

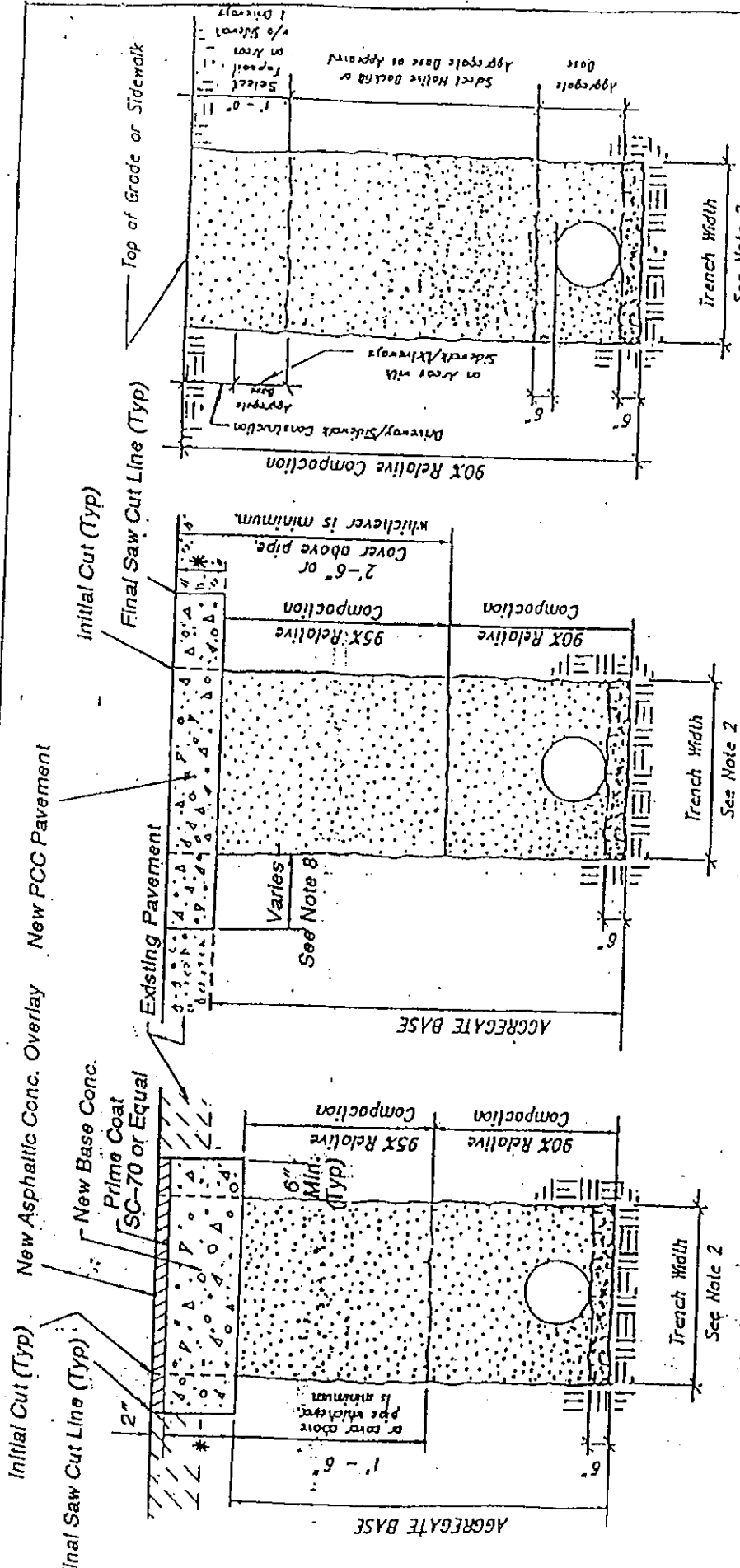
CITY OF WEBSTER GROVES  
STANDARD TRENCH  
BACKFILL AND RESURFACING GENERAL NOTES

1. Major streets under Webster Groves jurisdiction are: Lockwood Avenue, Elm Avenue, Edgar Road, Rock Hill Road, Kirkham Avenue, Glendale Road, Bompert Avenue, Marshall Road, Grant Road, Summit Avenue and Newport Avenue.
2. Maximum wide of trench shall be as follows:

| <u>Size of Pipe or Duct</u> | <u>Trench Width</u> |
|-----------------------------|---------------------|
| 8" and less                 | 24 inches           |
| 10" to 15"                  | O.D. plus 16 inches |
| 18" and larger              | O.D. plus 18 inches |
3. A permit is granted by the City on the condition that the owner/contractor/utility company guarantee against settlement of the backfill and final paving in excess of ½ inch over any 1 foot segment of trench for a period of 2 years from completion of final paving. In the event that settlement occurs in excess of the specified amount within this period of time, the owner/contractor/utility company shall repair the defect to the satisfaction of the Director of Public Works at no cost to the City.
4. Aggregate base shall conform to Type I aggregate base material as per St. Louis County Standard Specifications for Highway Construction.
5. Compaction of granular backfill shall be by water jetting unless allowed by the Director of Public Works to be mechanically compacted. Where earth backfill is allowed, compaction shall be achieved by mechanical compaction only. Placement of mechanically compacted backfill shall be in maximum 12-inch lifts evenly placed and mechanically compacted to relative density as specified. Compaction tests may be required at the discretion of the Director of Public Works. All costs related to these tests indicate that compaction does not meet the specified requirements, the backfill shall be excavated, replaced, compacted and retested at the expense of the owner/contractor/utility company.
6. If final cut and placement of the P.C.C. base course cannot be accomplished prior to the end of the day's work, temporary bituminous surfacing shall be constructed immediately following compaction and approval of the Director of Public Works or his representative. Minimum depth of surfacing shall be 2 inches or as specified by the Director of Public Works or his representative.
7. Initial cut in the street pavement shall be equal to the width of the trench with the option of being jack hammered or sawcut.
8. For cuts in concrete paved streets, concrete pavement replacement shall be full slab (joint to joint) and full width (curb or gutter to street centerline) unless specifically authorized otherwise by the Director of Public Works.
9. Final cut in an asphaltic concrete street pavement shall be one foot (1') wider than the trench width as shown in the standard details and shall be made by saw cutting only.

10. Final paving in the above section shall be placed within 30 days after placement of the concrete base course.
11. Temporary surfacing shall be removed before placement of final paving. Final paving shall be placed on P.C.C. base course as indicated on the "STANDARD TRENCH – Backfill & Resurfacing" details. If the width of the trench to be paved with asphaltic concrete is greater than 6 feet wide with a length (parallel to the centerline) greater than 20 feet, the street shall be paved from the curb and/or gutter to the centerline with the use of a self propelled asphalt paving machine. Should the trench as described above run diagonally across the centerline or disturb both sides of the centerline, the entire street between the limits of the trench shall be paved unless an alternate method is authorized by the Director of Public Works. At a minimum, butt joints will be required at the limits of the trench and at the curb/gutter lines. At the discretion of the Director of Public Works, a full depth asphalt pavement, placed in two lifts in lieu of the concrete base may be allowed under the above condition. On major streets, a 4" Type X asphaltic base with a 3" Type C asphaltic surface course will be required. On all other streets, a 4" Type X asphaltic base followed by a 2" Type C asphaltic surface course will be required.
12. Trenching, boring, and prospecting holes shall not be allowed on any street which has been reconstructed or repaved within the past five years, unless authorized by the Director of Public Works.
13. Curbs, curbs and gutters, driveway approaches, sidewalks and other structures damaged by the construction activities shall be removed and replaced at the owner/contractor/utility company's expense. Damaged P.C.C. concrete structures shall be replaced from joint to joint. The concrete utilized shall be a minimum of 6-1/4 sacks of cement per cubic yard. Asphalt curbs shall be replaced by a curb machine – NO HAND FORMED CURBS. Asphalt driveway approaches within the right of way may be sawcut and patched. However, a sealcoat will be required over the entire asphalt approach following the repair by the owner/contractor/ utility company at their expense
14. Shoring shall be provided in accordance with OSHA and other State and Federal safety codes, regulations and ordinances.
15. Proper traffic controls and covering of trenches shall be maintained in accordance with the St. Louis County Standard Specifications for Highway Construction.
16. Minimum cover for utilities shall be unless otherwise authorized by the Director of Public Works:
  - 36 inches from the top of pavement in streets
  - 24 inches from grade of sidewalks and other public rights of way.
17. All projects within the City's right of way will require an excavation permit.
18. A permit fee of \$50.00 will be charged on all permits with the exception of MSD projects. A deposit that ranges from the minimum of \$125.00 up to \$5,000.00 depending upon the size of the project or submission of a performance bond in the amount of the work proposed, in addition to a certificate of insurance for contractors, including those for MSD, shall be submitted prior to issuance of an excavation permit to an owner/contractor/utility company.

19. Roundings at intersections that are affected by construction must be replaced with handicapped ramps and meet current federal ADA regulations. This includes the insertion of red truncated dome inserts. All costs associated with this provision shall be borne by the owner/contractor/utility company.
20. All pavement striping that is damaged or removed shall be replaced in kind. In Webster Groves, striping on asphalt streets will be replaced in thermoplastic. Striping on concrete streets shall be replaced with paint with imbedded glass beads. A specification for thermoplastic or paint striping can be obtained at the Department of Public Works if necessary.
21. If a trench is to remain open over the evening hours, the trench must be plated to allow for vehicular traffic unless an alternative is specifically approved by the Director of Public Works.
22. Any asphalt pavement outside of the actual MSD pay limits that is damaged by the contractor will be required to be milled and repaved or replaced in its entirety depending upon the severity of the damage. The corrective action to be taken will be at the sole discretion of the Director of Public Works. Any concrete pavement that is damaged or cracked due to the construction that is not within the MSD pay limits will be removed and replaced from joint to joint.
23. General Street Design Criteria Used by the City of Webster Groves:
  - Minimum street cross slope: 1%
  - Optimum street cross slope: 2%
  - Maximum street cross slope: 4%
  - In general, the top of the proposed curb shall be lower than the sidewalk elevation to allow for positive drainage of storm water runoff to the street pavement. In areas where the terrain falls away from the proposed street elevation, this negative drainage pattern will be allowed providing this does not create a ponding or swale area.
  - Driveway approaches shall be placed with a maximum of 15% change in grade with the water line grade being the point of intersection between the street cross slope and the driveway approach slope. A 4% maximum slope on the sidewalk through the driveway shall be required. Should the driveway slope away from the street water line grade, the approach shall contain a high point several feet from the waterline that is at least four inches (4") higher than the water line before changing to the existing negative grade condition. P.C.C. driveway thicknesses of 6" and 8" for residential and commercial drives respectively shall be placed on 4" of compacted granular base. Asphalt driveway pavements shall be 3" of Type "D" mix on 6" of compacted granular base.
  - Sidewalks shall have a minimum of 2% cross slope and a maximum of 4% cross slope. The concrete sidewalk shall be 4" thick on 2" of compacted granular base, however, sidewalk through a residential driveway shall be 6" thick on 4" of compacted granular base. Sidewalk slabs impacted by construction shall be replaced joint to joint.



