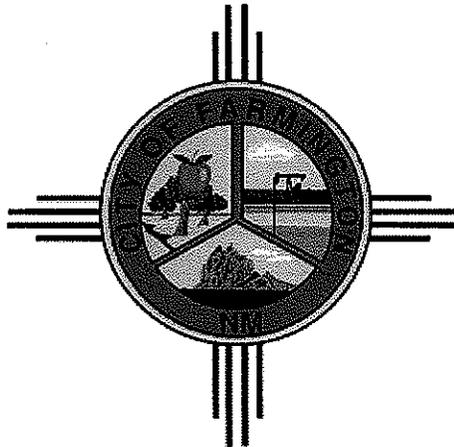


TECHNICAL SPECIFICATIONS & CONSTRUCTION STANDARDS

AN ADDENDUM TO THE NEW MEXICO
STANDARD SPECIFICATIONS FOR PUBLIC
WORKS CONSTRUCTION



CITY OF FARMINGTON, NEW MEXICO
PUBLIC WORKS

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DATE: 4-4-14

PURPOSE: The technical specifications and construction standards in this document are an addendum to the NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2006 Edition or latest versions, revisions or editions, which serve to provide minimum standards to safeguard public welfare by regulating and controlling construction and quality of materials within this jurisdiction. The provisions of these standards shall apply to all construction, alteration and demolition within this jurisdiction. Where, in any specific case, different sections specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

TECHNICAL SPECIFICATIONS

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GENERAL SPECIFICATIONS: Unless specifically indicated otherwise, all work and materials for projects shall conform to the New Mexico Standard Specifications for Public Works Construction, 2006 Edition or latest versions, revisions or editions, as supplemented or changed herein and as noted above.

NOTE: ITALIC BOLDED ITEMS ARE CHANGES

Note: All Brass Fittings supplied shall meet the new low lead requirements of the U.S. Safe Drinking Water Act, which goes into effect in January 2014.

*Sections Changed

SECTION 101

PORTLAND CEMENT CONCRETE

101.3.1 PORTLAND CEMENT

Cement to be used under this contract shall be Type II unless otherwise specified.

101.4.1 AGGREGATE GRADING

Unless otherwise specified, the coarse aggregate shall be Class (c) No. 67. 3/4 inch to No. 4.

101.6.1 ADMIXTURES

All exterior concrete placed under this contract shall have air entrainment in the amounts specified under this paragraph.

Table 101 PORTLAND CEMENT CONCRETE PARAMETERS

Change the design strengths in Table 101 to the following: sidewalks and drivepads to 3000 psi; curb and gutter to **3500** psi; structural concrete to 4000 psi in 28 days. All valley gutters will achieve a minimum compressive strength of **3500** psi in 24 hours.

101.15 TESTS (Add the following paragraph)

The Engineer may require a reasonable number of additional tests during the progress of the work. Additional tests specimens cured entirely under field conditions may be required by the Engineer to check the adequacy of curing and protection of the concrete.

101.16 MEASUREMENT AND PAYMENT (Delete the section and add the following)

The cost of said Portland cement concrete will be included in related items of work and no separate measurement and payment shall be made for Portland cement concrete.

SECTION 105

CONCRETE CURING COMPOUND

105.3.1 **TYPE TWO COMPOUND** (Add the following)

All curing compound used under this contract shall be Type 1 "translucent, with *white dye*" or approved equal.

SECTION 106

CEMENT MORTAR AND GROUT

106.9.1 MORTAR GROUT FOR MANHOLES (Add the following)

All cement mortar grout used for seating and securing manhole rings and covers or coating shall be category M meeting the required compressive strength of 3000 psi in 28 days.

SECTION 109

RIPRAP STONE

109.4 RIPRAP STONE (Add the following)

The size of stone used under these specifications listed under table 109 shall be type L or M as approved by the City Engineer.

SECTION 112

PAVING ASPHALT

112.4 **TESTING REQUIREMENTS** (Add the following)

Liquid Asphalt Cement shall be *as designated by the NMDOT Specifications and Standards.*

SECTION 113

EMULSIFIED ASPHALT

113.1 **GENERAL** (Add the following)

Emulsified Asphalt shall conform to the requirements of RS-2 or CRS-2 as shown in Tables 113.9 1 and 2 of Section 113.1 of the New Mexico Standard Specifications for Public Works Construction, ***2006 Edition or latest versions, revisions or editions.***

SECTION 116

ASPHALT CONCRETE

116.4.7 COMPOSITION AND GRADING

Add the following to the section: The grading of the combined aggregate shall conform to Type "B" or "C". Type I of Asphalt Concrete Aggregate Classification, as specified by the City Engineer.

Class "B" and Class "C" Asphalt Concrete Aggregate should be used on a 25%-75% basis respectively. However, these figures are a rough estimate of the past usage. The contract requires the supply of A.C. aggregates in any proportions the City requires.

116.7.3 ASPHALT SUPPLY (Add the following)

The availability of hot-mix and cold-mix asphalt shall be the responsibility of the Contractor. In the event he is unable to supply the asphalt from his own plant he shall provide any and all asphalt requested by the City through purchase from another supplier of the Contractor's choosing. The Contractor shall supply the asphalt at the price bid in this Contract regardless of his cost in procuring it elsewhere.

116.7.4 ASPHALT BATCH PLANT REQUIREMENTS

The contractor (or his supplier) awarded the Annual Street Maintenance Contract shall have the batch plant capability of furnishing a minimum of 65 TONS PER HOUR of hot mix asphalt. This quantity is based on the hot mix asphalt requirements the City of Farmington needs to supply the contractor of the hot mix asphalt re-paving program.

SECTION 117

ASPHALT REJUVENATING AGENTS

117.1 **GENERAL** (Add the following)
Type I rejuvenating agent as specified shall normally be used. The City may allow the use of emulsified Cyclogen rejuvenating agent (or equal) if requested in writing and approved by the City Engineer.

117.3 **TESTING**(Add the following)
If emulsified Cyclogen use is approved, it shall meet the following specifications:

<u>Property</u>	<u>Test Method</u>	<u>Specifications</u>
Pumping Stability	G.B. Method	Pass
Emulsion Coarseness percent	Sieve Test, ASTM D 224-76(MOD)	0.1 max.
Sensitivity to Fines, Percent	Cement mixing ASTM D 244-76	2.0 max.
Particle Charge	ASTM D 244-76	Positive
Concentration of Oil Phase, percent	ASTM D 244-76(MOD)	60 min.

117.5.3 **MEASUREMENT AND PAYMENT**(Add the following)

If Cyclogen or equal is approved, no additional compensation shall be made.

The storage and dispensing facilities of Cyclogen shall be included in other items of work, and no direct payment will be made for storage and dispensing facilities.

121.5.2.1 P.V.C. SEWER SHALL MEET THE FOLLOWING:

PVC Sewer Pipe shall be SDR-35. PVC Sewer pipe for force mains shall be C-900, purple pipe.

SECTION 121

PLASTIC PIPE (WATER & SANITARY SEWER USE)

121.4.2 TRACER WIRE (Delete this section and add the following)

Tracer wire shall be installed with all PVC pipe installations or as directed by the City Engineer. Tracer wire is required on all water line installations. Tracer wire shall be a minimum of 10 gage wire size for all installations and shall be coated wire. All service laterals from the main line to the water meter can shall be installed with a 10 gage coated tracer wire. The tracer wire for the lateral shall be connected to the tracer wire on the main line in a manner approved by the City Engineer. A minimum of a three foot pigtail shall be left in the meter can for tracing purposes.

The installed 10 gage coated tracer wire shall be attached to the top of the pipe with duct tape. The wire connection shall be made by a split bolt, and the wire connection shall be wrapped with electrical tape to protect the connection. The tracer wire shall be electrically connected to surface appurtenances of the water line using jumper wires and cad welding. Surface appurtenances shall include hydrants and blow-offs, etc. The wire must pass a conductivity test performed by the City of Farmington's Operations and Maintenance Utility Contractor prior to acceptance of the utility. In the event that the first test does not pass, all retests shall be performed at the contractor's expense unless the failure was due to the operations and maintenance contractor's equipment and/or operation of that equipment. Copy of said test shall be provided to the City. The cost of tracer wire, installation and testing, excluding retests, including all labor and equipment, as necessary, shall be included in the unit cost for PVC water main. No separate payment shall be made for tracer wire. The Contractor will be required to connect the tracer wire to water service meters at no additional cost.

All pressure sewer lines (mainlines and services) shall **require tracer wire from the connection to the valve can.**

121.5.1.1 P.V.C. PIPE (Delete paragraph and substitute the following)

Polyvinyl chloride (PVC) pipe shall meet the requirements of AWWA C900 for all diameters and shall be Underwriters Laboratories (UL) approved. This pipe shall be furnished in ductile iron pipe equivalent outside diameters. Joints shall be push-on, flexible, elastomeric gasketed and minimum pressure class of 150 psi (DR 18).

SECTION 123

REINFORCED CONCRETE PIPE

123.1.2 **GENERAL** (Add the following)

All RCP used in this contract shall be Class III or Class IV, as specified by the City Engineer, and conform to ASTM C 76 with a wall thickness "B", all sizes or as noted on the plans.

SECTION 202

ROADWAY EXCAVATION

202.1 GENERAL (Add the following)

Where roadway excavation is used, the City shall prepare cross section of the proposed work and shall furnish the Contractor with plans showing the finished section. Included in this item is excavation material from City provided borrows within 1320 feet of the project limits and delivering the material to the proper location on site for fill construction.

Different conditions of excavation may be encountered on this project. Due caution shall be exercised by the Contractor in preparing the bid proposal. The Contractor shall provide all necessary cofferdams, pumps, drains, well points and other necessary means for removing water from the excavation or other parts of the work or for preventing the slopes of excavations from sliding or caving, and he shall satisfactorily remove the water, whether it be from ground water or other sources. Dewatering shall continue for a minimum of twenty-four (24) hours in the vicinity of any concrete to allow the concrete to properly set. All water shall be disposed of by pumping into ditches, storm sewers or as may be approved by the City Engineer.

202.9 MEASUREMENTS (Add the following)

Payment shall be based on load counts agreed on by the City and the Contractor on a daily basis. Included in the unit price bid for roadway excavation shall be any clearing and grubbing within the excavated area. This item shall not include rock excavation.

Limits of payment shall be from existing ground profile down to the top of subgrade preparation. Hauling material within the project limits and within 1320 feet of the project limits is incidental to the unit price bid for this item.

SECTION 204

FILL CONSTRUCTION

204.1 **GENERAL** (Add the following to the first paragraph)

Fill material shall be approved by the City Engineer.

SECTION 205

BORROW EXCAVATION

205.1 GENERAL (Add the following)

The Contractor shall provide a borrow area to assure supply of the quantities of material shown on the bid proposal. The area shall be within **10** miles of the Farmington City limits and shall be approved by the City Engineer.

205.4 MEASUREMENT (Add the following)

Payment shall be based on load counts agreed on between the City of Farmington and the Contractor. Hauling borrowed material to the job site shall be paid separately under Haul.

If the City provides a borrow area within 1320 feet of the contract limits, no payment will be made for borrow excavation. Such excavation from City provided borrows will be paid as Roadway Excavation, with no allowance for haul.

Borrow excavation shall include excavation and providing the borrow material from a Contractor provided site. Payment for stripping unsuitable overburden off the borrow area will not be made and shall be incidental to the actual borrow excavated.

SECTION 211

SELECT FILL MATERIAL

211.1 GENERAL

This work shall consist of obtaining, hauling and delivering 3/4 minus aggregate acceptable to the City Engineer to replace unsuitable material excavated under other items or as special fill. Compaction of the select material to the requirement of Section 204 is also included in this item.

211.2 MEASUREMENT AND PAYMENT

Payment for this item shall be by ton by weight ticket. The unit price bid shall include all labor to compact and finish the select fill material to the proposed cross section and grade.

SECTION 212

HAUL

212.1 GENERAL

Haul shall consist of transporting material obtained from Contractor provided borrow area distance in excess of the free haul distance of 1320 feet from the project limits. Free haul distance within the job site and up to 1320 feet beyond the project limits shall be hauled with no additional compensation and shall be merged into the unit price bid for other items.

212.2 MEASUREMENT AND PAYMENT

Haul Distance shall be measured by the City accompanied by the Contractor to the nearest tenth mile. The Haul Distance shall be measured along the shortest route determined by the City Engineer to be satisfactory and feasible. Should the Contractor elect to follow a route other than the one determined by the Engineer, no additional compensation will be made.

Haul shall be paid based on the bank yards of material determined under borrow excavation times the distance to the project limits determined above. The unit shall therefore be yard mile.

SECTION 301

SUBGRADE PREPARATION

301 DESCRIPTION

This work shall consist of compacting and finishing the subgrade in compliance with the specifications and the lines, grades, and typical cross-sections shown on the plans or established by the City Engineer or his designee.

301.4 CONSTRUCTION REQUIREMENTS

The top 6 inches of the subgrade shall be compacted to not less than 95% percent of modified proctor, except high volume change soils shall be compacted to 90% of modified proctor. For the purpose of these specifications, a high volume change soil is defined as any soil containing 35 percent or more of material passing No. 200 sieve. The moisture content of the top 6 inches of the roadbed shall be in accordance with the following provisions.

Unless otherwise provided, roadbed embankment of earth material shall be constructed with moisture and density control. Construction of non-roadbed embankments of earth material will not require moisture and density control, unless so specified on the plans. Unless otherwise shown on the plans or in the special provisions, the moisture content of the soil at the time of compaction shall not exceed the optimum or be less than the optimum, minus 5 percentage points, as determined by AASHTO T-180, except that in high volume change soils the City Engineer or his designee may require a moisture content more in excess of optimum. No payment will be made for re-handling or manipulating material.

Densities will be determined in compliance with AASHTO T 180. Field densities tests will be taken at locations designated by the City Engineer or his designee and the densities will be determined in compliance with AASHTO T 205, use of nuclear methods in conformity with AASHTO T 238 and 239, or other approved methods.

The top surface of the finished subgrade shall not vary more than 0.1 foot above or below established grade and 0.05 foot above or below the typical cross-section measured on the finished surface at right angles to the centerline. All deviations from these tolerances shall be corrected at contractor expense. Roadbed construction under a previous contract shall

be bladed, shaped, and compacted in accordance with the construction requirements of subgrade preparation.

Construction of roadbed embankments predominately of rock material (65 percent plus No. 4 sieve) will not require moisture and density control, except that the top 6 inches of the embankment shall be constructed in accordance with the requirements of subgrade preparation above.

301.7 METHOD OF MEASUREMENT

Measurement will be made as follows: Subgrade preparation will be measured by the square yard on the top surface of the finished subgrade.

301.7.3 BASIS OF PAYMENT

The accepted quantities of subgrade preparation will be paid for at the contract unit price per square yard of finished subgrade.

NO PAYMENT WILL BE MADE FOR RE-HANDLING OR REWORKING MATERIAL TO MEET MOISTURE AND DENSITY REQUIREMENTS

SECTION 302

BASE COURSE

302.3.1.1 **MATERIALS**

Base Course aggregate shall be Class II.

302.6 **METHOD OF MEASUREMENT** (Add the following)

Base course in place shall include all labor, equipment and materials necessary to place and compact base course according to these specifications for use as a surface treatment I.E. gravel driveway, shoulder, backfilling of trenches, etc. This item will NOT be paid in conjunction with any other surfacing item, since those items include the cost of their base course in the unit price. ***City Engineer shall determine when base course will be used to backfill trenches.***

SECTION 306

BITUMINOUS STABILIZED BASE

306.3.2 AGGREGATE

Aggregate gradation shall be Class II, as specified in Section 302.3.2, of the New Mexico Standard Specifications for Public Works Construction, ***2006 Edition or latest versions, revisions or editions.***

SECTION 336

ASPHALT CONCRETE PAVEMENT

336.4.5 TACK COAT PAYMENT(Add the following)

When called for in the specifications and on the plans for patch work, the application of a tack coat shall be considered as an incidental item and no separate measurement or payment will be made.

336.5 PLACEMENT

336.5.1 *Asphalt concrete may be placed only when the ground temperature is 40°F and rising and the weather is favorable, as authorized by the ENGINEER. Quiet asphalt concrete and plant mixed seal coat may be placed when the pavement temperature is 60°F and rising, and the weather is favorable to construction, when authorized by the ENGINEER. Materials may not be placed in either wet weather, or on a wet or damp surface, or frozen supporting material.*

336.5.2 *Weather Limitations. Asphalt concrete shall not be place on any wet surface; when the temperature is below 50°F; when the chill factor is below 35°F (chill factor is defined as the ambient temperature in °F minus the wind velocity in MPH); or when weather conditions otherwise prevent the proper handling or finishing of the bituminous mixtures. The wind velocity shall be the velocity in MPH determined by the average of the maximum and minimum wind velocity observed in any 3 minute period immediately prior to or concurrent with ongoing PMBP placement operations taken at five feet above the road surface.*

336.11.2 PAYMENT

All work and materials noted in this section will be incidental to the Surface Course Replacement Asphalt bid item or as noted above. Any rework or replacement of materials that do not meet these section requirements shall be at the contractor's expense.

336.12 ASPHALT SURFACE COURSE REPLACEMENT

GENERAL(Add the following)

Asphalt surface course replacement shall include all labor, equipment and materials necessary to properly cut existing pavement, remove, dispose and replace an existing asphalt surface course with a thickness of asphalt equal to or exceeding the existing asphalt depth. **Subgrade preparation**

is incidental to this item. In no case shall the asphalt replaced be less than 3 inches thick. Included in the unit price bid shall be a 10 inch depth of base course material, tacking edges and all associated compaction.

A lay down paving machine will be used in paving all trenches over 100 feet in length and a minimum of 8 feet in width.

Wintertime surface course replacement shall include all labor, equipment and materials necessary to properly cut existing pavement, remove, dispose and replace an existing asphalt surface course with 3" of cold mix asphalt. Included shall be a 10 inch depth of base course material and all associated compaction.

Remove cold-mix, replace with hot-mix shall include all labor equipment and materials necessary to remove and dispose of existing cold-mix patch, shape and tack the edges and install a hot-mix asphalt patch to a thickness equal to or exceeding the existing thickness of the surrounding asphalt pavement. In no case shall the asphalt replaced be less than 3 inches thick after compaction.

336.12.1

WORKMANSHIP

All pavement cuts shall be made with clean, neat vertical edges as noted on the standard drawings. The contractor shall replace the asphalt as noted on the standard drawings and as required by these specifications.

After the contractor has completed the installation of the underground pipe (conduits) or other type excavations and backfilled the trench he will re-trim the edges of the existing asphalt pavement as required to assure a smooth flat surface to patch against. The surface in question is the horizontal plane of the street or riding surface. The distance from the original vertical cut to the new edge will be a minimum of 6-inches and be completed with a saw or pneumatic hammer.

NOTE: The surface of the patch shall match the grades of the patch edges on the existing street section and will not have ridges or divots in the patch area or along the edges of the patch. The acceptable amount of deviation is 3/8-inch over a ten foot length. This is to be measured in any direction with a straight edge or string line.

The contractor will tack coat the vertical edges of the cut prior to the installation of any asphalt material. The application method for tack coat is by brush or spray and will be a full coverage of the vertical surface. Dripping or poring of tack material is not acceptable.

WARNING! These requirements are the minimum standards for workmanship and the contractor will be held to these standards.

Variances to this requirement shall be made only by the City Engineer or his designated representative after visual inspection.

SECTION 340

CEMENT CONCRETE CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND ALLEY INTERSECTIONS

340.4.6 BLOCK JOINTS(Add the following)

All curb and curb and gutter shall be divided into blocks or stones 5 or 10 feet in length using metal templates not less than 1/16 inch nor more than 1/4 inch thick; templates shall be attached securely to forms to prevent movement while adjacent concrete is being placed and consolidated; location of template definitely marked so that the joint cut into the finished surface shall exactly coincide with the butt joint formed by the template. In areas where curb and gutter is constructed without a sidewalk, grading and compaction shall continue to the right-of-way at which point the elevation shall be 6 inches above the top of curb.

340.5.4 EXPANSION MATERIAL(Add the following)

The cost for expansion material will be included in other items of work. Celotex material will not be used for expansion joints.

340.6.2 SIDEWALK (Add the following)

Sidewalks and Drivepads

Except as noted in the requirements below, City Ordinance Chapter 24 shall govern the construction method of sidewalks and drivepads. The subgrade under the sidewalk shall be required to be compacted to 90% density as determined by the Modified Proctor Method, ASTM D-1557. The area from the back of the curb and gutter to the right-of-way shall be graded and the elevation at the right-of-way shall be 0.5 feet above the top of the curb. NOTE: All sidewalks must be backfilled to top of walk.

340.6.3 CURB AND GUTTER (Add the following)

A minimum of 3 inches of compacted base course shall be placed under the curb and gutter and compacted to 90% density as determined by Modified Proctor. Curb and gutter shall be backed with clean fill material, 3/4" minus, and compacted to 90% density as determined by a Modified Proctor. Curb and gutter shall be backfilled a minimum of 2 feet, measured from back of curb, and level with top of curb.

SECTION 410

FENCE

410.3.3.1.3 TOP RAILS (Add the following)

TOP RAILS shall be in lengths not less than 18 feet and shall be fitted with couplings to connect the lengths into a continuous run. The couplings shall not be less than 6 inches long, with a .070 minimum wall thickness, and shall allow for expansion and contraction of the rail. Open seam outside sleeves shall be permitted only with a minimum wall thickness of 0.100 inches. Suitable ties or clips shall be provided in sufficient number for attaching the fabric securely to the top rail at intervals not exceeding 2 feet. Means shall be provided for attaching the top rail to each gate, corner, pull and end post. Tension wire is required at the bottom of the fence.

410.3.3.2 FITTINGS AND POST TOPS (Delete this section and add the following)

FITTINGS shall also comply with ASTM F626 as well as the following: POST BRACES shall be provided for each gate corner, pull and end posts shall consist of a round tubular brace extending to each adjacent line post at approximately mid-height of the fabric, and a truss consisting of a rod not less than 5/16 inch nominal diameter from the line post back to the gate, corner, pull or end post, with a turnbuckle or other equivalent provision for adjustment. Truss rods may be eliminated in any line of fence where there is a continuous center rail.

POST TOPS shall consist of ornamental tops or combination tops with barbed wire supporting arms, as specified. The top shall be provided with a hole suitable for the through passage of the top rail. The post tops shall fit over the outside of the posts and shall exclude moisture from the post.

BARBED WIRE SUPPORTING ARMS shall be at an angle of approximately 45 degrees or vertical as specified, and shall be fitted with clips or other means for attaching three strands of barbed wire. With 45 degree arms the top wire shall be approximately twelve inches horizontally from the fence line and the other wires spaced uniformly between the top of the fence fabric and the outside strand. Barbed wire arm shall be of sufficient strength to withstand a weight of 250 pounds applied at the outer strand of barbed wire.

TENSION BARS shall not be greater than 3/4" or less than 3/16" in diameter and not less than two (2) inches shorter than the nominal height

of the fabric within which they are to be used. One tension bar shall be provided for at each end and gatepost, and two for each corner and pull post.

TENSION WIRE shall be Marcellled (spiraled or crimped) #7 gauge (0.188 in.) plus or minus 0.005 inches in diameter. Wire shall be metallic coated. Zinc coated tension wire shall be Class III (0.08 oz. of zinc per square foot of uncoated wire surface). Aluminum coated tension wire shall have 0.40 oz. of aluminum per square foot of uncoated wire surface.

410.3.3.3 TIES OR CLIPS, BANDS(Add the following)

TIE OR CLIPS shall be provided in sufficient number for attaching the fabric to all at intervals not exceeding 15 inches; and not exceeding 24 inches when attaching fabric to top rail or tension wire.

BANDS OR CLIPS of adequate strength shall be provided in sufficient number for attaching the fabric and stretcher bars to all internal posts at intervals not exceeding 15 inches. Tension bands shall be formed from flat or beveled steel and shall have a minimum thickness after galvanizing of 0.078 inch; and a minimum width of 3/4 inch for posts four (4) inches O.D. or less; and 0.0108 inch thickness by 7/8 inch for posts larger than four (4) inches O.D.

BRACE BANDS shall be formed from flat or beveled steel and shall have a minimum thickness of 0.108 inch after galvanizing; and a minimum width of 3/4 inch for post thickness and 0.010 inch on width shall apply. Attachment bolts shall be 5/16 dia. x 1-1/4 galvanized carriage bolts and nuts.

410.3.3.6 GATES/GATE FRAMES(Delete the paragraph and add the following)

GATES shall be swing as specified, complete with latches, stops, keepers, and hinges and with provision for three strands of barbed wire above the fabric.

GATE FRAMES shall be constructed of tubular members welded at all corners or assembled with fittings. On steel, welds shall be painted with zinc based paint. Where corner fittings are used, gates shall have truss rods of 4/16 inch minimum nominal diameter to prevent sag or twist. Gate leaves shall have vertical intermediate bracing as required spaced so that no members are more than 8 feet apart. Gate leaves 10 feet or over shall have a horizontal brace or one 5/16 inch minimum diagonal truss rod. When barbed wire top is specified, the end members of the gate frames shall be extended one foot above the top horizontal member to which 3 strands of barbed wire, uniformly spaced, shall be attached by use of

bands, clips or hook bolts. Gate frames shall be fabricated from galvanized steel pipe conforming to ASTM A120 and A123.

GATE FABRIC shall be same type as used in fence construction. The fabric shall be attached securely to the gate frame at intervals not exceeding 15 inches.

GATE LATCHES, STOPS AND KEEPERS shall be provided for at all gates. Latches shall have a plunger-bar arranged to engage the center stop. Latches shall be arranged to be set in concrete and to engage a plunger bar from the latch of double gates. No stop is required for single gates. Keepers shall consist of a mechanical devise for securing the free end of the gate when in the full open position.

GATE HINGES shall be of adequate strength for gate, and with large bearing surfaces for clamping in position. The hinges shall not twist or turn under the action of the gate. The gates shall be capable of being opened and closed by one person.

410.3.3.7 MINIMUM WEIGHTS AND DIAMETER(Add the following)

These are minimum weights and diameter. The Contractor may exceed these requirements at this position.

410.3.3.8 POST, RAILS, BRACES AND GATE OPTIONS(Delete this section and add the following)

At the option of the Contractor, post, rails, braces and gates frames (members) may be manufactured from steel conforming to ASTM F6669-81 (group IC), A446/A4446M-83 (structural grade D), or A570-84A (grade 50). Coating shall be one of the following:

- A. 0.9 ounces minimum of zinc per square foot.
- B. 15 micrograms minimum of zinc chromate per square inch.
- C. 3 mills minimum cross-linked polyurethane acrylic exterior coating.

410.3.3.9 (Change this section to read as follows)

- A. Change the 8 feet to 6 feet in this Section
- B. Barbed wire shall conform to 410.3.2.1

410.6 MEASUREMENT AND PAYMENT (Delete this section and add the following)

Payment will be by one of the following methods:

a. Furnish and install: Payment for gates complete with all accessories shall be at the unit price bid in the proposal for each installed. Payment for fencing, complete with all accessories, shall be by the linear foot installed, excluding gates at the unit price in the proposal.

b. Furnish Only: Payment shall be made by lump sum only as outlines on bidding documents.

APPROVED MATERIAL 7 MANUFACTURER LIST

- A. Schedule 40
- B. Allied Tube Con, SS-40
- C. Century Tube, CMT-40
- D. P & H Tube Div., SP-40 Pozitube
- E. American Tube Co., Tuff-40

Equal Items: Vendors quoting equal material and/or manufacturers that are not listed above are required to notify Purchasing at 505-599-1369. Product approval is required not less than 48 hours prior to bid opening date. Complete product specifications must be submitted and vendor may be required to supply a product sample at no cost for approval to the City of Farmington.

340.8.2 DRIVEWAY ENTRANCES (Add the following sentence to paragraph B)

Driveways shall conform to the **City of Farmington Unified Development Code (UDC) Article 5.3.3** and to the Standard Details attached herein. NOTE: Whenever possible and where practical, utilities shall not be located in residential driveways. **No Waste Management-cans in driveway area (on detail)**

340.14 MEASUREMENT AND PAYMENT

A. Sidewalk: The payment for this item shall be based on the unit bid price for sidewalk (four inch thickness), multiplied by the field measured surface area (to the nearest square yard) of this item complete in place, in accordance with the plans and/or specifications. Payment made, based on the unit bid price, shall be full compensation for all permits, inspection fees, all material, labor and equipment and for performing all operations, including grading and compaction, removal and replacement, and incidentals, such as site cleanup and disposal of excess materials and soil, necessary to complete the work.

B. Drivepads and Valley Gutter: The payment for this item shall be based on the unit bid price of drivepad and valley gutter (six inch thickness) complete in place, multiplied by the field measured surface area (to the nearest square yard) of this item complete in place in accordance with the plans and/or specification. All concrete for Valley Gutters will achieve a minimum compressive strength of 3500 psi in 24 hours. Payment made, based on the unit bid price, shall be full compensation for all permits, inspection fees, all materials, labor and equipment, and for performing all operations, including grading and compaction, and soil necessary to complete the work. Asphalt removal and disposal for Valley Gutters will be paid for separately.

C. Two foot standard and median curb and gutter: The payment for this item shall include removal, disposal and replacement of existing curb and gutter and shall be paid to include adjusting and compacting the subgrade. The removal of asphalt and the replacement of 3" asphalt and ten (10) inches of base course shall be performed in accordance with section 336.12 ASPHALT SURFACE COURSE REPLACEMENT. Payment for replacement of asphalt in excess of 20" from the curb line will not be allowed without prior approval of the city engineer or his designee.

D. **Four (4) inch** residential drivepads: Payment for these items shall be included in the unit price bid for concrete sidewalk.

E. For new or relocated curb & gutter, sidewalk, slope paving or valley gutter (colored or stamped) subgrade preparation will be paid under Subgrade Preparation Bid Item.

F. Handicapped Ramps will be paid as a separate bid item which includes subgrade prep, forming and placement of concrete

G. Detectable Warning Devices will be paid as a separate bid item which includes supplying and installation of surface mount composite tactile (24" x 36" Tile).

SECTION 343

REMOVAL AND DISPOSAL OF EXISTING PAVEMENT, CURB AND GUTTER, SIDEWALK, DRIVEPADS AND SLOPE PAVEMENT

343.4 DISPOSAL(Add the following)

Haul to disposal sites shall be considered part of removal and disposal, no separate payment will be made for haul. Disposal sites will be within **10** miles radius of the project site. Disposal beyond a **10** mile radius will constitute a change order and a method of payment will be negotiated.

343.5 MEASUREMENT AND PAYMENT

Item for Asphalt Removal and Disposal, **10**-mile haul, is to be paid only where asphalt is removed and not replaced or when use of a laydown machine is required. Note that all other items that deal with asphalt have removal already included in their unit prices. Item for Asphalt Removal and Disposal, **10**-mile haul is not to be used in conjunction with those items.

SECTION 451

WORK AREA TRAFFIC CONTROL AND SAFETY

451.1 GENERAL

The purpose of this document is to set forth the basic principles and standards to be observed by all those who perform work on a public street within the city limits of Farmington to provide safe and effective work areas, to warn, control, protect, and expedite vehicular, bike, and pedestrian traffic.

451.1.1 APPLICABILITY

Unless otherwise stated, the requirements specified in this document are applicable to all contractors, public utilities, and city work crews performing work on or near public streets in all cases where traffic is affected by such work.

451.1.2 GOALS

Proper traffic control techniques shall be effectively utilized to:

- A. Prevent accidents both to the public and work crews.
- B. Prevent damage to private and public property including damage to the construction project and construction equipment.
- C. Minimize the possibility of claims and litigation arising from construction zone accidents.
- D. Reduce confusion to motorists and pedestrians.
- E. Expedite traffic flow.
- F. Improve public relations.
- G. Insure conformity with national and state regulations for traffic control.

451.1.3 AUTHORITY

All work in the right-of-way shall conform to the standards and guidelines outlined in the most recent version of Part VI of the Manual on Uniform Traffic Control Devices. The City Engineer or his designee has centralized authority for reviewing and prescribing proper traffic controls and devices at work sites. The contractor/developer is responsible for all construction

related traffic control from beginning of the project until final acceptance by the City Engineer.

451.1.4 PLANNING

All persons responsible for supervising work sites must plan well in advance to keep traffic obstruction, public inconveniences and lost work time to a minimum. The planning responsibility requires a visit to the work site to consider:

- A. Traffic conditions.
- B. Existing traffic controls.
- C. Traffic lane requirements.
- D. Physical features.
- E. Visibility restrictions
- F. Problems of access to private property.
- G. Business access and activities.
- H. The type, number, and location of signs, barricades, lights, and other traffic devices required for the work.
- I. Provisions for handicapped persons affected by the worksite.

451.2 RESPONSIBILITIES

All persons responsible for work in the roadway must:

- A. Provide timely notification to, and coordination with, all affected agencies including the following:
 1. Fire Department
 2. Police Department
 3. Public Works Department
 4. Operational Management International, Inc. (OMI)
 5. Farmington Electric Utility Department
 6. Telecommunications Utility
 7. Cable T.V.
 8. PNM
- B. Inform occupants or abutting properties of access limitations made necessary by the work. Twenty-four hour advanced notice is required unless it's emergency work.
- C. Schedule and expedite work to cause the least inconvenience to the public. Construction or repair work will not be permitted at or in the vicinity of signalized intersection between the hours of 7:00 a.m. to

8:00 a.m. and 4:00 p.m. to 5:30 p.m. without advance approval of the City Engineer or his designee.

- D. Install and maintain required traffic control devices.
- E. Provide flagmen when required.
- F. All employees working in or adjacent to a traveled roadway must wear orange or green traffic jackets or vests, or tee shirts.
- G. Provide adequate safeguards for workers and the general public.
- H. Patrol the construction site as required insuring that all devices are in place and operating at all times.
- I. Remove traffic control devices when they are no longer needed.

451.4.1 RIGHT-OF-WAY WORK LICENSE

Any firm or individual working within the right-of-way is required to obtain a business license by the City of Farmington.

451.5 TEMPORARY TRAFFIC LANES

Effective control of traffic in work areas requires a provision of adequate street space to accommodate traffic demands, particularly during the peak traffic hours.

Temporary traffic lane requirements for construction activities in arterial streets may be specified on the plan, or in the contract specifications. These requirements constitute a part of the work agreement and must be adhered to as rigidly as any other specification. Unless otherwise specified, construction operations are limited to one-half of the roadway at any time.

Maintenance activities in arterial streets shall be planned and scheduled to minimize interference with traffic. Except for emergency situations, no maintenance work shall encroach into a moving lane of traffic between the hours of 7:00 a.m. to 8:00 a.m. or from 4:00 p.m. to 5:30 p.m. unless specifically authorized by the City Engineer or his designee.

All temporary traffic lanes shall be a minimum of 10 feet in width unless otherwise authorized

Suitable surfacing must be provided for the temporary traffic lanes in work areas. When traffic is diverted from the existing pavement, temporary asphalt surfacing shall be provided.

Construction equipment not actively engaged in the work, employee vehicles and official vehicles of the agency shall not be parked in the vicinity of the work in such a manner as to further restrict or obstruct traffic flow. Vehicles and equipment in continuous or frequent use may be operated or parked in the same traffic lane as the work obstruction. Construction spoil or materials may be similarly stored in this area or on the nearby parkway or sidewalk area, provided four feet of sidewalk is kept clear for pedestrian use. To prevent the spoil bank from occupying too great a space at its base, toe boards may be used to keep it two feet from the edge of the excavation on the side and two feet from the edge of the traffic lane on the other.

451.6 CONTROL, WARNING AND GUIDANCE DEVICES

All control, warning and guidance devices shall conform to the Manual on Uniform Traffic Control Devices for Streets and Highways as adopted by the New Mexico State Highway Traffic Department. ***All signs will be new and/or clean and easily seen.***

451.6.1 SIGN TYPES

Traffic signs are classified into several functional groupings:

Warning, Guide and Regulatory.

The use of "Regulatory" signs shall be approved by the City Engineer or his designee. When required, all such signs shall be provided, installed and maintained by the contractor.

Existing "Regulatory" signs within or adjacent to the work area shall be maintained by the contractor. If existing signs are not appropriate for traffic conditions in the work area, the City Traffic Engineering Division shall be notified to determine if signs shall be covered, replaced, or relocated.

451.6.2 SIGN PLACEMENT

The location of the signs will depend upon alignment, grade, location of street intersections and posted speed limit. Signs shall face and be visible to on-coming traffic and be mounted so as to resist movement. The center of signs shall be at least 4½ feet above the roadway with the

bottom of the sign where pedestrian traffic is permitted shall be seven feet. "Advance Warning" signs shall be located on the right hand side of traffic lanes. On divided highways, supplemental advance warning signs shall be placed on the divider.

All signs which are to convey their message during darkness shall be reflectorized or illuminated. No signs or supports shall bear any commercial advertising.

Signs normally shall be installed immediately before work is to commence and must be removed immediately after work is completed. If at any time a sign is not required it shall be covered or removed.

451.6.3 BARRICADES

Barricades serve the following purposes:

1. To alert the public to the fact that a particular area is closed to traffic.
2. To prevent drivers and pedestrians from entering the area.
3. To protect workers.

Barricades shall not be placed in a moving lane of traffic without advance warning, such as a high level warning device and appropriate delineation. A single barricade shall not be placed alone in the traveled way.

When barricades are used to close a street, they shall be placed so there is no gap large enough for a vehicle to pass, except where necessary to provide access for local traffic or emergency vehicles.

Markings for barricade rails shall be alternate orange and white stripes sloping downwardly at an angle of 45 degrees in the direction traffic is to pass. The entire area of white and orange shall be effectively reflectorized for nighttime use.

451.6.4 DELINEATORS

Traffic cones, vertical panels or barrels are classified as "Delineators" are markers that aid the driver in determining the location and alignment of traffic lane. By day, the effectiveness is determined by position and visibility.

All delineators used at night must have adequate reflectors. Delineators are used:

1. To channel and divert traffic in advance of work zone.

2. To define the travel way through the work zone.
3. To define a change in the position of the existing lanes around the work zone.
4. To define curves and the edges of the roadway on detours.

On arterial streets, opposing traffic shall be separated by delineators, traffic striping, or raised pavement markers. Where traffic is diverted to the left of an existing double yellow centerline, into a painted median, or into a left turn lane, delineators shall be utilized beyond the work area to return traffic to normal lanes.

Delineators shall be spaced at 15-foot intervals in the transition areas where traffic is being shifted and at not more than 50-foot intervals at other locations. Delineators shall be of approved material and construction.

A taper of 20:1 is the minimum. If more room is available, the taper shall be increased to the legal speed limit, i.e. 25 mph - 25:1 taper. Tapers shall conform to the standards and guidelines outlined in the most recent version of Part VI of the Manual on Uniform Traffic Control Devices.

451.6.5 HIGH LEVEL WARNING DEVICES (FLAG STANDARDS)

High level warning devices provide advance warning of a work area by being visible to a driver even when the work area is obstructed from view by vehicles or construction equipment.

High level warning devices shall be at least 12 feet high with legs, base or truck mounting designed to resist overturning in brisk winds. Sandbags may be used to add weight to the base or legs. High level warning devices shall be equipped with a yoke at the top to accommodate at least three flags. Flags shall be fabricated of high visibility orange material and equipped with stays to keep the flags extended. Torn or dirty flags shall be immediately replaced.

By using the high level warning device, tapers may be shortened by 50 percent except on arterial roadways.

451.6.6 WARNING LIGHTS - ILLUMINATION

Flashers shall be used only to outline the work area or to provide advance warning. Flashers shall not be used to channelize traffic, to separate opposing traffic, or to delineate the path that traffic is to follow. Flashing yellow lights used for advance warning must be clearly distinguishable

from the primary delineation and shall be seen above the normal reflectorized units.

Warning lights are portable, lens directed, enclosed and mounted at the minimum height of 3 feet to the bottom of the lens. The color of the light emitted shall be yellow. Barricade warning lights shall be in accordance with the requirements of the New Mexico Highway Department of Transportation specifications. Arrow boards will be required on all arterial streets and will be considered incidental to the arterial traffic control bid item.

451.7

PAVEMENT STRIPING AND MARKING

Under certain circumstances, the use of pavement striping or pavement markers may be justified to supplement devices used for delineation.

On major construction projects where traffic is diverted for extended periods, pavement striping or markers are required to assure positive delineation and minimize driver confusion.

In addition to major construction projects, re-striping will be considered for minor construction or maintenance activities under the following conditions:

1. When traffic is diverted to the left of an existing double yellow centerline for 2 or more consecutive nights.
2. When the work area is adjacent to a major signalized intersection and results in a transition within the intersection.
3. When the traffic lane is continuously obstructed for more than one week on any street where traffic volumes require two or more lanes in a single direction.
4. In other unusual situations where traffic and physical conditions, such as speed or restricted visibility, require special treatment.

The City Engineer or his designee shall determine the need for and extent of striping removal and re-striping. When temporary pavement striping or markers are provided, the existing striping or markers must be removed or covered by the contractor. The installation of temporary striping or pavement markers will be done by the contractor.

451.8

BRIDGING OF EXCAVATIONS AND TRENCHES

Whenever necessary, trenches and excavations shall be bridged to permit an unobstructed flow of traffic. The City Engineer or his designee shall determine the need when bridging is to be used and extent of bridging to

be used. The Contractor can use bridging at any time he deems it necessary.

1. Bridging must be secured against displacement by using adjustable cleats, angles, bolts, or other devices.
2. Bridging shall be installed to operate with minimum noise.
3. The trench must be adequately shored, to support the bridging and traffic.
4. Steel plates used for bridging must extend one foot beyond the edges of the trench. Temporary paving materials (premix) shall be used to feather the edges of the plates to minimize wheel impact.

WIDTH OF TRENCH	MINIMUM THICKNESS OF STEEL PLATES
1.0 ft.	½ inch
1.5 ft.	¾ inch
2.0 ft.	1 inch
3.0 ft.	1 inch
4.0 ft.	1-¼ inch

451.9

FLAGGER CONTROL

Flaggers are required:

1. Where workers or equipment block a traffic lane in excess of 15 minutes causing an obstruction to the flow of traffic.
2. Where plans or permit allow the use of one lane for two directions of traffic (one flagger is required for each direction of traffic).
3. Where the safety of the public and/or workmen determines there is a need.

Flaggers should be stationed far enough from the work to slow down or stop vehicles before they enter the work area.

A sign reading "Flagger" or "Flagmen Ahead" shall be placed as far ahead of the flagger as practicable.

All flaggers shall be **American Traffic Safety Services Association (ATSSA)**, **International Municipal Signal Association (IMSA)** certified and provided with **a reflective jacket or vest** for daytime use and reflectorized belt and suspender harness for use at night. During daylight hours, flaggers shall be equipped with a sign paddle and red flag. At night, flaggers shall use a red light.

451.10 ENFORCEMENT

451.10.1 POLICY DISTRIBUTING AND COMPLIANCE

A copy of the policy must be present with each work crew and its provisions strictly enforced by the applicable supervisor.

451.10.2 NOTIFICATION OF SCHEDULED WORK

The City Engineer or his designee will notify the appropriate departments of the date and location of work.

451.10.3 MONITORING AND ENFORCEMENT PROCEDURES

The City Engineer or his designee will establish and maintain a system of monitoring street work sites for compliance with the requirements herein.

They have on-the-spot authority to correct any deviations from prescribed street work site safety and traffic control procedures.

451.10.4 SHUT-DOWN AUTHORITY

It is assumed that routine, informal, and amiable agreements will be reached regarding corrective action which job site supervisors are requested to make. However, in the unlikely event that there should be a failure to correct the cited deficiencies, either of the officials listed above, will have authority to issue a written shutdown order to the offending agency or individual until such time as the deficiencies have been fully corrected. In the event that this step is necessary, the official issuing the order will immediately notify the Public Works Director or the City Engineer in person or by telephone and provide a follow-up copy of the shutdown citation.

451.11 BASIS OF PAYMENT

Payment shall be per day based on whether the project is on an arterial or collector street. Arrow boards are required on arterial streets and shall be included in the bid item price. The Contractor shall have an **American Traffic Safety Services Association (ATSSA)**, **International Municipal**

Signal Association (IMSA) certified traffic control person handle all project traffic control layouts, which must be approved by the City Traffic Engineering Administrator.

An approved traffic control plan shall be on file prior to the start of construction. The plan shall be fully implemented to receive payment under this bid item. When Work Area Traffic Control and Safety is not established as a pay item, the work will be considered incidental to the completion of the project and no separate payment will be made. When flaggers are an established pay item, they must be **ATSSA OR IMSA** certified or no separate payment will be made.

SECTION 510

CONCRETE STRUCTURES

510.3.2 REINFORCEMENT (Add the following)

Shop drawings for all reinforcing steel shall be submitted in quadruplicate to the City Engineer for approval prior to fabrication and placement of any reinforcing steel.

510.18 MEASUREMENT AND PAYMENT (Add the following)

The unit price bid for Structural Concrete shall include all labor, equipment and materials necessary to complete the project according to the construction standards indicated with the exception of rebar which will be a separate bid item. Structural Concrete payment shall be based on the number of cubic yards of concrete used as agreed upon by the City of Farmington and the Contractor. Rebar shall be 60,000 psi minimum. The cost of rebar will be included in related items of work and no separate measurement or payment shall be made for rebar.

SECTION 550

METAL RAILING

550.5 MEASUREMENT AND PAYMENT

Delete subsections 550.5.1.1,3 and change 550.5.2 to read price per pound.

550.6 HAND RAILING(Add the following)

Hand railing shall be 1¼" schedule 40 metal pipe installed with the first rail 24" above finished grade, the top rail 36" above finished grade, posts at 10' on center, and finished with one coat primer and one coat epoxy paint (color) to be determined by the City Engineer or his designee as per City Standard D-630.

550.6.1 MEASUREMENT AND PAYMENT(Add the following)

The unit price bid for hand railing shall include all labor, equipment and materials necessary to install hand railing as per D-630. Payment shall be by linear foot complete in place.

SECTION 560

ADJUST STRUCTURES

560.1 GENERAL

560.1.1 This work shall include the adjustment of all pavement structures to proposed grade including manhole frames and covers, valve boxes, storm inlets, etc., as indicated on the plans or as specified in the supplementary specifications.

560.2 MATERIALS

560.2.1 Concrete and structure work shall meet the requirements of 3000 PSI concrete on Section 500-Concrete Structures.

560.3 CONSTRUCTION REQUIREMENTS

560.3.1 Raising Structures: If the height that the ring and cover is to be raised is less than one course of brick, then 3000 PSI concrete shall be used. Concrete shall attain strength of 3000 PSI at 28 days and shall be cured by use of an approved curing compound. Adjustment of all structures shall be accomplished PRIOR TO LAYING ANY BITUMINOUS SURFACE for a new street, for an existing street that the asphalt is CUTLERED the adjustment may be accomplished afterwards. If the ring and cover is to be raised 12 inches or more above the top of the existing cone, the cone shall be removed, the adjustment made in the barrel and cone rebuilt or replaced. Adjustment from 4 inches to 12 inches will be made by blocking with from one (1) to three (3) courses of standard means of a poured concrete ridge. Smaller adjustments may be made with a Portland Cement Mortar "Cap". After raising of structures, damaged ½ inch mortar on existing construction shall be retouched to repair damaged areas and to match existing mortared surfaces.

560.3.2 Lowering Structures: If a structure is to be lowered other than a slight adjustment, the cone shall be removed, the adjustment taken up in the barrel, and the cone rebuilt. A ¾ inch minimum Portland Cement Mortar (plaster) surface shall be applied on the inside of the rebuilt surfaces where damaged. If a slight adjustment is to be made, a lowering of as much as the two brick courses may be made, without disturbing the cone.

560.3.3 Adjusting Valve Boxes and Covers: Valve box covers shall be made by extending the existing box sections to the proposed grade for paving prior to laying any new bituminous surface course for a new street, for an existing street that the asphalt is CUTLERED the adjustment may be accomplished afterwards.

560.3.4 Pavement Finish Treatment: After adjustment, each structure shall be backfilled and compacted according to specifications. A concrete collar 6 inches thick shall then be poured around the structure. The collar shall be constructed as shown on the City of Farmington Construction Standards for detail D-311/D-312 Structure Adjustment. When the concrete is cured a surface course of hot-mix asphalt shall then be applied to bring the pavement to the rim of the adjusted structure. Structures shall not deviate more than 3/8 inches in 10 foot from existing pavement.

560.4 MEASUREMENT

Each structure adjusted shall be paid for at the unit price stated in the proposal. The price shall include all labor, equipment, and materials necessary to completely adjust each structure, including but not limited to brick, mortar, concrete, grade rings, welding, steel, tack coat and hot-mix. The bid shall be based on a valve box adjustment to include an asphalt area of 2' x 2', the manhole adjustment shall include an asphalt area of 5' x 5', the asphalt replaced shall be a minimum of 3 inches thick.

Removal of asphalt from manhole covers and valve boxes less than 3/4" will be paid for on 8:1 basis.

The unit price bid for replacing valve boxes or manhole frame and cover shall include all labor, equipment and materials necessary to remove an existing valve box or structure frame and cover. All work shall conform with City of Farmington Standard No. D-311. Replace valve boxes or manhole frame cover shall not be paid in conjunction with other adjust structures items.

To adjust valve box to grade, adjust manhole to grade, and adjust irrigation or storm sewer frame and cover to grade shall include the cost of installing a new valve box or casting on the adjusted structure. Adjust valve box to grade, adjust manhole to grade, and adjust irrigation or storm sewer frame and cover to grade shall not be paid in conjunction with replaced valve boxes or manhole frame and cover.

The unit price bid for furnish and install new meter cans shall include all labor, equipment and materials to remove and dispose of the old cans and install new meter cans. Furnish and install new meter cans shall not be paid in conjunction with other replace structure items.

SECTION 602

**PORTLAND CEMENT FLY ASH CONCRETE FOR CHANNEL LINING AND
DIKE OR DAM SURFACING**

602.12 **MEASUREMENT AND PAYMENT**

602.12.2 Change the unit of payment from square yards per thickness of concrete to cubic yards of concrete.

SECTION 603

RIPRAP

603.3.3 **DESCRIPTION**(Add the following)

The sizes of rock to be used in the different thicknesses of riprap are as follows:

	Riprap Protection	
Thickness	18 inches	12 inches
Max. Size of Rock	1/8 yd ³	1 ft ³
Min. Size of Rock	1/10 ft ³	1½ inches

603.11 **MEASUREMENT AND PAYMENT**

603.11.1 (Delete existing section and add the following)

Measurement for payment of riprap will be made to the outlines of the riprap directed to be placed on the basis of the nominal thickness prescribed. Payment for riprap will be made at the applicable unit price per ton or alternate cubic yard bid in the schedule, which shall include the cost of furnishing, hauling and placing and/or raking the rock for riprap including the rock spalls and gravel to fill the voids in the riprap.

Excavation required for the placing of riprap be measured to the prescribed outlines and depths and will be paid for under applicable unit price per cubic yard bid in the schedule.

603.11.2 Filter cloth shall be measured by square yard in place.

SECTION 701

TRENCH EXCAVATION AND BACKFILL

701.6.5.1 BRACING EXCAVATIONS (Add the following)

Failure to properly brace trenches shall be at the risk of the Contractor, and where such failure results in slide or caving, producing unusual or excessive loading on the pipe, the Contractor shall be required to remove and replace the pipe with whatever type of construction the Engineer may require, with no extra allowance for materials or labor. The Contractor shall be responsible for damage to other utilities, buildings, and structures resulting from earth slides, caving or other failure. No extra payment will be made for sheeting, bracing or "boot-caisson". No sheeting or bracing, where used, shall be removed until sufficient backfill is in place to protect the pipe and the adjacent street, alley or easement surface and structure from damage by sliding and caving in of trench sides. No extra compensation shall be allowed for the handling of excavated materials in alleys, easements, streets, or other confined areas.

701.6 PUBLIC UTILITIES (Add this Section in its entirety)

Public Utilities: The Contractor shall be responsible for the destruction of, or damage to, all existing structures, pipe lines, conduits, cables, sewers, drains or other properties encountered in conduits, cables, sewers, drains or other properties encountered in or adjacent to the excavation, and he shall use all reasonable measures and precautions to protect such properties, and shall maintain or replace them in as good condition as they were prior to the construction operations. He shall make a diligent effort to locate all underground properties in advance of excavation work, and support or protect them so that they will not be broken and their functions interrupted. The Contractor shall notify all Owners of public utilities that may be affected by construction demands so that the Owner may protect, transfer, change, rebuild, or remove any part of their utilities as the owner may deem fit. Such notification shall be in writing and in advance of work at least one week.

Where abandoned pipes, or sewers are removed from the trench, leaving dead ends in the ground, such dead ends shall be carefully and permanently plugged in a manner approved by the city engineer or his designee.

701.7 DEWATERING (Add the following)

All water shall be disposed of by pumping into city approved disposal areas. Only sewage effluent shall be disposed into the sanitary sewer system, all other shall be disposed of per EPA Regulations.

701.8.8 OBSTRUCTION (Add the following)

Removal and disposal of obstruction and underground footings and foundations will not be paid for directly, but shall be considered incidental to the contract.

701.8.9 (Add the following)

If soil and/or existing pavement conditions encountered in trenching will not allow the area of pavement removal and replacement to be contained within the limits indicated on City of Farmington Construction Standard D-112, the Contractor may request approval of additional width in writing. The Engineer will then approve or deny the request in writing.

Paving cuts shall be repaved to the general thickness and material design provided on the plans and shall be made in complete compliance with the applicable specifications in this contract.

The Contractor shall repave all paving cuts. All unauthorized paving cut areas exceeding the tabulated pay limits shall be repaved at the expense of the Contractor. All other pavement replacements made by the Contractor shall be based on the applicable unit prices.

Pavement cuts shall not be repaved until the newly installed, repaired or replaced City utilities have been pressure tested and no leaks appear unless approved by the City Engineer. The street surface and gutters and other areas shall be swept clean by the Contractor after the pavement replacement is completed.

701.10.1 WIDTH OF TRENCHES (Delete the section and add the following)

Trench widths at the level of the top of the pipe shall not exceed the following and shall be kept to the practical minimum required for properly laying, aligning, grading, and joining of the pipe. Trench widths at the level of the top of the pipe shall not exceed City of Farmington Standard No. D-112. Sloped sides of trenches shall be in at a point not less than 12 inches above the top of pipe. The Contractor shall maintain all trenches in a safe condition protecting the men working and the general public as outlined under Standard Details.

701.11.4 BLASTING (Add the following)

The Contractor shall obtain a Permit for the use of High Explosives from the FIRE MARSHALL AND CITY ENGINEER prior to using such methods of construction.

701.14 (Add the following)

When excavated material, in the opinion of the City Engineer or his designee, is unsatisfactory for backfill it shall be removed from the site and disposed of by the Contractor. **The City Engineer shall determine when bas course will be used to backfill trenches.** Base course shall be used by the Contractor for bedding and backfill and paid at the unit price indicated on the bid proposal. Crusher fines shall not be used for pipe bedding material or backfill. All trench backfill material shall be placed and compacted, to 95% of modified proctor, in lifts not to exceed 12 inches.

701.15 COMPACTION METHODS

701.15.1 (Add the following)

A. Sufficient density tests shall be made at various depths which will give the degree of compaction within the lower one-half of trench backfill and in the initial fill around the pipe, as well as in the upper one-half of the backfill.

Density tests shall be taken as follows:

A minimum of two field density test shall be made for each 200 feet of trench for each one to two feet of depth of the trench. A minimum of 2 tests per trench run.

The City Engineer, *or his designee*, shall have the right to call for any additional tests he may deem necessary at shorter intervals along the trench in order to carry out the intent of these specifications.

When tests fail, additional compaction shall be required. If tests indicate the compaction method does not produce the required end results, the Contractor shall alter the methods of compaction in order to obtain the required densities. All re-compacted trenches shall be re-tested at the Contractor's expense. All sewer appurtenant structures shall be backfilled in accordance with these requirements.

B. When trenching within New Mexico State Highway Department right-of-way, the method of compaction and densities required in backfilling of trenches shall comply with the requirements of the New Mexico Highway Department's "Standard Specification for Highway and Bridge Construction", Latest Edition, and all provisions shall be subject to supervision of the States Project Engineer. Final City acceptance of

the completed trench backfill will be dependent upon the State. No extra compensation shall be allowed the Contractor for the above trench compaction and testing.

701.15.3 (Delete this section and add the following)

Water flooding will not normally be allowed under this contract. When soils encountered exhibit characteristics conducive to water flooding, the Contractor may request permission from the Engineer to use this technique. When such a procedure is approved, the Contractor may jet or flood the trench with water in successive lifts in a volume sufficient to obtain the required density and compaction. Density requirements shall remain the same.

701.15.4 (Add the following)

Proper and adequate backfilling and compaction, regardless of the method used, shall be the responsibility of the Contractor. Final acceptance of the project does not relieve the Contractor of this responsibility. The Contractor shall at his expense repair all damages to streets, sidewalks, curbs, gutter paving, sewer pipe, water lines and any other private or public utility line including damage to abutting private property caused by trench or excavation settlement for a period of one (1) year after final acceptance of the project.

701.17 MEASUREMENT & PAYMENT

701.17.1 (Delete this paragraph and sub-paragraphs entirely and substitute the following)

A. Trenching and Backfilling: Trenching and backfilling shall be measured along the alignment of the pipe parallel to the invert of the utility line for which the trenching is performed. Measurement shall be to the nearest lineal foot. Measurement shall be made from center of manhole for all sewer lines. Payment for trenching and backfilling according to specifications for all items other than sanitary sewer is included in the unit prices bid for each item and no separate payment will be made.

Depth of trench shall be measured to the nearest foot vertically from the invert of the utility line to the surface of the existing ground for trenches not within areas to be graded under the same contract and for all graded areas where the finished subgrade elevation is higher than the existing ground. Measurement shall be from the invert of the utility line to the finished sub-grade elevation for trenches within graded areas where the existing ground is higher than the finished subgrade

elevation. Existing ground shall mean the surface elevations prior to any grading operations.

Payment will be made at the applicable contract unit price per linear foot of pipe at the depth indicated which price and payment shall be full compensation for all excavation, bracing, and sheeting, and for furnishing all labor, equipment, and incidentals necessary to complete all work specified herein.

Trench and backfill unit priced items are for installation of pipe diameters up to 18 inches I.D. for pipe I.D.'s over 18 inches and up to 27 inches payment for trenching and backfill shall be made at 1.5 (one and one-half) times the unit price bid for that depth. For pipe I.D.'s 30 inches or over, payment for trenching and backfill shall be made at 2 (two) times the unit price bid for that depth.

- B. Pavement Replacement: Measurement for pavement replacement shall be made to the nearest square yard on the top of the pavement removed, EXCEPT that the maximum width of pavement removal to be paid for shall not exceed the widths of trench tabulated in City of Farmington Construction Standards. No pavement removed beyond the limits specified or without the approval of the Engineer shall be measured or paid for. Payment will be made at the contract unit price per square yard for pavement replacement which price and payment shall be full compensation for removing and disposing of existing pavement, and construction of replacement pavement and furnishing all labor, equipment, materials, and incidentals necessary to complete the work as specified herein.
- C. 3/4" to one (1) inch trench stabilization aggregate and select backfill or bedding material shall be paid by the ton compacted in place as directed by the City. Payment shall be limited to the maximum trench width indicated in City Standard No. 112 multiplied times the depth authorized by the Engineer.
- D. The unit price for concrete Pipe collar installed on the size of pipe indicated shall include all labor equipment and materials necessary to install a Portland cement pipe collar around the pipe indicated. The collar shall be a minimum of two (2) feet long along the pipe length and shall extend out from the pipe a minimum of 1 foot in all directions.
- E. Item for Rock Excavation will be paid according to the trench widths on City Standard D-112. The hydraulic items are only to be used for special hydraulic attachments used for breaking through rock and shall be measured in the field for actual yardage.

SECTION 710

BORING, DRILLING AND JACKING

710.5.3 **INSTALLATION**

Carrier pipe shall be skidded through the casing *per D-402*.

Other methods shall be approved in writing by the City Engineer.

710.7 **MEASUREMENT** (Add the following)

Steel casing, bored and jacked shall also include installation of the carrier pipe in the casing. *The utility (water and sewer, etc.) pipe shall be paid for by the bid item.*

(Change Payment to read)

Payment shall be based on the unit price bid in the schedule times the diameter in inches of the casing per lineal foot of casing installed. This item will only be used for casings ten inches in diameter or larger.

SECTION 801

INSTALLATION OF WATER TRANSMISSION AND DISTRIBUTION LINES

801.1 (Add the following)

Water System Connection and Certification Fee:

All water utilities work, within the City's existing or proposed Right of Way, shall be coordinated with the City's Construction Inspector prior to construction. A dated copy of the approved construction drawings (not older than 1 years from date of signature) shall be kept on-site and shown to the inspector upon request. Failure to comply shall result in job shut-down until plans can be provided or re-approved.

No contractor shall connect to the City's water system without first paying a certification fee prior to connection. The fee shall be paid to the Building Inspection Division at City Hall. The Construction Inspector will schedule the water connection with the City's O&M Contractor. All work shall be scheduled with O&M contractor a minimum of 96 hours in advance of construction.

Only the City's Operation and Maintenance contractor shall supervise or perform any connection to existing waterlines or operate any valves. In cases of emergency, or in situations that may endanger the public health, such as water main breaks, the contractor may close nearby valves to minimize danger after coordinating with the City's O & M Contractor at 327-7701 (24 hrs).

801.3.3.2 GATE VALVES Delete this section and insert the following:

Gate valves shall be designed for 150psi operating pressure and shall be Mueller Resilient Seat Type A-2370-20 or approval equal. Gate valves shall be supplied complete with valve box and cover. Valve boxes for ten (10) inches and smaller gate valves shall be two-piece screw type. Clow Model F-2493 stay-put cover or city approved equal. ***Valves shall be a maximum of five (5) feet from a cross or tee. Unless approved by City Engineer or designee***

Gate valves shall be used on pipes 10" in diameter or smaller.

Substitute the following list of approved manufactures:

- 1) Clow
- 2) Mueller
- 3) Kennedy
- 4) Dresser

801.3.4.2 BUTTERFLY VALVES

Butterfly valves shall be used on pipes 12" in diameter or larger.

Valves shall be a minimum of three (3) feet to a maximum of five (5) feet from a cross or tee.

Delete this paragraph and insert the following:

Butterfly valves shall be an approved equal to those made by the following approved companies:

- | | | |
|------------|------------|-------------|
| 1) Mueller | 3) Dresser | 5) Keystone |
| 2) Clow | 4) Kennedy | 6) Pratt |

The valve bodies shall be coated with a 100% solid heat-cured epoxy coating holiday-free in the waterway. Valve vanes shall be 100% holiday-free.

801.3.6.1 Corporation Stops (Valves) shall conform to AWWA Standard C800-66, outlet to be AWWA C-800 copper service thread, with flare nut. Inlet is to be male IPT. All exposed casting to be bronze ASTM B-62.

All valves to be individually factory tested in both the open and closed position. Corporation stops shall be: Mueller H 15025, Ford F700, Hayes 5204 and Jones J 1505 or an approved equal.

Curb Stops shall be bronze, inlet for flared copper, outlet for female IPT. Curb stops shall be to: Ford Z 21-333 3/4", Ford Z 21-444 1", Mueller H 15275, Hayes 5050, Jones J- 1507 or McDonald 4721 or an approved equal.

Copper setters shall be: Ford VHH72-15 5/8" x 3/4" or 1" VHH74-15, or Mueller H 1404-2A. Non-Bronze Service Saddles shall be nylon coated ductile iron with double stainless steel straps or an approved equal. Nylon to be fusion bonded to an average of 12 mils thickness. The straps, nuts and washers will be type 304 - stainless steel. Gasket will be a rubber type compound to resist oil, natural gas, acids, and alkalis and be water tight. Tap threads to be iron pipe. Saddles will be various sizes for cast iron, asbestos-cement, and plastic pipe. Tap sizes will be 3/4, 1, 1½, and 2 inch N.P.T. Non-Bronze Service Saddles shall be: Rockwell 317 or Romac 202-n or an approved equal.

Tapping saddles 4 inches and above shall be two piece, stainless steel capable of fitting A.C., Ductile Iron or PVC pipe.

801.3.7 FIRE HYDRANTS (Delete this paragraph and add the following.)

Fire hydrants shall be manufactured by the following approved companies: 1) Mueller (Centurion), 2) Kennedy (Guardian), 3) M & H (Model T-129, Traffic Model), 4) Clow (Medallion Series).

All hydrants shall meet the following specifications:

Fire hydrants shall be of the dry barrel, compression type, closing with the line pressure. All private fire lines, including private fire hydrants and all appurtenances associated with that private line, shall be tested to a minimum pressure of 200 psi for at least two (2) hours and shall comply with AWWA Standard C-502-94 or latest revision thereof.

Fire hydrants shall open left (counter clockwise) with a 1 1/2" all bronze pentagon operating nut and an anti-friction washer above the trust collar to reduce opening torque. The hydrant bonnet shall have a lubricant reservoir surrounding the working parts of the hydrant which is "O" ring sealed from the water pressure and weather conditions and a weather shield for freeze protection if available.

Fire hydrants shall have two 2 1/2" hose nozzles and one 4 1/2" pumper nozzle with National Standard Hose Nozzle Threads. The hose nozzles shall be cast of minimum Grade D low zinc bronze and shall be threaded and locked into the upper barrel.

DOUBLE STEAMER HYDRANT

Any hydrant installed on a main line 12" and larger shall have two (2) 4.5" ports and zero (0) 2.5" ports. The underground supply to the hydrant, including all valves shall be 8".

The hydrant traffic feature shall consist of a breakable flange and a breakable ferrous metal "safety sleeve" stem coupling with stainless steel stem coupling pins.

The bronze seat right shall be a minimum 5 1/2" inside diameter and shall thread into a bronze drain ring or busing forming an all bronze drain way with positive dealing resilient seat drain valve facings. All bronze shall be less the 16% zinc alloy with minimum yield of 20,000 psi as noted in Section 2.1, Table 1 of the above referenced standard. The main valve shall be replaceable with a lightweight wrench by disassembly at the hydrant bonnet flange.

Fire hydrants shall be four (4), five (5) or six (6) feet bury (unless otherwise noted) and shall have a completely assembled six (6) inch mechanical joint shoe inlet. Underground flanging of these parts shall have a minimum of six 3/4" rust-prohibitive bolts or the bolts shall be stainless steel.

All fire hydrant joints not flanged shall require mega lugs or approved equal.

Fire hydrants shall be painted above the ground line with one coat of rust prohibitive primer and one coat of yellow brushing enamel and all other exposed surfaces shall be coated with asphalt varnish as noted in Section 4.2 of the above standard.

In no case shall the Contractor use pipe wrenches to operate fire hydrants.

INSPECTION

All hydrants shall also be inspected by the Farmington Fire Department Fire Marshals office. The inspection shall include a flush and drain test.

801.6.1 **GENERAL** (Delete paragraph in its entirety and add the following)

Only the City's Operation and Maintenance contractor shall supervise or perform any connection to existing waterlines or operate any valves. In cases of emergency, or in situations that may endanger the public health, such as water main breaks, the contractor may close nearby valves to minimize danger after coordinating with the City's O & M Contractor at 327-7701 (24 hrs).

Tracer wire is to be used on all water line installations as per the Tracer Wire requirements under Section 121.

801.16.1 **All new public waterlines, including new fire hydrants that will be incorporated into the City system, shall be tested to 150 psi for two hours.**

801.17.2 **DISINFECTION SHALL CONFORM TO CURRENT AWWA STANDARDS C-601-81. Tablets shall not be used for disinfection.**

Amount of Chlorine Compound (HTH 65%) required for sterilizing various sizes of waterline.

<u>Pipe Sizes</u>	<u>Lbs. Per 100 LF</u>
4"	0.082
6"	0.190

8"	0.336
10"	0.526
12"	0.754
16"	1.54
20"	2.10
24"	3.02
30"	4.72

801.22 MEASUREMENT AND PAYMENT (Add the following)

All items incidental to water line construction shall be included in the per linear foot cost of the waterline, no separate payment will be made for the following:

- | | |
|---|------------------------------|
| 1) Testing equipment - pump, fittings, special piping, gauges, etc. | 5) Blocking and supports |
| 2) Disinfecting and testing. | 6) Tracer wire (section 121) |
| 3) Flushing/Dechlorination | 7) Other incidental items |
| 4) Trench and Back fill | |

801.22.4.1 IRON FITTINGS (Delete this section and add the following)

Iron fittings shall be measured by the weight of the fittings installed based on the manufacturer's body casting catalog weight without accessories. Fittings installed shall include all necessary accessories to complete the work incidental to the unit price bid for iron. Fittings include, but are not limited to all tees, crosses, bends, reducers, plugs, offsets, wyes, elbows and any other fittings, standard or reducing types, necessary to complete the work that is not covered by other bid items.

Fittings not used on the contract will remain the property of the Contractor. No payment shall be made to the Contractor for unused fittings.

801.22.10 (Add the following)

Adjust fire hydrant (one foot increments) shall include all labor, equipment and materials, necessary to adjust a fire hydrant up to a one foot increment. All materials including barrel and stem extensions are included in this item.

Remove and relocate hydrant shall include all labor, equipment and materials including excavation to remove and relocate an existing fire hydrant to a new line.

801.22.12 (Delete this section in its entirety and add the following)

All wet taps, cut-ins, physical separations and connections shall be made by and/or certified by the City of Farmington's Operations and Maintenance Utility Contractor. All connections shall require that the contractor supply all materials, labor and equipment necessary to connect to an existing waterline. All new connections shall include all labor, equipment and materials necessary to remove existing joint restraint, thrust block and plug from a stubbed-out water main and connecting a new water main to the stub-out. * Payment of tap saddle used will be made according to the size of pipe being tapped.

801.22.15 (Delete this section in its entirety and add the following)

AIR RELEASE VALVE: The unit price bid for air relief valve assembly (including vault) of the size indicated according to the City of Farmington Construction Standard D-208 and D-209 specified shall include all labor, equipment and materials necessary to properly install the air relief valve assembly according to the appropriate standard, compete in place, ready for use.

Note: All Brass Fittings supplied shall meet the new low lead requirements of the U.S. Safe Drinking Water Act, which goes into effect in January 2014.

SECTION 802

INSTALLATION OF WATER SERVICE LINES

802.8.4 The contractor shall furnish and install all labor, equipment, and materials necessary to properly complete the water service according to City Standard D-215 – D-224 exclusive of the water meter. All water services shall be installed with all new connecting valves open, tracer wire, pressure tested, including disinfection, as part of any new water line installations.

For water line replacement, the main shall be tested and accepted prior to switching water services.

All hot taps and cut-ins shall be performed in accordance with Section 801.22.12.

All Contractors working on live potable water lines shall have an approved set of drawings and shall pay certification fees at Building Inspection Department prior to beginning any work on live potable water lines. All work shall be scheduled with the O&M contractor a minimum of 96 hours in advance of construction.

802.6 WATER METER LOCATION

Water meter shall not be installed within sidewalk or driveway areas. Exceptions must be approved prior to installation by water/ wastewater administrator or his/her designee. In areas where a water meter already exists, either the existing water meter or the proposed driveway or sidewalk shall be relocated not to impede with one another at the owner's expense.

802.8.4 MEASUREMENT AND PAYMENT (Add the following)

The unit price bid for installation of water service lines, any size, shall include all labor, materials and equipment required to install up to 25 linear foot of water service line according to City Standard D-215-D-224. When the service requires more than 25 linear foot of line, the additional length shall be paid by the foot under the appropriate bid item.

Note: All Brass Fittings supplied shall meet the new low lead requirements of the U.S. Safe Drinking Water Act, which goes into effect in January 2014.

SECTION 803

OPERATING WATER SYSTEM

803.1 OPERATIONS OF THE EXISTING WATER SYSTEM

NOTE: The contractor is required to provide the City a minimum of 24 Hour Advance notice for valve operation, wet taps, cut-ins, flushing and disinfection.

Waterline shutoffs shall be in accordance with the following procedures:

803.2 A waterline valve may not be operated without permission of the Operation and Maintenance Contractor for the water utility Superintendent of Construction and Maintenance or his designee. Only Contractors that have a contract with the City of Farmington to construct or modify the City's water system, will be eligible to operate valves and then only upon initial installation.

803.3 Request for water shutoff permits must be submitted two working days prior to the date of the required shutoff. Required ***shutoff must be coordinated with OMI at (505) 326-1918.***

803.4 The Operation and Maintenance Contractor for the water utility Superintendent of Construction and Maintenance or his designee shall review the proposed valve operation as follows:

1. Determine that a shutoff is necessary or whether design or construction can be reasonably modified to alleviate a shutoff (E.G.-dry tap instead of insertion of fitting),
2. Along with the Contractor and Engineer, determine method of making shutoff, i.e., the specific valves to be closed and lines to be taken out of service shall be defined,
3. Date, time, and duration of shutoff information shall be provided to The Operation and Maintenance Contractor for the water utility.

803.5 It may be necessary to contact industry and commercial establishments to determine the effect of the shutoff on their operations and to make special provision for continuous water service, which will be the responsibility of The Operation and Maintenance Contractor for the water utility.

If required by the Operation and Maintenance Contractor for the water utility, the shutoff shall be performed at night if necessary for the convenience of the City and/or general public.

803.6 The Contractor shall contact the Operation and Maintenance Contractor for the water utility when the agreed upon procedure does not work as planned and obtain permission to modify the shutoff plan.

803.7 Prior to making the actual shutoff the Operation and Maintenance Contractor for the water utility should inspect the site to insure that all valves can be located and are in operating condition. A pre-trial shutoff can be made with the approval and supervision of City consultant or Engineering Division Inspectors. If valves cannot be located or are not in operating condition, the contractor should notify the field office as soon as possible. The Operation and Maintenance Contractor for the water utility personnel will locate the valves, make the necessary repairs or determine the alternate method of making the shutoff.

803.8 Emergency Breaks: The Operation and Maintenance Contractor for the water utility shall be notified immediately so that it may perform the shutoff.

803.9 All existing valves within the construction area shall be kept accessible for use by the City. Valves that must be covered during pavement construction shall be raised to grade within three days after completion of base course construction. When activity requires short term covering of a valve, the valve shall be referenced and plainly marked at the site where the valve is located. A variance from this three day requirement may be granted by the City Engineer when requested in writing.

803.10 WET CONNECTIONS

A wet connection is defined as a connection to the existing system where a large volume of water must be disposed of along with pressure relieving procedures of a line at operating pressure. A small leak of water from a stub, valve or other items shall not qualify a connection to be considered "wet". The Contractor shall provide all necessary blocking, bracing and other necessary precautions to prohibit damage to the existing system or any other property or person.

SECTION 804

IRRIGATION CLEANOUT

804.1 GENERAL

Only standard manholes will be considered acceptable for irrigation cleanouts. See detail D-102.

804.2 PAYMENT

Payment will include excavation, furnishing required materials, installation and backfill up to subgrade as shown in the City Standard D-602 on a unit cost basis.

SECTION 805

INSTALLATION OF PRESSURE REDUCING VALVE

805.1

MEASUREMENT AND PAYMENT

Payment for Installation of new Pressure Reducing Valve (PRV) – Complete in Place (CIP) will be made at stipulated price indicated in the Bid Proposal for each PRV installed. Price Bid shall include but not be limited to the following: staking; clearing and grubbing, excavation; backfill; compaction; grading; concrete; vault; pressure reducing valve; pressure relief valve; air relief valve; all materials and equipment inside vault; valves and piping inside the vault; piping ten (10') feet outside vault; drain sump; riser and vent piping; concrete splash pad; warranties; record drawings; cleaning and other materials; equipment and labor are incidental thereto.

SECTION 901

INSTALLATION OF SANITARY SEWER LINES

901.5.1 REMOVING EXISTING SEWER PIPE (Add the following)

Add the following to the section: Removal of existing sewer pipe shall be paid for on a unit price per lineal foot of pipe removed, which payment shall be full compensation for furnishing all labor and equipment for the removal, haul and disposal of the existing pipe.

The Items for removal, separation and disposal of listed pipe items requires the actual removal and separation of pipe from the excavation material and hauling off site separate from excavation. If pipe is adequately crushed so that the inspector allows the pipe to be backfilled into the trench or if the provisions of Section 920.4a are not met, no payment will be made under these items.

901.5.2.1 PIPE LAYING (Add the following)

The type of pipe to be installed shall be one of the types designated by the City. Pipe shall be installed in accordance with the appropriate pipe laying handbook or manual and/or AWWA recommended pipe laying practice for the type of pipe being installed. The interior of the pipe shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during operations by plugging or other approved methods. The pipe Class shall be clearly indicated on each end of all pipe sections fittings. Bridging will not be allowed, grade shall be established prior to laying pipe.

Handling

Pipe and accessories shall be handled in such a manner as to insure delivery to the trench in sound, undamaged condition. Particular care shall be taken not to injure the pipe coating. No other pipe or material of any kind shall be placed inside of a pipe or fitting after the coating has been applied.

Cutting

Cutting of pipe shall be done in a neat and workmanlike manner without damage to the pipe. Unless otherwise authorized by the Engineer cutting shall be done by means of an approved type of mechanical cutter with wheel cutters utilized where practicable. Burrs will be removed from all cuts by means of grinding or filing.

Placing and Laying

Before installing ductile iron pipe, the pipe shall be inspected for defects and tapped with a light hammer to detect cracks. Defective, damaged or unsound pipe shall be rejected. Deflection from a straight line of grade as required by vertical curves, horizontal curves or offsets shall not exceed those specified in AWWA C-600. If the alignment requires deflection in excess of these limitations, special bends or a sufficient number of short lengths of pipe shall be furnished to provide angular deflection within the limit set forth.

Pipe Laid in Trench

The full length of each section of pipe shall rest solidly upon the bed, with recesses excavated to accommodate bells and joints. Any pipe that has the grade or joint distributed after laying shall be taken up and re-laid. Pipe shall not be laid in water or when trench or weather conditions are unsuitable for the work, except by permission of the Engineer.

When work is not in progress, open ends of pipe and fittings shall be securely closed so that no other substances will enter the pipes or fittings. Any section of the pipe found to be defective before or after laying shall be replaced with sound pipe at no additional expense to the City.

Water and Sewer Proximity

Water lines shall not be laid closer horizontally than ten feet from sewer lines and the water lines shall be at a higher elevation than the sewer. If this is not possible, separate trenches will be required and the water line shall be 6 inches above the sewer. When water and sewer lines cross each other, the water line shall be at least 6 inches above the sewer, otherwise, the sewer shall be ductile (PVC may be used with City Engineers approval). No joint shall be within ten feet of the crossing.

Excavation for Appurtenances

Excavation for structures related to the water or sewer line shall be sufficient to leave at least twelve (12) inches in the clear between their outer surfaces and the embankment or timber which may be used to hold and protect the banks. Any other depth excavation below such appurtenances that has not been directed by the City shall be considered as unauthorized and shall be filled with sand,

C. All sewer lines shall be installed using a laser and shall run directly from manhole to manhole without deflection.

D. Pressure sewers shall be buried a minimum of 60" measured from finish grade to top of pipe. ***Hydrostatic pressure will be 1.5x working pressure test.***

901.6.5

EXCAVATION OF EXISTING PIPE AND MANHOLES

Due care shall be exercised during excavation near manholes. Any damage to the existing pipe or manhole structure shall be repaired at the Contractor's expense. The City will determine the extent of damage and the type of repairs necessary. Hand excavation at manholes may be necessary at the Contractor's option. Excavation at the manholes shall progress downward until the first joint of pipe connecting to the manhole is encountered. The joint will be exposed and the City will determine the disposition of the type of connection to be used between new and old pipe. Excavation shall then proceed up the pipe line re-moving the existing pipe as the work progresses until the first service tap is encountered. The service tap shall be excavated to a point where a satisfactory connection can be accomplished. Care shall be exercised in excavating the service tap to prevent damage of the existing pipe beyond point of connection. Pipe may be removed in any manner as required by the City. Pipe removed shall be hauled to points designated by the City as soon as practical. *Old sewer pipe shall not remain on the job site for a period longer than 8 hours or overnight.* Excavated pipe shall be hauled from the job site daily.

901.8.2.1

Delete in its entirety and replace with the following:

All new sewer lines shall be videoed by the City of Farmington's Operation and Maintenance Utility Contractor, and any needed repairs made by the contractor at his expense prior to acceptance of the sewer line and start of the one year warranty period. The sewer line shall be videoed again prior to the expiration of the one year warranty period. The contractor shall make any needed repairs at his expense before issuance of final acceptance by the City Engineer or his designee.

901.8.2.2

Delete the last sentence in the paragraph and replace with the following:

If the sewer line and manholes are not properly cleaned by the contractor so that the video work can be completed, then the contractor shall incur all costs associated with cleaning and re-videoing the sewer lines and manholes. The contractor shall be responsible for these additional costs and will be billed by The Operation and Maintenance Contractor for the water/sewer utility.

gravel or concrete as directed and at the expense of the Contractor. Excavation for concrete structures may serve as the outside form, if in the opinion of the Engineer, the walls of excavation are smooth, and if a workmanlike finish can be assured utilizing this method.

Tracer Wire

Tracer wire shall be installed on sewer force mains (mainlines or service lines) per Section - 121 - Plastic Pipe

Inspection of House Service Connection

All sewer house service connections replaced by the Contractor shall not be backfilled before inspection by the Construction Inspector.

Marking Sewer Stub-outs

All sewer stub-outs shall be marked by a clean out and riser (the cap on the riser shall be glued on) extending from the end of the stub-out to the surface of the ground. The riser shall be a minimum 3 feet above ground with a glued on cap, whose top has been painted green for sewer.

Sewer Tie into Existing System

Mainline extensions to the sewer system will not be tied into the existing sewer system until the new mainline extension has been inspected (i.e. videoed and approved by The Operation and Maintenance Contractor for, and accepted by, the City Engineer or his designee).

901.5.2.7.2 INSTALLATION OF PLASTIC SEWER PIPE (PVC)

- A. Installation of PVC sewer pipe shall be in strict accordance with Uni-Bell Plastic Pipe Association (UPPA) Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Sewer Pipe, UNI-B-5-79.
- B. Pipe embedment material shall be Class I, II or Class III of Uni-B-5-79, Appendix I. Minimum compaction shall be 90% of relative density per ASTM D2049 for Class I & II material and 90% of standard proctor per ASTM D698 using ASTM D2167, D1556 or D2922 for Class III material. Consolidation by saturation shall not be used for Class III materials. All embedment materials shall pass a 1½" sieve.

901.8.3

BY-PASSING:

Sewage flow from the collection system upstream of the section which is under construction shall be by-passed in a manner approved by the City. The upstream manhole of the section will be plugged by means which shall prevent passage of sewage into the construction area. Plugs shall be of the easily removable type which will not damage pipe or require loose material for the plugging operations.

By-passing pumps shall be of the positive action type and of a pumping capacity large enough to pump all sewage flow encountered. No surcharging of upstream piping will be permitted. A standby pump shall be on the job site to be used in the event of pump failure for any cause. By-pass pumps shall be gasoline or diesel powered. A sump may be constructed in the upstream manhole of size and depth to accommodate the suction requirements of the by-pass pumps used. Pumps shall be held to a practical minimum size. By-pass piping shall be adequately sized to carry all sewage flows pumped and shall be of an adequate size to pass such debris as may be encountered. Piping shall be continuous from manhole to manhole. Joints shall be tight and leak free at pumping pressures. Leaks at pipe joints or connection shall be immediately repaired and the entire area washed down with clean water. Pipe may be aluminum irrigation pipe or hose at the Contractor's option and as approved by the City.

By-pass operations including pipe alignments shall be conducted to minimize the interference with traffic and/or access to residences within the construction area. Where by-pass piping must be crossed by traffic, the pipe will be protected and protection will be provided for the public. Prevention of pipe breakage and subsequent sewage spills is primary to the health and welfare of the community and the Contractor shall take all precautions necessary to insure the health and safety of the public. Pipe protection ramps or devices shall be constructed to prevent damage to vehicles and shall provide an "easy-road" crossing. Baffles or diversions at the downstream manholes shall be constructed at the upstream inlet to prevent sewage from flowing back into the construction area. Flow through the down-stream manhole shall be maintained at all times. Baffles or diversions at the downstream manhole shall be at the Contractor's option.

Trash encountered at the intake of by-pass pumps shall be removed from the pump suction as quickly as possible. No accumulations of trash from sewage lines will be permitted. The Contractor shall provide plastic trash bags and receptacles which trash may be deposited in prior to removal from the site.

Upstream or downstream surcharging or overloading of pipe due to construction operation shall be the sole responsibility of the Contractor. The City will not be held responsible for any damage or claims of damage resulting from the operations of the Contractor.

SECTION 905

SANITARY SEWER SERVICE LINES

905.3 MATERIALS

905.3.6 (Delete this section and add the followings)

Service lines: Pipe for service lines shall be PVC Schedule 40 pipe conforming to Section 129.2 of the New Mexico Standard Specifications for Public Works Construction, **2006 Edition or latest versions, revisions or editions**, for depths to invert of less than 3 feet. For depths greater than 3 feet P.V.C. SDR-35 shall be used.

905.4 INSTALLATION

905.4.2 SERVICE LINES (Add the following)

Taps: Mainline pipe shall be tapped using a tapping machine. Tap hole shall be bored to a clean circular hole in the plane of the pipe centerline. Holes shall be sized to receive a tap saddle of the type specified herein. Existing service lines will in general be four (4) inches in diameter. Facilities for making larger or smaller types shall be available for use during construction. Taps shall be placed in the upper quadrant vertical. No tap will be placed at the top of the pipe unless express permission has been obtained from the City.

Tapping Saddles: Saddles for connecting to mainline sewer pipe shall be constructed of VCP, PVC or C.I. material capable of withstanding pressure and chemical attack. One saddle size shall fit an eight (8) inch pipe. "Insert-a-tees" are also acceptable to the City.

905.4.4 MARKING SEWER STUB OUTS

All sewer stub outs shall be marked with a clean out and riser (the cap on the riser shall be glued on) extending from the end of the stub out to the surface of the ground. The riser shall be cut off flush with the ground with a glued on cap, whose top has been painted green for sewer. **Provide approved green warning tape in trench 12"-18" above installed or repaired sewer lateral.**

905.5.1 RISERS: Change the 15-feet in the section to 6-feet.

905.6.3 (Add the following)

Connections of New Service Line to Old Service Line

Where new service line is connected to old service line pipe, an adapter connector of the type specified in ASTM C-594 shall be used. The connector shall be the Type "A" elastomeric sleeve incorporating corrosion resistant tension bands. Shearings will be required when connecting to existing service lines. The old pipe shall be removed to a point where the pipe is found to be in good condition and undisturbed or to the property line which ever occurs first.

Connections to the old pipe shall be tight and as leak-proof as condition of the old pipe warrants. Damage to existing service piping beyond the connection point is the sole responsibility of the Contractor.

905.6.4 SEWER SERVICE ITEMS

The unit price bid item for four (4) inch sewer service tapping saddle, shall include all labor, equipment and materials necessary to tap an existing sewer main in the trench using a tapping machine. Materials shall include but not be limited to the following: PVC or VCP tapping saddle, gasket, epoxy and concrete cradle or dry packed as approved by the inspector. This item shall also include furnishing and installing strap type saddles as well as glued type when directed by the City. Saddles shall be single wide band (two inch wide strap) and/or double strap, stainless steel type.

The unit price bid for items for reconnecting existing sewer service of the type indicated, includes all labor, equipment and materials necessary to reconnect as existing sewer service to a tapping saddle installed under four (4) inch sewer services tapping saddle, are to be paid for sewer connections 10 feet in length. The cost of riser and pipe materials, gaskets, sleeves, bands, pipe cutting and excavation is to be included in the unit price bid for these items.

The unit price bid for a new service or reconnect sewer pipe up to 25 feet in length and for reconnecting existing sewer service shall include all labor, materials and equipment necessary to install four (4) inch pipe of the type indicated. Additional length will be paid under the appropriate bid item.

905.6.5 (Add the following to the section)

EXISTING HOUSE SEWER LATERAL

Where house service line connections to sewer mains are encountered, the Contractor shall insure that the service lines will not be disturbed or damaged. Should any service line connection be broken during the construction of the new line, it shall be replaced by the Contractor with the same type pipe. In the case of a sewer service, the trench shall not be backfilled until the service line is inspected by the City Construction Inspector. Without an inspection no extra compensation will be allowed the contractor for this item. The City assumes no liability for damage to a replacement of house sewer and water service line connections. When a new sanitary sewer lateral is required as a replacement for an existing line, and the alignment of the new line coincides with the existing line and the grade of the new line is approximately at the same grade as the existing line or lower, then the existing line shall be removed or dealt with as ordered by the Engineer or Inspector. The cost of this work when applicable shall be paid for under the appropriate item in the Bid Proposal.

The Engineer or Inspector shall determine if it is necessary to pump sewage around the replacement work, or if it is possible to temporarily plug the sewer line during the replacement operation.

905.6.6 (Add the following)

INTERRUPTION OF SERVICE

No more than four (4) sewer service lines may be removed from the service at any one time without written approval of the Owner. In no case may a sewer service be out of operation more than eight (8) hours. The Contractor shall give notification of service outage to each household affected at least twenty-four (24) hours prior to the service interruption. Failure to give notice will result in a work stoppage on that particular service until the specified period has elapsed or the expressed approval of the householder has been given to proceed with the service outage.

905.8 MEASUREMENT AND PAYMENT (Delete this section and add the following)

The unit price bid for four (4) inch sewer service tapping saddle, shall include all labor, equipment and materials necessary to tap an existing sewer main in the trench using a tapping machine. Materials shall include but not be limited to the following: PVC or VCP tapping saddle, gasket, epoxy and concrete cradle. Factory fabricated tees or wyes installed are not to be included in this item. Excavation for this item shall be paid under one of Bid Items for trench and backfill. All work to be as directed by the City. This item shall also include furnishing and installing strap type saddles as well as glued type when directed by the City.

SECTION 920

SANITARY AND STORM DRAIN MANHOLES

920.4.1.3 MANHOLE CONSTRUCTION --- GENERAL (This section is reproduced for convenience)

Invert elevations of the pipes entering or exiting the manhole and interior inverts shall not vary more than 0.05 feet from the elevations indicated on the construction plans. Spacing requirement for sanitary manhole will be at maximum of 400 feet while the requirement for storm drain manhole will be at maximum of 500 feet.

920.4.4.1 MANHOLES (Add the following)

The inside and outside of all concrete block manholes shall be neatly plastered with Type PM or PL mortar as specified in ASTM C-476, ½" thick with cement as specified with Section 106 and cured as specified under Section 500. Manholes of the design indicated on the Construction Standards shall be built around the pipe at designated intervals, and shall be adjusted such that pipe joints at the point will be just outside the manhole barrel both upstream and downstream. These joints just outside the manhole barrel shall be reinforced with a U-1 concrete block, as specified in ASTM C-145, poured under the joint and including the lower one half of the pipe. This block of concrete shall be at least three (3) inches under and around the bell and shall extend at least six (6) inches on each side of the joint along axis of the pipe. Where manholes are constructed using pre-cast concrete blocks, all blocks shall be soaked or wetted prior to placing on mortar bed or placement of mortar joints. After the manhole has been constructed and a shelf of concrete has been poured on the bottom of the manhole at an elevation of ½ pipe diameter above invert elevation, the top ½ of the pipe through the manhole shall carefully be broken out and removed. All bases of manholes shall contain reinforcing steel furnished and placed by the Contractor in accordance to the details as shown on the Standard Manhole Detail Sheet. All manholes shall be plastered inside and outside. Plastering will not be applicable on pre-cast (Type 8-1 or C-1) manholes, unless specifically required by the Engineer.

920.7.4 RESHAPE MANHOLE INVERTS

Existing manhole inverts will be repaired and grouted in accordance with these specifications and the directions of the City.

A. Cleaning: The inverts of selected manhole will be cleaned by approved method to remove all foreign materials and loose concrete.

B. Invert Coating: Upon completion of cleaning, the Contractor shall reshape the invert to accommodate existing sewer lines with mortar that meets City Standards D-106.

920.7.4.1 MANHOLE REPAIR(Add the following)

The interior of manholes will be sand blasted to remove all foreign materials. Sand blasting will extend to a depth sufficient to remove surface material without effecting block strength. Penetration by sand blasting will be repaired with suitable material at no extra cost to the City.

920.8 MEASUREMENT

Sewer Lines (Add the following)

All sewers, except for storm sewer cross drains, shall be measured and paid based on the actual length of pipe installed from center of structure to center of structure for the various sizes constructed.

Storm sewer cross drains (those installed from a drainage structure to an inlet) shall be paid based on the actual length of pipe used. The length so measured shall in no event be less than the distance from center of structure to center of structure.

Removal of Existing Water and Sewer Pipe

Removal of existing water and sewer pipe shall be paid for on a unit price per lineal foot of pipe removed, which payment shall be full compensation for furnishing all labor and equipment for the removal, haul and disposal of the existing pipe. This item includes the removal, separation, disposal and hauling to an approved landfill of various pipe sizes. If *non-AC* pipe is adequately crushed so that the Inspector allows the pipe to be backfilled into the trench, no payment will be made under this item. **Removal and disposal of AC pipe will be handled by the contractor.**

Connection of Existing Lines

Connection of existing lines shall be paid for at the contract unit price by sizes stated in the Bid Proposal which shall be complete compensation of all materials furnished which shall include wastewater disposal, location of

utilities, cutting into and removal of existing pipe, necessary blocking and bracing.

920.8.1 MANHOLES (Delete this section and add the following)

The Contractor is to furnish all materials, labor, equipment and supplies necessary to excavate, backfill and construct complete in place the manholes as shown on the City of Farmington Construction Standards referred to in these specifications. The Contractor shall install one standard manhole frame and cover for each manhole constructed.

Manholes shall be paid at the unit price bid for the diameters and depths shown on the bid proposal. Depth in excess of 6 feet for type "B" manholes and in excess of 8 feet for type "E" manholes shall be paid on a vertical foot basis at the unit price in the bid proposal. Depth shall be measured from manhole rim to invert.

Replace manhole cone, shall include all materials, labor, and equipment necessary to excavate, backfill and construct a complete cone section concentric or eccentric. Manhole cone replacement shall include an area of asphalt of 5'x 5', any asphalt replacement in excess of this 25 SF shall be paid for under the asphalt surface course replacement bid item.

Manhole stub outs, includes all labor, equipment and materials necessary to install 5 foot max of any type of sewer pipe as a stub out of the size indicated. The type of pipe and length of the stub out is to be directed by the City.

Remove and abandon existing manhole shall include removing and disposing of the existing structure down at least three feet from proposed grade, compacted backfill, plugging all existing pipes and patching pavement.

The unit bid price per lineal foot for sanitary service lines and all items indicated shall include the furnishing and installation of the material and all trenching, backfill, compaction and removal of unsuitable material necessary to properly complete the work ready for use.

Sanitary Sewer or storm sewer Items noted with an * do not include any trenching and backfill or removal of unsuitable material. These sewer items do, however, include furnishing and installing items completed in place ready for use.

SECTION 930

MANHOLE CONNECTIONS

(Add the following sections)

930.1 GENERAL

This item will cover the labor, tools, equipment, and materials except pipe, required to make connections between new sewer lines and existing manholes.

930.2 MATERIALS

New block or mortar required shall conform with ASTM C-139 and as described in Section 106.

930.3 CONSTRUCTION

Where required to make a new connection to an existing manhole, a hole shall be driven through the manhole wall of a size sufficient to allow entrance of the pipe into the manhole while maintaining pipe alignment and grade. The new connection may be either inlet or outlet piping.

930.4 PAYMENT

Payment for this item will be made at the unit price bid in the Proposal Schedule for each manhole connection, either inlet or outlet, and shall include labor, tools, equipment, materials, etc., necessary for completion of this work. Installation of pipe will be paid for separately under the applicable item.

SECTION 940

PIPE LAYING (RIGID PIPE)

940.1 BEDDING

Delete the sixth (6th) paragraph and substitute the following:

The bottom of the trench shall be rounded so that the bottom of the pipe for a width of 60% of the outside diameter shall rest firmly on a layer of sand or base course placed as leveling laying and bedding as shown on the plans. In rounding the bottom of the trench, a template shaped to match the pipe for the 60% width shall be used, and final shaping shall be done a few feet ahead of the pipe laying. Bell holes, where required, shall be carefully excavated to provide uniform bearing for the barrel of the pipe. This is class "B" bedding as shown on City Standard No. D-410.

940.3 PIPE LAID IN TRENCH

The full length of each section of pipe shall rest solidly upon the bed, with recesses excavated to accommodate bells and joints. Any pipe that had the grade or joint distributed after laying shall be taken up and relayed. Pipe shall not be laid in water or when trench or weather conditions are unsuitable for the work, except by permission of the Engineer. When work is not in progress, open ends of pipe and fittings shall be securely closed so that no other substances will enter the pipes or fittings. Any section of the pipe found to be defective before or after laying shall be replaced with sound pipe without additional expense to the City. Fittings shall not be placed less than 20 feet from a restrained joint and must be meg-a-lugged as shown on the drawings or as directed by the City Engineer, to prevent the fittings from being blown off the line when under pressure. Thrust blocks may be used as approved by the City Engineer as per detail D210. Where connections are made between new work and existing lines, the connections shall be made by using special fittings as needed. Minimum depth of cover over top of pipe shall be forty (42) inches and the pipe shall be installed to the depth designated by the Engineer.

940.4 CONNECTIONS

Where connections are made between new work and existing lines, the connections shall be made using special fittings. Couplings may be either ductile iron or steel with bolts as above. If steel couplings are used, they will be cocoon wrapped as specified herein.

940.5 WATER AND SEWER PROXIMITY

SEE SECTION 901.5.2.1 WATER AND SEWER PROXIMITY

940.7 EXCAVATION FOR APPURTENANCES

Excavation for structures related to the water or sewer line shall be sufficient to leave at least twelve (12) inches in the clear between their outer surfaces and the embankment or timber which may be used to hold and protect the banks. Any over depth excavation below such appurtenances that has not been directed by the City shall be considered as unauthorized and shall be filled with sand, gravel or concrete as directed and at the expenses of the Contractor.

