INTRODUCTION

The City of Grants Pass is faced with the same challenges as many other municipalities throughout the country. Pavement cuts are a necessary operation and cannot be avoided. Utilities need to serve new customers and repair existing facilities. There is a common good for utilities to be placed in the Public Right of Way. All parties shall strive to reduce the burden to the taxpayer/ratepayer, and damage to all streets.

Studies conducted by multiple groups and organizations have determined that poorly restored pavement cuts may cause permanent structural and functional damage which increases maintenance costs, future rehabilitation costs and produce a rough ride. Increased costs and rough rides are a burden for the taxpayer/ratepayer.

As Exhibit A on page seven shows, the pavement beyond the edge of the trench may be weakened by sagging, which results from loss of lateral support. Heavy construction traffic also weakens the area adjacent to the trench. Studies have shown that the pavement life may be reduced by the pavement cuts. Poorly constructed patches tend not to last through the life of the existing street and fail prematurely when there is a lack of good construction techniques used when backfilling and compacting. This causes an additional burden to maintenance departments and taxpayers/ratepayers. A poorly constructed pavement cut usually requires repair before the street needs to be resurfaced, with problems typically appearing in the first two years. Studies also reveal that patch areas may require thicker overlays compared to the rest of the pavement in the area. This results in higher costs to the taxpayer/ratepayer.

EXECUTIVE SUMMARY

This document outlines the City of Grants Pass administrative policy regarding pavement cuts. It addresses excavation problems, construction requirements, warranties, and other related aspects. Any street will remain available to cut provided that all provisions within this policy are adhered to. The utility shall attempt to use other innovative ideas for servicing customers other than cutting into the public Right-of-Way, while not diminishing safety standards.

DEFINITIONS

Assignee: The contractor who is taking out the permit.

City Engineer: City Engineer or his/her designee

Length of Patch: For this document, the length of all patches is the patch dimension parallel to the street. This is also known as the longitudinal direction.

New Street: Any new street, or any street that has had a rehabilitation in the permitted excavation location that is less than or equal to three years.

Patch: Cut in the pavement as part of the current permitted job.
Permittees: The utility company or contractor who submits an application for a permit to obstruct and/or conduct construction operations in the public right-of-way. The City and their contractors shall be considered permittees for application of this policy even though the City and/or their contractors may not take out permits.

Project Completion: Date when the final permanent restoration of street is complete and approved by the inspector.

Standard Specifications: Most current version of the ODOT/APWA Standard Specifications, City of Grants Pass Specifications and/or Drawings.

Utility: Owner of a utility. May be either the City or privately operated entity.

Width of Patch: For this document, the width of all patches is the patch dimension perpendicular to the street. This is also known as the transverse direction.

CONSTRUCTION REQUIREMENTS

1. No patching material will be allowed within an existing patch if the new patch exceeds seventy percent or more of the existing patch. In this case, the entire existing patch must be replaced.

2. All patching materials and construction requirements shall conform to the City’s Standards. Longitudinal cuts that extend through multiple tier classifications will require discussion with the City Engineer to determine appropriate patching approach. In principle, each street section will be patched according to the tier in which it is ranked.

3. All existing traffic control markings will be replaced as soon as possible after permanent paving is completed. Temporary markings for lane lines and stop lines shall be in place prior to the street opening for traffic. All remaining temporary striping will be completed within seven days of new pavement completion and shall be maintained by permittee until permanently restored. All traffic markings will be replaced per normal work practices.

4. Asphalt shall be removed and replaced at full depth to the limits shown in Exhibit B. The goal is that the tee section will not arbitrarily force patch into adjacent lanes, dependant on quality and care of trenching. The minimum length of the patch parallel to the street shall be per Exhibit B. If any part of the excavation, patch or damaged area intrudes into an adjacent lane, that lane shall also be replaced per the tiered chart. All new patch edges shall extend to the nearest edge of an existing patch. For new patches adjacent to any existing patch, all attempts will be made to install the utility at the existing patch line. When this is not feasible, no gap of 4 feet or less shall exist.

5. The permittee shall be allowed to make emergency repairs to a utility provided a more reasonable alternative does not exist. Every reasonable effort will be made to restore the street quickly. All requirements of this policy shall be adhered to.
6. Only saw cutting, jack hammering, or approved grinding device will be allowed. Only parallel and perpendicular pavement cuts will be allowed without prior approval of the City Engineer. No jagged, broken or undermined edges.

7. Bicycle/pedestrian/parking/travel lanes to be repaired per Exhibit B.

8. The City shall have the prerogative to encourage the permittee to contribute permittee’s normal patching costs to accomplish paving or full depth replacement of the street. (This does not apply to work done within larger projects, i.e. sewer projects). The City should be notified of existing problems with the adjacent street to a proposed patch. Every effort will be made to leverage both permittee and City dollars for street improvements.

9. When 2 or more patches are created within a given job that measure 15 feet or less longitudinally or transversely they will be incorporated into a single patch. Anytime five or more patches are required within a 350-foot longitudinal area, the permittee will notify the City to determine if cost sharing is an option to expand the pavement repair/replacement area.

10. Potholing to find utilities shall be allowed. The use of innovative technologies, such as small-diameter vacuum excavation and non-destructive methods are encouraged. To be exempt from the gap and patching policy, cuts shall be a maximum of two square feet with no longitudinal joints in the wheel patch and shall be backfilled with controlled density or other approved fill from six inches above the utility to existing asphalt depth or 3 inches, whichever is greater. Round vs. square cuts are preferred.

11. Chip sealed streets shall be rehabilitated according to construction requirements for asphalt streets as outlined in this document.

12. All temporary traffic control for the work zone shall conform to the MUTCD. All traffic control is subject to the approval of the City Engineer or his/her designee (See temporary patching sections).

13. All pavement shall be constructed at the existing depth of asphalt or three inches, whichever is greater.

14. All concrete street cuts shall be pre-approved before beginning work (except in the case of an emergency situation). Concrete streets shall require full panel replacement unless approved otherwise by the City Engineer. All concrete joints shall require an approved tie bar and dowel retrofit. Depth of concrete replacement shall match the existing thickness. Care shall be made not to undermine the existing panels. If the existing panels are disturbed or damaged, they also shall be replaced at the discretion of the City Engineer. All joints shall be sealed with an approved material.

15. Asphalt over concrete street cuts – if known – shall be pre-approved before beginning work (except in the case of an emergency situation). Saw cutting or other approved practice for removal of the concrete shall be allowed at the discretion of City Engineer. The asphalt portion of the cut shall be constructed according to the pavement cut policy.
16. All areas outside of the street that are affected by the work shall be restored to their original condition. All shoulders shall be restored to their original condition.

17. Valve and manhole repairs shall be exempt from the patching requirements of this policy. Valve and manhole patching requirements shall be per City Standards. All warranty and construction requirements shall be met.

SURFACE SMOOTHNESS REQUIREMENTS

The completed surface of all courses shall be of uniform texture: smooth, uniform as to crown and grade and free from defects. The completed surface of the wearing course shall not vary more than \( \frac{1}{4} \) inch from the lower edge of a ten foot straightedge placed parallel to the centerline. Recognition and consideration will be made for existing street conditions. The City Engineer must approve corrective measures.