**TYPE 1**  
 ASPHALT/OVERLAID CONC. STREETS

**TYPE 2**  
 CONCRETE STREETS

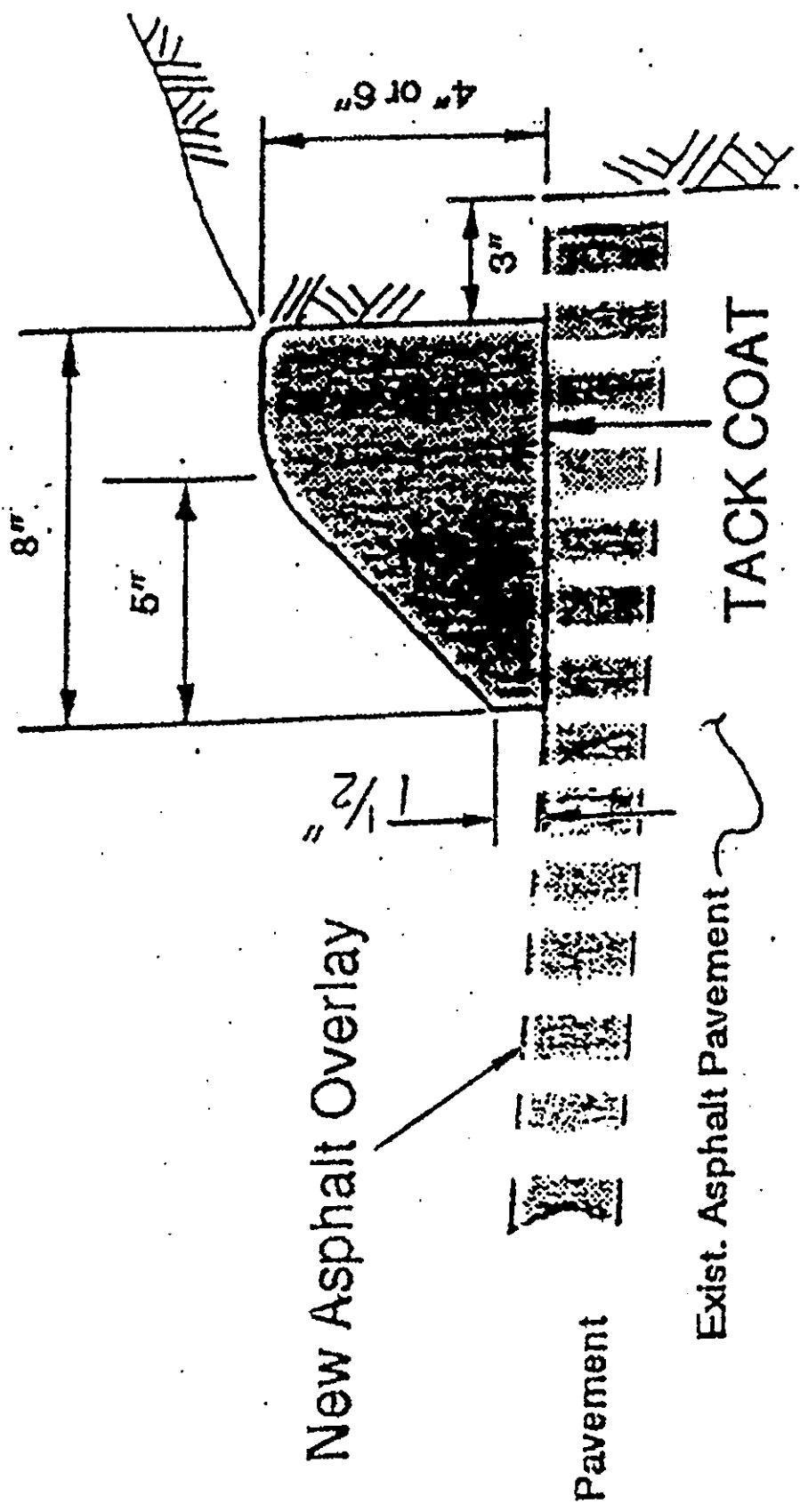
**TYPE 3**  
 OTHER

AREAS OTHER THAN STREETS  
 IN THE PUBLIC RIGHT OF WAY

NOTE: SEE GENERAL NOTES  
 \* MAJOR STREETS - 12" ; ALL OTHER STREETS - 8"

