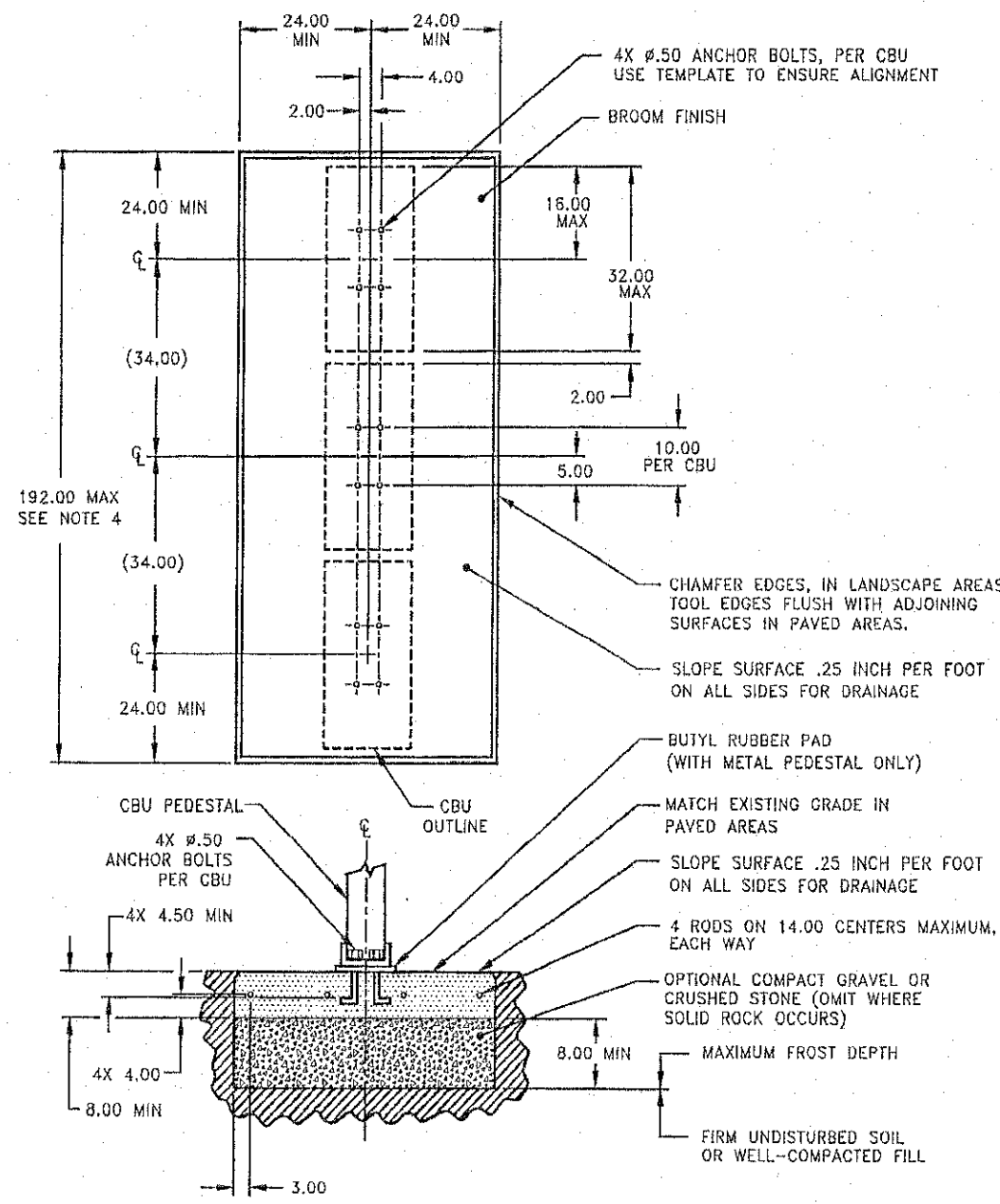


USPS APPROVED SPECIFICATIONS - CONCRETE PAD (MULTIPLE UNIT)



- NOTES:**
- 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.
 - REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
 - ANCHOR BOLTS SHALL CONFORM TO ASTM A193, GRADE B8A, TYPE 316 STAINLESS STEEL.
 - 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.