WARRANTY REQUIREMENTS

Pavement cuts on streets twelve years old or less shall have a warranty period of two years. All other streets shall have a warranty period of one year. The patch in the street shall be repaired as necessary until the warranty has passed. All warranties shall become void if rehabilitation work is performed to the street within the patching limits.

For street cuts performed by a Utility using its internal capability, that Utility or assignee will be responsible for repairs required during the warranty period.

All curb, sidewalks and structures that are affected by the excavation shall be included in this policy and have a warranty for two years.

WARRANTY PROVISIONS

All restoration work shall meet the following criteria and the end of the two-year warranty period:

1) Sunken pavement patches equal to or less than to one-quarter inch (Measured by a ten-foot straight edge).

2) Visual rating of patch = Patch is in good condition and is satisfactory. Ride quality is rated as low severity or better.

3) Construction joint = Nonfilled crack width is equal to or less than 3/8 of an inch or filled crack of any width (filler in satisfactory condition)

4) Good workmanship with little or no deterioration (To be determined by City Engineer).

5) Compaction requirements per City Standards.

6) No sunken or damaged curb and sidewalks in excavation work area (To be determined by City Engineer).
REPAIRS OF FAILED PAVEMENT CUTS

If emergency repairs are needed due to safety concerns, the permittee shall have twenty four hours in which to make such repairs from time of verbal notice by the City. For non-emergency repairs on arterial streets the permittee shall have forty-eight hours to make such temporary repairs. For non-emergency repairs on collector streets the permittee shall have seventy-two hours to make such temporary repairs. Residential streets, the permittee shall have up to seven days to make such temporary repairs. If these repairs are not accomplished within the specified timeframe, the work shall be privately contracted by the City or the City’s maintenance crew shall perform the needed repairs.

The permittee will be assessed for all costs associated with the repairs. The costs shall be based on time and materials necessary to make the repairs. If repairs are made other than seam sealing to the warranted patch a new warranty will be implemented for the new patch.

The permittee shall have two days to notify their asphalt company for the needed permanent repairs. If the work is not done in a timely manner and following notification the work shall be privately contracted by the City or the City’s maintenance crew will perform the needed repairs. The permittee shall be assessed the associated costs for the repairs.

TEMPORARY PATCHING

The temporary patch shall consist, at a minimum, of two inches of hot or cold-mix asphalt pavement over the required backfill material. Steel plates may be used but for a period not to exceed seventy-two hours. Alternatively, upon approval of the City Engineer, crushed surfacing top coarse may be used for local access streets but for a period not to exceed two weeks. When a temporary patch is required for more than two months on arterial or collector streets, concrete shall be used. The permittee shall maintain the temporary patch until the patch can be permanently restored.

During winter asphalt concrete paving plant closures or outside of allowable temperature specifications (see the City’s standard specifications), the permittee shall install and maintain the temporary patch until it can construct a permanent patch. A temporary patch will be required if the street must be opened to traffic before a permanent patch can be made.

PERMITS

All work in the Public Right-of-Way requires an Encroachment Permit. Permittee shall take out all permits and perform all work.

RESPONSIBLE PARTY

The permittee shall be responsible for all construction and warranty requirements for this policy. Utilities will provide identity for excavator/permittee as known to the City. The City will attempt to get permittee to correct warranty defects. If permittee is a subcontractor for utilities, the utilities will assume responsibility if permittee can not or will not make repairs.
WAIVERS AND EXEMPTIONS

It is understood that field conditions may warrant a waiver or an exemption from these regulations. Permittee may file for a waiver, and such waivers shall be at the discretion of the City Engineer or his/her designee.

PAVEMENT CUT POLICY
EXHIBIT B

<table>
<thead>
<tr>
<th>Street Designation</th>
<th>Tier 1 (\leq 3) Years</th>
<th>Tier 2 (&gt; 3) Years (\leq 5) Years</th>
<th>Tier 3 (&gt; 5) Years (\leq 12) Years</th>
<th>Tier 4 (&gt; 12) Years</th>
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<tbody>
<tr>
<td>Arterial Streets</td>
<td>Inclusive Policy Exhibit B1</td>
<td>Full Policy Exhibit B1</td>
<td>Full Policy Exhibit B1</td>
<td>Modified Policy Exhibit B1</td>
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<tr>
<td>Local Access Streets</td>
<td>Inclusive Policy Exhibit B3</td>
<td>Modified Policy Exhibit B3</td>
<td>Modified Policy Exhibit B3</td>
<td>Trench Only City Standard</td>
</tr>
</tbody>
</table>

EXHIBIT B NOTES

Inclusive Policy – Half street or full street replacement for longitudinal cuts in new streets.

Full Policy – Policy w/paving to established/dedicated lane lines. Cut full depth 2 feet beyond excavation. No gaps \(\leq 4’\) from curb or gutter.

Modified Policy – If no striping for lane line, lane is equal to 12’, can patch to middle of lane lines, cannot leave any gap \(\leq 4’\) from curb or gutter. Cut 1’ beyond excavation.

Trench Only – Restore street per standard drawing 101-A. No longitudinal joints in the wheel path.

Note: It is the responsibility of the City to review the individual street segment ages to determine patch requirements on longitudinal installation over multiple street segments with variable tier classifications. In principle, each street section will be patched according to the tier in which it is ranked.

Note: Any deviation from the Tier Policy will require approval in advance by the City Engineer.

Note: The City will provide the date of construction or major rehabilitation for age determination.
TYPICAL TRENCH EXCAVATION
EXHIBIT A
PAVEMENT CUT POLICY - COLLECTORS AND LOCAL COLLECTORS

LEGEND:

MOD - MODIFIED POLICY EXAMPLE
FULL - FULL POLICY EXAMPLE
INC - INCLUSIVE POLICY EXAMPLE

TRENCH LIMITS AT TOP OF PAVEMENT

INCLUSIVE POLICY - UP TO 3 YEARS
WHEN PAVEMENT IS 3 YEARS OLD OR LESS, A PAVEMENT PATCH IS REQ'D TO THESE LIMITS. NO JOINTS OR REDUCTION IN AREA ARE ALLOWED. PAVEMENT REPLACEMENT IS REQ'D TO THE NEXT ADJACENT CURB, PARKING OR LANE LINE WHenever A TRENCH OR DISTURBANCE OF ASPHALT OR SUPPORT MATERIAL EXTENDS BEYOND SUCH LINE.

FULL POLICY - 4 TO 5 YEARS
WHEN PAVEMENT IS 4 TO 5 YEARS OLD, PAVEMENT PATCH IS REQ'D TO THESE LIMITS. NO JOINTS OR REDUCTION IN AREA ARE ALLOWED. PAVEMENT REPLACEMENT IS REQ'D TO THE NEXT ADJACENT CURB, PARKING OR LANE LINE WHenever A TRENCH OR DISTURBANCE OF ASPHALT OR SUPPORT MATERIAL EXTENDS BEYOND SUCH LINE.

MODIFIED POLICY - 6 TO 12 YEARS
WHEN PAVEMENT IS 6 TO 12 YEARS OLD, PAVEMENT PATCH IS REQ'D TO THESE LIMITS. NO JOINTS OR REDUCTION IN AREA ARE ALLOWED. PAVEMENT REPLACEMENT IS REQ'D TO LANE LINE OR LANE C/L WHENEVER A TRENCH OR DISTURBANCE OF ASPHALT OR SUPPORT MATERIAL EXTENDS INTO WHEEL PATH.