STANDARD TRENCH  
 Backfill & Resurfacing

**CITY OF WEBSTER GROVES**  
 DEPARTMENT OF PUBLIC WORKS



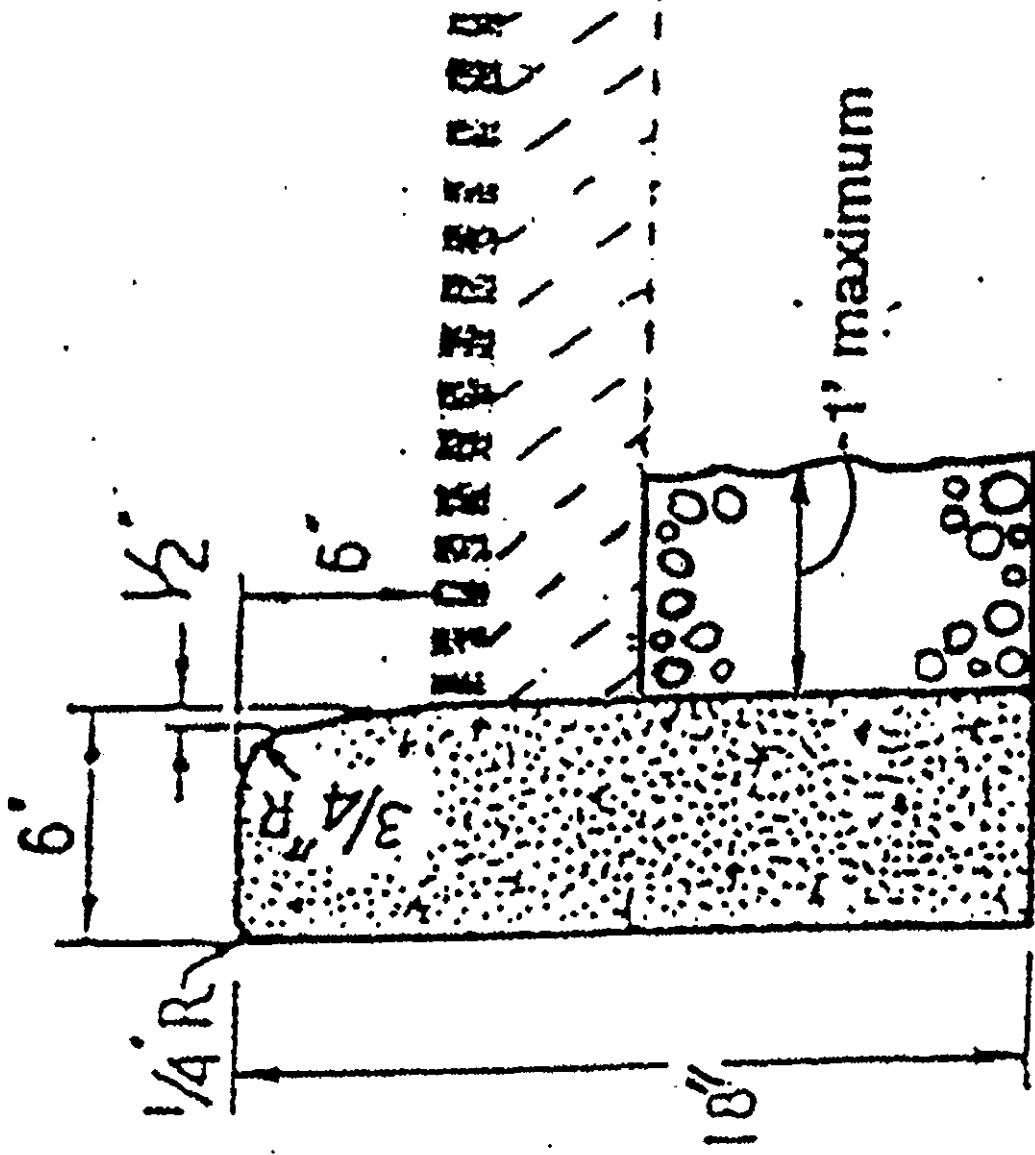
New Asphalt Overlay

Pavement

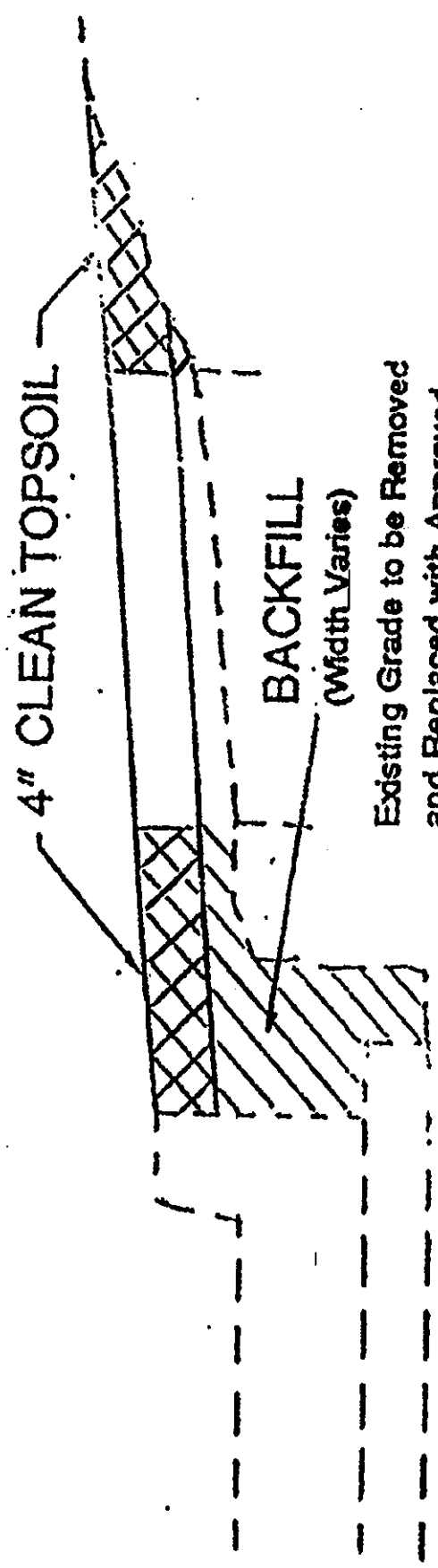
Exist. Asphalt Pavement

TACK COAT

# ASPHALT CURB DETAIL



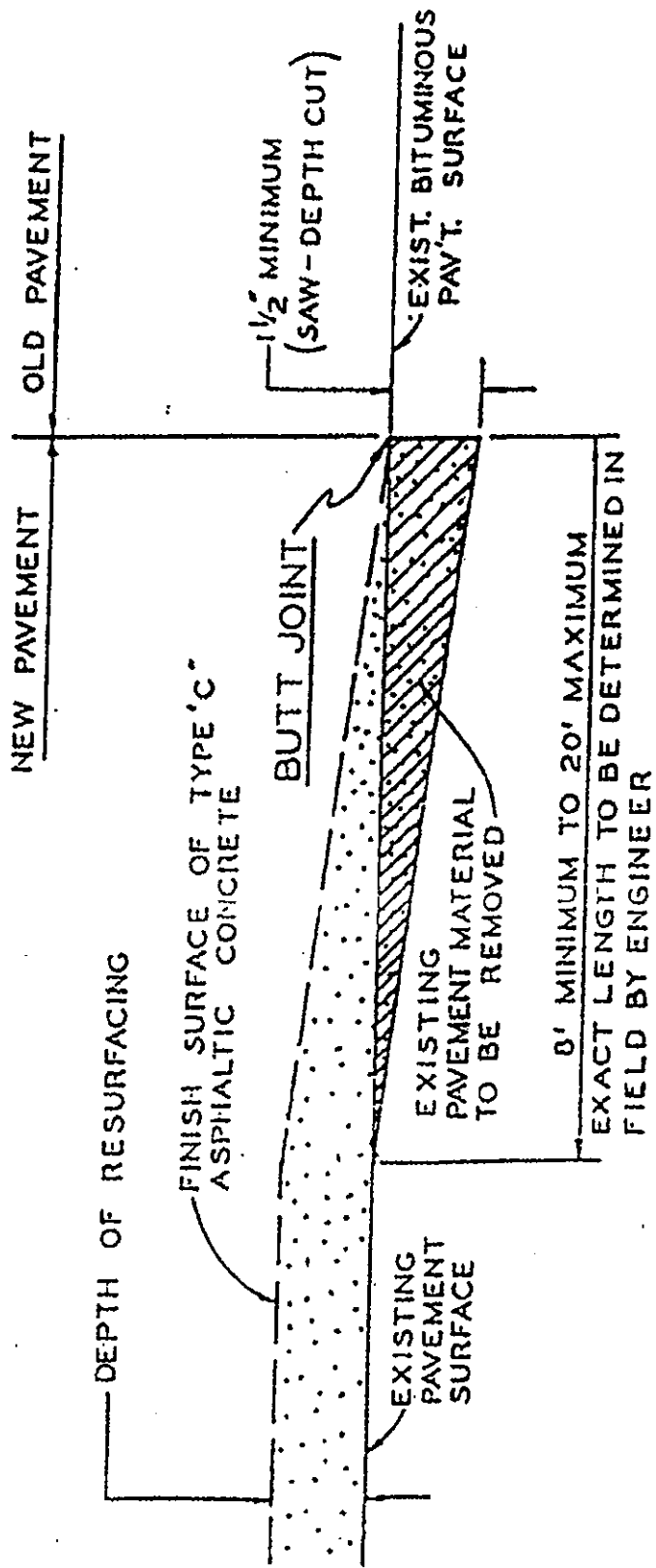
TYPE 'S' CURB DETAIL



Existing Grade to be Removed  
and Replaced with Approved  
Material. See Specs.

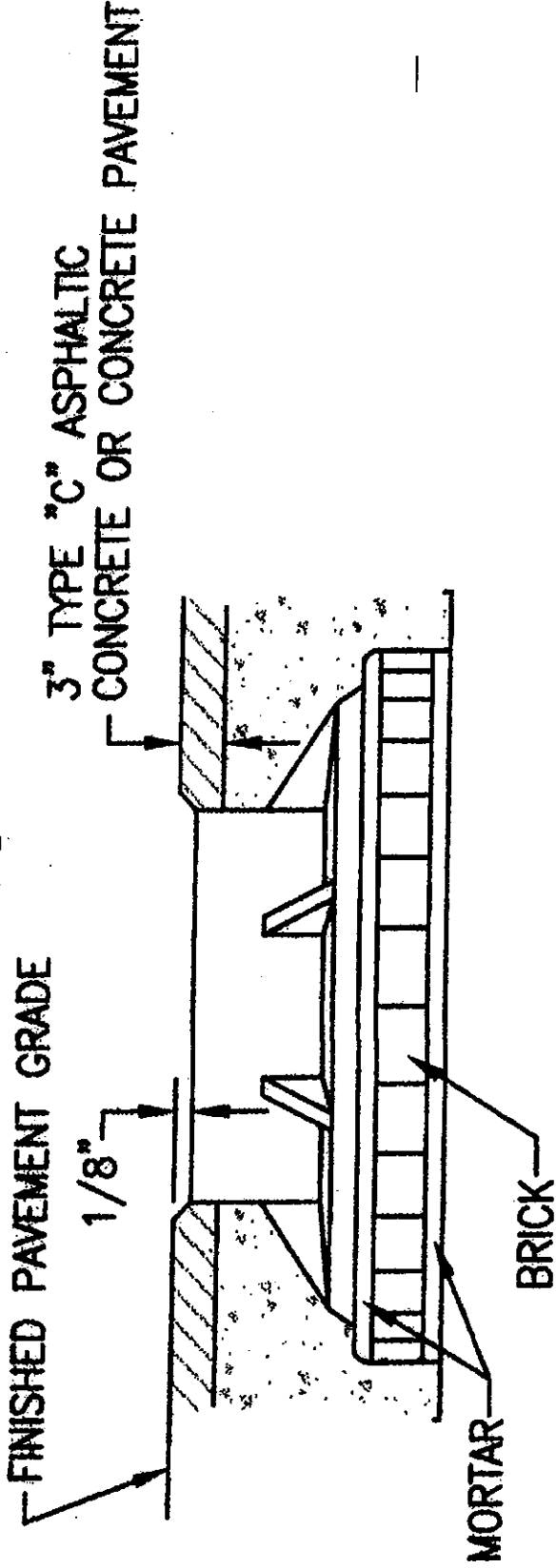
# CURB BACKFILL DETAIL

DO NOT SCALE



BUTT JOINT DETAIL



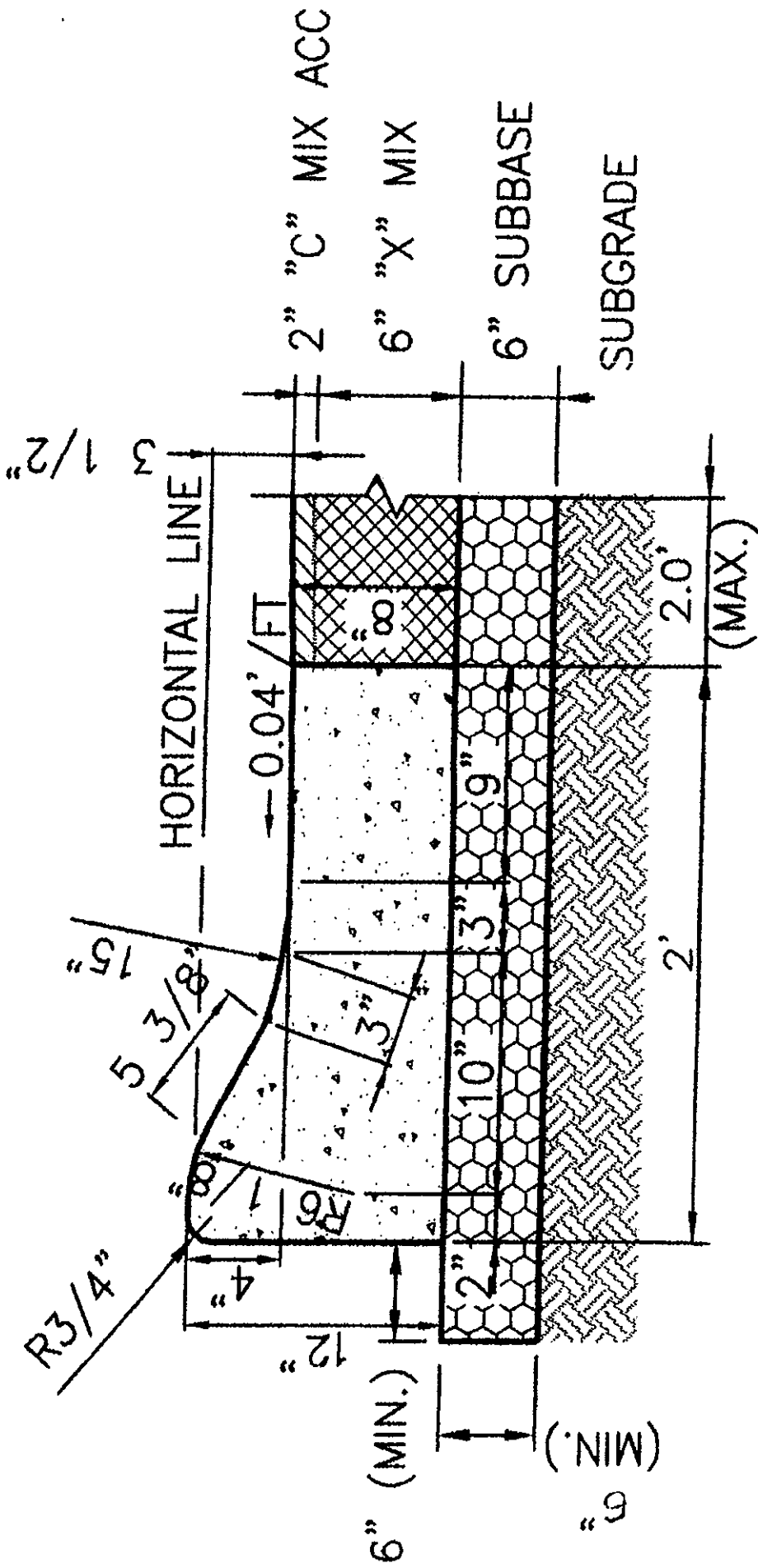


**NOTES:**

MANHOLE ADJUSTMENT SHALL BE BY RISER RINGS OR ADJUSTMENTS TO THE BRICK STRUCTURE. THIS SHALL BE AT THE CONTRACTOR'S DISCRETION WITH THE APPROVAL OF THE CITY.

