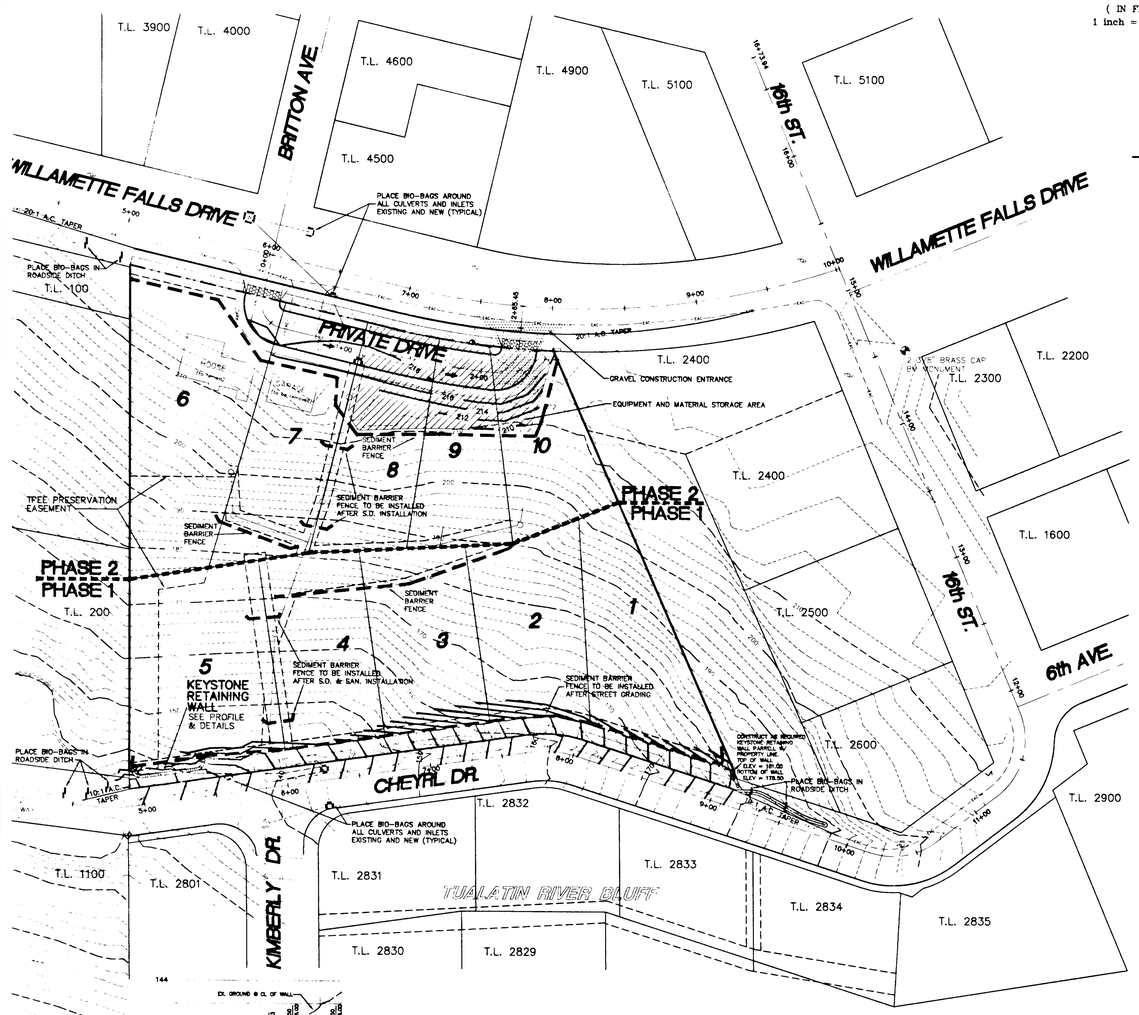
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

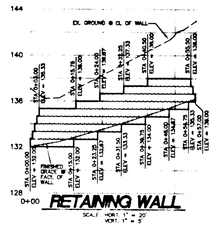
DATE	SEP. 1997
SCALE	NOTED
DRAWN	JH
JOB	96-24
SHEET	5
OF 8	SHEETS

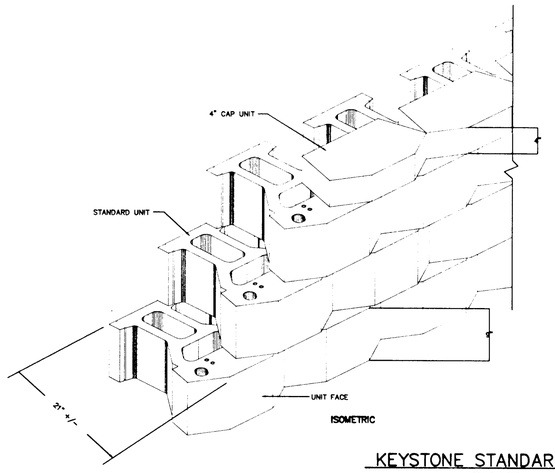
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

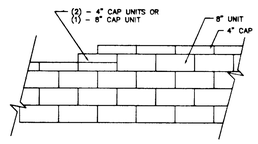




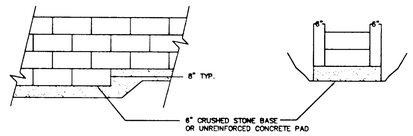


KEYSTONE STANDARD UNIT
SCALE: NONE

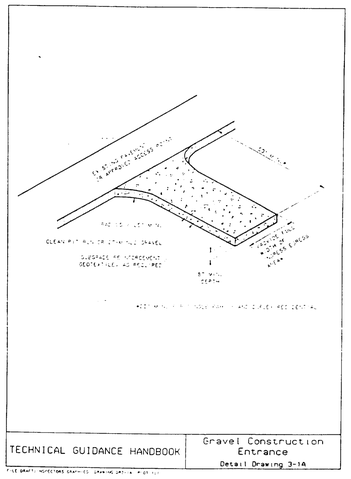
AS-BUILT

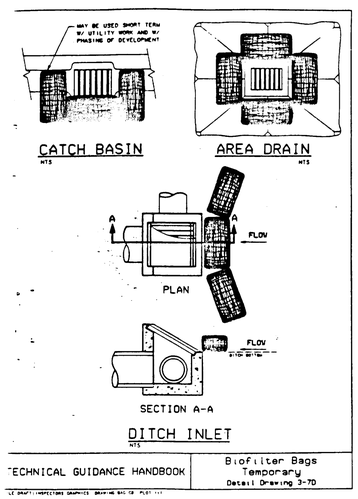


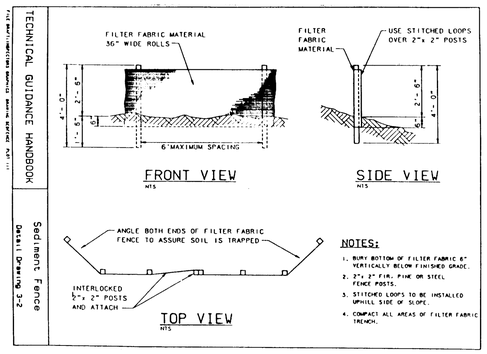
TOP OF WALL STEPS
SCALE: NONE



LEVELING PAD AND STEP DETAILS
SCALE: NONE







REVISIONS	BY
REVISED PER CITY REVIEW, 12/17/97	JH

SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Grading and Erosion Control Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

