TYPICAL METHOD OF GRADING SIDE SLOPES

NOTES:
SLOPE Rounding (STD. CS-1) TO BE AS DETAILED ABOVE UNLESS SPECIFICALLY EXCEPTIONED ON PROJECT TYPICAL SECTIONS.
SEE STANDARD CS-2 FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.
SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.
ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER IN LIEU OF BORROW TO WIDEN FILL OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.
WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.
IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE, AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.
STD. CS-1 AS DETAILED HEREON WITH CUT SLOPE Rounding.
STD. CS-1A AS DETAILED HEREON EXCEPT THAT CUT SLOPE Rounding IS TO BE ELIMINATED.
SUGGESTIONS FOR GRADING SIDE SLOPES AND ROADWAYS TO FIT VARIOUS CONDITIONS

APPLICABLE TO ALL SLOPES AND SLOPE STANDARDS

EDGE OF SHOULDER

EDGE OF PAVEMENT

CENTER LINE

TOE OF FILL

EDGE OF SHOULDER

EDGE OF PAVEMENT

CENTER LINE

SUGGESTED DRAINAGE TREATMENT AT BEGINNING OF FILLS

VIRGINIA DEPARTMENT OF TRANSPORTATION
SUGGESTIONS FOR GRADING SIDE SLOPES AND ROADWAYS TO FIT VARIOUS CONDITIONS

APPLICABLE TO ALL SLOPES AND SLOPE STANDARDS

TIGHT ROCK
FILL OVER ROCK TO SMOOTH SLOPE
EXTEND SHOULDER TO SMOOTH UP R/W
ALTERNATE LINE
REMOVE BERM TO SMOOTH UP R/W
CUT THROUGH TO TIE INTO ORIGINAL GROUND
CUT AND FILL TO SMOOTH UP R/W

& E
EVEN UP R/W BY EXTENDING ROADWAY
EVEN UP SLOPE BY CUT AND FILL
EVEN UP R/W BY FILLING
WHEN BERM IS FOR SHORT DISTANCE
ALTERNATE GRADING LINE MAY BE
USED OTHERWISE BERM TO BE
DRESSED OFF.

CUT THROUGH TO TIE INTO ORIGINAL GROUND
CUT AND FILL TO ELIMINATE BERM
FILL TO ELIMINATE BERM
METHOD OF WIDENING FILLS

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION
NOTES:
SLOPE ROUNDED TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT (TYPICAL SECTION(S)).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREIN, EXCEPT WHERE LACK OF ROOM, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER, SHOULD RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

IN SHALLOW CUTS WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 1/4:1 SLOPES AND VICE VERSA, PRODUCES TRANSITIONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

SEE TYPICAL SECTION FOR DITCH WIDTH.

SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED, THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM OF RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN CUTS UP TO 400' IN LENGTH 1/4:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.
NOTES:
SLOPE ROUNING TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HERON, EXCEPTIONS LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY, SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH; HOLDING THE STANDARD DEPTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER BREAK POINT.

SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION
NOTES:
SLOPE ROUN ding TO BE IN ACCORDANCE WITH ABOVE DETAIL 
UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING 
SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING 
FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN 
AND NOTES HERETO, EXCEPT IN AREAS WHERE ROCK, CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, 
Etc., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT 
IN SURPLUS EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE USED 
AS DIRECTED BY THE ENGINEER. IN LIEU OF BORROW, TO WIDTH 
FILLS OR GRADE WITHIN THE RIGHT OF WAY, SHOULD RESULT IN 
INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE 
OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY 
BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND 
MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD 
DITCH.

IN SHALLOW CUTS WHERE POSSIBLE, KEEP THE CUT SLOPE AT 
LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, 
HOLDING THE STANDARD DEPTH.

IN CUTS UP TO 400' IN LENGTH 1/2:1 SLOPES MAY BE CARRIED 
THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS 
AVAILABLE.

MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE 
IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 1/2:1 TO 
1:1 SLOPES AND VICE VERSA PRODUCES TRANSITIONS TOO SHORT, 
THEY SHALL BE INCREASED TO 100' IN LENGTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL 
SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL 
SHOULDER WIDTH BREAK POINT.

