

MINIMUM COVER BELOW FINISH-GRADE	
ELECTRIC PRIMARY	36"
ELECTRIC SECONDARY	24"
WATER	42"
WASTEWATER	42"
STORM SEWER	24"
GAS (SERVICE)	24"
GAS (MAIN)	36"
TELECOMMUNICATIONS	24"

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES BEFORE ANY EXCAVATION BEGINS. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO UTILITIES.
2. THE CONTRACTOR SHALL CONTACT ALL LOCAL UTILITIES AND DIG TESS BEFORE COMMENCING ANY EXCAVATION OR DIGGING OPERATIONS.
3. BRACE UTILITY POLES AS REQUIRED TO MAINTAIN STABILITY OF THE POLES DURING CONSTRUCTION.
4. ALL INFRASTRUCTURE SHALL MEET TCEQ MINIMUM SEPARATION REQUIREMENTS.
5. WHEN USING JOINT TRENCH FOR ELECTRIC AND TELECOMMUNICATIONS, GAS MAIN SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE STREET FROM THE JOINT TRENCH.
6. UTILITY ASSIGNMENTS ARE TYPICAL AND VARIANCES ALLOWED AS APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
7. GAS/ELECTRIC/CABLE/TELECOMMUNICATIONS SHALL BE LOCATED IN PUE, WHERE AVAILABLE.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS



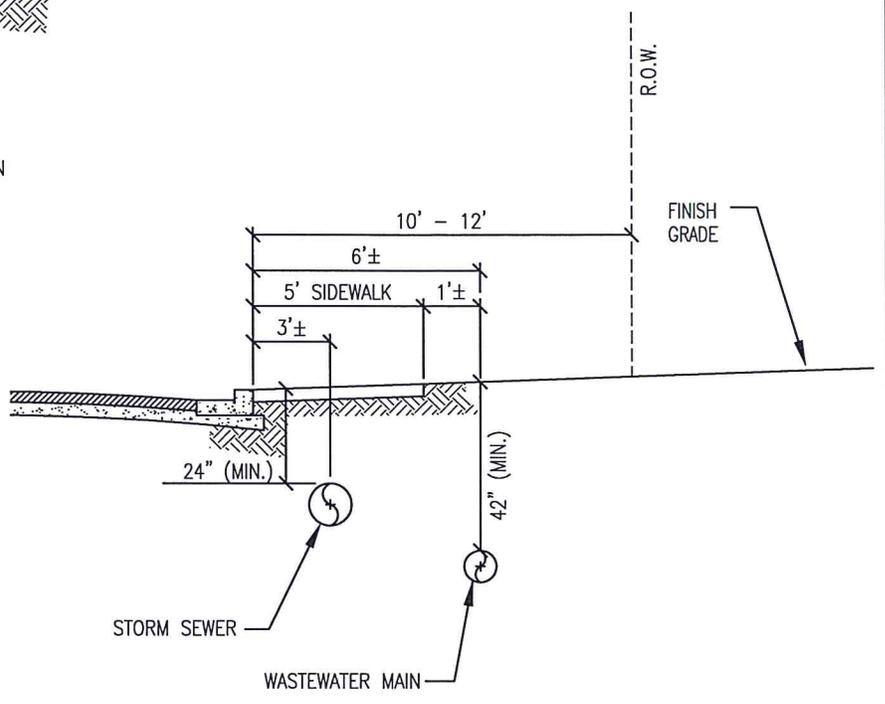
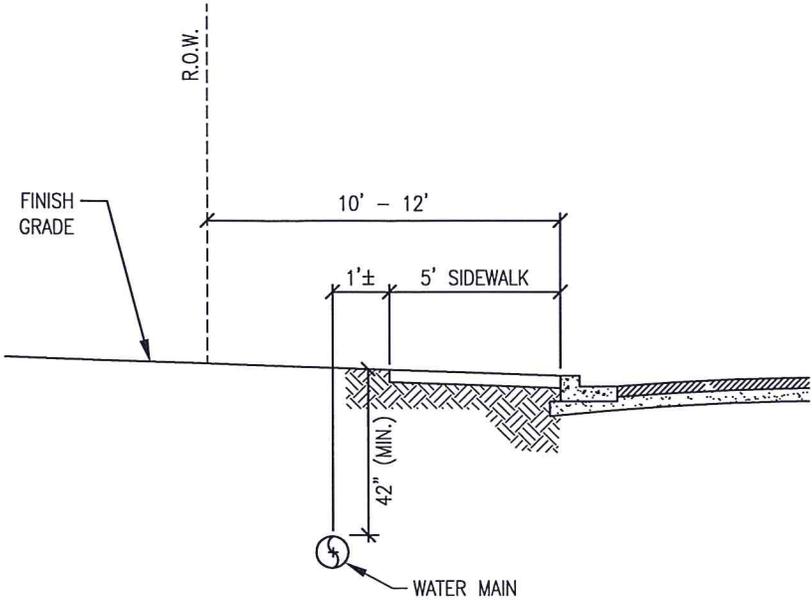
**TYPICAL UTILITY ASSIGNMENT
FOR SIDEWALK AT PROPERTY LINE**

