KEY:
- CANDLE
- BARREL
- ARROW BOARD
- BARRICADE
- TRAFFIC SIGN
- WORK ZONE

NOTES:


All existing non-conflicting traffic control devices will remain visible to the public unless approved by City Engineer. Contractor is required to copy, and existing conflicting traffic control devices. The contractor will replace or restore existing traffic control devices to original condition after construction.

All traffic control devices will comply with current MUTCD standards.

Traffic control devices and equipment shall not cause vision obstruction or hazards for drivers/passengers.

Warning lights are required on all construction zones where darkness hours or poor visibility exists.

CITY ENGINEER
APPROVAL: 2/2/18

CITY OF BILLINGS
STANDARD MODIFICATIONS

SCALE: NONE

TRAFFIC CONTROL SETUP
MEDIAN/LEFT LANE CLOSURE

STANDARD DRAWING
Sm_MO1570-1

REVISED: 01/26/18
NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING OF BUFFER ZONES, SIGNS, AND CHANNELIZING DEVICES.

ALL EXISTING NON-CONFLICTING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC UNLESS APPROVED BY CITY ENGINEER. CONTRACTOR IS REQUIRED TO COVER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL ALSO BE REQUIRED TO RESTORE EXISTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTCD STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISION OBSTRUCTION OR HAZARDS FOR DRIVER/PEDESTRIANS.

WARNING LIGHTS ARE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS HOURS OR POOR VISIBILITY EXISTS.

ADDITIONAL PEDESTRIAN CONTROL SIGNS ARE REQUIRED WHEN ADA COMPLIANT PATH IS NOT MAINTAINED.
NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING, SIZE, AND CHANNELIZING DEVICES.

ALL EXISTING NON-CONFLICTING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC UNLESS APPROVED BY CITY ENGINEER. CONTACTOR IS REQUIRED TO COFER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL ALSO BE REQUIRED TO RESTORE EXISTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTCD STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISION OBSTRUCTION OR HAZARDS FOR DRIVERS/PEDESTRIANS.

WARNING LIGHTS ARE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS EXISTS OR POOR VISIBILITY EXISTS.
NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING OF BUFFER ZONES, SIGNS, AND CHANNELIZING DEVICES.

ALL EXISTING NON-CONFLICTING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC UNLESS APPROVED BY CITY ENGINEER. CONTRACTOR IS REQUIRED TO COVER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL ALSO BE REQUIRED TO RESTORE EXISTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTCD STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISION OBSTRUCTION OR HAZARDS FOR DRIVERS/PEDESTRIANS.

WARNING LIGHTS ARE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS HINDERS OR POOR VISIBILITY EXISTS.

ADDITIONAL PEDESTRIAN CONTROL SIGNS ARE REQUIRED WHEN ADA COMPLIANT PATH IS NOT MAINTAINED.
KEY
- CANDLE
• BARREL
□ ARROW BEAD
□ BARRICADE
■ TRAFFIC SIGN
■ WORK ZONE

NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING OF BUFFER ZONES, STICKS, AND CHANNELIZING DEVICES.

ALL EXISTING NON-CONFLICTING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC UNLESS APPROVED BY CITY ENGINEER. CONTRACTOR IS REQUIRED TO COVER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL REMOVE ALL CONFLICTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTCD STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISION OBSTRUCTION OR HAZARDS FOR DRIVERS/PEDESTRIANS.

WARNING LIGHTS ARE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS HURTS OR POOR VISIBILITY EXISTS.

ADDITIONAL PEDESTRIAN CONTROL SIGNS ARE REQUIRED WHEN ADA COMPLIANT PATH IS NOT MAINTAINED.

REVISED: 01/26/15

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE:
TRAFFIC CONTROL SETUP
TYPICAL CORNER CLOSURE 2

STANDARD DRAWING
Sm_M01570-6
NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING OF BUFFER ZONES, SIGNS, AND CHANNELIZING DEVICES.

ALL EXISTING NON-COMPETING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC UNLESS APPROVED BY CITY ENGINEER. CONTRACTOR IS REQUIRED TO COVER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL ALSO BE REQUIRED TO RESTORE EXISTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTCD STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISUAL OBSTRUCTION OR HAZARDS FOR DRIVERS/PEDESTRIANS.

WARNING LIGHTS ARE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS HOURS OR POOR VISIBILITY EXISTS.

ADDITIONAL PEDESTRIAN CONTROL SIGNS ARE REQUIRED WHEN ADA COMPLIANT PATH IS NOT MAINTAINED.
KEY:
- CANDLE
- BARREL
- ARROW BOARD
- BARRICADE
- TRAFFIC SIGN
- WORK ZONE

NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING OF BUFFER ZONE, SIGNS, AND CHANNELIZING DEVICES.

ALL EXISTING NON-CONFLICTING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC, EXCEPT APPROVED BY CITY ENGINEER. CONTRACTOR IS REQUIRED TO COVER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL ALSO BE REQUIRED TO RESTORE EXISTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTCD STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISUAL OBSTRUCTION OR HAZARDS FOR DRIVERS/PEDESTRIANS.

WARNING SIGNS ARE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS HOURS OR POOR VISIBILITY EXISTS.

ADDITIONAL PEDESTRIAN CONTROL SIGNS ARE REQUIRED WHEN ADA COMPLIANT PATH IS NOT MAINTAINED.

LOCAL STREET SETUPS ARE PERMITTED ONLY ON STREETS WITH ADT LESS THAN 500 VEH/DAY AND CLASSIFIED AS "LOCAL" ON THE CURRENT EDITION OF THE FUNCTIONAL CLASSIFICATION MAP.

REVISION: 01/26/18
KEY
- CANDLE
- BARREL
- ARROW BOARD
- BARRICADE
- TRAFFIC SIGN
- WORK ZONE

NOTES:

SEE PART 6 OF THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR SPACING OF BUFFER ZONES, SIGNS, AND CHANNELIZING DEVICES.

