**NOTES:**
1. POSTS SHOULD BE SET IN CONCRETE - MIN. 2' BEHIND PATH.
2. A SECOND POST WILL BE SET 18'+/- AWAY FROM SUPPORT POST TO LOCK PIPE GATE IN OPEN POSITION.
3. ASSUMING 200 PSF SOIL PRESSURE
4. PROVIDE SHOP DRAWINGS FOR REVIEW
5. ALUMINUM SIGN READING "PATH CLOSED DUE TO HIGH WATER - PLEASE USE ALTERNATE ROUTE. EL PASADERO CERRO DEBIDO REGAR ALTO - POR FAVOR USE ALTERNATIVA LA RUTA PASADERO" TO BE INSTALLED ON BACKING PLATE.
6. REFLECTIVE TAPE REQUIRED ON ALL POSTS.
7. 3/16" CHAIN REQUIRED ON POSTS TO SECURE GATE OPEN AND CLOSED.
8. FINISH TO BE GALVANIZED OR APPROVED EQUAL.

**18' FLOOD GATE**

**NOT TO SCALE**

Rev. 10/07
**603.01 BACKFLOW PREVENTER, CONCRETE VAULT AND DOWNSTREAM ASSEMBLIES**

(NOTE: DETAIL ONLY FOR TAPS WITH A WAIVED FEE SIZED 2" OR LESS.)  

**REV. 10/07**
NOTES:

1) NOMINAL VALVE AND FITTING SIZES SHALL BE IDENTICAL WITH MAINLINE PIPE SIZE UNLESS OTHERWISE NOTED.

2. DEPTH OF BURY OF GATE VALVE TO BE 24" MIN.

3. SEE BACKFLOW PREVENTER, METER PIT & DOWNSTREAM ASSEMBLIES DETAIL.

4. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.
TWO (2) CONDUCTOR TWISTED PAIR SHIELDED DIRECT BURIAL CABLE FOR CONNECTION TO TRANSMITTER
WATER PROOF CONNECTION (1 OF 2) SEE APPROVED MATERIALS LIST.

FLOW METER: SEE APPROVED MATERIALS LIST.

MIN. 10 PIPE DIA. STRAIGHT PIPE BEFORE ANY BEND IN PIPE
MIN. 5 PIPE DIA. STRAIGHT PIPE BEFORE ANY BEND IN PIPE

PVC MAINLINE TO SYSTEM
CONCRETE BOTTOM OF METER VAULT

NOTES: 1. LOCATION OF FLOW METER ASSEMBLY TO BE LOCATED WITHIN METER PIT (SEE DETAIL) AND DETERMINED BY DISTANCES NOTED ON DETAIL ABOVE.
2. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

FLOW METER ASSEMBLY

603.03
Rev. 10/07
NOTES:
1. FITTINGS AND MASTER VALVE TO BE SIZED IDENTICALLY WITH MAINLINE.
2. MASTER VALVE TO BE LOCATED WITHIN METER PIT (SEE DETAIL).
3. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

MASTER VALVE ASSEMBLY

603.04 Rev. 10/07
NOTES:

1. CONTRACTOR SHALL ARRANGE AND PAY COST ASSOCIATED WITH INSTALLATION OF ELECTRICAL POWER.

2. ALL ELECTRICAL COMPONENTS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH CITY OF LONGMONT REGULATIONS AND ALL APPLICABLE ELECTRICAL CODES.

3. CONNECT FLOW METER AND MASTER VALVE WIRING TO TRANSMITTER.

4. SEE SPECIFICATIONS FOR EQUIPMENT AND INSTALLATION REQUIREMENTS.

5. AREAS NOT TO BE MAINTAINED BY THE CITY OF LONGMONT — HUNTER ICC SERIES CONTROLLER INSTEAD OF SATELLITE FIELD UNIT. HOFFMAN SECURITY ENCLOSURES REQUIRED FOR ALL SYSTEMS.