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

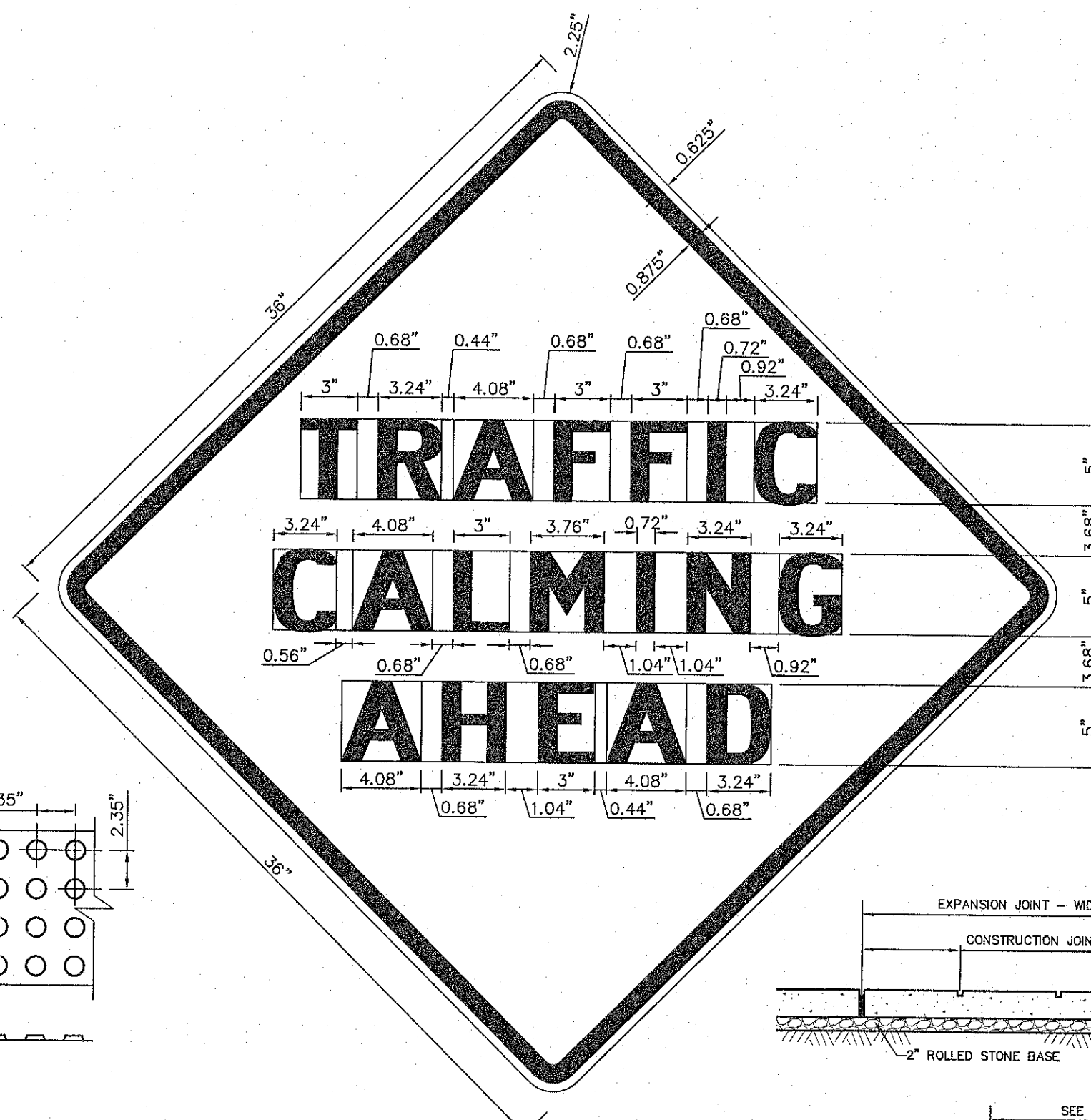
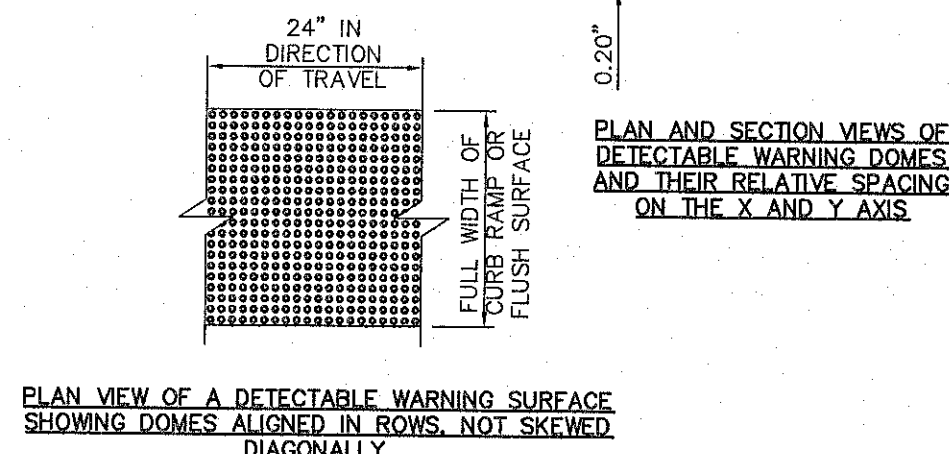
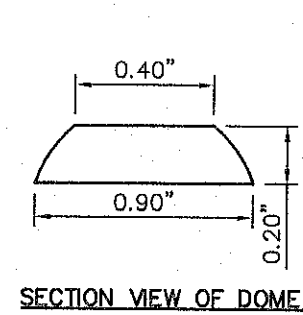
