

## **STREETS**

### **(General Requirements)**

Superseded  
see IC#21 P1  
w/addition of  
P2

1. **The design elevation used in the construction plans must be based on the current U.S.C.G.S. datum if available in the area.**
2. General design standards are contained in Chapter 7, "Troutdale Development Code" and on the enclosed City of Troutdale Standard Drawings/Construction Details.
3. The maximum grade on any street shall not exceed 12% without the City's approval.
4. The minimum grade on any curbed or guttered street shall not be less than 1.0%.
5. Vertical curves shall be used at all changes in street grades in excess of 1.0% slope.
6. A cross-street surface drainage will not be permitted except for in cul-de-sac bubbles or on extreme steep cross-street slopes. All cross-street slopes must be approved by the City prior to design and construction.
7. Where a straight curb design is authorized for construction by the City, curb exposure shall be 6 inches after the second one and one-half inch thick lift of asphalt is placed.
8. Two rain drain curb outlets are required per lot, five feet in from property lines where possible. Where it is not possible, do not place weepholes in conflict with meter boxes, fire hydrants and light poles. All curb drain outlets (weepholes) accidentally placed in direct conflict with meter boxes fire hydrants or light poles must be refilled with concrete.
9. Barricades are required at all dead-end and/or stub streets. Barricade type(s) will be determined by the City on a per project basis.
10. Improvements along County and/or State roads must meet Multnomah County and/or State standards respectively. A written approval from the affected governmental agency (County or State) must be received by the City of Troutdale prior to receiving an authorization to start construction from the City.
11. Monolithic concrete curbs and gutters are required. Straight concrete vertical curbs or extruded curbs may be used; however, they must be approved by the City prior to design and or construction.
12. All material and workmanship shall meet the requirements of the most current edition of the APWA specifications.

13. Control stakes are required for all curb lines and street centerlines during construction, and must be provided by a professional surveyor licensed in the State of Oregon.
14. Sub-base shall be approved by the City before placing the base rock, by conducting on-site compaction tests as deemed necessary by the City.
15. The subgrade shall be approved before placing the asphalt by conducting on-site compaction tests as deemed necessary by the City. Also, a deflection test(s), performed with a loaded dump or water truck, will be required. This test must be witnessed by the City. No deflection is allowed and all streets must be tested.
16. Compaction tests, as requested by the City, must be in accordance with ASSHTO, Method T-180. Over-excavation and/or stabilization fabric may be required by the City if the subgrade is soft or otherwise found unsuitable.
17. Asphaltic concrete (AC) Class "C" (ODOT classification) is required for final top lifts. AC Class "B" (ODOT classification) or Class "C", as determined by the City, may be used for the first lift. Pavement will be placed only on dry, clean and properly prepared surfaces, and when the air temperature meets the specifications as set forth in the most recent edition of the American Public Works Association standards for construction.
18. All joints between the AC and concrete structures must be tacked with bitumastic.
19. All required utilities (sanitary sewer, storm sewer, water lines, power, telephone, gas, street lights, etc.) shall be in-place and their locations accurately located on "as-built" drawings. A final inspection by City staff will be required to verify their condition; and, if deficiencies on any of them are noted, they must be corrected prior to paving.
20. Construction of "overhead" power and/or all other private utilities is not allowed. Overhead power undergrounding is required in all "new" street construction and in "significant" street reconstruction. New developments required to do "half" street improvements are considered to be "significant", and if "overhead" power is existing, it must be switched from overhead to underground as part of the development. All costs incurred from power undergrounding will be the responsibility of the developer.
21. All construction activity shall be done in a safe, neat and workmanlike manner, and under supervision of City forces at all times. All safety requirements and other rules and regulations from OSHA, DEQ and all other State regulating agencies must be met.
22. Prior to any on-site street work, the contractor must submit a traffic plan to the City to review and approve. No street work affecting lanes of traffic shall begin prior to such approval.

23. Developers constructing new streets must provide a "two-year" maintenance bond to the City. This bond shall be for ten percent of the total cost to construct the streets. An additional bond for placement of the final 1 and 1/2 inch lift of asphalt is also required. The amount of this bond will be determined by the City before the bond is submitted. The amount of the bond shall include all costs for preparatory work, materials and labor, plus 30 percent for administrative overhead. Weather permitting, this second 1 and 1/2 inch thick lift of AC may be placed after 90 percent of the home certificates of occupancy have been issued, or in two years from the date of acceptance of the project, whichever comes first. The City fully expects the developer to select a paving contractor to place this final 1 and 1/2 inch lift, and to pay all expenses incurred from this action. In the event that the developer fails to undertake this obligation for whatever reason, the City will immediately file a claim against the aforementioned bond to place this lift of AC.
24. Street name signs, speed limit signs and other signs as deemed necessary by the City will be provided and installed by City forces just prior to issuance of a "certificate of completion", or shortly thereafter. Costs incurred by the City for materials and labor will be forwarded to the developer for reimbursement. Also, if applicable, a "private street" sign (see Drawing No. II-24) will be required.
25. All work affecting existing streets requires the issuance of a public works permit and inspection by the City. A permit fee of \$50.00 will be assessed per permit.
26. All newly built lots made available by the construction of new subdivisions and/or streets must be certified as "buildable lots" by the registered geotechnical/civil engineer in charge of the project. This certification must be in written format and submitted to the City before a certificate of completion can be issued.
27. All new improvements proposed for construction and intended for public dedication (once these same facilities are constructed to City standards) must be proposed to the City in writing, by the developer and/or legal owner of the project, prior to the receipt of an authorization to begin construction from the City. This formal written request from the developer/owner to the City must be reviewed and approved by the City, and then signed by both parties to formally bind both parties to the agreement.
28. All other street construction practices within the City's public right-of-way, not covered in these "general requirements" and/or in the "construction details" sections, shall comply with the rules and regulations found in the most recent edition(s) of the American Public Works Association Standard Specifications for Public Works Construction, and/or the State of Oregon Standard Specifications for Highway Construction.

Deleted see  
IC#13

See IC #8 for additional - paragraph "29" and attachments.

See IC # 28 for additional paragraph "30". Clustered Mailboxes

See IC # 29 for additional paragraph "31" & "32"  
Sidewalk remediation.

# **STREETS**



**(Part I)**

- \* General Requirements**
- \* Standards for Pavement Overlay**

## **STANDARDS FOR PAVEMENT OVERLAY**

The following standards and specifications shall apply to the work required to properly overlay streets within the City of Troutdale.

### **Section I - Repairs of Existing Facilities and Asphalt Surface**

- a. All catch basins will be adjusted, relocated or replaced if improperly built or located.
- b. All manholes, gate valve boxes, clean outs, etc., shall be adjusted to final grade, and properly referenced and/or marked to avoid covering with overlay.
- c. The existing asphalt-pavement surface shall be restored to true line and grade. All areas showing evidence of failure shall be removed and repaired to the satisfaction of the City. All distortions which vary from true grade by more than 1/2 inch shall be brought to grade before the final lift is placed. All utility trenches, patches, or other damage caused by construction shall be repaired.
- d. All areas showing evidence of actual failure, i.e., chuck holes, alligator cracking, scaling, slipping, etc., shall be repaired using the following method:
  1. Remove eight inches of the surface and base or as much as necessary to reach firm support, extending at least one foot horizontally into good pavement outside the cracked area. Make the cut square or rectangular with vertical edges. One pair of cuts should be at right angles to the direction of traffic. Cuts are to be made with a saw or broad cutting blade and air hammer.
  2. If water is the cause of the failure, install proper drainage prior to overlay.
  3. If the excavation is deeper than eight inches, restore grade to eight inches from surface using 1-inch minus base crushed rock and compacted in six-inch lifts to 95% compaction, relative maximum density.
  4. Apply a tack coat to the vertical edges of the area to be patched.
  5. Place required depth of hot asphalt mix patch (minimum of 4", total compacted thickness) in lifts not exceeding two inches (compacted depth).
  6. Check the finished patch with a straight edge or string line to ensure that it matches existing pavement.

## **Section II - Cleaning of Existing Asphalt Surface**

### **a. General Cleaning**

All street sections to be overlaid will be thoroughly cleaned. All large accumulations of mud, rock, concrete or other construction debris shall first be removed by hand or equipment which will not cause damage to existing pavement. Do not wash down silt, gravel, construction debris, et cetera, into the storm sewer system via street catch basins.

### **b. Brooming**

All street sections to be paved will be cleaned by mechanical brooming.

### **c. Washing**

All streets, prior to paving, will be washed with high pressure hoses or water trucks with high pressure discharge.

## **Section III - Asphalt Tack Coat**

### **a. Surface Preparation**

The surface to be tacked shall be dry and shall have been cleaned as required by Section II so it is free of dirt, dust, or other matter foreign to the surface or detrimental to the adherence of the tack coat.

### **b. Material**

The liquid asphalt to be used in the tack coat shall be CRS-1, CRS-2 or CSS-1 and shall be the kind and type for the conditions under which the work is to be performed.

### **c. Application**

The asphalt shall be spread by means of pressure-spray equipment which will provide uniformity of application at prescribed rates. Normally, asphalt shall be applied to the prepared surface at a rate of 0.1 to 0.2 gallons per square yard of surface, the actual rate to be as directed by the City. The tack coat shall not be applied during wet or cold weather or during darkness and shall be laid only so far in advance as is appropriate to insure a tacky, sticky condition of the asphalt at the time of placing the overlay.

## **Section IV - Asphalt Pavement**

### **a. Surface Preparation**

Asphalt pavement shall be placed only on those surfaces prepared as per Sections I, II and III and approved by the City.

### **b. Control of Traffic and Access**

The contractor shall notify any persons who might be affected by street closures or reduced access at least 48 hours prior to the closure or restriction. Contractors' operations shall be conducted or scheduled so as to minimize interruption of traffic.

c. Materials

Asphalt overlays shall be 1", 1-1/2" or 2" as required by the applicable plans or specifications. The only asphalt mix allowed by the City for top lifts is Class "C" mix (ODOT specifications).

d. Application

Asphalt overlays will be placed only on dry, clean and properly prepared surfaces and when the air temperature is not lower than 55° F. Placing overlays during rain or other adverse weather will NOT be permitted.

All vertical edges such as curb, catch basins, manholes, valve boxes, or edges of existing pavements shall be properly prepared and coated with a film of tack coat material; proper care must be taken to prevent coverage on concrete surface to remain exposed after paving. If necessary, the contractor must return to clean surfaces accidentally covered or left with excess AC debris.

The contractor shall provide adequate marks, lines, or other control method to insure proper curb exposure, depth of overlay, and street profile and overall finished grade.

Proper equipment shall be furnished suitable for the proposed work and capable of constructing a true surface.

The temperature of the mix at the time it is spread into final position shall be between 260° and 300° F. Longitudinal joints shall be made while adjacent material temperatures are high enough to ensure smooth kneading of material. AC not meeting these temperature requirements will not be accepted.

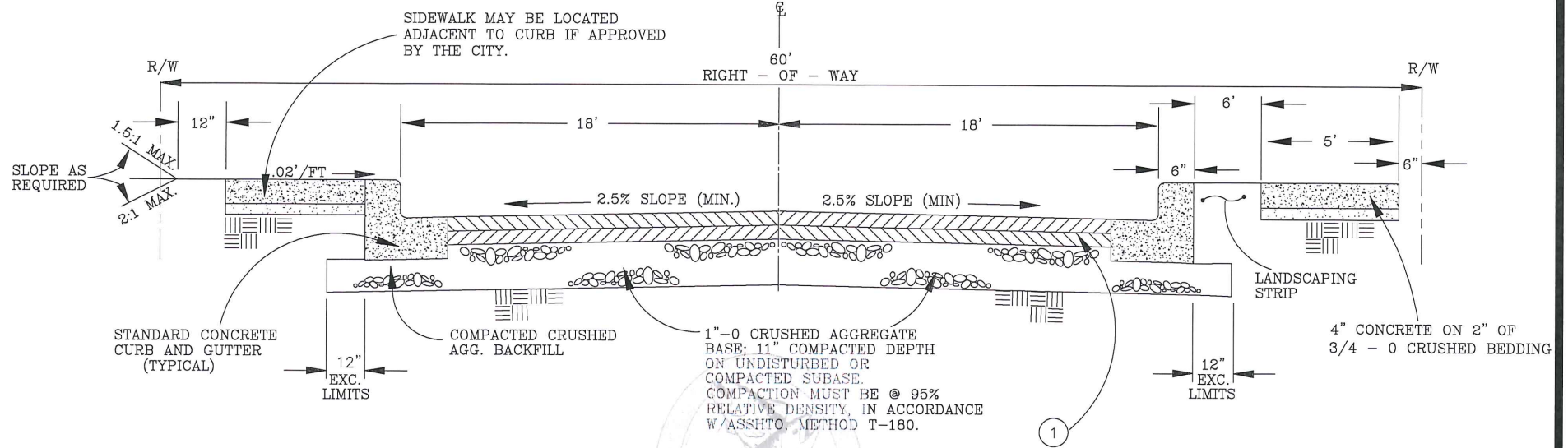
Immediately after placing, the mix shall be compacted to a density of not less than 90 percent of relative maximum density. Compaction tests will be taken as requested by the City to ensure compliance. If in any case the compaction test results show anything less than 90 percent compaction, AC core samples will be required. The City will determine at what locations to obtain the core samples. Based on the results of these tests, the City will determine whether the substandard lift placed is to be removed and replaced. The City's decision will be final.

# **STREETS**



**(Part II)**

**\* Construction Details**



# COMMERCIAL/INDUSTRIAL STREET CROSS SECTION

## NOTES:

1. 4" OF ASPHALTIC CONCRETE CLASS "B" (ODOT SPECIFICATIONS) PLACED IN 2 EQUAL LIFTS OF 2" EACH. 1ST LIFT SHALL BE 2" COMPACTED DEPTH. COMPACT TO NO LESS THAN 91% COMPACTION. FINAL 2" LIFT WILL BE PLACED AFTER 90% OF THE CERTIFICATES OF OCCUPANCY HAVE BEEN ISSUED OR 2 YEARS AFTER THE FIRST LIFT, WHICHEVER COMES FIRST. CITY MAY ALSO REQUEST THAT BOTH LIFTS BE PLACED AT THE SAME TIME.

## GENERAL:

1. THESE STANDARDS ARE SHOWN AS MINIMUM ALLOWABLE STANDARDS. THE CITY MAY REQUIRE MODIFICATIONS DUE TO ADVERSE SOIL CONDITIONS, SPECIAL TRAFFIC CONDITIONS OR OTHER UNFORESEEN RELEVANT FACTORS.
2. ALL MATERIAL AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF THE AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS.
3. DEFLECTION/COMPACTION TESTS WILL BE REQUIRED AS DEEMED NECESSARY BY THE CITY. NO DEFLECTION IS ALLOWED.
4. SUBGRADE MUST BE APPROVED BY THE CITY PRIOR TO PAVING.

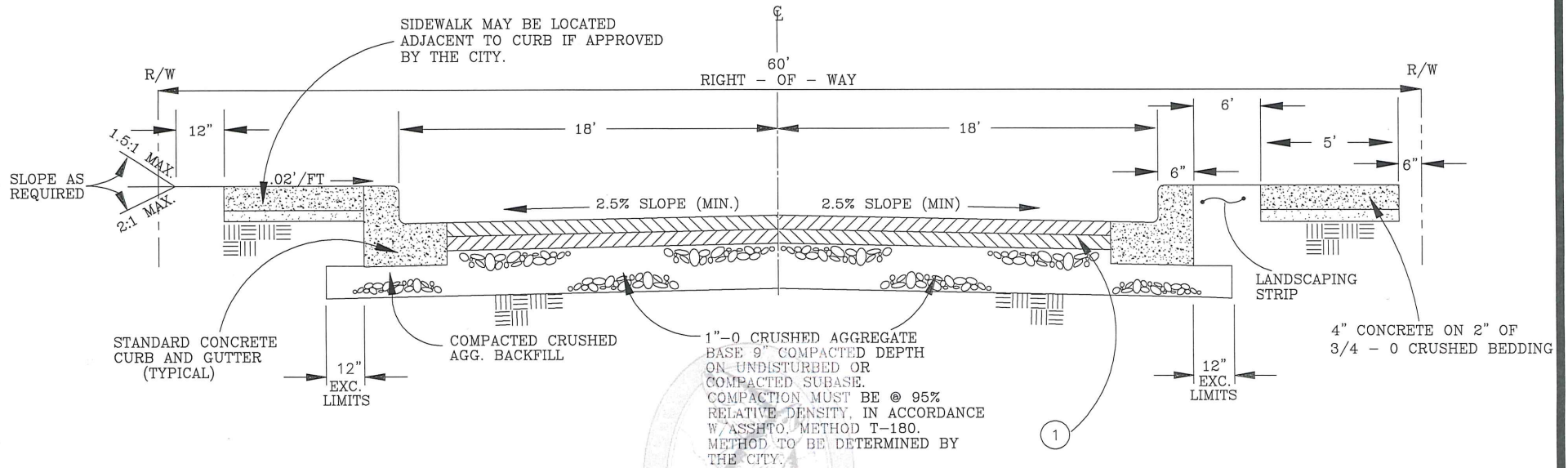
Superseded see IC#17

CITY OF TROUTDALE

COMMERCIAL/INDUSTRIAL  
STREET CROSS SECTION

DATE:  
UPDATED 1997

DRAWING NO.  
II - 1



## NEIGHBORHOOD COLLECTOR

### NOTES:

1. 4" OF ASPHALTIC CONCRETE CLASS "C" PLACED IN 2 EQUAL LIFTS OF 2" EACH. 1ST LIFT SHALL BE 2" COMPACTED DEPTH. COMPACT TO NO LESS THAN 91% COMPACTION. FINAL 2" LIFT WILL BE PLACED AFTER 90% OF THE CERTIFICATES OF OCCUPANCY HAVE BEEN ISSUED OR 2 YEARS AFTER THE FIRST LIFT, WHICHEVER COMES FIRST.