NOTE:
1. FULL-DEPTH PAVEMENT PATCH JOINTS SHALL BE SEALED.
2. ALL CUTS SHALL BE PERPENDICULAR TO DIRECTION OF TRAVEL.
3. FOR STREETS OVER 12 YEARS OLD REFER TO GPD# #107.

EXHIBIT B2
PAVEMENT CUT POLICY - LOCAL ACCESS STREETS

LEGEND:

INC  INCLUSIVE POLICY EXAMPLE
MOD  MODIFIED POLICY EXAMPLE

TRENCH LIMITS AT TOP OF PAVEMENT

INC  INCLUSIVE POLICY - UP TO 3 YEARS
WHEN PAVEMENT IS 3 YEARS OLD OR LESS, A
PAVEMENT PATCH IS REQ'D TO THESE LIMITS. NO
JOINTS OR REDUCTION IN AREA ARE ALLOWED.
PAVEMENT REPLACEMENT IS REQ'D TO THE NEXT
ADJACENT CURB, PARKING OR LANE LINE WHENEVER
A TRENCH OR DISTURBANCE OF ASPHALT OR SUPPORT
MATERIAL EXTENDS BEYOND SUCH LINE.

MOD  INCLUSIVE POLICY - 4 TO 15 YEARS
WHEN PAVEMENT IS 4 TO 15 YEARS OLD, PAVEMENT
PATCH IS REQ'D TO THESE LIMITS. NO JOINTS OR
REDUCTION IN AREA ARE ALLOWED.
PAVEMENT REPLACEMENT IS REQ'D TO LANE LINE OR
LAME C/L WHENEVER A TRENCH OR DISTURBANCE OF
ASPHALT OR SUPPORT MATERIAL EXTENDS INTO
WHEEL PATH.

NOTE:
1. FULL-DEPTH PAVEMENT PATCH JOINTS SHALL BE SEALED.
2. ALL CUTS SHALL BE PERPENDICULAR TO DIRECTION OF TRAVEL.
3. FOR STREETS OVER 12 YEARS OLD REFER TO GSPD #107.

EXHIBIT B3
PAVEMENT CUT POLICY
INTERSECTIONS

Legend:
- Trench limits at top of pavement

Inclusive policy — up to 3 years
When pavement is 3 years old or less, a pavement patch is req’d to these limits. No joints or reduction in area are allowed.

Full policy — over 3 years
When pavement is greater than 3 years old, pavement patch is req’d to these limits. No joints or reduction in area are allowed.

Note:
1. Full-depth pavement patch joints shall be sealed.
2. All cuts shall be perpendicular to direction of travel.
3. Replacement is req’d to the next adjacent curb, parking, or lane line whenever a trench or disturbance of asphalt or support material extends beyond such line.
Concrete Standards

1. Except as defined by City of Grants Pass Standards or by City Engineer approval, all concrete shall conform to sections 00440 and 00759 of the current Oregon Standard Specifications for Construction manual.

2. An encroachment permit is required prior to starting any work.

3. Concrete shall not be placed until forms have been inspected and approved.

4. Inspection requests must be made 24 hours prior to date of inspection. To schedule an inspection, call the Community Development main line at 541-474-6355.

5. Concrete shall be commercial grade retaining the following characteristics: Entrained Air – 4.0% to 7.0%; Slump – 5 inches or less; Compressive Strength – minimum 3,000 psi at 28 days; Temperature – minimum 50°F to maximum 90°F.

6. All concrete shall be formed on a minimum 95% RD compacted base of ¾”-0” crushed aggregate. Sidewalks may be formed on undisturbed, stable soil as approved by the City Engineer. Depth of base varies with structure. Minimum 3” compacted base for sidewalks, ramps, and approaches. Minimum 6” base for curb, gutter, valley gutters and inlets.

7. Safety yellow truncated dome detectable warning surfaces are required on all sidewalk ramps and accessible route islands.

8. Concrete extruding machines shall operate under sufficient restraint to forward motion to produce a well-consolidated mass of concrete.

9. All concrete structures reinforced with rebar shall be vibrated to remove voids.

10. Surface shall have a finished texture that will not be slick when wet (medium broom finish). Curing compound may be applied immediately after concrete is finished. White pigment recommended, clear acceptable.

11. An edging tool shall be used on all edges and joints.

12. Provide contraction joints at 15’ intervals and “dummy” tooled joints at 5’ intervals on curbs, sidewalks and approaches. Contraction joint grooves shall be at minimum, 1 ½” deep or one-third the thickness of the concrete.
13. Provide expansion joints opposite abutting expansion joints in abutting concrete, at each point of tangency in the structure alignment, between driveways and concrete pavement, around poles, posts, boxes and other fixtures which protrude through or against the structures, at all BCR’s and ECR’s, at maximum of 100’ intervals. Expansion joint material shall be of the bituminous, preformed filler type not less than ½” wide, placed flush or no more than 1/8” below the concrete surface.

14. Straight line edges shall not vary more than ¼” under a twelve-foot straight edge.

15. Cure and protect concrete after placing and finishing. Keep structures free from contact, strain and public traffic for at least seven days or longer as directed. Mixes to expedite curing may be used with approval of City Engineer.

16. Concrete shall be removed to the nearest contraction joint, cold joint or crack within 4’ of the replacement area. Concrete shall be saw cut with a smooth, uniform joint provided.

17. Existing A/C shall be removed/replaced along entire curb section to a minimum 18” width unless approved by City Engineer.
# Street Standard Drawing List

<table>
<thead>
<tr>
<th>No.</th>
<th>Drawing Title</th>
<th>Revision</th>
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<tbody>
<tr>
<td>101</td>
<td>Sidewalk Ramp – Corner</td>
<td>12/2014</td>
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<tr>
<td>101-A</td>
<td>Sidewalk Ramps – Square</td>
<td>12/2014</td>
</tr>
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<td>102</td>
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<tr>
<td>103</td>
<td>Concrete Curb Inlet, Type “B”</td>
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<tr>
<td>104</td>
<td>Residential Approach w/Planter Strip</td>
<td>01/2016</td>
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<tr>
<td>104-A</td>
<td>Residential Approach w/o Planter Strip</td>
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<tr>
<td>105</td>
<td>Commercial Approach w/Planter Strip</td>
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<td>Commercial Approach w/o Planter Strip</td>
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<td>106</td>
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<td>106-A</td>
<td>Sidewalk w/o Planter Strip</td>
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<tr>
<td>107</td>
<td>Utility Trenches (Other Than Encroachment Permit)</td>
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<tr>
<td>107-A</td>
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<td>108</td>
<td>Street Valley Gutter</td>
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<tr>
<td>109</td>
<td>Alley Valley Gutter</td>
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<td>116</td>
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<tr>
<td>118</td>
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<tr>
<td>125</td>
<td>Removable Bollard</td>
<td>10/2009</td>
</tr>
</tbody>
</table>

