EAGLE MOUNTAIN CITY CONSTRUCTION AND DESIGN STANDARDS

EAGLE MOUNTAIN CITY
2565 N Pony Express Pkwy
Eagle Mountain, UT 84005

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Chapter 15.10
IMPROVEMENT AND DESIGN STANDARDS

Sections:

15.10.010 Utility connection.

It shall be the responsibility of the developer to connect to any utilities or improvements wherever they are located and extend those improvements to and through the development as shown on the approved construction drawings. [Ord. O-03-2010 § 1 (Exh. A § 2.010)].

15.10.020 Utility extension.

It may be the responsibility of the developer to extend all utilities or improvements to the end of their property for future connection of adjacent property. Reimbursements may be made for these extensions based on the excess capacity, provided these expenses meet the requirements as set forth by the city or as stated in the master development agreement. The excess capacity, if any, formula and terms for any reimbursement agreement will be identified prior to the beginning of construction. Utilities that connect onto Eagle Mountain public utilities will maintain Eagle Mountain City standards for material, workmanship, and trench back fill/pipe bedding. [Ord. O-03-2010 § 1 (Exh. A § 2.011)].

15.10.030 Water supply.

The developer shall connect the subdivision with the city water system with all appurtenances and shall make such water available to each lot within the subdivided area. Adequacy of supply and sizes of water mains shall be established by the city engineer or his/her designee. The minimum water line size shall be eight inches in diameter.

Workmanship and details of construction shall be in accordance with the APWA Standard Specifications as amended by the city. All work in connection with water services shall be done as directed and under the supervision of the city engineer or his/her designee.

The design of all subdivisions shall be such that a minimum water pressure of 50 psi and a maximum of 115 psi will be maintained at street level. [Ord. O-03-2010 § 1 (Exh. A § 2.020)].

15.10.040 Flush hydrants.

Flush hydrants, blow-offs, or some other adequate mechanism shall be installed at the end of all water lines to adequately flush all water lines. [Ord. O-03-2010 § 1 (Exh. A § 2.021)].

15.10.050 Sewers and sewage facilities.

The developer shall provide each lot with a sanitary sewer system in accordance with the ordinances of the city and pursuant to the APWA Standard Specifications as amended by the city. All work shall be completed by the developer as directed and under the supervision of the city engineer or his/her designee. The minimum sewer pipe size shall be 8 inches in diameter. [Ord. O-03-2010 § 1 (Exh. A § 2.030)].

15.10.060 Water and sewer laterals.

All sewer services and water services need to be marked with a two-inch by four-inch stake at the end of each service a minimum of 36 inches above grade and a two-inch “S” for sewer or two-inch “W” for water needs to be stamped in the top of the curb at the service locations. Curb markings may also be made on a brass cap hammered into the curb. Water and sewer lateral must extend a minimum of 15 feet behind the property line. The minimum sewer lateral pipe size shall be 4 inches in diameter. The minimum water lateral size shall be ¾ inch in diameter. [Ord. O-03-2010 § 1 (Exh. A § 2.031)].

15.10.070 Storm drainage.

The developer shall provide on-site facilities for a 100-year storm event and piping and appurtenances to convey the highest intensity 10-year storm to the on-site retention facilities. Additional piping and appurtenances shall be required to convey the 10-year historical discharge from the on-site retention facility to the city’s existing storm water facility. The minimum storm drain pipe size shall be 15 inches in diameter.

All improvements shall be constructed in accordance with city ordinances and pursuant to the APWA Standard Specifications as amended by the city and/or other codes adopted by the city. All said work shall be done as directed and under the supervision of the city engineer or his/her designee. [Ord. O-03-2010 § 1 (Exh. A § 2.040)].

15.10.080 Pressurized irrigation system.

The developer may be required to connect the subdivision to the city secondary pressurized irrigation system, as designated by the city’s master secondary irrigation plan, as outlined in the development agreement, if such facilities are expected to be available for use within three years of the installation of such improvements. The use of treated re-use water may allow a credit of banked water rights consistent with the amount of culinary water which should have been used for irrigation to be offset with secondary irrigation.

The minimum pressurized irrigation size shall be six inches in diameter. The adequacy of supply lines and sizes of mains shall be established by the city engineer or his/her designee. Workmanship and construction shall comply with the Eagle

Mountain City Construction Standards and Specifications. Installation shall conform to Chapter 15.40 EMMC.

Pressurized irrigation systems to be installed in existing city roads and rights-of-way shall conform to all relevant chapters of this title. [Ord. O-03-2010 § 1 (Exh. A § 2.050)].

15.10.090 Streets.

The developer shall construct all streets required by the subdivision as specified by the city council in accordance with the APWA Standard Specifications as amended by the city. All streets shall be constructed pursuant to standards recommended by the city engineer or his/her designee based on soil conditions and required structural engineered materials to be used in the construction of the road.

The developer shall be responsible to construct all streets required in the final plat and as a condition of the final plat approval to the standard required by the city engineer or his/her designee. The developer shall be required to provide an engineered design for the street subgrade construction. [Ord. O-03-2010 § 1 (Exh. A § 2.060)].

15.10.100 Street widths, intersecting driveways, maximum street grades.

Street widths, intersecting driveways and maximum street grades shall conform to EMMC Titles 16 and 17. [Ord. O-03-2010 § 1 (Exh. A § 2.070)].

15.10.110 Intersection grades.

The maximum grade at intersections shall not exceed four percent for 100 feet measured from the edge of asphalt on the intersecting street.

The grade may be increased to a maximum of six percent on a collector road if there is no signalization or traffic control. In addition, detailed designs are required for the intersection design along with storm drain inlet boxes at each of the intersecting curb returns. [Ord. O-03-2010 § 1 (Exh. A § 2.080)].

15.10.120 Vertical curves.

Vertical curves shall be designed to meet the maximum sight distance and stopping sight distances required by AASHTO. [Ord. O-03-2010 § 1 (Exh. A § 2.081)].

15.10.130 Cul-de-sacs.

The maximum length of a cul-de-sac is 500 feet measured from the nearest right-of-way line of the adjoining street to the center of the cul-de-sac, and the minimum radius as defined by EMMC Titles 16 and 17 and the International Fire Code, unless otherwise approved by the city engineer and the fire chief. No reversed grade cul-de-sacs shall be allowed unless adequate storm and sewer facilities are designed and approved by the city engineer or his/her designee. Cul-de-sacs shall have a maximum of 15 lots unless stated otherwise in EMMC Titles 16 and 17. [Ord. O-03-2010 § 1 (Exh. A § 2.090)].

15.10.140 Temporary turnarounds.

Temporary turnarounds are to be provided on all streets which are more than one lot from intersections unless approved otherwise by the Unified fire chief or his/her designee. These are to be recorded on the plat as easements; 60-foot diameter, four-inch-thick compacted road base and two inches of asphalt. If it is not anticipated that the temporary turnaround will be in place longer than a year, the developer may, at their discretion, forego installation of the asphalt in favor of bonding these improvements. If the temporary turnaround is still required at the end of the warranty period, and if asphalt has not been installed, the asphalt will be installed by the developer at his/her expense, or the city will make a claim against the bond. All temporary turnarounds must be approved by the Unified fire chief or his/her designee. [Ord. O-03-2010 § 1 (Exh. A § 2.100)].

15.10.150 Offsetting intersections.

All intersections shall be at right angles, or within 10 degrees, extending a minimum of 150 feet along the centerlines from the center of the intersection to the point of tangency. Offset intersections will have a minimum offset of 100 feet between centerlines. [Ord. O-03-2010 § 1 (Exh. A § 2.120)].

15.10.160 Clear vision area.

A. The clear vision area is that triangular area of a corner lot or parcel formed by the street property lines and the line connecting them at points 30 feet from the intersecting right-of-way lines of the two streets. Fencing and planting is restricted within this area as follows:

1. No fence shall exceed a height of three feet.

2. Shrubs shall be pruned to a height not to exceed three feet.

3. Trees shall be pruned to maintain a clear area below eight feet.

B. A second clear vision area with 20-foot sides is also required where the rear of a corner lot adjoins an interior lot. The same restrictions for landscaping and fencing apply in this area unless the interior lot is already developed and has no existing driveway within 10 feet of the property line adjoining the corner lot. [Ord. O-03-2010 § 1 (Exh. A § 2.130)].

15.10.170 Curbs, gutters and sidewalks.

When required on Table 16.35.130(b), Right-of-Way Classifications, all curbs, gutters and sidewalks shall be built on all existing and proposed streets required by the subdivision in accordance with the APWA Standard Specifications as amended by the city. All curbs, gutters and sidewalks shall connect to existing curbs, gutters and sidewalks within a reasonable area as determined by the city engineer or his/her designee. [Ord. O-03-2010 § 1 (Exh. A § 2.140)].

15.10.180 Parking lots and driveways.

Parking shall meet the size and configuration requirements as shown in the standard drawings. Parking lots and drives shall be designed to meet appropriate engineering standards, including drainage and load capacity. All drive and parking lot drainage, asphalt, and base designs shall be reviewed by the city engineer or his/her designee prior to approval. Any trenches for installation of public utilities shall be backfilled and compacted using engineered fill (A1,A2) and be tested in accordance with Eagle Mountain City standards [Ord. O-03-2010 § 1 (Exh. A § 2.150)].

15.10.190 Ground water.

Potential ground water or subsurface drainage problems may have additional requirements; further requirements will be reviewed and approved by the city engineer or his/her designee. Pumping of ground water across sidewalks or into the gutters or the sewer system will not be allowed. [Ord. O-03-2010 § 1 (Exh. A § 2.160)].

15.10.200 Underground utilities.

Utilities, including electrical and gas lines, shall be underground, except when the city feels that such underground lines are not in the best interest of the city. [Ord. O-03-2010 § 1 (Exh. A § 2.170)].

15.10.205 Abandoning Underground utilities.

All disconnection and abandonment of existing utilities must be done at the mainline, per the city engineer or his/her designee. All existing utilities (stubs into job sites) must be used or abandoned.

15.10.210 Licensed contractor.

All work performed in accordance with this title shall be performed by a contractor licensed to perform such work by the state of Utah. [Ord. O-03-2010 § 1 (Exh. A § 2.180)].

15.10.220 Time limitation for completion.

All improvements within subdivisions listed herein must be completed within one year of the date of recording of the final plat, except for required corrections to defective work as found in the final walkthrough and itemized in a punch list generated by Eagle Mountain City, which shall be completed at the end of the warranty period after asphalt installation. Improvements that are not completed within the

time limitation imposed herein may be required to work a forfeiture of any bond or surety that shall have been posted by the owner or developer, or may be allowed to post an additional bond for an additional amount reflective of increased construction costs. At no time will an unimproved recorded plat be allowed to constitute a risk or hazard to the public.

Approved construction drawings will only be valid for three years from the date of approval. After three years from the time of approval, drawings must be resubmitted prior to construction for a staff review to ensure adequate construction standards are reflected in said plans. [Ord. O-03-2010 § 1 (Exh. A § 2.190)].

15.10.230 Building permits.

See EMMC 16.60.050 for the building permit approval process. [Ord. O-04-2015 § 2 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 2.200)].

15.10.240 Security for improvements required.

In order to insure the proper installation of the improvements required by this chapter and in order to insure prompt payment of all persons supplying labor or materials to the subdividers or their contractors or subcontractors installing said improvements, the owners of property or the principal subdividers shall, prior to subdivision recordation or issuance of a building permit, deposit with the city, or a depository acceptable to the city, a cash escrow bond, or an improvement surety bond, furnished by a surety authorized to do business in the state of Utah and operating in good standing, conditioned on the requirements that installation of all required improvements are constructed within the required time and in accordance with the plans, specifications, time limitations and conditions relating thereto as approved by the city engineer or his/her designee.

The bond or cash escrow shall be established in a form acceptable to counsel for the city and shall be in an amount to be determined by the city engineer or his/her designee, and shall be filed in the office of the city recorder and shall amount to 110 percent of the estimated cost of improvements. The developer shall sign a development agreement agreeing to install and warrant the improvements required for approval of the subdivision or other project. [Ord. O-03-2010 § 1 (Exh. A § 2.210)].

15.10.250 Standards for construction drawings.

The following instructions are for the purpose of standardizing the preparation of drawings to obtain uniformity in appearance, clarity, size and style.

Following approval of the city council, four copies of the construction plans shall be submitted with three copies to be retained by the city engineer or his/her designee and one copy returned to the subdivider with the approval mark and signature of the city engineer or his/her designee. One approved copy shall be kept available at the construction site.

These plans and designs shall meet the standards defined in the specifications and drawings of the city described herein. The minimum information required on drawings for improvements are as follows:

All drawings and/or prints shall be clear and legible and conform to good engineering and drafting room practice. Size of drawings shall be 24-inch by 36-inch (trim line) with minimum borders of one-half inch on top, bottom and right sides, left side one and one-half inch.

A. Include the following with the construction drawings:

1. A copy of the proposed final plat.

2. A plan view of the entire project.

3. Plan and profiles of all curbs, gutters, storm drains, water, pressurized irrigation and sewer systems.

4. Detail drawings only for items not found in the APWA manual. Detail drawings shall be to scale and completely dimensioned and described. All structures shall be designed in accordance with minimum requirements established by this title or the APWA manual.

5. Complete plans for all off-site work to be done in conjunction with the project.

6. A SWPPP page with maps showing:

   a. Storm drain system.

   b. Topographical lines and flow arrows.

   c. UPDES permit number with contact information.

   d. Locations of BMP’s and good housekeeping measures.

   e. Permanent BMPs and High Priority Sites

B. Include the following on each drawing sheet:

1. North arrow.

2. Scale. Use a standard engineering scale between one inch equals 10 feet and 60 feet. Use a scale of one inch equals 100 feet on the plan view of the entire project if necessary to fit the project on one sheet.

3. Title block along right side of sheet with title of drawing in lower right corner. Include in title block:

    a. Name of subdivision and plat and lot number.

    b. Name of city.

    c. Specific type of drawing (construction drawings, plan view, plan and profiles, off-site construction, detail drawings).

    d. Space provided for approval signature of city engineer or his/her designee and date.

    e. Name of engineer, surveyor or firm preparing drawings.

    f. Drawing number of total number of drawings.

4. Also include the following with profile drawings:

    a. Vertical scale of one inch equals one, two, three or four feet.

    b. Reference to the vertical datum. The 1929 North American Vertical Datum (NAVD29) shall be used for all elevation data.

    c. Benchmark location and elevation for checking construction.

    d. Stationing aligned from plan view with the profile view.

    e. Existing ground, ditch and utility lines.

C. Include the following for curbs, gutters, storm drains, drainage structures, sidewalks and street surfacing plans:

1. Plan and profile for top back of curb for each side of the street. Label profile line as top back of curb for both sides of street if it is the same.

2. Stationing and top back of curb elevations with curve data for curb returns.

3. Flow direction and type of cross drainage structures at intersections with adequate flow line elevations.

4. Type of curb and gutter if other than the standard 30-inch modified curb and gutter in the standard drawings.

5. Plan and profile of all new and existing storm drains and storm manholes and boxes.

6. Storm box and manhole size, location, and elevations of flow lines and rim.

7. Location, size, grade and type of pipe of new and existing storm drains.

8. Storm water calculations for a 25-year and 100-year storm.

9. Detail of ADA Ramps with detectable warning pads.

D. Include the following for sewer plans:

1. Plan and profile of all new and existing sewer mains and manholes.

2. Manhole size, location, and elevations of flow lines and rim.

3. Location, size, grade and type of pipe of new and existing sewer mains.

4. Location of each lateral with distance stubbed back into property clearly drawn and dimensioned.

E. Include the following for culinary water plans:

1. Location, size and type of pipe of new and existing water mains.

2. Profile or detail showing separation at each conflicting utility crossing.

3. Location of valves, fittings, hydrants, boxes, meters and appurtenances.

4. Minimum cover.

5. Location of each lateral with distance stubbed back into property clearly drawn and dimensioned.

F. Include the following for the pressurized irrigation plans:

1. Location, size and type of pipe of new and existing irrigation mains.

2. Profile or detail showing separation at each conflicting utility crossing.

3. Location of valves, fittings, boxes, meters and appurtenances.

4. Minimum cover.

5. Location of each lateral with distance stubbed back into property clearly drawn and dimensioned.

15.10.260 Landscape improvement standards.

Landscape improvements shall conform to APWA Construction Standards and Eagle Mountain City landscape construction standards. All landscape plans are to be approved by the Eagle Mountain City planning department and parks division prior to construction. [Ord. O-03-2010 § 1 (Exh. A § 2.230)].

15.10.270 Half-street width.

In certain conditions, and when special approval is given, half-road widths may be allowed. Half-road width requires all improvements to the centerline plus an additional 10 feet of asphalt. Adequate storm water control should be constructed for non-curbed roadside. All improvements must be made on subdivider's property. [Ord. O-03-2010 § 1 (Exh. A § 2.240)].

15.10.280 Traffic control.

Traffic control shall be submitted to the city prior to any work in accordance with Utah MUTCD. Any road or lane closures or lane shifts must be approved, and fees paid, at a minimum of 48 hours in advance of the road closure. [Ord. O-03-2010 § 1 (Exh. A § 2.250)].

15.10.290 Construction safety.

Open pits and trenches left for an overnight period or longer shall be clearly marked with flashing barricades. All national and state standards must be maintained for open trenches. The city engineer or his/her designee may require additional barricades or road plates as determined in the field. Trenches may not be left open for an extended period of time.

If any subdivision is located such that there is no available construction access other than through existing subdivisions, an additional monetary amount to be determined by the city engineer or his/her designee shall be placed in the subdivision improvement bond to protect the city from damaged infrastructure. [Ord. O-03-2010 § 1 (Exh. A § 2.251)].

15.10.300 Excavation permit.

In order for a street excavation permit to be approved, Eagle Mountain City needs the following information: (A) copy of contractor's license; (B) certificate of insurance; (C) performance bond of $5,000; and (D) detailed drawing of proposed work and traffic control (four copies).

The contractor is given a copy of the signed permit and the signed/approved plan after the city engineer or his/her designee has approved and signed the application. Time limits may be set, and the permit can be suspended for noncompliance.

Trenches left open for more than 24 hours may be required to be either covered or backfilled at the discretion of the city engineer or his/her designee. [Ord. O-03-2010 § 1 (Exh. A § 2.260)].

15.10.310 Survey.

All property corners shall be marked with a 30-inch rebar and licensed land surveyor's cap before acceptance of subdivision improvements by Eagle Mountain City. These rebars must be offset one foot by a steel tee post four feet out of the ground. All property corners shall be in place at the time of final acceptance. Any survey in roadways that require collars (monuments), shall maintain city standards for street collars. [Ord. O-03-2010 § 1 (Exh. A § 2.270)].

15.10.320 Construction entrance.

All subdivisions shall include a separate entrance for construction traffic, which is not in a city right-of-way. If no such access is available, an alternate cross-section designed specifically for the use of construction vehicles during the building phase of the project must be constructed within the city right-of-way and all construction must access the site from this point of access. The purpose of this requirement is to reduce damage caused by heavier vehicular traffic to new surfaces, and the existing adjacent roadways. Compliance with this requirement shall be overseen by the city engineer or his/her designee.

Construction entrances shall not disturb any pedestrian access routes. All construction entrances/ exits must be kept ADA compliant throughout construction. New road entrances must have an approved detour route that is also ADA compliant before removal of any pedestrian access routes (sidewalks/ trails).

If any subdivision is located such that there is no available construction access other than through existing subdivisions, an additional monetary amount to be determined by the city engineer or his/her designee shall be placed in the subdivision improvement bond to protect the city from damaged infrastructure. A truck route must be approved through the construction drawing approval before construction begins. [Ord. O-03-2010 § 1 (Exh. A § 2.280)].

15.10.330 Site cleanup.

The contractor is responsible to maintain a clean work environment within the limits of the city. A cobble track out pad consisting of 3” to 6” cobble 8” thick minimum with width of 20 feet and extending 50 feet past existing asphalt road way or an approved equivalent alternative shall be placed at all locations where construction traffic enters paved roadways to prevent dirt and mud from being tracked onto city streets. Additionally, vehicles may have to be hosed down prior to leaving the site. Dirt and debris tracked onto city roads must be cleaned by contractor each work day or be subject to fines as determined in the city fee schedule. Proper dust control measures must be exercised at all times. Noncompliance can result in all construction activities being shut down until corrective measures are taken. [Ord. O-03-2010 § 1 (Exh. A § 2.290)].

15.10.340 Noncompliance.

Noncompliance with this title can result in a stop work order issued by the city engineer or his/her designee, a forfeiture of bonds, or a hold on building permits until all improvements meet compliance. [Ord. O-03-2010 § 1 (Exh. A § 2.300)].

15.10.350 Hours of work.

Unless limited through city ordinance otherwise, construction activities shall be restricted to between the hours of 7:00 a.m. and 9:00 p.m., Monday through Friday, and 9:00 a.m. and 9:00 p.m. on Saturdays and Sundays in residential and commercial areas. [Ord. O-03-2010 § 1 (Exh. A § 2.310)].

15.10.360 Defensible space.

Property owners, including Eagle Mountain City and individual residential homeowners and/or homeowners’ associations, shall be responsible to maintain an adequate defensible space to act as a fire break as detailed in the applicable state fire ordinances. All construction and staging areas shall also maintain a defensible space of at least 30 feet throughout the construction process. [Ord. O-03-2010 § 1 (Exh. A § 2.320)].

15.10.370 Reimbursement agreements.

In instances when subdivisions are required to install improvements which may provide capacity in excess of the requirements of the subdivision, to meet conditions established as part of a master plan, or for the benefit of a third party, such increases in capacity may be eligible for reimbursement. Reimbursements may be in the reduction of impact fees collected by the city for the particular type of improvement installed, a reduction in connection fees, or may be negotiated as a cash reimbursement collected by third parties at building permit and remitted to the original developer annually.

All reimbursement agreements are to be approved by the city council, and the city will not consider verbal agreements made by the city or staff to be valid. Requests for reimbursement must be made to the City prior to installation of the utilities for which reimbursement is sought. [Ord. O-03-2010 § 1 (Exh. A § 2.330)].

15.10.380 Improvements warranty.

All required improvements shall be placed into a warranty period following acceptance by the city for a minimum of one year. Should the completion of the one-year period occur during winter months, the warranty period may be extended for up to six months to allow the completion of any corrective requirements to be completed during reasonable weather.

A warranty bond for 10 percent of the estimated construction costs shall be maintained for the duration of the warranty period.

Prior to the expiration of the warranty period, Eagle Mountain City shall notify the developer that a warranty walkthrough is to be performed on the subdivision. Said walkthrough shall take place and all corrective actions as determined by this walkthrough and as outlined in a punch list to be generated by Eagle Mountain City shall be completed prior to release from the warranty period. If items on the punch list are not completed within a 30 day time line another walk through may be required. [Ord. O-03-2010 § 1 (Exh. A § 2.340)].