TOP OF MANHOLE TO MATCH PAVEMENT SLOPE

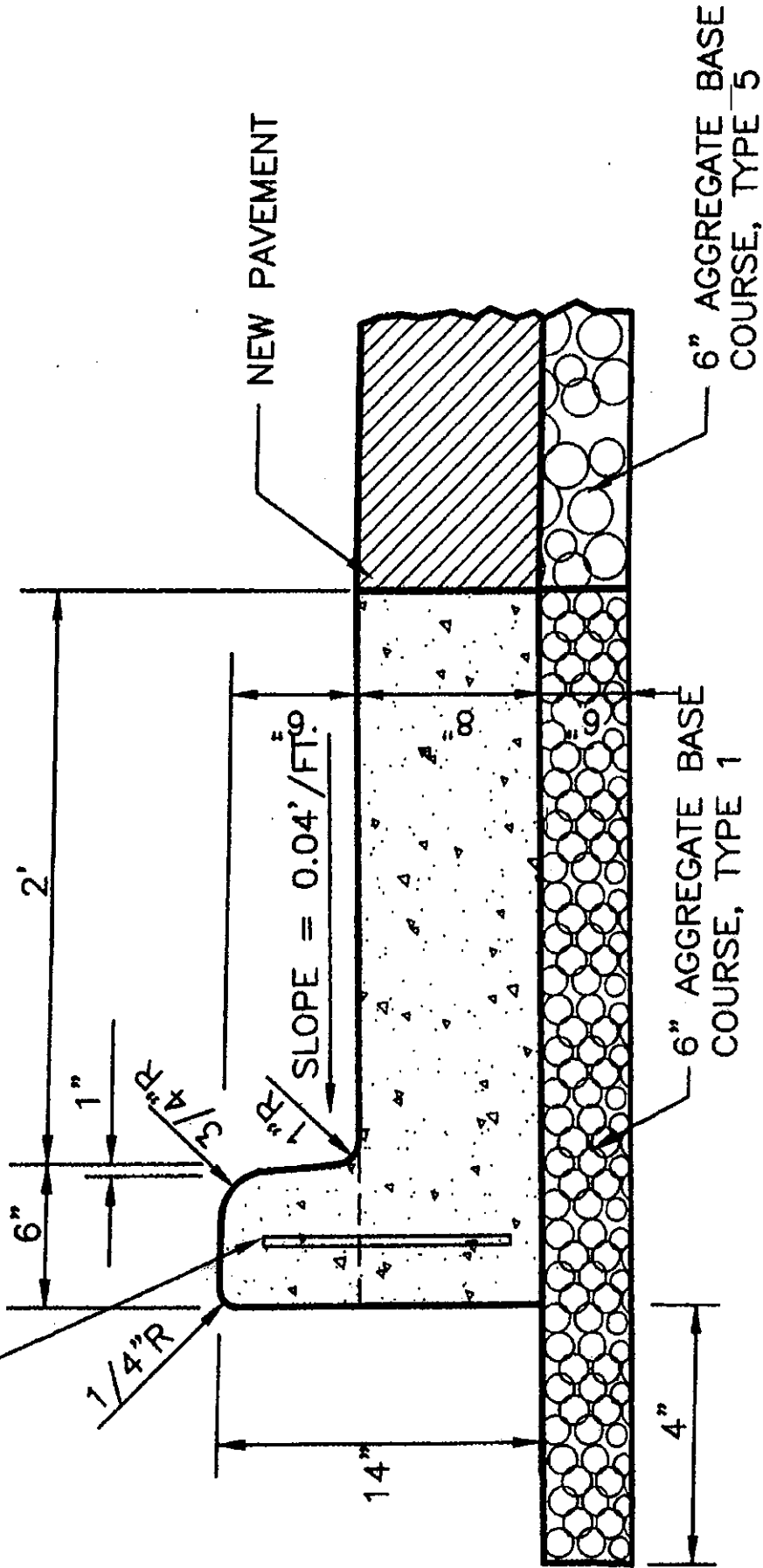
**MANHOLE ADJUSTMENT DETAIL**  
NO SCALE



## **ROLLED LIP CURB AND GUTTER**

EXPANSION JOINT EVERY 10'-0"  
 2" WIDE, 4" HIGH

OPTIONAL CONSTRUCTION JOINT  
 PROVIDE #4 DOWELS AT 24" CENTERS  
 IF JOINT IS USED

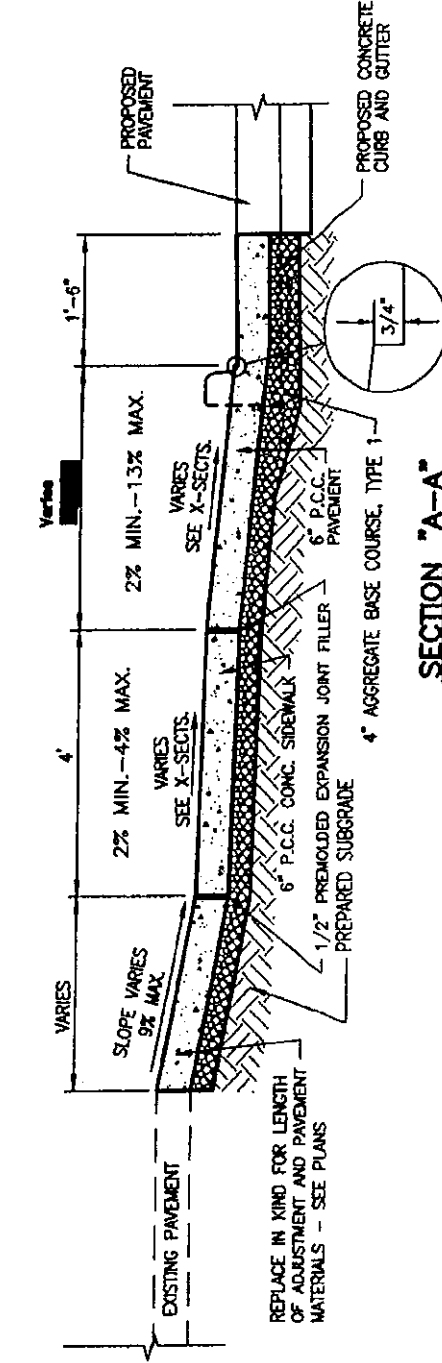
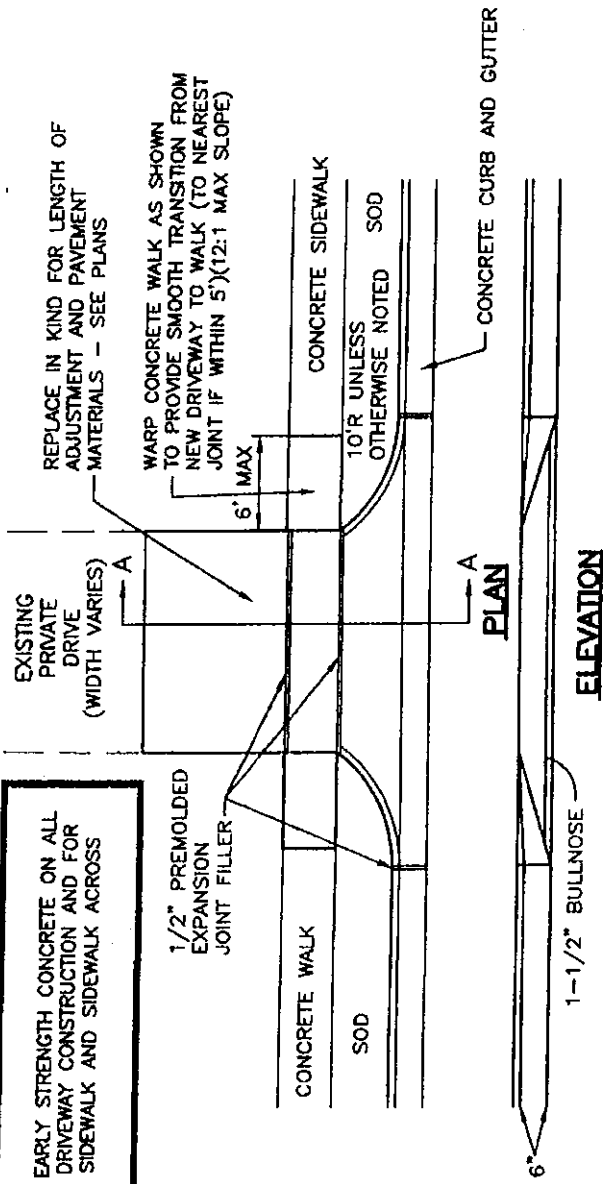