**Note:** For storm drain manhole specifications, see manholes in Sewer Standard Drawings section. Obtain approval from City Engineer.
NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) SIDEWALK RAMP SECTION SHALL BE 6" THICK.
3) RAMP AND FLARES SHALL BE AS INDICATED BY DRAWING, OR AS APPROVED BY ENGINEER.
4) CURB JOINTS SHALL BE CONTRACTION JOINTS IF CURB AND RAMP ARE PLACED MONOLITHIC.
5) THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP. THE MAXIMUM SLOPE OF A RAMP SHALL BE 8.3% (1" PER FOOT).
6) THE CROSS SLOPE OF WALKING SURFACES SHALL BE NO GREATER THAN 2% (1/6" PER FOOT).
7) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY CITY ENGINEER.
8) ODOT RAMPS IN DRAWINGS ERD755 AND ERD760 MAY BE USED WITH APPROVAL BY CITY ENGINEER.
9) PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 2' OF THROAT OF RAMP, ACROSS THE ENTIRE WIDTH. ARRANGE DOMES USING IN-LINE PATTERN AS SHOWN IN TRUNCATED DOME DETAIL. **ALL TRUNCATED DOMES TO BE SAFETY YELLOW.**
10) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.
**NOTES:**

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.

2) SIDEWALK RAMP SECTION SHALL BE 6" THICK.

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6) THE CROSS SLOPE OF WALKING SURFACES SHALL BE NO GREATER THAN 2% (½" PER FOOT).

7) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY CITY ENGINEER.

8) ODOT RAMPS IN DRAWINGS ERD755 AND ERD760 MAY BE USED WITH APPROVAL BY CITY ENGINEER.

9) PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 2' OF THROAT OF RAMPS, ACROSS THE ENTIRE WIDTH. ARRANGE DOMES USING IN-LINE PATTERN AS SHOWN IN TRUNCATED DOME DETAIL. **ALL TRUNCATED DOMES TO BE SAFETY YELLOW.**

10) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

**ALL TRUNCATED DOMES TO BE YELLOW**

**NOTE: RAMPS ARE NOT TO EXCEED 8.33%**
NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) CURB JOINTS SHALL BE CONTRACTION JOINTS IF CURB AND DRIVEWAY ARE PLACED MONOLITHIC.
3) PROVIDE CONTRACTION JOINTS AT 15' INTERVALS, OR MATCH EXISTING SIDEWALK CONTRACTION JOINTS.
4) END OF CURBS NOT JOINING EXISTING CURBS SHALL BE AS SHOWN BY "CURB ENDING DETAIL".
5) PROVIDE A MINIMUM 8' TRANSITION SECTION WHEN JOINING CURBS OF DIFFERENT CROSS-SECTIONS.
6) ALL DIMENSIONS NOMINAL. MAY VARY TO CONFORM WITH EXTRUDED CURB MACHINE APPROVED BY ENGINEER.
7) CONCRETE SHALL NOT BE PLACED UNTIL FORMS AND/OR BASE HAS BEEN INSPECTED AND APPROVED BY CITY ENGINEER.
8) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.
PRECAST CONCRETE ACCESS COVER
W/10 GA. GALV. RING
10 GA. GALV. ACCESS FRAME RING
W/¼"X3" ANCHOR BOLTS (4)

NOTES:
1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS
2) FLOOR SHALL BE Poured ON BASE APPROVED BY ENGINEER:
   UNDISTURBED, STABLE SOIL, COMPACTED BASE (95% R.D. ¾" - 0"
   CRUSHED ROCK, MIN. 6" THICK), OR OTHER BASE AS
   APPROVED.
3) SURFACE CROSS-SL OPE FOR NEW CONSTRUCTION SHALL BE ½" RISE
   PER FOOT FROM TOP OF CURB TO BACK OF SIDEWALK.
4) FLOW LINE OF OUTLET PIPE SHALL BE MINIMUM OF ONE FOOT ABOVE
   FLOOR.
5) SET SECTION JOINTS IN 1:2 MORTAR AND MORTAR SEALANT
   ST-8, 1" WIDE.
6) SEALANT SHALL MEET FEDERAL SPEC. SS-5-00201 (CSA-FSS).
7) ALL CONCRETE WALLS SHALL BE FORMED (INSIDE AND OUTSIDE)
   AND VIBRATED WHILE BEING PLACED TO REMOVE Voids.
8) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN
   INSPECTED AND APPROVED BY THE CITY ENGINEER.
9) PIPES(S) SHALL BE FLUSH WITH INSIDE WALL.
10) ALL METAL PARTS SHALL BE HOT-DIP GALVANIZED AFTER
    FABRICATION.
11) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY
    WORK IN THE RIGHT-OF-WAY.

SECTION
NOTE: ALL DIMENSIONS NOMINAL

FLOOR SLOPES ½" PER FOOT TO OUTLET

FORM INSIDE AND OUTSIDE WALLS PER SECTION 470.43
OF THE APWA/ODOT "STANDARD SPECIFICATIONS FOR
HIGHWAY CONSTRUCTION".
RESIDENTIAL APPROACH WITH PLANTER STRIP

WEEPHOLE - 3" PIPE

SIDEWALK

PLANTER STRIP

GUTTER PAN NOT SHOWN

6' WING

10' MIN - 24' MAX
APPROACH BASE

6' WING

5' MIN. NOTE TO

APPROACH GRADE
(8.3% MAX.)

NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) COMMERCIAL APPROACHES SHALL BE A MINIMUM OF 6" THICK WITH REBAR OR 8" THICK WITHOUT REBAR.
3) CURB JOINTS SHALL BE CONTRACTION JOINTS IF CURB AND DRIVeway ARE PLACED MONOLITHICALLY.
4) PROVIDE 3" PVC SLEEVES FROM BACK OF EXISTING METER BOXES TO BACK EDGE OF SIDEWALK, WHERE PROPERTY SERVICE LINE IS NOT INSTALLED.
5) PROVIDE 3" DRAINAGE PIPE AND WEEP HOLE AT EVERY APPROACH.
6) PROVIDE 3" IRRIGATION CHASE FROM BACK OF SIDEWALK TO PLANTER STRIP.
7) DRIVeway SHALL NOT BE CONSTRUCTED WITHIN 20' OF THE INTERSECTION RADIUS FOR LOCAL STREETS, 100' FOR COLLECTORS AND 150' FOR ARTERIAL STREETS.
8) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY CITY ENGINEER.
9) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.
10) 6' FOR COLLECTORS, ARTERIALS AND STATE HIGHWAYS. 5' FOR LOCAL ACCESS AND COLLECTOR STREETS

(2% = 1/8" PER FOOT,
8.3% = 1" PER FOOT)

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RESIDENTIAL APPROACH WITHOUT PLANTER STRIP

NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) COMMERCIAL APPROACHES SHALL BE A MINIMUM OF 6" THICK WITH REBAR OR 8" THICK WITHOUT REBAR.
3) CURB JOINTS SHALL BE CONTRACTION JOINTS IF CURB AND DRIVEWAY ARE PLACED MONOLITHICALLY.
4) PROVIDE 3" PVC SLEEVES FROM BACK OF EXISTING METER BOXES TO BACK EDGE OF SIDEWALK, WHERE PROPERTY SERVICE LINE IS NOT INSTALLED.
5) PROVIDE 3" DRAINAGE PIPE AND WEEP HOLE AT EVERY APPROACH.
6) PROVIDE 3" IRRIGATION CHASE FROM BACK OF SIDEWALK TO PLANTER STRIP.
7) DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN 20' OF THE INTERSECTION RADIUS FOR LOCAL STREETS, 100' FOR COLLECTORS AND 150' FOR ARTERIAL STREETS.
8) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY CITY ENGINEER.
9) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.
10) 6' FOR COLLECTORS, ARTERIALS AND STATE HIGHWAYS. 5' FOR LOCAL ACCESS AND COLLECTOR STREETS

CITY OF GRANTS PASS
ENGINEERING DIVISION

RESIDENTIAL APPROACH W/O PLANTER STRIP

SCALE: NONE

DWG. NO. 104-A
COMMERICAL APPROACH WITH PLANTER STRIP

GUTTER PAN NOT SHOWN

12' MIN - 16' MAX FOR ONE WAY
24' MIN - 32' MAX FOR TWO WAY

APPROACH "GRADE"
(8.3% MAX.)

