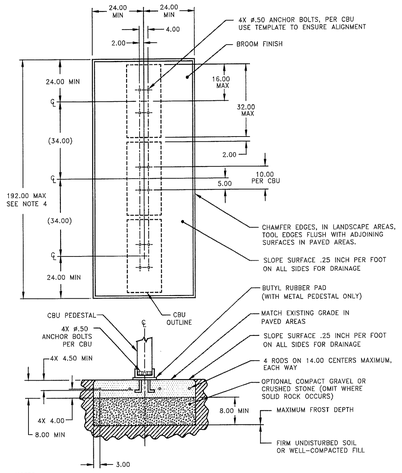
USPS APPROVED SPECIFICATIONS – CONCRETE PAD (MULTIPLE UNIT)



NOTES:

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, CONTAIN 4% MIN – 6% MAX AIR ENTRAINMENT AND BE PLACED WITH A 3.50 – 4.50 SLUMP IN ACCORDANCE WITH ACI 301.
2. REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
3. ANCHOR BOLTS SHALL CONFORM TO ASTM A193, GRADE B8M, TYPE 316 STAINLESS STEEL.
4. A 3 CBU CONFIGURATION IS DEPICTED. A 2 OR 4 CBU CONFIGURATION MAY BE USED AS LONG AS THEY ARE ARRANGED IN GROUPS SUCH THAT THE OVERALL DIMENSION OF THE CONCRETE BASE DOES NOT EXCEED 192 INCHES.

CLUSTER BOX UNIT (CBU)
-ANCHORING METHODS-

CBU's must be level and mounted firmly in concrete, using one of the following methods.

1. The J-bolt method is the preferred method of installation of CBU's on concrete pads; however, the J-bolt pattern must be accurate with the CBU pedestal plate. When using J-bolts, in order to prevent any damage or accidents that could result from the exposed bolts, consideration should be given as to the time lapse between pouring the concrete and the actual installation. Expansion anchors must be installed in accordance with the manufacturer's instructions.

2. The use of anchor bolts for the installation of CBU's on concrete pads is also acceptable as long as the methods described below are followed.

   a. Hilti Kwik bolt II, 1/2" diameter X 5-1/2" overall length
   Catalog Number: 000-453-696, KB II 12-512
   Stainless Steel Catalog Number: 000-454-744
   Minimum embedment in concrete must be no less than 3-1/2"

   b. ITW Ramset Redhead Trublot, galvanized, 1/2" diameter X 7" overall length

   c. Rawl Stud, 1/2" diameter X 5 1/2" overall length, galvanized.
   Catalog Number: 7324
   Minimum embedment in concrete must be no less than 4"

CLUSTER BOX UNIT (CBU)
-CONCRETE PAD REQUIREMENTS-

- ALL FREE STANDING PADS MUST BE 8" THICK -

1 UNIT	SINGLE PAD	4' X 4'
2 UNITS	DOUBLE PAD	4' X 7'
3 UNITS	TRIPLE PAD	4' X 10'
4 UNITS	QUAD PAD	4' X 13'

*** **WHEN PLACING A PARCEL LOCKER AT ANY CBU LOCATION, INCREASE THE PAD SIZE BY AN ADDITIONAL 4' X 4'** ***

POSTAL SERVICE DETAILS FOR MULTI-UNIT CBU PLACEMENT

ENGINEERS SEAL DOES NOT APPLY TO U.S.P.S. DETAILS ON THIS SHEET.

616.8.31 (TA-31) Lane Closure Using Two-Way Left Turn Lane on Undivided Highways - M1

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SPEED	SIGN SPACING (ft.)		TAPER LENGTH (ft.)		OPTIONAL	CHANNELIZER SPACING (ft.)	
Permanent Posted (mph)	Undivided (S)	Divided (S)	Shoulder (1) (T1)	Lane (2) (T2)	BUFFER LENGTH (ft.) (B)	Tapers	Buffer/ Work Areas
0-35	200	-	70	245	280	35	40
40-45	350	-	150	540	400	40	80
50-55	500	-	185	660	560	50	80
60-70	1000	-	235	840	840	60	120

1 Shoulder taper length based on 10 ft. (standard shoulder width) offset. 2. Lane taper length based on 12 ft. (standard lane width) offset.

TYPE OF ROADWAY	SIGN HEIGHT	MAXIMUM WORK ZONE LENGTH (L)
URBAN	1' Portable 7' Post	1 Mi.
RURAL UNDIVIDED	1' Portable 6' Post	3 Mi.