ALL EXISTING NON-CONFLICTING TRAFFIC CONTROL DEVICES WILL REMAIN VISIBLE TO THE PUBLIC. UNLESS APPROVED BY CITY ENGINEER. CONTRACTOR IS REQUIRED TO COVER ANY EXISTING CONFLICTING TRAFFIC CONTROL DEVICES. THE CONTRACTOR WILL ALSO BE REQUIRED TO RESTORE EXISTING TRAFFIC CONTROL DEVICES TO ORIGINAL CONDITION AFTER CONSTRUCTION.

ALL TRAFFIC CONTROL DEVICES WILL COMPLY WITH CURRENT MUTED STANDARDS.

TRAFFIC CONTROL DEVICES AND EQUIPMENT SHALL NOT CAUSE VISION OBSTRUCTION OR HAZARDS FOR DRIVERS/PEDESTRIANS.

WARNING SIGN MUST BE REQUIRED ON ALL CONSTRUCTION ZONES WHERE DARKNESS HOURS OR POOR VISIBILITY EXISTS.

ADDITIONAL PEDESTRIAN CONTROL SIGNS ARE REQUIRED WHEN ADA COMPLIANT PATH IS NOT MAINTAINED.

LOCAL STREET SETUP ARE PERMITTED ONLY ON STREETS WITH AVG LESS THAN 500 VEH./DAY AND CLASSIFIED AS "LOCAL" ON THE CURRENT EDITION OF THE FUNCTIONAL CLASSIFICATION MAP.

REVISED: 01/26/18
MINIMUM 2" ASPHALT

STREET SURFACE

LEAN MIX BACKFILL

MINIMUM 2" ASPHALT

CONCRETE OR OTHER AS APPROVED, ADJUSTING RINGS AS NECESSARY 4' MIN. 12" MAX.

NOTES:
1. ADJUST MANHOLES UPWARD WITH ADJUSTING RINGS UNDER FRAME.
2. ADJUST MANHOLE DOWNWARD BY REMOVING CONE AND BARREL SECTIONS AS NECESSARY AND REPLACING WITH SECTIONS OF LENGTH REQUIRED TO MATCH GRADE.
3. SLOPE MANHOLE FRAME AS REQUIRED TO MATCH SLOPE OF STREET.
4. FINAL MANHOLE ADJUSTMENT SHALL BE MADE BEFORE FINAL ASPHALT LIFT.
5. REMOVE SHIMS AND GROUT GAPS BETWEEN THE CASTING, ADJUSTING RING AND BARREL. REMOVE ALL EXCESS GROUT.
6. ADJUSTING RINGS AND CASTING SHALL BE CENTERED ON MANHOLE.
NOTES:
1. Adjust water valve boxes upward or downward as necessary by turning top section wherever possible.

2. Valves shall be excavated and exposed so as to readily determine whether height adjustment can be made without substituting a longer bottom section.

3. Adjustments shall be made during each paving lift to ensure valve boxes are centered, plumb and straight at all times.

4. Valve boxes shall be three-piece (base, bottom & top) sections wherever possible. Additional length shall be achieved by substituting a longer bottom section wherever possible. If a box must be changed to a 4 piece, the bottom section shall be extended.

CITY ENGINEER
APPROVAL: 2/2/18
APPROVAL DATE: 2/2/18
REvised: 01/18/2018

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE

ASPHALT WATER VALVE BOX
ADJUSTMENT DETAIL

STANDARD DRAWING
Sm_MO2213-2
NOTE:
THE CONCRETE SHALL BE 4000 PSI FIBER REINFORCED AS PER CITY STANDARDS

SECTION A-A
NOT TO SCALE

CONCRETE MANHOLE
ADJUSTMENT DETAIL

CITY OF BILLINGS
SCALE: NONE

STANDARD DRAWING
Sm_M02213- 3
NOTE:
The concrete shall be 4000 PSI fiber reinforced as per city standards.

SECTION A-A
NOT TO SCALE

CITY ENGINEER
APPROVED: 02/01/2018

CITY OF BILLINGS
SCALE: NONE
CONCRETE WATER VALVE BOX
ADJUSTMENT DETAIL

STANDARD DRAWING
Sm_M02213- 4
NOTES:
1) Trench passes through existing pavement the pavement shall be cut along a neat vertical line a minimum of 12" from the edge of the trench opening, where neat line is less than 3' from edge of existing pavement or curb and gutter section, remove and replace entire pavement section between trench and edge of pavement.
2) See contract special provisions for any modifications to standard trench materials and/or other trench design features.
3) Pipe bedding in groundwater shall be wrapped in a non-woven geotextile fabric.
4) Type 2 pipe bedding plus fabric where required for soft or unstable foundation, depth to be determined by project engineer.
5) Type 1 bedding or 3/4" crushed bedding rock placed in 6" max. layers and compacted thoroughly.

* See O.S.H.A. standards for excavations.
NOTES:
1) TRENCH PASSES THROUGH EXISTING PAVEMENT THE PAVEMENT SHALL BE CUT ALONG A NEAT VERTICAL LINE A MINIMUM OF 12" FROM THE EDGE OF THE TRENCH OPENING, WHERE NEAT LINE IS LESS THAN 3' FROM EDGE OF EXISTING PAVEMENT OR CURB AND GUTTER SECTION, REMOVE AND REPLACE ENTIRE PAVEMENT SECTION BETWEEN TRENCH AND EDGE OF PAVEMENT.

2) SEE CONTRACT SPECIAL PROVISIONS FOR ANY MODIFICATIONS TO STANDARD TRENCH MATERIALS AND/OR OTHER TRENCH DESIGN FEATURES.

3) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC.

4) TYPE 2 PIPE BEDDING PLUS FABRIC WHERE REQUIRED FOR SOFT OR UNSTABLE FOUNDATION, DEPTH TO BE DETERMINED BY PROJECT ENGINEER.