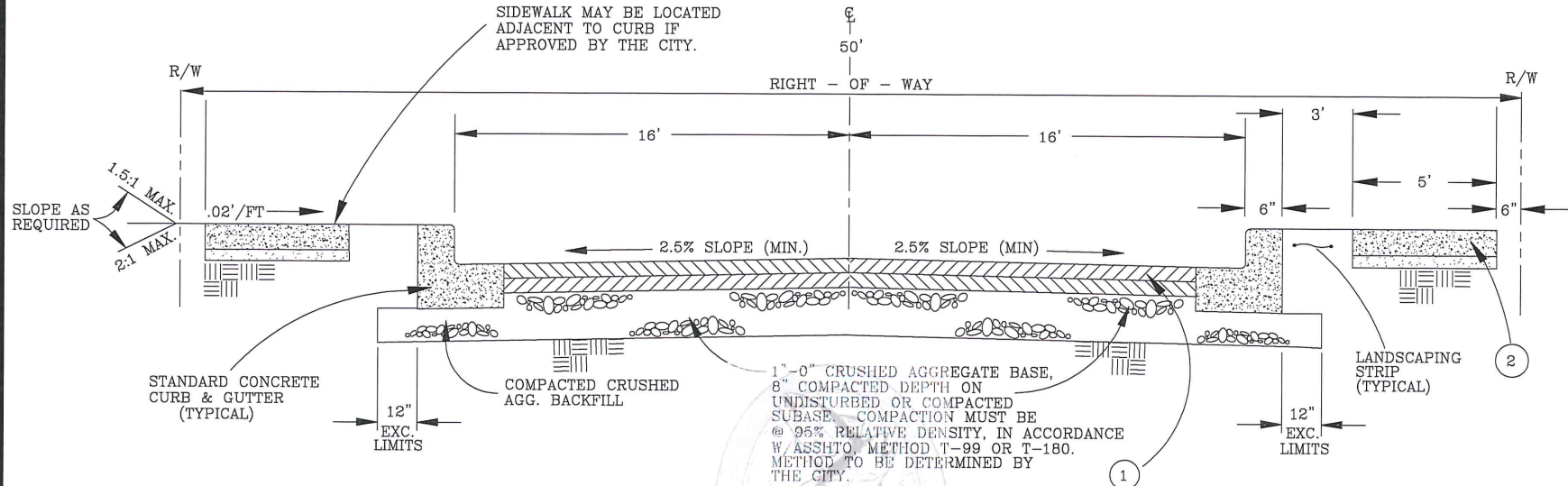
### GENERAL:

1. THESE STANDARDS ARE SHOWN AS MINIMUM ALLOWABLE STANDARDS. THE CITY MAY REQUIRE MODIFICATIONS DUE TO ADVERSE SOIL CONDITIONS, SPECIAL TRAFFIC CONDITIONS OR OTHER UNFORESEEN RELEVANT FACTORS.
2. ALL MATERIAL AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF THE AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS.
3. DEFLECTION/COMPACTION TESTS WILL BE REQUIRED AS DEEMED NECESSARY BY THE CITY. NO DEFLECTION IS ALLOWED.
4. SUBGRADE MUST BE APPROVED BY THE CITY PRIOR TO PAVING.

DATE:  
UPDATED 1997

DRAWING NO.  
II - 2

CITY OF TROUTDALE  
NEIGHBORHOOD  
COLLECTOR  
(CROSS SECTION)



## LOCAL STREET CROSS SECTION

### NOTES:

- ① 3 1/2" OF ASPHALTIC CONCRETE CLASS "C" PLACED IN 2 LIFTS. 1ST LIFT SHALL BE 2" COMPACTED DEPTH. COMPACT TO NO LESS THAN 91% COMPACTION. FINAL 1 1/2" LIFT WILL BE PLACED AFTER 90% OF THE CERTIFICATES OF OCCUPANCY HAVE BEEN ISSUED OR 2 YEARS AFTER THE FIRST LIFT, WHICHEVER COMES FIRST.
- ② 4" THICK CONCRETE SIDEWALK ON MINIMUM OF 2" COMPACTED DEPTH OF 3/4" - 0 CRUSHED ROCK.

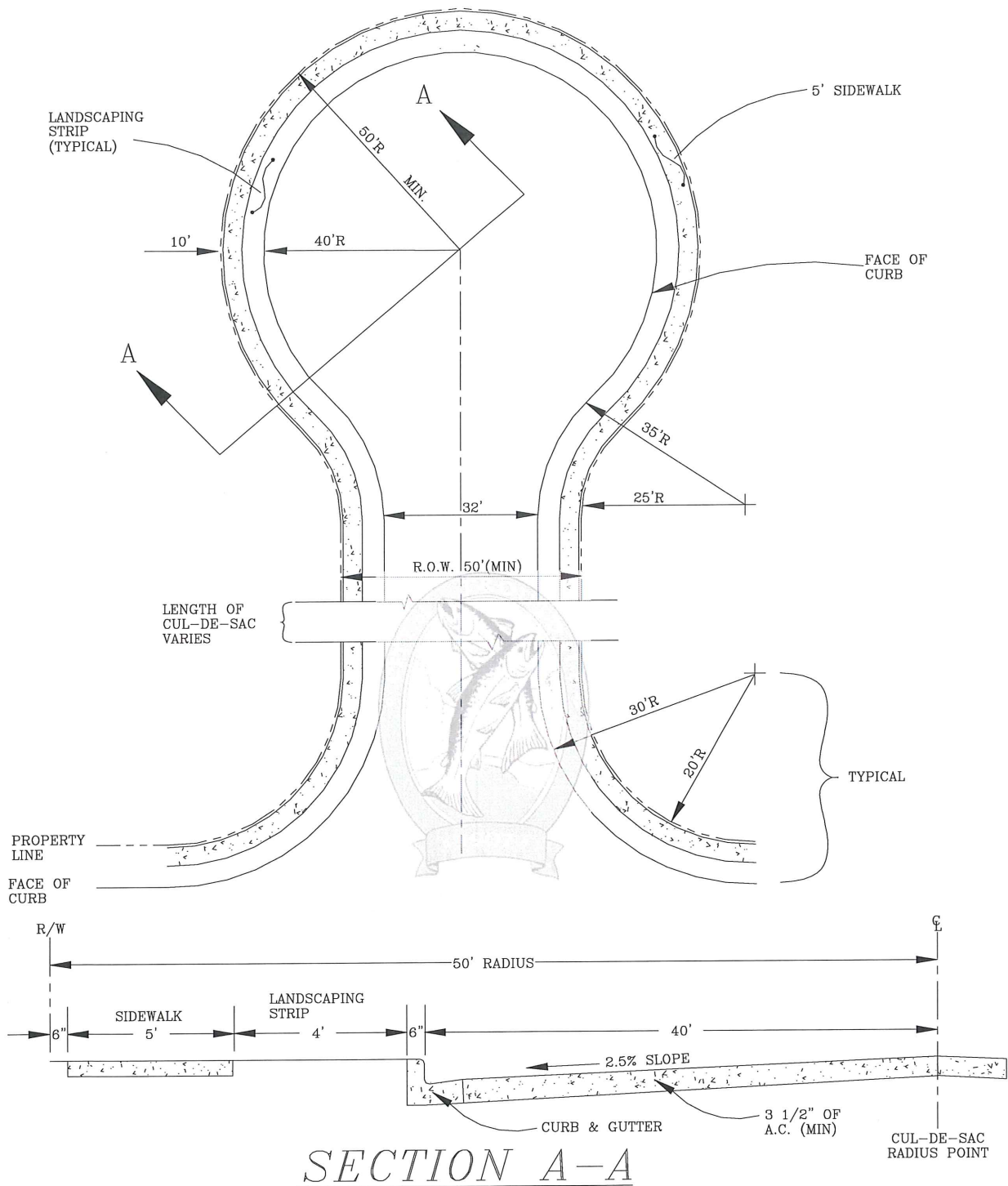
### GENERAL:

1. THESE STANDARDS ARE SHOWN AS MINIMUM ALLOWABLE STANDARDS. THE CITY ENGINEER MAY REQUIRE MODIFICATIONS DUE TO ADVERSE SOIL CONDITIONS, TRAFFIC CONDITIONS, OR OTHER UNFORESEEN RELEVANT SITE CONDITIONS.
2. ALL MATERIALS AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF THE AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS.
3. DEFLECTION/COMPACTION TESTS WILL BE REQUIRED AS DEEMED NECESSARY BY THE CITY. NO DEFLECTION IS ALLOWED.
4. SUBGRADE MUST BE APPROVED BY THE CITY PRIOR TO PAVING.

CITY OF TROUTDALE  
LOCAL STREET  
(CROSS SECTION)

DATE:  
UPDATED 1997

DRAWING NO.  
II - 3



GENERAL NOTES:

1. ALL VARIANCES TO THE ABOVE DIMENSIONS MUST BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
2. PROVIDE QUARTER "BLUE TOPS" AROUND CUL-DE-SAC BULB, AS MAY BE NECESSARY, TO ENSURE A CONTINUOUS 2.5% SLOPE FROM THE CENTER POINT OF THE CUL-DE-SAC.

CITY OF TROUTDALE

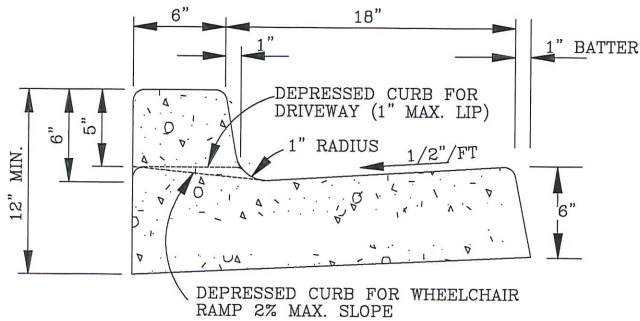
*CUL-DE-SAC &  
INTERSECTION RADII*

DATE:

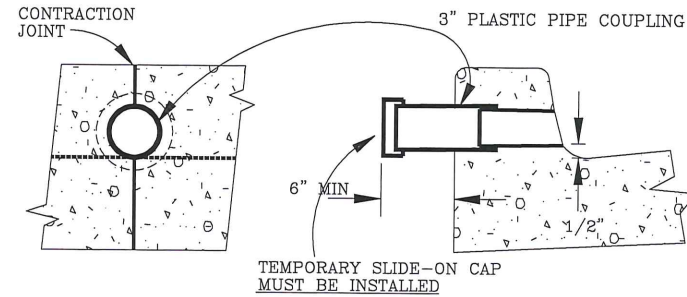
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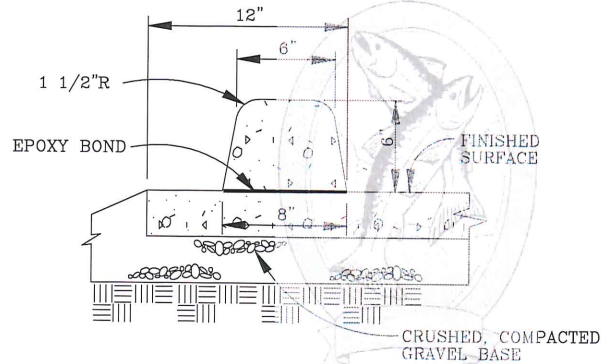
II - 4



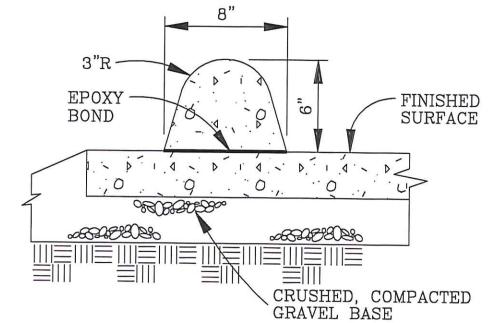
TYPICAL CURB & GUTTER



WEEP HOLE THROUGH CURB



EXTRUDED CONCRETE BONDED CURB



EXTRUDED AC BONDED CURB

GENERAL NOTES:

1. ALL RADII SHALL BE 3/4" EXCEPT AS OTHERWISE SHOWN.
2. CONCRETE: 3300 PSI @ 28 DAYS.
3. CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB AND GUTTER. EXPANSION JOINTS SHALL BE @ 45' INTERVALS AND AT END OF CURB RETURNS. CURBS NOT MEETING THESE STANDARDS MUST BE REMOVED AND REPLACED IN ACCORDANCE WITH THESE REQUIREMENTS.
4. A CONTRACTION JOINT SHALL BE PLACED ALONG AND OVER WEEP HOLE THROUGH THE CURB AND THROUGH THE SIDEWALK.
5. PRIOR TO CONSTRUCTION OF SIDEWALKS, EXTEND 4" DRAIN PIPE TO BACK OF SIDEWALK AND INSTALL COUPLING. PLUG IF CONNECTION TO RAINDRAIN/CRAWLSPACE DRAIN IS NOT BEING MADE AT THE SAME TIME, TO RESTRICT SOIL FROM ERODING TO THE STREET THROUGH THE WEEPHOLE.

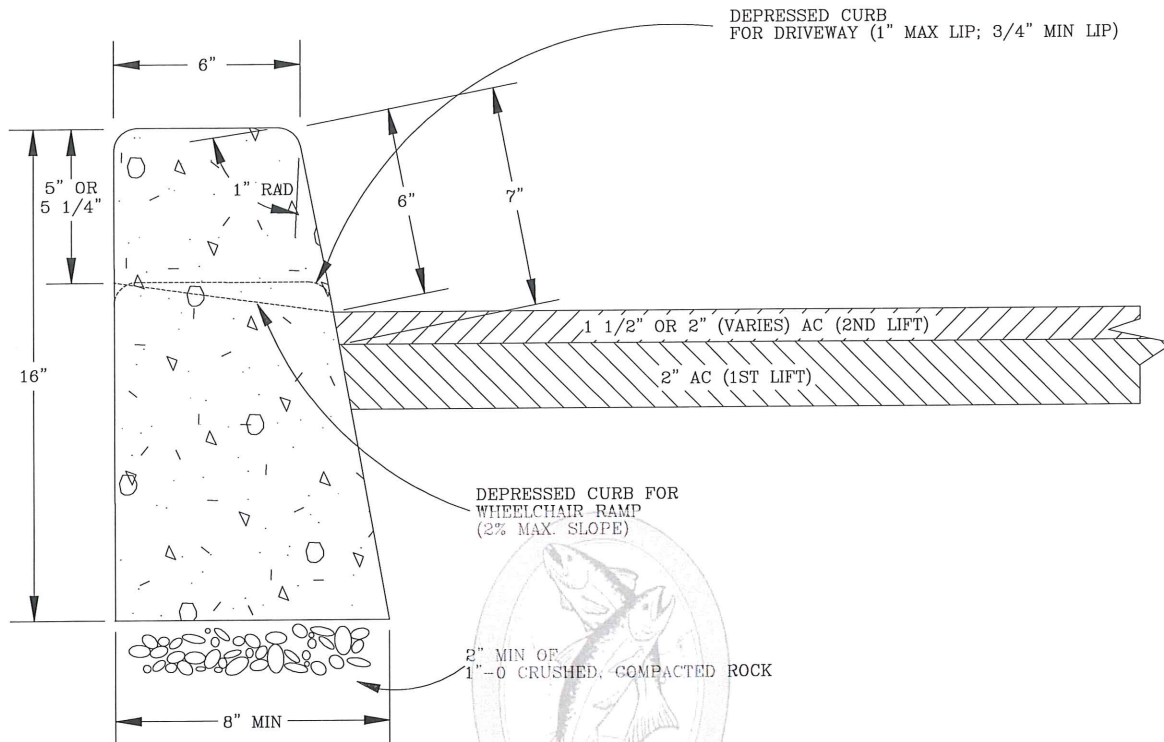
6. THE CITY MUST GRANT APPROVAL TO CONSTRUCT STRAIGHT AND EXTRUDED CURBS.
7. AVOID PLACING WEEPHOLES IN CONFLICT WITH WATER METER BOXES, FIRE HYDRANTS, STREET LIGHT POLES AND OTHER STRUCTURES. IF WEEPHOLES ARE ACCIDENTLY PLACED IN CONFLICT WITH OTHER STRUCTURES, ALL WEEPHOLES IN CONFLICT MUST BE RE-FILLED WITH CONCRETE.
8. PLUG ALL WEEPHOLE PIPES WITH A SLIDE-ON CAP TO PREVENT SOIL EROSION ONTO THE STREET.