15.10.390 Street Lighting.

Eagle Mountain City shall contract with an independent consultant for street lighting design. Unless approved otherwise by the City's consultant street lighting will be installed throughout all developments using the following criteria:

1. Street lights will be installed at all intersections with the only exception being where a four way intersection has an offset of less than 100 feet.

2. Streetlights will be installed at a minimum spacing of 300 feet and a maximum spacing of 600 feet. They will be installed at the closest property line to the mid-point between the lights on either side. Streetlights placed between corners will be shown on the electrical construction drawing, and will indicate the direction that the street light will be aimed. Streetlights at intersections may aim to the center of the intersection or may be set at a 90-degree angle along collector and larger roads.

3. Any street that extends more than 600 feet without an intersection will have a street light at approximately the mid-point.

4. Each street light will be installed so that the street light pole is located 24” from the top back of the curb to the center of the pole in a public utility easement or public right of way.

5. A ground wire shall be connected to the street light pole using N.E.C. approved methods and a separate ground wire shall be run from the pole base to the closest secondary pedestal or transformer. If the street light is fed from a secondary pedestal, an 8’ X 5/8” copper clad ground rod must be installed at the pedestal, and street light ground will be attached to the ground rod using the N.E.C. approved connector.

6. A ground wire shall be connected to the street light pole using N.E.C. approved methods and a separate ground wire shall be run from the pole base to the closest secondary pedestal or transformer. If the street light is fed from a secondary pedestal, an 8’ X 5/8” copper clad ground rod must be installed at the pedestal, and street light ground will be attached to the ground rod using the N.E.C. approved connector.

7. Pole-14 ‘Aluminum street light pole shall be used. The pole shall be manufactured by holophane and shall be green with base. All bases must be embedded in concrete with a 20” diameter hole and 4’.

8. Luminaire – A luminaire that reduces all sky ward light shall be 50-watt high pressure sodium light and shall have a shield to keep light off of houses.

Chapter 15.15
INSPECTION

Sections:

15.15.010 All work subject to inspection.

A. All construction work involving the installation of improvements in subdivisions shall be subject to inspection by the city. The developer shall be responsible to ensure inspection and certified reports are obtained and maintained on record and are provided in the as-built subdivision packet. All utilities shall be completely backfilled and compaction tested prior to camera and air testing. The records shall include the following inspections:

1. Compaction of all trenches; Passing test for every lift or 1’ maximum vertically and every 100’ laterally along trench line every lift or 1’ maximum vertically and every 1000 sq. ft. laterally on embankment.

2. Pressure tests on water system mains; 2 sets of bacteria samples

3. Pressure tests, television inspection of sewer and storm drain system mains, and mandrel deflection tests for sewer and storm drain mains; Vacuum test all manholes/boxes on sewer and storm drain per APWA Standards.

4. Slump, compression, and air entrainment testing required on all concrete work; test (air, slump) and set of cylinders per 50 yards of concrete.

5. Proof rolls on native, subbase and base (curb and pavement); (4 proof rolls)

6. Red heading is required on native, subbase and base; and TBC stakes required for all proof rolls. Curb machine string line is acceptable for all proofrolls and will be required for sub base and curb base proof rolls.

7. Compaction test on all subbase, untreated base course, and bituminous surface course.

B. Certain types of construction shall have continuous inspection while others may have only periodic inspections. It is the responsibility of the developer/subdivider to ensure that all contractors give the city appropriate notice to allow scheduling of said inspections.

1. Inspection shall be required on the following types of work:

a. Laying of street surfacing.

b. Placing of concrete for curbs and gutters, sidewalks and other structures.

c. Laying of sewer pipe, drainage pipe, water pipe, lateral connections, pressurized irrigation, valves, hydrants and testing.

d. Subgrade.

e. Street grading and gravel base.

f. Excavations for curbs and gutters and sidewalks.

g. Excavations for structures.

h. Trenches for laying pipe.

i. Forms for curbs and gutters, sidewalks and structures. No work shall be started except in the presence of, or with the prior approval of, the city engineer or his/her designee.

j. Collars around storm drain inlet boxes/manholes. Thrust blocks for water, collars for storm drain and collars for man hole. Valve boxes in asphalt.

k. Collars around sewer manholes & water valve boxes.

2. Inspectors must be notified and must approve all catchbasin elevations and locations prior to final tie-ins.

3. Inspectors may require survey stakes with elevations to ensure depths and slopes meet the approved construction drawings. Specifically, requirements may be made on fire hydrants, cleanouts, and sewer manholes.

4. See individual chapters for specific inspection and testing requirements. [Ord. O-03-2010 § 1 (Exh. A § 3.010)].

15.15.020 Inspection fees.

Inspection fees and/or connection fees required by ordinance shall be paid and permits required shall be obtained prior to the recording of the final plat.

The developer or contractor shall be responsible for all sampling, delivery of samples to a qualified testing agency, testing, and delivery of test results or materials certifications to the city at no charge to the city. Testing and certifications reports shall be approved by the city as to conformance to city standard specifications prior to final inspection and/or acceptance by the city of any materials or workmanship. All samples must be taken in presence of an EMC representative.

Inspection requests made for weekend or off-hours of regular city business hours shall be subject to overtime inspection fees. If such inspections are scheduled at these times due to an inability of the city to provide inspections during normal business hours, no additional inspection fees shall be required. [Ord. O-03-2010 § 1 (Exh. A § 3.020)].

15.15.030 Acceptance of improvements.

A. Inspection made by the city to determine compliance with the specifications does not imply acceptance of the work. The city requires completion of all facilities before any are finally accepted to start the warranty period established by this code or otherwise by development agreement. Final acceptance of improvements will be made at an inspection by the city at the completion of all improvements. All improvements shall be free from defects or damage at the time of inspection. Specifically, the following are required:

1. All asphalt, sidewalks and curbs and gutters shall be free of cracks greater than one-eighth inch vertically and horizontally and construction damage and shall be true to line and grade.

2. All sewer manholes and water valve boxes shall be raised to pavement level.

3. All water valves and hydrants shall be operative.

4. All storm drainage improvements shall be completed.

5. All street lights shall be operable.

6. All open space improvements shall be planted and all irrigation improvements installed, unless a separate landscape bond is provided to the city, in which case landscaped improvements shall be warranted separately from the infrastructure improvements.

7. All trail improvements in open space areas shall be completed.

8. All recreational equipment shall be installed in the trails and open space areas, or a separate landscape bond may be posted. All landscape improvements are required to be installed prior to one year from the date of recordation, or prior to the second half building permit being issued.

9. Cleanup. Where excavations are made in city streets, the rock, etc., shall be removed and gravel base placed in the excavation the same day as backfill is placed. All debris leaving a job site shall be the responsibility of the contractor to clean up each day.

10. All lot corner stakes installed.

B. A final walkthrough to inspect the improvements shall be arranged by the developer with the city when said improvements are completed. The improvements will be accepted when the punch list from the final walkthrough is completed and accepted by the city. [Ord. O-03-2010 § 1 (Exh. A § 3.025)].

15.15.040 Requests for inspection.

Requests for inspection shall be made to the city by the person responsible for the construction. Requests for inspection on work requiring continuous inspection shall be made three working days prior to the commencing of the work. Notice shall also be given one working day in advance of the starting of work requiring periodic inspection. The city shall provide confirmation for all scheduled inspection appointments. [Ord. O-03-2010 § 1 (Exh. A § 3.030)].

15.15.050 Construction completion inspection.

An inspection shall be made by the city engineer or his/her designee before and after the warranty period. Specifically, the city engineer or his/her designee will determine if any installed infrastructure displays signs of failure, such as concrete cracks greater than one-eighth inch, rutting or settled asphalt. When such defects are minimal, patching or sealing will be allowed by the city, provided the defect is not a structural defect. The city engineer or his/her designee will generate a punch list of all items to be corrected by the developer prior to final acceptance by the city.

Any punch list generated by the city engineer or his/her designee shall only be valid for a period of 30 days. Subdivisions with outstanding items past 30 days may be subject to an additional walkthrough prior to acceptance by the city to address any additional faulty or defective work.

It is further agreed and understood that the determination for necessity of repairs of the work rests with the city engineer or his/her designee. His/her project review shall include, but shall not be limited to, the entire street base, and all pipes, utilities, joints, valves, backfill and compaction as well as the working surface, curbs, gutters, sidewalks, and other accessories that are, or may be, affected by the construction

operations, and whenever, in the judgment of the city engineer or his/her designee, work is not complete, shall cause a written notice to be served to the developer and thereupon the developer shall undertake and complete such repairs or rebuilding prior to the final city acceptance and release of the warranty bond. The city engineer and his/her designee shall make every effort to distinguish between failures which result from poor design or workmanship from those caused by third parties such as builders, and shall not knowingly require developers to correct failures caused by third parties. Specific examples shall include: cracked concrete which likely would have resulted from builders placing heavy equipment on concrete shall not require replacement. However, excessive spalling of concrete which is likely caused by workmanship issues will be required to be replaced. Contractors and subcontractors hired for the completion of the required improvements are not considered third parties, and damage found to be from such individuals will be obligated to be repaired by the developer. Failure to complete repairs in a timely manner may result in a forfeiture of the warranty bond, at which time the city will complete the improvements. Appeals to items included in the project review must be made in writing to the public works director within five days of being notified of the deficient items. Additional appeals may be made to the Eagle Mountain City mayor or city council. [Ord. O-03-2010 § 1 (Exh. A § 3.040)].

15.15.060 Work without inspection.

Any work performed without proper inspections, as required in this chapter, will give the city the option to hold the bond covering that portion of the improvements in violation or require removal and replacement of the uninspected work. The city shall have the option of retaining part or all of the bond for five years after installation of improvements in violation of this chapter. It is the responsibility of the developer to ensure his/her contractors request all necessary inspections.

Inspection services provided by outside inspection services will be allowed; provided, that the city approves of any inspection companies in writing prior to inspection services, and the city is notified of what services will be provided by said outside inspection services prior to the inspection services taking place. [Ord. O-03-2010 § 1 (Exh. A § 3.050)].

15.15.070 As-built drawings.

As-built drawings shall be submitted to the city engineer or his/her designee before final inspection and acceptance by the city. As-built drawings shall be prepared by a licensed land surveyor and submitted on a hard copy and a computer aided design (CAD) file. As-built drawings shall show all utilities and boundary lines as shown in the Eagle Mountain standard drawings for as-builts. CAD files shall be submitted on a CD or by e-mail in an AutoCAD or .dxf format. The CAD file of the as-built drawings must be in the NAD27 State Plane Coordinate System with a tie to a section corner. If anything is submitted by e-mail, the engineering division must be contacted for the proper e-mail address and for confirmation the

e-mail was received. The portion of the bond generally released at final inspection will not be released until the as-builts are submitted and approved. [Ord. O-03-2010 § 1 (Exh. A § 3.055)].

Chapter 15.25
EARTHWORK

Sections:

15.25.010 General.

This chapter defines the requirements for excavation and backfill for structures, construction requirements for embankments and fills and subgrade preparation for pavements and other surface improvements. All earthwork shall conform to the APWA Standard Specifications unless noted otherwise in this chapter. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.010)].

15.25.020 Subgrade soil under structures and Public Rights of Way.

Subgrade soil for all concrete structures, regardless of type or location, shall be firm, dense, thoroughly compacted and consolidated; shall be free from mud, muck and all organics; and shall be sufficiently stable to remain firm and intact under the feet of the workmen engaged in subgrade surfacing, laying reinforcing steel, and depositing concrete. Coarse gravel or crushed stone may be used for subsoil reinforcement if results are satisfactory to the city engineer or his/her designee. Such material shall be applied in layers, not exceeding eight inches in thickness, each layer being embedded in the subsoil by thorough tamping. All excess soil shall be removed to compensate for the displacement of the gravel or crushed stone and the finished elevation of any subsoil reinforced in this manner and shall not be above the specified subgrade. The city engineer may require a soil analysis and design for any area. A proof roll will be required at existing ground before placing any e-fill. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.020)].

15.25.030 Backfill around structures.

Backfill around structures shall be placed to the lines shown on the approved drawings, or as directed by the city engineer or his/her designee. After completion of foundation, footings and walls and other construction below the elevation of the final grades, and prior to backfilling, all forms shall be removed and the excavation shall be cleaned of all trash and debris. Material for backfilling shall consist of suitable materials as defined in EMMC 15.30.040 and shall be placed in layers not exceeding eight inches in uncompacted thickness. Each layer shall be compacted by hand or machine tampers or by other suitable equipment to a density equal to 95 percent of maximum dry density as measured by AASHTO T180 method C. No frozen material is allowed in the backfill. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.030)].

15.25.040 Construction of embankments and fills.

Unsuitable materials that occur in the foundation for embankments and fills shall be removed by clearing, stripping and/or grubbing. Where suitable materials occur, after stripping, the foundation shall be scarified to a depth of not less than eight inches, and the loosened material shall be moistened and compacted as hereinafter specified for each layer. All materials in embankments and fills shall be placed, moistened, and compacted as provided in this chapter.

When the embankment or fill exceeds the amount of excavation, sufficient additional material shall be obtained from borrow pits provided by the contractor. All material proposed to be imported shall be subject to the review and approval of the city engineer or his/her designee prior to starting of hauling operations.

The materials used for embankment and fill construction shall be free from sod, grass, trash, rocks larger than six inches in diameter and all other material unsuitable for construction of compacted fills. Grading of completed embankments and fills shall bring the surfaces to a smooth, uniform condition with final grades being within 0.1 foot of the design grade. Within a City right of way, materials must meet AASHTO A1 or A2 soil classification, be 3 inch minus and be tested every lift (1,000 sq.ft. max per test). Embankments built without material supporting the sides must be overbuilt to ensure compaction of the edges. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.040)].

15.25.050 Compacting earth materials.

The material shall be deposited in horizontal layers having a thickness of not more than eight inches after being compacted as hereinafter specified; provided, that when mechanical equipment is used for placing and compacting the material on a sloping foundation, the layers may be placed parallel to the foundations. The distribution of materials shall be such that the compacted material will be homogeneous and free from lenses, pockets, or other imperfections. No frozen material may be used. Prior to and during compaction operations the material shall have the optimum moisture content required for the purpose of compaction and the moisture content shall be uniform throughout the layers, insofar as practical. Moistening of the material shall be performed at the site of construction, but such moistening shall be supplemented, as required by sprinkling at the site of excavation. If the moisture content is more than optimum for compaction, the compaction operations shall be delayed until such time as the material has dried to the optimum moisture content. When the material has been conditioned as hereinbefore specified, the backfill or embankment shall be compacted as follows:

A. Under roadways and extending one foot beyond the proposed curb line, the fill or embankment material shall be AASHTO A1 or A2 and be three (3) inch minus that is compacted to a density equal to not less than 95 percent of maximum dry density as measured by AASHTO T180 method C or the modified proctor test ASTM D1557.

B. Under sidewalks and driveways, the fill or embankment material (to at least one foot each side of the edge of the slab) shall be compacted to a density equal to not less than 95 percent of maximum dry density as measured by AASHTO T180 method C or the modified proctor test ASTM D1557. Sidewalk in the public right of way will need to be sub graded below original native soil with all organics removed. A proof roll will be required before A1 or A2 fill can be placed to the bottom of the base.

C. Other fills and embankments not listed above shall be compacted to a density equal to not less than 90 percent of maximum dry density as measured by AASHTO T180 method C or the modified proctor test ASTM D1557. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.050)].

15.25.060 Road subgrade preparation.

In both cut and fill areas the paving subgrade shall be scarified to a depth of eight (8) inches below original native ground and compacted to the equivalent of 95 percent of maximum dry density as measured by AASHTO T180 method C or the modified proctor test ASTM D1557. No rocks larger than three (3) inches in diameter, organic material, soft clay, spongy material or other deleterious material will be permitted in this scarified subgrade layer. Rough subgrades shall be shaped and graded to within a tolerance of 0.15 foot of design grade and drainage shall be maintained at all times. The developer shall provide to the city engineer or his/her designee the results of a subsurface investigation performed by the

developer’s engineer and the recommendation as to whether existing material is adequate for road construction.

During the rolling operation, moisture content of the subgrade layer shall be maintained at no less than 97 or more than 105 percent of optimum moisture content. Rolling shall be continued until the entire road bed (to one foot back of curb) is compacted to the specified density to a minimum depth of eight inches. A proof roll will be required before placement of three (3) inch minus A1 or A2 is allowed. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.060)].

15.25.070 Slope safety.

All slope construction shall be in accordance with all city, state and federal regulations. Plans and specifications for structures must be approved by the city if the excavation is greater than five feet. No permanent slopes steeper than 3:1 shall be allowed without a retaining structure unless otherwise approved in writing by the city engineer or his/her designee. Cut slopes greater than 3:1 slope in bedrock may be allowed, provided the geotechnical report demonstrates that the bedrock is of sufficient depth and strength to support such cuts. The width of the excavation shall be increased if necessary to provide space for sheeting, bracing, shoring and/or other supporting installations. Unsafe slopes will be the cause for immediate shutdown of the project. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.070)].

15.25.080 Water settling.

Water settling may be permitted with pre-approval by the city engineer or his/her designee, depending upon the type of soil and location. When water settling is approved, a city representative shall be at the job site during the compaction. When the material has dried sufficient to allow compaction tests, the contractor shall dig test holes for compaction tests at locations and depths required by the city engineer or his/her designee. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.080)].

15.25.090 Removal and replacement of defective fill.

Fill not conforming to the requirements of this chapter shall be reworked to the requirements or removed and replaced with acceptable fill. [Ord. O-09-2014 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 5.090)].

15.25.100 Permit required for earth products processing and storage.

A. Any person desiring to perform any crushing, screening, storage, stockpiling or processing of sand, gravel, dirt, rock or other earth products for use on the property or within the approved project area where the materials are being extracted shall obtain a permit from the city engineer. The city engineer may deny the permit if the city engineer determines extraction, processing or storage will negatively impact neighboring properties, or include conditions in the permit, including, but not limited to, noise restrictions, types of equipment and machinery, dust and pollution control measures, geographic restrictions, berming,

duration of project, and hours of operation. Application for a permit shall be filed with the city engineer on a form or forms to be furnished by the city.

B. No crushing, screening, storage, stockpiling or processing of sand, gravel, dirt or rock earth products shall be allowed for sale or use of such material outside the project area unless otherwise permitted under Chapter 17.54 EMMC (Extractive Industries Overlay Zone).

C. It shall be unlawful for any person to commence work until the city engineer has approved the application and until a permit has been issued for such work. Violations of the provisions of this section shall result in civil penalties of $100.00 per day for the first seven days of violation and $250.00 per day for all subsequent days of violation. The city engineer may also issue a stop work order for any project or property in violation of this section. [Ord. O-09-2014 (Exh. A)].

15.25.110 Native Fill Used for Trenches and Road Sections.

Native fill will meet AASHTO A-1 or A-2 classifications and be 3” minus. Native fill used in roadways/trenches will be completely free of organics and rocks larger than 3” diameter. Also native fill will be screened and mixed to maintain consistency. All soil samples will need to be taken in the presence of an Eagle Mountain City Representative.

15.25.120 Permit required for general earthwork

A. Excavation permits are not required on individual residential lots for normal landscape, installation of topsoil, irrigation installation, or projects that do not require a building permit. An excavation permit is required for general earthwork on projects not part of an approved construction project if such work consists of mass grading of a site if fill materials are being imported, exported, and relocated within a single lot. Materials being processed and removed from site must comply with section 15.25.100. The permit shall identify the limits of disturbance, the quantity of cuts and fills, quantities of any materials being removed from site, duration of the project, implementation of safety measures intended to protect the surrounding residents, restrictions of noise and work hours, and implementation of SWPPP BMP’s if needed. Application for a permit shall be filed with the city engineer on a form or forms to be furnished by the city.

B. It shall be unlawful for any person to commence work until the city engineer has approved the application and until a permit has been issued for such work. Violations of the provisions of this section shall result in civil penalties of $100.00 per day for the first seven days of violation and $250.00 per day

for all subsequent days of violation. The city engineer may also issue a stop work order for any project or property in violation of this section. [Ord. O-09-2014 (Exh. A)].

Chapter 15.30
EXCAVATION AND BACKFILL FOR TRENCHES

Sections:

15.30.010 General.

This chapter covers excavation and backfill of trenches for the installation of storm sewer, sanitary sewer, water lines, in streets and subdivisions. Due to varying ground composition, structure, and collapsible soils, excavation and engineered backfill for trenches shall comply with the APWA Standard Specifications or better as required or deemed needed based on review, inspection, and determination by the city engineer or his/her designee. All OSHA requirements must be maintained in trenches at all times. [Ord. O-03-2010 § 1 (Exh. A § 6.010)].

15.30.020 Trench safety.

All construction shall be done in accordance with the provisions of the Utah State Industrial Commission and OSHA regulations. No trenches shall be left open at any time unless guarded with adequate barricades, warning lamps and signs.

When required, excavation shall be braced and shored to support the walls of the excavation to eliminate sliding and settling and as may be required to protect the workers, the work in progress, and existing utilities and improvements. All such sheeting, bracing and shoring shall comply with the requirements of the Utah State Industrial Commission and OSHA.

Any injury or damage resulting from lack of adequate bracing and shoring shall be the responsibility of the developer/contractor and the developer/contractor shall, at his/her own expense, effect all necessary repairs or reconstruction resulting from such damage. No inspections will be done in unsafe trenches and will be the cause for immediate shutdown at the project. [Ord. O-03-2010 § 1 (Exh. A § 6.020)].

15.30.030 Disposal of materials.

All excavation material which is not required for or is unsuitable for backfill shall be immediately removed from the area and not obstruct streets, sidewalks and driveways.

Gutters and irrigation ditches shall be kept clean of excavated material. [Ord. O-03-2010 § 1 (Exh. A § 6.030)].

15.30.040 Engineered fill material.

Engineered fill (Type A1 or A2 as defined by AASHTO) shall be required backfill for all trenches in the city right-of-way or public utility easements containing city owned and maintained utilities. The contractor is responsible for supplying gradation reports showing proper gradation to meet A1 or A2 classification. [Ord. O-03-2010 § 1 (Exh. A § 6.040)].

15.30.050 Testing.

Tests to determine acceptability of backfill placed will be done by a firm hired by the developer. The testing company/developer will use standard procedures of the American Society of Testing Materials (ASTM) and/or American Association of State Highway Transportation Officials (AASHTO). Compaction tests will be required at least every 100 feet per lift per trench. Each lift shall be six to 12 inches as determined by Eagle Mountain City and Eagle Mountain City's testing firm. Lift height will depend on the equipment and material used and the contractor's ability to properly compact the material. If the backfill so tested does not meet the requirements of this chapter, the trench shall be re-excavated and the backfill replaced in accordance with this chapter. [Ord. O-03-2010 § 1 (Exh. A § 6.050)].

15.30.060 Blasting.

Blasting will not be allowed except by permission from the city engineer or his/her designee as directed by the fire chief. The contractor shall comply with all laws, ordinances, and applicable safety code requirements and regulations relative to the handling, storage, and use of explosives and protection of life and property. He/she shall be fully responsible for all damage attributable to his/her blasting operations.

