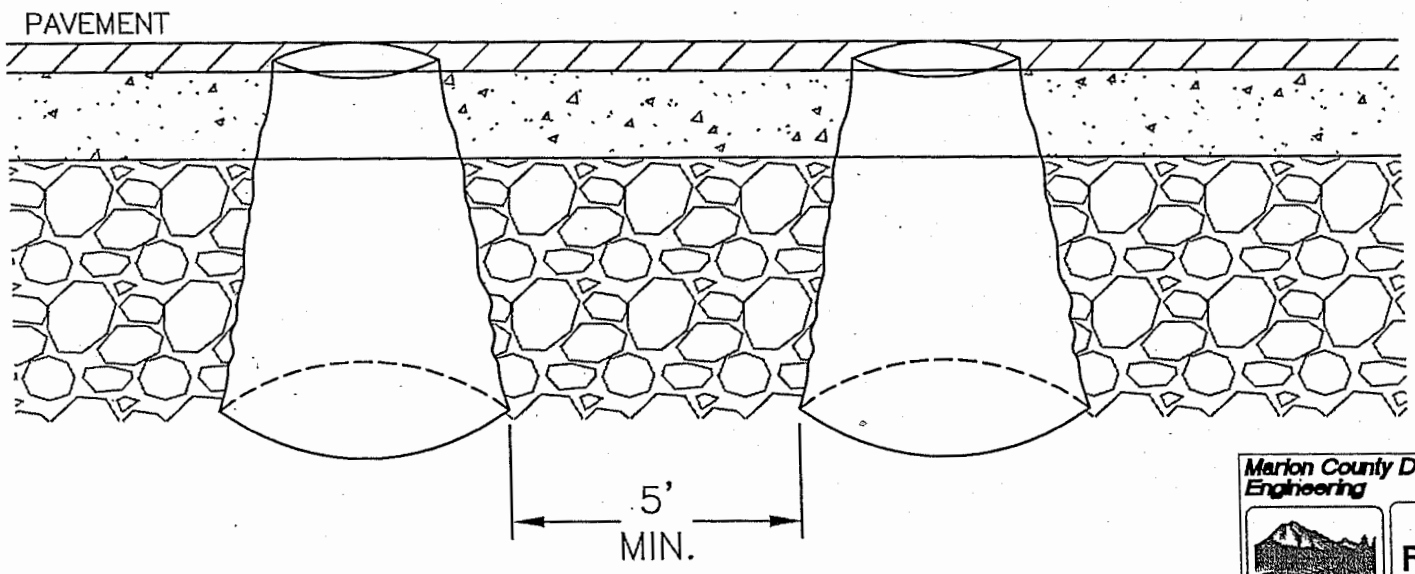
Attachment A

POTHOLES

1. ALL HOLES SHALL BE CORE DRILLED. THE MAXIMUM SIZE OF THE CORE SHALL BE 10".
2. BEFORE BACKFILLING, ALL SIDES OF THE HOLE SHALL BE ABLE TO BE SEEN FROM THE SURFACE. HOLE WALLS THAT CAN NOT BE SEEN SHALL BE EXCAVATED OPEN. SEE #5 FOR RESTORATION.
3. POT HOLES SHALL BE A MINIMUM OF 5' APART. HOLES LESS THAN 5' APART SHALL BE EXCAVATED INTO ONE CONTINUOUS TRENCH.
4. HOLES ARE TO BE BACKFILLED WITH CDF* AND TOPPED WITH 6" OF COLD MIX, LEFT ½" HIGH.
5. TRENCHES SHALL BE BACKFILLED WITH CDF*, "T" PATCHED WITH A MINIMUM OF 6" OF ASPHALT, AND A PAVEMENT "IN LAY".
6. POT HOLES OR TRENCHES WITHIN 5' OF THE ROAD PAVEMENT SHALL BE BACKFILLED WITH CDF* AND TOPPED WITH 6" OF COMPACTED 1" MINUS CRUSHED ROCK. Note: Or as directed by Inspector

*CDF BATCH TICKETS MUST BE GIVEN TO THE COUNTY INSPECTOR BEFORE PAVING.