REGISTERED PROFESSIONAL ENGINEER
18630
OREGON
JULY 12, 1985
JOSEF K. HITZ

11/14/98

DATE	SEP. 1997
SCALE	NOTED
DRAWN	JH
JOB	96-24
SHEET	6
OF	8 SHEETS

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

AS-BUILT

TREE LIST

TREE No.	DESCRIPTION	TREE No.	DESCRIPTION	TREE No.	DESCRIPTION	TREE No.	DESCRIPTION	TREE No.	DESCRIPTION	TREE No.	DESCRIPTION
(1)	10" MAPLE (REMOVED)	(11)	26" FIR (REMOVED)	(21)	30" FIR (REMOVED)	(31)	36" FIR (REMOVED)	(41)	16" FIR	(51)	24" FIR
(2)	12" FIR	(12)	26" FIR (REMOVED)	(22)	12" FIR (REMOVED)	(32)	18" FIR (REMOVED)	(42)	36" FIR	(52)	48" FIR (REMOVED)
(3)	14" FIR (REMOVED)	(13)	26" FIR (REMOVED)	(23)	30" FIR (REMOVED)	(33)	30" FIR (REMOVED)	(43)	10" FIR	(53)	36" FIR (REMOVED)
(4)	24" FIR (REMOVED)	(14)	14" FIR (REMOVED)	(24)	12" FIR (REMOVED)	(34)	33" FIR (REMOVED)	(44)	12" FIR	(54)	44" FIR
(5)	(6) 7" MAPLES (REMOVED)	(15)	36" FIR (REMOVED)	(25)	30" FIR (REMOVED)	(35)	30" FIR (REMOVED)	(45)	48" FIR	(55)	34" FIR
(6)	30" PINE (REMOVED)	(16)	36" FIR (REMOVED)	(26)	10" FIR (REMOVED)	(36)	36" FIR	(46)	24" FIR	(56)	46" FIR
(7)	20" CHERRY (REMOVED)	(17)	14" FIR (REMOVED)	(27)	37" FIR (REMOVED)	(37)	24" FIR	(47)	36" FIR	(57)	(3) 14" CEDARS
(8)	12" MAPLE (REMOVED)	(18)	40" FIR (REMOVED)	(28)	34" FIR (REMOVED)	(38)	16" FIR	(48)	(2) 60" FIR	(58)	(3) 14" CEDARS
(9)	48" FIR	(19)	28" FIR (REMOVED)	(29)	14" FIR (REMOVED)	(39)	40" FIR	(49)	10" FIR	(59)	(6) 24" CEDARS
(10)	(2) 48" FIR (REMOVED)	(20)	44" FIR (REMOVED)	(30)	30" FIR (REMOVED)	(40)	38" FIR	(50)	28" FIR	(60)	10" APPLE

NOTE:

⚠ – CONSTRUCT SNOW FENCING MIN. OF 10' BEYOND DRIPLINE PRIOR TO BEGINNING CONSTUCTION FENCE TO BE MAINTAINED UNTIL THE END OF CONSTRUCTION ACTIVITY.

NOTE:

TREES NOT LISTED TO BE REMOVED ARE TO REMAIN UNLESS FIRST OBTAINING A PERMIT TO REMOVE.

REGISTERED PROFESSIONAL ENGINEER
OREGON
APRIL 19, 1985
JOSEF K. HITZ
11/14/98

REVISIONS	BY
AS-BUILT 11/16/98	LD

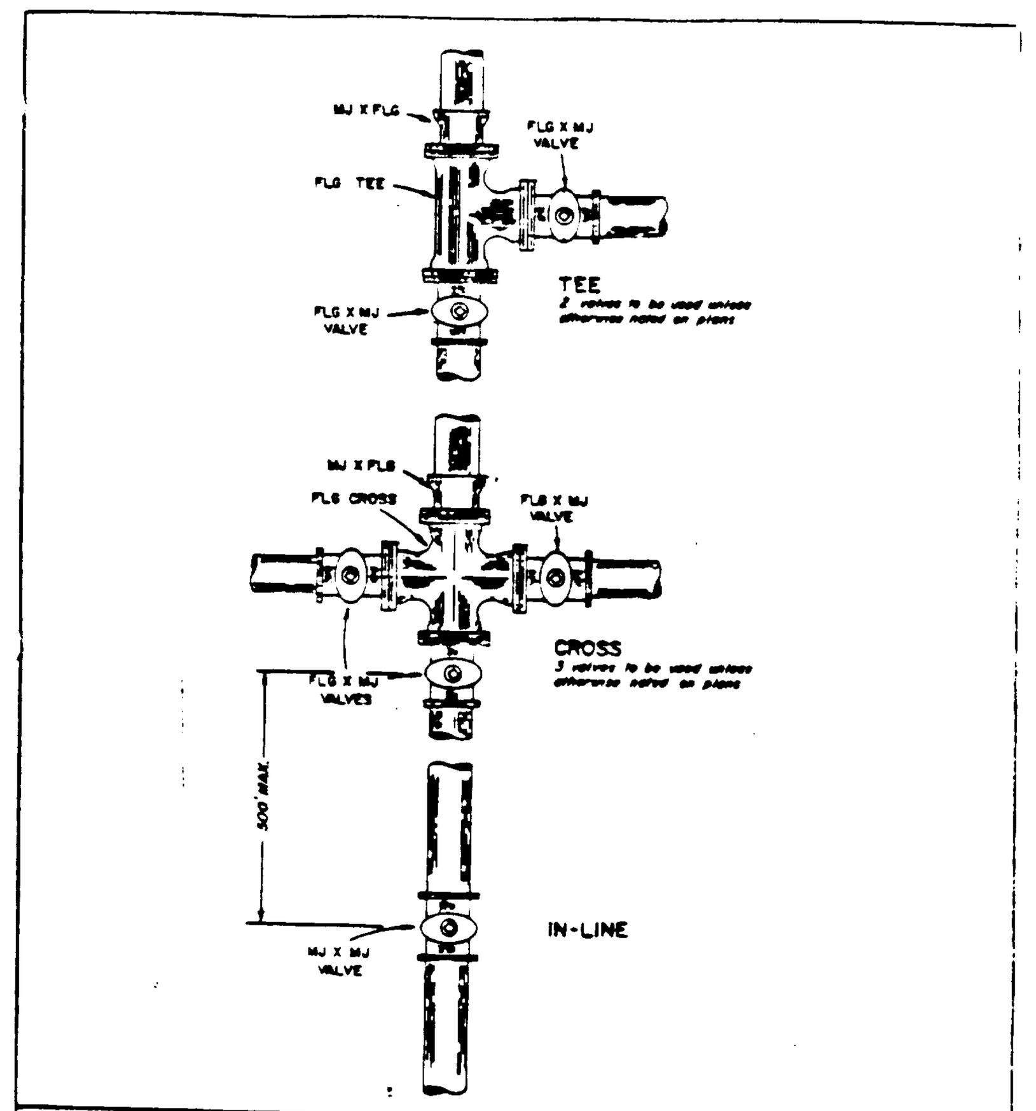
SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Tree Impact Plan and Protection Details

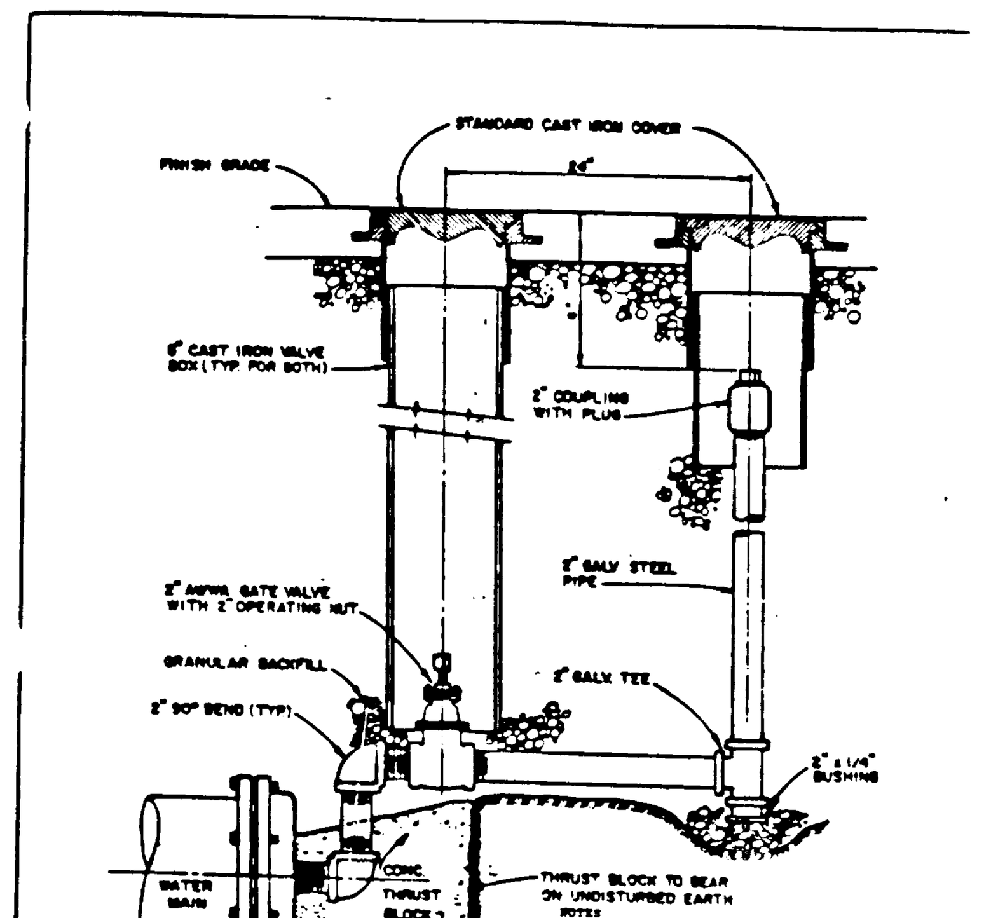
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE SEP. 1997
SCALE NOTED
DRAWN JH
JOB 96-24
SHEET 7
OF 8 SHEETS