6. IF MULTIPLE CONTROLLERS ARE NEEDED, PIGGYBACK UNITS ARE REQUIRED. NO SEPARATE CONTROLLERS PERMITTED FOR THE SAME SYSTEM WITHOUT APPROVAL FROM PARKS.

7. PURCHASE OF SATELLITE FIELD UNIT THROUGH CITY OF LONGMONT PARKS AND FORESTRY IS AN AVAILABLE OPTION. CONTACT PARKS FOR INFORMATION.

8. ONE PROGRAMMED HAND HELD REMOTE AND CHARGER WITH EACH FIELD UNIT REQUIRED.

9. SEE CITY OF LONGMONT DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.
NOTES:
1. INSTALL VERTICAL NIPPLE WITH LENGTH ADEQUATE TO ALLOW REMOVAL OF REMOTE CONTROL VALVE WITHOUT CUTTING PIPE OR REMOVING BONNET (IE. VALVE STEM SHOULD CLEAR MAINLINE PIPE).
2. FITTINGS AND BALL VALVE TO BE SIZED IDENTICALLY WITH CONTROL VALVE.
3. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

REMOTE CONTROL VALVE ASSEMBLY

Rev. 10/07
NOTES:

1. QUICK COUPLER TO BE LOCATED IN THE CENTER OF THE VALVE BOX - PLACED AND STAKED COMPLETELY VERTICAL.

2. DEPTH OF BURY OF MAINLINE TO BE 24" MIN.

3. SEE DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.
24-inch length of wire plus
3 spare wires - all coiled
in each valve box

Water proof connection (1 of 2)
Valve box with cover: see
Approved Materials List.
Brand "SY" and station # on
lid with 3-inch high letters

Finish grade

Remote control valve: see
Approved Materials List.
(Sized as shown on drawings)

PVC SCH 80 nipple (close)

PVC SCH 40 elbow (1 of 2)

Brick on compacted soil (1 of 4)
= place 50 bricks are not
directly over mainline.

PVC SCH 80 nipple (refer to note 1)

PVC mainline

SCH 80 nipple (2-inch length,
hidden)
PVC SCH 40 tee or elbow
Pressure regulator & y-strainer
3.0-inch minimum depth of
3/4-inch washed gravel
PVC SCH 80 union

Notes:
1. Fittings and ball valve to be sized identically with control valve.
2. See City of Longmont Design Standards & Construction Specifications
   and approved materials list for approved products and installation requirements.

603.08 Drip Remote Control Valve Assembly
Rev. 10/07
TEE OR EL ON MAINLINE PIPE

10" VALVE BOX WITH COVER; SEE APPROVED MATERIALS LIST. BRAND "DV" IN LID WITH 3-INCH HIGH LETTERS.
FINISH GRADE

6-INCH PVC CL 160 PIPE
(LENGTH AS REQUIRED)

BRICK (1 OF 2)

PVC SCH 80 NIPPLE (2.0-INCH LENGTH)
PVC SCH 80 NIPPLE (4.0-INCH LENGTH)
PVC SCH 80 EL (1 OF 2)
PVC SCH 80 NIPPLE (4.0-INCH LENGTH)

SUMP OF 4.0 CUBIC FEET OF 3/4-INCH WASHED GRAVEL
3/4-INCH BALL VALVE WITH TEE
HANDLE: SEE APPROVED MATERIALS LIST.
PVC SCH 80 NIPPLE (9.0-INCH LENGTH)

NOTE:
1. SLEEVE TO BE SET SQUARE OVER BALL VALVE TO ALLOW FOR OPERATION OF VALVE WITHOUT BINDING.
2. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST.