5) TYPE 1 BEDDING OR 3/4" CRUSHED BEDDING ROCK PLACED IN 6" MAX. LAYERS AND COMPACTED THOROUGHLY.

* SEE O.S.H.A. CONSTRUCTION STANDARDS FOR EXCAVATIONS.

REVISED: 02/01/2018
NOTES:
1) ALTERNATE SECTION MAY BE ALLOWED BASED ON RESULTS OF SITE-SPECIFIC G EOTECHNICAL ANALYSIS.
2) ROADWAY SECTION STANDARDS MAY BE INCREASED IF ROADWAY IS TO BE PAVED IN THE FUTURE.
3) ONE-WAY EMERGENCY ACCESS ROADWAYS WILL ONLY BE CONSIDERED ON A SITE-SPECIFIC BASIS.
4) IF SPECIFIED, LOCATION, WIDTH AND MATERIAL OF ACCESS GATE(S) TO BE APPROVED BY THE CITY ENGINEER'S OFFICE AND THE FIRE MARSHALL.

EMERGENCY ACCESS SIGN DETAIL
NOTE:
1) SIGN DETAIL TO BE USED ON ACCESS GATE OR ON SIGN POST IF ACCESS GATE IS NOT SPECIFIED.

REVISED: 01/15/2015

CITY ENGINEER
APPROVAL: [Signature]
APPROVAL DATE: 2/2/18

SCALE: NONE

CITY OF BILLINGS
STANDARD
EMERGENCY VEHICLE ACCESS
Sm_M02500-1

STANDARD DRAWING
NOTES:

1) ALLEY MAY BE PAVED WITH 6' OF PORTLAND CEMENT CONCRETE OVER 6' OF 1-1/2' (-1) CRUSHED AGGREGATE BASE COURSE OR AS APPROVED BY THE CITY ENGINEERS OFFICE. CONCRETE ALLEY PAVEMENT MUST HAVE SAW CUT JOINTS FILLED WITH BACKER ROD AND JOINT SEALANT. SUBMIT JOINTING LAYOUT PATTERN AND TYPICAL JOINT DETAIL FOR ALL CONCRETE ALLEYS.

2) COORDINATE DESIGN AND CONSTRUCTION WITH ALL UTILITY REPRESENTATIVES IN CASE OF UTILITY RELLOCATION (VERTICAL AND HORIZONTAL).

3) MINIMUM LONGITUDINAL GRADE OF 0.4% FOR CONCRETE SURFACE, 0.6% FOR ASPHALT SURFACE, OR AS APPROVED BY THE CITY ENGINEERS OFFICE.

REVISED: 03/15/2013
CONTRACTION JOINT
(WITHIN RADIUS ONLY)
MINIMUM SPACE BETWEEN
JOINTS = 5.25" ON
CURB & GUTTER.

NOTE:
FOR NEW STREET CONSTRUCTION, EXTEND CRUSHED BASE COURSE
TO THE BACK OF THE CURB. MINIMUM THICKNESS OF CRUSHED BASE
CORSE BENEATH CURB AND GUTTER SHALL BE 6". FOR CURB
AND GUTTER REPLACEMENT PROJECTS, PROVIDE A MINIMUM OF 6"
OF CRUSHED BASE COURSE BENEATH NEW CURB AND GUTTER.

DOWEL WITH 2 #4X12"
DEFORMED EPOXY COATED
PREBAR SPACED FROM LIP
6" - 14" WITH 3-1/2" COVER (TYP).

STANDARD Rounding
AT STREET CORNERS

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
DETAILS OF STANDARD CURB & GUTTER
STANDARD DRAWING
Sm_M02528-1
FINISHED STREET SURFACE TO BE 1/8" TO 1/4" ABOVE GUTTER LIP.

CONTRACTOR SHALL BACKFILL CURB WITHIN 7 DAYS OF PLACEMENT

6" MIN. COMPACTED CRUSHED BASE COURSE

COMPACTED SUBGRADE

STANDARD DRIVE OVER CURB SECTION

CONTRACTION JOINT
(WITHIN RADIUS ONLY)
MINIMUM SPACE BETWEEN
JOINTS-5.25' ON CURB & GUTTER.

DOWEL WITH 2 #4X12"
DEFORMED EPOXY COATED
REBAR SPACED FROM LIP
6'-14' WITH 3-1/2' COVER (TYP).

NOTE:
1. MINIMUM CONCRETE THICKNESS REQUIRED AT THE FLOWLINE FOR DRIVE OVER CURB AND GUTTER SHALL BE 6".
2. USE FOR CURB REPLACEMENT AND REPAIR ONLY BY APPROVAL OF CITY ENGINEER.

15'-0" RESIDENTIAL
25'-0" ARTERIAL

STANDARD ROUNDOING AT STREET CORNERS

CITY ENGINEER APPROVAL

REVISED: 02/01/2018
APPROVAL DATE: 2/1/18

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
DETAILS OF DRIVE OVER CURB AND GUTTER
STANDARD DRAWING
Sm_M02528-2
DOUBLE GUTTER SECTION

NOTES:

1. MINIMUM CONCRETE THICKNESS REQUIRED AT THE FLOWLINE FOR FILLET SHALL BE 6'.

2. FOR 3' WIDE DOUBLE GUTTER SEE Sm_M02529-1
MONUMENT BOX

NEENAH FOUNDRY CO. (PATTERN NO. R-1971 OR PATTERN NO. 1970) OR APPROVED EQUAL.

