

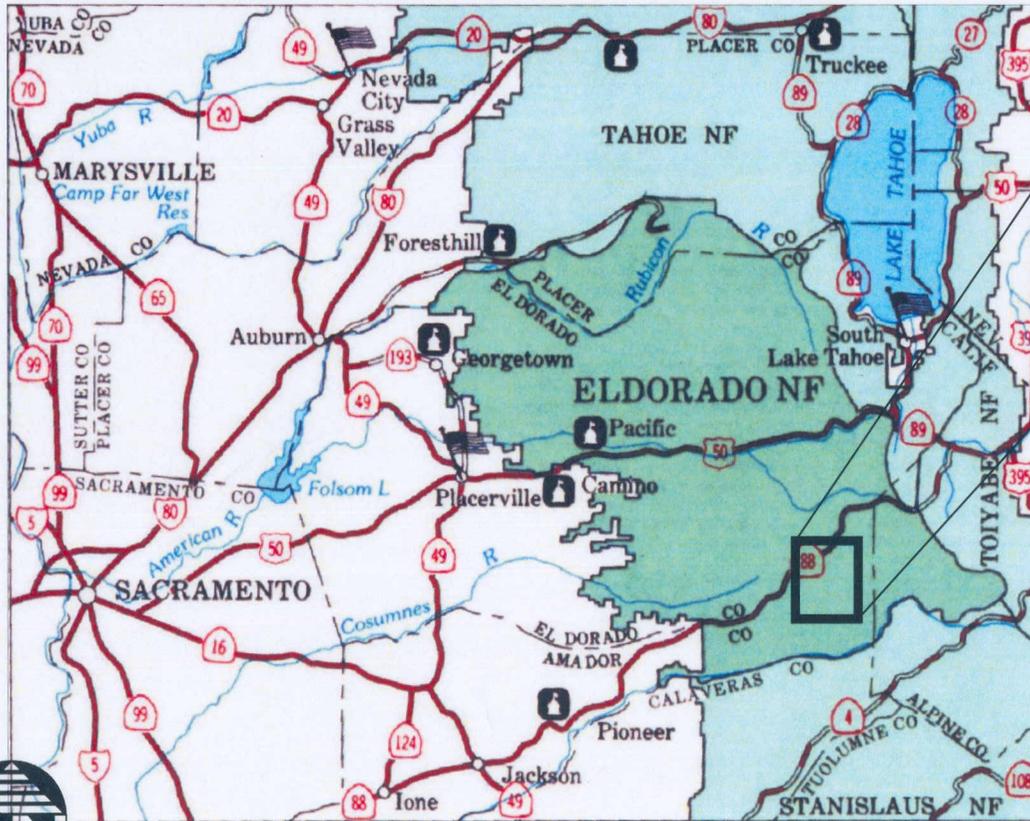


UNITED STATES DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 REGION FIVE
 AMADOR RANGER DISTRICT



MOKEY BEAR

Resale Fuels Reduction Stewardship Project



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| | NOTES & LEGENDS | | | 3 |
| | MATERIAL & QUANTITIES | | | 4 |
| 8N33C | HENLEY CEE | R | 0.12 | 5 |
| | GENERAL TYPICALS | | | 6-16 |



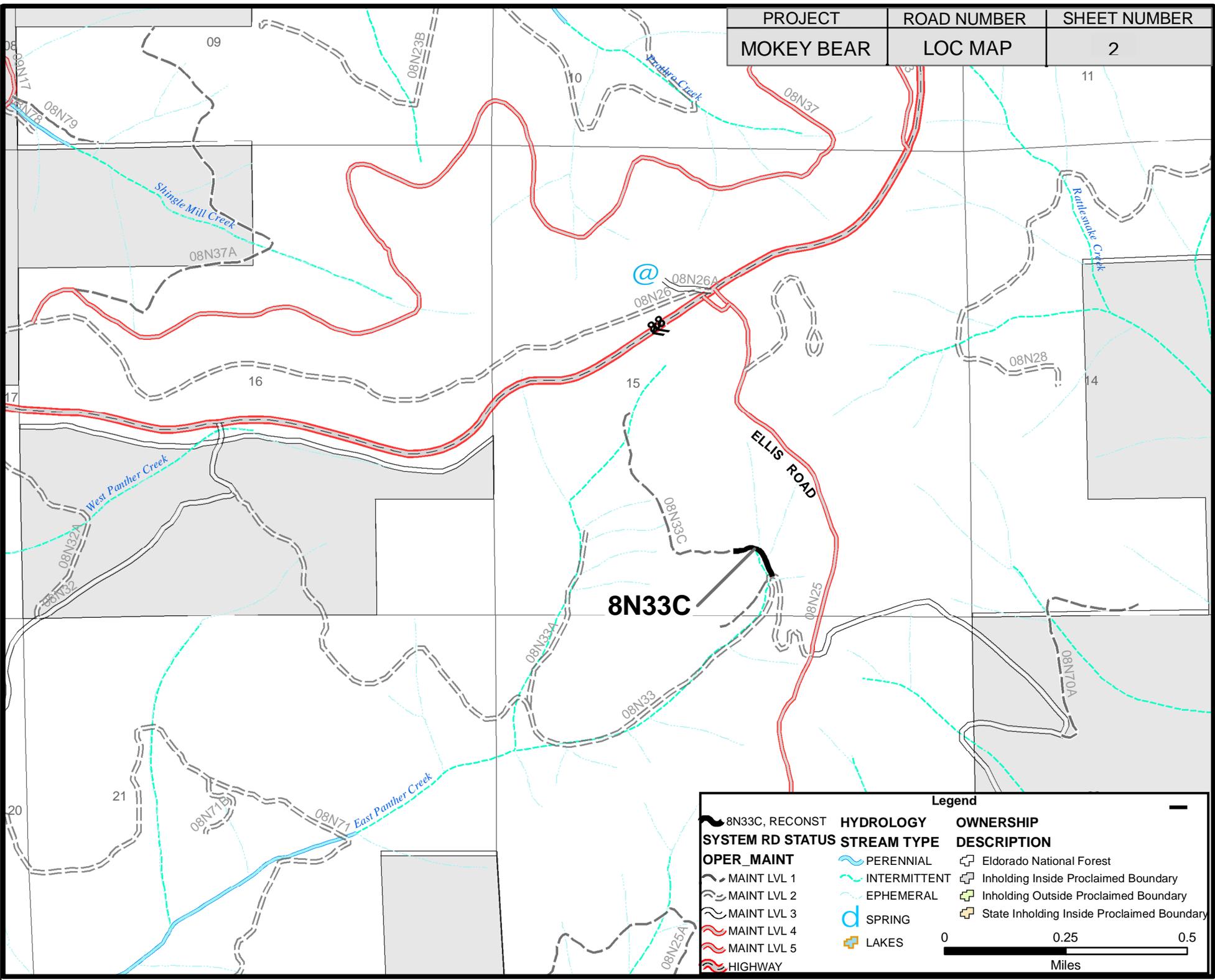
ELDORADO NATIONAL FOREST
 VICINITY MAP

Rock Source:
 Teichert Aggregates or
 other approved site

REVISED
 By Billy at 4:43 pm, 7/6/12

| | | | | | | | |
|------------------------------------|---------------------|---------------------------------------|---------------------|--|---------------------|--|---------------------|
| <i>Billy Elliot</i> DESIGNED BY | DATE <i>7/16/12</i> | <i>Russell D. Horn</i> APPROVED BY | DATE <i>7/16/12</i> | <i>Ann M. Fleming</i> FOREST ENGINEER | DATE <i>7/18/12</i> | <i>Kathy O'Haly</i> FOREST SUPERVISOR | DATE <i>7/19/12</i> |
|------------------------------------|---------------------|---------------------------------------|---------------------|--|---------------------|--|---------------------|

| | | |
|------------|-------------|--------------|
| PROJECT | ROAD NUMBER | SHEET NUMBER |
| MOKEY BEAR | LOC MAP | 2 |



Legend

| | | |
|------------------|--------------------|--|
| 8N33C, RECONST | HYDROLOGY | OWNERSHIP |
| SYSTEM RD STATUS | STREAM TYPE | DESCRIPTION |
| OPER MAINT | PERENNIAL | Eldorado National Forest |
| MAINT LVL 1 | INTERMITTENT | Inholding Inside Proclaimed Boundary |
| MAINT LVL 2 | EPHEMERAL | Inholding Outside Proclaimed Boundary |
| MAINT LVL 3 | SPRING | State Inholding Inside Proclaimed Boundary |
| MAINT LVL 4 | LAKES | |
| MAINT LVL 5 | | |
| HIGHWAY | | |

0 0.25 0.5
Miles

GENERAL NOTES

- * Unless otherwise specified, notes apply to all roads.
- * Clearing - Only trees 10"D.B.H or larger to be cleared are indicated on the plans (T=Tree or TS=Tree and Stump). Trees 10" DBH and smaller and brush of any size shall also be cleared as SHOWN ON THE DRAWINGS.
- * "Individual removal of trees" denotes hazard trees only and are shown on plans as HT.
- * Tops of cut banks are designated decking sites for unmerchantable timber.
- * Outslope 3% unless otherwise SHOWN ON THE DRAWINGS.
- * Construction Tolerance "J".
- * Cushion requirement is waived.
- * Reconstruction - Widen as necessary to obtain min. specified width and to obtain outslope when specified. The actual width will vary. Cut slopes shall conform to existing.
- * Fill slopes are 1 1/2:1, back slopes are 1:1, unless otherwise SHOWN ON THE DRAWINGS.
- * Waterbars are to be installed at the end of each operating season and at the close of sale.
- * Reconstruction- Suitable material removed from ditches, roadbed slides and culvert catch basins shall be incorporated into the roadbed.
- * Unsuitable material shall be sidecast from the roadbed.
- * At intersections, the roadbed shall be graded to assure blending of two riding surfaces for a distance of 50 linear feet.
- * Seed and mulch where specified in the Drawings. Seeding and mulching is incidental to other pay items.