## VERTICAL CURB AND GUTTER DETAIL

NOT TO SCALE

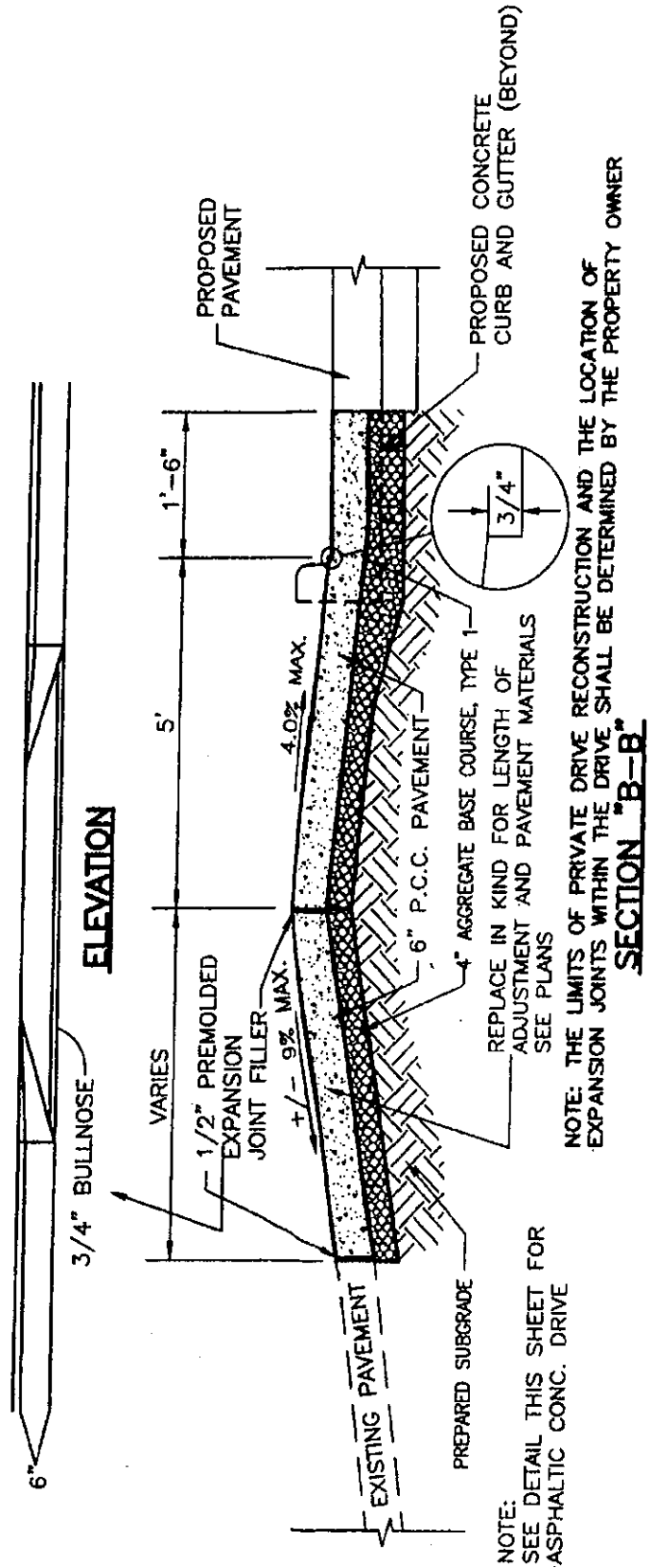
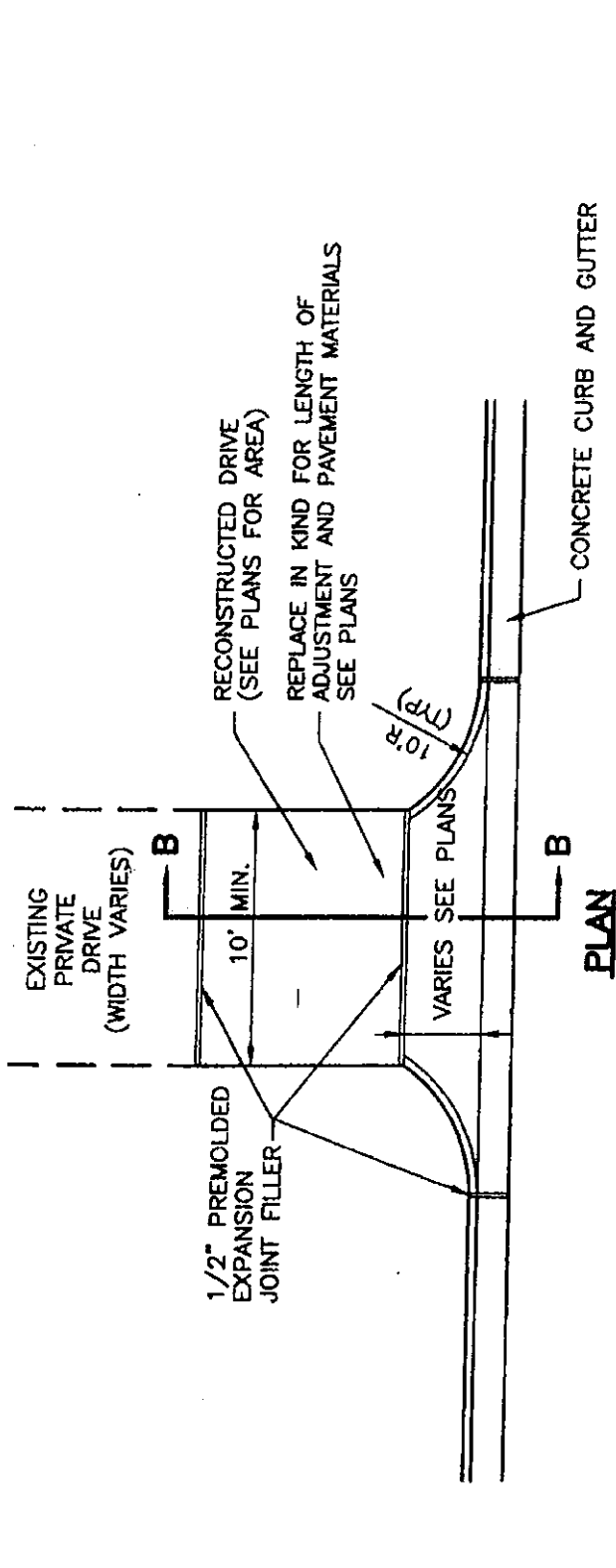
PROVIDE CONTRACTION JOINTS AT 10' CENTERS  
 PROVIDE EXPANSION JOINTS AT 60' CENTERS

**NOTE:**  
 USE HIGH STRENGTH CONCRETE ON ALL  
 CONCRETE DRIVEWAY CONSTRUCTION AND FOR  
 APPROACH SIDEWALK AND SIDEWALK ACROSS  
 DRIVEWAY



**NOTES:**  
 THE LIMITS OF PRIVATE DRIVE RECONSTRUCTION AND THE LOCATION OF EXPANSION JOINTS WITHIN THE DRIVE SHALL BE DETERMINED BY THE OWNER  
 THE THICKNESS OF THE FIRST SECTION OF SIDEWALK IN EACH SIDE OF THE ENTRANCE SHALL BE INCREASED TO MATCH THE DRIVEWAY APPROACH THICKNESS OF 6"  
 SEE CROSS SECTIONS FOR PROPOSED DRIVEWAY SLOPES  
 SEE DETAIL THIS SHEET FOR ASPHALTIC CONC. DRIVE

**VERTICAL CONC. CURB & GUTTER DRIVE ENTRANCE  
 DETAILS WITH SIDEWALK**  
 NO SCALE

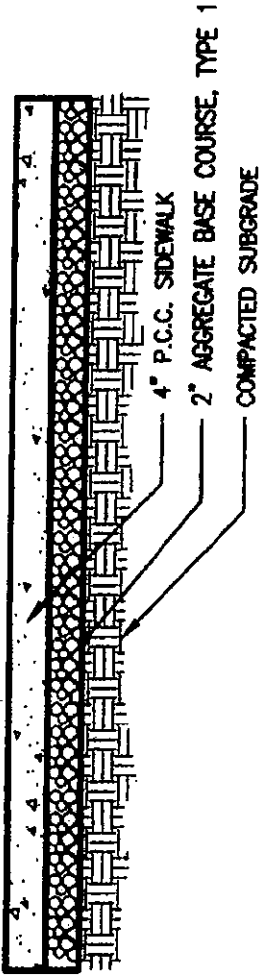


NOTE: SEE DETAIL THIS SHEET FOR ASPHALTIC CONC. DRIVE

NOTE: THE LIMITS OF PRIVATE DRIVE RECONSTRUCTION AND THE LOCATION OF EXPANSION JOINTS WITHIN THE DRIVE SHALL BE DETERMINED BY THE PROPERTY OWNER

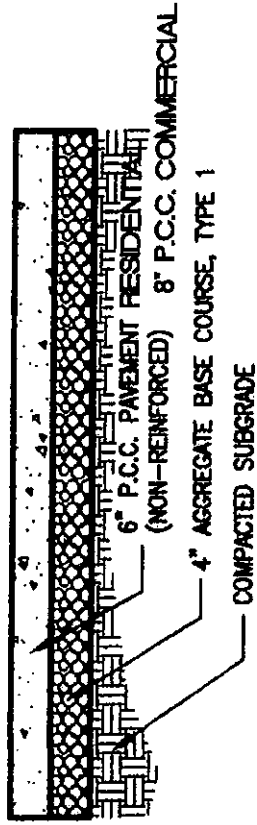
**VERTICAL CONC. CURB & GUTTER DRIVE ENTRANCE**  
 DETAILS WITHOUT SIDEWALK  
 NO SCALE