CITY OF TROUTDALE

CURBS  
& WEEPHOLES

DATE:  
UPDATED 1997

DRAWING NO.  
II - 5



## STRAIGHT CURB

### GENERAL NOTES:

1. CONCRETE: 3300 PSI @ 28 DAYS.
2. THE CITY MUST GRANT APPROVAL TO CONSTRUCT STRAIGHT CURBS, AND EXTRUDED CURBS.
3. CONTRACTION JOINTS SHALL BE PLACED @ 15' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB & GUTTER. EXPANSION JOINTS SHALL BE @ 45' INTERVALS & AT END OF CURB RETURNS. ALL CURBS NOT MEETING THESE REQUIREMENTS SHALL BE REMOVED AND REPLACED TO BE IN ACCORDANCE WITH THESE REQUIREMENTS.

CITY OF TROUTDALE

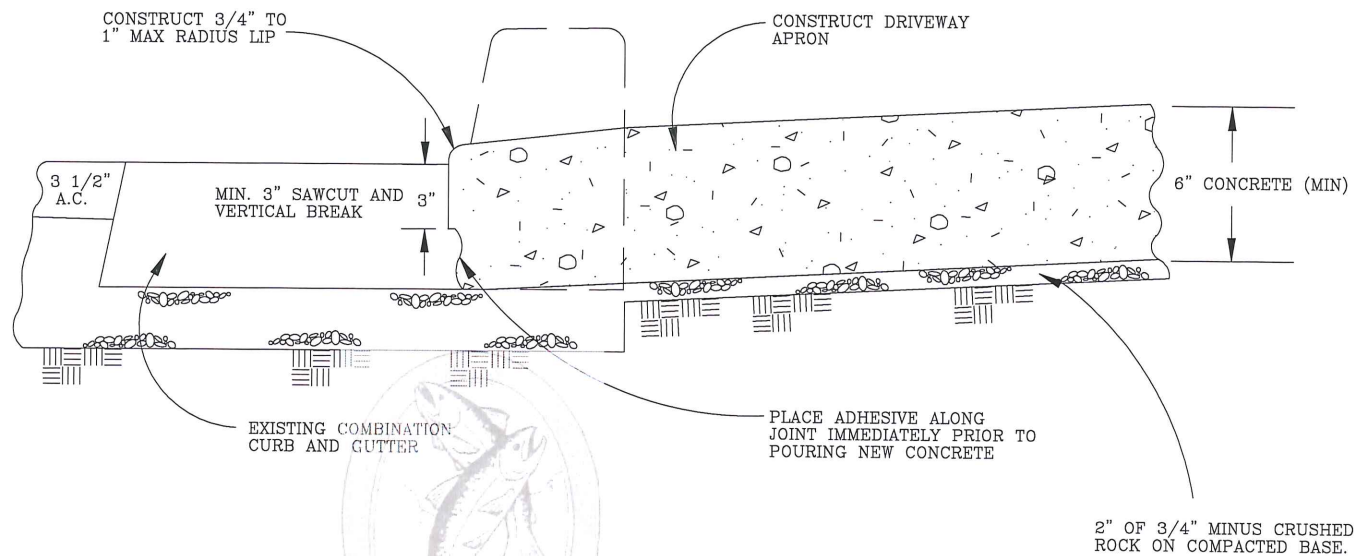
## *STRAIGHT CURB*

DATE:

UPDATED 1997

DRAWING NO.

II - 6



GENERAL NOTES:

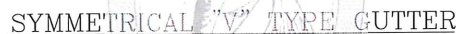
1. SAWCUT THROUGH GUTTER PLATE SHALL BE MADE AS CLOSE TO CURB FACE AS POSSIBLE.
2. ENTIRE CURB AND GUTTER SHALL NOT BE REMOVED UNLESS DIRECTED BY THE CITY.
3. DO NOT UNDERMINE EXISTING CURB AND GUTTER OR THE STREET SUBGRADE WHEN REMOVING THE CURB AND GUTTER OR STRAIGHT CURBS TO POUR A DRIVEWAY APPROACH AND/OR CURB DROP. IF ACCIDENTAL UNDERMINING OCCURES UNDER EXISTING PAVEMENT, THE ASPHALT ABOVE THE UNDERMINED AREA MUST BE SAW CUT, THEN THE SUBGRADE RE-COMPACTED AND THE AFFECTED AREA REPAVED.
4. IF POURING A CONCRETE APPROACH, WHICH WILL ABUT TO A PRE-EXISTING CONCRETE SIDEWALK AND DRIVEWAY, EXPANSION JOINTS OF CEDAR WOOD OR EQUAL MUST BE INSTALLED.

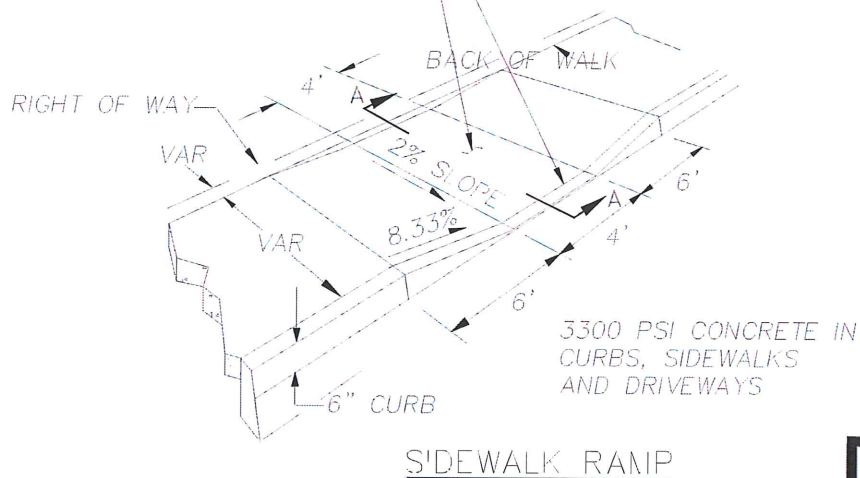
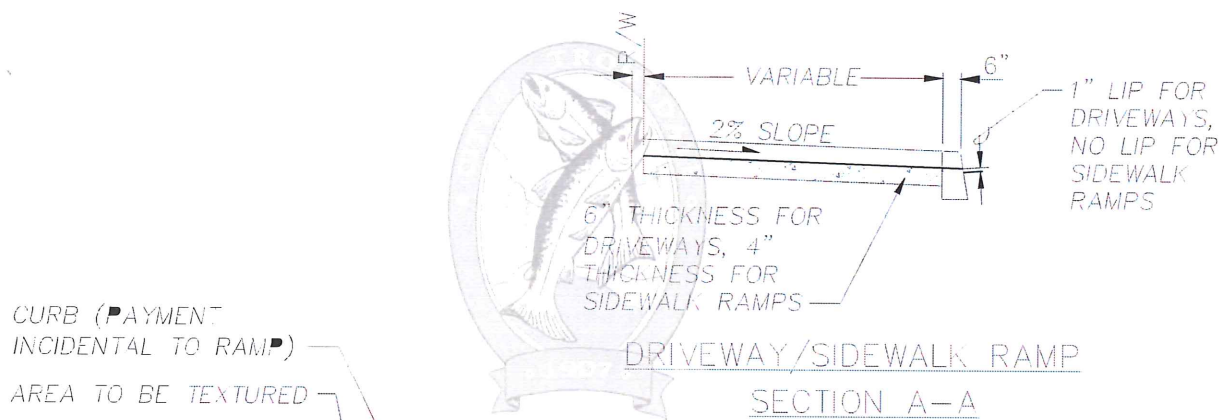
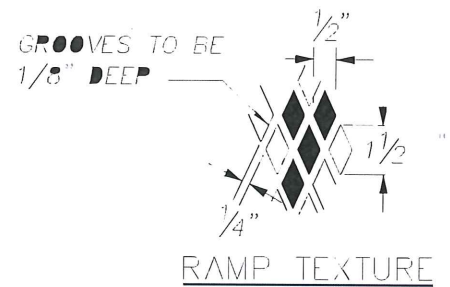
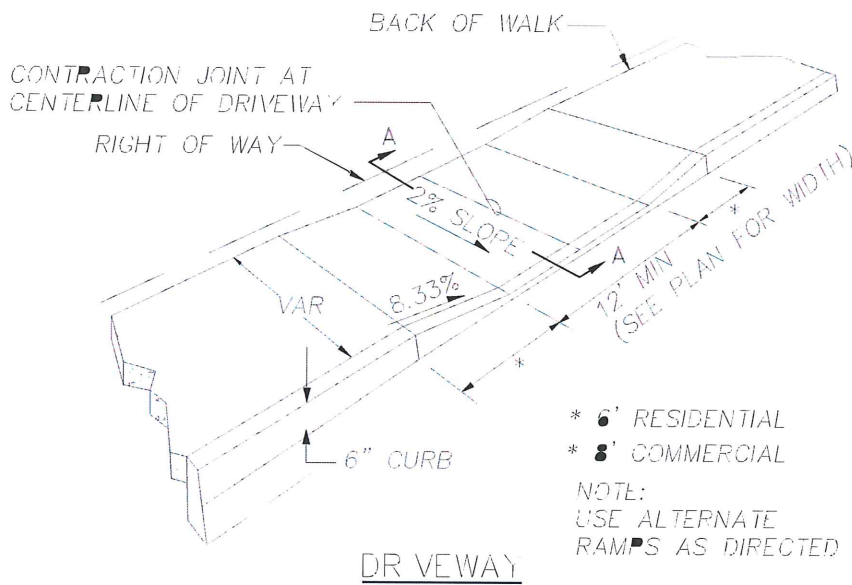
CITY OF TROUTDALE

**CURB KNOCKOUT  
FOR DRIVEWAYS**

DATE:  
UPDATED 1997

DRAWING NO.  
II - 7





Interim changes IC#10 & 24 are superseded by IC#36 and are obsolete

Superseded by IC# 9 -  
3/27/03  
Superseded by IC#10 -  
7/31/03  
Superseded by  
IC#24 7/24/14

SIDEWALK AND DRIVEWAY RAMP

DETAIL

NOT TO SCALE

4,5

CITY OF TROUTDALE

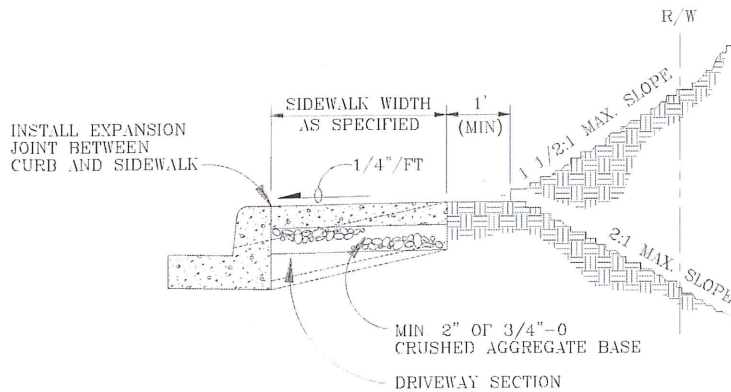
*WHEELCHAIR  
RAMPS*

DATE

UPDATED 2000

DRAWING NO

II - 9

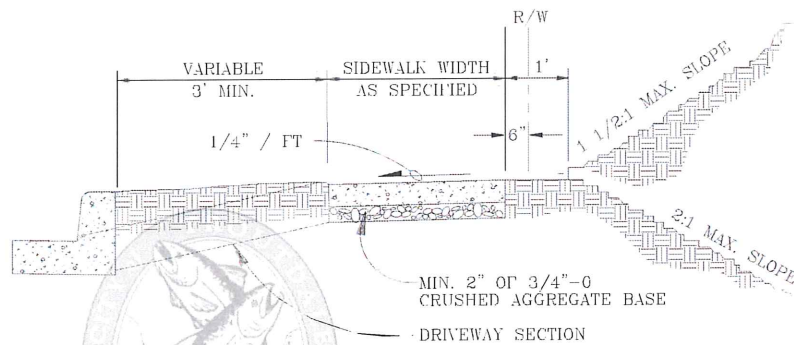


**NOTE:**

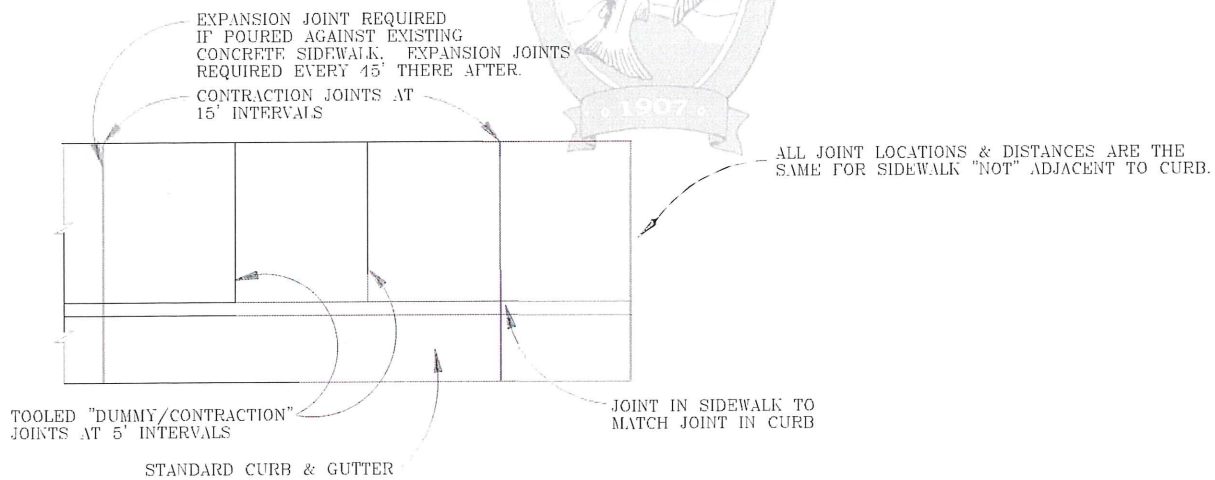
CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE NOMINAL 4" MIN.; DRIVEWAY SECTIONS INCLUDING SIDEWALKS THROUGH DRIVEWAYS SHALL BE NOMINAL 6" MIN.