CONSTRUCTION STANDARDS AND DETAILS

G-01A
SCALE: N.T.S.
ISSUE DATE: 08-01-13

MINIMUM COVER BELOW FINISH-GRADE

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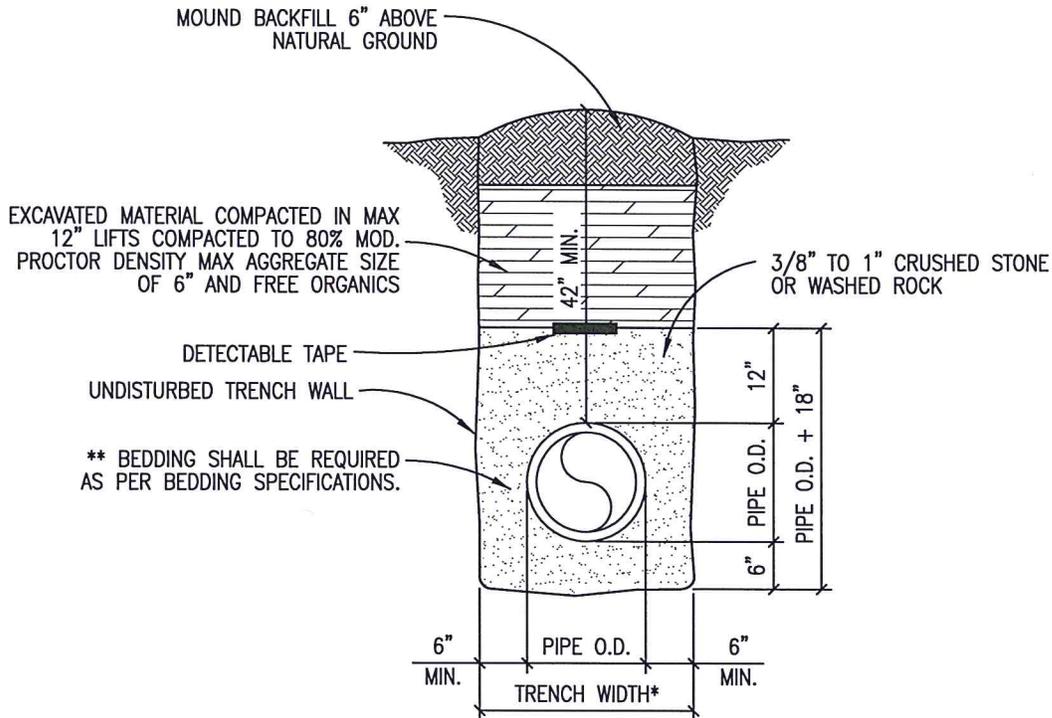
**CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS**

**TYPICAL UTILITY ASSIGNMENT
FOR SIDEWALK AT BACK OF CURB**

CONSTRUCTION STANDARDS AND DETAILS



G-01B
SCALE: N.T.S.
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*TRENCH WIDTHS

PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.

20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

** TYPICAL BEDDING SPECIFICATIONS:

<u>SIEVE SIZE</u>	<u>3/8" F</u> % RETAINED	<u>1/2" D</u> % RETAINED	<u>1" D</u> % RETAINED
3/4"	0	0	0-15
1/2"	0	0	40-60
3/8"	0-2	5-25	70-80
4m	40-85	80-100	95-100
10m	95-100	96-100	-

BEDDING SHALL BE WELL BLENDED MIX.