Excavation for concrete structures may serve as the outside form, if in the opinion of the Engineer, the walls of excavation are satisfactory and the concrete will not dry out too rapidly and if a workmanlike finish can be assured utilizing this method.

940.8 HOUSE SERVICES CONNECTIONS

Where existing water and gas house lateral connections to utility mains are encountered, the Contractor shall exercise due care to insure that the laterals are not disturbed or damaged. Should any lateral connections be broken, as a result of the work under this contract, it shall be replaced by the Contractor with the same type pipe or better. All house sewer service connections replaced by the Contractor shall not be backfilled prior to approval by the Construction Inspector.

940.10 MARKING BLIND FLANGES AND SEWER STUB OUTS

All sewer stub-outs shall be per the City of Farmington standard detail drawing D-115 latest revision. The riser shall be 3 foot above ground with a glued on cap, whose top has been painted green for sewer.

SECTION 960

SLIPLINE REMOVAL

960.1 GENERAL

This item shall include the length of lining that is removed in the slip lining of a sewer that is then replaced with laid 8 inch PVC.

960.2 MEASUREMENT AND PAYMENT

Slip line removal shall be paid by a lineal foot cost under the applicable bid item.

SECTION 970

SEWER SERVICE REPAIRS
(SLIPPED TAPS)

970.1 **GENERAL**

This item shall include providing equipment, labor, and material to cut, remove and replace asphalt surface (winter or summer time asphalt), excavation of existing sewer service connection, removal and replacement of concrete encasement, removal of existing tapping saddle, replace with INSERTA TEES, reconnecting sewer service connection and sewer line, placing wet concrete around repaired tap, making necessary repairs to settled service line at original trench edge connection, backfill and compaction of Base Course for pipe bedding and backfill material, mobilization and demobilization. All other requirements to make the necessary repair shall be incidental to construction.

970.2 **MEASUREMENT AND PAYMENT**

Sewer Service Repairs (Slipped Taps) shall be paid by the each under the applicable bid item. Mobilization shall be considered incidental to the sewer service repair item and shall not be paid for under the mobilization bid item.

No separate payment for mobilization will be made.

SECTION 971

SEWER MAINLINE REPAIRS

971.1 GENERAL

This item shall include providing equipment, labor, and material to cut, remove and replace asphalt surface (winter or summer time asphalt), excavation of existing sewer line, removal and replacement of sewer pipe, removal of existing tapping saddle, reconnecting sewer service connection and sewer line, making necessary repairs to service line at original trench edge connection, backfill and compaction of Base Course for pipe bedding and backfill material, mobilization and demobilization. All other requirements to make the necessary repair shall be incidental to construction.

971.2 MEASUREMENT AND PAYMENT

Sewer Mainline Repairs shall be paid by the each under the applicable bid item. Mobilization shall be considered incidental to the sewer mainline repair and shall not be paid for under the mobilization bid item.

SECTION 1502

MOBILIZATION

1502.1 **GENERAL**

Mobilization, unless specifically included by the City Engineer, shall be considered incidental to construction of the project and no direct compensation shall be made for mobilization. The costs associated with mobilization shall be incorporated into the appropriate bid items.

1502.2 **MEASUREMENT AND PAYMENT**

No direct payment will be made for mobilization.

SECTION 1503

RESTORE YARDS

1503.1 **GENERAL** (Add the following)

This item will cover all equipment and labor required to restore the effected property to its pre-existing state prior to any construction work. The Contractor shall obtain color photographs of each property before and after construction. These photographs will be submitted to the owner after said work is completed.

1503.2 **PAYMENT**

This item is considered incidental to all other applicable bid items unless specifically included in a work order.

SANITARY SEWER

CONSTRUCTION STANDARDS SHEET INDEX

SANITARY SEWER

<u>SHEET NO.</u>	<u>TITLE</u>
D-101*	SHALLOW MANHOLE TYPE "A"
D-102*	STANDARD MANHOLE TYPE "B"
D-103*	DROP MANHOLE TYPE "D"
D-104*	STANDARD MANHOLE TYPE "E"
D-105	SEWER SERVICE AT DEAD ENDS & CUL-DE-SACS
D-106	MANHOLE BASES
D-107	STANDARD MANHOLE STEPS
D-109 *	TAP SADDLE CONNECTIONS
D-110	SLIP LINER TAP CONNECTIONS
D-111	TRENCH CUTS (MANHOLES) TRENCH WIDTHS
D-112	TRENCH DETAILS-TRENCH PAY WIDTH (3 SHEETS)
D-113	REPOSE FOR SLOPING SIDES OF EXCAVATIONS
D-115	SEWER SERVICE LOCATION
D-116	SANITARY SEWER MAINS
D-117*	TYPICAL SANITARY SEWER AIR RELIEF DETAIL
D-118*	PRESSURE SANITARY SEWR CLEANOUT DETAIL
D-119 *	1-1/2" PRESSURE SANITARY SEWER LATERAL DETAIL
D-120*	2" PRESSURE SANITARY SEWER LATERAL DETAIL

NOTE: * REVISED 2013/2014
ALL DETAIL SHEETS WERE REVISED TO SAY PUBLIC WORKS

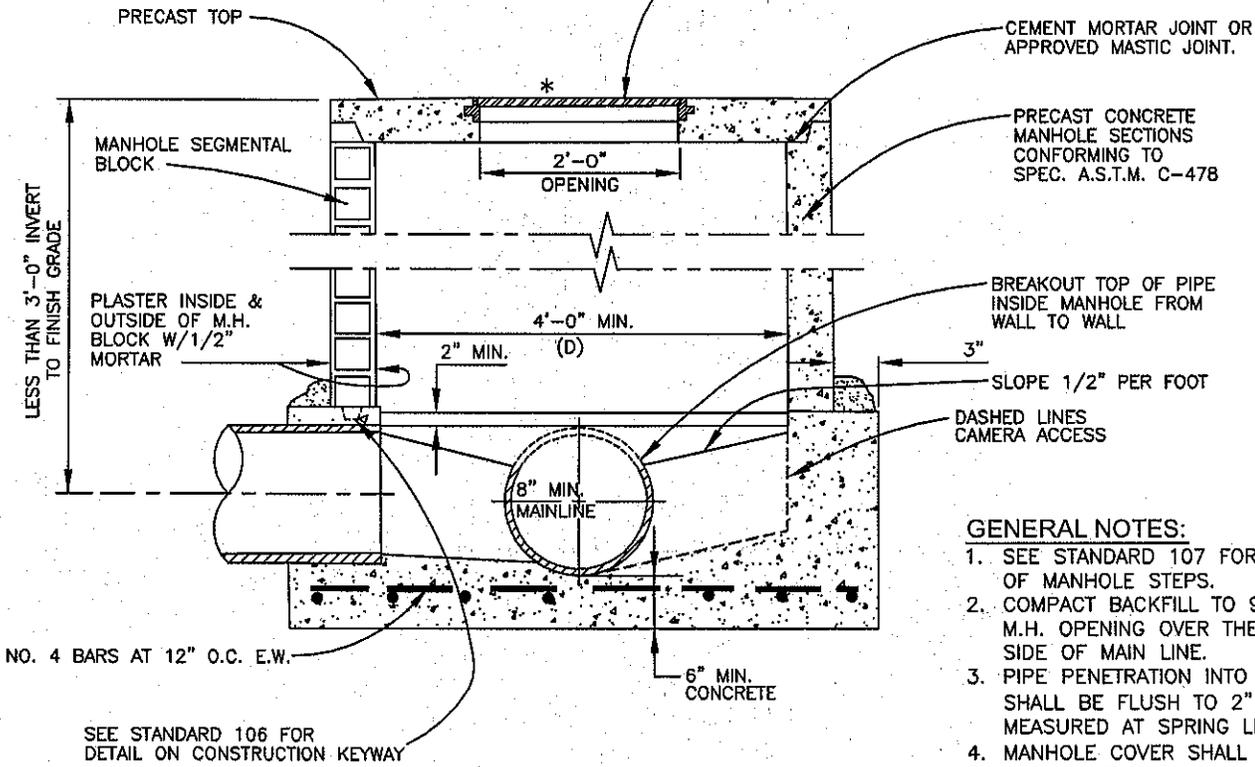
NOTES

ALL SANITARY SEWER MH COVERS TO BE VENTED & HAVE THE WORD "SEWER" CAST INTO LID.

ALL STORM SEWER MH COVERS TO BE VENTED & HAVE THE WORD "STORM" CAST INTO LID.

NEENAH FOUNDRY NO. R-1596 OR AS DIRECTED BY THE CITY ENGINEER.

* C.I.M.H. RING & COVER (INVERTED TYPE) CENTERED (TYPICAL) RECESSED INTO FLAT TOP, (SHOWN).

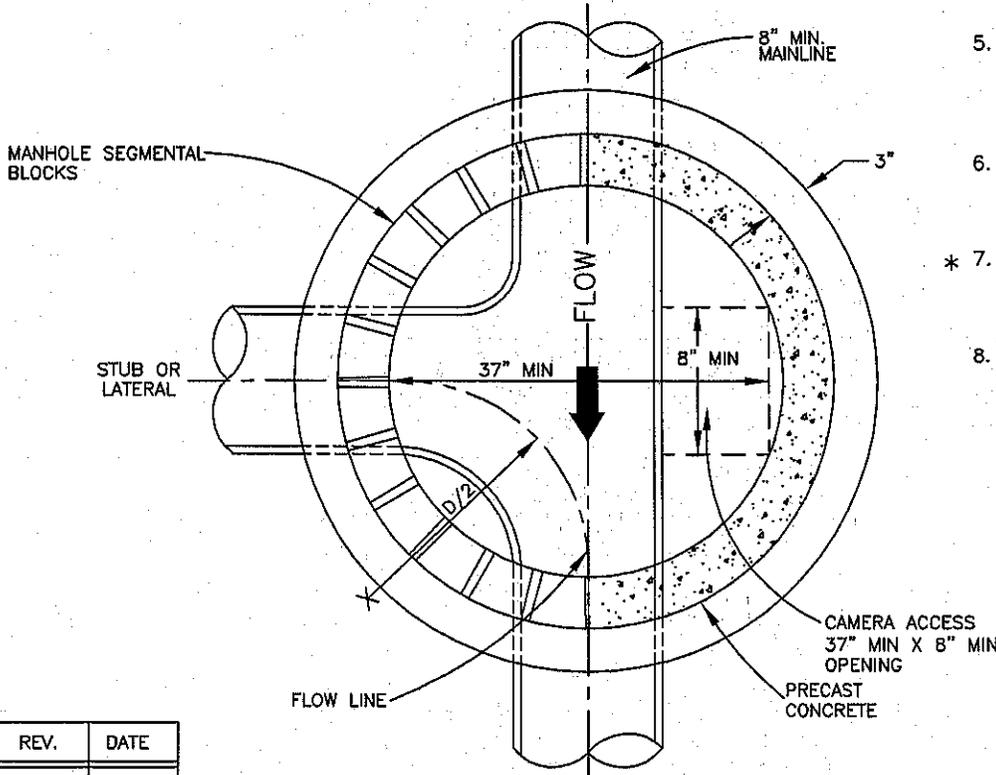


NO. 4 BARS AT 12" O.C. E.W.

SEE STANDARD 106 FOR DETAIL ON CONSTRUCTION KEYWAY

GENERAL NOTES:

1. SEE STANDARD 107 FOR PLACEMENT OF MANHOLE STEPS.
2. COMPACT BACKFILL TO 95% POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.
3. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRING LINE OF PIPE.
4. MANHOLE COVER SHALL HAVE A 5/8" MIN TO 1" MAX DIAMETER VENT HOLE CENTERED IN COVER.
5. FOR PRETREATMENT MANHOLES, CONTACT THE CITY LAB, PRE-TREATMENT COORDINATOR FOR PURCHASE OF A PREFABRICATED PIPE SECTION.
6. ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- * 7. MANHOLES IN A NON-PAVED AREA SHALL HAVE A ROUND CONCRETE APRON OR BE RAISED A MIN 6" OR AS DIRECTED BY THE CITY ENGINEER.
8. FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OF EXCEED ALL SPECIFICATION OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION ALL APPROVED MANHOLE MANUFACTURERS SHALL BE ISO9001.



REV.	DATE
*	08/13

CONSTRUCTION STANDARDS

SHALLOW MANHOLE TYPE "A"

STANDARD NO. D-101 SHEET 1 OF 1

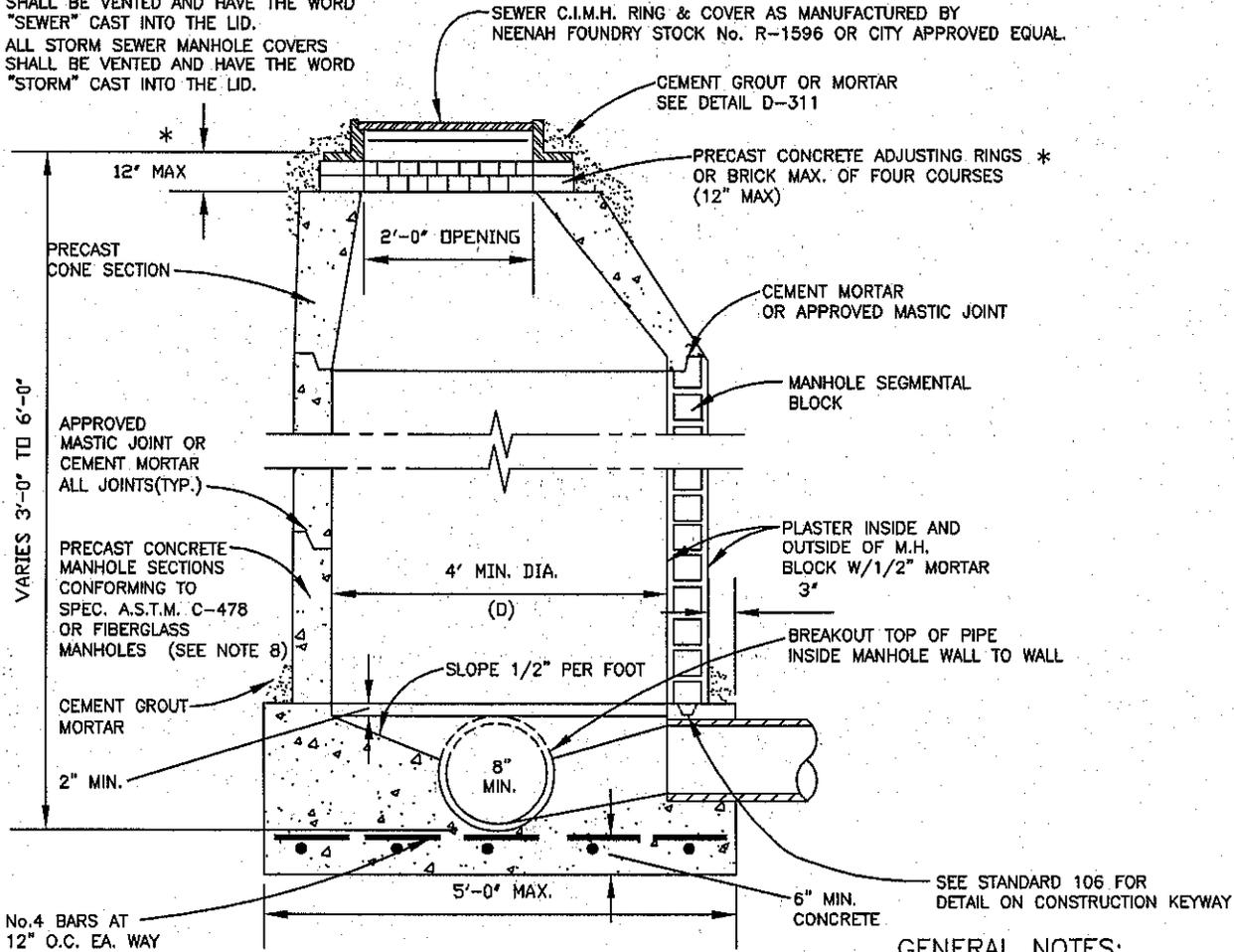
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

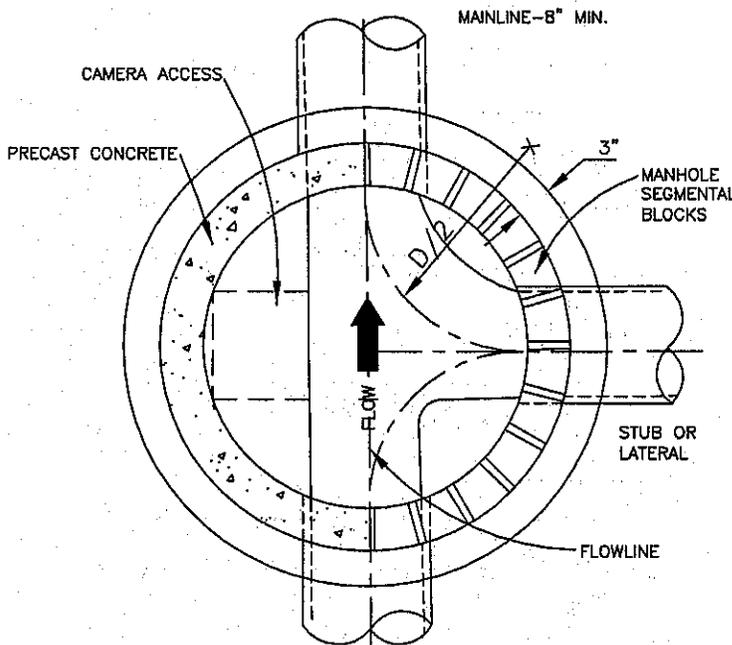
NOTE:

- 1) ALL SANITARY SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "SEWER" CAST INTO THE LID.
- 2) ALL STORM SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "STORM" CAST INTO THE LID.



GENERAL NOTES:

1. COMPACT BACKFILL TO 95%
2. POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.
3. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRING LINE OF PIPE.
4. MANHOLE COVER SHALL HAVE A 5/8" MIN TO 1" MAX DIAMETER VENT HOLE CENTERED IN COVER.
5. FOR PRETREATMENT MANHOLES, CONTACT THE CITY LAB, PRE-TREATMENT COORDINATOR FOR PURCHASED OF A PREFABRICATED PIPE SECTION.
6. ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- * 7. MANHOLES IN A NON-PAVED AREA SHALL HAVE A ROUND CONCRETE APRON OR BE RAISED A MIN. 6" OR AS DIRECTED BY THE CITY ENGINEER.
8. FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OR EXCEED ALL SPECIFICATION OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION ALL APPROVED MANHOLE MANUFACTURES SHALL BE ISO9001.



REV.	DATE
1/08	
* 8/13	

CONSTRUCTION STANDARDS

SHALLOW MANHOLE TYPE "B"

STANDARD NO. D-102

SHEET 1 OF 1

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

MANHOLE DEPTH	DIMENSION	
	A	B
0'-0" TO 15'	0'-3"	0'-6"
OVER 15'-0"	0'-6"	0'-10"

SEWER C.I.M.H. RING & COVER AS MANUFACTURED BY NEENAH FOUNDRY STOCK No.R-1596 OR CITY APPROVED EQUAL.

CEMENT GROUT OR MORTAR SEE DETAIL D-311 & 312.

PRECAST CONCRETE ADJUSTING RINGS * OR BRICK MAX. OF FOUR COURSES (12" MAX)

PRECAST CONE SECTION

PLASTER INSIDE AND OUTSIDE OF M.H. BLOCK 1/2" MORTAR

MANHOLE SEGMENTAL BLOCKS

ANCHOR DROP BOWL

STAINLESS STEEL STRAPS

ANCHOR WITH STAINLESS STEEL STRAPS AT TOP AND BOTTOM IF LESS THAN 10 FEET IF OVER 10 FEET AT 10 FEET O.C.

* 12" MAX

CEMENT MORTAR OR APPROVED MASTIC JOINT

DROP BOWL PER RELINER OR APPROVED EQUAL.

PRECAST CONCRETE MANHOLE SECTIONS CONFORMING TO SPEC. A.S.T.M. C-478

2'-0" OPENING

4' MIN. DIA. (D)

SLOPE 1/2" PER FOOT

2" MIN.

CEMENT GROUT OR MORTAR

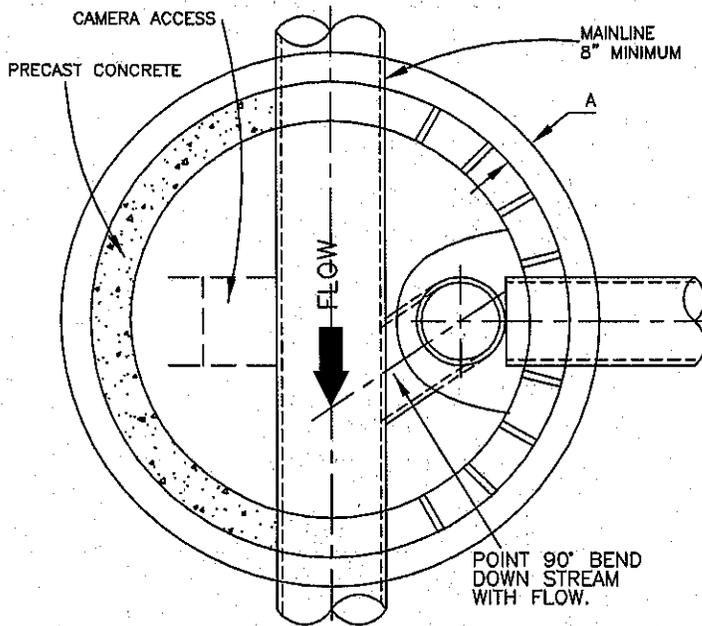
BREAKOUT TOP OF PIPE INSIDE MANHOLE WALL TO WALL

SEE STANDARD 106 FOR DETAIL ON CONSTRUCTION KEYWAY

REINFORCING #4 @ 12" O.C. EA. WAY FOR M.H. DEPTH OF 10 TO 16' #4 @ 6" O.C. EA. WAY FOR M.H. DEPTHS OF 16' OR GREATER

GENERAL NOTES:

1. ALL SANITARY SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "SEWER" CAST INTO THE LID.
2. ALL STORM SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "STORM" CAST INTO THE LID.
3. COMPACT BACKFILL TO 95% OF MODIFIED PROCTOR.
4. POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF LINE.
5. PIPE PENETRATION INTO M.H. SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRING LINE OF PIPE.
6. MANHOLE COVER SHALL HAVE A 5/8" MIN TO 1" MAX DIAMETER VENT HOLE CENTERED IN COVER.
7. DROP DISTANCE VARIES.
8. ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- * 9. MANHOLES IN A NON-PAVED AREA SHALL HAVE A 2FT CONCRETE APRON AROUND LID (SEE DETAIL) OR BE RAISED A MIN. 6" OR AS DIRECTED BY THE CITY ENGINEER.
10. FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OF EXCEED ALL SPECIFICATION OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION ALL APPROVED MANHOLE MANUFACTURES SHALL BE IS09001.
11. SEE STANDARD D-107 FOR PLACEMENT OF MANHOLE STEPS.



REV.	DATE
*	1/08 8/13

CONSTRUCTION STANDARDS

DROP MANHOLE TYPE "D"

STANDARD NO. D-103 SHEET 1 OF 1

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

CEMENT GROUT OR MORTAR
SEE DETAIL D-311

SEWER

C.I.M.H. RING & COVER AS MANUFACTURED BY
NEENAH FOUNDRY STOCK No. R-1596 OR CITY APPROVED EQUAL.

PRECAST CONCRETE ADJUSTING RINGS *
OR BRICK MAX. OF FOUR COURSES
(12" MAX)

PRECAST CONE
SECTION

PRECAST CONCRETE
MANHOLE SECTIONS
CONFORMING TO
SPEC. A.S.T.M. C-478
OR FIBERGLASS
MANHOLES (SEE NOTE 10)

MANHOLE SEGMENTAL
BLOCK

APPROVED
MASTIC JOINT OR
CEMENT MORTAR
ALL JOINTS(TYP.)

PLASTER INSIDE AND
OUTSIDE OF M.H. BLOCK
WITH 1/2" MORTAR

VARIES 6"
AND OVER

BREAKOUT TOP OF PIPE
INSIDE MANHOLE WALL TO WALL
SEE STANDARD 106 FOR
DETAIL ON CONSTRUCTION KEYWAY

4'-0" MIN. DIA.
(D)

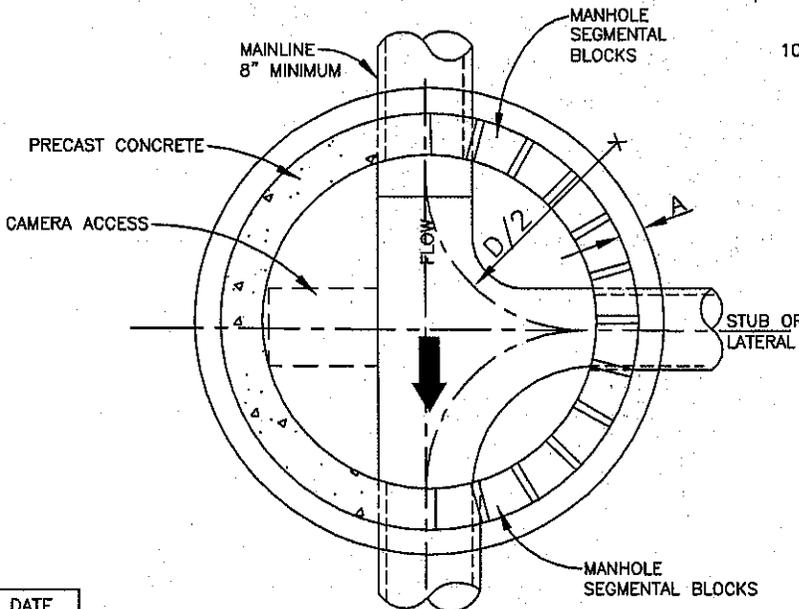
SLOPE 1/2" PER FOOT

GENERAL NOTE:

1. ALL SANITARY SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "SEWER" CAST INTO THE LID.
2. ALL STORM SEWER MANHOLE COVERS SHALL BE VENTED AND HAVE THE WORD "STORM" CAST INTO THE LID.
3. COMPACT BACK FILL TO 95%.
4. POSITION MANHOLE OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.
5. PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX., MEASURED AT SPRING LINE OF PIPE.
6. MANHOLE COVER SHALL HAVE A 5/8" MIN. TO 1" MAX. DIAMETER VENT HOLE CENTERED IN COVER.
7. FOR PRETREATMENT MANHOLES, CONTACT THE CITY LAB, PRETREATMENT COORDINATOR FOR PURCHASE OF PREFABRICATED PIPE SECTION.
8. ALL LIFTING HOLES AND GAPS BETWEEN MANHOLE RINGS AND LID, ETC... SHOULD BE FILLED WITH NON SHRINK GROUT.
- * 9. MANHOLES IN A NON-PAVED AREA SHALL HAVE ROUND CONCRETE APRON OR BE RAISED A MIN. 6" OR AS DIRECTED BY THE CITY ENGINEER.
10. FIBERGLASS MANHOLES SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN OR OTHER SUITABLE POLYESTER OR VINYL ESTER RESINS WITH FIBERGLASS REINFORCEMENTS. MANHOLE SHALL BE A ONE PIECE UNIT MANUFACTURED TO MEET OR EXCEED ALL SPECIFICATIONS OF A.S.T.M. D-3753 LATEST EDITION. FIBERGLASS MANHOLE MANUFACTURER SHALL DEMONSTRATE CONTINUED EXPERIENCE AS A MANUFACTURER OF FIBERGLASS WASTEWATER PRODUCTS FOR A PERIOD OF NOT LESS THAN FIVE YEARS. IN ADDITION, ALL APPROVED MANHOLE MANUFACTURERS SHALL BE ISO9001 REGISTERED.

- * 4 BARS AT 6" O.C. EA. WAY FOR M.H. 16" OR GREATER.
- * 4 BARS AT 12" O.C. EA. WAY FOR M.H. LESS THAN 16"

*SEE NOTE



MANHOLE DEPTH	DIMENSION	
	A	B
6' TO 15'	0'-3"	0'-6"
OVER 15'	0'-6"	0'-10"

NOTE:

MAINLINE SIZE	MANHOLE DIMENSION
8" TO 24"	4'-0"

REV.	DATE
*	1/08 8/13

CONSTRUCTION
STANDARDS

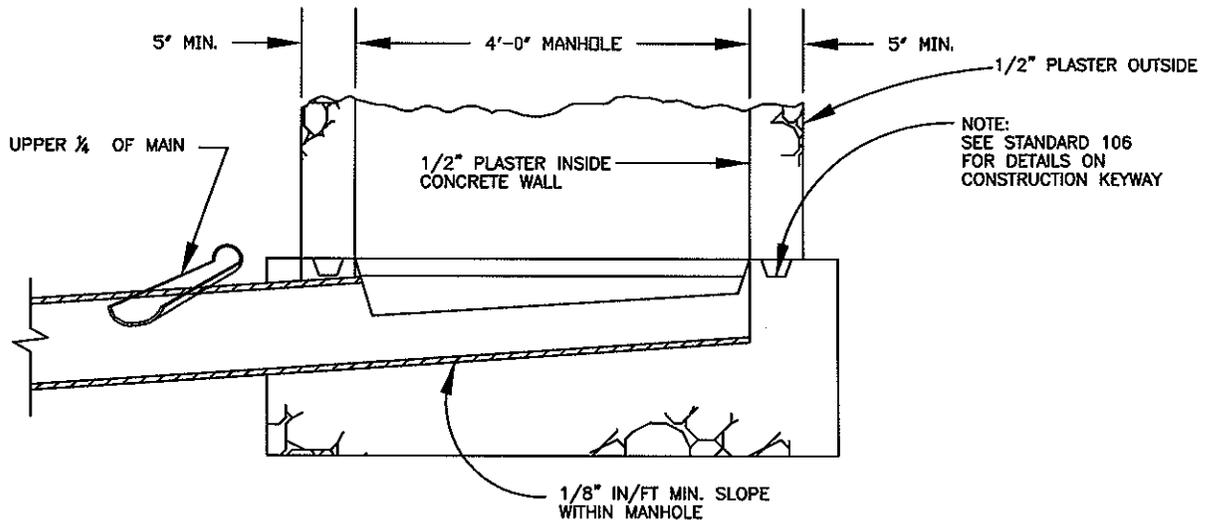
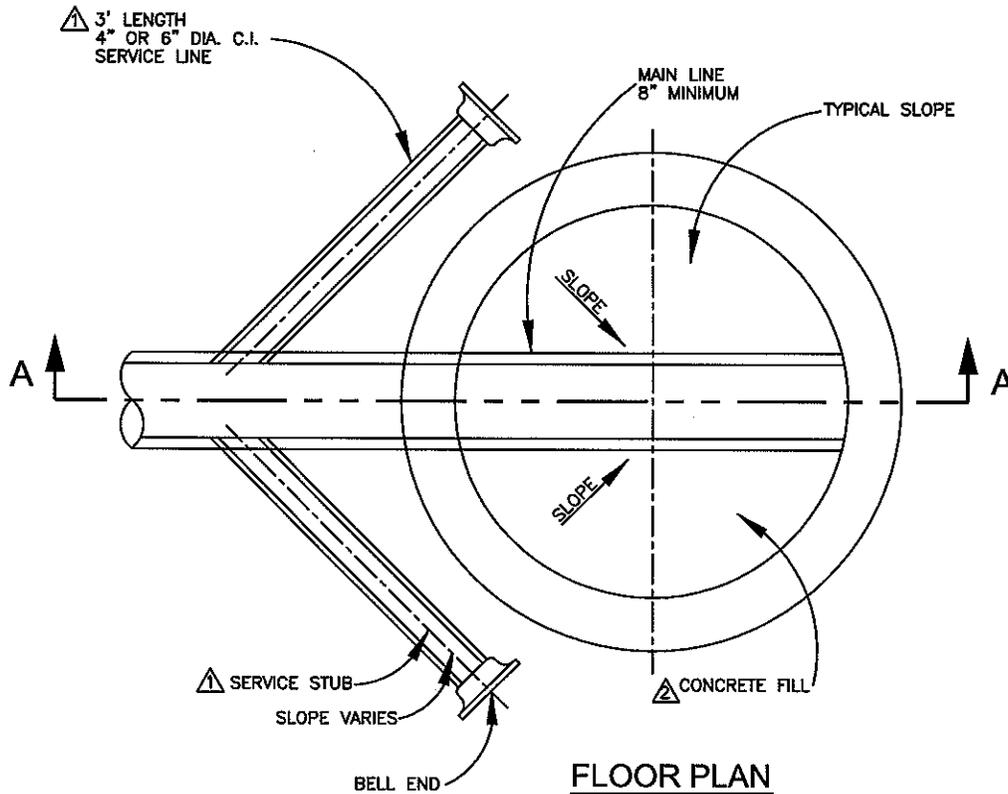
STANDARD MANHOLE
TYPE "E"

STANDARD NO. D-104 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



REV.	DATE
△	12/05/05
△	1/22/08

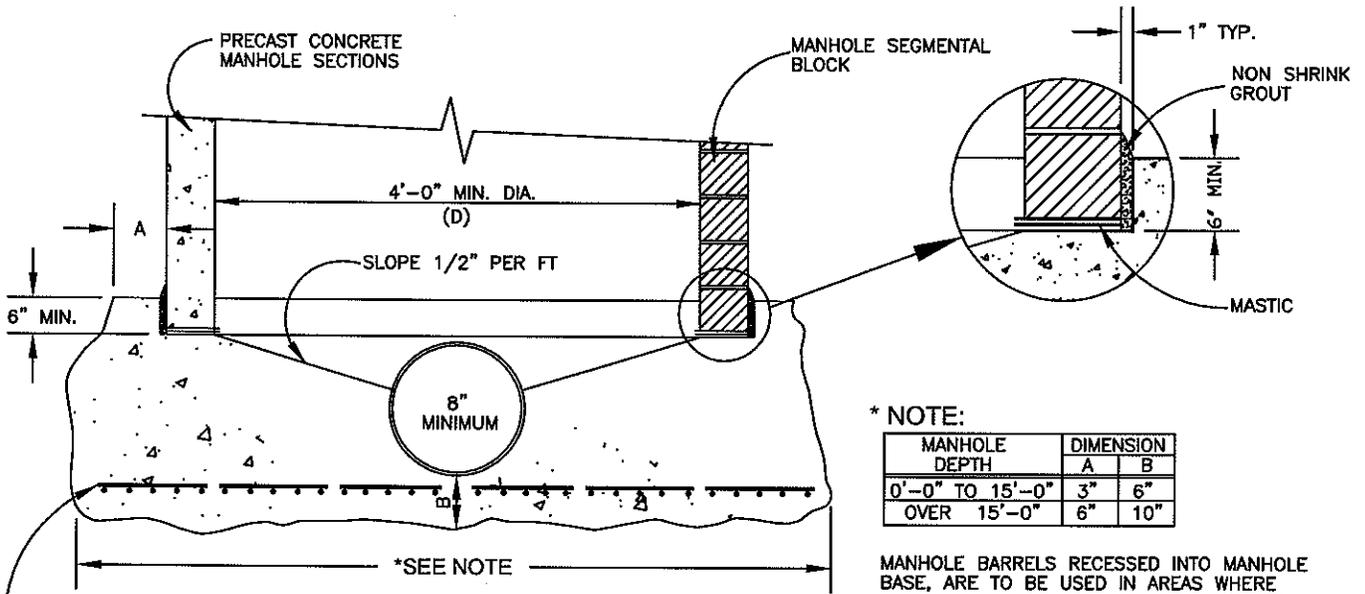
**CONSTRUCTION
STANDARDS**

**SEWER SERVICE AT
DEAD ENDS & CUL-DE-SAC**
STANDARD No. D-105 SHEET 1 OF 1

CITY OF
FARMINGTON

**PUBLIC
WORKS
DEPARTMENT**

APPROVED *[Signature]* DATE *4/15/08*



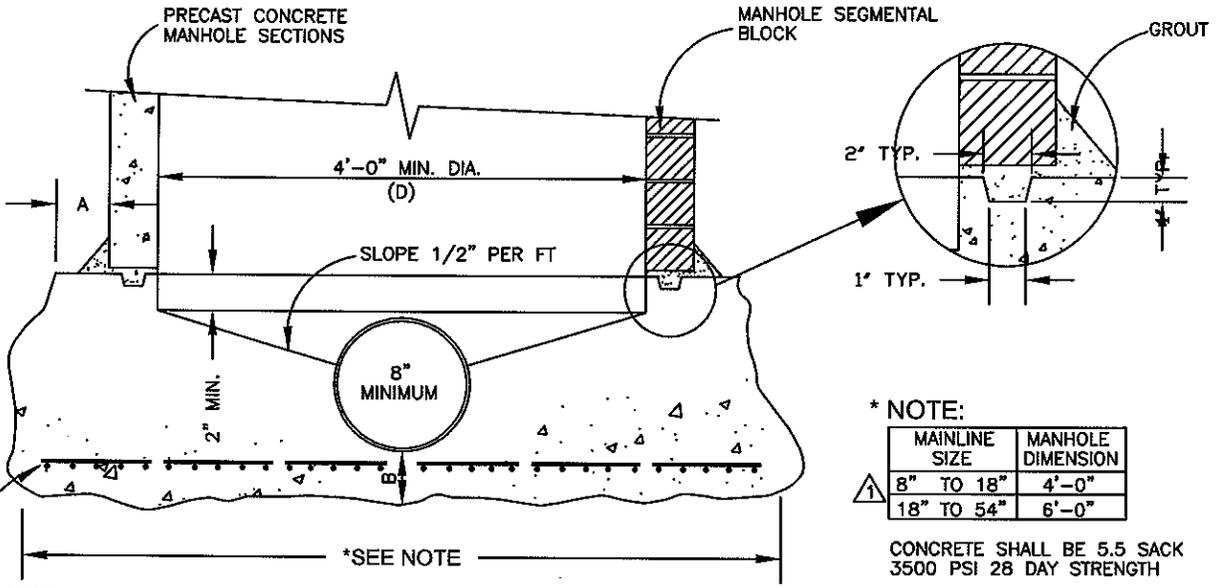
* NOTE:

MANHOLE DEPTH	DIMENSION	
	A	B
0'-0" TO 15'-0"	3"	6"
OVER 15'-0"	6"	10"

MANHOLE BARRELS RECESSED INTO MANHOLE BASE, ARE TO BE USED IN AREAS WHERE MANHOLE BASES ARE BELOW WATER TABLE

BELOW WATER TABLE

- #4 BARS AT 6" O.C. EACH WAY FOR MANHOLE 16' OR GREATER
- #4 BARS AT 12" O.C. EACH WAY FOR MANHOLE LESS THAN 16'



* NOTE:

MAINLINE SIZE	MANHOLE DIMENSION
8" TO 18"	4'-0"
18" TO 54"	6'-0"

CONCRETE SHALL BE 5.5 SACK 3500 PSI 28 DAY STRENGTH

STANDARD

- #4 BARS AT 6" O.C. EACH WAY FOR MANHOLE 16' OR GREATER
- #4 BARS AT 12" O.C. EACH WAY FOR MANHOLE LESS THAN 16'

REV.	DATE
1	12/27/06

CONSTRUCTION STANDARDS

MANHOLE BASES

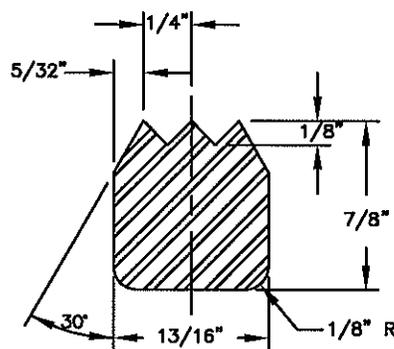
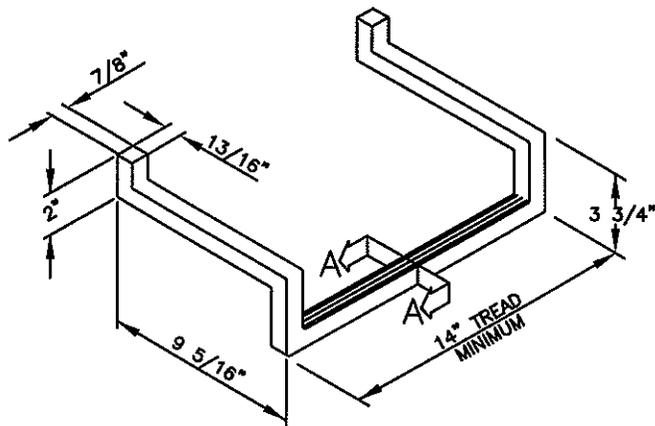
STANDARD No. D-106 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

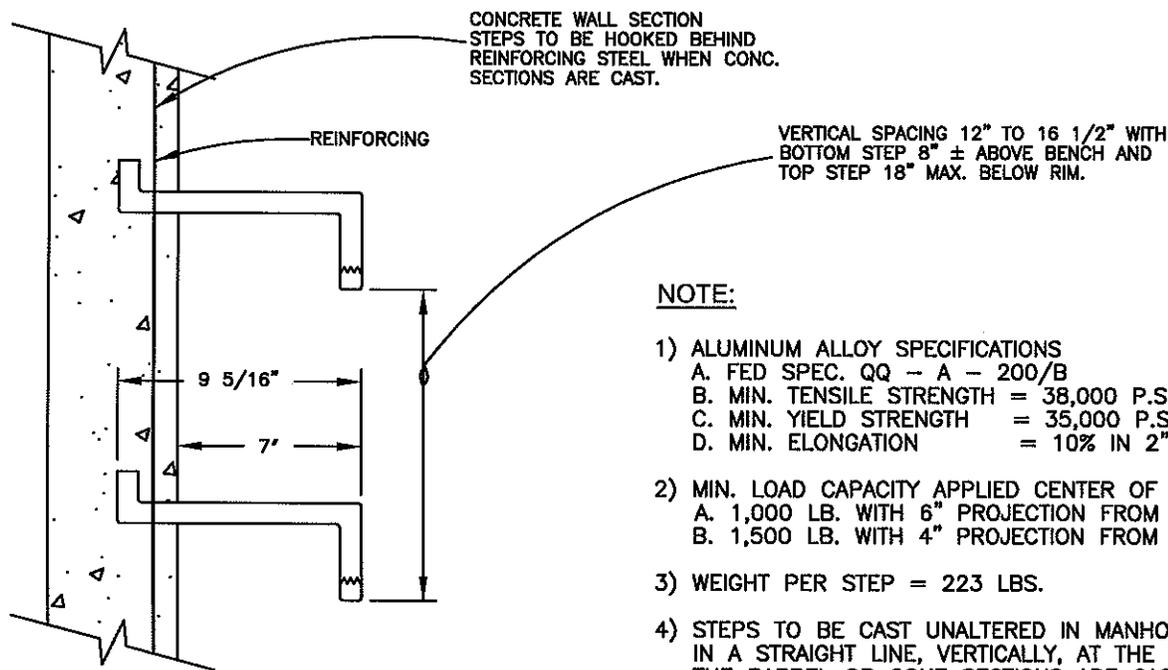
APPROVED *[Signature]* DATE 4/15/08

NOTE:

STEPS SHALL BE SIMILAR AND EQUAL TO COPOLYMER POLYPROPYLENE PLASTIC EQUAL TO M.A. INDUSTRIES MODEL PS2 - PF.



SECTION A-A



NOTE:

- 1) ALUMINUM ALLOY SPECIFICATIONS
 - A. FED SPEC. QQ - A - 200/B
 - B. MIN. TENSILE STRENGTH = 38,000 P.S.I.
 - C. MIN. YIELD STRENGTH = 35,000 P.S.I.
 - D. MIN. ELONGATION = 10% IN 2"
- 2) MIN. LOAD CAPACITY APPLIED CENTER OF STEP
 - A. 1,000 LB. WITH 6" PROJECTION FROM WALL
 - B. 1,500 LB. WITH 4" PROJECTION FROM WALL
- 3) WEIGHT PER STEP = 223 LBS.
- 4) STEPS TO BE CAST UNALTERED IN MANHOLE WALL IN A STRAIGHT LINE, VERTICALLY, AT THE SAME TIME THE BARREL OR CONE SECTIONS ARE CAST.
- 5) THE PORTION OF THE STEPS EMBEDDED IN THE CONCRETE SHALL BE COATED WITH BITUMINOUS MATERIAL AS SPECIFIED OR APPROVED BY CONTRACTING OFFICER.

REV	DATE
1	2/1/82
2	11/30/83
	1/22/08

CONSTRUCTION STANDARDS

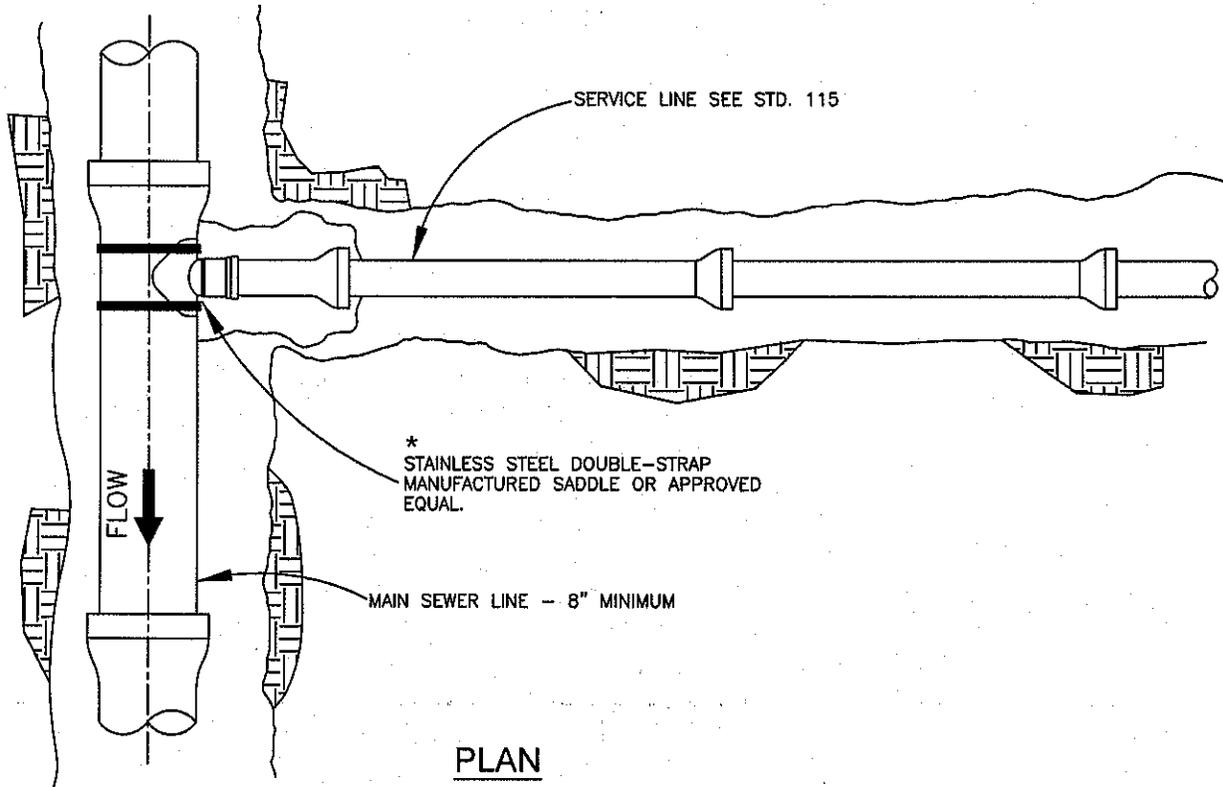
STANDARD MANHOLE STEPS

STANDARD No. D-107 SHEET 1 OF 1

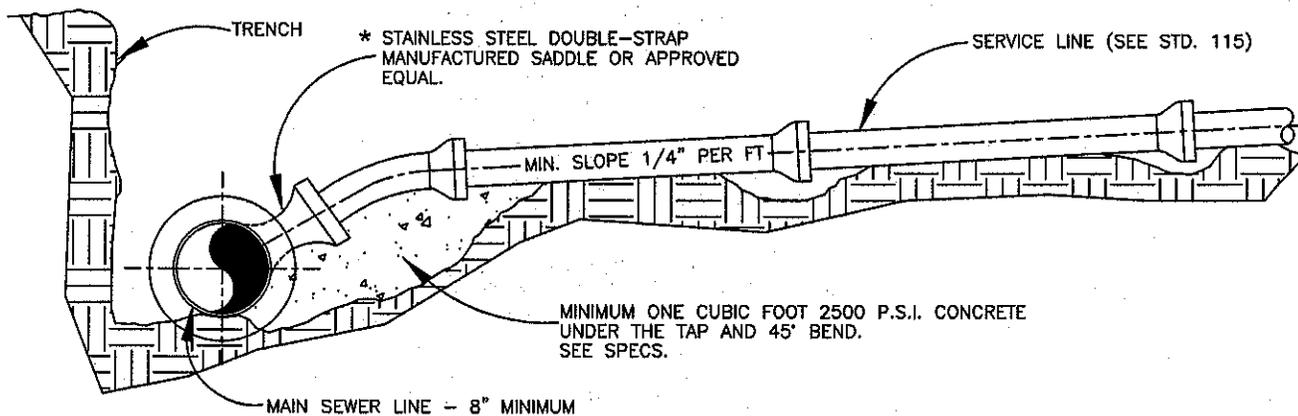
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



PLAN



ELEVATION

NOTES:

1. ALL SERVICE LINES SHALL CONFORM TO LOCAL PLUMBING CODE.
2. SERVICE LINE SHALL NOT PROTRUDE INTO SEWER MAIN.

REV	DATE
	1/08
*	8/13

**CONSTRUCTION
STANDARDS**

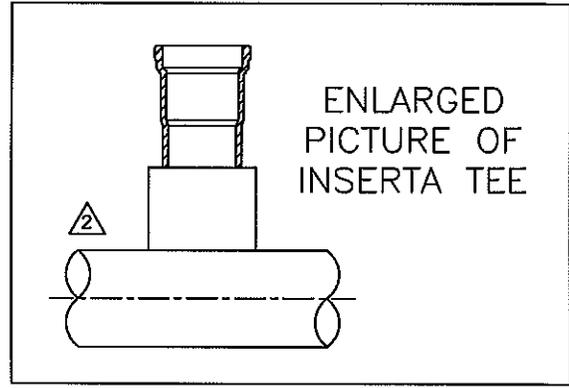
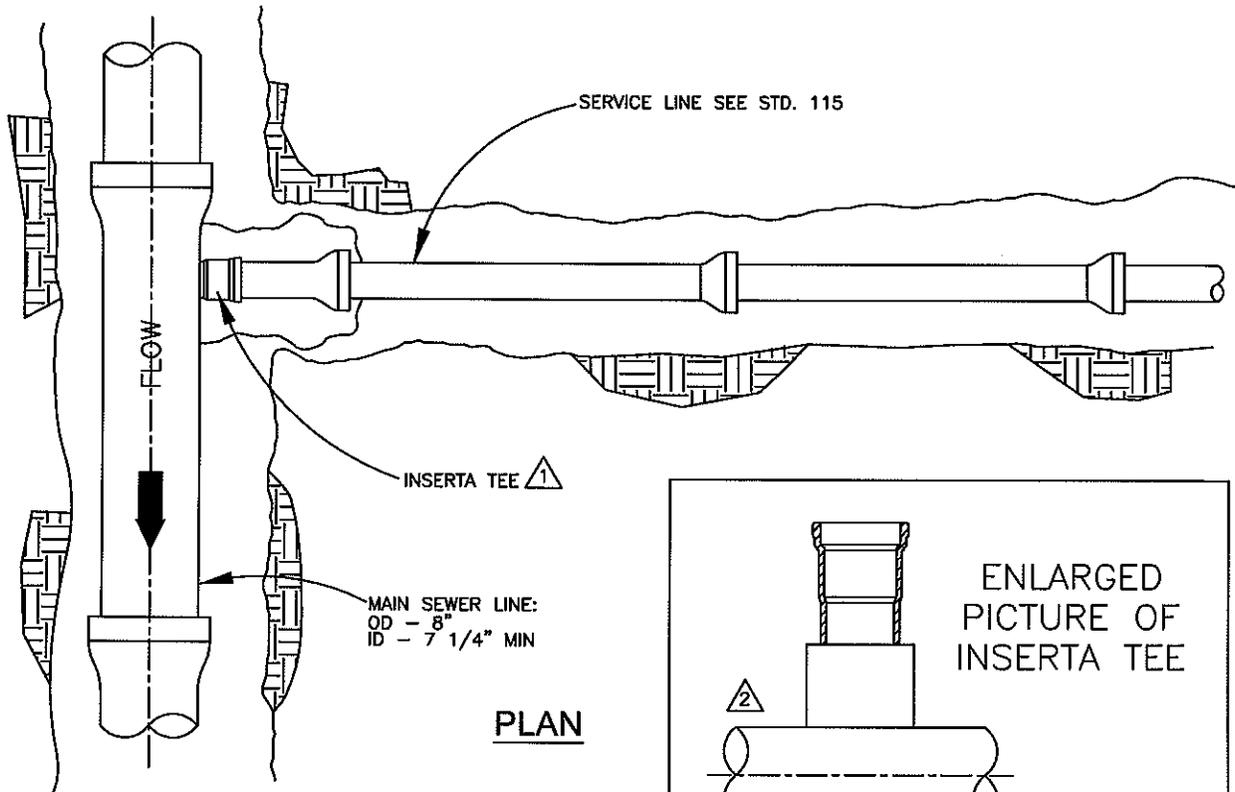
**TAP SADDLE
CONNECTION**

STANDARD No. D-109 SHEET 1 OF 1

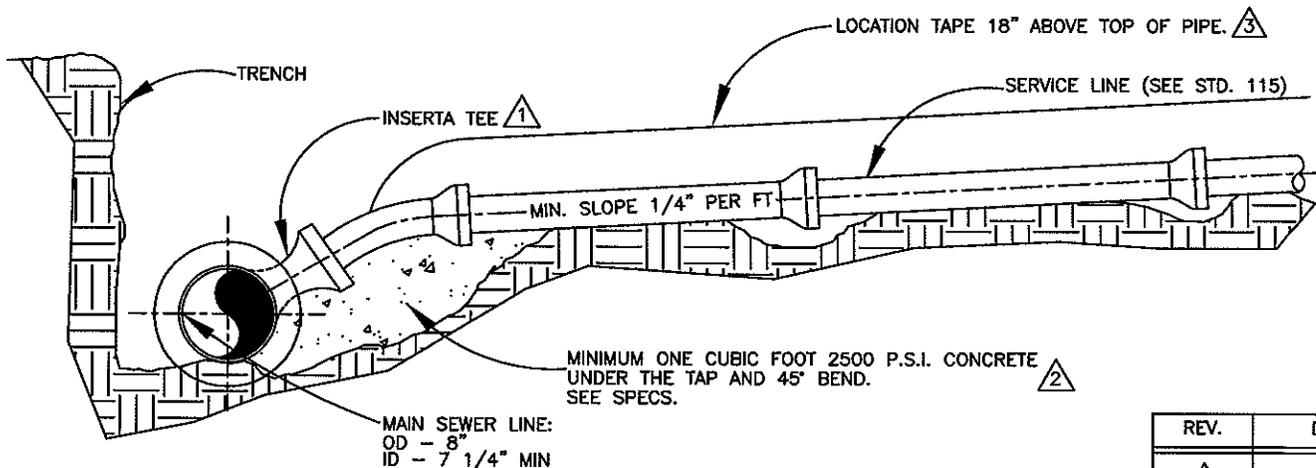
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



- 1) ALL SERVICE LINES SHALL CONFORM TO LOCAL PLUMBING CODE.
- 2) SERVICE LINE SHALL NOT PROTRUDE INTO MAIN.



REV.	DATE
1	01/26/06
2	1/22/08
3	04/22/10

**CONSTRUCTION
STANDARDS**

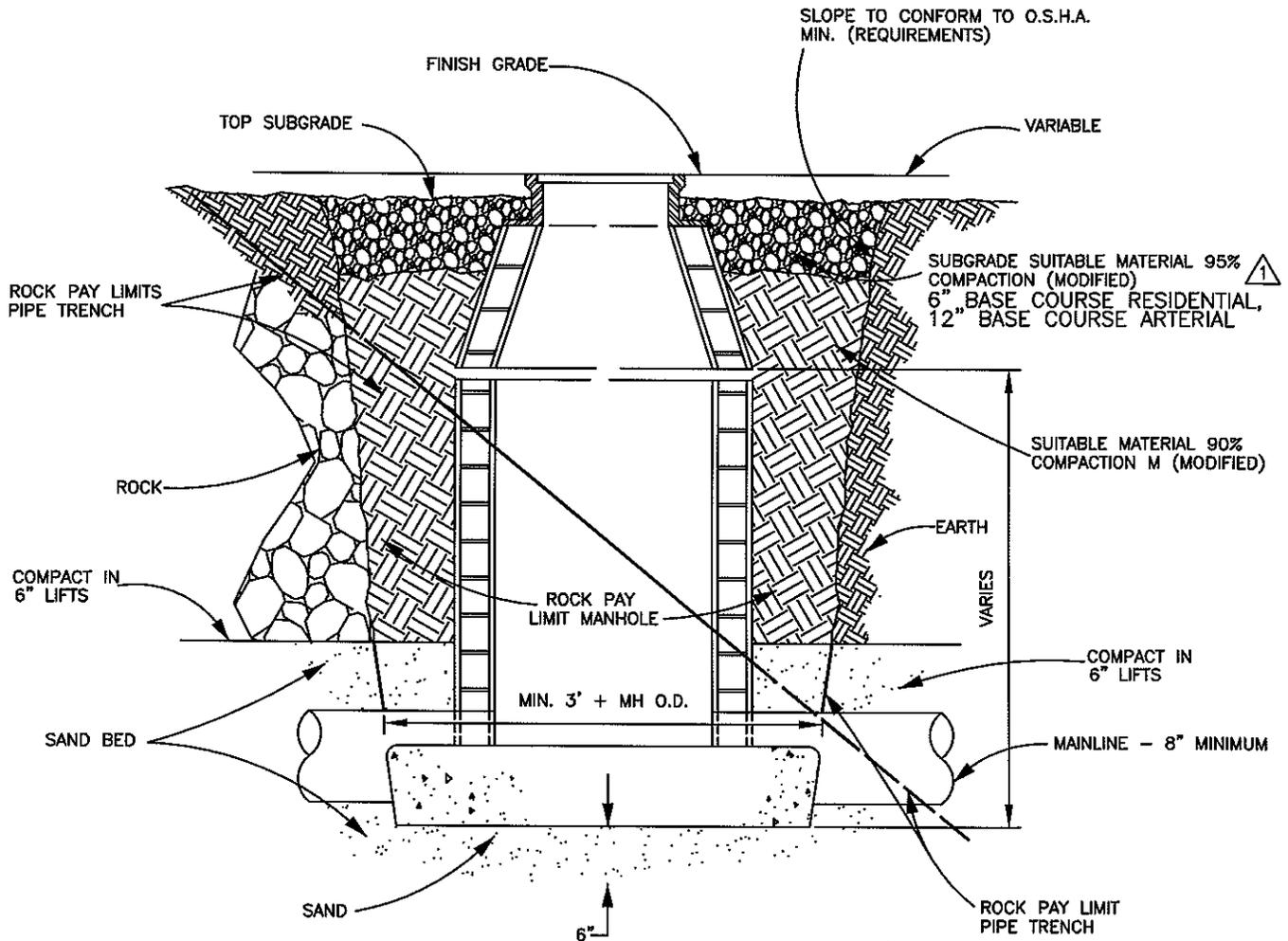
**SLIP LINE
TAP CONNECTION**

STANDARD No. D-110 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11



NOTE:

① AS DETERMINED BY A.S.T.M. D-1557
 A.A.S.H.T.O. DEG T-147-FIELD TEST
 MOISTURE CONTENT OF ALL COMPACTION
 SUBGRADE MATERIAL IN PLACE SHALL
 BE NO GREATER THAN OPTIMUM NOR
 ANY LESS THAN OPTIMUM MINUS 5%

CUT AND BACKFILL IN ROCK
 FOR MANHOLES

REV.	DATE
①	1/22/08

**CONSTRUCTION
 STANDARDS**

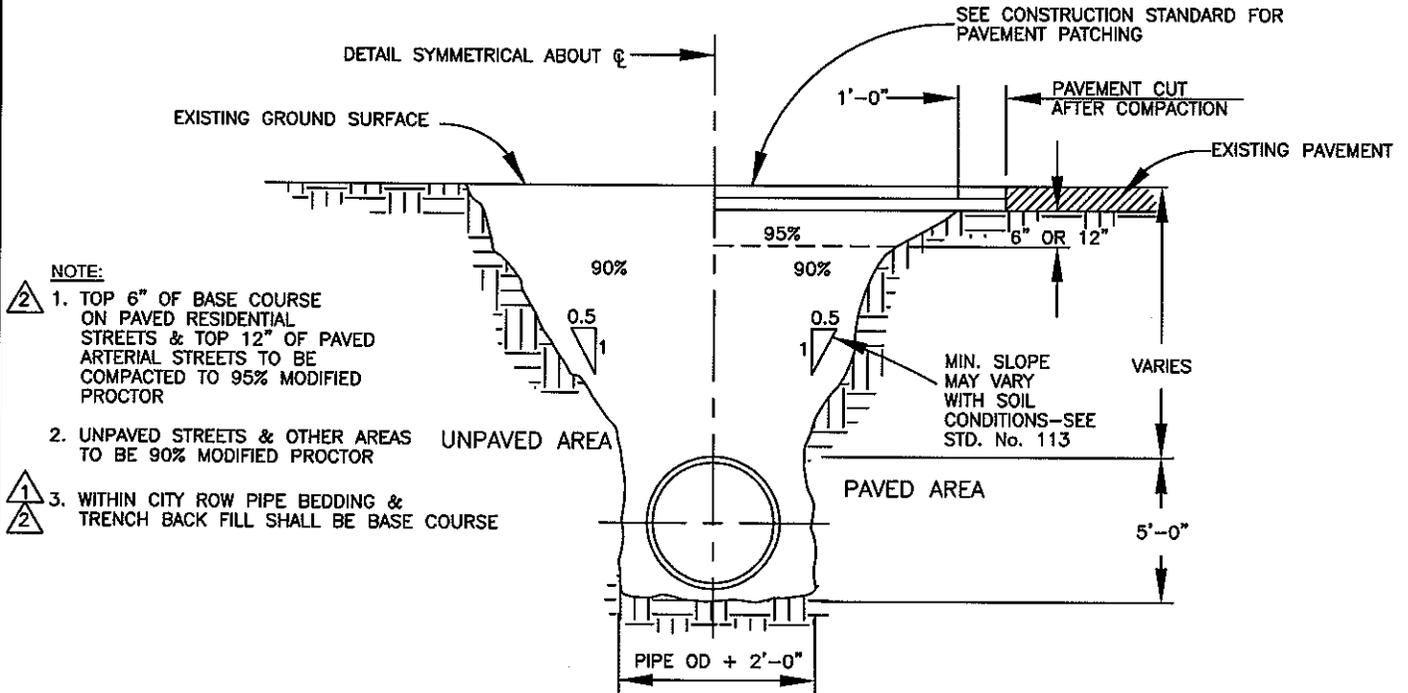
**TRENCH CUTS
 (MANHOLES)
 TRENCH WIDTHS**

STANDARD No. D-111 SHEET 1 OF 1

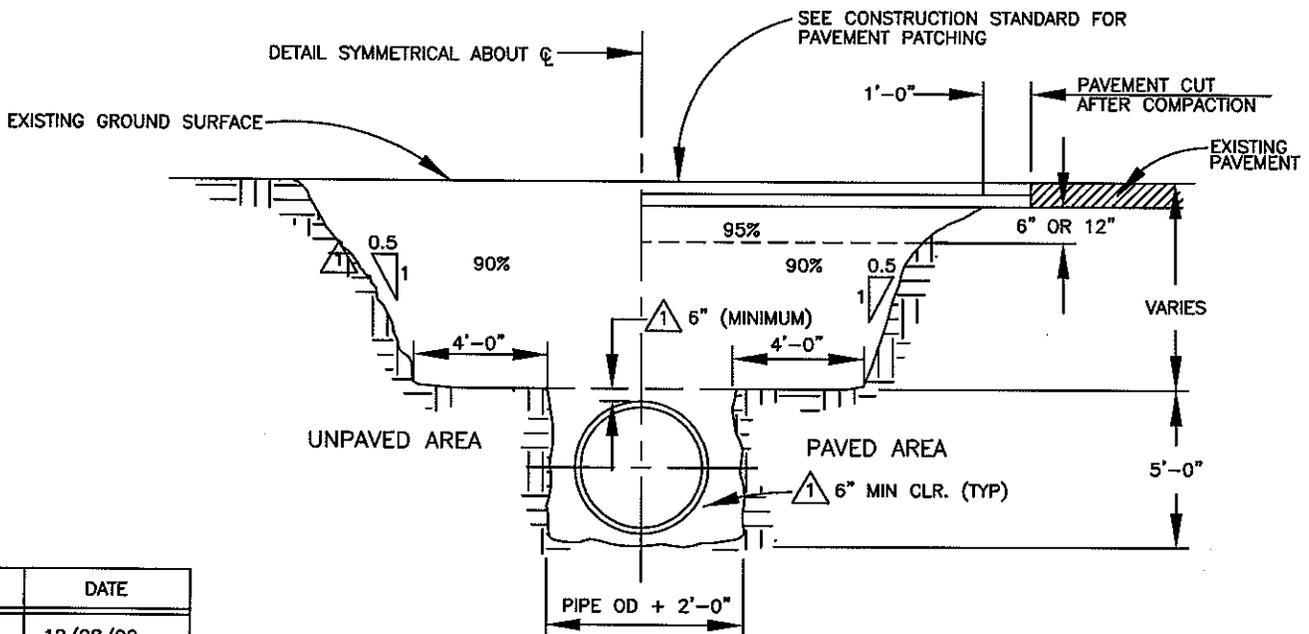
CITY OF
 FARMINGTON
 PUBLIC
 WORKS
 DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

PIPE DIA.	TRENCH WIDTH	PIPE DIA.	TRENCH WIDTH
8"	2'-6"	30"	6'-6"
10"	2'-8"	36"	7'-0"
12"	3'-0"	42"	8'-0"
15"	3'-0"	48"	8'-6"
18"	4'-6"	54"	10'-6"
21"	4'-6"	66"	13'-0"
24"	5'-6"	72"	14'-0"



TRENCHING DETAIL - PIPE LESS THAN 72" O.D.



TRENCHING DETAIL - PIPE OVER 72" O.D.

REV.	DATE
1	12/08/02
2	1/22/08

CONSTRUCTION STANDARDS

TRENCH DETAILS

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

STANDARD No. D-112 SHEET 1 OF 3

APPROVED *[Signature]* DATE 4/15/08

PIPE SIZE	TRENCH PAY WIDTH									
	3'	4'	6'	8'	10'	12'	14'	16'	18'	20'
4	5.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00
6	5.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00
8	5.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00
10	5.50	5.50	7.50	9.50	11.50	13.50	15.50	17.50	19.50	21.50
12	5.50	5.50	7.50	9.50	11.50	13.50	15.50	17.50	19.50	21.50
14	5.75	5.75	7.75	9.75	11.75	13.75	15.75	17.75	19.75	21.75
15	5.75	5.75	7.75	9.75	11.75	13.75	15.75	17.75	19.75	21.75
16	5.75	5.75	7.75	9.75	11.75	13.75	15.75	17.75	19.75	21.75
18	6.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
20	6.25	6.25	8.25	10.25	12.25	14.25	16.25	18.25	20.25	22.25
21	6.25	6.25	8.25	10.25	12.25	14.25	16.25	18.25	20.25	22.25
24	6.50	6.50	8.50	10.50	12.50	14.50	16.50	18.50	20.50	22.50
27		6.75	8.75	10.75	12.75	14.75	16.75	18.75	20.75	22.75
30		7.00	9.00	11.00	13.00	15.00	17.00	19.00	21.00	23.00
36		7.50	9.50	11.50	13.50	15.50	17.50	19.50	21.50	23.50
42			10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
48			11.50	13.50	15.50	17.50	19.50	21.50	23.50	25.50
54			12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00
60			12.50	14.50	16.50	18.50	20.50	22.50	24.50	26.50
66				15.00	17.00	19.00	21.00	23.00	25.00	27.00
72				23.50	25.50	27.50	29.50	31.50	33.50	35.50
78				24.00	26.00	28.00	30.00	32.00	34.00	36.00
84				24.50	26.50	28.50	30.50	32.50	34.50	36.50
90				25.00	27.00	29.00	31.00	33.00	35.00	37.00
96				25.50	27.50	29.50	31.50	33.50	35.50	37.50
102				26.00	28.00	30.00	32.00	34.00	36.00	38.00
108				26.50	28.50	30.50	32.50	34.50	36.50	38.50

NOTE:

1. PAYMENT FOR PAVEMENT REMOVAL AND REPLACEMENT SHALL BE BASED ON ACTUAL TRENCH WIDTHS UP TO THE WIDTH NOTED ABOVE & WILL BE PAID FOR ACTUAL TRENCH MEASUREMENT.
2. EXCESSIVE TRENCH WIDTH ABOVE THAT LISTED IN THE TABLE ABOVE WILL BE AT THE CONTRACTORS EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE PAID. IF CONDITIONS EXIST THAT REQUIRES ADDITIONAL REMOVAL CONTRACTOR SHALL REQUEST CITY ENGINEER APPROVAL.
3. IN THE EVENT A LINE IS LOCATED SUCH THAT REMOVAL OF CURB, GUTTER AND SIDEWALK IS REQUIRED PAVEMENT WIDTH SHALL BE LIMITED TO 1/2 THE PAY WIDTH PLUS THE DISTANCE FROM THE CENTERLINE OF THE PIPE TO GUTTER. PAYMENT FOR REMOVAL AND REPLACEMENT OF CURB AND SIDEWALK SHALL BE AS MEASURED IN THE FIELD.
4. THE ADDITIONAL 1' PAVEMENT CUT BACK SHALL BE MADE AFTER BACKFILLING AND TESTING IS COMPLETE. THIS CUT SHALL BE REMOVED TO A NEAT LINE. IF THE CONTRACTORS OPERATION PRODUCES A JAGGED EDGE HE SHALL BE REQUIRED TO REMOVE ADDITIONAL PAVING UNTIL A NEAT STRAIGHT LINE IS OBTAINED.

REV.	DATE
1	1/22/08

**CONSTRUCTION
STANDARDS**

**TRENCH PAY
WIDTH**

STANDARD No. D-112 SHEET 2 OF 3

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

TRENCH SHORING-MINIMUM REQUIREMENTS

SIZE & SPACING OF MEMBERS

DEPTH OF TRENCH	CONDITION OR KIND OF EARTH	UPRIGHTS		STRINGERS		CROSS BRACES--SEE NOTE 1								
		MINIMUM DIMENSION	MAXIMUM SPACING	MINIMUM DIMENSION	MAXIMUM SPACING	WIDTH OF TRENCH			MAXIMUM SPACING					
		INCHES	FEET	INCHES	FEET	UP TO 3'	3' TO 6'	6' TO 9'	9' TO 12'	12' TO 15'	VERTICAL	HORIZONTAL		
5' TO 10'	HARD, COMPACT. . . . .	.3X4 OR 2X6	6	4X6	4	2X6	4X4	4X6	6X6	6X8	6X8	4	4	6
	LIKELY TO CRACK. . . . .	.3X4 OR 2X6	3	4X6	4	2X6	4X4	4X6	6X6	6X8	6X8	4	4	6
10' TO 15'	SOFT, SANDY, OR FILLED. . . . .	.3X4 OR 2X6	CLOSE SHEETING	4X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	4	6
	HYDROSTATIC PRESSURE. . . . .	.3X4 OR 2X6	CLOSE SHEETING	6X8	4	4X4	4X6	6X6	6X8	8X8	8X8	4	4	6
15' TO 20'	HARD. . . . .	.3X4 OR 2X6	4	4X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	4	6
	LIKELY TO CRACK. . . . .	.3X4 OR 2X6	2	4X6	4	4X4	4X6	6X6	6X8	8X8	8X8	4	4	6
OVER 20'	SOFT, SANDY, OR FILLED. . . . .	.3X4 OR 2X6	CLOSE SHEETING	4X6	4	4X6	6X6	6X8	8X8	8X10	8X10	4	4	6
	HYDROSTATIC PRESSURE. . . . .	.3X6	CLOSE SHEETING	8X10	4	4X6	6X6	6X8	8X8	8X10	8X10	4	4	6
OVER 20'	ALL KINDS OR CONDITIONS. . . . .	.3X6	CLOSE SHEETING	4X12	4	4X12	6X8	8X8	8X10	10X10	10X12	4	4	6
	ALL KINDS OR CONDITIONS. . . . .	.3X6	CLOSE SHEETING	6X8	4	4X12	8X8	8X10	10X10	10X12	10X12	4	4	6

NOTES: 1) TRENCH JACKS MAY BE USED IN LIEU OF, OR IN COMBINATION WITH, CROSS BRACES. SHORING IS NOT REQUIRED IN SOLID ROCK, HARD SHALE, OR HARD SLAG. WHERE DESIRABLE, SHEET STEEL PILING AND BRACING OF EQUAL STRENGTH MAY BE SUBSTITUTED FOR WOOD.

REV.	DATE
1	1/22/08

CONSTRUCTION STANDARDS

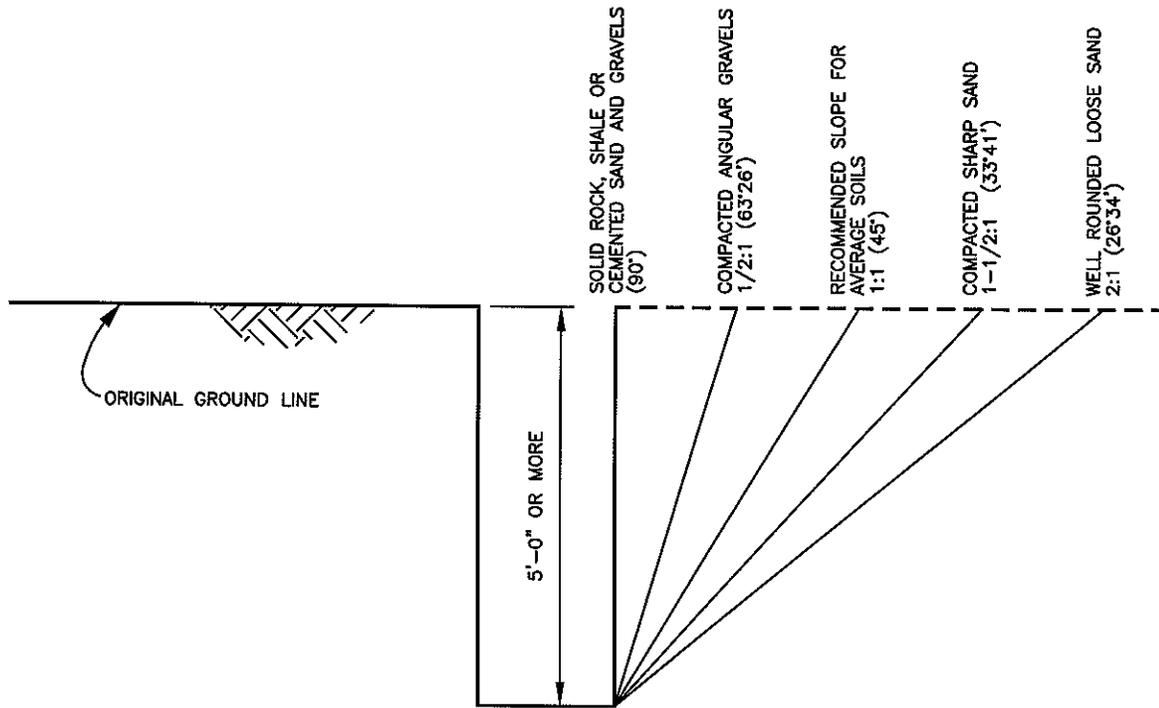
TRENCH DETAILS

STANDARD No. D-112 SHEET 3 OF 3

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTES

1. SIDES OF TRENCHES IN HARD OR COMPACTED SOIL, INCLUDING EMBANKMENTS SHALL BE SHORED, OR OTHERWISE SUPPORTED OR SLOPED WHEN THE TRENCH IS MORE THAN 5 FEET IN DEPTH AND 8 FEET OR MORE IN LENGTH.
2. CLAYS, SILLS, LOAMS OR NON HOMOGENOUS SOILS REQUIRE SHORING AND BRACING. THE PRESENCE OF GROUND WATER REQUIRES SPECIAL TREATMENT.
3. STANDARD DETAIL 112 SHALL BE APPLICABLE WHEN EXCAVATING IN PAVED STREETS.
4. ALL PAYMENT WILL BE BASED ON TRENCH PAY WIDTHS AS OUTLINED IN CITY STANDARD 112. NO EXTRA PAYMENT OUTSIDE THOSE LIMITS LISTED IN COF 112 WILL BE PAID.

CONSTRUCTION
STANDARDS

APPROXIMATE ANGLE OF
REPOSE FOR SLOPING SIDES
OF EXCAVATIONS

STANDARD No. D-113 SHEET 1 OF 1

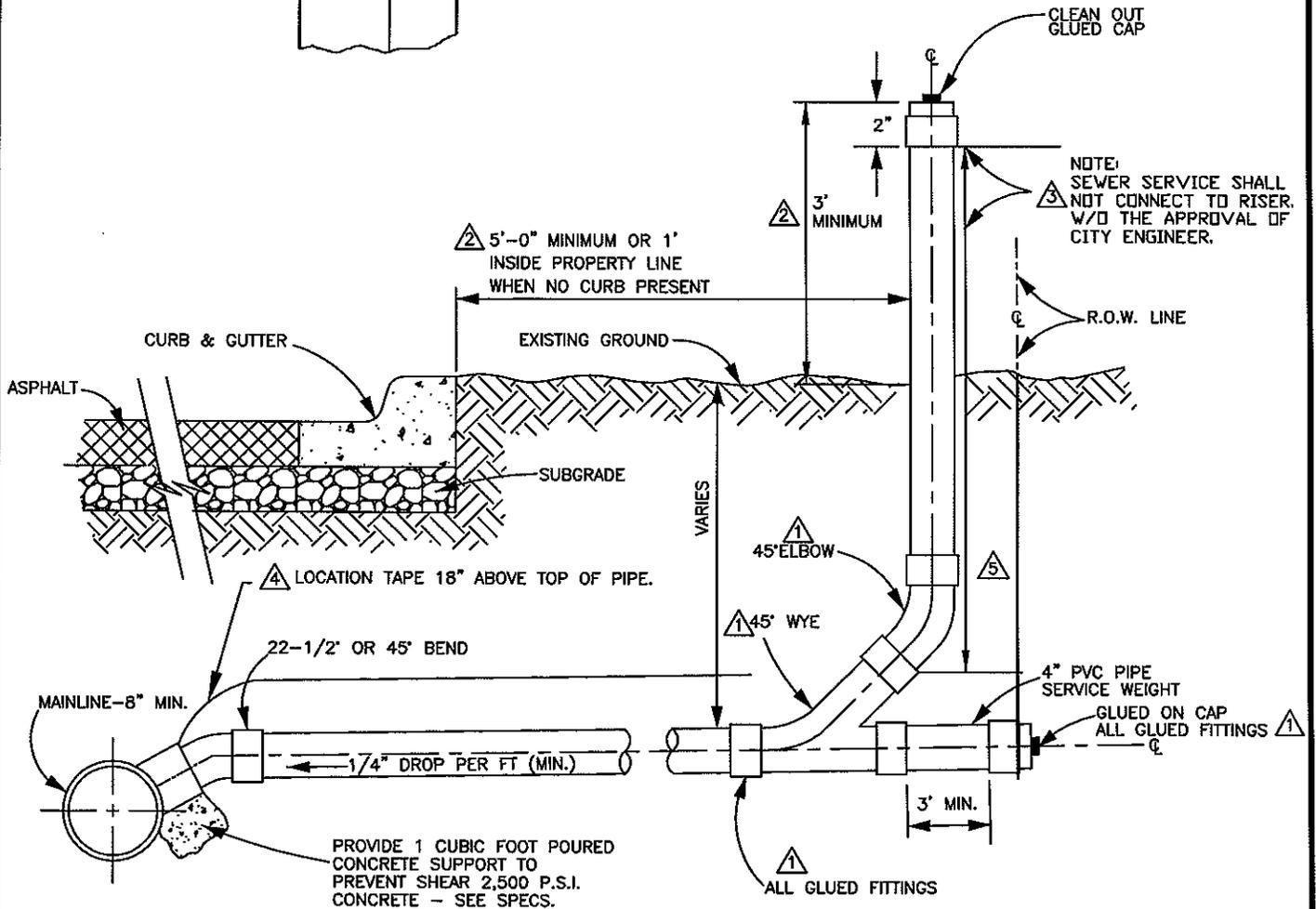
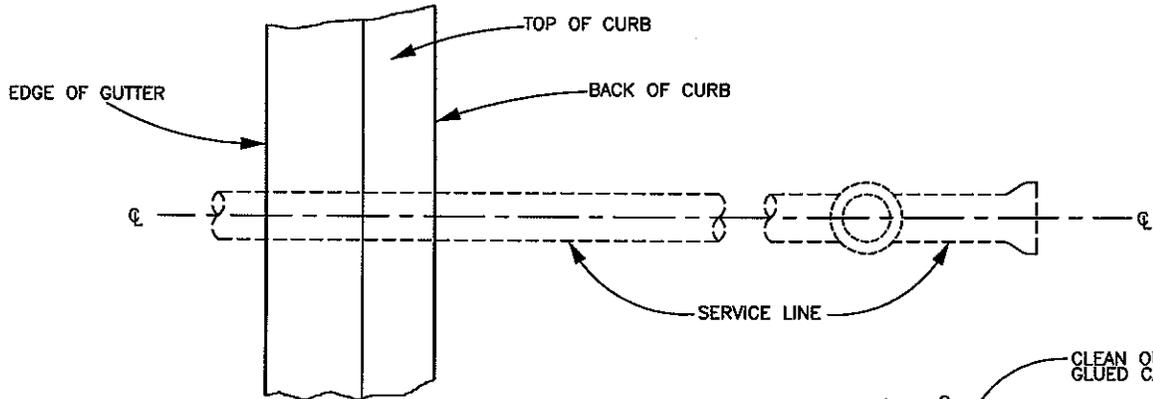
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

NOTES: \triangle

1. ALL SERVICE LINES SHALL CONFORM TO LOCAL PLUMBING CODE.
2. SERVICE LINES SHALL NOT PROTRUDE INTO SEWER MAIN.
- \triangle 3. SEWER SERVICE SHALL BE A COMBO OR 45° WYE WITH 45° ELBOW.



REV.	DATE
\triangle 1	11/22/04
\triangle 2	12/01/05
\triangle 3	12/02/05
\triangle 4	04/22/10

CONSTRUCTION STANDARDS

SEWER SERVICE LOCATION

STANDARD No. D-115 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11

SANITARY SEWER MAINS
MINIMUM SLOPES

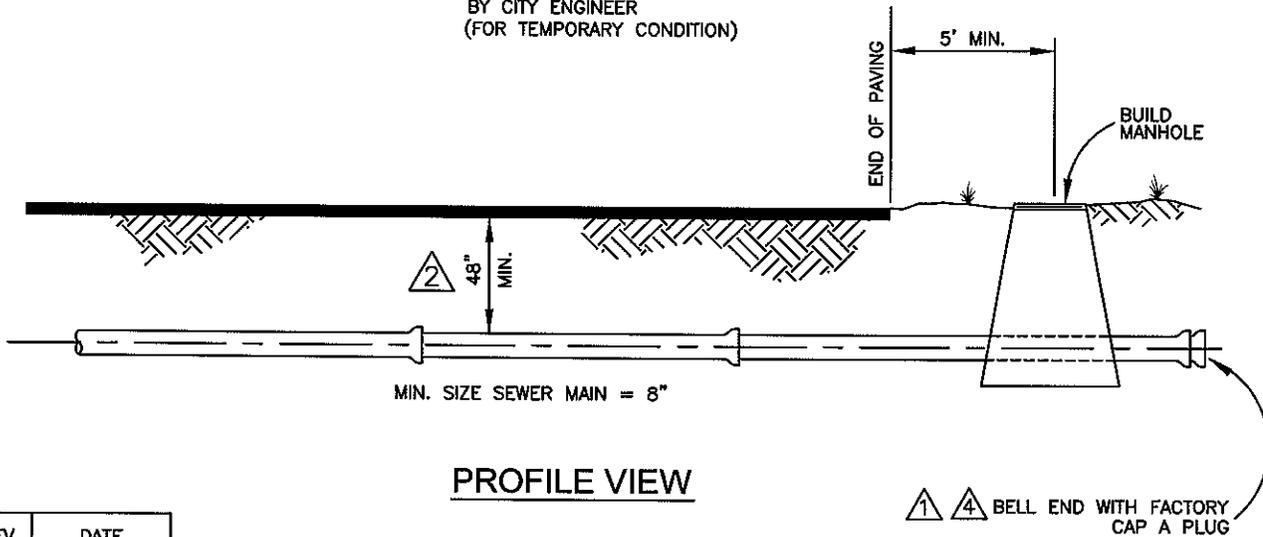
SIZE	SLOPE, FT./FT.
8"	0.004
10"	0.003
12"	0.0022
15"	0.0015
18"	0.0012
21"	0.0010
24"	0.0009
27" & LARGER	0.0008

NOTES:

1. PRIOR TO BACKFILLING, RECORD INVERT ELEVATIONS AND LOCATION ON CONSTRUCTION PLANS FOR AN AS-BUILT RECORD.
2. SEE LATEST EDITION OF THE N.M. STANDARD SPECIFICATIONS FOR PUBLIC WORKS FOR A LIST OF ACCEPTABLE SEWER MAIN MATERIALS & PIPE.
3. MINIMUM 4'-0" COVER UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- 5 4. MAXIMUM MANHOLE SPACING 400 FEET.
5. THIS TYPE OF INSTALLATION WILL ONLY BE USED IF THE DOWN STREAM MANHOLE IS LESS THAN 100 FEET FROM END OF LINE.
6. MANHOLE WILL BE BUILT AT END OF MAINLINE UNLESS ALTERNATE IS APPROVED BY CITY ENGINEER OR BY DESIGNEE.
- 1 3 7. STUB OUT FOR FUTURE MAINLINE EXTENSION SHALL BE CONST. A MAX. OF 5' WITH BELL END AND FACTORY PLUG BEYOND LAST MANHOLE.

ALTERNATE

WHEN APPROVED
BY CITY ENGINEER
(FOR TEMPORARY CONDITION)



PROFILE VIEW

REV.	DATE
1	12/09/02
2	11/19/04
3	12/02/05
4	01/27/06
5	12/27/06

CONSTRUCTION
STANDARDS

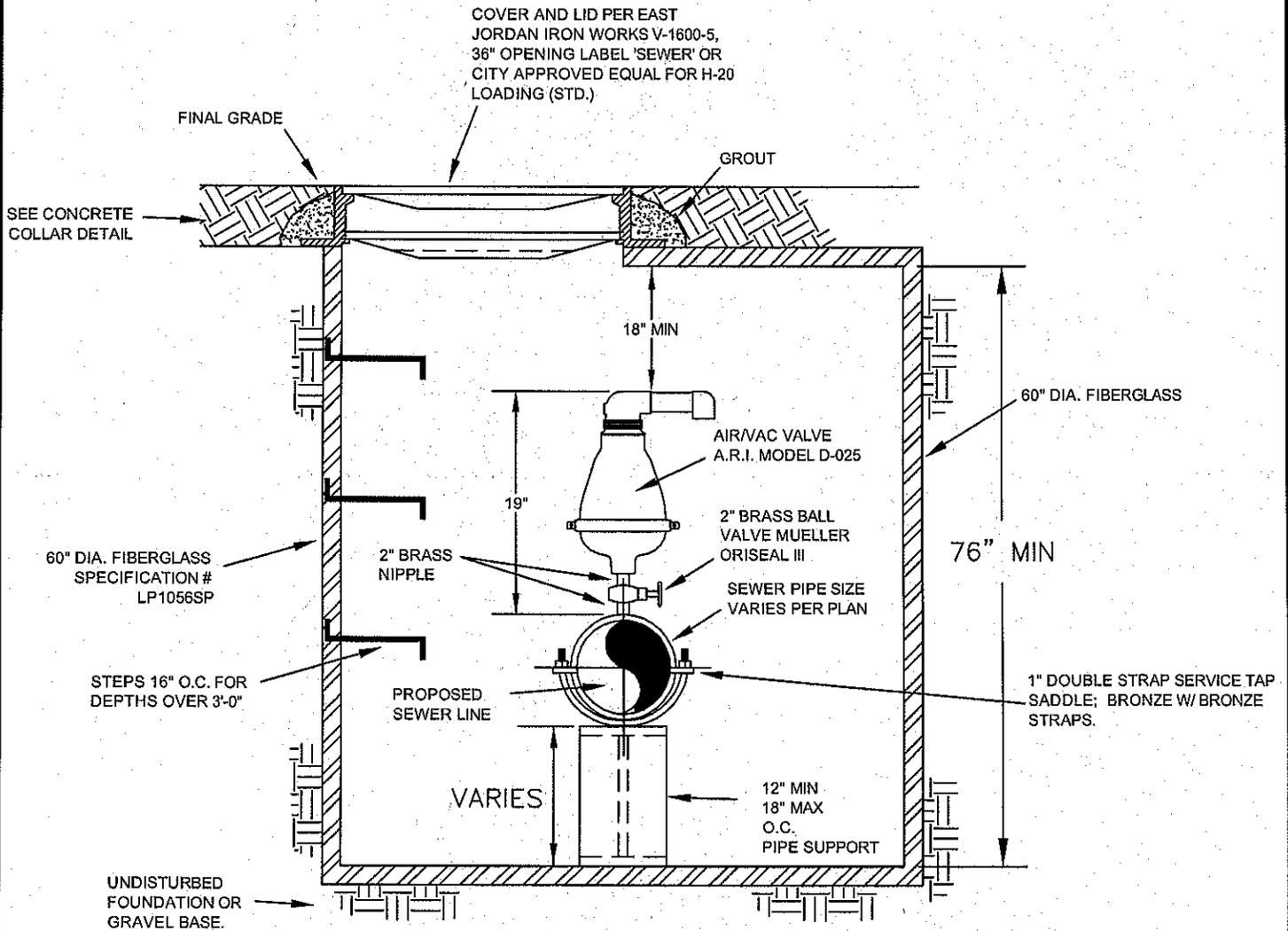
SANITARY SEWER MAINS

STANDARD No. D-116 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *M. J. [Signature]* DATE 4/15/08



NOTE:

FIBERGLASS SHALL BE A ONE PIECE UNIT MANUFACTURED BY L.F. MANUFACTURING INC., GIDDING TEXAS, 1-800-237-5791, OR APPROVED EQUAL. SEE SPECIFICATION FOR APPROVAL.