WEEPHOLE - 3" PIPE

SIDEWALK

PLANTER STRIP

5' MIN.

APPROACH

SIDEWALK

CURB with 3/4" LIP

8.3% MAX.

#4 REBAR
18" C/C
BEHIND APPROACH AND WINGS

6" MIN.
W/ REBAR

2% MAX.

DRIVEWAY

APPROACH

SIDEWALK

CURB with 3/4" LIP

8.3% MAX.

8" MIN.
W/ O REBAR

18% MAX.

8" MIN.
W/ O REBAR

18% MAX.

NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.

2) COMMERCIAL APPROACHES SHALL BE A MINIMUM OF 6" THICK WITH REBAR OR 8" THICK WITHOUT REBAR.

3) CURB JOINTS SHALL BE CONTRACTION JOINTS IF CURB AND DRIVEWAY ARE PLACED MONOLITHICALLY.

4) PROVIDE 3" PVC SLEEVES FROM BACK OF EXISTING METER BOXES TO BACK EDGE OF SIDEWALK, WHERE PROPERTY SERVICE LINE IS NOT INSTALLED.

5) PROVIDE 3" DRAINAGE PIPE AND WEEP HOLE AT EVERY APPROACH.

6) PROVIDE 3" IRRIGATION CHASE FROM BACK OF SIDEWALK TO PLANTER STRIP.

7) DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN 20' OF THE INTERSECTION RADIUS FOR LOCAL STREETS, 100' FOR COLLECTORS AND 150' FOR ARTERIAL STREETS.

8) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY CITY ENGINEER.

9) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

10) 6' FOR COLLECTORS, ARTERIALS AND STATE HIGHWAYS. 5' FOR LOCAL ACCESS AND COLLECTOR STREETS

*(2% = 1/4" PER FOOT, 8.3% = 1" PER FOOT)*

*NOTE: SEE GPDC SECTION 27-3 FOR SIDEWALK WIDTHS.*
COMMERCIAL APPROACH WITHOUT PLANTER STRIP

NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.

2) COMMERCIAL APPROACHES SHALL BE A MINIMUM OF 6" THICK WITH REBAR OR 8" THICK WITHOUT REBAR.

3) CURB JOINTS SHALL BE CONTRACTION JOINTS IF CURB AND DRIVEWAY ARE PLACED MONOLITHICALLY.

4) PROVIDE 3" PVC SLEEVES FROM BACK OF EXISTING METER BOXES TO BACK EDGE OF SIDEWALK, WHERE PROPERTY SERVICE LINE IS NOT INSTALLED.

5) PROVIDE 3" DRAINAGE PIPE AND WEEP HOLE AT EVERY APPROACH.

6) PROVIDE 3" IRRIGATION CHASE FROM BACK OF SIDEWALK TO PLANTER STRIP.

7) DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN 20' OF THE INTERSECTION RADIUS FOR LOCAL STREETS, 100' FOR COLLECTORS AND 150' FOR ARTERIAL STREETS.

8) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY CITY ENGINEER.

9) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

10) 6' FOR COLLECTORS, ARTERIALS AND STATE HIGHWAYS. 5' FOR LOCAL ACCESS AND COLLECTOR STREETS

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CITY OF GRANTS PASS
ENGINEERING DIVISION

COMMERCIAL APPROACH W/O PLANTER STRIP

SCALE: NONE  DWG. NO. 105-A
NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) SIDEWALK SECTION SHALL BE A MINIMUM OF 4" THICK.
3) SIDEWALK SHALL BE 6' WIDE ON COLLECTORS, ARTERIALS OR STATE HIGHWAY, OR 5' WIDE ON LOCAL ACCESS OR COLLECTOR STREETS.
4) SURFACE SHALL NOT VARY MORE THAN 1/4" UNDER A 12' STRAIGHTEDGE.
5) THE CROSS SLOPE OF ANY WALKING SURFACE SHALL NOT EXCEED 2%.
6) PROVIDE CONTRACTION JOINTS AT 15' INTERVALS.
7) PROVIDE 3" PVC PIPE SLEEVE FROM BACK OF EXISTING METER BOXES TO BACK EDGE OF SIDEWALK, WHERE PROPERTY SERVICE LINE IS NOT INSTALLED.
8) PROVIDE 3" PVC PIPE FOR WEEP HOLE DRAINAGE THROUGH APPROACH & CURB AS DIRECTED BY ENGINEER.
9) PROVIDE 3" IRRIGATION CHASE FROM BACK OF SIDEWALK TO PLAN TER STRIP. STAKE EACH END OF CHASE UNTIL CONNECTED TO IRRIGATION.
10) EXISTING AC SHALL BE REMOVED/REPLACED ALONG ENTIRE CURB SECTION TO A MIN. 18" WIDTH, OR WIDTH THAT PROVIDES FOR A 6% OR LESS CROSS-SLOPE, OR AS DIRECTED BY THE CITY ENGINEER.
11) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.
CONTRACTION JOINTS AT 15' INTERVALS

TOOLED "DUMMY" JOINTS AT 5' INTERVALS

DRIVEWAY SECTION
SEE GPSD 104-A OR 105-A

3" PVC WEEP HOLES WITH CONTRACTION JOINT OVER PIPE

3" PVC SLEEVE TO METER BOX. SEE GPSD #203.

JOINTS IN SIDEWALK TO MATCH JOINT IN CURB

TOOL JOINTS EACH SIDE OF METER BOX

SIDEWALK

2% MAX

4" MINIMUM ON SIDEWALK, 6" ON APPROACH.