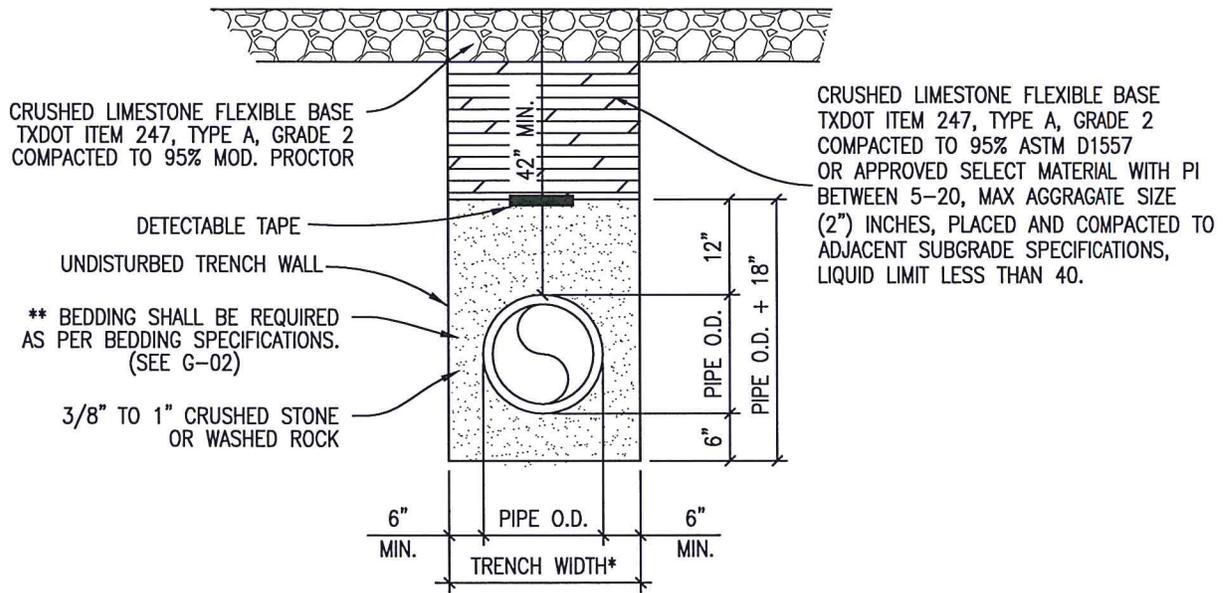
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

**EMBEDMENT AND BACKFILL STANDARDS
OUTSIDE PAVED AREAS**

CONSTRUCTION STANDARDS AND DETAILS



G-02
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ISSUE DATE: 08-01-13



*TRENCH WIDTHS

PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.