REV	DATE
	8/13

CONSTRUCTION STANDARDS

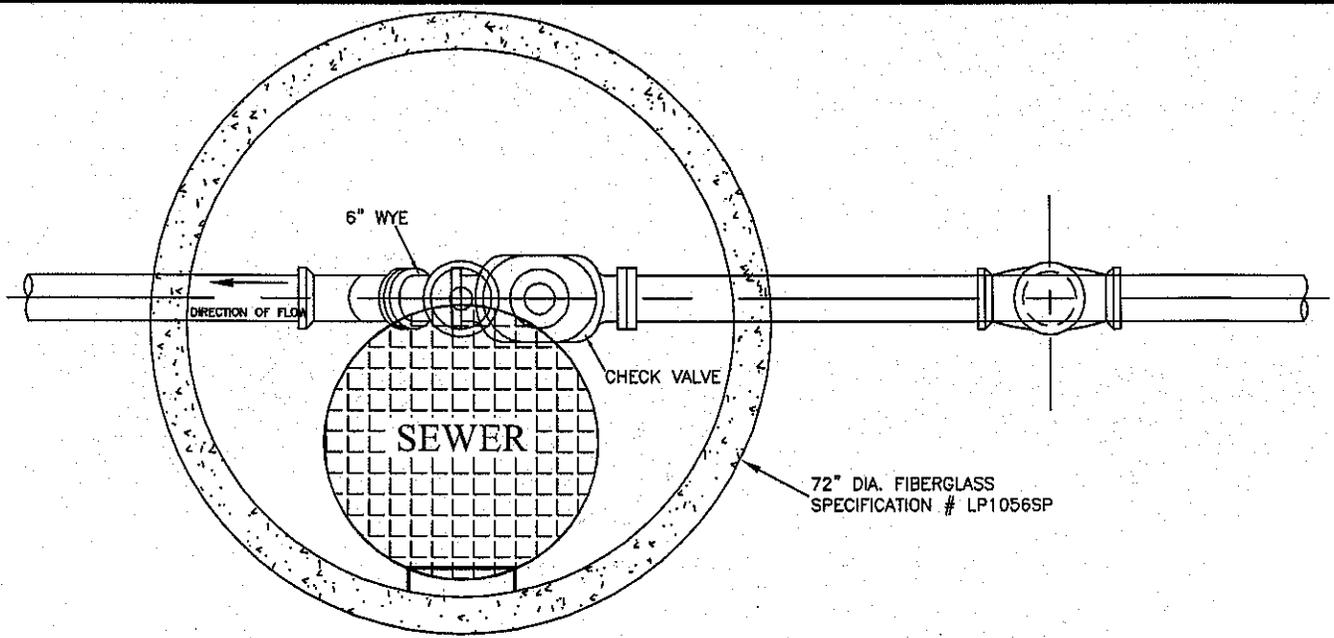
TYPICAL SANITARY SEWER AIR RELIEF DETAIL

STANDARD No. D-117 SHEET 1 OF 1

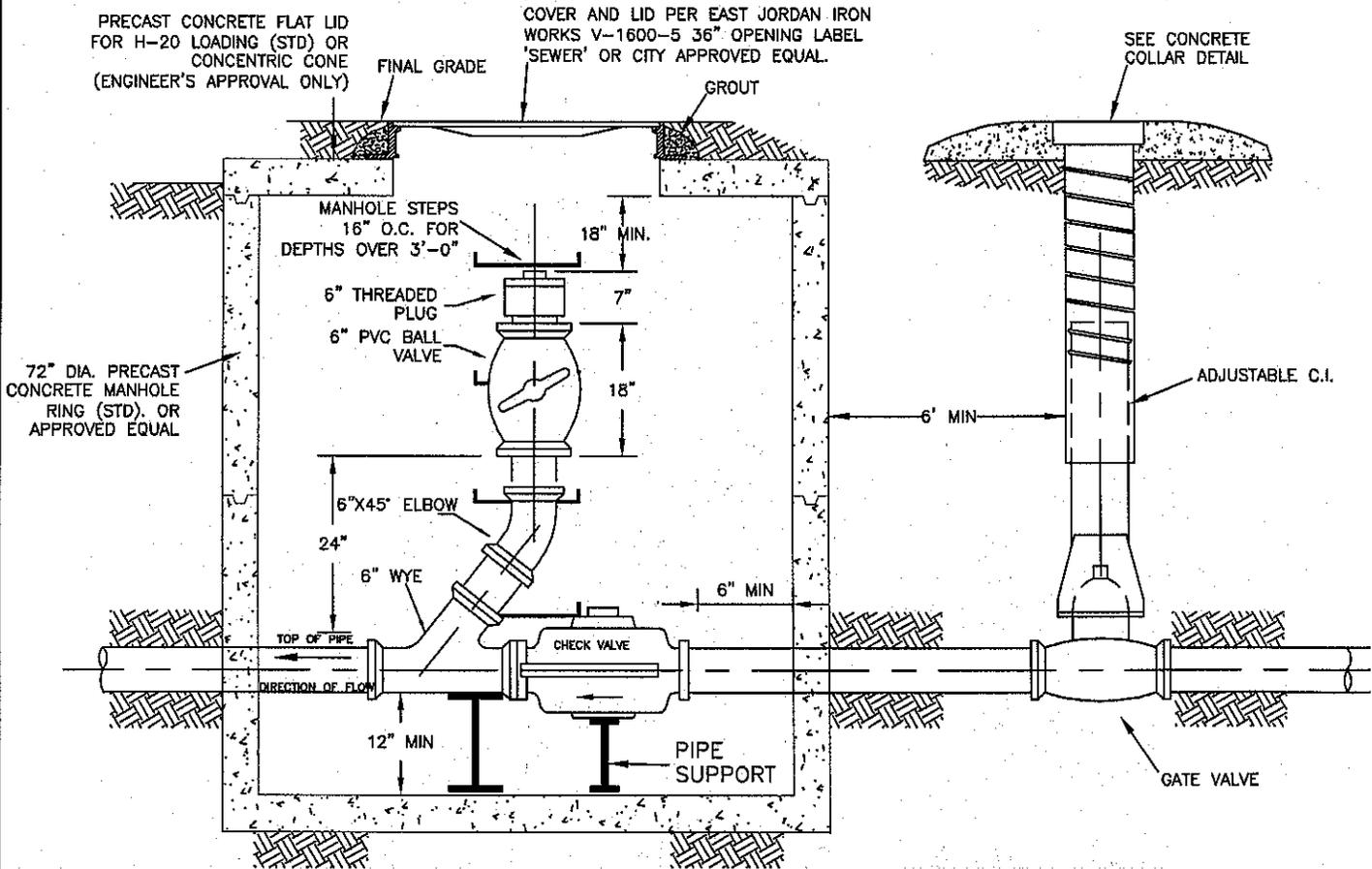
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



PLAN VIEW



SECTION VIEW

REV.	DATE
	8/13

CONSTRUCTION STANDARDS

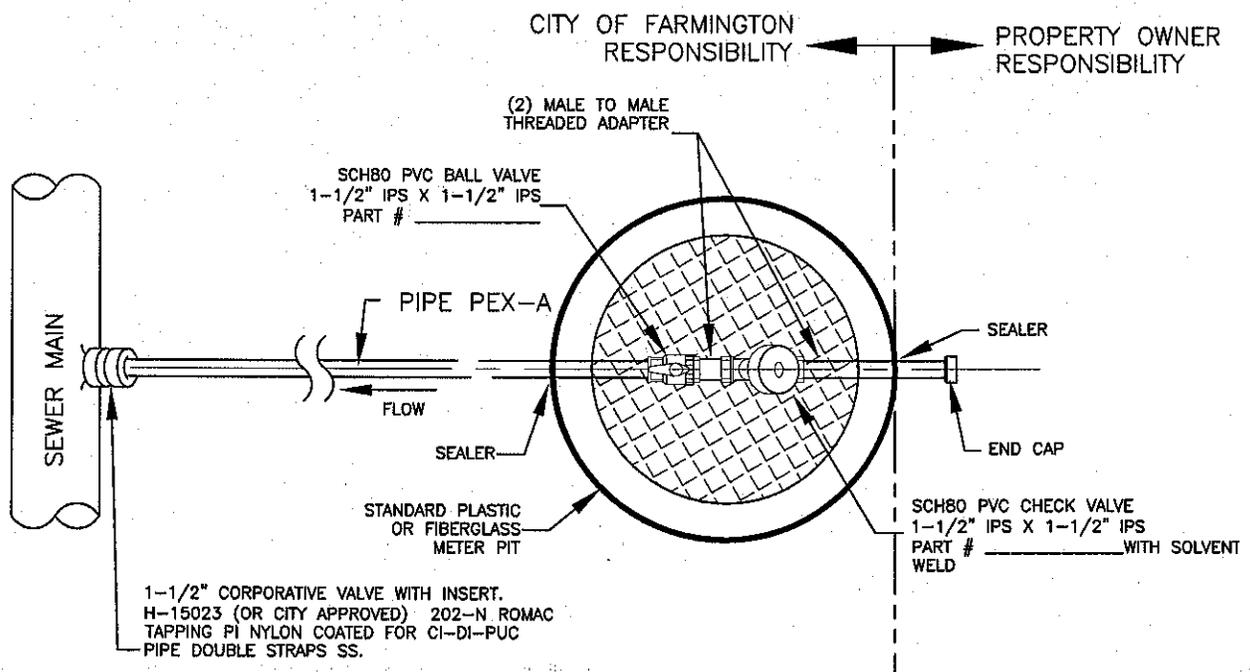
PRESSURE SANITARY SEWER CLEANOUT DETAIL

STANDARD No. D-118 SHEET 1 OF 1

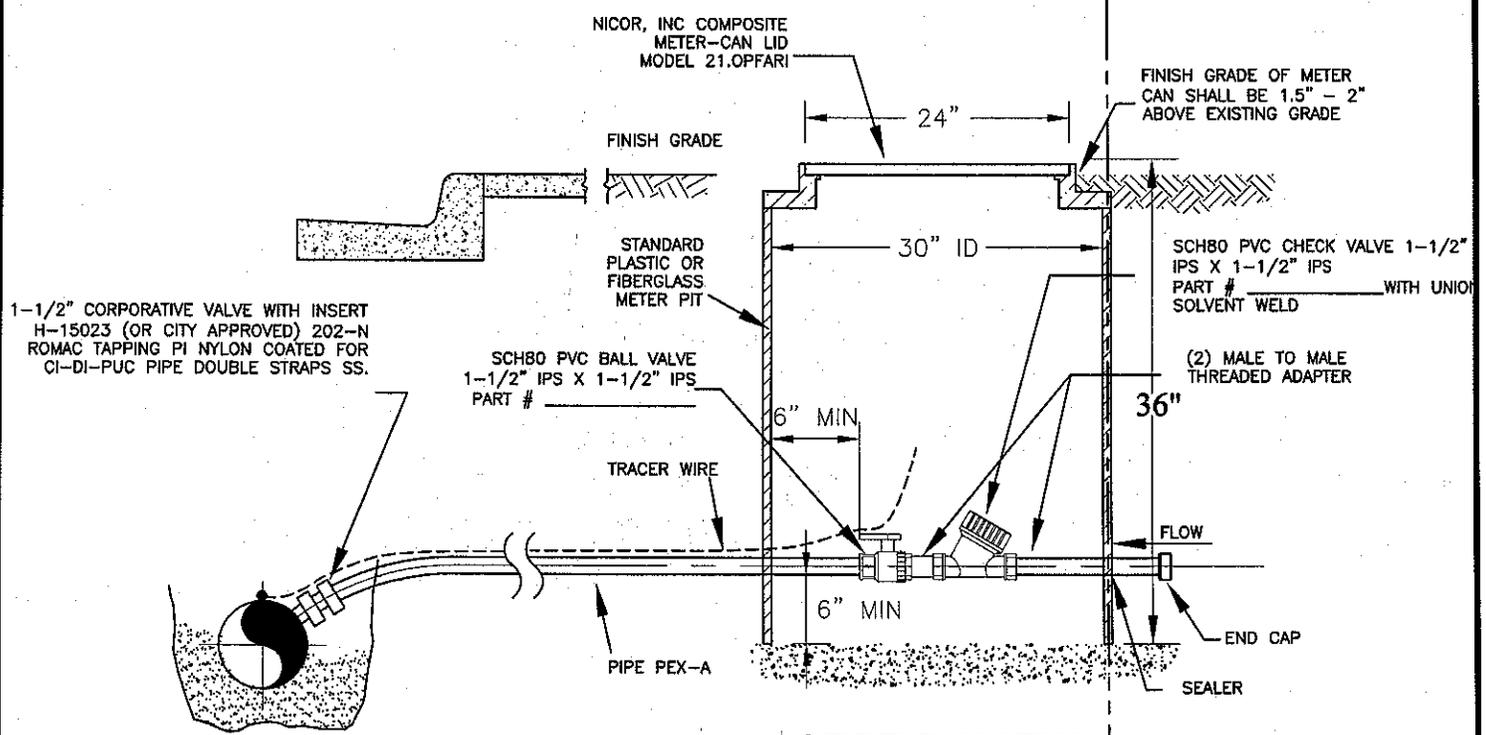
CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

REV	DATE
	8/13



PLAN VIEW



SECTION VIEW

- NOTE:
1. CONTRACTOR SHALL REMOVE END CAP AND CONNECT TO EXISTING 1-1/2" CAP.M
 2. CONTRACTOR SHALL BORE A HOLE INTO EXISTING BOX TO RUN PIPE THROUGH AND PROVIDE SEALER TO PREVENT WATER SEEPAGE.
 3. ONLY CENTRAL PUMPS ALLOWED FOR CONNECTIONS.

CONSTRUCTION STANDARDS

1-1/2" PRESSURE SANITARY SEWER LATERAL DETAIL

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

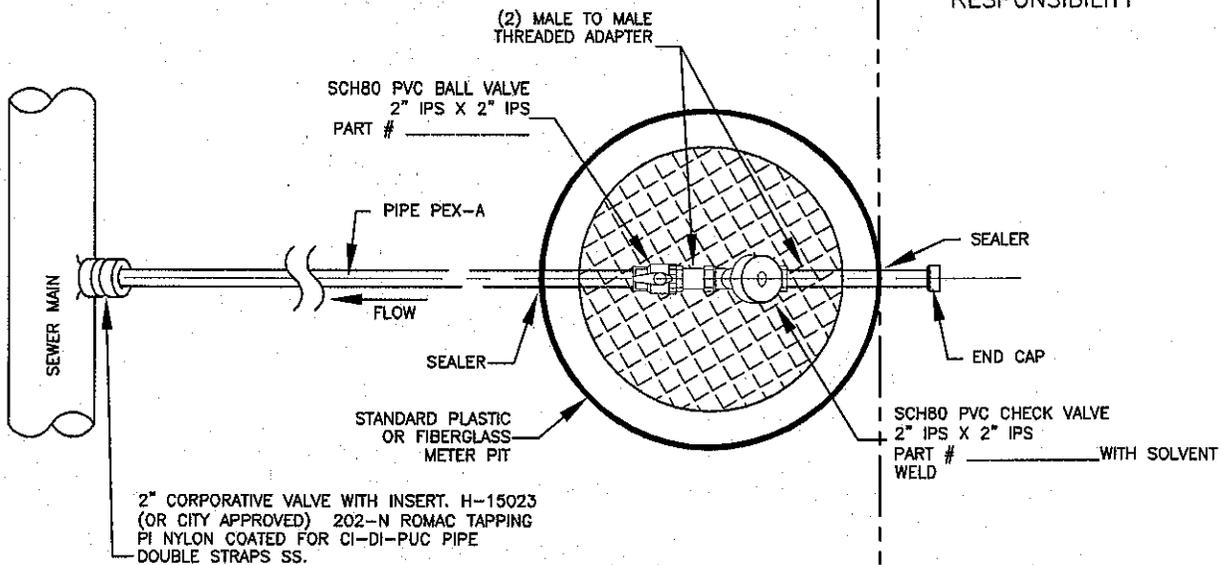
STANDARD No. D-119 SHEET 1 OF 1

APPROVED *[Signature]* DATE 8/27/13

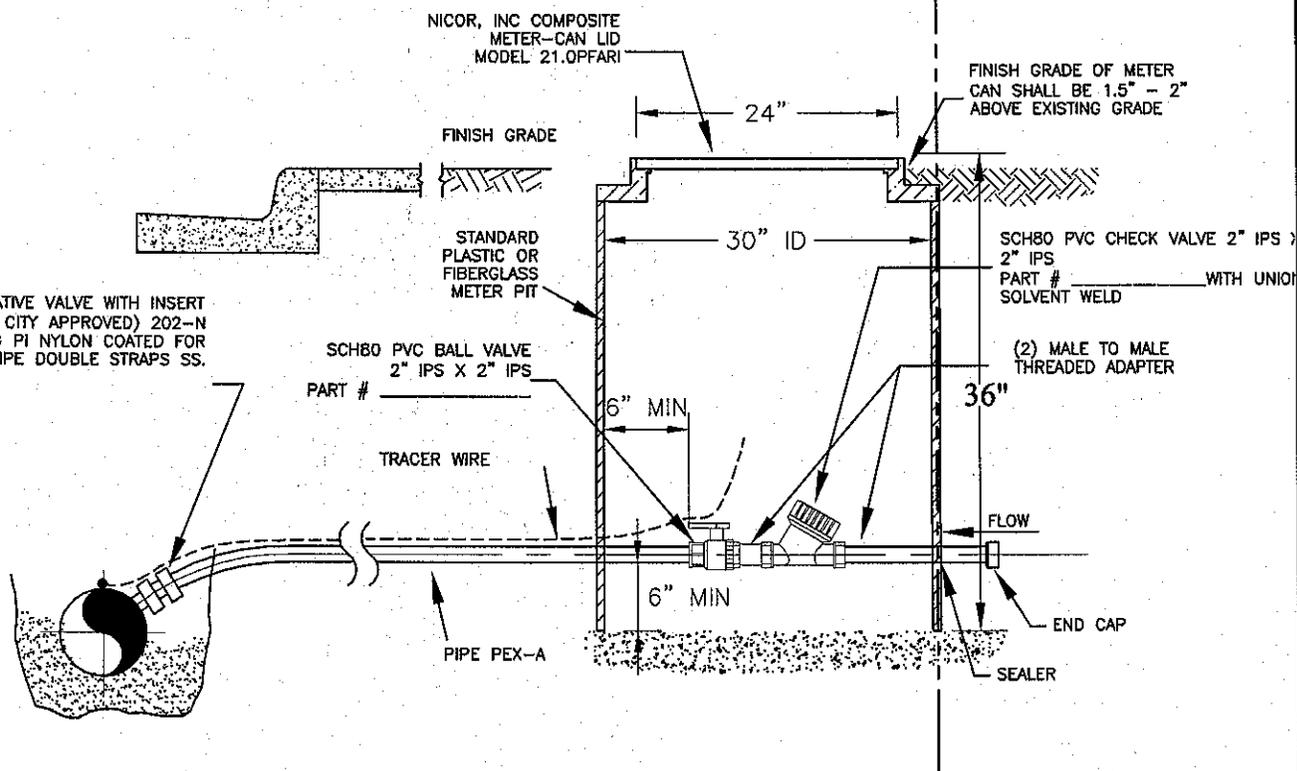
REV	DATE
	8/13

CITY OF FARMINGTON
RESPONSIBILITY

PROPERTY OWNER
RESPONSIBILITY



PLAN VIEW



SECTION VIEW

NOTE:

1. CONTRACTOR SHALL REMOVE END CAP AND CONNECT TO EXISTING 2" CAP.M
2. CONTRACTOR SHALL BORE A HOLE INTO EXISTING BOX TO RUN PIPE THROUGH AND PROVIDE SEALER TO PREVENT WATER SEEPAGE.
3. ONLY CENTRAL PUMPS ALLOWED FOR CONNECTIONS.

**CONSTRUCTION
STANDARDS**

**2" PRESSURE SANITARY
SEWER LATERAL DETAIL**

STANDARD No. D-120 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

WATER

Note: All Brass Fittings supplied shall meet the new low lead requirements of the U.S. Safe Drinking Water Act, which goes into effect in January 2014.

CONSTRUCTION STANDARDS SHEET INDEX

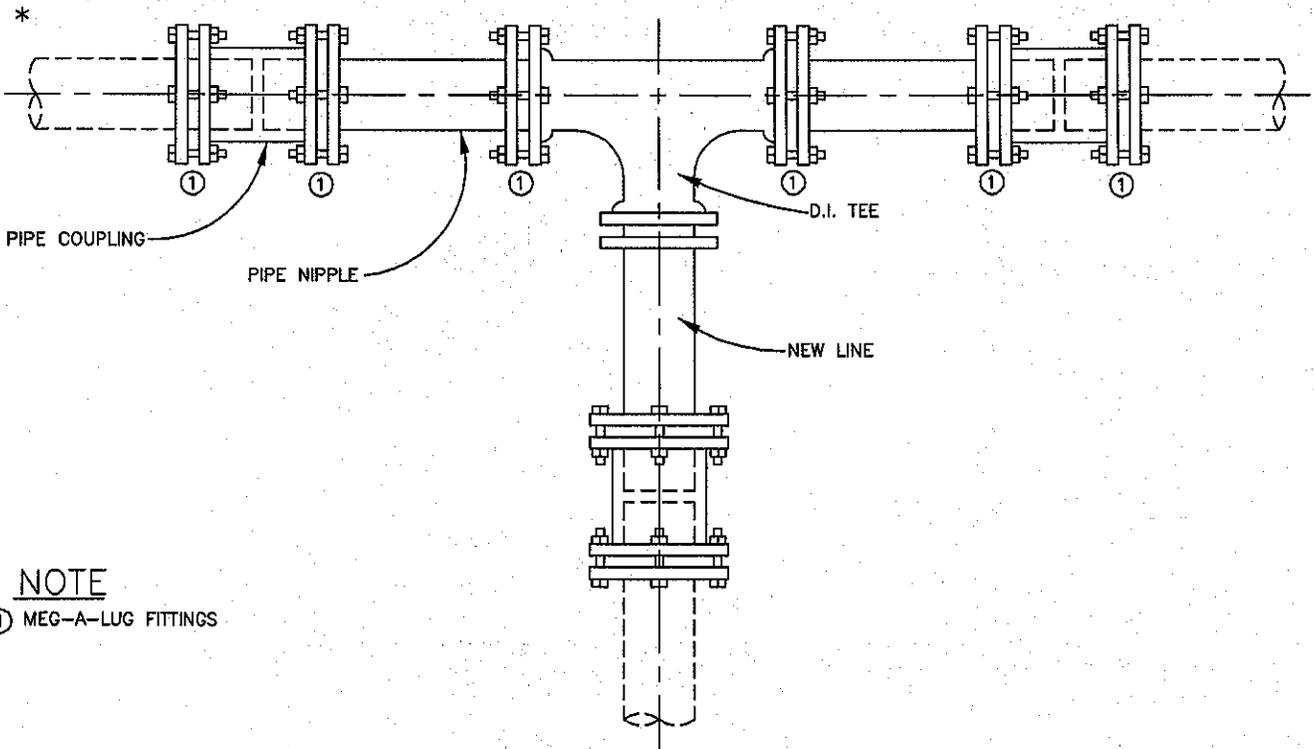
WATER

<u>SHEET NO.</u>	<u>TITLE</u>
D-201 *	WATER LINE CONNECTION DETAILS (2 SHEETS)
D-203*	VALVE INSTALLATION
D-204 *	PRESSURE REDUCER VALVE/RISER DETAIL (3SHEETS)
D-206	BLOW OFF VALVE ASSEMBLY
D-207 *	FIRE HYDRANT (5 SHEETS)
D-208 *	AIR RELIEF OR VAC VALVE ASSEMBLY-6" THRU 12" PIPE
D-209 *	AIR RELIEF OR VAC VALVE ASSEMBLY-16" PIPE OR LARGER
D-210	THRUST BLOCKS (2 SHEETS)
D-212	WATER LINE LOCATION MARKERS
D-215 *	WATER SERVICE CONNECTION (5/8" METER)
D-216 *	WATER SERVICE CONNECTION (1" METER)
D-217 *	WATER SERVICE CONNECTION (1 1/2" METER)
D-218 *	LARGE WATER METER VAULT DETAIL (2" METER)
D-219 *	LARGE WATER METER VAULT DETAIL (3" METER)
D-220 *	LARGE WATER METER VAULT DETAIL (4" METER)
D-221 *	LARGE WATER METER VAULT DETAIL (6" METER)
D-222 *	LARGE WATER METER VAULT DETAIL (8" METER)
D-224 *	WATER SERVICE MANIFOLD DETAIL

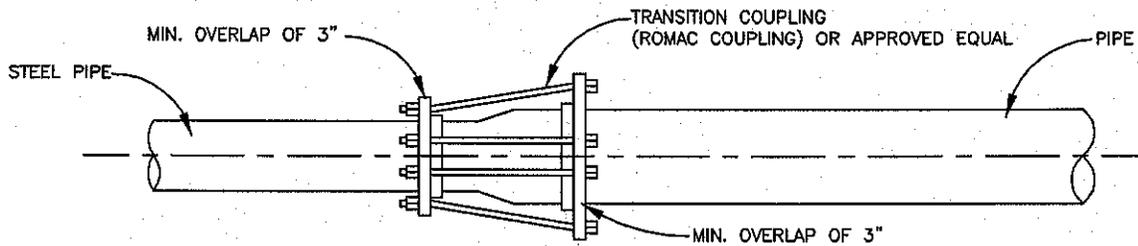
Note: All Brass Fittings supplied shall meet the new low lead requirements of the U.S. Safe Drinking Water Act, which goes into effect in January 2014.

NOTE: * REVISED 2013/2014

ALL DETAIL SHEETS WERE REVISED TO SAY PUBLIC WORKS



CUTTING TEE INTO EXISTING LINE



CONNECTING UNLIKE PIPE MATERIALS

REV.	DATE
	1/08
*	8/13

CONSTRUCTION
STANDARDS

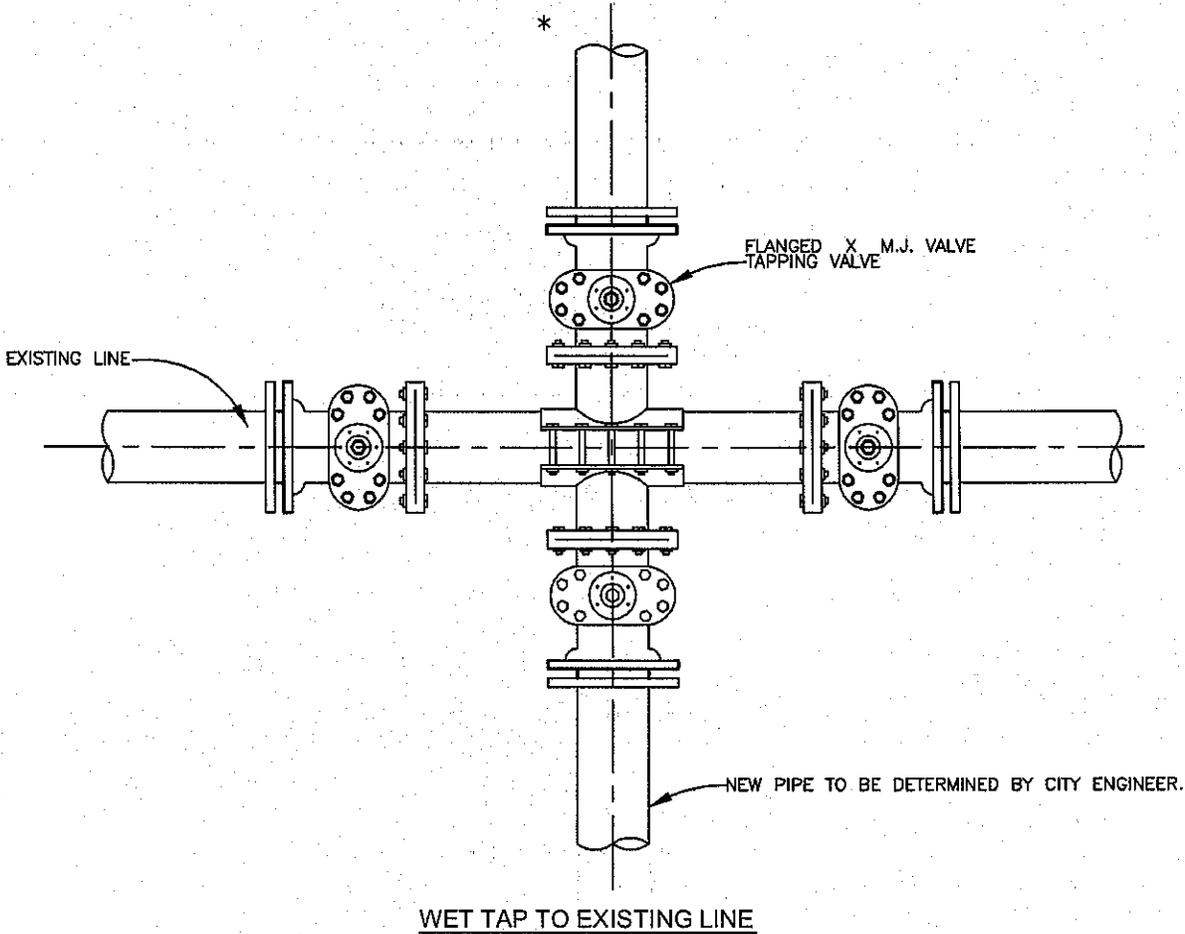
WATER LINE
CONNECTION DETAILS

STANDARD No. D-201 SHEET 1 OF 2

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *M. J. [Signature]* DATE 8/27/13



NOTE

- 1. ALL TAP SADDLES OVER 4" SHALL BE TWO PIECE STAINLESS STEEL CAPABLE OF FITTING A/C, DI OR PVC PIPE.

REV.	DATE
*	1/08 8/13

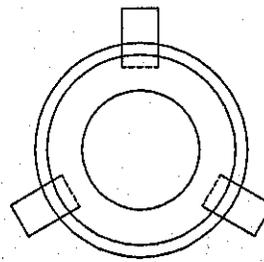
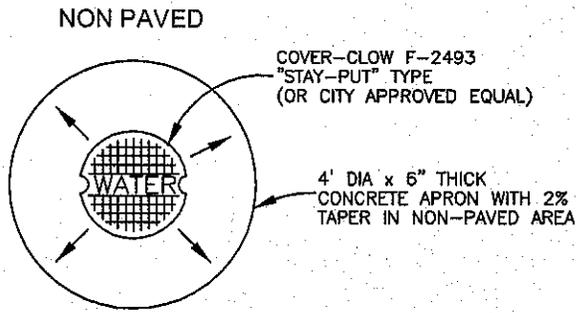
**CONSTRUCTION
STANDARDS**

**WATER LINE
CONNECTION DETAILS**
STANDARD No. D-201 SHEET 2 OF 2

CITY OF
FARMINGTON

**PUBLIC
WORKS
DEPARTMENT**

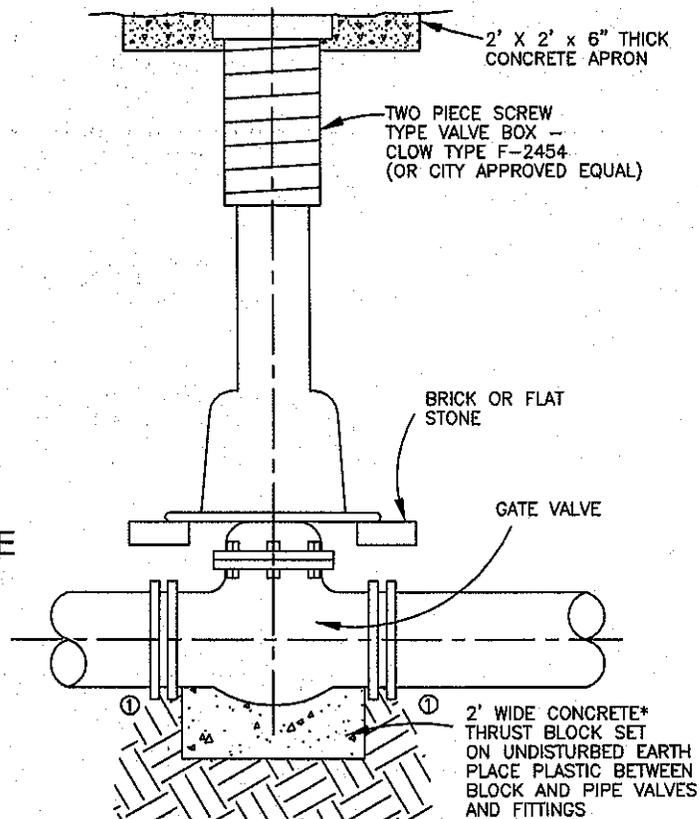
APPROVED *[Signature]* DATE 8/27/13



SET BASE ON BRICK
OR FLAT STONE AFTER
BACKFILLING PIPE

PLAN

GATE VALVE
OR BUTTERFLY VALVE



SECTION

NOTE:

- ① 1. MEG-A-LUG WEDGE ACTION JOIST RESTRAINT, SERIES - 1100 FOR CAST IRON OR DUCTILE, SERIES - 1100 PV FOR CAST IRON SIZE PVC (TYPICAL).
- 2. PRE-MIXED CONCRETE BAGS MAY BE USED WITH CITY ENGINEER APPROVAL.

REV.	DATE
	1/08
*	8/13

CONSTRUCTION
STANDARDS

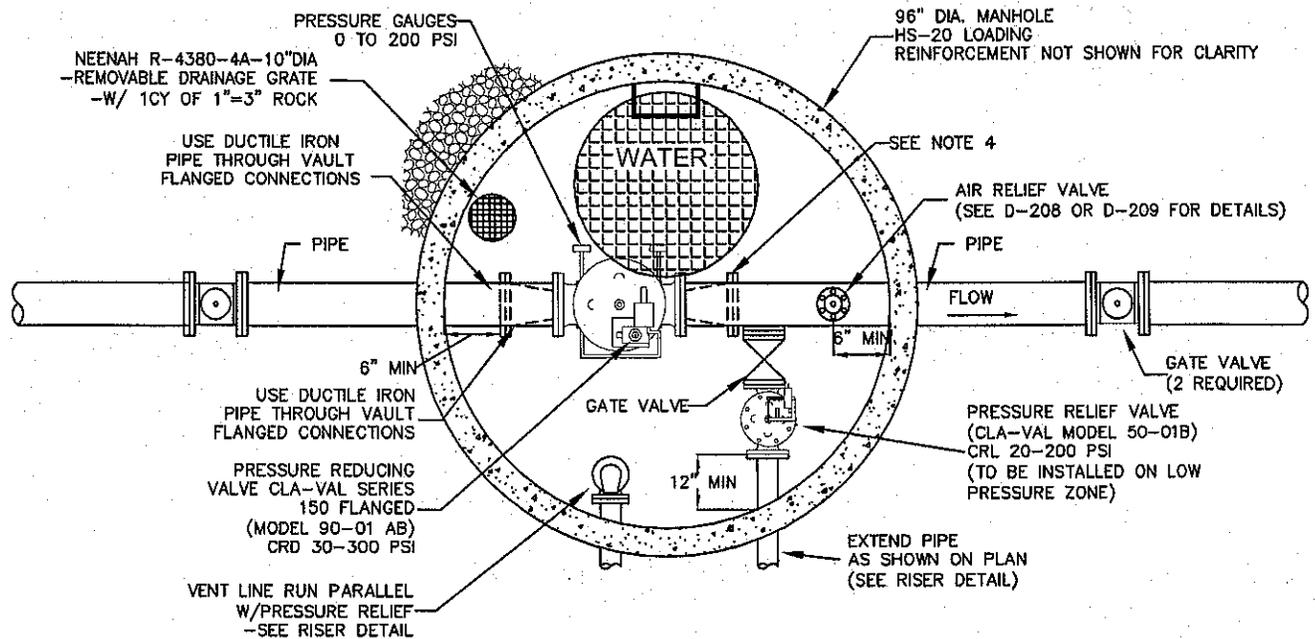
VALVE INSTALLATION

STANDARD No. D-203 SHEET 1 OF 1

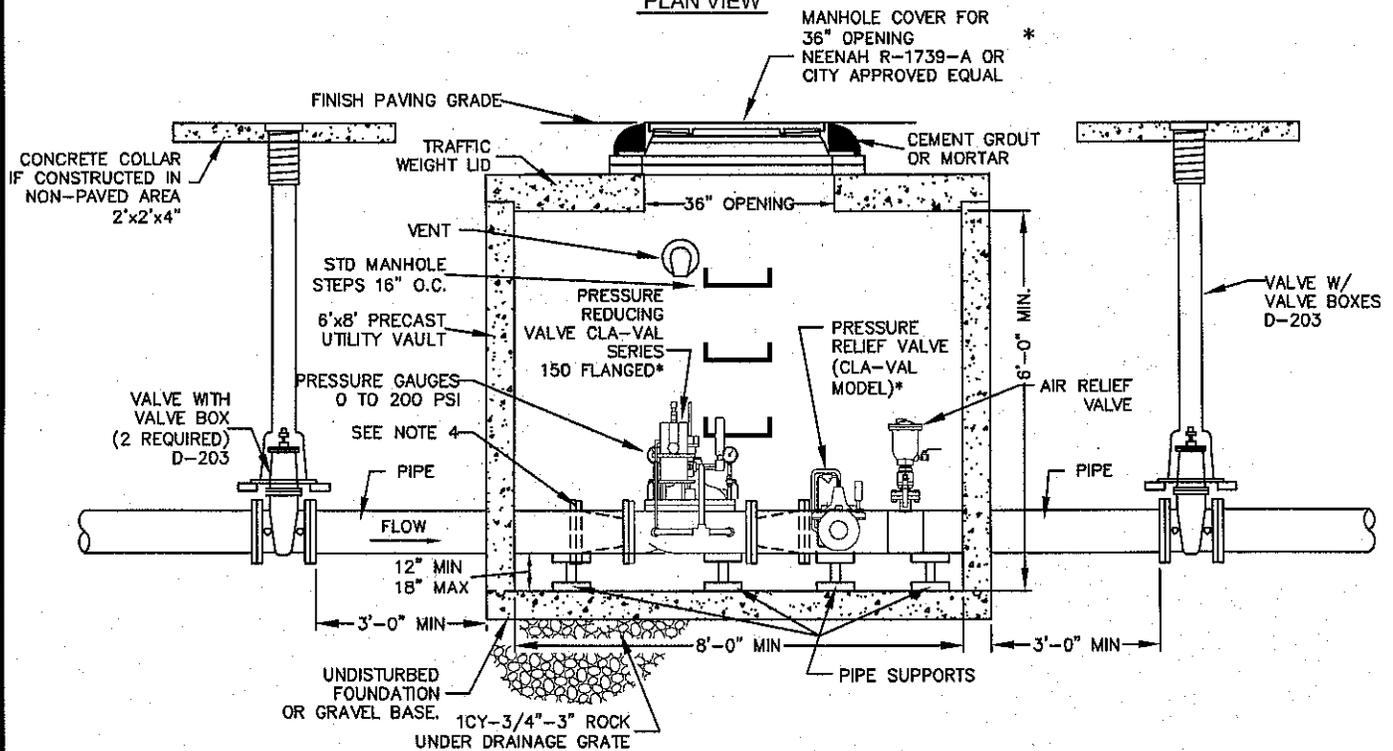
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



PLAN VIEW



SECTION VIEW

- NOTES:
1. PRECAST MANHOLE SHALL BE DESIGNED FOR HS-20 LOADING.
 2. VALVES SHALL BE CAL-VAL ONLY NO SUBSTITUTIONS WILL BE ALLOWED.
 3. THE GATE VALVE SERVING THE PRESSURE RELIEF VALVE SHALL BOTH MATCH IN SIZE.
 4. IF THE PROPOSED PRV IS SMALLER THAN THE LINE SIZE, THEN REDUCERS ARE REQUIRED IMMEDIATELY BEFORE AND AFTER THE PRV INSIDE THE VAULT.

PRV MATRIX		
VALVE SIZE	PRESSURE RELEIF SIZE	BLOW OFF AND VENT PIPE SIZE
8"	4"	4"
10"	4"	6"
12"	5"	6"

REV.	DATE
*	1/08 8/13

CONSTRUCTION STANDARDS

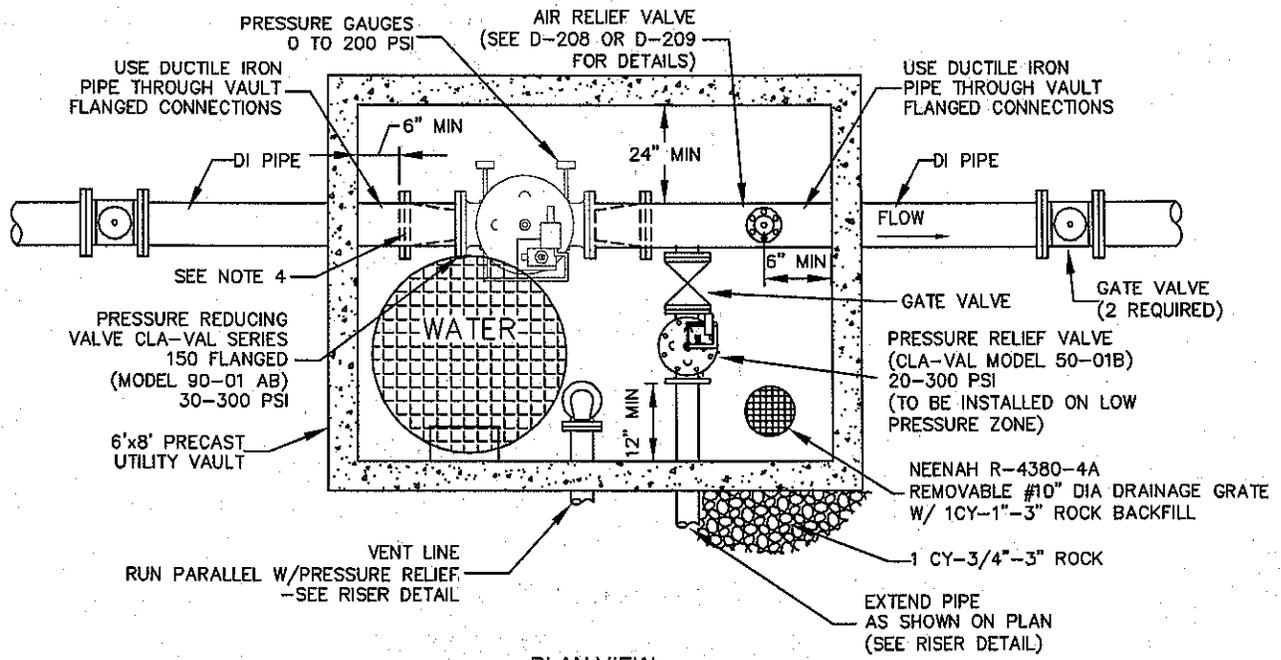
PRESSURE REDUCER VALVE ASSEMBLY PRE-CAST MANHOLE

STANDARD No. D-204 SHEET 1 OF 3

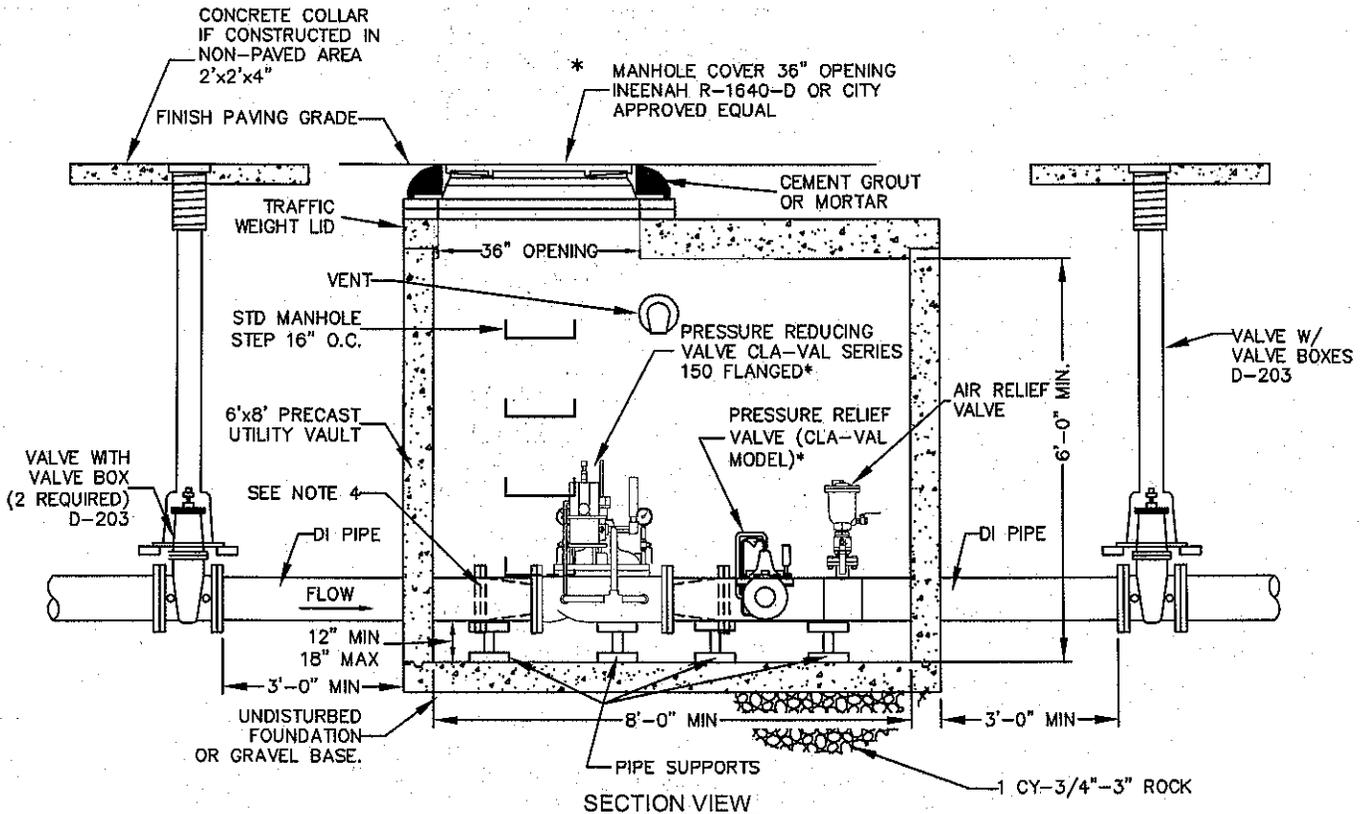
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



PLAN VIEW



SECTION VIEW

- NOTES:
1. PRECAST MANHOLE SHALL BE DESIGNED FOR HS-20 LOADING.
 2. VALVES SHALL BE CAL-VAL ONLY-NO SUBSTITUTIONS WILL BE ALLOWED.
 3. THE GATE VALVE SERVING THE PRESSURE RELIEF VALVE SHALL BOTH MATCH IN SIZE.
 4. IF THE PROPOSED PRV IS SMALLER THAN THE LINE SIZE, THEN REDUCERS ARE REQUIRED IMMEDIATELY BEFORE AND AFTER THE PRV INSIDE THE VAULT.

PRV MATRIX *		
VALVE SIZE	PRESSURE RELIEF SIZE	BLOW OFF AND VENT PIPE SIZE
8"	4"	4"
10"	4"	6"
12"	6"	6"

REV.	DATE
*	1/08 8/13

CONSTRUCTION STANDARDS

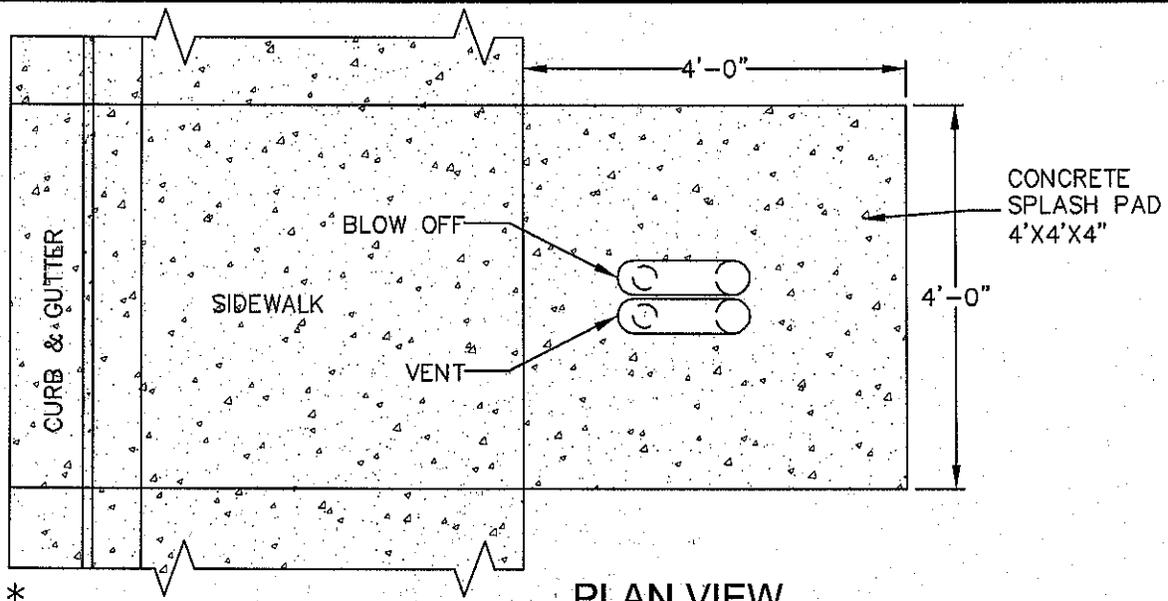
PRESSURE REDUCER VALVE ASSEMBLY PRE-CAST VAULT

STANDARD No. D-204 SHEET 2 OF 3

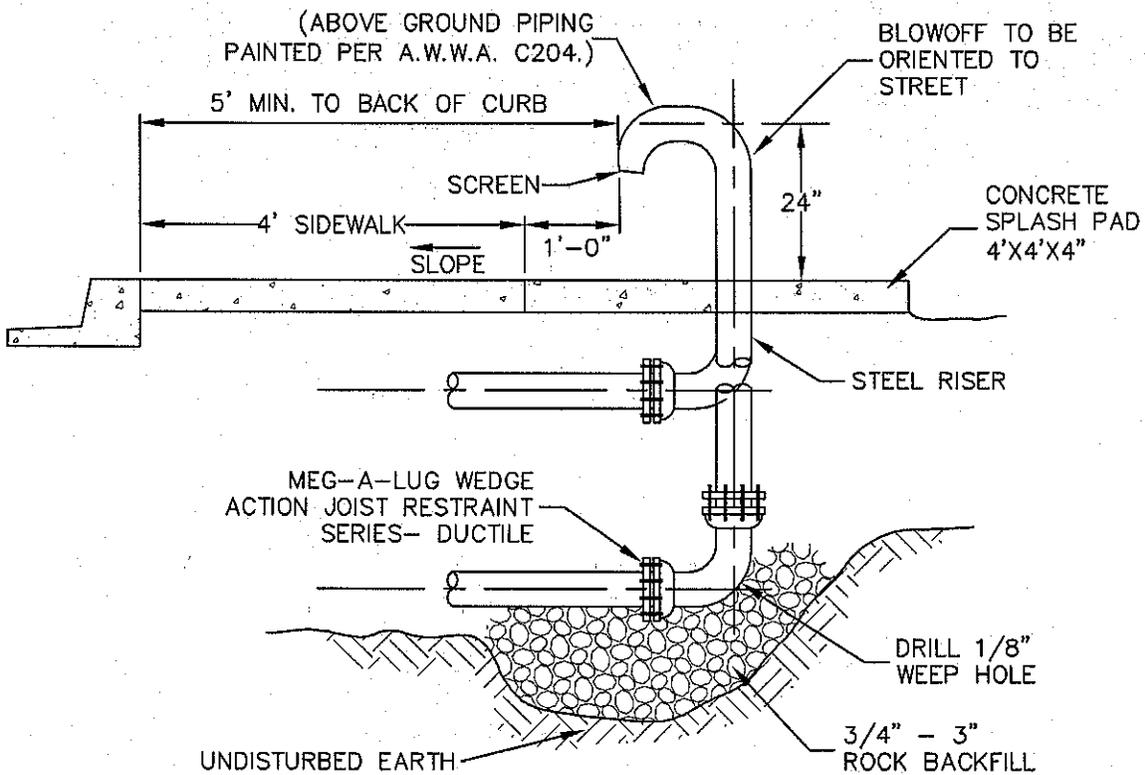
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



PLAN VIEW



SECTION VIEW

NOTES:

- * 1. SEE D-204 FOR THE PRV MATRIX TABLE FOR BLOW OFF AND VENT PIPE SIZING.
- 2. BLOW OFF PIPE AND VENT LOCATION TYPICAL 1ft BEHIND SIDEWALK
- 3. MINIMUM 10ft HORIZONTAL SEPARATION FROM THE VAULT FOR BIDDING PURPOSES.
- * 4. LOCATION OF THE BLOW OFF AND VENT PIPES SHALL BE FIELD DETERMINED IN THE FIELD BY THE CITY.

REV.	DATE
	1/08
*	8/13

CONSTRUCTION STANDARDS

BLOW OFF & VENT PIPE DETAIL

STANDARD No. D-204 SHEET 3 OF 3

CITY OF FARMINGTON

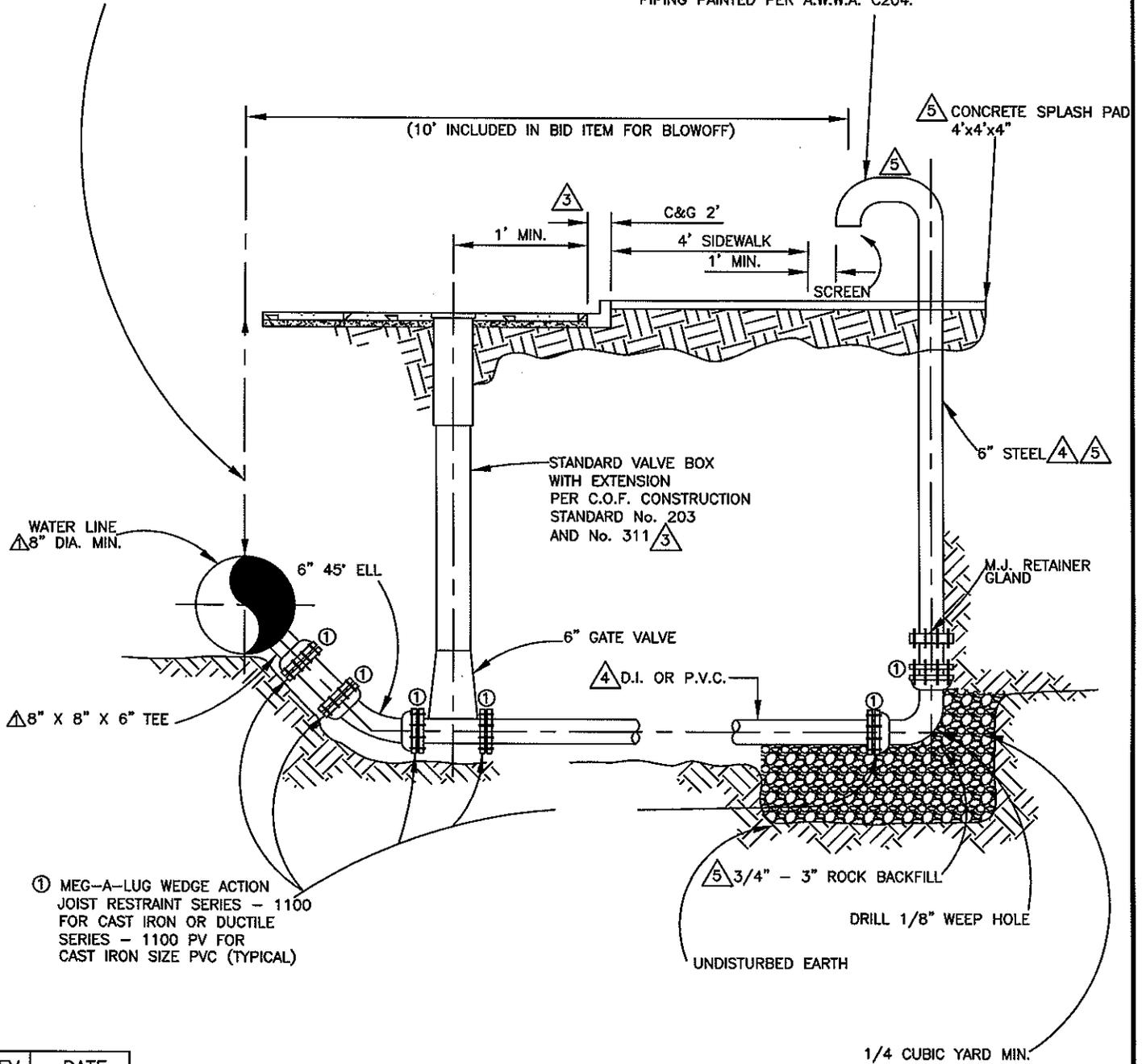
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

NOTE

MINIMUM DEPTH OF COVER OVER WATER LINE - 42"

6" FLEXIBLE 180° ELBOW ABOVE GROUND PIPING PAINTED PER A.W.W.A. C204.



① MEG-A-LUG WEDGE ACTION JOIST RESTRAINT SERIES - 1100 FOR CAST IRON OR DUCTILE SERIES - 1100 PV FOR CAST IRON SIZE PVC (TYPICAL)

REV.	DATE
①	3/1/96
②	12/31/97
③	11/19/04
④	12/02/05
⑤	1/22/08

CONSTRUCTION STANDARDS

BLOW OFF VALVE ASSEMBLY DETAIL

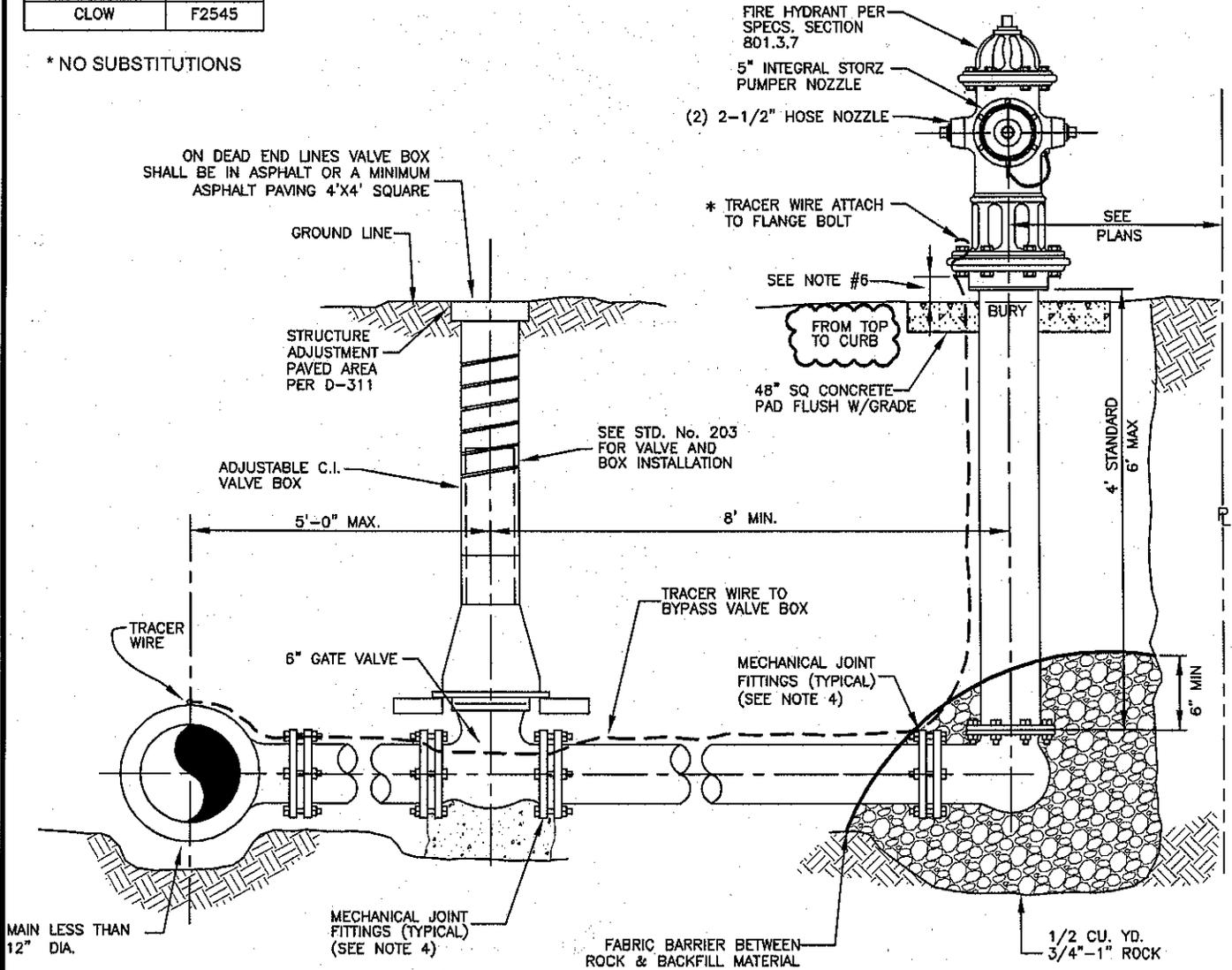
STANDARD No. D-206 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

FIRE HYDRANT W/ INTEGRAL STORZ	
MANUFACTURER*	MODEL
M&H	129
MUELLER	A425
KENNEDY	K-81A
CLOW	F2545

* NO SUBSTITUTIONS



NOTES:

1. SEE SECTION 801.3.7 - FIRE HYDRANT SPECIFICATION.
2. ORIENTATION OF NOZZLES AS SPECIFIED.
3. NO STORZ ADAPTER CONNECTION ALLOWED ONTO PUMPER NOZZLE.
4. MEG-A-LUG WEDGE ACTION JOINT RESTRAINT, SERIES - 1100 FOR CAST IRON OR DUCTILE, SERIES - 2000 PV FOR CAST IRON SIZE PVC.
5. HYDRANT BURY 6" PIPE.
6. CLEARANCE FROM TOP OF CONCRETE PAD TO BOTTOM OF SHEER BOLT- 3" MIN. 6" MAX.
- * 7. TRACER WIRE TO BE ATTACHED TO FLANGE BOLT.

REV	DATE
	1/08
*	8/13

CONSTRUCTION
STANDARDS

STANDARD
FIRE HYDRANT

STANDARD No. D-207 SHEET 1 OF 5

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

REV	DATE
*	1/08 8/13

FIRE HYDRANT W/ INTEGRAL STORZ	MANUFACTURER *	MODEL
	M&H	129
	MUELLER	A423
	KENNEDY	K-81A
	CLOW	F2545

* NO SUBSTITUTIONS

GROUND LINE

* STRUCTURE
ADJUSTMENT
PAVED AREA
PER D-311

ADJUSTABLE C.I.
VALVE BOX

5'-0" MAX.

6" GATE VALVE

* TRACER WIRE TO
BYPASS VALVE BOX

* MAIN LESS THAN
12" DIA.

- * FIRE HYDRANT PER SPECS. SECTION 801.3.7
- * 5" INTEGRAL STORZ PUMPER NOZZLE
- * (2) 2-1/2" HOSE NOZZLE
- * TRACER WIRE ATTACH TO FLANGE BOLT

SEE NOTE #6
48" SQ CONCRETE PAD FLUSH W/GRADE

ON DEAD END LINES VALVE BOX SHALL BE IN ASPHALT OR A MINIMUM ASPHALT PAVING 4'X4' SQUARE

SEE STD. No. 203 FOR VALVE AND BOX INSTALLATION

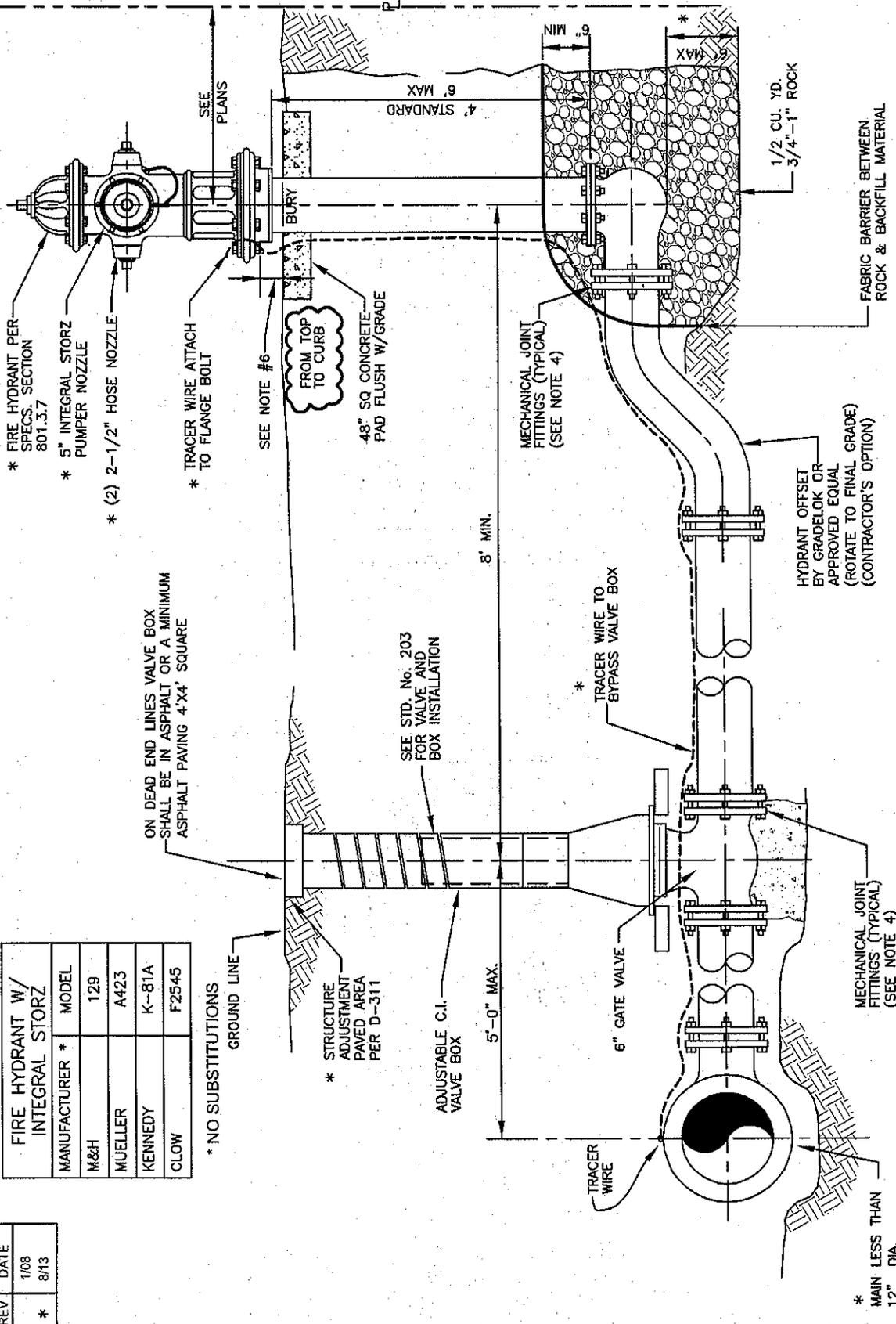
8' MIN.

MECHANICAL JOINT FITTINGS (TYPICAL) (SEE NOTE 4)

HYDRANT OFFSET BY GRADELOK OR APPROVED EQUAL (ROTATE TO FINAL GRADE) (CONTRACTOR'S OPTION)

MECHANICAL JOINT FITTINGS (TYPICAL) (SEE NOTE 4)

- NOTES:
1. SEE SECTION 801.3.7 - FIRE HYDRANT SPECIFICATION.
 2. ORIENTATION OF NOZZLES AS SPECIFIED.
 3. NO STORZ ADAPTER CONNECTION ALLOWED ONTO PUMPER NOZZLE.
 4. MEG-A-LUG WEDGE ACTION JOINT RESTRAINT, SERIES - 1100 FOR CAST IRON OR DUCTILE, SERIES - 2000 PV FOR CAST IRON SIZE PVC.
 5. HYDRANT BURY 6" PIPE.
 6. CLEARANCE FROM TOP OF CONCRETE PAD TO BOTTOM OF SHEER BOLT - 3" MIN. 6" MAX.
 7. TRACER WIRE TO BE ATTACHED TO FLANGE BOLT.



CONSTRUCTION STANDARDS

FIRE HYDRANT (OPTIONAL OFFSET)

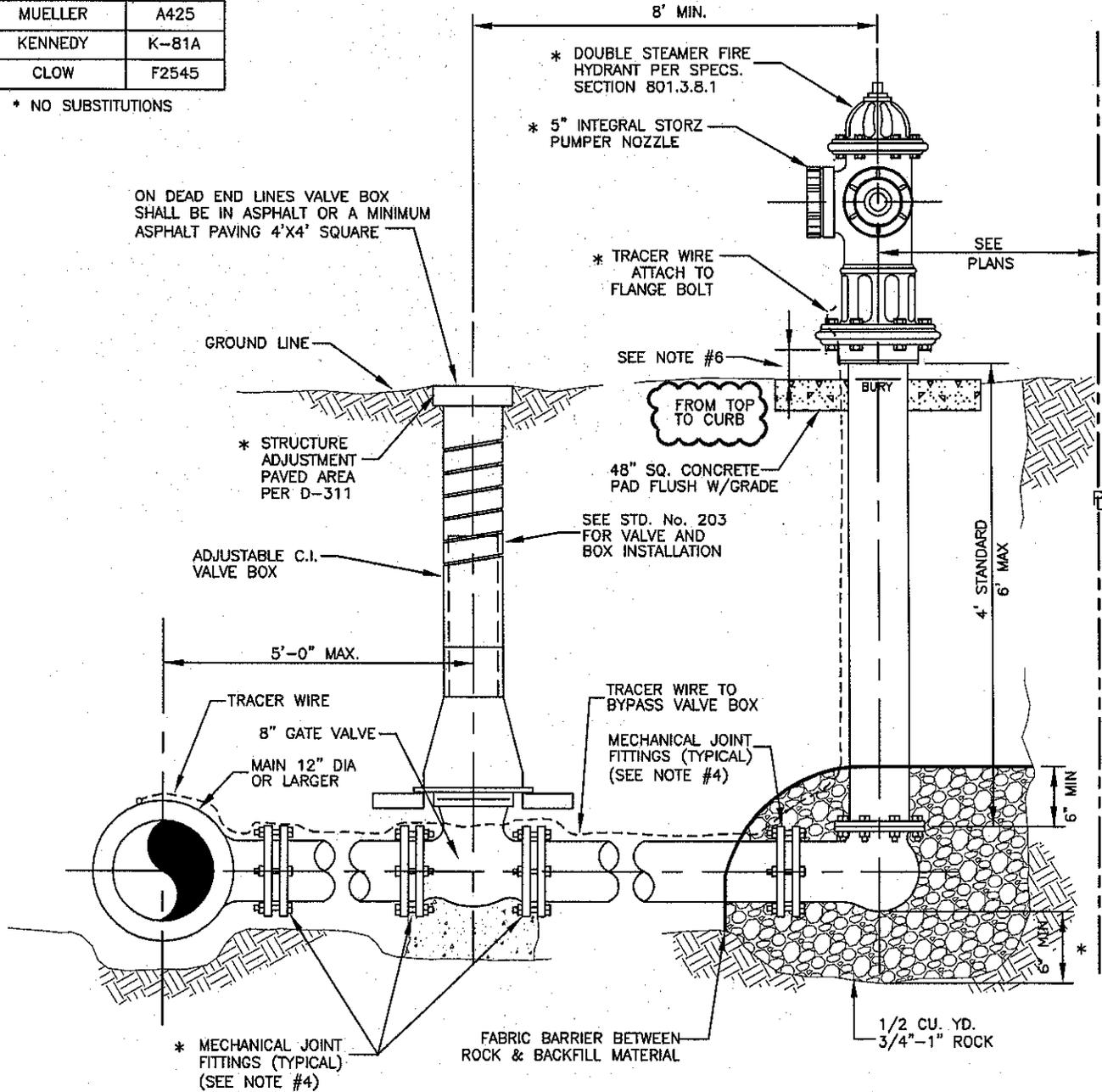
STANDARD No. D-207 SHEET 2 OF 5

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

FIRE HYDRANT W/ INTEGRAL STORZ	
MANUFACTURER*	MODEL
M&H	129
MUELLER	A425
KENNEDY	K-81A
CLOW	F2545

* NO SUBSTITUTIONS



NOTES:

1. SEE SECTION 801.3.7 - FIRE HYDRANT SPECIFICATION.
2. ORIENTATION OF NOZZLES AS SPECIFIED.
3. NO STORZ ADAPTER CONNECTION ALLOWED ONTO PUMPER NOZZLE.
4. MEG-A-LUG WEDGE ACTION JOINT RESTRAINT, SERIES - 1100 FOR CAST IRON OR DUCTILE, SERIES - 2000 PV FOR CAST IRON SIZE PVC.
5. HYDRANT BURY 8" PIPE.
6. CLEARANCE FROM TOP OF CONCRETE PAD TO BOTTOM OF SHEER BOLT - 3" MIN. 6" MAX.
- * 7. TRACER WIRE TO BE ATTACHED TO FLANGE BOLT.

REV.	DATE
	1/08
*	8/13

CONSTRUCTION
STANDARDS

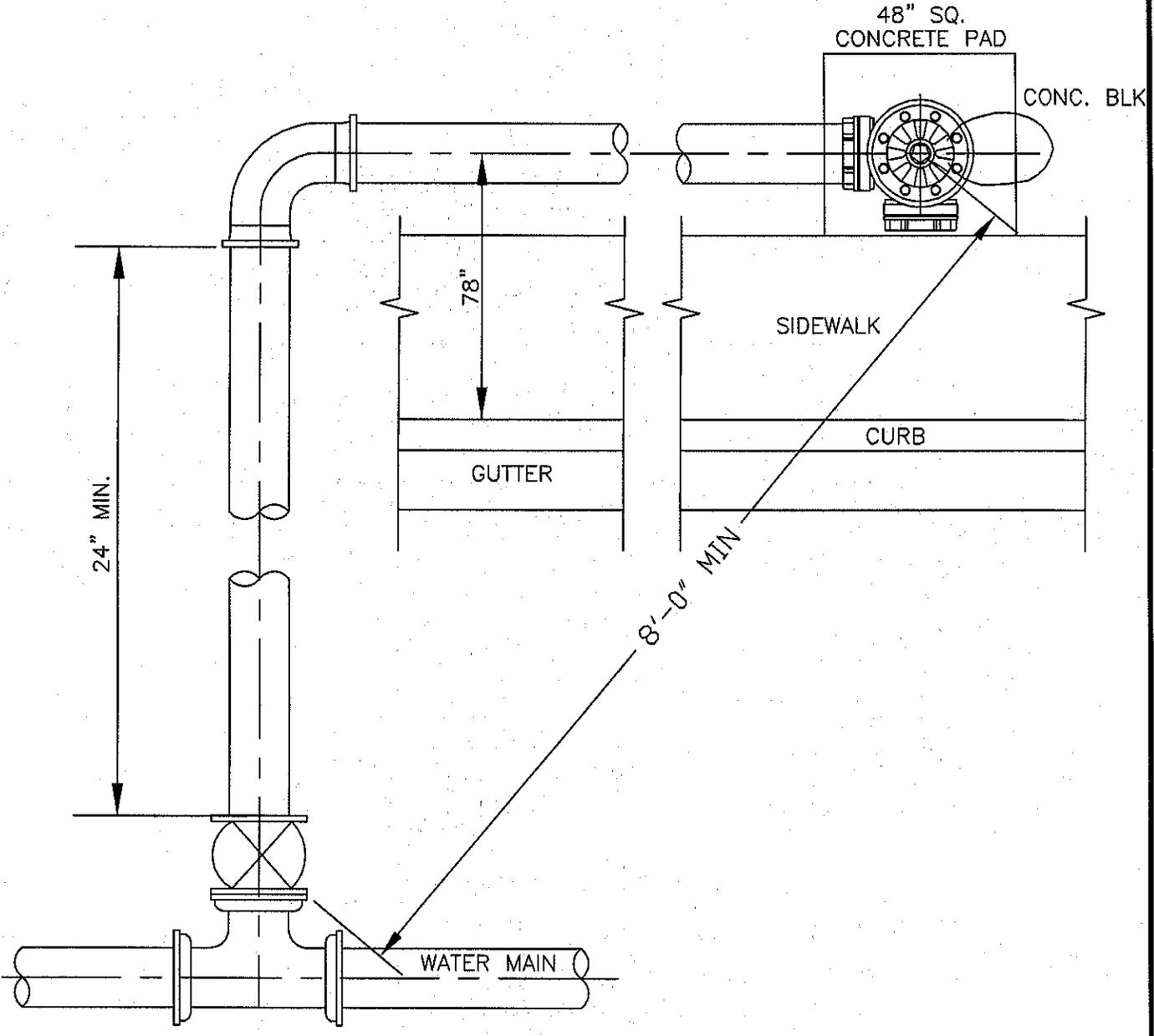
**DOUBLE STEAMER
FIRE HYDRANT**

STANDARD No. D-207 SHEET 3 OF 5

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *M. White* DATE 8/27/13



- NOTE:
1. MINIMUM DIRECT DISTANCE FIRE HYDRANT TO GATE VALVE SHALL BE 8'-0".
 2. ALL JOINTS SHALL BE MEGA-LUGS.
 3. LUBRICATE HYDRANT NOZZLE THREADS WITH NON-TOXIC GREASE.
 4. NON FLANGED FIRE HYDRANT JOINTS REQUIRE MEG-A-LUG OR APPROVED EQUAL.

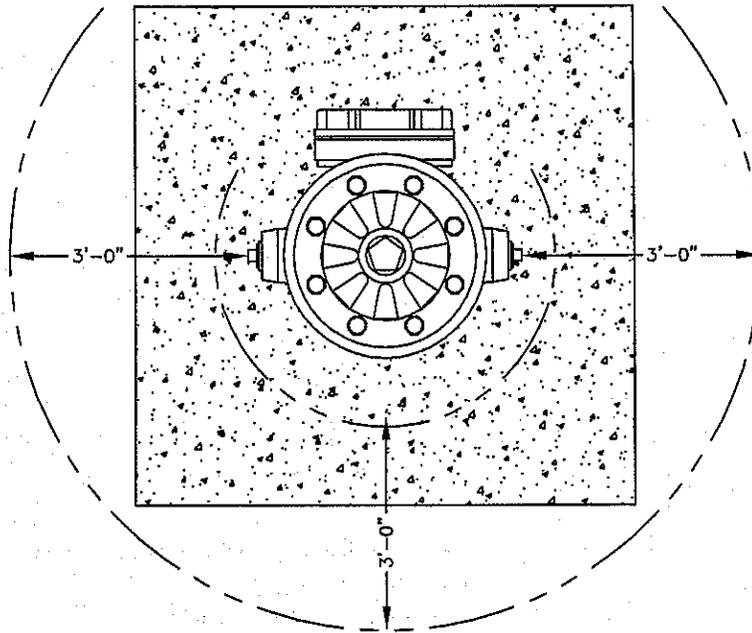
REV.	DATE
	1/08
*	8/13

CONSTRUCTION STANDARDS	FIRE HYDRANT OFFSET ALTERNATE	CITY OF FARMINGTON
	STANDARD No. D-207 SHEET 4 OF 5	PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

STREET/BUILDING SIDE
MUST REMAIN OPEN AND CLEAR

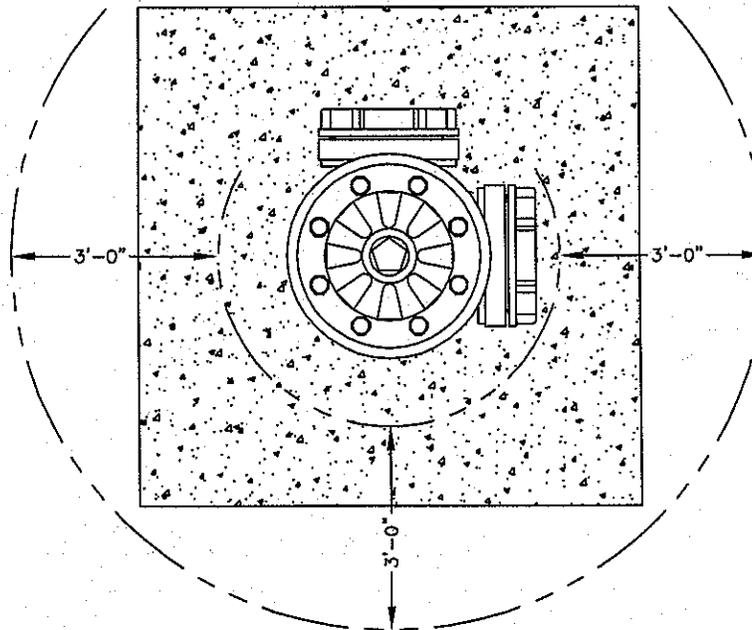
48" SQ. CONCRETE PAD



STANDARD HYDRANT TOP VIEW

STREET/BUILDING SIDE
MUST REMAIN OPEN AND CLEAR

48" SQ. CONCRETE PAD



DOUBLE STEAMER TOP VIEW

REV.	DATE
	1/08
*	8/13

CONSTRUCTION
STANDARDS

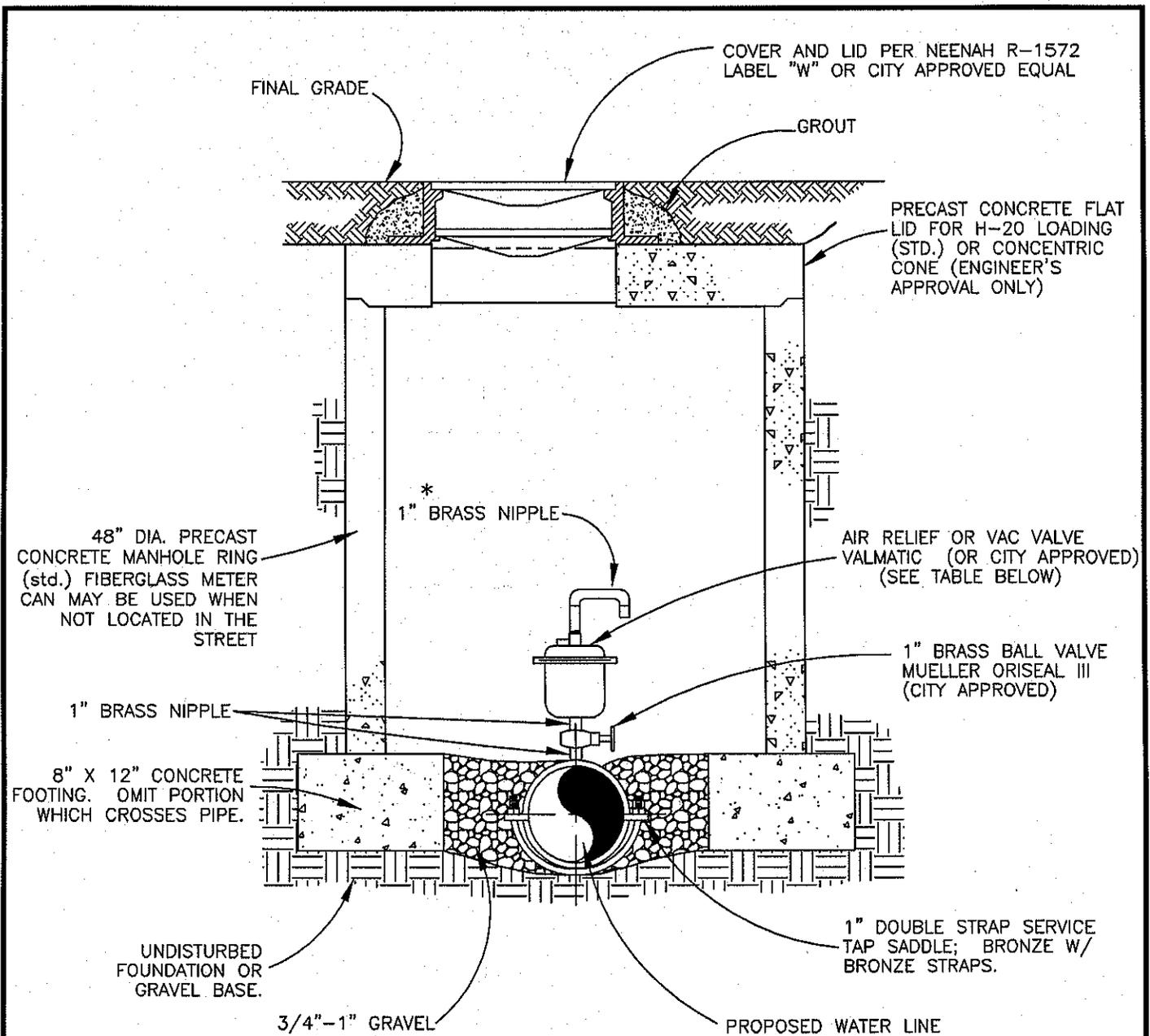
FIRE HYDRANT (TOP VIEW)

STANDARD No. D-207 SHEET 5 OF 5

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *MjWatts* DATE 8/27/13



AIR RELIEF OR VAC VALVE DATA

WATERLINE DIAMETER	INLET SIZE N.P.T.	OUTLET SIZE N.P.T.	ORIFICE SIZE	VALMATIC MODEL NO.
6" OR UNDER	1"	3/8"	1/16"	15
8"	1"	1/2"	3/32"	22
10"	1"	1/2"	3/32"	22
12"	1"	1/2"	1/8"	25

REV.	DATE
	1/08
*	8/13

CONSTRUCTION STANDARDS

AIR RELIEF OR VAC VALVE ASSEMBLY

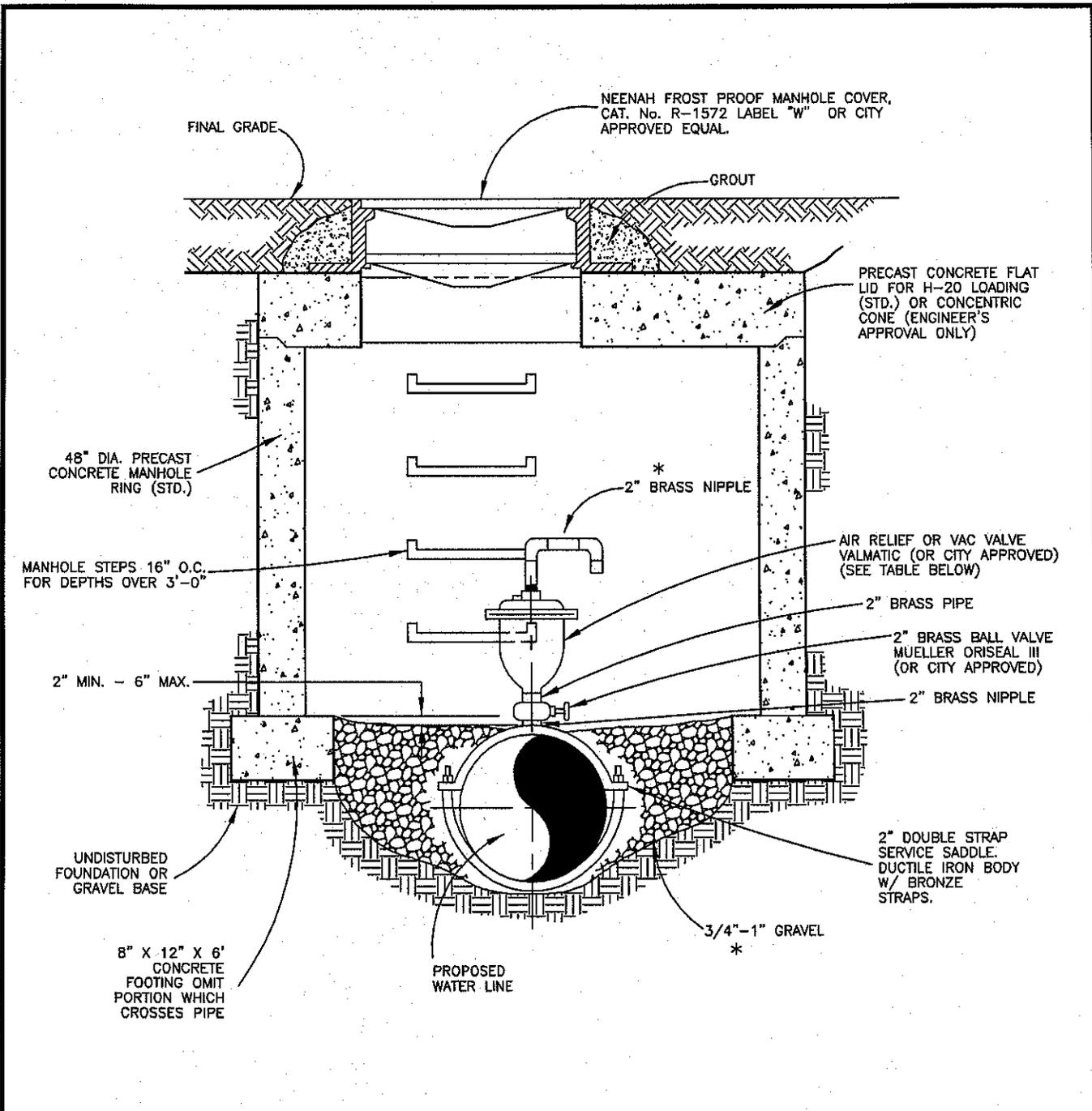
6" THRU 12" PIPE

STANDARD No. D-208 SHEET 1 OF 1

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



* AIR RELIEF OR VAC VALVE DATA

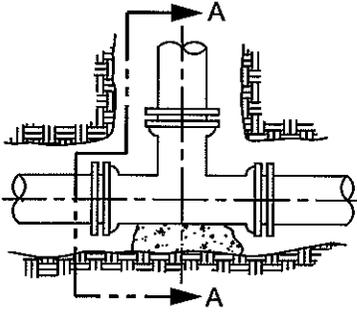
WATERLINE DIAMETER	INLET SIZE N.P.T.	OUTLET SIZE N.P.T.	ORIFICE SIZE	VALMATIC MODEL NO.
16"	2"	1/2"	3/16"	38
24"	2"	1/2"	3/16"	38
OVER 24"	AS DIRECTED BY ENGINEER.			

REV.	DATE
	1/08
*	8/13

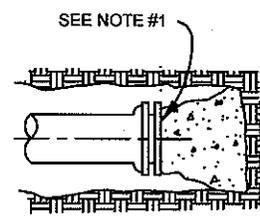
CONSTRUCTION STANDARDS	AIR RELIEF OR VAC VALVE ASSEMBLY 16" PIPE OR LARGER STANDARD No. D-209 SHEET 1 OF 1	CITY OF FARMINGTON <hr/> PUBLIC WORKS DEPARTMENT
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APPROVED *[Signature]* DATE 8/27/13

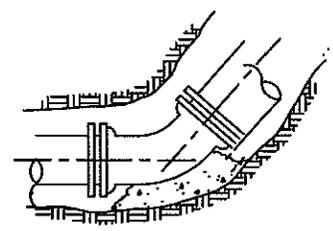
MEG-A-LUGS ARE REQUIRED UNLESS APPROVED BY WATER & WASTEWATER ADMINISTRATOR Δ



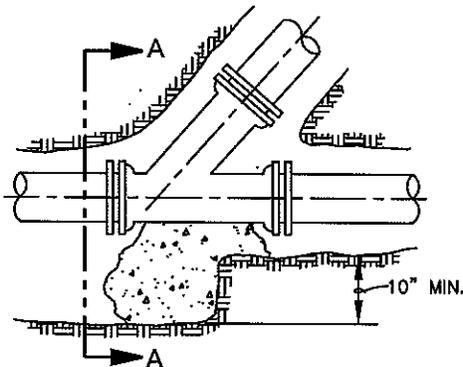
TEE



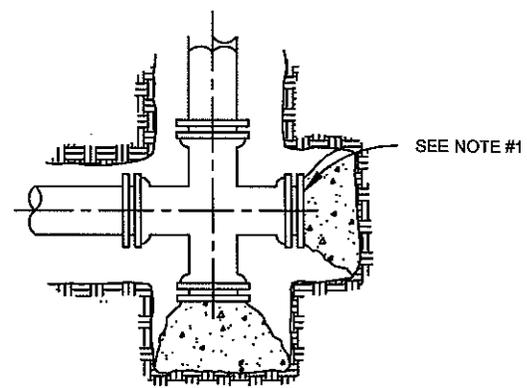
DEAD END



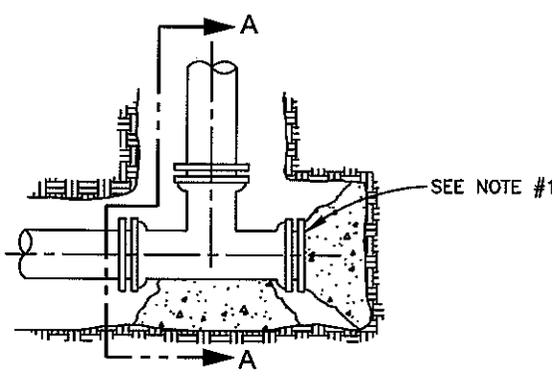
BEND HORIZONTAL OR
BOTTOM OF VERTICAL



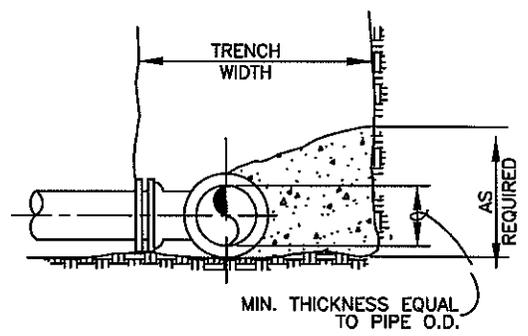
WYE



CROSS W/ DEAD END BRANCH



TEE W/ DEAD END BRANCH



SECTION A-A

NOTES

1. AT DEAD ENDS, WRAP FITTINGS WITH TAR PAPER, FELT, PLASTIC ETC. TO PROVIDE BOND BREAK BETWEEN CONCRETE AND FITTINGS
2. ALL THRUST BLOCKING SHALL BE CAST-IN-PLACE CONCRETE HAVING A MINIMUM YIELD STRENGTH OF 2000 P.S.I.
3. THRUST BLOCKING SHALL BE CAST AGAINST UNDISTURBED EARTH. FORMS SHALL BE USED AS REQUIRED TO OBTAIN ADEQUATE BEARING AREA AND TO CONFINE THE CONCRETE THRUST BLOCKING SHALL BEAR ON THE FITTING OR END CAP ONLY AND SHOULD NOT BE ALLOWED TO SPILL OVER THE JOINT OR AGAINST THE PIPE.

REV.	DATE
Δ	1/22/08

CONSTRUCTION
STANDARDS

THRUST BLOCKS
ONLY WITH APPROVAL Δ

STANDARD No. D-210 SHEET 1 OF 2

CITY OF
FARMINGTON
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

MEG-A-LUGS ARE REQUIRED UNLESS APPROVED BY WATER & WASTEWATER ADMINISTRATOR △
TABLE OF BEARING AREAS IN SQ. FT FOR CONCRETE
THRUST BLOCKING

FOR 150 P.S.I. INTERNAL STATIC PRESSURE AND 2000 LBS. PER SQ. FT SOIL BEARING CAPACITY.

PIPE SIZE	BENDS				TEES	PLUGS
	90°	45°	22 1/2°	11 1/4°		
4	1.50	0.75	0.50	0.0	1.00	1.00
6	3.00	1.75	1.00	0.0	2.25	2.25
8	5.50	3.00	1.50	1.00	3.75	3.75
10	8.50	4.50	2.50	1.50	6.00	6.00
12	12.00	6.50	3.50	1.75	8.50	8.50
14	16.50	9.00	4.50	2.25	11.50	11.50
16	21.50	11.50	6.00	3.00	15.00	15.00
18	27.00	14.75	7.50	3.75	19.00	19.00
20	33.50	18.00	9.25	4.75	23.50	23.50
24	48.00	26.00	13.25	6.75	34.00	34.00
30	75.25	40.75	20.75	10.50	53.00	53.00
36	108.25	58.50	30.00	15.00	76.50	76.50

AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 150 P.S.I. AND A SOIL BEARING CAPACITY OF 2000 LBS. PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

$$F = \frac{\text{ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS.}}{\text{ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS.}}$$

EXAMPLE: TO FIND BEARING AREA FOR 8" - 90° BEND WITH A STATIC INTERNAL PRESSURE OF 100 P.S.I. AND WITH A SOIL BEARING CAPACITY OF 3000 LBS. PER SQ. FT.

$$F = 1 \div 3 = .33 \text{ TABULATED VALUE} = 550 \text{ SQ. FT.}$$

$$0.33 \times 550 = 1.82 \text{ SAY } 2 \text{ SQ. FT. OR } 2 \text{ FT. LONG BY } 1 \text{ FT. HIGH}$$

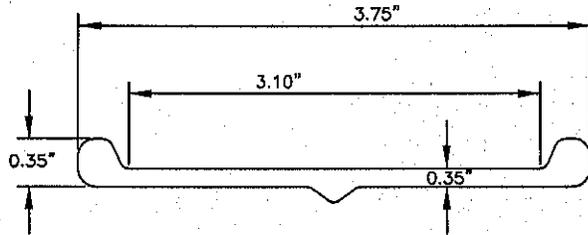
REV.	DATE
△	1/22/08

CONSTRUCTION STANDARDS	THRUST BLOCKS	CITY OF FARMINGTON <hr/> PUBLIC WORKS DEPARTMENT
STANDARD No. D-210 SHEET 2 OF 2		

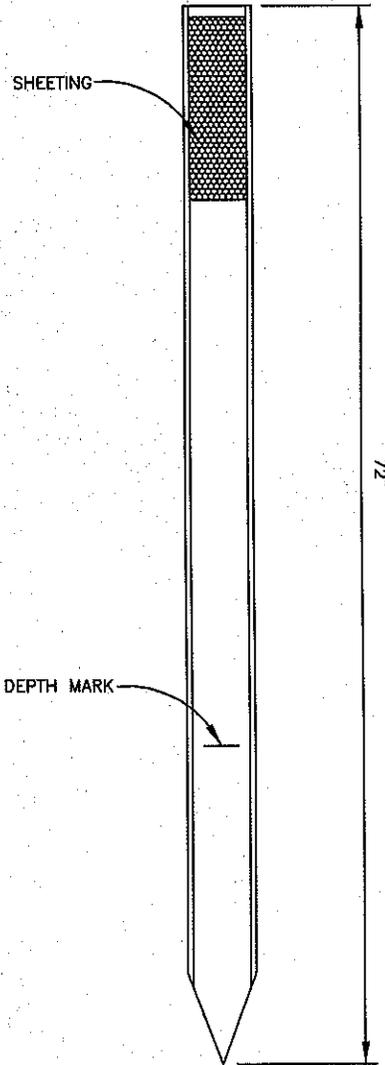
APPROVED *M. J. [Signature]* DATE 4/15/08

FIBERGLASS POST DETAIL

CARSONITE CUM-375
OR APPROVED EQUAL



SECTION VIEW



FRONT VIEW

NOTE:
TEXT PER CITY ENGINEER
OR HIS/HER DESIGNEE.

REV.	DATE
*	1/08 8/13

**CONSTRUCTION
STANDARDS**

**STATIONARY WATER LINE
LOCATION MARKER**

STANDARD No. D-212 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13

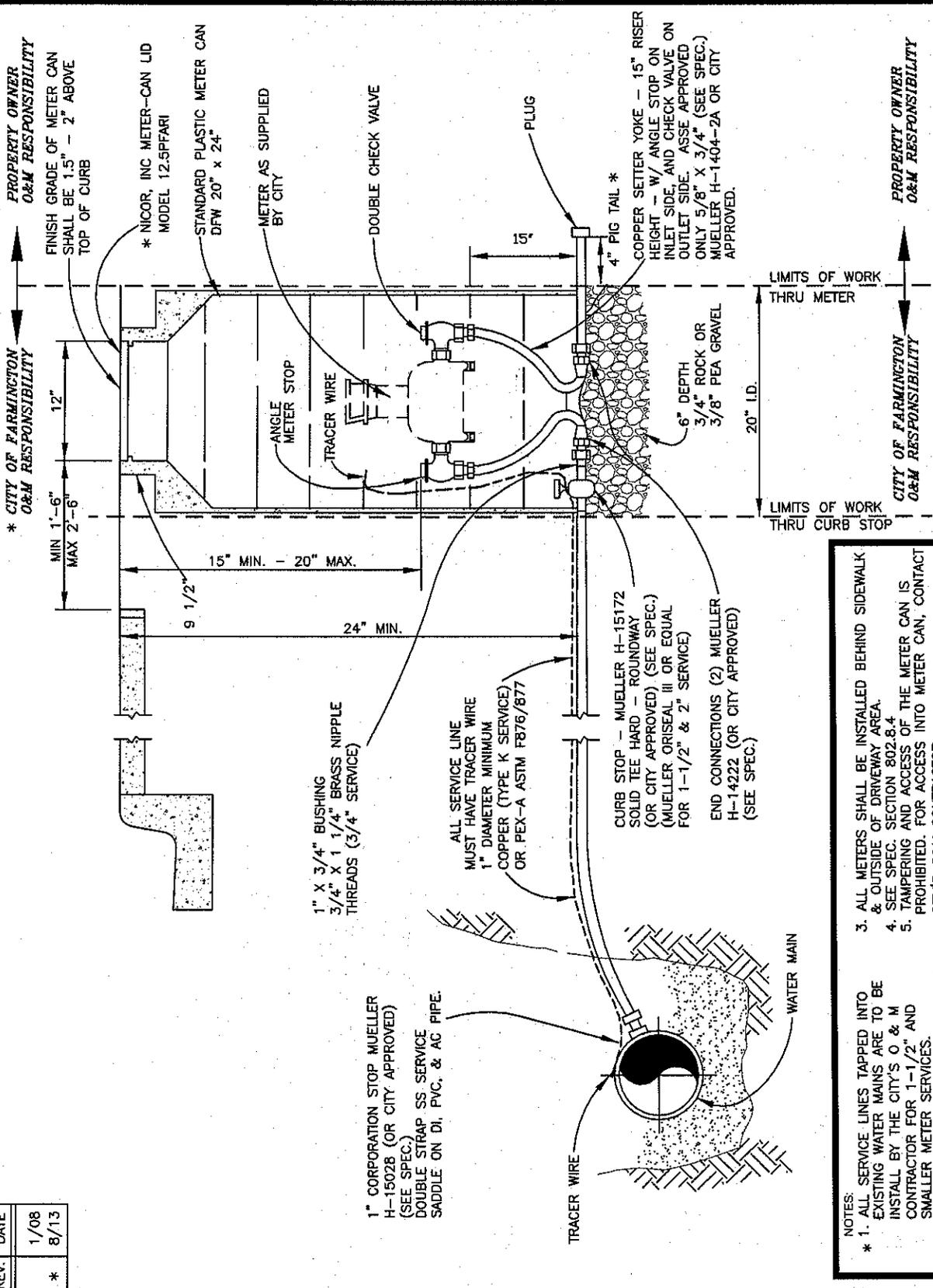
REV.	DATE
*	1/08
	8/13

CONSTRUCTION STANDARDS

WATER SERVICE CONNECTION 5/8" METER

STANDARD No. D-215 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT



- NOTES:
1. ALL SERVICE LINES TAPPED INTO EXISTING WATER MAINS ARE TO BE INSTALLED BY THE CITY'S O & M CONTRACTOR FOR 1-1/2' AND SMALLER METER SERVICES.
 2. FOR COMMERCIAL PROPERTIES WITH ZERO LOT LINE PLACE METER ONE FOOT BEHIND CURB.
 3. ALL METERS SHALL BE INSTALLED BEHIND SIDEWALK & OUTSIDE OF DRIVEWAY AREA.
 4. SEE SPEC. SECTION 802.8.4.
 5. TAMPERING AND ACCESS OF THE METER CAN IS PROHIBITED. FOR ACCESS INTO METER CAN, CONTACT CITY'S O&M CONTRACTOR.
 6. REVISED METER PIG TAIL STUB OUT.
 7. SHOULD THE CITY DEEM USE OF THE PROPERTY AS HIGH HAZARD, THEN AN RP BACKFLOW IN ADDITION TO THE DOUBLE CHECK VALVE WILL BE REQUIRED.