See IC #33 for additional information

SIDEWALK ADJACENT TO CURB  
(CROSS SECTION)



SIDEWALK ADJACENT TO LANDSCAPING STRIP  
(CROSS SECTION)



TYPICAL PLAN VIEW

GENERAL NOTES:

1. CONCRETE: 3300 PSI @ 28 DAYS. SLUMP RANGE OF 1.5" TO 3" MAX.
2. MINIMUM SIDEWALK THICKNESS SHALL BE 4"; IN DRIVEWAY APPROACH AREAS, IT MUST BE NO LESS THAN 6" THICK.
3. SIDEWALKS SHALL BE COATED WITH APPROVED CURING COMPOUND.
4. ALL SURFACES ARE TO BE TROWELLED AND BROOMED IN A WORKMAN LIKE MANNER.
5. EXPANSION JOINTS ARE REQUIRED AT SIDES OF DRIVEWAY APPROACHES AND UTILITY VAULTS. DISTANCES BETWEEN EXPANSION JOINTS SHALL BE AT 45'.
6. SIDEWALK WIDTHS SHALL BE AS FOLLOWS:
  - RESIDENTIAL 5' WIDE
  - COMMERCIAL 6' WIDE
  - INDUSTRIAL 5' WIDE

CITY OF TROUTDALE

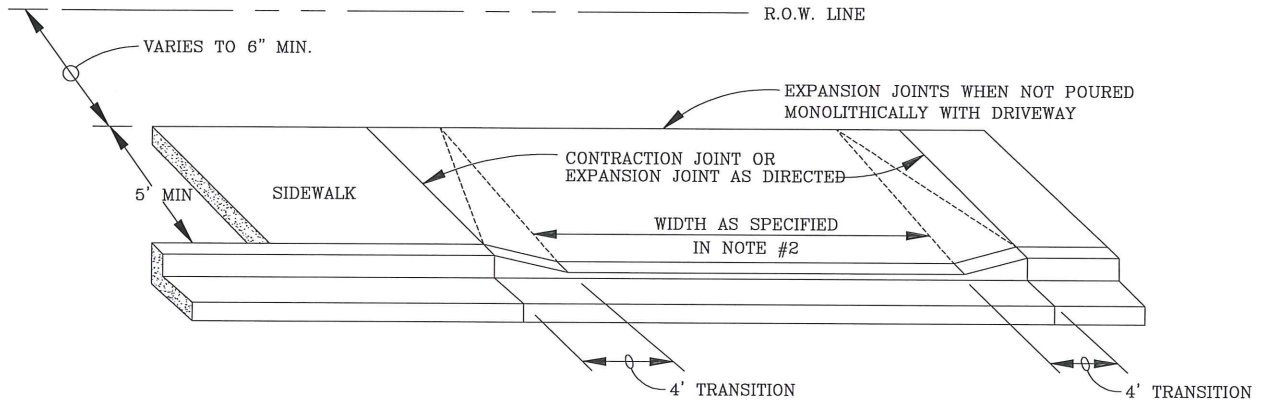
**CONCRETE  
SIDEWALK**  
(CURB SIDE & BY  
LANDSCAPING STRIP)

DATE:

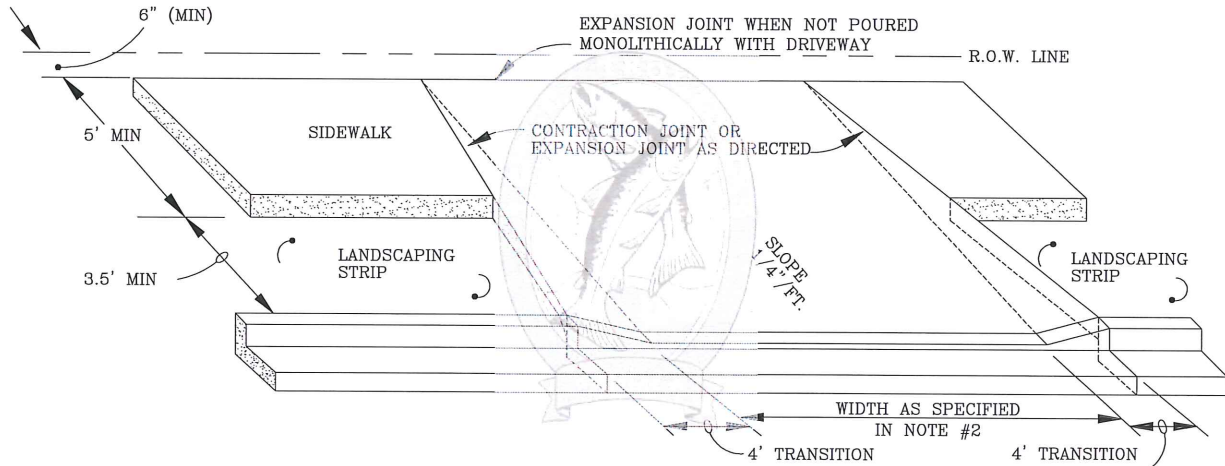
UPDATED 1997

DRAWING NO.

II - 10



DRIVEWAY APPROACH FOR CURBLIN SIDEWALK



DRIVEWAY APPROACH FOR SET-BACK SIDEWALK

GENERAL NOTES:

1. CONCRETE FOR COMMERCIAL AND INDUSTRIAL USE SHALL HAVE A NOMINAL THICKNESS OF 8" OF 3300 PSI @ 28 DAYS, ON NO LESS THAN 4 INCHES OF 3/4" MINUS CRUSHED ROCK (COMPACTED DEPTH).
2. DRIVEWAY WIDTHS FOR MULTI-FAMILY RESIDENTIAL, COMMERCIAL AND INDUSTRIAL ARE AS FOLLOWS:

USE	* MIN	* MAX
MULTI-FAMILY RESID.	12FT	36FT
COMMERCIAL	20FT	36FT
INDUSTRIAL	20FT	40FT

\* EXCLUDING WINGS

Superseded by IC# 9 -  
3/27/03  
Superseded by IC#10 -  
7/31/03  
Superseded by IC#19 -  
6/8/11  
Superseded by IC#30  
9/20/16

CITY OF TROUTDALE

**DRIVEWAY  
APPROACH**

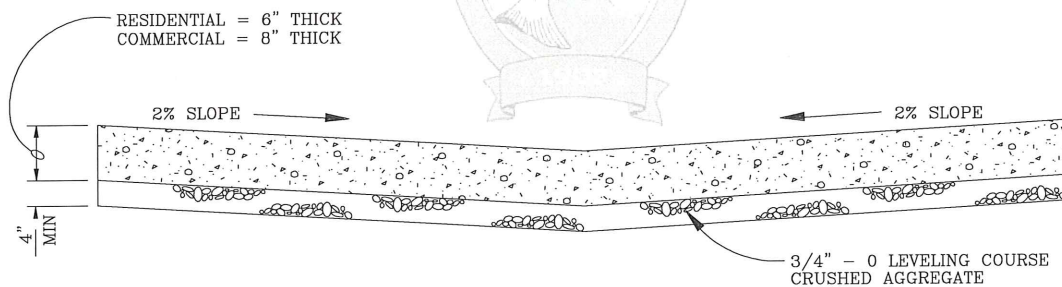
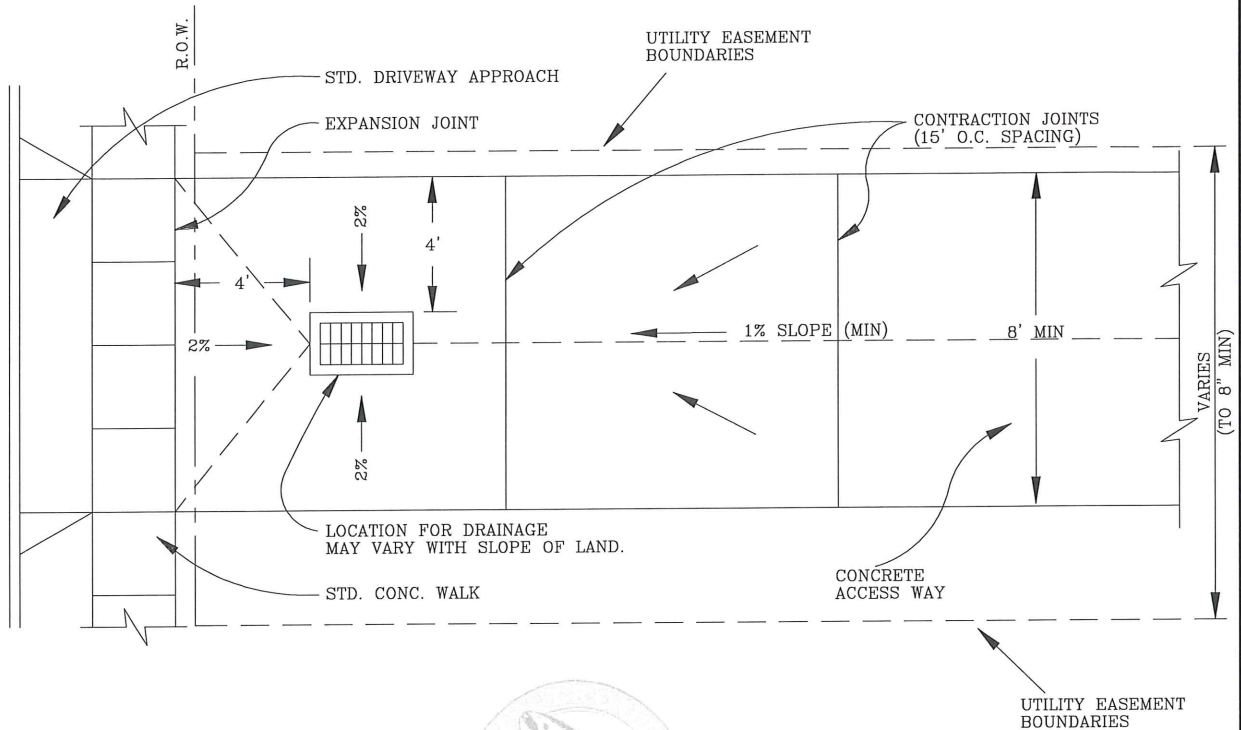
(MULTI-FAMILY RESIDENTIAL,  
COMMERCIAL/INDUSTRIAL AREAS)

DATE:

UPDATED 1997

DRAWING NO.

II - 12



TYPICAL ACCESS WAY (INVERTED CROWN) SECTION

GENERAL NOTES:

1. ALL EDGES SHALL BE TOOLED WITH 3/4" RADIUS.
2. CONCRETE TO BE 3300 PSI @ 28 DAYS.
3. EXPANSION JOINTS SHALL BE INSTALLED @ 45' INTERVALS AND CONTRACTION JOINTS @ 15' INTERVALS.
4. ACTUAL WIDTH OF EASEMENT AND CONCRETED AREA WILL BE DETERMINED BY THE CITY.
5. SURFACES MUST BE BROOM FINISHED.

CITY OF TROUTDALE

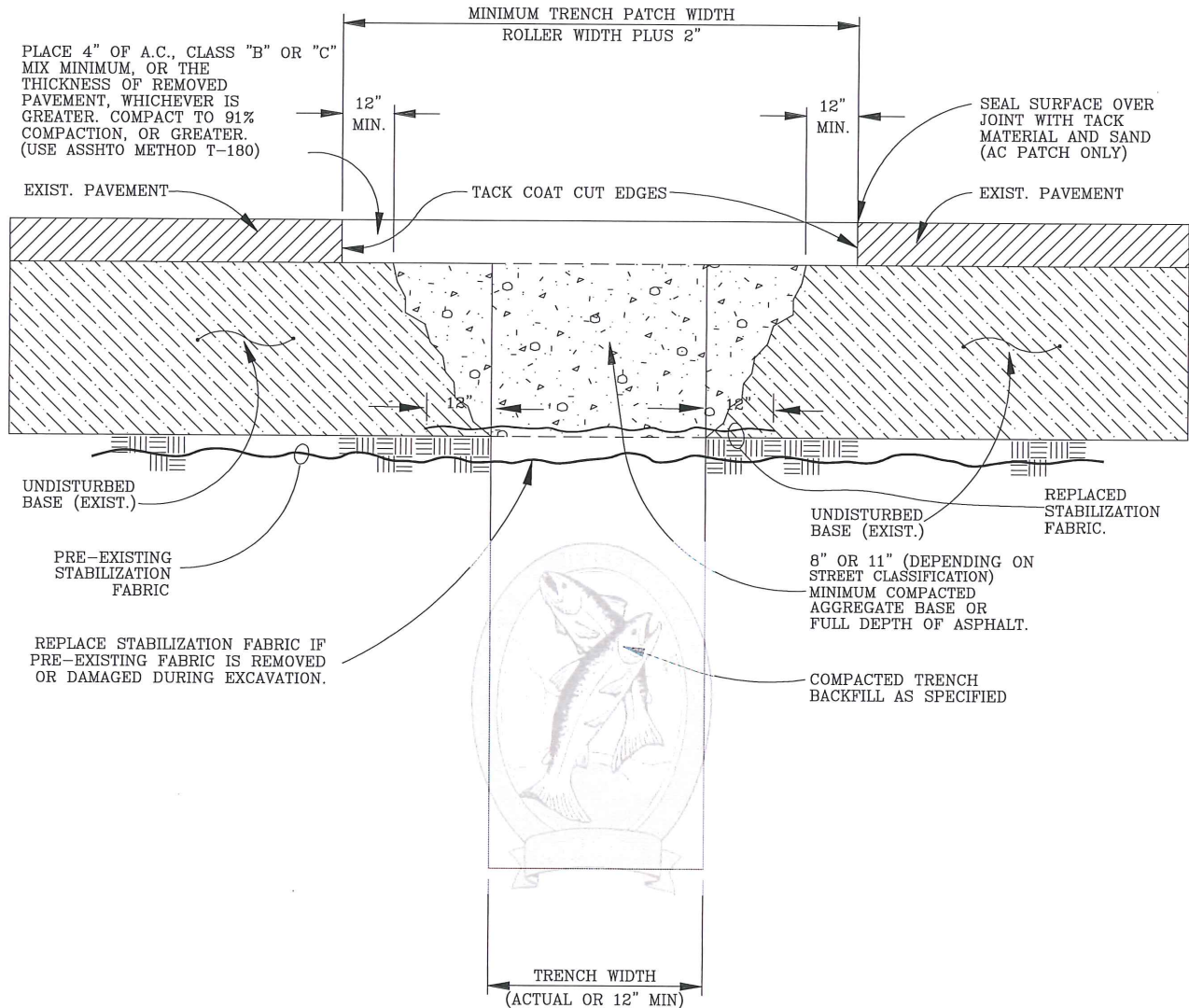
*UTILITY  
EASEMENT  
ACCESS WAY*

DATE:

UPDATED 1997

DRAWING NO.

II - 13



GENERAL NOTES:

1. ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT PRIOR TO REPAVING, AND CUT EDGES TACKED TO PROVIDE STRONG BONDING.
2. IF STREET CUT/EXCAVATION TORE PRE-EXISTING STABILIZATION FABRIC, THE CITY MUST DETERMINE WHAT FABRIC TYPE WILL BE USED AS A SUBSTITUTE. SUBSTITUTE MUST OVERLAP ONTO EXISTING FABRIC AT LEAST 1' ON BOTH SIDES, AS SHOWN.
3. A PUBLIC WORKS PERMIT MUST BE OBTAINED FROM THE CITY PRIOR TO ANY ON-SITE EXCAVATION. A SUBMITTAL OF A TRAFFIC PLAN TO PUBLIC WORKS TO APPROVE MAY ALSO BE REQUIRED DEPENDING ON THE LOCATION OF THE CUT.

CITY OF TROUTDALE

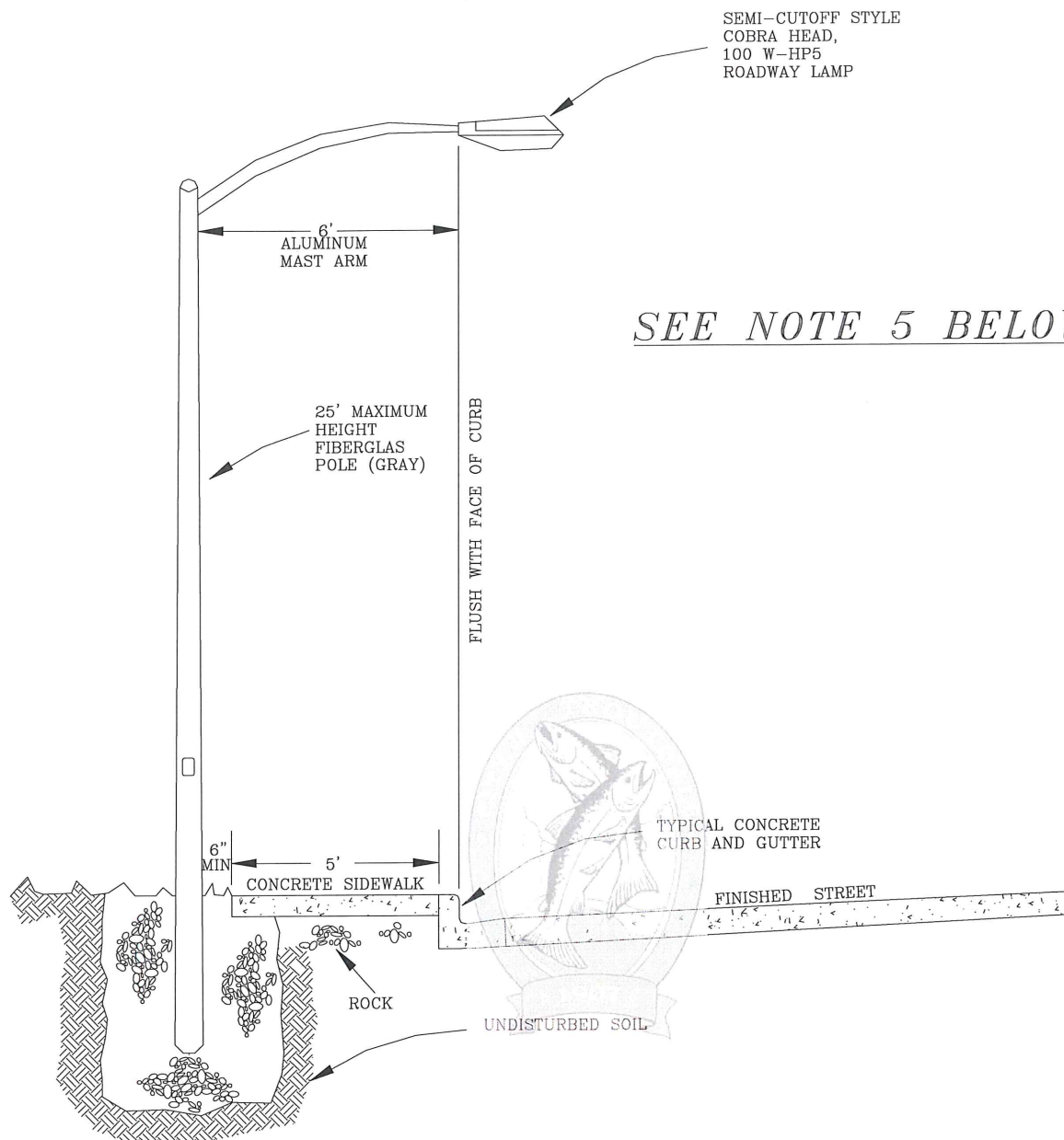
*STREET CUT  
&  
REPAIRS*

DATE:

UPDATED 1997

DRAWING NO.