NO SCALE

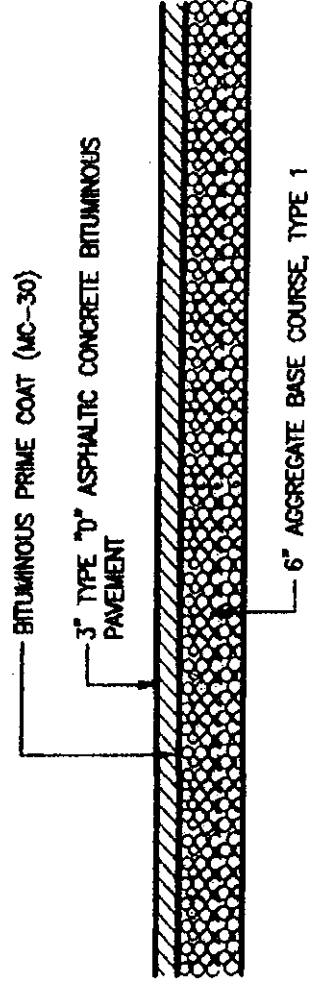


### SIDEWALK DETAIL

**NOTE: ANY ROCK OR CHAT DRIVEWAYS WILL BE REPLACED WITH ASPHALTIC CONCRETE**

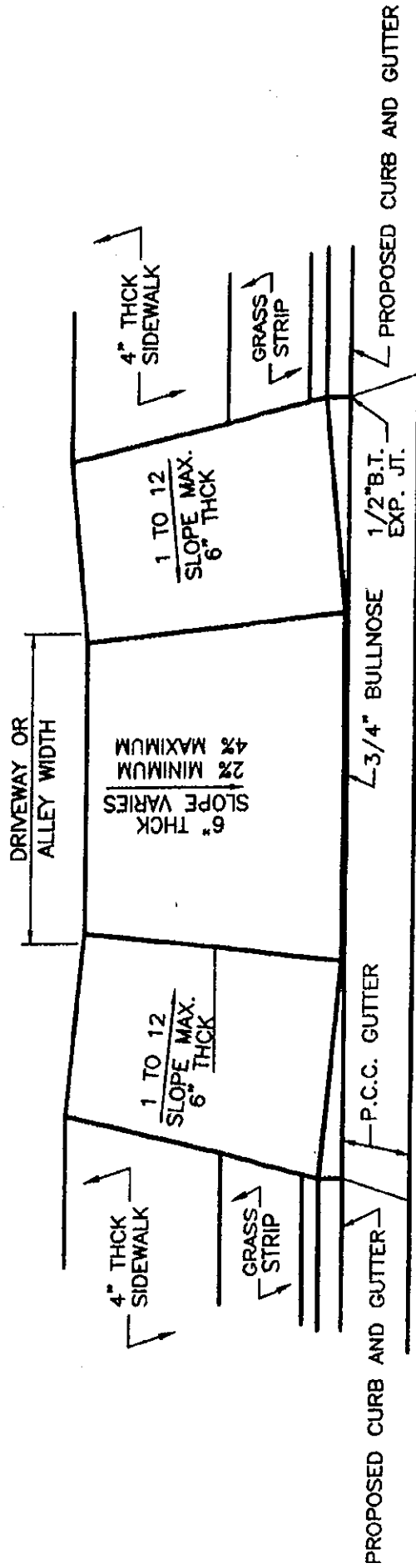
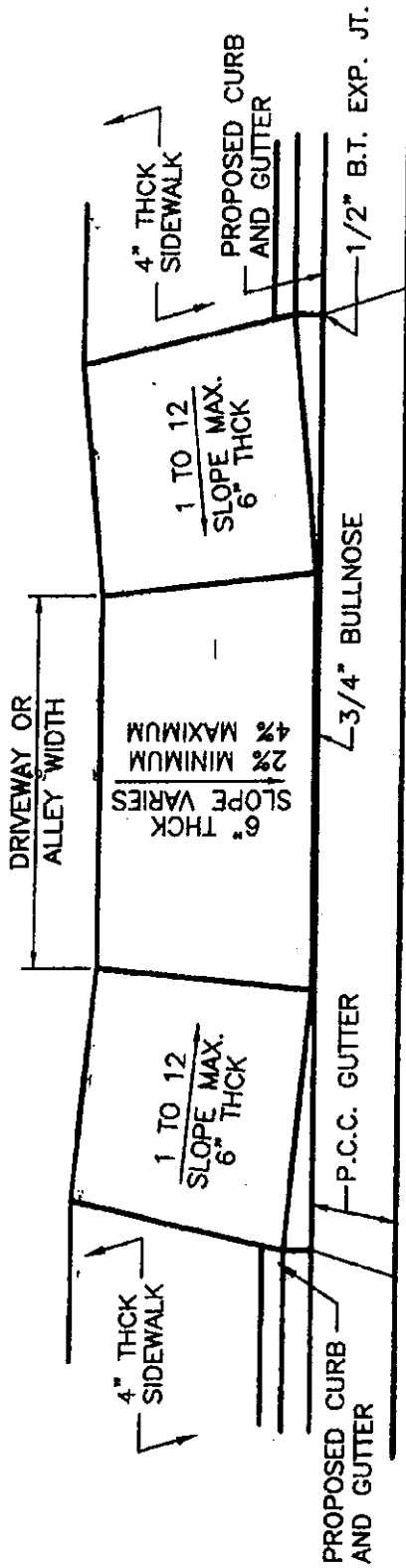


### TYPICAL CONCRETE DRIVEWAY SECTION



### TYPICAL ASPHALT DRIVEWAY SECTION

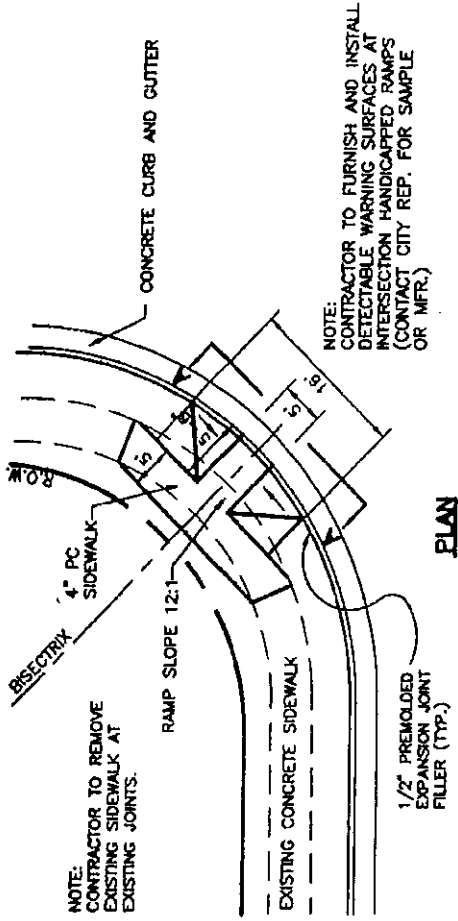
NO SCALE



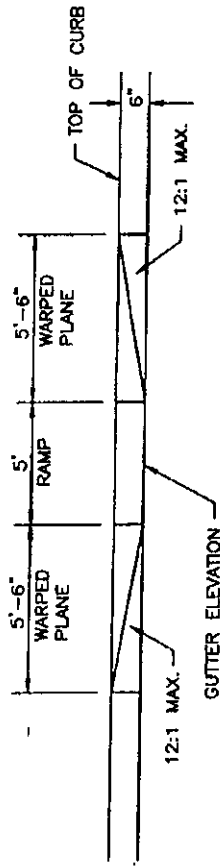
**P.C.C. CANADIAN TYPE DRIVEWAY**  
NO SCALE



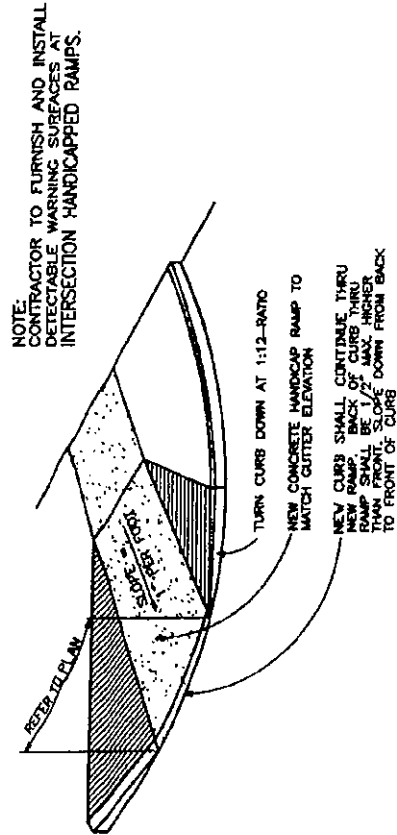




**PLAN**

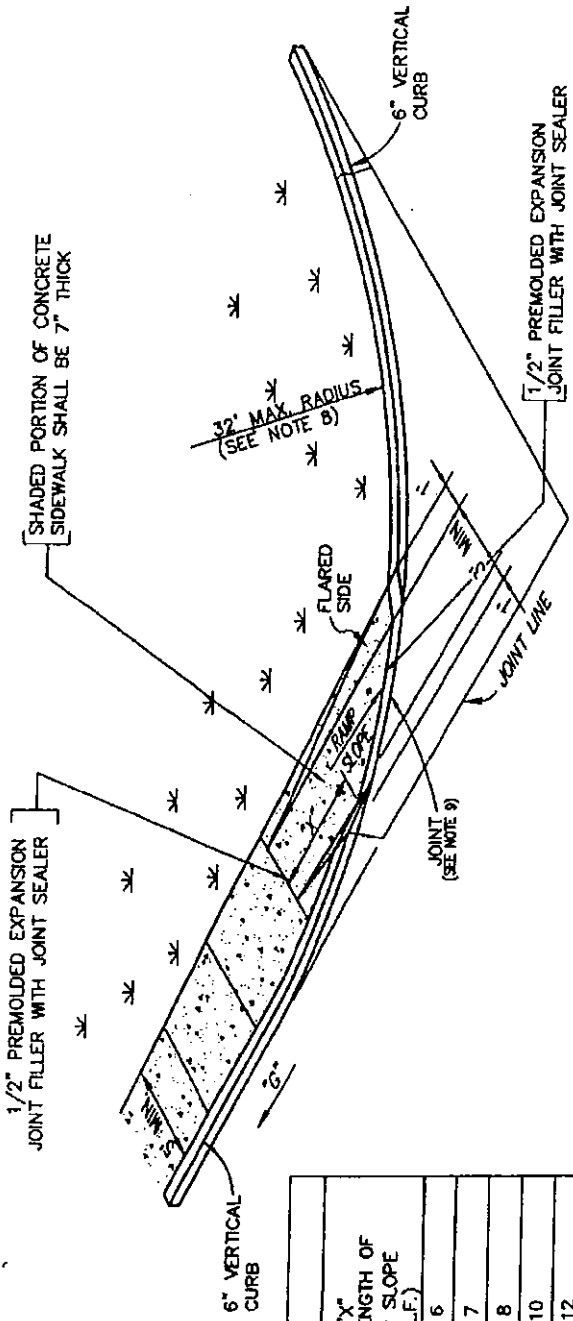


**HANDICAP RAMP AND PC SIDEWALK DETAIL**  
NO SCALE



NOTE: NEW RAMP SHALL HAVE BROOM SWEEP FINISH

**CONCRETE HANDICAP RAMP**  
NO SCALE



# STRAIGHT CURB RAMP - 6" VERTICAL CURB (TYPE 1)

| TYPE 1 CURB RAMP         |                                  |
|--------------------------|----------------------------------|
| "G" GRADE ALONG CURB (%) | MIN. LENGTH OF RAMP SLOPE (L.F.) |
| NEGATIVE (-) VALUES      | 6                                |
| 0 TO +1                  | 7                                |
| +1.01 TO +2              | 8                                |
| +2.01 TO +3              | 10                               |
| +3.01 TO +4              | 12                               |
| GREATER THAN +4          | 13                               |