Excessive blasting or overshooting will not be permitted and any material outside the authorized cross-section which may be shattered or loosened by blasting shall be removed by the contractor. [Ord. O-03-2010 § 1 (Exh. A § 6.060)].

15.30.060 Trenches in Winter Conditions

All trenches will need to be free of frozen materials which will be trench sidewalls, pipe, bedding on ice or snow and fill. No frozen backfill will be allowed. Trenches must be backfilled or protected to prevent freezing each night.

Chapter 15.35
WATER LINES

Sections:

15.35.010 General.

The installation specifications for water systems shall conform to the APWA Standard Specifications unless noted otherwise in this chapter.

A. Inspection. All pipe used shall be carefully inspected prior to installation. Any or all defective pipe shall be rejected.

B. Minimum Cover. All water mains and service laterals shall have a minimum cover of four feet to the top of the pipe and a minimum of 3’ at installation. Maximum cover shall be 6 feet.

C. 12 ga locator wire along water main to setters & fire hydrants.

D. Metallic caution tape place 2’ above water main.

E. All valves to be flanged to tees.

F. Valves 12” and above to be butterfly valves.

G. Bolts at the top of fire hydrant barrel to be no lower than 1” above finished grade & no higher than 6” above finished grade.

H. Water services (setters) to be installed prior to bacteria & pressure tests. [Ord. O-03-2010 § 1 (Exh. A § 7.010)].

I. Six (6) inch thick concrete pad around fire hydrants. See detail FH-1 in current Eagle Mountain City details.

J. Maximum spacing of fire hydrants is 500 feet unless approved otherwise by city engineer or his/ her representative.

15.35.020 Culinary water pipe.

PVC or ductile iron pipe is allowed to be used within subdivisions. Pressures, water hammer, surges, and other dynamic water characteristics shall be taken into consideration during the design and construction of the water system. The required pipe class shall be determined based upon characteristics. [Ord. O-03-2010 § 1 (Exh. A § 7.020)]. No deflections are allowed in pipes. For curvilinear roadways, the design engineer shall incorporate fittings as appropriate to avoid deflections and maintain adequate separation from sewer and storm drain utilities.

15.35.030 Water main bedding materials.

Water main lines must be bedded using sand or similar materials. No gravel of any kind will be allowed. All bedding material must meet AASHTO A3 soil classification with 100% passing the #4 sieve. [Ord. O-03-2010 § 1 (Exh. A § 7.025)]. Bedding shall be placed six (6) inches minimum to the sides and bottom of pipe zone and twelve (12) inches minimum above or equivalent to pipe diameter whichever is greater.

15.35.040 Water main type and locations.

Water mains shall be located on either the north or east side of a roadway and eight feet from the centerline.

Water mains shall be minimum 18 inches vertical above the sewer. Separation between water and sewer mains shall be 10 feet (horizontally) minimum unless authorized in writing by the city engineer or his/her designee.

Water mains shall be either polyvinyl chloride (C-900 PVC, that is higher pressure rated) or Ductile Iron Pipe (DIP) (poly wrapped) if design or as determined by city engineer with minimum pressure class of 250 psi for pipes greater than 12 inches. PVC pipe shall meet the requirements and specification of APWA 15014 and AWWA C900, C905, and C909. Ductile iron pipe shall meet the standards and specifications of APWA 15011. HDPE may be used for borings upon the approval of the city engineer or his/her designee. No bends will be allowed in water lines and fittings will be required. All fitting to be Mega-lug fittings. [Ord. O-03-2010 § 1 (Exh. A § 7.030)].

15.35.050 Water meters and service lines.

Prior to the installation of the water service line, the engineer retained by the developer shall stake out the water meter location and provide the grade at which the lid is to be set.

Minimum service line size is three-quarter inch. All water service lines shall start with a corporation stop at the main and shall be of poly pipe with stiffeners or type “K” copper and meter setters of 21-inch or taller

and braced, with dual unions at bottom of setter and meet height specs in a 21-inch can for water meters. A four-inch ring and lid shall be used and installed with the top of the setter at a depth of not less than 18 inches and not more than 22 inches from the lid of the meter box. Meters one and a half (1.5) inches and larger shall be placed in vaults (see current Eagle Mountain standard drawing). All meter setters shall have dual check valves. Meter boxes shall be placed behind the sidewalk when there is no park strip shall be placed 3 feet behind walk to center of can +/- 3 inches or in the planter if available so that a fence may be placed on property without interfering with the maintenance and reading of said meter. No meters shall be set in sidewalks or driveways. Meter boxes shall be in good repair and relatively free from obstruction to ensure ease in maintenance and reading (not full of dirt past the base of the meter, having trash present and being badly bent to create a hazard). Damaged boxes shall be replaced. Meter boxes shall be from level to one inch high from the final grade of sidewalk. See current Eagle Mountain City Standards.

Lids shall have a one-inch hole in the top for the touch-read sensor and read Eagle Mountain Water Meter on lid.

Water service lines shall be minimum 18 inches vertical above the sewer. Water meters shall be located at the centerline of single-family lots unless authorized by the city engineer or his/her designee. On narrow lot subdivisions (lot width less than 50 feet), water laterals are to be located on alternating lot lines, although in no instances shall connections be made to the water main closer than three-foot intervals. Separation between water and sewer mains shall be 10 feet (horizontally) minimum unless authorized in writing by the city engineer or his/her designee.

A separate and independent service lateral for water service shall be provided for every building used as a dwelling, except in cases of undue hardship where the city council deems it necessary to make an exception. The water user shall bear full responsibility for the upkeep and maintenance of all water system lines and fixtures beyond the water meter.

From and after the effective date of the ordinance codified in this chapter, all dwelling units and premises under separate ownership shall be served by individual water meters, except in cases of undue hardship or in planned unit developments when approved by the city council. [Ord. O-03-2010 § 1 (Exh. A § 7.040)].

15.35.060 Water meter standards.

All water meters shall be purchased from the city. All structures, dwelling units, and establishments using water from the city culinary water system must have such number and size of water meters connected to their system as are necessary to meet the requirements of the Utah Plumbing Code. Meters will be

furnished by the city at the expense of the property holder, at the city's cost for said meter. Meter readings shall be taken at regular intervals as determined by the superintendent of the division and shall be submitted to the city treasurer for the purpose of making necessary billings for water service.

Water meters will not be placed in driveways or under sidewalks. If a water meter must be moved out of a driveway, the maximum lateral movement is 24 inches. If a fitting is required to allow the meter to be relocated, the contractor must notify the public utilities department so that an inspector can be present to verify the fitting is installed in accordance with city standards. Backfill and bedding on the relocated service lateral must conform to city standards and the engineered backfill (A1 or A2) requirement of the city. [Ord. O-03-2010 § 1 (Exh. A § 7.050)].

15.35.070 Tapping of water lines.

Tapping valves may only be used when previously approved by the city engineer or his/her designee. Tapping saddles with an "O" ring may be used if the water main line to be tapped is larger than the new water main line. Where the tap is the same size as the existing main, cast iron or stainless steel tapping sleeves shall be used, which encase the full perimeter of the pipe. The valve shall be a tapping valve with a guide lip on the flanged side. The opposite side of the valve shall have a mechanical joint connection.

Service taps shall be a minimum of 36 inches apart. No taps will be allowed within 36 inches of the end of the pipe joints and fitting, not including the joints in the measurement. [Ord. O-03-2010 § 1 (Exh. A § 7.060)].

15.35.080 Testing and flushing.

A. A minimum pressure 50 percent in excess of the maximum line operation pressure (or 200 pounds, whichever is greater) shall be maintained on the portion being tested for a minimum period of two hours, using either pneumatic or hydraulic means to maintain the pressure. After installation, fire hydrants must be covered with a black garbage bag taped down until all testing has been completed.

B. After pressure testing, all pipelines shall be flushed. Flushing shall be accomplished through hydrants or, if a hydrant does not exist at the end of the line, the contractor shall install a tap sufficient in size to provide for two-and-one-half-foot-per-second flushing velocity in the line.

C. A leakage test shall be conducted concurrently with the pressure test.

1. "Leakage" shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within five psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.

2. Allowable Leakage. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{SD(P)^{0.5}}{133{,}200}$$

in which L is the allowable leakage, in gallons per hour; S is the length of pipeline tested, in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge.

a. Allowable leakage at various pressures will be provided by inspectors.

b. When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gallon/hour/inch of nominal valve size shall be allowed.

c. When hydrants are in the test section, the test shall be made against the closed hydrant.

3. Acceptance of Installation. Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than specified, the contractor shall, at its own expense, locate and repair the defective material until the leakage is within the specified allowance.

D. All visible leaks are to be repaired regardless of the amount of leakage.

E. All new water systems or extensions to existing systems shall be thoroughly flushed before being placed in service. Flushing shall be accomplished through hydrants, or end-of-line blowoff assemblies at a minimum flushing velocity of two and one-half feet per second.

F. The following is the flow quantity required to provide a two-and-one-half-foot-per-second flushing velocity:

PIPE SIZE (IN.)	**FLOW (G.P.M.)**
4	100
6	220
8	390
10	610

12	880
16	1,567
18	1,980
20	2,450
24	3,525
30	5,507

[Ord. O-03-2010 § 1 (Exh. A § 7.070)].

15.35.090 Disinfection of water lines.

A. Disinfection of water mains shall be done in accordance with the latest edition of AWWA C651.

B. The pipe shall be clean prior to disinfection. If, in the opinion of the city, contamination is such that it cannot be removed by flushing, the pipe shall be cleaned by mechanical means and then swabbed with a one percent hypochlorite disinfection solution.

C. The pipeline shall be disinfected as outlined in AWWA C651. Chemicals to be used shall conform to one of the following: AWWA B300, hypochlorite; AWWA B301, liquid chlorine; AWWA B302, ammonium; and AWWA B303, sodium chlorite.

The tablet method shall consist of placing calcium hypochlorite tablets at the specified rate in the main during construction at the upstream end of each section of pipe. The tablet shall be attached with an adhesive, such as Permatex No. 1 or equal. The line shall then be filled slowly (velocities less than one foot/second), expelling all air pockets and maintaining the disinfection solution in the line for at least 24 hours, or 48 hours if the water temperature is less than 41 degrees Fahrenheit. The disinfection solution shall have a concentration of at least 25 mg/L of available chlorine. The continuous feed shall be done exactly as outlined in AWWA C651 and shall have 25 mg/L available chlorine after 24 hours. Under both methods the contractor shall not be allowed to flush the line until the chlorine residual test has been passed by the city.

D. After the chlorination, the line shall be thoroughly flushed with velocities greater than two and one-half feet/second with clean water and if necessary re-chlorinated until satisfactory bacteriological testing is obtained. If any of the tests fail, the contractor shall be responsible for the fees of additional tests. All new lines shall be isolated from existing lines when tested.

E. Following the approval of the testing and installation of a water main, the entire water line will be flushed through the end of the main via an approved outlet.

F. The contractor shall take bacteria samples at the sites designated by the public works director or his/her designee for each job, based on the following formula:

1. a. Minimum of one sample up to 200 feet.

   b. Minimum of two samples up to 600 feet. (One in the middle and one on the end.)

   c. Minimum of one sample every 600 feet.

   d. Sampling points to be established during the preconstruction meeting for each project.

2. If any sample point fails on the first test, the line will be flushed and retested at all sample points.

3. If any sample point fails a second time, the complete line will be re-disinfected and retested at all sample points.

4. If any samples come back marked “present or unsatisfactory” which means coliform bacteria is present, the line will be re-disinfected and retested at all sample sites.

5. After passing test let system “relax” 24 hours then take subsequent test.

6. After second test of samples is acceptable system is ready for use.

G. Bacteriological reports shall consist of the following:

1. Date issued, project name, and the name, address, and telephone number of the testing laboratory.

2. Date and time of water sample.

3. Name of person collecting samples.

4. Test locations.

5. Initial and 24-hour disinfection residuals in ppm for each outlet tested.

6. Coliform bacteria test results for each outlet tested.

7. Certification that water conforms, or fails to conform, to bacterial standards of the state.

Water services will not be installed until bacteria sample results have been approved by the city engineer or his/her designee. [Ord. O-03-2010 § 1 (Exh. A § 7.080)].

15.35.100 Backflow prevention and cross-connection control rules and regulations.

This section enacts the cross-connection control and backflow prevention requirements applicable to the water system which is owned and operated by Eagle Mountain City.

A. Definitions.

1. “City” means Eagle Mountain City.

2. The city engineer, the water division director and the public works director are vested with the authority and responsibility for the implementation of the city’s cross-connection control program.

3. “Approved backflow assembly” means a backflow assembly accepted by the Utah State Drinking Water Division as meeting an applicable specification or as suitable for the proposed use.

4. “Auxiliary water supply” means any water supply on or available to the premises other than the city’s public water supply. These auxiliary waters may include water from another public potable water supply or any natural source, such as a well, spring, river, stream, harbor, irrigation water, used-water storage tanks or reservoirs which may or may not originate within the city. These waters may be contaminated or polluted or they may be objectionable and constitute an unacceptable water source over which the city does not have authority for sanitary control.

5. “Backflow” means the reversal of the normal flow of water caused by either back-pressure or back-siphonage.

6. “Back-pressure” means the flow of water or other liquids, mixtures, or substances under pressure into the distribution pipes of a potable water supply system from any source or sources other than the intended source.

7. “Back-siphonage” means the flow of water or other liquids, mixtures, or substances into the distribution pipes of a potable water supply system from any source other than the intended source, caused by the reduction of pressure in the potable water supply system.

8. “Backflow prevention assembly” means an assembly or means designed to prevent backflow. Specifications for backflow prevention assemblies are contained within the Utah Plumbing Code, Chapter 10 (Appendix J), and the Cross-Connection Control Program of Utah. All backflow prevention assemblies must be approved by the Utah State Drinking Water Division prior to installation. A listing of these approved backflow prevention assemblies may be found in the Cross-Connection Control Program for Utah.

9. “Contamination” means an impairment of the quality of the potable water supply by sewage, industrial fluids or waste liquids, irrigation or other nonpotable water, compounds or other materials to a degree which creates an actual or potential hazard to the public health through poisoning or through the spread of disease.

10. “Cross-connection” means any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems, one of which contains potable water and the other water from a non-city source or nonpotable water or storage tanks or reservoirs of questionable safety, through which, or because of which, backflow may occur into the potable water system; including any temporary connections, such as swing connections, removable sections, four-way plug valves, spools, dummy sections of pipe, swivel or change-over devices or sliding multiport tubes.

11. “Cross-connection – controlled” means a connection between a potable water system and water from a non-city source or a nonpotable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

12. “Cross-connection – containment” means the installation of an approved backflow assembly at the water service connection to any user’s premises where it is physically and economically infeasible to find and permanently eliminate or control all actual or potential cross-connections within the user’s water system, or the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a user’s water system where there are actual or potential cross-connections which cannot be effectively eliminated or controlled at the point of the cross-connection (isolation).

13. “User” means a dwelling or other service connected to the city water system regardless of the location within or outside the boundary of the city.

B. 1. An approved backflow prevention assembly shall be installed on each service line to a user’s water system, at or near the property line, or immediately inside the building being served, but in

all cases before the first branch line leading off the service line, whenever the city determines that such is necessary for protection of the water supply or in the best interest of the users of the city's water supply system.

2. The type of protective assembly required under this subsection shall depend upon the degree of hazard which exists at the point of cross-connection, i.e., whether direct or indirect, as defined in the Utah Plumbing Code.

3. All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved assemblies for the purposes described herein at the time of installation and which have been properly maintained shall, except for the inspection and maintenance requirements listed in subsection F of this section, be excluded from the requirements of these rules so long as the city believes that they will satisfactorily protect the public water system. Whenever the existing assembly is moved from the present location or requires more than minimum maintenance or when the city finds that the maintenance of this assembly constitutes a hazard to health, the unit shall be replaced by the user with an approved backflow prevention assembly meeting the requirements of this chapter.

4. No water service connection to any premises shall be installed by any user of the city's potable water system or maintained by the user unless the water supply is protected as required by state laws, regulations and codes, and the provisions of this chapter. Service of water to any premises shall be discontinued by the user if a backflow prevention assembly required for control of backflow and cross-connections is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed or bypassed, or if an unprotected cross-connection exists on the premises. Service will not be resumed by any user until such conditions or defects are corrected, and the city shall not furnish potable water to the premises of any user known by the city to be lacking suitable backflow prevention assemblies.

5. The user's system shall be open for inspection at all reasonable times to authorized representatives of the city to determine whether cross-connections or other structural or sanitary hazards, including violations of this chapter, exist. When such a condition becomes known, the city shall deny or immediately discontinue service to the premises by providing a physical break in the service line until the customer has corrected the condition in conformance with the state statutes and city regulations.

C. If, in the judgment of the director, an approved backflow prevention assembly is required at the user's private water system for the protection of the public potable water distribution system from

contamination or pollution due to the backflow of contaminants through water service connections, the city or its designated agent shall give notice in writing to such user to install an approved backflow prevention assembly at a specific location or locations on his/her premises. Within 10 days after receipt of written notice, the user shall install such approved assembly at the user's own expense, and failure, refusal or inability on the part of the user to install, have tested, and/or maintain said assembly shall constitute grounds for discontinuing water service to the premises until such requirements are met.

D. The building official shall have the responsibility to review building plans and inspect plumbing as it is installed and to prevent cross-connections from being designed and built into structures which will connect to the water system. Where the review of building plans suggests or indicates potential for a cross-connection being made an integral part of the plumbing system, the building inspector shall require such cross-connections to either be eliminated or provided with an approved backflow prevention assembly in accordance with the plumbing code.

E. When employed by the user or the city to test, repair, overhaul and/or maintain backflow prevention assemblies, a backflow assembly technician shall have the responsibility and obligation:

1. To ensure that acceptable testing equipment and procedures are used for testing, repairing, or overhauling backflow prevention assemblies.

2. To make reports of such testing and/or repair to the user and the city, such reports to include the list of materials or replacement parts used.

3. To ensure that replacement parts are equal in quality to parts originally supplied by the manufacturer of the assembly being repaired.

4. To not change the design, material, or operational characteristics of the assembly during repair or maintenance.

5. To perform the work and be responsible for the competence and accuracy of all tests and reports.

6. To ensure that his license is current, and that the testing equipment being used is acceptable to the state of Utah and the city and is in proper operating condition.

7. To report a failing assembly to the city within five working days from the date the failure was detected. Failure to do so may be grounds for revocation of the technician's certification.

8. To be equipped with and be competent in the use of all necessary tools, gauges, and other equipment necessary to properly test, repair, and maintain backflow prevention assemblies.

9. To tag each double check valve, pressure vacuum breaker, reduced pressure backflow assembly and air gaps, showing the serial number, date tested and by whom. The technician's license number must also be on such tag.

10. In the case of a user requiring a commercially available technician, any certified technician is authorized to make the test and report the results of the same to the user and the city. If such a commercially tested assembly is in need of repair, the same shall be performed by a plumber licensed pursuant to Utah statutes.

F. 1. It is the duty and responsibility of the user at any premises where backflow prevention assemblies are installed to have certified inspections and operational tests made at least once per year at the user's expense. In those instances where the city deems the hazard to be great, it may require certified inspections and tests at more frequent intervals. All inspections and tests shall be performed by a certified backflow assembly technician, licensed through the state of Utah, and shall be made in accordance with the standards set forth by the Utah State Drinking Water Division.

2. Backflow prevention assemblies shall be installed in water supply lines to provide at least the degree of protection provided in the Utah Plumbing Code, Chapter 10 (Appendix J). All backflow prevention assemblies shall be exposed for easy observation and be readily accessible.

3. All backflow prevention assemblies installed in a potable water supply system for protection against backflow shall be maintained in good working condition by the user or other person or persons having control of such assemblies. The Utah State Drinking Water Division and the city may inspect such assemblies and, if found to be defective or inoperative, shall require the replacement thereof. No assembly shall be removed from use, relocated, or another assembly substituted without the approval of the city.

4. Each user shall cause all backflow prevention assemblies to be tested within 10 working days of installation.

5. No backflow prevention assembly shall be installed so as to create a safety hazard, e.g., installed over an electrical panel, steam pipes, boilers, pits, or above ceiling level. [Ord. O-03-2010 § 1 (Exh. A § 7.090)].

15.35.110 Water system extensions.

All extensions to the existing water system which are not covered by regulations in the approval of subdivisions and large-scale developments shall comply with the provisions of this section.

A. Any person desiring to extend the water system may make application to the city council. Such application shall be considered by the city council on a case-by-case basis and the council shall approve such applications if (1) the proposed extension is to be constructed consistent with the city's extension standards, (2) there is adequate reserve water available to supply said need, and (3) the existing distribution system is adequate to supply the needed water to the point of beginning of the extension.

B. The application shall contain a description of the proposed extension accompanied by a map showing the location thereof. Detailed engineering drawings showing the location and size of all lines, mains, service laterals, appurtenant facilities, anticipated water pressures and fire flows shall be included. The application shall also include an extension agreement signed by the applicant in a form approved by the city council by which the applicant agrees to construct the facilities, both on-site and off-site, and accepts the conditions agreeing to reimbursement as outlined in subsection F of this section.

C. Before any such application is approved, the city council shall refer it to the water division superintendent for his review and comment. The application may also be referred to the planning commission and the city engineer for similar review and recommendation.

D. The design, location, materials and methods and standards of construction of water line extension shall be in accordance with city standards and specifications as approved by the city council.

E. The city council may require the construction of oversized and off-site facilities as a condition of the approval of any application governed by this section.

F. Upon completion of an extension, the applicant's share of the actual cost of making such extension shall be determined by the city engineer from as-built drawings to be provided by the applicant. Whenever an extension of a water main benefits property which is adjacent to the extension or extended from the end of an existing extension, other than that which is owned by the applicant, the city will enter a deferred credit on its books and records in the amount of the actual prorated cost of extension across the front of said benefited property and shall reimburse the applicant, his assignees or successors, upon collection by the city of charges assessed against such benefited property as service connections are made. All such reimbursements shall extend for a period determined by the city council from the date of the completion of the extension and acceptance by the city, or until the initial prorated cost of the extension along the frontage not owned by the applicant shall have been refunded.

A water main extension charge for each and every subsequent service connection to an extension under the provisions of this section shall be paid before such service connection is made, except for frontage owned by the applicant at the time of the application. The water main extension charge is separate and is in addition to any service connection charge required by the city. Extension of an existing water service main shall require a construction valve to isolate the new construction for testing and flushing purposes. A blow off at the terminus of the water main shall be required unless a suitable alternative such as proximity to a fire hydrant is approved by the city engineer or his/her designee.

The amount of an extension charge to benefited property shall be determined by the city council. All necessary fire hydrants and appurtenances that are provided in making the extension shall be included in determining reimbursement.