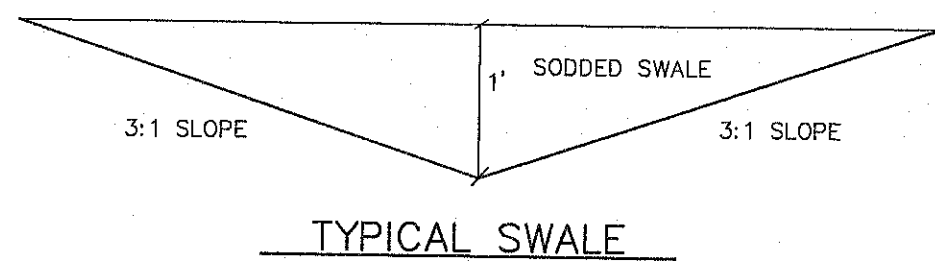
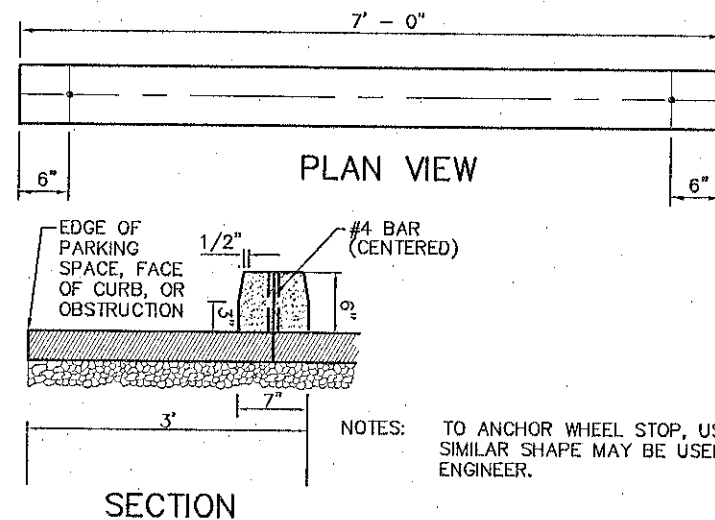
**CLUSTER BOX UNIT (CBU)
-CONCRETE PAD REQUIREMENTS-**