CITY OF WEST LINN | VALVE LOCATION

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. VL - 303

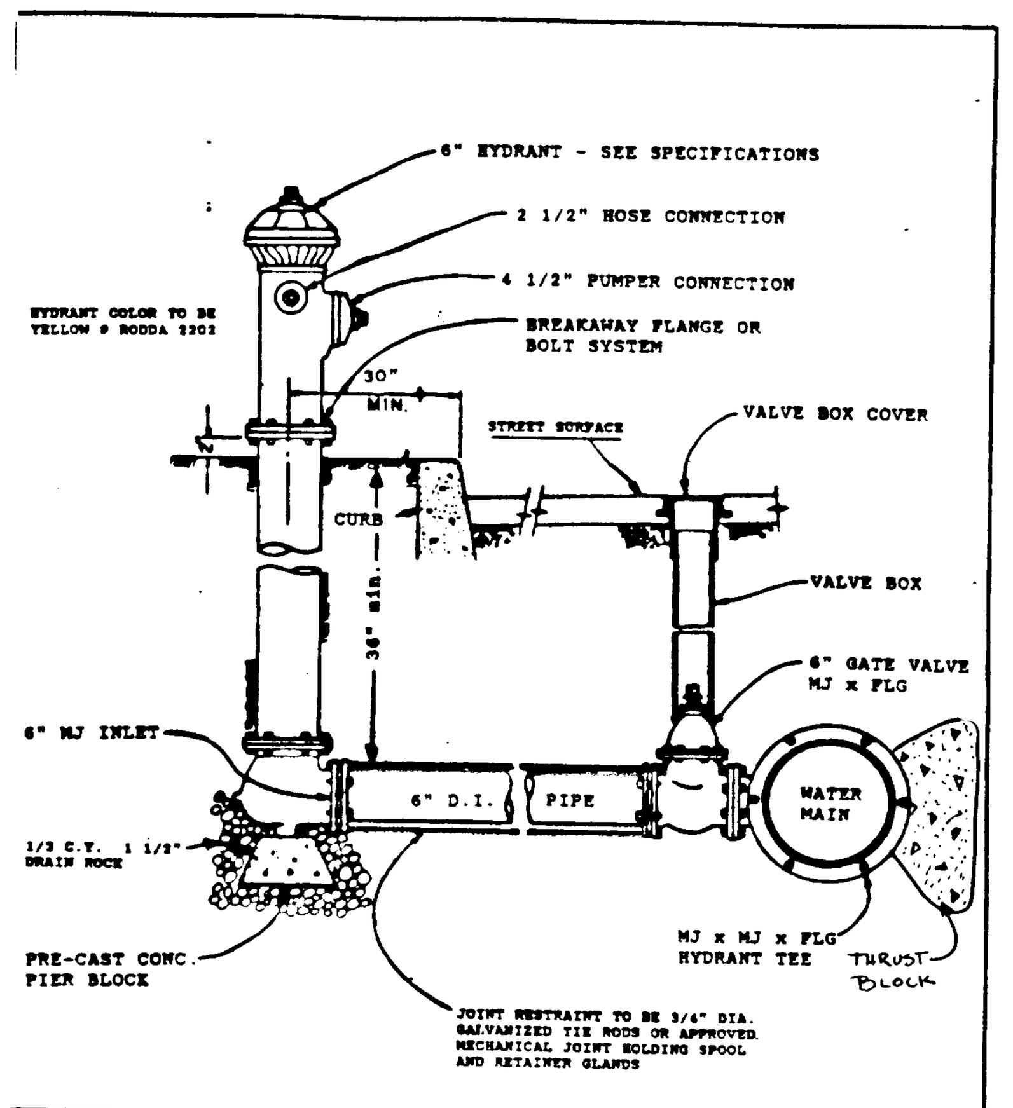


NOTES

1. Blowoff not to be located in gutter or ditch.
2. Fittings and pipe between main & 2" gate valve shall be brass.
3. Coat all galvanized pipe or exposed steel with protective coating conforming to AWWA C 203.
4. Restrain mechanical joint plug to pipe.
5. This standard applicable for pipe sizes thru 8".

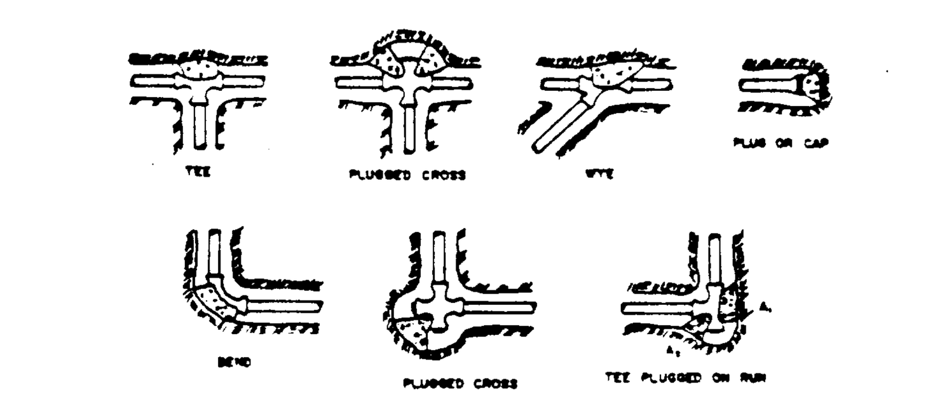
CITY OF WEST LINN | BLOWOFF

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. BO - 301



CITY OF WEST LINN | FIRE HYDRANT

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE 5-27-87
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. FH - 300



BEARING AREA OF THRUST BLOCK (in sq. ft.)

FITTING SIZE (in.)	TEE, WYE, PLUG or CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN A	TEE PLUGGED ON RUN A1	45° BEND	22½° BEND	11¼° BEND
4	1.0	1.4	1.9	1.4	1.0	-	-
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	16.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.0	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.8

NOTES

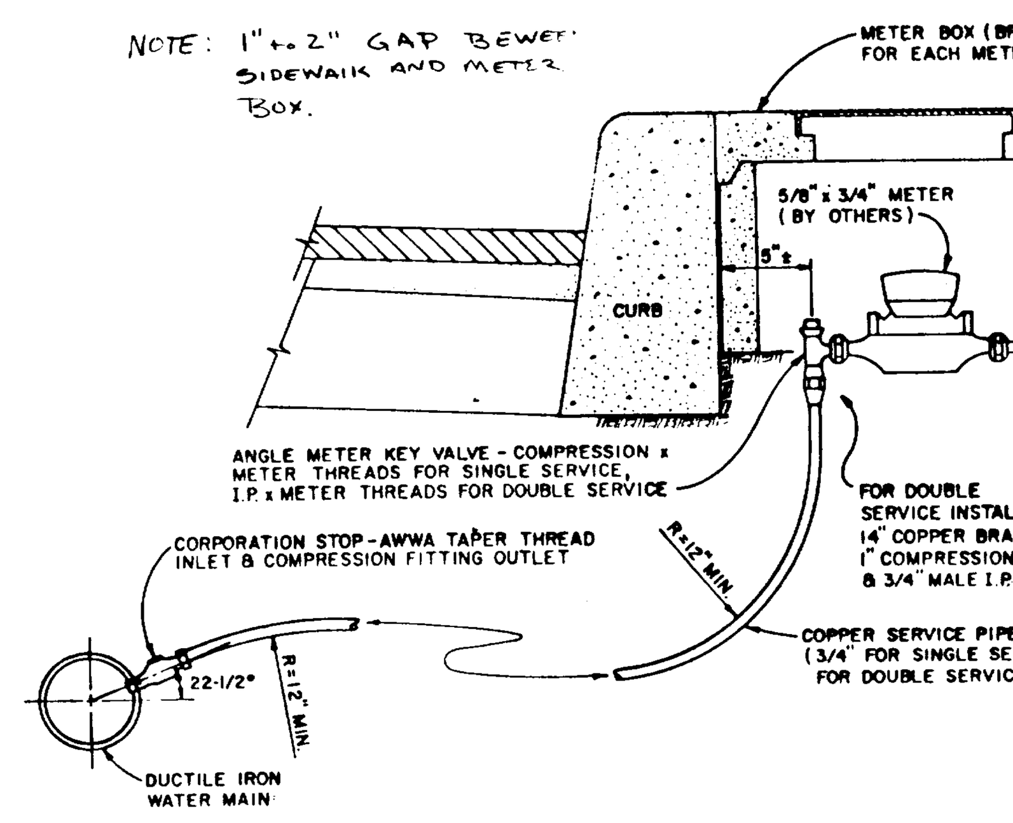
1. Concrete shall be poured against undisturbed earth.
2. Concrete shall be kept clear of joint and accessories.
3. The required thrust bearing area for special connections is shown encircled on the plans. For example, (15) indicates 15 SQ. FT. bearing area required.
4. If not shown on plans, required bearing area of fitting shall be as indicated above, adjusted if necessary to conform to the test pressures and allowable soil bearing stresses stated in the special specifications.
5. Bearing areas and special blocking details shown on the plans shall take precedence over this standard.
6. Above bearing areas are based on a test pressure of 150 P.S.I. and an allowable soil bearing stress of 2000 LBS./SQ. FT. To compute bearing areas for different test pressures and soil bearing stresses, use the following equation:

$$\text{BEARING AREA} = \text{TABLE VALUE} \times \frac{\text{TEST PRESSURE}}{150} \times \frac{2000}{\text{SOIL BEARING STRESS}}$$

CITY OF WEST LINN | THRUST BLOCKING

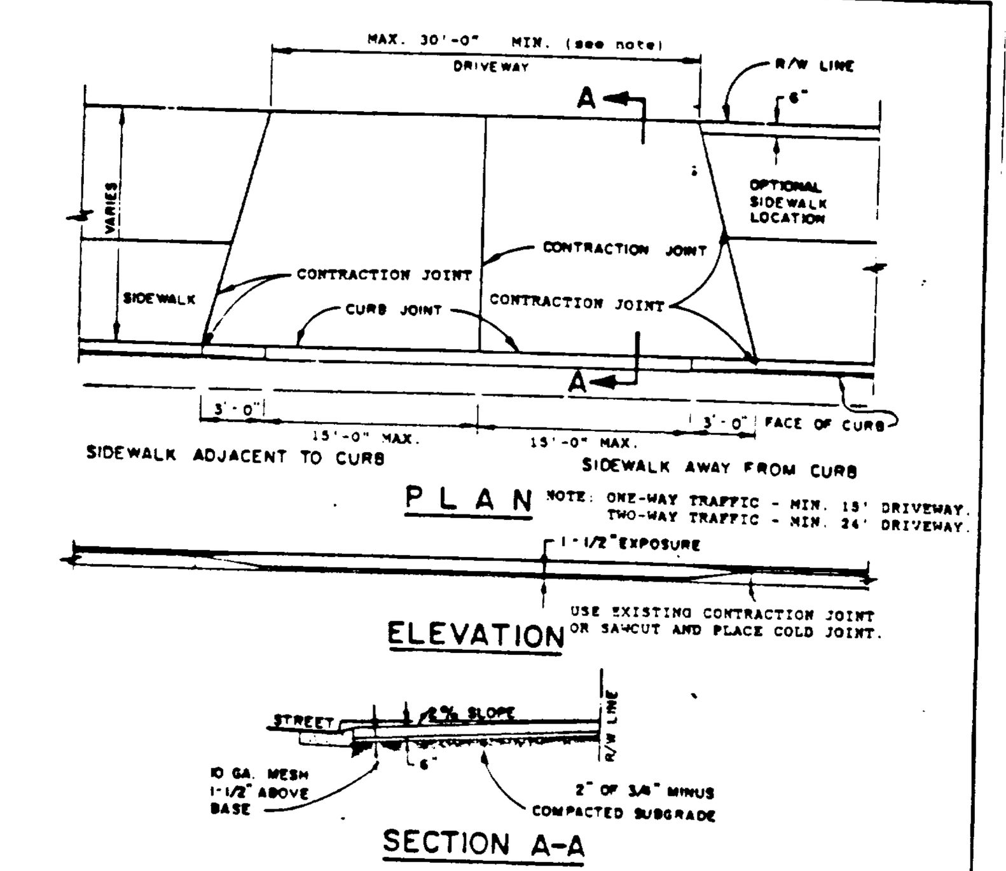
DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. TB - 302

NOTE: 1" to 2" GAP BETWEEN SIDEWALK AND METER BOX.



TYPICAL WATER SERVICE CONNECTION

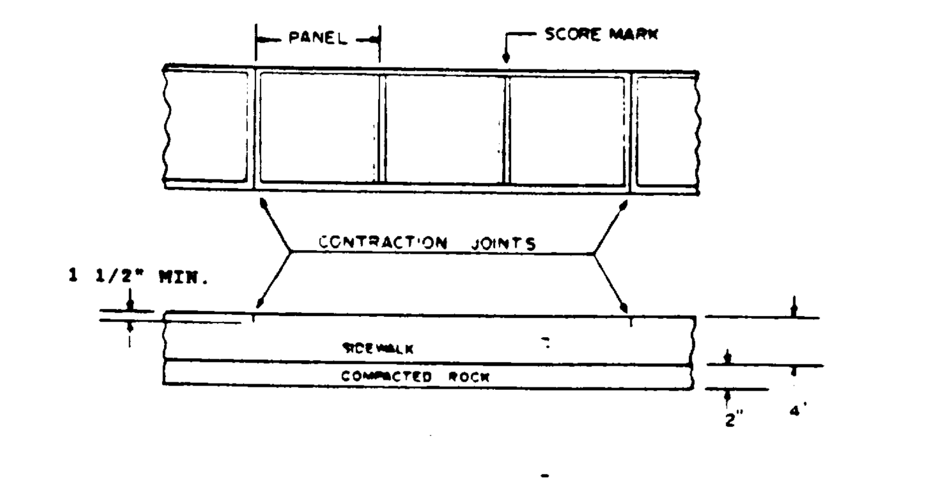
AS-BUILT



1. CONCRETE SHALL HAVE A MINIMUM BREAKING STRENGTH OF 3000 PSI AFTER 28 DAYS, 6 SACK MIX.
2. CURB JOINT SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS ALONG BACK OF CURB.
3. DRIVEWAY SHALL BE A MINIMUM 6" THICK.

CITY OF WEST LINN | COMMERCIAL DRIVEWAY

DRAWN BY DDP DATE
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. DW - 260

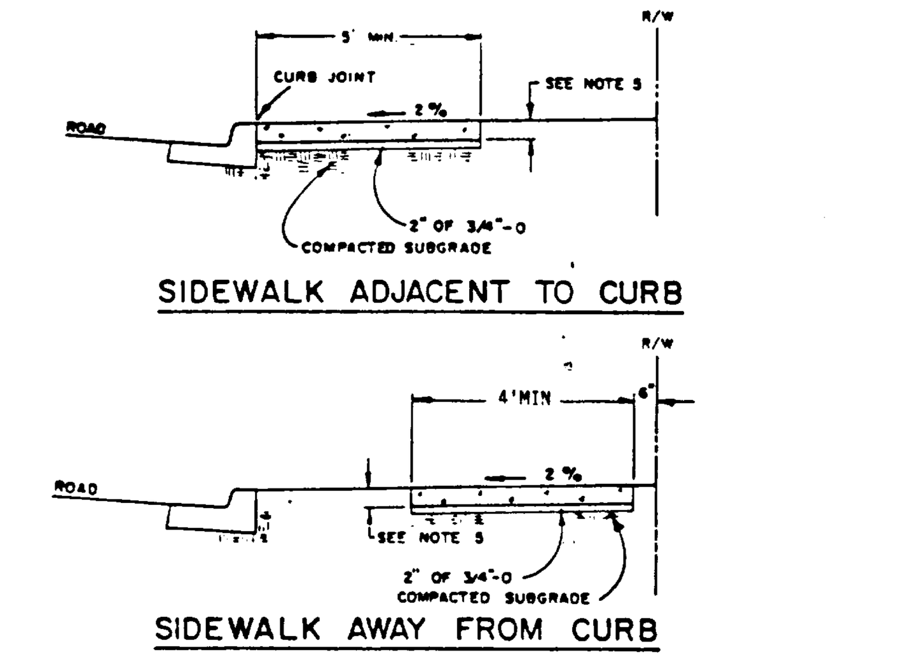


NOTES

1. EXPANSION JOINTS SHALL NOT BE USED.
2. 1 1/2" MIN. DEEP CONTRACTION JOINTS SHALL BE PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, WHEEL-CHAIR RAMPS, & AT TRANSVERSE SPACING NOT TO EXCEED 15 LF.
3. CONTRACTION JOINTS SHALL MATCH THE EXISTING CURB JOINTS & TRAVEL THRU FULL WIDTH OF SIDEWALK.
4. PANEL LENGHTS SHALL BE EQUAL TO THE SIDEWALK WIDTH, BUT MAY BE ADJUSTED WITH THE CITY INSPECTORS APPROVAL.
5. SCORE MARKS SHALL BE PLACED PRIOR TO EDGING & BE REMOVED AT SIDES BY THE EDGING.