Marion County Dept. of Public Works
Engineering
Tel. (503) 588-5036 Salem, Oregon

1

POTHOLE CONSTRUCTION

Des:	Eng:	Date: 3-8-2011	Revised:
Reviewed By—Survey:		Datum:	SCALE:

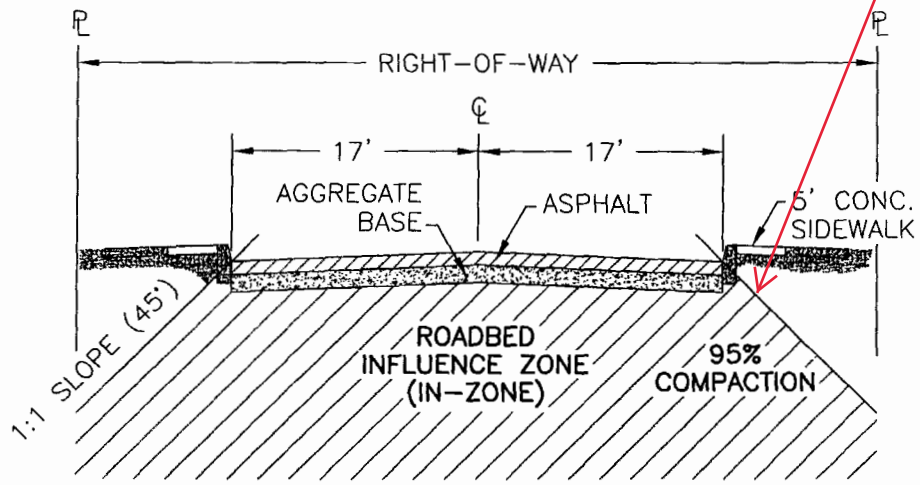
MARION COUNTY

Attachment B

PERMIT # _____

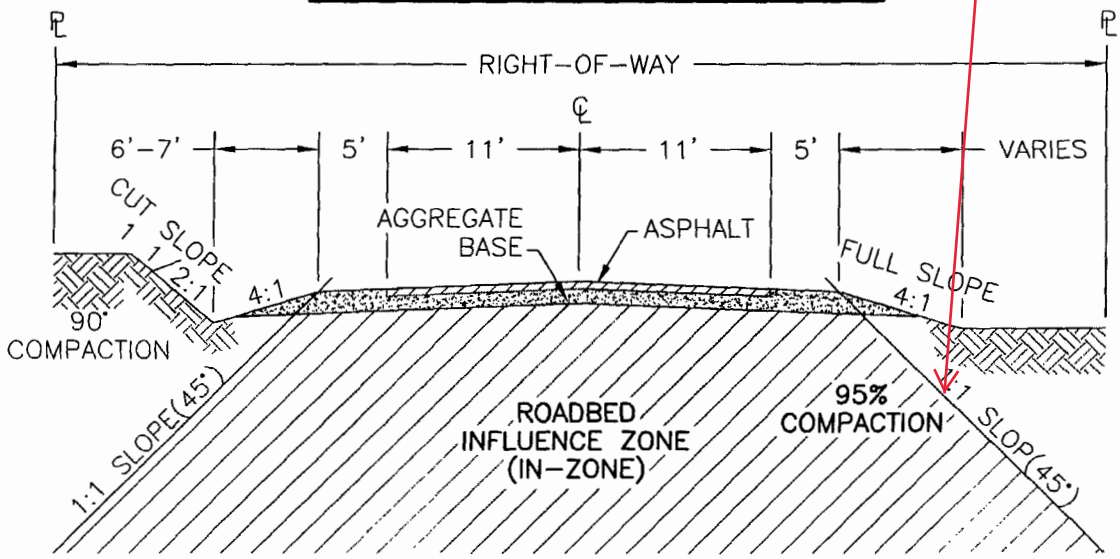
Note: At 30" deep, 2' from face-of-curb, you come in contact with the In-Zone

TYPICAL CURBED STREET SECTION



Note: At 30" deep, 8'4" from edge-of-pavement, you come in contact with the In-Zone