All extension charges levied for purposes of reimbursement shall be determined using the costs for installing water mains of eight inches in diameter. Where the city requires that the extension be made using larger lines, the difference between the cost of installing an eight-inch water line and the size required by the city may be subject to reimbursement by the property owners which are served by said extension in accordance with the city's reimbursement policy. All cost for the line size over eight inches shall be borne by the city upon approval of the city council. All main water line extensions become the property of the city upon acceptance by the city. [Ord. O-03-2010 § 1 (Exh. A § 7.100)].

15.35.120 Water Fittings.

All water line fittings to have mega lug followers or approved fittings. All fittings, valves, saddles and other parts that have a likelihood to corrode shall be completely greased (food grade) and wrapped (8 mil min.) Anti-corrosion (anode) pits may be required in highly corrosive soils (based on soils report or on site testing).

All water main crosses and tees shall have a valve on all legs of the cross or tee. Valves shall be flanged directly to the cross or tee. Water mains of 10 inches or smaller shall require a gate valve. Mains 12 inches or larger shall require a butterfly valve unless authorized in writing by the city engineer or his/her designee.

Use ductile iron fittings that conform to the provisions of ANSI/ AWWA C110/ A21.10 or C153/A21.53 unless otherwise recommended by the manufacturer and authorized by the city engineer or his/ her designee. All PVC pipes being inserted into fittings shall have the bevel end removed.

Chapter 15.40

PRESSURIZED IRRIGATION

Sections:

15.40.010 General.

A. Specifications. This chapter covers the installation of pressurized irrigation lines. See standard drawings related to pressurized irrigation.

B. Pipe. Polyvinyl chloride (PVC) pipe shall be used for all pressurized irrigation mains unless authorized by the city engineer or his/her designee.

C. Size. The city must approve the sizes of all proposed pressurized irrigation lines. The minimum size of pressurized irrigation pipe is six inches in diameter for main lines and one inch in diameter for services.

D. Location. Pressurized irrigation mains shall be located along centerline. Pressurized irrigation may not be placed in same trench as waterline.

15.40.020 Installation.

A. General. Pressurized irrigation distribution and transmission systems shall be installed according to the requirements and specifications of APWA 02510. PVC pipe shall also be installed according to the requirements and specifications of AWWA C605.

B. Pipe Cleanliness. All foreign matter or dirt shall be removed from the inside of the pipe before it is placed and it shall be kept clean during and after laying. No debris, tools, or other materials shall be placed in the pipe during laying operations. When laying of pipe is not in progress, the pipe shall be closed by a watertight plug.

C. Minimum Cover. All pressurized irrigation mains shall have a minimum cover of three feet to the top of the pipe.

D. Identification Tape. All pressurized irrigation mains shall be installed with identification tape that meets the requirements and specifications of APWA 02320. Tape shall be buried 12 inches below grade.

E. Lateral Displacement. All pipes shall be protected from lateral displacement resulting from impact or unbalanced loading during backfilling operations.

F. Restraining. Either thrust blocks or mechanical retaining devices shall be used for all tees, valves, plugs, caps, and bends. Restraining shall be accomplished according to the standard drawings.

G. Connection to Existing Pressurized Irrigation Lines. The contractor will be responsible to verify actual size, type of material, and location of existing utilities in the field. The fittings and materials required for construction must be approved by the city engineer or his/her designee. Where fitting sizes, such as tees and crosses, are shown on the plans, those sizes will be used. However, no attempt has been made to show all needed fittings or materials. [Ord. O-03-2010 § 1 (Exh. A § 8.020)].

H. Drains shall be installed at all low points on pressurized irrigation and connected to storm drain inlets. Pipes shall be sloped to low points to allow drainage.

15.40.030 Pipe and fittings.

A. General. Polyvinyl chloride (PVC) pipe shall be used for all pressurized irrigation mains 12 inches in diameter and smaller unless otherwise authorized by the city engineer or his/her designee. Ductile iron or polyethylene pipe shall be used for pressurized irrigation mains larger than two inches in diameter. Only PVC or polyethylene pipe may be used in corrosive soils.

B. Polyvinyl Chloride (PVC) Pipe. PVC pipe shall meet the requirements and specifications of APWA 15014 and AWWA C900, C905, and C909. Only purple, pressure class 150 psi pipe may be used for pressurized irrigation mains.

C. Ductile Iron Pipe. Ductile iron pipe shall meet the standards and specifications of APWA 15011. Only a pressure class of 150 psi or larger may be used. A tubular purple polyethylene encasement must be installed according to AWWA C105 over all ductile iron pipe and fittings. Flanges, when required, shall meet the requirements and specifications of AWWA C115.

D. Polyethylene Pipe. Polyethylene pipe shall meet the standards and specifications of APWA 15013.

E. Steel Pipe – Lined and Coated. Steel pipe shall meet the standards and specifications of APWA 15010.

F. Fittings. Use ductile iron fittings that conform to the provisions of ANSI/AWWA C110/A21.10 or C153/A21.53 unless otherwise recommended by the manufacturer and authorized by the city engineer or

his/her designee. All PVC pipes being inserted into fittings shall have the bevel end removed. All the bolts and nuts of all the fittings shall be greased. All fittings shall have an eight mil vinyl wrap plastic cover. [Ord. O-03-2010 § 1 (Exh. A § 8.030)].

G. Pipe zone

15.40.040 Valves and couplings.

A. General. All valves shall meet the requirements of APWA 02510 and 15030.

B. Resilient Seated Gate Valve. All valves on six-inch to 10-inch water mains shall be resilient seated gate valves. Valves shall also be of iron body, have nonrising bronze stems and meet the following specifications:

1. Mechanical Joint. When valves are mechanical joint, they shall be furnished with all necessary glands, followers, and bolts and nuts to complete installation.

2. Valve Stems. Bronze valve stems shall be interchangeable with stems of the double disc valves of the same size, direction of opening and manufacture.

C. Butterfly Valve. All valves 12 inches and larger shall be butterfly valves which meet the requirements and specifications of APWA 02510, 15030 and the following specifications:

1. General. Valve bodies shall be cast iron, ASTM A126, Class B. Body ends shall be flanged with facing and drilling in accordance with ANSI B16.1, Class 125; or mechanical joint in accordance with AWWA C111. All mechanical joint end valves shall be furnished complete with joint accessories (bolts, nuts, gasket, and glands). All valves shall conform with AWWA Standard C504, Table 3, Laying Lengths for Flanged Valves and Minimum Body Shell Thickness for All Body Types.

2. Disc. Valve disc shall be ductile iron ASTM A536, Grade 65-45-12. Valve disc shall be of the offset design providing 360-degree uninterrupted seating.

3. Shaft Bearings. Shaft bearings shall be contained in the integral hubs of the valve body and shall be self-lubricated sleeve type.

4. Coating. All valves shall be coated with epoxy in conformance to AWWA Standard C550, latest revision.

Interior wetted ferrous surfaces shall be coated a nominal 10 mils thick for long life, and body exterior shall have a minimum of three to four mils coating thickness in order to provide superior base for filed-applied finish coats.

D. Valve Boxes. All buried valves shall be installed complete with two-piece, cast iron, slip-type, five-and-one-quarter-inch shaft valve box with drop lid. The lid shall have the word “IRRIGATION” or “DRAIN” according to the standard drawing cast in the metal.

Valves and valve boxes shall be installed where shown on the drawings. Valves and valve boxes shall be set plumb. Valve boxes shall be centered directly over the valve. Valves shall be aligned with property lines where possible. Earth fill shall be carefully tamped around the valve box to a distance of four feet on all sides of the box, or to the undisturbed trench face if less than four feet. Valves shall have the interiors cleaned of all foreign matter before installation.

All tops of valve boxes located in streets shall be installed one-quarter inch below grade. When a one-inch overlay is required a year after the road construction, the pavement surrounding the valve box shall be neatly cut to form a 30-inch round opening with the valve box centered, and a concrete collar shall be cast around the box. Valve boxes in off-road areas shall extend six inches above grade. Lid detail shall be similar to Comco C6517.

E. Couplings. Couplings shall be equal to the product of Smith-Blair or Dresser with cast iron couplings being used on all cast iron and PVC pipe. Couplings shall be straight, transition, or reducing style as required by the specific installation. All steel fittings and bolts shall be coated with a nonoxide coating and wrapped with polyethylene.

F. Pressure Regulation Valves. Pressure regulation valves (PRV) which are required in a development shall be designed by the developer’s engineer and the design shall be submitted to the city engineer or his/her designee for review and approval prior to starting construction. All PRVs shall be Cla-Val with bypass, be placed in a concrete vault and have telemetry included.

G. Tapping Valves. Tapping valves may only be used when previously approved by the city engineer or his/her designee. Tapping saddles with an “O” ring may be used if the water main line to be tapped is larger than the new water main line. Where the tap is the same size as the existing main, cast iron or stainless steel tapping sleeves shall be used which encase the full perimeter of the pipe. The valve shall be a tapping valve with a guide lip on the flanged side. The opposite side of the valve shall have a mechanical joint connection.

H. Air Vacuum and Release Valves. Combination air, vacuum and release valves shall be installed according to the standard drawings at high points in the system as required by the city. [Ord. O-03-2010 § 1 (Exh. A § 8.040)].

15.40.050 Meters, boxes and services.

A. General. See the standard drawings for pressurized irrigation services. The minimum size of new pressurized irrigation service lines is one inch IP. Pressurized irrigation services shall be installed after

electrical services. Every lot, including both sides of a twin home lot, shall have its own pressurized irrigation service.

B. Placement and Location. All meters and boxes shall have their location and grade staked prior to installation. No meters or boxes shall be set in sidewalks or driveways. Service taps shall be a minimum of 36 inches apart. No taps will be allowed within 36 inches of the end of the pipe. Service laterals shall extend perpendicular from the main to the meter box. For dual pressurized irrigation services, laterals shall extend perpendicular from the main to the tee. If a meter must be moved it may only be displaced a maximum of 24 inches to either side. If it must be moved more than 24 inches, a new service line must be installed. When a new service line is installed, the old corporation stop shall be shut off at the main and the old service line cut two feet from the main.

C. Meters and Boxes. All meters shall be paid for by the developer and purchased by the city. Meter boxes and pressurized irrigation boxes shall be in good repair. They shall not set at an angle or in a crushed or dented condition. The inside of boxes must be free of obstructions such as dirt, rocks or debris. Meters shall be installed by the developer or contractor.

D. Polyethylene Pipe. Only CTS SDR9 200 psi purple polyethylene pipe shall be used for pressurized irrigation service lines. Pipe damaged by scratches, cuts, kinks or buckled areas shall not be installed. The bottom of the trench shall be flat with no hollows, no lumps and no rock. If these conditions do not occur, pipe must be bedded in coarse sand. No rocks shall be allowed within six inches of pipe. Pipe shall be cut with either a wheel- or scissor-type tubing cutter with a blade specifically designed for plastic. Cuts shall be square and clean. Cutter manufacturer instructions shall be followed when cutting pipe. All connections shall have stainless steel stiffeners. There shall be no unnecessary bending of pipe. Taps shall be exactly horizontal to the pressurized irrigation main. If bending cannot be avoided, maximum bending radius shall be 25 times the pipe diameter. There shall be no bending within three feet of a fixed point and no “S” shape curves. [Ord. O-03-2010 § 1 (Exh. A § 8.050)].

15.40.060 Flushing.

A. General. All pressurized irrigation lines shall be flushed before being placed in service. Flushing shall be accomplished through the end of each line.

B. Velocity. The contractor shall install a tap sufficient in size to provide for two-and-one-half-foot-per-second flushing velocity in the line. The following is the flow quantity required to provide a two-and-one-half-foot-per-second flushing velocity:

FOR FLUSHING (pipe diameter)	FLOW REQUIREMENTS (flow in gallons per minute)
4 inches	100
6 inches	220
8 inches	390
10 inches	610
12 inches	880
16 inches	1,567
18 inches	1,980
20 inches	2,450
24 inches	3,525
30 inches	5,507

[Ord. O-03-2010 § 1 (Exh. A § 8.060)].

Chapter 15.45
SEWER LINES

Sections:

15.45.010 General.

The installation specifications for sewer systems shall conform to the APWA Standard Specifications unless noted otherwise in this chapter. [Ord. O-03-2010 § 1 (Exh. A § 9.010)].

15.45.020 Sewer pipe.

Nonreinforced concrete, reinforced concrete, and PVC piping shall be used with Eagle Mountain City under the specifications and conditions in the respective pipe sections. Sanitary sewer shall be located on the south or west side of the street, five feet from the centerline. Water mains shall be minimum one foot vertical above the sewer. Separation between water and sewer mains shall be 10 feet (horizontally) minimum unless authorized in writing by the city engineer or his/her designee. Maximum spacing of sewer manholes shall not exceed 400 feet. [Ord. O-03-2010 § 1 (Exh. A § 9.020)].

Sewer mains shall be owned and maintained by the City and includes all mainlines and manholes. Laterals extending from the home and connecting to the mainline are private and are the responsibility of the homeowner to maintain or correct failures should they occur regardless of the location relative to the right of way.

15.45.030 Sewer main bedding materials.

Pipe bedding for sewer mains shall consist of three-quarter-inch or pea gravel, and shall extend six inches below and to the sides of the sewer main, and 12 inches above crown of pipe, or one pipe diameter, whichever is larger. [Ord. O-03-2010 § 1 (Exh. A § 9.025)].

15.45.040 Sewer connection fees.

A. Sewer Connection Fee. The schedule of charges to be imposed for sewer connections shall be set by the city council from time to time by resolution.

B. Reimbursement of Sewer Main Line Assessment Charges. When a main line or trunk line has been installed at the expense of some third party other than the owner of adjacent property to the street or easement in which a main or trunk line has been extended, is connected to by the adjacent property developer and an assessment is made against the property benefited by the main line, the third party who advanced the cost of installing the main or trunk line shall be entitled to reimbursement for that portion of the expenses incurred by him which is actual cost of extension with a maximum reimbursement not to exceed the actual cost incurred by the developer in making the main line extension go past the property of the developer who subsequently connects on the main or trunk line. Extension reimbursements shall not be paid after the expiration of 10 years from the original date of installation of the main or trunk line.

Third party other than owner of adjacent property to the street or easement, in which a main or trunk line has been extended, shall file a report of actual cost of such main line extension with Eagle Mountain City. The report shall be the basis for assessment made against the property benefited by main line extension.

Before any sewer connection request by adjacent property is approved, such assessment made against the property shall be paid to Eagle Mountain City. Such payment shall be made to the party entitled to such payment by Eagle Mountain City. A fee in the amount established by the city will be collected by Eagle Mountain City for the administration of the fund transfer.

In no event shall the right of reimbursement exceed the amount of actual cost of extension. [Ord. O-03-2010 § 1 (Exh. A § 9.030)].

15.45.050 Manhole bases.

Manhole bases shall be constructed of concrete to the dimensions shown on the drawings. Main line sewer pipe and projecting ends of the sewer and pipe stubs shall be adequately supported to prevent displacement from line or grade during installation of the base. All manholes shall have the invert shape as indicated on the standard details to provide an adequate channel between the inlet and outlet pipes. The entire surface of the manhole invert, including channels and shelves, shall be steel-toweled to a smooth dense surface. All inverts of junction manholes shall be shaped while the bases of the manholes are under construction. All inverts shall follow the grades of the pipe entering the manholes. Manholes shall have a 0.20 foot fall through manhole. Rubber boots shall be provided to connect the inlet and outlet pipes and provide watertight joints. Manholes with more than two pipes entering/ leaving or where the flow-through angle of the two is less than 90 degrees shall require a 60-inch manhole. In no circumstance

shall more than 5 pipes be allowed to enter/ leave a manhole including lateral lines. [Ord. O-03-2010 § 1 (Exh. A § 9.050)].

15.45.060 Connecting to existing sewers.

Manholes used to connect the sewer to the existing sewer shall be plumb and centered on the existing sewer. The new pipe shall be placed against the existing pipe at the elevation designated by the engineer and the base poured as specified above. Care shall be taken not to disturb the alignment of the existing sewer during the excavation procedure. Any damage to the existing sewer shall be repaired. When connecting to existing manhole or stub pipe a test ball shall remain inflated in the downstream pipe to prevent contamination of existing mains. [Ord. O-03-2010 § 1 (Exh. A § 9.060)].

15.45.070 Sewer laterals.

Service lines shall be constructed of substantial materials approved by the Utah Plumbing Code for the particular application. Minimum pipe size shall be four-inch diameter. Sewer lateral cleanouts may not be placed under any permanent structures, including porches or bay windows. Any cleanouts exposed to vehicular traffic shall have traffic rated triangular covers.

All sewer laterals shall be connected to concrete sewer mains by use of the tapping tee (cast iron), a wax bowl ring and then secured with plumber's tape and concrete or a wye connection. Connections to PVC shall use tapping tees. Sewer laterals to extend 12 feet beyond property line and marked with a two-inch by four-inch board at the end and a two-inch "S" stamped on the face of the curb and gutter. Any bend in a service line between the main line and the property line greater than 22.5 degrees needs to have a cleanout. No 90-degree bends are allowed. No laterals will be allowed to connect to manholes. The minimum cover of sewer laterals is three feet six inches at the property line. [Ord. O-03-2010 § 1 (Exh. A § 9.070)].

15.45.080 Minimum slopes.

Slopes shall be designed to have a two-foot-per-second velocity unless otherwise approved by the city engineer. Slope shown on construction drawings shall be calculated based on the length of pipe from the edge of manhole to the edge of the next manhole. Minimum slopes for different size pipes are as follows:

Minimum Sewer Main Slopes

Pipe Diameter	Minimum Slope
4 inches	2%
6 inches	1%
8 inches	0.334%
10 inches	0.248%
12 inches	0.194%
14 inches	0.158%
15 inches	0.144%
16 inches	0.132%
18 inches	0.113%
21 inches	0.092%
24 inches	0.077%
27 inches	0.066%
30 inches	0.057%
36 inches	0.045%

[Ord. O-03-2010 § 1 (Exh. A § 9.080)].

15.45.090 Cleaning.

After the sewer lines have been laid and the trench backfilled, they shall be thoroughly cleaned and tested for leakage and alignment in the presence of the city engineer or his/her designee before acceptance by the owner. Cleaning shall be done using a high pressure jet cleaning machine, producing a minimum of 800 psi. Wastewater and debris shall not be permitted to enter sewer lines in service, but shall be removed by a “sucker truck” at the lowest manhole of the extension. Such cleaning shall be done by private crews at the expense of the owner.

A. Displacement Test. The displacement test shall be conducted by the developer and inspector in the presence of the engineer and shall consist of the following: all sewer mains shall be washed and inspected using a television inspection unit. The televised inspection of any mains which reveals broken,

misaligned or displaced pipe, or other defects, as designated by the city engineer or his/her designee, shall be remedied by the contractor. The televised inspection shall have the slope of pipe shown on tape throughout the inspection. After cleaning and inspection have been completed, the line shall be tested for leakage as specified in subsection B of this section.

B. Leakage Tests. The low pressure air test shall be conducted by the following method under the direction of the city engineer or his/her designee with equipment equal to Cherne Industrial, Inc.

All wyes, tees, or ends of lateral stubs shall be suitably capped and braced to withstand the internal test pressures. Caps shall be easily removable for future lateral connections or extensions. After a manhole to manhole section of line has been backfilled and cleaned, it shall be plugged at each manhole with pneumatic plugs.

Low pressure air shall be introduced into the sealed line until the internal air pressure reaches four psig greater than the average back-pressure of any ground water that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize.

The portion of line being tested shall be accepted if the portion under test does not lose air at a rate greater than 0.003 cubic feet per minute per square foot of internal pipe surface or two cubic feet per minute minimum when tested at an average three psig greater than any back-pressure exerted by ground water that may be over the pipe at the time of the test.

The pipe and joints shall also be considered acceptable when the time required in minutes for pressure to decrease from three and one-half to two and one-half psig (greater than the average back-pressure of any ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following table:

Pipe Diameter in Inches	Minutes
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5

Pipe Diameter in Inches	Minutes
21	10.0
24	11.5

If the installation fails to meet this requirement, the contractor shall determine at his/her own expense the source of leakage. He/she shall repair or replace all defective materials and/or workmanship. All sewer mains shall be tested, cleaned and accepted by Eagle Mountain City before laying the street surface. [Ord. O-03-2010 § 1 (Exh. A § 9.090)].

15.45.100 Sewer lift stations.

Sewer lift stations that are required in a development shall be designed by the developer's engineer according to city standards and the design shall be submitted to the city engineer or his/her designee for review prior to starting construction. Lift stations will be the overwatch type design, will have standby power, telemetry, and will be designed for regional areas, not individual subdivisions. Sewer lift stations will not be allowed if gravity flow can be accommodated. [Ord. O-03-2010 § 1 (Exh. A § 9.100)].

[Ord. O-03-2010 § 1 (Exh. A § 9.100)].

15.45.110 Discharging waste from cesspools and septic tanks at sewage treatment plant.

It shall be unlawful for any person, firm or corporation to discharge the waste material collected and gathered in cleaning cesspools or septic tanks at any place within the corporate limits of the city, Illegal discharges may result in fines up to $2,480. [Ord. O-03-2010 § 1 (Exh. A § 9.110)]

15.45.120 Septic systems.

It is unlawful to construct a septic system within the city boundaries except in accordance with Chapter 13.20 EMMC. Septic systems approved in accordance with Chapter 13.20 EMMC must also be approved in writing by the Utah County health department prior to issuance of a building permit. Notwithstanding approval of a septic system in accordance with Chapter 13.20 EMMC, the city may require a property owner to connect to the sewer system at the property owner's cost and expense if the city determines, in the city's sole and absolute discretion, that the individual septic system, or the combination of multiple septic systems, is polluting the stormwater or groundwater within the city, impairing any culinary or municipal wells located within the city, or violating any existing or future water source protection overlay zones. [Ord. O-07-2015 § 2 (Exh. A); Ord. O-03-2010 § 1 (Exh. A § 9.110)].

Chapter 15.50
STORM DRAINS

Sections:

15.50.010 General.

The installation specifications for storm drain systems shall conform to the APWA Standard Specifications unless noted otherwise in this chapter.

All development projects which will increase the storm runoff above what would be expected for an undisturbed site shall be required to provide onsite retention or detention. Such runoff shall be accommodated onsite to match the intensity for a 80th percentile storm event or as otherwise directed by the City's UPDES permit or by state code. Storm events larger than that are allowed to release at a rate consistent with the predeveloped conditions of the site. On site retention may be provided throughout the development or in 1 specific location. All storm drain pipes shall have a minimum cover of two feet. Minimum size of storm drains is 12-inch diameter for tie-ins and 15-inch diameter for main lines.

No person shall discharge or cause to be discharged any storm water, surface water, ground water, roof runoff, subsurface drainage, cooling water, or unpolluted industrial process waters to any sanitary sewer. Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the director. Industrial cooling water or unpolluted process waters may be discharged, on approval of the director, to a storm sewer, combined sewer or natural outlet.

Storm drain manholes and sumps shall meet confined space requirements, and shall be equipped with ladder rungs and other such devices as required to ensure public safety. [Ord. O-03-2010 § 1 (Exh. A § 10.010)].