NOTE: Positive (+) "G" Proceeding away from intersection and up a grade  
 Negative (-) "G" Proceeding away from intersection and down a grade

### GENERAL NOTES

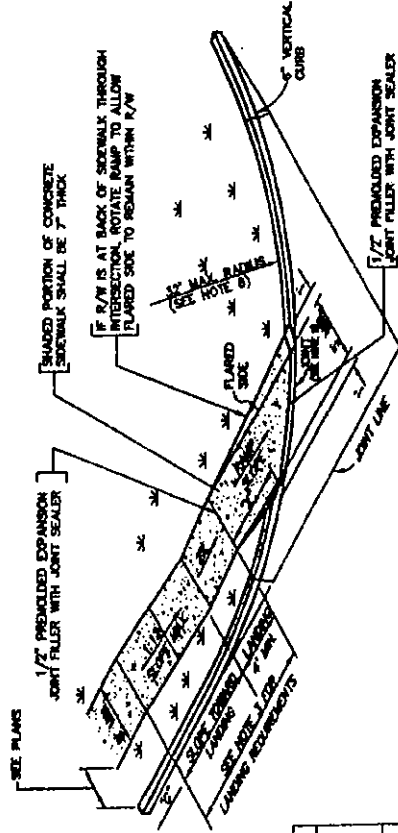
1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved Americans with Disabilities Act Accessibility Guidelines (ADAAG).
3. Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
4. Maximum sidewalk cross slope 0.02'/ft.
5. All sidewalk sections shall be 4" thick, except where indicated as 7" thick by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as Concrete Sidewalk.
6. Where curb ramp meets pavement, bullnose will not be permitted.
7. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-on, block out pavement to provide full depth curb across ramp from outer point of curb taper.
8. For sidewalk locations on Cut-De-Sacs, refer to Pavement Construction Details.
9. For pavement longitudinal and transverse joints and dowel and tie bar requirements and dimensions, refer to the Pavement Construction Details for Joints and Curbs, Std. Draw. CS02.03.
10. For roadway cross slopes, pavement types, and thicknesses, refer to Standard Typical Sections.

### GENERAL NOTES:

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved Americans with Disabilities Act Accessibility Guidelines (ADAAG).
3. Provide a landing at the top of each straight ramp when the Grade Along Curb "G" is greater than +2% and less than +7%. For other values of "G", including all negative (-) values, no landing is required.
4. Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
5. Maximum sidewalk cross slope 0.02'/ft.
6. All sidewalk sections shall be 4" thick, except where indicated otherwise by shaded portions shown on details. All sidewalk sections and curb ramps, regardless of thickness, shall be paid for as Concrete Sidewalk.
7. Where curb ramp meets pavement, bullnose will not be permitted.
8. Construct a diagonal ramp when the maximum corner radius allowed for a straight ramp is exceeded.
9. If integral concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is doweled-on, block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
10. For sidewalk locations on Cut-De-Sacs, refer to Pavement Construction Details.
11. For pavement longitudinal and transverse joints and dowel and tie bar requirements and dimensions, refer to the Pavement Construction Details for "Joints and Curbs", Standard Drawing CS02.03.
12. For roadway cross slopes, pavement types, and thicknesses, refer to "Standard Typical Section".

**GENERAL NOTES**

1. Do not scale drawing. Follow dimensions
2. Sidewalk cross slope 0.02'/ft
3. Sidewalk thickness increases to 6" on each side of Private Driveways and 7" on each side of Commercial Driveways for one section of sidewalk equal in length to the width of the sidewalk. See Entrance Construction Details.
4. Sidewalk thru private and commercial driveways will be paid for on 6" and 7" approaches.
5. For sidewalk locations on Cut-De-Sacs see Pavement Construction Details.
6. For longitudinal and transverse joints, dowels, and tie bar requirements and spacing refer to the Pavement Construction Details for Joints and Curbs.
7. All necessary pavement markings by St. Louis County.
8. For roadway cross slopes, pavement types, and thickness refer to Standard Typical Section.



Inset at Back of curb.

**STRAIGHT CURB RAMP - 6" VERTICAL CURB (TYPE 2)**

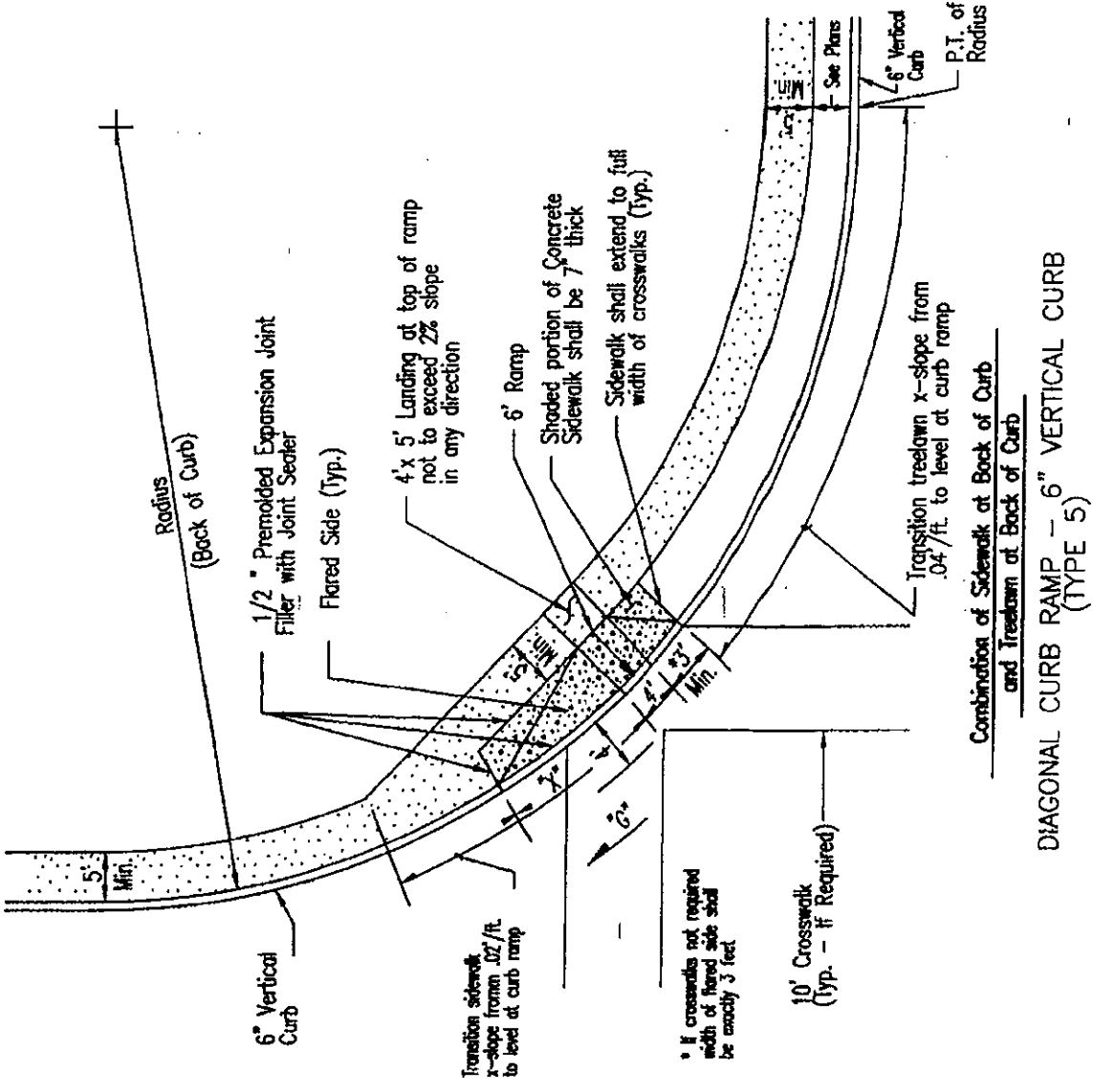
| TYPE 2 CURB RAMP    | MIN. LENGTH OF RAMP SLOPE (L.P.) |
|---------------------|----------------------------------|
| NEGATIVE (-) VALUES | 6                                |
| 0 TO +1             | 7                                |
| +1.01 TO +2         | 8                                |
| +2.01 TO +3         | 10                               |
| +3.01 TO +4         | 12                               |
| GREATER THAN +4     | 13                               |

NOTE: Positive (+) Values Proceeding away from Intersection and up a grade  
 Negative (-) Values Proceeding away from Intersection and down a grade

| TYPE 4 AND TYPE 5 CURB RAMPS<br>(WHERE PEDESTRIANS CAN WALK ACROSS RAMPS) |  |
|---|--|
| "G"<br>(%)  | "X"<br>LENGTH OF FLARED<br>SIDE ALONG CURB<br>(L.F.) |
| NEGATIVE (-) VALUES   | .5   |
| 0 TO +1   | 6  |
| +1.01 TO +2   | 7  |
| +2.01 TO +3   | 8  |
| +3.01 TO +4   | 9  |
| +4.01 TO +5   | 10   |
| +5.01 TO +6   | 13   |
| GREATER THAN +6   | 15   |

NOTE: Positive (+) "G" -- Proceeding away from ramp and up a grade.  
 Negative (-) "G" -- Proceeding away from ramp and down a grade.