APPROVED *[Signature]* DATE 8/27/13

REV.	DATE
*	1/08 8/13

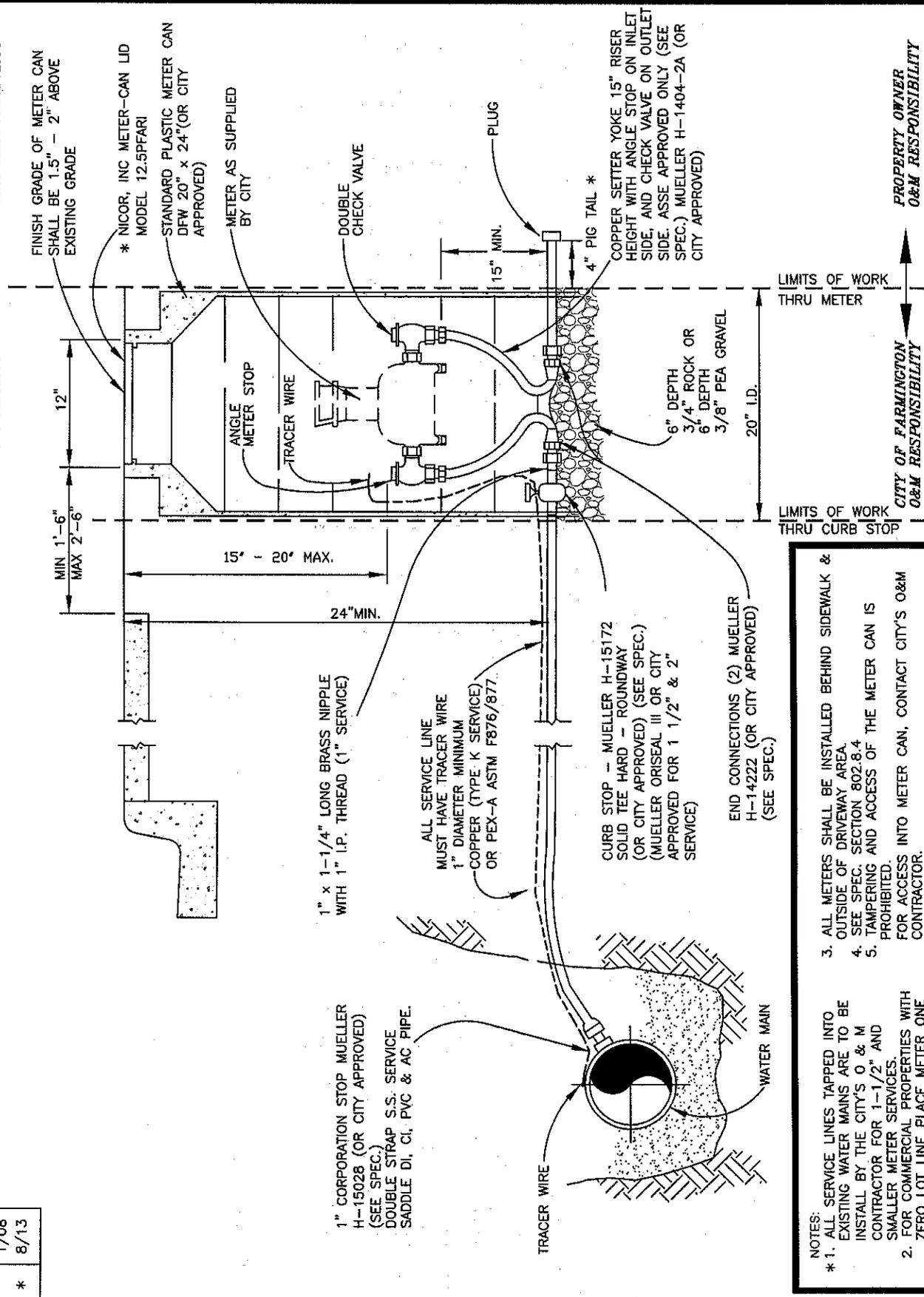
CONSTRUCTION STANDARDS

WATER SERVICE CONNECTION 1" METER

STANDARD No. D-216 SHEET 1 OF 1

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT



PROPERTY OWNER O&M RESPONSIBILITY

FINISH GRADE OF METER CAN SHALL BE 1.5" - 2" ABOVE EXISTING GRADE

* NICOR, INC METER-CAN LID MODEL 12.5PFARI
STANDARD PLASTIC METER CAN DFW 20" x 24" (OR CITY APPROVED)

METER AS SUPPLIED BY CITY

DOUBLE CHECK VALVE

PLUG

4" PIG TAIL *

COPPER SETTER YOKE 15" RISER HEIGHT WITH ANGLE STOP ON INLET SIDE, AND CHECK VALVE ON OUTLET SIDE. ASSE APPROVED ONLY (SEE SPEC.) MUELLER H-1404-2A (OR CITY APPROVED)

LIMITS OF WORK THRU METER

LIMITS OF WORK THRU CURB STOP

PROPERTY OWNER O&M RESPONSIBILITY

CITY OF FARMINGTON O&M RESPONSIBILITY

MIN 1'-6" MAX 2'-6"

12"

15' - 20' MAX.

24" MIN.

1" x 1-1/4" LONG BRASS NIPPLE WITH 1" I.P. THREAD (1" SERVICE)

ALL SERVICE LINE MUST HAVE TRACER WIRE 1" DIAMETER MINIMUM COPPER (TYPE K SERVICE) OR PEX-A ASTM F876/877

CURB STOP - MUELLER H-15172 SOLID TEE HARD - ROUNDWAY (OR CITY APPROVED) (SEE SPEC.) (MUELLER ORISEAL III OR CITY APPROVED FOR 1 1/2" & 2" SERVICE)

END CONNECTIONS (2) MUELLER H-14222 (OR CITY APPROVED) (SEE SPEC.)

1" CORPORATION STOP MUELLER H-15028 (OR CITY APPROVED) DOUBLE STRAP S.S. SERVICE SADDLE DI, CI, PVC & AC PIPE.

TRACER WIRE

WATER MAIN

- NOTES:
- ALL SERVICE LINES TAPPED INTO EXISTING WATER MAINS ARE TO BE INSTALLED BY THE CITY'S O & M CONTRACTOR FOR 1-1/2" AND SMALLER METER SERVICES.
 - FOR COMMERCIAL PROPERTIES WITH ZERO LOT LINE PLACE METER ONE FOOT BEHIND CURB.
 - ALL METERS SHALL BE INSTALLED BEHIND SIDEWALK & OUTSIDE OF DRIVEWAY AREA. SEE SPEC. SECTION 802.8.4.
 - TAMPERING AND ACCESS OF THE METER CAN IS PROHIBITED.
 - FOR ACCESS INTO METER CAN, CONTACT CITY'S O&M CONTRACTOR.
 - REVISED METER PIG TAIL STUB OUT.
 - SHOULD THE CITY DEEM USE OF THE PROPERTY AS HIGH HAZARD, THEN AN RP BACKFLOW IN ADDITION TO THE DOUBLE CHECK VALVE WILL BE REQUIRED.

APPROVED *[Signature]* DATE 3/31/14

REV.	DATE
1/08	1/08
*	8/13

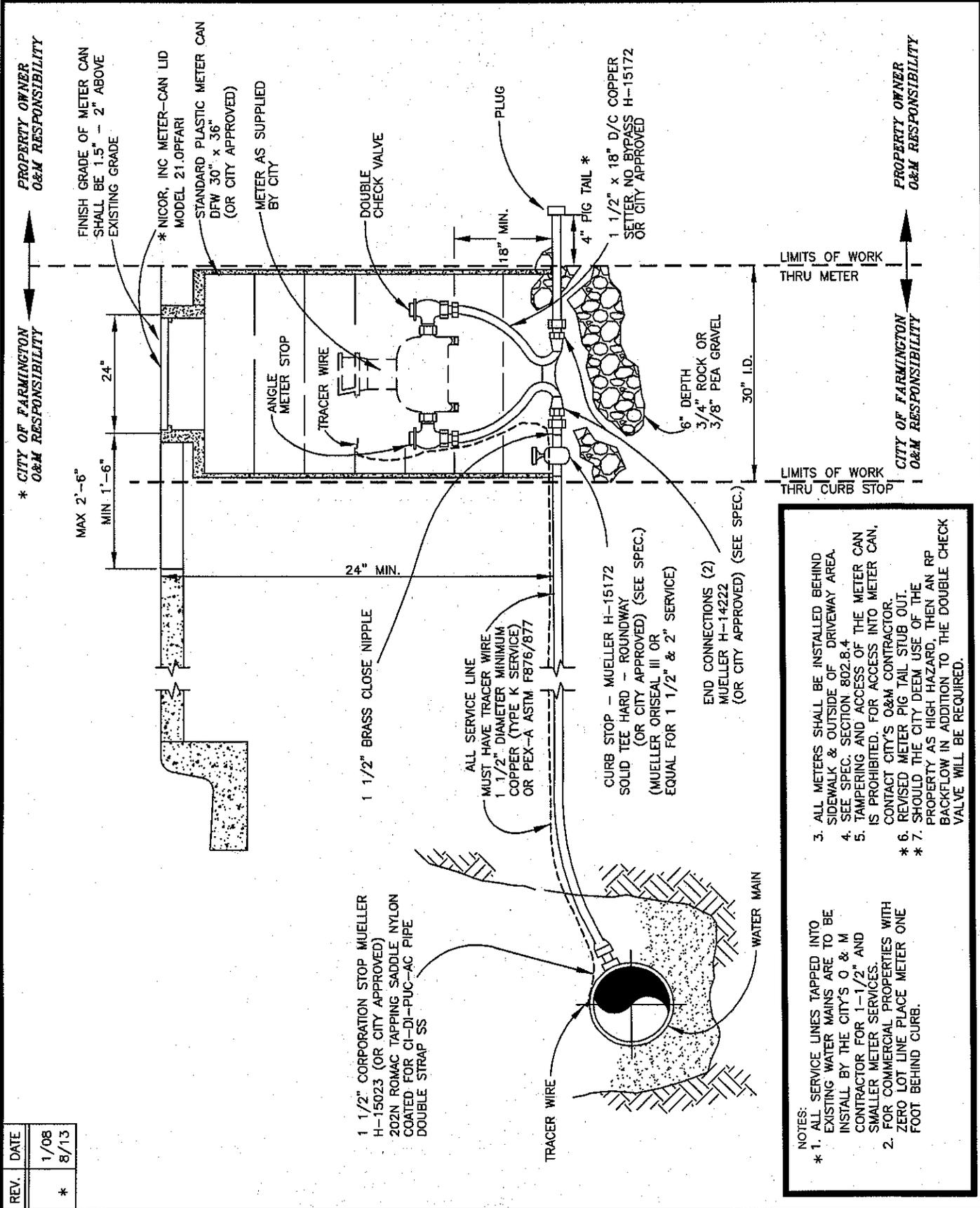
CONSTRUCTION STANDARDS

WATER SERVICE CONNECTION 1 1/2" METER

STANDARD No. D-217 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



- NOTES:
- * 1. ALL SERVICE LINES TAPPED INTO EXISTING WATER MAINS ARE TO BE INSTALLED BY THE CITY'S O & M CONTRACTOR FOR 1-1/2" AND SMALLER METER SERVICES.
 - * 2. FOR COMMERCIAL PROPERTIES WITH ZERO LOT LINE PLACE METER ONE FOOT BEHIND CURB.
 - * 3. ALL METERS SHALL BE INSTALLED BEHIND SIDEWALK & OUTSIDE OF DRIVEWAY AREA.
 - * 4. SEE SPEC. SECTION 802.8.4
 - * 5. TAMPERING AND ACCESS OF THE METER CAN IS PROHIBITED. FOR ACCESS INTO METER CAN, CONTACT CITY'S O&M CONTRACTOR.
 - * 6. REVSIC METER PIG TAIL STUB OUT.
 - * 7. SHOULD THE CITY DEEM USE OF THE PROPERTY AS HIGH HAZARD, THEN AN RP BACKFLOW IN ADDITION TO THE DOUBLE CHECK VALVE WILL BE REQUIRED.

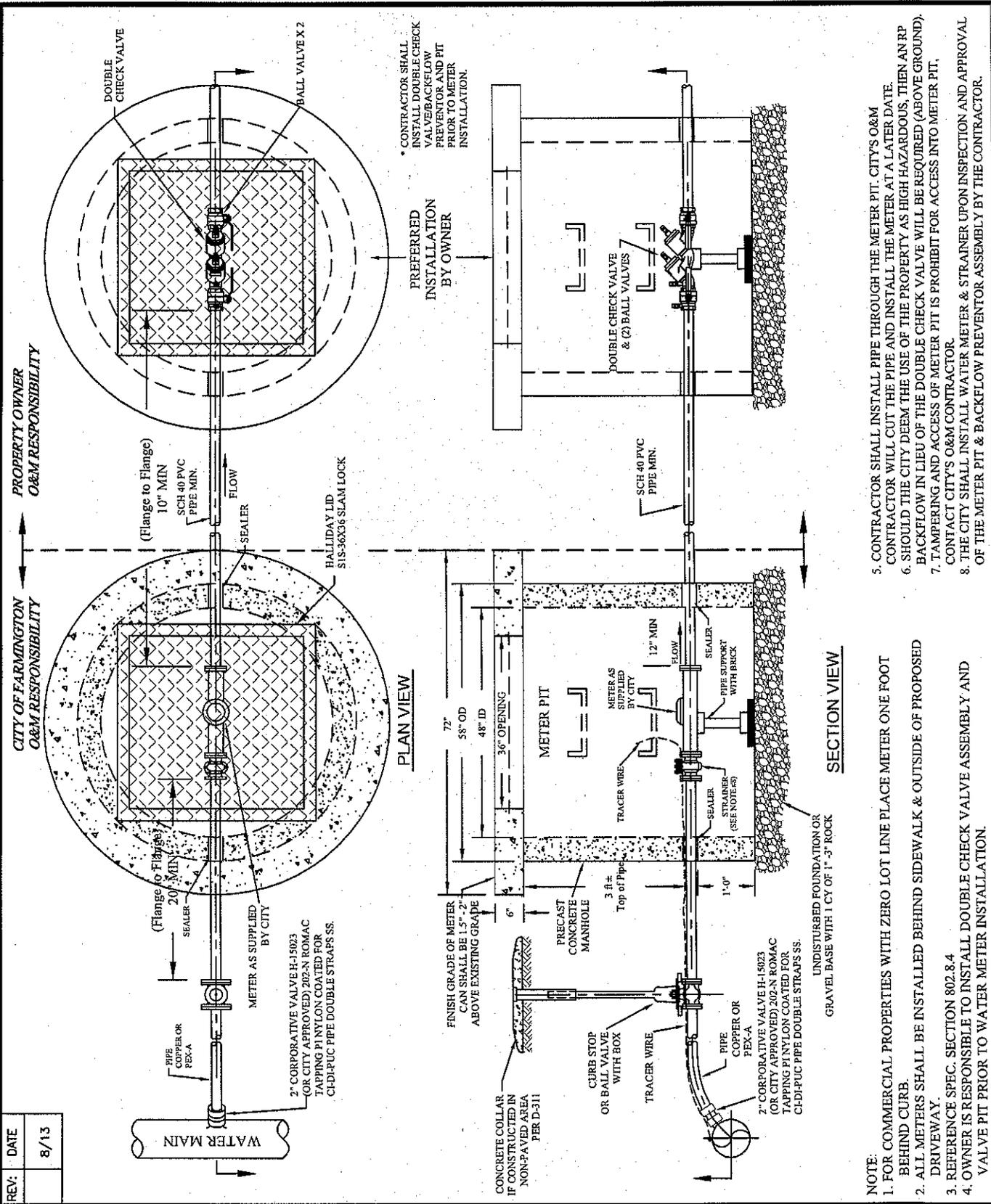
REV:	DATE
	8/13

CONSTRUCTION STANDARDS

LARGE WATER METER VAULT DETAIL 2" METER

STANDARD No. D-218 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT



APPROVED *[Signature]* DATE 8/27/13

REV:	DATE
	8/13

CONSTRUCTION STANDARDS

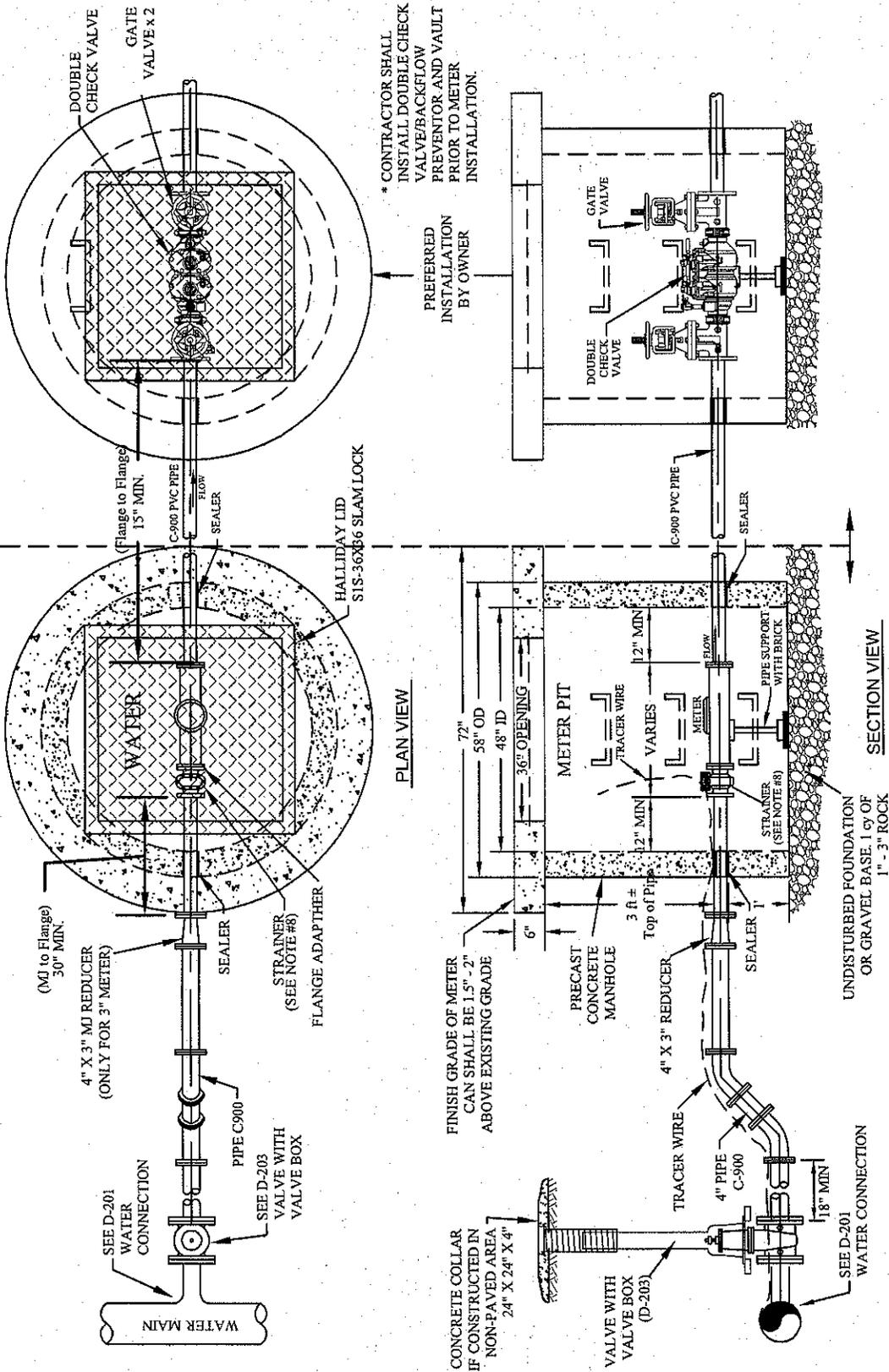
LARGE WATER METER VAULT DETAIL 3" METER

STANDARD No. D-219 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

CITY OF FARMINGTON O&M RESPONSIBILITY

PROPERTY OWNER O&M RESPONSIBILITY



PLAN VIEW

SECTION VIEW

* CONTRACTOR SHALL INSTALL DOUBLE CHECK VALVE/BACKFLOW PREVENTOR AND VAULT PRIOR TO METER INSTALLATION.

PREFERRED INSTALLATION BY OWNER

- CONTRACTOR SHALL INSTALL PIPE THROUGH THE METER PIT. CITY'S O&M CONTRACTOR WILL CUT THE PIPE AND INSTALL THE METER AT A LATER DATE.
- SHOULD THE CITY DEEM THE USE OF THE PROPERTY AS HIGH HAZARDOUS, THEN AN RP BACKFLOW IN LIEU OF THE DOUBLE CHECK VALVE WILL BE REQUIRED.
- TAMPING AND ACCESS OF METER PIT IS PROHIBIT FOR ACCESS INTO METER PIT. CONTACT CITY'S O&M CONTRACTOR.
- THE CITY SHALL INSTALL WATER METER & STRAINER UPON INSPECTION AND APPROVAL OF THE METER PIT & BACKFLOW PREVENTOR ASSEMBLY BY THE CONTRACTOR.

- NOTE:
- FOR COMMERCIAL PROPERTIES WITH ZERO LOT LINE PLACE METER ONE FOOT BEHIND CURB.
 - ALL METERS SHALL BE INSTALLED BEHIND SIDEWALK & OUTSIDE OF PROPOSED DRIVEWAY.
 - REFERENCE SPEC. SECTION 802.8.4.
 - OWNER IS RESPONSIBLE TO INSTALL DOUBLE CHECK VALVE ASSEMBLY AND VALVE BOX PRIOR TO WATER METER INSTALLATION.

APPROVED *[Signature]* DATE 8/27/13

REV	DATE
	8/13

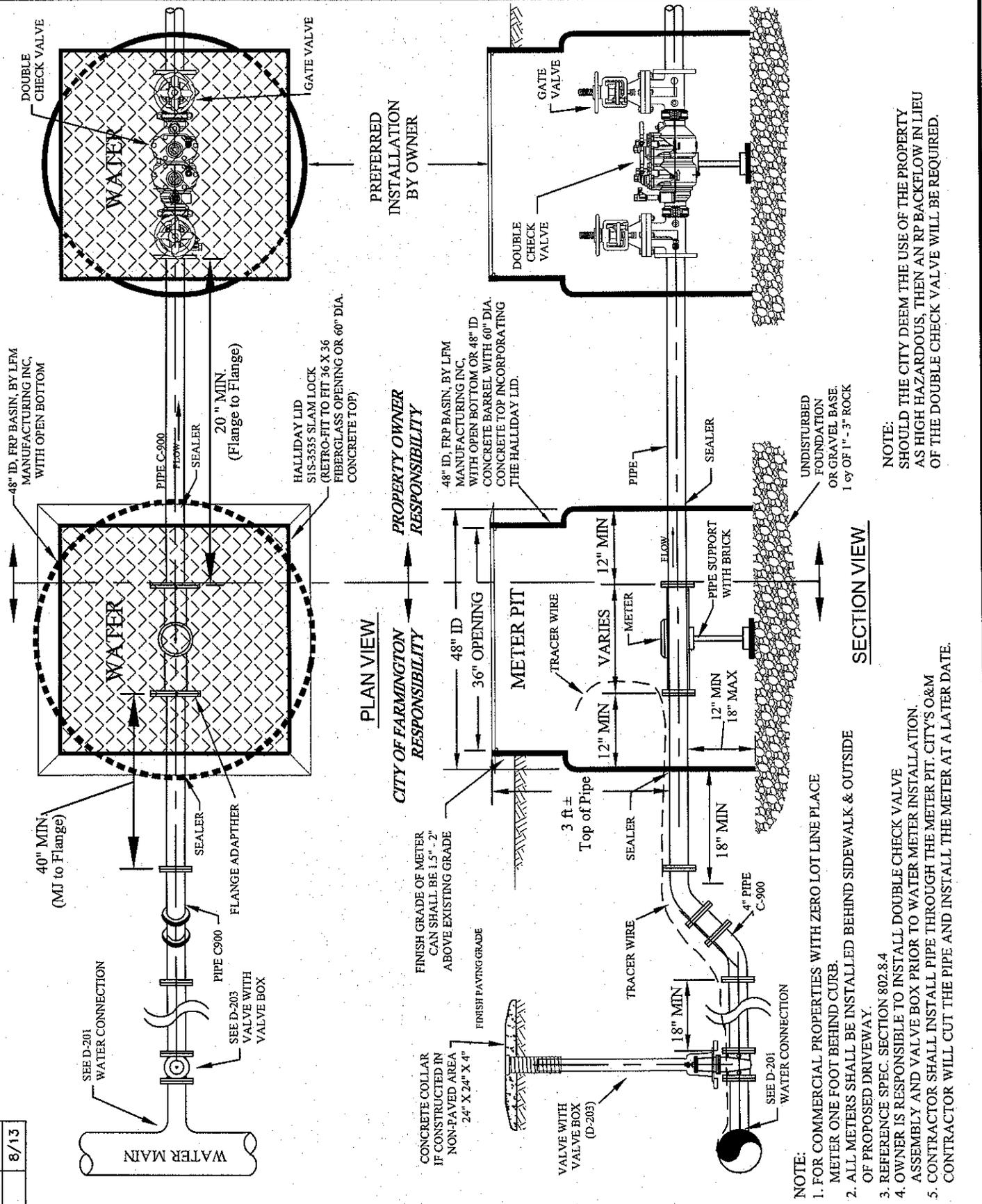
CONSTRUCTION STANDARDS

LARGE WATER METER VAULT DETAIL 4" METER

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

STANDARD No. D-220 SHEET 1 OF 1

APPROVED *[Signature]* DATE 8/27/13



PREFERRED
INSTALLATION
BY OWNER

PROPERTY OWNER
RESPONSIBILITY

CITY OF FARMINGTON
RESPONSIBILITY

SECTION VIEW

- NOTE:
1. FOR COMMERCIAL PROPERTIES WITH ZERO LOT LINE PLACE METER ONE FOOT BEHIND CURB.
 2. ALL METERS SHALL BE INSTALLED BEHIND SIDEWALK & OUTSIDE OF PROPOSED DRIVEWAY.
 3. REFERENCE SPEC. SECTION 802.8.4
 4. OWNER IS RESPONSIBLE TO INSTALL DOUBLE CHECK VALVE ASSEMBLY AND VALVE BOX PRIOR TO WATER METER INSTALLATION.
 5. CONTRACTOR SHALL INSTALL PIPE THROUGH THE METER PIT. CITY'S O&M CONTRACTOR WILL CUT THE PIPE AND INSTALL THE METER AT A LATER DATE.

NOTE:
SHOULD THE CITY DEEM THE USE OF THE PROPERTY AS HIGH HAZARDOUS, THEN AN RP BACKFLOW IN LIEU OF THE DOUBLE CHECK VALVE WILL BE REQUIRED.

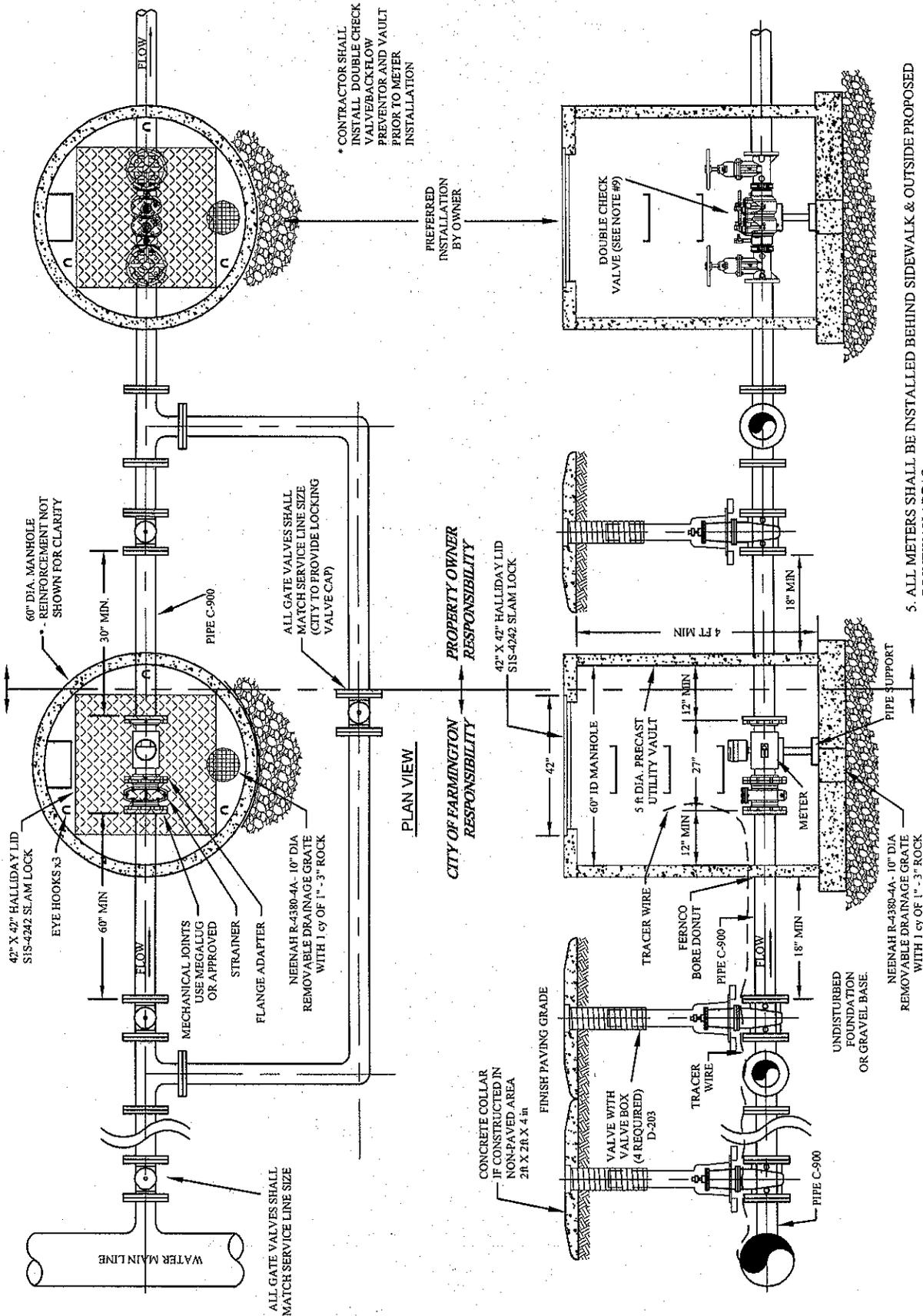
REV DATE
8/13

CONSTRUCTION STANDARDS

LARGE WATER METER VAULT DETAIL
6" METER

STANDARD No. D-221 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT



APPROVED *[Signature]* DATE 8/27/13

REV	DATE
	8/13

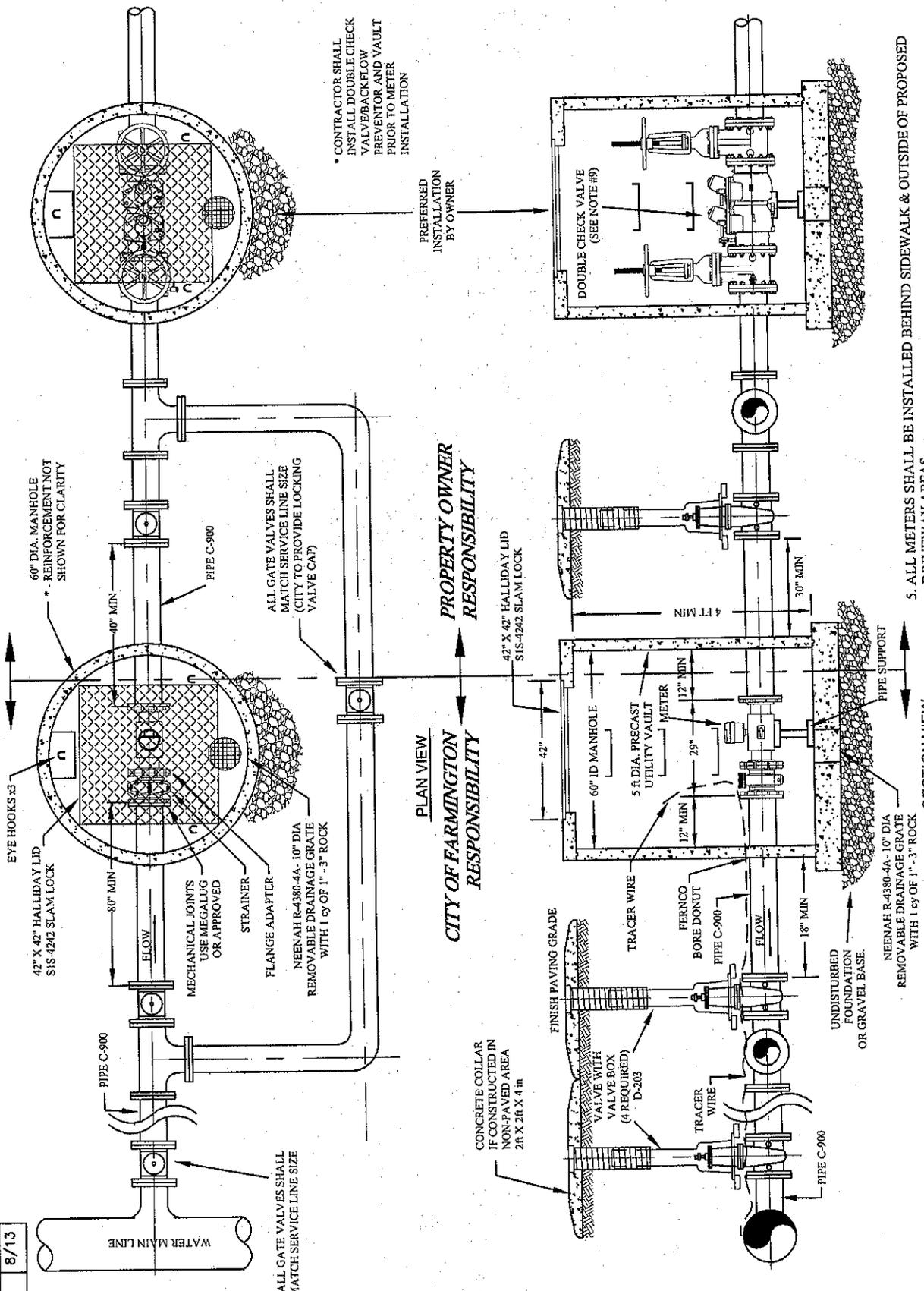
CONSTRUCTION STANDARDS

LARGE WATER METER VAULT DETAIL 8" METER

STANDARD No. D-222 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 8/27/13



- NOTES:
- MANHOLE SHALL BE DESIGNED FOR HS-20 LOADING EXCEPT FOR LIDS.
 - ALL PIPE INCLUDING BYPASS SHALL BE 8" C-900 DEPENDING ON DEMAND FLOW CALCULATIONS.
 - FOR MECHANICAL JOINTS - USE MEGALUGS OR APPROVED.
 - FOR COMMERCIAL PROPERTIES WITH ZERO LOT LINE PLACE METER ONE FOOT BEHIND CURB.

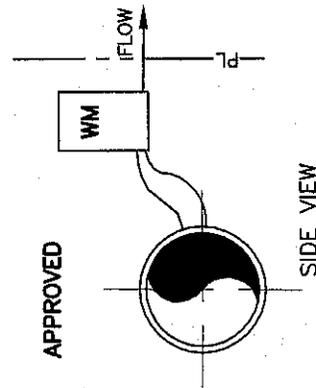
REV.	DATE
*	1/08 8/13

CONSTRUCTION STANDARDS

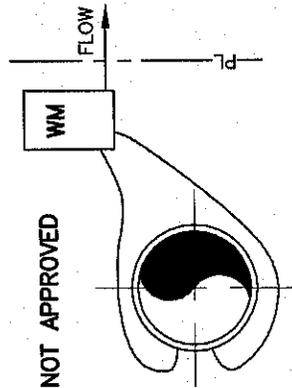
WATER SERVICE MANIFOLD DETAIL

STANDARD No. D-224 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

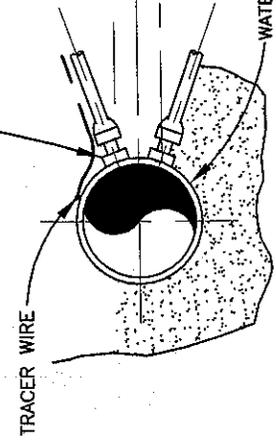


APPROVED



NOT APPROVED

1" CORPORATION STOP MUELLER
H-15028 (OR EQUAL) (SEE SPEC.)
DOUBLE STRAP SS
SERVICE



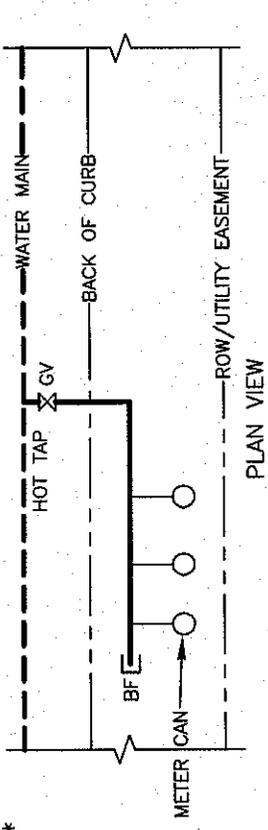
SIDE VIEW

NOTES:

- 1. MANIFOLD MUST BE TAPPED ON METER (PRIVATE PROPERTY) SIDE ONLY.
- 2. MANIFOLD SHALL BE INSTALLED OUTSIDE THE SIDEWALK AND DRIVEWAY AREAS.

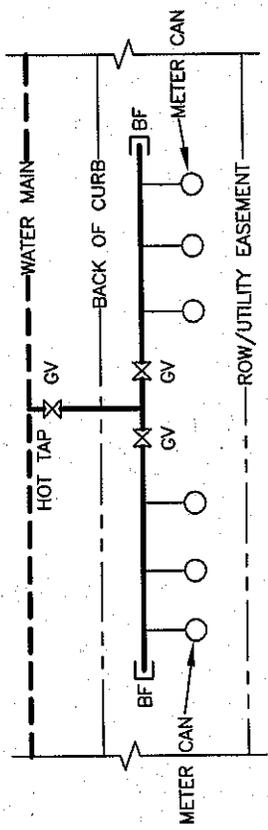
MANIFOLD SHALL BE 4" OR 6" C-900 (PVC) PIPE ONLY SEE CHART BELOW

ALT. 1 *

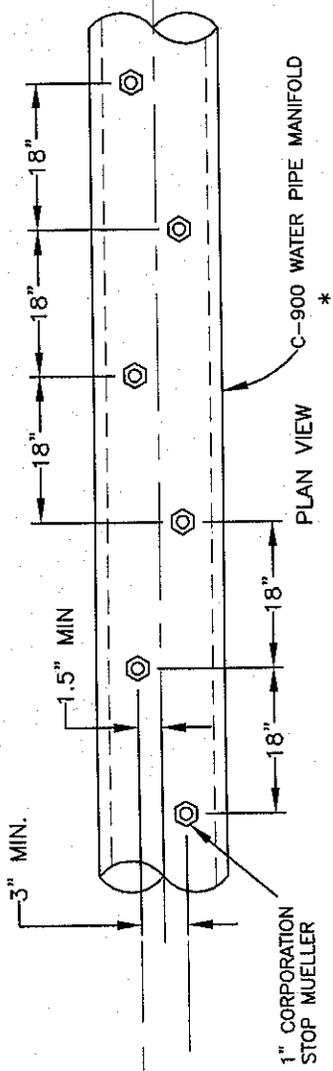


PLAN VIEW

ALT. 2 *



PLAN VIEW



PLAN VIEW

PIPE SIZES VS # OF METERS			
MANIFOLD SIZE	5/8" METER	1" METER	
4"	2-10	2-6	
6"	11+	7+	

*

APPROVED *[Signature]* DATE 8/27/13

PAVING & STREETS

CONSTRUCTION STANDARDS SHEET INDEX

PAVING AND STREET

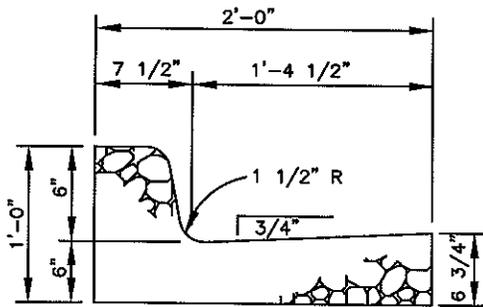
<u>SHEET NO.</u>	<u>TITLE</u>
D-301	PAVING CURB & GUTTER
D-302 *	HANDICAP RAMP DETAIL (SEE ADA REQ. SECTION) (10 SHEETS)
D-303	STANDARD RETAINING WALL
D-304	CONCRETE RETAINING WALL
D-305	STANDARD PAVING DETAIL
D-306 *	PAVEMENT PATCHING CITY STREETS (2 SHEETS)
D-310	PAVING AND PATCHING
D-311 *	STRUCTURE ADJUSTMENT (3 SHEETS)
D-313 *	SIDEWALK & DRIVEPAD
D-314	PAVEMENT PATCHING STATE HWY. (2 SHEETS)
D-315	SURVEY MONUMENT
D-316	SURVEY MONUMENT WITHOUT FRAME
D-317	BRASS CAP FOR SURVEY MONUMENT
D-318	PAVING-SIDEWALK OBSTRUCTIONS
D-319	PAVING-RESIDENTAL STREET
D-320*	PAVING-TYPICAL RESIDENTAL STREET INTERSECTION (2 SHEETS)
D-321	PAVING COMMERCIAL ALLEY
D-322	PAVING ARTERIAL OR COLLECTOR WITH MEDIAN
D-323	PAVING ARTERIAL OR COLLECTOR WITHOUT MEDIAN
D-324	PAVING-SPECIAL VALLEY GUTTERS
D-325	EYE BROW VALLEY GUTTER

CONSTRUCTION STANDARDS SHEET INDEX

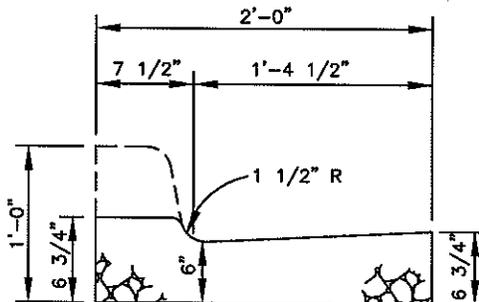
PAVING AND STREET (CONT'D)

<u>SHEET NO.</u>	<u>TITLE</u>
D-326 *	SCUPPER
D-328	RESIDENTIAL SPEED HUMP
D-329	DRIVEWAY TO STREET SIGHT TRIANGLE
D-330	STREET INTERSECTION VIEW TRIANGLES

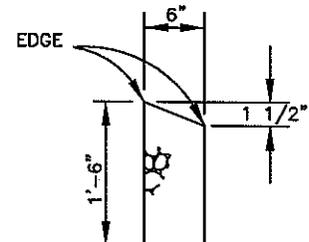
NOTE: * REVISED 2013/2014



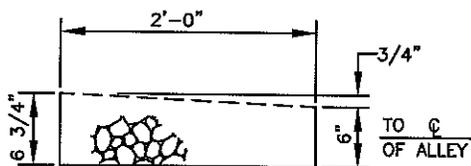
STANDARD CURB & GUTTER



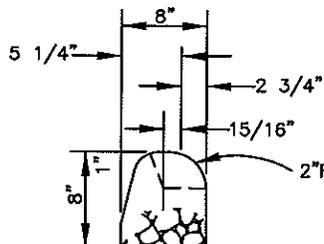
LAYDOWN CURB



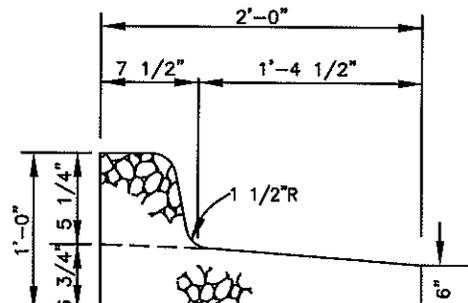
HEADER CURB



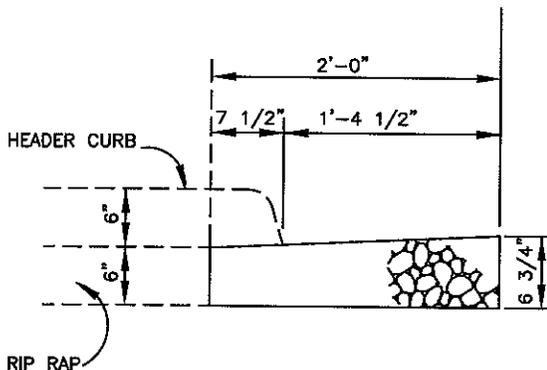
ALLEY GUTTER



ASPHALT CURB

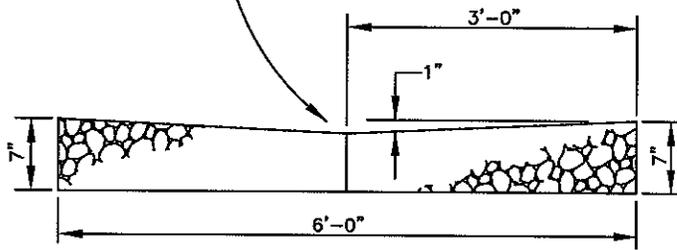


MEDIAN CURB & GUTTER



RUNDOWN CURB
CONSTRUCTION

DRAINAGE FLOWLINE TO MATCH
ADJACENT STANDARD CURB & GUTTER



TYPICAL VALLEY GUTTER SECTION

- 1) FOR ALL CURBING AND OR GUTTERS PROVIDE CONTRACTION JOINTS AT 10' O.C. ALSO PROVIDE 1/2" PREFORMED EXPANSION JOINTS AT 50' O.C. ADJACENT TO BUILDING AND WALLS, AT CURB RETURNS AND AT EACH SIDE OF DRIVEWAYS. EXPANSION JOINT MATERIALS MUST EXTEND FULL THICKNESS OF CONCRETE SECTION.
- 2) CONCRETE SHALL BE 5.5 SACK, 3500 PSI 28 DAY STRENGTH.
- 3) CONCRETE FOR ALL VALLEY GUTTERS WILL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 24 HOURS.
- 4) SEE D-305 FOR INSTALLATION REQUIREMENTS.
- 5) BASE COURSE UNDER CURB & GUTTER MINIMUM 3" THICK.

REV.	DATE
1	12/9/02
2	11/19/04

- 6.) CONSTRUCT GUTTER WITH #5 REBAR FOR COMMERCIAL, ONE BAR PER FOOT OF WIDTH, 2" MINIMUM CLEARANCE.
- 7.) SEE D-324 FOR WIDTH VARIATIONS

CONSTRUCTION
STANDARDS

PAVING
CURB & GUTTER

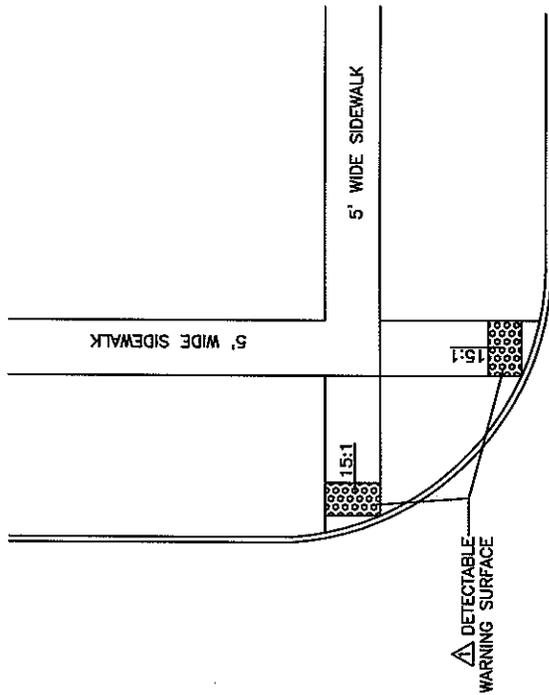
STANDARD No. D-301 SHEET 1 OF 1

CITY OF
FARMINGTON

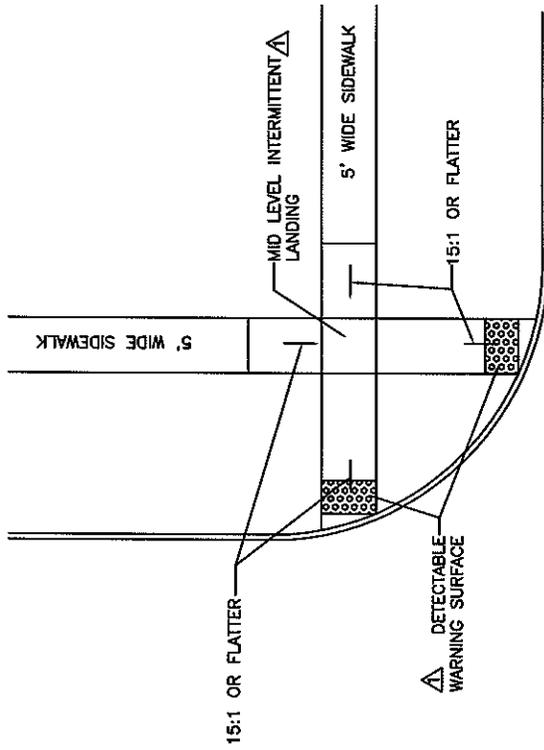
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

REV.	DATE
△	1/22/08



TYPE E
PERPENDICULAR CROSSINGS TWO DIRECTIONS



TYPE F
PERPENDICULAR CURB RAMPS W/INTERMEDIATE LANDING

△ METRIC CONVERSIONS

3'-0"	=	915 mm
12'	=	3660 mm
45:1	=	1:1.6
50:1	=	1:50

CONSTRUCTION STANDARDS

△ PEDESTRIAN ACCESS DETAILS
TYPICAL RAMPS

STANDARD No. D-302 SHEET 1 OF 10

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08

REV.	DATE
△	1/22/08

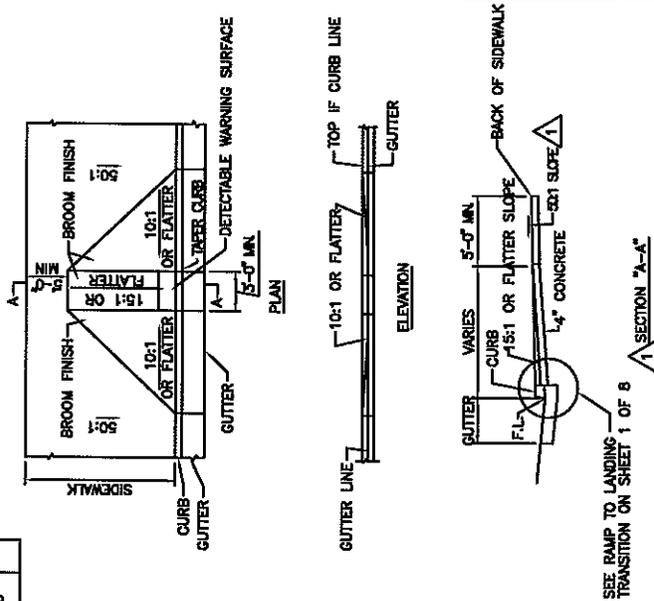
CONSTRUCTION STANDARDS

△ PEDESTRIAN ACCESS DETAILS CURB RAMP DETAILS TYPE A & B

STANDARD No. D-302 SHEET 2 OF 10

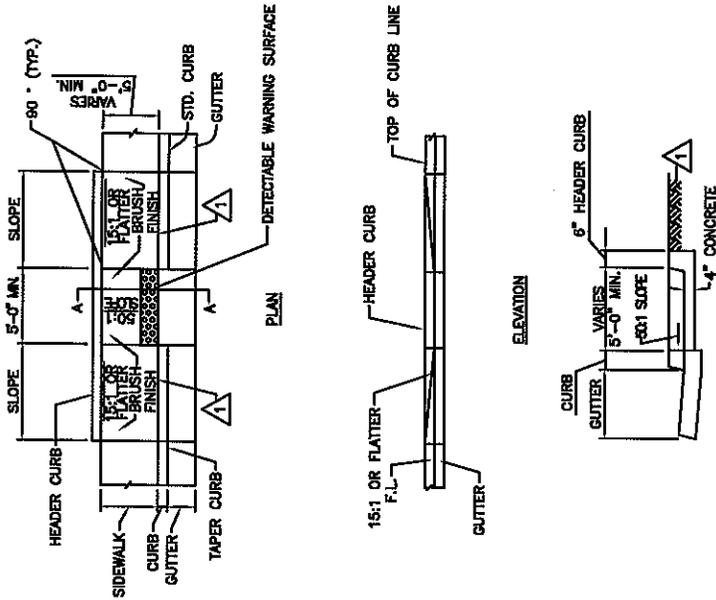
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT



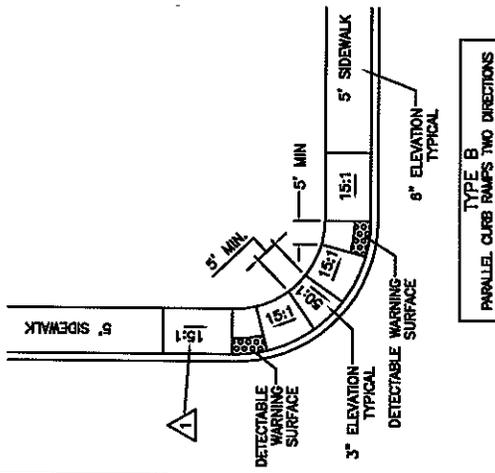
SEE RAMP TO LANDING TRANSITION ON SHEET 1 OF 8

TYPE A CURB RAMP



SECTION "A-A"

TYPE B PARALLEL CURB RAMP



TYPE B PARALLEL CURB RAMPS TWO DIRECTIONS

METRIC CONVERSIONS

5'-0"	- 1525 MM
4'-0"	- 1220 MM
3'-0"	- 815 MM
2'-0"	- 610 MM
6"	- 150 MM
4"	- 100 MM
10:1	- 1:10
15:1	- 1:15
22:1	- 1:22
50:1	- 1:50

N.T.S.

APPROVED *[Signature]* DATE 4/15/08

REV.	DATE
△	1/22/08

CONSTRUCTION STANDARDS

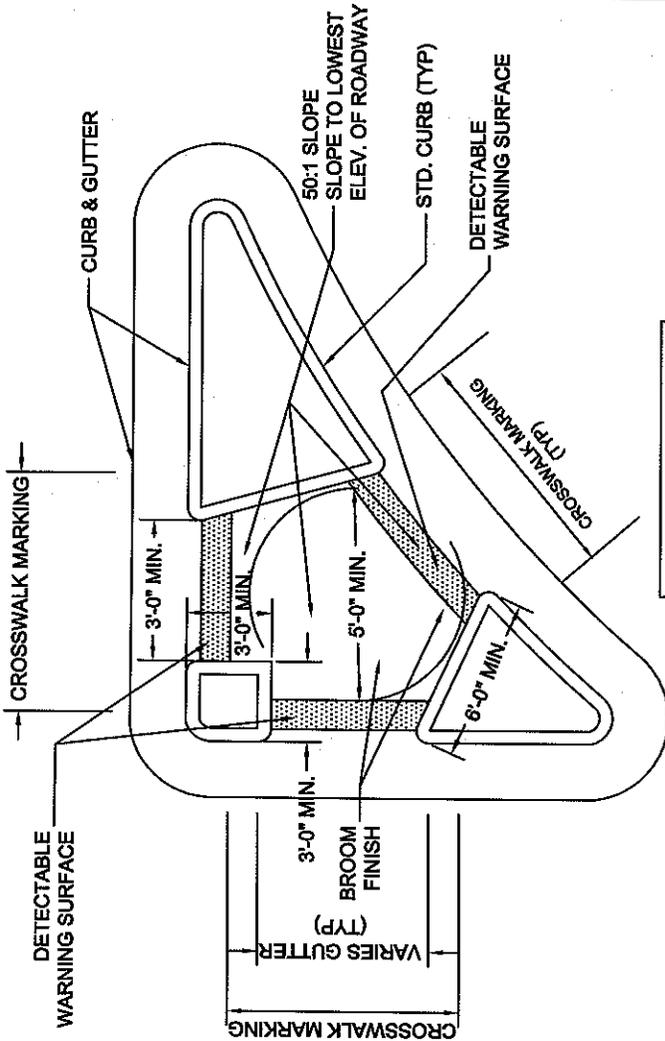
△ PEDESTRIAN ACCESS DETAILS MEDIAN CUT DETAILS PEDESTRIAN ISLAND

STANDARD No. D-302 SHEET 3 OF 10

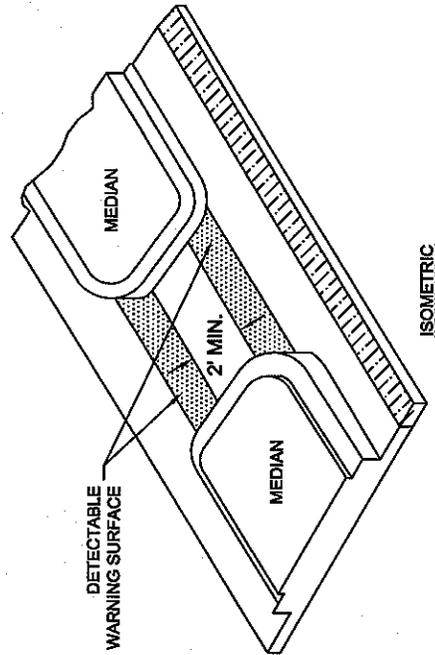
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

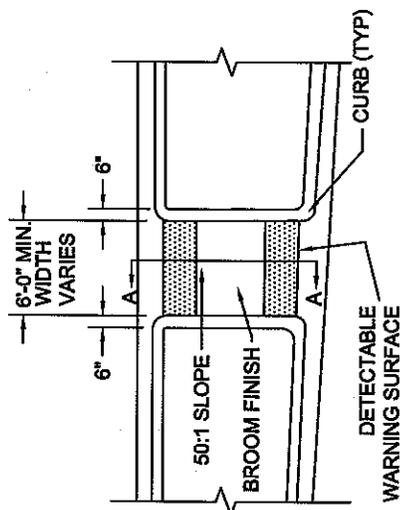
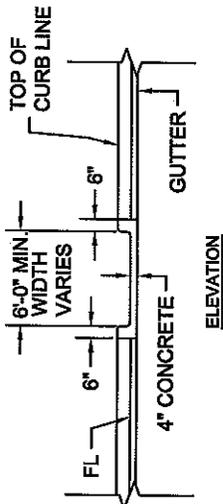
APPROVED *[Signature]* DATE 4/13/08



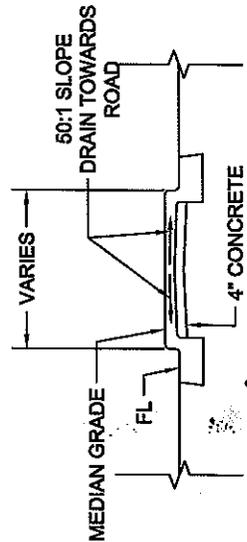
PEDESTRIAN ISLAND



MEDIAN CUT



PLAN

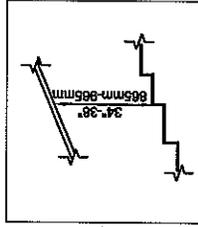


STAIRWAY REQUIREMENTS

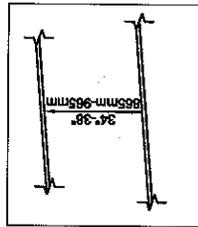
1. STAIRWAYS SHALL BE 36 INCHES (916 mm) WIDE MINIMUM BETWEEN HANDRAILS.
2. ALL STEPS ON A FLIGHT OF STAIRS SHALL HAVE UNIFORM RISERS HEIGHTS AND UNIFORM TREAD DEPTH. RISERS SHALL BE 4 INCHES (100 mm) HIGH MINIMUM AND 7 INCHES (180 mm) MAXIMUM. TREADS SHALL BE 11 INCHES (280 mm) DEEP MINIMUM MEASURED FROM RISE TO RISE.
3. OPEN RISERS SHALL NOT BE PERMITTED.
4. STAIR TREADS SHALL BE STABLE, FIRM, AND SLIP RESISTANT.
5. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD SHALL BE 1/4 INCH (6 mm) MAXIMUM. NOSINGS THAT PROJECT BEYOND RISERS SHALL HAVE THE UNDERSIDE OF THE LEADING EDGE CURVED OR BEVELED. RISERS SHALL BE PERMITTED TO SLOPE UNDER THE TREAD AT AN ANGLE OF 30 DEGREES MAXIMUM FROM THE VERTICAL. THE PERMITTED PROJECTION OF THE NOSING SHALL BE 1 1/4 INCHES (38 mm) MAXIMUM BEYOND THE TREAD BELOW.
6. HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS.
7. OUTDOOR STAIRS AND OUTDOOR APPROACHES TO STAIRS SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

HANDRAIL REQUIREMENTS

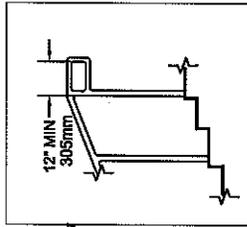
1. HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS AND RAMPS.
2. HANDRAILS SHALL BE CONTINUOUS WITHIN THE FULL LENGTH OF EACH STAIR FLIGHT OR RAMP RUN. INSIDE HANDRAILS ON SWITCH BACK OR DOGLEG STAIRS SHALL BE CONTINUOUS BETWEEN FLIGHTS OR RUNS.
3. TOP OF GRIPPING SURFACE OF HANDRAILS SHALL BE 34 INCHES (865 mm) MINIMUM AND 38 INCHES (965 mm) MAXIMUM VERTICALLY ABOVE STAIR NOSING AND RAMP SURFACES. HANDRAILS SHALL BE AT A CONSISTENT HEIGHT ABOVE STAIR NOSINGS AND RAMP SURFACES.
4. CLEAR SPACE BETWEEN HANDRAIL AND WALL SHALL BE 1 1/2 INCHES (38 mm) MINIMUM.
5. GRIPPING SURFACES SHALL BE CONTINUOUS, WITHOUT INTERRUPTION BY NEWEL POSTS, OTHER CONSTRUCTION ELEMENTS, OR OBSTRUCTIONS.
 - 6. HANDRAIL BRACKETS OR BALLUSTERS ATTACHED TO THE BOTTOM SURFACE OF THE HANDRAIL SHALL NOT BE CONSIDERED OBSTRUCTIONS PROVIDED THEY COMPLY WITH THE FOLLOWING CRITERIA:
 - A. NOT MORE THAN 20 PERCENT OF THE HANDRAIL LENGTH IS OBSTRUCTED.
 - B. HORIZONTAL PROJECTIONS BEYOND THE SIDES OF THE HANDRAIL OCCUR 2 1/4 INCHES (64 mm) MINIMUM BELOW THE BOTTOM OF THE HANDRAIL, AND EDGES HAVE A 1/8 INCH (3.2 mm) MINIMUM RADIUS.
 - 7. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION WITH AN OUTSIDE DIAMETER OF 1 1/2 INCH (38 mm) MINIMUM AND 2 INCHES (51 mm) MAXIMUM, OR SHALL PROVIDE EQUIVALENT GRASPABILITY.
 - EXCEPTION: HANDRAILS WITH OTHER SHAPES SHALL BE PERMITTED PROVIDED THEY HAVE A PERIMETER DIMENSION OF 4 INCHES (100 mm) MINIMUM AND 6 1/4 INCHES (160 mm) MAXIMUM, AND PROVIDED THEIR LARGEST CROSS-SECTION DIMENSION IS 2 1/4 INCHES (61 mm) MAXIMUM.
 - 8. HANDRAILS AND ANY WALL OR OTHER SURFACES ADJACENT TO THEM, SHALL BE FREE OF ANY SHARP OR AGGRESSIVE ELEMENTS. EDGES SHALL HAVE 1/8 INCH (3.2 mm) MINIMUM RADIUS.
 - A. HANDRAILS FOR STAIRS AND RAMPS SHALL HAVE EXTENSIONS.
 - 9. EXTENSIONS ARE NOT REQUIRED FOR CONTINUOUS HANDRAILS AT THE INSIDE TURN OF STAIRS AND RAMPS.
 - 10. EXTENSIONS WOULD BE HAZARDOUS OR IMPOSSIBLE DUE TO PLAN CONFIGURATION.
 - 11. RAMP HANDRAILS SHALL EXTEND HORIZONTALLY 12 INCHES (305 mm) MINIMUM BEYOND THE TOP AND BOTTOM OF RAMP RUNS. SUCH EXTENSIONS SHALL RETURN TO A WALL, GUARD, OR THE WALKING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT RAMP RUN.
 - 12. AT THE TOP OF A STAIR FLIGHT, HANDRAILS SHALL EXTEND HORIZONTALLY ABOVE THE LANDING FOR 12 INCHES (305 mm) MINIMUM BEGINNING DIRECTLY ABOVE THE FIRST RISER NOSING. SUCH EXTENSIONS SHALL RETURN TO A WALL, GUARD, OR THE WALKING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT STAIR FLIGHT.



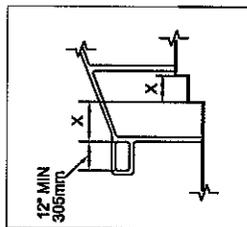
STAIR HANDRAIL HEIGHT



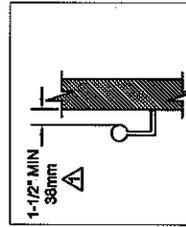
RAMP HANDRAIL HEIGHT



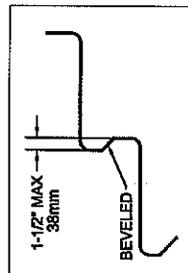
TOP HANDRAIL EXTENSION AT STAIRS



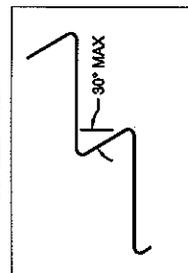
BOTTOM HANDRAIL EXTENSION AT STAIRS



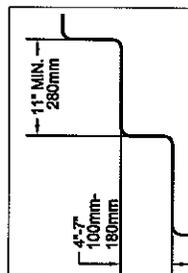
HANDRAIL CLEARANCE



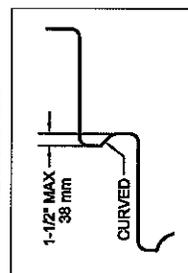
BEVELED RISER



ANGLED RISER



VERTICAL RISER



CURVED RISER

REV.	DATE
1	1/22/08

CONSTRUCTION STANDARDS

**PEDESTRIAN ACCESS DETAILS
STAIR AND HANDRAIL REQUIREMENTS**

STANDARD No. D-302 SHEET 4 OF 10

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

REV.	DATE
Δ	1/22/08

CONSTRUCTION STANDARDS

Δ PEDESTRIAN ACCESS DETAILS TYPICAL CURB RAMP LOCATIONS

STANDARD No. D-302 SHEET 5 OF 10

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

NEW CONSTRUCTION - GENERAL NOTES:

- 1) THESE DRAWINGS PROVIDE GUIDANCE FOR COMPLIANCE WITH THE CURRENT AMERICANS WITH DISABILITIES ACT (ADA) AND STATE CODE. THESE STANDARDS SHALL APPLY TO ALL NEW AND ALTERED SIDEWALKS.
- 2) ANY DESIGN DEVIATION FROM THESE STANDARDS SHALL BE APPROVED BY THE NMDOT ADA COMPLIANCE COMMITTEE.
- 3) SURFACES SHALL BE STABLE, FIRM, AND SLIP RESISTANT. SIDEWALK AND CURB RAMP SURFACES SHALL PROVIDE CONSISTENT SLOPES WITHIN EACH SECTION.
- 4) ALL ROOM FINISHES SHALL BE PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
- 5) A VERTICAL CHANGE OF 1/4" INCH (6mm) OR LESS IS ALLOWED. IF BETWEEN 1/4" INCH AND 1/2" INCH (6mm TO 13mm), THEN IT NEEDS TO BE BEVELED 2:1. CHANGES GREATER THAN 1/2" INCH SHALL BE RAMPED.
- 6) OPENINGS OR CRACKS IN SIDEWALK SURFACES SHALL NOT EXCEED 1/4" INCH (13mm). ELONGATED OPENINGS SHOULD BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR OR DIAGONAL TO THE DOMINANT DIRECTION OF TRAVEL.

SIDEWALKS:

- 7) SIDEWALKS, CURB AND GUTTER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SERIAL BSCG-001. (SWCG-001).
- 8) THE LEAST POSSIBLE SLOPES SHALL BE USED FOR SIDEWALKS. SIDEWALK RUNNING SLOPE SHALL NOT EXCEED 5% (20:1). AT LOCATIONS WHERE THE RIGHT-OF-WAY IS RESTRICTIVE, THE SIDEWALK RUNNING SLOPE MAY FOLLOW THE ROAD PROFILE.
- 9) SIDEWALKS CROSS SLOPE SHALL NOT EXCEED 2% (50:1).
- 10) SIDEWALKS SHALL HAVE A MINIMUM WIDTH OF 60" EXCLUDING THE CURB. EXCEPTION: A 36" WIDE SIDEWALK MAY BE USED WHERE THE RIGHT-OF-WAY IS RESTRICTED. WHERE THE SIDEWALK IS LESS THAN 60" WIDE, A PASSING SPACE SHALL BE PROVIDED EVERY 200 LINEAR FEET, WHEREVER FEASIBLE. PASSING SPACES SHALL BE A MINIMUM OF 60" X 60" WITH 45 DEGREE TRANSITION TAPERS. 5% (20:1) MAXIMUM RUNNING SLOPES, AND 2% (50:1) MAXIMUM CROSS SLOPES.
- 11) ANY SIGN POSTS, UTILITY POLES, FIRE HYDRANTS, TRAFFIC SIGNAL STANDARDS, LIGHT POLES, ETC. IN THE SIDEWALK SHALL NOT REDUCE THE CLEAR WIDTH TO LESS THAN 32" FOR MORE THAN 24" LENGTH.

CURB RAMPS:

- 12) THE LEAST POSSIBLE CURB RAMP SLOPE SHALL BE USED. FOR COMPLIANCE WITH NMDOT PEDESTRIAN ACCESS DETAILS, CURB RAMP RUNNING SLOPE SHALL NOT EXCEED 6.7% (15:1). WHERE EXISTING TERRAIN IS STEEP, CURB RAMPS NEED NOT EXCEED 15 FEET IN LENGTH.
- 13) PROVIDE A FLUSH TRANSITION BETWEEN RAMPS, SIDEWALKS, GUTTER, AND EDGE OF PAVEMENT FREE OF DRAINAGE LIP, ABRUPT GRADE CHANGES, DROP-OFFS, OR ANY SURFACE IRREGULARITIES. A 5% (20:1) OR FLATTER TRANSITION TAPER SHALL BE PROVIDED FROM THE STREET TO THE GUTTER FOR CURB RAMP LOCATIONS (THIS MAY REQUIRE SPECIAL TREATMENT OF THE EDGE OF O. G. F. C.) WHEN DIAGONAL (NOT IN LINE WITH CROSSWALKS) RAMPS ARE NECESSARY. A 2% (50:1) TRANSITION OR "LOWER LANDING" SHALL BE PROVIDED. THE GUTTER RUNNING SLOPE (FLOW LINE) SHALL NOT EXCEED 2% MEASURED ALONG THE BOTTOM OF THE RAMP.
- 14) CURB RAMPS SHALL BE LOCATED TO PROVIDE THE MOST DIRECT ROUTE OF TRAVEL ACROSS THE TRAFFIC LANES.
- 15) TWO DIRECTIONAL (IN LINE WITH THE CROSSWALKS) RAMPS PER CORNER ARE USED IN ORDER TO PROVIDE SHORT AND DIRECT CROSSINGS FOR THE USER.
- 16) SIGN POSTS, UTILITY POLES, FIRE HYDRANTS, TRAFFIC SIGNAL STANDARDS, LIGHT POLES, PULL BOXES, METERS, VALVES, ETC. SHALL NOT BE LOCATED IN THE CURB RAMP INCLUDING SIDE FLARES AND LANDINGS.
- 17) IN ORDER TO BETTER ACCOMMODATE CONDITIONS IN THE FIELD, THE CONTRACTOR SHALL OBTAIN FINAL APPROVAL OF CURB RAMP LOCATIONS FROM THE PROJECT MANAGER AND THE DISTRICT TRAFFIC ENGINEER. WHEN NECESSITATED BY EXISTING PHYSICAL CONDITIONS, ALTERNATE CURB RAMPS MUST BE SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL BY THE DISTRICT TRAFFIC ENGINEER.

LANDINGS:

- 18) LANDINGS SHALL BE A MINIMUM OF 60" X 60". SLOPES SHALL NOT EXCEED 2% (50:1) IN ALL DIRECTIONS.

CROSSWALKS:

- 19) ACCESSIBLE PEDESTRIAN CROSSINGS SHALL BE WITHIN THE MARKED CROSSWALK.

DETECTABLE WARNINGS:

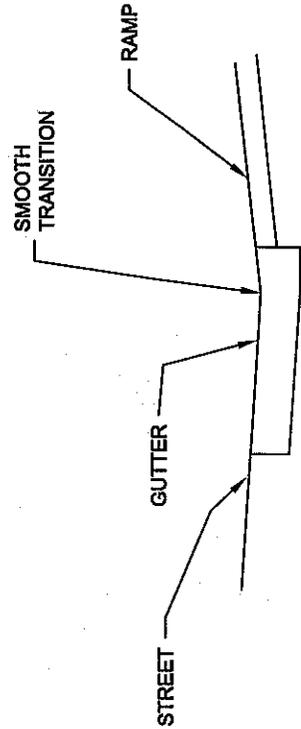
- 20) DETECTABLE WARNINGS ARE REQUIRED AT ALL STREET INTERSECTIONS, SIGNALIZED DRIVEWAYS, COMMERCIAL DRIVEWAYS 30' WIDE OR GREATER, AND MARKED MID-BLOCK CROSSWALKS.

PEDESTRIAN SIGNALS:

- 21) A PARALLEL OR FORWARD APPROACH OF 30' WIDE BY 48" LONG WITH SLOPES IN ALL DIRECTIONS NOT EXCEEDING 2% (50:1) SHALL BE PROVIDED FOR ACCESS TO THE PEDESTRIAN SIGNAL BUTTON(S).
- 22) PEDESTRIAN SIGNAL BUTTONS SHALL BE CENTERED EITHER IN FRONT OF OR ADJACENT TO THE APPROACH AREA DESCRIBED ABOVE.
- 23) PEDESTRIAN SIGNAL BUTTONS SHALL BE LOCATED IN ACCORDANCE WITH ACCESSIBILITY REQUIREMENTS OF THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WITHIN A HORIZONTAL REACH OF 0' TO 10' AND SHALL BE WITHIN 36" TO 46" ABOVE THE SIDEWALK SURFACE.

Δ ALTERATIONS TO EXISTING FACILITIES - GENERAL NOTES:

- ADDITIONS OR ALTERATIONS TO ANY FACILITY SHALL CONFORM TO THE REQUIREMENTS OF THE NEW CONSTRUCTION STANDARDS WITHIN THE NMDOT PEDESTRIAN ACCESS DETAILS. ADDITIONS OR ALTERATIONS SHALL NOT BE MADE TO AN EXISTING FACILITY WHICH WILL CAUSE THE EXISTING FACILITY TO BE IN VIOLATION OF ANY PROVISION OF THE NMDOT PEDESTRIAN ACCESS DETAILS. WHERE IT IS TECHNICALLY INFEASIBLE TO COMPLY WITH NEW CONSTRUCTION STANDARDS OF THE NMDOT PEDESTRIAN ACCESS DETAILS, THE FOLLOWING OPTIONS MAY BE USED:
- 24) WHERE IT IS NOT FEASIBLE TO INSTALL TWO CURB RAMPS PER CORNER, A SINGLE DIAGONAL CURB RAMP MAY BE USED AFTER RECEIVING APPROVAL FROM NMDOT ADA COMPLIANCE COMMITTEE.
- 25) WHERE RIGHT-OF-WAY IS RESTRICTED, CURB RAMP LANDINGS MAY BE 4' X 4'.
- 26) DEFINITION OF TECHNICALLY INFEASIBLE: IN THE CONTEXT OF THESE DRAWINGS, WITHIN A ROADWAY OR IMMEDIATE ROADSIDE ENVIRONMENT, MEANS WITH RESPECT TO AN ALTERATION OF A FACILITY THAT HAS LITTLE LIKELIHOOD OF BEING ACCOMPLISHED BECAUSE EXISTING SITE CONDITIONS WOULD REQUIRE SUBSTANTIALLY ALTERING EXISTING DRAINAGE PATTERNS, TRAFFIC FLOW, OR SAFETY; OR BECAUSE OTHER EXISTING PHYSICAL INFRASTRUCTURE OR SITE CONSTRAINTS PROHIBIT MODIFICATION OR ADDITION OF ELEMENTS, SPACES, OR FEATURES WHICH ARE IN FULL AND STRICT COMPLIANCE WITH THE MINIMUM REQUIREMENTS FOR NEW CONSTRUCTION AND WHICH ARE NECESSARY TO PROVIDE ACCESSIBILITY.
- 27) WHERE RIGHT-OF-WAY IS RESTRICTED, CURB RAMP SLOPES MAY BE 12:1.



Δ RAMP TO LANDING TRANSITION

APPROVED *[Signature]* DATE 4/23/08

REV.	DATE
⚠	1/22/08

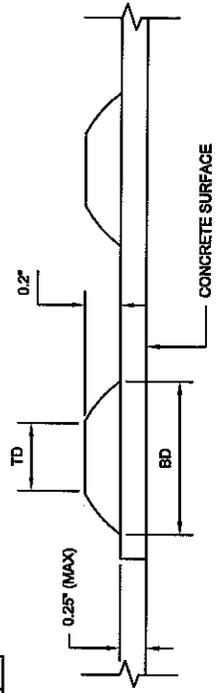
CONSTRUCTION STANDARDS

DETECTABLE WARNING SURFACE

STANDARD No. D-302 SHEET 7 OF 10

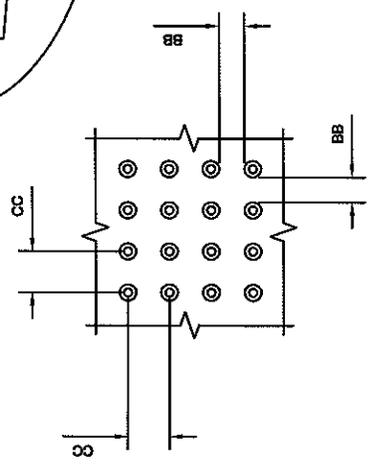
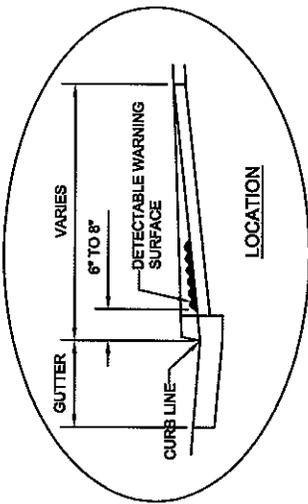
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT



DOMES SECTION
BD - BASE DIAMETER
0.9\"/>

TD - TOP DIAMETER
90% OF BD MIN TO 65% OF BD MAX



DOMES SPACING
CC - CENTER TO CENTER SPACING
1.6\"/>

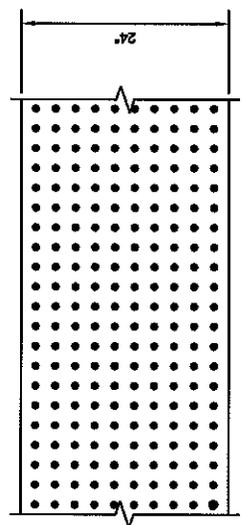
DEFINITION:
DETECTABLE WARNING. A SURFACE FEATURE BUILT IN OR APPLIED TO WALKING SURFACES OR OTHER ELEMENTS TO WARN OF HAZARDS ON A CIRCULATION PATH TO AID PERSONS WITH VISUAL IMPAIRMENTS.
CURB LINE. A LINE AT THE FACE OF THE CURB THAT MARKS THE TRANSITION BETWEEN THE SIDEWALK AND THE GUTTER OR ROADWAY.

LOCATION:

1. DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE A CURB RAMP OR LANDING CONNECTS TO A CROSSWALK AND OR PEDESTRIAN ROUTE CROSSING A ROADWAY.
 2. DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES (150 mm) MINIMUM AND 8 INCHES (205 mm) MAXIMUM FROM THE CURB LINE.
 3. MEDIAN AND REFUGE ISLANDS SHALL HAVE DETECTABLE WARNINGS. DETECTABLE WARNINGS AT CUT THROUGH ISLANDS SHALL BE SEPARATED BY A 24 INCH (610 mm) MINIMUM LENGTH OF WALKWAY WITHOUT WARNINGS.
- EXCEPTION: DETECTABLE WARNINGS SHALL NOT BE REQUIRED ON CUT THROUGH ISLANDS WHERE THE CROSSINGS ARE CONTROLLED BY SIGNALS AND ARE TIMED FOR FULL CROSSING ON MEDIANS LESS THAN 7' WIDE.

NOTES:

1. DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.
2. SIDEWALKS RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.
4. ALL PRODUCTS USED FOR DETECTABLE WARNING SURFACES SHALL BE ON THE DEPARTMENT'S APPROVED PRODUCT LIST.



DOMES ALIGNMENT

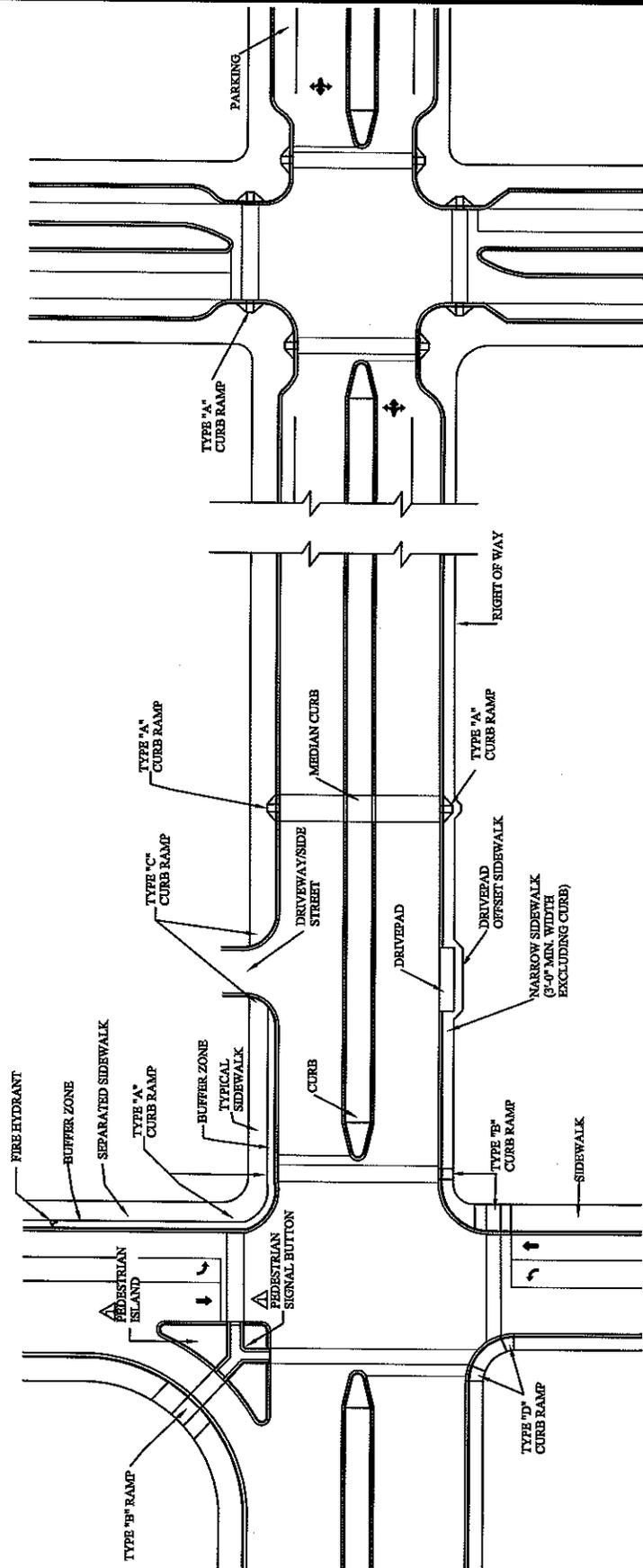
DETECTABLE WARNING SURFACES SHALL EXTEND 24\"/>

METRIC CONVERSIONS

0.2"	- 5.1 MM
0.25"	- 6.4 MM
0.65"	- 16.5 MM
0.9"	- 22.9 MM
1.4"	- 35.6 MM
1.6"	- 40.6 MM
2.4"	- 61 MM
24"	- 610 MM

N.T.S.

APPROVED *M. J. [Signature]* DATE *4/15/08*



REV.	DATE
△	1/22/08

**CONSTRUCTION
STANDARDS**

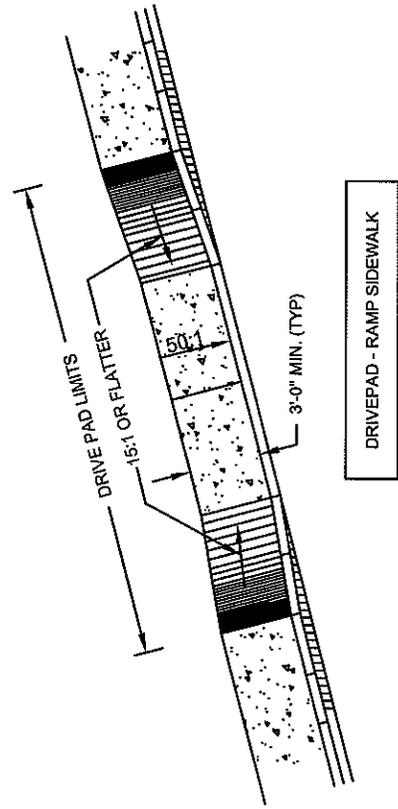
△ PEDESTRIAN ACCESS DETAILS
TYPICAL CURB RAMP LOCATIONS
 STANDARD No. D-302 SHEET 8 OF 10

**CITY OF
FARMINGTON**
**PUBLIC
WORKS
DEPARTMENT**

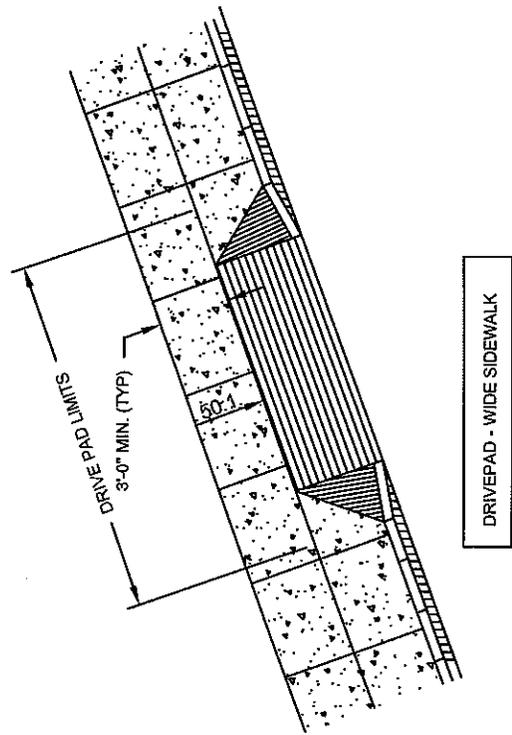
APPROVED *M. J. [Signature]* DATE *4/15/08*

METRIC CONVERSIONS	
3'-0"	= 915 MM
42:1	= 1:12
50:1	= 1:50

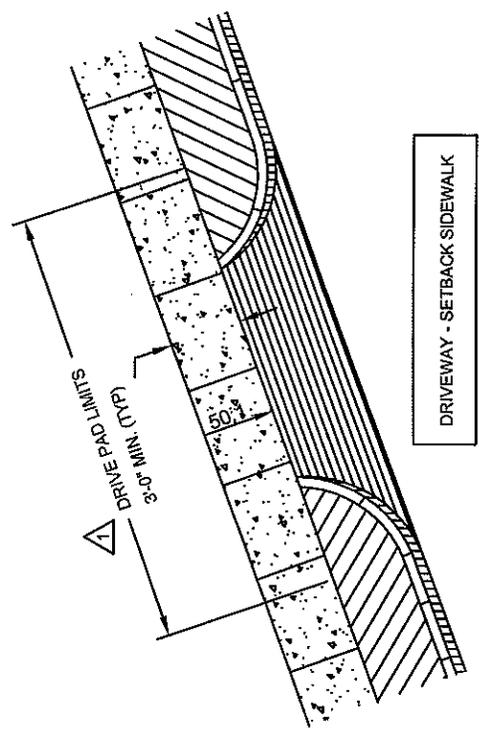
N.T.S.



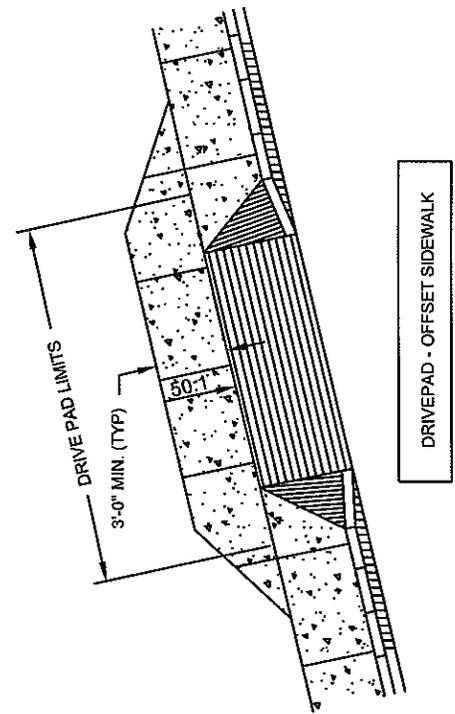
DRIVEPAD - RAMP SIDEWALK



DRIVEPAD - WIDE SIDEWALK



DRIVEWAY - SETBACK SIDEWALK



DRIVEPAD - OFFSET SIDEWALK

REV.	DATE
△	1/22/08

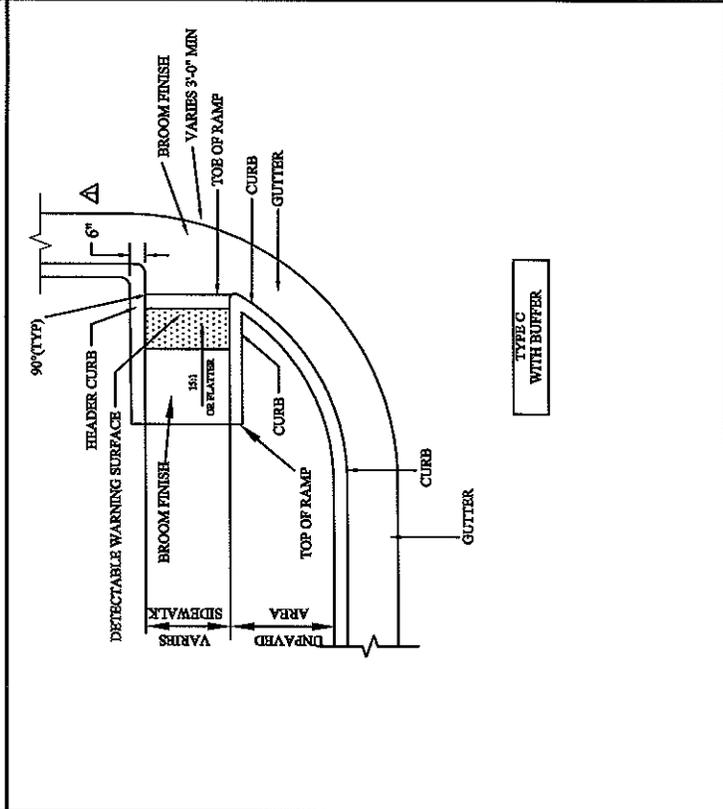
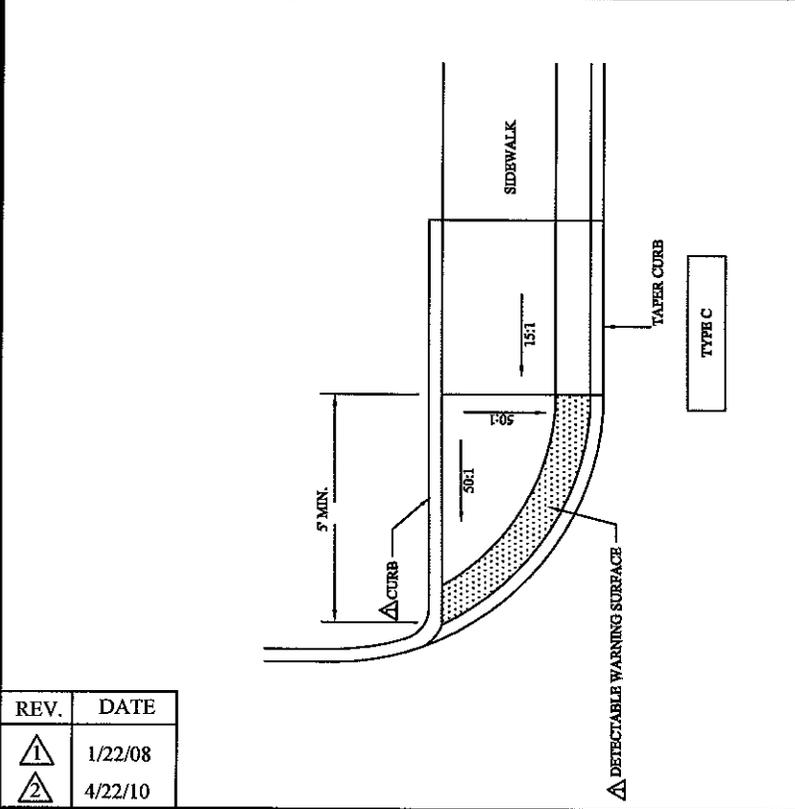
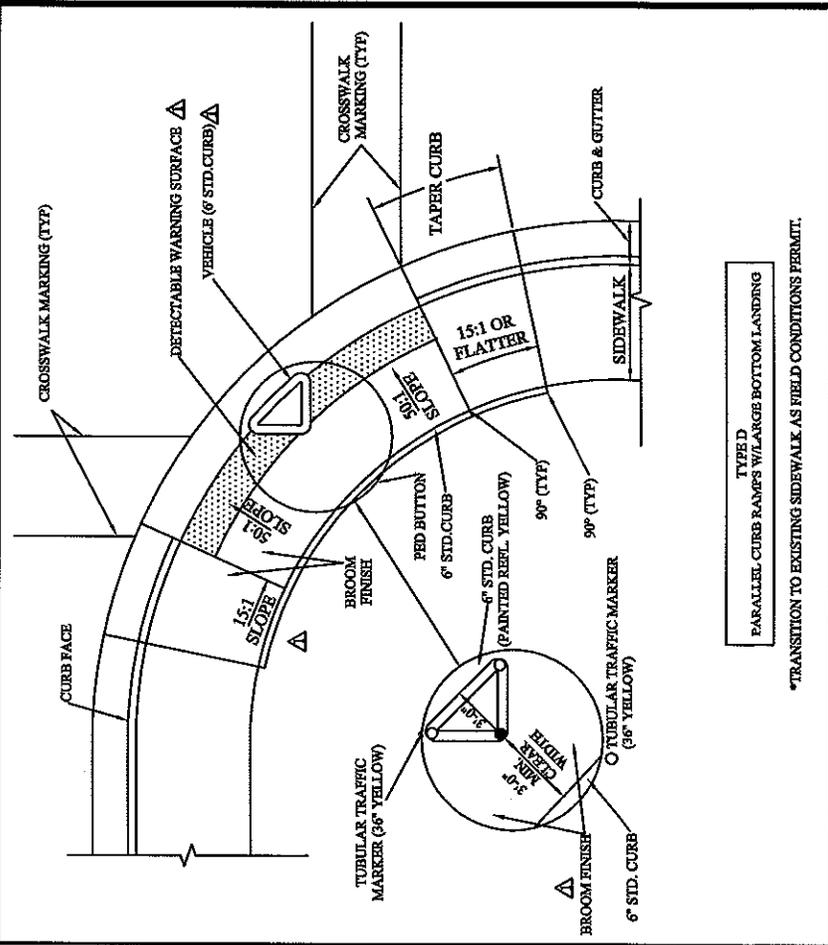
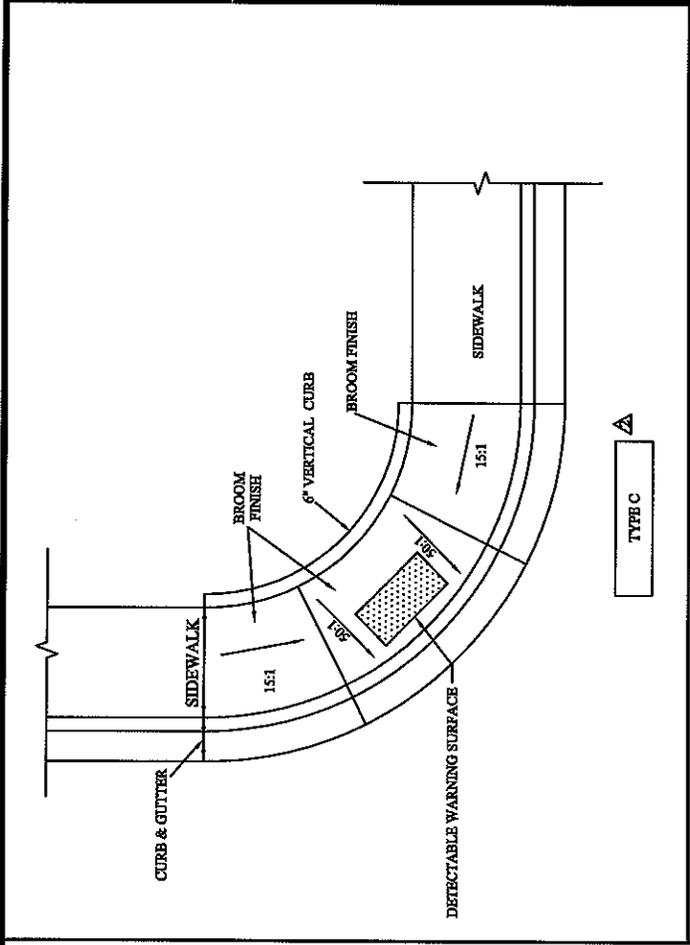
CONSTRUCTION STANDARDS

△ PEDESTRIAN ACCESS DETAILS TYPICAL DRIVEWAY / DRIVEPAD APRONS ISOMETRIC VIEWS

STANDARD No. D-302 SHEET 9 OF 10

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



REV.	DATE
1	1/22/08
2	4/22/10

△ DETECTABLE WARNING SURFACE

CONSTRUCTION STANDARDS

△ PEDESTRIAN ACCESS DETAILS CURB RAMP DETAILS TYPE C AND TYPE D

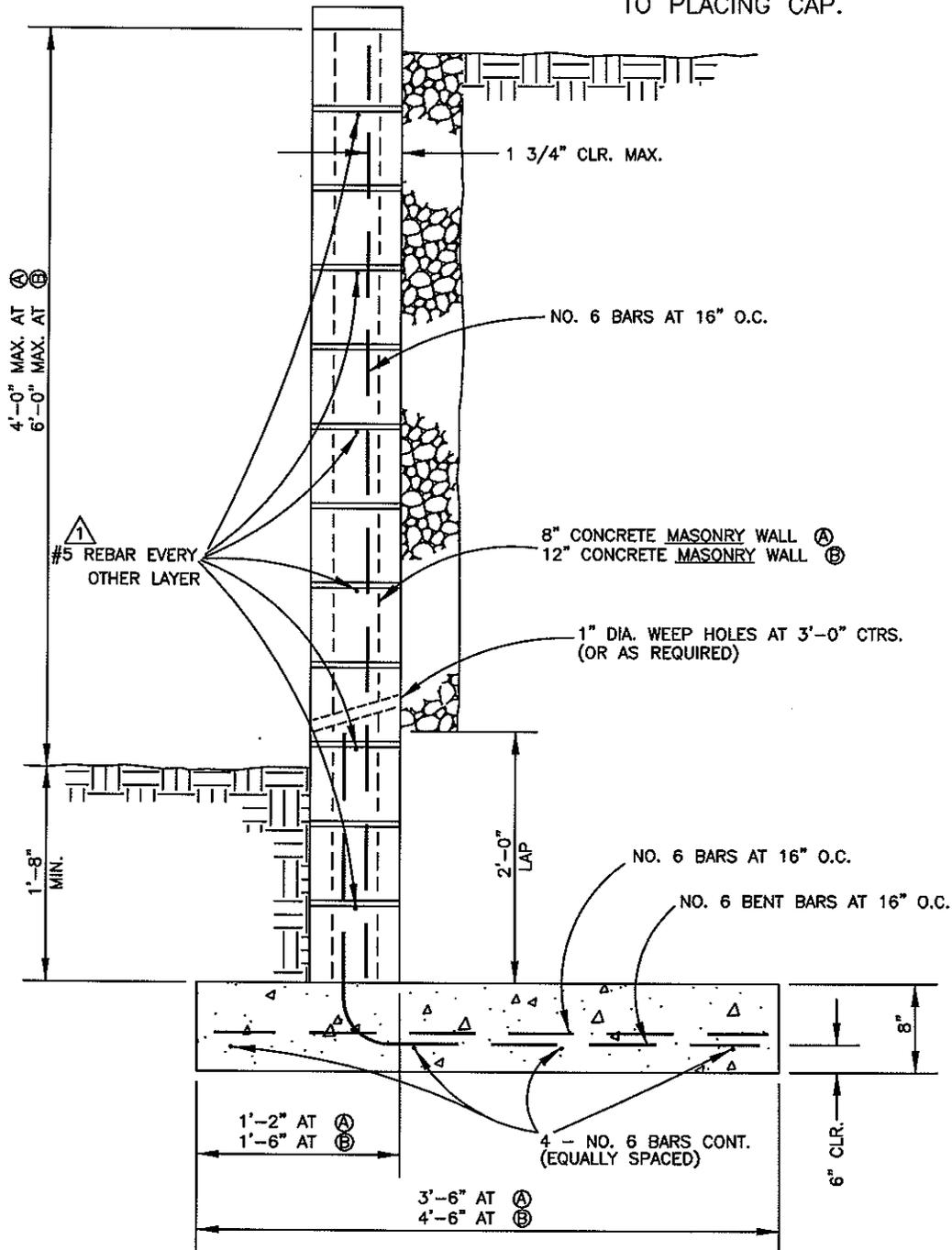
STANDARD No. D-302 SHEET 10 OF 10

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11

NOTES

1. GROUT TO ATTAIN 2000 P.S.I. WITHIN 28 DAYS.
2. FILL MATERIAL 1'-0" MIN. BEHIND WALL TO BE FREE-DRAINING SAND OR GRAVEL.
3. GROUT FILL ALL CELLS PRIOR TO PLACING CAP.