20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

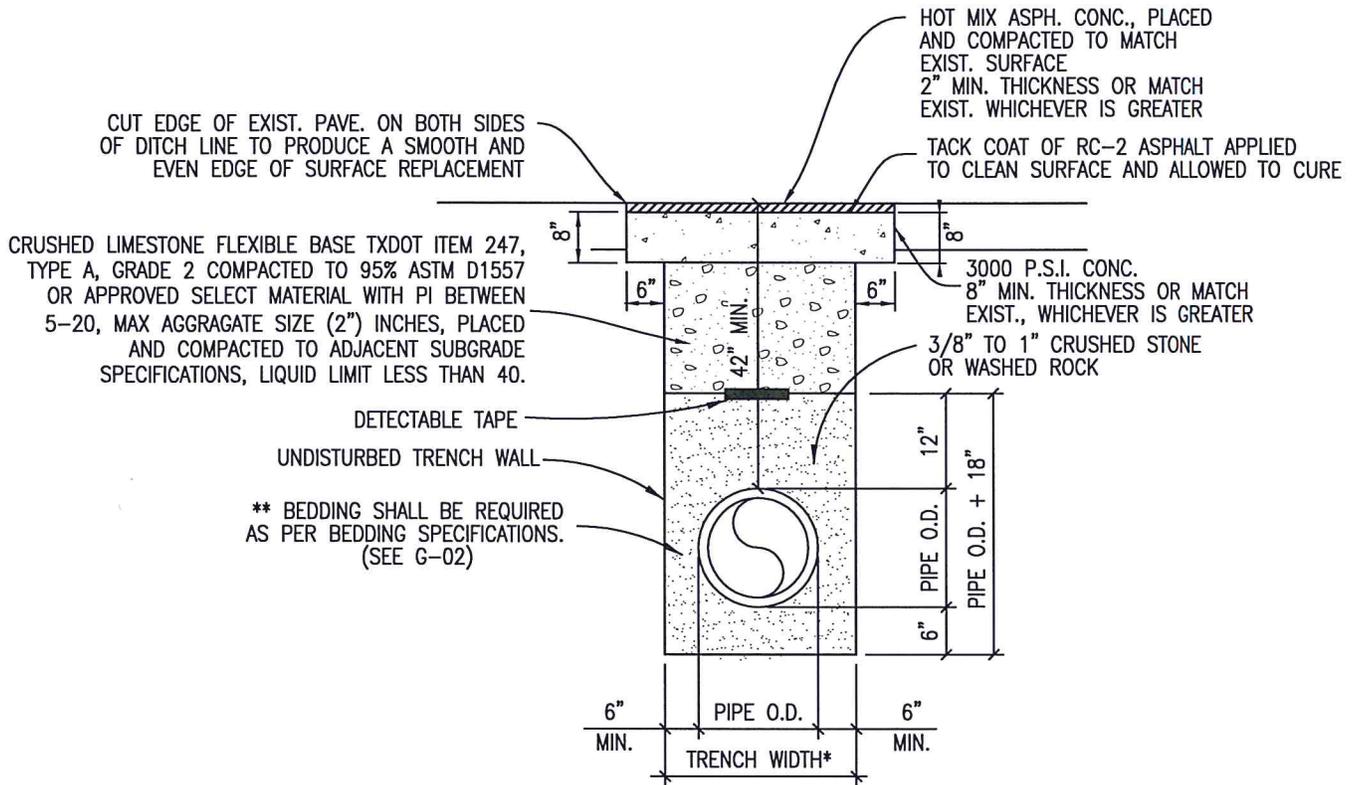
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

EMBEDMENT AND BACKFILL STANDARDS
GRAVEL ROAD

CONSTRUCTION STANDARDS AND DETAILS



G-03
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ASPHALT ON CONCRETE

*TRENCH WIDTHS

PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.

20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:

1. THE EXISTING PAVING SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTERLINE OF THE EXCAVATION.
2. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALT.
3. IF SELECT MATERIAL IS UTILIZED IN LIEU OF CRUSHED LIMESTONE BASE, A 3 YEAR WARRANTY FOR TRENCH FAILURE IS REQUIRED.
4. ALL DAMAGED AREAS OF PAVEMENT RESULTING FROM CONTRACTOR'S OPERATIONS OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 8" OF ROAD BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER. SURFACE PAVEMENT SHALL BE OF THE SAME KIND AND THICKNESS AS EXISTING.