(Advanced Warning Rail System) For Long Term Operations

Channelizer; Sign; Truck or Trailer Mounted Arrow Panel; Protective Vehicle; Truck Mounted Attenuator (TMA); Work Space

A protective vehicle shall be used while work is in progress. The protective vehicle should be equipped with a TMA and flashing arrow panel and positioned at least 150 ft. in advance of the work space. The protective vehicle may be eliminated if the roadway is posted at 45 mph or below, the work vehicle is positioned in advance of the work space, and the work vehicle uses activated rotating lights or strobe lights.

Channelizer spacing may be reduced to discourage turning traffic from entering the two-way left turn lane.

For short duration operations, signs and channelizers may be reduced or eliminated.

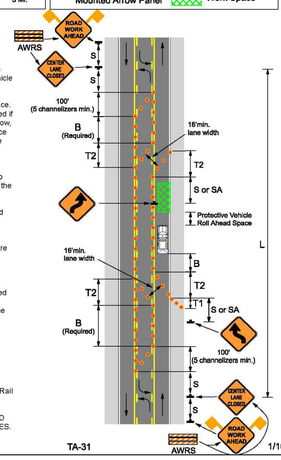
For mobile operations where workers are on foot and move with the operation, channelizers may be reduced or eliminated.

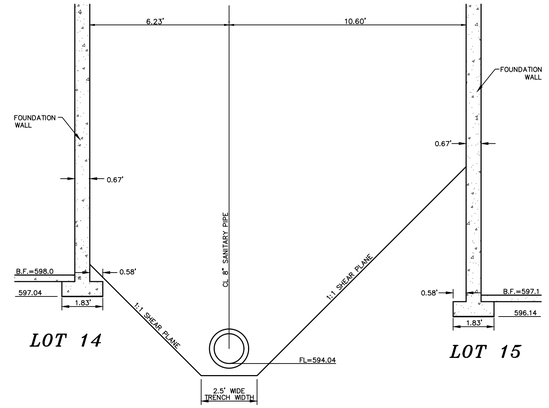
Additional warning signs shall be erected at each intersection with another state highway within the work zone. Upon the discretion of the supervisor, additional warning signs may be erected at other intersections within the work zone.

If rumble strips are used, review EPG 616.6.87 RUMBLE STRIPS.

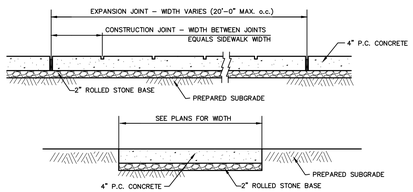
For long-term operations, refer to EPG 616.6.2.2 Flags and Advance Warning Rail System.

SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.



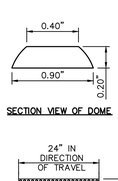


FOOTING LOCATION DETAIL
NOT TO SCALE



* ALL GRANULAR ROLLED STONE BASE UNDER PROPOSED CONCRETE MUST BE COMPACTED TO 100% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI IN 28 DAYS.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



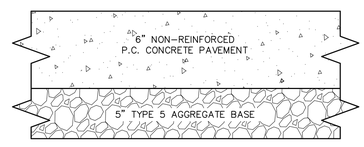
SECTION VIEW OF DOME

PLAN AND SECTION VIEWS OF DETECTABLE WARNING DOMES AND THEIR RELATIVE SPACING ON THE X AND Y AXIS

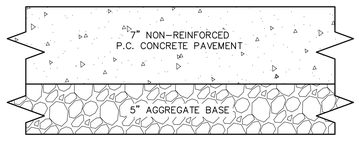
PLAN VIEW OF A DETECTABLE WARNING SURFACE SHOWING DOMES ALIGNED IN ROWS, NOT SKEWED DIAGONALLY.

TYPICAL DETAIL OF DETECTABLE WARNING SURFACE
NOT TO SCALE

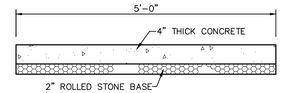
NOTE:
TRUNCATED DOMES FOR CURB RAMPS LOCATED IN PUBLIC RIGHT-OF-WAY SHALL MEET ADA REQUIREMENTS AND SHALL BE CONSTRUCTED USING RED PRE-CAST TRUNCATED DOMES (NOT PRECAST CONCRETE) SUCH AS THOSE MANUFACTURED BY ARMOR TILE OR APPROVED EQUAL.



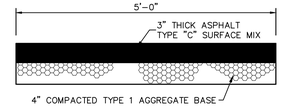
MAIL KIOSK PARKING AREA
CONCRETE PAVEMENT DETAIL
NOTE: NOT TO SCALE
ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.



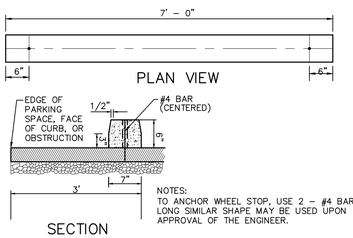
ENTRANCE APRON
CONCRETE PAVEMENT DETAIL
NOT TO SCALE
NOTE:
ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.