REV.	DATE
1	01/07/04

CONSTRUCTION STANDARDS

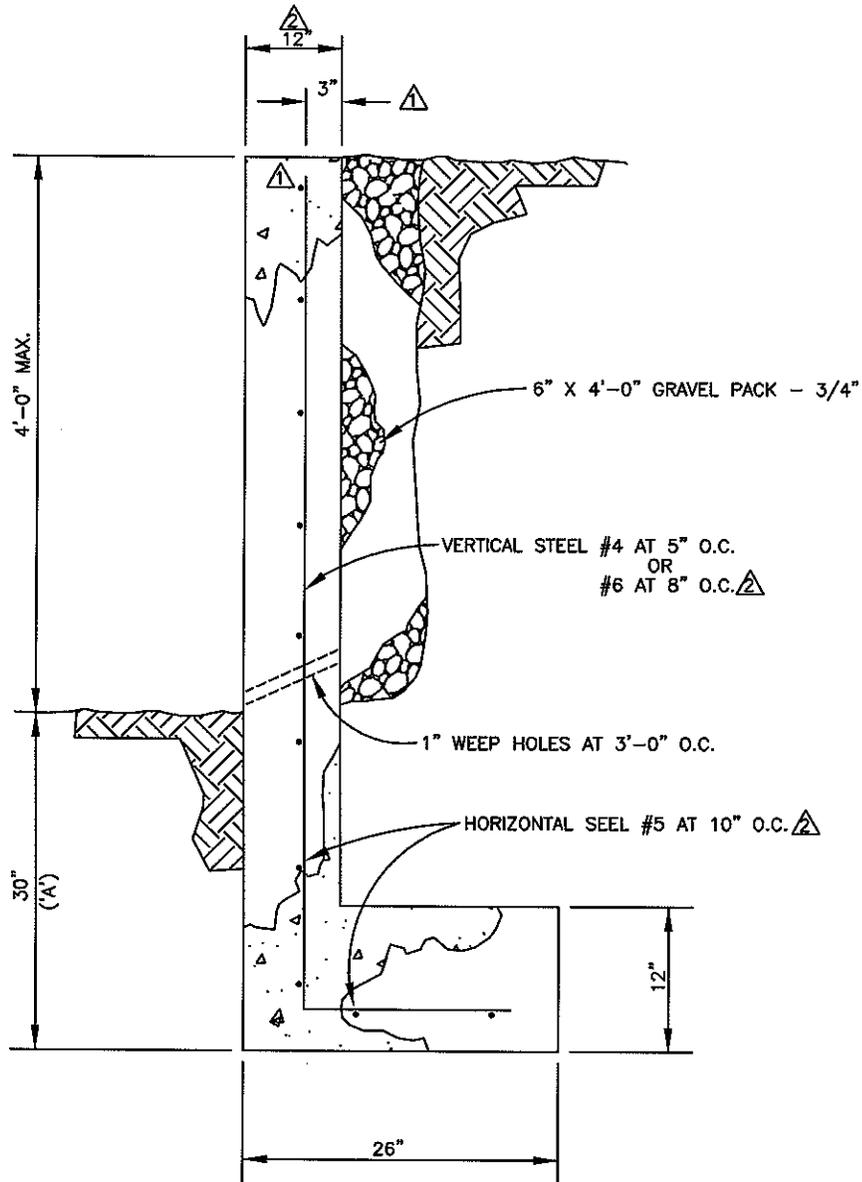
STANDARD RETAINING WALL

STANDARD No. D-303 SHEET 1 OF 1

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *M. J. [Signature]* DATE 4/15/08



NOTES

1. THIS WALL DESIGN IS TO BE USED ONLY TO SEPARATE PROPERTY
2. DIMENSION 'A' SHALL NOT BE LESS THAN 30"
3. FOUNDATIONS OR SURCHARGE WILL NOT BE CLOSER THAN 5'-0"
- ⚠ 4. CONCRETE WILL OBTAIN 4000 P.S.I. IN 28 DAYS.
- ⚠ 5. STEEL MUST BE 60,000 P.S.I.
6. WALL CONSTRUCTED ON SILT - CHANGE BASE LENGTH OF 26" TO 30"

REV.	DATE
⚠	12/9/02
⚠	01/07/04
⚠	11/30/05
⚠	05/21/12

CONSTRUCTION
STANDARDS

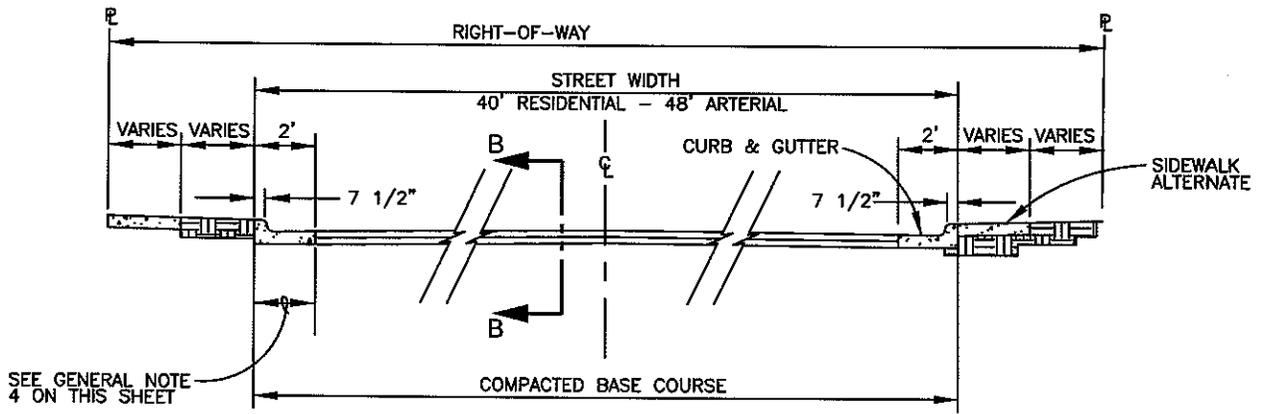
CONCRETE RETAINING WALL

STANDARD No. D-304 SHEET 1 OF 1

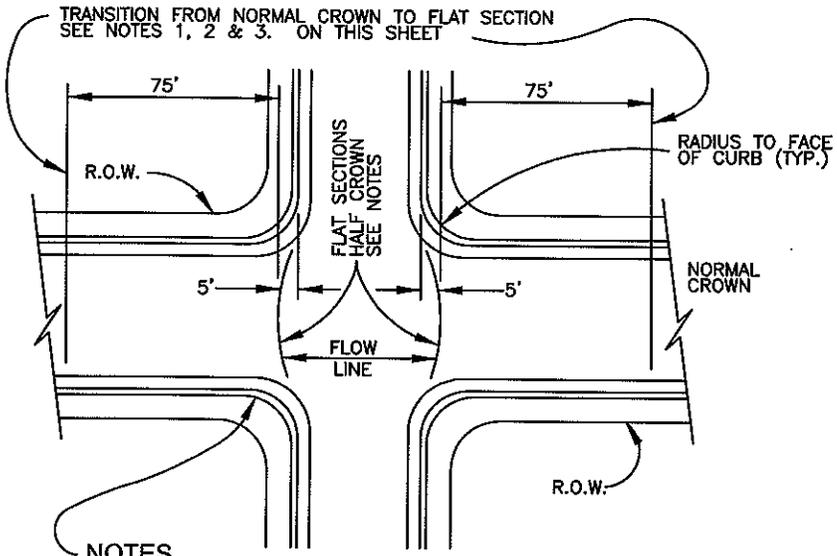
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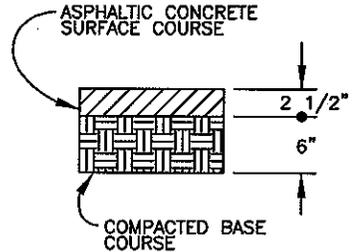
APPROVED *[Signature]* DATE 5/21/12



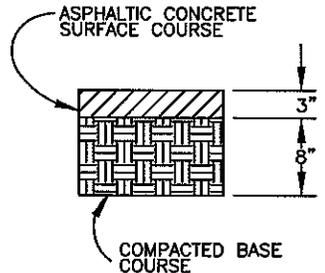
SEE GENERAL NOTE 4 ON THIS SHEET



NOTES
 ALL CURB RETURNS
 15' RADIUS ON STREETS
 UNLESS NOTED ON DRAWINGS



RESIDENTIAL (MINIMUM)



ARTERIAL (MINIMUM)

SECTION B-B

GENERAL NOTES

- 1) REDUCE CROWN TO FLAT SECTION AT INTERSECTIONS ONLY REQUIRED FOR DRAINAGE.
- 2) REDUCE NORMAL CROWN TO HALF CROWN AT THROUGH INTERSECTIONS WHERE DRAINAGE ACROSS ROADWAY IS NOT REQUIRED.
- 3) CARRY NORMAL CROWN THROUGH(T) INTERSECTIONS WHERE DRAINAGE ACROSS ROADWAY IS NOT REQUIRED.
- 4) PAYMENT FOR SUBGRADE PREPARATION UNDER CURB AND GUTTER SHALL BE INCLUDED WITH CURB & GUTTER BID ITEMS.
- 5) PAYMENT FOR SUBGRADE PREPARATION UNDER SIDEWALKS AND DRIVEWAY SLABS SHALL BE INCLUDED WITH SIDEWALK AND DRIVEWAY BID ITEMS.
- 6) USE 2:1 SLOPE WHERE EASEMENTS ARE REQUIRED FOR EITHER CUT OR FILL SECTION.
- 7) LIP OF GUTTER TO BE DEPRESSED AS NEEDED TO INSURE DRAINAGE ACROSS INTERSECTION.
- 8) CROWN HEIGHT FROM GUTTER ELEVATION TO BE 6", UNLESS OTHERWISE SPECIFIED.
- 9) BASE COURSE UNDER CURB & GUTTER MINIMUM 3" THICK.

REV.	DATE
1	12/15/94

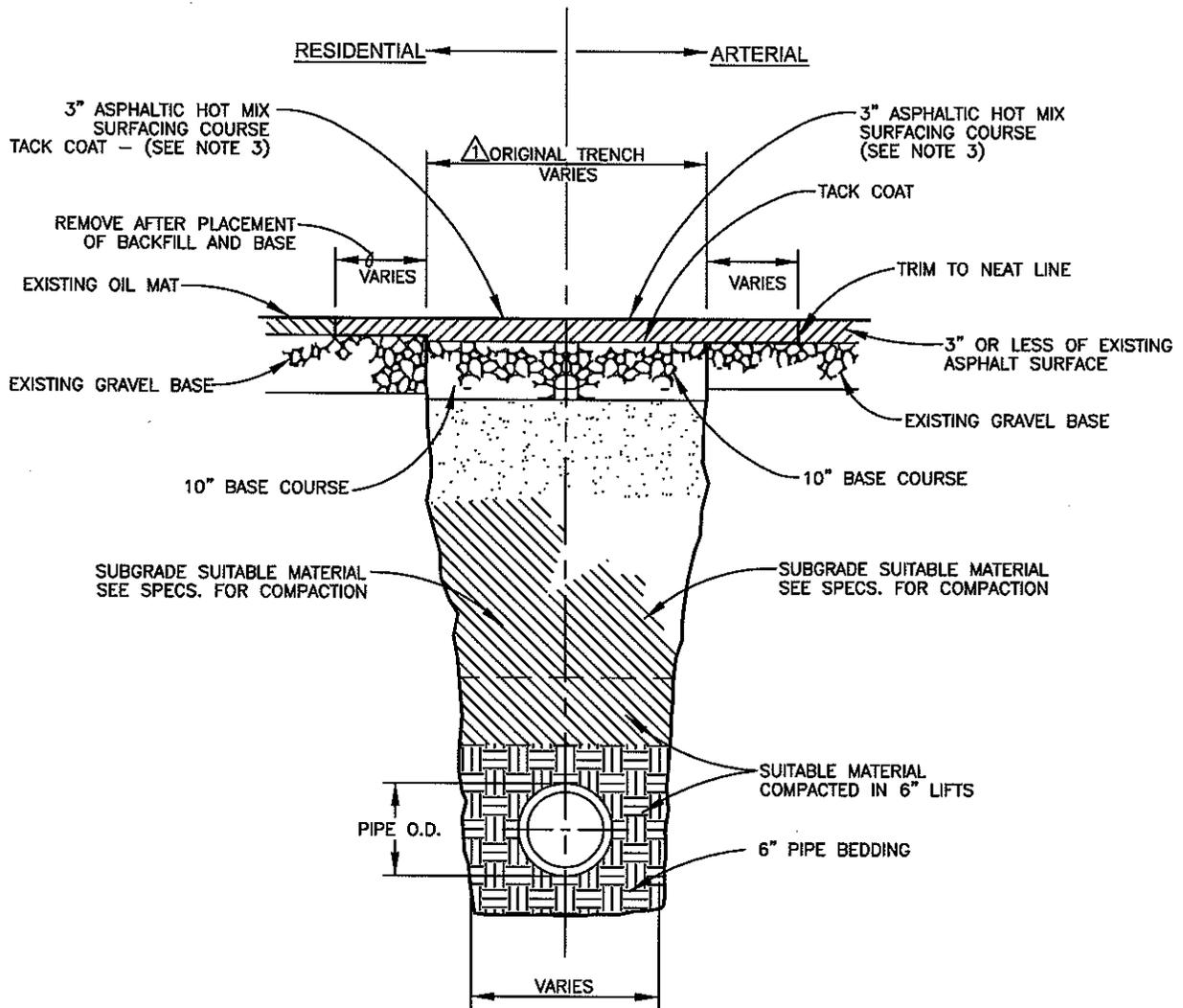
CONSTRUCTION STANDARDS

STANDARD PAVING DETAIL

STANDARD No. D-305 SHEET 1 OF 1

CITY OF FARMINGTON
 PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTES

- △ 1. AS DETERMINED BY A.S.T.M. D-1557 A.A.S.H.T.O. DEG M-147 MOISTURE CONTENT OF ALL COMPACTED SUBGRADE MATERIAL IN PLACE SHALL BE + OR - 3% OF OPTIMUM MOISTURE.
- 2. ALL PAVEMENT CUT EDGES WILL BE TRIMMED TO PRESENT AN EVEN LINE PRIOR TO REPLACEMENT OF PAVING MATERIALS
- △ 3. 3" MINIMUM OR MATCH EXISTING THICKNESS - WHICH EVER IS GREATER (WITH ENGINEER APPROVAL)

REV.	DATE
△ 1	1/22/08
△ 2	5/13/13

CONSTRUCTION STANDARDS

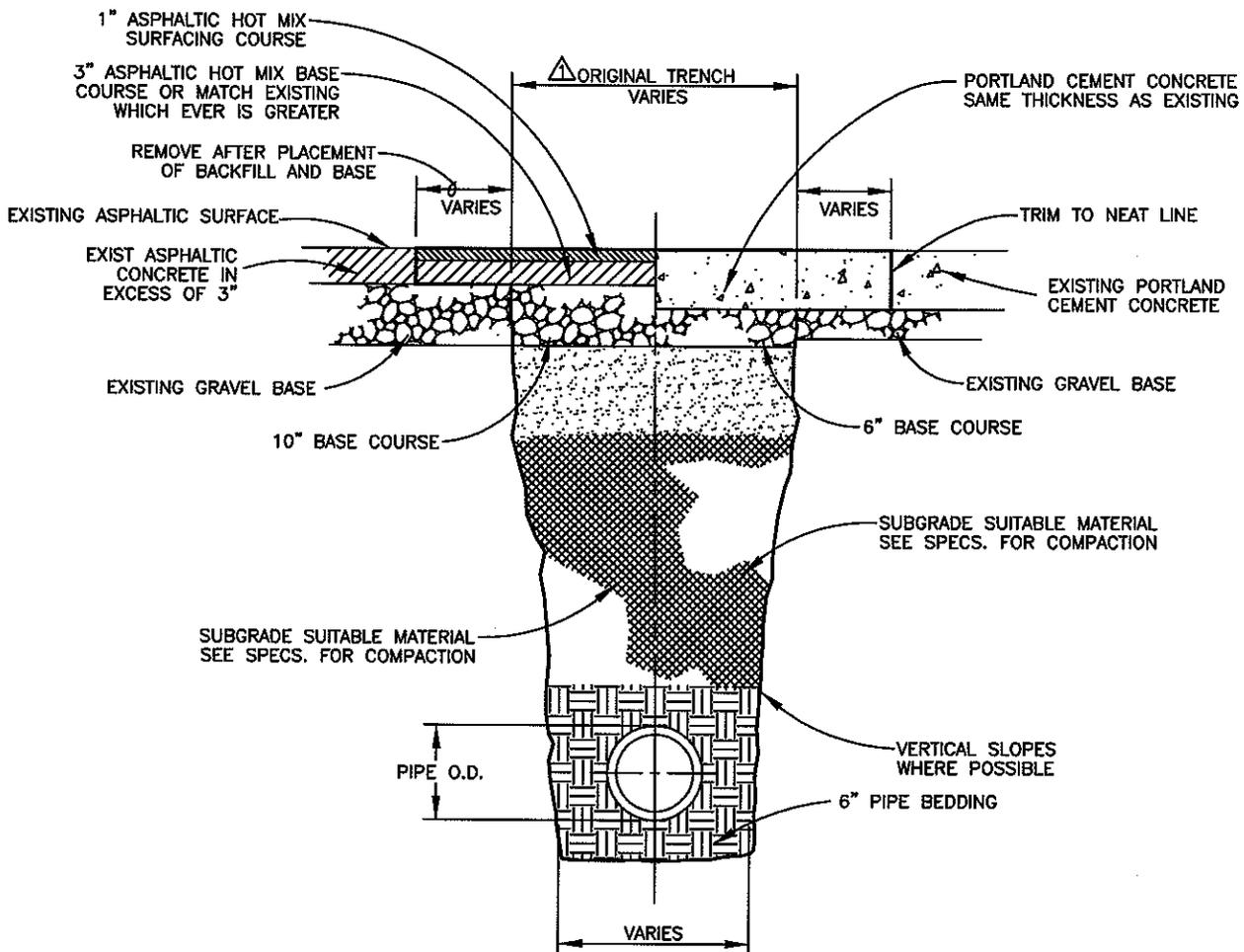
PAVEMENT PATCHING CITY STREET

STANDARD No. D-306 SHEET 1 OF 2

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/13/13



NOTES

- △△ 1. AS DETERMINED BY A.S.T.M. D-1557 A.A.S.H.T.O. DEG M-147 MOISTURE CONTENT OF ALL COMPACTED SUBGRADE MATERIAL IN PLACE SHALL BE + OR - 3% OF OPTIMUM MOISTURE.
- 2. ALL PAVEMENT CUT EDGES WILL BE TRIMMED TO PRESENT AN EVEN LINE PRIOR TO REPLACEMENT OF PAVING MATERIALS
- △ 3. 4" MINIMUM OR MATCH EXISTING THICKNESS - WHICH EVER IS GREATER (WITH ENGINEER APPROVAL)

REV.	DATE
△	1/22/08
△	5/13/13

CONSTRUCTION STANDARDS

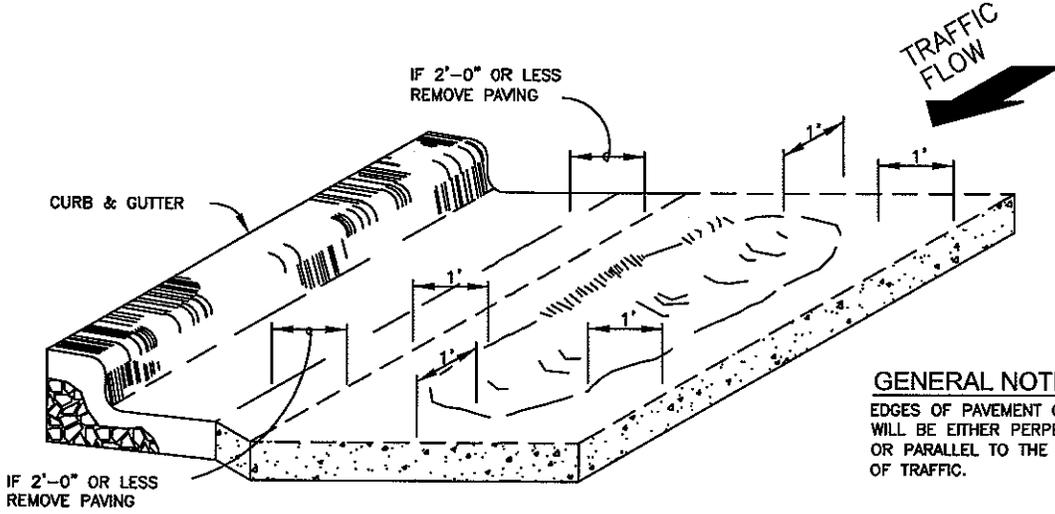
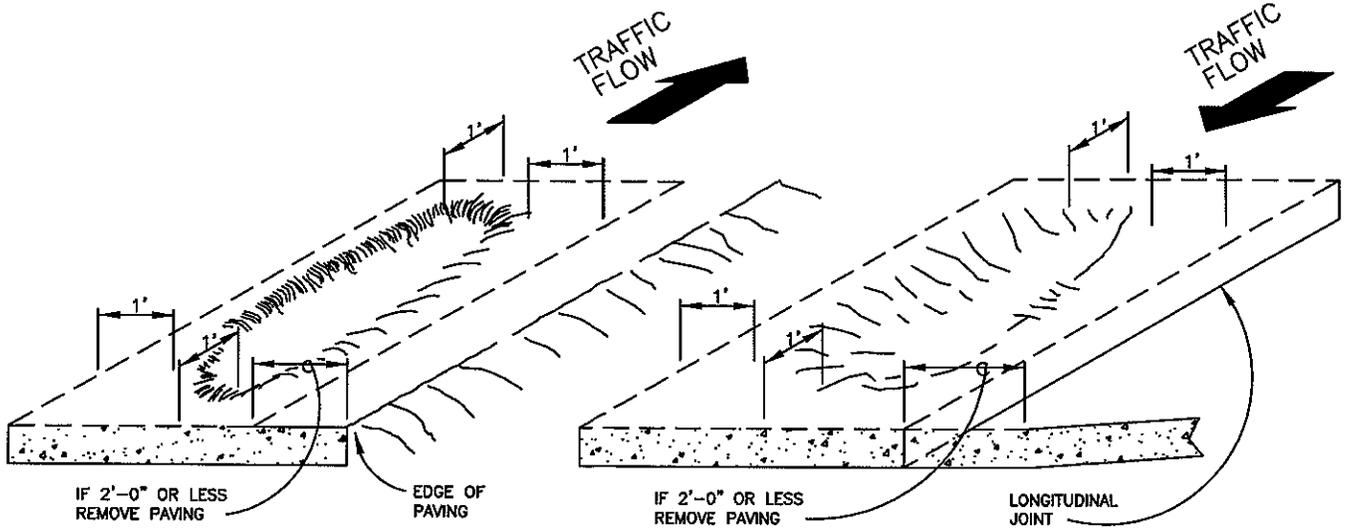
PAVEMENT PATCHING CITY STREET

STANDARD No. D-306 SHEET 2 OF 2

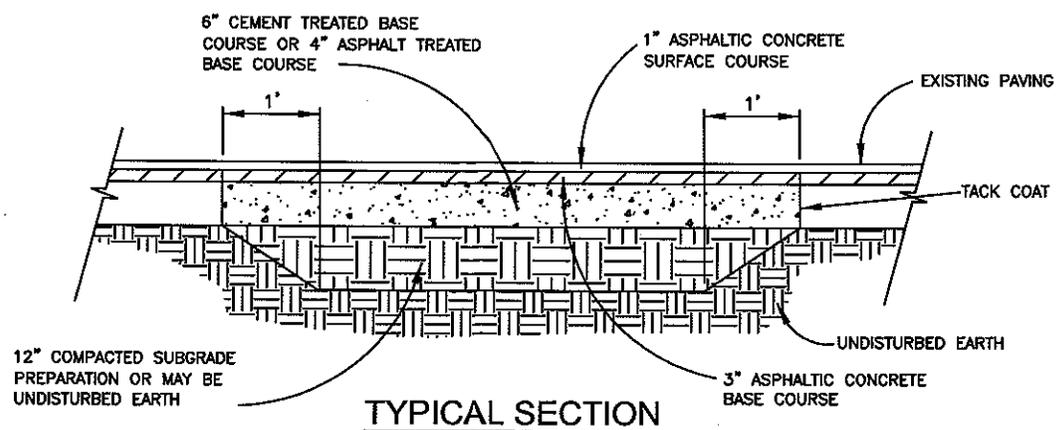
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/13/13



GENERAL NOTES:
 EDGES OF PAVEMENT CUTS
 WILL BE EITHER PERPENDICULAR
 OR PARALLEL TO THE DIRECTION
 OF TRAFFIC.



**CONSTRUCTION
STANDARDS**

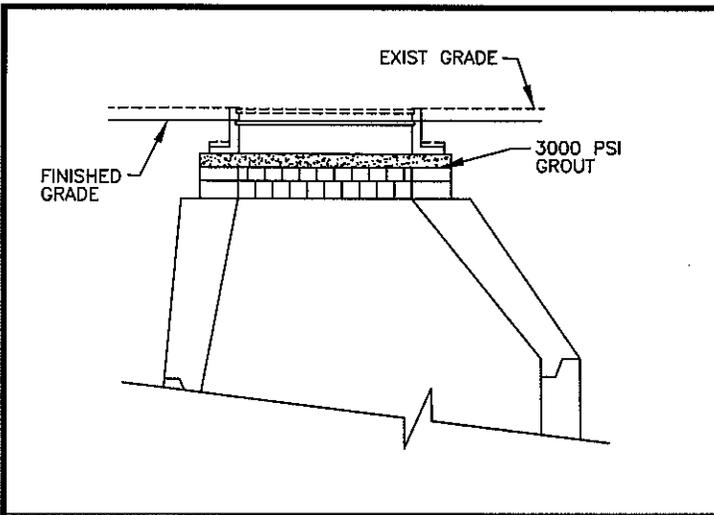
PAVING AND PATCHING

STANDARD No. D-310 SHEET 1 OF 1

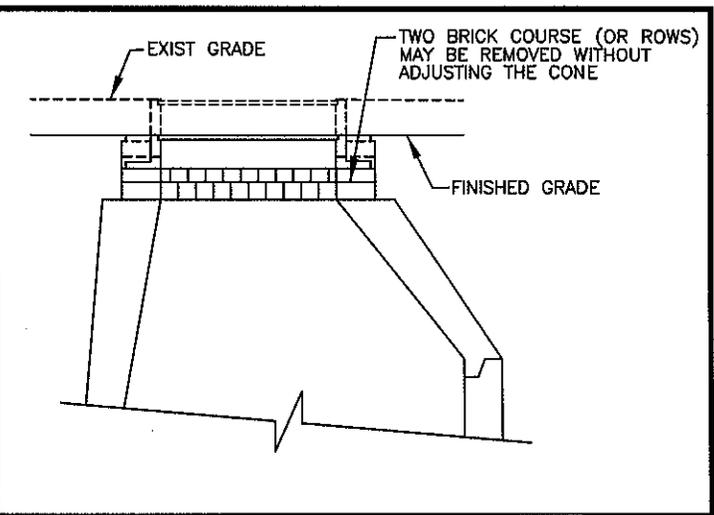
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08

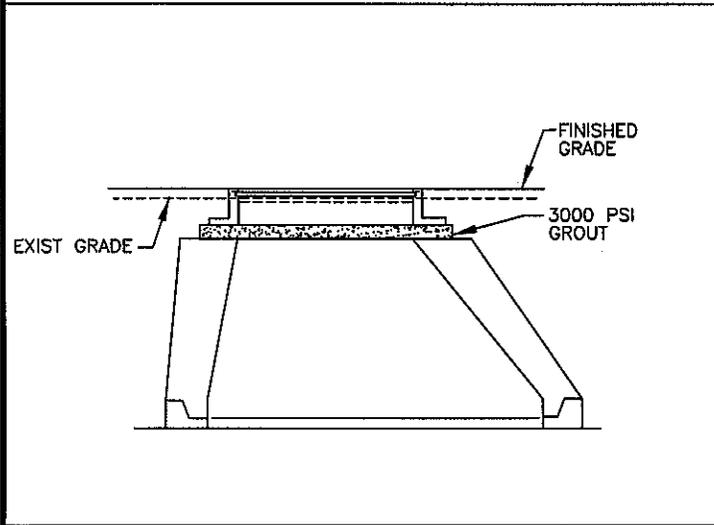


LESS THAN 1 BRICK (4" OR LESS)

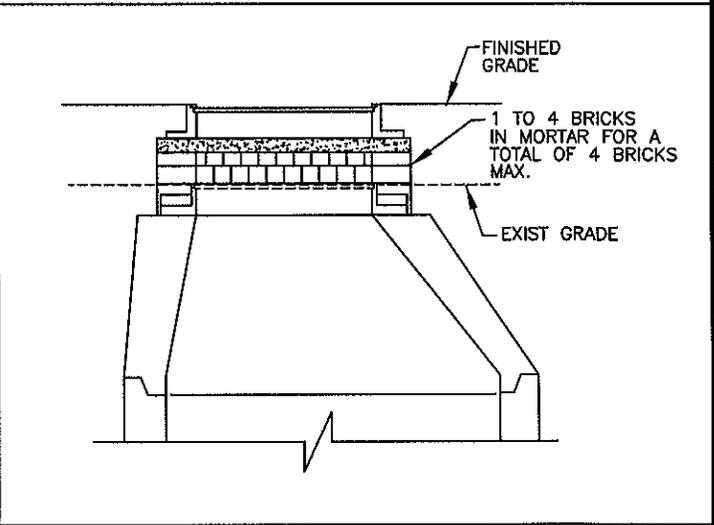


REMOVE 1-4 BRICK (4" TO 12")

LOWERING STRUCTURE

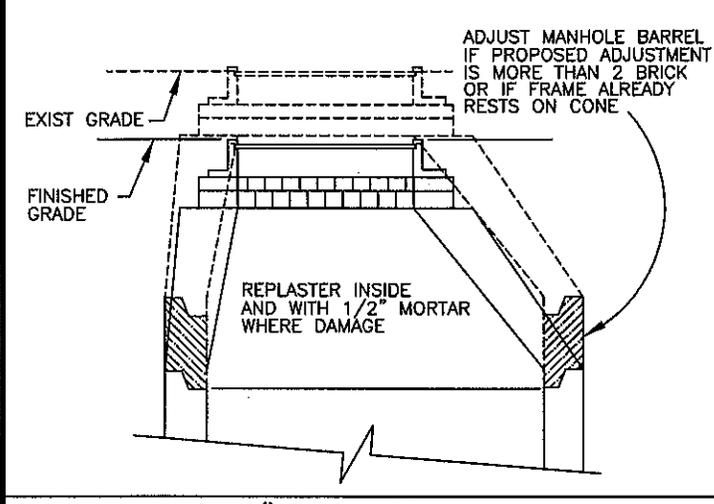


LESS THAN 1 BRICK (4" OR LESS)

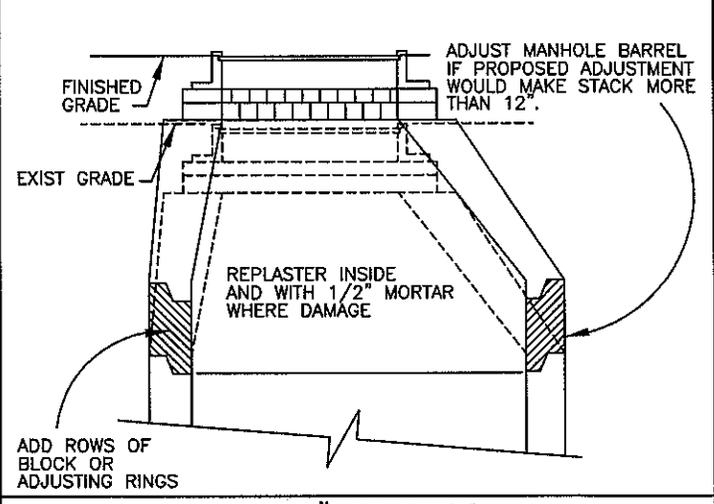


ADD 1-4 BRICK (4" TO 12")

RAISING STRUCTURE



12" OR MORE
LOWER STRUCTURE



12" OR MORE
RAISE STRUCTURE

CONSTRUCTION
STANDARDS

STRUCTURE
ADJUSTMENT

STANDARD No. D-311 SHEET 1 OF 3

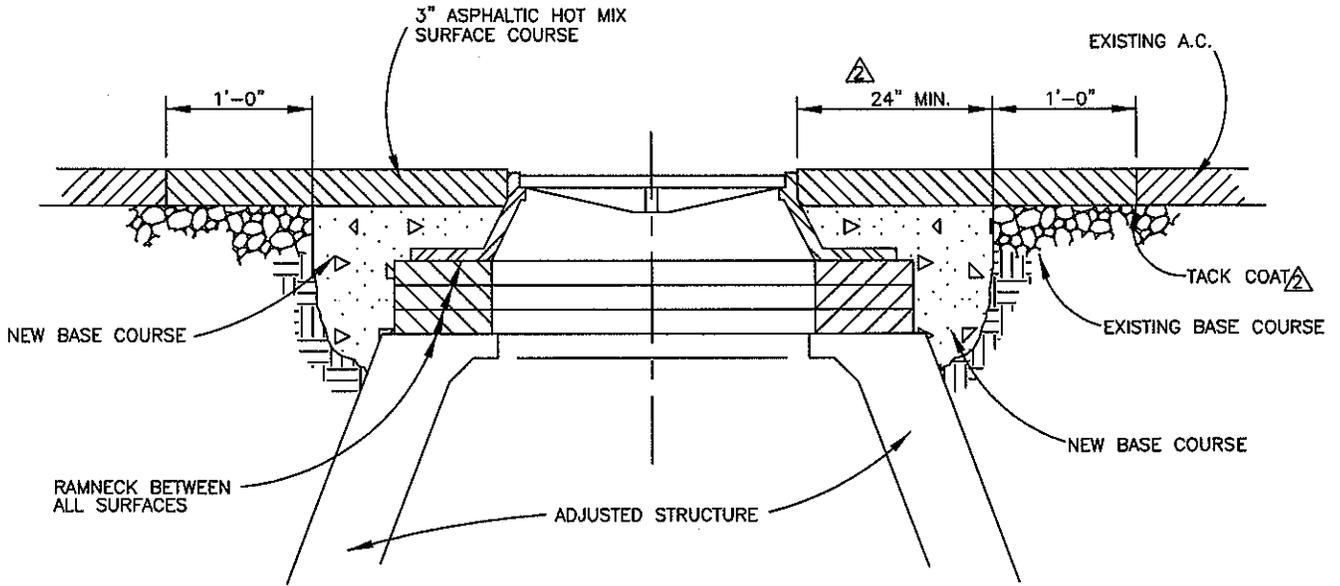
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 5/3/11

NOTES

- 1. MATCH EXISTING THICKNESS OF A.C. (3" MIN.)
- △ 2. MAX. OF 12" GRADE RING ADJUSTMENT

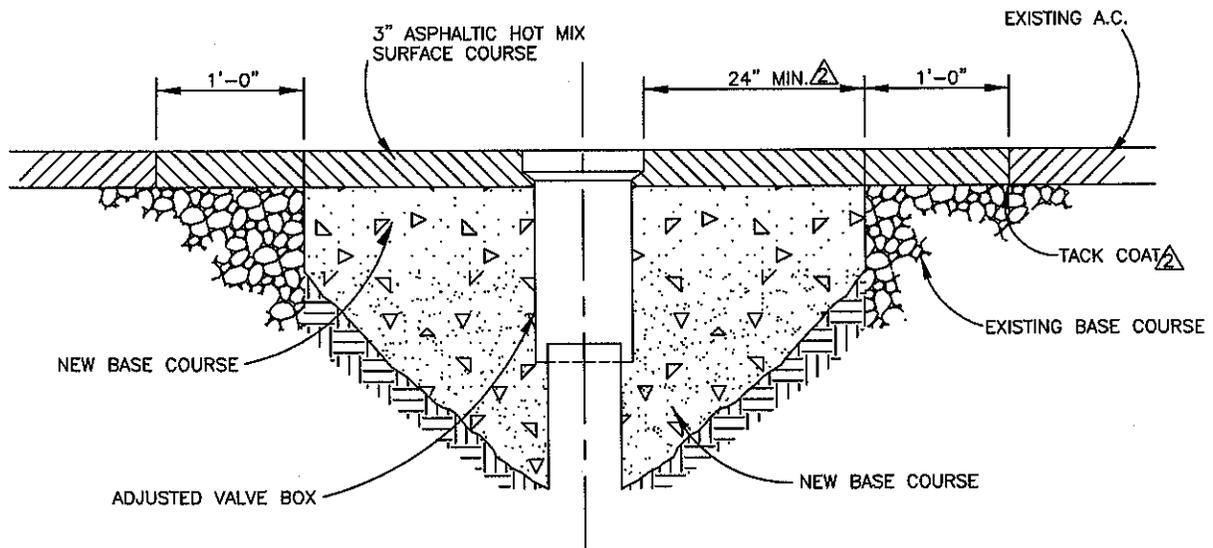


REV.	DATE
△	11/30/05
△	1/22/08

**STRUCTURE ADJUSTMENT
PAVEMENT FINISH TREATMENT**

NOTES

- 1. MATCH EXISTING THICKNESS OF A.C. (3" MIN.)
- △ 2. MAX. OF 12" GRADE RING ADJUSTMENT



REV.	DATE
△	11/30/05
△	1/22/08

**VALVE BOX ADJUSTMENT
PAVEMENT FINISH TREATMENT**

NOTE: FOR GRAVEL ROAD SEE D-203

**CONSTRUCTION
STANDARDS**

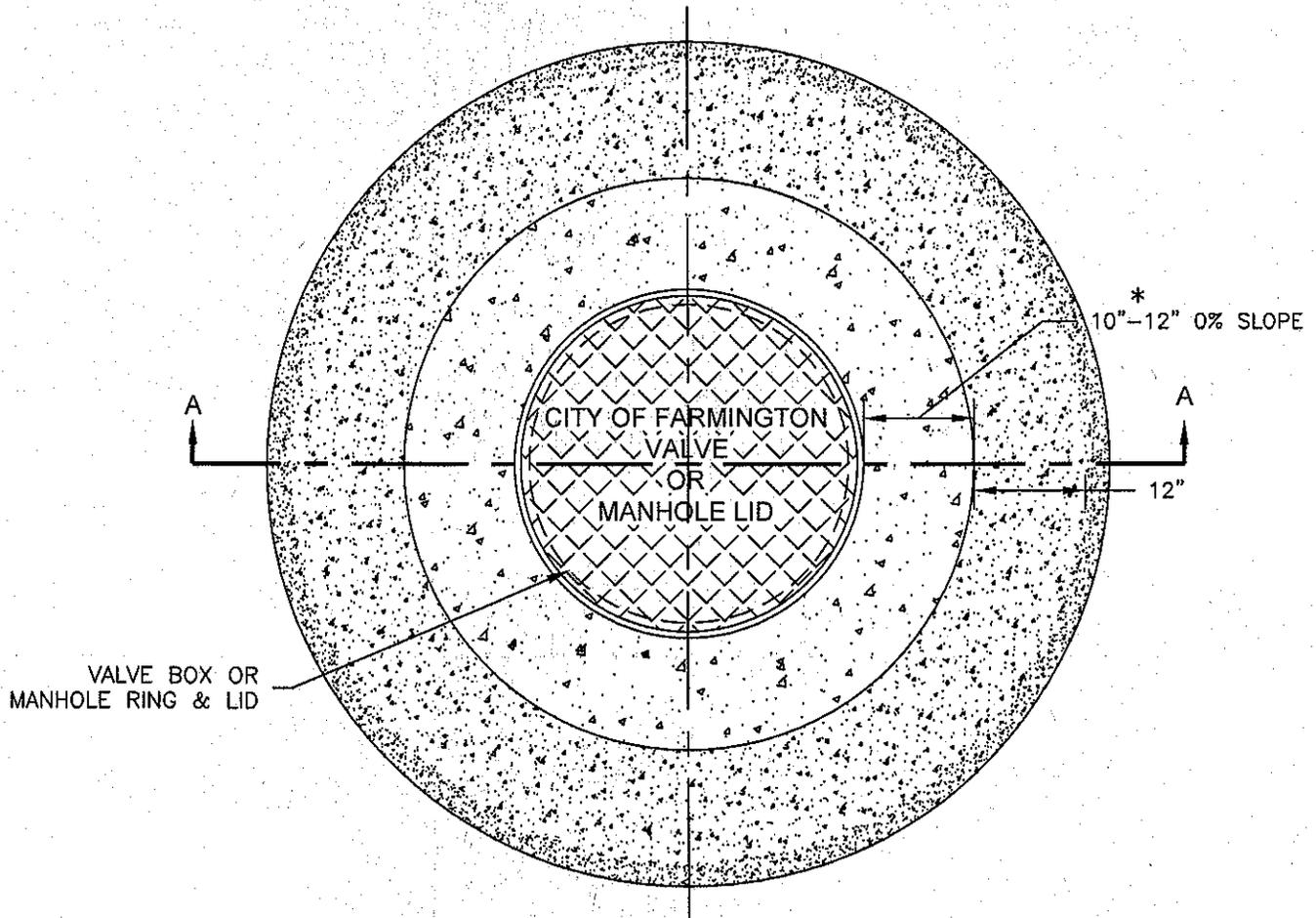
**STRUCTURE
ADJUSTMENT**

STANDARD No. D-311 SHEET 2 OF 3

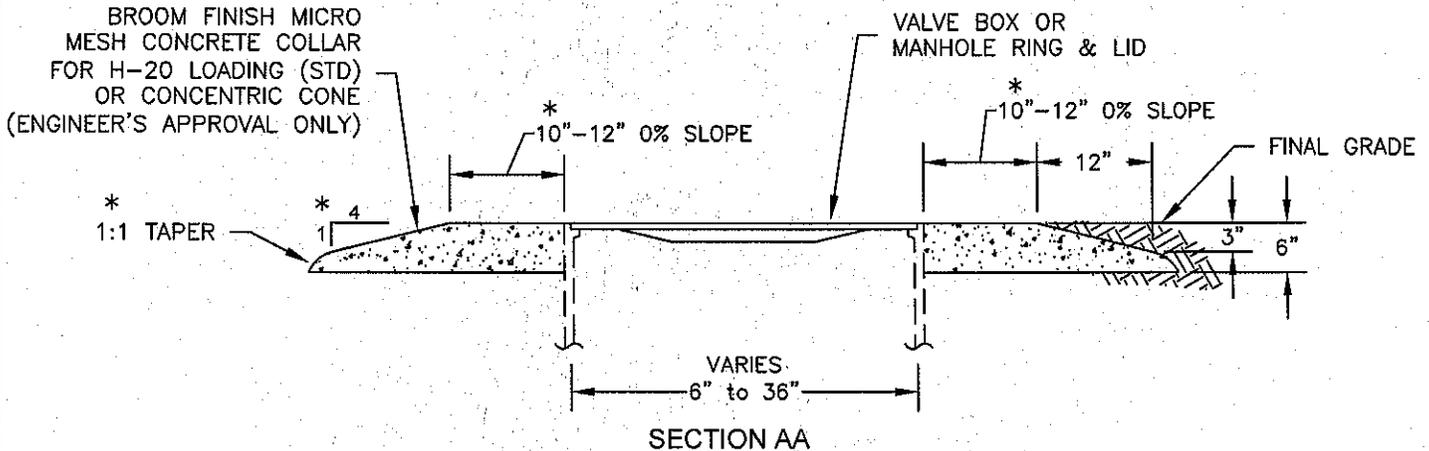
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11



* PLAN VIEW



TYPICAL CONCRETE COLLAR DETAIL
NON-PAVED AREA

REV.	DATE
	8/13

NOT TO SCALE

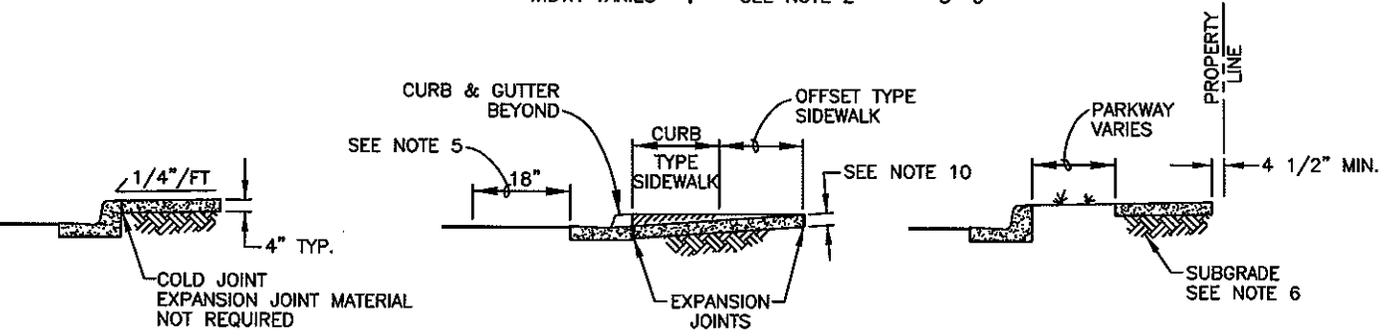
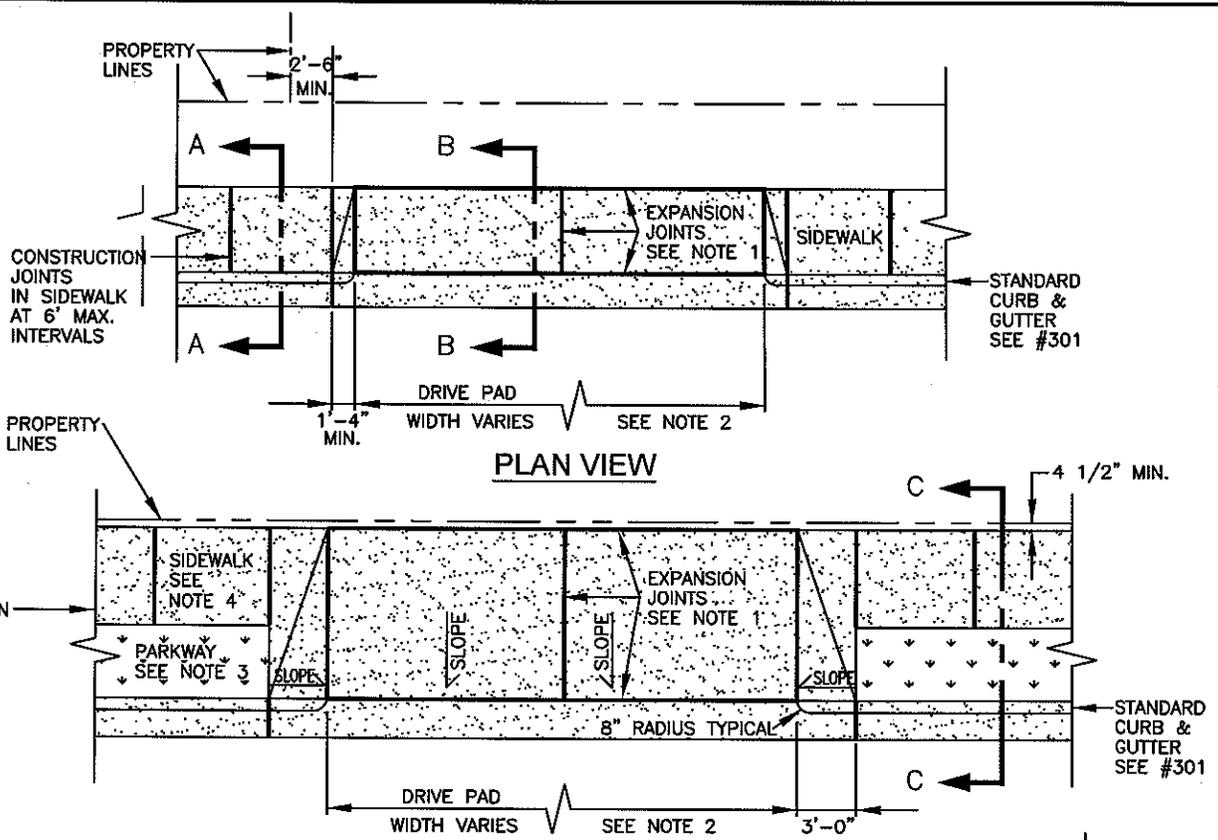
CONSTRUCTION
STANDARDS

STRUCTURE
ADJUSTMENT

CITY OF
FARMINGTON
PUBLIC WORKS
DEPARTMENT

STANDARD No. D-311 SHEET 3 OF 3

APPROVED *[Signature]* DATE 8/27/13



SECTION A-A

SECTION B-B

SECTION C-C

NOTES:

1. INSTALL APPROVED 1/2 INCH PRE-FORMED EXPANSION JOINT MATERIAL (BITUMINOUS TYPE) WHERE DRIVE PADS AND CURB & GUTTER MEET, INSTALL 90 LB. ROOFING FELT AROUND POLES, HYDRANTS OR ANY OTHER CONCRETE STRUCTURE (AS SHOWN ON DRAWING).
2. DRIVEPADS WIDER THAN 18' (NORMAL) TO HAVE A 1/2 INCH EXPANSION JOINT AT THE MIDPOINT. DRIVEPADS WIDER THAN 36' TO HAVE EXPANSION JOINTS ON EQUALLY SPACED WITH NOT MORE THAN 18' BETWEEN JOINTS. SIDEWALK CONSTRUCTION JOINTS TO BE MADE AT INTERVALS NOT EXCEEDING 6'-0" MATCHING CONSTRUCTION JOINTS ON CURBING WHEREVER POSSIBLE, WITH EXPANSION JOINTS EVERY 40' TO 50'.
3. PARKWAY TO BE DETERMINED BY AVAILABLE RIGHT OF WAY (IF LESS THAN 2'-0" USE CURB TYPE SIDEWALK).
4. SIDEWALK WIDTH SHALL BE 48" ON RESIDENTIAL AND 60" ON COLLECTOR & ABOVE.
- * \triangle 5. IF ASPHALT IS DAMAGED, A MINIMUM OF 18" WIDE ASPHALT MUST BE REPLACED PER C.O.F. STANDARD D-306.
6. SUBGRADE UNDER SIDEWALK AND DRIVEPAD SHALL BE COMPACTED TO 90% MAXIMUM DENSITY TO A DEPTH OF 6".
7. DEVIATIONS FROM THESE STANDARDS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
8. ALL EXPANSION JOINTS TO BE CONSTRUCTED AT FULL DEPTH OF SIDEWALK.
9. ALL CONCRETE SHALL BE 3000 PSI AT 28 DAYS.
10. RESIDENTIAL DRIVEWAY SHALL BE 4" THICK AND COMMERCIAL DRIVEWAY SHALL BE 6" THICK.

REV.	DATE
\triangle	12/27/06
*	03/2014

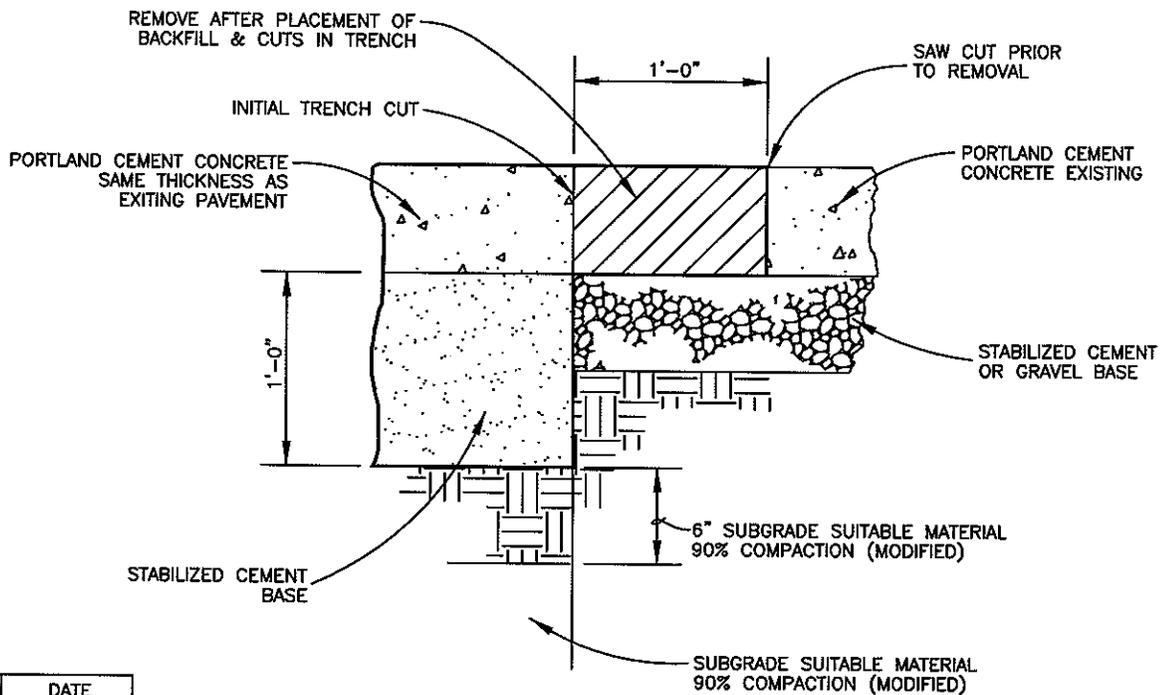
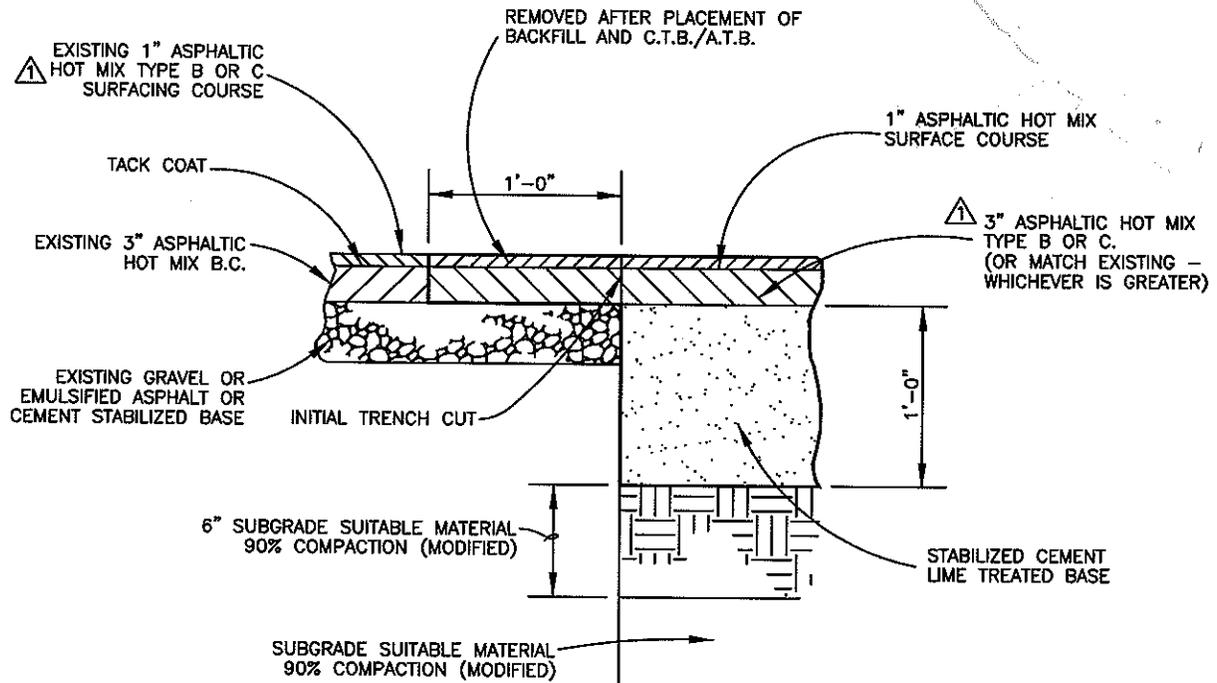
CONSTRUCTION STANDARDS

SIDEWALK & DRIVEPAD

STANDARD No. D-313 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 3/3/14



REV.	DATE
△	1/22/08

CONSTRUCTION
STANDARDS

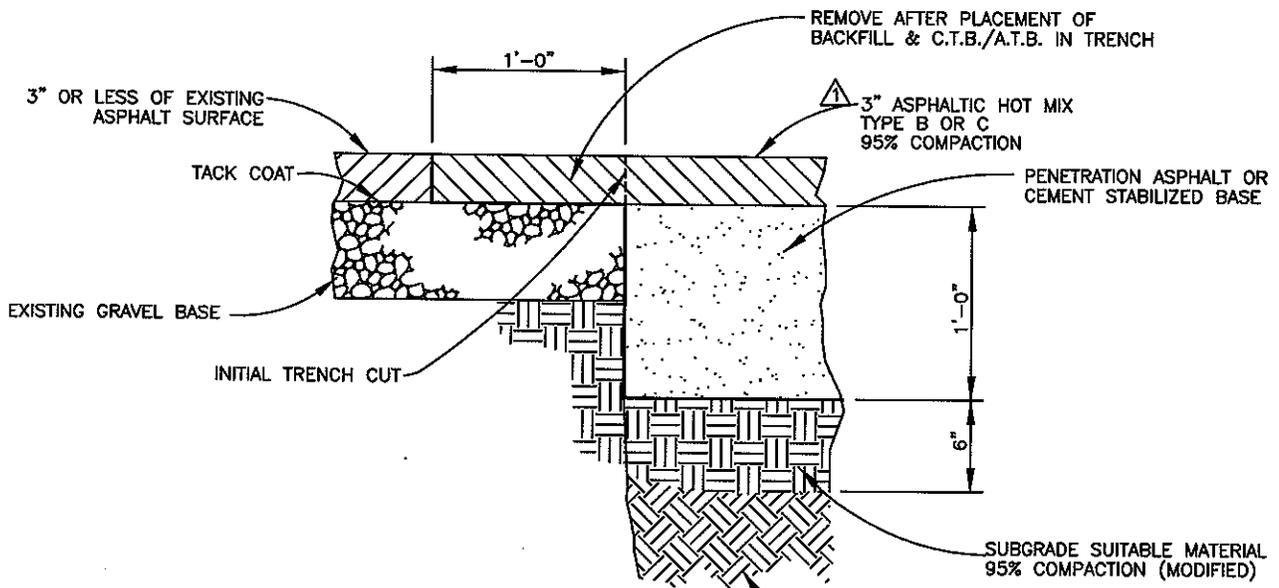
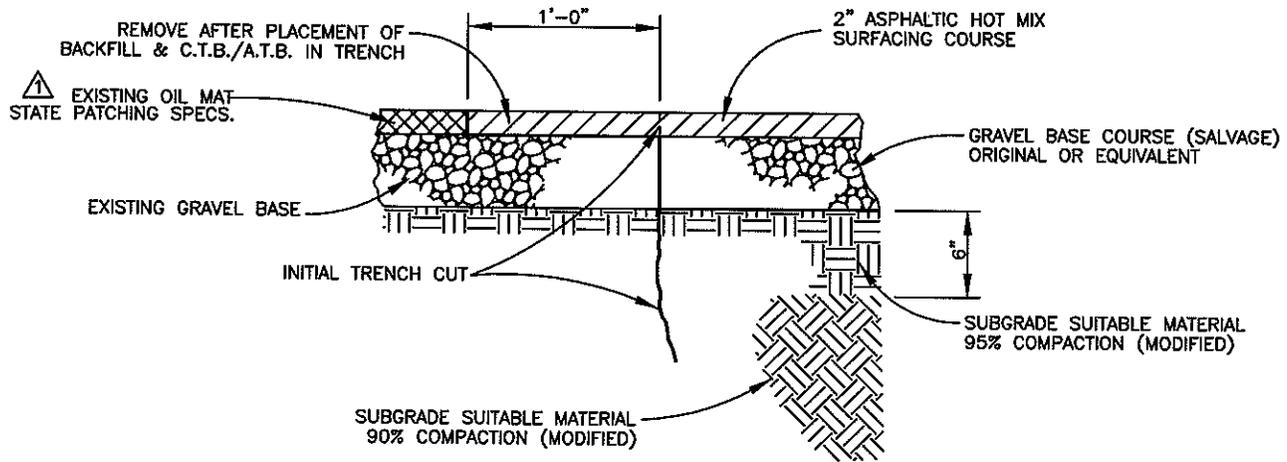
PAVEMENT PATCHING

STANDARD No. D-314 SHEET 1 OF 2

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTES

- ⚠ AS DETERMINED BY A.A.S.H.T.O. DEG. M-147 MOISTURE CONTENT OF ALL COMPACTED SUBGRADE MATERIAL IN PLACE SHALL BE NO GREATER THAN 2% ABOVE OPTIMUM TO 3% BELOW OPTIMUM.
- ⚠ THE METHOD OF PAVEMENT REPLACEMENT FOR TRENCHES IS IN ACCORDANCE WITH N.M.D.O.T. DESIGN REQUIREMENTS & WILL ONLY APPLY TO STREETS OR ROADS WHICH REQUIRE N.M.D.O.T. UTILITY INSTALLATION PERMITS.

REV.	DATE
⚠	1/22/08

CONSTRUCTION STANDARDS

⚠ PAVEMENT PATCHING

STANDARD No. D-314 SHEET 2 OF 2

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

PLAN

SURVEY MONUMENT FRAME SHALL BE ADJUSTED TO THE FINISHED GRADE PRIOR TO PLACING OF THE ASPHALTIC CONCRETE

CAST IRON (MIN. WT. OF FRAME 80 LBS.)

CONC. BASE

CATCH BASIN

ASPHALTIC CONC. PAVEMENT

BRASS CAP
SEE DETAIL 317

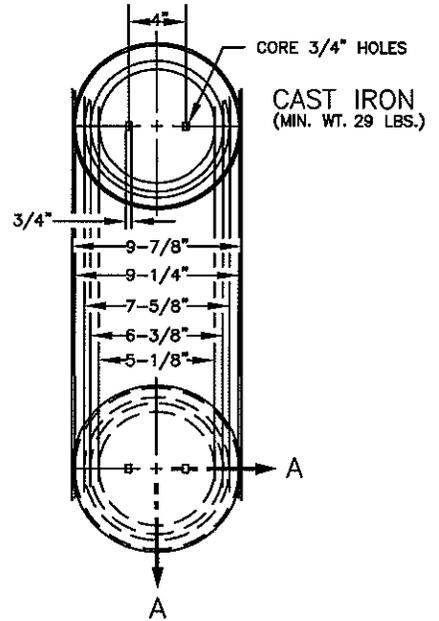
TOP OF COVER
ABC BASE COURSE

MONUMENT TO BE INDEPENDENT OF STREET PAVEMENT OR CONCRETE BASE.
6" PIPE (VT., C.I., A.C., OR, PLASTIC)

CLASS B CONCRETE

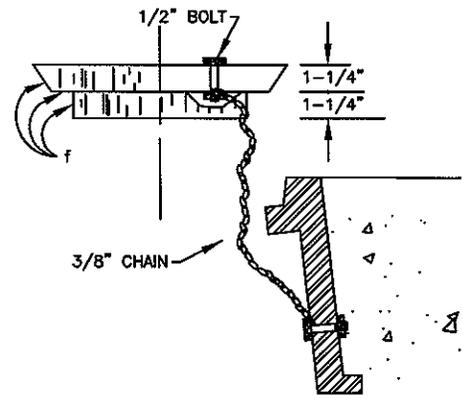
SECTION

BOTTOM OF COVER



TOP OF COVER

COVER SHALL BE ATTACHED TO INSIDE OF FRAME WITH 18" OF 3/8" CHAIN WITH 1/2" BOLTS AS SHOWN. PEEN THREAD END OF BOLT.



SECTION A-A

CONSTRUCTION STANDARDS

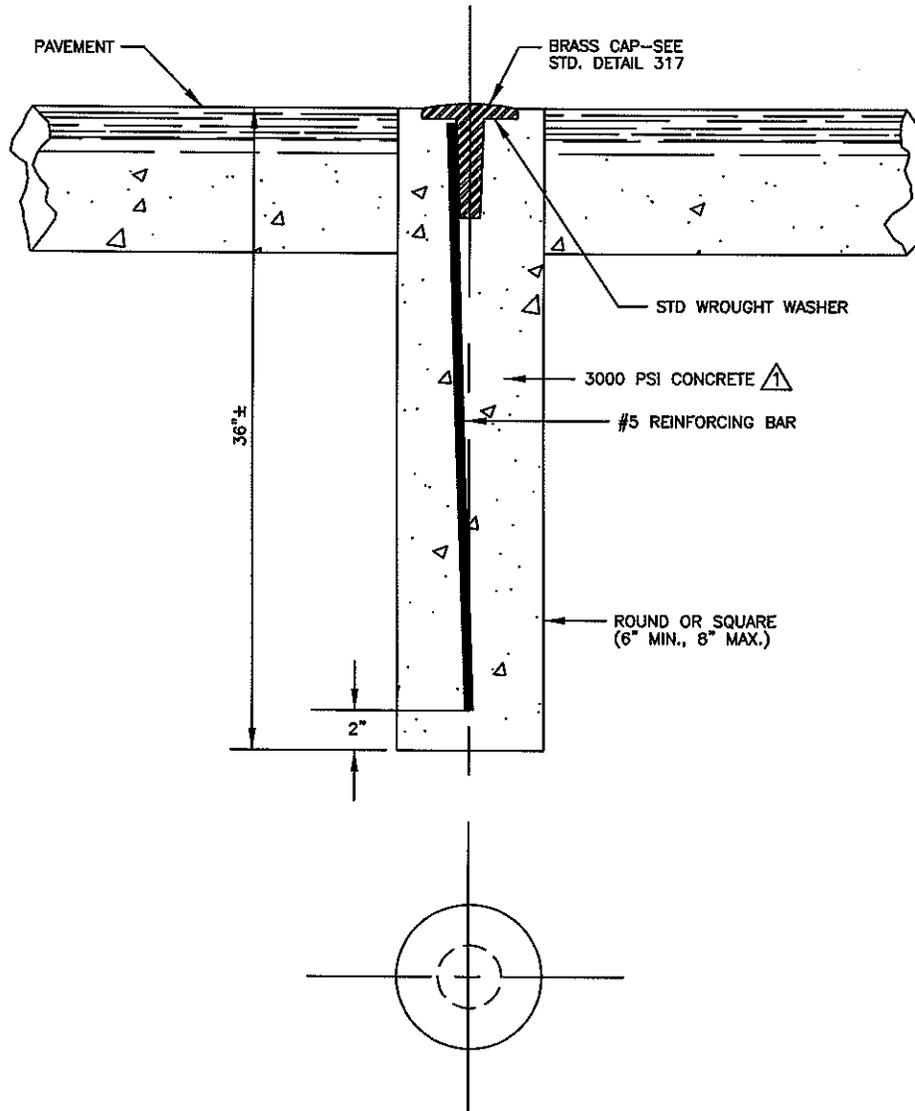
SURVEY MONUMENT

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

STANDARD No. D-315 SHEET 1 OF 1

APPROVED *[Signature]* DATE 4/15/08



NOTE

TO BE USED AT:
 P.C'S & P.T'S OF CURVES OR P.I. WHEN P.I. FALLS IN PAVEMENT
 RADIUS POINT AT END OF CUL-DE-SAC

REV.	DATE
△	1/22/08

**CONSTRUCTION
STANDARDS**

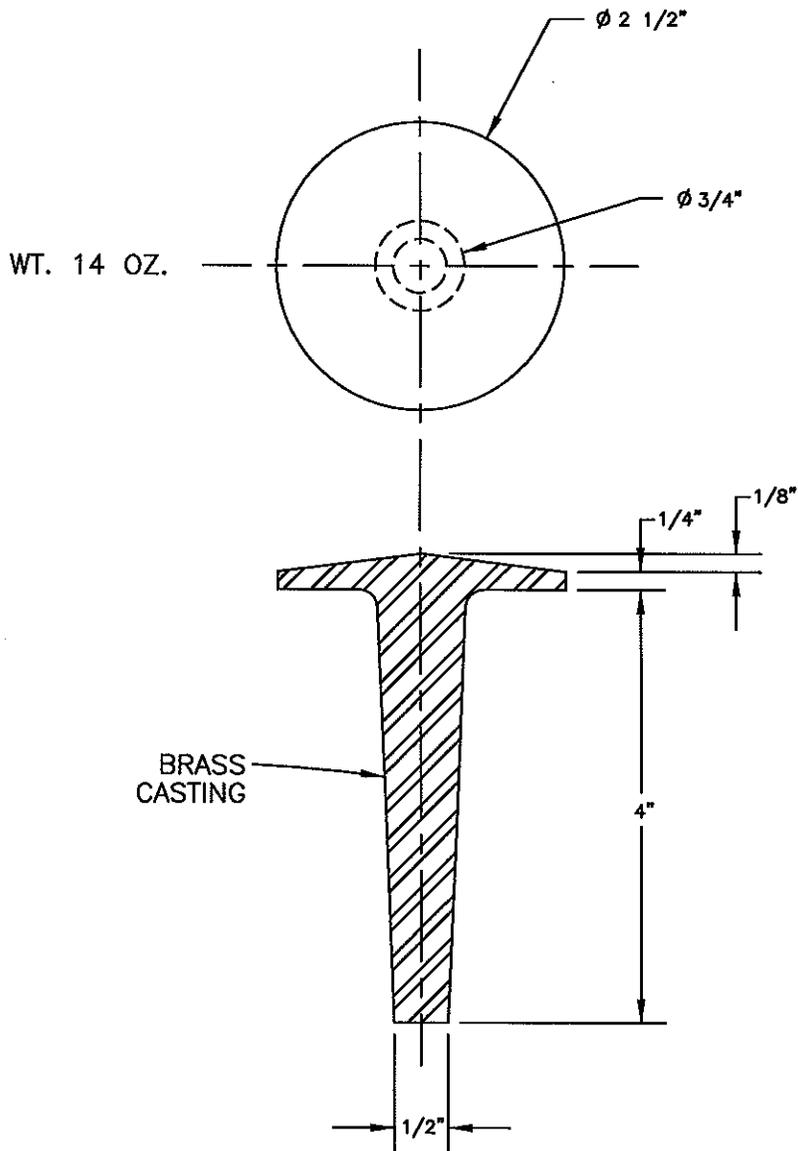
**SURVEY MONUMENT
WITHOUT FRAME**

STANDARD No. D-316 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *M. Palenty* DATE *4/15/08*



NOTES

1. ORIGINAL STONE TO BE USED WHEN FOUND.
- △ 2. BRASS CAP TO BE SET IN FRESH CONCRETE AT TIME OF POURING IN PLACE. NEW MEXICO LICENSED SURVEYOR TO SET CROSS ON BRASS MARKER.

REV.	DATE
△	1/22/08

**CONSTRUCTION
STANDARDS**

**BRASS CAP FOR
SURVEY MONUMENT**

STANDARD No. D-317 SHEET 1 OF 1

**CITY OF
FARMINGTON**

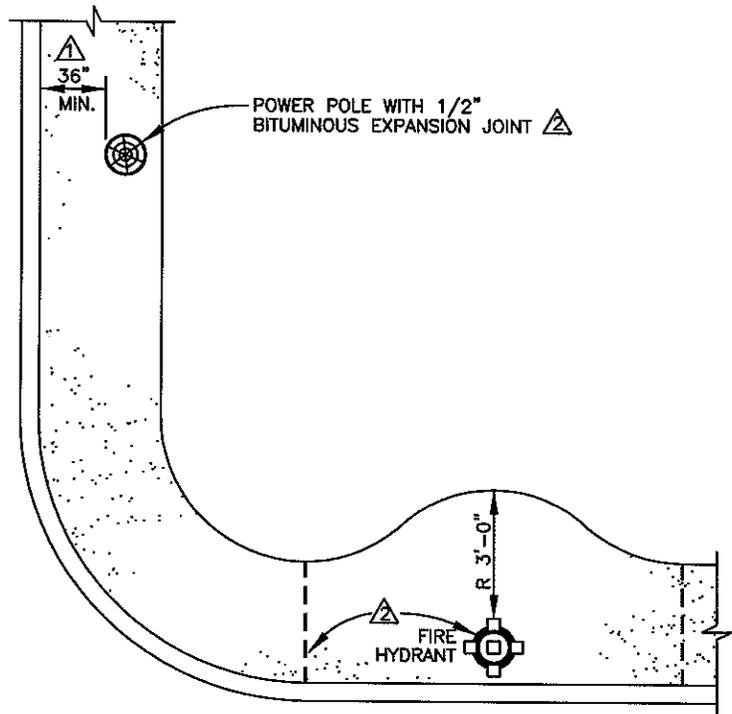
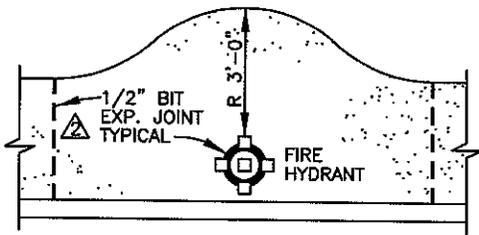
**PUBLIC
WORKS
DEPARTMENT**

APPROVED *M. J. West* DATE 4/15/08

NOTES

1. FOR SIDEWALK CONSTRUCTION DETAILS, SEE STANDARD 313
2. PROVIDE 1/2" PREFORMED BITUMINOUS EXPANSION JOINT MATERIAL AROUND ALL POWER POLES & FIRE HYDRANTS WITHIN THE SIDEWALK AREA

▲ 36" (MIN.) OR PAVED AS SHOWN BELOW
 ▲ PREFORMED BITUMINOUS EXPANSION JOINT MATERIAL AROUND POLE AND FIRE HYDRANTS



REV.	DATE
▲	12/9/02
▲	11/30/06

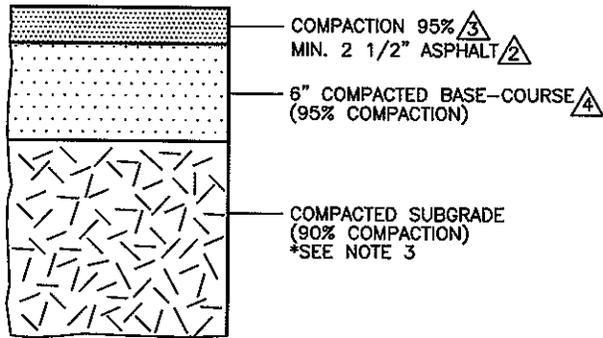
CONSTRUCTION STANDARDS

**PAVING
 SIDEWALK OBSTRUCTIONS**

STANDARD No. D-318 SHEET 1 OF 1

CITY OF FARMINGTON
 PUBLIC WORKS DEPARTMENT

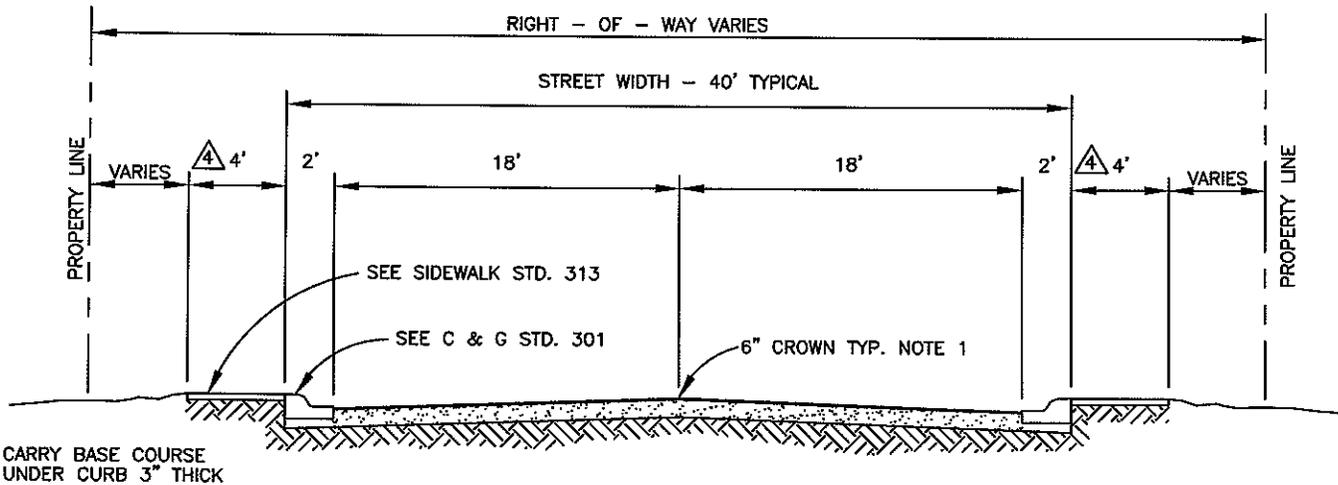
APPROVED *[Signature]* DATE 4/15/08



**PAVEMENT SECTION
MINIMUM**

NOTES

- 1) CROWN ON STREETS LESS THAN 40' TO BE AT A 2% SLOPE UNLESS OTHERWISE SPECIFIED.
- 2) ALL SUBGRADE COMPACTION FOR C & G WILL EXTEND 12" MIN. ON EITHER SIDE OF CURB AND GUTTER.
- 3) POOR SUBGRADE MAY REQUIRE ADDITIONAL SOIL MATERIAL AND/OR MATING MATERIAL. APPROVAL BY THE CITY ENGINEER REQUIRED.
- 4) SUBGRADE PREPARATION UNDER SIDEWALK AND DRIVEPADS SHALL BE INCLUDED WITH THE PARTICULAR ITEM.
- (2)5) BASE COURSE UNDER CURB & GUTTER MINIMUM 3" THICK.
- (2)6) FINAL PAVEMENT SECTION TO BE DESIGNED BY A GEOTECHNICAL ENGINEER.



TYPICAL RESIDENTIAL STREET SECTION

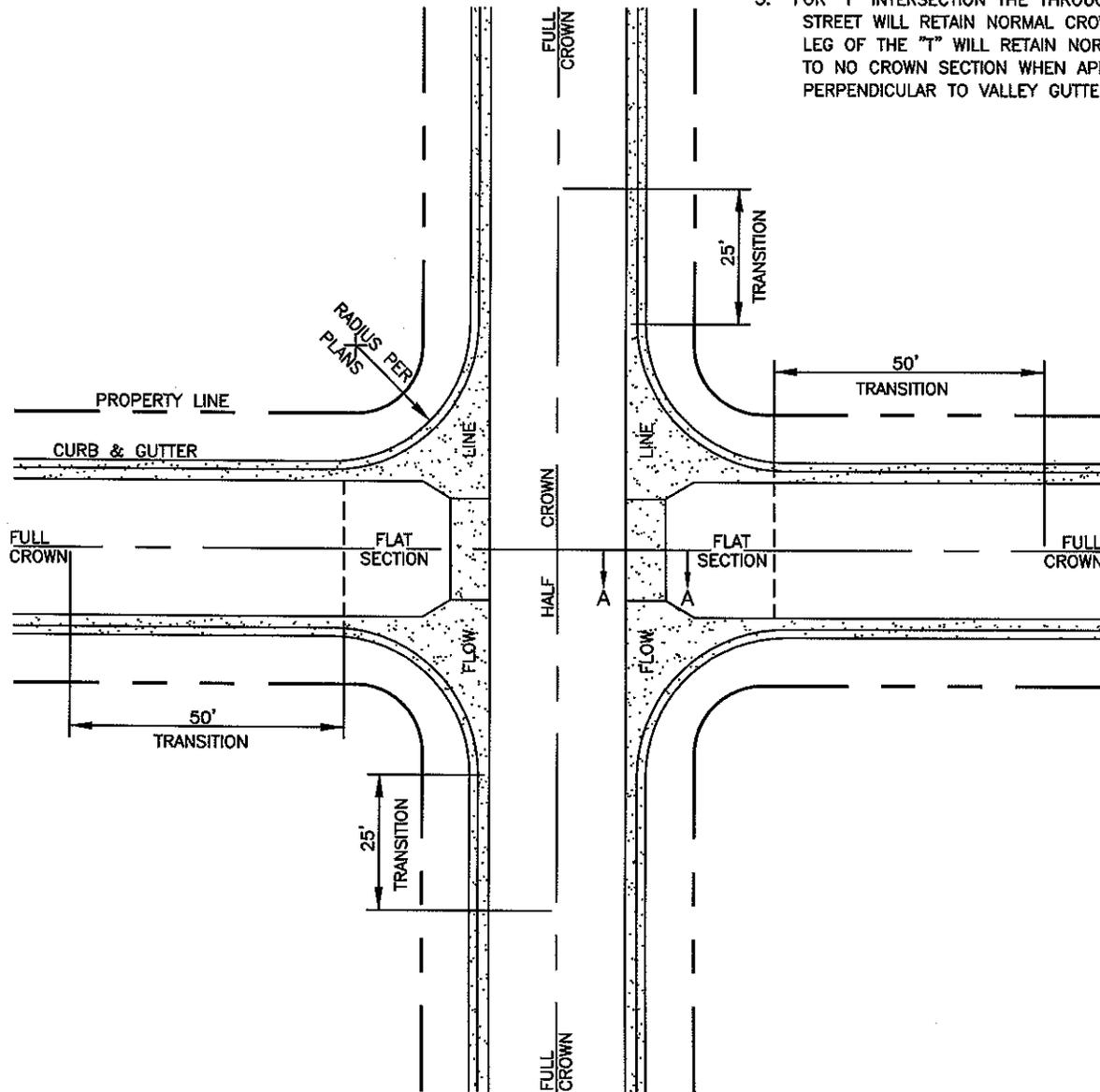
REV.	DATE
1	7/20/90
(2)	12/15/94
(3)	01/02/01
(4)	1/22/08

CONSTRUCTION STANDARDS	PAVING RESIDENTIAL STREET	CITY OF FARMINGTON
	STANDARD No. D-319 SHEET 1 OF 1	PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

NOTES

1. REDUCE NORMAL CROWN TO NO CROWN SECTION WHEN APPROACHING PERPENDICULAR TO VALLEY GUTTER.
2. REDUCE NORMAL CROWN TO HALF CROWN SECTION WHEN STREET IS PARALLEL TO VALLEY GUTTER.
3. FOR "T" INTERSECTION THE THROUGH STREET WILL RETAIN NORMAL CROWN & THE LEG OF THE "T" WILL RETAIN NORMAL CROWN TO NO CROWN SECTION WHEN APPROACHING PERPENDICULAR TO VALLEY GUTTER.



* CRITERIA	THOROUGHFARES			LOCAL STREETS		FRONTAGE ROADS (3)	ALLEYS
	PRINCIPAL ARTERIALS	MINOR ARTERIALS	COLLECTORS	NONRESIDENTIAL	RESIDENTIAL		
RIGHTS-OF-WAY (1)	100'	80'	60'	60'	50'	40'	24'
PAVEMENT WIDTHS (2)	64'	64'	48'	48'	40'	36'	16'
TRAFFIC LANES	4 TO 6	4	3 TO 4	2	2	2	2
LANE WIDTH	11'	11'	11'	12'	12'	11'	10'
MINIMUM HORIZONTAL RADIUS (CENTERLINE)	300'	300'	300'	300'	100'	100'	100'
PARKING	NONE	NONE	NONE	2 SIDES	2 SIDES	NONE	NONE
GRADES	MAXIMUM	5.0%	6.0%	6.0%	8.0%	8.0%	8.0%
	MINIMUM	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
MEDIAN	16'	NONE	NONE	NONE	NONE	NONE	NONE
SIDEWALKS (4)	BOTH	BOTH	BOTH	BOTH	BOTH	NONE	NONE

REV.	DATE
*	5/16/11

CONSTRUCTION STANDARDS

PAVING TYPICAL RESIDENTIAL STREET INTERSECTION

STANDARD No. D-320 SHEET 1 OF 2

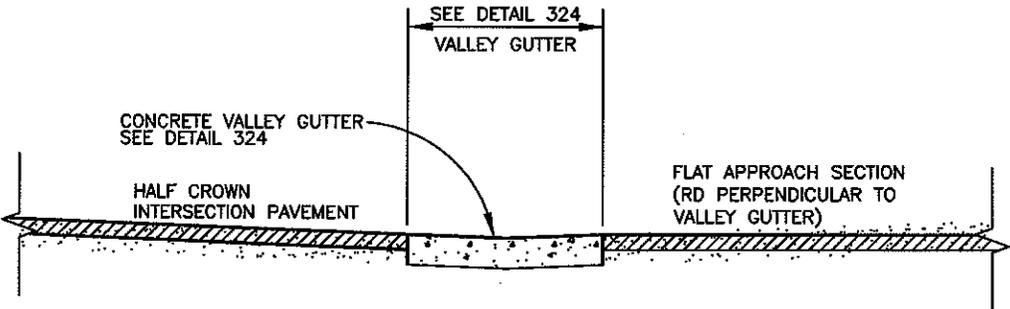
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/13/13

NOTES

- 1) REDUCE NORMAL CROWN TO NO CROWN SECTION WHEN APPROACHING PERPENDICULAR TO VALLEY GUTTER.
- 2) REDUCE NORMAL CROWN TO HALF CROWN SECTION WHEN STREET IS PARALLEL TO VALLEY GUTTER.
- 3) FOR "T" INTERSECTION, THE THROUGH STREET WILL RETAIN NORMAL CROWN AND THE LEG OF THE "T" WILL RETAIN NORMAL CROWN TO NO CROWN SECTION WHEN APPROACHING PERPENDICULAR TO THE VALLEY GUTTER.

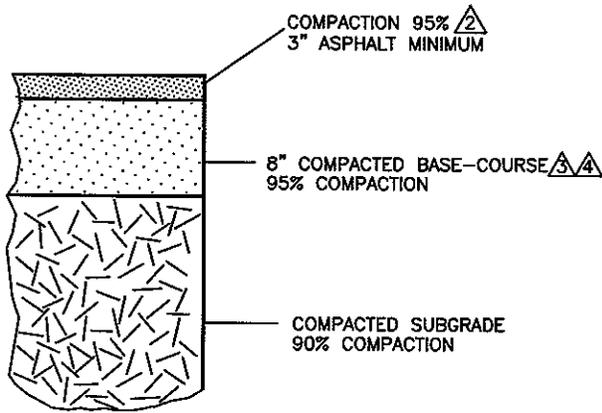


SECTION A-A INTERSECTION VALLEY GUTTER

REV.	DATE
*	5/16/11

CONSTRUCTION STANDARDS	PAVING TYPICAL RESIDENTIAL STREET INTERSECTION STANDARD No. D-320 SHEET 2 OF 2	CITY OF FARMINGTON <hr/> PUBLIC WORKS DEPARTMENT
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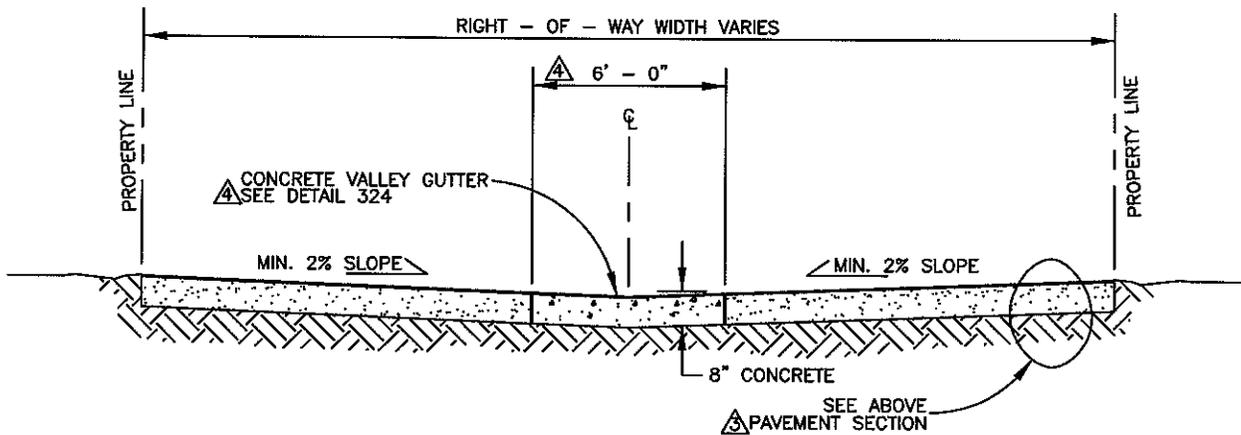
APPROVED *[Signature]* DATE 5/13/13



NOTES

- 1) TYPE & LOCATION OF JOINTS SHALL BE DEFINED ON THE PROJECT CONSTRUCTION PLANS.
- 2) ALLEY SECTION WILL BE INVERTED EXCEPT AS APPROVED BY ENGINEER.
- \triangle 3) FINAL PAVEMENT SECTION TO BE DESIGNED BY A GEOTECHNICAL ENGINEER.

**PAVEMENT SECTION
MINIMUM**



TYPICAL COMMERCIAL ALLEY SECTION

REV.	DATE
\triangle	12/15/94
\triangle	01/02/01
\triangle	01/07/04
\triangle	1/22/08

**CONSTRUCTION
STANDARDS**

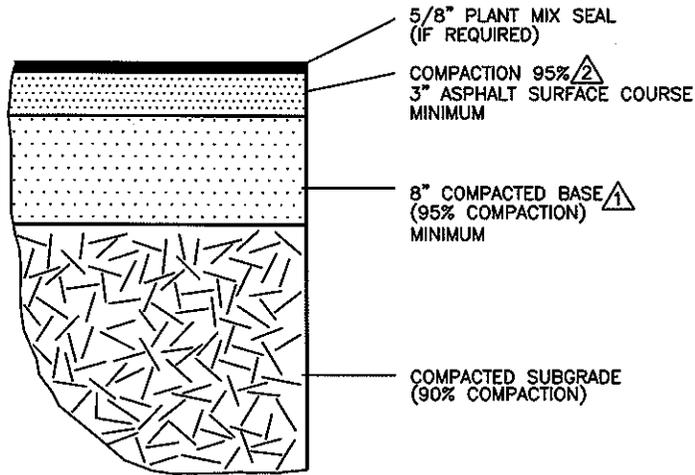
**PAVING
COMMERCIAL ALLEY**

STANDARD No. D-321 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

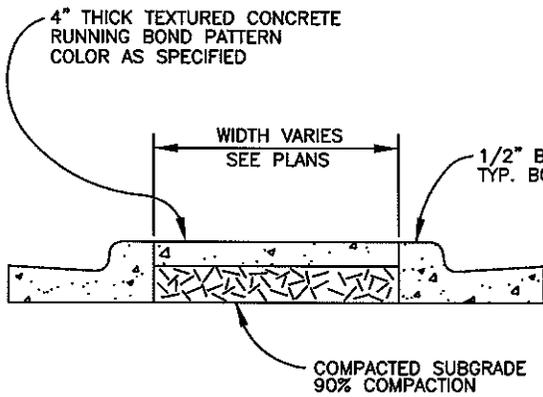
APPROVED *[Signature]* DATE 4/15/08



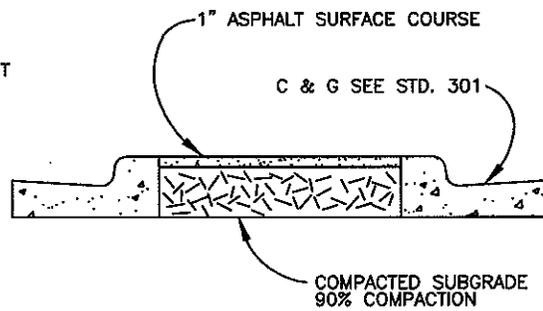
**PAVEMENT SECTION
MINIMUM**

NOTES

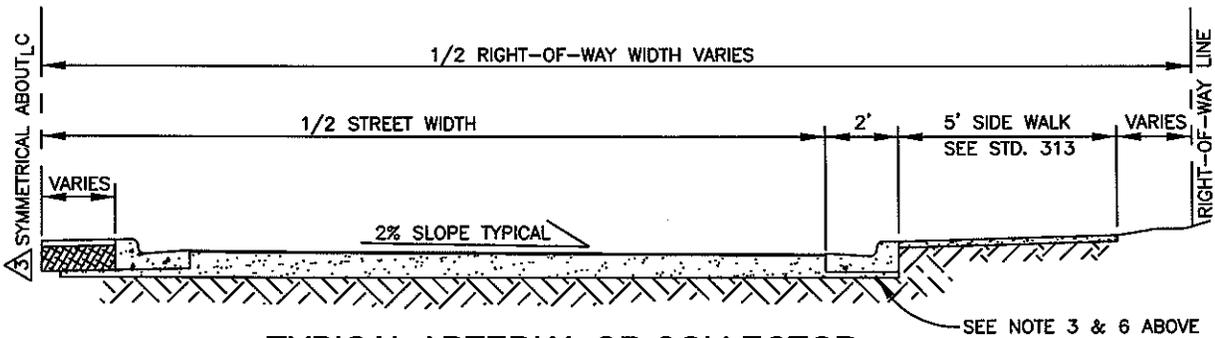
- 1) STRUCTURAL THICKNESS OF PAVEMENT COMPONENTS WILL BE AS PER PAVEMENT DESIGN. THE DESIGN METHOD UTILIZED SHALL BE AS CURRENTLY IN USE BY THE N.M.D.O.T.
- 2) ALL SUBJECT COMPACTION FOR C & G WILL EXTEND 12" MINIMUM ON EITHER SIDE OF C & G OR CURB SECTION.
- 3) SUBGRADE PREPARATION UNDER SIDEWALK AND DRIVEPADS SHALL BE INCLUDED WITH THE PARTICULAR ITEM.
- 4) PLANT MIX SEAL SHALL BE PLACED ABOVE THE TOE OF THE GUTTER.
- 5) POOR SUBGRADE MAY REQUIRE ADDITIONAL SOIL MATERIAL AND/OR GEOTEXTILE MATING MATERIAL (APPROVAL BY CITY ENGINEER) REQUIRED.
- 6) BASE COURSE UNDER CURB & GUTTER MINIMUM 3" THICK.
- 7) FINAL PAVEMENT SECTION TO BE DESIGNED BY A GEOTECHNICAL ENGINEER.