MANUAL DRAIN VALVE ASSEMBLY

603.09
Rev. 10/07
10" VALVE BOX WITH COVER: SEE APPROVED MATERIALS LIST. BRAND "DV" IN LID WITH 3-INCH HIGH LETTERS. FINISH GRADE

6-INCH PVC CL 160 PIPE (LENGTH AS REQUIRED)

BRICK (1 OF 2)

NOTE:
1. SLEEVE TO BE SET SQUARE OVER BALL VALVE TO ALLOW FOR OPERATION OF VALVE WITHOUT BINDING.
2. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

GATE VALVE ASSEMBLY

603.10 Rev. 10/07
THRUSt BLOCK SURFACE AREA AGAINST UNDISTURBED SOIl (SF)

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>BENDS</th>
<th>TEE OR DEAD END</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22-1/2&quot;</td>
<td>45°</td>
</tr>
<tr>
<td>3&quot;</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>4&quot;</td>
<td>0.5</td>
<td>1.1</td>
</tr>
</tbody>
</table>

*BASED ON 2,000 PSF SOIL BEARING CAPACITY

NOTES:

1. USE NO. 4 REBAR WITH Mastic CoATING Where Pipe MUST BE ANCHORED TO THRUSt BLOCK.
2. INSTALL THRUSt BLOCK SO The HORIZONTAL AND VERTICAL DIMENSIONS OF THE THRUSt BLOCK ARE APPROXIMATELY EQUAL.
3. INSTALL THRUSt BLOCKS AGAINST UNDISTURBED SOIl.
4. KEEP WIRES CLEAR OF THRUSt BLOCK.
5. IRRIGATION CONTRACTOR SHALL VERIFY SOIL BEARING CAPACITY. IF SOIL BEARING CAPACITY VARIES FROM ASSUMPTION LISTED ABOVE, CONTRACTOR SHALL RE-DESIGN AS NEEDED.

ConCrETe THRUSt BLOCK DETAIL

Rev. 10/07
BIKEPATH OR WALK
4"-6" CLEARANCE

FINISH GRADE

POP-UP ROTOR SPRINKLER
W/ STAINLESS RISER - SEE
APPROVED MATERIALS LIST.

PVC SCH 80 NIPPLE
(LENGTH AS REQUIRED)

PVC SCH 40 EL

PVC SCH 40 STREET EL

PVC LATERAL PIPE

PVC SCH 40 TEE OR EL

PVC SCH 80 NIPPLE
(LENGTH AS REQUIRED)

NOTES:
1. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND
APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

603.12 POP-UP ROTOR SPRINKLER
ASSEMBLY

Rev. 10/07
FINISH GRADE

CONCRETE BIKE PATH

POP-UP SPRAY SPRINKLER:
SEE APPROVED MATERIALS LIST.

RED HEADS IN 6" DEPTH OF SAND WHEN
LOCATED ADJACENT TO WALKS & BIKEPATHS.

1/2-INCH MALE NPT x .490 INCH BARB
ELBOW: SEE APPROVED MATERIALS LIST.
CRIMP-TYPE CLAMP

PVC LATERAL PIPE

PVC SCH. 40 TEE OR EL.

SWING PIPE, 12-INCH LENGTH (MIN.):
TO MATCH PIPE BRAND. SEE APPROVED MATERIALS LIST.

NOTES:
1. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND
APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

603.13 POP-UP SPRAY SPRINKLER ASSEMBLY
Rev. 10/07
FLUSH CAP ASSEMBLY

NOTES:

1. FLUSH CAP ASSEMBLY TO BE LOCATED AT THE TERMINUS OF EACH Drip LINE.
2. INSTALL TRACER WIRE TO END OF EACH Drip LINE BRANCH (TO TREES IN TURF AREAS ONLY) FOR EASE OF FUTURE LOCATES.
3. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

603.14

Rev. 10/07
LEGEND
1. SPIRAL BARB Emitter — See approved materials list.
2. 4" Minimum depth of mulch over weed barrier
3. Undisturbed soil
4. Drip lateral pipe — See approved materials list.

NOTES:
1. Provide sufficient stakes to secure pipe below mulch.
2. Emitter to be placed within planting pit area of shrubs or trees. If sloped area, place on uphill side of planting.
3. 2 - 1 gal/hr emitters per shrub & 4 1 gal/hr emitters / tree (2" cal. size) are required. Space emitters evenly.
4. See city of longmont design standards & construction specifications and approved materials list for approved products and installation requirements.
5. No spaghetti tubing allowed.
6. Tracer wire to be installed with all buried drip pipe in native grass areas and in other areas where not located at the surface in a shrub bed.