CITY OF WEST LINN | CONCRETE SIDEWALK JOINT DETAILS

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. CS - 270.1

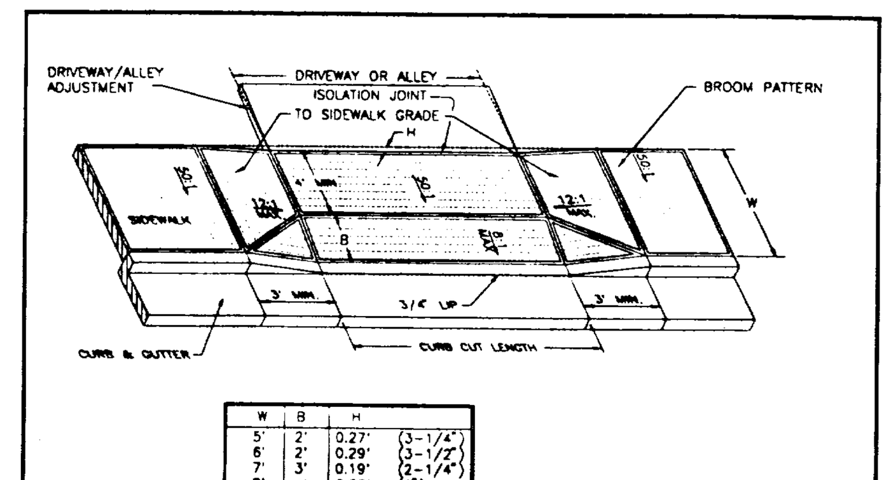


1. Concrete shall be 300 PSI at 28 days, 6 sack mix, slump range of 1 1/2" to 3".
2. Panel lengths shall be equal to the sidewalk width, but may be adjusted with the City Engineers approval.
3. Contraction joints (1 1/2" deep) shall be placed every third panel, with a max. spacing of 15 feet.

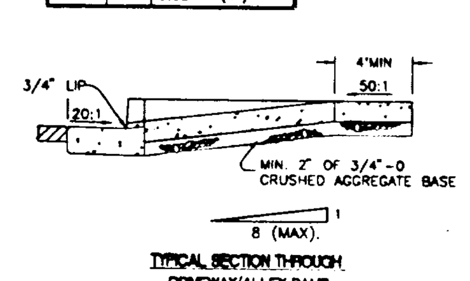
   Joints shall also be placed at the sides of driveway approaches, utility vaults, and wheelchair ramps.
4. A curing compound shall be used. White reflective sheeting shall be used in case of rain.
5. For sidewalks adjacent to the curb & poured at the same time as the curb, the joint between them shall be a troweled joint with a min. 1/2" radius.
6. The sidewalk shall have a min. thickness of 6" if mountable curb is used or if the sidewalk is intended as a portion of the driveway. Otherwise, the sidewalk shall have a min. thickness of 4".
7. Drain blockouts in the curb shall be extended to the back of the sidewalk with a 3" dia. plastic pipe at a 2% slope. A contraction joint shall be placed over the pipe.

CITY OF WEST LINN | CONCRETE SIDEWALK

DRAWN BY DDP DATE 5-20-87
CHECKED BY DLK DATE 5-27-87
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. CS - 270



W	B	H
5'	2'	0.27' (3-1/4")
6'	2'	0.29' (3-1/2")
7'	3'	0.19' (2-1/4")
8'	4'	0.08' (1")



TYPICAL SECTION THROUGH DRIVEWAY/ALLEY RAMP

NOTES:

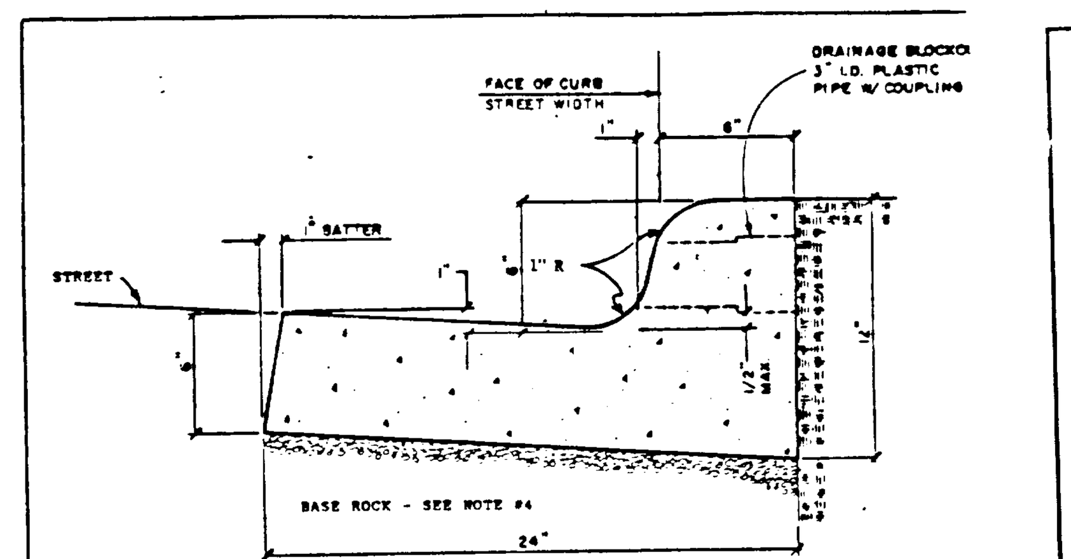
1. RESIDENTIAL DRIVEWAYS AND SIDEWALK SECTIONS THROUGH DRIVEWAYS SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 6". CONCRETE STRENGTH SHALL BE 3300 PSI.
2. CONCRETE FOR COMMERCIAL USE AND ALLEY APPROACHES SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 8". CONCRETE STRENGTH SHALL BE 3300 PSI.
3. CURB TRANSITIONS FOR COMMERCIAL USE AND ALLEY APPROACHES SHALL BE 5 FEET.
4. CONSTRUCT CONTRACTION JOINT IN CENTER OF DRIVEWAY WHEN DRIVEWAY WIDTH EXCEEDS 15'.
5. NO LIP AT GUTTER IF USED AS SIDEWALK ACCESS RAMP.
6. SEE SIDEWALK DETAILS FOR RESTRICTIONS AND SPECIFICATIONS NOT SHOWN.
7. THE 50:1 CROSS-SLOPE OF SIDEWALK IS MEASURED FROM HORIZONTAL. THE 12:1 SLOPE OF SIDEWALK TRANSITION TO DRIVEWAY/ALLEY IS RELATIVE TO THE RUNNING SLOPE OF THE SIDEWALK. THE SLOPE OF THE APRON IS MEASURED RELATIVE TO HORIZONTAL.