ALTERNATE: 8" DIAMETER HOLE IN EXISTING GROUND WITH CONCRETE Poured AROUND PRECAST BASE.
<table>
<thead>
<tr>
<th>BLVD. WIDTH</th>
<th>TRANSITION WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0' TO 3.0'</td>
<td>FORM AS CURB WALK</td>
</tr>
<tr>
<td>3.0' TO 8.0'</td>
<td>3.0' TO 4.0' WIDE</td>
</tr>
<tr>
<td>8.0' TO &gt;</td>
<td>4.0' TO 5.0' WIDE</td>
</tr>
</tbody>
</table>

**NOTES:**

1. APPROACH WILL BE PLACED MONOLITHICALLY EXCEPT WHEN CURB MACHINE IS ALLOWED BY THE ENGINEER WITH DOBBELLING AT THE BACK OF CURB 2.0' ON CENTER, WITH #4 EPOXY COATED REBAR, 1.0' IN LENGTH.

2. PROVIDE RECTANGULAR JOINT PATTERN DEPENDENT ON WIDTH OF SLABS (NOT TO EXCEED 100 S.F. SURFACE).

3. WHEN PLACING MONOLITHIC APPROACH BETWEEN EXISTING CURB & GUTTER, DOWEL WITH 2 #4x12" DEFORMED EPOXY COATED REBAR AT ENDS, SPACED FROM LIP OF CURB 6" - 16"

4. DOBBELLING WITH #4 EPOXY COATED REBAR, 2.0' ON CENTER, 1.0 FEET IN LENGTH.
CURB/WALK TRANSITION ADDED TO BOTH SIDES OF CURB/WALK IS LESS THAN 7.0' WIDE. TRANSITION IS TO RUN PARALLEL WITH B-LINE. MAINTAIN 4.0' WIDE MINIMUM PEDESTRIAN PATH

* RETROFIT TRANSITION WIDTHS MAY VARY DEPENDING ON FIELD CONDITIONS.

SLOPE TO GUTTER

C-LINE

6" COMPACTED CRUSHED BASE COURSE (TYP)

SECTION A-A

NOTES:
1. APPROACH WILL BE PLACED MONOLITHICALLY EXCEPT WHEN CURB MACHINE IS ALLOWED BY THE ENGINEER WITH DOWELING AT THE BACK OF CURB 2.0' ON CENTER, WITH #4 EPOXY COATED REBAR, 1.0' IN LENGTH.

2. PROVIDE RECTANGULAR JOINT PATTERN DEPENDENT ON WIDTH OF SLABS (NOT TO EXCEED 100 S.F. SURFACE).

3. WHEN PLACING MONOLITHIC APPROACH BETWEEN EXISTING CURB & GUTTER, DOWEL WITH 2 #4X12" DEFORMED EPOXY COATED REBAR AT ENDS, SPACED FROM LIP OF CURB 6' - 18'

CITY ENGINEER
APPROVAL:
APPROVAL DATE: 2/21/09

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
CURB WALK DRIVE APPROACH DETAIL (WITH FLAIR SECTIONS)
STANDARD DRAWING
Sm_M02529-5B

REVISED: 01/18/2018
NOTES:
1. APPROACH WILL BE PLACED MONOLITHICALLY
2. APPROACHES WITH BOULEVARDS THAT EXCEED 120" IN DEPTH REQUIRE A TRANSVERSE JOINT.
3. WHEN PLACING MONOLITHIC APPROACH BETWEEN EXISTING CURB & GUTTER, DOWEL WITH 2 4x12" DEFORMED EPOXY COATED REBAR AT ENDS, SPACED FROM LIP OF CURB 6' - 18'
4. DWELLING WITH #4 EPOXY COATED REBAR, 2.0' ON CENTER, 10 FEET IN LENGTH
CURB WALK ALLEY APPROACH DETAIL
(SHAPED/FLAIR SECTIONS)

NOTES:
1. APPROACH WILL BE PLACED MONOLITICALLY.
2. TAPERS SHALL BE 5' IN LENGTH. STANDARD APPROACH WIDTH DOES NOT CHANGE.
3. WHEN PLACING MONOLITHIC APPROACH BETWEEN EXISTING CURB & GUTTER, DOWEL WITH 2, 4x12" DEFORMED EPONIC COATED REBAR AT ENDS, SPACED FROM LIP OF CURB 6" - 10"
TRUNCATED DOME PANEL REQUIREMENTS

TRUNCATED DOME PANELS TO BE CAST IRON IN MATERIAL OR APPROVED EQUAL. PANELS TO BE INSTALLED FOLLOWING MANUFACTURES RECOMMENDATIONS.

PANELS SHALL BE ALIGNED IN DIRECTION OF CROSSING.

PANELS TO BE AS WIDE AS THE RAMP, LANDING OR BLENDED TRANSITION.

PANEL EDGES TO BE FINISHED WITH SURROUNDING CONCRETE. TOOL ALL SURROUNDING EDGES WITH 1/8" RADIUS. FILL ALL GAPS AND EDGES WITH SINGLE COMPONENT, POLYURETHANE SEALANT.

NOTES

THESE DRAWINGS IDENTIFY THE GENERAL CONCEPTS OF RAMP CONSTRUCTION FOR THESE CONDITIONS. DETAILS MAY NEED TO BE MODIFIED TO FIT ACTUAL CONDITIONS. ALL SUCH MODIFICATIONS MUST BE APPROVED BY THE CITY ENGINEERS OFFICE PRIOR TO USE. FOR ADDITIONAL REQUIREMENTS SEE THE UNITED STATES ACCESS BOARD'S PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, JULY 26, 2011.

A LANDING (TURNING SPACE) 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED AT THE TOP OF THE CURB RAMP. WHERE THE LANDING IS CONSTRANDED AT THE BACK OF SIDEWALK, THE LANDING SHALL BE 4' MINIMUM BY 5' MINIMUM. THE SLOPE OF THE LANDING SHALL BE 1.5% (+/- 0.3%) IN ALL DIRECTIONS.

THE CURB RAMP RUNNING SLOPE SHALL NOT EXCEED A GRADE OF 8.3%. THE MAXIMUM CURB RAMP LENGTH SHALL NOT EXCEED 15'.