603.15 Drip detail in shrub beds
Rev. 10/07
NOTES
1. SPIRAL BARB EMITTER - SEE APPROVED MATERIALS LIST.
2. 3" MINIMUM DEPTH OF COVER BELOW MULCH IN PLANTING PITS.
3. 12" MIN. TRENCH DEPTH FOR Drip LATERALS BETWEEN PLANTINGS.
4. Drip LATERAL PIPE - SEE APPROVED MATERIALS LIST.
   (NO 1/4" DISTRIBUTION TUBING (SPAGHETTI TUBING) ALLOWED)
5. 2" DIAMETER Drip PIPE TO CIRCLE EACH TREE. 18" DIAMETER Drip PIPE
   TO CIRCLE EACH SHRUB IN OPEN TURF AREAS. STAKE SECURELY
   AT PERIMETER OF PLANTING PIT AND COVER WITH 3" MIN. DEPTH MULCH.
6. ALL FITTINGS TO BE SECURED WITH STAINLESS COMPRESSION TYPE
   FITTINGS, OR APPROVED EQUAL.
7. INSTALL TRACER WIRE DIRECTLY ABOVE Drip LATERALS BURIED UNDER
   TURF AREAS FOR EASE OF FUTURE LOCATES.

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Drip Lateral Line

Barb Emitters - Space Evenly

Finish Grade

Drip Lateral W/ Elbow & Riser
To Grade. See Connection To
Circle Per Notes.

1 - #14 UL Tracer Wire

NOTES:
1. SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND
   APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

DRIP TO TREES IN OPEN TURF AREAS

603.16
Rev. 10/07
NOTE: SET ROOT FLARE OF ALL TREES 4" ABOVE GRADE IN IRRIGATED AREAS AND AT GRADE TO 2" ABOVE GRADE IN NON-IRRIGATED AREAS. MODIFY IF SOIL CONDITIONS WARRANT & PER CITY DIRECTION. INSTALL A 5" HIGH BERM AROUND TREES TO CREATE A WATERING BASIN. BERM IS TEMPORARY IN IRRIGATED AREAS. REMOVE BERM AFTER TWO THOROUGH WATERINGS IN IRRIGATED AREAS & MULCH. LEAVE BERM & MULCH IN NON-IRRIGATED AREAS & IN AREAS ONLY IRRIGATED BY Drip SYSTEMS AFTER DRYLAND GRASS ESTABLISHMENT PERIOD.

3" – 4" DEEP APPROVED MULCH Flush with sod at edge. & to be kept 2" from trunk. Tree well to be 5" minimum diameter.

PLANTING HOLE: ROOTBALL TO BE PLACED ON UNDISTURBED SOIL AT DEPTH AS NOTED. HOLE TO BE MORE OF A "DISH" SHAPE RATHER THAN CYLINDRICAL.

REMOVE BOTTOM 1/3 OF WIRE BASKET. SET TREE IN PIT TO PROPER GRADE AND PLUMB. REMOVE REMAINING WIRE & TWINE. IF PLASTIC OR TREATED BURLAP, REMOVE AS MUCH AS POSSIBLE & BACKFILL. IF REGULAR BURLAP, BACKFILL 2/3 OF PIT. REMOVE TOP 1/3 OF BURLAP & COMPLETE BACKFILL.

UNDISTURBED SOIL

DIAMETER 3X BALL WIDTH

TREES IN GRASS AREAS:
PROVIDE A MINIMUM 4' RADIUS FROM TRUNK TO SEED/SOD.

PRUNE AS DIRECTED BY OWNER'S REPRESENTATIVE. DO NOT PRUNE OR DAMAGE CENTRAL LEADER.