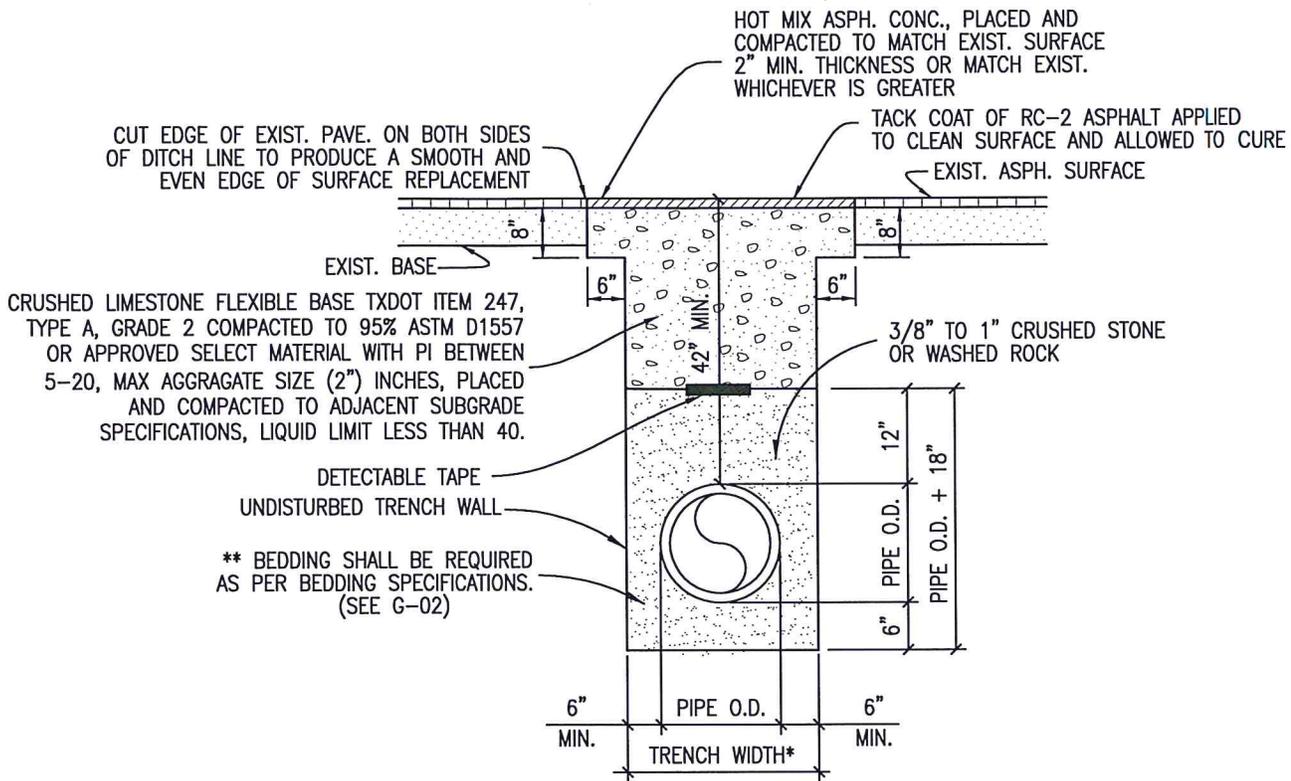
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

EMBEDMENT AND BACKFILL STANDARDS
EXISTING OR FUTURE ROADWAY

CONSTRUCTION STANDARDS AND DETAILS



G-04
SCALE: N.T.S.
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ASPHALT ON FLEX BASE

*TRENCH WIDTHS

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1'-0" + PIPE O.D.