A DEPTH OF 6" OF CONCRETE OVER 6" OF CRUSHED BASE COURSE IS REQUIRED WHEN INSTALLING ACCESSIBILITY RAMPS. DOWEL RAMP TO CURB WITH EPOXY COATED #4 REBAR, 1' IN LENGTH, SPACED A MAXIMUM OF 2' APART.

RAMP LOCATIONS TO BE DETERMINED BY THE CITY ENGINEER'S OFFICE.

CITY ENGINEER: ___________
APPROVAL: ___________
APPROVAL DATE: 01/26/2018

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
ACCESSIBILITY RAMP DETAIL
STANDARD DRAWING
Sm_MO2529-8b
NOTE:
FRONT FACE OF MAILBOX SHALL BE SET BACK 4" TO 8" FROM FRONT FACE OF CURB

2" DIAMETER STANDARD STEEL, ALUMINUM PIPE OR WOODEN 4" X 4"

BOULEVARD WALK MAILBOX MOUNTING

NOTE:
FRONT FACE OF MAILBOX SHALL BE SET BACK 6" TO 8" FROM FRONT FACE OF CURB

2" DIAMETER STANDARD STEEL, ALUMINUM PIPE OR WOODEN 4" X 4"

CURB WALK MAILBOX MOUNTING

NOTE:
CLEAR PATH FOR PEDESTRIANS BEHIND THE MAILBOX

2" DIAMETER STANDARD STEEL, ALUMINUM PIPE OR WOODEN 4" X 4"

WILL REQUIRE CURB WALK WIDER THAN 5.0' AT MAILBOX

NOTE:
THIS STANDARD IS A GUIDELINE BASED ON USPS REGULATIONS,
NOTES:
ASPHALT SHALL BE ROLLED FOR COMPACTION PER SPECIFICATIONS.
LAST ONE FOOT OF HUMP SHALL BE TAPERED TO MATCH FLUSH WITH LIP OF CURB.
APPLY TACK COAT OVER CLEANED & SWEEP ASPHALT.
HUMP/TABLE SHALL BE CONSTRUCTED IN A MINIMUM OF 2 LIFTS.
ALLOWABLE CONSTRUCTION TOLERANCE: $1/8$ INCH.

SPEED HUMP DETAIL
NOT TO SCALE

SPEED TABLE DETAIL
NOT TO SCALE

REVISED: 01/25/18

CITY ENGINEER
APPROVAL:
APPROVAL DATE: 2/2/18

CITY OF BILLINGS
STANDARD MODIFICATIONS

SCALE: NONE

SPEED HUMP & SPEED TABLE DETAILS FOR RETROFIT INSTALLATION

STANDARD DRAWING
Sm_M02581-2
NOTES:
Refer to Section 02583 of City Standard Modifications for additional details.

For sign foundation detail, refer to STD. MOD. DWG NO. Sm-M02583-2.

All signs, except "No Parking" signs to be mounted at 80 degrees from sign face to face of curb. "No Parking" signs to be mounted at 45 degrees from sign face to face of curb.

Square tubing will be "Telespar" or approved equal.

Sign lettering will be "Highway Font" with height of lettering varying depending upon type of sign.

Drive rivets to be used on all signs with dimensions 30' x 30' or smaller. Hex bolts and washers to be used on all signs with dimensions greater than 30' x 30' (refer to STD. MOD. DWG NO. Sm-M02583-1B).

REVISED: 01/26/18

CITY OF BILLINGS
STANDARD MODIFICATIONS

TYPICAL STEEL POST MOUNTING DETAILS
(Signs W/Out Backbracing)

SCALE: NONE

STANDARD DRAWING
Sm-M02583-1A
NOTES:

REFER TO SECTION OS83 OF CITY STANDARD MODIFICATIONS FOR ADDITIONAL DETAILS.

FOR SIGN FOUNDATION DETAIL, REFER TO STD. MOD. SWG. NO. 5M-M03583-1.

ALL SIGNS, EXCEPT "NO PARKING" SIGNS, TO BE MOUNTED AT 90 DEGREES FROM SIGN FACE TO FACE OF CURB. "NO PARKING" SIGNS TO BE MOUNTED AT 45 DEGREES FROM SIGN FACE TO FACE OF CURB.

SQUARE TUBING WILL BE "TELESFAR" OR APPROVED EQUAL.

SIGN LETTERING WILL BE "HIGHWAY FONT" WITH HEIGHT OF LETTERING VARYING DEPENDING UPON TYPE OF SIGN.

SIGN BRACKES ARE REQUIRED ON ALL SIGNS WITH DIMENSIONS GREATER THAN 30"X30".

BACK-TO-BACK MOUNTED STREET NAME SIGNS DO NOT REQUIRE SIGN BRACING.
HOWERVER, BACK-TO-BACK MOUNTED STREET NAME SIGNS WIDER THAN 46" ARE REQUIRED TO BE BOLTED TOGETHER WITH 1/2" BOLT, LARGE PLATE WASHER, LOCK WASHER AND NUT.

SIGN BRACKES TO BE CONSTRUCTED WITH 1/2"X7" FLAT BAR.

DRIVE FRAMES TO BE USED ON ALL SIGNS WITH DIMENSIONS 90"X90", OR SMALLER.

HEX BOLTS AND WASHERS TO BE USED ON ALL SIGNS WITH DIMENSIONS GREATER THAN 30"X30" (REFER TO STD. MOD. SWG. NO. 5M-M03583-1A).

REVISED: 01/26/18
NOTES:

REFER TO SECTION 05303 OF CITY STANDARD MODIFICATIONS FOR ADDITIONAL DETAILS.

ALTERNATE CRASH TESTED AND APPROVED BREAKAWAY DEVICES MAY BE USED AS AN OPTION WITH PRIOR APPROVAL OF THE CITY OF BILLINGS.

CONTACT TRAFFIC ENGINEERS FOR INFORMATION.

USE CONCRETE CLASS "A" OR "B" WITH WOOD FLOAT FINISH ON TOP FORM TOP SIX INCHES OF FOUNDATION.