WRAP TRUNK FROM GROUND LEVEL TO SECOND BRANCH WITH 4" KRAFT TYPE TREE WRAP. SECURE ENDS WITH FLEXIBLE TAPE.

APPROVED GUING SYSTEM:
MIN. 6' LONG HEAVY DUTY T-BAR STEEL POST STAKES WITH WHITE T-POST CAPS OR 6' WOODEN POLE STAKES (PREFERRED). GUYS ARE TO BE 17 GAUGE GALVANIZED STEEL WIRES OR STRAP-X GUYS (PREFERRED) SECURED TO TREE WITH CANVAS STRAP ABOVE FIRST BRANCH. WIRE TO BE TAUT BUT NOT OVER-TIGHT. FLAG WIRE WITH WHITE PLASTIC FLAGGING TAPE OR PVC PIPE.

CONIFERS TO HAVE 2 STAKES FOR TREES 6' AND LESS, 3 STAKES FOR TREES ABOVE 6'. NO SHORT STAKES PERMITTED FOR EVERGREENS. DECIDUOUS TREES TO HAVE 2 STAKES FOR TREES 2-1/2" CAL. AND LESS, 3 STAKES ABOVE 2-1/2" CAL. ONE STAKE ALWAYS IN DIRECTION OF PREVAILING WINDS. REMOVE STAKES & GUYS AFTER 1 YEAR OR BEFORE FINAL ACCEPTANCE BY CITY.

PREPARED BACKFILL MIXTURE:
1. ONE PART SOIL AMENDMENT – SEE APPROVED MATERIALS LIST.
2. TWO PARTS TOPSOIL.
3. THREE PARTS NATIVE SOIL
4. SUPERPHOSPHATE AMENDMENT
5. MATERIALS TO BE THOROUGHLY BLENDED.

NOTES: SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

ADD BEAVER PROTECTION AROUND DECIDUOUS PLANTINGS WITHIN 200' OF ALL RIPARIAN AREAS, PER CITY STANDARDS.

606.01 TREE PLANTING DETAIL
Rev. 10/07 NOT TO SCALE
PRUNE DEAD OR DAMAGED BRANCHES PRIOR TO PLANTING. IF FORM IS COMPROMISED BY PRUNING, REPLACE SHRUB.

SPACE PLANTS AND SET PLUMB FOR BEST EFFECT.

MOUND COMPACTED BACKFILL UNDER ROOTBALL OR SET ON UNDISTURBED SOIL.

SPLIT BOTTOM 1/2 OF BALL. SPREAD AND PLANT.

REMOVE ALL CONTAINERS, BASKETS, WIRE ETC. FROM ROOTBALL

18" MINIMUM FROM EDGE OF MATURE PLANT SPREAD TO EDGER OR CONCRETE.

SET SHRUB PLUMB. TOP OF ROOT BALL TO BE SLIGHTLY ABOVE FINISH GRADE.

3" - 4" DEEP APPROVED MULCH INSIDE SAUCER, ON GEO-TEXTILE WEED BARRIER. BUILD A 4" BASIN AROUND PIT IN NON-IRRIGATED AREAS ONLY.

PREPARED BACKFILL MIXTURE:
1. ONE PART SOIL AMENDMENT - SEE APPROVED MATERIALS LIST.
2. TWO PARTS TOPSOIL.
3. THREE PARTS NATIVE SOIL.
4. SUPERPHOSPHATE AMENDMENT.
5. MATERIALS TO BE THOROUGHLY BLENDED.

NOTES: SEE CITY OF LONGMONT DESIGN STANDARDS & CONSTRUCTION SPECIFICATIONS AND APPROVED MATERIALS LIST FOR APPROVED PRODUCTS AND INSTALLATION REQUIREMENTS.

ADD BEAVER PROTECTION AROUND DECIDUOUS PLANTINGS WITHIN 200' OF ALL RIPARIAN AREAS, PER CITY STANDARDS.

606.02 SHRUB PLANTING DETAIL

REV. 10/07 NOT TO SCALE