II - 14



#### GENERAL NOTES

1. COMPACTED, CRUSHED ROCK BACKFILL IS REQUIRED IN ALL SOIL CONDITIONS TO MAINTAIN PROPER POLE VERTICAL ALIGNMENT.
2. USE BELT SLINGS OR NYLON ROPE WHEN LIFTING POLE IN PLACE TO PREVENT SCARRING.
3. LOCATION OF LIGHT POLE CAN NOT BE CLOSER THAN 5' FROM A FIRE HYDRANT; AND, NO CLOSER THAN 2' FROM THE EDGE OF A WATER METER'S BOX AND/OR WATER SAMPLING STATION'S BOX.
4. INSTALLATION OF STREET LIGHT POLE SHOULD OCCUR BEFORE SIDEWALK, OTHERWISE, A 5' X 5' SECTION OF SIDEWALK MUST BE REMOVED AND REPLACED AFTER STREET LIGHT POLE IS INSTALLED.
5. THIS DETAIL IS PROVIDED TO SHOW "LOCATION" OF POLE WITHIN PUBLIC RIGHT-OF-WAY ONLY. EXACT SPECIFICATIONS FOR INSTALLATION AND ELECTRICAL COMPONENTS MUST BE OBTAINED FROM PORTLAND GENERAL ELECTRIC.
6. COBRA HEAD STYLE USED WHEN POLE IS INSTALLED BEHIND SIDEWALK. USE SHOE BOX STYLE WHEN LOCATED ADJACENT TO CURB. SEE DRAWING # II - 16.
7. STREET LIGHT POLES SHALL NOT BE INSIDE DRIVEWAY WINGS.

CITY OF TROUTDALE

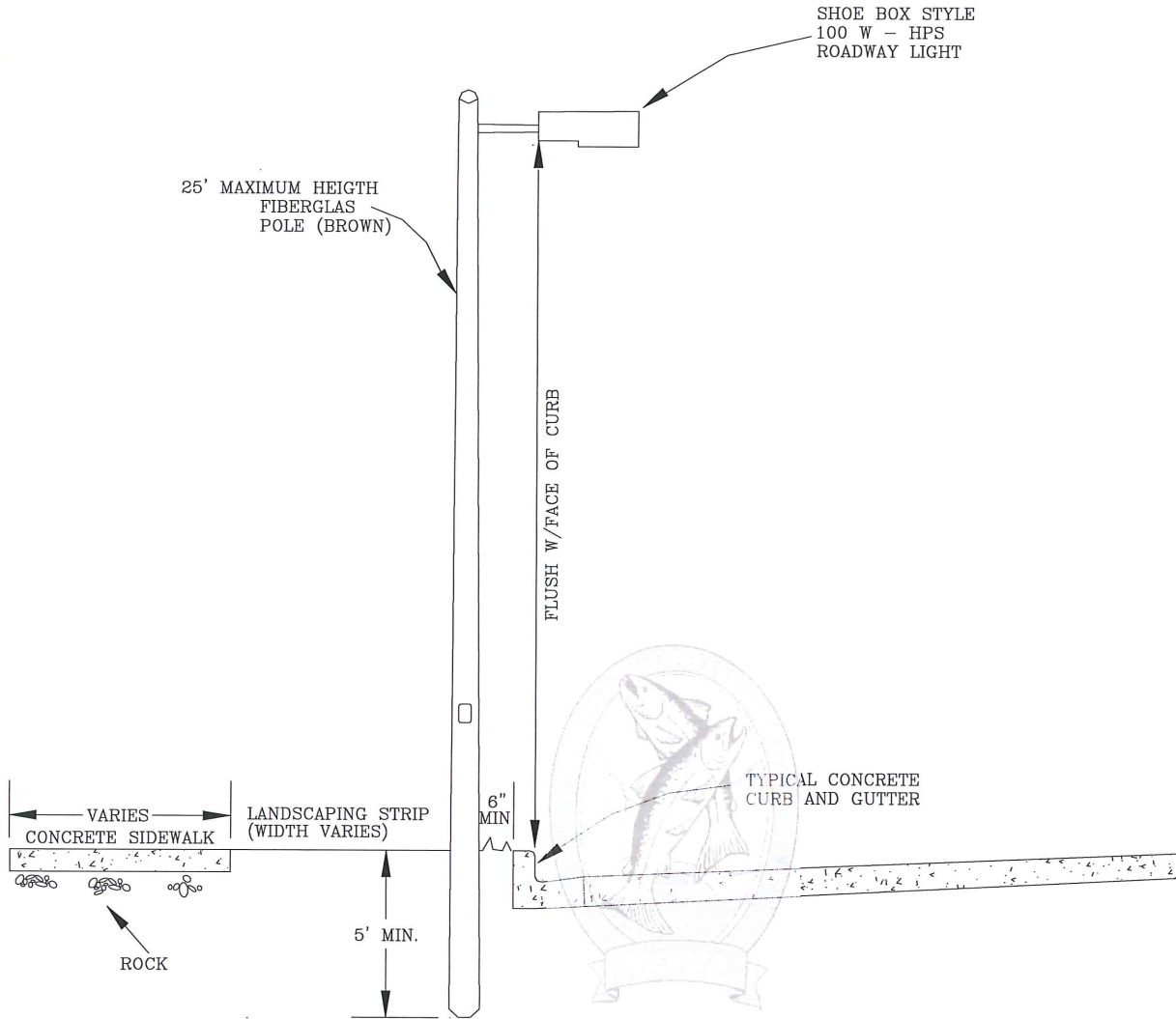
## STREET LIGHT POLE LOCATION (BACK OF WALK)

DATE:

UPDATED 1997

DRAWING NO.

II - 15



**GENERAL NOTES:**

1. DURING EXCAVATION, DO NOT UNDERMINE EXISTING CURB AND GUTTER.
2. COMPACTED, CRUSHED ROCK BACKFILL IS REQUIRED IN ALL SOIL CONDITIONS TO MAINTAIN PROPER POLE VERTICAL ALIGNMENT.
3. USE BELT SLINGS OR NYLON ROPE WHEN LIFTING POLE IN PLACE TO PREVENT SCARRING.
4. LOCATION OF LIGHT POLE CAN NOT BE CLOSER THAN 5' FROM A FIRE HYDRANT; AND, NO CLOSER THAN 2' FROM THE EDGE OF A WATER METER'S BOX AND/OR WATER SAMPLING STATION'S BOX. NO EXCEPTIONS ALLOWED.
5. THIS DETAIL IS PROVIDED TO SHOW "LOCATION" OF POLE WITHIN PUBLIC RIGHT-OF-WAY ONLY. EXACT SPECIFICATIONS FOR INSTALLATION AND ELECTRICAL COMPONENTS MUST BE OBTAINED FROM PORTLAND GENERAL ELECTRIC.
6. "SHOE BOX" STYLE IS USED WHEN POLE IS PLACED IN LANDSCAPING STRIP. USE COBRA HEAD STYLE WHEN LOCATED BEHIND SIDEWALK. SEE DRAWING # II - 14.

7. STREET LIGHT POLES SHALL NOT BE INSIDE DRIVEWAY WING AREA.

CITY OF TROUTDALE

**STREET LIGHT POLE  
LOCATION**

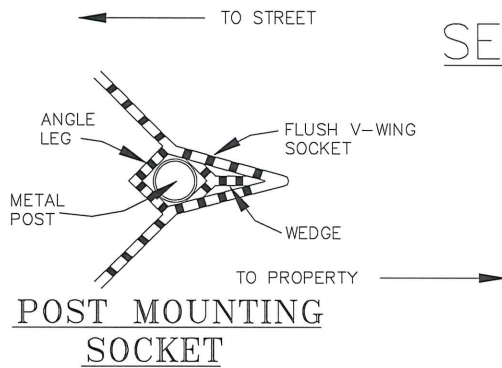
(IN LANDSCAPING STRIP)

DATE:

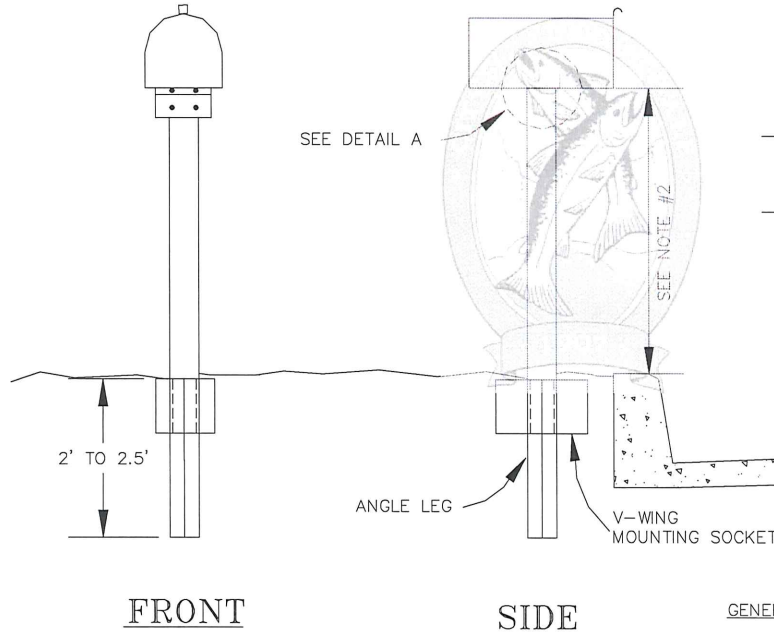
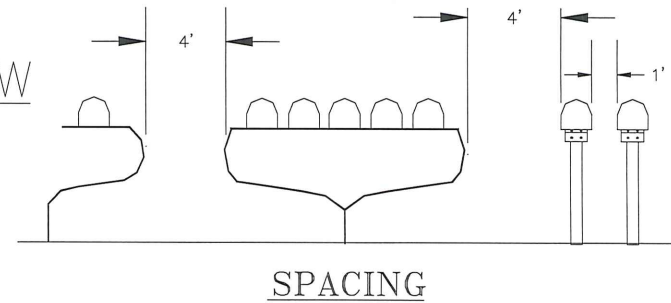
UPDATED 1997

DRAWING NO.

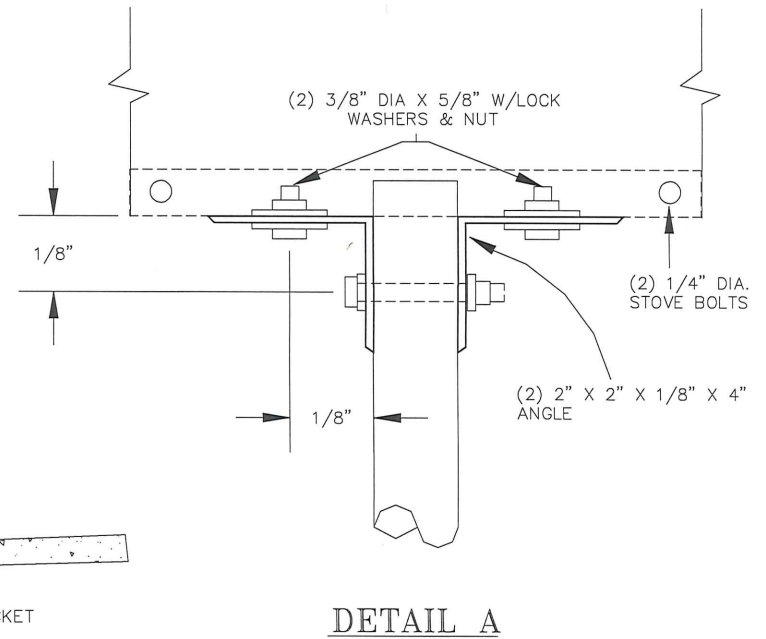
II - 16



SEE NOTE 2 BELOW



**SINGLE BOX**



**GENERAL NOTES:**

1. TOP OF V-LOC SOCKET MUST BE FLUSH WITH FINISH GRADE. IF MAILBOX IS BEING INSTALLED IN SIDEWALK AREA, IT MUST BE INSTALLED DURING PREP WORK OF SIDEWALK BEDDING, AND PRIOR TO POURING CONCRETE.
2. MAIL BOX HEIGHT AND SET BACKS WILL BE SPECIFIED BY POSTAL AUTHORITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE MOST RECENT SPECIFICATIONS FROM THE POSTAL AUTHORITIES.

DATE:  
UPDATED 1997

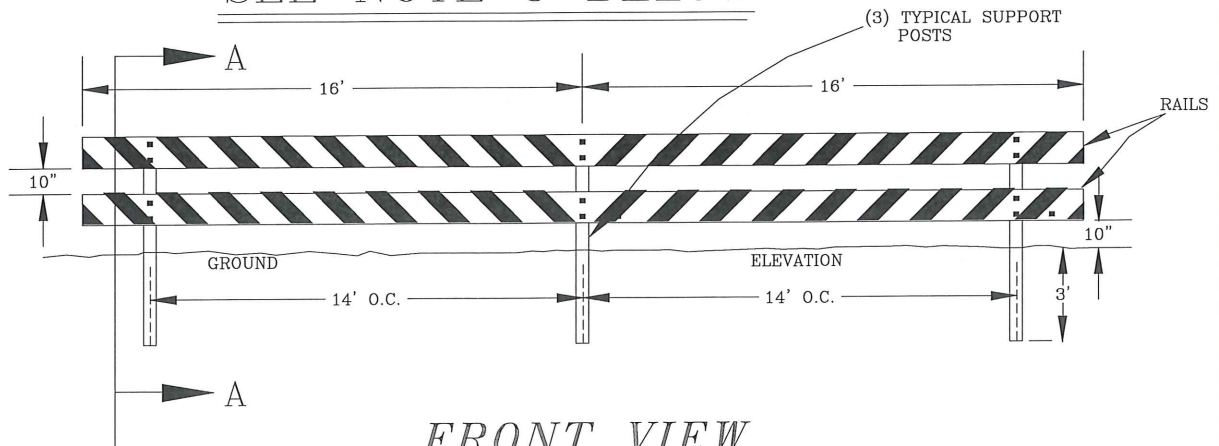
DRAWING NO.  
II - 17

**MAIL BOX  
INSTALLATIONS  
(CLUSTER & SINGLE)**

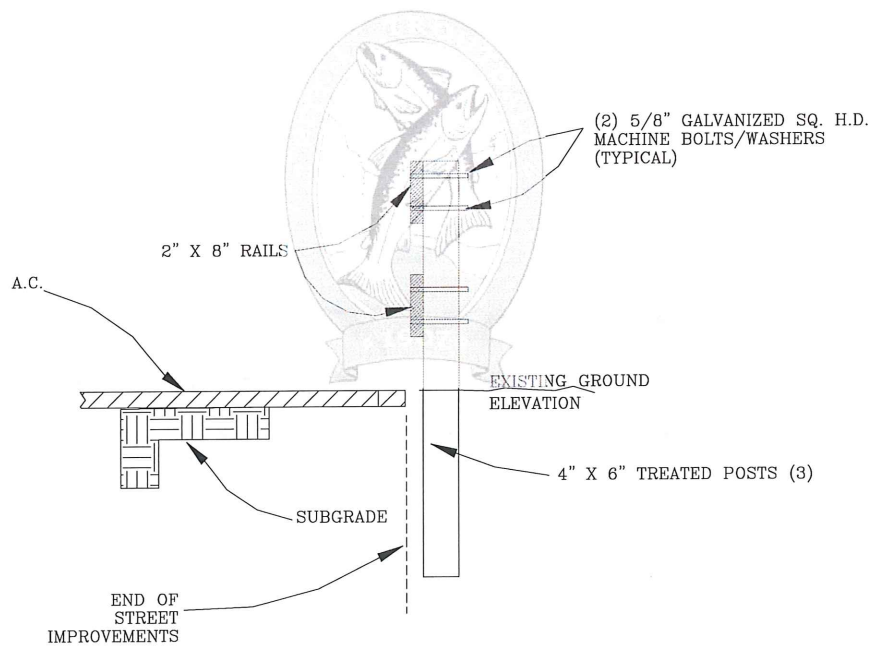
CITY OF TROUTDALE



SEE NOTE 5 BELOW



**FRONT VIEW**  
(TEMPORARY CLOSURE)



**SIDE VIEW**

**GENERAL NOTES:**

1. STRIPES SHALL BE REFLECTORIZED, RED AND WHITE IN COLOR.
2. SUPPORT POSTS SHALL BE 4"x6", PRESSURE TREATED AND PAINTED WHITE.
3. BARRICADE BOARD RAILS SHALL BE 2"x8" X REQUIRED LENGTH, PRESSURE TREATED.
4. WHEN BARRICADE REMOVAL IS REQUIRED TO EXTEND STREET, CITY FORCES WILL PICK UP BARRICADE UPON REMOVAL BY CONTRACTOR.
5. CONSTRUCT BARRICADE TYPE II, AS SHOWN, UNLESS OTHERWISE DIRECTED BY THE CITY.