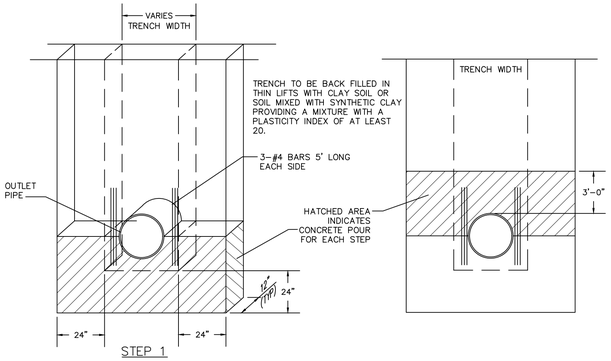
ALTERNATE CONCRETE TRAIL DETAIL
NOT TO SCALE



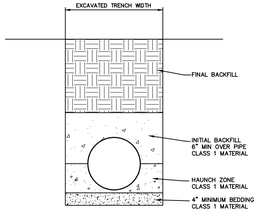
ASPHALT TRAIL DETAIL
NOT TO SCALE
NOTE:
THE ASPHALT SURFACE SHALL BE COMPACTED TO 98% MAXIMUM DENSITY.



PRECAST CONCRETE WHEELSTOP
NOT TO SCALE



ANTI-SEEPAGE COLLAR
NOT TO SCALE



1. The use of High Density Polyethylene Corrugated pipe A.D.S. N12 or Equal will be permitted as an acceptable alternative to reinforced concrete pipe. Pipe shall meet A.S.T.M. D-2321 and AASHTO M-294-921. Concrete flared end sections and inlet structures shall be required. Pipe must have smooth interior wall and is not to be used inside the Public Right-of-Way.

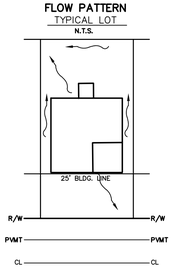
All concrete pipe or HDPE pipe shall be installed with o-ring rubber type gaskets per M.S.D. Standard Construction Specifications or Manufacturer.

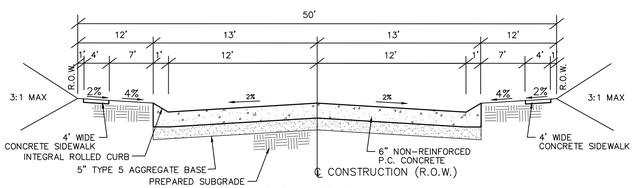
2. In typical conditions the minimum trench width is determined by the size of the pipe and the ability to get compaction equipment between the pipe and the trench walls. The minimum trench width should not be less than the outside diameter plus 16 inches or the pipe outside diameter times 1.25 plus 12 inches; whichever is greater. High speed trenchers may enable satisfactory installation of pipe in narrower trenches. Poor inatu soil conditions such as peat, muck, running sands, or expansive clays will require substantially wider backfill as well as deeper foundation and bedding. Trench width and foundation depth should be based on a thorough site investigation.

3. Backfill in the area up to the springline should be carefully placed and compacted to achieve a minimum E value of 1,000 psi as detailed in ASTM D2321. A minimum of 12" of backfill should be placed and compacted above the crown of the pipe. It is typical for trenches to be backfilled entirely with Type I or Type II materials when under pavement.

4. Flexible pipe should never be installed in a concrete cradle, as done for rigid pipe in a Class A installation. This type of installation could create concentrated forces at the ends of the cradle when the pipe has deformed.

H.D.P.E. PIPE DETAIL





*SIDEWALK LOCATION MAY VARY. SEE PLANS.

TYPICAL SECTION
NOT TO SCALE
(26' WIDE P.C. CONCRETE PAVEMENT)
5" TYPE 5 AGGREGATE BASE

NOTE:
ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.

PROJECT TITLE:
SOMMERSET ESTATES

Bax Project # 21-8318 | Issue Date: 07/26/2021

ENGINEERING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

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I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

STATE OF MISSOURI
JEFFREY B SIMMONS
NUMBER PE-2007030831
PROFESSIONAL ENGINEER
10/11/21

JEFFREY B. SIMMONS
CIVIL ENGINEER
2007030831

REVISIONS

09/02/21	PWSD#2 & BUCKETT COMMENTS
09/10/21	PWSD#2 COMMENTS
09/27/21	CITY COMMENTS
10/11/21	CITY COMMENTS

Developer / Owner:
KAPB, L.L.C.
410 Crestview Drive
O'Fallon, MO 63366
636-272-4200

CONSTRUCTION DETAILS

P+Z No. #21-003778
Approval Date: 09/23/2021
City No. RSP21-000005

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