15.50.020 Pipe.

Piping used for storm water conveyance includes concrete and HP ADS piping. All pipe shall conform to the material and installation specifications included in this chapter. Storm drain bedding materials shall consist of ¾" gravel and extend 6 inches below and to the sides of the pipe and twelve (12) inches above the crown of the pipe. [Ord. O-03-2010 § 1 (Exh. A § 10.020)].

15.50.030 Minimum slopes.

Minimum slopes for different size pipes are as follows:

Minimum Storm Drain Main Slopes

Pipe Diameter	Minimum Slope
12 inches	0.194%
14 inches	0.158%
15 inches	0.144%
16 inches	0.132%
18 inches	0.113%
21 inches	0.092%
24 inches	0.077%
27 inches	0.066%
30 inches	0.057%
36 inches	0.045%

[Ord. O-03-2010 § 1 (Exh. A § 10.030)].

15.50.040 Cleaning and testing.

After the storm drain lines have been laid and the trench backfilled, they shall be thoroughly cleaned and tested for leakage and alignment in the presence of the city engineer or his/her designee before acceptance by the owner. Cleaning shall be done using a high pressure jet cleaning machine, producing a minimum of 800 psi. Wastewater and debris shall not be permitted to enter storm drain lines in service, but shall be removed at the lowest manhole of the extension. Such cleaning shall be done by private crews at the expense of the owner.

Storm drain lines will be required to have a mandrel or TV test prior to acceptance and prior to the release of the warranty bond. Storm drain boxes or manholes shall be air tested under the general

observation of the City inspector. No reverse slope will be allowed. No deflection from line or grade will be allowed.

[Ord. O-03-2010 § 1 (Exh. A § 10.040)].

15.50.050 Sumps.

Sumps shall not be used in Eagle Mountain City unless approved by the city engineer. If approved, all sumps must be constructed with a grease trap.

Additionally, sumps shall only be located as staked in the field and indicated on the plans. They shall be to the grade indicated by the cutsheets and as staked in the field. Excavation and backfill shall conform to Chapter 15.30 EMMC. If the sump is located in an area where the earth is stratified with gravel layers, care shall be taken during backfill to be sure that these layers are not sealed off from the sump beginning three feet below the bottom of the sump up to the top of the subgrade. One- to three-inch diameter drain rock shall be used. The original material shall be removed and the total backfill done with imported drain rock. After backfilling is completed, the entire excavation shall be thoroughly flooded to ensure that settlement is complete. Grates shall be set in place and adjusted for final elevation and alignment. The city requires a fabric barrier between the drain rock and road base (or other backfill).

Sumps may only be constructed of reinforced concrete, precast sections, and shall meet the requirements of ASTM C478-73 in accordance with standard detail drawings S-15, S-16, and S-17. Sumps shall have eccentric lids to ensure adjustments in alignment. [Ord. O-03-2010 § 1 (Exh. A § 10.050)].

15.50.060 Retention/detention basins.

A. Retention Basins. All retention basins shall be constructed with a maximum water depth of four feet. All retention basins shall have a series of interconnected sumps connected to curb inlet boxes or storm drain main lines. All retention basins shall be landscaped in accordance with city standards. All retention basins shall be constructed with a minimum slope of 5:1.

All retention basins shall be constructed for drainage areas designated in the general plan. Basins for smaller areas may be allowed only with prior written approval of the city engineer or his/her designee.

B. Detention Basins. All detention basins shall be constructed with a maximum water depth of 18 inches, with that depth remaining for no longer than a six-hour period. Detention basins must be landscaped and they may be located in park and recreational areas. Each detention basin shall have a manually controlled outlet to a storm drain main line. Detention ponds greater than 18 inches must have a minimum

side slope of 5:1. Fencing around detention ponds may be required as determined by the city engineer or his/her designee.

C. All ponds must be certified prior to acceptance

Ponds must be constructed as they are required for the detention of the proposed improvements. If the ultimate design of a subdivision has located the detention basin in a future phase of the subdivision, either a temporary detention basin must be constructed, or an easement for the approved detention must be given to the city and the detention basin must be constructed with the required phase. [Ord. O-03-2010 § 1 (Exh. A § 10.060)].

15.50.070 Storm Water Pollution Prevention Plan.

A storm water pollution prevention plan meeting all requirements as mandated by the state of Utah Department of Environmental Quality shall be required and maintained for all construction within a subdivision. Elements of this SWPPP shall include BMPs to protect the existing and natural storm drainage systems from incurring increased sedimentation. BMPs will include at a minimum silt fences, inlet protection, and stabilized construction entrance. All inlet protection to meet or exceed ASTM D8057 inlet protection standard. Additional BMPs may be required as needed and determined by a certified storm water plans reviewer. The SWPPP is to be approved by the city engineer or his/her designee. The approved SWPPP plan is to be maintained while any construction activities are occurring within a subdivision. Modifications may be made to the SWPPP during the construction process if it becomes evident that additional modifications are needed to protect storm drainage structures or adjacent properties. The SWPPP and all accompanying documentation are to be available electronically at the project site at the time of an on-site inspection or upon request by the DWQ, EPA, or the MS4. The Storm Water Phase II Final Rule, Construction Rainfall Erosivity Waiver, is not offered.

On sites disturbing greater than one acre of land and all commercial sites, the SWPPP sign must be a minimum of four feet wide and three feet tall, bottom of sign placed two feet minimum off the ground, white background with red and black lettering. Pertinent information shall be located at the bottom of the SWPPP sign and shall include the following: authorization to discharge letter/notice of intent (NOI), electronic SWPPP access link, site notice, and the public notice sheet.

Redevelopment projects disturbing greater than one acre, including projects part of a common plan of development or sale which disturbed an acre or greater must provide a site-specific plan for net gain to onsite storm water retention or a reduction to impervious surfaces. Redevelopment projects increasing impervious surfaces by greater than 10% must prevent off-site discharge of the net increase in storm

water volume associated with precipitation from all rainfall events less than or equal to the 80th percentile rainfall event.

Single-lot residential home SWPPP signs to be 24 inches wide and 18 inches tall (realtor size) with the bottom of the sign placed a minimum of 12 inches off the ground, front of sign to face toward street and have white background with “SWPPP” in black or red lettering, along with UPDES number. Back of sign to have authorization to discharge letter/NOI and electronic SWPPP access link.

An appeals process shall allow a construction operator to appeal an enforcement option. The appeal process will be included as part of the city’s procedures and will be posted in a publicly available location. [Ord. O-21-2022 § 2 (Exh. A); Ord. O-02-2020 § 2 (Exh. A); Ord. O-21-2016 § 2 (Exh. A); Ord. O-13-2015 § 1 (Exh. A)].

Chapter 15.55
RESTORATION OF SURFACE IMPROVEMENTS

Sections:

15.55.010 General.

The contractor shall be responsible for the protection and the restoration or replacement of any improvements existing on public or private property at the start of work or placed there during the progress of the work. All work shall comply with APWA standards unless otherwise stated in this section.

Existing improvements shall include but are not limited to permanent surfacing, curbs, ditches, driveways, culverts, fences, walls and landscaping. All improvements including landscaping shall be reconstructed to equal or better, in all respects, in a timely manner. The contractor shall be responsible for maintaining a road surface suitable for travel by the public. He/she shall be responsible for all dust and mud control and all claims and damages resulting from his/her failure to maintain the construction area.

All road cuts shall be repaired within two working days. All asphalt to be removed must be sawcut in a smooth straight line. [Ord. O-03-2010 § 1 (Exh. A § 11.010)].

15.55.020 Gravel surface.

Where trenches are excavated through gravel surfaced areas such as roads and driveways, etc., the gravel surface shall be restored and maintained as follows:

A. All trenching backfill shall conform to the backfill requirements in EMMC 15.30.040.

B. The gravel shall be placed deep enough to provide a minimum of six inches of material.

C. The gravel shall be placed in the trench at the time it is backfilled. The surface shall be maintained by blading, sprinkling, rolling, adding gravel, etc., to maintain a safe uniform surface satisfactory to the engineer. Excess material shall be removed from the premises immediately.

D. Material for use on gravel surfaces shall be obtained from sound, tough, durable gravel or rock meeting AASHTO T27 requirements. The following requirements for grading shall be met:

Passing 1-inch sieve	100%
Passing 3/4-inch sieve	85% – 100%
Passing No. 4 sieve	45% – 65%
Passing No. 10 sieve	10% – 30%
Passing No. 200 sieve	5% – 10%

[Ord. O-03-2010 § 1 (Exh. A § 11.020)].

15.55.030 Bituminous surface.

Where trenches are excavated through bituminous surfaced roads, driveways or parking areas, the surface shall be restored and maintained as follows:

A. A temporary gravel surface shall be placed and maintained as required in EMMC 15.55.020 after the required backfill and compaction of the trench has been accomplished.

B. The trench shall be backfilled in accordance with EMMC 15.30.040.

C. The area over trenches to be resurfaced shall be graded and rolled with a roller weighing not less than 12 tons, or with the rear wheels of a five-yard truck loaded to capacity, until the subgrade is firm and unyielding. Mud or other soft or spongy material shall be removed and the space filled with gravel and rolled and tamped thoroughly in layers not exceeding six inches in thickness. The edges of trenches that are broken down during the making of subgrade shall be removed and trimmed neatly before resurfacing.

D. Before any permanent resurfacing is placed, the contractor shall cut the existing paving to clean, straight lines as nearly parallel to the centerline of the trench as practicable and 24 inches wider on each side of the trench than initial excavation. Said straight lines have no deviations from such lines, except as specifically permitted by the engineer.

E. Existing bituminous paving shall be cut back a minimum of 24 inches beyond the limits of any excavation or cave-in along the trench so that the edges of the new paving will rest on at least 20 inches of undisturbed soil. See also APWA Standard Detail 255, Asphalt Concrete T Patch.

F. Within two working days and weather permitting, the bituminous surface shall be restored by standard paving practices to a minimum thickness of four inches for local streets and six inches for collector, industrial, and commercial streets to match existing pavement height.

G. Pavement restoration shall include priming of pavement edges and subbase with an asphalt tack coat and placing and rolling plant mix bituminous material to the level of the adjacent pavement surfaces.

H. All pavement restoration shall conform to Chapter 15.60 EMMC. [Ord. O-03-2010 § 1 (Exh. A § 11.030)].

15.55.040 Cold weather patching.

Trenches cut during winter months or when asphalt plants are not operating shall be patched the same day of the cut with a good quality cold mix and maintained until asphalt plants open. When asphalt plants open, the cold patch shall be removed and a new patch of hot mix asphalt shall be placed within 20 days of plant opening. [Ord. O-03-2010 § 1 (Exh. A § 11.040)].

15.55.050 Concrete surfaces.

All concrete curbs, gutters, sidewalks and driveways shall be removed and replaced to the next joint or scoring lines beyond the damaged or broken sections; or, in the event that joints or scoring lines do not exist or are three or more feet from the removed or damaged section, the damaged portions shall be removed and reconstructed to neat, plane faces. On all new concrete improvements lamp black or other pigments shall be added to the new concrete to obtain the desired results.

All concrete work shall conform to the requirements of the APWA Standard Specifications. [Ord. O-03-2010 § 1 (Exh. A § 11.050)].

Chapter 15.60
STREET IMPROVEMENTS

Sections:

15.60.010 General.

All street surfacing shall comply with the APWA Standard Specifications, unless noted otherwise in this chapter.

Prior to placing asphalt surfaces, temperatures shall be a minimum of 50 degrees Fahrenheit and rising, and be expected to maintain a temperature of greater than 50 degrees for a length sufficient to complete a reasonable quantity of paving. In no instance will asphalt be allowed to be placed in temperatures less than 47 degrees. No asphalt may be placed on frozen ground, or when overnight temperatures of less than 42 degrees are expected.

A soils investigation shall be performed for all new roads and those roads for which work will be performed. The results of this investigation and a design of the road cross-section shall be submitted to and accepted by the city engineer or his/her designee. This chapter covers the preparation of subgrade, the placing of base gravel, and the placing of asphalt surface on any city street. [Ord. O-03-2010 § 1 (Exh. A § 12.010)].

15.60.020 Pavement Design

Unless approved otherwise by the city engineer or his/her designee, the public works director, or as

directed by the city council pavement sections will be constructed, at minimum, in accordance with the table below. The contractor shall submit a pavement design for each roadway to be constructed based on AASHTO 1993 or AASHTO ME practices. The pavement design should accommodate project specific traffic projections and geotechnical conditions, including expected construction traffic. ***If soils exhibit pumping or other instability, additional preparations (such as soil treatment, geotextile placement or over-excavation and placement of additional subbase layers) may also be required.*** Remediation requirements to be detailed by geotechnical report. Methods or remediation must be approved by the City Engineer or their designee. All asphalt will be placed in a maximum three inch lifts and base with a maximum of 5 inch lifts and subbase in 9 inch lifts.

Minimum Pavement Sections

Street	Arterial	Collector	Local Street* / Parking Lot
Asphalt	5”	4”	3”
Untreated Base	9”	9”	6”
Subbase**	18”	12”	9” ***
Total	32”	25”	18”

**Spline (Main Access) roads for new subdivisions must meet Collector minimum section.*

***Subbase to consist of engineered fill, meeting type A1 or A2 classifications as set forth by AASHTO, placed over scarified and compacted native earth material unless modified by the geotechnical report.*

****May be waived for placements over subgrade with a CBR of 10% or greater, tested at 95% compaction of AASHTO T-99 and with a 10lb surcharge.*

15.60.025. Bituminous Concrete Mix Design

Unless approved otherwise by the City Engineer or their designee, the Public Works Director, or as directed by the City Council, the following bituminous mixes will be used, as per APWA 32 12 05 Bituminous Concrete and as modified below:

Street	Bituminous Mix
Arterial	PG 64-28, SP-1/2, 75 Nd
Collector	PG 58-28, DM-3/4, 50 Blow or SP-1/2, 75 Nd

All mixes must meet the following additional requirements:

- Maximum recycled pavement allowed is 15% by weight of RAP or 15% of RAP Binder, whichever is lesser.
- PG Binders that exceed minimum requirements are acceptable.

15.60.030 Quality Assurance and Materials Acceptance.

A. Asphalt Pavement Material Tests. Material tests will be conducted by the City when the City Engineer or his/her designee considers it necessary.

B. Compaction Tests. The City will test all bituminous pavement for compaction and asphalt cement content. Test locations shall be determined by the City but will generally be taken 3 per 200 lineal foot of street or 1 per 2,000 square foot of paved area. Use core density to determine compaction acceptance. Use the following actions for compaction acceptance or correction.

COMPACTION ACCEPTANCE

Density, in Percent*		**Action**
Average	**Lowest Test**	
93.0 to 97.0	90.0 or greater	Placement Accepted
93.0 to 97.0	Less than 90.0	Evaluate and Remediate Low Tests**
Less than 93.0	90.0 or greater	Evaluate and Remediate Full Pavement***

Less than 93.0	Less than 90.0	Placement Rejected

**Carry all calculations to minimum 1 decimal point.*

***Evaluate to determine extent of low-density areas. Remediation to include localized removal and replacement with acceptable placement.*

****Provide evaluation by Pavement Engineer addressing structural performance and remediation recommendations for approval by City Engineer.*

C. Grading Inspection. The subgrade, sub-base, and road base shall all be graded to an engineered red-head and accepted by Eagle Mountain City. Red-heads shall be placed every 50 feet at the crown of the road. If the distance between redheads and edge of pavement exceeds 25 feet additional redheads shall be installed halfway between the crown and edge of pavement. Red-heads shall also be placed every 50 feet at the edge of pavement where there is no curb and gutter.

D. Thickness Test. Material depth tests will be conducted by the City when the City Engineer or his/her designee considers it necessary. Depth analysis shall be made on at least four test holes for each section, excavated and filled by the contractor. Base thickness shall be accepted if 75% of the test holes are less than 1/4" below the specified thickness and no individual hole shall be more than 3/4" below the specified thickness.

E. Bituminous Concrete Surface: Unless otherwise directed, the Contractor will be responsible for determining the depth of the bituminous surfacing in accordance with APWA 32 12 13.16, using cores, with the following modifications.

1. At the discretion of the City, the City may allow the contractor to verify surfacing thickness through use of Ground Penetrating Radar (GPR). Thickness determined by GPR will be based on the depth on the trace where 95% of the trace meets or exceeds. The City may allow thickness determined by GPR to supersede coring results.

2. The following table outlines the pay factors for sub-standard asphalt pavement thickness:

THICKNESS ACCEPTANCE

Thickness Deficiency, In Inches*		**Action**
Average	**Lowest Sublot**	
0.00 to 0.25	0.00 to 0.375	Placement Accepted
0.00 to 0.25	Greater than 0.375	Evaluate and Remediate Sublot**
Greater than 0.25	NA	Remediate Full Pavement***

**Carry all calculations to minimum 2 decimal points.*

***Evaluate to determine extent of low-density areas. Remediation to include localized removal and replacement with acceptable placement or mill/overlay with sufficient additional thickness to meet design requirements. Minimum overlay thickness must meet specification minimums based on aggregate gradation.*

****Remediate Entire Lot. Remediation to include localized removal and replacement with acceptable placement or mill/overlay with sufficient additional thickness to meet design requirements. Minimum overlay thickness must meet specification minimums based on aggregate gradation.*

F. Profile Tolerance Inspection. Profile tolerance inspections may be required by the City any time within a year of paving. Collector and arterial streets shall meet the requirements of APWA 32 12 16 (Plant-Mix Asphalt Paving). For local streets profiling, the maximum vertical distance from the pavement surface to a straight edge is:

a. 1/4-inch in 10 feet parallel to centerline.

b. 3/8-inch in 10 feet perpendicular to centerline except at cross section grade breaks.

G. Longitudinal Joints. Construct all longitudinal and transverse joints such that the upslope edge of the joint is level or slightly above downslope edge and within 10 foot straight-edge requirements. Remediate all joints that do not conform to this requirement.

H. Asphalt Concrete Temperature Test. This test shall be conducted on the first three loads of asphalt concrete installed, and on one in four of all future loads as required by the City. Testing shall be conducted according to the requirements and specifications of APWA 32 12 16 (Plant-Mix Asphalt Concrete Paving). Temperature gauge shall be allowed to stabilize for 1 minute before taking reading if using probe type. If using infrared "gun" type, reading shall consist of an average of a minimum of 3 readings, where reading is taken immediately after displacing a minimum of 2 inches of material from the surface being tested and the "gun" is within 18" of the surface being tested.

I. Asphalt Paving Limitations. Pave according to Section 02741 Part 3.8 of the current Standard Specifications for Road and Bridge Construction published by the Utah Department of Transportation (UDOT) unless otherwise approved by the City Engineer or his/her designee. Place HMA between April 15 and October 15, and when the air temperature in the shade and the roadway surface temperature are above 50 degrees Fahrenheit. In the event the City Engineer approves paving between October 15th and April 15th, an overlay in the spring will be required as outlined in the table below. Do not place HMA on frozen base or during adverse climatic conditions such as precipitation or when roadway surface is icy or wet. Use a release agent that does not dissolve asphalt and is acceptable to the City Engineer or his/her designee for all equipment and hand tools used to mix, haul, and place the HMA.

The City Engineer may, at his/her discretion, waive this date restriction requirement if outside temperatures are at least 60°F and the base material condition is approved.

15.60.035 Contractor Quality Control.

The contractor will provide the following for all paving operations:

A. HMA Mixing Plant: Use a UDOT 514 QMP certified Asphalt Mix Plant.

1. Submit plant certification documentation with mix design.

B. Perform Quality Control efforts sufficient to demonstrate material produced meets requirements of this specification. For each asphalt production day, the contractor will provide the following:

1. Testing Report: Submit Quality Control data to the Engineer within 3 working days after completion of each day of paving or prior to the start of the next paving day, whichever is sooner.

2. Plant Production Report: Submit daily plant production records to the Engineer within 3 working day after completion of each day of paving or prior to the start of the next paving day, whichever is sooner.

15.60.040 Asphalt seam location.

The contact point of two adjacent asphalt placements shall be located such that the seam is at a minimum five feet from the projected edge of the lip of gutter on the higher volume roadway. Cross

gutters may be required for all roadways intersecting off a roadway classified as a collector road as directed by the city engineer or his/her designee. [Ord. O-03-2010 § 1 (Exh. A § 12.040)].

15.60.050 Warranty repairs.

The city engineer or his/her designee shall determine at the time of the walkthrough the minimum type of surface maintenance that will be required for the subdivision or portions thereof. Crack sealing of seams will be required at a minimum for seams with horizontal gaps greater than one-fourth inch, or in instances which exhibit vertical separation. Slurry seals may be required in instances when asphalt patching occurs on more than 40 percent of any portion of the roadway. All slurry seals will be a Type II slurry.

All streets shall be swept clean prior to placement of slurry seal. All manholes and valves, including concrete collars, shall be protected from slurry seal. Any slurry seal in gutters or on other concrete shall be removed. A leveling course shall be applied where needed before the final slurry seal is laid. [Ord. O-03-2010 § 1 (Exh. A § 12.050)].

15.60.060 Manholes and valve boxes.

All manhole covers and valve boxes shall be raised to the proper grade after the placement of pavement. The cover shall be removed and raised to the proper elevation with concrete setting the frame one-quarter inch below the pavement grade. The following types of rings can be used:

A. Four thousand psi concrete can be used with epoxy coated rebar with 2 rings minimum each collar.

B. Six thousand psi concrete will be used with fiber mesh 1.5 pounds per yard ¾ inch monofilament.

All adjustments in the elevation from the manhole cone/ lid to be made with whirly gig, manhole riser collar system or equivalent. All adjustments in elevation to water valve boxes are to be made in the top “sliding” riser. If grade cannot be reached with existing top another base section cut to grade must be used. [Ord. O-03-2010 § 1 (Exh. A § 12.060)].

15.60.070 Street Signs.

All signs, post, and hardware shall be installed in accordance to the MUTCD Standards.

Sign post shall be 2-3/8” round post, galvanized inside and out, powder coated with 8017 brown, 16 gage with no holes, crash tested and NCHRP 350 approved.

All post shall have a galvanized dome rain cap and powder coated with 8017 brown.

Signage shall be installed to post with a sign clamp assembly, center bolt and U-bolt to be ½” diameter.

Post shall be anchored to a V-loc 23VRN anchor for 2-3/8” round post with a 24” leg, with stabilizer bolt, and wedge.

All anchors shall be driven into soil, no digging and burying shall be allowed.

All signage shall be marked in the bottom corner (1/4” tall, 1” wide) with date and year sign was made.

15.60.080 Seal Coat

A seal coat fee shall be required for all new roads for the purpose of installing a seal coat on all new asphalt pavement approximately one year after final acceptance of development and/or minimum of 80 percent construction completion, to be determined by the city. The seal coat fee shall be a cash payment at the time of plat recording. The seal coat fee shall be paid by developer based on the total cost for seal coat at the current contract rates for the city for the anticipated date of the installation of the seal coat. The installation of seal coat shall be the responsibility of the city unless, at the time of payment of the seal coat fee, developer requests that the city allow developer to install the seal coat. If developer requests that city allow developer to install the seal coat, the city shall notify the developer at the time the city requires installation of the seal coat and provide developer 90 days to complete installation of the seal coat. The seal coat must meet all standards, specifications and warranties of the seal coat that would be installed by the city. Upon completion of the seal coat by the developer, the city shall refund the seal coat fee to the developer. [Ord. O-31-2021 § 2 (Exh. A); Ord. O-14-2021 § 2 (Exh. A)].