NOTES AND LEGEND

| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 3 |

ABBREVIATIONS

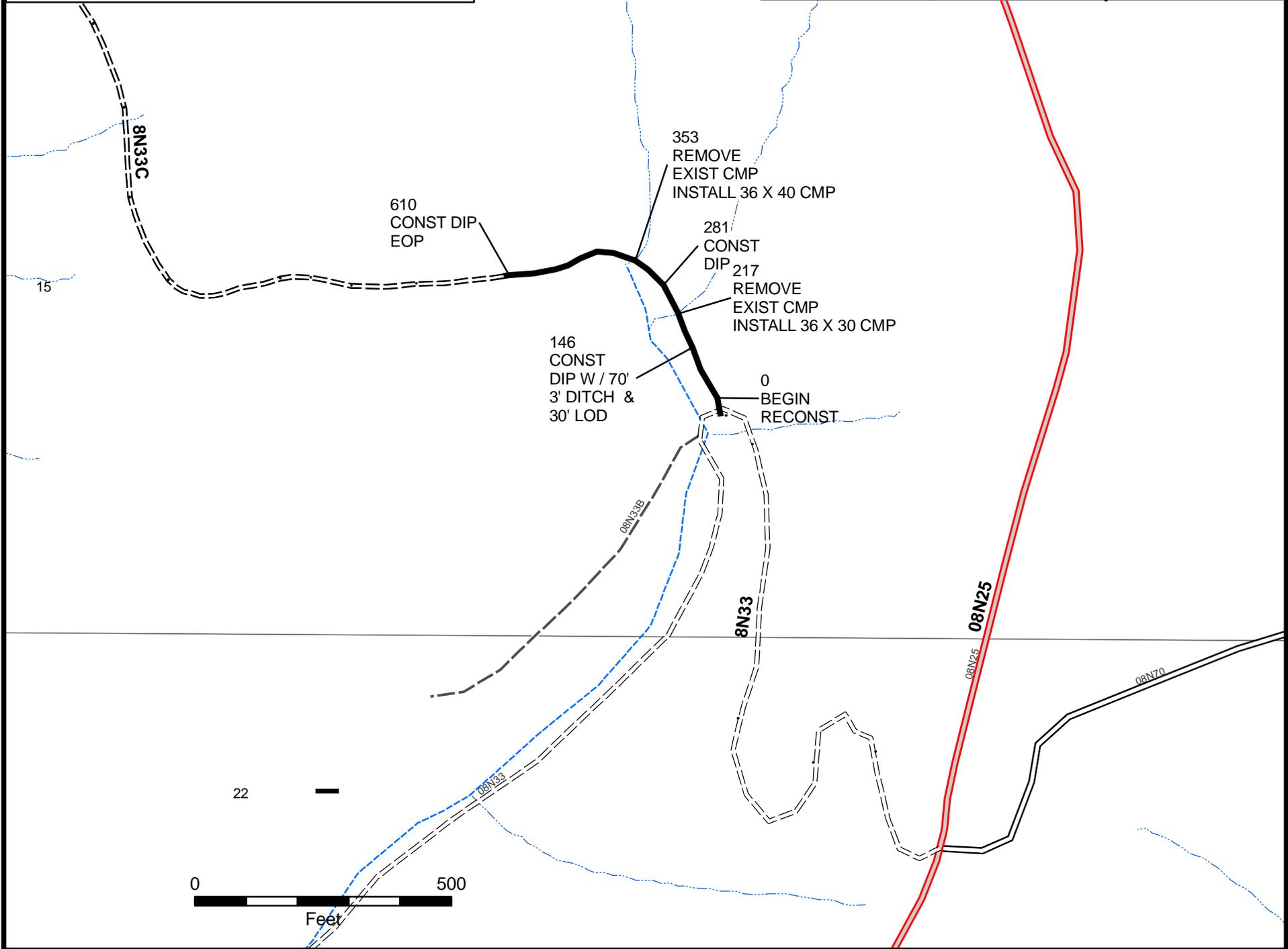
| | | |
|--------------------------|---------------------------------------|--|
| C.Y. = Cubic yard | DI = Drop Inlet | Const = Construct or install feature |
| L.F. = Linear Foot | C.M.P.A. = Corrugated Metal Pipe Arch | Reconst = Reconstruct existing feature |
| C.M.P. = Corrugated Pipe | AC = Asphalt Concrete | Maint = Maintain existing feature |
| IB = Inlet Basin | AB = Aggregate road base | WB = Waterbar |
| CB = Catch Basin | Exist = Existing feature | IB = Inlet Basin CB = Catch Basin |
| | EOP = End of Project | MEIOC - Maintain existing inslope/outslope configuration |

| ROAD NUMBER | SPECIAL NOTES |
|-------------|---------------|
|-------------|---------------|

| | |
|-----------|---|
| ALL ROADS | <p><u>Unless shown otherwise, minor clearing shall be considered incidental to Pay Item 811(01) or other paid iwork in the Schedule of Items.</u></p> <p>Rolling dips do not intercept ditches unless otherwise noted. All dips are Type I unless specified otherwise.</p> <p>Locations of work to be done will be staked on the ground by the Forest Service.</p> <p>All roads used by Contractor during road construction shall be maintained by Contractor.</p> <p>C.M.P. lengths are approximate. payment for C.M.P. will be for the lengths necessary to complete the job.</p> <p>Waterbars drawn or listed on the Drawings are in critical locations. All other waterbars shall be placed according to the typicals.</p> <p>Landings are designated as disposal sites when piling of construction slash is required in specifications.</p> <p>Existing culverts that are to be replaced shall be removed from government land at Contractors expense. Unless shown in the Schedule of Items, disposal is incidental to other Pay Items.</p> <p>Forest Service will designate borrow sites as needed.</p> <p>Road number signs posted on the ground may show the "Y" in the road number differently than Shown On The Drawings and Contract Map; ie, 11NY19 may be shown on the ground as 11N19Y.</p> <p><u>ALL ROADS MAY HAVE MOTORCYCLE OR OHV TRAFFIC. PURCHASER IS RESPONSIBLE FOR PLACING CONSTRUCTION SIGNS ON ROADS WHEN OPERATING EQUIPMENT ON THIS PROJECT.</u></p> |
|-----------|---|

ROAD 8N33C RECONSTRUCT ROAD TO 14'WIDTH.
OUTSLOPE 3%. MINOR CLEARING REQUIRED.

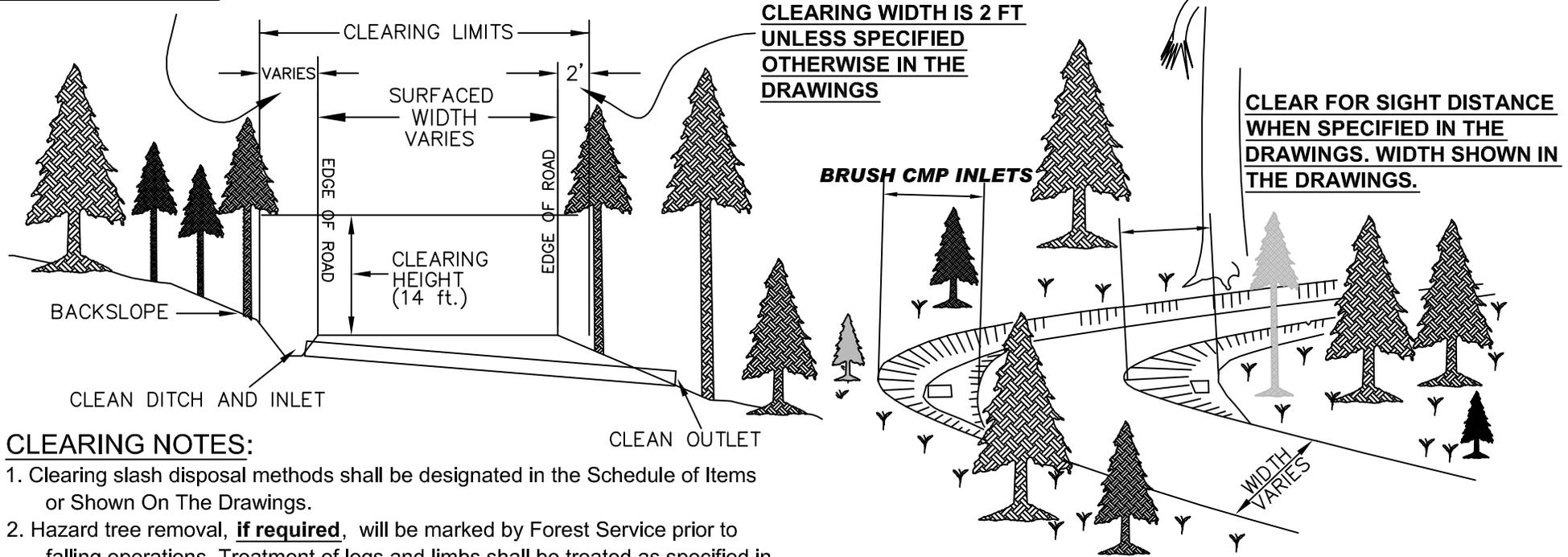
| PROJECT | ROAD NUMBER | SHEET NUMBER |
|------------|-------------|--------------|
| MOKEY BEAR | 8N33C | 5 |



ROAD BLADING AND CLEARING DETAILS

| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 6 |

WIDTH IS 6' (LEVEL) OR TOP OF BANK - WHICH EVER IS LESS.



CLEARING NOTES:

1. Clearing slash disposal methods shall be designated in the Schedule of Items or Shown On The Drawings.
2. Hazard tree removal, **if required**, will be marked by Forest Service prior to falling operations. Treatment of logs and limbs shall be treated as specified in the Specifications.
3. Clearing slash disposal sites shall be designated on the plans or the ground by the Forest Service.
4. Clear small trees (<10"dbh) and brush from all existing ditches, catch basins and inlet basins.
5. Clear small trees (<10"dbh) and brush above all CMP inlets for a distance of 10 linear feet either side of CMP.
6. When mastication is used side cast all masticated material onto fill slopes. Remove masticated material from all drainage inlets and ditches. Concentrations of chipped material shall be scattered or as directed by the CO. Limb stobs greater than 2" shall be flush cut.
7. Where 'TREAT WITHIN UNITS' is specified, scatter slash within adjacent units. Slash treatment will then be treated with that specified for unit.
8. **On all roads the actual clearing may be greater than specified in the above typical. Since road width varies widely on any given road segment the typical tries to convey the intent of clearing requirements. On the road sheets a minimum distance is specified. The actual clearing width will be based on whether a ditch, cutslope, culvert, turnout or fill slope is present. In the absense of all these, the minimum clearing would be that specified on the road sheets.**

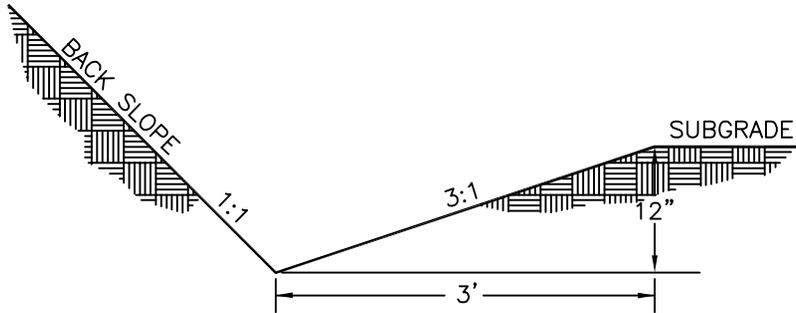
APPLIES TO ALL ROADS

MAINTENANCE AND BLADING OF ROADWAY

1. Outslope road bed 3% whenever possible. Remove all outside berms. When this is impractical **due to trees greater than 10"dbh or berms greater than 4' wide and greater than 18" in height, then** relieve berm every 50 linear feet.
2. Clean inlets and outlets of all existing metal pipes **of dirt, rock and vegetation.**
3. Clean and reshape all existing road ditches, leadoff ditches, dips, and waterbars to the lines specified in the typicals. **If clearing is not specified in the Schedule of Items then clearing of ditches, leadoff ditches and culverts prior to cleaning/reshaping shall be considered incidental to Reconditioning of Roadbed.**
4. When 'Maintain Inslope/Outslope Configuration' is specified, reshape road bed to the existing width and inslope/outslope configuration (MEIOC).
5. Drain all low points, ponds, swales.
6. Construction of lead-off ditches are incidental to road work or other pay items.

| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 7 |

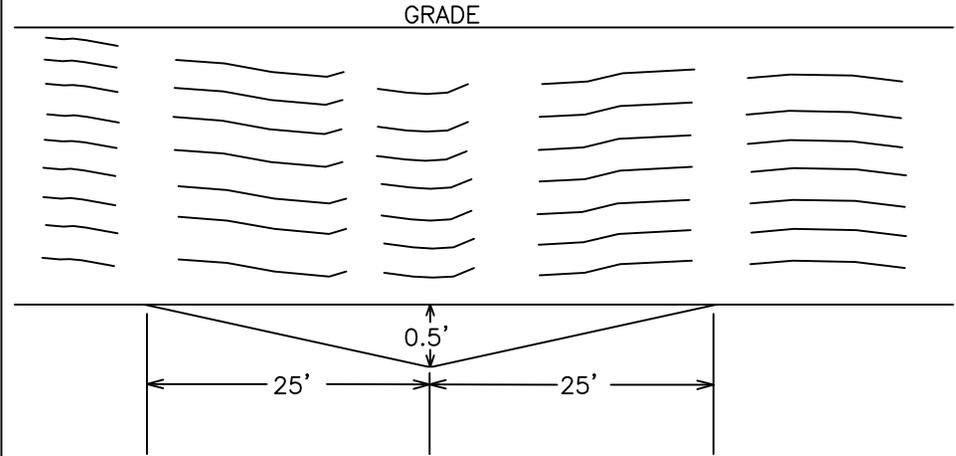
ROADWAY DITCH
TYP 3' DITCH



GENERAL NOTES:

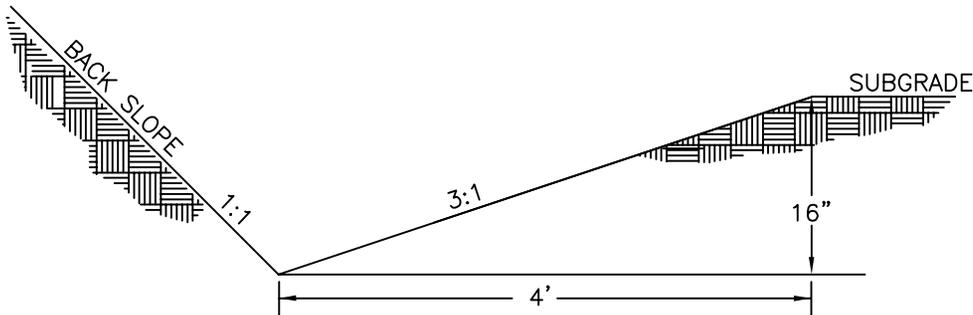
1. WHEN POSSIBLE, UTILIZE SUITABLE EXCAVATED MATERIAL IN ROADBED.

GRADED SWALE



Contractor shall construct Lead Off Ditches as need to ensure proper drainage of Swale. Lead-Off Ditches are incidental to the construction of Swale construction.

ROADWAY DITCH
TYP 4' DITCH

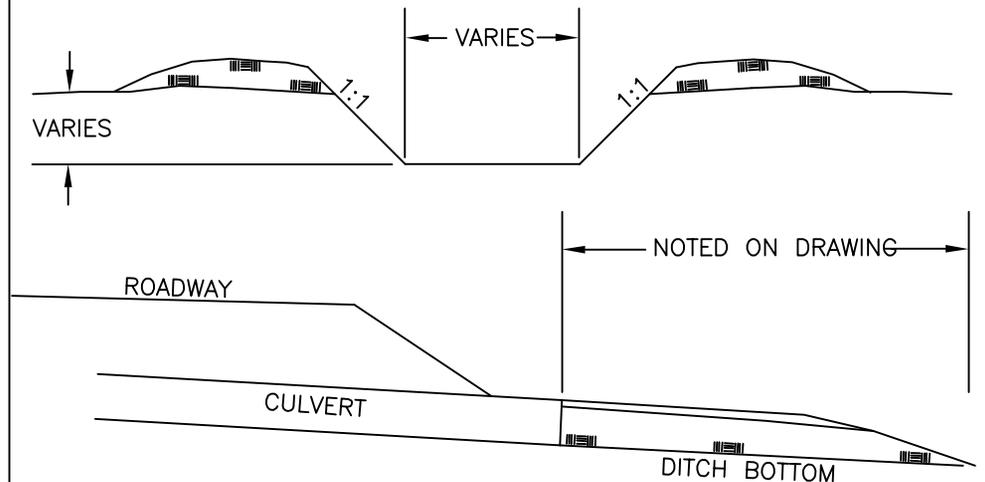


GENERAL NOTES:

1. WHEN POSSIBLE, UTILIZE SUITABLE EXCAVATED MATERIAL IN ROADBED.

LEAD OFF DITCH

1. LEAD OFF DITCH BOTTOM SHALL BE SLOPED TO PROVIDE PROPER DRAINAGE.



Lead-Off Ditches are considered incidental to other Pay Items and will not be measured or paid for separately.

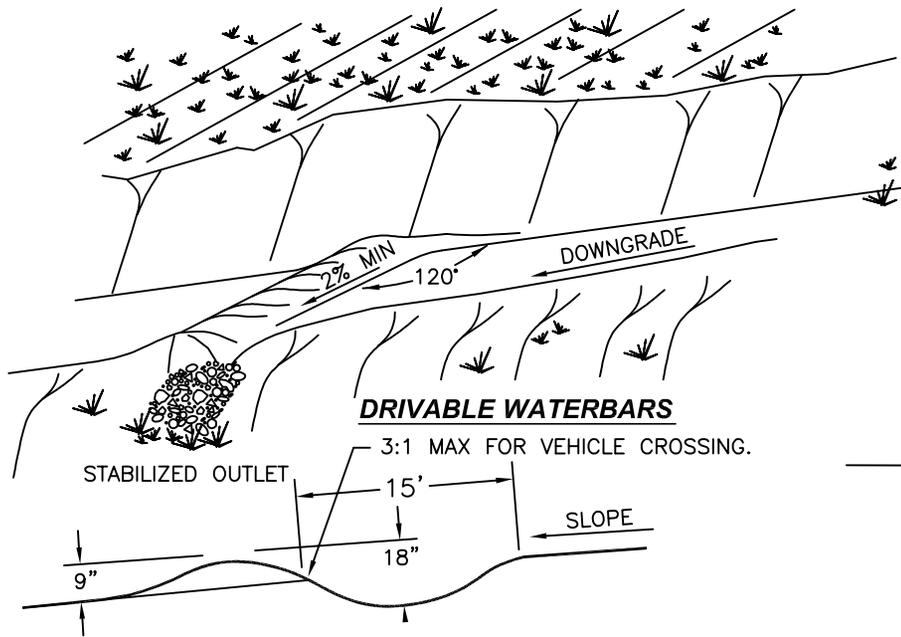
WATERBAR

FOR HIGH CLEARANCE VEHICLES

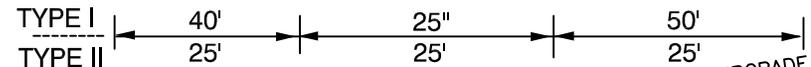
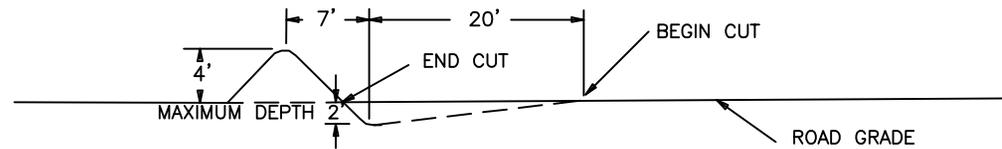
| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 8 |

NOTES: WATERBARS

1. ALL WATER BARS SHALL BEGIN AT THE INTERSECTION OF THE ROAD BED WITH THE BACK SLOPE AND RUN ACROSS THE ENTIRE WIDTH OF THE ROAD BED.
2. ALL WATER BARS SHALL HAVE FREE FLOWING OUTLETS. CONSTRUCTION OF LEAD-OFF DITCHES ARE INCIDENTAL TO WATER BAR CONSTRUCTION
3. WHEN LOCATION STAKES ARE USED, THEY DESIGNATE THE OUTLET LOCATION.



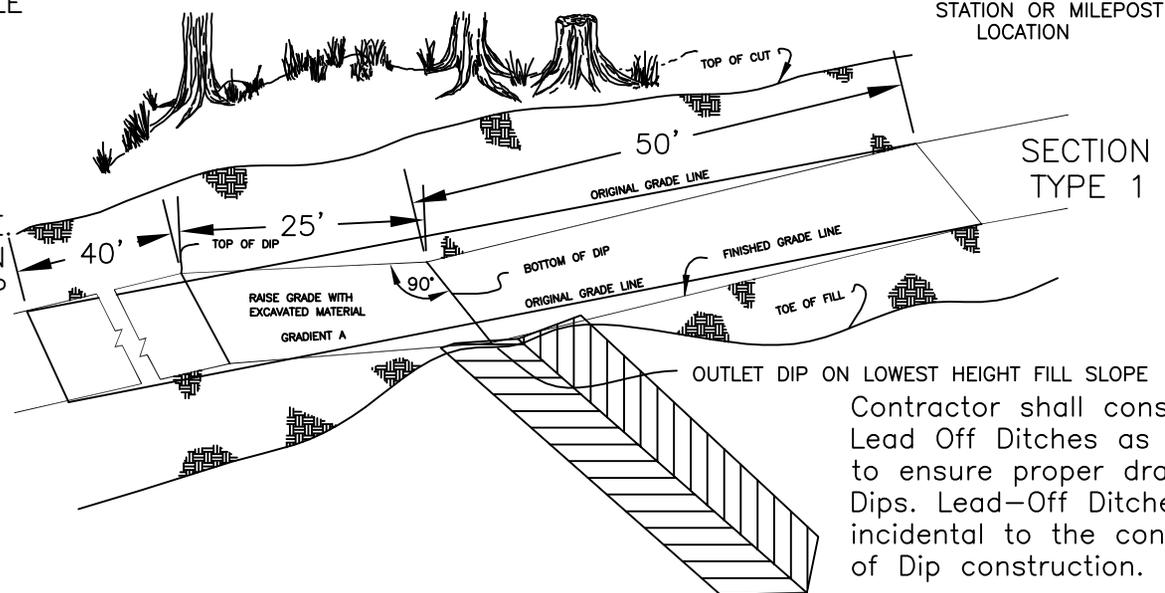
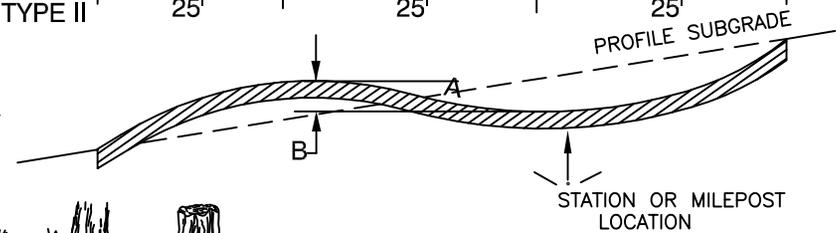
NON - DRIVABLE WATERBARS



ROLLING DIP DETAIL TYPE I & II

NOTES:

1. THE DESIGN VEHICLE OR CRITICAL VEHICLE FOR THIS DIP DESIGN IS A MODEL 62 FIRE ENGINE.
2. ENTIRE LENGTH OF DIP SHALL BE OUTSLOPED 5% TO 7%.
3. ROLLING DIP STATIONS ARE APPROXIMATE. LOCATIONS OF THE DIPS WILL BE STAKED ON THE GROUND AT THE LOW POINT OF THE DIP BY THE FOREST SERVICE BEFORE CONSTRUCTION.