CALFANNE PIPE PER ASTM A 106B M 11.

PAINT PIPE WITH ONE SHOP COAT AND ONE FIELD COAT OF ZINC RICH BASE PAINT, AS SPECIFIED IN THE MONTANA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS SECTION N51. ON ALL SURFACES NOT IN CONTACT WITH CONCRETE.

CONFORM STEEL PIPE TO THE REQUIREMENTS OF ASTM A 53 TYPE E OR S, GRADE B.

SUBMIT SHOP DRAWINGS TO BE APPROVED BY THE CITY OF BILLINGS ENGINEERING DEPARTMENT BEFORE FABRICATION HAS BEGUN.

**SHIMS ARE NOT TO BE USED.

1) BASE POINT OF POST LENGTH MEASUREMENT, TYPE OF POSTS AND FOUNDATIONS, AS WELL AS LENGTHS ARE NOTED IN SIGNAGE QUANTITIES.
RED REFLECTORS ON BLACK BACKGROUND (TYP.)

NOTES:
REFER TO SECTION 65583 OF CITY STANDARD MODIFICATIONS FOR ADDITIONAL DETAILS.
FOR SIGN FOUNDATION DETAIL, REFER TO DRAWING NO. MD\_MO2583-2.
SQUARE TUBING WILL BE "TELSPAR", OR APPROVED EQUAL.

REVISED: 01/26/18
GENERAL NOTES:
1. MINIMUM COVER FOR SERVICE LINES SHALL BE MEASURED FROM EXISTING GROUND LINE WHEN GROUND IS LEVEL, OR FALLING AWAY FROM STREET, AND MEASURED FROM TOP OF STREET CURB WHEN GROUND IS RISING AWAY FROM STREET.
2. WATER SERVICE LINES SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED.
3. BEDDING SHALL BE 1 INCH DIAMETER MAXIMUM. MAXIMUM WITHIN 6" OF SERVICE PIPE.
CROSS-SECTION VIEW

3/4" CORPORATION STOP

3/4" SERVICE LINE

3/4" CURB STOP & WASTE

WATER MAIN

CORPORATION STOP AND SERVICE LINE PLACEMENT; INSTALL SERVICE LINE PIPE WITH "GOOSENECK" IN HORIZONTAL PLANE.

SELECT MATERIAL BACKFILL (SEE SPECIFICATIONS)

TRENCH BANK

CORPORATION STOP, MUELLER OR EQUAL;

9" MIN. RADIUS IN GOOSENECK.

3/4" MINIMUM DIAMETER SERVICE PIPE

CORPORATION STOP AND SERVICE LINE PLACEMENT, INSTALL SERVICE LINE WITH GOOSENECK IN HORIZONTAL PLANE.

DETAIL OF A PROPERLY INSTALLED CORPORATION STOP, SHOWING GOOSENECK IN SERVICE PIPE.

PLAN VIEW
NOTES:
1) THRUST BLOCKING TO BE IN CONFORMANCE WITH STANDARD DRAWING 2660-3.
2) FOR BOLTED FITTINGS, BLOCKING SHALL NOT OBSTRUCT BOLTS.
3) MECHANICAL RESTRAINT MAY BE REQUIRED.
NOTES:
1) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC
2) PIPE SHELL BE CENTERED IN TRENCH
PLAN

CASTING MUST BE CENTERED ON THE BARREL OPENING.

MATCH TYPICAL TOP OF CURB ELEVATION

2'-0'' ADJUSTING RINGS MIN. FOR FUTURE GRADE ADJUSTMENT

4'' @ 1.0'' O.C.
MAX EACH WAY SPACED EQUALLY

12'' MIN. DIA. LATERAL PIPE

LATERAL PIPE SHALL EXTEND INTO THE INLET BARREL
1'' MIN. TO 2'' MAX.

NOTES:
1) INLET BACKS TO BE PAINTED TRAFFIC RED AS INCIDENTAL TO THE WORK.
2) REMOVE SHIMS AND GROUT ANY GAPS BETWEEN THE CASTING, ADJUSTING RINGS, AND BARREL.
3) GROUT ALL LIFTING HOLES IN BARREL.
4) FIELD Poured BASE MUST BE EXTENDED 3' MIN. BEYOND OUTER EDGE OF CATCH BASIN WALL.
   SMOOTH FINISH.
5) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC

SECTION

6'' MIN. 12'' MAX. SEDIMENTATION BASIN

1% MIN. SLOPE

GROUT OR USE RUBBER BOOT

MAX. BARREL HEIGHT = 6'

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE

2' x 3' STANDARD STORM DRAIN INLET, TYPE II & III

STANDARD DRAWING
Sm_M02720-1g

REVISED: 01/18/2018
INLET IS NOT TO BE USED IN NEW INSTALLATION UNLESS APPROVED BY CITY ENGINEER

PLAN

CASTING MUST BE CENTERED ON THE BARREL OPENING.

NOTES:
1) INLET BACKS TO BE PAINTED TRAFFIC RED AS INCIDENTAL TO THE WORK.
2) REMOVE SHIMS AND GROUT ANY GAPS BETWEEN THE CASTING, ADJUSTING RINGS, AND BARREL.
3) GROUT ALL LIFTING HOLES IN BARREL.
4) FIELD Poured BASE MUST BE EXTENDED 3' MIN. BEYOND OUTER EDGE OF CATCH BASIN WALL, SMOOTH FINISH.
5) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC

SECTION

5 3/4"

12" MIN. DIA.
LATERAL PIPE

1/2 MIN. SLOPE

18" MIN. 12" MAX.
SEDIMENTATION BASIN

30" R.C.P.
CLASS II, WALL B (ASTM C-76)

2-2' ADJUSTING RINGS MIN. FOR FUTURE GRADE ADJUSTMENT

GROUT OR USE RUBBER BOOT

LATERAL PIPE SHALL EXTEND INTO THE INLET BARREL 1' MIN. TO 2' MAX.