CONCRETE MEDIAN SECTION



PAVED MEDIAN SECTION



**TYPICAL ARTERIAL OR COLLECTOR
STREET SECTION WITH MEDIAN**

REV.	DATE
1	12/15/94
2	01/02/02
3	1/22/08

**CONSTRUCTION
STANDARDS**

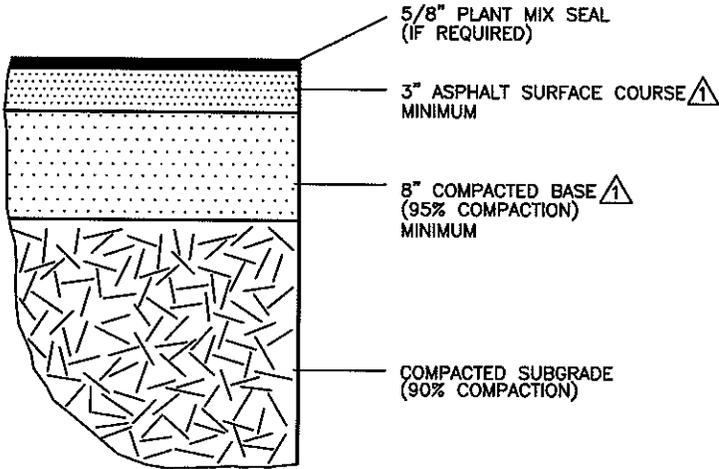
**PAVING ARTERIAL
OR COLLECTOR
WITH MEDIAN**

STANDARD No. D-322 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

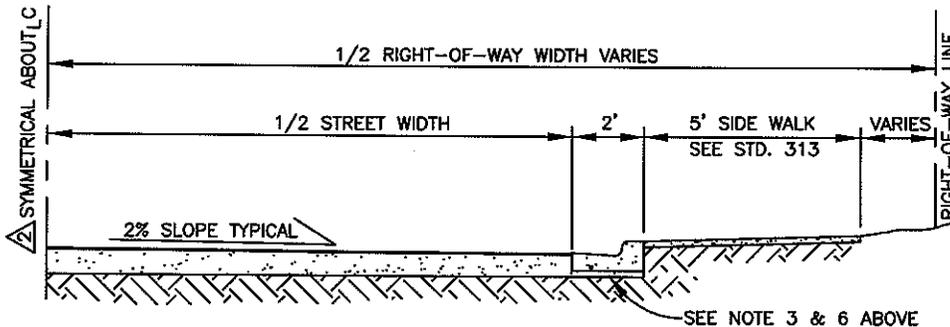
APPROVED *[Signature]* DATE 4/13/08



**PAVEMENT SECTION
MINIMUM**

NOTES

- △1) STRUCTURAL THICKNESS OF PAVEMENT COMPONENTS WILL BE AS PER PAVEMENT DESIGN. THE DESIGN METHOD UTILIZED SHALL BE AS CURRENTLY IN USE BY THE N.M.D.O.T.
- 2) ALL SUBJECT COMPACTION FOR C & G WILL EXTEND 12" MINIMUM ON EITHER SIDE OF C & G OR CURB SECTION.
- 3) SUBGRADE PREPARATION UNDER SIDEWALK AND DRIVEPADS SHALL BE INCLUDED WITH THE PARTICULAR ITEM.
- 4) PLANT MIX SEAL SHALL BE PLACED ABOVE THE TOE OF THE GUTTER.
- 5) POOR SUBGRADE MAY REQUIRE ADDITIONAL SOIL MATERIAL AND/OR GEOTEXTILE MATING MATERIAL (APPROVAL BY CITY ENGINEER) REQUIRED.
- △6) BASE COURSE UNDER CURB & GUTTER MINIMUM 3" THICK.
- △7) FINAL PAVEMENT SECTION TO BE DESIGNED BY A GEOTECHNICAL ENGINEER.



**TYPICAL ARTERIAL OR COLLECTOR
STREET SECTION**

REV.	DATE
△1	12/15/94
△2	1/22/08

**CONSTRUCTION
STANDARDS**

**PAVING ARTERIAL
OR COLLECTOR
WITHOUT MEDIAN**

STANDARD No. D-323 SHEET 1 OF 1

CITY OF
FARMINGTON

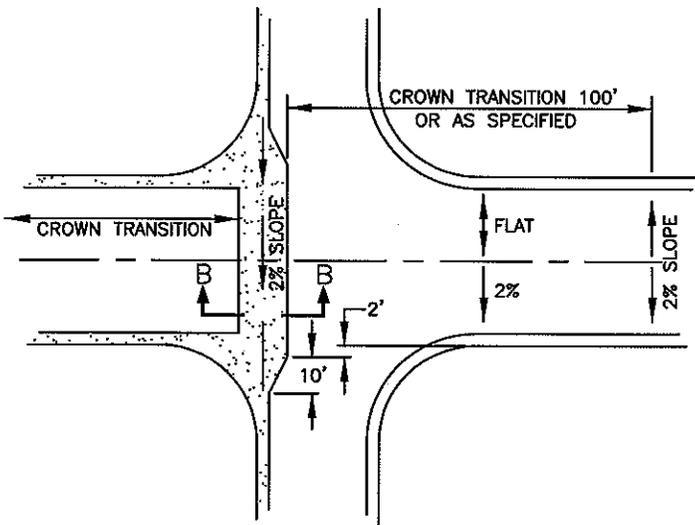
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/23/08

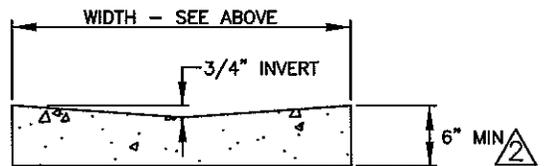
NOTES

DESIGN SPEED	WIDTH	CROWN TRANSITION RATE
35 MPH	10'	1:150
35 MPH	12'	1:150
50 MPH	16'	1:200

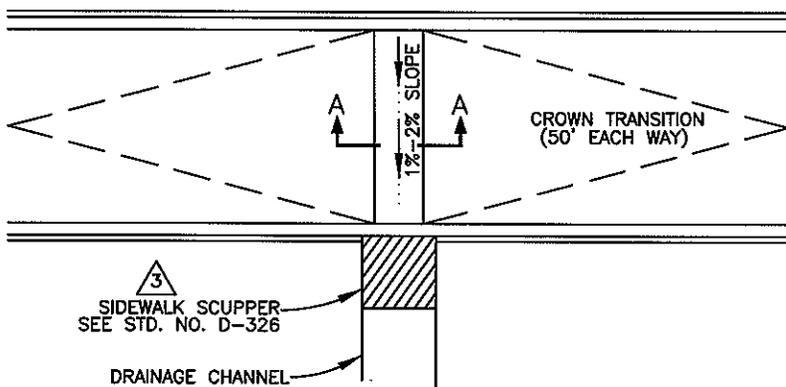
1. VALLEY GUTTERS SHOWN IN THIS DRAWING ARE TO BE USED WHERE THERE IS A NON-STOPPING CONDITION FOR VEHICLES CROSSING THE VALLEY GUTTER.
2. VALLEY GUTTERS ARE NOT TO BE USED AS STANDARD DESIGN FOR CROSSING WATER ACROSS COLLECTOR OR ARTERIAL ROADWAYS UNLESS THERE IS NO ALTERNATIVE.
3. CONCRETE FOR ALL VALLEY GUTTERS WILL HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 PSI IN 24 HOURS.



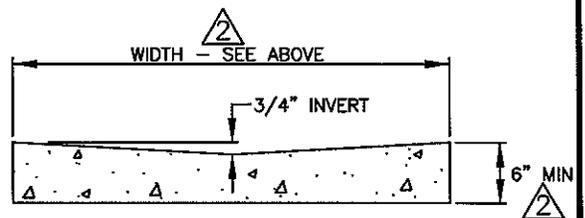
HIGHER SPEED ROADWAY



SECTION B-B



LOCAL STREET



SECTION A-A

REV.	DATE
1	11/6/90
2	01/07/04
3	12/16/04

**CONSTRUCTION
STANDARDS**

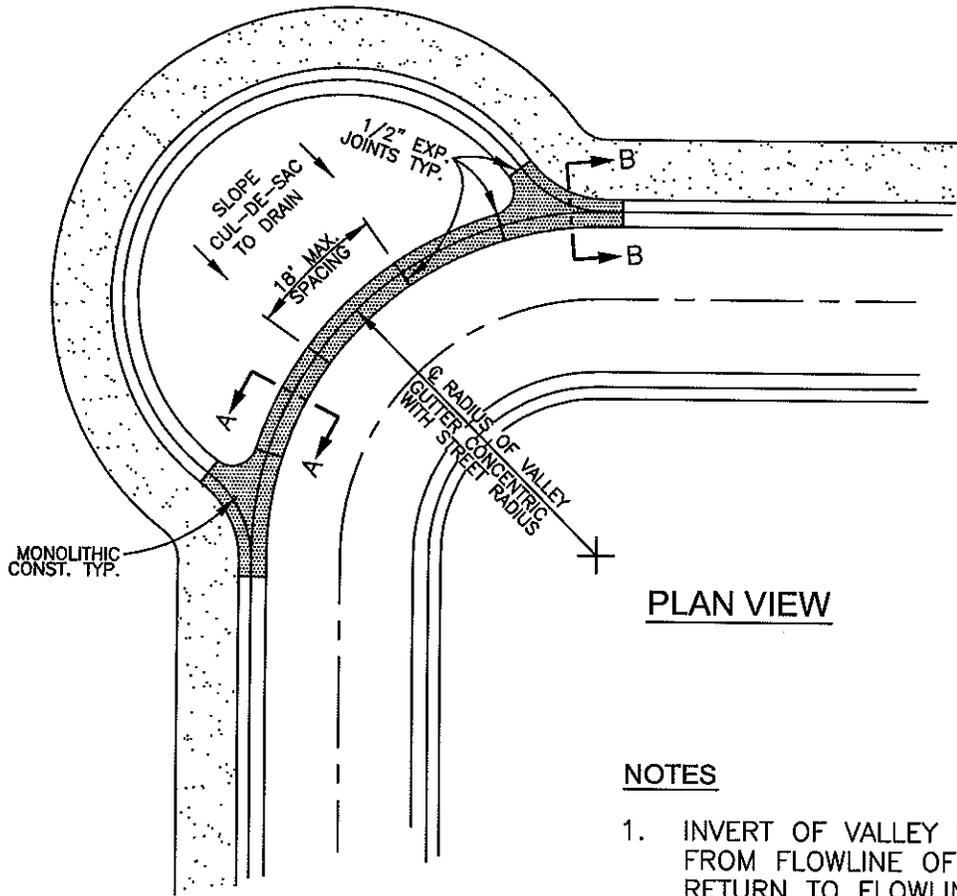
PAVING - SPECIAL VALLEY GUTTERS

STANDARD No. D-324 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

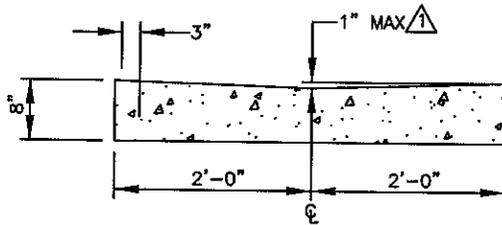
APPROVED *[Signature]* DATE 4/15/08



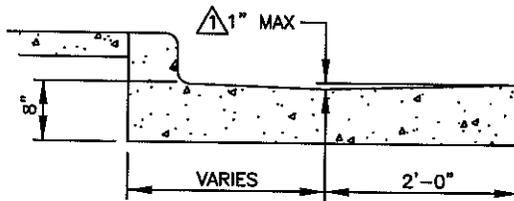
PLAN VIEW

NOTES

1. INVERT OF VALLEY GUTTER TO EXTEND FROM FLOWLINE OF UPSTREAM CURB RETURN TO FLOWLINE OF DOWNSTREAM CURB RETURN.
2. ENTIRE VALLEY GUTTER TO BE REINFORCED WITH 6 X 6 NO. 6 WOVEN WIRE FABRIC.



SECTION A-A



SECTION B-B

REV.	DATE
△	01/07/04

**CONSTRUCTION
STANDARDS**

**EYE BROW △
VALLEY GUTTER**

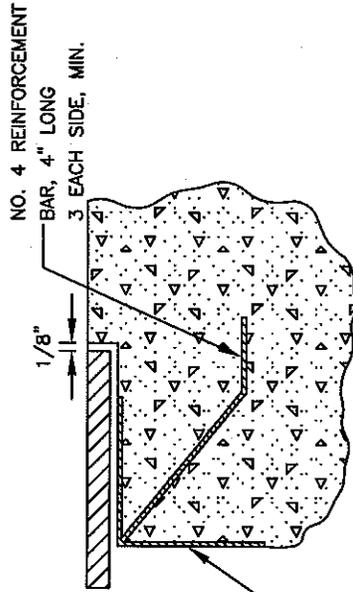
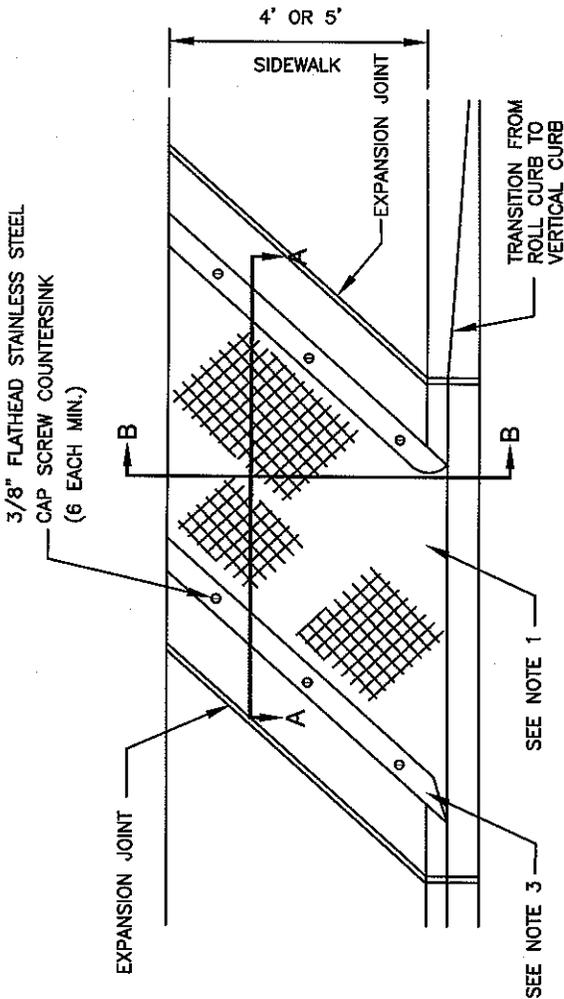
STANDARD No. D-325 SHEET 1 OF 1

**CITY OF
FARMINGTON**

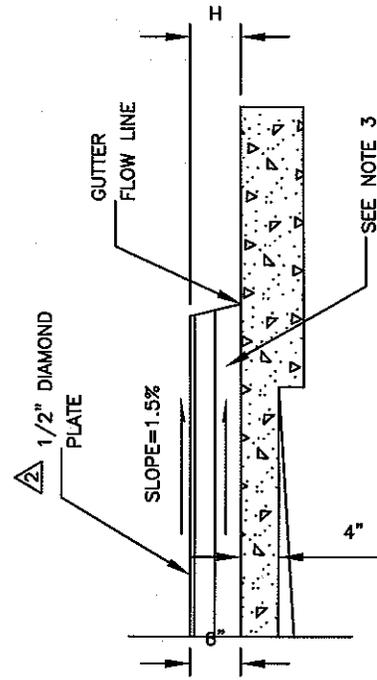
**PUBLIC
WORKS
DEPARTMENT**

APPROVED *[Signature]* DATE 4/13/08

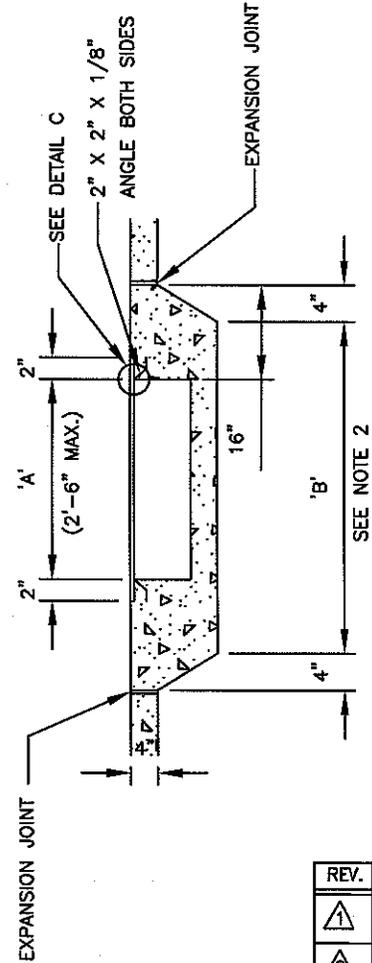
- NOTES**
1. ANGLE EQUALS 45° SPECIFIED ON PLAN
 2. DIMENSION 'B' EQUALS 'A' + 2'
 3. (———) INDICATES DIRECTION OF FLOW
 4. TWO COATS OR BLASTED & POWDER COATED
 5. R EQUALS 1" UNLESS OTHERWISE DIRECTED
 6. H EQUALS CURB FACE HEIGHT
 7. FOR ROLL CURB AND GUTTER, USE 2' TRANSITIONS TO VERTICAL CURB.
 8. 3500 PSI



DETAIL C



SECTION 'B-B'



SECTION 'A-A'

REV.	DATE
△	1/22/08
△	5/13/13

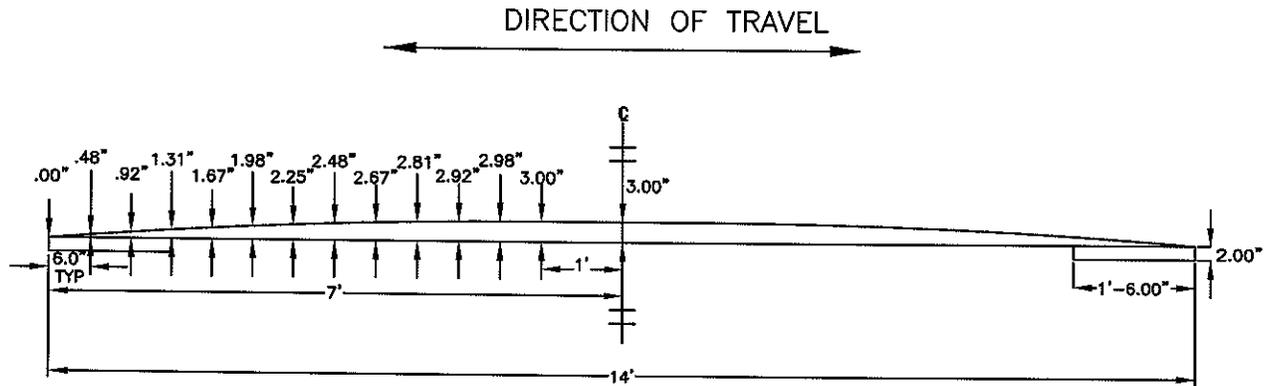
CONSTRUCTION STANDARDS

SCUPPERS

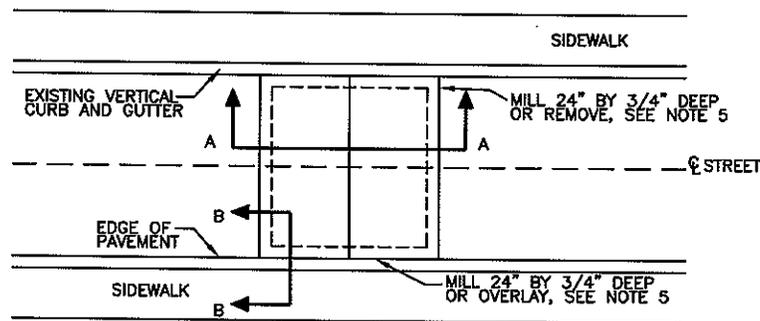
STANDARD No. D-326 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

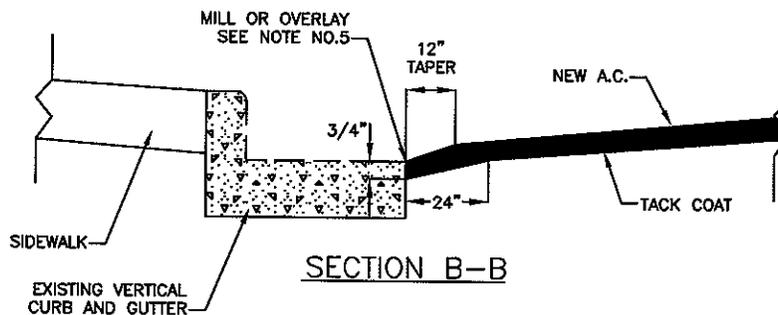
APPROVED *M. J. [Signature]* DATE 5/13/13



SPEED CONTROL HUMPS
SECTION A-A



PLAN VIEW



SECTION B-B

NOTES:

1. HUMPS TO BE THE FULL HEIGHT AS SHOWN.
2. CROSS-SECTION ELEVATIONS SHALL HAVE A MAXIMUM TOLERANCE OF +.25"
3. SPEED HUMPS SHALL BE PLACED ONLY AT THE DIRECTION OF THE ENGINEER.
4. HUMP TO BE CONSTRUCTED WITH ASPHALT MIX APPROVED BY THE CITY ENGINEER. ASPHALT COMPACTION SHALL BE 96% OF MAXIMUM. A TACK COAT SHALL BE APPLIED PRIOR TO APPLICATION OF PAVEMENT.
5. INSTALLATION JOINTS:
 - A. STANDARD INSTALLATION:
THE EXISTING ROADWAY SHALL BE MILLED TO A MINIMUM DEPTH OF 3/4" AROUND THE PERIMETER. CROSS SECTION DIMENSIONS DO NOT INCLUDE THE 3/4" MILLING. CONTRACTOR MUST PROVIDE VERIFICATION OF CROSS-SECTION DIMENSIONS.
 - B. ALTERNATIVE INSTALLATION:
FOR TRANSVERSE JOINTS (CROSS ROADWAY), THE EXISTING ASPHALT SHALL BE SAW CUT AND REMOVED FOR A WIDTH OF 18". THE ASPHALT SHALL BE REPLACED WITH THE SAME ASPHALT AND AT THE SAME TIME AS THE HUMP ASPHALT. FOR LONGITUDINAL JOINTS, THE EXISTING ASPHALT SHALL BE OVERLAID AND TAPPED IN 12". CROSS-SECTION DIMENSIONS REFLECT DISTANCES FROM THE SURFACE OF EXISTING ASPHALT.
6. CONTACT THE AGENCY (OR INSPECTOR) ONE WEEK PRIOR TO INSTALLATION TO COORDINATE PAVEMENT MARKINGS AND SIGNING.
7. HUMP TO BE STRIPED PER CITY ENGINEER.

REV	DATE
1	1/22/08

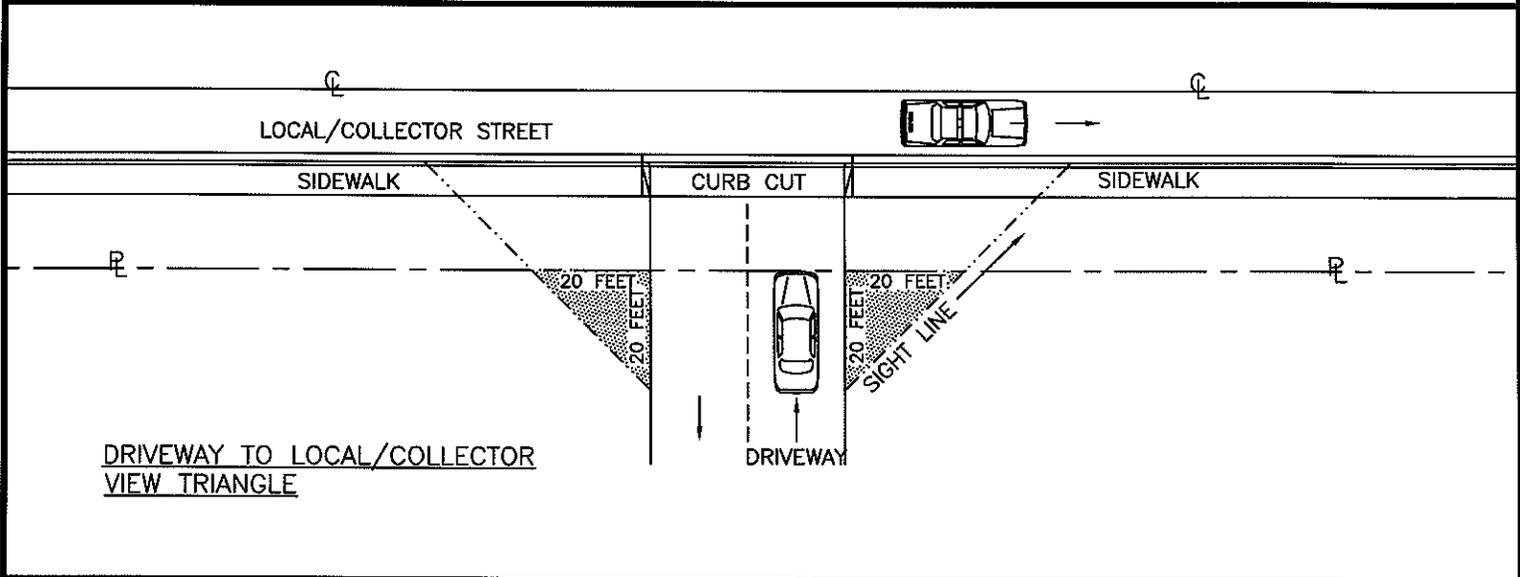
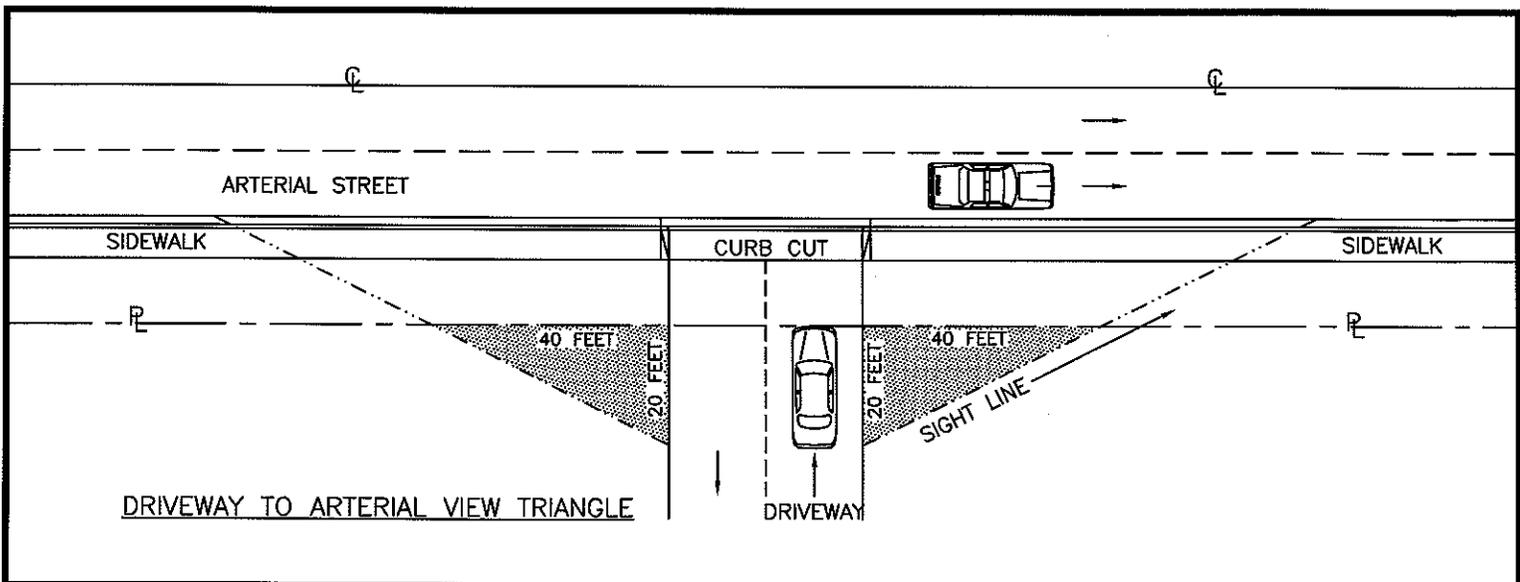
CONSTRUCTION
STANDARDS

RESIDENTIAL SPEED HUMPS

STANDARD No. D-328 SHEET 1 OF 1

CITY OF
FARMINGTON
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTE:

NO STRUCTURE OR PLANTING (AT MATURE GROWTH) THAT EXCEEDS 3 FEET IN HEIGHT SHALL BE PERMITTED WITHIN A CORNER SETBACK. EXCEPTIONS ARE PERMITTED FOR UTILITY POLES (D-318), LIGHTING STANDARDS, MAIL BOXES (D-606), FIRE HYDRANTS (D-318), CITY OR STATE TRAFFIC SIGNS (D-603), AND EXISTING TREES IF THE LOWER CANOPY OF THE TREES ALLOW A CLEAR LINE OF SIGHT BETWEEN 3 FEET AND 7 FEET ABOVE THE STREET GRADE. A SIGN PERMITTED BY SECTION 5.8 MAY BE LOCATED WITHIN THE INTERSECTION VISIBILITY AREA, PROVIDED, THAT VISUAL CLEARANCE EXISTS BETWEEN 3 FEET AND 7 FEET ABOVE GROUND.

NOT TO SCALE

MINIMUM CORNER SETBACKS

INTERSECTION TYPE	DIMENSIONS
LOCAL/COLLECTOR TO LOCAL/COLLECTOR	20 FEET BY 20 FEET
LOCAL/COLLECTOR TO ARTERIAL	20 FEET BY 40 FEET
ARTERIAL TO ARTERIAL	40 FEET BY 40 FEET
DRIVEWAY TO LOCAL/COLLECTOR	20 FEET BY 20 FEET
DRIVEWAY TO ARTERIAL	20 FEET BY 40 FEET

REV	DATE
△	4/19/11

CONSTRUCTION STANDARDS

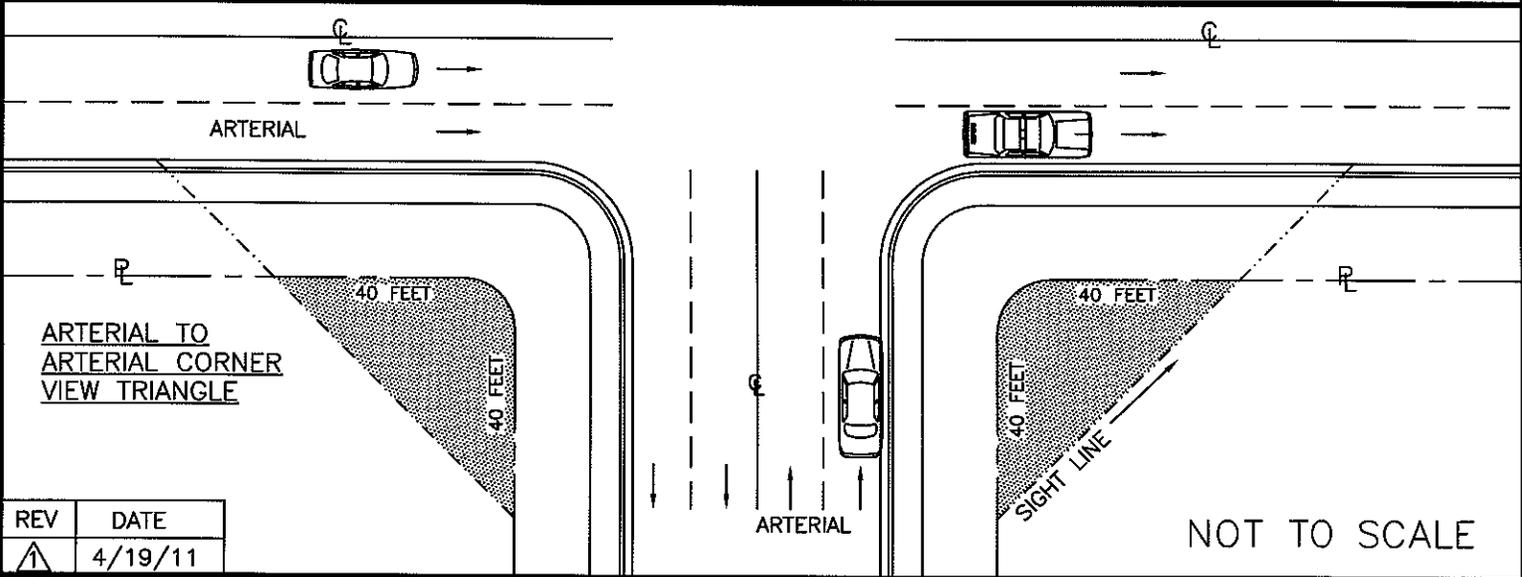
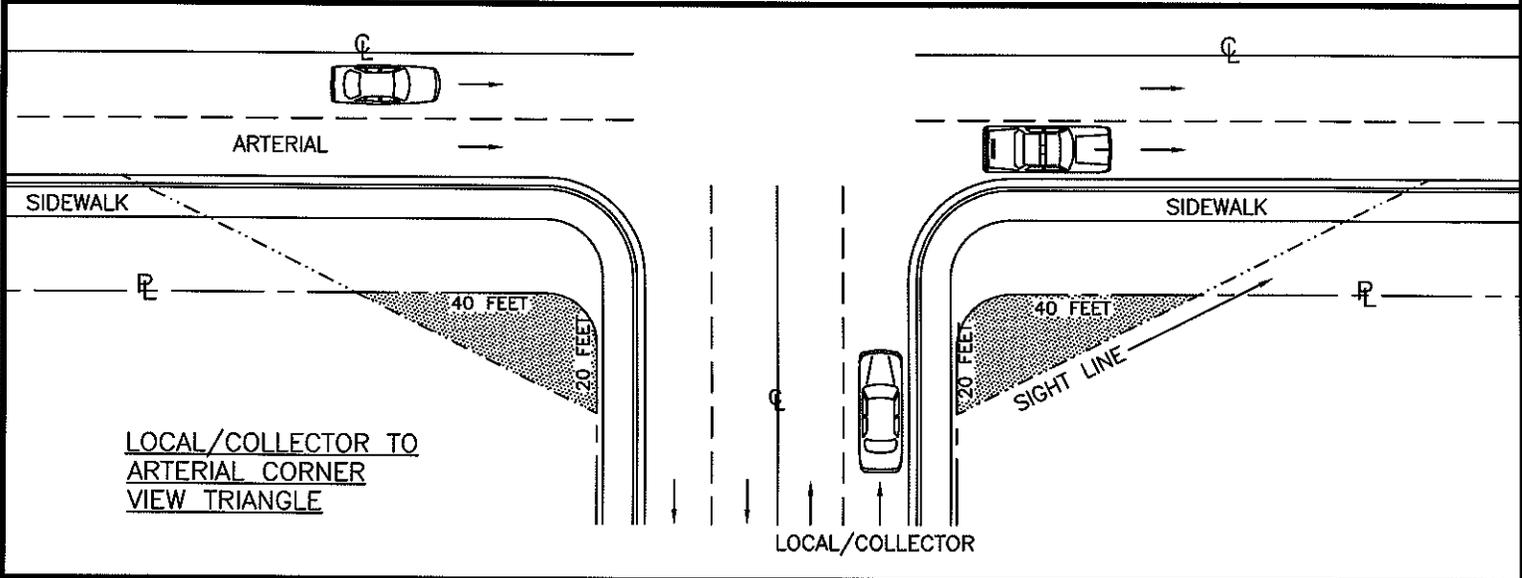
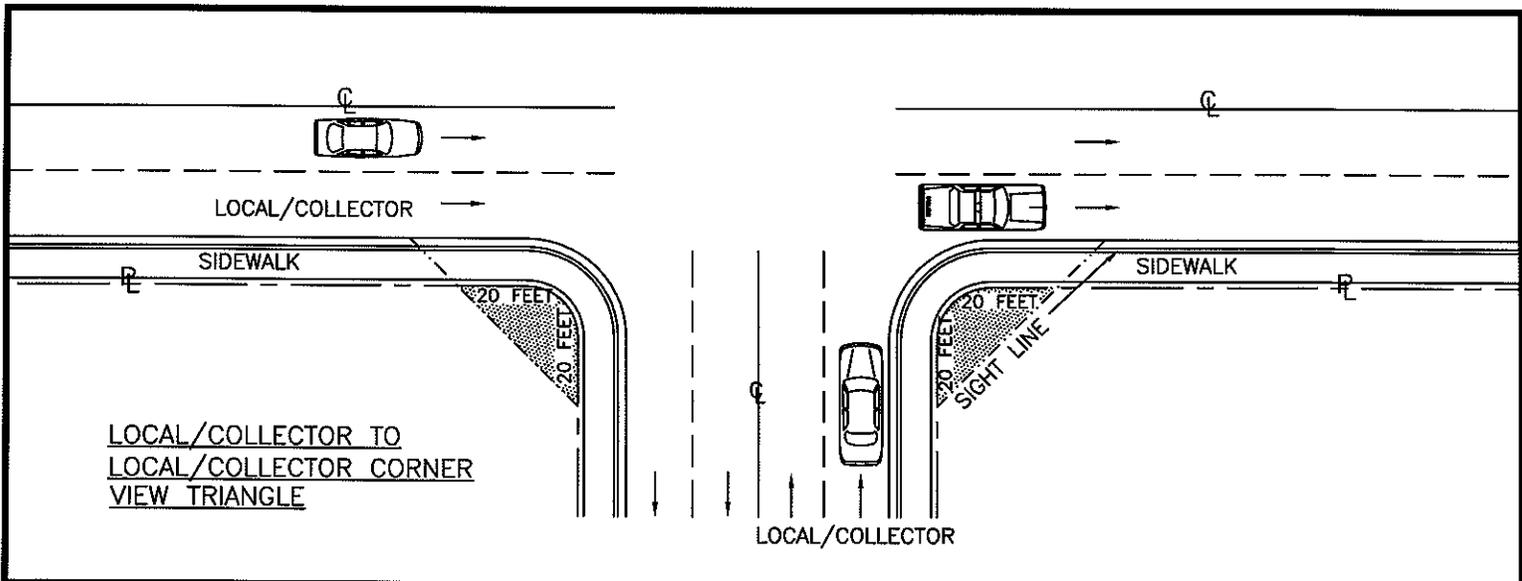
**DRIVEWAY TO STREET △
SIGHT TRIANGLE**

STANDARD No. D-329 SHEET 1 OF 1

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE *5/31/11*



REV	DATE
1	4/19/11

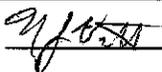
CONSTRUCTION STANDARDS

STREET INTERSECTION VIEW TRIANGLES 

CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

STANDARD No. D-330 SHEET 1 OF 1

APPROVED  DATE 5/31/11

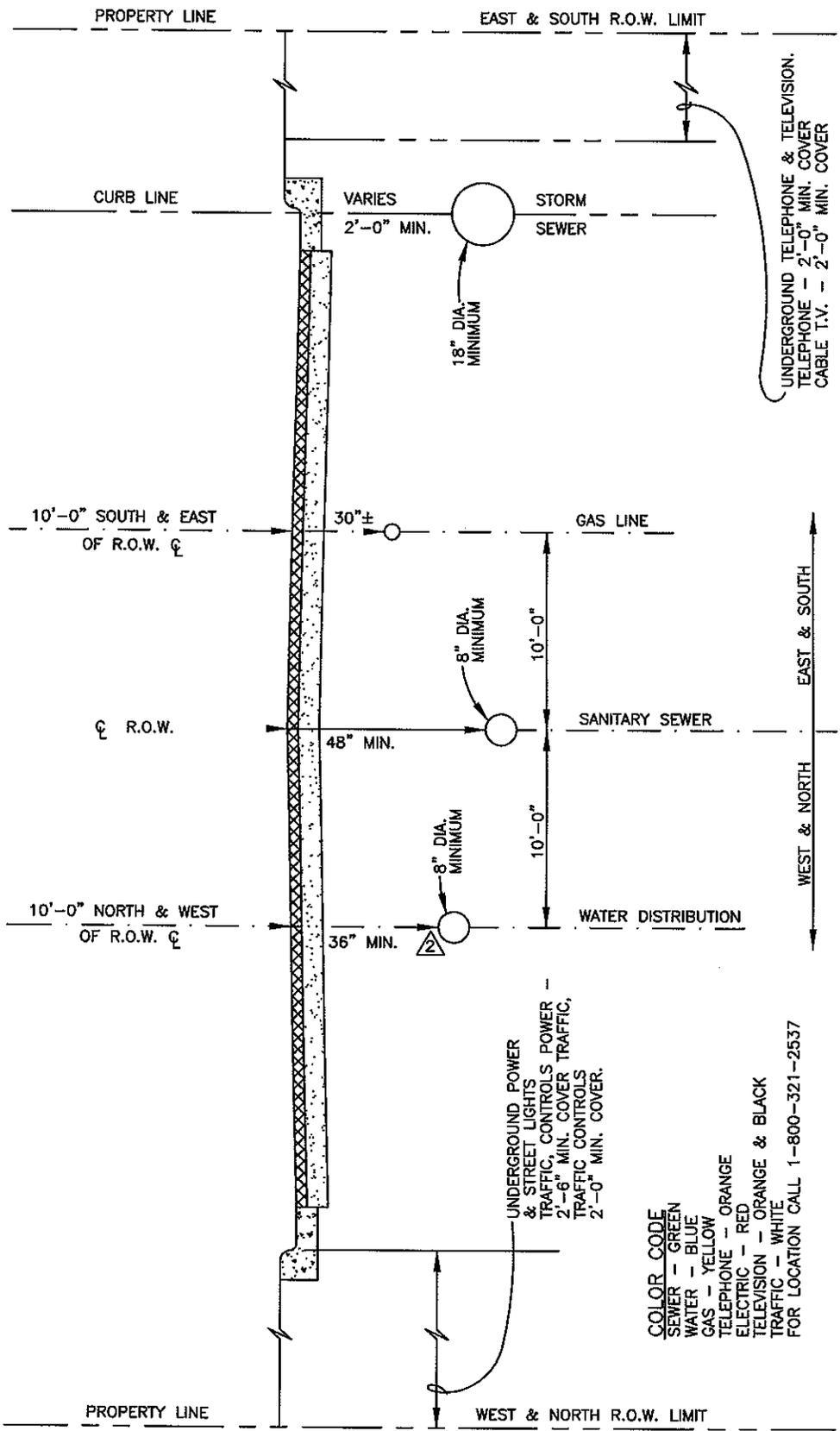
PIPE INSTALLATION

CONSTRUCTION STANDARDS SHEET INDEX

PIPE INSTALLATION

<u>SHEET NO.</u>	<u>TITLE</u>
D-401	GENERAL UTILITY LOCATION (2 SHEETS)
D-402	BORING DETAILS
D-404	PIPE CULVERT FULL HEIGHT HEADWALL (2 SHEETS)
D-405	PIPELINE INSTALLATION IN ROCK AREAS
D-409	SEWER LINE ENCASEMENT
D-410	PIPE BEDDING (INCLUDING CONCRETE CRADLE)

NOTE: * REVISED 2013/2014



UNDERGROUND TELEPHONE & TELEVISION.
 TELEPHONE - 2'-0" MIN. COVER
 CABLE T.V. - 2'-0" MIN. COVER

UNDERGROUND POWER
 & STREET LIGHTS
 TRAFFIC, CONTROLS POWER -
 2'-6" MIN. COVER TRAFFIC,
 TRAFFIC CONTROLS
 2'-0" MIN. COVER.

COLOR CODE
 SEWER - GREEN
 WATER - BLUE
 GAS - YELLOW
 TELEPHONE - ORANGE
 ELECTRIC - RED
 TELEVISION - ORANGE & BLACK
 TRAFFIC - WHITE
 FOR LOCATION CALL 1-800-321-2537

NOTES

- 1) FOR SANITARY SEWER AND/OR WATERLINES GREATER THAN 16" IN DIAMETER, UTILITY LOCATIONS MUST BE ADJUSTED TO MAINTAIN MINIMUM SEPARATION OUTSIDE, BETWEEN SEWER AND WATERLINES IN WHICH CASE THE SANITARY WILL BE RELOCATED TO THE SOUTH OR EAST.
- 2) A MINIMUM OF 3' SEPARATION BETWEEN WATERLINE, SEWER LINE AND TELEPHONE, ELECTRIC OR CABLE T.V. LINES IS REQUIRED. A MINIMUM OF 6" VERTICAL CLEARANCE REQUIRED WHEN CROSSING OCCURS. A 2" SEPARATION IS ALLOWED BETWEEN WATERLINE AND MANHOLES FOR THESE UTILITIES.
- 3) STRICT ADHERENCE TO THESE LOCATIONS MAY NOT ALWAYS BE PRACTICAL; LOCATIONS WILL BE RESOLVED BETWEEN THE INVOLVED UTILITIES.
- 4) MINIMUM COVER WILL BE MEASURED FROM FINISHED GRADE TO TOP OF UNDERGROUND LINES,
- 5) ANY CHANGES IN MINIMUM SEPARATION WILL BE APPROVED BY CITY ENGINEER.

REV.	DATE
1	12/15/94
2	01/02/01
3	1/22/08

CONSTRUCTION STANDARDS

GENERAL UTILITY LOCATION

STANDARD No. D-401 SHEET 1 OF 2

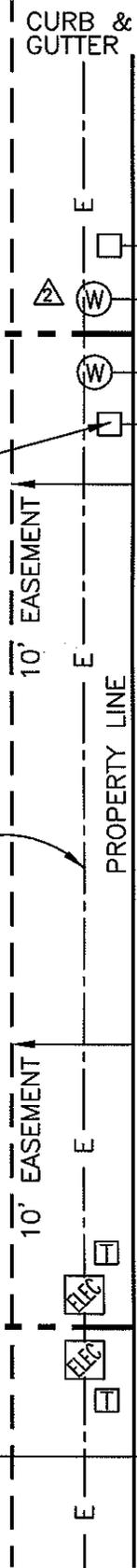
CITY OF FARMINGTON
 PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08

PROPERTY LINE

LOT

2' BEHIND
SIDEWALK



NOTE:
FOR WATER SERVICE
CONNECTIONS SEE STD. No. D-220

PROPERTY LINE

WEST & NORTH

SOUTH & EAST

STREET

NOTES

- 1) A MINIMUM OF 3' SEPARATION BETWEEN WATERLINE, SEWER LINE AND TELEPHONE, ELECTRIC OR CABLE T.V. LINES IS REQUIRED. A MINIMUM OF 6" VERTICAL CLEARANCE REQUIRED WHEN CROSSING OCCURS. A 2' SEPARATION IS ALLOWED BETWEEN WATERLINE AND MANHOLES FOR THESE UTILITIES.

CURB & GUTTER

REV.	DATE
△	12/31/97
△	01/10/01
△	1/22/08

CONSTRUCTION
STANDARDS

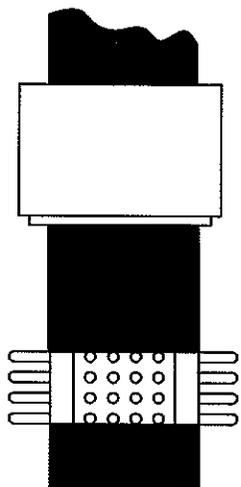
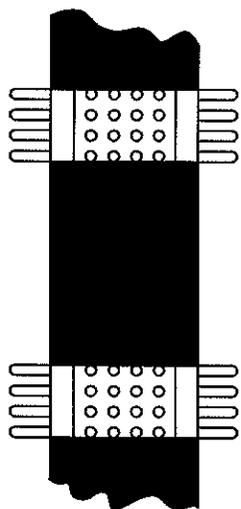
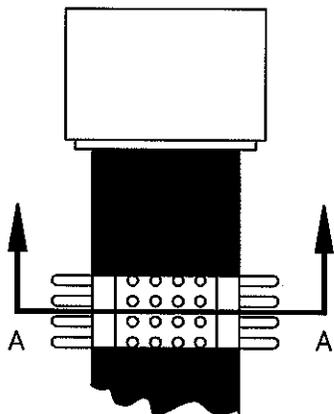
GENERAL UTILITY LOCATION

STANDARD No. D-401 SHEET 2 OF 2

CITY OF
FARMINGTON

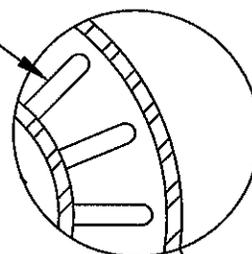
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08



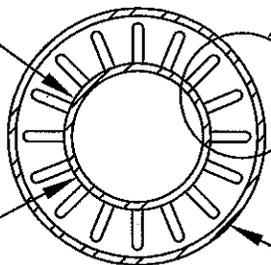
HIGH DENSITY POLYETHYLENE CASING SPACERS
RACI TYPE F/G O.C. OR APPROVED EQUAL BY
CITY ENGINEER.

NOT TO SCALE



CARRIER PIPE

SECTION A-A.



* HDPE FUSED PIPE OR
WELDED STEEL CASING PIPE
SCHEDULE 40

* CARRIER PIPE AND SIZE PER PLAN
APPROVED BY C.O.F. MATERIAL WILL
BE FURNISHED AND INSTALLED BY
CONTRACTOR.

NOTES 1) SIZE AND TYPE PER PLAN

NOT TO SCALE

REV.	DATE
*	04/19/13

CONSTRUCTION
STANDARDS

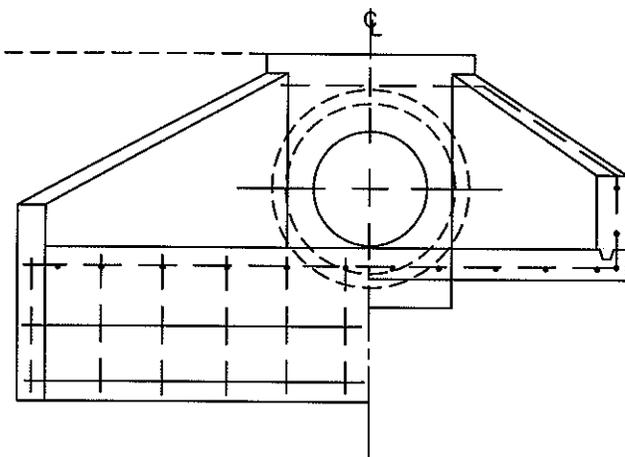
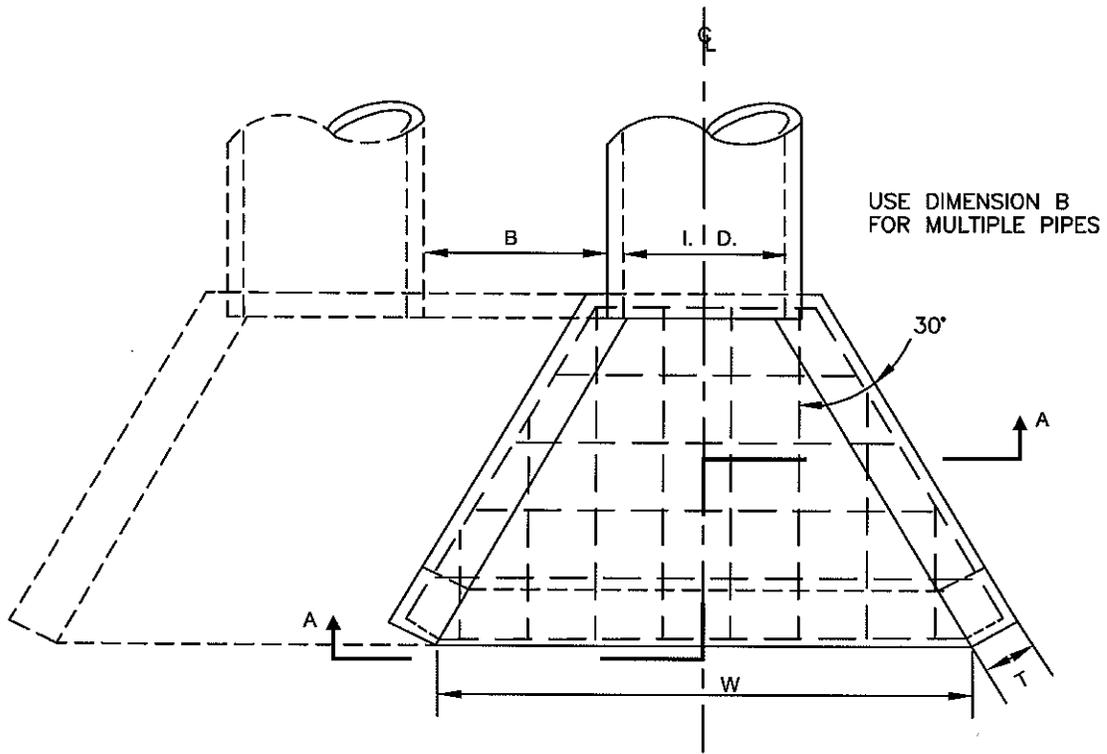
BORING DETAIL WITH CASING SPACERS

STANDARD No. D-402 SHEET 1 OF 1

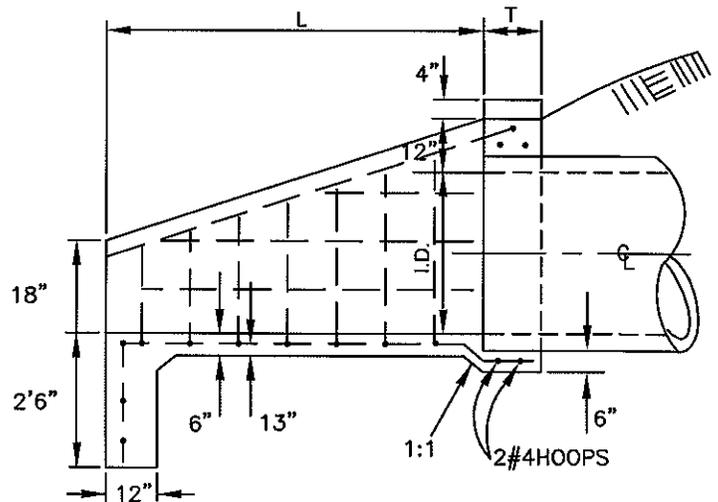
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 5/13/13



SECTION A-A



LONGITUDINAL SECTION

NOTE:

ALL BARS #4@12" MIN. 2 1/2" CLEAR OUTSIDE FACE OR AS SHOWN.

CONSTRUCTION
STANDARDS

PIPE CULVERT FULL
HEIGHT HEADWALL

STANDARD No. D-404 SHEET 1 OF 2

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED

[Signature]

DATE

4/15/08

PIPE INSIDE DIAMETER	DIMENSIONS				APPROXIMATE QUANTITIES			
	T	L	W	B	SINGLE PIPE HEADWALL		ADD EACH ADDITIONAL PIPE	
					CONC. C.Y.	REIN. STEEL LBS.	CONC. C.Y.	REIN. STEEL LBS.
12	8	4'-0"	5'-7 7/16"	1'-6"	1.60	93	0.71	38
15	8	4'-6"	6'-5 3/8"	1'-6"	1.72	118	0.73	44
18	8	5'-0"	7'-3 1/4"	1'-9"	2.00	133	0.92	49
21	9	5'-6"	7'-6 5/16"	1'-9"	2.39	150	1.09	55
24	9	6'-0"	8'-11 1/8"	2'-0"	2.79	182	1.35	74
27	9	6'-6"	9'-9"	2'-3"	3.15	201	1.59	80
30	10	7'-0"	10'-7"	2'-6"	3.81	231	1.93	100
36	10	8'-0"	12'-2 7/8"	3'-0"	4.65	288	2.51	130
42	10	9'-0"	13'-10 11/16"	3'-6"	5.61	330	3.19	164
48	11	10'-0"	15'-6 9/16"	4'-0"	7.02	404	4.11	202
54	11	11'-0"	17'-2 7/16"	4'-6"	8.25	468	4.96	242
60	12	12'-0"	18'-10 1/4"	5'-0"	10.16	540	6.11	287
72	12	14'-0"	22'-2"	5'-6"	12.94	650	7.69	344

FOR ELLIPTICAL OR SQUASH PIPE USE NEXT LARGEST HORIZONTAL
AND VERTICAL PIPE I.D. SHOWN.

CONSTRUCTION
STANDARDS

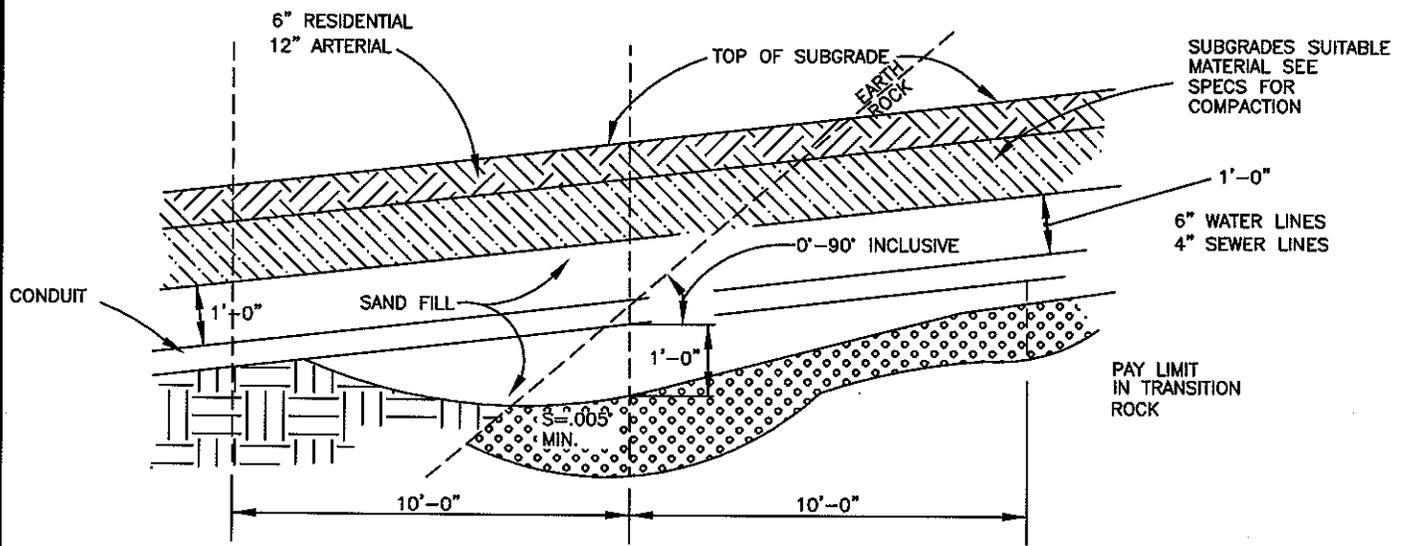
PIPE CULVERT FULL HT.
HEADWALL DIMENSIONS

STANDARD No. D-404 SHEET 2 of 2

CITY OF
FARMINGTON

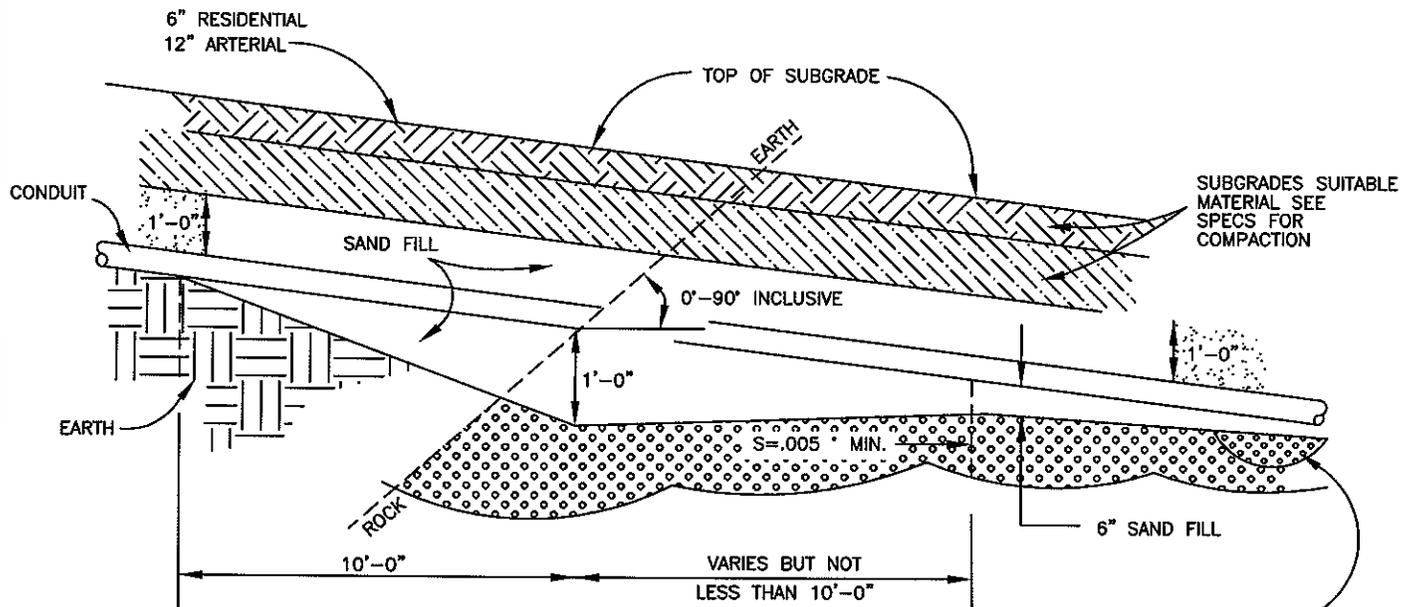
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



EARTH TO ROCK LONGITUDINAL TRANSITION

ANY MODIFICATIONS OR
CHANGES SHALL BE
APPROVED AT THE DIRECTION
OF THE CITY ENGINEER



NOTES

△ AS DETERMINED BY A.S.T.M. D.-1557
A.A.S.H.T.O. DEG. T-147-FIELD TEST
MOISTURE CONTENT OF ALL COMPACTED
SUBGRADE MATERIAL IN PLACE SHALL
BE NO GREATER THAN OPTIMUM NOR
ANY LESS THAN OPTIMUM MINUS 5%

ANY UNDERCUT 6" OR
OVER TO BE FILLED
WITH 1 1/2" STONE

EARTH TO ROCK LONGITUDINAL TRANSITION

REV.	DATE
△	1/22/08

CONSTRUCTION
STANDARDS

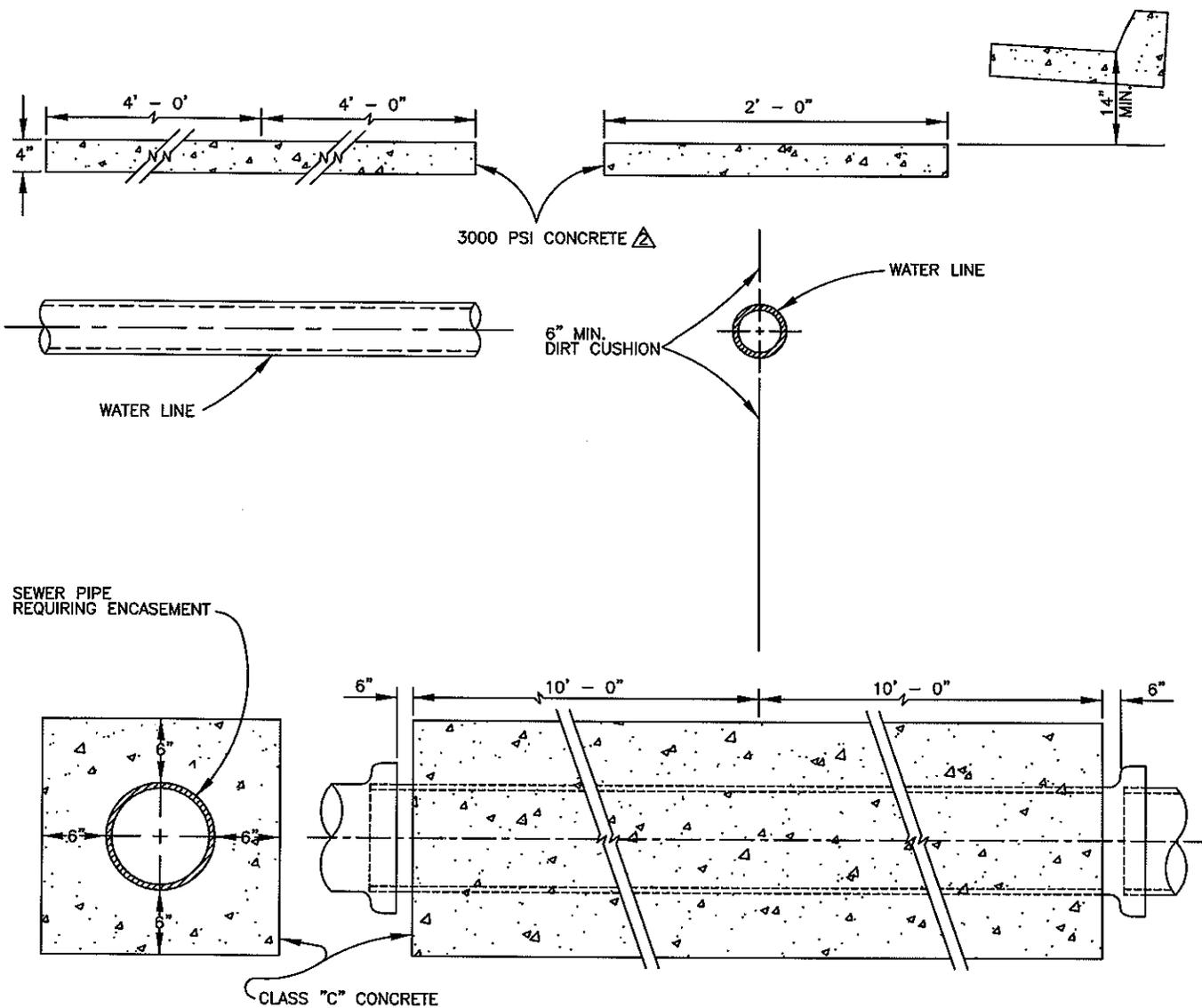
PIPELINE INSTALLATION
IN ROCK AREAS

STANDARD NO. D-405 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *M. J. [Signature]* DATE 4/15/08



NOTES

- 1) ENCASEMENT IS REQUIRED WHERE THE VERTICAL SEPARATION BETWEEN A WATER LINE AND A V.C.P. SEWER LINE DOES NOT EXCEED 24" AT A CROSSING. ENCASEMENT IS TO EXTEND A MINIMUM OF 10' EACH DIRECTION ALONG THE SEWER LINE FROM THE POINT OF CROSSING.
- 2) ENCASEMENT IS NOT REQUIRED IF DUCTILE IRON PIPE OR PVC IS USED FOR SEWER LINE A MINIMUM OF 10' EACH DIRECTION FROM CROSSING. IF WATER MAIN CROSSES UNDER SEWER MAIN, THE SEWER MAIN MUST BE ENCASED, AND WATER MAIN SHALL BE DUCTILE IRON PIPE.

REV.	DATE
1	12/15/94
△	1/22/08

**CONSTRUCTION
STANDARDS**

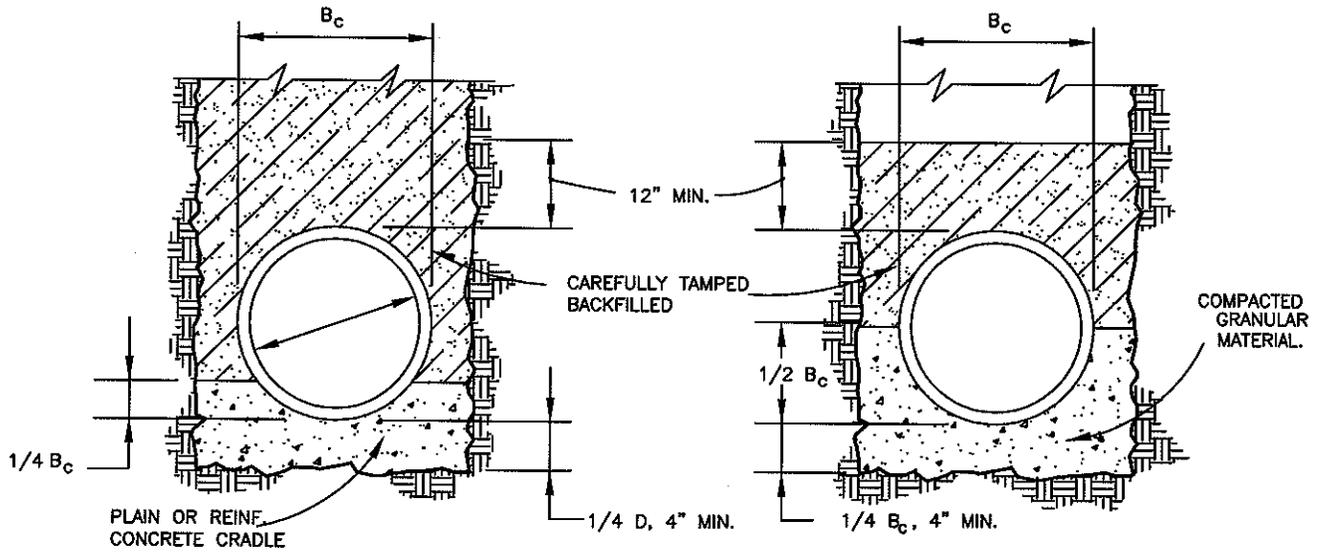
**SEWER LINE
ENCASEMENT**

STANDARD No. D-409 SHEET 1 OF 1

CITY OF
FARMINGTON

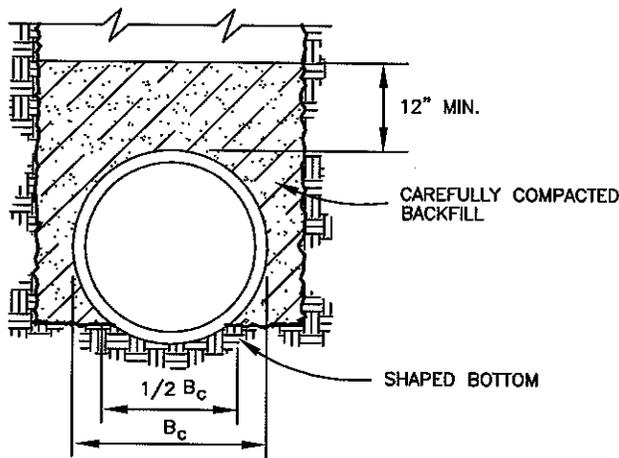
PUBLIC
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DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



CLASS "A"
 (CONCRETE CRADLE)
 L.F. = 2.8

CLASS "B"
 (GRANULAR BASE)
 L.F. = 1.9



CLASS "C"
 (SHAPED BOTTOM)
 L.F. = 1.5

NOTES

1. FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6" AND REFILLED WITH GRANULAR BEDDING MATERIAL AS DEFINED BY CLASS "B" BEDDING.
2. "L.F." LOAD FACTOR.



REV.	DATE
1	01/31/06

**CONSTRUCTION
STANDARDS**

PIPE BEDDING

STANDARD No. D-410 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

DRAINAGE

CONSTRUCTION STANDARDS SHEET INDEX

DRAINAGE

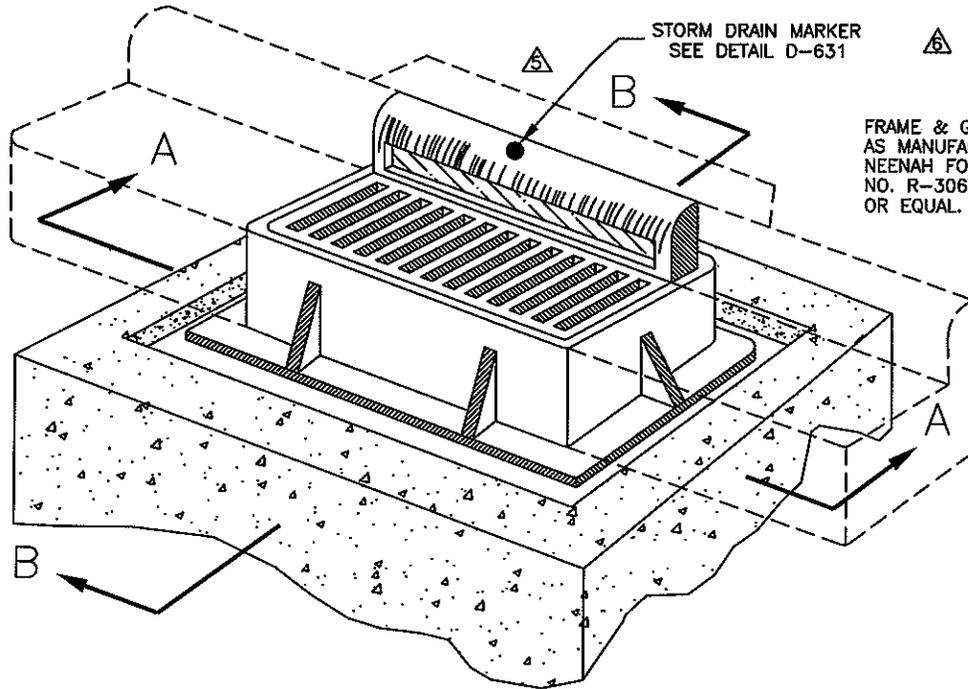
SHEET NO.

TITLE

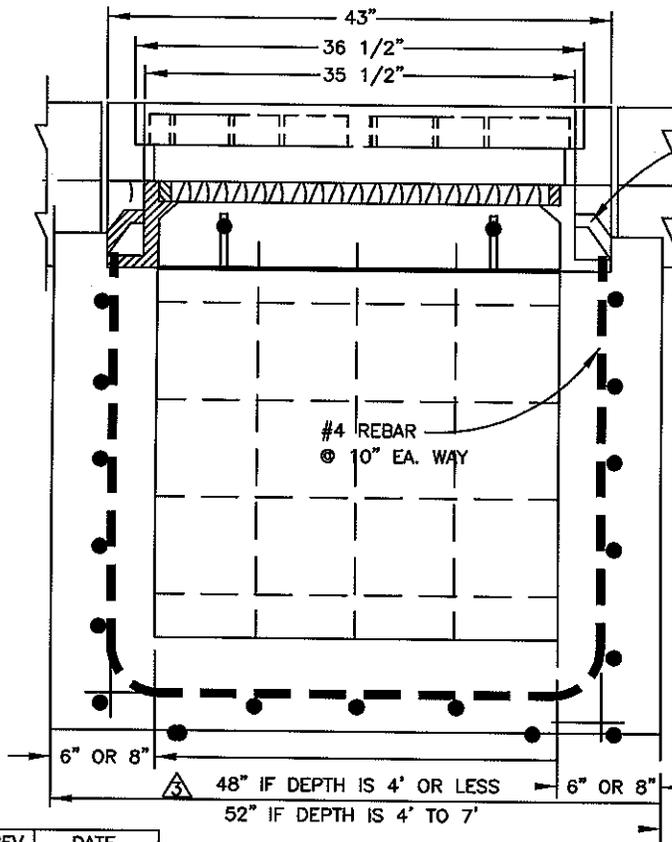
D-503	CURB INLET SINGLE
D-504	CURB INLET DOUBLE
D-505	CURB INLET SINGLE FOR STANDARD MANHOLE
D-506	SURFACE INLET
D-507 *	BEHIND THE CURB CATCH BASIN & CURB INLET
D-508	SLOTTED CURB DRAIN
D-509	DRAIN LINE CONNECTION TO EXISTING DROP INLET
D-510	TRANSVERSE DRAINAGE STRUCTURE
D-512*	WIRE ENCLOSED RIPRAP DETAILS (4 SHEETS)
D-513 *	TYPICAL CONCRETE DRAINAGE CHANNEL
D-514	TRASH RACK
D-515	STORM DRAIN

NOTE: * REVISED 2013/2014

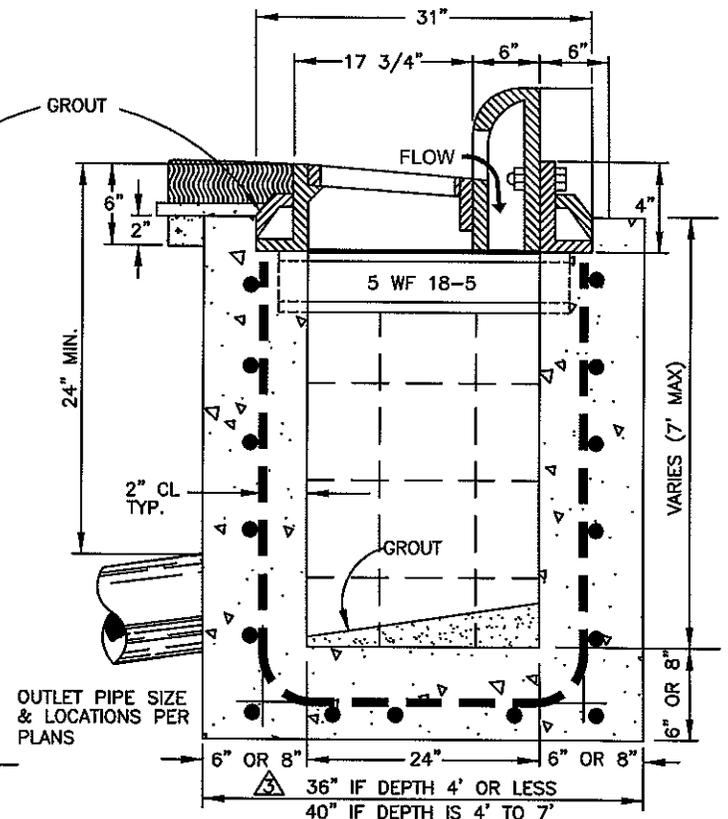
NOTE: ALL CURB INLETS SHALL BE DEPRESSED A MINIMUM OF 1 1/2".



FRAME & GRATE
AS MANUFACTURED BY
NEENAH FOUNDRY
NO. R-3067-V
OR EQUAL.



SECTION A-A



SECTION B-B

CONCRETE SHALL BE 3000 PSI 28 DAY STRENGTH.

REV.	DATE
1	11/3/82
2	11/16/83
3	11/6/87
4	01/07/04
5	12/16/04
6	1/22/08

CONSTRUCTION
STANDARDS

CURB INLET SINGLE

STANDARD No. D-503 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

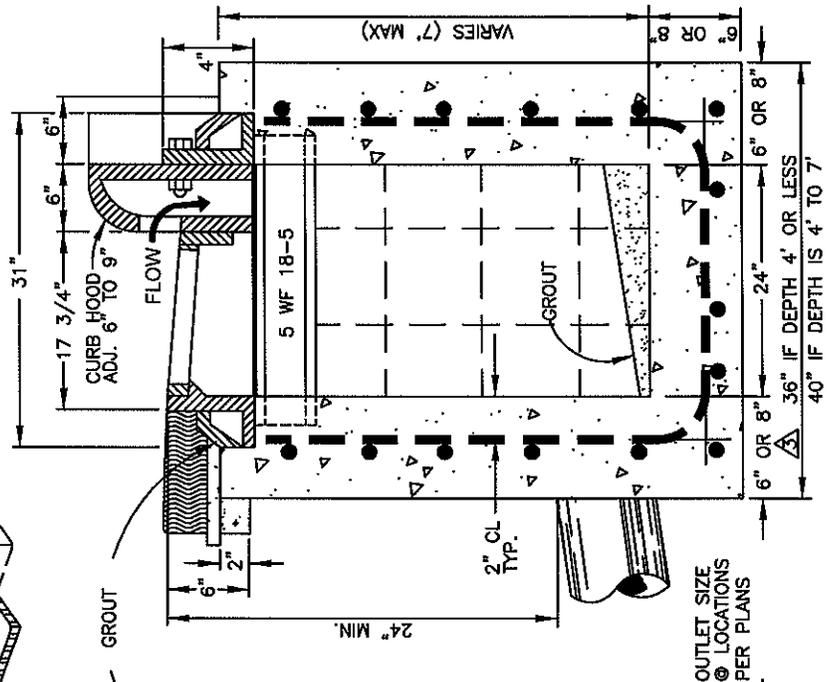
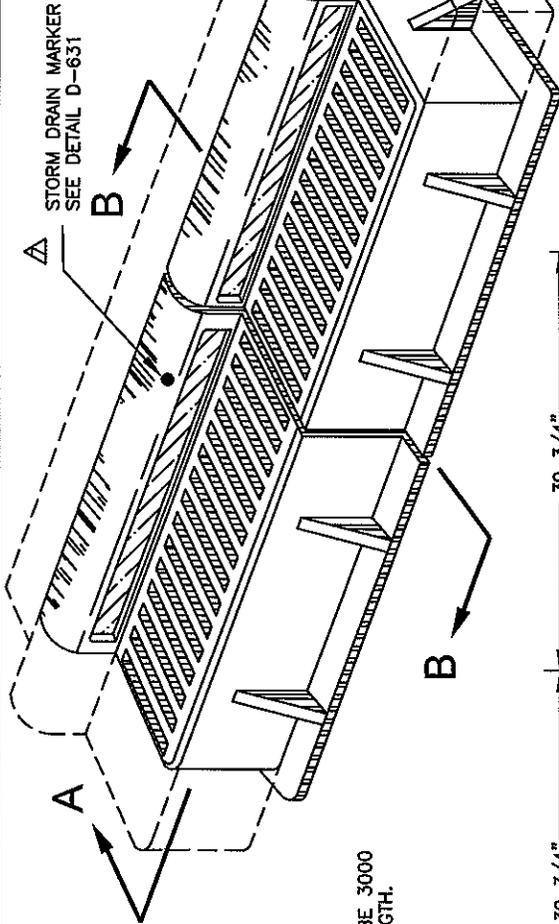
APPROVED *N. J. [Signature]* DATE 4/15/08

REV.	DATE
△	11/3/82
△	11/22/83
△	11/6/87
△	12/8/89
△	11/6/90
△	01/07/04
△	12/16/04
△	1/22/08
△	04/22/10

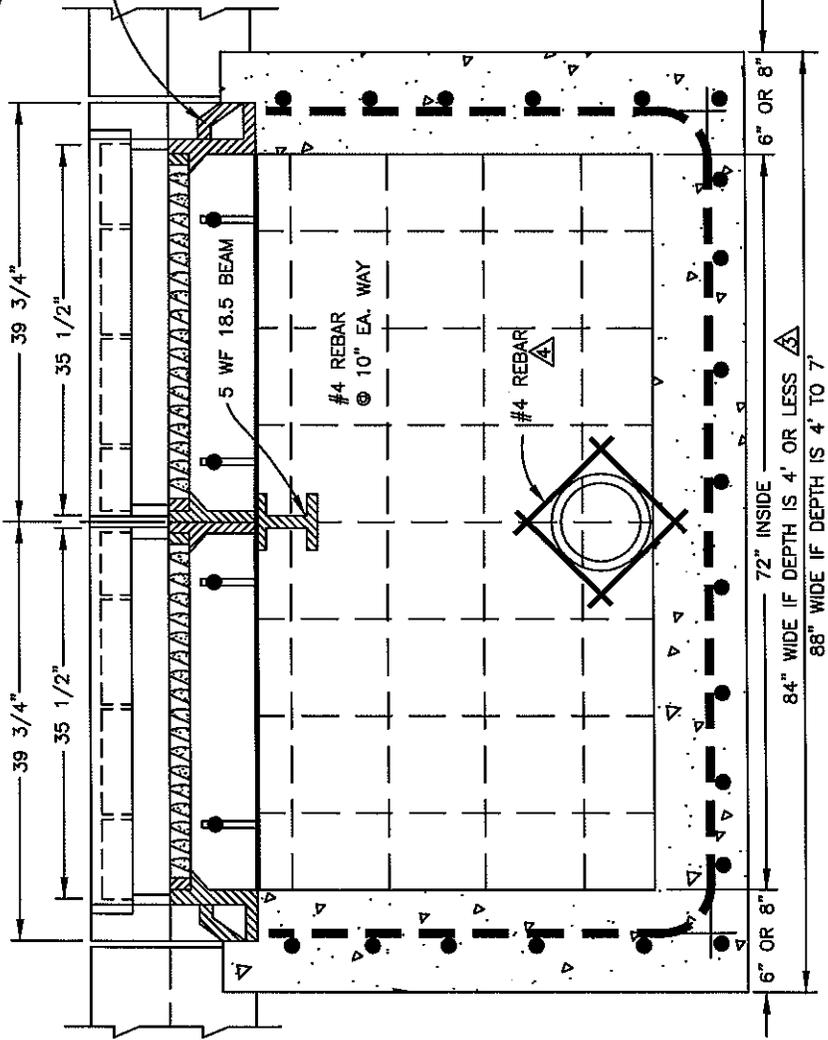
△ CONCRETE SHALL BE 3000
PSI 28 DAY STRENGTH.

△ FRAME & GRATE
AS MANUFACTURED BY
NEENAH FOUNDRY
NO. R-3295-2
TYPE V OR EQUAL.

△△△ FOR TRIPLE INLETS:
1.) USE NEENAH
R-3295-3 TYPE V
OR EQUAL.
2.) TWO STORM DRAIN
MARKERS SHALL BE
INSTALLED, ONE OVER
THE INLET ON EACH SIDE



SECTION B-B



SECTION A-A

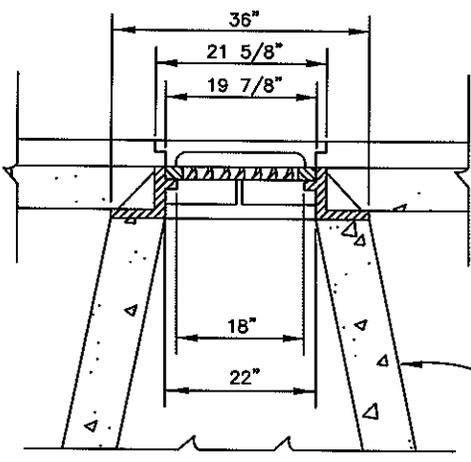
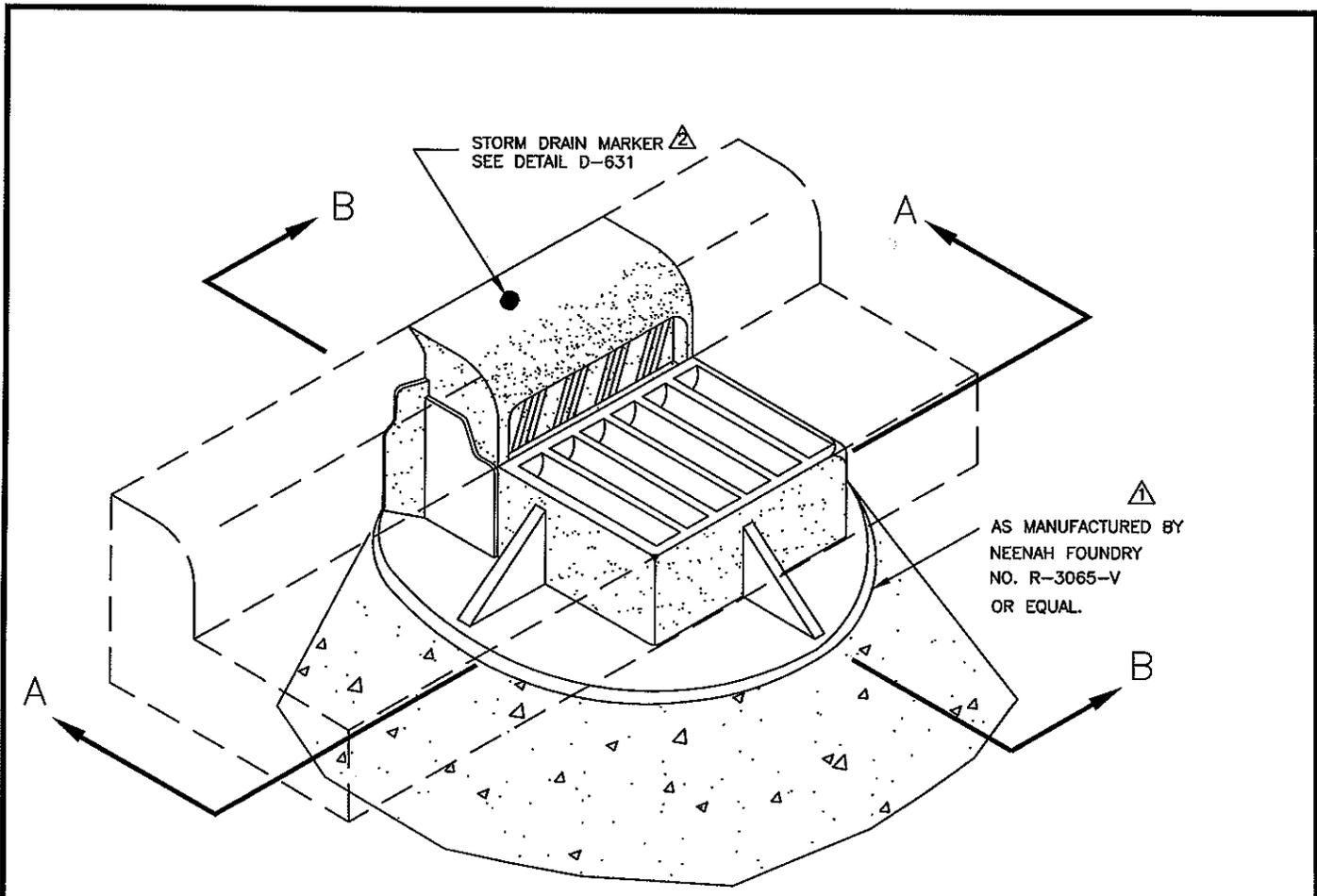
CONSTRUCTION
STANDARDS

CURB INLET
DOUBLE

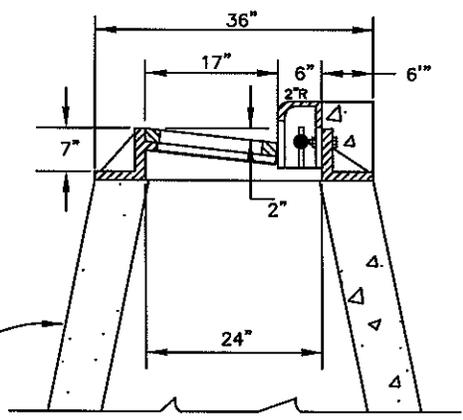
STANDARD No. D-504 SHEET 1 OF 1

CITY OF
FARMINGTON
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11



SECTION A-A



SECTION B-B

STANDARD PRECAST M.H. CONCRETE CONE

REV.	DATE
△	12/16/04
△	1/22/08

CONSTRUCTION
STANDARDS

**CURB INLET SINGLE
FOR STANDARD MH.**

STANDARD No. D-505 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08

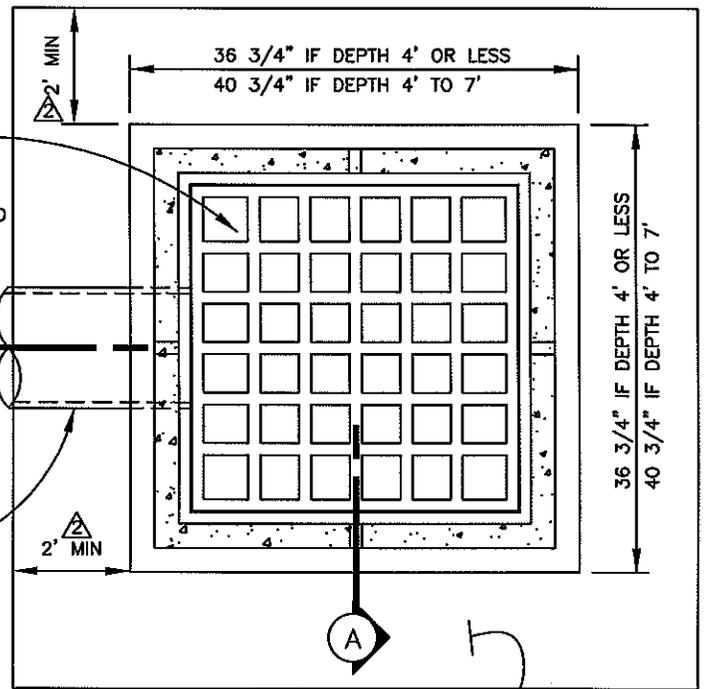
NOTES

- 1) CONCRETE TO BE 6 SACK, 3,000 PSI 28 DAY STRENGTH
- 2) SEE PAVEMENT PATCHING STD. No. 308, 310, & 311
- 3) WALLS & FLOOR TO BE 6" THICK IF BOX IS 4' DEEP OR LESS. 8" THICK IF INLET BOX IS 4'-0" TO 7'-0" DEEP

- △4) PIPE OUTLET 18" DIA. MIN.
- △△5) CULVERTS UNDER PUBLIC STREETS SHALL BE RCP OR OTHER NON-FERROUS PIPE WITH CITY ENGINEERS APPROVAL.
- △6) IF CONSTRUCTED IN SOIL SURROUND WITH 2" OF ROCK 6" MINUS.
- △7) INSTALL STORM DRAIN MARKER ON PAVED SURFACE WITHIN 6" OF THE OUTER EDGE OF THE SURFACE INLET.

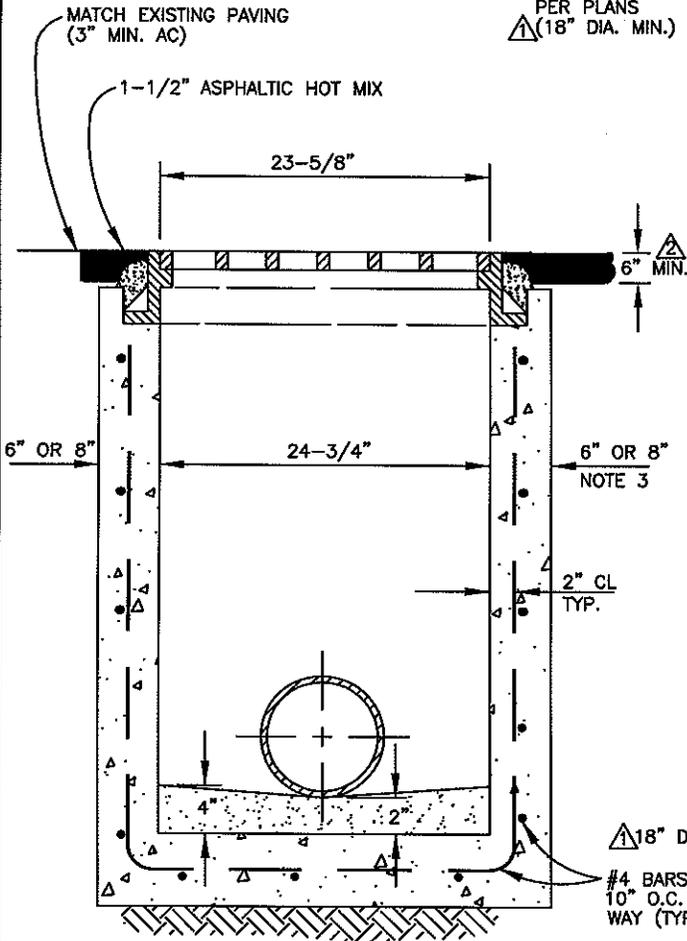
△△ NEENAH FOUNDRY R-3405 TYPE L, R-3588-L, LIVERED GRATE & FRAME OR APPROVED EQUAL.

△ OUTLET PIPE SIZE & LOCATION PER PLANS (18" DIA. MIN.)