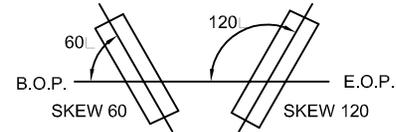


| ORIGINAL ROAD GRADIENT | GRADIENT A | DIFF. IN ELEV. BOTTOM TO TOP OF DIP (B) |
|------------------------|------------|---|
| 0 % - 10 | %+ 4 % | + .80' |
| 10 % - 20 | %- 4 % | - .80' |

Contractor shall construct Lead Off Ditches as needed to ensure proper drainage of Dips. Lead-Off Ditches are incidental to the construction of Dip construction.

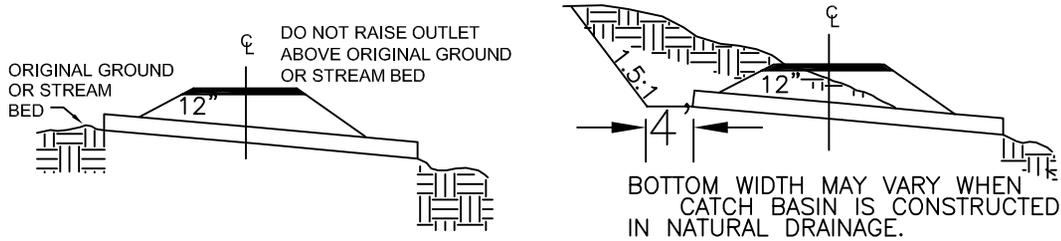
DRAINAGE CONSTRUCTION DETAILS

SKEW DIAGRAM



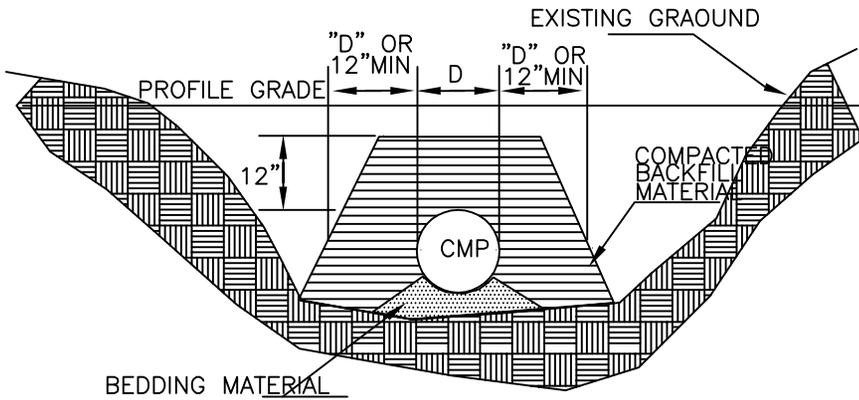
NOTE: SKEW ANGLE WILL BE SHOWN ON THE PLANS.

CATCH BASIN

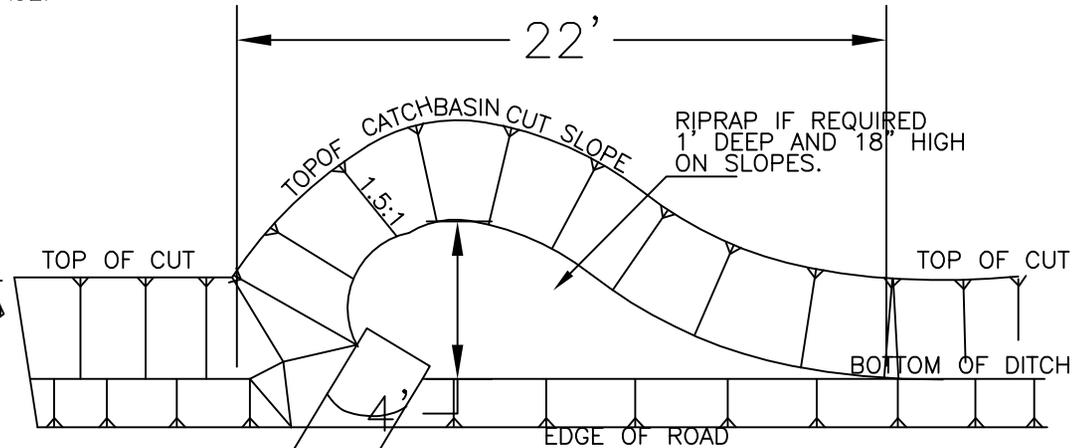
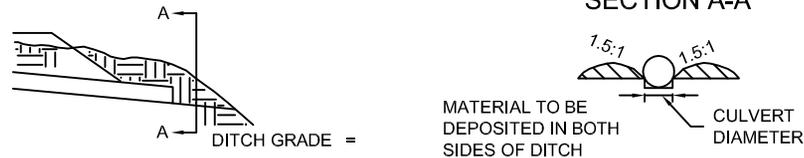


NOTE: MINIMUM COVER OVER CULVERT AT SHOULDER SHALL BE 12 INCHES BELOW SUBGRADE FOR SURFACED AND 18 INCHES BELOW SUBGRADE FOR UNSURFACED.

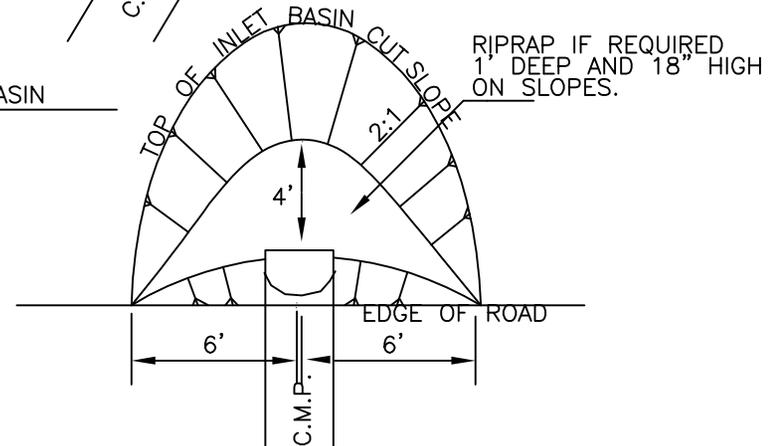
METHOD OF BACKFILLING PIPE

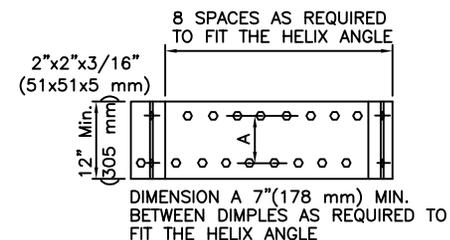
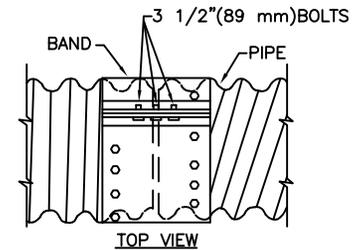
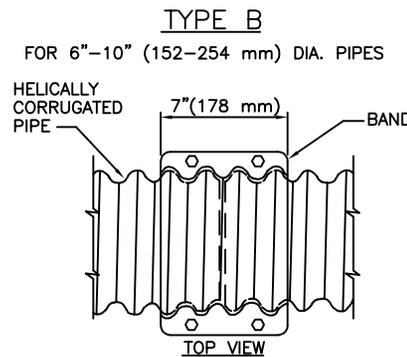
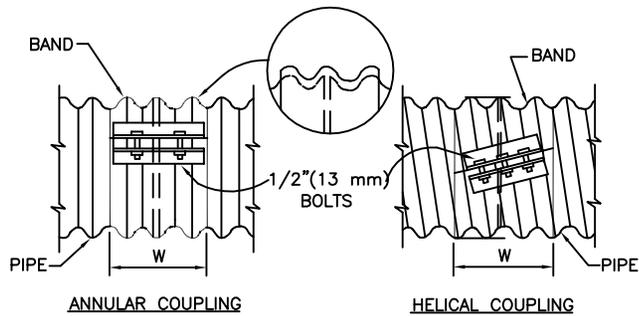
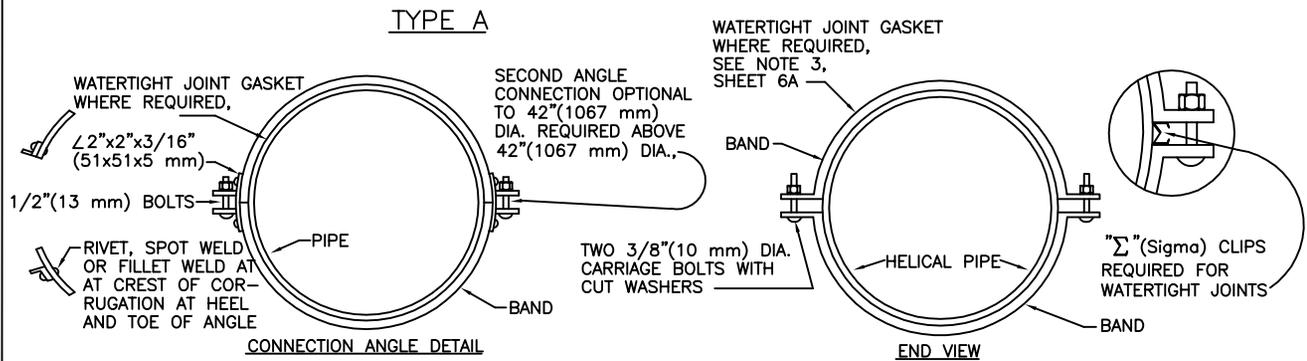