- ALL FREE STANDING PADS MUST BE 8" THICK -

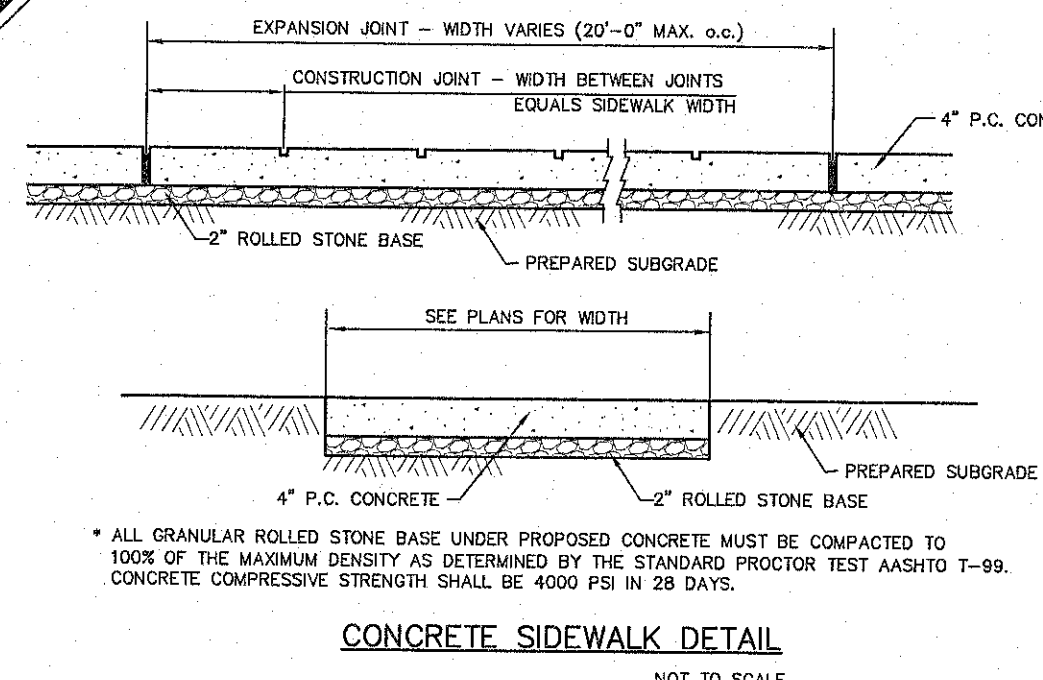
1 UNIT	SINGLE PAD	4' X 4'
2 UNITS	DOUBLE PAD	4' X 7'
3 UNITS	TRIPLE PAD	4' X 10'
4 UNITS	QUAD PAD	4' X 13'