SEE TYPICAL SECTION FOR DITCH WIDTH

SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE 
USED WITH NORMAL FILL SHOULDER WIDTH

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION
NOTES:
SLOPE ROUNDEL TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTIONS.
SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.
SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO "FILL".
ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS WAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER. IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY, SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.
WHEN FOUND EXPEDIENT, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.
WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION THE FILL SLOPE IS TO BE APPLIED TO NORMAL SHOULDER WIDTH BREAK POINT.
SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.
SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

TYPICAL METHODS OF GRADING SIDE SLOPES
Virginia Department of Transportation

701.06

SPECIFICATION REFERENCE
303
DETAIL A

DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D BY THE ENGINEER

NOTES:

SLOPE ROUNDED TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHODS OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREIN. EXCEPTIONS-LOOK OF RIGHT OF WAY, ROCK CUT-DROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC. AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

WHEN FOUND EXPEDITIOUS, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED; THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.

IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.

IN CUTS UP TO 400' IN LENGTH 1/2:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.

MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.

IF METHOD SHOWN FOR TRANSITIONING FROM 2:1 TO 1/2:1 SLOPES AND VICE VERSA PRODUCES TRANSITIONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.

SEE TYPICAL SECTIONS FOR RECOVERABLE AREA WIDTH WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION.

THE SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION
DETAIL OF ROUNDING TOPS OF CUT SLOPES

DETAIL SHOWING BERM DITCH IF SHOWN ON PLANS OR REQ'D. BY THE ENGINEER

NOTES:

SLOPE ROUNDED TO BE IN ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREOF. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC. AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE USED AS DIRECTED BY THE ENGINEER IN LEIU OF BORROW, TO WIDEN FILLS, OR Grade WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

NORMAL CURVATURE OFFSET TO BE AS SHOWN FOR DETAILS OF TRANSITIONING SEE STD. GR-INS.

* SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH.
NOTES:
SLOPE Rounding TO BE In ACCORDANCE WITH ABOVE DETAIL UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).
SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.
SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.
ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER SHOULD RESULT. IN SURPLUS EXCAVATION MATERIAL, SUCH SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER, IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY. SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.
WHEN FOUND EXCESSIVE, STANDARD DITCH WIDTH AND DEPTH MAY BE INCREASED, THE DISTANCE BETWEEN BOTTOM OF DITCH AND MINIMUM RIGHT OF WAY LINE TO REMAIN AS SHOWN FOR STANDARD DITCH.
IN SHALLOW CUTS, WHERE POSSIBLE, KEEP THE CUT SLOPE AT LEAST AS STEEP AS THE DITCH SLOPE BY WIDENING THE DITCH, HOLDING THE STANDARD DEPTH.
IN CUTS UP TO 400' IN LENGTH, 1:1:1 SLOPES MAY BE CARRIED THROUGH REGARDLESS OF DEPTH, PROVIDED RIGHT OF WAY IS AVAILABLE.
MAXIMUM SLOPE RATE SHALL NOT BE CHANGED MORE THAN TWICE IN A CUT.
IF METHOD SHOWN FOR TRANSITIONING FROM 1:1 TO 1:1 SLOPES AND VICE VERSA PRODUCES TRANSITIONS TOO SHORT, THEY SHALL BE INCREASED TO 100' IN LENGTH.
SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION. THE SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.
SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.
NOTES:

SLOPE Rounding TO BE AS DETAILED ABOVE, UNLESS SPECIFICALLY EXCEPTED ON PROJECT TYPICAL SECTION(S).

SEE STANDARD CS-2A FOR SUGGESTED METHODS OF FINISHING SLOPES TO FIT VARIOUS CONDITIONS.

SEE STANDARD CS-2 FOR SUGGESTED METHOD OF TRANSITIONING FROM CUT TO FILL.

ALL SLOPES SHALL BE FINISHED IN ACCORDANCE WITH THIS PLAN AND NOTES HEREON. EXCEPTIONS: LACK OF RIGHT OF WAY, ROCK OUT-CROP, OR WHERE DESIRABLE TO SAVE TREES, SHRUBBERY, ETC., AS MAY BE DIRECTED BY THE ENGINEER. SHOULD THIS RESULT IN SURPLUS SHALL BE USED AS DIRECTED BY THE ENGINEER. IN LIEU OF BORROW, TO WIDEN FILLS, OR GRADE WITHIN THE RIGHT OF WAY SHOULD IT RESULT IN INSUFFICIENT EXCAVATION MATERIAL, SUCH MATERIAL SHALL BE OBTAINED AS DIRECTED BY THE ENGINEER.

SEE TYPICAL SECTION FOR RECOVERABLE AREA WIDTH TO BE USED WITH NORMAL FILL SHOULDER WIDTH.

WHEN RECOVERABLE AREAS ARE NOT INDICATED ON THE TYPICAL SECTION, THE FILL SLOPE IS TO BE APPLIED TO THE NORMAL SHOULDER WIDTH BREAK POINT.