TYPICAL TURNPIKE STREET SECTION



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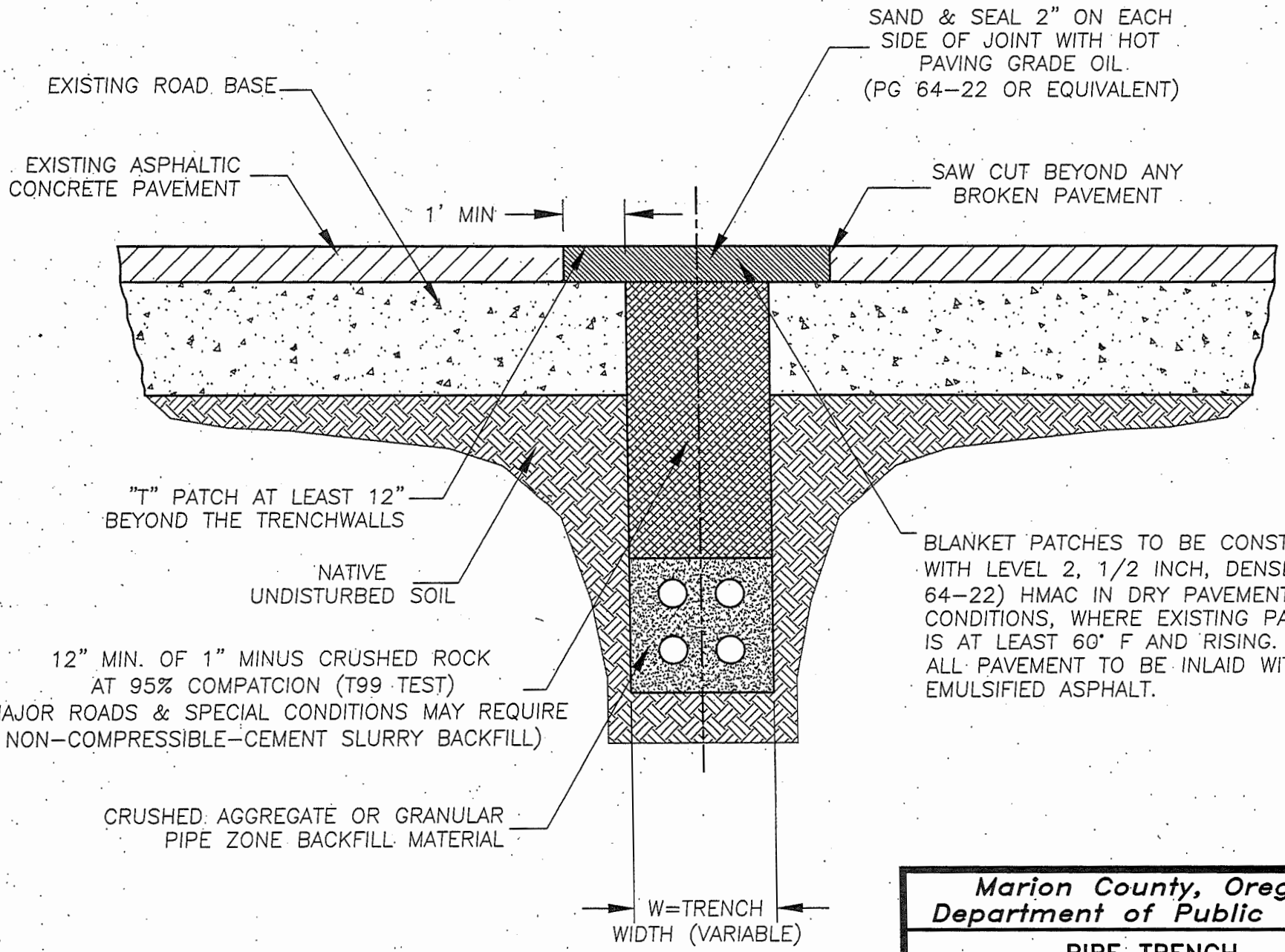
07/05