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

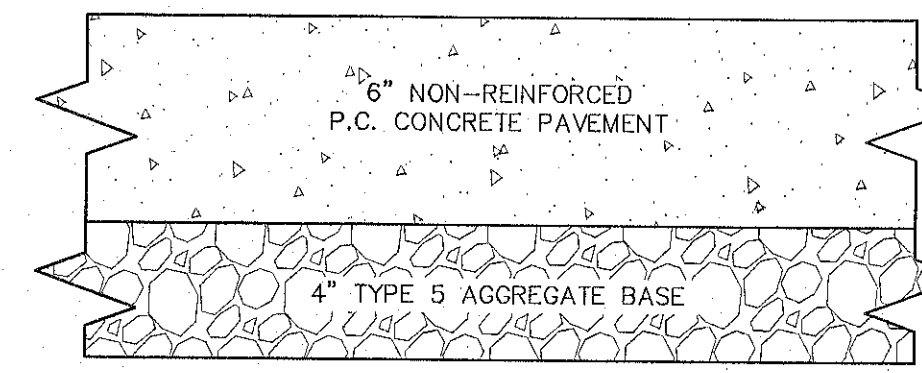
**POSTAL SERVICE DETAILS
FOR MULTI-UNIT CBU PLACEMENT**



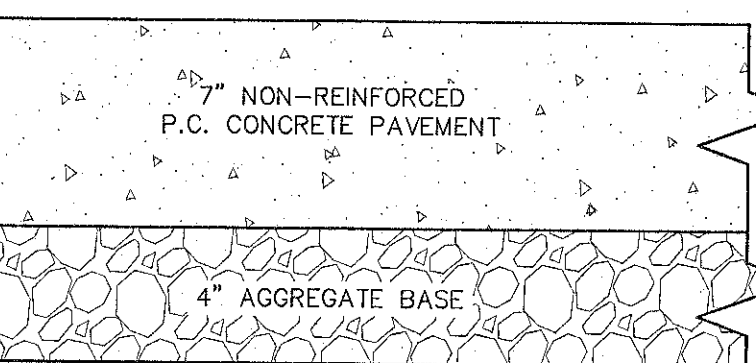
SPECIAL SIGN DETAIL
NOT TO SCALE



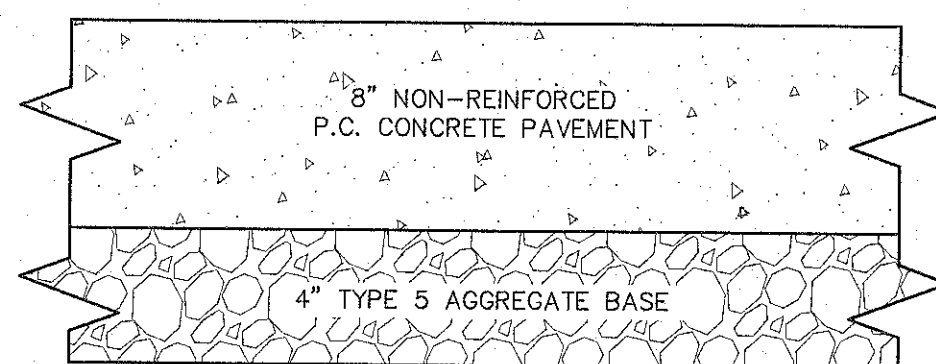
CONCRETE SIDEWALK DETAIL
NOT TO SCALE