BASE AS REQUIRED

5' 5' 5' 5'

SIDEWALK OBSTRUCTION

JOINTS IN SIDEWALK TO MATCH JOINT IN CURB

*NOTE: WHEN SITE CONSTRAINTS PROHIBIT A 5' PASSAGE, THE CITY ENGINEER MAY DIRECT THIS TO BE REDUCED, BUT NO LESS THAN 4'

NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) SIDEWALK SECTION SHALL BE A MINIMUM OF 4" THICK.
3) SURFACE SHALL NOT VARY MORE THAN 1/4" UNDER A 12" STRAIGHTEDGE.
4) THE CROSS SLOPE OF ANY WALKING SURFACE SHALL NOT EXCEED 2%.
   PROVIDE CONTRACTION JOINTS AT 15' INTERVALS.
5) PROVIDE 3" PVC PIPE SLEEVE FROM BACK OF EXISTING METER BOXES TO BACK EDGE OF SIDEWALK, WHERE PROPERTY SERVICE LINE IS NOT INSTALLED.
6) PROVIDE 3" PVC PIPE FOR WEEP HOLE DRAINAGE THROUGH APPROACH & CURB AS DIRECTED BY ENGINEER.
7) EXISTING AC SHALL BE REMOVED/REPLACED ALONG ENTIRE CURB SECTION TO A MIN. 18" WIDTH, OR WIDTH THAT PROVIDES FOR A 6% OR LESS CROSS-SLOPE, OR AS DIRECTED BY THE CITY ENGINEER.
8) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY ENGINEER.
9) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

CITY OF GRANTS PASS ENGINEERING DIVISION

SIDEWALK W/O PLANTER STRIP

NO. DATE INITIAL REVISIONS
2 6-97 FMS UPDATE
3 10-04 FMS STD DWG UPDATE
4 10-09 GLV STD DWG UPDATE

DESIGN: STAFF DRAWN: GLV APPROVED: RJS

SCALE: NONE DWG. NO. 106-A
CLASS "B" BACKFILL
UNDER PAVEMENT OR IN R/W
NOTE "SPECIAL" DETAIL BELOW

TACK COAT & SAND SEAL ALL
EDGES AFTER COMPACTION
ASPHALT BASE MATERIAL
(3/4"-0" CRUSHED ROCK)
COMPACTED TO 95% OF
MAXIMUM DENSITY. **

SUBGRADE COMPACTED TO
95% OF MAXIMUM DENSITY. **

BACKFILL COMPACTED TO
95% OF MAXIMUM DENSITY. **

BACKFILL COMPACTED TO
90% OF MAXIMUM DENSITY. **

PIPE BEDDING AND PIPE ZONE ±
(3/4"-0" CRUSHED ROCK)
COMPACTED TO 95% OF
MAXIMUM DENSITY. **

**MAXIMUM AASHTO T99
METHOD D DENSITY

TRENCH FOUNDATION
STABILIZATION AS REQUIRED
BY ENGINEER. (REMOVE
SOFT, SPONGY, UNSUITABLE
MATERIAL)

NOTES
MAXIMUM LIFTS: 6"
ALL COMPACTION SHALL BE DONE BY MECHANICAL
TAMPERS.

CONTROL OF COMPACTION
VISUAL INSPECTION CONFIRMED BY TEST OF THE
LOWER PORTION OF EACH LIFT.
THE "LOWER PORTION" IS BELOW THE MIDPOINT OF
THE LIFT. A LIFT IS ONE LAYER OF MATERIAL PLACED,
PROCESSED AND COMPACTED AS A UNIT.

CLASS "B" BACKFILL:
3/4" CRUSHED ROCK, (NOT PERMITTED WHEN NEW
INSTALLATION IS BELOW [UNDERMINING] CURB &
GUTTER, SIDEWALK, DRIVEWAY, OR WHEN TRENCH
EXPOSES OTHER UTILITIES)
CONTROL DENSITY FILL AS APPROVED BY ENGINEER.
ALL PAVEMENT CUTS, EXCAVATION, BEDDING, LAYING
AND JOINING OF PIPE, BACKFILL AND PAVEMENT
REPLACEMENT SHALL COMPLY WITH THE CURRENT
ODOT/APWA "STANDARD SPECIFICATIONS FOR PUBLIC
WORKS CONSTRUCTION."

FOR GAS AND ELECTRIC LINES, TELEPHONE AND TV CABLES,
PIPE BEDDING AND ZONE MATERIAL SHALL BE REPLACED
WITH 1-SACK SLURRY.

"SPECIAL" STREET CUT DETAIL
TACK COAT & SAND SEAL

3/4"-0" CRUSHED ROCK OR C.D.F.

TRENCH WIDTH

6" MIN. 6"

NOTE: TRENCH FOUNDATION
STABILIZATION AS REQUIRED
BY ENGINEER. REMOVE
SOFT, SPONGY, UNSUITABLE
MATERIAL.

NOTES
MAXIMUM LIFTS: 6"
ALL COMPACTION SHALL BE DONE BY MECHANICAL
TAMPERS.

CONTROL OF COMPACTION
VISUAL INSPECTION CONFIRMED BY TEST OF THE
LOWER PORTION OF EACH LIFT.
THE "LOWER PORTION" IS BELOW THE MIDPOINT OF
THE LIFT. A LIFT IS ONE LAYER OF MATERIAL PLACED,
PROCESSED AND COMPACTED AS A UNIT.

CLASS "B" BACKFILL:
3/4" CRUSHED ROCK, (NOT PERMITTED WHEN NEW
INSTALLATION IS BELOW [UNDERMINING] CURB &
GUTTER, SIDEWALK, DRIVEWAY, OR WHEN TRENCH
EXPOSES OTHER UTILITIES)
CONTROL DENSITY FILL AS APPROVED BY ENGINEER.
ALL PAVEMENT CUTS, EXCAVATION, BEDDING, LAYING
AND JOINING OF PIPE, BACKFILL AND PAVEMENT
REPLACEMENT SHALL COMPLY WITH THE CURRENT
ODOT/APWA "STANDARD SPECIFICATIONS FOR PUBLIC
WORKS CONSTRUCTION."

FOR GAS AND ELECTRIC LINES, TELEPHONE AND TV CABLES,
PIPE BEDDING AND ZONE MATERIAL SHALL BE REPLACED
WITH 1-SACK SLURRY.

"SPECIAL" STREET CUT DETAIL
TACK COAT & SAND SEAL

3/4"-0" CRUSHED ROCK OR C.D.F.

TRENCH WIDTH

6" MIN. 6"

NOTE: TRENCH FOUNDATION
STABILIZATION AS REQUIRED
BY ENGINEER. REMOVE
SOFT, SPONGY, UNSUITABLE
MATERIAL.

NOTES
MAXIMUM LIFTS: 6"
ALL COMPACTION SHALL BE DONE BY MECHANICAL
TAMPERS.

CONTROL OF COMPACTION
VISUAL INSPECTION CONFIRMED BY TEST OF THE
LOWER PORTION OF EACH LIFT.
THE "LOWER PORTION" IS BELOW THE MIDPOINT OF
THE LIFT. A LIFT IS ONE LAYER OF MATERIAL PLACED,
PROCESSED AND COMPACTED AS A UNIT.

CLASS "B" BACKFILL:
3/4" CRUSHED ROCK, (NOT PERMITTED WHEN NEW
INSTALLATION IS BELOW [UNDERMINING] CURB &
GUTTER, SIDEWALK, DRIVEWAY, OR WHEN TRENCH
EXPOSES OTHER UTILITIES)
CONTROL DENSITY FILL AS APPROVED BY ENGINEER.
ALL PAVEMENT CUTS, EXCAVATION, BEDDING, LAYING
AND JOINING OF PIPE, BACKFILL AND PAVEMENT
REPLACEMENT SHALL COMPLY WITH THE CURRENT
ODOT/APWA "STANDARD SPECIFICATIONS FOR PUBLIC
WORKS CONSTRUCTION."