Chapter 15.65
CONCRETE CURB, GUTTER, SIDEWALKS, AND TRAILS

Sections:

15.65.010 General.

All concrete work shall comply with the APWA Standard Specifications, unless noted otherwise in this chapter. The work shall consist of curb and gutter, sidewalk, combination curb, gutter and sidewalk, cross gutters, and curb return constructed where indicated on the plans or as directed by the engineer and conforming in all respects to the specified lines, grades, and dimensions. A minimum slope along any curb and gutter shall be 0.7 percent and on cross gutter shall be one-half percent. Maximum grades on curb and gutter and streets shall be 10 percent. [Ord. O-03-2010 § 1 (Exh. A § 13.010)].

15.65.020 ADA requirements.

All pedestrian facilities will conform to the current federal ADA standards. Plastic inserts required per ADA mandate shall be yellow in color. [Ord. O-03-2010 § 1 (Exh. A § 13.020)].

15.65.030 Base material.

There shall be a minimum of six inches compacted crushed gravel road base under all concrete for public use on both sides. [Ord. O-03-2010 § 1 (Exh. A § 13.030)].

15.65.040 Testing and inspection.

A. Scope. All materials and processes involved in the construction shall be subject to testing and inspection as detailed in the various subsections of this section and in general compliance with ASTM E105-54T. Results of tests performed by recognized laboratories to the satisfaction of the engineer shall be accepted by the supplier as a basis for acceptance or rejection of any and all materials. Standard methods of sampling and testing shall be used. The latest appropriate ASTM tests and methods shall be considered to be standard, and will include but not be limited to concrete, cement, aggregates, additives, curing compounds, parting compounds and jointing materials.

B. Concrete. Where required by the engineer, samples of concrete will be tested to ensure quality concrete. The city engineer or his/her designee will take at least one of these tests for every 50 cubic yards of concrete poured or as required.

1. Samples of wet concrete may be tested for air content. Failure to indicate the entrained air specified in this section shall be a basis for rejection of all concrete represented by the test.

2. Samples of wet concrete may be tested for slump. Failure to indicate the required slump shall be a basis for rejection of all concrete represented by the test. Slump to be 5 inches maximum, air to be 6% +/- 1%.

3. Concrete compression specimens shall be taken for each pour of section as required by the engineer. Such specimens shall attain the specified strength of 28 days with the provision that no specimen may indicate a compressive strength of less than 90 percent of the strengths nominated and with further provision that results from specimens which, in the opinion of the testing authority and the engineer, are obviously faulty or defective may be rejected in determining the requirements. Should any specimens fail to satisfy these requirements, the concrete represented thereby shall be removed and replaced, except that the contractor may submit evidence based on ASTM designation C42-49 which shall be considered by the engineer in relation to this requirement.

C. Flow Tests. All curbs and gutters and cross gutters will have a flow test prior to final inspection to determine any low or high spots. (The city will be present.)

D. All forms or string lines must be inspected by Eagle Mountain City before concrete may be poured. [Ord. O-03-2010 § 1 (Exh. A § 13.040)].

15.65.050 Cold weather concrete.

Concrete shall not be placed when a descending air temperature in the shade and away from artificial heat falls below 35 degrees Fahrenheit. Concrete shall not be poured on frozen ground. Where high temperatures are likely to descend below 32 degrees Fahrenheit, concrete shall be covered or otherwise protected against freezing. The city engineer must approve the method by which the concrete is covered or protected. Admixtures other than calcium chloride may be added upon approval of the city engineer. [Ord. O-03-2010 § 1 (Exh. A § 13.050)].

15.65.060 Clean gutter.

Once curb and gutter and surface course is in place it shall be kept as clean as possible. When equipment is required to cross over sidewalk, bridging will be provided to protect concrete. Dirt and gravel will not be placed in gutter or on street. Gutter will flow freely at all times. [Ord. O-03-2010 § 1 (Exh. A § 13.060)].

15.65.070 Drive approaches.

All concrete for a drive approach shall be six inches thick in the public right-of-way with six inches of gravel base compacted to 95 percent density. [Ord. O-03-2010 § 1 (Exh. A § 13.070)].

15.65.080 Asphalt Trails.

Asphalt trails shall be 10 feet wide along pedestrian corridors or unless otherwise approved by the City Council. Asphalt trails shall consist of 6 inches of base and 3 inches of asphalt and shall be placed on undisturbed native material or documented fill material properly compacted. Base shall extend past trail edges 6” both sides.

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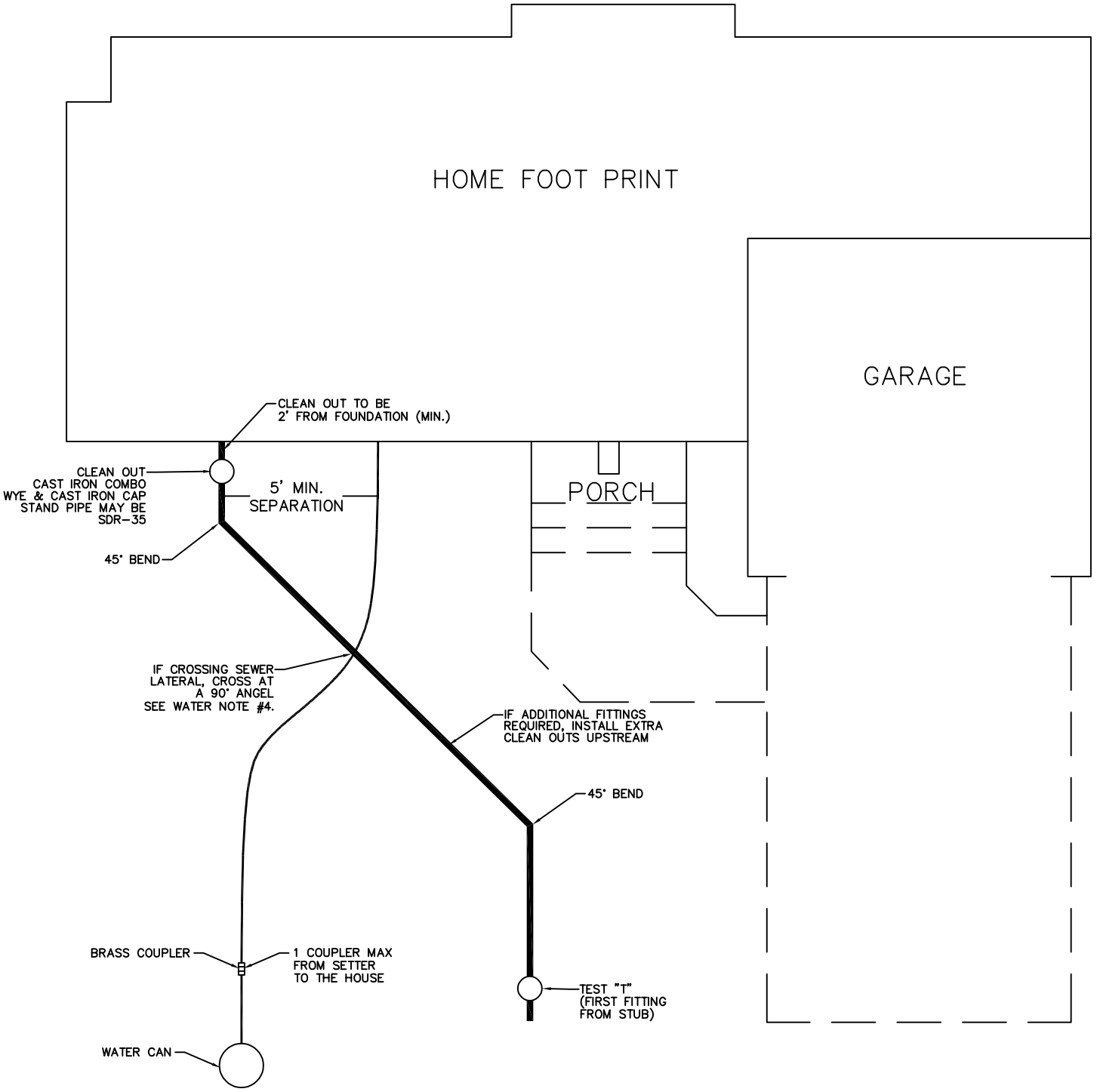
DRAWN RSB REVISED DEC. 2024 DATE APRIL 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR DETAILS TABLE OF CONTENTS	DRAWING NO. TC

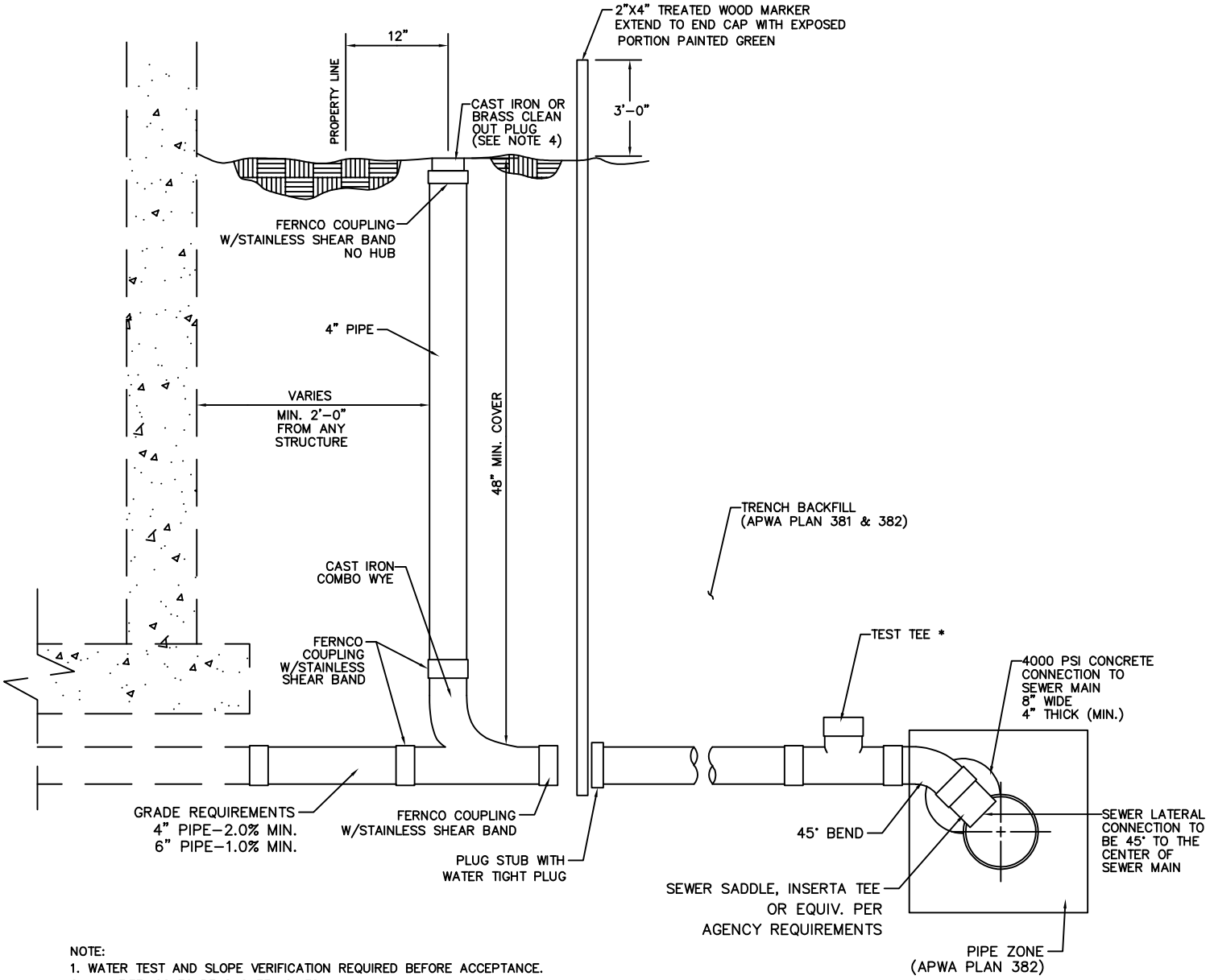
SEWER & WATER CONNECTION TO THE HOME



SEWER NOTES:
1. CLEAN OUTS ARE NOT ALLOWED UNDER ANY PERMANENT SURFACES, BAY WINDOWS, PORCHES, WINDOW WELLS, ETC.
2. WATER TEST REQUIRED.
3. 90° DEFLECTION (MAX.) PER CLEAN OUT.
4. 24" MIN. BETWEEN FITTINGS/BENDS.
5. 2% MIN. SLOPE WITH 4" PIPE.
6. MAXIMUM OF 100' BETWEEN MAIN & 1st CLEAN OUT.
7. 3/4" GRAVEL OR PEA GRAVEL REQUIRED 6" BELOW & TO THE SIDES & 12" ABOVE THE PIPE (MIN.)
8. LEANING CLEANOUT STAND PIPE OVER 5' NOT ALLOWED.
9. FERNCO COUPLERS WITH STAINLESS SHEAR BANDS ON ALL CAST IRON CLEAN OUTS.

WATER NOTES:
1. 48" MINIMUM COVER ON SERVICE LINE.
2. TAR IS REQUIRED TO SEAL THE HOLE IN THE FOUNDATION.
3. PLACE A-3 SAND AFTER METER ON WATER SERVICE.
4. MINIMUM 18" VERTICAL SEPARATION BETWEEN WATER LINE AND SANITARY SEWER.
5. NO COUPLERS ON CITY SIDE OF THE SETTER UNLESS FOLLOWING WATER CAN MOVE DETAIL.

DRAWN RSB REVISED APRIL 2024 DATE SEPT 2017 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR SEWER & WATER CONNECTION TO HOME	DRAWING NO. 1

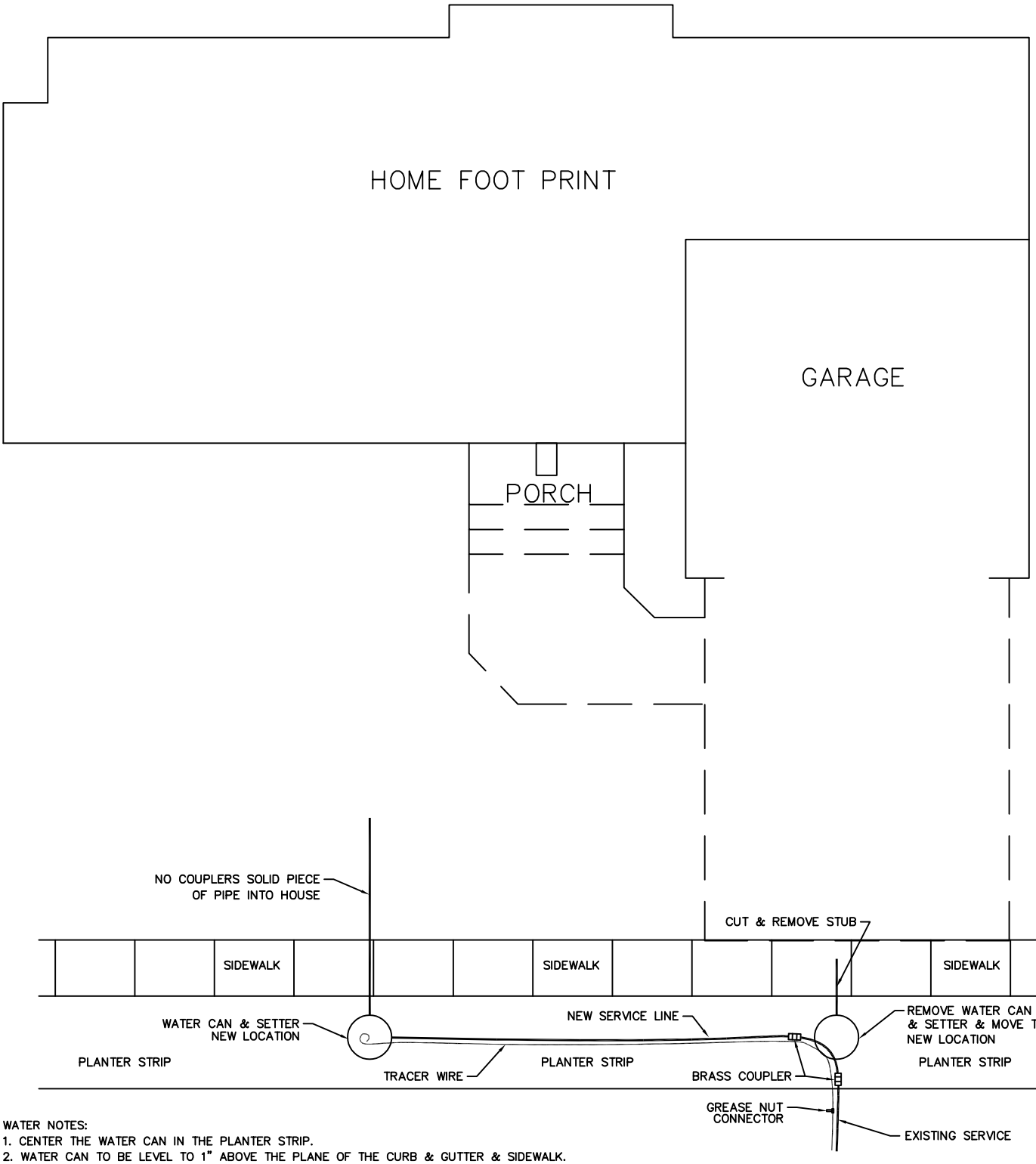


NOTE:
1. WATER TEST AND SLOPE VERIFICATION REQUIRED BEFORE ACCEPTANCE.
2. ALL FITTINGS TO BE GASKET JOINTS
3. 3/4" GRAVEL REQUIRED 6" BELOW & TO THE SIDES & 12" (MIN.) ABOVE THE PIPE.
4. ANY CLEANOUT INCASED IN CONCRETE OR ASPHALT WILL NEED A TRAFFIC RATED LID & COVER.

SEWER LATERAL SERVICE & CONNECTION TO EXISTING MAINLINE

DRAWN RSB REVISED APRIL 2024 DATE SEPT 2017 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR SEWER LATERAL SERVICE & CONNECTION	DRAWING NO. 2

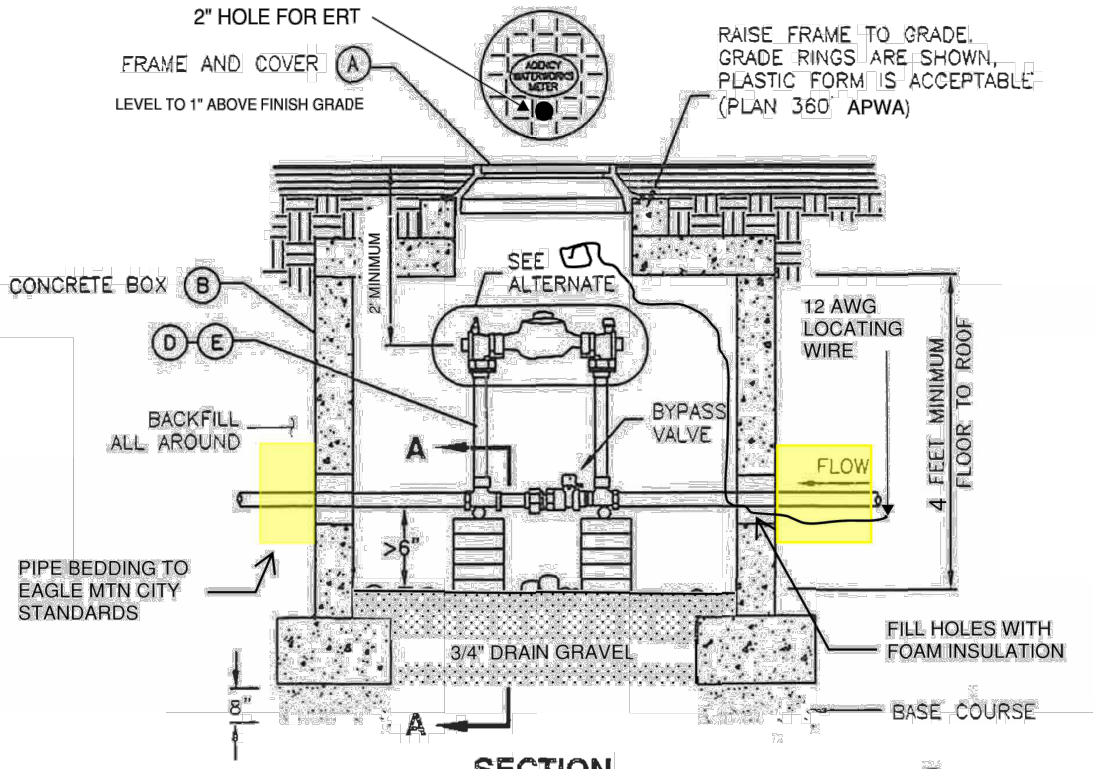
WATER CAN RELOCATE OUT OF DRIVEWAY



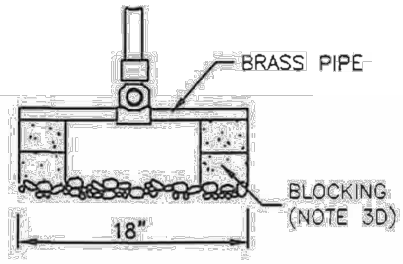
WATER NOTES:

1. CENTER THE WATER CAN IN THE PLANTER STRIP.
2. WATER CAN TO BE LEVEL TO 1" ABOVE THE PLANE OF THE CURB & GUTTER & SIDEWALK. (MONOLITHIC WALK THE CAN NEEDS TO BE A 2% SLOPE FROM THE SIDEWALK EDGE OR 1" ABOVE WALK.)
3. SETTER TO BE CENTERED IN THE WATER CAN AND 18" TO 22" FROM TOP OF SETTER TO TOP OF LID ON RING.
4. WATER CAN LID TO SAY EAGLE MOUNTAIN ON IT WITH 2" HOLE. SEE DETAIL WSC-1 (WATER CAN DETAIL).
5. IF CRIMPING OF THE POLY IS REQUIRED INSTALL COUPLER OVER CRIMPED AREA (1ST COUPLER).
6. BEDDING SAND TO MEET CITY STANDARDS REQUIRED TO BACK OF WALK.
7. BACK FILL WITH E-FILL & TEST TO BACK OF WALK.
8. CONNECT ONTO TRACER WIRE W/GREASE NUT & EXTEND INTO THE WATER CAN W/3' PIGTAIL.