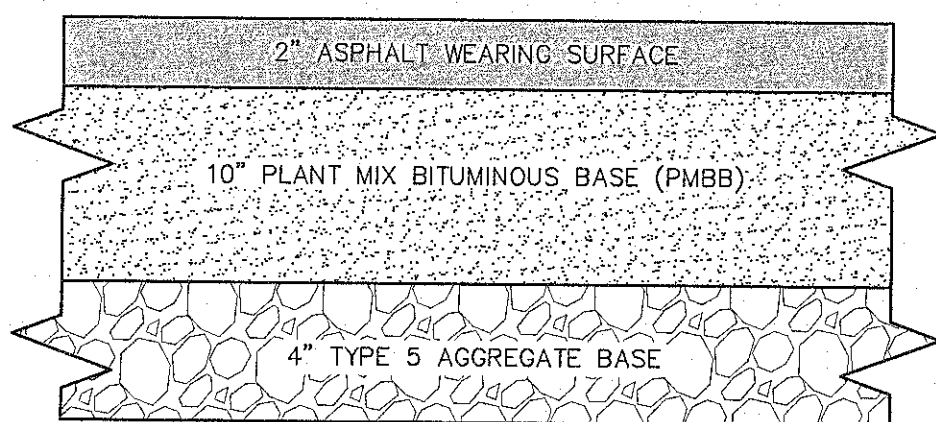
**MAIL KIOSK PARKING AREA
CONCRETE PAVEMENT DETAIL**
NOT TO SCALE



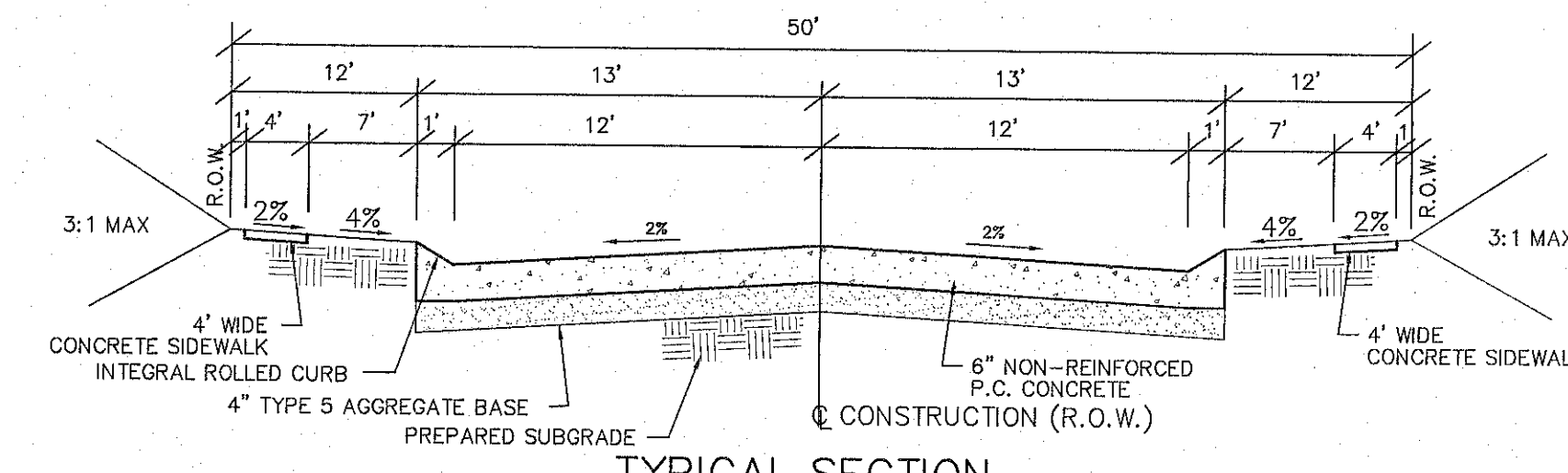
**ENTRANCE CONCRETE
PAVEMENT DETAIL**
NOT TO SCALE



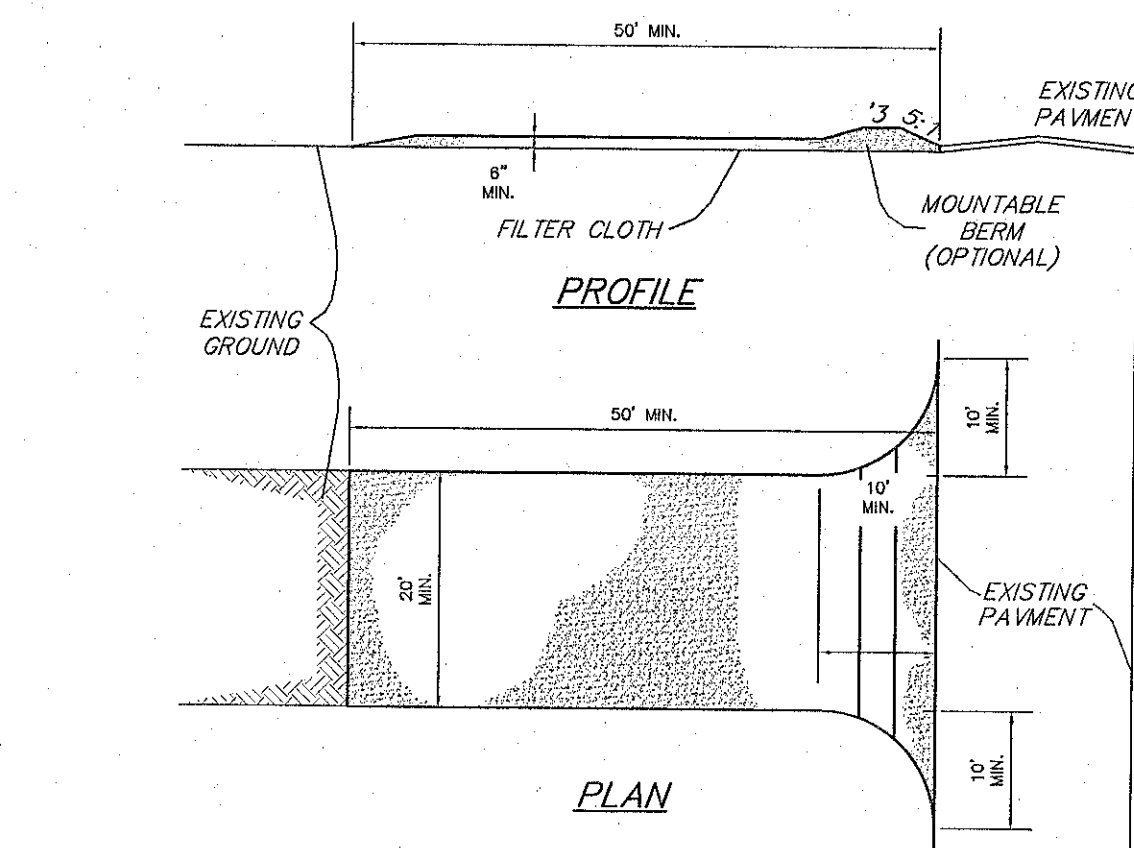
**GUTHRIE ROAD
CONCRETE PAVEMENT DETAIL**
NOT TO SCALE