APWA OREGON CHAPTER

DRIVEWAY AND ALLEY APPROACHES WITH DEPRESSED CURBLINE SIDEWALK

DATE AUG 1996 | DRAWING NO. 208

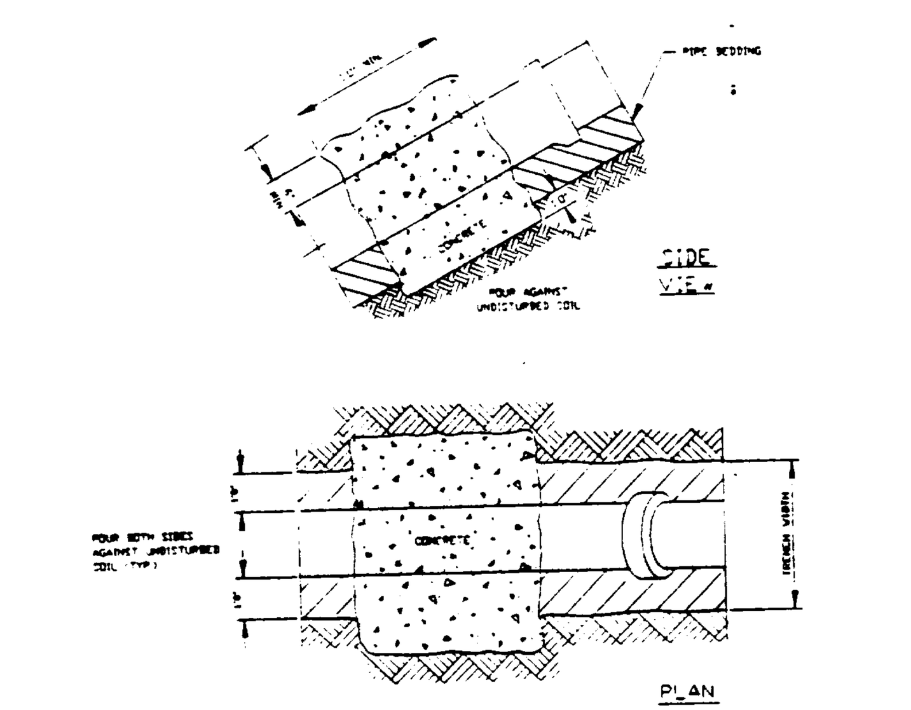
FILENAME: APWA0056.DWG



1. When used along medians, gutters may be reduced with prior approval from the City Engineer.
2. Concrete shall have a breaking strength of 3000 PSI after 28 days.
3. CONTRACTION JOINTS
   A. To be provided:
      1) at each point of tangency of the curb.
      2) at each cold joint.
      3) at each side of inlet structures.
      4) at both sided of an approach.
   B. Spacing to be not more than 15 feet.
   C. The depth of the joint shall be at least 1 1/2".
4. Base rock - 1 1/2" minus, 95% compaction. Rock shall be to subgrade of street structure or 4" in depth, whichever is greater.
5. Drainage block - 3" dia. plastic pipe.
   A. Drainage access through existing curbs shall be by the following:
      1) core drilling.
      2) vertical saw-cut of curb 18" each side of drain & repoured to full depth of curb.

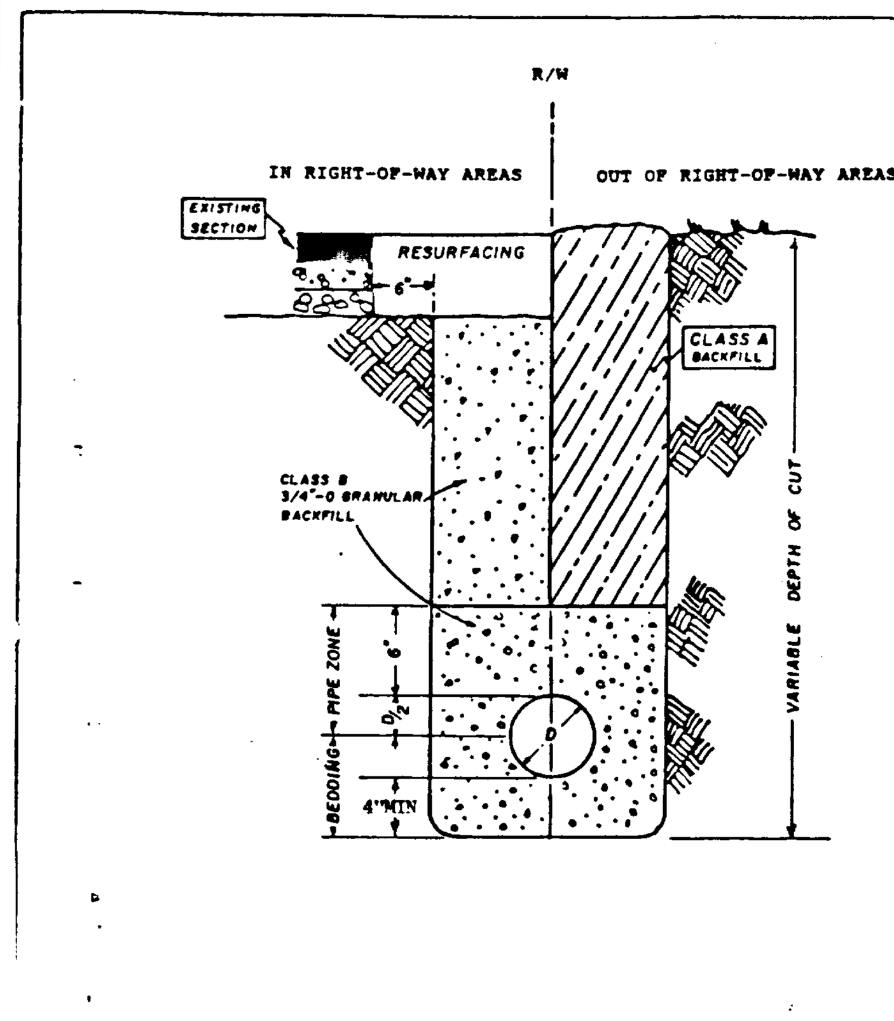
CITY OF WEST LINN | CURB & GUTTER

DRAWN BY DDP DATE
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. CG - 265



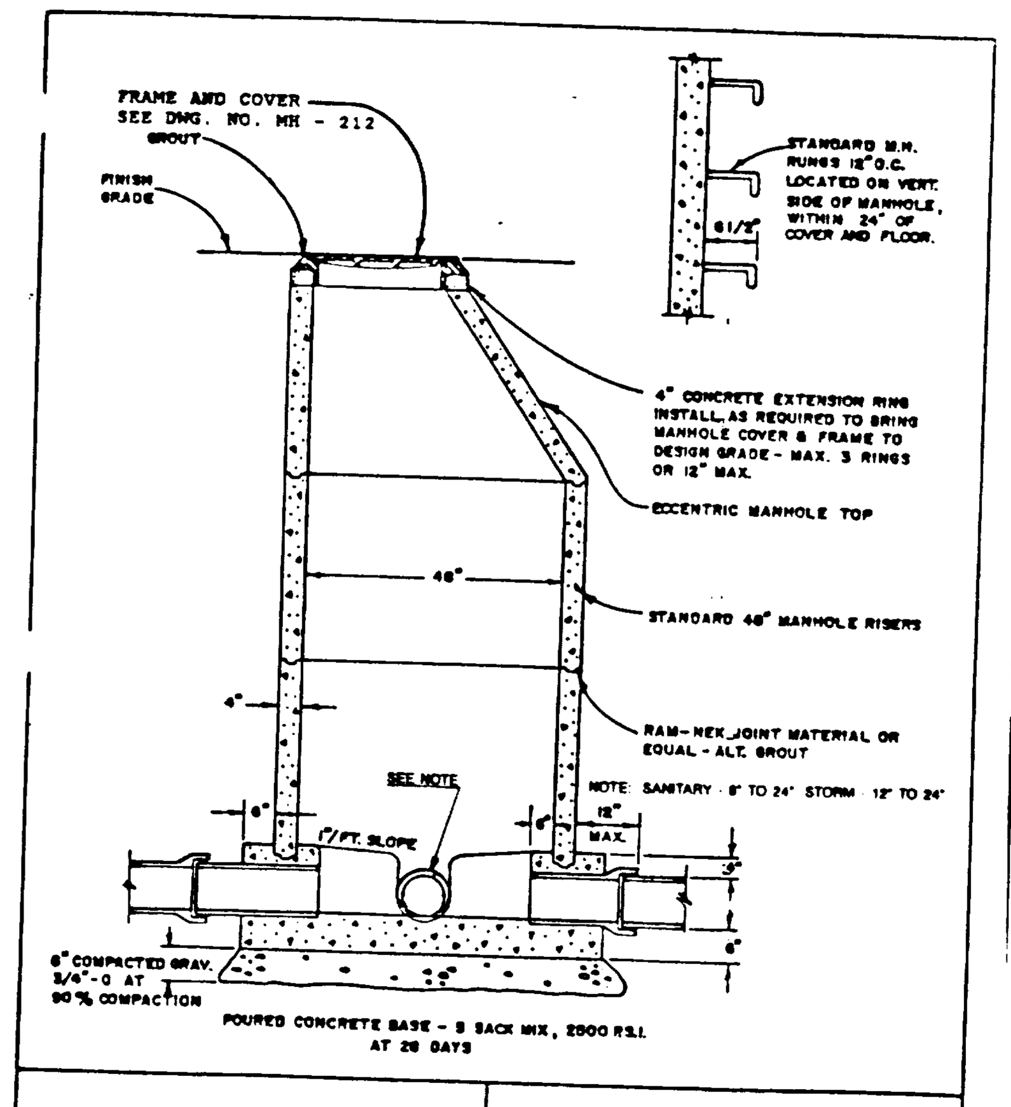
SLOPE	MIN. ANCHOR SPACING CENTER TO CENTER
0.20 - 0.34	35'
0.35 - 0.50	25'
0.51+	5' OR CONC. ENCASEMENT