Attachment C

PIPE TRENCH

MARION COUNTY



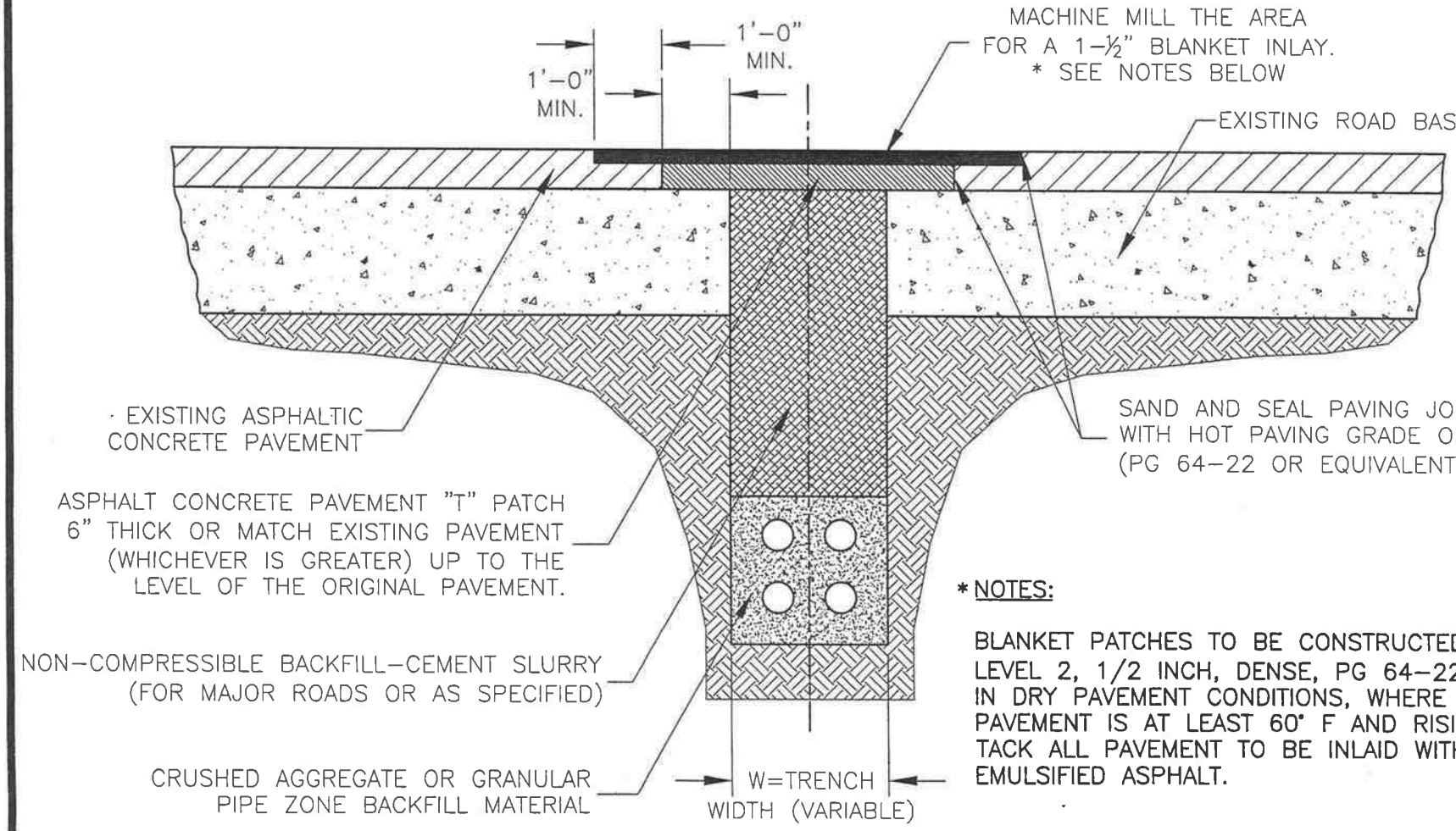
Marion County, Oregon
Department of Public Works

PIPE TRENCH AND PAVEMENT PATCHING

NO SCALE

Drwn: CJS	Appvd: MWH	Date: 06-16-05	Dwg. No.

Attachment D



* NOTES:

BLANKET PATCHES TO BE CONSTRUCTED WITH LEVEL 2, 1/2 INCH, DENSE, PG 64-22 HMAC IN DRY PAVEMENT CONDITIONS, WHERE EXISTING PAVEMENT IS AT LEAST 60° F AND RISING. TACK ALL PAVEMENT TO BE INLAID WITH EMULSIFIED ASPHALT.