SEE TYPICAL SECTION FOR TRAVERSABLE DITCH WIDTH AND SLOPE.

SEE STANDARD PLAN GS-13 FOR GRADED MEDIAN.

TYPICAL METHODS OF GRADING SIDE SLOPES

VIRGINIA DEPARTMENT OF TRANSPORTATION

701.10
WIDTHS FOR TWO WAY TRAFFIC (LESSER WIDTH MAY BE USED FOR ONE-WAY)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CURRENT ADT</th>
<th>TRAVELWAY WIDTH</th>
<th>MIN ROADWAY TO SHOULDER</th>
<th>DITCH WIDTH (W)</th>
<th>DITCH DEPTH (D)</th>
<th>PAY ITEM</th>
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<td>A</td>
<td>0-250</td>
<td>18'</td>
<td>22'</td>
<td>4'</td>
<td>16'</td>
<td>LF.</td>
</tr>
<tr>
<td>B</td>
<td>251-750</td>
<td>20'</td>
<td>24'</td>
<td>3'</td>
<td>16'</td>
<td>LF.</td>
</tr>
<tr>
<td>C</td>
<td>751-2000</td>
<td>22'</td>
<td>30'</td>
<td>4'</td>
<td>16'</td>
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<tr>
<td>D</td>
<td>2001-5500</td>
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<td>40'</td>
<td>4'</td>
<td>16'</td>
<td>X X</td>
</tr>
<tr>
<td>E</td>
<td>5501-15,000</td>
<td>24'</td>
<td>40'</td>
<td>4'</td>
<td>16'</td>
<td>X X</td>
</tr>
<tr>
<td>F</td>
<td>15,000-</td>
<td>24'</td>
<td>40'</td>
<td>6'</td>
<td>18'</td>
<td>X X</td>
</tr>
</tbody>
</table>

* SEE PLANS FOR BASE DEPTH AND TYPE AND PAVED SURFACE TREATMENT WHERE REQUIRED.

TYPICAL SECTION

FOR GUARDRAIL:
ADD 2' TO 4' SHOULDERS
ADD 3' TO ALL OTHER SHOULDERS
BRIDGE WIDTH + APPROACH ROADWAY WIDTH (CLEAR ROADWAY).

IF GEOMETRICS AND WIDTHS SHOWN IN THESE CHARTS ARE GREATER THAN THE FINISHED CONTRACT DESIGN, APPROVAL MAY BE GRANTED BY THE DEPARTMENT FOR LESSER VALUES.

MINIMUM DESIGN CRITERIA FOR TEMPORARY DIVERSION (MAINTENANCE OF TRAFFIC)

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
513

REV. 9/06

702.00
### Graded Median Shoulders

**HIGH SIDE - SUPERELEVATED**

- 7\% ALC. DIFF.
- **x x** WHERE MAINLINE IS 6 OR MORE LANES, GRADED SHOULDER WIDTH IS TO BE THE SAME AS THAT SHOWN FOR FILL SHOULDER FOR INDEPENDENT GRADING.

**LOW SIDE - SUPERELEVATED**

- SAME RATE AS PAVEMENT SLOPE OR 5\% MINIMUM
- **x x**

### Outside Shoulders

**HIGH SIDE - SUPERELEVATED**

- CUT
- **W**
- **W**

**LOW SIDE - SUPERELEVATED**

- CUT
- **W**
- **W**

**NOTE:** FOR WIDTH OF SHOULDERS AND DITCHES (W) SEE GEOMETRIC DESIGN STANDARDS.

### Standard Shoulder Design for All Systems

EXCEPT LOCAL ROADS AND STREETS

VIRGINIA DEPARTMENT OF TRANSPORTATION

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**REV. 3/03 7/02.01**
MEDIAN EDGES OF SHOULDER AT SAME OR APPROXIMATELY SAME ELEVATION
(GRADING TO CENTER OF MEDIAN)

MEDIAN EDGES OF SHOULDER AT DIFFERENT ELEVATIONS

HOLD A 6:1 SLOPE FROM THE EDGES OF MEDIAN SHOULDERS (FROM THE LOWER MEDIAN SHOULDER IF AT DIFFERENT ELEVATIONS) TO THE CENTER OF MEDIAN.

MEDIAN EDGES OF SHOULDER AT DIFFERENT ELEVATIONS
(GRADING FROM HIGH SHOULDER TO DITCH ADJACENT TO LOWER ROADWAY)

HOLD A 2:1 DITCH DEPTH, 12' WIDE, ADJACENT TO LOWER SHOULDER.

STANDARD GRADED MEDIAN DESIGNS

VIRGINIA DEPARTMENT OF TRANSPORTATION