ANCHOR WALL



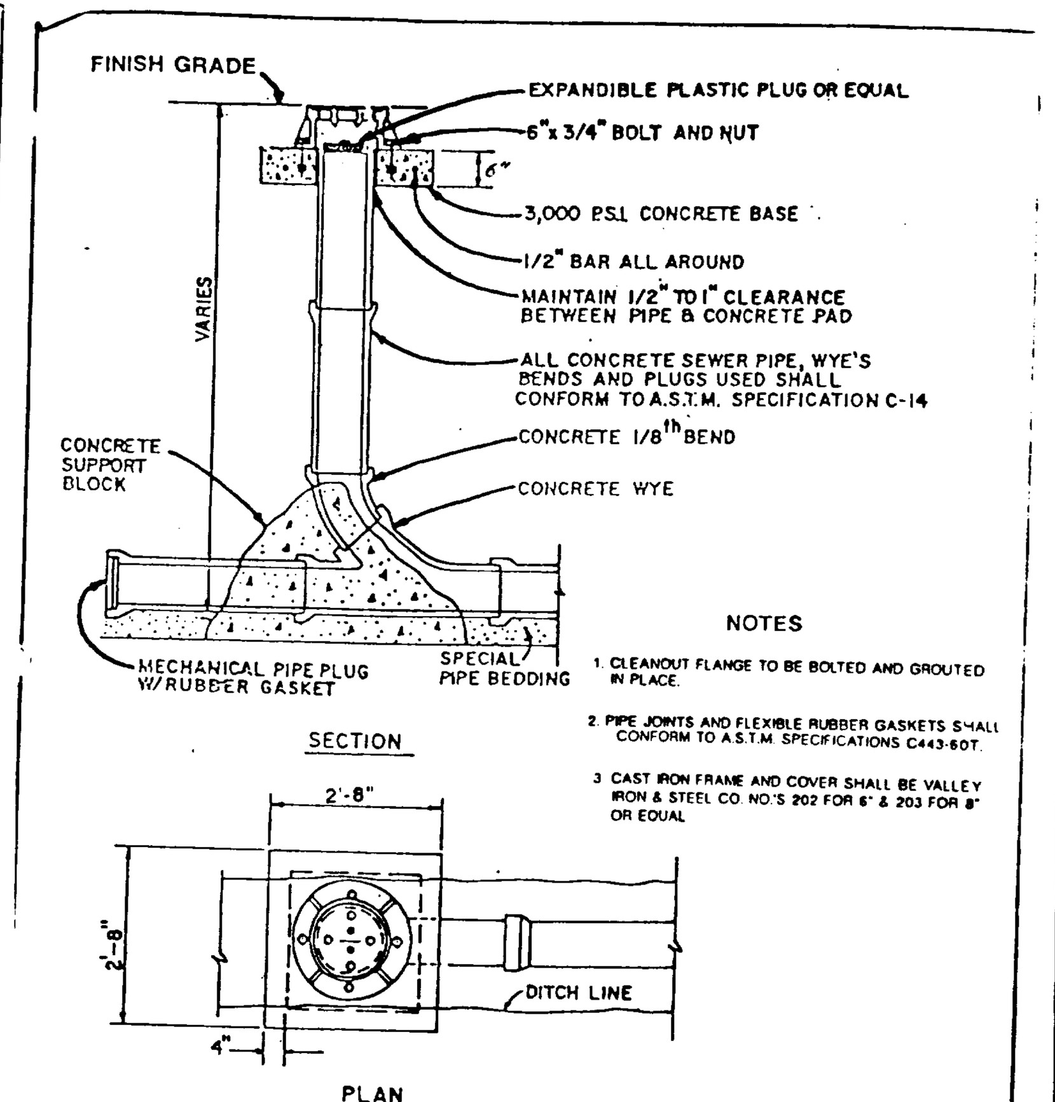
CITY OF WEST LINN | PIPE BEDDING AND BACKFILL DETAILS

DRAWN BY DDP DATE 5-20-87
CHECKED BY DLK DATE 5-27-87
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. PB - 280



CITY OF WEST LINN | STANDARD MANHOLE

DRAWN BY DDP DATE 5-20-87
CHECKED BY DLK DATE 5-27-87
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. MH - 209

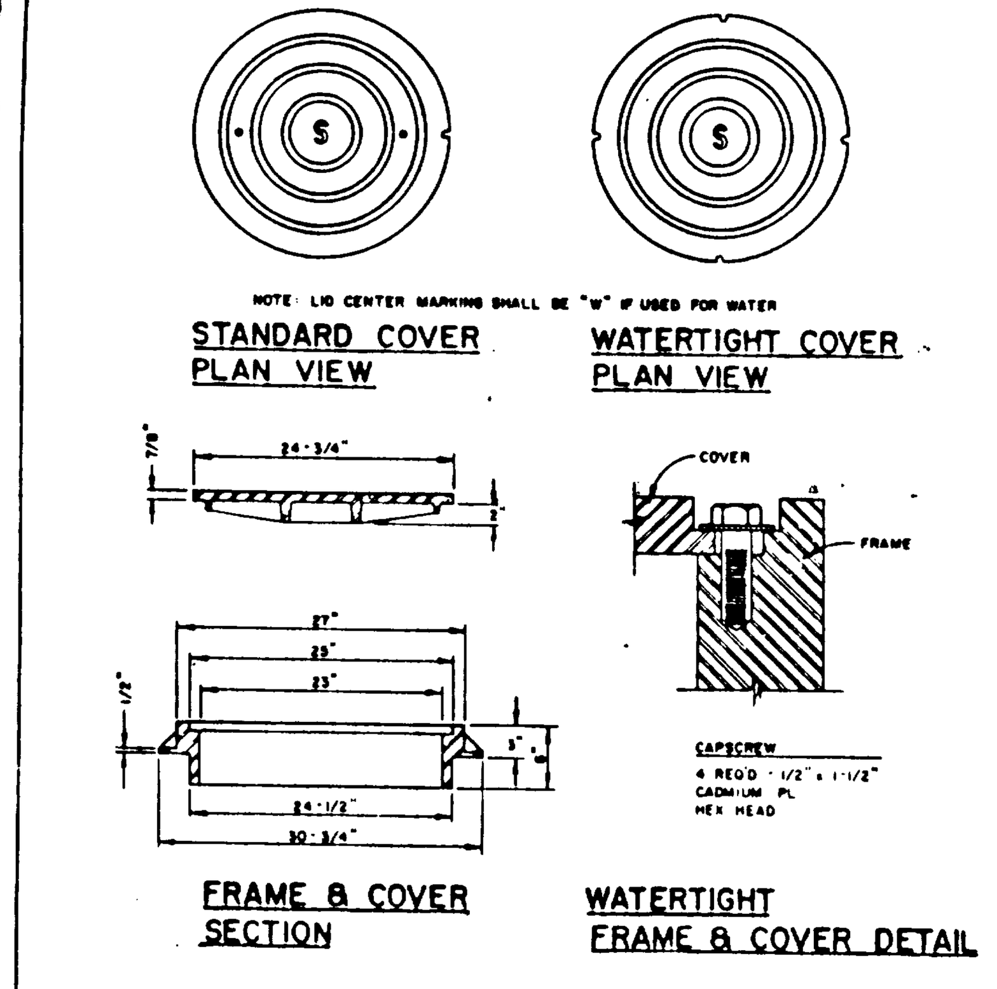


NOTES

1. CLEANOUT FLANGE TO BE BOLTED AND GROUTED IN PLACE.
2. PIPE JOINTS AND FLEXIBLE RUBBER GASKETS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS C443-60T.
3. CAST IRON FRAME AND COVER SHALL BE VALLEY IRON & STEEL CO. NO.'S 202 FOR 6" & 203 FOR 8" OR EQUAL.