20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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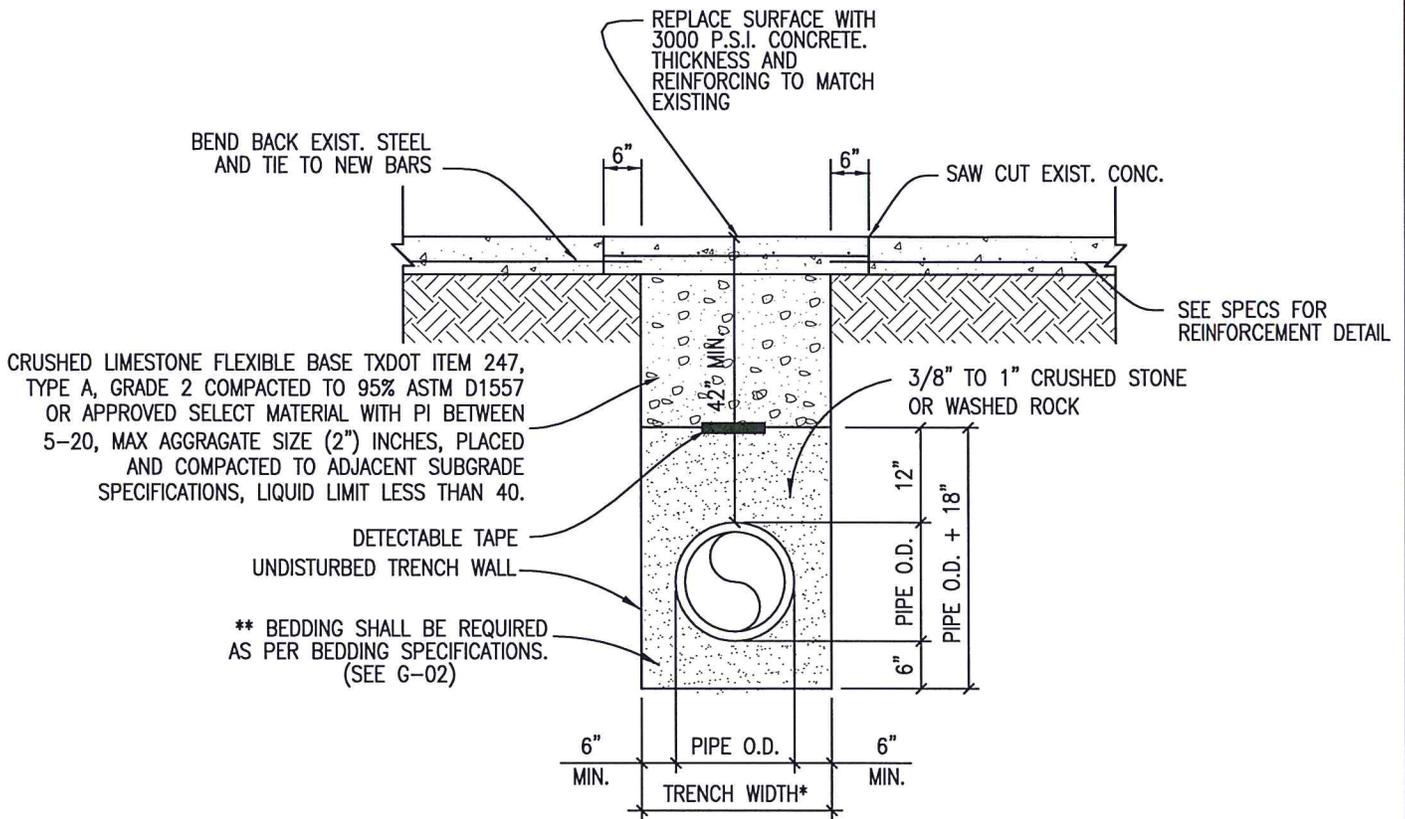
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

EMBEDMENT AND BACKFILL STANDARDS
EXISTING OR FUTURE ROADWAY

CONSTRUCTION STANDARDS AND DETAILS



G-05
SCALE: N.T.S.
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CONCRETE PAVEMENT REPLACEMENT

*TRENCH WIDTHS

PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.

20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

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CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

EMBEDMENT AND BACKFILL STANDARDS
EXISTING OR FUTURE ROADWAY

CONSTRUCTION STANDARDS AND DETAILS



G-06

SCALE: N.T.S.