TYPICAL UTILITY TRENCH RESTORATION

NO SCALE

THE COUNTY ENGINEER SHALL DETERMINE THE WIDTH AND THE LENGTH OF THE INLAY PATCH TO BEST FIT TRAVEL PATTERNS.

Marion County, Oregon
Department of Public Works

BLANKET INLAY DETAIL

NO SCALE

Drwn: CJS	Appvd: MWH	Date: 06-13-05	Dwg. No.

BLANKET INLAY

MARION COUNTY

PERMIT #

Attachment E

– SPECIAL PROVISION & DETAIL –

NON–COMPRESSIBLE BACKFILL

(C.D.F. – CONTROL DENSITY FILL)

MATERIAL: NON–COMPRESSIBLE BACKFILL (NCB) IS A MIXTURE OF AGGREGATE, CEMENTIOUS MATERIALS, WATER, AND ADMIXTURES.

USE: BACKFILLING PIPE AND UTILITY TRENCHES IN PACEMENTS OF MAJOR ROADS IN MARION COUNTY AND AS DIRECTED BY THE ENGINEER.

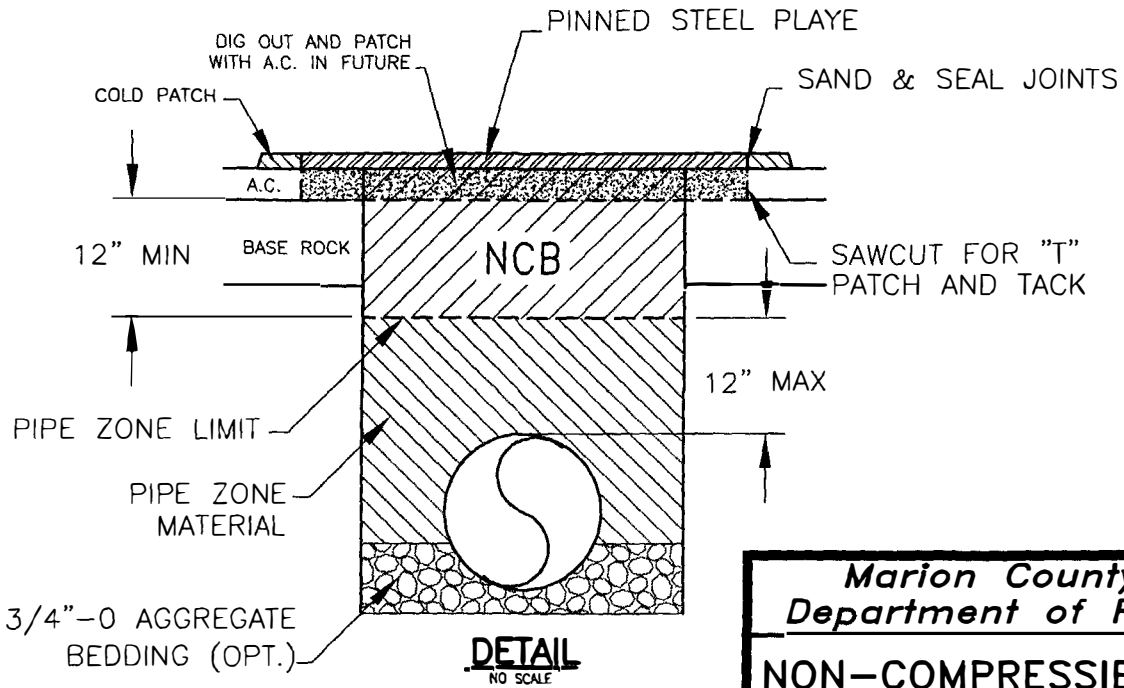
MIX: PROPORTIONED SUCH THAT THE 28 DAY COMPRESSIVE STRENGTH IS LESS THAN 100 PSI FOR HAND EXCAVATABLE MIX DESIGNS AND LESS THAN 300 PSI FOR MACHINE EXCAVATABLE MIX DESIGNS. THE NCB SHALL BE CAPABLE OF SUPPORTING TRAFFIC WITHIN 24 HOURS AND SUPPORTING PAVING OPERATIONS WITHINT 48 HOURS, REGARDLESS OF WEATHER CONDITIONS, TEMPERATURE, OR MOISTURE CONTENT OF THE SOIL WHERE PLACED. THE NCB SHALL ATTAIN A BEARING CAPACITY OF 500, USING THE PENETRATION RESISTANCE TEST ACCORDING TO ASTM C 403. FLOWABILITY SHALL BE CAPABLE OF FILLING ALL VOIDS.