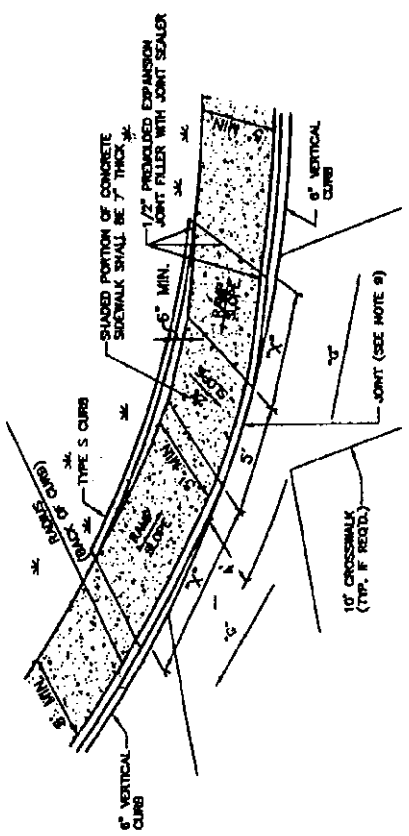
CITY OF WEBSTER GROVES  
 4 EAST LOCKWOOD AVE.  
 WEBSTER GROVES, MISSOURI



DIAGONAL CURB RAMP - 6" VERTICAL CURB (TYPE 5)

| TYPE 10 CURB RAMP               |   | LENGTH OF FLARED SIDE ALONG CURB (L.F.) |
|---------------------------------|---|---|
| ALONG CURB THROUGH ROUNDING (X) | Y |   |
| NEGATIVE (-) VALUES             |   | 6                                       |
| 0 TO +1                         |   | 7                                       |
| +1.01 TO +2                     |   | 8                                       |
| +2.01 TO +3                     |   | 10                                      |
| +3.01 TO +4                     |   | 12                                      |
| GREATER THAN +4                 |   | 15                                      |

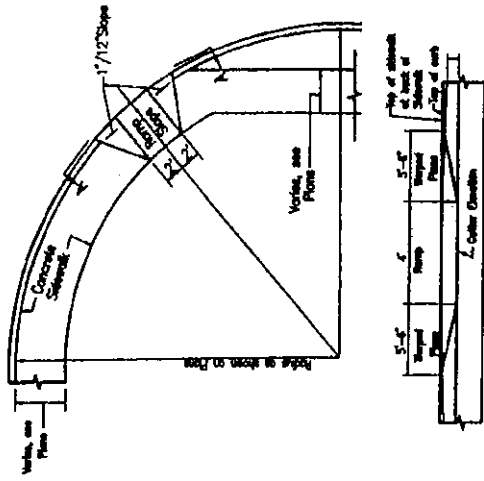
NOTE: Positive (+) "Y" Proceeding away from intersection and up a grade  
 Negative (-) "Y" Proceeding away from intersection and down a grade



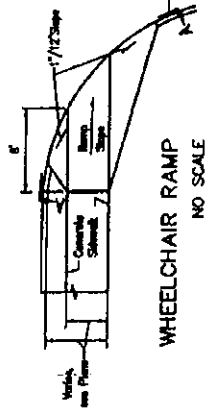
Parallel Curb Ramp - 6" Vertical Curb (Type 10)

(WHERE PASSAGE BEHIND RAMP CANNOT BE CONSTRUCTED DUE TO SITE IRREGULARITY)

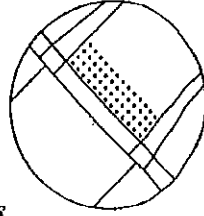
- GENERAL NOTES:**
- Do not scale drawing. Follow dimensions.
  - Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved with Disabilities Act Accessibility Requirements (ADAA/C).
  - Minimum sidewalk width along 6" vertical curb shall be 5 feet. Minimum sidewalk width along 3" rolled curb shall be 4 feet.
  - Maximum sidewalk cross slope 0.02"/ft.
  - All sidewalk sections shall be 4" thick, except where indicated otherwise. All sidewalk sections shall be constructed on concrete sidewalk.
  - Where curb ramp meets pavement, bullnose will not be permitted.
  - For pavement longitudinal and transverse joints and details for "Joints and Curb", Standard Drawing C562.03.
  - For sidewalk baseplate on C&G-04-500, refer to "Pavement Construction Details".
  - If integral concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line. If concrete curb is casted on block out pavement to provide full depth curb across ramp from outer point of curb taper to outer point of curb taper.
  - For Ramping cross slopes, pavement types, and thicknesses, refer to "Standard Typical Section".
  - The intersection of two sidewalks at the intersection of a sidewalk and a driveway may serve as a wheelchair passing space on sidewalk less than 5 feet wide.
  - Provide a landing at the top of curb vertical ramp when the Grade Above Curb is greater than +2% and less than +7%. For other values of "Y", including all negative (-) values, no landing is required.
  - Construct a sloped ramp when the maximum corner radius allowed for a straight ramp is exceeded.



SECTION A-A

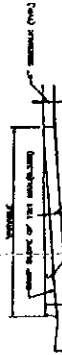


WHEELCHAIR RAMP  
NO SCALE

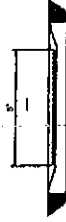


DETAIL B

GENERAL NOTES:  
1. ALL SLABS OF ALL CONCRETE CURB WALLS, RAMPWAYS, LANDING ISLES AND  
WALKS AT INTERSECTIONS AND T-JUNCTIONS SHALL BE CONCRETE WITH  
2. ALL SLABS IN ANY DIRECTION.  
3. ALL CONCRETE SHALL BE FINISHED TO A FINISH SURFACE  
4. ALL CONCRETE SHALL BE FINISHED TO A FINISH SURFACE  
5. ALL CONCRETE SHALL BE FINISHED TO A FINISH SURFACE



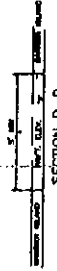
SECTION A-A



SECTION B-B



SECTION C-C

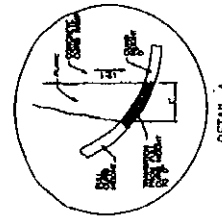
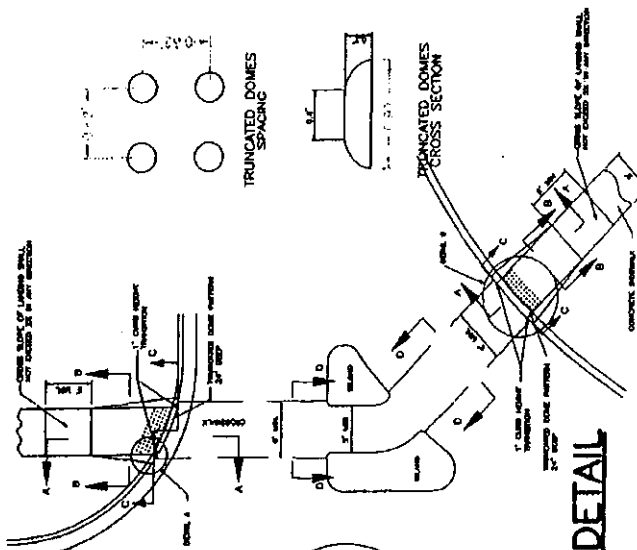


SECTION D-D

ALL CONCRETE SHALL BE FINISHED TO A FINISH SURFACE  
ALL CONCRETE SHALL BE FINISHED TO A FINISH SURFACE  
ALL CONCRETE SHALL BE FINISHED TO A FINISH SURFACE

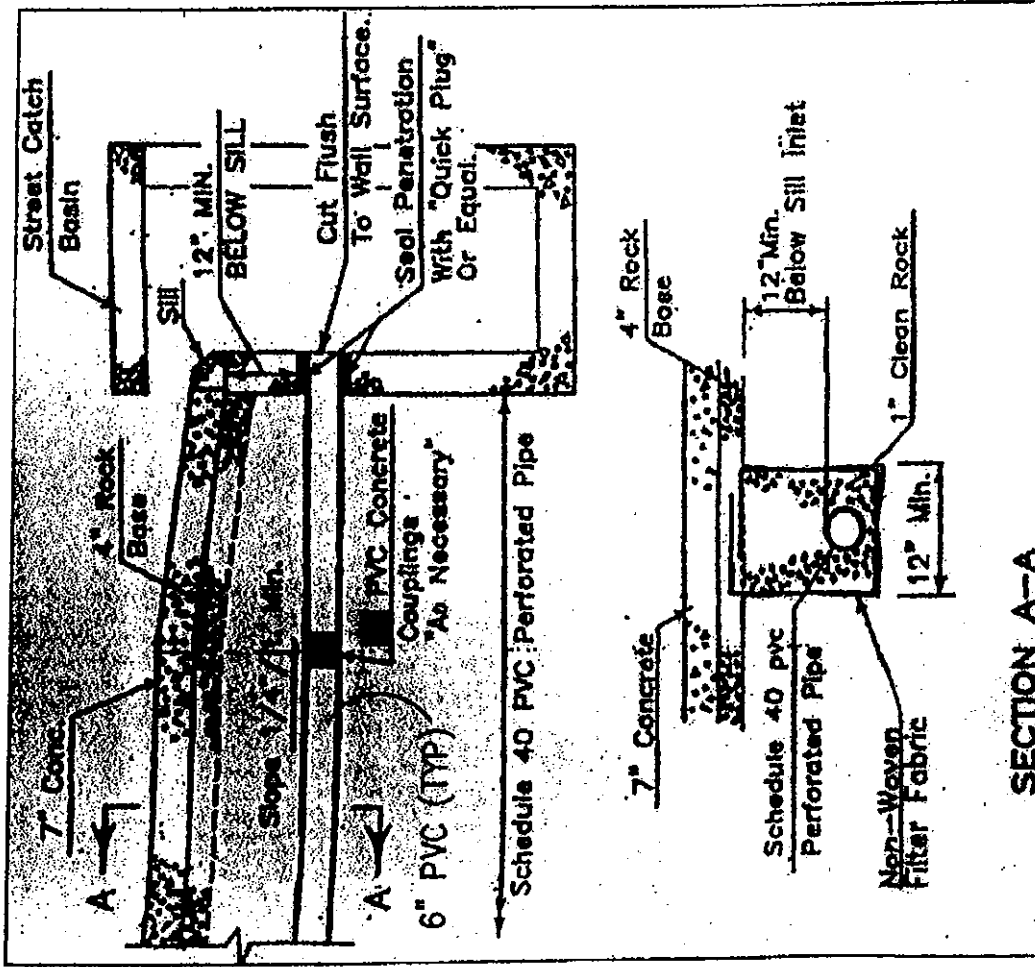
NOTE:  
CONTRACTOR TO FURNISH AND INSTALL  
DETECTABLE WARNING SURFACES AT  
INTERSECTION HANDICAPPED RAMPS.

|   |
|---|
| ST. LOUIS COUNTY<br>DEPARTMENT OF HIGHWAYS AND TRAFFIC<br>CLAYTON, MISSOURI |
| PAVEMENT CONSTRUCTION DETAILS<br>CONCRETE SIDEWALK                          |



DETAIL A

MISCELLANEOUS DETAIL



NOTE:  
 UNDERDRAIN CONNECTIONS  
 SHALL NOT BE CONNECTED  
 INTO CONICAL SECTIONS  
 OF SEWER STRUCTURES

# PAVEMENT UNDER DRAIN DETAIL

NO SCALE

NOTE:  
 PAVEMENT UNDERDRAINS TO BE MAINTAINED BY THE CITY OF WEBSTER GROVES (TYPICAL).