OUTLET DITCH



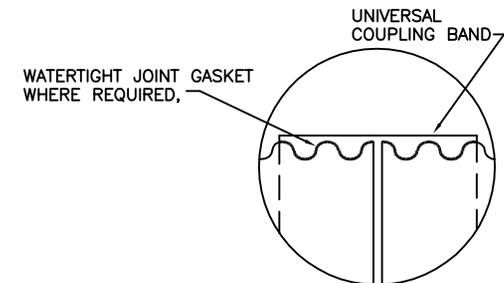
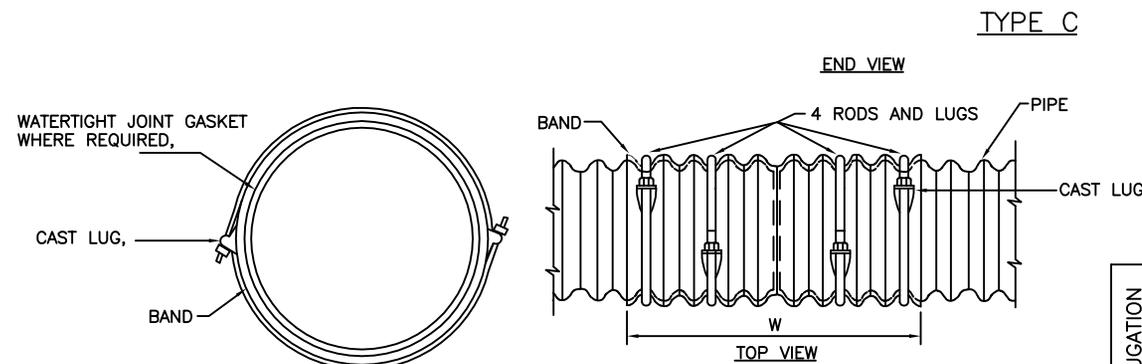
INLET BASIN





| 2 2/3" x 1/2" (68x13 mm) CORRUGATIONS | | | | | 3" x 1" (76x25 mm) CORRUGATIONS | | | | |
|---------------------------------------|----------|--------------|--------------|-------------------------|---------------------------------|----------|--------------|--------------|-------------------------|
| PIPE DIAMETER | | W | | # of 1/2" (13 mm) BOLTS | PIPE DIAMETER | | W | | # of 1/2" (13 mm) BOLTS |
| inches | mm | ANN. inch/mm | HEL. inch/mm | | inches | mm | ANN. inch/mm | HEL. inch/mm | |
| 6–10 | 152–254 | 7 178 | 7 178 | 2 | 36–84* | 914–2134 | 14 356 | 14 356 | 3 |
| 12–15 | 305–381 | 7 178 | 12 305 | 2–3 | 36–120 | 914–3048 | 26 660 | 26 660 | 5 |
| 18–84* | 457–2134 | 12 305 | 12 305 | 3 | | | | | |
| 24–84 | 610–2134 | 24 610 | 24 610 | 5 | | | | | |

* = SEE THE SPECIFICATIONS



| CORRUGATION | PIPE DIAMETER | | ROD DIA. | | NARROW BAND | | WIDE BAND | |
|---|---------------|-----------|----------|------|-------------|----------|-----------|----------|
| | (inch.) | (mm) | (inch.) | (mm) | W (inch.) | # of ROD | W (inch.) | # of ROD |
| | | | | | (mm) | | (mm) | |
| $2\text{''} \times 2\text{''} \times 3/16\text{''}$ (68x13mm) | 12–21 | 305–533 | 3/8 | 10 | 12 | 305 | 2 | |
| | 24–54* | 610–1372 | 1/2 | 13 | 12 | 305 | 2 | 24 610 4 |
| | 60–84* | 1524–2134 | 5/8 | 16 | 12 | 305 | 2 | 24 610 4 |
| $3\text{''} \times 1\text{''}$ (76x25mm) | 36–54* | 914–1372 | 1/2 | 10 | 14 | 356 | 2 | 26 660 4 |
| | 60–84* | 1524–2134 | 3/8 | 13 | 14 | 356 | 2 | 26 660 4 |
| | 84–120 | 2134–3048 | 5/8 | 16 | | | | 26 660 4 |

* = SEE THE SPECIFICATIONS

FILL HEIGHT & INCH (mm) SHEET THICKNESS TABLES

THE METRIC CONVERSIONS ARE PROVIDED IN PARENTHESIS
FOLLOWING THE ENGLISH UNITS.

H-20 LIVE LOAD

| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 11 |

| ROUND PIPES | | | | | | | | | | | | | |
|--|------------|--|-------------|---------------|---------------|---------------|--------------------------------|------------|-------------|------------|------------|------------------|------------|
| 2 2/3" x 1/2" (68 mm x 13 mm) CORRUGATIONS | | | | | | | | | | | | | |
| PIPE DIA. | MIN. COVER | STEEL | | | | | ALUMINUM | | | | | | |
| | | MAXIMUM FILL HEIGHTS ABOVE TOP OF PIPE IN FEET (meter) | | | | | | | | | | | |
| | | METAL THICKNESS IN INCHES (mm) | | | | | | | | | | | |
| | | RIVETED, HELICAL OR SPOT WELDED | | | | | RIVETED OR HELICAL FABRICATION | | | | | SPOT WELDED FAB. | |
| INCHES (mm) | | .064 (1.6) | .079 (2.00) | .109 (2.8) | .138 (3.5) | .168 (4.26) | .060 (1.5) | .075 (1.9) | .105 (2.67) | .135 (3.4) | .164 (4.0) | .060 (1.5) | .075 (1.9) |
| 12 (305) | 12 (305) | 84 (25.6) | 91 (27.7) | | | | 45 (13.7) | 45 (13.7) | 78 (23.8) | 81 (25.6) | 84 (25.4) | 26 (7.9) | 33 (10.0) |
| 15 (381) | 12 (305) | 67 (20.4) | 73 (22.2) | | | | | | | | | | |
| 18 (457) | 12 (305) | 56 (17.0) | 61 (18.6) | | | | 30 (9.1) | 30 (9.1) | 52 (15.8) | 54 (16.5) | 56 (17.0) | 18 (5.5) | 22 (6.7) |
| 24 (610) | 12 (305) | 42 (12.8) | 46 (14.0) | 59 (18) | | | 22 (6.7) | 22 (6.7) | 39 (11.9) | 41 (12.5) | 42 (12.8) | 14 (4.3) | 16 (4.9) |
| 30 (762) | 12 (305) | 34 (10.4) | 36 (11.0) | 47 (14) | | | 18 (5.5) | 18 (5.5) | 31 (9.4) | 32 (9.8) | 34 (10.4) | 11 (3.4) | 13 (4.0) |
| 36 (914) | 12 (305) | 28 (8.5) | 30 (9.1) | 39 (11.9) | 41 (12.5) | | 15 (4.6) | 15 (4.6) | 26 (7.9) | 27 (8.2) | 28 (8.5) | 9 (2.7) | 11 (3.3) |
| 42 (1067) | 12 (305) | 31 (9.4) | 43 (13.1) | 46[67] (14.0) | 48[70] (14.6) | 50[73] (15.2) | | 26 (7.9) | 43 (13.1) | 43 (13.1) | 44 (13.4) | | |
| 48 (1219) | 12 (305) | 27 (8.2) | 37 (11.3) | 45[58] (13.7) | 46[61] (14.0) | 47[64] (14.3) | | | 40 (12.2) | 41 (12.5) | 43 (13.1) | | |
| 54 (1372) | 12 (305) | | 33 (10.0) | 43[52] (13.1) | 44[54] (13.4) | 45[57] (13.7) | | | 35 (10.7) | 37 (11.3) | 38 (11.6) | | |
| 60 (1524) | 12 (305) | | | 43[47] (13.1) | 43[49] (13.1) | 44[51] (13.4) | | | | 33 (10.0) | 34 (10.4) | | |
| 66 (1676) | 12 (305) | | | 42 (12.8) | 43 (13.1) | 43[47] (13.1) | | | | 30 (9.1) | 31 (9.4) | | |
| 72 (1829) | 12 (305) | | | | 41 (12.8) | 43 (13.1) | | | | | 29 (8.8) | | |
| 78 (1981) | 12 (305) | | | | | 39 (11.9) | | | | | | | |
| 84 (2134) | 12 (305) | | | | | 35 (10.7) | | | | | | | |

| EQUIVALENT THICKNESS | | |
|----------------------|------------------------|-------------|
| GAUGE NUMBER | THICKNESS -INCHES (mm) | |
| | STEEL | ALUMINUM |
| 16 | 0.064 (1.6) | 0.060 (1.5) |
| 14 | 0.079 (2.0) | 0.075 (1.9) |
| 12 | 0.109 (2.8) | 0.105 (2.7) |
| 10 | 0.138 (3.5) | 0.135 (3.4) |
| 8 | 0.168 (4.3) | 0.165 (4.2) |

| 3" X 1" (76 mm x 25 mm) CORRUGATIONS | | | | | | | 6" X 1" (152 mm x 25 mm) CORRUGATIONS | | | | | | | |
|--------------------------------------|---------------|--|-------------|---------------|---------------|-----------------|---------------------------------------|---------------|--|------------|------------|------------|------------|--|
| PIPE DIAMETER | MINIMUM COVER | STEEL | | | | | PIPE DIAMETER | MINIMUM COVER | ALUMINUM | | | | | |
| | | MAXIMUM FILL HEIGHTS ABOVE TOP OF PIPE IN FEET (meter) | | | | | | | MAXIMUM FILL HEIGHTS ABOVE TOP OF PIPE IN FEET (meter) | | | | | |
| | | METAL THICKNESS IN INCHES (mm) | | | | | | | METAL THICKNESS IN INCHES (mm) | | | | | |
| INCHES (mm) | | .064 (1.6) | .079 (2.00) | .109 (2.76) | .138 (3.5) | .168 (4.26) | INCHES (mm) | | .060 (1.5) | .075 (1.9) | .105(2.67) | .135 (3.4) | .165 (4.0) | |
| 36 (914) | 12 (305) | 48 (14.6) | 60 (18.3) | 78[88] (23.8) | 89[106] (27) | 101[118] (30.8) | 30 (762) | 15 (381) | 29 (8.8) | 37 (11.3) | 56 (17.0) | 58 (17.7) | 59 (18.0) | |
| 42 (1067) | 12 (305) | 41 (12.5) | 51 (15.6) | 64[76] (19.5) | 71[91] (21.6) | 79[101] (24.0) | 36 (914) | 15 (381) | 24 (7.3) | 31 (9.4) | 47 (14.3) | 48 (14.6) | 49 (14.9) | |
| 48 (1219) | 12 (305) | 36 (11.0) | 45 (13.7) | 57[66] (17.4) | 61[80] (18.6) | 66[88] (20.1) | 42 (1067) | 15 (381) | 21 (6.4) | 27 (8.2) | 40 (12.2) | 41 (12.5) | 42 (12.8) | |
| 54 (1372) | 12 (305) | 32 (9.75) | 40 (12.2) | 52[59] (15.8) | 55[71] (16.7) | 59[79] (18.0) | 48 (1219) | 15 (381) | 24 (7.3) | 28 (8.5) | 37 (11.3) | 44 (13.4) | 49 (14.9) | |
| 60 (1524) | 12 (305) | 29 (8.8) | 36 (11.0) | 49[53] (14.9) | 51[64] (15.9) | 54[71] (16.4) | 54 (1371) | 24 (610) | 22 (6.7) | 25 (7.6) | 33 (10.1) | 39 (11.9) | 46 (14.0) | |
| 66 (1676) | 12 (305) | 26 (7.9) | 33 (10.0) | 47 (14.3) | 49[58] (14.9) | 51[64] (15.5) | 60 (1524) | 24 (610) | 19 (5.8) | 22 (6.7) | 30 (9.1) | 35 (10.7) | 42 (12.8) | |
| 72 (1829) | 12 (305) | 24 (7.3) | 30 (9.1) | 44 (13.4) | 47[53] (14.3) | 49[59] (14.9) | 66 (1676) | 24 (610) | 18 (5.5) | 20 (6.0) | 27 (8.2) | 32 (9.7) | 38 (11.6) | |
| 78 (1981) | 12 (305) | 22 (6.7) | 28 (8.5) | 41 (12.5) | 46[49] (14.0) | 47[54] (14.3) | 72 (1829) | 36 (914) | | 18 (6.4) | 25 (7.6) | 29 (8.8) | 35 (10.7) | |
| 84 (2134) | 12 (305) | 21 (6.4) | 26 (7.9) | 38 (11.6) | 45 (13.7) | 46[51] (14.0) | 78 (1981) | 36 (914) | | | 23 (7.0) | 27 (8.2) | 32 (9.7) | |
| 90 (2286) | 12 (305) | 19 (5.8) | 24 (7.3) | 35 (10.7) | 43 (13.1) | 45 (13.7) | 84 (2133) | 36 (914) | | | 21 (6.4) | 25 (7.6) | 30 (9.1) | |
| 96 (2438) | 12 (305) | 18 (5.5) | 22 (6.7) | 33 (10.0) | 40 (12.2) | 44 (13.4) | 90 (2286) | 36 (914) | | | | 24 (7.3) | 28 (8.5) | |
| 102 (2591) | 24 (610) | 17 (5.2) | 21 (6.4) | 31 (9.4) | 38 (11.6) | 42 (12.8) | 96 (2438) | 36 (914) | | | | 22 (6.7) | 26 (7.9) | |
| 108 (2743) | 24 (610) | | 20 (6.0) | 30 (9.1) | 35 (10.7) | 39 (11.9) | | | | | | | | |
| 114 (2896) | 24 (610) | | 19 (5.8) | 28 (8.5) | 34 (10.4) | 37 (11.3) | | | | | | | | |
| 120 (3048) | 24 (610) | | | 27 (8.2) | 32 (9.7) | 36 (11.0) | | | | | | | | |