CITY OF TROUTDALE

**STREET  
BARRICADE  
(TYPE II)**

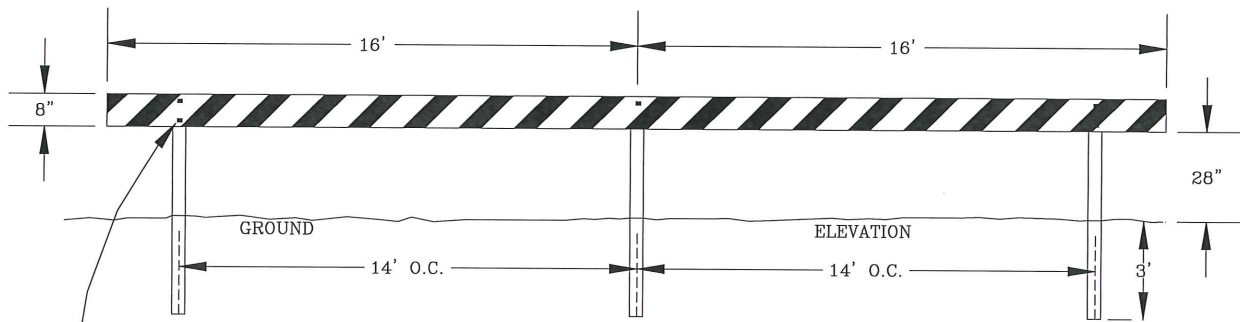
DATE:

UPDATED 1997

DRAWING NO.

II - 19

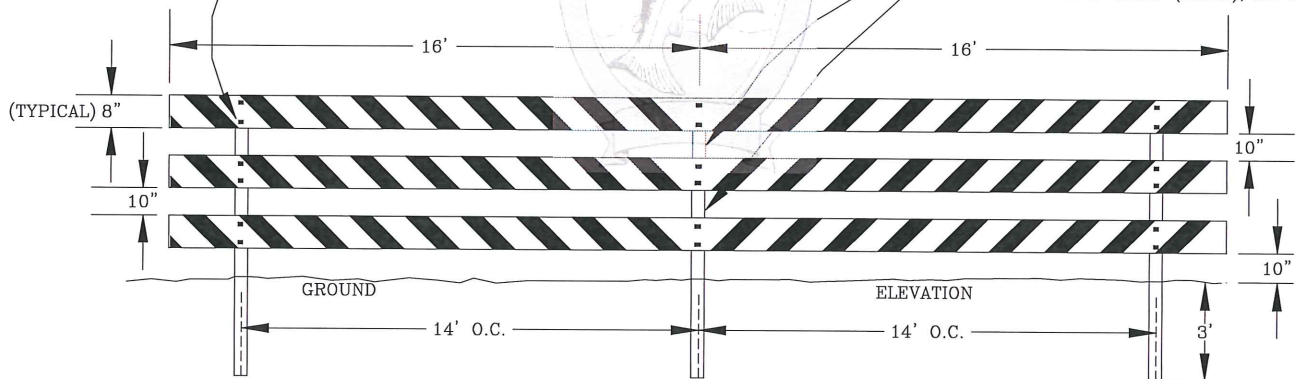
SEE NOTE 4 BELOW



*BARRICADE TYPE I*

USE (2) 5/8" GALVANIZED SQ. H.D.  
MACHINE BOLTS/WASHERS PER BARRICADE  
ON EACH POST.  
(SEE DRAWING # II - 18, FOR DETAILS)

(3) TYPICAL 4" X 6" X REQUIRED LENGTH  
TREATED SUPPORT POSTS. TRIM TOP OF  
SUPPORT POSTS FLUSH WITH TOP  
OF BARRICADE BOARDS (RAILS), AS SHOWN.



*BARRICADE TYPE III*

*(PERMANENT CLOSURE)*

GENERAL NOTES:

1. STRIPES SHALL BE REFLECTORIZED, RED AND WHITE IN COLOR.
2. POSTS SHALL BE 4" X 6" X REQUIRED LENGTH, TREATED, PAINTED WHITE.
3. BARRICADE BOARDS, (RAILS), SHALL BE 2"X8" X REQUIRED LENGTH, TREATED.
4. USE TYPE II, DRAWING # II-19, UNLESS OTHERWISE REQUIRED BY THE CITY.

CITY OF TROUTDALE

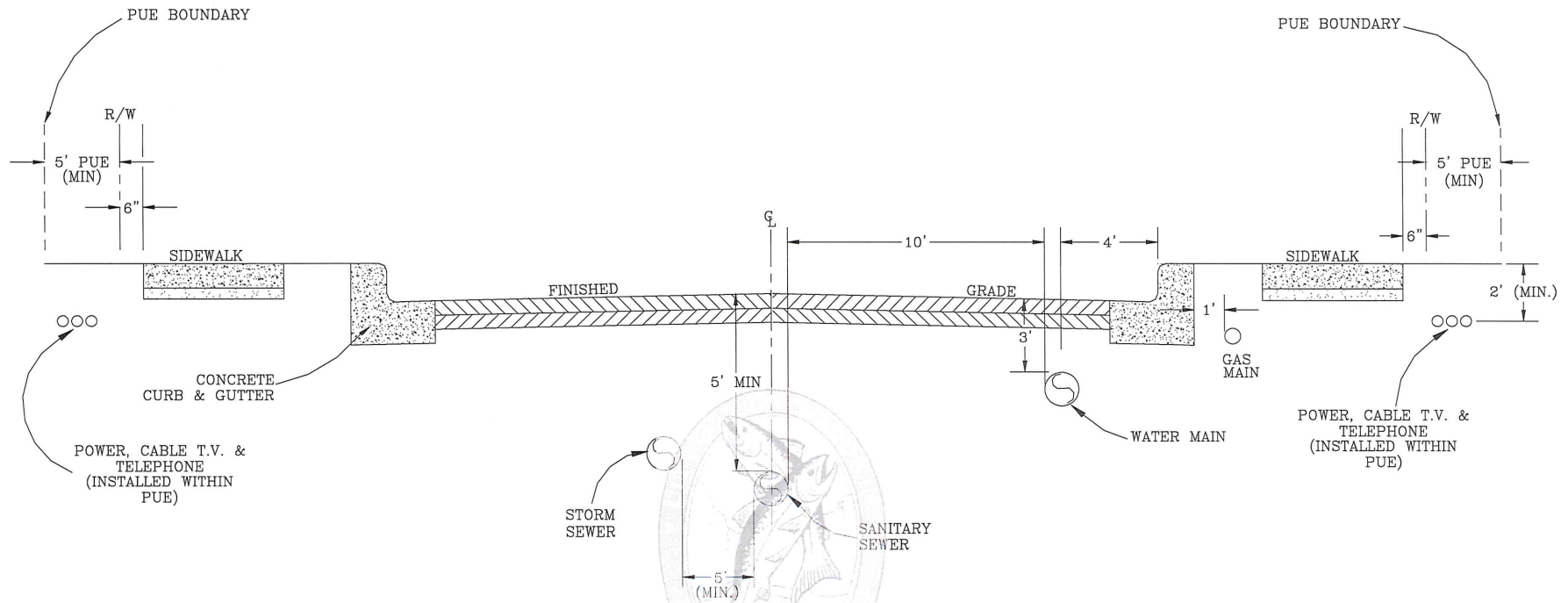
*STREET  
BARRICADE  
(TYPE I & III)*

DATE:

UPDATED 1997

DRAWING NO.

II - 20



GENERAL NOTES:

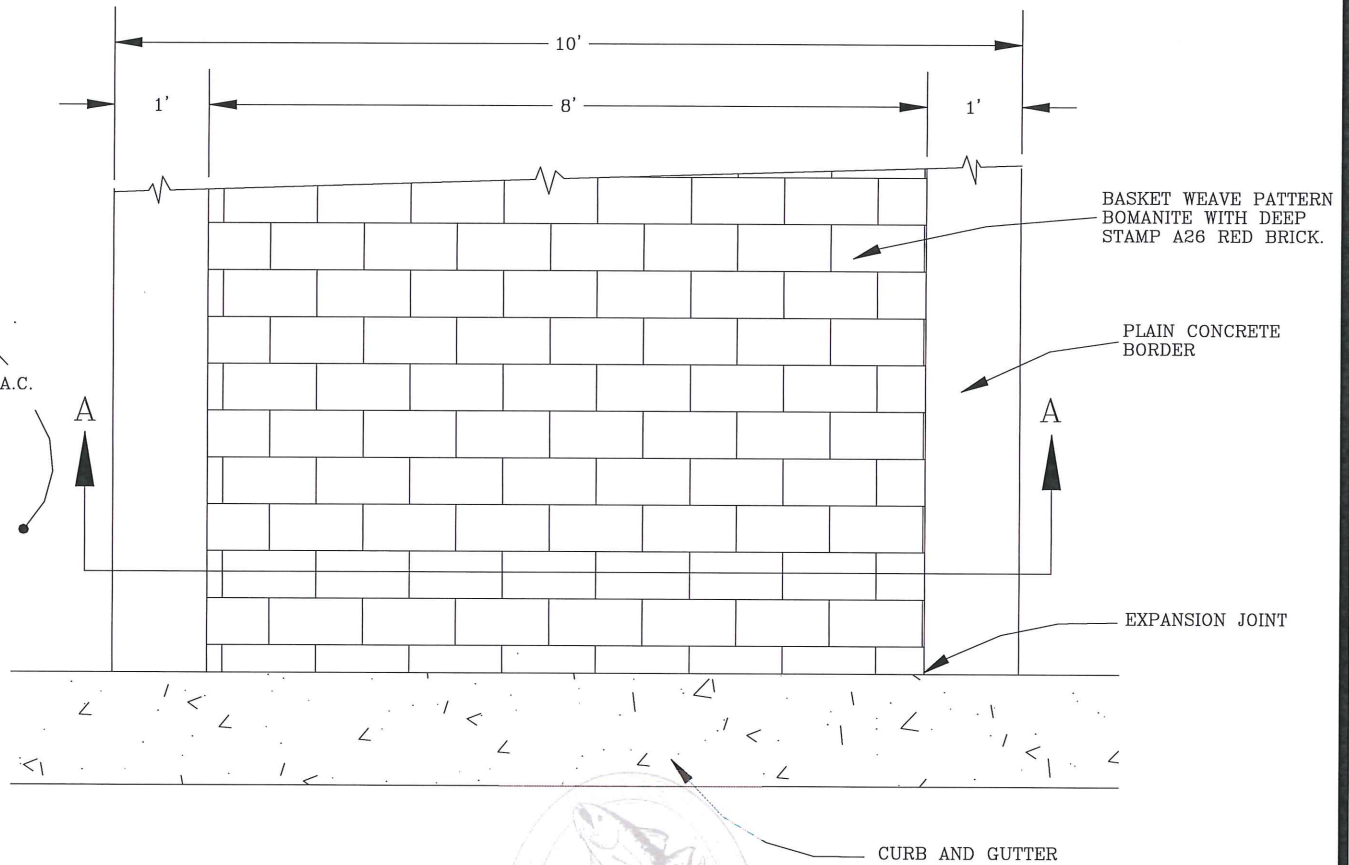
1. VERTICAL AND HORIZONTAL SEPARATION DISTANCES BETWEEN THE WATER, SANITARY AND STORM SEWERS ARE GOVERNED BY THE CITY, THE DEPARTMENT OF ENVIROMENTAL QUALITY, AND STATE HEALTH DIVISION.
2. PUE: PRIVATE UTILITY EASEMENT
3. WATER MAINS SHALL BE LOCATED ON THE SOUTH & EAST SIDE OF THE STREETS WHERE POSSIBLE.
4. STORM SEWER MAINS SHALL BE LOCATED ON THE NORTH & WEST SIDE OF THE STREETS WHERE POSSIBLE.
5. SANITARY SEWER MAINS SHALL BE LOCATED ALONG THE CENTER LINE OF THE STREETS, WHEREVER POSSIBLE. AT POINTS OF STREET INTERSECTIONS, CURVATURES AND TANGENTS, THE SANITARY SEWER MANHOLES CAN BE PLACED SLIGHTLY OFF STREET CENTER LINES WHEN & IF SURVEY CONTROL POINTS ARE REQUIRED.

**PUBLIC/PRIVATE  
UTILITY LOCATIONS**

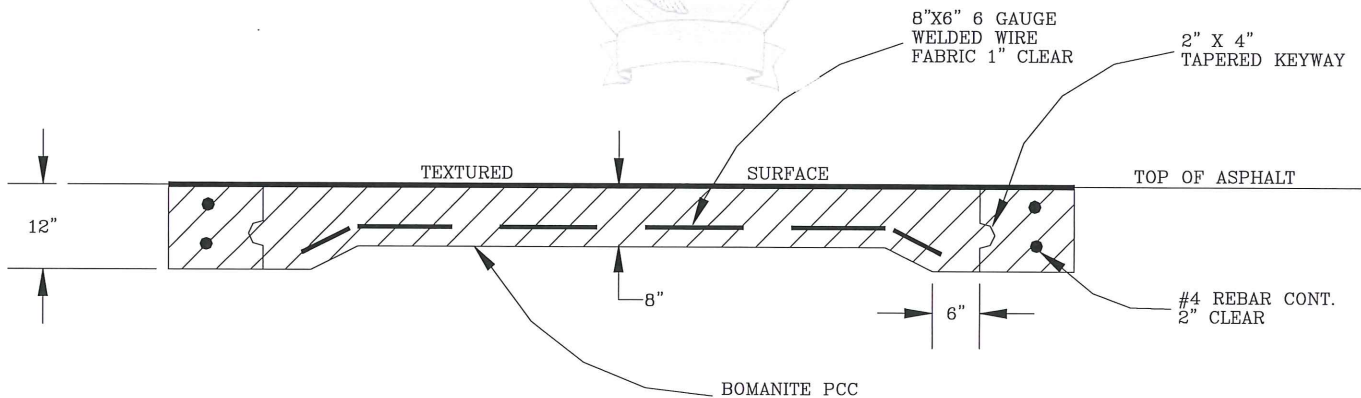
**CITY OF TROUTDALE**

DATE:  
UPDATED 1997

DRAWING NO.  
II - 21



*PLAN VIEW*



*SECTION A-A*

GENERAL NOTES

1. ALL CONCRETE SHALL BE 4000 PSI AT 28 DAYS. PROVIDE 1/2" EXPANSION JOINT AT CENTER OF CROSSWALK OR AT 15' O.C., WHICHEVER IS LESS.
2. BOMANITE CROSS WALKS ARE REQUIRED AT ALL CROSSINGS NEAR SCHOOLS. EXACT LOCATION IS TO BE DETERMINED BY THE CITY.