ADDITIVES SUCH AS CALCIUM (1% OR 2%) AND/OR HOT WATER TO ACHIEVE THE ABOVE SET UP.

PLACEMENT: POUR AT SLUMP NECESSARY FOR REQUIRED RESULTS. DO NOT USE WHEN AIR TEMPERATURE IS BELOW 40°F. FOR SAND CEMENT SLURRY, ROD OR VIBRATE TO FILL VOIDS.

MINIMUM DEPTH OF NCB SHALL BE 12" FROM BOTTOM OF AC. IF BEDDING IS USED, PIPE ZONE MATERIAL MAY ALSO BE 3/4"–0 AGGREGATE, PLACED TO A MAXIMUM OF 12" ABOVE TOP OF PIPE, BUT NEVER TO A DEPTH THAT WILL REDUCE THE THICKNESS OF NCB TO LESS THAN 12".

PLACE BACKFILL UP TO LEVEL OF AC SURFACE (IT MAY BE LEFT FLUSH AS A SUBSTITUTE FOR COLD PATCH). PLATE OR KEEP BARRICADED OVER NIGHT, BEFORE OPENING TO TRAFFIC. TO PACE, DIG OUT TO BOTTOM OF AC WITH A BACKHOE AND HOT PATCH.



DETAIL
NO SCALE

G:\Land Use\Details\New\NON–COMPRESSIBLE BACKFILL.dwg 07/05

Marion County, Oregon
Department of Public Works

NON–COMPRESSIBLE BACKFILL

Drwn: CJS	Appvd: MWH	Date: 07–15–05	Sp. Prov. No.

Attachment F

3. Sewer and Water Main Abandonment – Use the following approximate proportions in the mix for each cubic yard of volume. The actual composition may be varied to facilitate the method of application and as approved by the OWNER'S REPRESENTATIVE.

   a. Water – 374 pounds/cubic yard

   b. Cement – 50 pounds/cubic yard

   c. Fly Ash – 300 pounds/cubic yard

   d. Dry Aggregate – 3000 pounds/cubic y

approx 2 cubic feet = ± 15 Gallons
a=19#
b=2.5#
c=15#
d=150#

4. Shaft Backfill - Supplier determines materials and proportions used to meet the requirements specified herein.

5. Make daily checks for the aggregate gradation and adjust the mix design as required to meet these specifications. Modify the CDF mix as necessary to meet the flowability, pumpability, and set time requirements for each individual pour.

6. At least 30 days before placing CDF, submit to the OWNER'S REPRESENTATIVE a mix design for the CDF to be used. Include trial lab and field data, with cylinder breaks performed at 7, 14, and 28 days in the mix design.

7. Do not place CDF until the OWNER'S REPRESENTATIVE has approved the mix design and the backfill plan. OWNER'S REPRESENTATIVES' approval of the mix design and backfill plan indicates conditional acceptance. Final acceptance is based on tests conducted on field samples and conformance with these specifications.

C. CDF Properties

1. Pipe Bedding and Backfilling - Unconfined compressive strength at 28 days, minimum of 100 psi, maximum of 600 psi in accordance with ASTM D4832.

2. Sewer and Watermain Abandonment – Provide CDF with a slump of 8 to 10 inches that results in a minimum compressive strength of 100 psi and a maximum of 150 psi in 28 days in accordance with ASTM-D4832.

3. Shaft Backfill - Unconfined compressive strength at 28 days, minimum 300 psi, maximum 600 psi in accordance with ASTM D4832. Unit weight, minimum 100 pounds per cubic foot, (pcf), maximum 130 pcf in as placed condition per ASTM D6023.

Marion County Approved Alternative:
1/2 Bag Cement to 1 Yard of Sand
Make a wet mix so it flows well

1. APPROACH WIDTH (W):

RESIDENTIAL 12'–24'
COMMERCIAL 28'–40'
– FOR COMMERCIAL DRIVEWAYS, WIDTH SHALL BE SET BY COUNTY ENGINEER ON A SITE SPECIFIC BASIS.