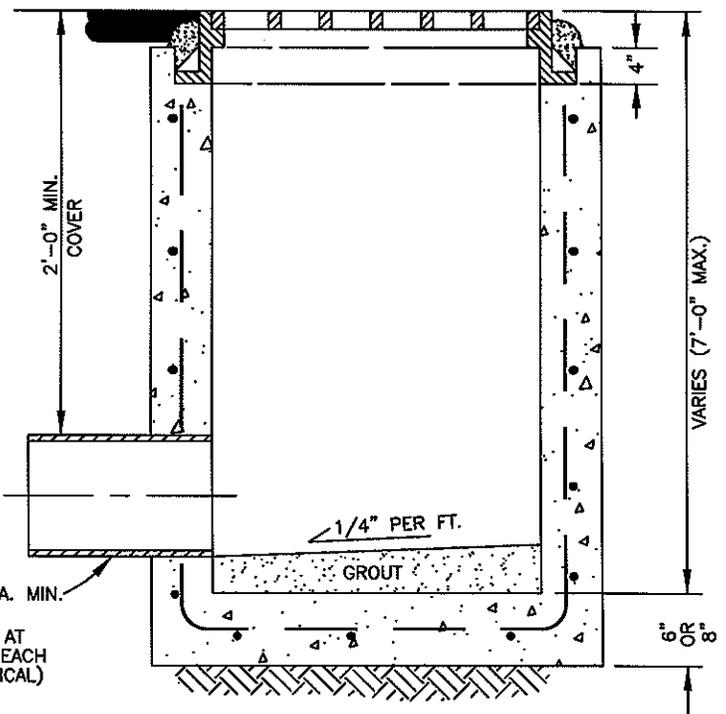


PLAN VIEW

△ CONCRETE APRON



SECTION A-A



SECTION B-B

REV.	DATE
△	3/1/96
△	01/07/04
△	12/16/04
△	1/22/08
△	04/22/10

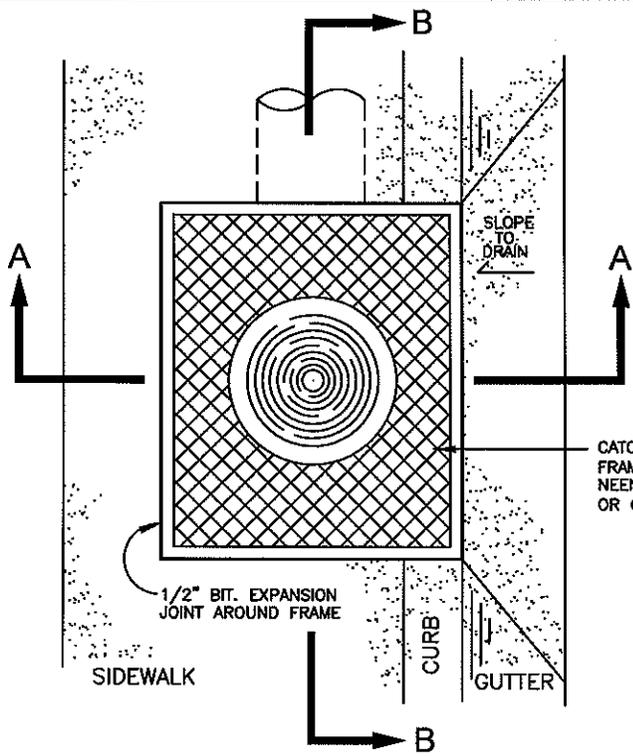
CONSTRUCTION STANDARDS

SURFACE INLET

STANDARD No. D-506 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

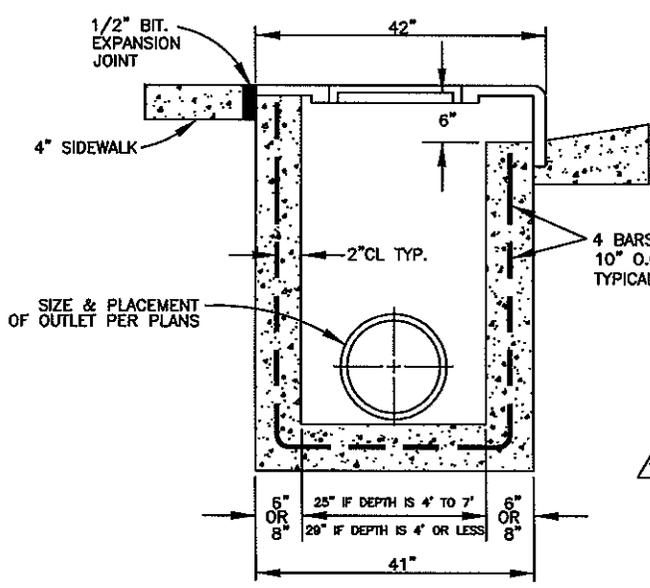
APPROVED *[Signature]* DATE 5/3/11



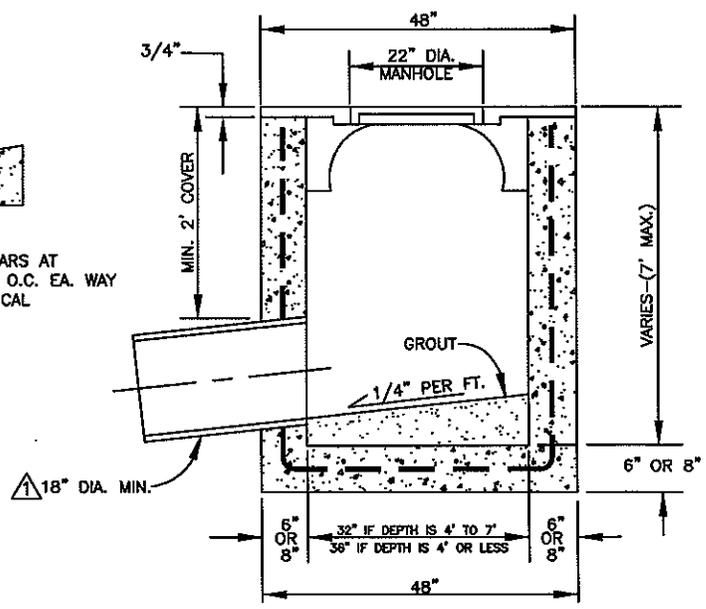
GENERAL NOTES

- △1) CONCRETE TO BE 3,000 PSI 28 DAY STRENGTH.
- 2) WALLS & FLOOR TO BE 6" THICK IF BOX IS 4' DEEP OR LESS, 8" THICK IF BOX IS 4' TO 7' DEEP.
- △3) PIPE OUTLET 18" DIA. MIN.
- △4) CULVERTS UNDER PUBLIC STREETS SHALL BE RCP OR OTHER NON-FERROUS PIPE WITH CITY ENGINEERS APPROVAL.

CATCH BASIN FRAME & LID
NEENAH R-3313
OR CITY APPROVED EQUAL



SECTION A-A



SECTION B-B

REV.	DATE
△1	3/1/96
△2	01/07/04
△3	11/30/05
△4	1/22/08
△5	04/22/10

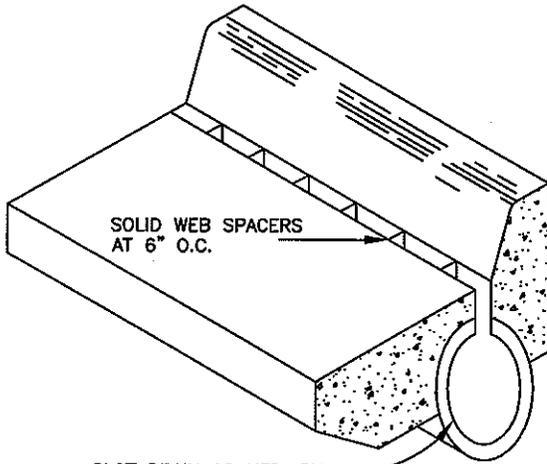
CONSTRUCTION STANDARDS

BEHIND-THE-CURB CATCH BASIN AND CURB INLET

STANDARD No. D-507 SHEET 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11

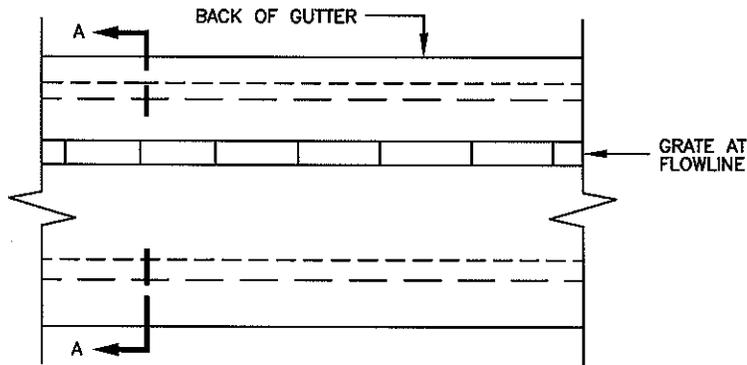


SLOT DRAIN AS MFD. BY
ARMCO OR APPROVED EQUAL

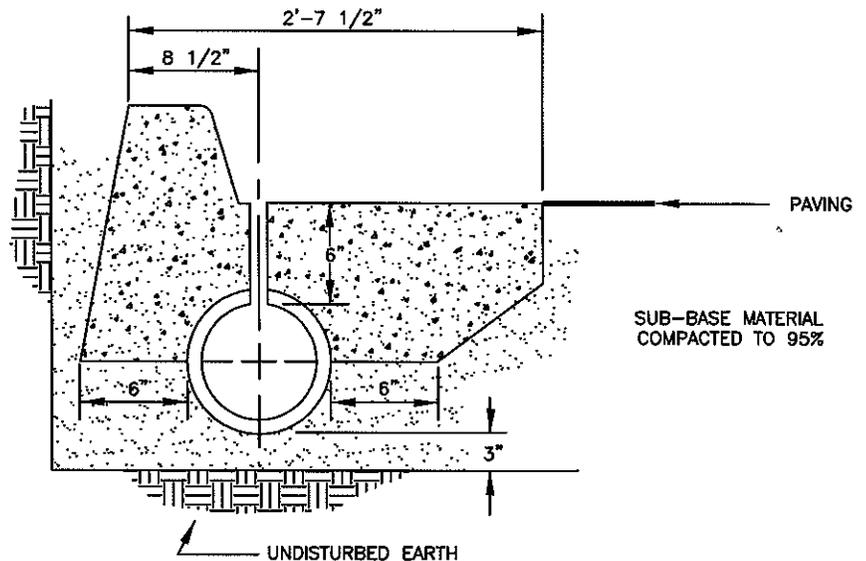
ISOMETRIC

GENERAL NOTES

1. ALL FITTINGS TO BE COMPATIBLE WITH C.M.P.
2. SPECIAL END CAPS AS MANUFACTURED EQUAL, TO BE INSTALLED AT UPSTREAM ENDS OF DRAIN PIPE.
3. GRATE OPENING TO BE BLOCKED DURING CONSTRUCTION TO PREVENT DEBRIS FROM ENTERING PIPE.
4. SURFACE CONFIGURATION TO CONFORM WITH STANDARD CURB AND GUTTER.



PLAN VIEW



SECTION A-A

**CONSTRUCTION
STANDARDS**

SLOTTED CURB DRAIN

STANDARD No. D-508 SHEET 1 OF 1

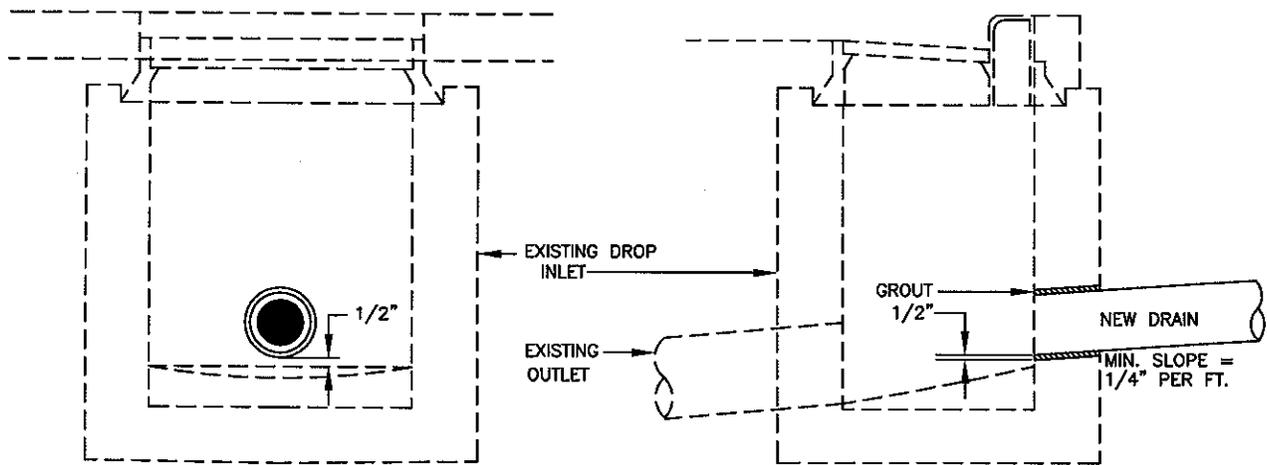
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08

GENERAL NOTES

1. THE CITY DOES NOT ACCEPT RESPONSIBILITY FOR MAINTENANCE OF ANY DRAIN LINES INSTALLED BY OR FOR PRIVATE PROPERTY OWNERS.
2. CORE DRILL INTO BACK OF EXISTING CATCH BASIN WITH INVERT OF DRILLED OPENING 1/2" ABOVE EXISTING CONC. GROUT WITH NONSHRINK, NONMETALLIC GROUT.
- △ 3. NEW DRAIN LINE TO BE SCH. 40 PVC, RCP, DUCTILE IRON PIPE, OR ADS N-12 HDPE. DRAIN SIZE TO BE AT LEAST ONE SIZE SMALLER THAN OUTLET PIPE WITH A MAXIMUM SIZE OF 12".



TYPICAL SECTIONS THRU DROP INLET

REV.	DATE
△	12/16/04

CONSTRUCTION
STANDARDS

DRAIN LINE CONNECTION
TO EXISTING DROP INLET

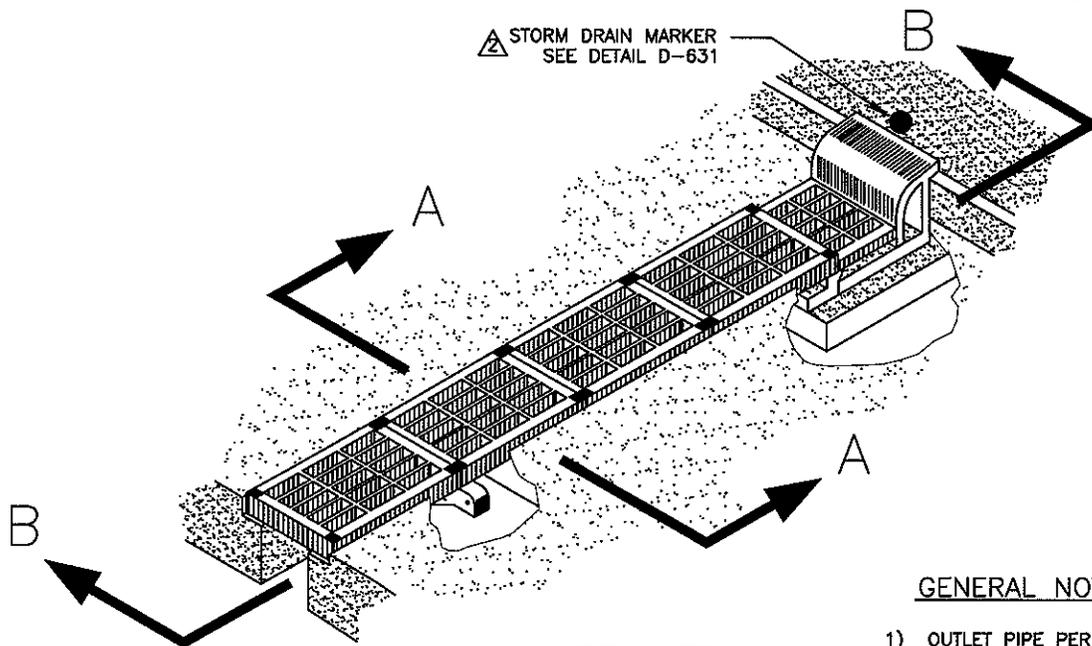
STANDARD No. D-509 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

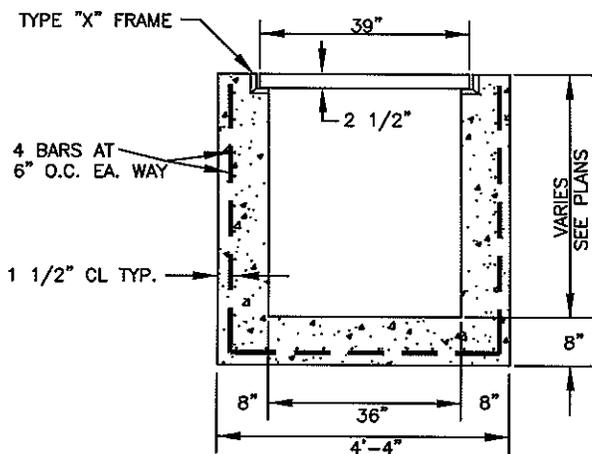
▲ STORM DRAIN MARKER
SEE DETAIL D-631



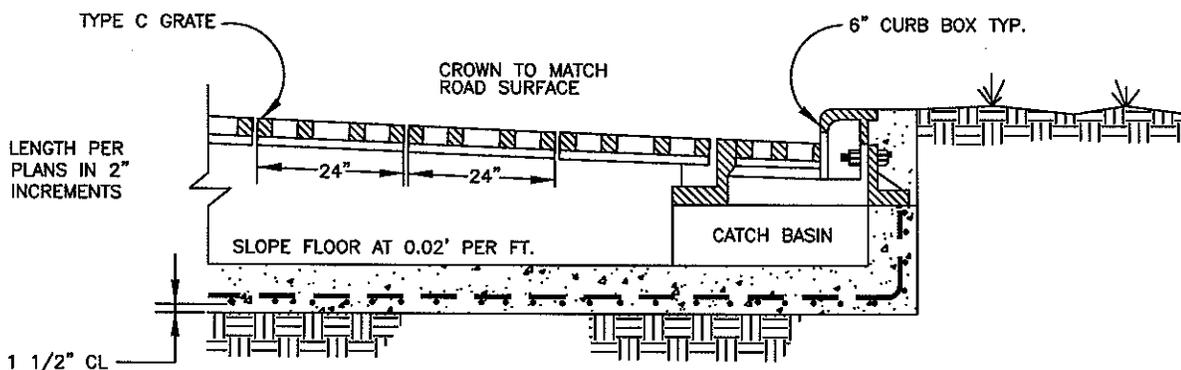
ISOMETRIC VIEW

GENERAL NOTES

- 1) OUTLET PIPE PER DESIGN REQUIREMENTS.
- ▲2) FOR FLAT OR CROWNED TRANSVERSE DRAINAGE STRUCTURES USE NEENAH R-4999 SERIES WITH TYPE "C" GRATE AND TYPE "X" FRAME, OR APPROVED EQUAL.
- 3) INLETS OR CURB BOXES NEED NOT BE INSTALLED AT BOTH ENDS OF THE TRENCH DRAIN; THEY CAN BE USED IN COMBINATION OR NOT AT ALL, DEPENDING ON DRAINAGE CONDITIONS.
- 4) BOLT GRATES TO FRAMES WITH STAINLESS STEEL BOLTS WHEN REQUIRED.
- ▲5) CONCRETE TO BE 3,000 P.S.I. 28 DAY TEST. COMPACTION TO 90% OF MODIFIED PROCTOR.



SECTION A-A



SECTION B-B

REV.	DATE
▲	01/07/04
▲	1/22/08

CONSTRUCTION
STANDARDS

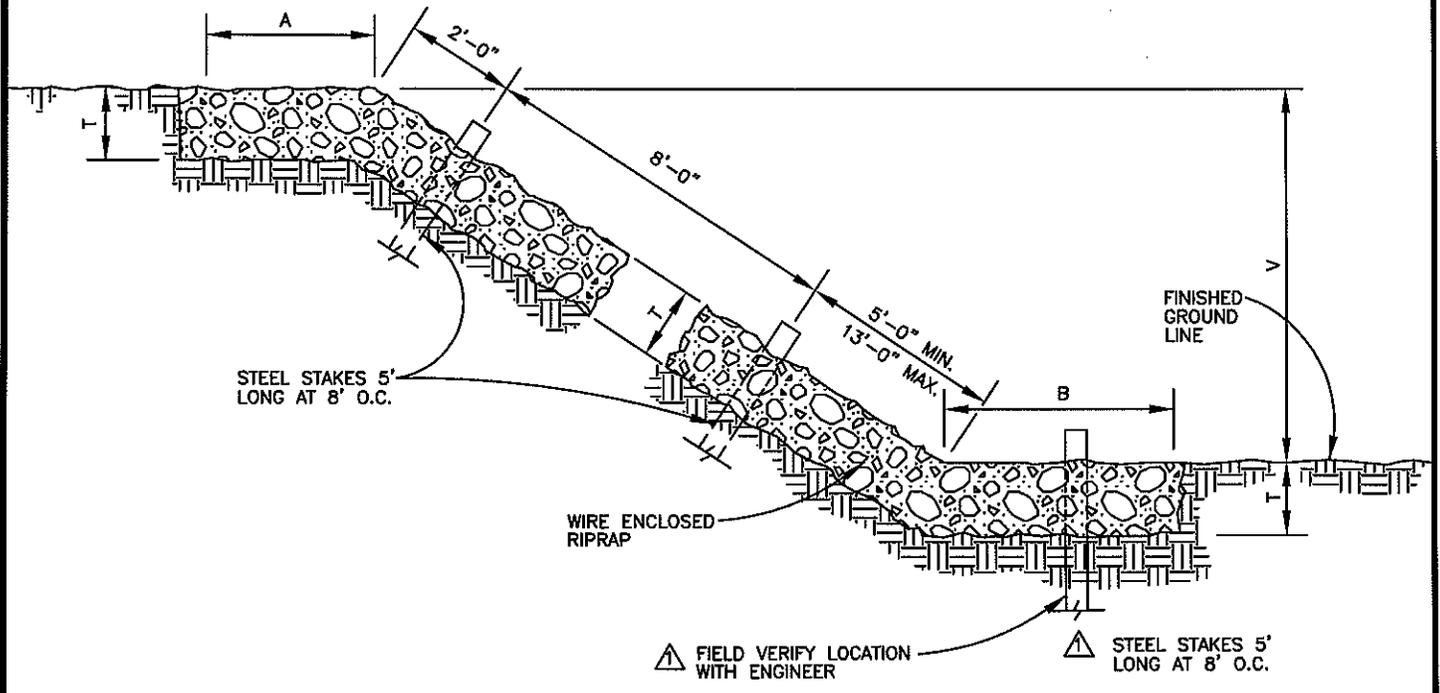
TRANSVERSE
DRAINAGE STRUCTURE

STANDARD No. D-510 SHEET 1 OF 1

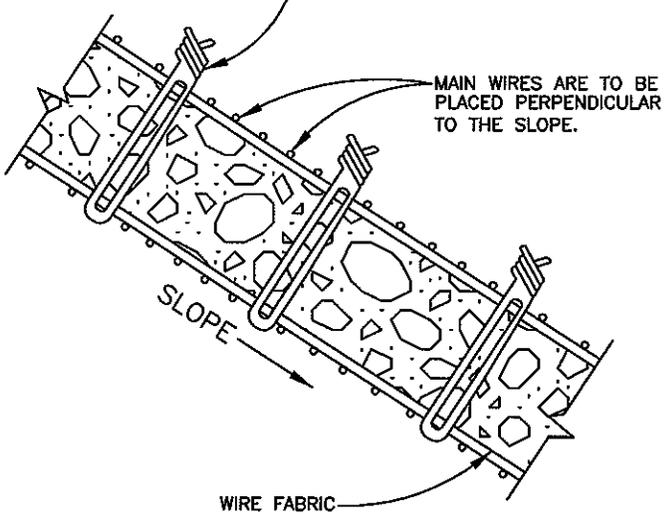
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/13/08



NO. 9 GAGE GALVANIZED TIE WIRES AT APPROX. 2' CENTERS LONGITUDINALLY & TRANSVERSELY



SLOPE	RIPRAP CU. YDS
1:1	$\frac{I}{27} (A + B + 1.414V)$
1 1/2:1	$\frac{I}{27} (A + B + 1.803V)$
1 3/4:1	$\frac{I}{27} (A + B + 2.016V)$
2:1	$\frac{I}{27} (A + B + 2.236V)$
3:1	$\frac{I}{27} (A + B + 3.162V)$
4:1	$\frac{I}{27} (A + B + 4.123V)$

REV.	DATE
△	5/13/13

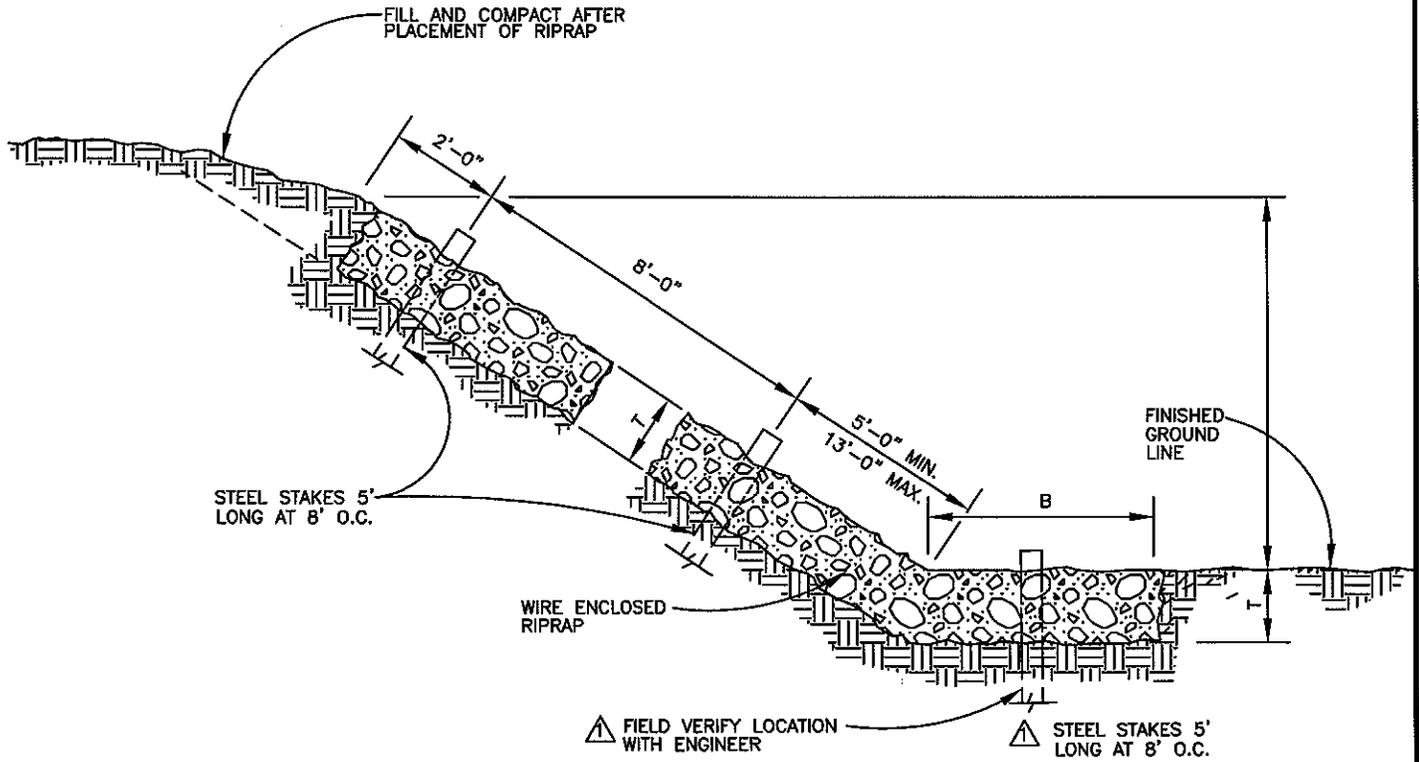
CONSTRUCTION STANDARDS

**WIRE ENCLOSED RIP RAP
DETAIL**

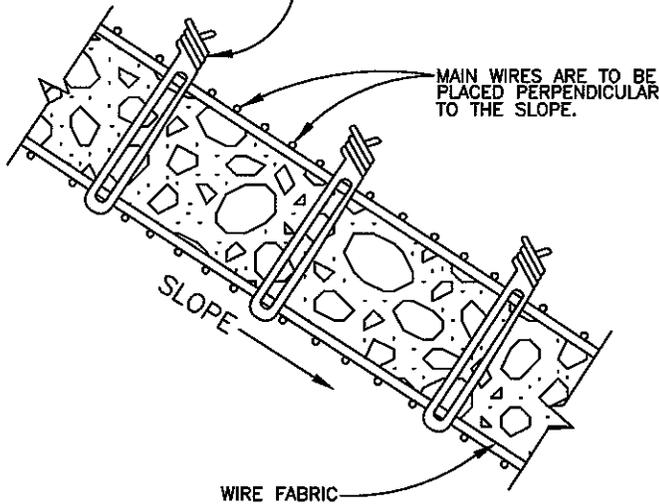
STANDARD No. D-512 SHEET 1 OF 4

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/13/13



NO. 9 GAGE GALVANIZED TIE WIRES AT APPROX. 2' CENTERS LONGITUDINALLY & TRANSVERSELY.



SLOPE	RIPRAP CU. YDS
1 1/2:1	$\frac{I}{27} (A + B + 1.414V)$
1 3/4:1	$\frac{I}{27} (A + B + 1.803V)$
2:1	$\frac{I}{27} (A + B + 2.016V)$
3:1	$\frac{I}{27} (A + B + 2.236V)$
4:1	$\frac{I}{27} (A + B + 3.162V)$

REV.	DATE
△	5/13/13

SEE SHEET 4 FOR GEN. NOTE.

CONSTRUCTION STANDARDS

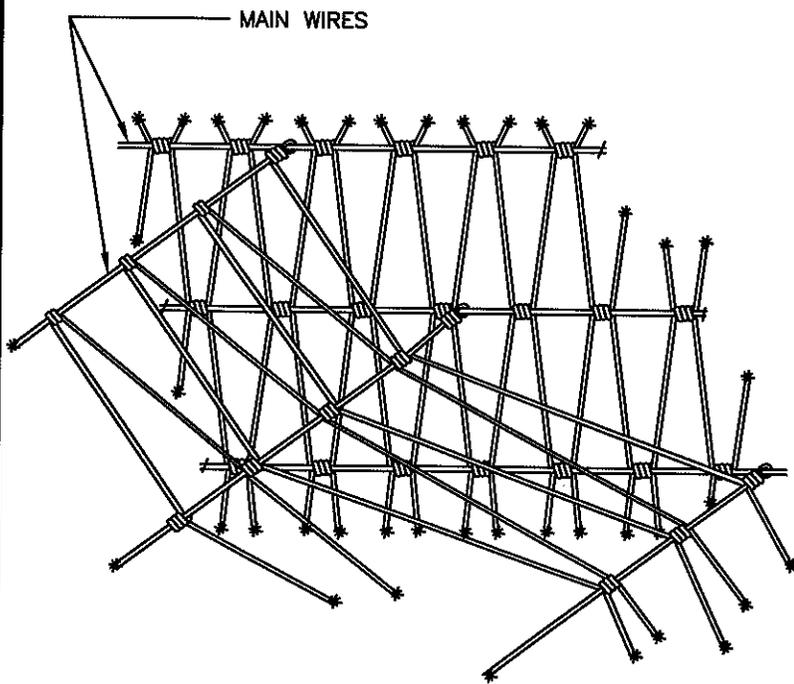
WIRE ENCLOSED RIP RAP DETAIL

STANDARD No. D-512 SHEET 2 OF 4

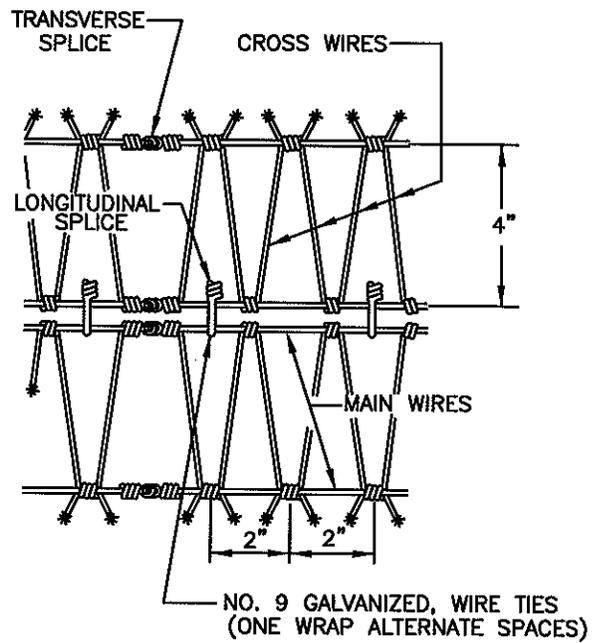
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 5/13/13

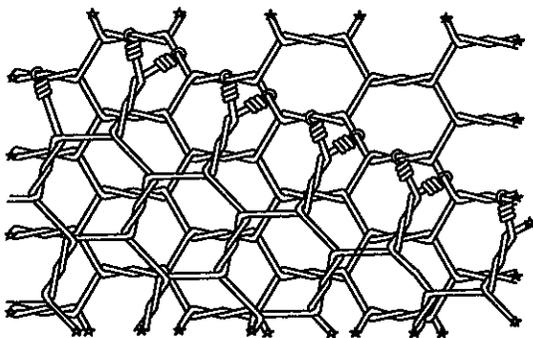


DETAIL OF SPLICE AT SKEWED INTERSECTIONS

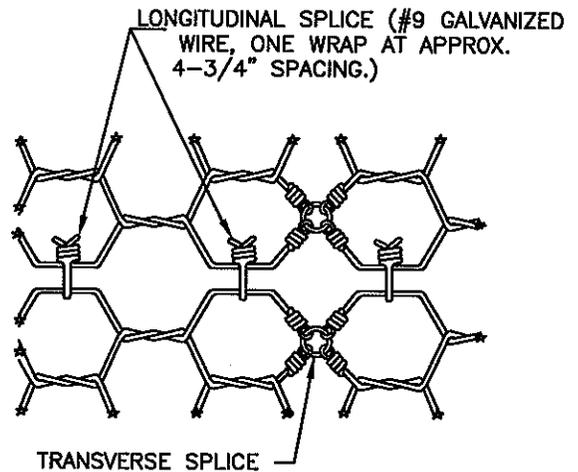


DETAIL OF WIRE FABRIC AND NORMAL SPLICE

"V" MESH



SKEWED INTERSECTION



NORMAL INTERSECTION

HEXAGONAL MESH

CONSTRUCTION
STANDARDS

WIRE ENCLOSED RIP RAP
DETAIL

STANDARD No. D-512 SHEET 3 OF 4

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE *4/15/08*

GENERAL NOTES

1. WIRE FABRIC IS TO BE GALVANIZED "V" MESH OF THE FOLLOWING CONSTRUCTION:
MAIN WIRES: TWO NO. 12-1/2 GAUGE STRANDED WIRES SPACED AT 4".
CROSS WIRES: SINGLE NO. 12-1/2 GAUGE WIRE SPACED AT 2" WITH NOT LESS THAN TWO TURNS AROUND THE MAIN WIRES.
APPROXIMATE WEIGHT: 48 LBS PER 100 SQUARE FEET.

2. STEEL STAKES MAY BE RAILROAD RAILS WEIGHING NOT LESS THAN 30 LBS PER YARD, 4" O.D. STANDARD STRENGTH GALVANIZED STEEL PIPE OR 4 X 4 X 3/8 STEEL ANGLES. STEEL STAKES SHALL PROJECT 6" ABOVE TOP OF RIPRAP. STEEL STAKES ARE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE WORK AND NO DIRECT MEASUREMENT OR PAYMENT WILL BE MADE THEREFORE.

3. IF LENGTH OF SLOPE IS 15 FEET OR LESS ONLY ONE ROW OF STEEL STAKES, 2 FEET FROM THE TOP EDGE OF THE RIPRAP, WILL BE REQUIRED UNLESS OTHERWISE NOTED ON PLANS.

4. FOR DIMENSIONS A, B, V & T. SEE BRIDGE OR ROADWAY PLANS.

5. T = 12" UNLESS OTHERWISE SHOWN ON PLANS.
T = 18" AT BRIDGES.

6. AS AN ALTERNATE, WIRE FABRIC MAY BE GALVANIZED STEEL WIRE MEETING THE REQUIREMENTS FOR CLASS 3, FINISH 5, MEDIUM TENSILE STRENGTH COATED WIRE AS SET FORTH IN FEDERAL SPECIFICATIONS QQ-W-461. THE WIRES SHALL BE CONTINUOUS, HAVE A DIAMETER OF NOT LESS THAN 0.118 INCH AND SHALL BE TRIPLE TWISTED TO FORM A UNIFORM HEXAGONAL MESH PATTERN WITH A MAXIMUM OPENING SIZE OF 3" X 4 3/4".

CONSTRUCTION
STANDARDS

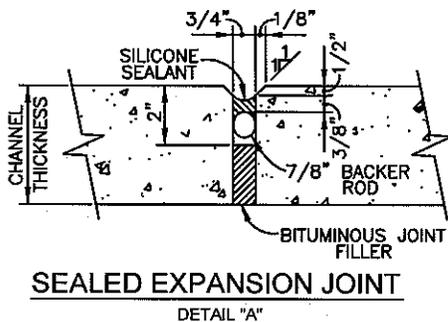
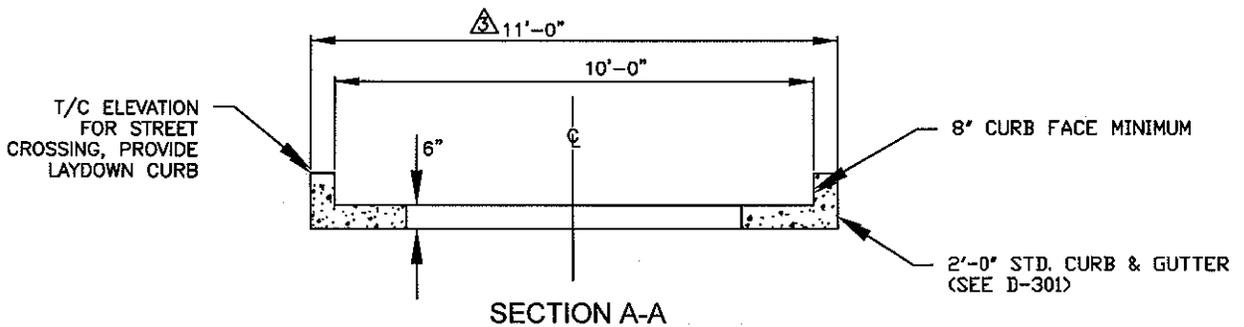
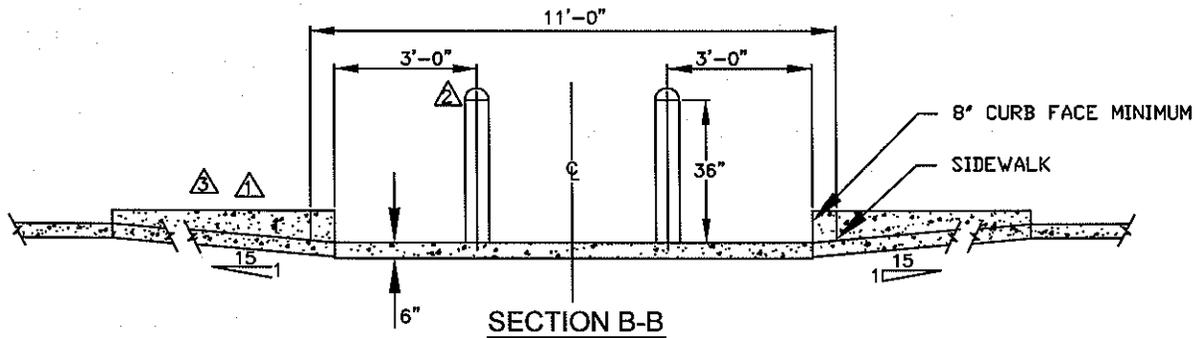
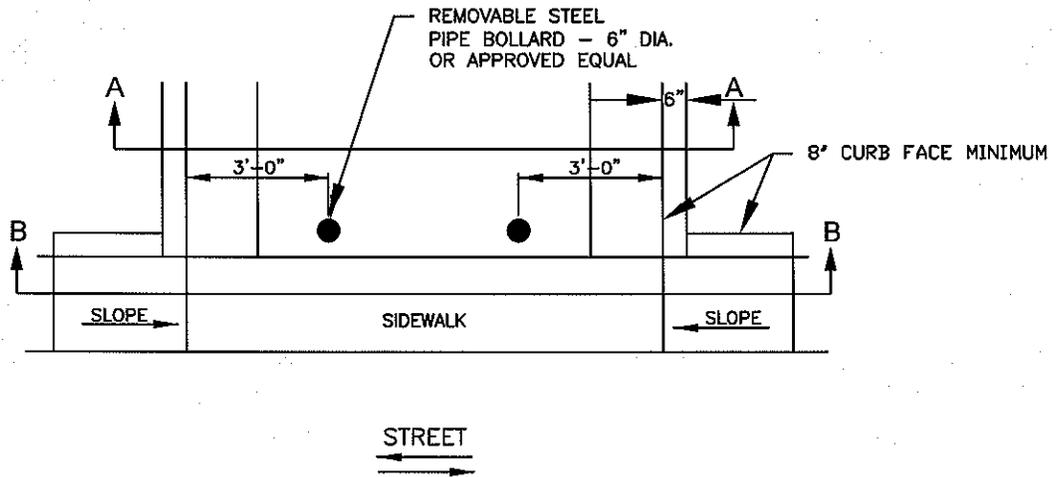
WIRE ENCLOSED RIP RAP
DETAIL

STANDARD No. D-512 SHEET 4 OF 4

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTES

1. 1/2" PREFORMED BITUMINOUS EXPANSION JOINT MATERIAL WITH SILICONE SEALANT EQUALLY SPACED WITH NOT MORE THAN 20'-0" BETWEEN EXPANSION JOINTS. (SEE DETAIL "A")
2. A CONTROL JOINT EVERY 5'-0".
3. CHANNEL WIDTH & DEPTH TO BE DETERMINED BY A NEW MEXICO PROFESSIONAL ENGINEER (P.E.)
4. WIDTH AND DEPTH SHOWN ARE THE MINIMUM.

REV.	DATE
△	1/3/07
△	1/22/08
△	5/13/11

CONSTRUCTION
STANDARDS

TYPICAL CONCRETE DRAINAGE CHANNEL

STANDARD No. D-513 SHEET 1 OF 1

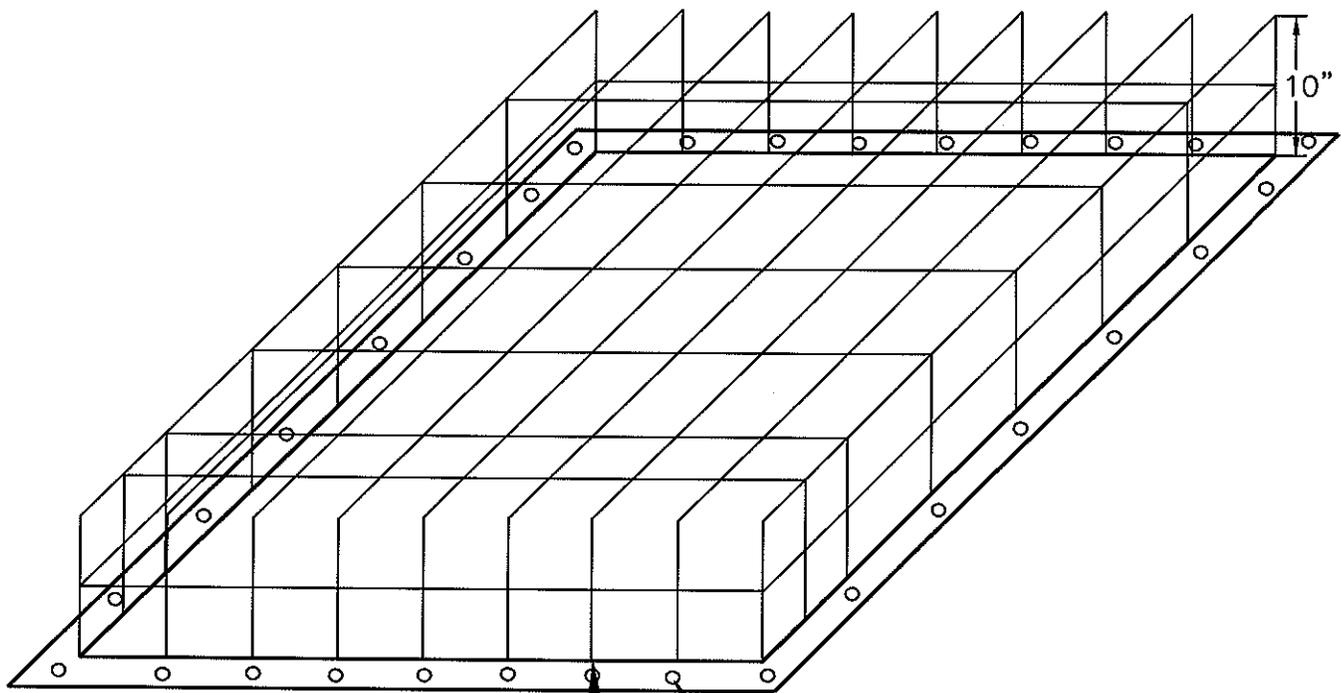
CITY OF
FARMINGTON

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DEPARTMENT

APPROVED *M. J. [Signature]* DATE 5/31/11

SQUARES TO BE NO BIGGER THAN 4" OPENING
USE 5/8" ROUND STOCK FOR BARS
WELD EVERY BAR
1/4" x 2' FLAT BAR BASE

ATTACH TO CONCRETE VIA 5/8" BOLTS.



1/4" X 2" Flat Base

5/8 CONCRETE ANCHORS
'RED HEAD'

CONSTRUCTION
STANDARDS

TRASH RACK

CITY OF
FARMINGTON

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WORKS
DEPARTMENT

STANDARD No. D-514 SHEET 1 OF 1

APPROVED *[Signature]* DATE 4/15/08

△ STORM SEWER MAINS
MINIMUM SLOPES

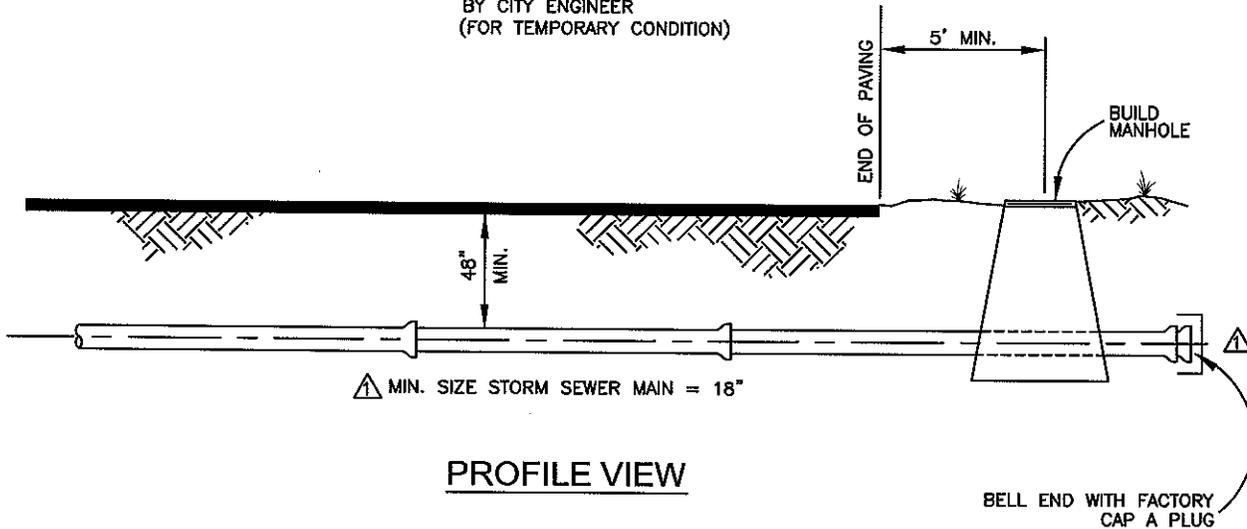
SIZE	SLOPE, FT./FT.
18"	0.0012
21"	0.0010
24"	0.0009
27" & LARGER	0.0008

NOTES:

1. PRIOR TO BACKFILLING, RECORD INVERT ELEVATIONS AND LOCATION ON CONSTRUCTION PLANS FOR AN AS-BUILT RECORD.
- △ 2. STORM SEWER MAIN MATERIALS & PIPE ADS N-12 UNLESS APPROVED BY THE CITY ENGINEER.
3. MINIMUM 4'-0" COVER UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. MAXIMUM MANHOLE SPACING 400 FEET.
5. THIS TYPE OF INSTALLATION WILL ONLY BE USED IF THE DOWN STREAM MANHOLE IS LESS THAN 100 FEET FROM END OF LINE.
6. MANHOLE WILL BE BUILT AT END OF MAINLINE UNLESS ALTERNATE IS APPROVED BY CITY ENGINEER OR BY DESIGNEE.
7. STUB OUT FOR FUTURE MAINLINE EXTENSION SHALL BE CONST. A MAX. OF 5' WITH BELL END AND FACTORY PLUG BEYOND LAST MANHOLE.

ALTERNATE

WHEN APPROVED
BY CITY ENGINEER
(FOR TEMPORARY CONDITION)



REV.	DATE
△	1/22/08

CONSTRUCTION
STANDARDS

STORM DRAIN

STANDARD No. D-515 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

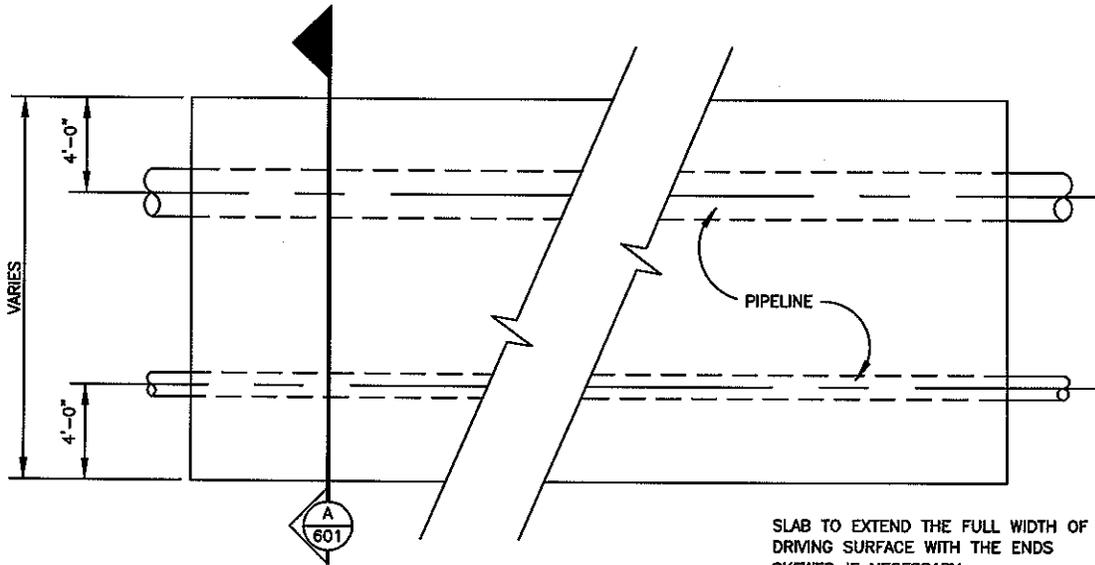
MISCELLANEOUS DETAILS

CONSTRUCTION STANDARDS SHEET INDEX

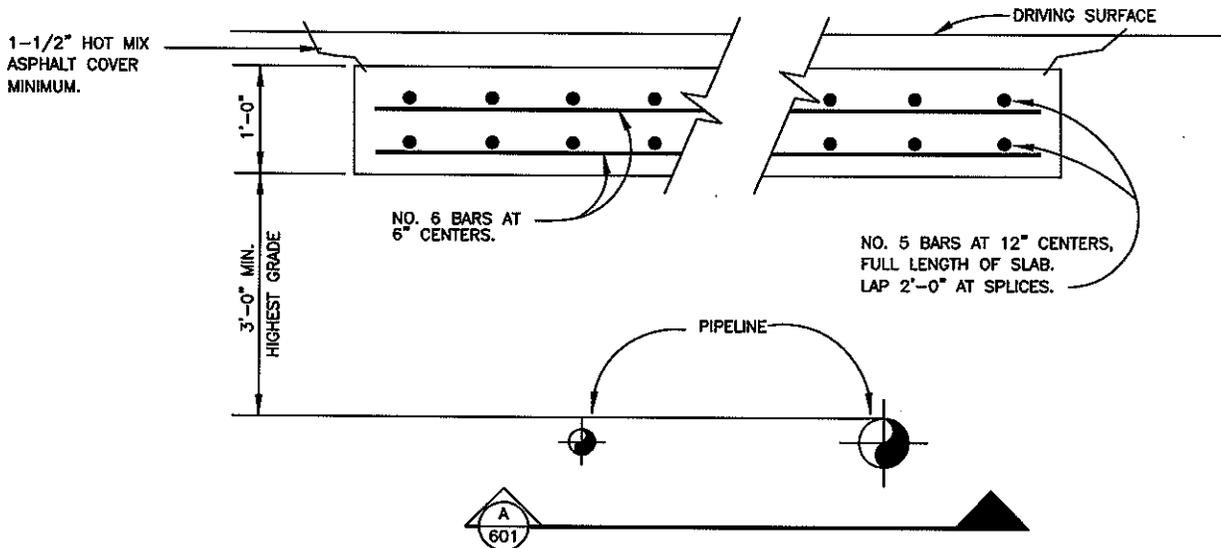
MISCELLANEOUS DETAILS

<u>SHEET NO.</u>	<u>TITLE</u>
D-601	GAS LINE CROSSING DETAIL
D-603	ACCESSABILITY SIGN (2 SHEETS)
D-605*	GREASE TRAP DETAIL
D-606	MAILBOX DETAIL
D-607	UTILITY INSTALLATION BETWEEN BUILDINGS
D-608	REINFORCED SOIL WALLS
D-609	SCHOOL FLASHER
D-610 *	TRAFFIC PULL BOX DETAILS (2 SHEETS)
D-611	EROSION CONTROL WALL
D-612 *	SITE DRAINAGE (2 SHEETS)
D-613 *	TRAFFIC CONTROL CABINET
D-630	HAND RAILS
D-631	STORM DRAIN MARKERS
D-632 *	BOLLARD DETAIL

NOTE: * REVISED 2013/2014



SLAB TO EXTEND THE FULL WIDTH OF DRIVING SURFACE WITH THE ENDS SKEWED IF NECESSARY.



LOADING: GROSS LOAD 150 TONS - MAXIMUM AXLE LOAD 60 TONS.
 CONCRETE: ULTIMATE STRENGTH - 2500 P.S.I. IN 28 DAYS.
 REINFORCING STEEL: A.S.T.M. A-15 INTERMEDIATE GRADE, AND
 A.S.T.M. A-305 HIGH BOND.
 CAUTION: HEAVY CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED
 OVER UNPROTECTED PIPE AND SHALL NOT BE OPERATED
 OVER SLAB UNTIL 14 DAYS AFTER POURING.

CONSTRUCTION
STANDARDS

GAS LINE
CROSSING DETAIL

STANDARD No. D-601 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

VAN ACCESSIBLE PARKING SPACES SHALL HAVE AN ADDITIONAL SIGN MOUNTED BELOW THE ACCESSIBLE PARKING SIGN UNLESS ALL THE ACCESSIBLE PARKING SPACES COMPLY WITH THE STANDARDS FOR VAN ACCESSIBLE PARKING.

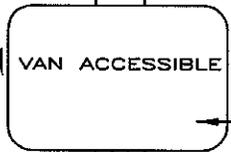


R7-8
12" X 18"

GREEN LETTERING ON WHITE BACKGROUND

BLUE SYMBOL

GREEN ARROW(S) AS APPROPRIATE



BLACK LETTERING ON WHITE BACKGROUND SIGN OPTIONAL



R7-8A
12" X 9"

STURDY POST

5 FEET MINIMUM TO BOTTOM OF ANY SIGNAGE

40" MIN.

NOTES

1. SIGNS SHALL CONFORM TO THE STANDARDS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. SIGNS SHALL BE SET DIRECTLY FACING THE LINE OF TRAVEL FOR THE VEHICLE ENTERING THE STALL (NOT < 45°)
3. SIGNS SHALL BE MOUNTED ON A STURDY POST AT THE HEIGHT SPECIFIED HERE IN, OR MAY BE SECURELY BOLTED TO AN ADJACENT WALL
4. EACH SPACE SHALL BE POSTED WITH A SIGN, CENTERED ON THE STALL, HOWEVER, ONE SIGN MAY BE USED BETWEEN THE TWO SPACES WITH THE APPROPRIATE ARROWS
5. 40" MIN. FROM FACE OF ADJACENT CURB OR BUMPER BLOCK

ACCESSIBLE PARKING SIGNS ARE AVAILABLE FROM THE BUILDING INSPECTION DIVISION AT COST AND ARE IN STOCK.
 TELEPHONE 599-1304.
 HOURS: 8:00 AM TO 12:00 PM AND 1:00 PM TO 5:00 PM
 MONDAY THROUGH FRIDAY.

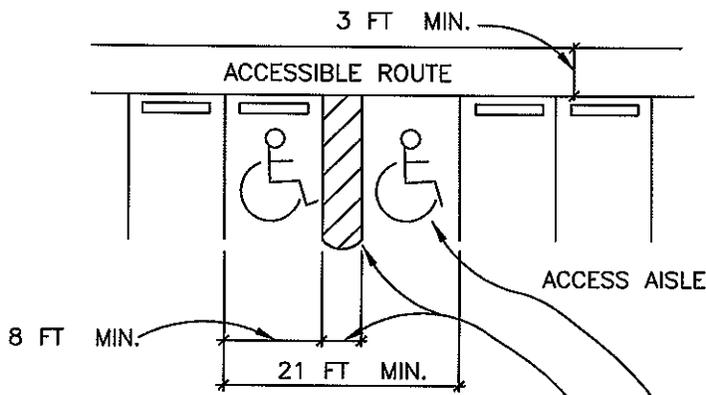
CONSTRUCTION STANDARDS

ACCESSIBLE PARKING SIGN DETAIL

STANDARD No. D-603 SHEET 1 OF 2

CITY OF FARMINGTON
 PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

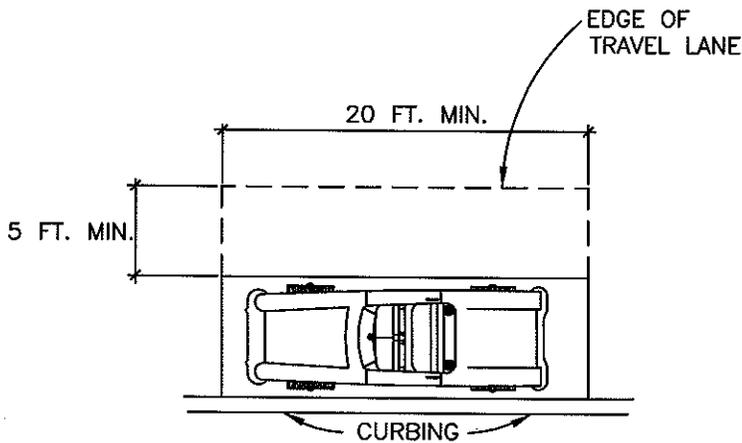


**DIMENSIONS OF
PARKING SPACES**

NOTE:
ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE. ACCESSIBLE PARKING SPACES SHALL BE PERMITTED TO HAVE ACCESS AISLES PLACED ON EITHER SIDE OF THE CAR OR VAN PARKING SPACE EXCEPT FOR ANGLED VAN PARKING SPACES. VAN PARKING SPACES THAT ARE ANGLED SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.

A CLEAR, VISIBLE DEPICTION OF THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE PAINTED IN BLUE ON THE PAVEMENT SURFACE. SYMBOL ON PAVEMENT IS REQUIRED.

5 FEET MINIMUM UNLESS ACCESSIBLE ACCESS (8 FEET MINIMUM REQUIRED FOR VAN ACCESSIBLE ACCESS AISLE). ACCESS AISLE SHALL BE CLEARLY MARKED BY BLUE DIAGONAL 4 INCH PAVEMENT STRIPING.



**ACCESS AISLE AT
PASSENGER LOADING ZONES**

**CONSTRUCTION
STANDARDS**

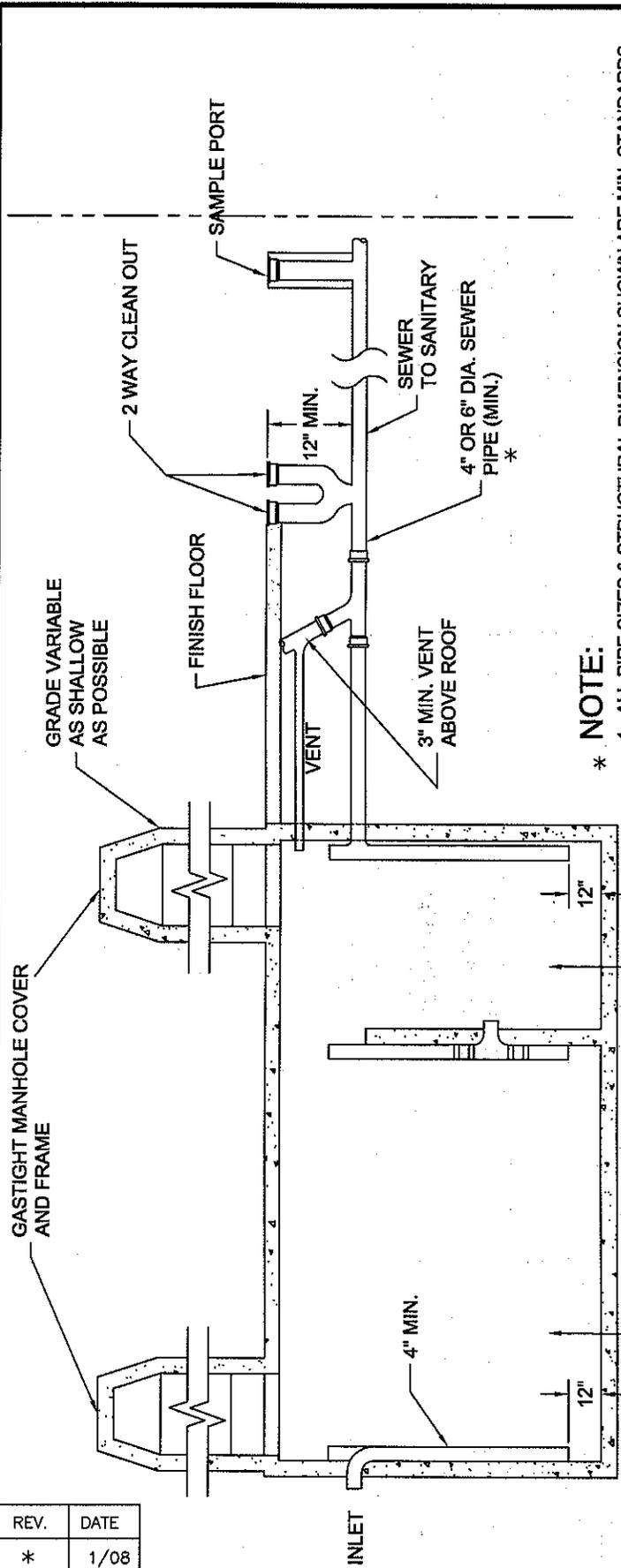
**ACCESSIBLE
PARKING STALLS**

STANDARD No. D-603 SHEET 2 OF 2

CITY OF
FARMINGTON

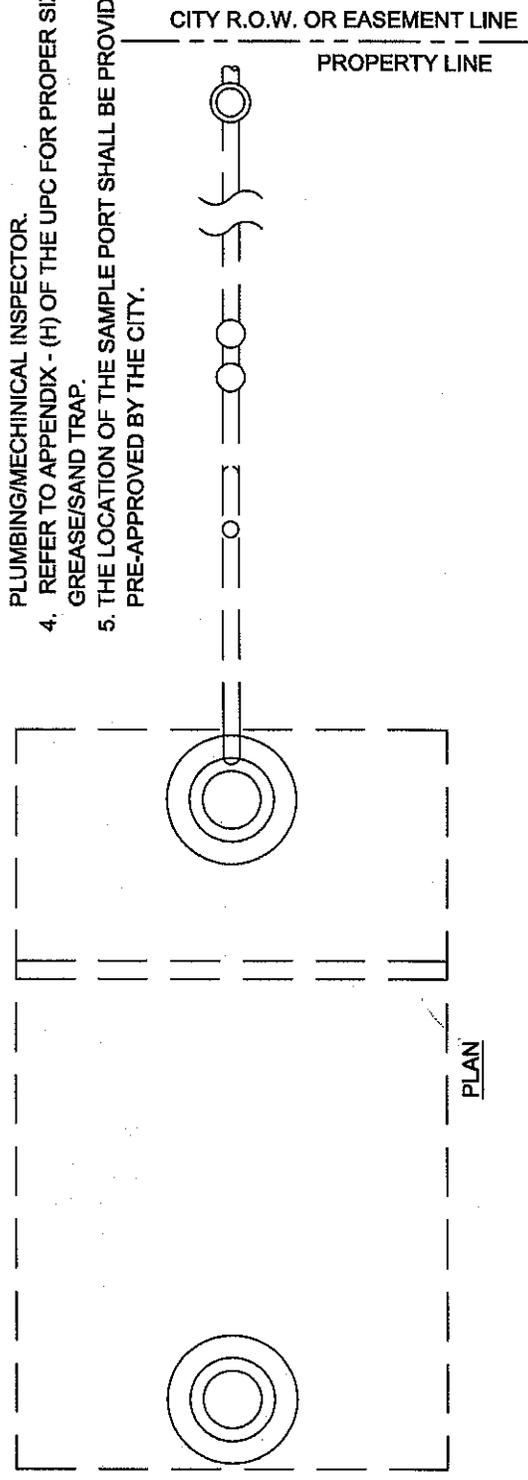
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



*** NOTE:**

1. ALL PIPE SIZES & STRUCTURAL DIMENSION SHOWN ARE MIN. STANDARDS FOR GARAGES, WASH RACKS, LAUNDRIES, LAUNDERETTES, INDUSTRIAL & COMMERCIAL APPLICATION AND ALL SWIMMING POOLS OF 30,000 GAL. CAP & OVER.
2. FRAMES, PIT WALL THICKNESS & SIZES INCLUDING REINFORCING, SHALL BE IN ACCORDANCE WITH DESIGN LOADS REQUIRED OR EACH INSTALLATION.
3. Min. 500 GALLON INTERCEPTOR REQUIRED UNLESS APPROVED BY CITY PLUMBING/MECHANICAL INSPECTOR.
4. REFER TO APPENDIX - (H) OF THE UPC FOR PROPER SIZING OF GREASE/SAND TRAP.
5. THE LOCATION OF THE SAMPLE PORT SHALL BE PROVIDED AND PRE-APPROVED BY THE CITY.



REV.	DATE
*	1/08

CONSTRUCTION STANDARDS

GREASE/SAND TRAP DETAIL AND SAMPLE PORT

STANDARD No. D-605 SHEET 1 OF 3

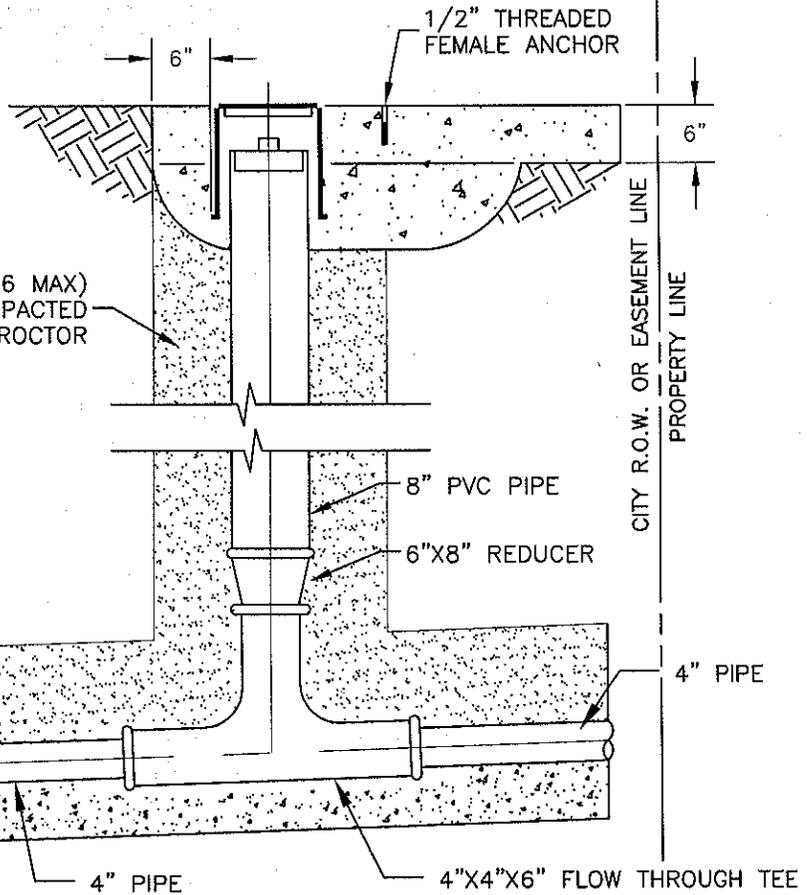
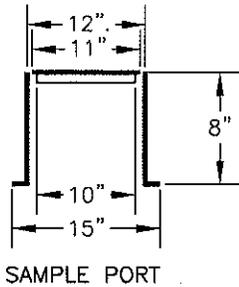
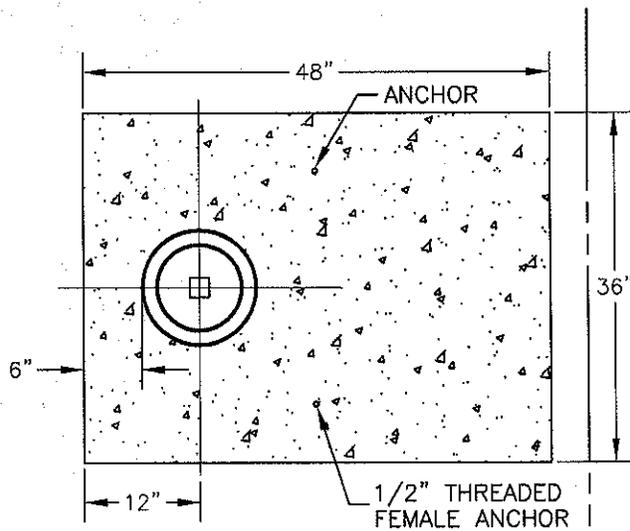
CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 3/31/14

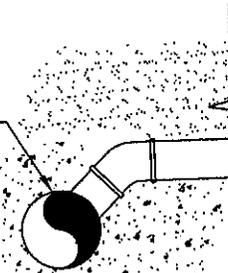
MATERIAL SPECIFICATION LIST

- 1-8" PVC SEWER PIPE
- 2-6"x4" PVC REDUCERS
- 1-8"x6" PVC REDUCER
- 1-8" PVC SEWER PLUG WITH GASKET
- 1-6"x6"x6" PVC TEE
- 1-STANDARD CLEAN-OUT SEWER 30 B
- 1-TYLER LID WITH VALVE BOX AND COVER
- CONCRETE-MINIMUM 2500 PSI.
- 2- 1/2" THREADED FEMALE ANCHORS.

VB287S



SANITARY SEWER MAIN



NOTE:

THE PLUG ON THE SEWER PIPE MUST BE EASILY REMOVED THROUGH THE LID OPENING OF THE BOX ENCLOSURE.
THE LID TO THE SAMPLE PORT SHOULD BE SECURED FIRMLY SO AS NOT TO CREATE A HAZARD.

REV.	DATE
	4/14

CONSTRUCTION STANDARDS

4" SEWER SAMPLE PORT

STANDARD No. D-605 SHEET 2 OF 3

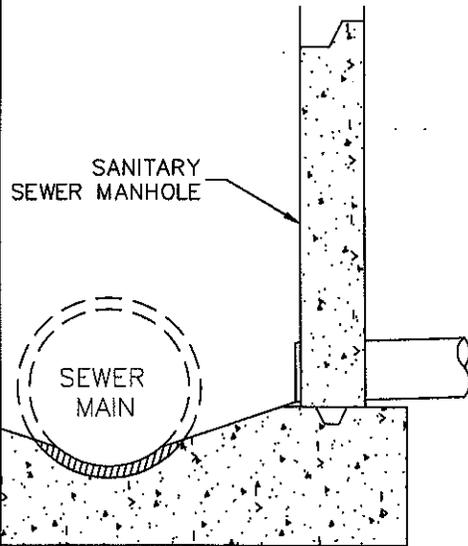
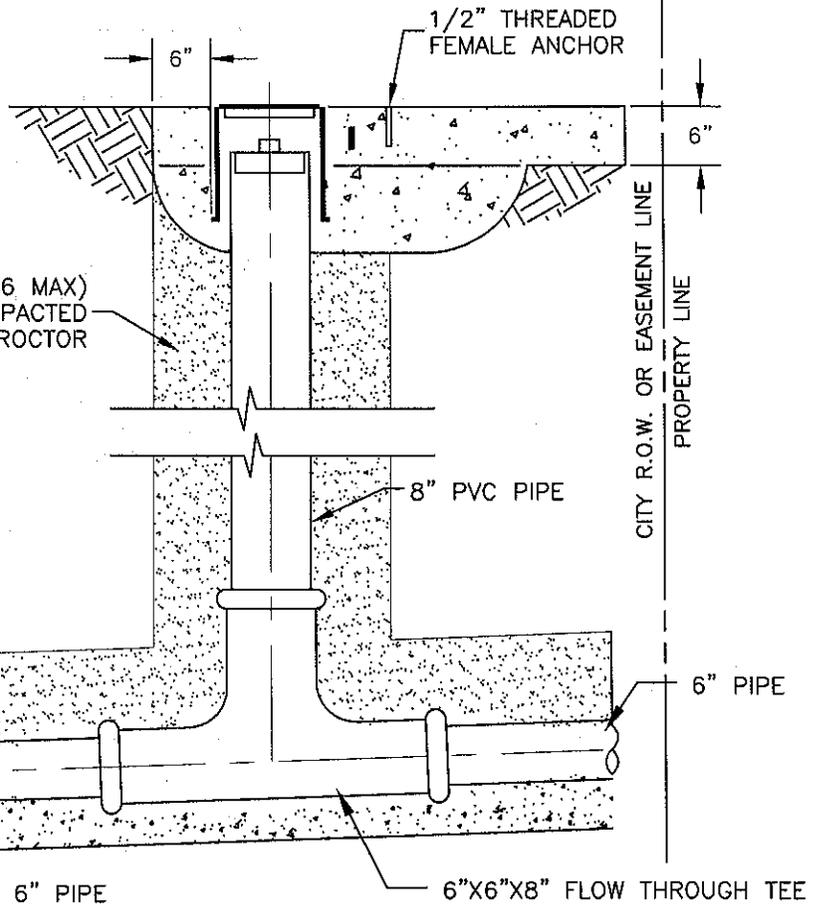
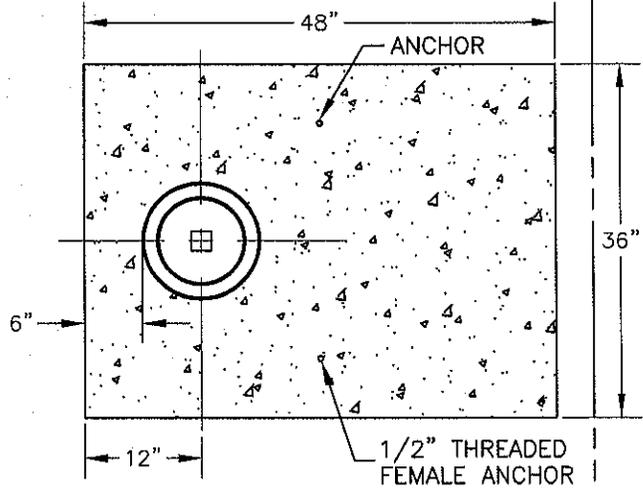
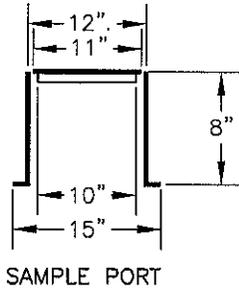
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 3/31/14

MATERIAL SPECIFICATION LIST

- 1-8" PVC SEWER PIPE
- 2-8"x6" PVC REDUCERS
- 1-8" PVC SEWER PLUG WITH GASKET
- 1-8"x8"x8" PVC TEE
- 1-STANDARD CLEAN-OUT SEWER 30 B
- 1-TYLER LID WITH VALVE BOX AND COVER
- CONCRETE-MINIMUM 2500 PSI.
- 2-ANCHORS-1/2" DIA. WITH FLARES.



NOTE:
THE PLUG ON THE SEWER PIPE MUST BE EASILY REMOVED THROUGH THE LID OPENING OF THE BOX ENCLOSURE.
THE LID TO THE SAMPLE PORT SHOULD BE SECURED FIRMLY SO AS NOT TO CREATE A HAZARD.

REV.	DATE
	4/14

CONSTRUCTION STANDARDS

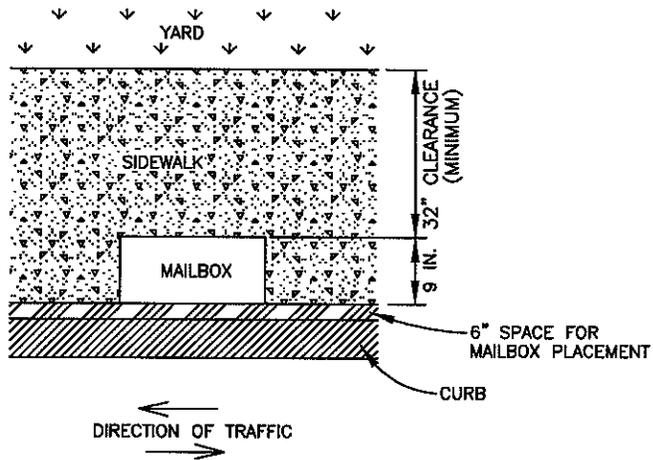
6" SEWER SAMPLE PORT

STANDARD No. D-605 SHEET 3 OF 3

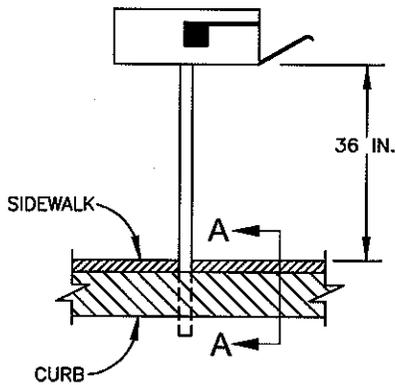
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

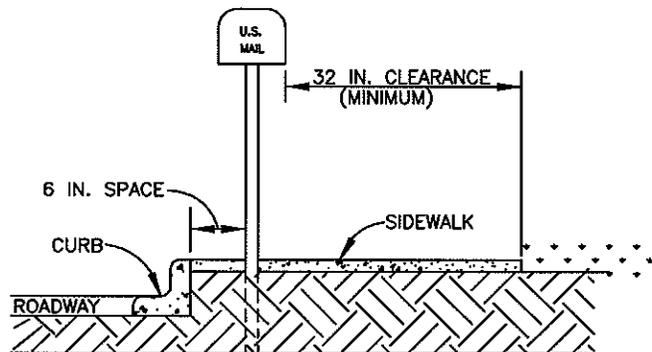
APPROVED *[Signature]* DATE 3/31/14



TOP VIEW



FRONT VIEW



SIDE VIEW
(SECTION A-A)

REV.	DATE
1	10/30/95
2	1/20/99

*USE SAME DETAIL FOR PAPER BOX.

CONSTRUCTION
STANDARDS

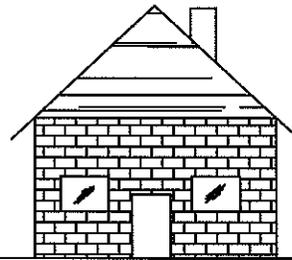
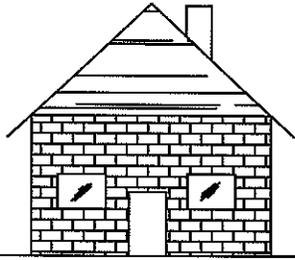
MAILBOX DETAIL*

CITY OF
FARMINGTON

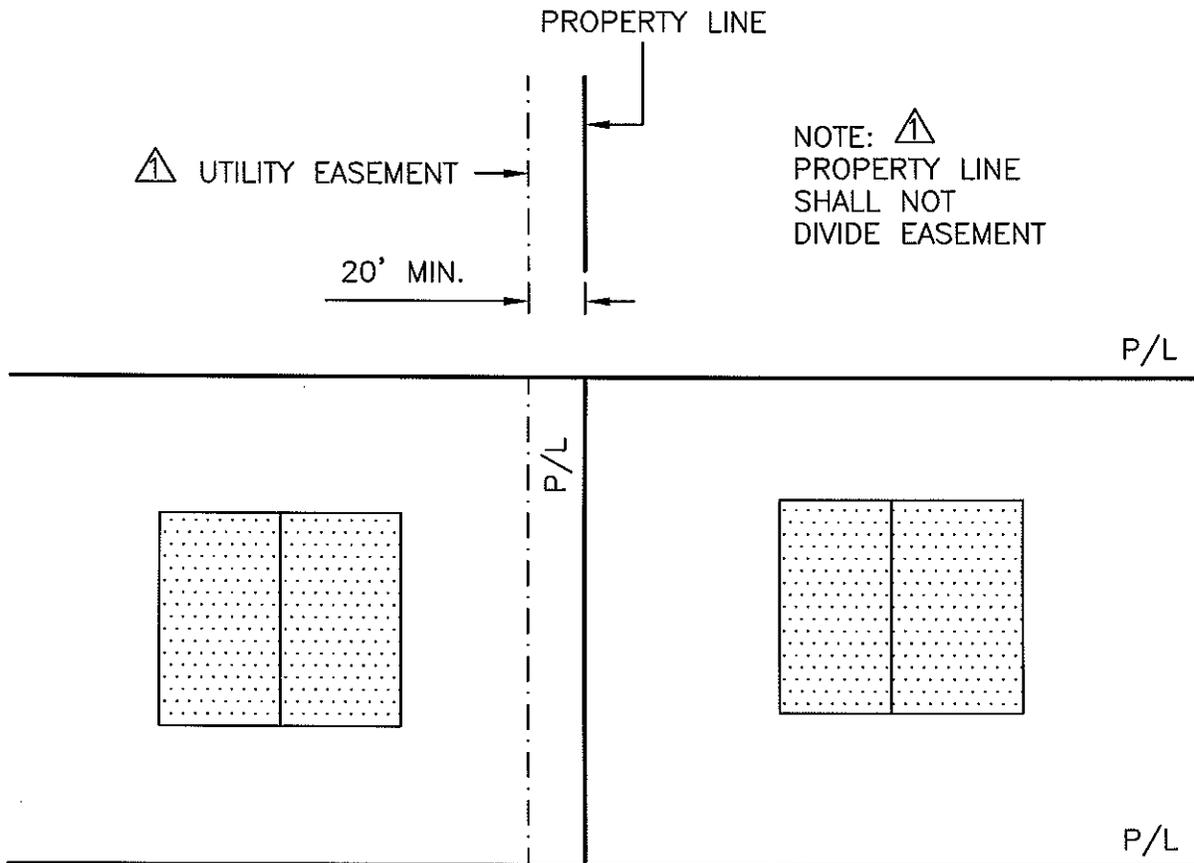
PUBLIC
WORKS
DEPARTMENT

STANDARD No. D-606 SHEET 1 OF 1

APPROVED DATE 4/5/08



FRONT VIEW



⚠ UTILITY EASEMENT

20' MIN.

PROPERTY LINE

NOTE: ⚠
PROPERTY LINE
SHALL NOT
DIVIDE EASEMENT

P/L

P/L

P/L

NOTE

PLAN VIEW

⚠ 1) UTILITY EASEMENT SHALL NOT BE IMPEDED BY TREES, FENCES, STORAGE OR CARPORTS. IF FENCE IS INSTALLED GATES ARE NEEDED IN FRONT AND THE BACK.

REV.	DATE
⚠ 1	01/31/06
⚠ 2	1/22/08

CONSTRUCTION
STANDARDS

UTILITY INSTALLATION
BETWEEN BUILDINGS

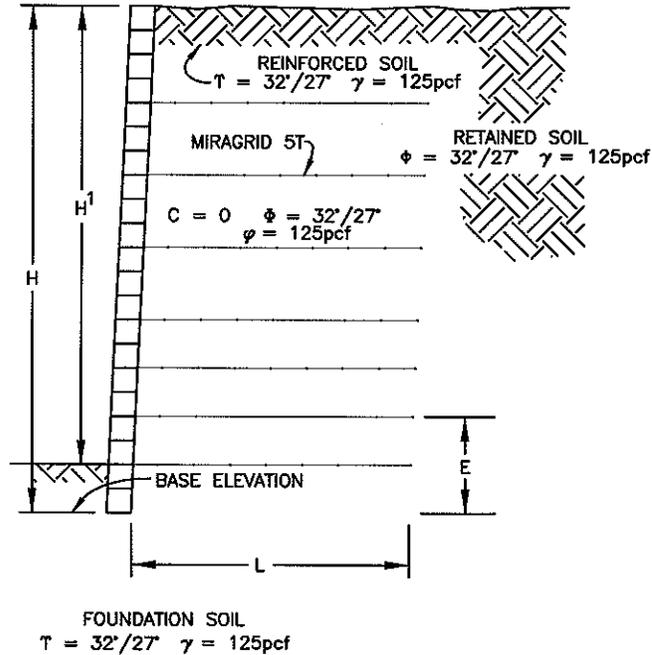
STANDARD No. D-607 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

CASE I



REINFORCED SOIL WALLS						
EXPOSED HEIGHT H, (FT)	TOTAL HEIGHT H, (FT)	NO. COURSES	THICKNESS IN.	NO. GRID LAYERS	GRID LENGTH L, (FT)	GEOGRID PLACEMENT ELEVATION E, (FT) ABOVE BASE ELEVATION
CASE #1	T 2 27'	$\gamma \leq 125\text{pcf}$	PI = 10			
4.0	4.5	9	6	1	3.0	E ₁ - 2.0
5.5	6.5	13	6	2	4.0	E ₁ - 1.0 E ₂ - 4.0
DESIGN BASED ON MIRAGRID 5T. BUILDER MAY USE COMPARABLE OR EQUAL. IT IS RESPONSIBILITY OF THE INSTALLER TO SHOW COMPARISON TO CHIEF INSPECTOR PRIOR TO CONSTRUCTION.						

CONSTRUCTION
STANDARDS

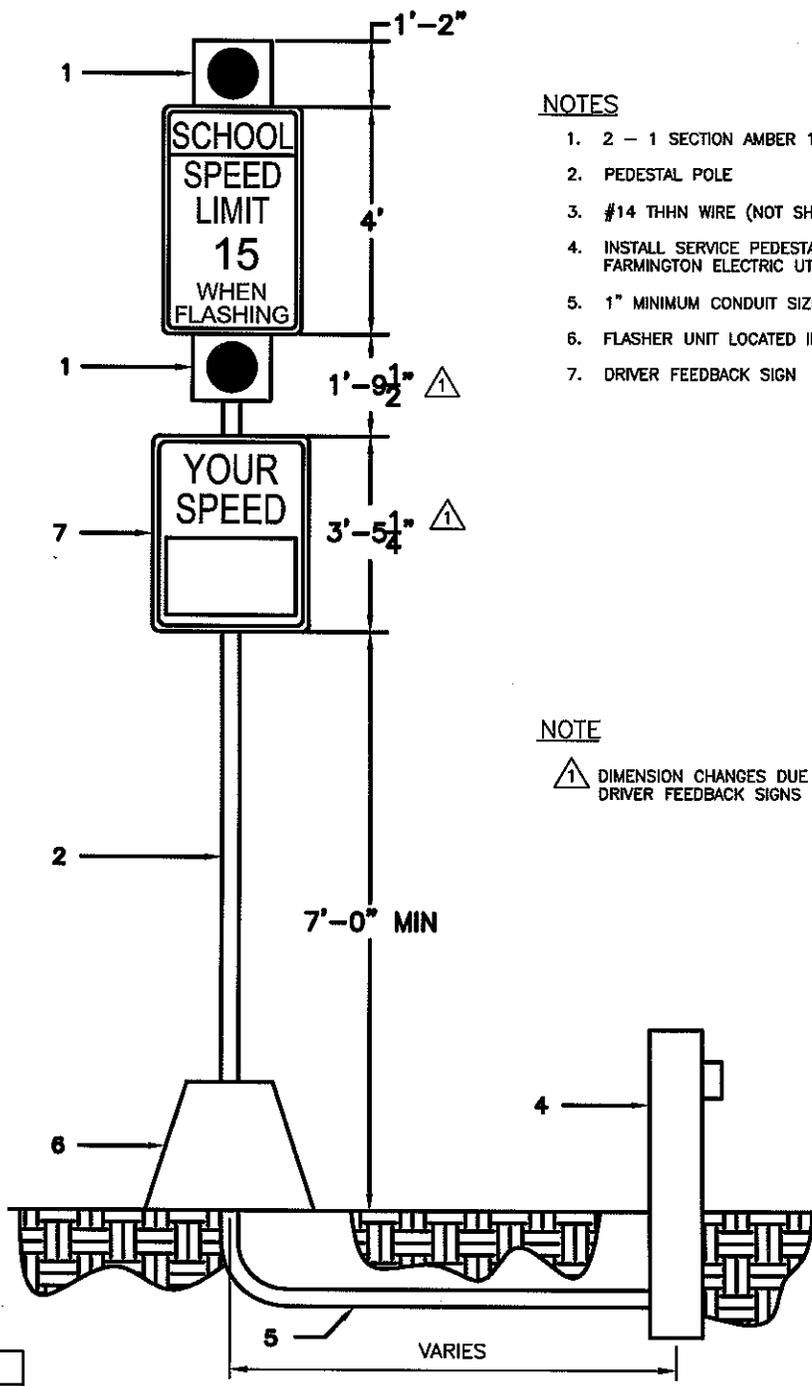
**REINFORCED SOIL WALLS
CASE I**

STANDARD No. D-608 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTES

1. 2 - 1 SECTION AMBER 12" SIGNAL HEAD
2. PEDESTAL POLE
3. #14 THHN WIRE (NOT SHOWN)
4. INSTALL SERVICE PEDESTAL PER US 26 OF THE FARMINGTON ELECTRIC UTILITY METER & DEVICE GUIDE
5. 1" MINIMUM CONDUIT SIZE
6. FLASHER UNIT LOCATED IN PEDESTAL POLE BASE
7. DRIVER FEEDBACK SIGN

NOTE

⚠ DIMENSION CHANGES DUE TO LARGER DRIVER FEEDBACK SIGNS

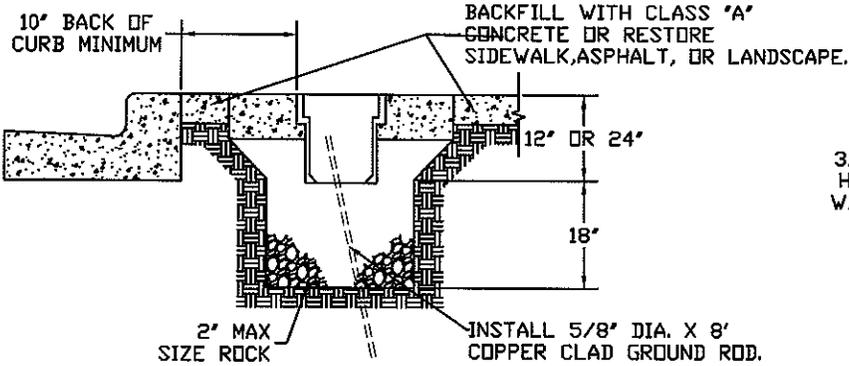
REV.	DATE
⚠	8/22/12

CONSTRUCTION STANDARDS

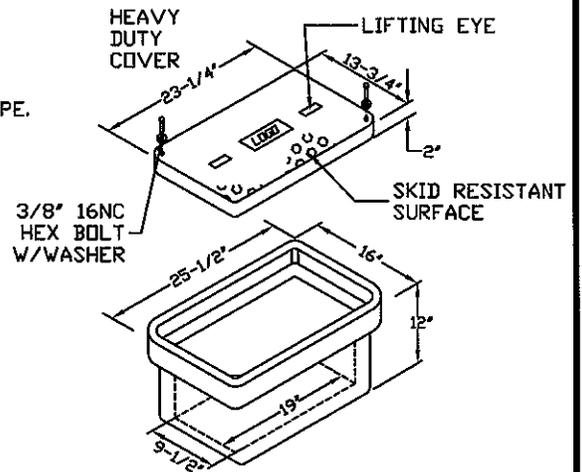
SCHOOL FLASHER - 1
STANDARD NO. D-609 SHT 1 OF 1

CITY OF FARMINGTON
PUBLIC WORKS DEPARTMENT

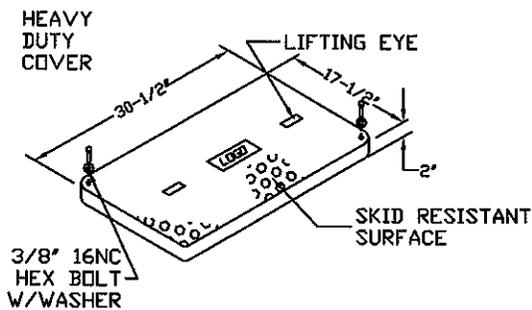
APPROVED *[Signature]* DATE 9/5/12



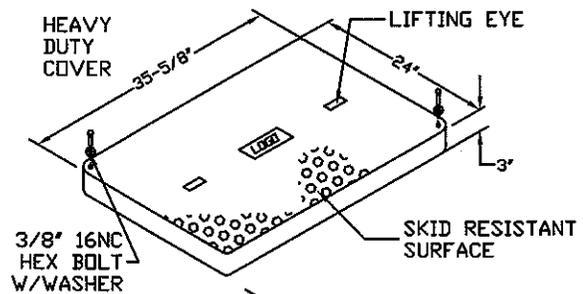
TYPICAL PULL BOX INSTALLATION
NOTE: SEE 'TRAFFIC PULL BOX COLLARS'



SMALL PULL BOX
(13" X 24" X 12")



MEDIUM PULL BOX
(17" X 30" X 12")



LARGE PULL BOX
(24" X 36" X 24")

NOTES FOR HEAVY DUTY REINFORCED POLYMER MORTAR PULL BOX AND COVERS

1. MATERIAL TO BE AN AGGREGATE CONSISTING OF SAND AND GRAVEL BOUND TOGETHER WITH A POLYMER AND REINFORCED WITH CONTINUOUS WOVEN GLASS STRANDS. THE MATERIAL MUST HAVE THE FOLLOWING MECHANICAL PROPERTIES: COMPRESSIVE STRENGTH - 10,000 PSI, TENSILE STRENGTH - 1,700 PSI, FLEXURAL STRENGTH - 7,500 PSI.
2. ALL PULL BOX COVERS SHALL BE HEAVY DUTY REINFORCED POLYMER MORTAR, HAVING A SERVICE LOAD OF 22,568 LBS. OVER 10" SQUARE (225 PSI).
3. PULL BOX TYPE AND LOGO SHALL BE APPROVED BY THE TRAFFIC ENG. DIV.
4. THE DIMENSIONS OF THE PULL BOXES SHOWN ARE NOMINAL DIMENSIONS AND MAY VARY AS TO THE MANUFACTURER'S RECOMMENDATIONS. ALL DIMENSIONS SHALL BE VERIFIED BY THE TRAFFIC ENGINEERING DIVISION.
5. 5/8 INCH DIAMETER BY 8 LINEAR FEET COPPER CLAD GROUND ROD TO BE INSTALLED.
6. LOCATION SHALL BE OUTSIDE OF THE SIDEWALK AREA.