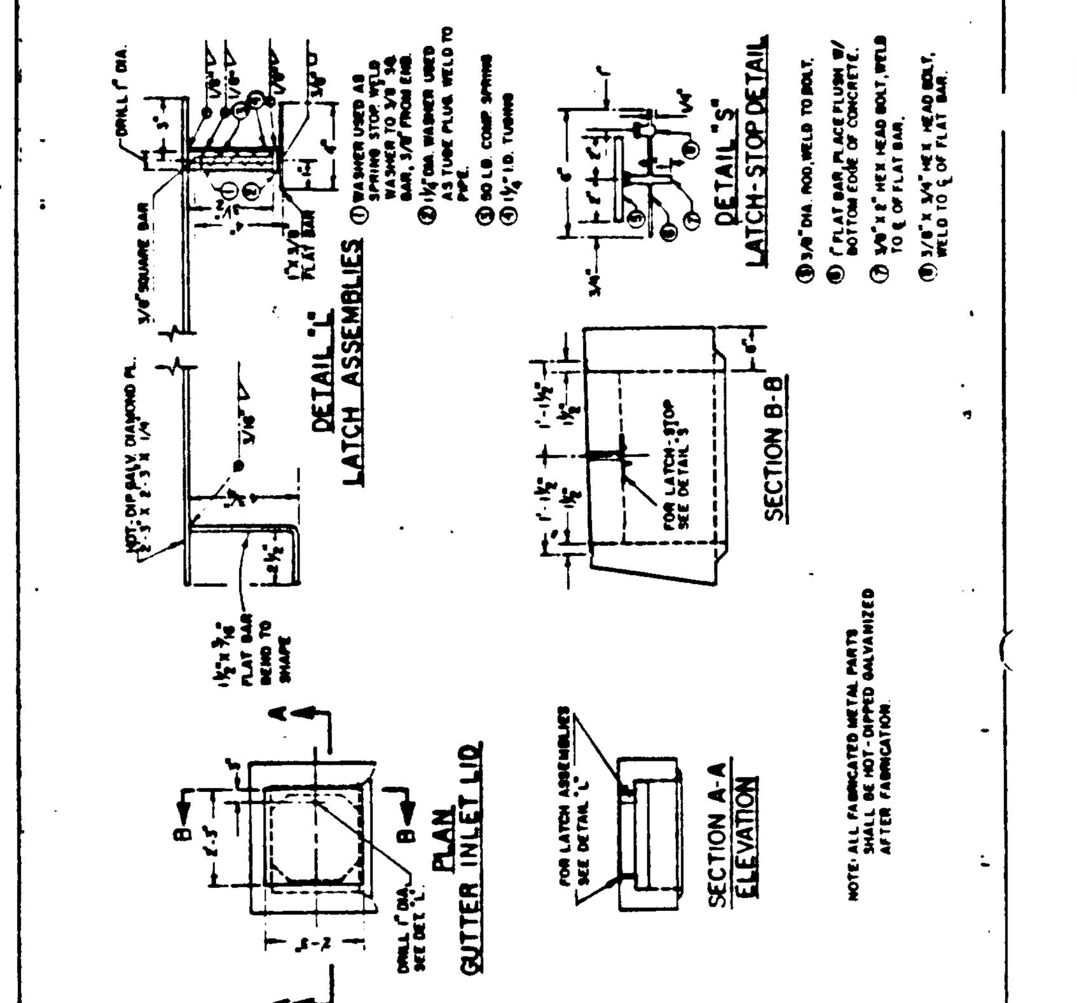
CITY OF WEST LINN | SANITARY SEWER CLEANOUT

DRAWN BY DDP DATE 10-4-88
CHECKED BY DLK DATE 10-5-88
APPROVED BY Earl Reed DATE 10-12-88
DWG. NO. SS-4



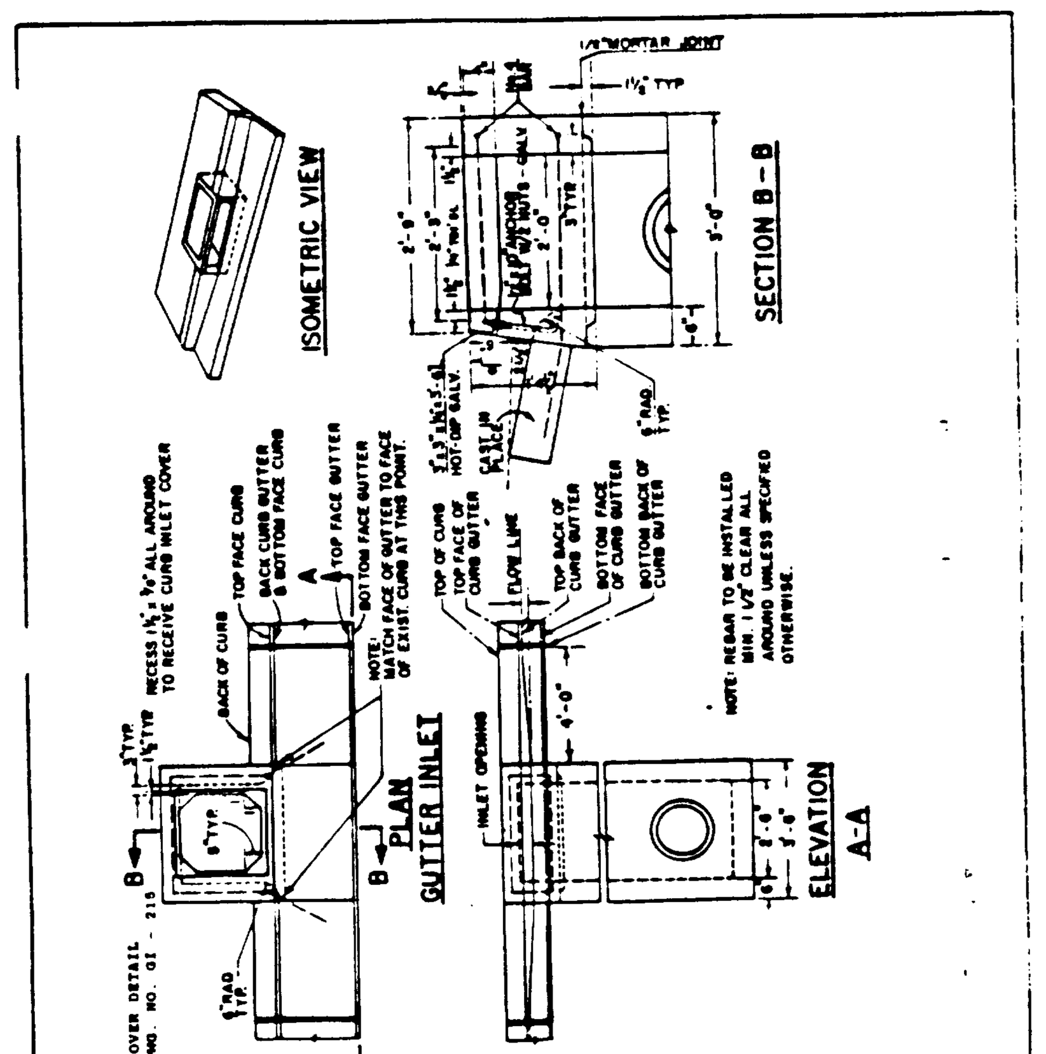
CITY OF WEST LINN | MANHOLE FRAME & COVER

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. MH - 212



CITY OF WEST LINN | GUTTER INLET COVER

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. GI - 215



CITY OF WEST LINN | GUTTER INLET-2½A

DRAWN BY DDP DATE 5-20-87
CHECKED BY DATE
APPROVED BY Earl Reed DATE 5-27-87
DWG. NO. GI - 214

REGISTERED PROFESSIONAL ENGINEER
18,530
OREGON
APRIL 19, 1996
JOSEF K. HITZ
Exp. 6/30/99
11/16/98

REVISIONS	BY

SOUTHERN EXPOSURE VIEW ESTATES

GREG HUBLOU

Details

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE SEP. 1997
SCALE NOTED
DRAWN JH
JOB 96-24
SHEET 8
OF 8 SHEETS