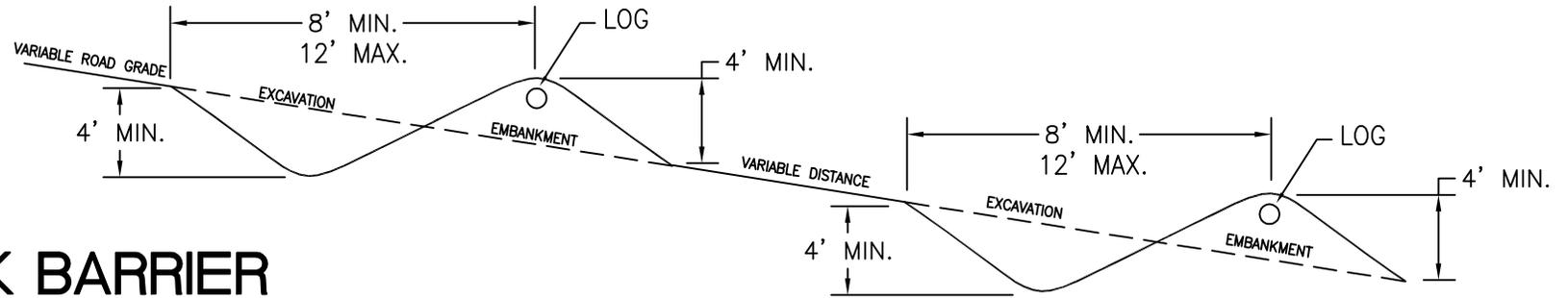
[88] NUMBERS IN BRACKETS ARE MAXIMUM FILL HEIGHTS IN FEET

| STANDARD COUPLER BANDS | | | | | | | | | | | | |
|------------------------|------------------|-------------------|--------------|-------------------|----------------------|-------------------|-----------------------|-------------------|-------------------|------------------------|--------------|-----|
| CORRUGATED | | | | | | | | (A) FLAT-DIMPLED | | | | |
| CULVERT SIZE | STANDARD ANNULAR | | HELICAL | | 3" X 1" (76 x 25 mm) | | 6" X 1" (152 x 25 mm) | | WIDTH INCHES (mm) | NO. OF ROWS OF DIMPLES | NO. OF BOLTS | |
| | INCHES (mm) | WIDTH INCHES (mm) | NO. OF BOLTS | WIDTH INCHES (mm) | NO. OF BOLTS | WIDTH INCHES (mm) | NO. OF BOLTS | WIDTH INCHES (mm) | | | NO. OF BOLTS | (B) |
| UNDER 18" (457) | 7" (178) | 2 | 7" (178) | 2 | | | | | 10 1/2" (267) | 2 | 2 | 2 |
| 18" TO 54" (457-1372) | 12" (305) | 3 | 12" (305) | 3 | 14" (355) | 3 | 18" (457) | 3 | 10 1/2" (267) | 2 | 3 | 2 |
| OVER 54" (1372) | 24" (610) | 5 | 24" (610) | 5 | 24" (610) | 5 | 24" (610) | 4 | 16 1/4" (413) | 4 | 5 | 4 |

(A)-PERMITTED ONLY FOR CONNECTING ANNULAR CORRUGATED TO HELICAL CORRUGATED PIPE, (B)-FOR CONNECTING METAL END SECTIONS. (C)-FOR BANDS WITH ANGLES. FOR BANDS WITH TENSION TYPE CONNECTIONS.

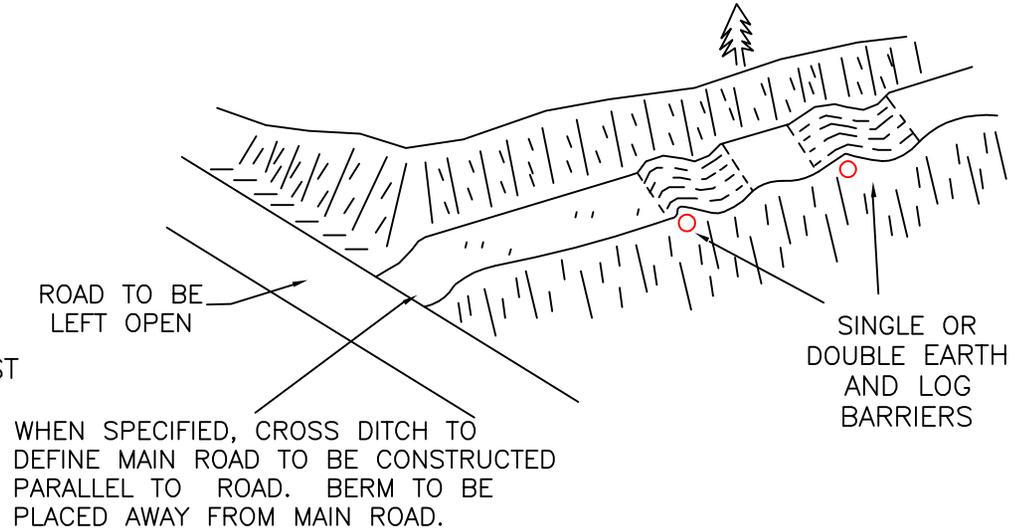
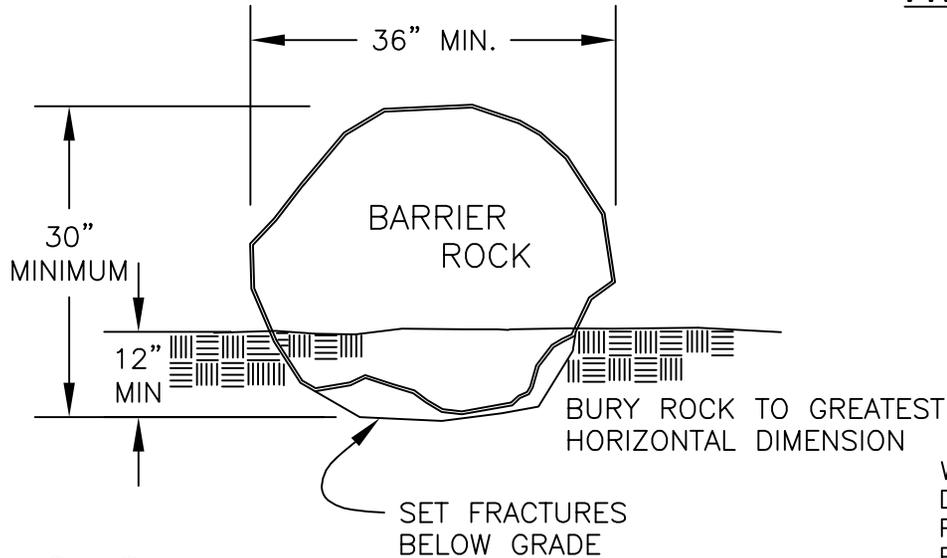
| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 12 |

EARTH AND LOG BARRICADE DETAIL



ROCK BARRIER

PROFILE VIEW



NOTES:

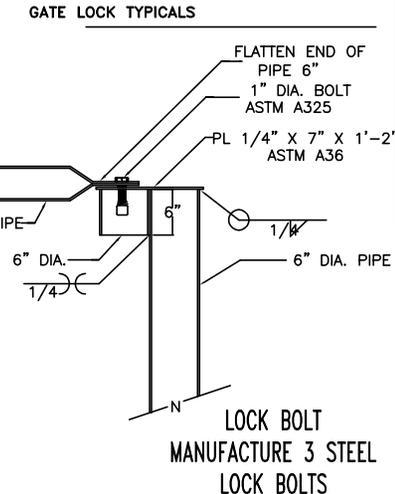
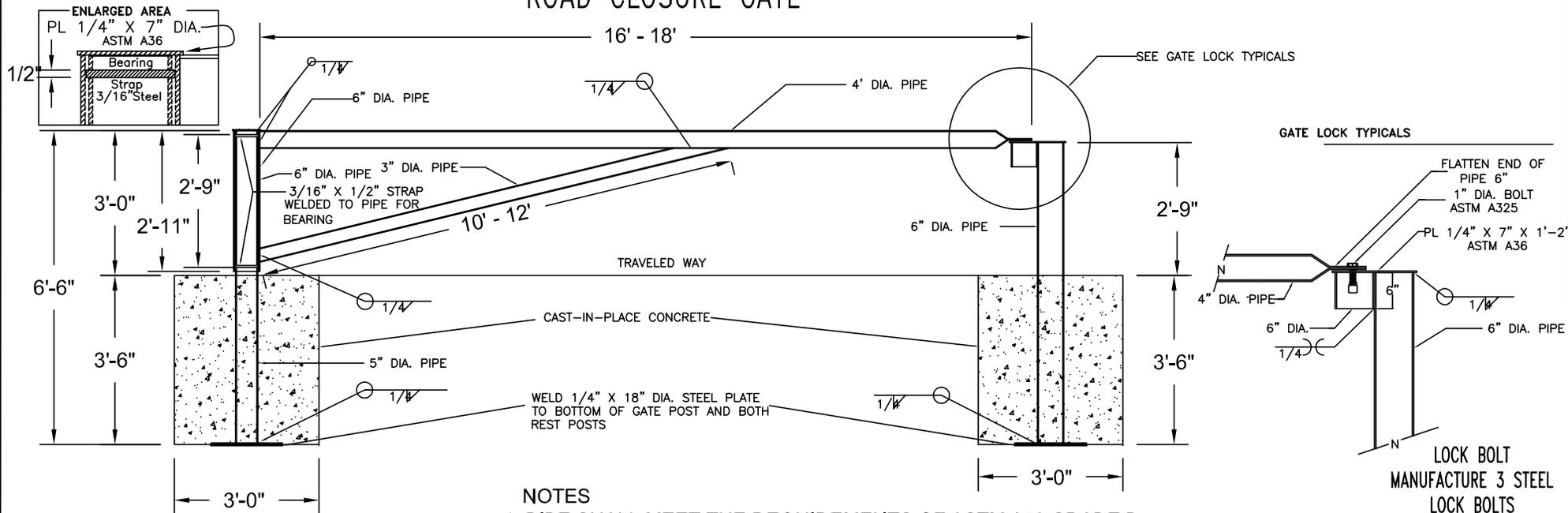
- (1) BARRIER ROCKS SHALL BE A MINIMUM SIZE OF 30" X 36".
- (2) DISTURBED EARTH BECAUSE OF INSTALLATION OF ROCK BARRIER SHALL BE BLENDED INTO THE SURROUNDING GROUND.
- (3) WHEN LOCATION STAKES ARE USED, THEY DESIGNATE THE CENTER OF ROCK BARRIER.
- (4) UNLESS SHOWN OTHERWISE, BARRIER ROCKS ARE TO BE PURCHASED COMMERCIALY.

NOTES:

- (1) PLACE 20" X 12' LOG IN EMBANKMENT AND COVER WITH AT LEAST ONE FOOT OF EMBANKMENT MATERIAL. BOULDERS MAY BE USED IN LIEU OF LOGS WITH WRITTEN APPROVAL BY THE ENGINEER.
- (2) ROAD BARRICADES SHALL BE CONSTRUCTED AT LOCATIONS STAKED BY THE ENGINEER.
- (3) DRAWINGS NOT TO SCALE.

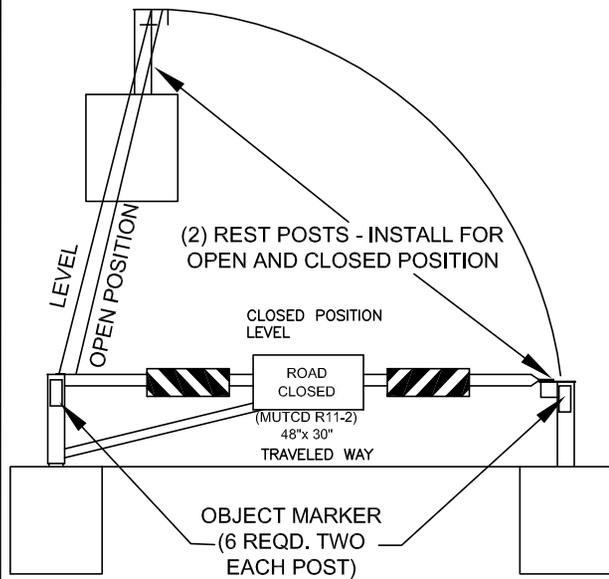
STEEL SINGLE LANE ROAD CLOSURE GATE

| | |
|------------|--------------|
| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 13 |

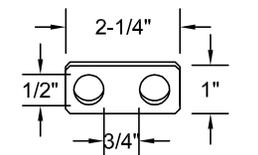
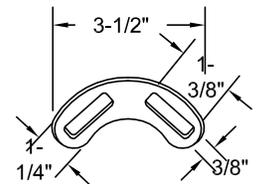


NOTES

- PIPE SHALL MEET THE REQUIREMENTS OF ASTM A53 GRADE B.
- PIPE SIZES SHOWN ARE FOR STANDARD WEIGHT BLACK IRON PIPE (SCH.40).
- GATES SHALL RECEIVE ONE COAT OF ZINC-RICH PRIMER, ORGANIC VEHICLE TYPE AND ONE COAT OF VINYL GREEN (91-2.15). SURFACE PREPARATION AND PRIMING SHALL BE AS RECOMMENDED BY THE PAINT MANUFACTURE.
- CONCRETE SHALL BE IN ACCORDANCE WITH SPECIFICATION 602 - METHOD C.
- OVER EXCAVATED POST HOLES SHALL BE FILLED WITH CONCRETE.
- ROAD CLOSURE SIGN AND REFLECTIVE MARKERS SHALL BE INSTALLED BY CONTRACTOR.
- CONTRACTOR SHALL FURNISH TO THE FOREST SERVICE ONE COMPLETE LOCK BAR SET AND TWO LOCK BOLTS FOR EACH GATE INSTALLATION.
- GATE AND LOCKING MECHANISM SHALL BE INSPECTED BY THE FOREST SERVICE PRIOR TO GATE INSTALLATION.
- LOCATION OF GATES WILL BE LOCATED ON THE GROUND BY THE FOREST SERVICE. LAYOUT OF THE GATE POSTS SHALL BE THE CONTRACTORS RESPONSIBILITY.
- ROAD CLOSED SIGN SHALL MEET MUTCD REQUIREMENTS FOR TYPE R11-2. (1 REQUIRED.)
- BARRICADE MARKERS SHALL MEET MUTCD REQUIREMENTS FOR TYPE 1. COLOR - BLACK & WHITE. (2 REQUIRED.)
- OBJECT MARKERS SHALL MEET MUTCD REQUIREMENTS FOR TYPE 2. (6 REQUIRED.)



LOCK BAR SET
MANUFACTURE 3 CURVED LOCKBARS AND
2 STRAIGHT LOCKBARS FROM 1/4" STEEL.



ELDORADO NATIONAL FOREST
LOW TO MID ELEVATION SITES (3,000 TO 5,500 FT)

***Apply the following
seed application
when specified in the
Drawings***

Seed Mixes

Seed shall be state-certified seed of the latest season's crop and shall be delivered in original, sealed packages bearing the producer's guaranteed analysis for percentages of mixtures, purity, germination, weed-seed content, and inert material. Labels shall conform with USDA Federal Seed Act, California Agricultural Code and other applicable seed laws, and shall be acceptable to the County Agricultural Commissioner. Wet, moldy, or otherwise damaged seed will be rejected.

| | |
|---|---|
| Vulpia microstachys, ssp. "Sierra" north of Fresno) | 6.0 pounds per acre (Ok source is from Sierra National Forest |
| Lotus purshianus, var "Sierra" | 4.0 pounds per acre (Northern California source only). |
| Bromus carinatus, var. carinatus (Eldorado or Mokelumne Brome) | 9.0 pounds per acre (OK either source) |
| Elymus Glaucus, ssp. "El Dorado" | 8.0 pounds per acre (OK either item) |
| Festuca rubra, ssp. "Mokelumne Fescue" <i>Mokelumne</i> | 5.0 pounds per acre (<i>We call this seed F Occidentalis -</i> |
| TOTAL | 32.0 pounds per acre |

Fertilizer

Fertilizer shall be slow-release, organic product, commercial grade, granular free flowing, uniform in composition, delivered in fully-labeled sealed containers, and shall conform to applicable state and federal regulations. Fertilizer shall have the manufacture's guaranteed statement of analysis.

The U.S. Forest Service-approved fertilizer product is BIOSOL Mix 7-2-3.
For Seed Mix A, BIOSOL Mix 7-2-3 will be applied. BIOSOL Mix 7-2-3 will be applied with and application rate of 1000 lbs/ac, reflecting a Nitrogen application rate of 70 lbs/ac and a Phosphorus application rate of 20 lbs/ac.

Timing

Seeding is to be completed between September 15 and October 15, and prior to the onset of the rainy season.

Seeding

Seed should be applied as soon after seedbed preparation and fertilizing as possible, when the soil is loose and moist.

Always apply seed or inoculant before mulch.

Apply seed or inoculant/seed mixture using hand broadcasting, calibrated spreaders, cyclone seeders, mechanical drills, or hydro seeders (only for seed) so the seed is applied uniformly on the site.

Mulching

Straw mulch, erosion control blankets or mulch and tackifiers/soil binders should be applied over the seeded areas.

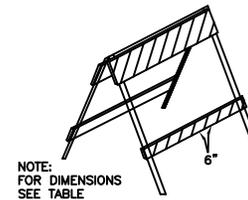
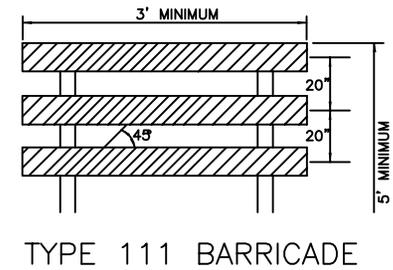
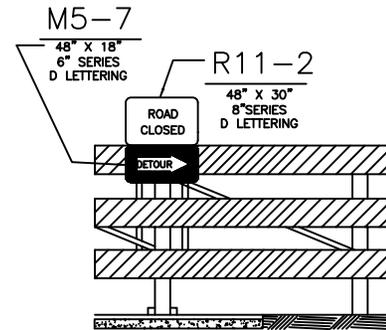
Straw will be weed-free rice straw, applied at 4,000 lbs/AC. .