2. FLARE:

A. 36" FOR COMMERCIAL AND INDUSTRIAL WHERE TRAVEL LANE IN STREET IS ADJACENT TO CURB. (i.e. PARKING PROHIBITED).

B. NONE REQUIRED FOR RESIDENTIAL AND COMMERCIAL WHERE PARKING IS ALLOWED IN STREET ADJACENT TO CURB.

3. BROOMING DIRECTION:

BACK OF WALK TO FACE OF CURB.

4. DEEP SCORING, SHINING & EXPANSION JOINTS:

DEEP SCORED CONTRACTION JOINTS ARE TO BE MADE EVERY 5' OF SIDEWALK AND EVERY 15' OF CURB. WHEN CURB IS CUT TO ALLOW FOR A DRAIN LINE, A DEEP SCORE IS TO BE MADE AT BOTH CURB EDGES, NOT OVER PIPE. SEE NOTE "E" BELOW.

DEEP SCORED CONTRACTION JOINTS ARE TO BE FORMED TO A DEPTH OF 1–1/4" x 1/4" IN WIDTH.

AFTER BROOMING, TOOL ROUND & SHINE OUTER EDGE OF SIDEWALK (NOT CONTRACTION JOINTS) & OUTER EDGE OF DRIVEWAY IN PLANTER STRIP.

EXPANSION JOINTS USING 1/2" X 3–1/2" PRE–MOLDED JOINT FILLER MATERIAL ARE REQUIRED AT:

A. ALONG SIDEWALK AT DRIVEWAY – A PROPERTY LINE SIDEWALK WILL REQUIRE EXPANSION JOINTS ON BOTH SIDES OF SIDEWALK.

B. ALONG SIDEWALK WHERE IT INTERSECTS ANOTHER SIDEWALK.

C. AT EDGES OF UTILITY VAULTS OR OTHER STRUCTURES EXPOSED TO SIDEWALK.

D. IN SIDEWALK TO ISOLATE A WHEELCHAIR RAMP.

E. ON CURBSIDE SIDEWALKS PLACED AT 90° ACROSS THE SIDEWALK AT BEGINNING (TOP) OF CURB TRANSITION.

F. NO RUNNING PIECE OF SIDEWALK SHALL BE MORE THAN 40' WITHOUT AN EXPANSION JOINT.

5. CONCRETE SPECIFICATIONS:

A MINIMUM OF 3,000 PSI CONCRETE IN 28 DAYS SHALL BE USED FOR ALL CURBS, DRIVEWAY APPROACHES AND SIDEWALKS.

CONCRETE SHALL BE AIR ENTRAINED; TOTAL AIR CONTENT (PERCENT BY VOLUME OF CONCRETE) SHALL BE BETWEEN 5 % AND 7 %.

6. CURB REMOVAL:

WHEN FULL HEIGHT CURB SECTION IS REMOVED, THE FOLLOWING PROVISIONS SHALL APPLY:

A. VERTICAL SAW CUTS: SHALL BE MADE AT OUTSIDE EDGES OF CURB TRANSITIONS; THIS APPLIES TO BOTH TYPE A AND TYPE C CURBS. WHEN WEEP HOLES ARE TO BE INSTALLED, ADDITIONAL CURB WILL NEED TO BE REMOVED.

B. TYPE A CURB AND GUTTER: THE ENTIRE CURB AND GUTTER SHALL BE REMOVED AND RE–POURED. MATERIAL IN CURB AREA SHALL BE REMOVED TO SUBGRADE AND RE–POURED. PROVIDE 6" OF CONCRETE BELOW FLOW LINE IN CURB AREA.