**GUTHRIE ROAD
ASPHALT DETAIL**
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE
NOTE: ALL NON-REINFORCED CONCRETE SHALL BE 4,000 P.S.I. AT 28 DAYS.

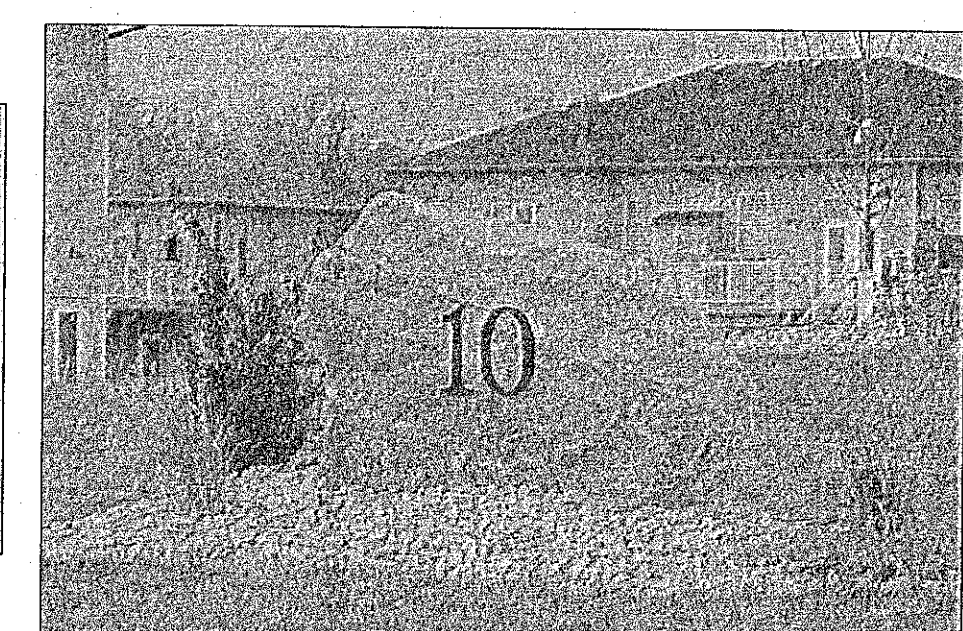
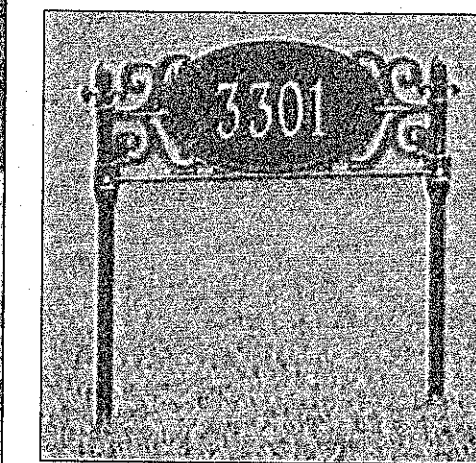
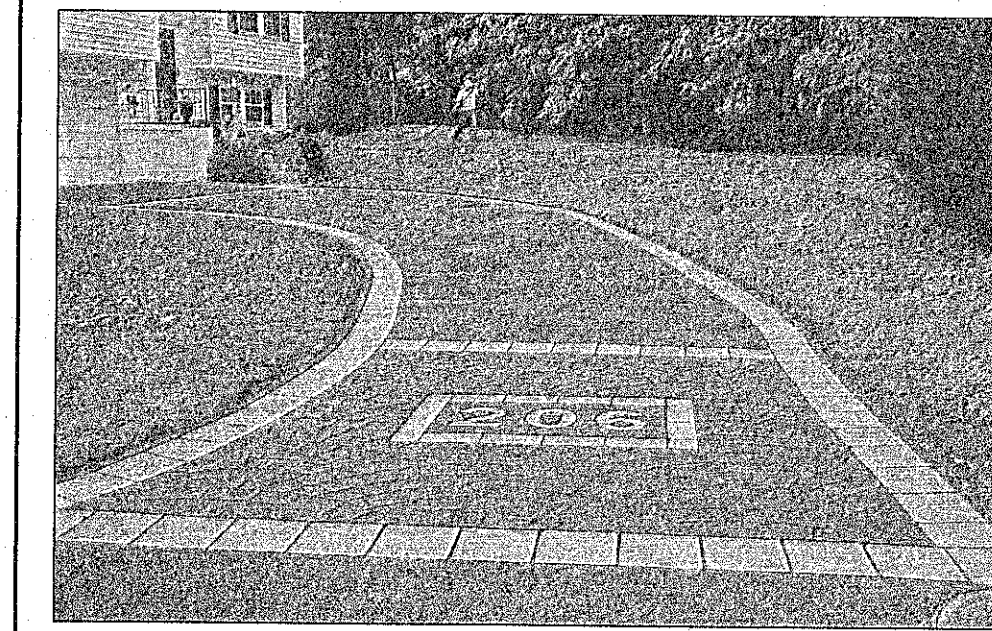
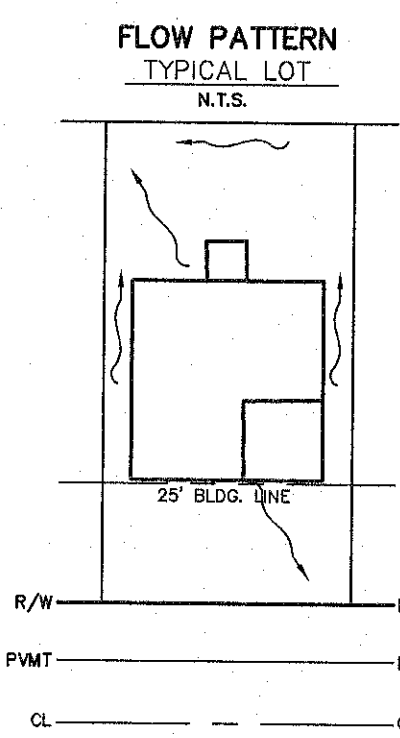


- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - Twenty (20) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE/WASHDOWN AREA
NOT TO SCALE

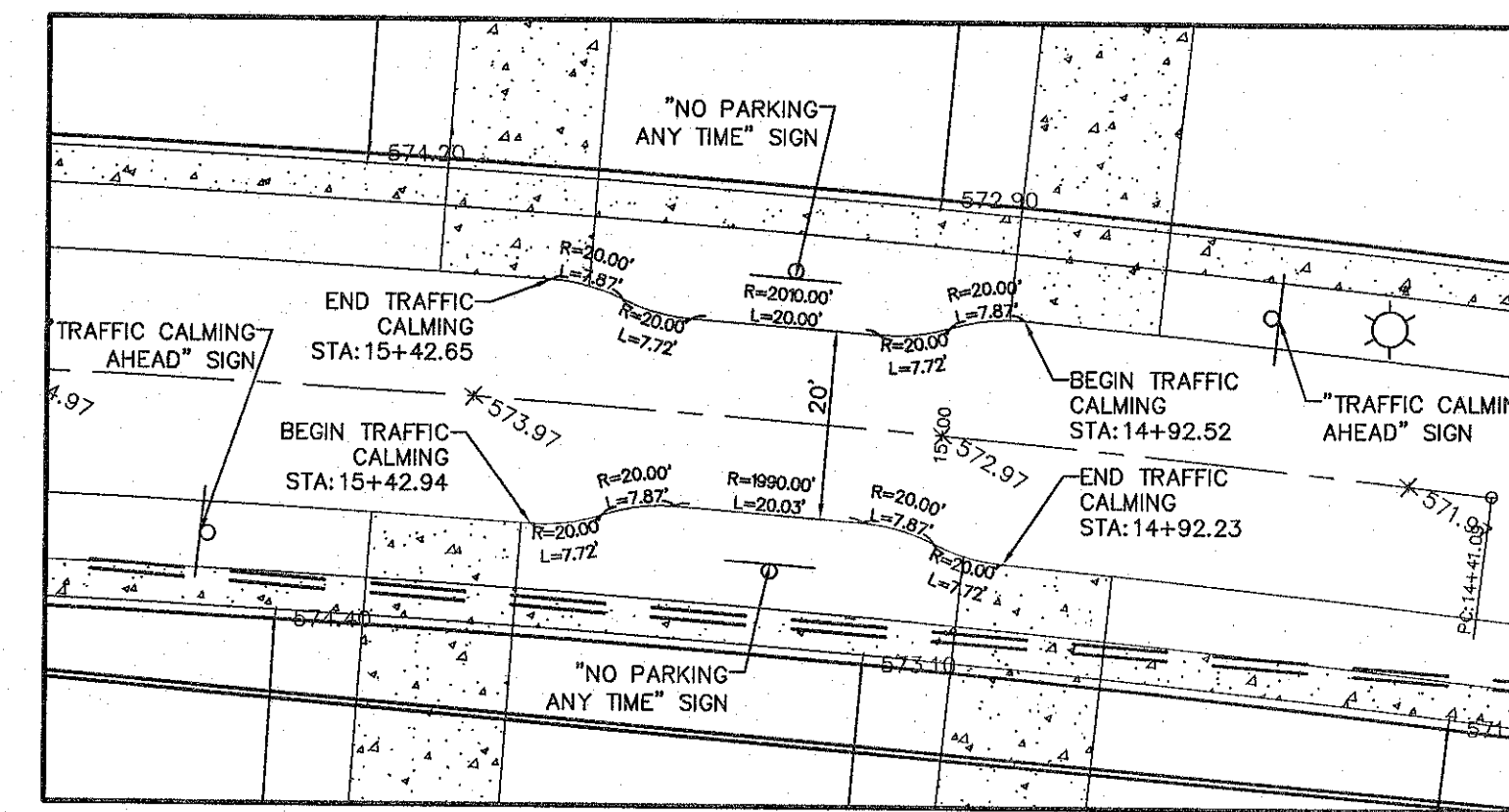
H.D.P.E. PIPE DETAIL

- The use of High Density Polyethylene Corrugated pipe A.D.S. M12 or Eoval will be permitted on an acceptable alternative to reinforced concrete pipe. Pipe shall meet A.S.T.M. D-2321 and AASHTO M-284-821. 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 a-rings rubber type gaskets per M.S.D. Standard Construction Specifications or Manufacturer.
- 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 trench soil conditions such as peat, mud, loamy sands, or expansive soils will require substantially wider berms as well as deeper foundation and bedding. Trench width and foundation depth should be based on a thorough soil investigation.
- 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 D-2321. 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 1 or Type 2 material when under pavement.
- Flexible pipe should never be installed in a concrete grade, as done for rigid pipe in a Class A installation. This type of installation could create concentrated forces at the area of the grade when the pipe is deformed.



**EXAMPLES OF ADDRESS DISPLAY
OPTIONS FOR FLAG LOTS**

NOTE: IF LARGE BOULDERS ARE USED, THEY MUST BE PLACED OUTSIDE OF THE CITY'S RIGHT-OF-WAY.

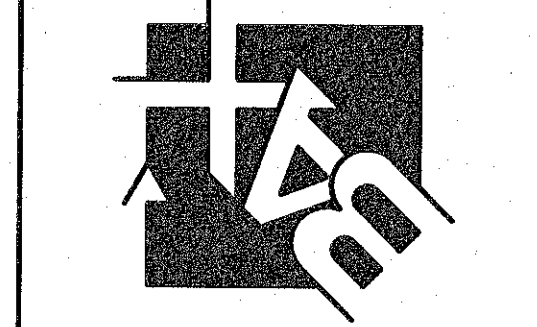


TRAFFIC CALMING DETAIL
SCALE: 1"=20'

NOTE: ALL SECTIONS OF THE TRAFFIC CALMING DEVICES SHALL BE CONSTRUCTED TO ENSURE POSITIVE STORM WATER DRAINAGE THROUGH THE TRAFFIC CALMING DEVICES. NO STORM WATER PONDING WILL BE ALLOWED.

PROJECT TITLE:
**KEYSTONE
RIDGE**

**ENGINEERING
PLANNING
SURVEYING**
221 Point West Blvd.
St. Charles, MO 63301
636-928-6562
FAX 636-928-1716



DISCLAIMER OF RESPONSIBILITY
I hereby certify 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.

CLIFFORD L. HEITMANN
NUMBER E-29817
CLIFFORD L. HEITMANN
CIVIL ENGINEER
E29817

Copyright
Box Engineering Company, Inc.
Authority No. 000655
All Rights Reserved

REVISIONS

DATE	CITY COMMENTS
05/01/17	CITY COMMENTS
07/20/17	CITY COMMENTS
08/07/17	CITY COMMENTS
08/21/17	CITY COMMENTS
08/31/17	CITY COMMENTS
10/02/17	CITY COMMENTS

Developer / Owner:
KEYSTONE RIDGE LAND, LLC
10328 LAKE BLUFF DRIVE
ST. LOUIS, MO 63123
314-892-3030 EXT. 121

P+Z No. #32-16
City No. #

Page No. 30 of 33

REFERENCE DETAILS

Issue Date: 02/20/2017