**CONSTRUCTION
STANDARDS**

TRAFFIC PULL BOX DETAILS

STANDARD No. D-610 SHEET 1 OF 2

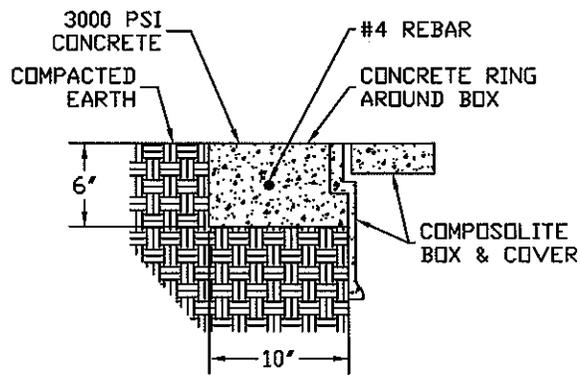
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

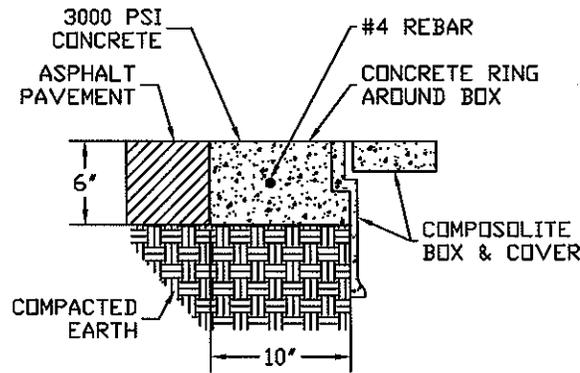
APPROVED

[Signature]

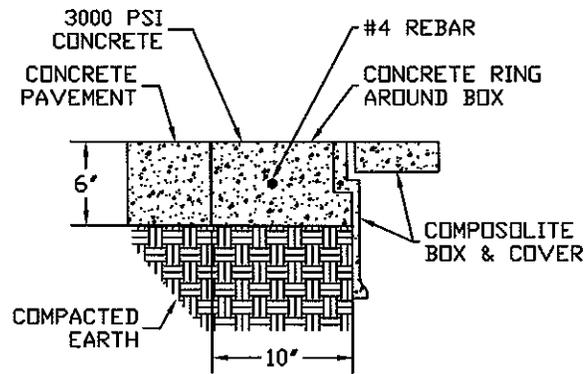
DATE 5/13/13



IN COMPACTED EARTH



IN ASPHALT PAVEMENTS



IN CONCRETE PAVEMENTS

CONSTRUCTION
STANDARDS

TRAFFIC PULL BOX COLLARS

STANDARD No. D-610 SHEET 2 OF 2

CITY OF
FARMINGTON

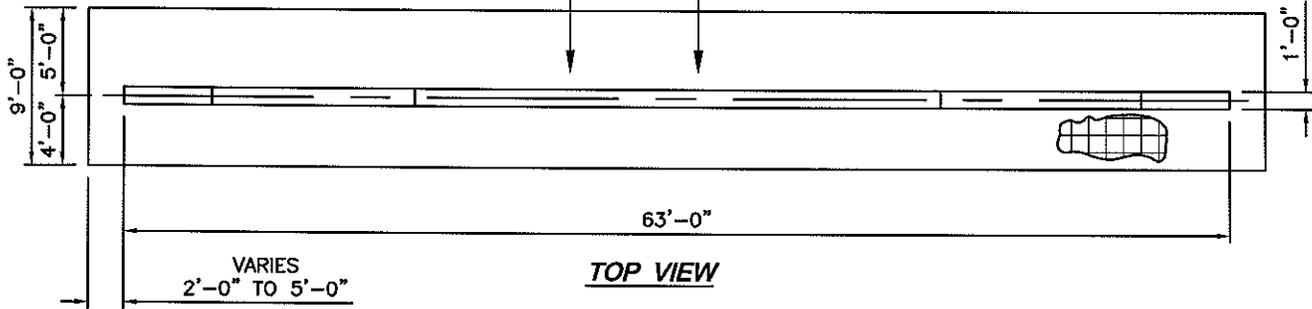
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WORKS
DEPARTMENT

APPROVED

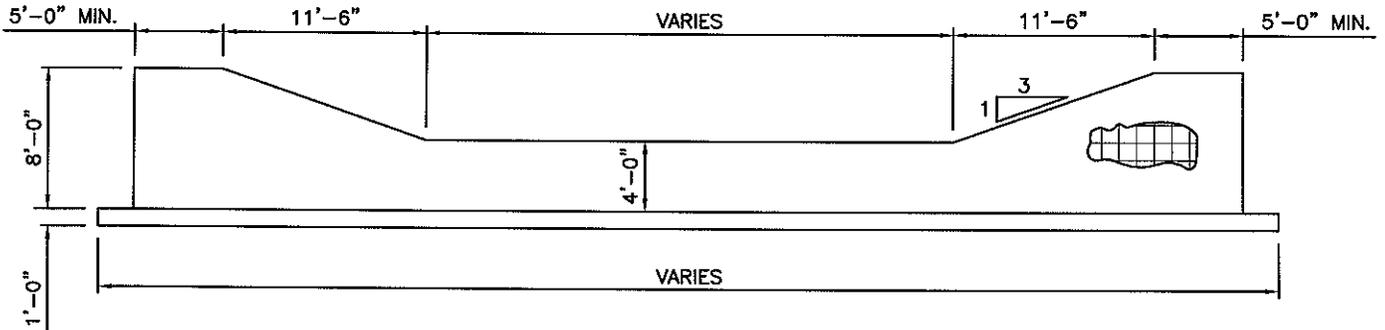
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DATE 5/31/11

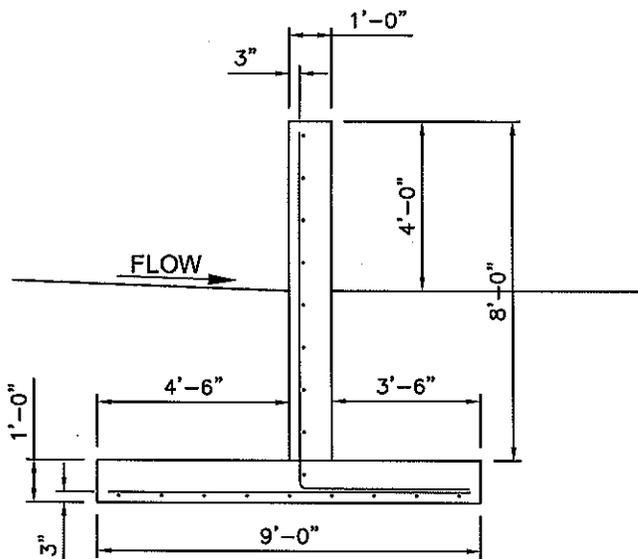
FLOW DIRECTION



TOP VIEW



FRONT VIEW



SECTION VIEW

NOTE:

1. #4 REBAR 12" O.C. IN BOTH DIRECTIONS
2. SCH. 40 STEEL
3. ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON FLOW REQUIREMENTS AND SCOUR DEPTH.
4. REBAR SHALL BE PLACED 3" FROM UP STREAM FACE IN WALL AND 3" FROM BOTTOM IN FOOTER.
4. USE 4000 P.S.I. CONCRETE

**CONSTRUCTION
STANDARDS**

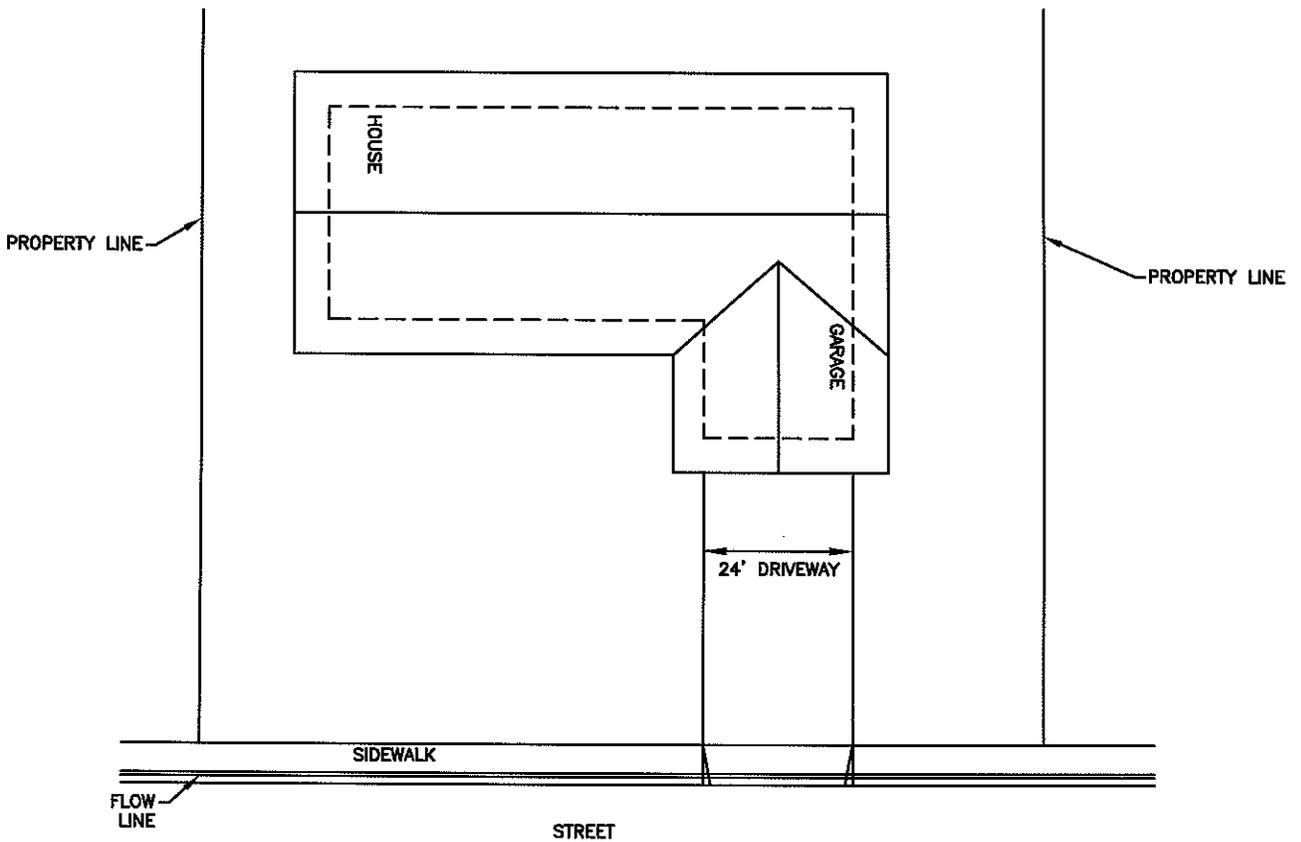
EROSION CONTROL WALL

STANDARD No. D-611 SHEET 1 OF 1

CITY OF
FARMINGTON

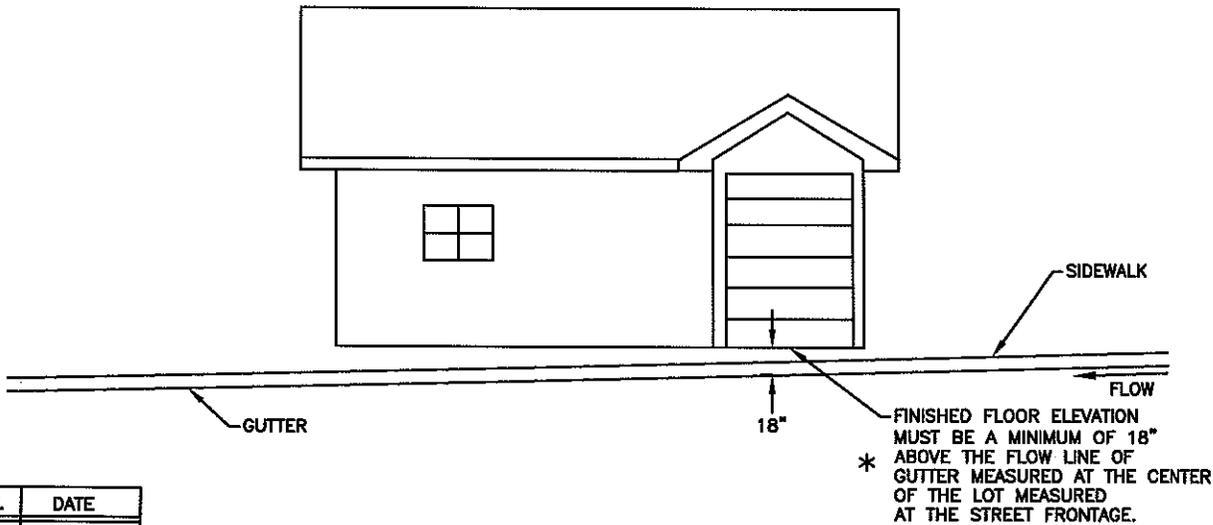
PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



NOTE:

- * 1. ALL IMPROVEMENTS MUST HAVE POSITIVE DRAINAGE AWAY FROM THE HOUSE TO THE STREET, AND
- 2. FINISHED FLOOR ELEVATION MUST BE A MINIMUM OF 18" ABOVE THE FLOW LINE OF THE GUTTER MEASURED AT THE CENTER OF THE LOT. IF CURB AND GUTTER ARE ABSENT FLOW LINE IS AT THE EDGE OF ROADWAY MEASURED AT THE CENTER OF THE LOT.
- 3. IF NOTE 1., AND 2., ARE NOT MET THEN A DRAINAGE PLAN PREPARED, STAMPED AND SEALED BY A NEW MEXICO PROFESSIONAL ENGINEER MUST BE SUBMITTED. THE PLAN MUST CONSIDER ONSITE AND OFFSITE STORMWATER.
- * 4. NOTE 3. CAN BE APPEALED TO CITY ENGINEER.
- 5. THE INTENT OF THIS DETAIL IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE HOUSE AND TO INSURE DURING TIMES OF FLOODING THAT THE FLOOD CARRYING CAPACITY OF THE CITY'S STORMWATER CONVEYANCE SYSTEM, WHICH INCLUDES OVERLAND SHEET FLOW IN THE STREET, DRAINAGE EASEMENTS AND ARROYOS, IS MAINTAINED.



REV.	DATE
*	03/31/14

**CONSTRUCTION
STANDARDS**

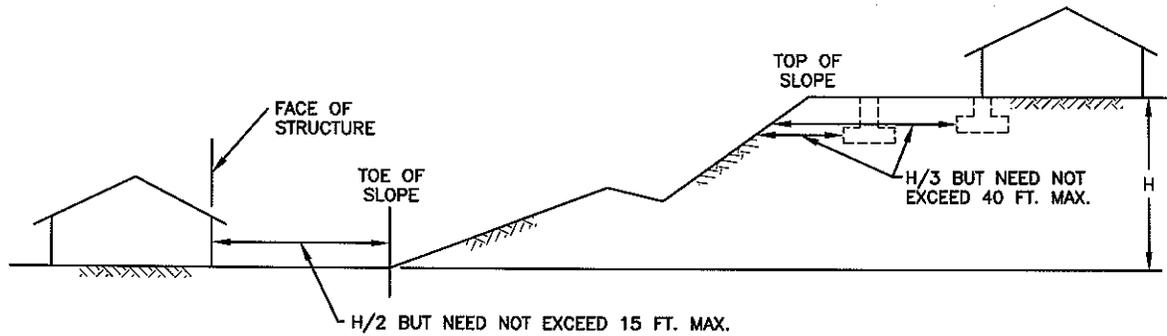
SITE DRAINAGE

STANDARD No. D-612 SHEET 1 OF 2 *

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 3/31/14



FOUNDATION CLEARANCES FROM SLOPES

FOOTINGS ON OR ADJACENT TO SLOPES.

THE PLACEMENT OF BUILDINGS AND STRUCTURES ON OR ADJACENT TO SLOPES STEEPER THAN ONE UNIT VERTICAL IN THREE UNITS HORIZONTAL (33.3 PERCENT SLOPE OR 1V:3H SLOPE) SHALL CONFORM TO PART A THROUGH PART D.

A. BUILDING CLEARANCE FROM ASCENDING SLOPES. IN GENERAL, BUILDINGS BELOW SLOPES SHALL BE SET A SUFFICIENT DISTANCE FORM THE SLOPE TO PROVIDE PROTECTION FROM SLOPE DRAINAGE, EROSION AND SHALLOW FAILURES. EXCEPT AS PROVIDED FOR IN PART D OR DIAGRAM SHOWN ABOVE, THE FOLLOWING CRITERIA WILL BE ASSUMED TO PROVIDE THIS PROTECTION. WHERE THE EXISTING SLOPE IS STEEPER THAN ONE UNIT VERTICAL IN ONE UNIT HORIZONTAL (100 PERCENT SLOPE OR 1V:1H SLOPE), THE TOE OF THE SLOPE SHALL BE ASSUMED TO BE AT THE INTERSECTION OF A HORIZONTAL PLAN DRAWN FROM THE TOP OF THE FOUNDATION AND A PLAN DRAWN TANGENT TO THE SLOPE AT AN ANGLE OF 45 DEGREES TO THE HORIZONTAL. WHERE A RETAINING WALL IS CONSTRUCTED AT THE TOE OF THE SLOPE, THE HEIGHT OF THE SLOPE SHALL BE MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE SLOPE.

B. FOOTING SETBACK FROM DESCENDING SLOPE SURFACE. FOOTINGS ON OR ADJACENT TO SLOPE SURFACES SHALL BE FOUNDED IN FIRM MATERIAL WITH AN EMBEDMENT AND SETBACK FROM THE SLOPE SURFACE SUFFICIENT TO PROVIDE VERTICAL AND LATERAL SUPPORT FOR THE FOOTING WITHOUT DETRIMENTAL SETTLEMENT. EXCEPT AS PROVIDED FOR IN PART D AND DIAGRAM SHOWN ABOVE, THE FOLLOWING SETBACK IS DEEMED ADEQUATE TO MEET THE CRITERIA. WHERE THE SLOPE IS STEEPER THAT 1 UNIT VERTICAL IN 1 UNIT HORIZONTAL (100 PERCENT SLOPE OR 1V:1H SLOPE), THE REQUIRED SETBACK SHALL BE MEASURED FROM AN IMAGINARY PLANE 45 DEGREES TO THE HORIZONTAL, PROJECTED UPWARD FROM THE TOE OF THE SLOPE.

* **C. FOUNDATION ELEVATION.** ON GRADED SITES, THE TOP OF ANY EXTERIOR FOUNDATION SHALL EXTEND ABOVE THE ELEVATION OF THE STREET GUTTER AT POINT OF DISCHARGE OR THE INLET OF AN APPROVED DRAINAGE DEVICE A MINIMUM OF 12 INCHES PLUS 2 PERCENT. ALTERNATE ELEVATIONS ARE PERMITTED SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL AND/OR CITY ENGINEER, PROVIDED IT CAN BE DEMONSTRATED THAT REQUIRED DRAINAGE TO THE POINT OF DISCHARGE AND AWAY FROM THE STRUCTURE IS PROVIDED AT ALL LOCATIONS ON THE SITE.

* **D. ALTERNATE SETBACK AND CLEARANCE.** ALTERNATE SETBACKS AND CLEARANCES ARE PERMITTED, SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL AND CITY ENGINEER. THE BUILDING OFFICIAL AND/OR CITY ENGINEER MAY REQUIRE AN INVESTIGATION AND RECOMMENDATION OF A REGISTERED DESIGN PROFESSIONAL TO DEMONSTRATE THAT THE INTENT OF THIS SECTION HAS BEEN SATISFIED. SUCH AN INVESTIGATION AT A MINIMUM SHALL INCLUDE CONSIDERATION OF MATERIAL, HEIGHT OF SLOPE, SLOPE GRADIENT, LOAD INTENSITY AND EROSION CHARACTERISTICS OF SLOPE MATERIAL.

REV.	DATE
△	1/22/08
△	4/19/11
*	12/23/13

NOTE: REFERENCED FROM INTERNATIONAL BUILDING CODE.

**CONSTRUCTION
STANDARDS**

SITE DRAINAGE

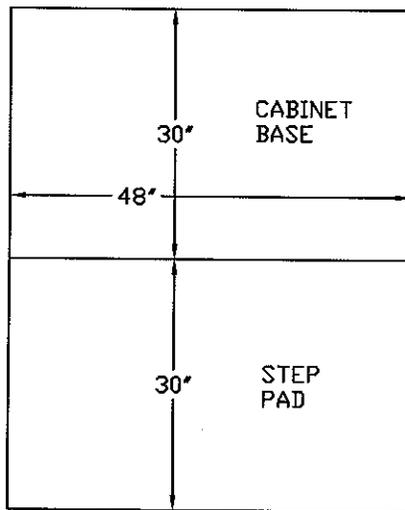
**CITY OF
FARMINGTON**

**PUBLIC
WORKS
DEPARTMENT**

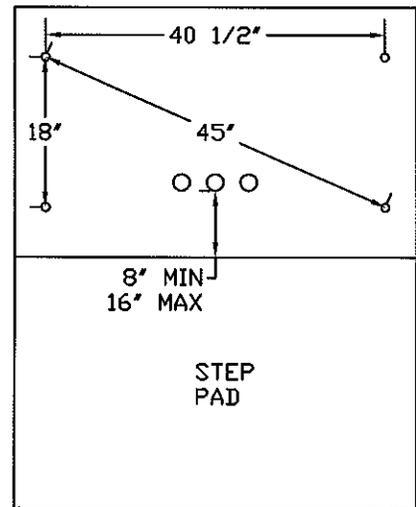
STANDARD No. D-612 SHEET 2 OF 2 △

APPROVED *[Signature]* DATE 12/23/13

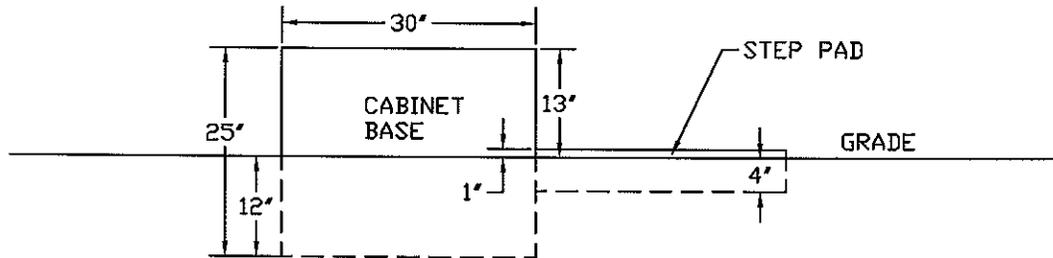
TOP VIEW



BOLT LAYOUT - TOP VIEW
2" OF BOLT THREADS SHOWING



SIDE VIEW



CONSTRUCTION
STANDARDS

TRAFFIC CONTROL CABINET

STANDARD No. D-613 SHEET 1 OF 1

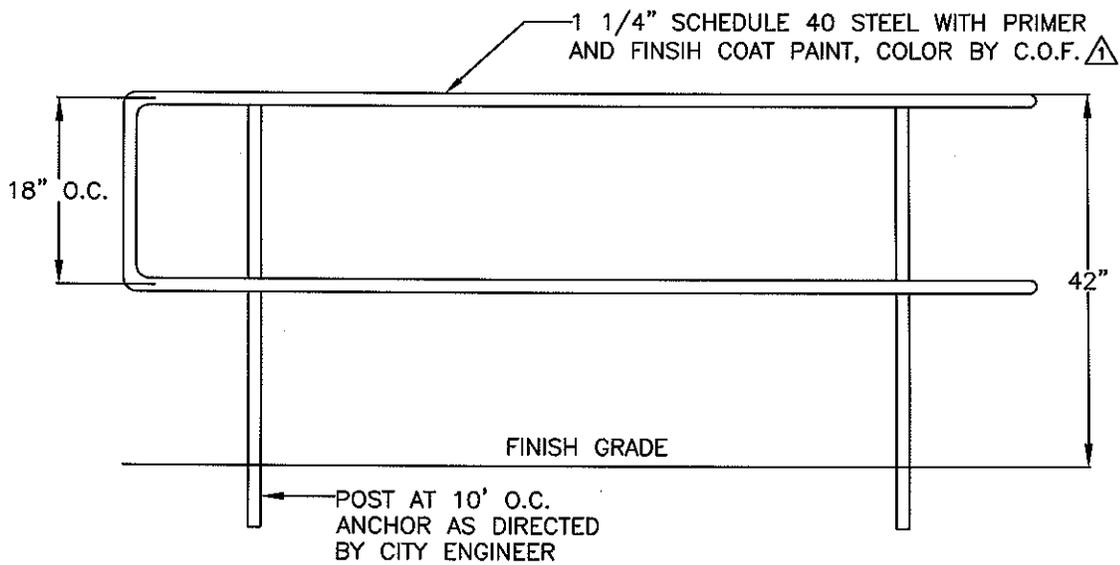
CITY OF
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DEPARTMENT

APPROVED

DATE

5/3/11



REV.	DATE
$\triangle 1$	01/26/06

CONSTRUCTION
STANDARDS

HAND RAILS

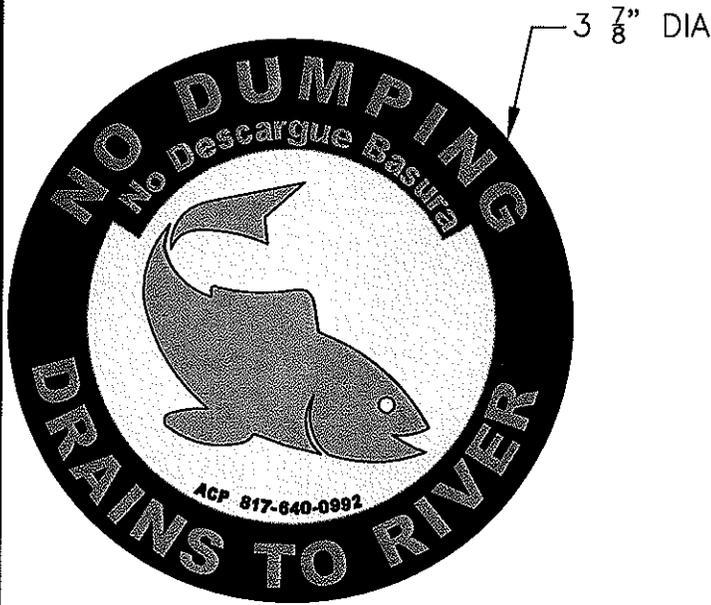
STANDARD No. D-630 SHEET 1 OF 1

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DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

FRONT VIEW



BACK VIEW



PATTERN FOR APPLYING ADHESIVE

NOTES

- 1) ALL STORMDRAIN INLETS SHALL BE LABELED WITH MARKERS APPROVED BY THE CITY ENGINEER.
- 2) STORM DRAIN MARKERS MAY BE OBTAINED FROM THE CITY OF FARMINGTON PUBLIC WORKS DEPARTMENT.

APPLICATIONS INSTRUCTIONS:

- 1) WIRE BRUSH DIRT OR LOOSE IMPEDIMENTS FROM A FLAT, DRY SURFACE.
- 2) APPLY ADHESIVE ON THE BACK OF THE MARKER ABOUT $\frac{1}{8}$ " FROM THE OUTER EDGE AND THEN WORK TO THE CENTER OF THE MARKER. SEE PATTERN ON BACK VIEW.
- 3) WHEN APPLYING THE MARKER, PRESS DOWN HARD ENOUGH TO FORCE THE ADHESIVE OUT AROUND THE ENTIRE EDGE OF THE MARKER. ENSURE THAT THE ENTIRE EDGE OF THE MARKER IS SEALED.

ADHESIVE:

USE SLATE GRAY OUTDOOR ACRYLIC LATEX CAULK PLUS SILICONE THAT IS MOLD AND MILDEW RESISTANT, PROVIDES A WATER PROOF SEAL, AND IS PERMANENTLY FLEXIBLE.

CONSTRUCTION
STANDARDS

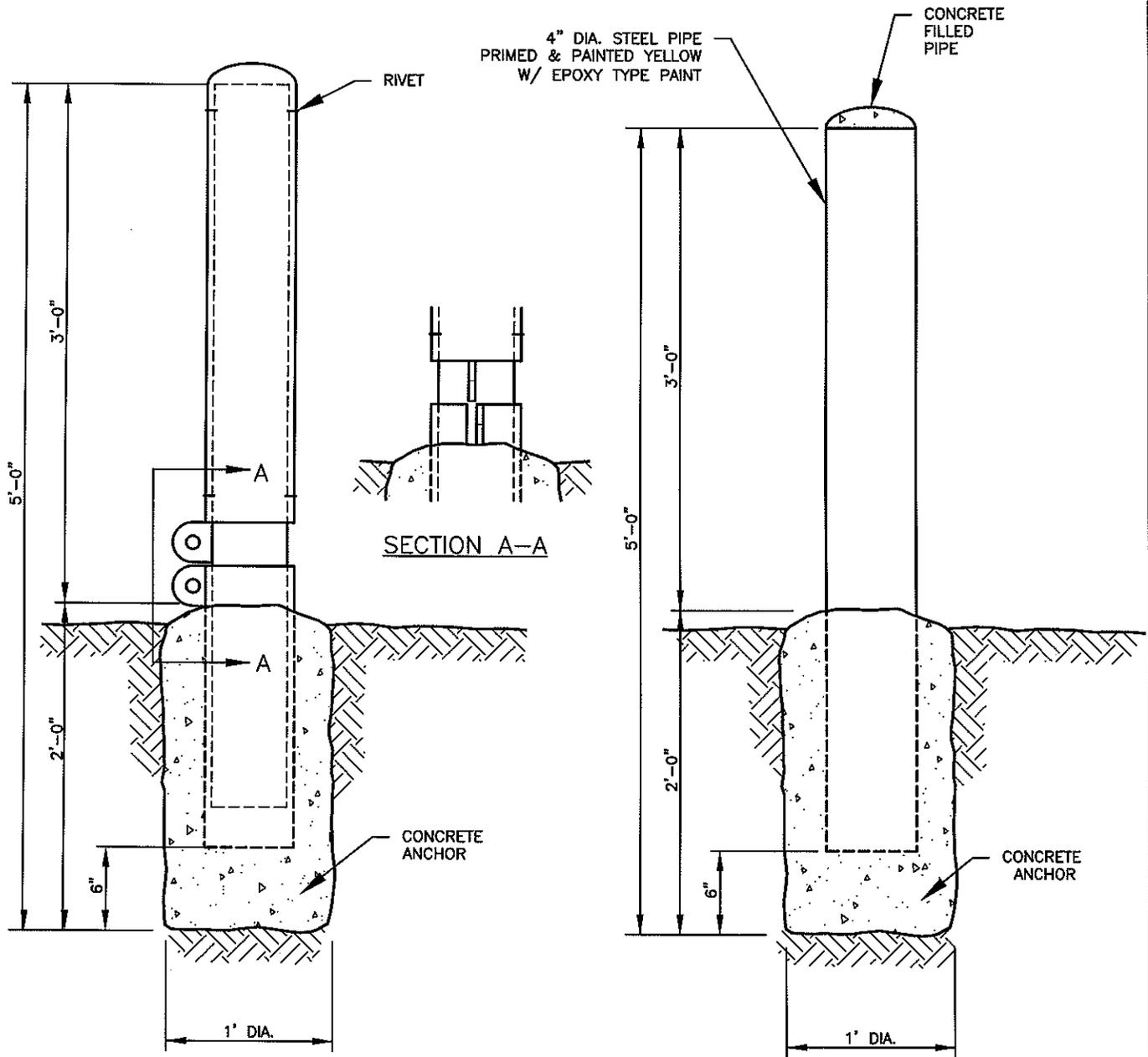
STORM DRAIN MARKERS

STANDARD No. D-631 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08



REMOVABLE BOLLARD

REGULAR BOLLARD

REV.	DATE
△	5/13/11

**CONSTRUCTION
STANDARDS**

BOLLARD DETAIL △

STANDARD No. D-632 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 5/31/11

STORMWATER POLLUTION PREVENTION PLAN

**STORMWATER POLLUTION
PREVENTION PLAN**

CONSTRUCTION STANDARDS SHEET INDEX

STORMWATER POLLUTION PREVENTION PLAN
BEST MANAGEMENT PRACTICES

<u>SHEET NO.</u>	<u>TITLE</u>
D-700	TEMPORARY EROSION (2 SHEETS)
D-701	CULVERT PROTECTION
D-702	SURFACE ROUGHENING
D-703	TEMPORARY SLOPE DRAIN
D-704	STONE CHECK DAM
D-705	EARTH DIVERSION DIKE (BERM) WITH A CHANNEL
D-706	EARTH DIVERSION DIKE (BERM)
D-707	OFFSITE TRACKING PREVENTION (2 SHEETS)
D-708	FIBER ROLLS
D-709	SEDIMENT BASIN
D-710	SEDIMENT TRAP
D-711	SILT FENCE
D-712	CURB DROP INLET PROTECTION

CONSTRUCTION STANDARDS SHEET INDEX

STORMWATER POLLUTION PREVENTION PLAN
BEST MANAGEMENT PRACTICES

<u>SHEET NO.</u>	<u>TITLE</u>
D-713	SURFACE DROP INLET PROTECTION
D-714	STRAW BALE FENCE

CITY CONTRACTS

REFERENCE FOR OTHERS

TEMPORARY EROSION & SEDIMENT CONTROL MEASURES (T.E.S.C.M.)

GENERAL NOTES:

1. THE SOIL RETENTION INSTALLATION DETAILS SHOWN FOR CULVERT PROTECTION SHALL BE USED FOR ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES UTILIZING SOIL RETENTION BLANKETS UNLESS OTHERWISE NOTED.
2. ROCK PLACEMENT USED IN THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THESE SHEETS SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES UNLESS OTHERWISE INDICATED.
3. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES PLACED WITHIN THE CONSTRUCTION CLEAR ZONE SHALL BE INSTALLED WITH 8:1 SLOPES PARALLEL TO TRAFFIC AND 4:1 SLOPES PERPENDICULAR TO TRAFFIC.
- △ 4. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED.
5. CHECK DAMS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN THE DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE CHECK DAM.
6. CULVERT PROTECTIONS SHALL BE INSTALLED UPON INITIATION OF EARTH ACTIVITIES AND MAINTAINED AS MUCH AS PRACTICAL UNTIL STABILIZATION IS COMPLETED AND ACCEPTED. CULVERT PROTECTIONS MAY BE REMOVED FOR PERIODS OF TIME AS REQUIRED DURING CONSTRUCTION TO COMPLETE ADJACENT IMPROVEMENTS.
- △ 7. THE CONTRACTOR MAY CONSTRUCT AN EARTH DIKE AS SHOWN, OR RELOCATE THE CHECK DAMS AS CONSTRUCTION PROGRESSES. NO DIRECT PAYMENT SHALL BE MADE FOR RELOCATION OF THE CHECK DAMS.
- △ 8. FOR STORM DRAIN INLET PROTECTION, REMOVE ACCUMULATED SEDIMENT FROM THE AREA AROUND THE DROP INLET WHEN THE CAPACITY IS REDUCED BY 50%.
- △ 9. STRAW BALE FENCES SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN ACCUMULATION REACHES ONE-THIRD OF THE BALE HEIGHT.
- △ 10. FIBER ROLLS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN ACCUMULATION REACHES ONE-HALF THE DISTANCE BETWEEN THEN TOP OF THE FIBER ROLL AND THE GROUND SURFACE.

REV.	DATE
△	1/22/08

NOT TO SCALE

CONSTRUCTION
STANDARDS

TEMPORARY EROSION
CONTROL LABELS

STANDARD No. D-700 SHEET 1 OF 2

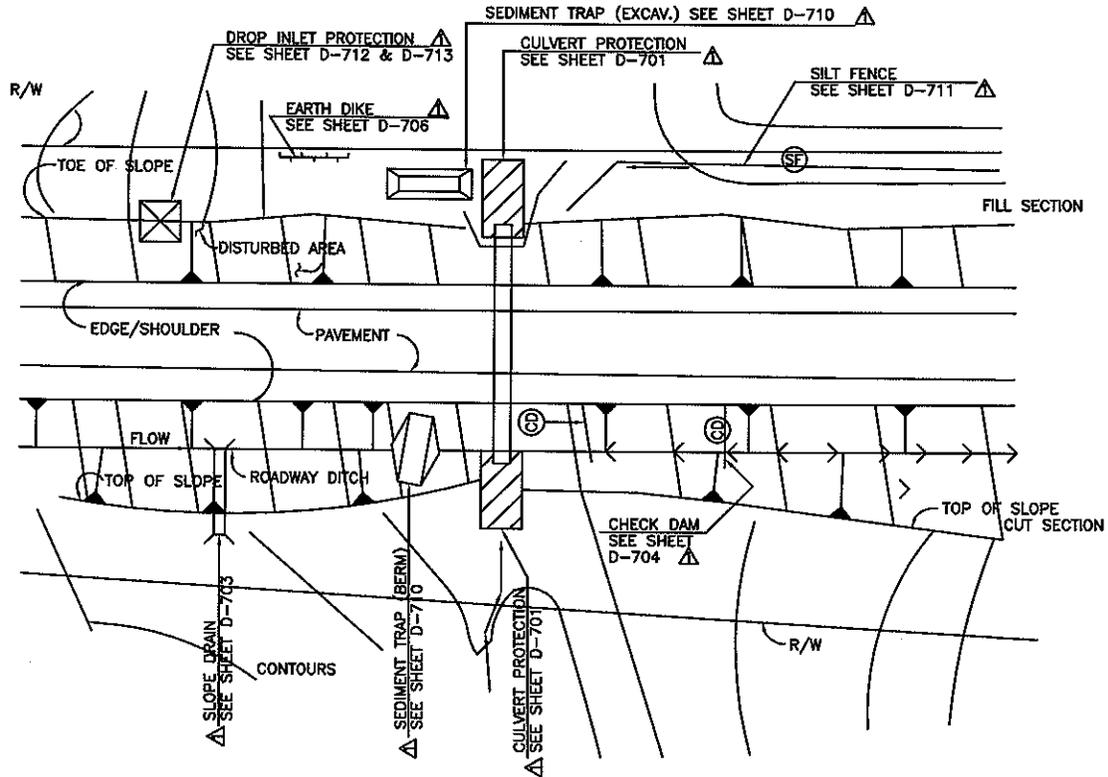
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WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS

REFERENCE FOR OTHERS



TYPICAL USAGE OF SELECTED EROSION AND SEDIMENT CONTROL MEASURES

STANDARD SYMBOLS FOR EROSION AND SEDIMENT CONTROL MEASURES

Silt Fence		Slope Drain		Sediment Trap,	
Straw Bale		Drop Inlet Protection		Sediment Trap, Excavated	
Earth Dike (Berm)		Culvert Protection		Sediment Basin	
Diversion Channel (Swale)		Check Dam		Triangular Sediment Filter Dike	
△ Fiber Roll	—FR—	△ Flow Line	F/L	△ Right of Way	R/W

REV.	DATE
△	1/22/08

NOT TO SCALE

CONSTRUCTION STANDARDS

TEMPORARY EROSION NOTES

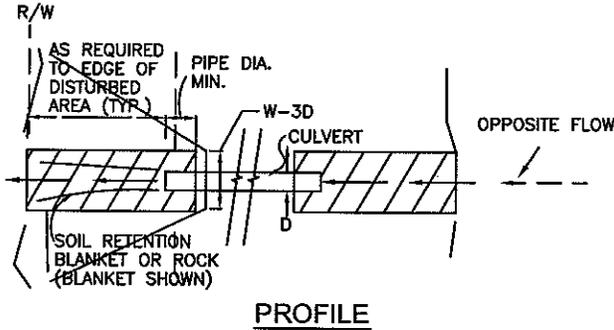
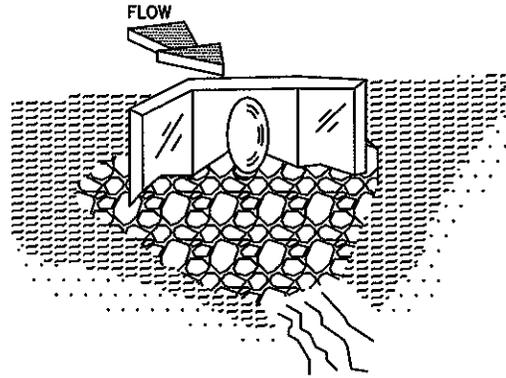
CITY OF FARMINGTON

PUBLIC WORKS DEPARTMENT

STANDARD No. D-700 SHEET 2 OF 2

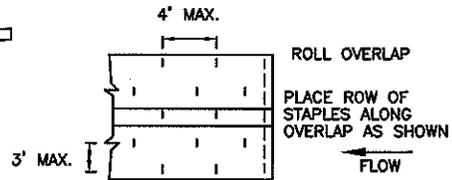
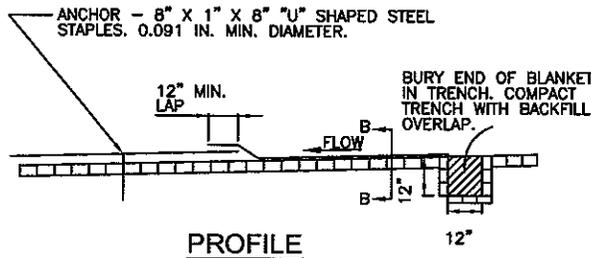
APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS
REFERENCE FOR OTHERS



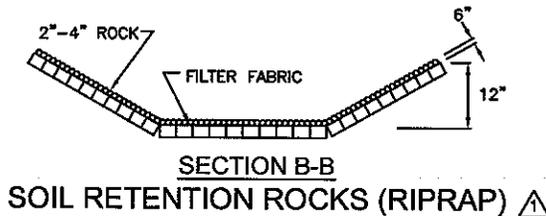
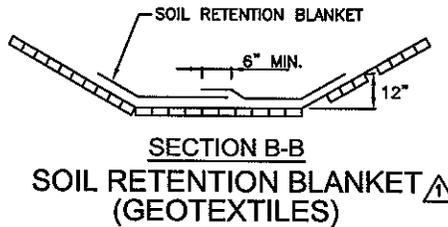
NOTES: CULVERT PROTECTION

1. WHEN CULVERT PROTECTION IS SPECIFIED, EITHER SOIL RETENTION BLANKETS OR SOIL RETENTION ROCK MAY BE PROVIDED.
2. THE CULVERT PROTECTION WIDTH REQUIRED SHALL BE IN ACCORDANCE WITH THESE DETAILS UNLESS SPECIFIED OTHERWISE.
3. THE SOIL RETENTION BLANKET INSTALLATION SHOWN OUTLINES MINIMUM REQUIREMENTS. MANUFACTURER'S RECOMMENDATIONS SHALL BE USED IF THEY ARE MORE STRINGENT.



USE 1" SPACING FOR STAPLES AT BEGINNING OF ROLL AND AT TRAVERSE OVERLAP.

SOIL RETENTION BLANKET STAPLE PATTERN



NOT TO SCALE

REV.	DATE
△	1/22/08

CONSTRUCTION STANDARDS

CULVERT PROTECTION

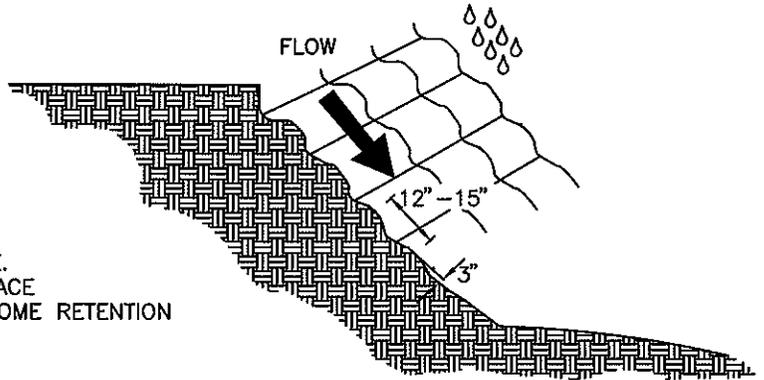
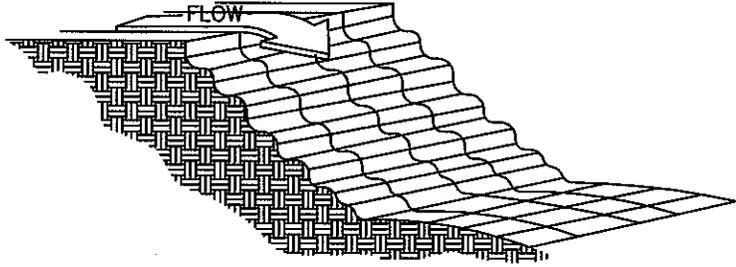
CITY OF FARMINGTON

STANDARD No. D-701 SHEET 1 OF 1

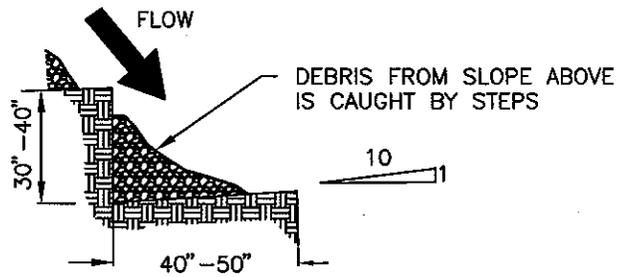
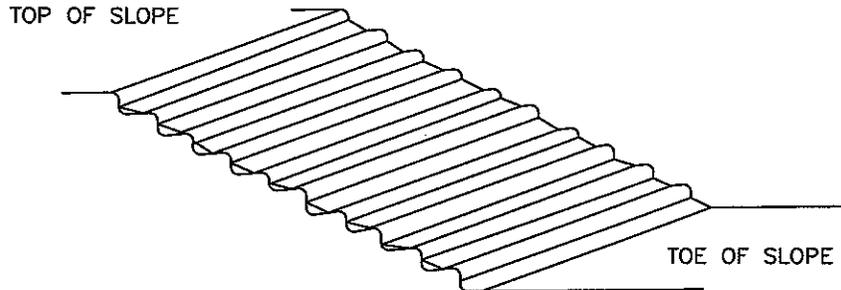
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS
REFERENCE FOR OTHERS



GROOVING IS CUTTING FURROWS ALONG THE CONTOUR OF A SLOPE. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND PROVIDE SOME RETENTION OF LIME, FERTILIZER AND SEED.



STAIR-STEPPING CUT SLOPE

NOT TO SCALE

CONSTRUCTION
STANDARDS

SURFACE ROUGHENING

STANDARD No. D-702 SHEET 1 OF 1

CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

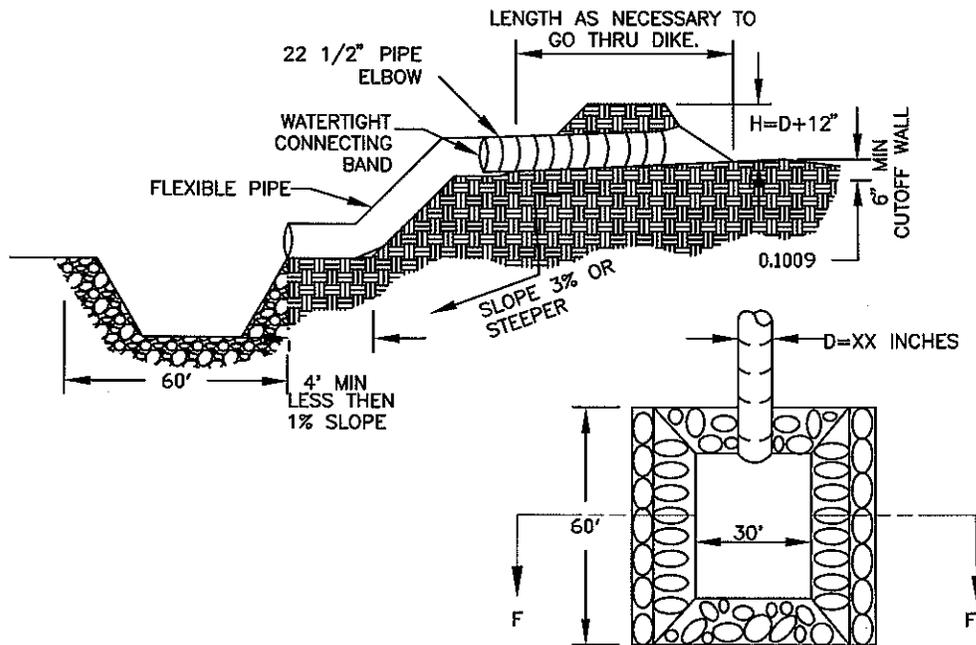
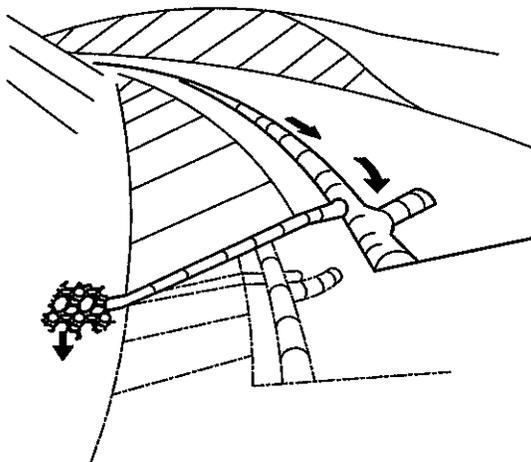
APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS

REFERENCE FOR OTHERS

NOTES: PIPE SLOPE DRAIN

1. THE FLEXIBLE PIPE SHALL BE THE SAME DIAMETER AS THE INLET PIPE AND SHALL BE CONSTRUCTED OF A DURABLE MATERIAL WITH HOLD-DOWN GROMMETS SPACED 10 FT. ON CENTER.
2. THE FLEXIBLE PIPE SHALL BE SECURELY FASTENED TO THE CORRUGATED METAL OR HIGH DENSITY POLYETHYLENE PIPE WITH METAL STRAPPING OR WATERTIGHT CONNECTING COLLARS.
3. THE FLEXIBLE PIPE SHALL BE STAKED AT 10 FT. CENTERS ALONG THE SLOPE USING MINIMUM 4 INCH SQUARE WOOD POSTS OR STANDARD STEEL POSTS DRIVEN 2 FT. MINIMUM INTO THE GROUND, OR EARTHEN THRUST BLOCK.
4. RIGID PIPE SHALL BE ANCHORED AT BENDS. ANCHORAGE SHALL CONSIST OF A MINIMUM OF 4 INCH SQUARE WOOD POSTS OR STANDARD STEEL POSTS DRIVEN 2 FT. MINIMUM INTO THE GROUND, OR EARTHEN THRUST BLOCK.
5. PAYMENT OF BASIN ITEMS ARE INCIDENTAL TO THE COST OF FLEXIBLE STORM DRAIN PIPE.



RIPRAP APRON PLAN



SECTION F-F NOT TO SCALE

CONSTRUCTION
STANDARDS

TEMPORARY SLOPE DRAIN

STANDARD No. D-703 SHEET 1 OF 1

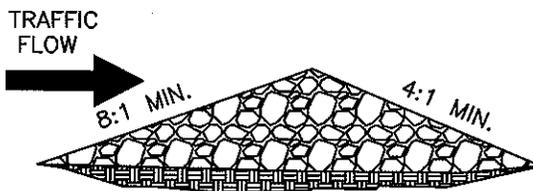
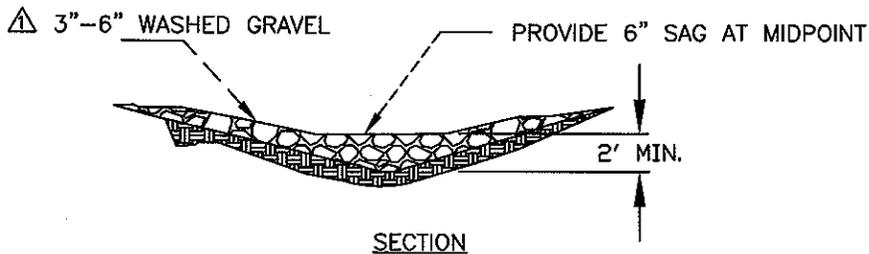
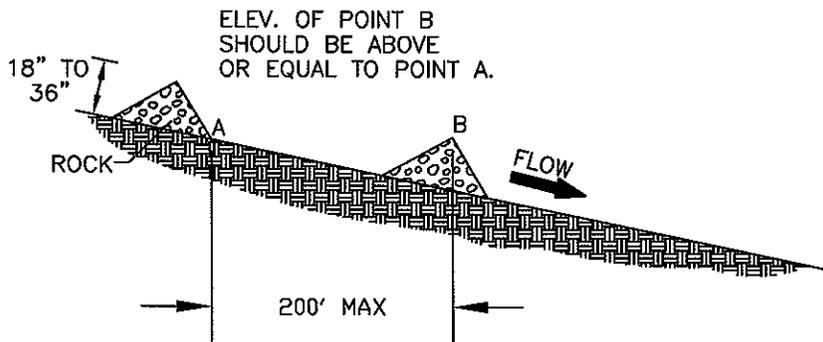
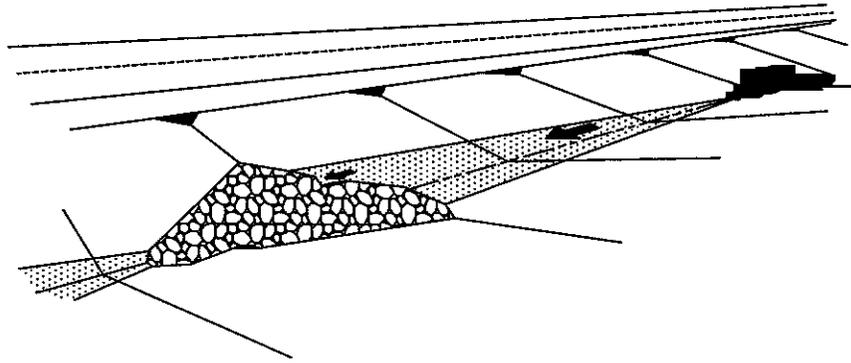
CITY OF
FARMINGTON

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DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS

REFERENCE FOR OTHERS



REV.	DATE
△	05/21/12

NOT TO SCALE

**CONSTRUCTION
STANDARDS**

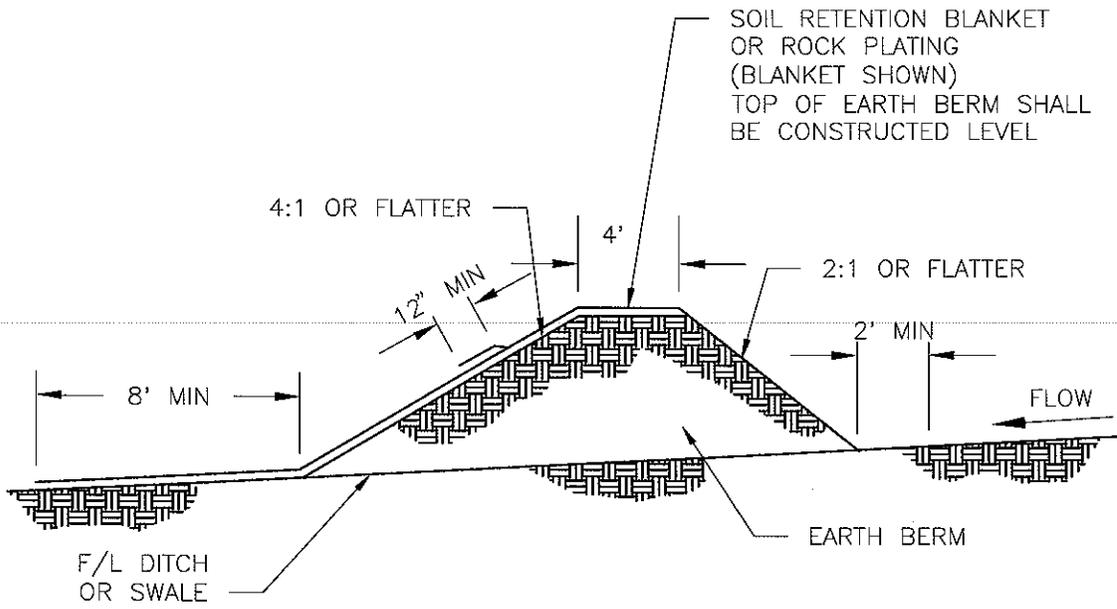
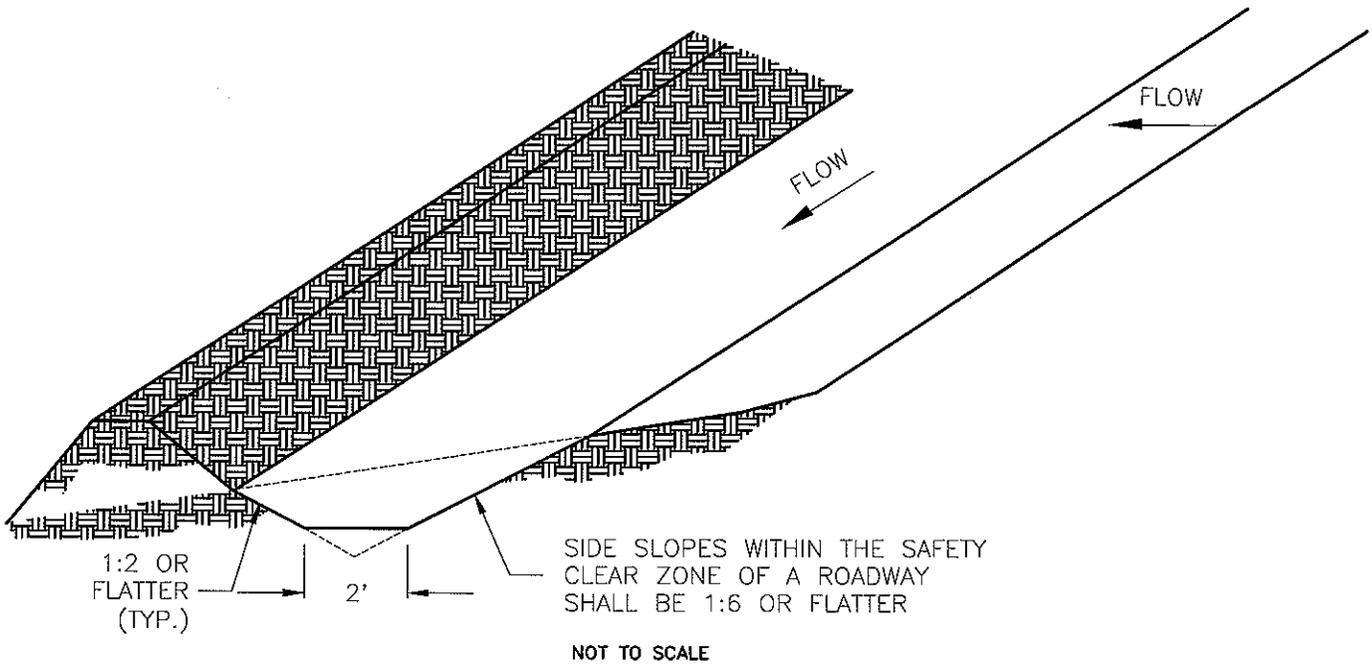
STONE CHECK DAM

STANDARD No. D-704 SHEET 1 OF 1

CITY OF
FARMINGTON

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TYPICAL SWALE CONFIGURATION

NOT TO SCALE

CONSTRUCTION STANDARDS

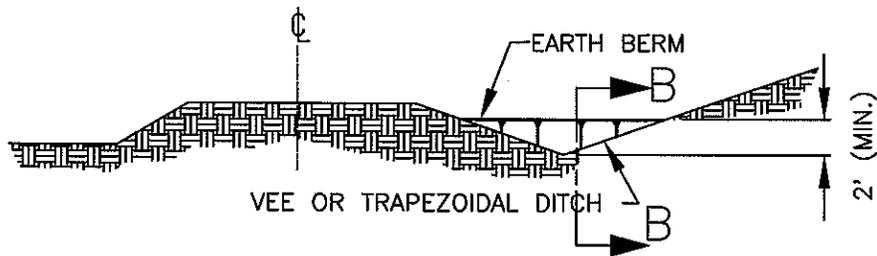
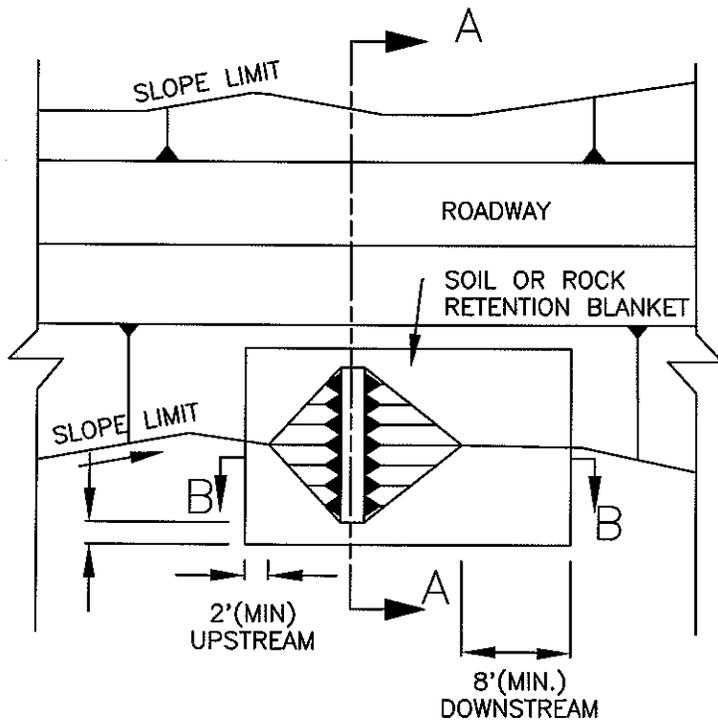
EARTH DIVERSION DIKE (BERM) WITH A CHANNEL

STANDARD No. D-705 SHEET 1 OF 1

CITY OF FARMINGTON

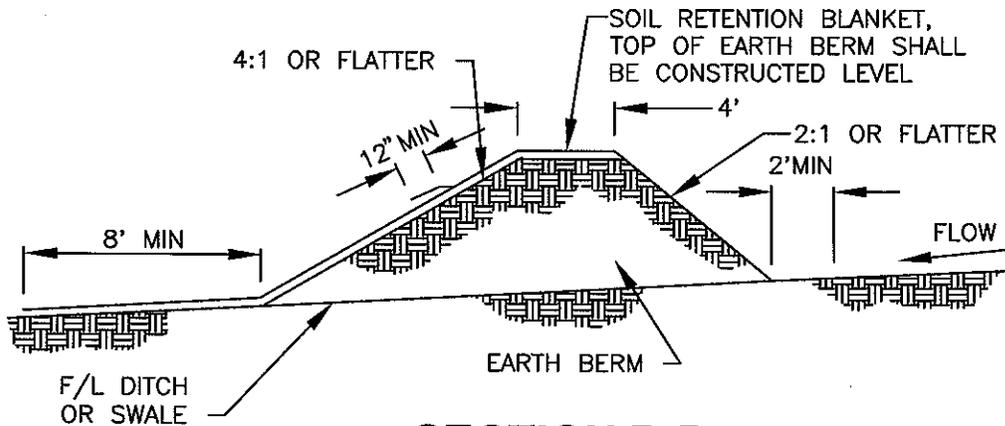
PUBLIC WORKS DEPARTMENT

APPROVED *[Signature]* DATE 9/15/08



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

CONSTRUCTION
STANDARDS

EARTH DIVERSION DIKE (BERM)

STANDARD No. D-706 SHEET 1 OF 1

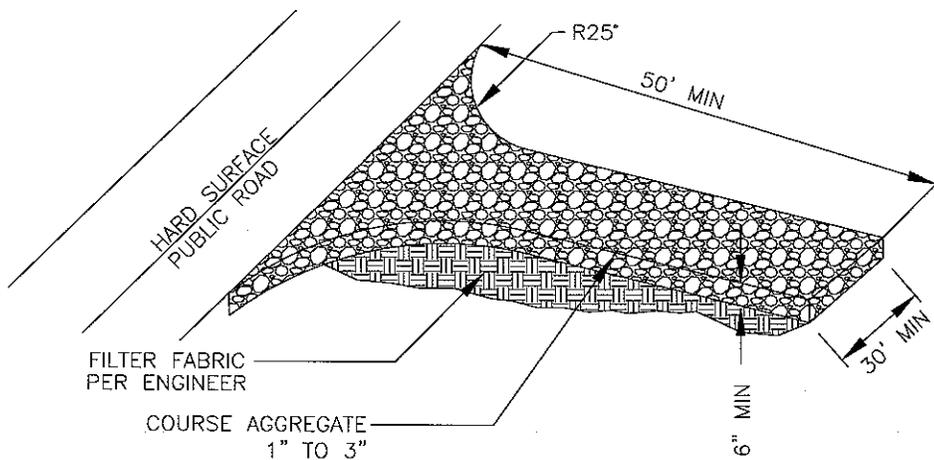
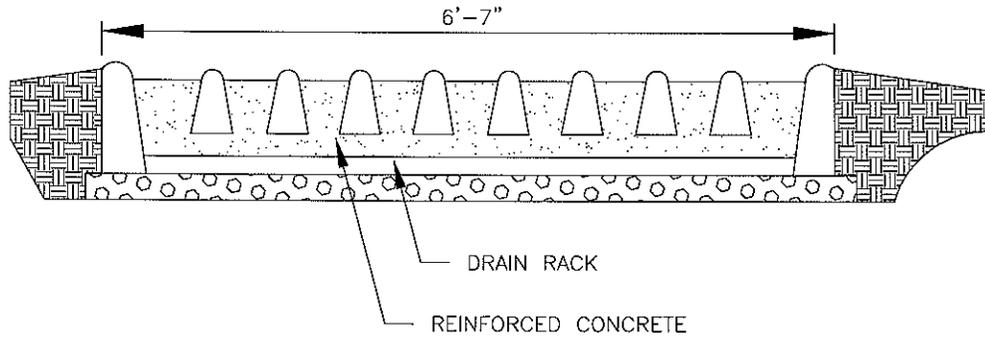
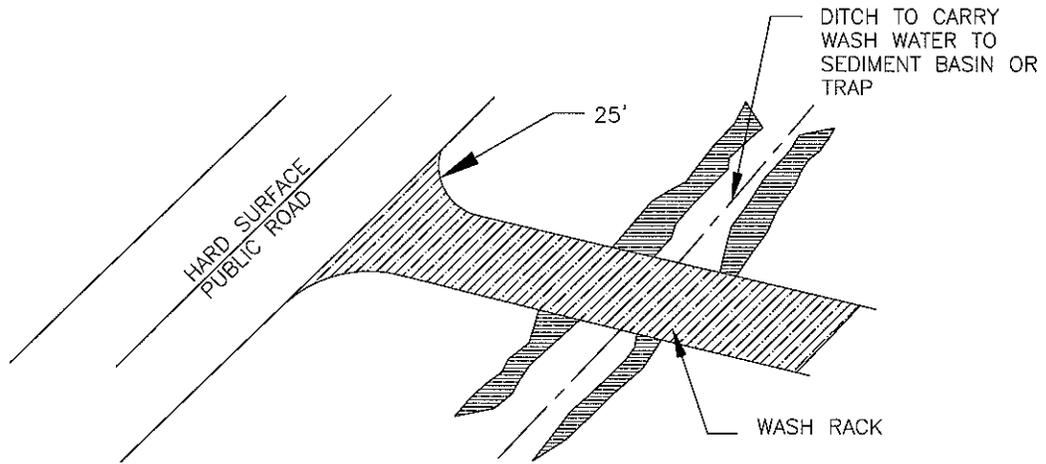
CITY OF
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CITY CONTRACTS

REFERENCE FOR OTHERS



NOT TO SCALE

CONSTRUCTION
STANDARDS

STATE REQUIREMENTS FOR
OFFSITE TRACKING PREVENTION

STANDARD No. D-707 SHEET 1 OF 2

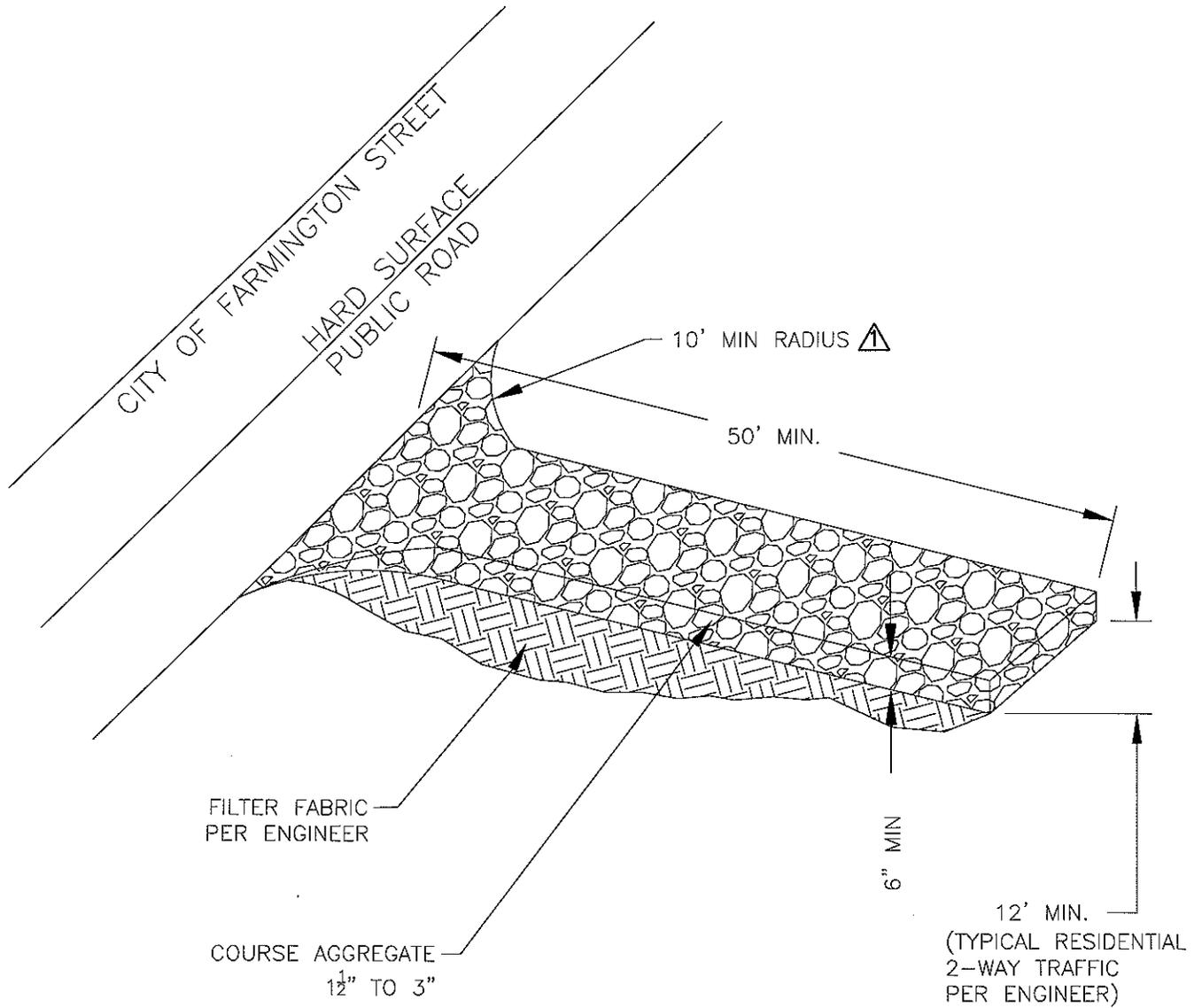
CITY OF
FARMINGTON

PUBLIC
WORKS
DEPARTMENT

APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS

REFERENCE FOR OTHERS



REV.	DATE
\triangle	1/22/08

NOT TO SCALE

**CONSTRUCTION
STANDARDS**

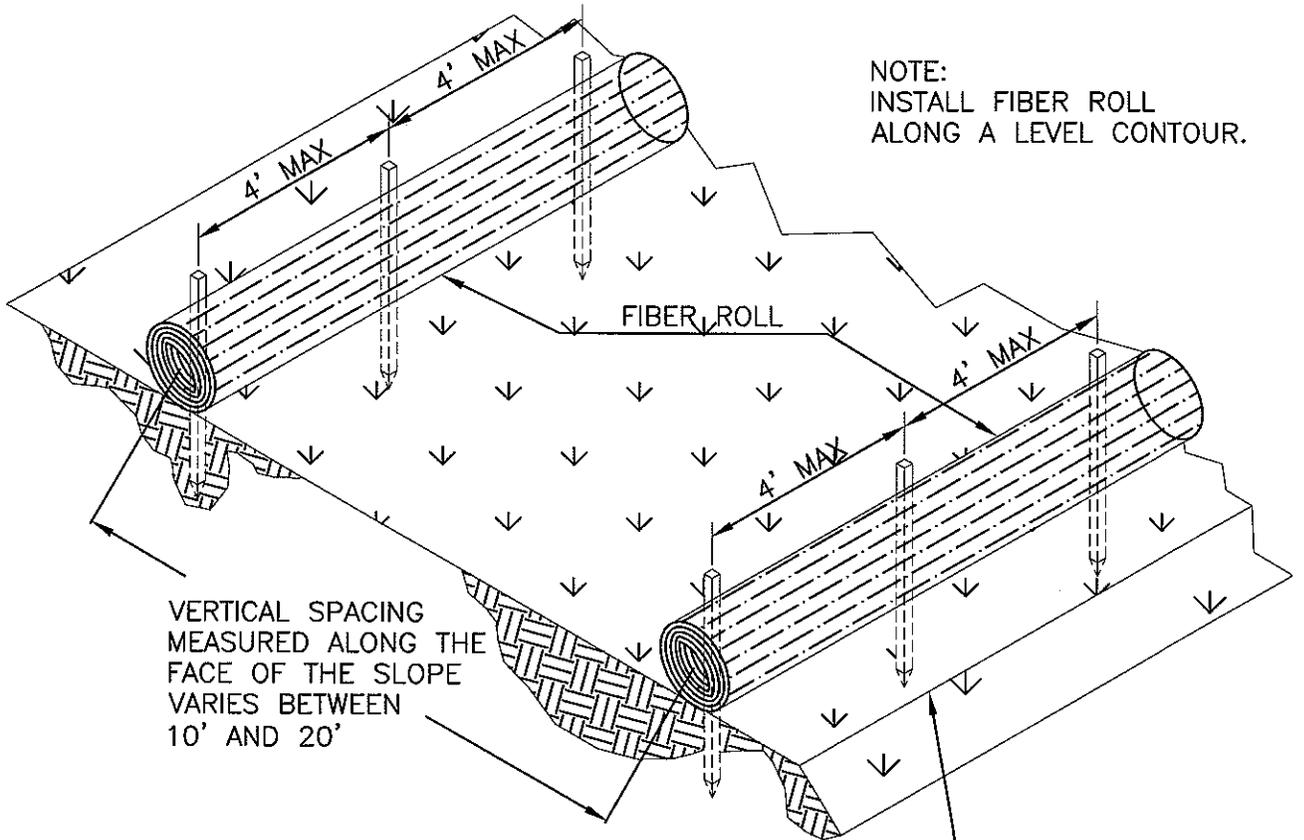
**CITY REQUIREMENTS FOR
OFFSITE TRACKING PREVENTION**

STANDARD No. D-707 SHEET 2 OF 2

**CITY OF
FARMINGTON**

**PUBLIC
WORKS
DEPARTMENT**

APPROVED *[Signature]* DATE 4/15/08

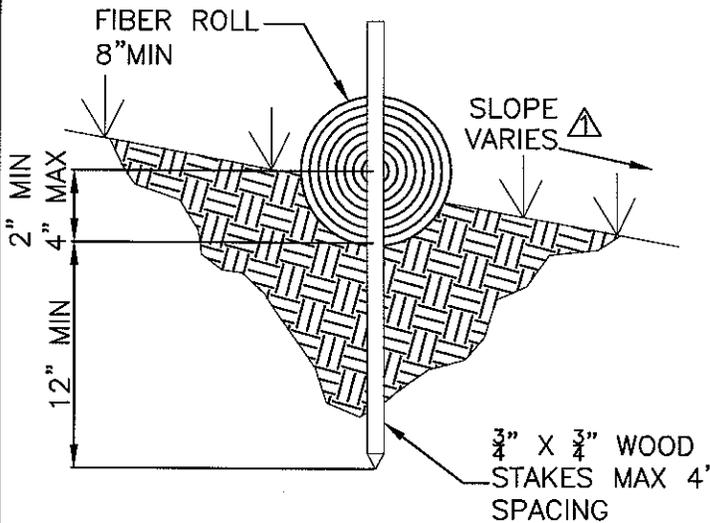


NOTE:
INSTALL FIBER ROLL
ALONG A LEVEL CONTOUR.

VERTICAL SPACING
MEASURED ALONG THE
FACE OF THE SLOPE
VARIES BETWEEN
10' AND 20'

TYPICAL FIBER ROLL INSTALLATION

NOTE:
INSTALL FIBER ROLL NEAR
SLOPE WHERE IT TRANSITIONS
INTO A STEEPER SLOPE.



NOTES: FIBER ROLLS

- 1) BIND ROLLS AT EACH END AND AT LEAST EVERY 4 FEET ALONG THE LENGTH OF THE ROLL WITH JUTE-TYPE TWINE.
- △ 2) IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROWS SHALL BE OVERLAPPED; NOT ABUTTED.
- 3) THE FIBER ROLL INSTALLATION SHOWN OUTLINES MINIMUM REQUIREMENTS. MANUFACTURER'S RECOMMENDATIONS SHALL BE USED IF THEY ARE MORE STRINGENT.

REV.	DATE
△	1/22/08

ENTRENCHMENT DETAIL

NOT TO SCALE

**CONSTRUCTION
STANDARDS**

△ FIBER ROLLS

**CITY OF
FARMINGTON**

**PUBLIC
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DEPARTMENT**

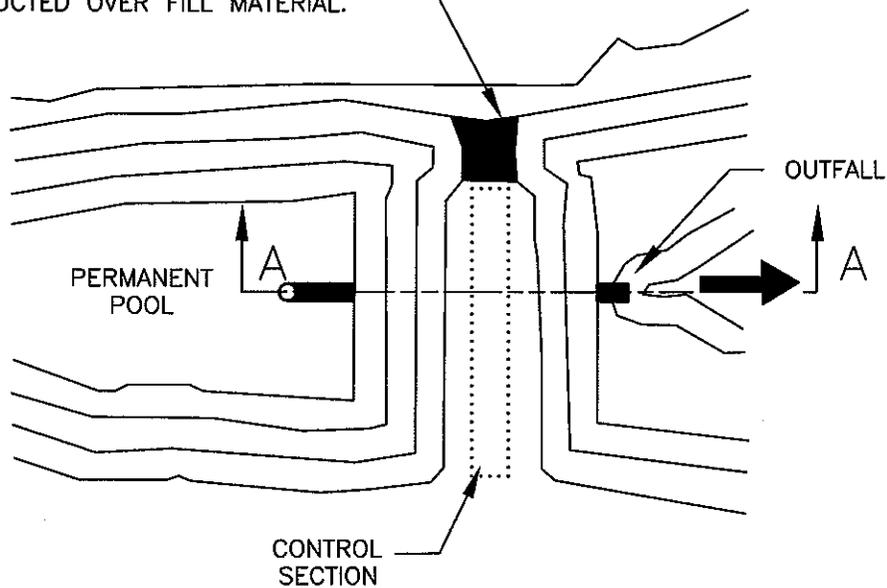
STANDARD No. D-708 SHEET 1 OF 1

APPROVED *[Signature]* DATE 4/15/08

CITY CONTRACTS

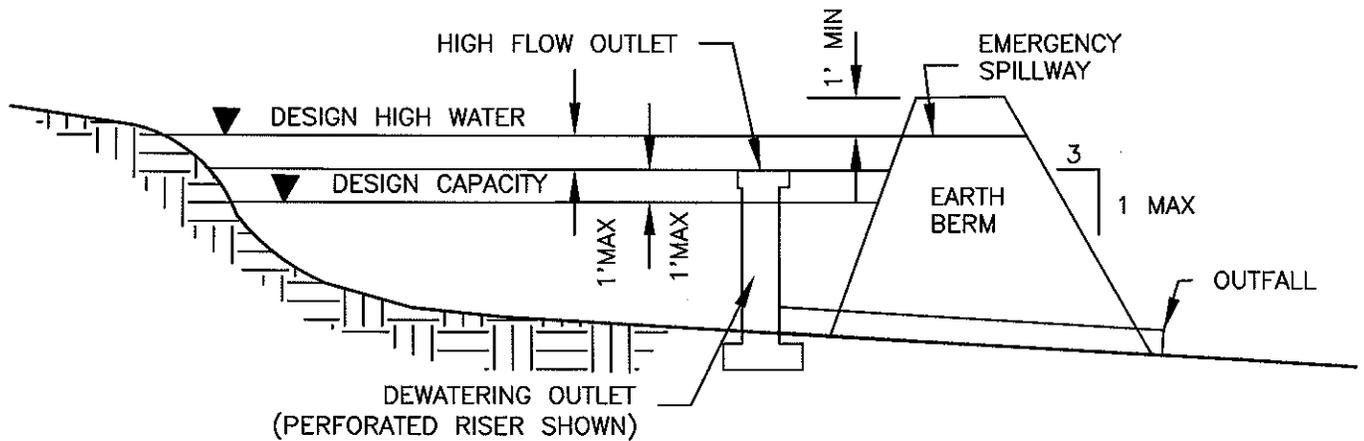
REFERENCE FOR OTHERS

EMERGENCY SPILLWAY SHOULD NOT BE CONSTRUCTED OVER FILL MATERIAL.



PLAN VIEW

NOT TO SCALE



CROSS SECTION A-A

NOT TO SCALE

CONSTRUCTION
STANDARDS

SEDIMENT BASIN

STANDARD No. D-709 SHEET 1 OF 1

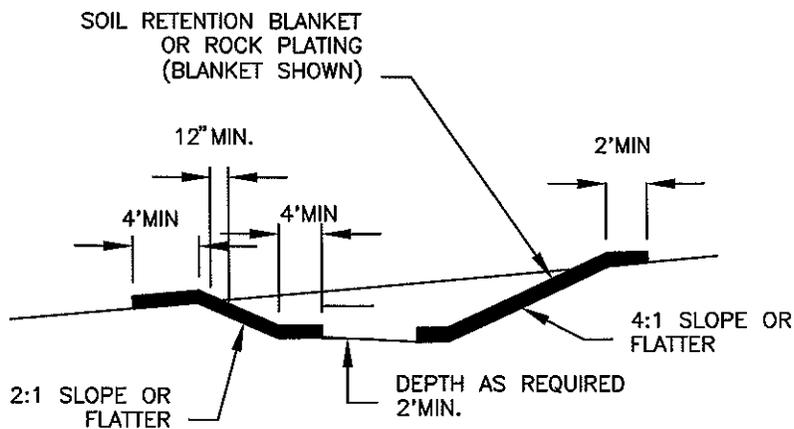
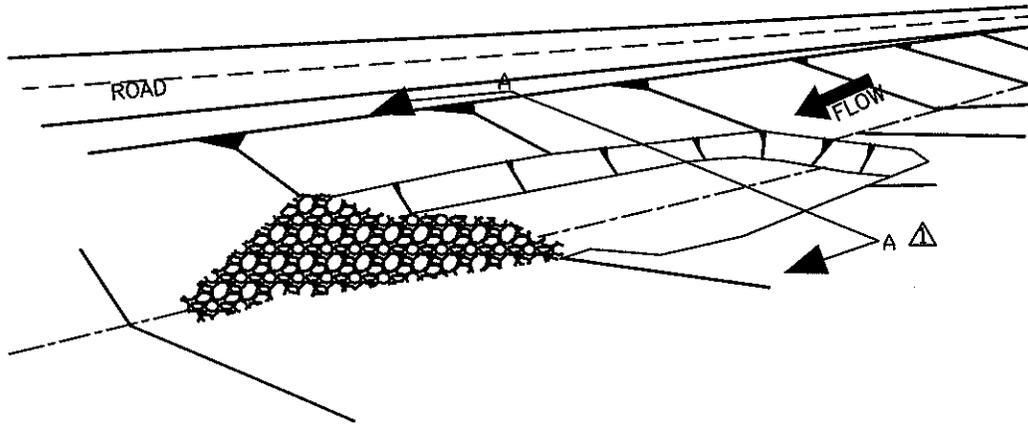
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CITY CONTRACTS

REFERENCE FOR OTHERS



CROSS SECTION A-A
NOT TO SCALE

NOTES SEDIMENT TRAPS

1. TEMPORARY SEDIMENT TRAPS MAY BE CONSTRUCTED BY EXCAVATION ALONE OR BY EXCAVATION IN COMBINATION WITH AN ENBANKMENT.
- △ 2. TEMPORARY SEDIMENT TRAPS ARE OFTEN USED IN CONJUNCTION WITH A DIVERSION DIKE OR SWALE.
3. THE DRAINAGE AREA FOR THE SEDIMENT TRAP SHOULD NOT EXCEED 5 DISTURBED ACRES.
4. THE TRAP MUST BE ACCESSIBLE FOR EASE OF REGULAR MAINTENANCE, WHICH IS CRITICAL TO ITS PROPER FUNCTIONING.
5. SEDIMENT TRAPS ARE TEMPORARY MEASURES AND SHOULD NOT REMAIN IN PLACE LONGER THAN 18 TO 24 MONTHS.
6. THE ENBANKMENT MAY NOT EXCEED 5 FT. IN HEIGHT.
- △ 7. THE RECOMMENDED MINIMUM WIDTH AT THE TOP OF THE ENBANKMENT IS BETWEEN 2 FT. AND 5 FT. FOR LARGE DEVELOPMENTS, ENGINEER SHALL APPROVE.
- △ 8. MINIMUM STORAGE CAPACITY SHOULD BE 1,800 FT³ PER ACRE OF TOTAL DRAINAGE AREA.

REV.	DATE
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**CONSTRUCTION
STANDARDS**

SEDIMENT TRAP

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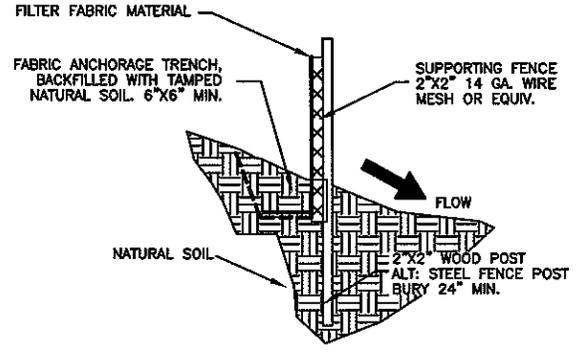
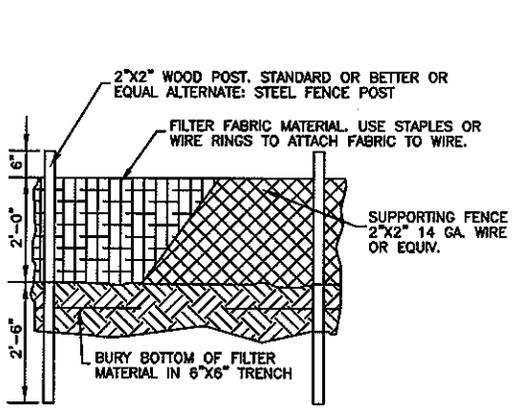
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CITY CONTRACTS

REFERENCE FOR OTHERS



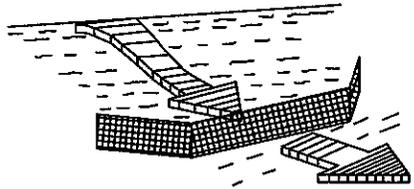
SILT FENCE

NOTES: SILT FENCE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE POST SPACING FOR SILT FENCES TO MINIMIZE MAINTENANCE.

1. POST SPACING SHALL BE 4 FT. MAXIMUM WITHOUT SUPPORTING FENCE, 10 FT. MAXIMUM WITH SUPPORTING FENCE.
2. POSTS FOR 4 FT. MAXIMUM POST SPACING SHALL BE 2 INCH SQUARE NOMINAL SIZE OR HEAVIER WOOD POSTS, OR STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 LB. PER LINEAR FOOT.

POSTS FOR 10 FT. MAXIMUM POST SPACING SHALL BE 4 INCH SQUARE NOMINAL SIZE OR HEAVIER WOOD POSTS, OR STEEL POSTS AS SPECIFIED ABOVE.
3. SUPPORTING FENCE SHALL BE WIRE MESH (14 GA. MIN., 1 INCH MAX. MESH OPENINGS), SNOW FENCE, PLASTIC FENCE, OR APPROVED EQUAL.
4. SUPPORTING FENCE SHALL BE FASTENED SECURELY TO POSTS WITH STAPLES OR WIRE TIES. FILTER FABRIC SHALL BE FASTENED SECURELY TO SUPPORTING FENCE WITH WIRE TIES SPACED AT 2 FT. CENTERS ALONG THE TOP AND MID-SECTION. WHEN A SUPPORTING FENCE IS NOT USED, FILTER FABRIC SHALL BE SECURELY FASTENED TO POSTS WITH STAPLES OR WIRE TIES.
- △ 5. FOR SILT FENCES, RUNOFF FLOW SHOULD NOT EXCEED 0.5cfs AND THE DRAINAGE AREA SHOULD NOT EXCEED 0.25 ACRE PER 100-FOOT FENCE LENGTH.
6. STANDARD "T" OR "U" SECTION STEEL POSTS SHALL NOT BE USED WITHIN THE CONSTRUCTION CLEAR ZONE RECOVERY AREA.



NOT TO SCALE

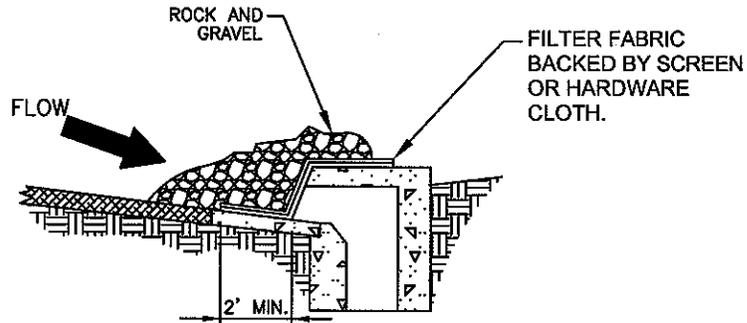
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△	1/22/08

CONSTRUCTION STANDARDS	SILT FENCE	CITY OF FARMINGTON
STANDARD No. D-711	SHEET 1 OF 1	PUBLIC WORKS DEPARTMENT

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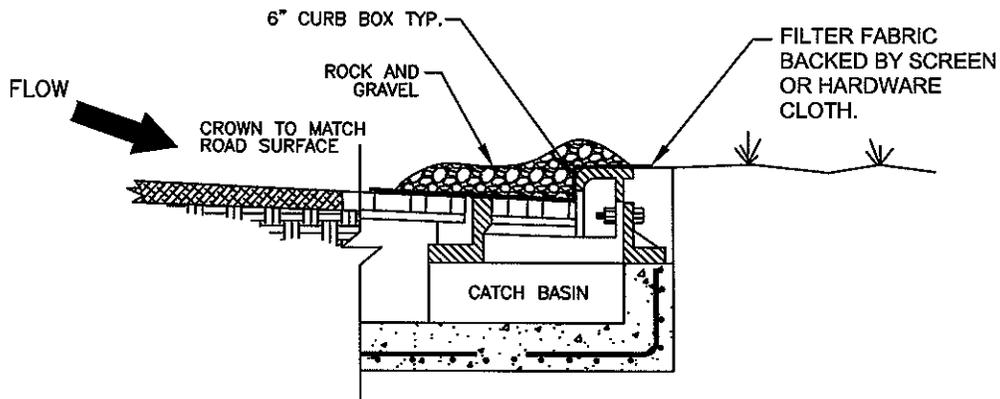
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CURB OPENING

NOTES: GRAVEL INLET PROTECTION

1. THIS INSTALLATION IS FOR A TYPICAL CURB DROP INLET.
2. THE SPACING OF THE LONGITUDINAL BRACING SHALL NOT EXCEED 5 FT.



TYPE II CURB DROP INLET

NOTE:

ALTERNATE PROTECTION OF CITY STRUCTURES NEEDS APPROVAL BY CITY ENGINEER

NOT TO SCALE

CONSTRUCTION
STANDARDS

CURB DROP INLET PROTECTION

CITY OF
FARMINGTON

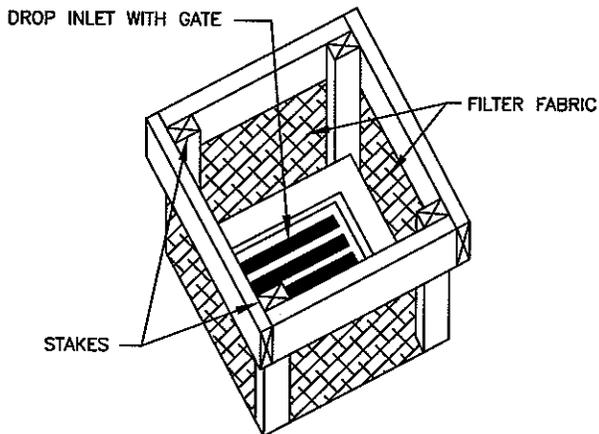
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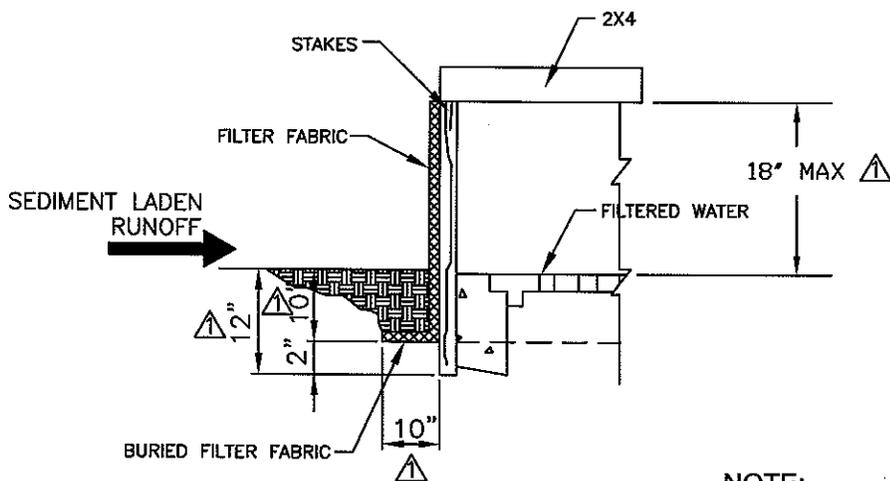
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TYPE I

NOTE:

1. WHEN SPECIFIED, ROCKS OR STRAW BALES CAN BE SUBSTITUTED FOR SILT FENCE.
- ⚠ 2. STAKES SHOULD BE PLACED AT LEAST EVERY THREE FEET.



NOTE:

ALTERNATE PROTECTION OF CITY STRUCTURES NEEDS APPROVAL BY CITY ENGINEER

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NOT TO SCALE

CONSTRUCTION STANDARDS

SURFACE DROP INLET PROTECTION

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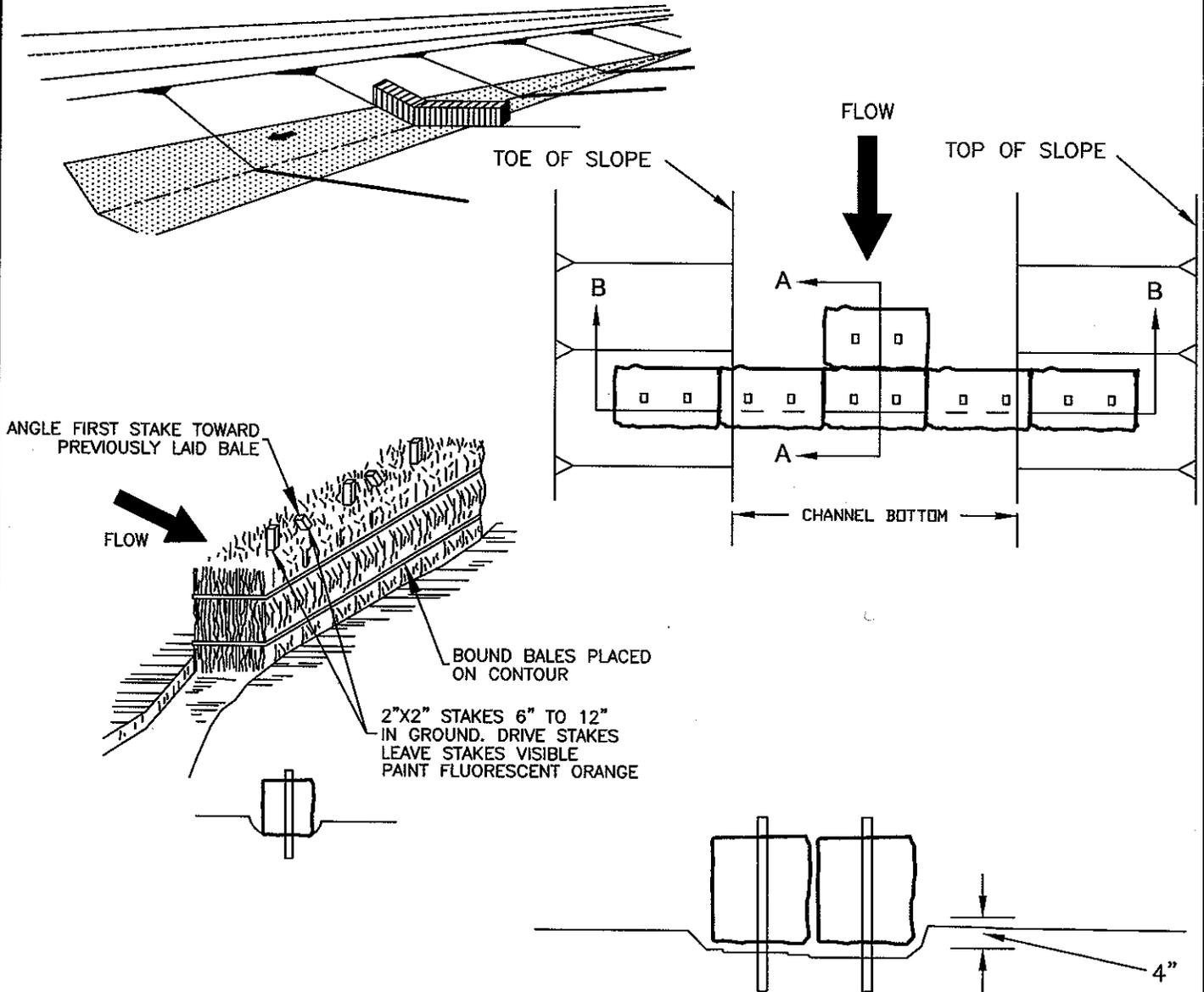
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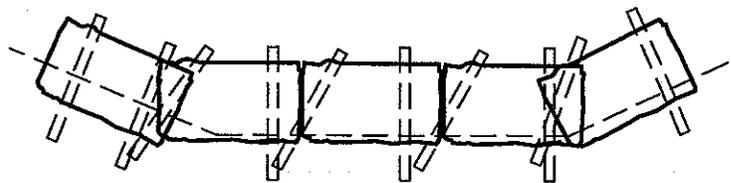
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CITY CONTRACTS

REFERENCE FOR OTHERS



SECTION A-A



SECTION B-B

NOT TO SCALE

- ⚠ NOTES: STRAW BALE FENCE
1. WATER DEPTH SHOULD NEVER EXCEED 1 FOOT AT ANY ONE TIME
 2. BECAUSE STRAW BALE INSTALLATIONS HAVE A HIGH FAILURE RATE CONSIDER OTHER BEST MANAGEMENT PRACTICES FIRST.

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⚠	1/22/08

CONSTRUCTION STANDARDS

STRAW BALE FENCE

CITY OF FARMINGTON

STANDARD No. D-714 SHEET 1 OF 1

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