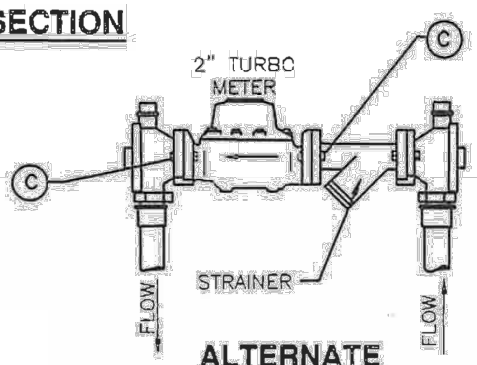
DRAWN RSB REVISED APRIL 2024 DATE SEPT 2017 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR WATER CAN RELOCATE	DRAWING NO. 3



SECTION



SECTION A-A



ALTERNATE

TURBO METER INSTALLATION (NOTE 1A)

NOTES:
1) SETTER CANNOT OBSTRUCT OPENING- USE LID WITH OFFSET HOLE.
2) ALL POLY PIPE TO BE RATED FOR 200 PSI AND CTS O.D.
3) CONCRETE COLLARS ARE REQUIRED IN GRASS OR IF PLASTIC FORM RISERS ARE USED. 12" OF RISE WITH GRADE RINGS / FORM MAX.
4) ALL PIPE BEDDING AND TRENCH FILL MUST MEET EAGLE MTN CITY STANDARDS.
5) A VISUAL POLY STIFFENER CHECK IS REQUIRED BEFORE FITTINGS ARE TIGHTENED.
6) BYPASS NOT ALLOWED ON STEERS USED FOR IRRIGATION (D/E)

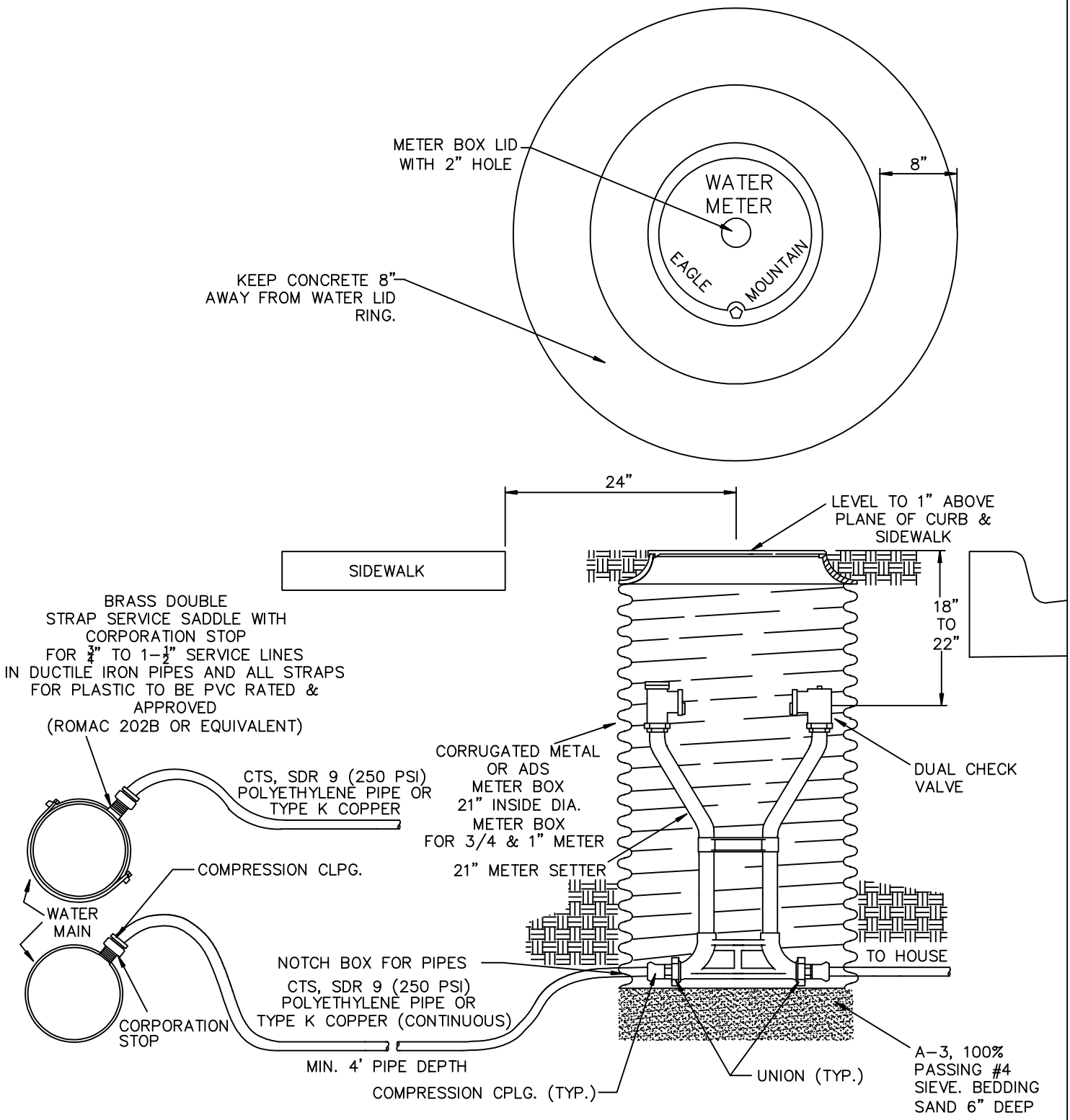
LEGEND			
No.	*	ITEM	DESCRIPTION
(A)		27" FRAME AND COVER	PLAN 502 APWA
(B)		CONCRETE BOX	4' X 4' X 4' MIN.
(C)		STAINLESS STEEL METER BOLTS	5/8" x 2 3/4" BRASS
(D)		1 1/2" CUSTOM SETTER WITH BYPASS	
(E)		2" CUSTOM SETTER WITH BYPASS	

* FURNISHED BY UTILITY AGENCY

NOTE: ALL MATERIALS MUST BE APPROVED THROUGH SUBMITTALS

1 1/2" and 2" meter

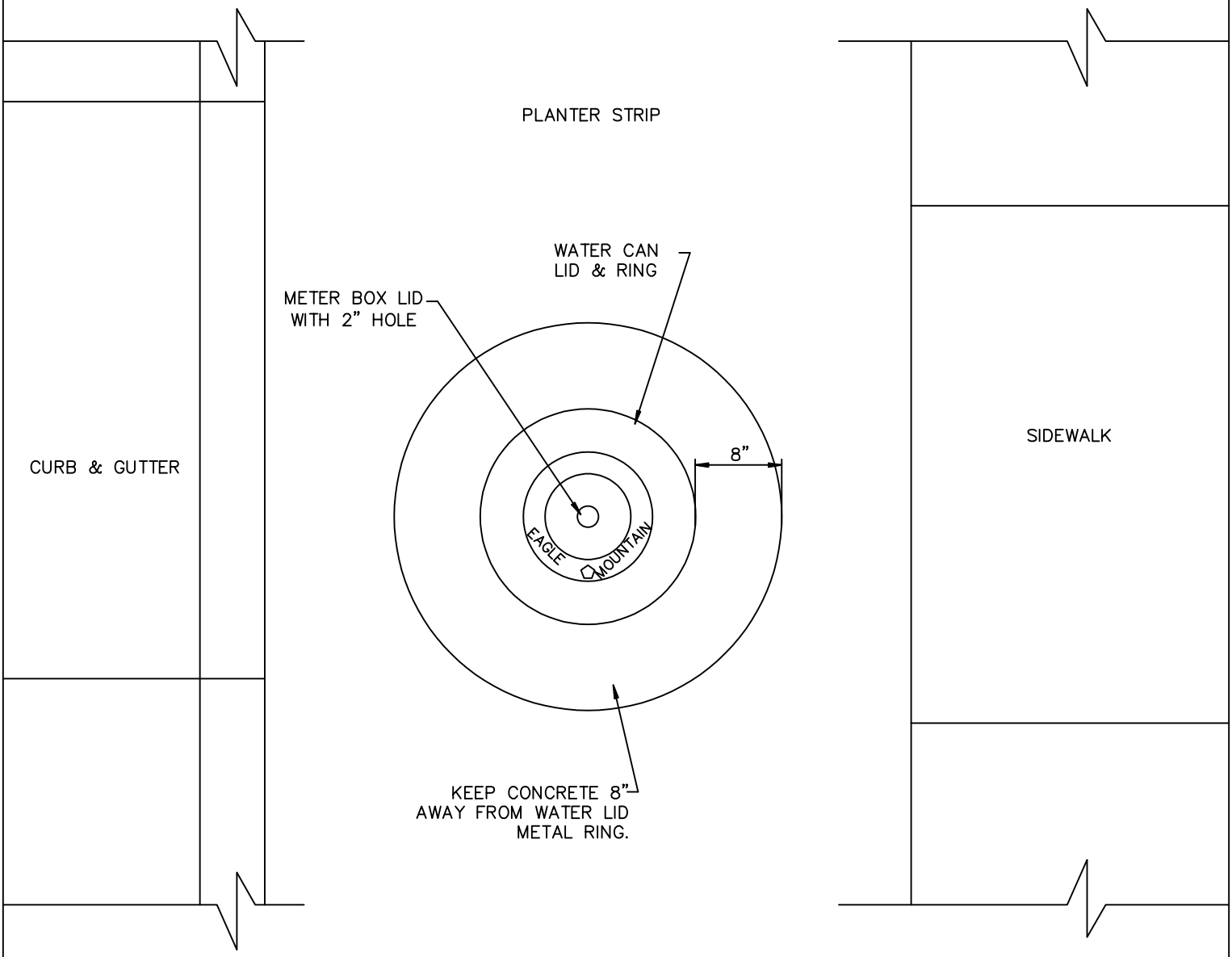
DRAWN RSB	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR	DRAWING NO.
REVISED AUG. 2024			1 1/2" AND 2" METER	4
DATE APRIL 2024				
SCALE N.T.S.				



WATER SERVICE LINES AND METER BOX

NOTE: 1.5" AND LARGER WATER METER SHALL CONFORM TO STANDRAD FOR LARGE METERS. SEE DRAWING #LCM-1

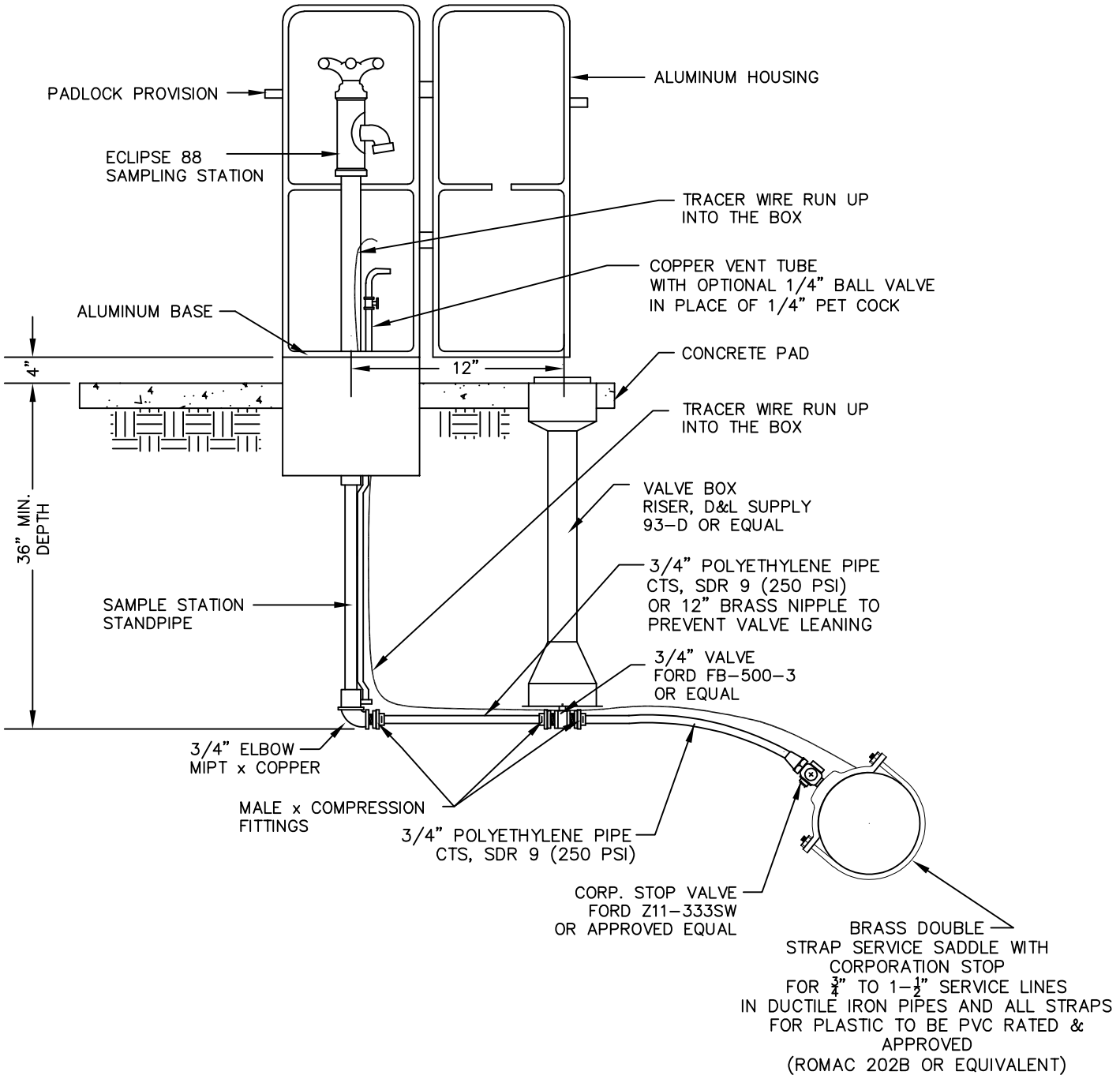
DRAWN RSB REVISED APRIL 2024 DATE NOV 2015 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR WATER LINE, SETTER & CAN	DRAWING NO. 5



NOTE:

1. WATER CAN TO BE CENTERED IN THE PARK STRIP.

DRAWN RSB REVISED APRIL 2024 DATE JAN 2018 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR NO CONCRETE AROUND WTR CAN LID	DRAWING NO. 6



ONE SAMPLE STATION REQUIRED IN EACH RESIDENTIAL DEVELOPMENT AND A MINIMUM OF ONE SAMPLING STATION PER 100 LOTS.

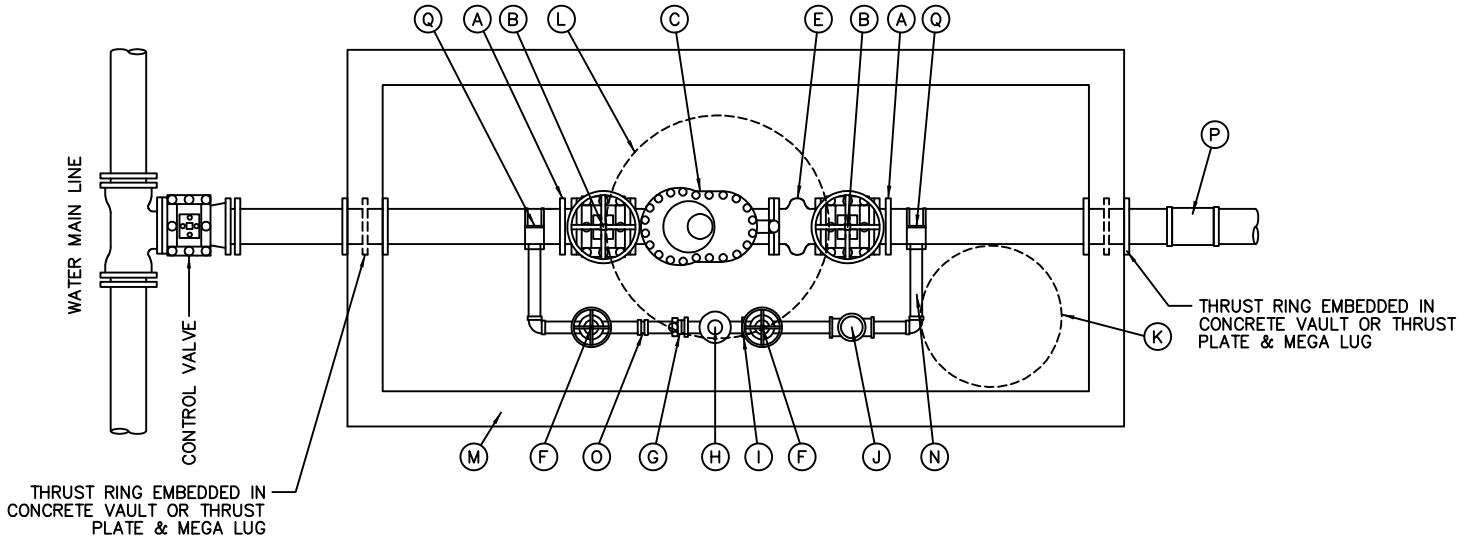
1. LOCATION: Sample stations to be located on a lot line, in the park strips between curb and sidewalk as shown on plan or as directed. Concrete pad to placed around Sampling station from sidewalk to back of curb 4' wide.

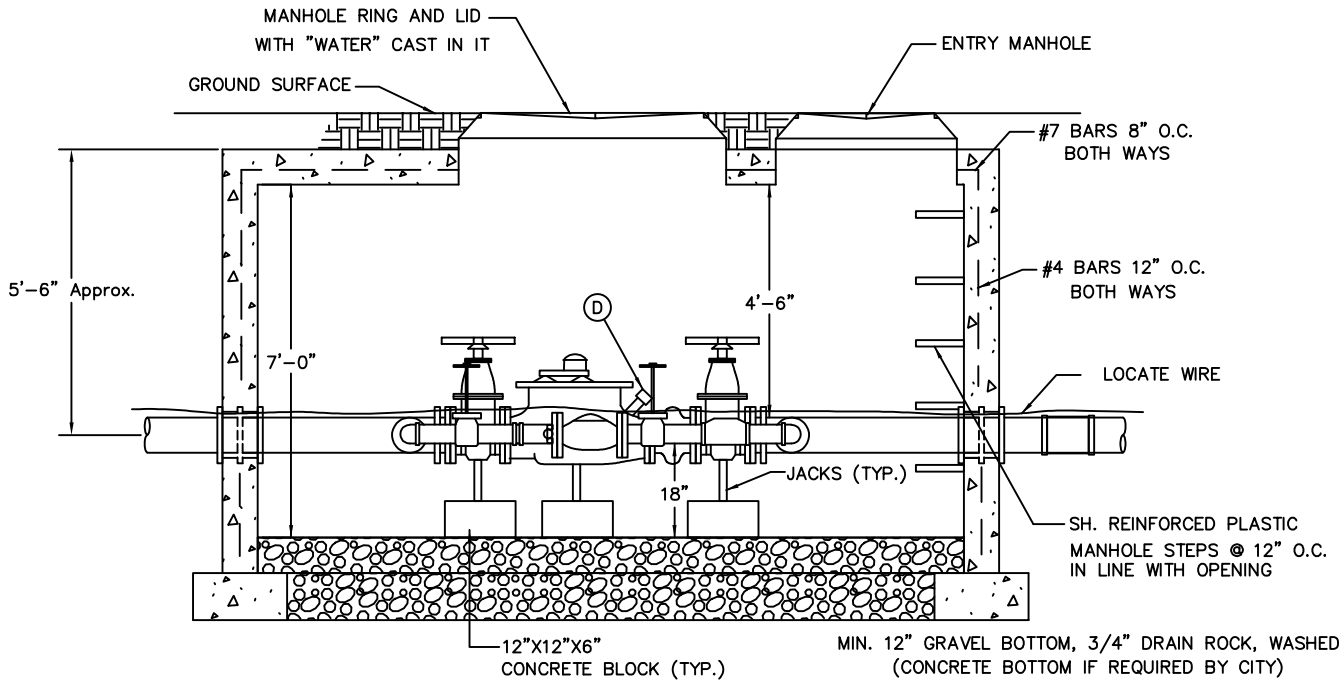
2. INSPECTION: Prior to backfilling around the assembly, secure inspection of installation by ENGINEER.