TRAFFIC CONTROL DEVICES

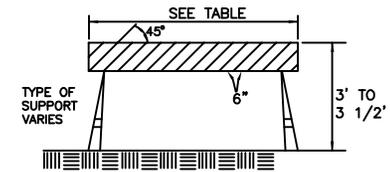
| | |
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| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 15 |

GENERAL NOTES

1. DESIGNS FOR SIGNS AND BARRICADES SHOWN ABOVE ARE IN ACCORDANCE WITH MINIMUM STANDARDS IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST EDITION.
2. SIGNS SHALL BE MADE FROM SUITABLE MATERIALS WHICH ARE IN ACCORDANCE WITH ALL STATE AND FEDERAL SPEC.
3. SIGNS MAY BE MADE OF WOOD OR METAL WOOD -5/8" PLYWOOD MANUFACTURED WITH ALL SPECIAL WATERPROOF GLUE. METAL SIGNS-16 GAUGE SHEET STOCK WITH EMBOSSED OR VITRIFIED FINISH. WHEN EMBOSSED THE DETAILS OF THE DESIGN ARE RAISED FROM THE BACKGROUND OF THE DESIGN NOT LESS THAN .100" NOR MORE THAN .125". A CARDBOARD SIGN MAY BE USED IF APPROVED BY THE ENGINEER.
4. REGULATORY SIGNS SHALL BE RECTANGULAR IN SHAPE WITH THE LARGER DIMENSION VERTICAL AND HAVE BLACK AND WHITE LEGEND OR BACKGROUND. ALL REGULATORY SIGNS UNLESS DEFINITELY EXCEPTED IN THE SPECIFICATIONS, SHALL BE REFLECTORIZED OR ILLUMINATED.
5. ALL SIGNS, UNLESS DEFINITELY EXCEPTED IN THE SPECIFICATIONS, SHALL BE DIAMOND SHAPED (SQUARE WITH ON DIAGONAL VERTICAL) AND SHALL HAVE A HIGHWAY ORANGE BACKGROUND WITH A BLACK LEGEND. ALL WARNING SIGNS HAVING SIGNIFICANCE DURING THE HOURS OF DARK SHALL BE REFLECTORIZED OR ILLUMINATED.
6. SIGNS SHALL BE LOCATED WHERE THEY WILL BE CONSPICUOUSLY VISIBLE DAY AND NIGHT ON THE RIGHT HAND SIDE OF APPROACHING TRAFFIC. THEY SHALL BE FACING TRAFFIC AND LOCATED WHERE THEY CAN BE SEEN AT ALL TIMES BY APPROACHING DRIVERS WITH A MINIMUM OF EFFORT.
7. WHEN A SIGN IS REQUIRED FOR AN EXTENDED PERIOD, IT SHALL BE FASTENED TO 4 X 4 POSTS WITH 2, 3/8" CARRIAGE BOLTS. PORTABLE SUPPORTS ARE PERMITTED FOR SHORT PERIODS PROVIDED THE CONSTRUCTION IS SUCH THAT WIND OR OTHER AGENTS CANNOT READILY UPSET THE SIGN.
8. SIGN M4-10R SHALL BE ERRECTED AT THE BEGINNING OF DETOURS, ALONG DETOURS AT 1/4 MILE INTERVALS AND AT ROAD JUNCTIONS ALONG DETOURS IN A GREATLY ENLARGED SIZE IN THIS SIGN IS PRESCRIBED FOR USE ON BARRICADES IN THE ROADWAY WHERE A ROAD IS CLOSED FOR CONSTRUCTION OR MAJOR MAINTENANCE OPERATIONS.
9. SIGN W20-1 SHALL BE ERRECTED 1500' FROM EACH END OF CONSTRUCTION OPERATIONS.
10. SIGN W21-3 AND W11-1 SHALL BE ERRECTED AT EACH END OF AREAS WHERE HEAVY EQUIPMENT IS IN OPERATION AND SHALL BE REPEATED EVERY 1/2 MILE, IF THE OPERATION EXTENDS OVER ONE MILE.
11. OTHER SIGNS SHOWN ABOVE SHALL BE USED AS INDICATED BY THEIR DESIGN.
12. IF OTHER SIGNS NOT SHOWN ARE REQUIRED THEY SHALL ALSO CONFORM IN DESIGN TO THOSE SHOWN IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
13. SELECTION AND PLACEMENT OF ALL SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
14. LIGHTING DEVICES SUCH AS FLASHERS, TORCHES, LANTERNS, AND ELECTRIC LIGHTS SHALL BE PLACED AND MAINTAINED FROM SUNSET TO SUNRISE AT ALL POINTS OF HAZARD AND AT ALL SIGNS INDICATING CAUTION.
15. SIGNS TO BE INSTALLED ON ALL HAUL ROADS AND CONSTRUCTION SITES TO PROVIDE ADEQUATE WARNING TO ALL USERS.



TYPE 11 BARRICADE

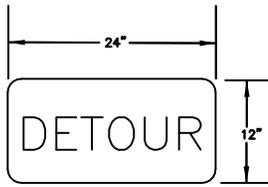


TYPE 1 BARRICADE

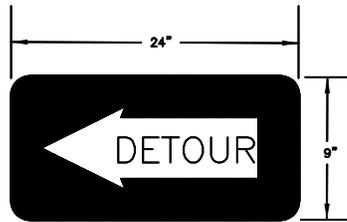
| TYPE | 1 | 11 | 111 |
|------------------|--------------------------------|---------------------|-----------------------|
| WIDTH OF RAIL | 8" MIN-12" MAX. | 8" MIN-12" MAX. | 8" MIN-12" MAX. |
| LENGTH OF RAIL | 6'-8' | 3' MIN.-4' MAX. | 3' MIN.-VARIABLE MAX. |
| WIDTH OF STRIPES | 6 IN. | 6 IN. | 6 IN. |
| HEIGHT | 3 FT. MIN. | 3' MIN.-3 1/2' MAX. | 5 FT. MIN. |
| TYPE OF FRAME | DEMOUNTABLE OR HEAVY "A" FRAME | LIGHT "A" FRAME | POST OR SKIDS |
| FLEXIBILITY | ESSENTIALLY MOVABLE | PORTABLE | ESSENTIALLY PERMANENT |

| | |
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| PROJECT | SHEET NUMBER |
| MOKEY BEAR | 16 |

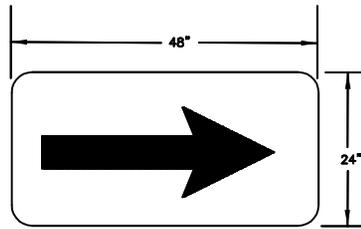
TRAFFIC CONTROL DEVICES



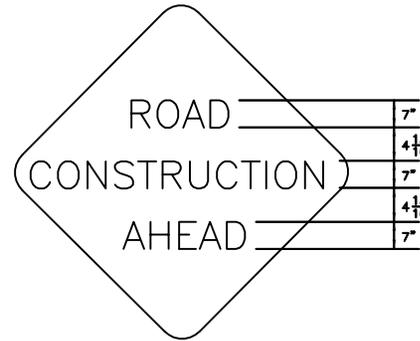
M4-B
24" X 12"
5" SERIES B LETTERING



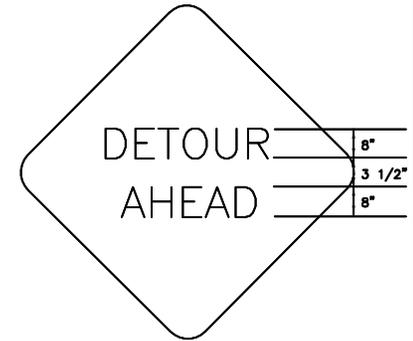
M4-10R
24" X 9"
RIGHT OR LEFT
3" SERIES D LETTERING



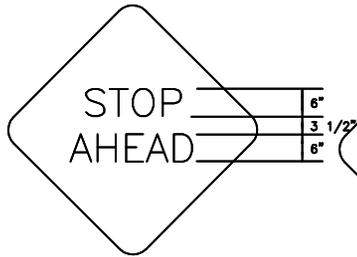
W1-6
48" X 24"
BLACK ARROW RIGHT OR LEFT.



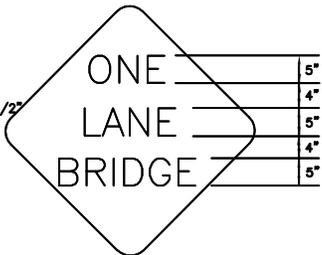
W20-1
48" X 48"
7" SERIES C LETTERING



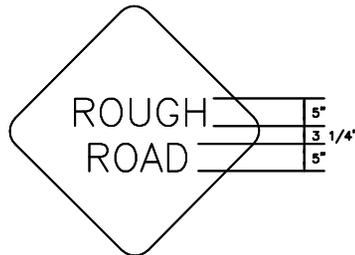
W20-2d
48" X 48"
8" SERIES C LETTERING



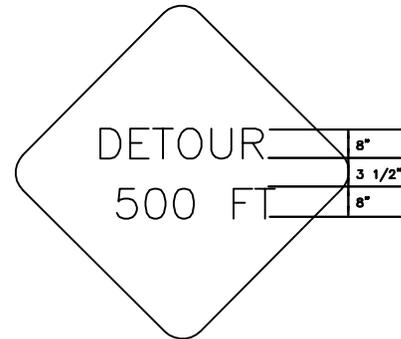
W3-1
30" X 30"
6" SERIES D LETTERING



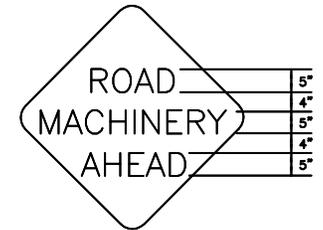
W5-2
36" X 36"
5" SERIES D LETTERING



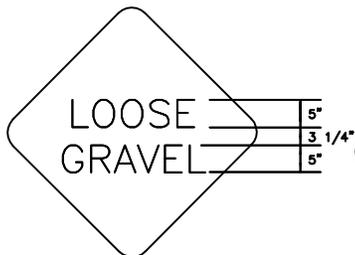
W8-6
30" X 30"
5" SERIES D LETTERING



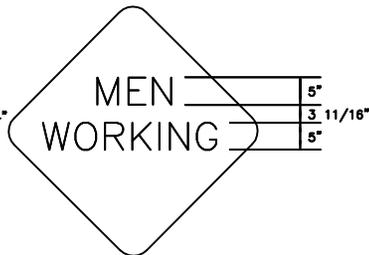
W20-2c
48" X 48"
8" SERIES C LETTERING



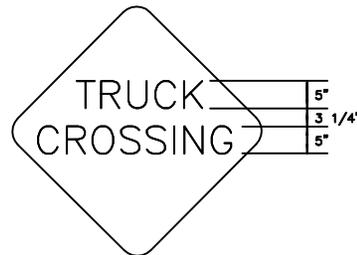
W21-3
36" X 36"
5" SERIES D LETTERING



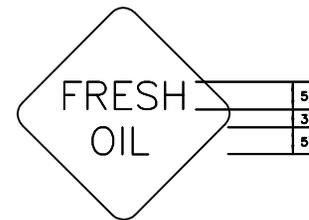
W8-7
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5" SERIES D LETTERING



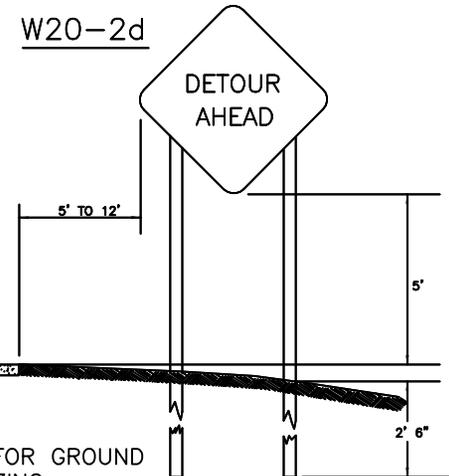
W21-1
30" X 30"
5" SERIES C LETTERING



W11-1
30" X 30"
5" SERIES D LETTERING



W21-2
24" X 24"
5" SERIES C LETTERING



POST SHALL BE DOUGLAS FIR, TREATED FOR GROUND CONTACT, .40PCF, AMMONIACAL COPPER ZINC ARSENATE (ACZA)