FOR GAS AND ELECTRIC LINES, TELEPHONE AND TV CABLES,
PIPE BEDDING AND ZONE MATERIAL SHALL BE REPLACED
WITH 1-SACK SLURRY.
CLASS "E" BACKFILL
UTILITY TRENCHES 6' WIDTH OR LESS
UNDER PAVEMENT OR IN R/W
(ENCROACHMENT PERMITS ONLY)

PAVEMENT STRUCTURAL SECTION ON
ENCROACHMENT PROJECTS:

1. REPLACE PAVEMENT STRUCTURAL SECTION
AS FOLLOWS:
72 HOURS AFTER TRENCH IS BACKFILLED.
(MAY BE REDUCED TO 48 HOURS WITH
CERTAIN CURING AGENTS AND APPROVAL OF
CITY ENGINEER). ASPHALT: EXISTING THICKNESS, BUT NOT LESS
THAN 3" CONCRETE: EXISTING THICKNESS, BUT NOT LESS
THAN 6"

2. TRENCHES SHALL BE BACKFILLED TO WITHIN
3" OF THE TOP OF THE TRENCH (OR EXISTING
THICKNESS OF ASPHALT) & COVERED BY
NOMINAL 1" STEEL PLATES. LENGTH &
WIDTH OF PLATES TO BE USED ARE 5'x10'
UNLESS OTHERWISE SPECIFIED.
PLATE/PAVEMENT OVERLAP SHALL BE A
MINIMUM OF 1 FOOT. SEAL EDGES OF THE
PLATE WITH A COLD MIX. PLATES ARE TO
REMAIN IN PLACE FOR 24 HOUR MINIMUM OR AS
APPROVED BY THE CITY ENGINEER.

NOTES:

CONTROL OF COMPACATION:
VISUAL INSPECTION
CONTROLLED LOW STRENGTH MATERIALS:
SEE CURRENT APWA/ODOT SPECS 00422
TACK COAT MATERIAL
ASPHALT (EMULSIFIED) RS-1, CRS-1, CSS-1
SAND SEAL
RS-1, RS-2, CRS-1, CRS-2
SAND
AGGREGATE: #8 - #200
AGGREGATE: 10-15 LBS.
ASPHALT: .10 - .15 GAL.
ALL PAVEMENT CUTS, EXCAVATION, BEDDING, LAYING
AND JOINING OF PIPE, BACKFILL, AND PAVEMENT
REPLACEMENT SHALL COMPLY WITH THE CURRENT
ODOT/APWA "STANDARD SPECIFICATIONS FOR
CONSTRUCTION"

** MAXIMUM AASHTO T99 METHOD D DENSITY

CITY OF GRANTS PASS
ENGINEERING DIVISION

UTILITY TRENCHES (ENCROACHMENT PERMITS)

DESIGN: STAFF DRAWN BY: FMS APPROVED: RJS
SCALE: NONE DWG. NO. 107-A

NO. DATE INITIAL REVISIONS
3 12/04 FMS STD DWG UPDATE
4 10/09 GLV STD DWG UPDATE
5 11/10 GLV Change CDF to CLSM
NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) ALL REINFORCING STEEL SHALL BE #4 REBAR.
3) REINFORCING BARS SHALL BE CONTINUOUS THROUGH GUTTER RADII.
4) THE LONGITUDINAL BARS SHALL BE 12" O.C. THE TRANSVERSE BARS SHALL BE 18" O.C. THE SPLICED BARS SHALL HAVE A MINIMUM LAP OF 12".
5) CONCRETE SHALL BE VIBRATED WHILE BEING PLACED.
6) GUTTER FLOW LINE SHALL BE CENTERED IN GUTTER AND HAVE A 1" SLOPE IN 18" FROM GUTTER EDGE TO FLOW LINE.
7) STREET VALLEY GUTTER TO BE APPROVED BY CITY ENGINEER.
8) EXISTING AC SHALL BE REMOVED/REPLACED ALONG ENTIRE GUTTER SECTION TO A MIN. 18" WIDTH THAT PROVIDES FOR A 6% CROSS SLOPE, OR AS DIRECTED BY ENGINEER.
9) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY ENGINEER.
10) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.
NOTES:

1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) ALL REINFORCING STEEL SHALL BE #4 REBAR.
3) REINFORCING BARS SHALL BE CONTINUOUS THROUGH GUTTER RADII.
4) THE LONGITUDINAL BARS SHALL BE 12" O.C. THE TRANSVERSE BARS SHALL BE 18" O.C. THE SPLICED BARS SHALL HAVE A MINIMUM LAP OF 12".
5) CONCRETE SHALL BE VIBRATED WHILE BEING PLACED.
6) GUTTER FLOW LINE SHALL BE CENTERED IN GUTTER AND HAVE A 1" SLOPE IN 18" FROM GUTTER EDGE TO FLOW LINE.
7) ALLEY VALLEY GUTTER TO BE APPROVED BY CITY ENGINEER.
8) EXISTING AC SHALL BE REMOVED/REPLACED ALONG ENTIRE GUTTER SECTION TO A MIN. 18" WIDTH THAT PROVIDES FOR A 6% CROSS SLOPE, OR AS DIRECTED BY ENGINEER.
9) CONCRETE SHALL NOT BE PLACED UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY ENGINEER.
10) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

CITY OF GRANTS PASS
ENGINEERING DIVISION

ALLEY VALLEY GUTTER

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DESIGN: STAFF    DRAWN: FMS    APPROVED: DAP

SCALE: NONE    DWG. NO. 109
NOTES:
1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) FORM INSIDE AND OUTSIDE WALLS PER SECTION 470.43 OF THE APWA/ODOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION" MANUAL.
3) VIBRATE CONCRETE DURING PLACEMENT TO REMOVE VOIDS.
5) CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMS HAVE BEEN INSPECTED AND APPROVED BY THE CITY ENGINEER.
6) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

SECTION A-A

1. 3" x 2-1/2" x 3/8" ANGLE
2. 3/8" x 3" BOLT - 2 AT EACH END
3. 3/8" x 2-1/2" SQUARE EDGE FLAT BARS
4. 3/8" x 2-1/2" SQUARE EDGE FLAT BARS

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CITY OF GRANTS PASS
ENGINEERING DIVISION

"D" TYPE INLET

DESIGN: STAFF   DRAWN: SLN   APPROVED: DAP

SCALE: NONE   DWG. NO. 112
\textbf{SECTION A-A}

1. 3" x 2 1/2" x 3/4" ANGLE
2. 1/2" x 3" BOLT - 2 AT EACH END
3. 1/2" x 2 1/2" SQUARE EDGE FLAT BARS
4. 1/2" x 1 1/2" SQUARE EDGE FLAT BARS FLUSH WITH TOP OF GRATE, SPACED 8" O.C (3 PER GRATE)

\textbf{SECTION B-B}

- \textbf{FRAME}
  - 3/4" (TYP) \\
  - 2'-8 1/2" INSIDE \\
  - 1 1/2" INSIDE \\
  - 1'-0" OUTSIDE \\
  - 1'-1/2" OUTSIDE \\
  - 4 CORNERS

- \textbf{GRADE}
  - 2'-8" OUTSIDE \\
  - 11'-1/2" OUTSIDE \\
  - 1/2" O.C.