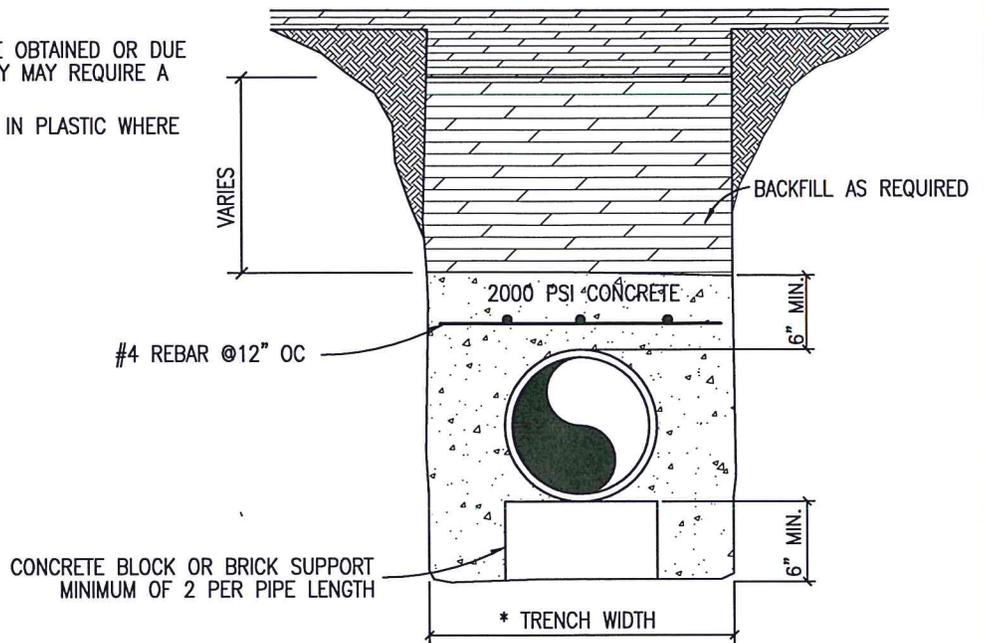
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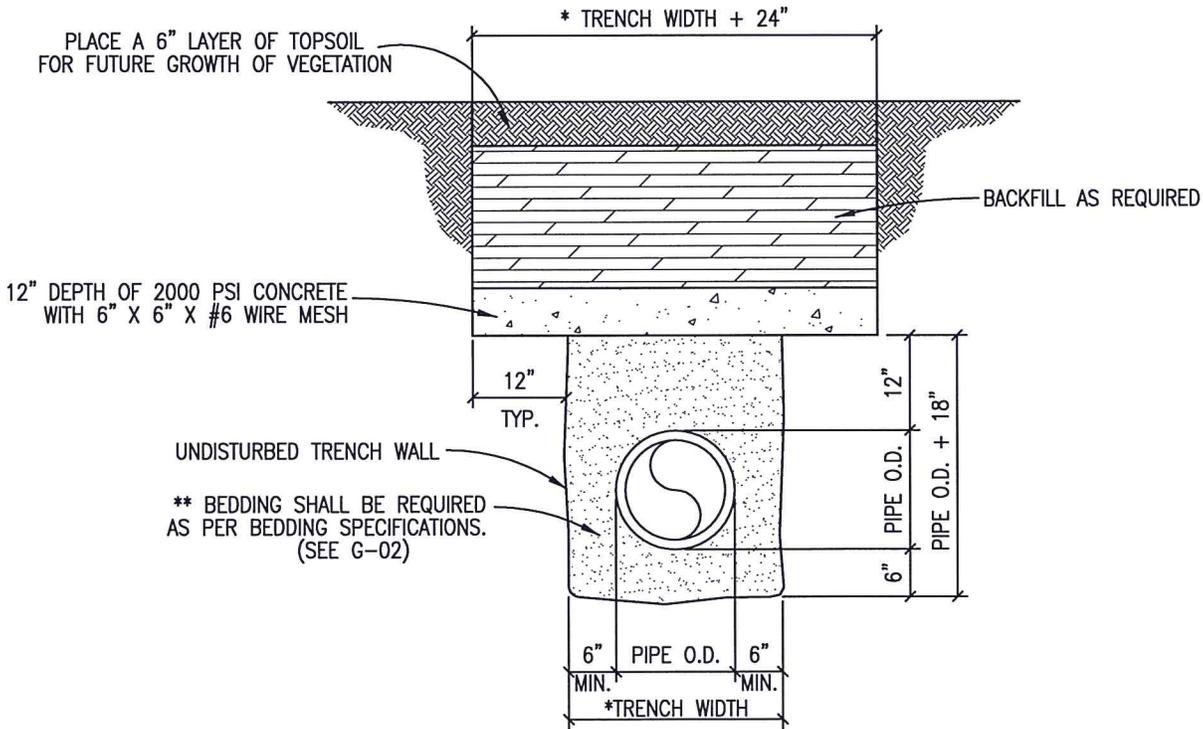
1. WHERE 42" MINIMUM COVER CAN NOT BE OBTAINED OR DUE TO POTENTIAL SURFACE LOADING THE CITY MAY REQUIRE A CAP TO BE INSTALLED.
2. PIPES AND FITTINGS SHALL BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.

***TRENCH WIDTH**

PIPE LESS THAN 20" DIAMETER
 1'-0" + PIPE O.D.
 20" DIAMETER AND LARGER
 2'-0" + PIPE O.D.