CITY OF TROUTDALE

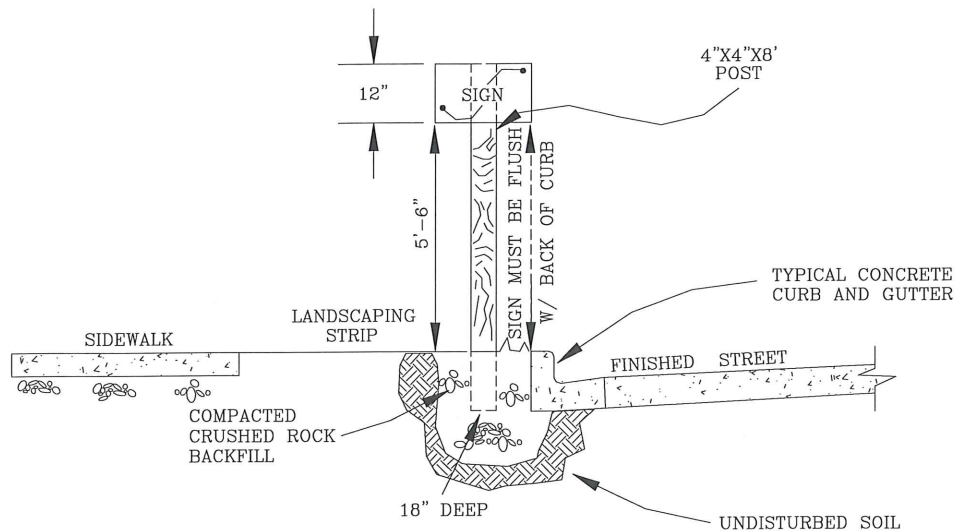
*BOMANITE  
PEDESTRIAN  
CROSS WALK*

DATE:

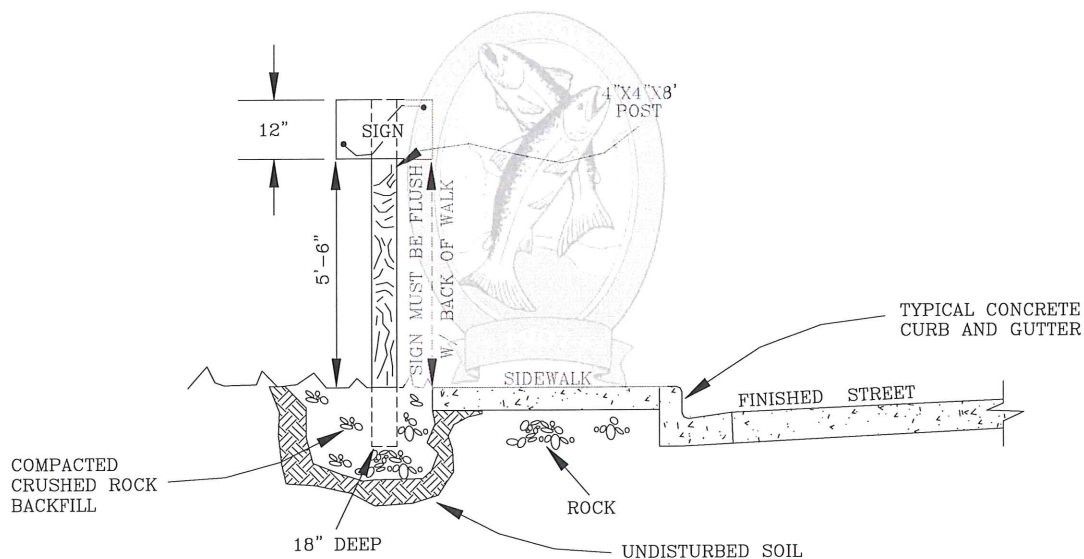
UPDATED 1997

DRAWING NO.

II - 22



### BACK OF CURB OPTION



### BACK OF SIDEWALK OPTION

#### GENERAL NOTES:

1. DURING EXCAVATION, DO NOT UNDERMINE EXISTING CURB AND GUTTER.
2. COMPACTED, CRUSHED ROCK BACKFILL IS REQUIRED IN ALL SOIL CONDITIONS TO MAINTAIN PROPER POLE VERTICAL ALIGNMENT.
3. LOCATION OF SIGN & POST CAN NOT BE CLOSER THAN 5' FROM A WATER SERVICE METER BOX, FIRE HYDRANT, OR WATER SAMPLING STATION. NO EXCEPTIONS ALLOWED.
4. A UTILITY LOCATE REQUEST MUST BE MADE BY THE PROPERTY OWNER(S) PRIOR TO EXCAVATION.
5. THE INSTALLATION AND THE REQUIRED MAINTENANCE ARE THE RESPONSIBILITY OF THE NEIGHBORHOOD WATCH ASSOCIATION. PRIOR TO INSTALLATION, THE PERSON IN CHARGE OF INSTALLATION MUST CONTACT THE PUBLIC WORKS DEPARTMENT TO ENSURE LOCATION OF SIGN IS ACCEPTABLE.
6. NEIGHBORHOOD WATCH SIGNS CAN NOT BE POSTED ON ALREADY IN-PLACE POSTS HOLDING STREET SIGNS, STOP SIGNS, ETC.

CITY OF TROUTDALE

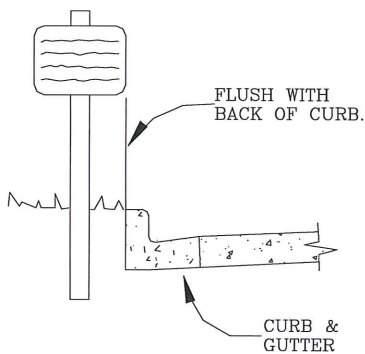
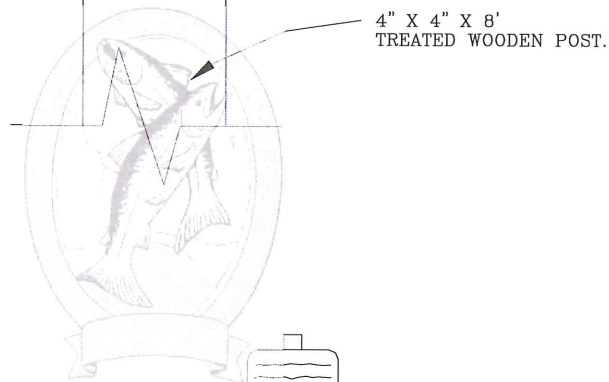
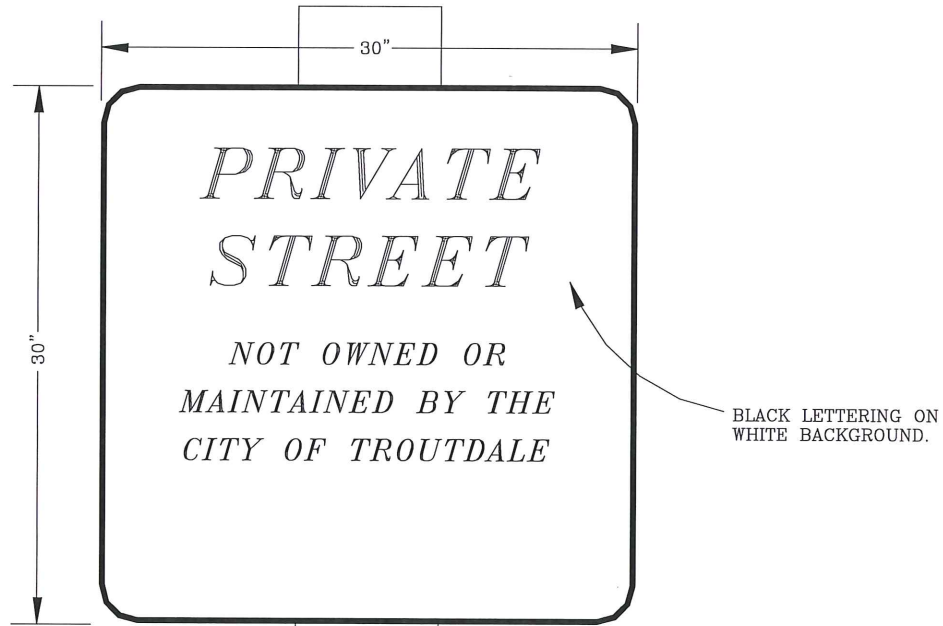
## *NEIGHBORHOOD WATCH SIGNS*

DATE:

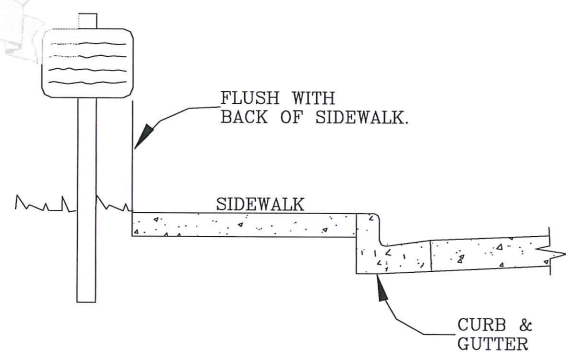
UPDATED 1997

DRAWING NO.

II - 23



IN LANDSCAPING STRIP



BACK OF WALK

GENERAL NOTES

1. SIGN TO BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY AT ALL ENTRANCES TO ANY PRIVATELY OWNED STREET(S).
2. INSTALLATION OF THESE AND ALL OTHER STREET SIGNS IN PUBLIC RIGHT-OF-WAY ARE TO BE INSTALLED BY CITY FORCES; HOWEVER, @ THE EXPENSE OF THE DEVELOPER OF THE DEVELOPMENT TRIGGERING THE NEED.
3. THE STREET EDGE OF THE SIGN IS TO BE FLUSH WITH THE BACK OF CURB OR SIDEWALK.

CITY OF TROUTDALE

*"PRIVATE STREET"*  
*SIGN*

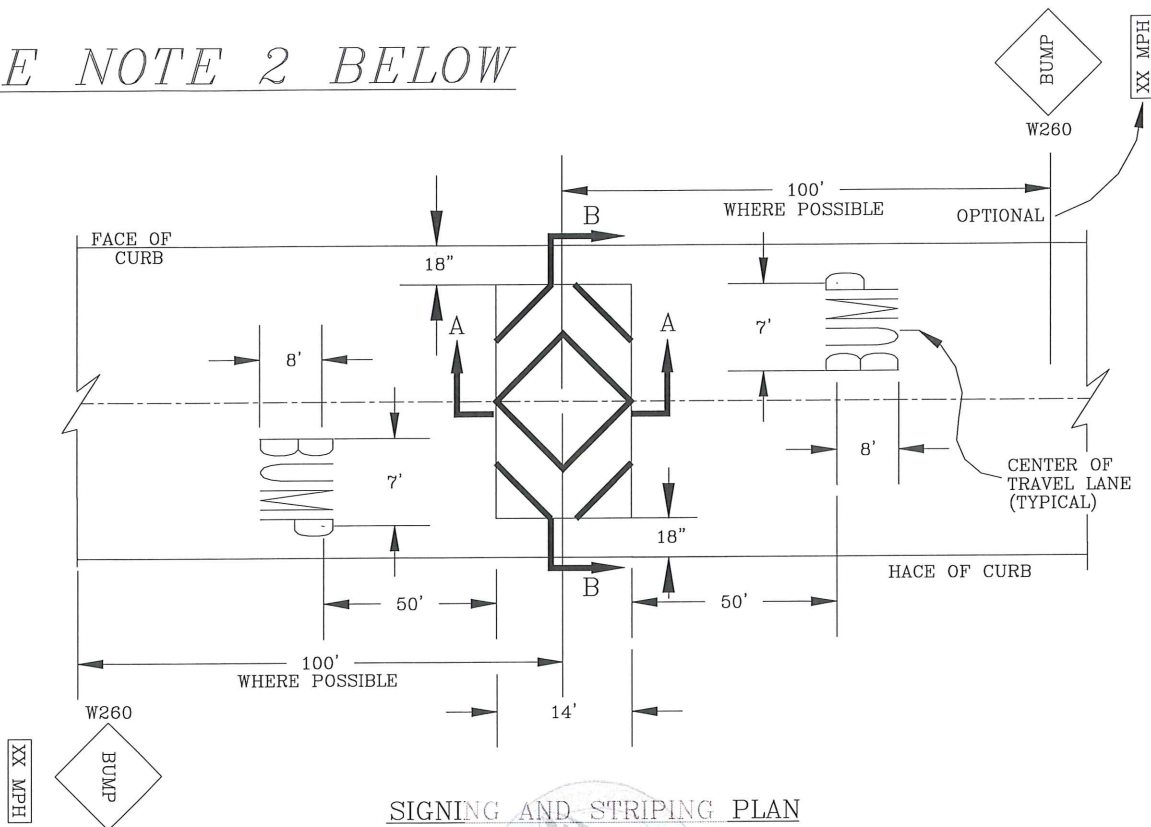
DATE:

APRIL 1997

DRAWING NO.

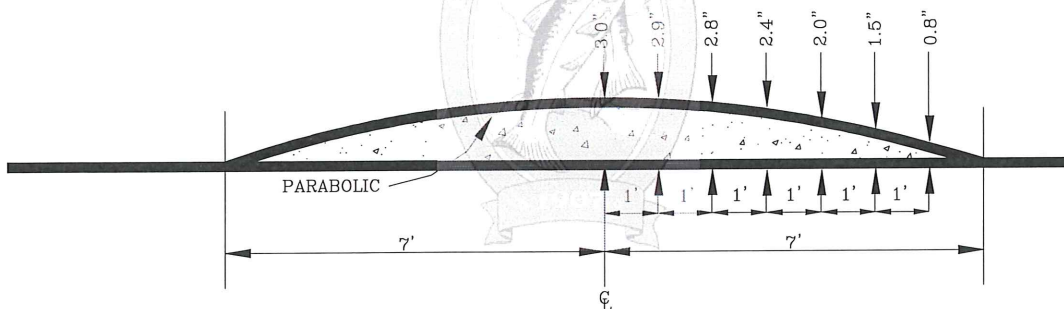
II-24

SEE NOTE 2 BELOW



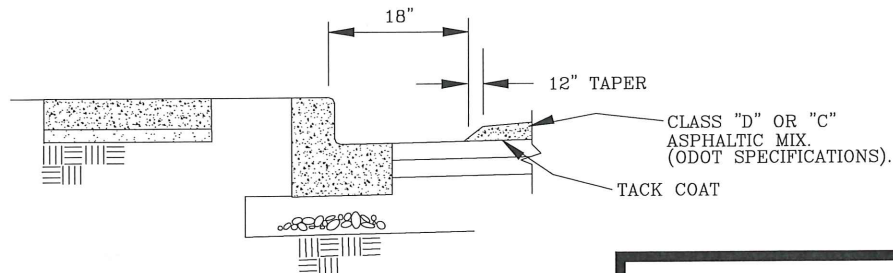
SIGNING AND STRIPING PLAN

NTS



SECTION A-A

NTS



SECTION B-B

NTS

GENERAL NOTES

1. SPEED HUMPS SHOULD BE SPACED ACCORDING TO AN ENGINEERING EVALUATION OF THE PHYSICAL STREET SECTION AS WELL AS TRAFFIC OPERATIONS DATA. TYPICALLY, SPEED HUMPS SHOULD BE SPACED BETWEEN 300 AND 600 FEET.
2. ALL SPEEDHUMPS MUST BE FORMED WITH A PRE-MADE TEMPLATE TO ENSURE CONSISTENCY OF CONSTRUCTION FOR DEPTH AND SHAPE. TEMPLATE MUST BE INSPECTED BY CITY FORCES BEFORE PLACEMENT OF HUMPS.
3. AMBIENT TEMPERATURE MUST BE NO LESS THAN 55 DEG. F. DURING PLACEMENT OF HUMPS.