- \textbf{CURB}
  - 2 1/2"
  - BOTH ENDS \\
  - ALL BARS

\textbf{NOTES:}
1. SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2. FORM INSIDE AND OUTSIDE WALLS PER SECTION 470.43 OF THE APWA/ODOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION" MANUAL.
3. VIBRATE CONCRETE DURING PLACEMENT TO REMOVE Voids.
4. FRAME AND GRADE SHALL BE THE WORK OF A CERTIFIED WELDER, AND SHALL NOT BE PLACED UNLESS APPROVED BY CITY ENGINEER. (A PRE-CAST BASE AND INLET WITH PRE-FABRICATED GRATE MAY BE USED WITH APPROVAL OF CITY ENGINEER).
5. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMS HAVE BEEN INSPECTED AND APPROVED BY THE CITY ENGINEER.
6. AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

\textbf{CITY OF GRANTS PASS}
\textbf{ENGINEERING DIVISION}

\textbf{"G" TYPE INLET}

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Design: STAFF  
 Drawn: SLN  
 Approved: DAP

\textbf{SCALE:} NONE  
 \textbf{DWG. NO.:} 113
NOTES:
1) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
2) FORM INSIDE AND OUTSIDE WALLS PER SECTION 470.43 OF THE APWA/ODOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION" MANUAL.
3) VIBRATE CONCRETE DURING PLACEMENT TO REMOVE VOIDS.
4) FRAME AND GRATE SHALL BE THE WORK OF A CERTIFIED WELDER, AND SHALL NOT BE PLACED UNLESS APPROVED BY CITY ENGINEER. (A PRE-CAST BASE AND INLET WITH PRE-FABRICATED GRATE MAY BE USED WITH APPROVAL OF CITY ENGINEER).
5) CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMS HAVE BEEN INSPECTED AND APPROVED BY THE CITY ENGINEER.
6) AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO STARTING ANY WORK.

FORM INSIDE AND OUTSIDE WALLS, SEE NOTES 2 & 3.

SECTION A–A

DETAIL A

CITY OF GRANTS PASS ENGINEERING DIVISION

TYPE "G–2MA" INLET

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Design: STAFF | Drawn: SLN | Approved: DAP

SCALE: NONE DWG. NO. 114
DESIGN: STREET SIGNS SHALL CONSIST OF TWO DOUBLE FACED SIGNS OF EXTRUDED ALUMINUM I-BEAM SINGLE PIECE DESIGN. THE SIGNS MUST BE SO DESIGNED TO BE MOUNTED ATOP A 2" I.D. GALVANIZED IRON PIPE IN A RIGID MANNER AND HAVE A POSITIVE LOCKING DEVICE WHICH WILL KEEP THE SIGNS MOUNTED AT RIGHT ANGLES.

SIZE: LENGTH OF SIGN SHALL BE 24" TO 54" BASED ON LENGTH NEEDED, AND A WIDTH OF 9".

MATERIALS: SIGNS AND FITTINGS TO BE MADE OF ALUMINUM, ANODIZED OR PROCESSED TO PREVENT CORROSION. OTHER COMPONENTS, SUCH AS WASHERS AND LOCK SCREWS ARE TO BE ZINC-COATED. SIGNS AND FITTINGS ARE AVAILABLE FROM THE TRAFFIC SAFETY SUPPLY CO.

FINISH: EXPOSED ALUMINUM TO BE CLEAR ANODIZED OR PROCESSED TO PREVENT CORROSION. BACKGROUND TO BE GREEN AND OF A QUALITY TO MEET WARRANTY PERIOD. LETTERS TO BE SILVER WHITE REFLECTIVE FINISH, TO BE APPLIED PER MFG'S SPECIFICATIONS.

**SIGNS MUST MEET CURRENT MUTCD RETRO-REFLECTIVITY REQUIREMENTS.**

LETTERING: STREET NAME LETTERS SHALL BE 6" HIGH AND EACH NAME SHALL INDIVIDUALLY LAID OUT TO FIT EXTRUDED SIGN BLANK. THE STREET NAME SHALL APPEAR ON THE SIGN IN ITS ENTIRETY AND EXACTLY AS SHOWN ON THE FINAL PLAT AS ACCEPTED BY THE CITY OF GRANTS PASS. QUADRANTS (NE, NW, SE, SW) AND TYPES OF STREET (STREET, BOULEVARD, DRIVE, ETC.) MAY BE ABBREVIATED AND SHALL BE 3" IN HEIGHT. 100 BLOCK NUMBERS SHALL BE 2" IN HEIGHT.

LOCATION OF POST TO BE APPROVED BY CITY ENGINEER.

NO: STREET NAME PLATE EXTRUDED I BEAM - 606178*
B: CROSS PIECE 90° ANGLE BRACKET - SCC-2*
C: POST CAP - SCC-1A*
D: 2" I.D. GALVANIZED PIPE (9.5 FT. HIGH FROM FINISH GRADE)
E: 8"x8"x24" CONCRETE ANCHOR FOR POST

* PART NUMBER, TRAFFIC SAFETY SUPPLY CO. OR APPROVED EQUAL.

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DESIGN: STAFF Drawn: FMS Approved: RJS

CITY OF GRANTS PASS ENGINEERING DIVISION

STREET SIGN

SCALE: NONE DWG. NO. 116
NOTES
1. GUARD RAIL SHALL BE GALVANIZED STEEL BEAM AND CONFORM TO THE REQUIREMENTS OF AASHO M180.
2. ALL WOOD SHALL BE CREOSOTE OR PRESSURE TREATED, NO. 2 OR BETTER.
3. INSTALL REFLECTIVE TAPE PER STREETS DEPT.

ELEVATION

SECTION

SECTION THROUGH RAIL

TERMNIAL SECTION

36' DEAD END STREET INSTALLATION

8"x8"x5'-10" P.T. #2+
TOEMAIL w/2 16d GALV. NAILS

21 1/2" CENTER OF RAIL TO GRADE

1/8" CARRIAGE BOLT w/HEX. NUT & FLAT WASHER

8"x8"x13" P.T. #2+

NO. DATE INITIAL REVISIONS
2 12-04 FMS STD DWG UPDATE
3 8-07 FMS REFLECTIVE TAPE
4 6-10 GLV GUARDRAIL HEIGHT

DESIGN: STAFF DRAWN: FMS APPROVED: DAP

SCALE: NONE DWG. NO. 118

CITY OF GRANTS PASS
ENGINEERING DIVISION
GUARDRAIL (BARRICADE)
NOTES:

1) BOLLARDS TO BE MADE OF SCHEDULE 40 STEEL PIPE. HUNTER GREEN COLOR PREFERRED WITH 2 WHITE REFLECTIVE STRIPES.
2) SEE CONCRETE STANDARDS PAGE FOR ADDITIONAL REQUIREMENTS.
3) BOLLARDS OF EQUAL OR SUPERIOR QUALITY MAY BE USED WITH APPROVAL OF CITY ENGINEER.
4) HANDLE AND LOCK FLANGE MUST BE IN LINE.
5) HANDLE AND LOCK FLANGE MUST BE INSTALLED TO RUN PARALLEL WITH TRAFFIC.