BASE OPTION: (PRE-CAST OR FIELD POURED) FIELD POURED WITH SMOOTH FINISH.

CITY ENGINEER
APPROVAL: 2/2/18
APPROVAL DATE: 2/2/18

REVISED: 01/18/2018

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
30" STANDARD STORM DRAIN INLET, TYPE II AND III
STANDARD DRAWING
Sm_M02720-1b
NOTE:
USE OF TYPE I STORM DRAIN INLET MUST BE SPECIFICALLY APPROVED BY THE CITY ENGINEER.
NOTES:
1) REMOVE SHIMS AND GROUT ANY GAPS BETWEEN THE CASTING, ADJUSTING RINGS, AND BARREL.
2) GROUT ALL LIFTING HOLES IN BARREL.
3) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC.

* STANDARD, EXCEPT AS OTHERWISE NOTED ON THE PLAN - PROFILE SHEET.

SECTION

NOTE:
FOR INSTALLATION IN GRAVEL ALLEYS PIPE INVERT MUST BE 6" MIN. ABOVE BASE SHELF ON BASE NOT REQUIRED.

30" STANDARD RISER INLET, TYPE IV INLET OR ALTERNATE BEE-HIVE CASTING
ADJUSTABLE RINGS
SEE DETAIL Sm_M02213-1

MANHOLE RING & COVER SHALL
BE ADJUSTED TO CROWN &
GRADE OF STREET.

NOTES:
1) REMOVE SHIMS AND GROUT ANY
GAPS BETWEEN THE CASTING,
ADJUSTING RINGS, AND BARREL.
REMOVE EXCESS GROUT.
2) GROUT ALL LIFTING HOLES
IN BARREL.

CONCENTRIC MANHOLE CONE

SLOPE AT 1" PER FOOT

SHELF SLOPE AT CROWN
(PIPE ≥ 8")

SHELF SLOPE AT SPRING
LINE (PIPE ≤ 8")

SANITARY SEWER
SECTION A-A

STORM DRAIN
SECTION A-A

NOTE:
1) ALL JOINTS BETWEEN MANHOLE SECTIONS,
ADJUSTING RINGS, MANHOLE RING & TOP SECTION,
AND AROUND SEWER PIPE INTO MANHOLE SHALL BE
WATERTIGHT. JOINTING MATERIAL SHALL BE "RAM-NEK"
OR EQUAL FOR ALL JOINTS EXCEPT BETWEEN SEWER
PIPE AND MANHOLE WALL.
2) ADJUSTING RINGS AND CASTING SHALL BE CENTERED
ON MANHOLE.
3) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED
IN A NON-WOVEN GEOTEXTILE FABRIC.
4) ECCENTRIC MANHOLES MAY BE USED BY OWNER
APPROVAL.

ALL LATERAL PIPES SHALL BE FINISHED
FLUSH WITH INNER BARREL WALL.

PRECAST OR Poured-IN-PLACE BASE, Poured-IN-PLACE
BASE, MINIMUM CONCRETE THICKNESS BELOW PIPE
IS 8 INCHES. PRECAST BASE, MINIMUM THICKNESS TO BE
6 INCHES, POURED IN PLACE BASE TO EXTEND BEYOND
OUTER EDGE OF MANHOLE WALL.
NOTES:
1. REMOVE SHIMS AND GROUT ANY GAPS BETWEEN THE CASTING, ADJUSTING RINGS, AND BARREL.
2. GROUT ALL LIFTING HOLES IN BARREL.

NOTE:
1) ALL JOINTS BETWEEN MANHOLE SECTIONS, ADJUSTING RINGS, MANHOLE RING & TOP SECTION, AND AROUND SEWER PIPE INTO MANHOLE SHALL BE WATERTIGHT. JOINTING MATERIAL SHALL BE "RAM-NEK" OR EQUAL FOR ALL JOINTS EXCEPT BETWEEN SEWER PIPE AND MANHOLE WALL.
2) ADJUSTING RINGS AND CASTING SHALL BE CENTERED ON MANHOLE.
3) PIPE BEDDING IN GROUNDWATER SHALL BE WRAPPED IN A NON-WOVEN GEOTEXTILE FABRIC

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
STANDARD STRAIGHT MANHOLE
ASTM C-478
STANDARD DRAWING
Sm_M02720-4
2" LETTERING (RECESSED FLUSH)
NOTE:
WEIGHT 235 lbs. (MIN)

CITY ENGINEER
APPROVAL: [Signature]
APPROVAL DATE: 2/13/18

REVISED: 02/13/2018

CITY OF BILLINGS
STANDARD MODIFICATIONS

SCALE: NONE

STANDARD 24" CAST IRON RING

STANDARD DRAWING
Sm_M02720-9
NOTE: END OF STORM DRAIN SERVICE STUB IS TO EXTEND TO PROPERTY LINE OR THROUGH EXISTING UTILITY EASEMENT.
NOTE:
END OF SANITARY SEWER SERVICE STUB IS TO EXTEND TO PROPERTY LINE OR THROUGH EXISTING UTILITY EASEMENT.
STEEL POST PAINTED GREEN AT END OF MARKER

PROPERTY LINE

2"x4" WOOD MARKER

PLUG

6" MIN. SERVICE LINE SLOPE AT 1/4" PER FOOT MIN.

TRENCH (SEE SPECS)

UNDISTURBED MATERIAL

DOUBLE BELL RISER ADAPTER

MAXIMUM 45° BEND TO ACHIEVE REQUIRED ROTATION ANGLE

TEE

TYPE I BEDDING REQUIRED

SEWER MAIN

PIPE BEDDING ZONE

4" ABOVE TRENCH BOTTOM

WHEN ROTATION OF TEE EXCEEDS 45° FROM HORIZONTAL, REFER TO UNI-BELL HANDBOOK FOR PVC PIPE DESIGN AND CONSTRUCTION

IMPORTANT NOTES:
DO NOT ALLOW THE RISER PIPE TO SETTLE DURING COMPACTION/BACKFILL.
REFER TO PIPE MANUFACTURER RECOMMENDATIONS FOR CARE OF INSTALLATION.