Drawing replaced with revised standard drawing 9/20/16 - see IC# 31

CITY OF TROUTDALE

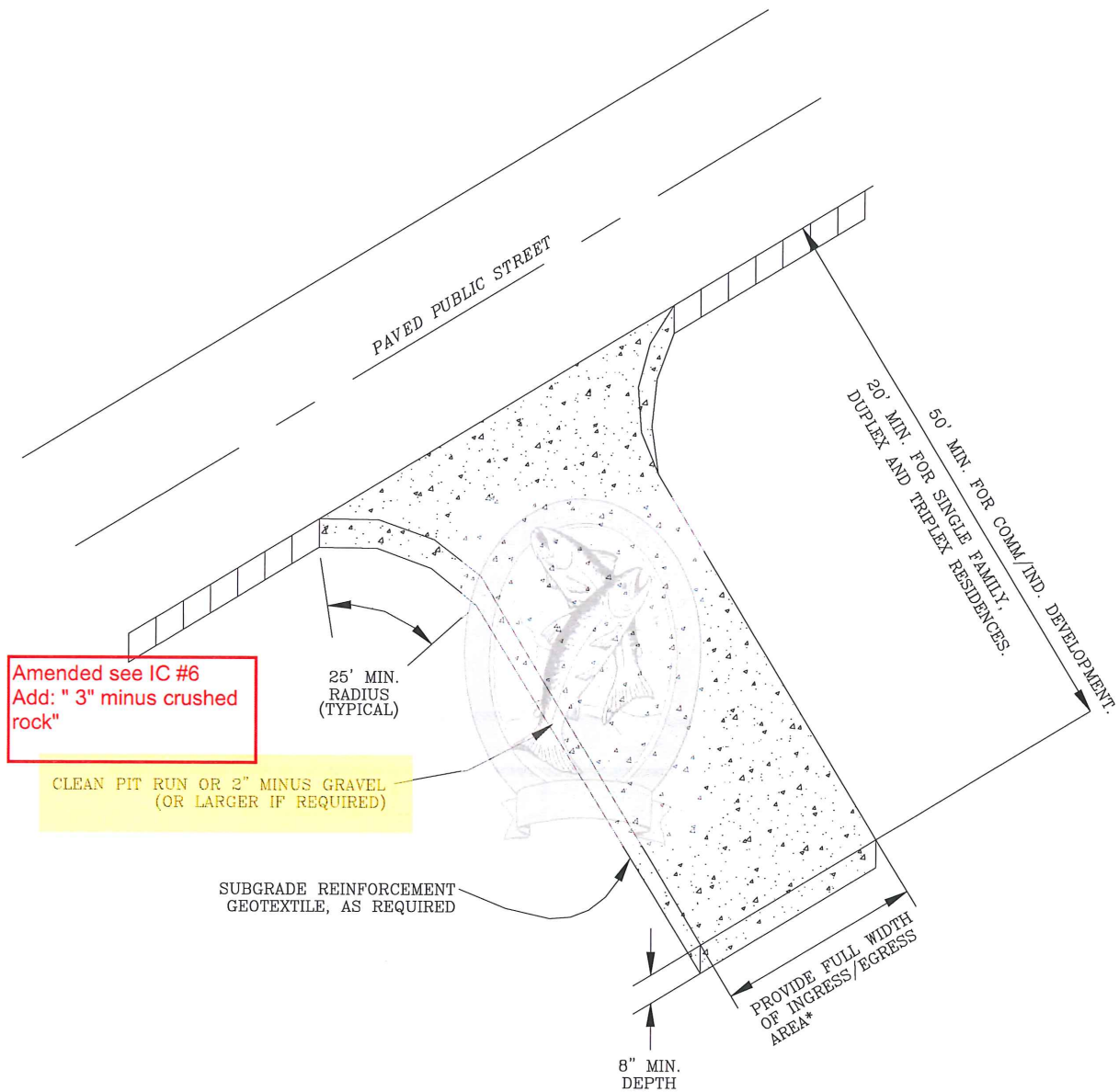
14' WIDE SPEED HUMP

DATE:

UPDATED 1997

DRAWING NO.

II-25



#### GENERAL NOTES

1. A CONSTRUCTION ENTRANCE MUST BE PROVIDED AT ANY CONSTRUCTION SITE WHERE TRAFFIC WILL BE LEAVING THE SITE AND MOVING DIRECTLY ONTO PUBLIC ROADS OR OTHER PAVED AREAS.
2. ADDITIONAL GRAVEL, (OR LARGER CRUSHED ROCK AS REQUIRED) MAY HAVE TO BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.

CITY OF TROUTDALE

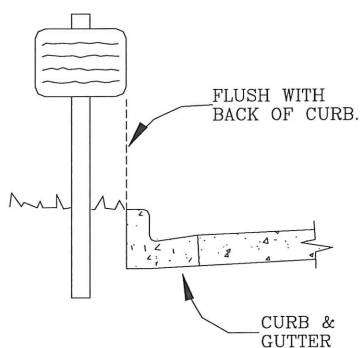
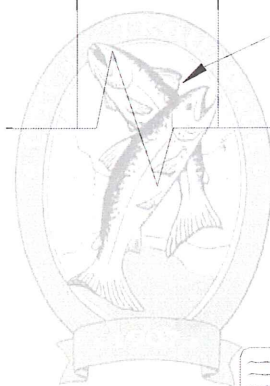
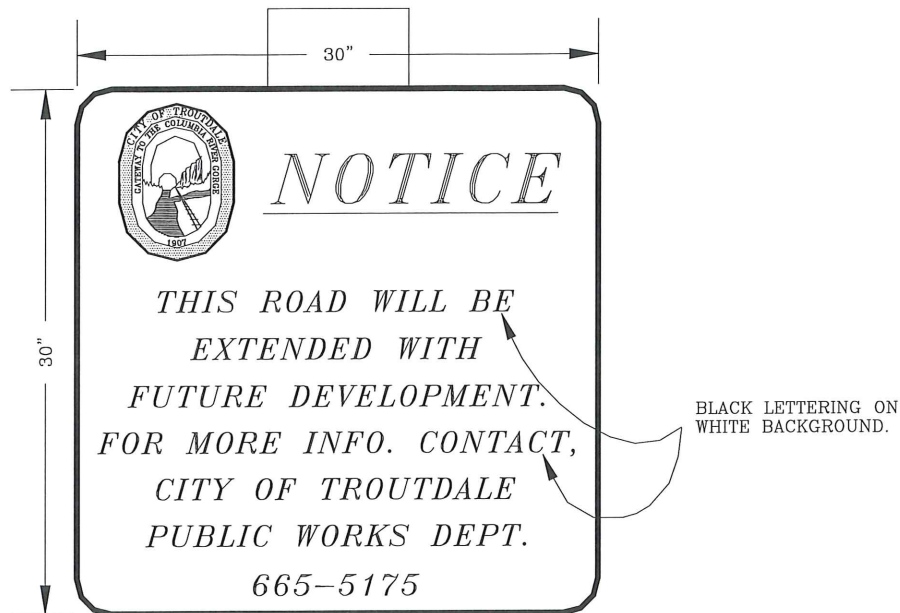
## GRAVEL CONSTRUCTION ENTRANCE

DATE:

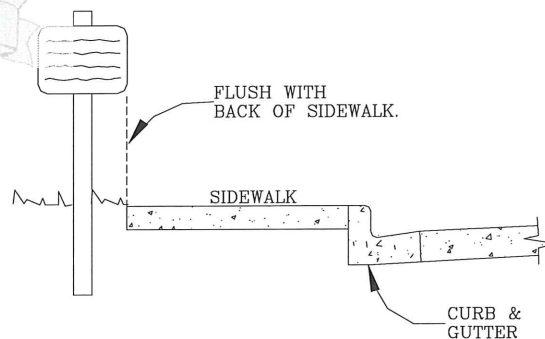
UPDATED 1997

DRAWING NO.

II-26



IN LANDSCAPING STRIP



BACK OF WALK

GENERAL NOTES

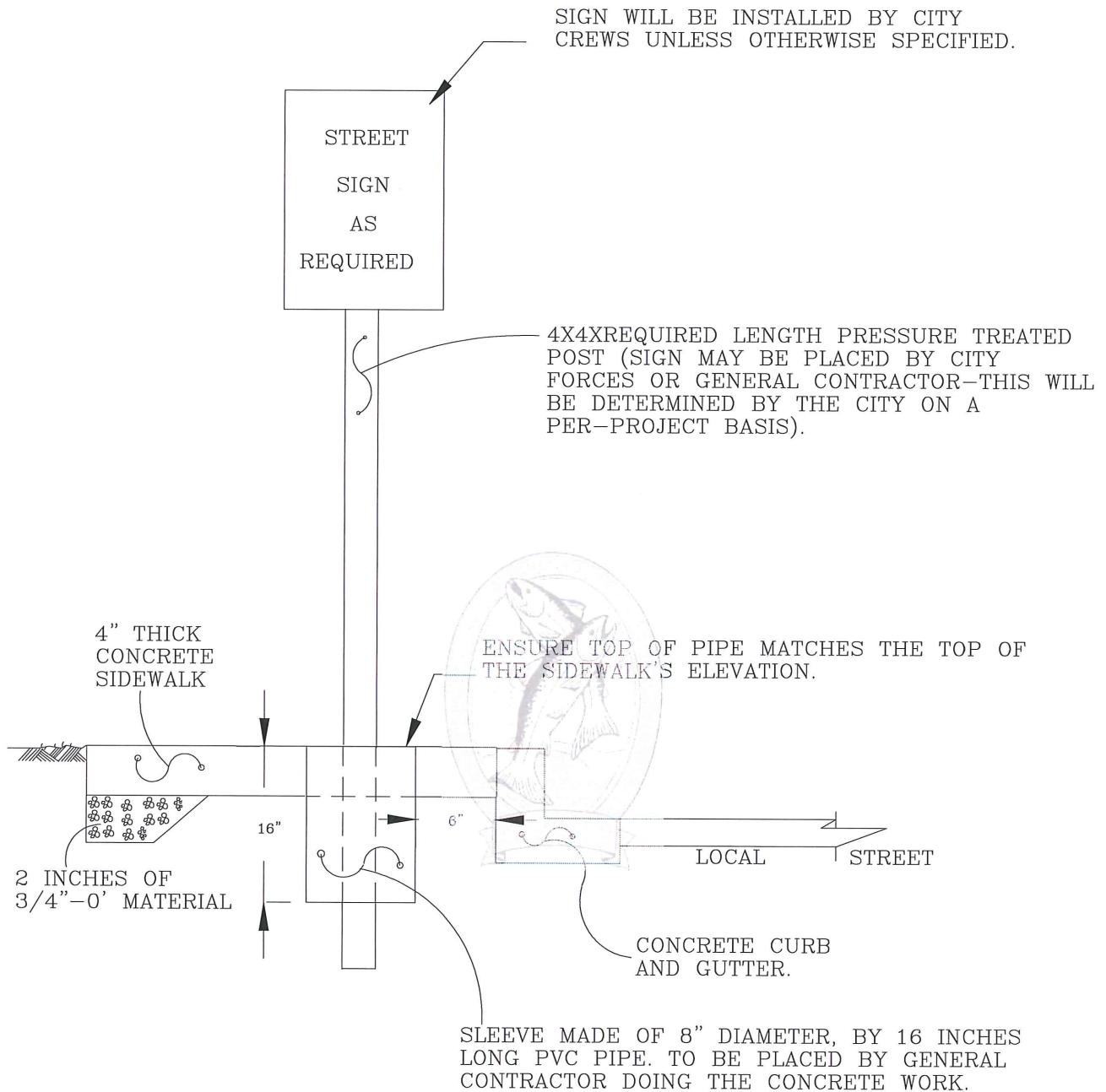
1. WHENEVER A STUB STREET IS CREATED, A SIGN AS DEPICTED ABOVE MUST BE CONSTRUCTED AND INSTALLED ON OR NEAR THE BARRICADE AT THE END OF THE STUB STREET.
2. INSTALLATION OF THESE AND ALL OTHER STREET SIGNS IN PUBLIC RIGHT-OF-WAY ARE TO BE INSTALLED BY CITY FORCES; HOWEVER, @ THE EXPENSE OF THE DEVELOPER OF THE DEVELOPMENT TRIGGERING THE NEED.
3. THE STREET EDGE OF THE SIGN IS TO BE FLUSH WITH THE BACK OF CURB OR SIDEWALK.

CITY OF TROUTDALE

**NOT A "PERMANENT  
DEAD-END STREET"  
SIGN**

DATE:  
APRIL 1997

DRAWING NO.  
II-27



NOTES:

1. 4X4XREQUIRED LENGTH PRESSURE TREATED POST AND STREET SIGN(S) WILL BE INSTALLED BY CITY FORCES UNLESS OTHERWISE INDICATED ON A PER—PROJECT BASIS.
2. 8" DIAMETER PVC PIPE BY 16 INCHES LONG SLEEVE IS TO BE INSTALLED BY THE GENERAL CONTRACTOR PLACING THE CONCRETE.
3. THE SLEEVE MUST BE @ 16 INCHES AWAY FROM THE EDGE OF THE WHEEL CHAIR RAMP.

CITY OF TROUTDALE

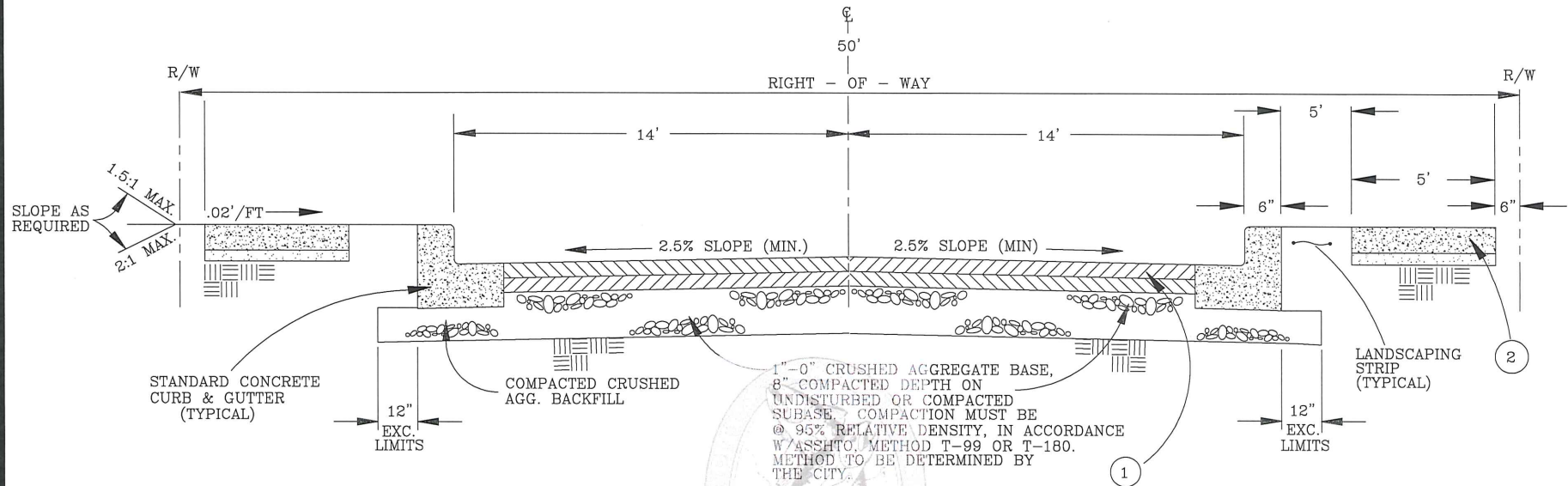
IN—CONCRETE SIDEWALK  
STREET SIGN SLEEVE DETAIL

DATE:

UPDATED 1997

DRAWING NO.

II - 28



*TOWN CENTER OVERLAY DISTRICT CROSS SECTION*

NOTES:

- 1 3 1/2" OF ASPHALTIC CONCRETE CLASS "C" PLACED IN 2 LIFTS.  
1ST LIFT SHALL BE 2" COMPACTED DEPTH.  
FIRST LIFT 1 1/2" LIFT WILL BE PLACED AFTER 90% OF THE CERTIFICATES  
OF OCCUPANCY HAVE BEEN ISSUED OR 2 YEARS AFTER THE  
FIRST LIFT, WHICHEVER COMES FIRST.
- 2 4" THICK CONCRETE SIDEWALK ON MINIMUM OF 2" COMPACTED  
DEPTH OF 3/4" - 0 CRUSHED ROCK.

GENERAL:

1. THESE STANDARDS ARE SHOWN AS MINIMUM ALLOWABLE STANDARDS. THE CITY ENGINEER MAY REQUIRE MODIFICATIONS DUE TO ADVERSE SOIL CONDITIONS, TRAFFIC CONDITIONS, OR OTHER UNFORESEEN RELEVANT SITE CONDITIONS.
2. ALL MATERIALS AND WORKMANSHIP SHALL MEET THE REQUIREMENTS OF THE AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS.
3. DEFLECTION/COMPACTION TESTS WILL BE REQUIRED AS DEEMED NECESSARY BY THE CITY. NO DEFLECTION IS ALLOWED.
4. SUBGRADE MUST BE APPROVED BY THE CITY PRIOR TO PAVING.

Updated 1/25 see IC#4 add to Part II - Streets (Construction Details) new drawing No. II-29

CITY OF TROUTDALE

TOWN CENTER

OVERLAY DISTRICT STREET  
(CROSS SECTION)

DATE:

DRAWING NO.

UPDATED 1999

II - 29