C. TYPE C CURB: CURB SHALL BE REMOVED TO FULL DEPTH AND RE–POURED. PROVIDE 10" OF CONCRETE BELOW ASPHALT IN CURB AREA.

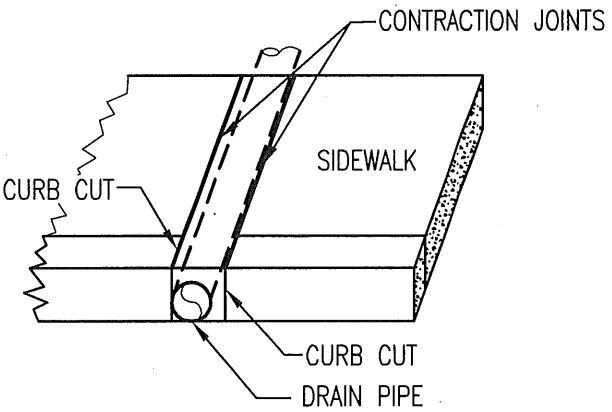
7. DRAIN LINES:

WEEP HOLES FOR DRAINS ARE TO EXIT IN A FULL HEIGHT CURB SECTION OUTSIDE CURB TRANSITION AREA OF DRIVEWAY. DRAIN LINES IN SIDEWALK ARE TO BE LOCATED UNDER OR ADJACENT TO A CONTRACTION JOINT. DRAIN LINES ARE TO CROSS SIDEWALKS AT 90° (PERPENDICULAR) TO CURB.

WHERE CURB CUTS ARE MADE FOR CONSTRUCTION OF A DRIVEWAY APPROACH, ONE DRAIN LINE IS ALLOWABLE IN CURB TRANSITION AREA IF LINE IS PLACED DIRECTLY ADJACENT TO CURB CUT (HIGHEST POINT OF TRANSITION).

DRAIN LINES ARE TO BE PLACED AT GUTTER FLOW LINE.

DRAIN PIPE IS TO BE PLACED ADJACENT TO CURB CUT. A CONTRACTION JOINT IS TO BE SCORED ALONG BOTH CUTS.



REVISIONS			
Date:	Description:	By:	Appvd:
1/18/13	NOTE #5 WAS 3300 PSI	DC	CS
3/1/2016	COMB 2 SHTS INTO 1	RP	CS

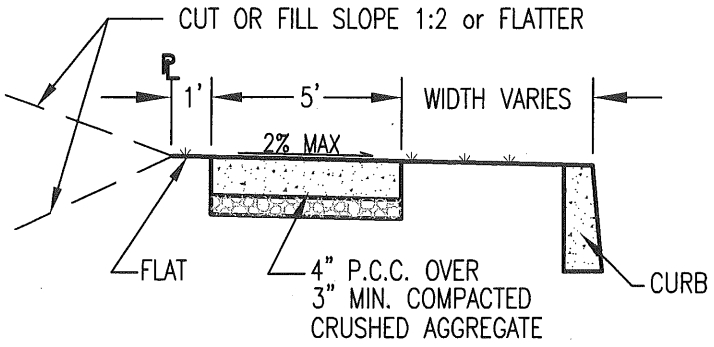
Marion County
Department of Public Works

NOTES FOR URBAN STREETS

Drawn By:	SW
Checked By:	RP
Date:	03/01/2016

1D

Attachment H



SECTION A-A

PLAN

NOTES:

1. EXPANSION JOINTS 1/2" X 3-1/2" PREMOLDED JOINT FILLER MATERIAL, SPACED 40' O.C. AND AT OTHER LOCATIONS SHOWN.
2. PREMOLDED JOINT FILLER MATERIAL SHALL BE PLACED ON ALL EDGES OF UTILITY VAULTS OR STRUCTURES EXPOSED TO SIDEWALK. MATERIAL SHALL BE RECESSED OR CUT TO WITHIN 1/2" OF FINISHED CONCRETE SURFACE.
3. CONTRACTION JOINTS SHALL BE 1-1/4" x 1/4" WIDE, SPACED 5' O.C.
4. 3000 P.S.I. CONCRETE IN 28 DAYS TO BE USED ON SIDEWALKS. NO COLOR ADDITIVES ARE ALLOWED.
5. PAVEMENT, TURF OR PLANTED AREAS DISTURBED BY SIDEWALK CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER.

REVISIONS			
Date:	Description:	By:	Appvd:
3/1/16	MULITPLE REV. TO 1990 ED.	RP	CS

Marion County
Department of Public Works

STANDARD SIDEWALK DETAILS

Drawn By:	SJW
Checked By:	RP
Date:	03/01/2016

15