NOTE:
END OF SANITARY SEWER SERVICE STUB IS TO EXTEND 2' TO PROPERTY LINE OR THROUGH EXISTING UTILITY EASEMENT.

CITY OF BILLINGS STANDARD MODIFICATIONS

SCALE: NONE

DEEP SANITARY SEWER SERVICE LINE FOR SEWERS > 13 FT. DEEP

STANDARD DRAWING

Sm_M02730-3

REVISED: 03/15/2013
NOTE:
INTERIOR DROPS MAY BE APPROVED BY CITY ENGINEER ON A CASE-BY-CASE BASIS

HORSESHOES (SEE DETAIL ABOVE)

FILL WITH CRUSHED GRAVEL AROUND ALL SIDES OF PIPE

2/3 DIA OF PIPE

7'-1"
21'

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
SANITARY DROP MANHOLE

CITY ENGINEER
APPROVAL: [Signature]
APPROVAL DATE: 2/2/15

REVISED: 01/22/2015

STANDARD DRAWING
Sm_M02730-4
When possible all low pressure sanitary sewer mains and appurtenances shall be located out of the street section and between the street curb and street property line. Effort shall be made to keep the main from under any concrete surface improvements. No low pressure sanitary sewer service shall be located under the street section.

Extension type curb box with Minneapolis pattern base material: cast iron heavily coated with asphalt-base paint.

Available extended lengths: 3.5 ft, 4.0 ft, 4.5 ft, 5.0 ft, 5.5 ft, 6.0 ft, 6.5 ft, 7.0 ft, 7.5 ft, 8.0 ft

(* Telescope to one foot less than fully extended length)

1-1/2" SDR 7 HDPE pipe

Grip joint coupling
Material: Water works brass or approved equal

Valve curb stop with grip joint coupling or approved equal

Pressure rating: 150 psi

All pack joint couplings supplied with insert stiffeners

Assembly to be used with 1-1/2" SDR 7 pipe only.
ANY UTILITY FACILITIES, LIGHTS, STANDARDS, FIRE HYDRANTS, STREET SIGNS, SIGNALS, INLETS OR OTHER PUBLIC IMPROVEMENTS OR INSTALLATIONS

WIDTHS OF CURBCUTS

SINGLE FAMILY RESIDENTIAL ZONED DISTRICTS: 12' MINIMUM – 30' MAXIMUM

COMMERCIAL, PROFESSIONAL AND INDUSTRIAL ZONE DISTRICTS: 12' MINIMUM – 30' MAXIMUM

SERVICE STATIONS AND TRUCKING BUSINESSES MAY BE UP TO FORTY (40) FEET WHEN APPROVED BY THE CITY

MULTIFAMILY ZONE DISTRICTS: 12' MINIMUM – 36' MAXIMUM

SEE BILLINGS CITY CODE SECTION 6-1208 CURB CUT REGULATIONS

*=TOP OF TRANSITION (TYP)

REVISED: 01/22/2018

CITY ENGINEER
APPROVAL: 2/24/18
APPROVAL DATE: 2/24/18

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
CURB CUT ORDINANCE
SEC. 6-1208, B.M.C.C.
STANDARD DRAWING
Curb_Cut_Ord
SAFE HIT SH2425MRD-YA, OR APPROVED EQUAL 42" YELLOW POST WITH ONE 3" X 9" HIGH INTENSITY AMBER REFLECTIVE STRIP WITH PIN-LOCK SURFACE MOUNT BASE

NOTES:

USE FLEXIBLE DELINEATORS SIMILAR TO THE DESIGN AND SPECIFICATIONS SHOWN ON THIS SHEET OR IN THE SPECIFYING PLANS OF THE CONTRACT.

MOUNT OR EMBED FLEXIBLE DELINEATORS TO THE MANUFACTURER'S SPECIFICATIONS.

RETRO-REFLECTORIZE FLEXIBLE DELINEATORS, IF REQUIRED IN PLAN SPECIFICATIONS, BY THE ADDITION OF DELINEATOR CRYSTALS. EITHER 1" X 7" OR 3" DIAMETER, OR BY ADDING TWO 3" MINIMUM WIDTH BANDS OF RETRO-REFLECTIVE SHEETING TYPE HL, 360° AROUND THE TOP OF THE DELINEATOR. USE THE COLOR OF THE DELINEATOR CRYSTALS OR RETRO-REFLECTORIZED MATERIAL AS SHOWN IN THE SPECIFYING PLANS OF THE CONTRACT OR THE MUTCD.

THE EXACT LOCATION AND PLACEMENT OF THE FLEXIBLE DELINEATORS ARE SHOWN IN THE SPECIFYING PLANS.

TYPICAL USE AND PLACEMENT

CITY ENGINEER
APPROVAL
APPROVAL DATE: 3/27/18

CITY OF BILLINGS
STANDARD MODIFICATIONS
SCALE: NONE
FLEXIBLE CHANNELIZER
TUBULAR MARKER
STANDARD DRAWING
DELINEATOR

CURB FACE OR EDGE OF PAINT

DELINEATOR

RAISED OR PAINTED MEDIAN

4'-0" MIN. TO 7'-0" MAX. (5'-0" STD.) FROM NOSE OF RAISED OR PAINTED MEDIAN (UNLESS SPECIFIED OTHERWISE)
Provide pull boxes constructed of Class "09" concrete or equal.

Reinforced cage size 16 gauge galvanized 1/4" mesh.

Pull box - concrete minimum dimensions:

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Note: When replacing an existing pull box, adjust conduit stub height accordingly.

Pull box installed in a sidewalk or asphalt:

Pull box installed in dirt:

Electrical bond #8 AWG copper or equal.

1" clean stone drainage no higher than 2" inside bottom of pull box.