CONCRETE ENCASEMENT



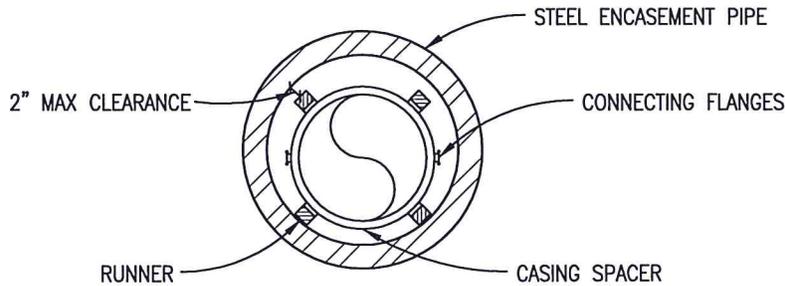
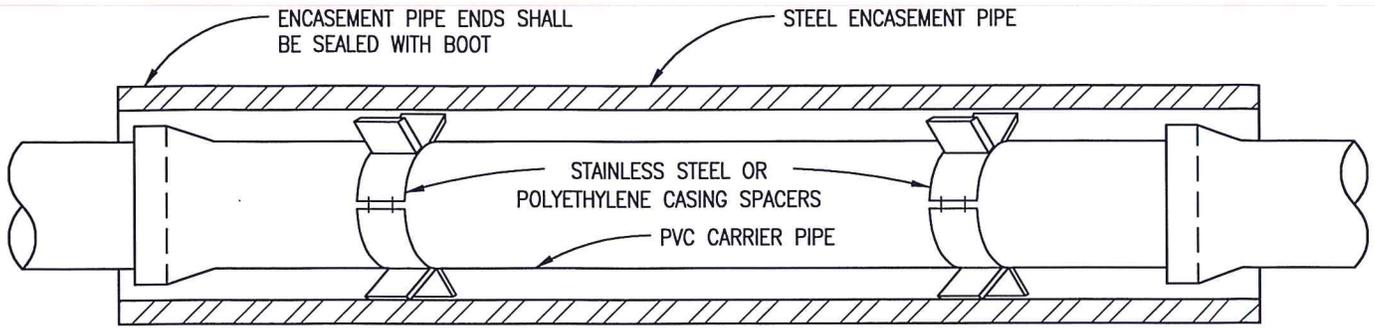
CONCRETE CAP

CITY OF KILLEEN
 DEPARTMENT OF PUBLIC WORKS

**CONCRETE CAP AND
 ENCASEMENT STANDARD**
 CONSTRUCTION STANDARDS AND DETAILS



G-07
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NOTES:

1. CASING SPACERS SHALL BE POLYETHYLENE CASING SPACERS (RACI OR APPROVED EQUIVALENT). CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER, WITH A MINIMUM HEIGHT OF 2 INCHES.
3. DO NOT USE WEDGES BETWEEN TOP OF PVC CARRIER PIPE AND INSIDE OF CASING TO KEEP PVC FROM MOVING.
4. PRIOR TO INSERTING PVC CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
5. SPACERS WILL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH OPENINGS OF THE ENCASEMENT PIPE AND SPACED NO GREATER THAN 6 FEET THROUGHOUT THE ENCASEMENT PIPE.
6. CASING SPACERS WILL NOT BE PAID DIRECTLY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE APPROPRIATE BID ITEM FOR INSTALLING PIPE.
7. ENCASEMENT PIPE SHALL BE SMOOTH STEEL 35,000 PSI YIELD STRENGTH WITH 1/4" MIN. WALL THICKNESS; 3/8" MIN. WALL THICKNESS WHEN CROSSING TxDOT FACILITY; 1/2" MIN. WALL THICKNESS WHEN CROSSING RAILROAD.
8. SPIRAL WELD ENCASEMENT PIPE SHALL NOT BE USED

PIPE SIZE—CARRIER (DIAMETER)	PIPE SIZE—CASING (MINIMUM DIAMETER)
4"	10"
6"	12"
8"	16"
10"	18"
12"	20"
14" – 16"	24"
18"	28"
20" – 24"	36"
30"	42"

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

**INSTALLATION OF PVC PIPE
THROUGH CASING**

CONSTRUCTION STANDARDS AND DETAILS



G-08
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