3. SMALL FITTINGS: Provide brass fittings and nipples if not specified otherwise.

4. A-3 sand required 6" below to the sides & 12" above (min.) of the pipe.

DRAWN RSB REVISED APRIL 2024 DATE MAY 2015 SCALE VARIES	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR WATER SAMPLING STATION	DRAWING NO. 7





LEDGEND

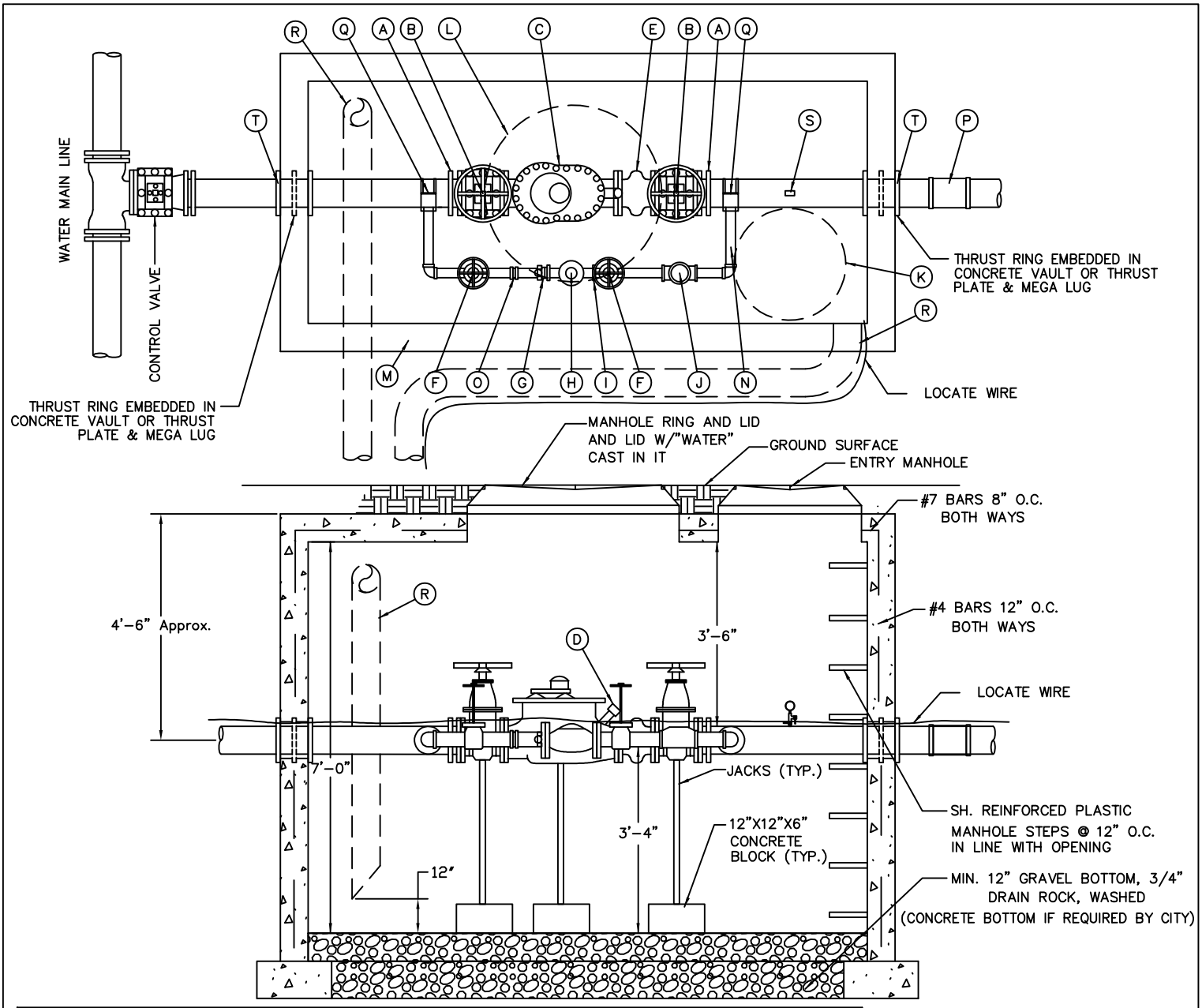
LTR	*	ITEM	DESCRIPTION
A		3" OR 4" FLANGE X P.E. D.I.P. SPOOL W/2" HOLE 9" F.F.E ON TOP	SMITH-BLAIR FLANGE COUPLING
B		3" OR 4" GATE VALVE WITH HAND WHEEL	
C		3" OR 4" COMPOUND METER	SENSUS OMNI
D		2" TEST ASSEMBLY	
E		3" OR 4" CHECK VALVE	
F		2" GATE VALVE (BRONZE)	
G		2" METER FLANGE	
H	*	2" DISPLACEMENT METER	
I		2" MALE METER FLANGE	
J		2" CHECK VALVE (BRONZE)	
K		27" FRAME & COVER, MANHOLE	APWA, PLAN 502
L		38" FRAME & COVER, MANHOLE W/2" HOLE FOR E.R.T.	APWA, PLAN 503
M		CONCRETE BOX (VAULT) DIMENSIONS ONLY	APWA, PLAN 505
N		BRASS PIPING	
O		2" BRASS UNION	
P		MJ SLEEVE	
Q		BRASS SADDLE	

* FURNISHED BY AGENCY

NOTE:

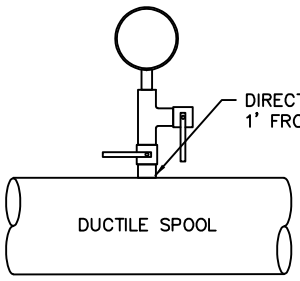
1. ALL 4" PIPE TO BE D.I.
2. ALL 2" PIPE TO BE BRASS/COPPER.
3. THIS DRAWING SHOWS A 4" METER, OTHER SIZES WILL BE SIMILAR.
4. BYPASS REQUIRED ON ALL METERS 2" AND LARGER.
5. NUTS & BOLTS REQUIRED TO BE STAINLESS STEEL W/ANTI SEIZE THREAD COMPOUND.

DRAWN RSB REVISED APRIL 2024 DATE MAY 2017 SCALE VARIES	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR LARGE COMPOUND METER W/2" BYPASS 3" OR 4" METER	DRAWING NO. 8



LEDGEND			
LTR		ITEM	DESCRIPTION
A		6" OR 8" FLANGE X P.E. D.I.P. SPOOL W/2" HOLE 9" F.F.E ON TOP	SMITH-BLAIR FLANGE COUPLING
B		6" OR 8" GATE VALVE WITH HAND WHEEL	
C		6" OR 8" COMPOUND METER W/INTERNAL STRAINER	SENSUS OMNI C-2
D		2" TEST ASSEMBLY	
E		6" OR 8" CHECK VALVE	
F		2" GATE VALVE (BRONZE)	
G		2" METER FLANGE	
H	*	2" DISPLACEMENT METER	
I		2" MALE METER FLANGE	
J		2" CHECK VALVE (BRONZE)	
K		27" FRAME & COVER, MANHOLE	PLAN 502
L		38" FRAME & COVER, MANHOLE W/2" HOLE FOR E.R.T.	PLAN 503
M		CONCRETE BOX (VAULT) DIMENSIONS ONLY	PLAN 505
N		BRASS PIPING	
O		2" BRASS UNION	
P		MJ SLEEVE	
Q		BRASS SADDLE	
R		VENT PIPES	
S		3/4" BRASS TEE, 2 BALL VALVES, & OIL FILLED PRESSURE GAUGE	
T		1/4" STEEL PLATE W/MEGA-LUG AGAINST VAULT WALL OR THRUST RING EMBEDDED IN VAULT WALL	

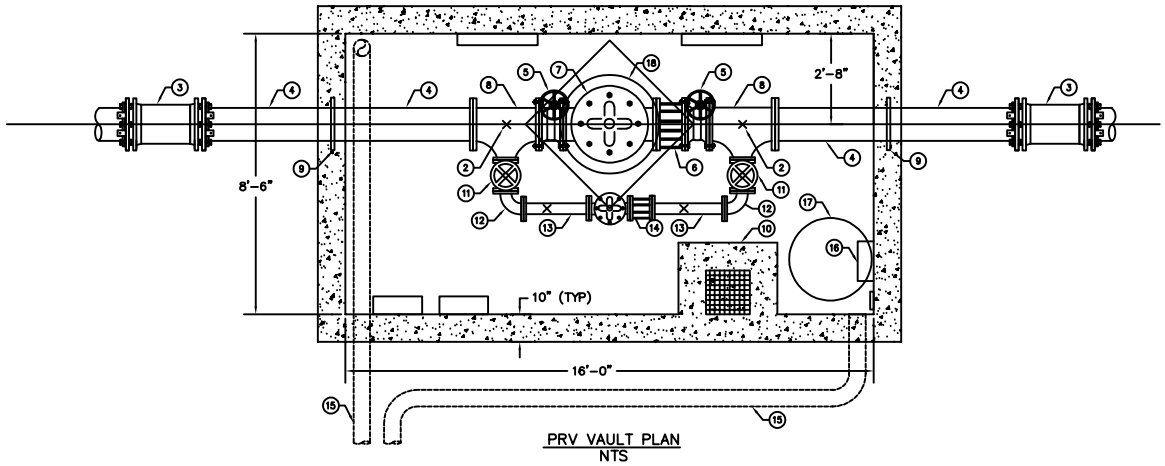
* FURNISHED BY AGENCY



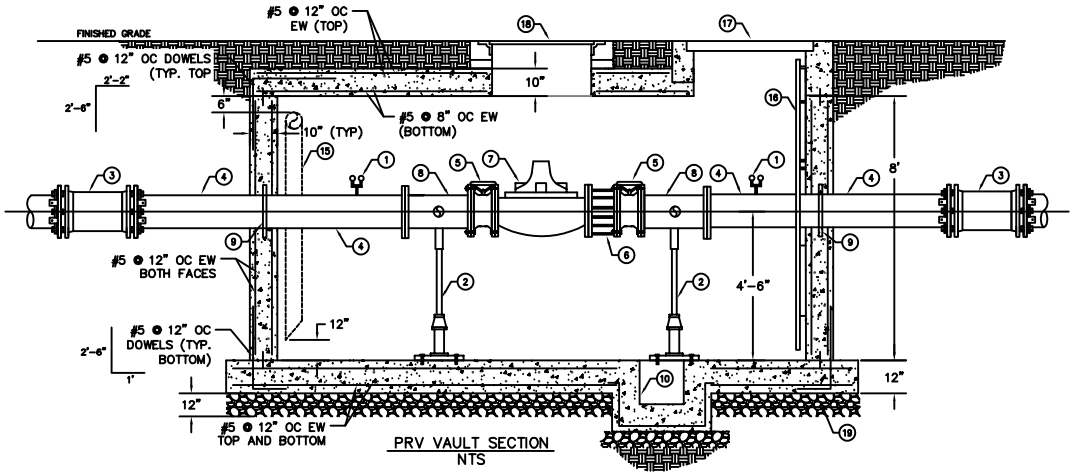
GAUGE DETAIL
SEE LTR "S"

NOTE:
1. ALL 6" OR 8" PIPE TO BE D.I.
2. ALL 2" PIPE TO BE BRASS/COPPER.
3. THIS DRAWING SHOWS A 6" METER, OTHER SIZES WILL BE SIMILAR.
4. BYPASS REQUIRED ON ALL METERS 2" AND LARGER.
5. NUTS & BOLTS REQUIRED TO BE STAINLESS STEEL W/ANTI SEIZE THREAD COMPOUND.

DRAWN RSB REVISED APRIL 2024 DATE FEB 2020 SCALE VARIES	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR LARGE COMPOUND METER W/2" BYPASS 6" OR 8" METER	DRAWING NO. 9



PRV VAULT PLAN
NTS



PRV VAULT SECTION
NTS

VALVE AND EQUIPMENT SCHEDULE				
ITEM	SIZE	DESCRIPTION	QTY	ENDS
1	--	PRESSURE GAGE LIQUID FILLED WITH BRASS VALVE, NIPPLES AND HOSE BIB	2	THREADED
2	--	PIPE SUPPORT	2	--
3	12"	DI LONG BODY SLEEVE WITH MEGALUG FOLLOWERS	2	--
4	12"	DI SPOOL	2	MJXFL
5	12"	200# ANSI FLANGE BUTTERFLY VALVE WITH HANDWHEEL	2	FLANGED
6	12"	DISMANTLING JOINT	1	FLANGED
7	12"	PRESSURE REDUCING VALVE	1	FLANGED
8	12"X4"	TEE	2	FLANGED
9	12"	THRUST RING	2	--
10	16"	16" SQUARE AND DEEP CONCRETE SUMP PIT WITH FIBERGLASS GRATING.	1	--
11	4"	200# ANSI FLANGE BUTTERFLY VALVE WITH HANDWHEEL	2	--
12	4"	90° DIP BEND	2	FLANGED
13	4"	DI SPOOL	2	FLANGED
14	4"	DISMANTLING JOINT	2	FLANGED
15	6"	SCHEDULE 80 PVC PASSIVE VENT PIPING OUT THE SIDE	2	--
16	--	GALVANIZED LADDER	1	--
17	30"	H-20 RATED MANHOLE FRAME, COVER, & GRADE RING.	1	--
18	36"	H-20 RATED MANHOLE FRAME, COVER, & GRADE RING. CENTER OVER 12" PRV.	1	--
19	--	UNTREATED BASE COURSE MATERIAL	-	--

NOTE: ALL NUTS AND BOLTS TO BE CORROSION FREE, I.E. STAINLESS STEEL W/ANTI SEIZE THREAD COMPOUND.

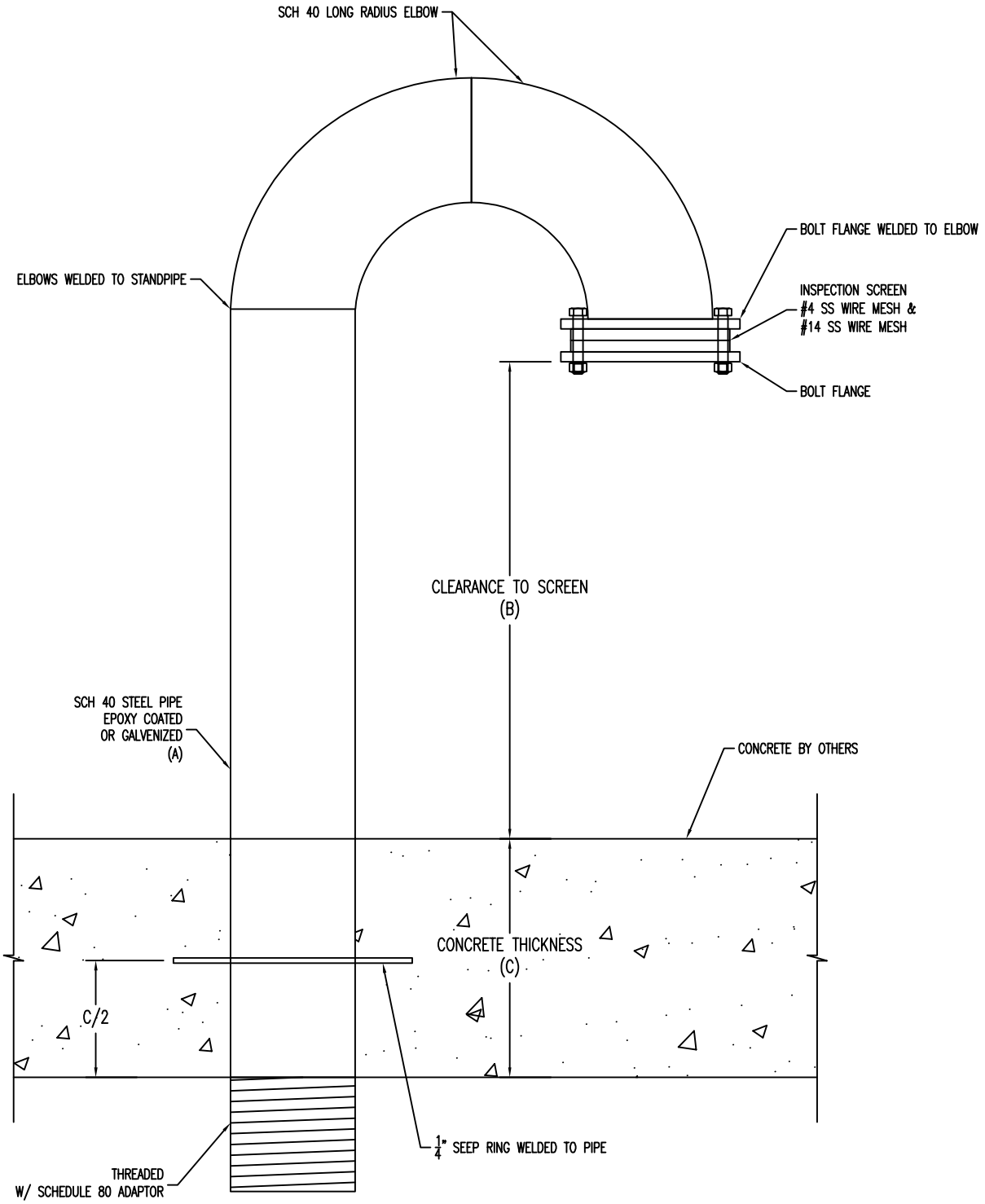
DRAWING NO. 10

STANDARD DETAILS FOR

WATER PRV & VAULT

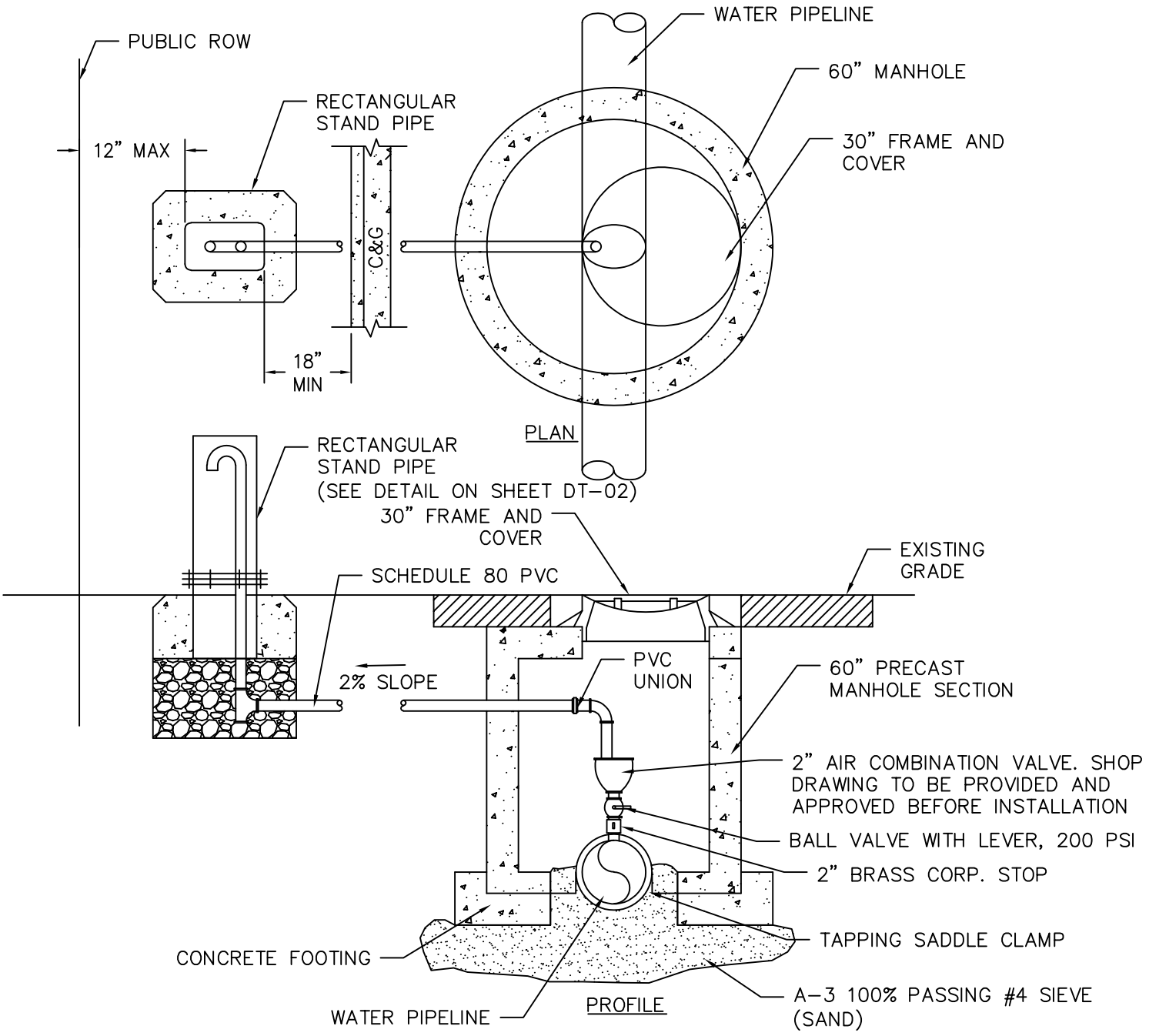
EAGLE MOUNTAIN CITY

DRAWN RSB
REVISED APRIL 2024
DATE MARCH 2016
SCALE VARIES



VENT PIPE DIMENSIONS		
PIPE SIZE (A)	CLEARANCE TO SCREEN (B)	CONCRETE THICKNESS (C)
6"	24"	6"

DRAWN RSB REVISED APRIL 2024 DATE NOV 2015 SCALE VARIES	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR CAST IN PLACE VENT PIPE DETAIL	DRAWING NO. 11



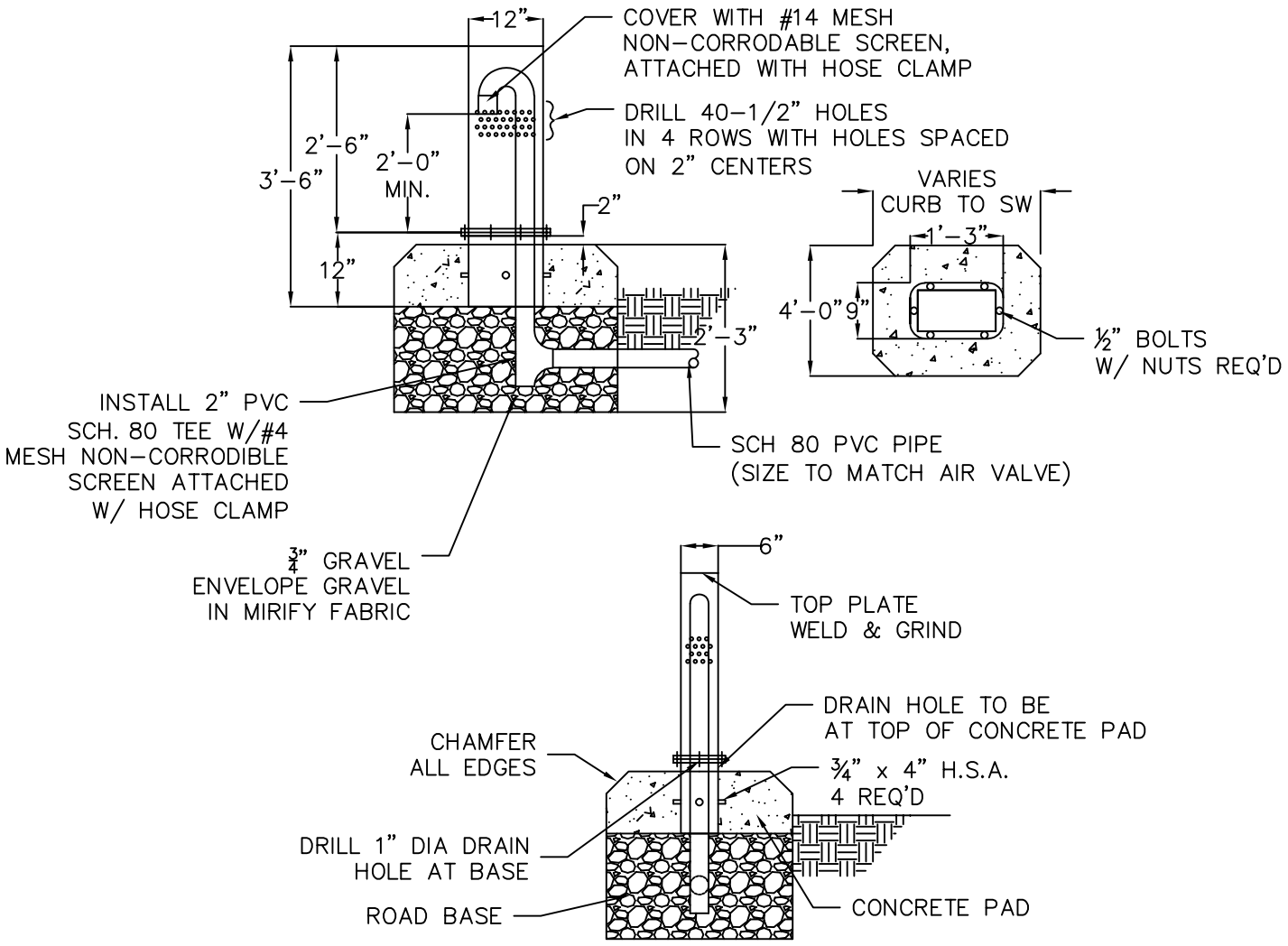
1. AIR VALVE STRUTURE: PLACE AIR VALVE STRUCTURE AT LOCATIONS SHOWN ON PLANS

2. AIR VENT STANDPIPE: LOCATE STAND PIPE BEHIND CURB OR OUTSIDE OF ROADWAY PAVEMENT

3. INSPECTION; PRIOR TO BACKFILLING AROUND ASSEMBLY, SECURE INSPECTION OF INSTALLATION BY PROJECT REPRESENTATIVE

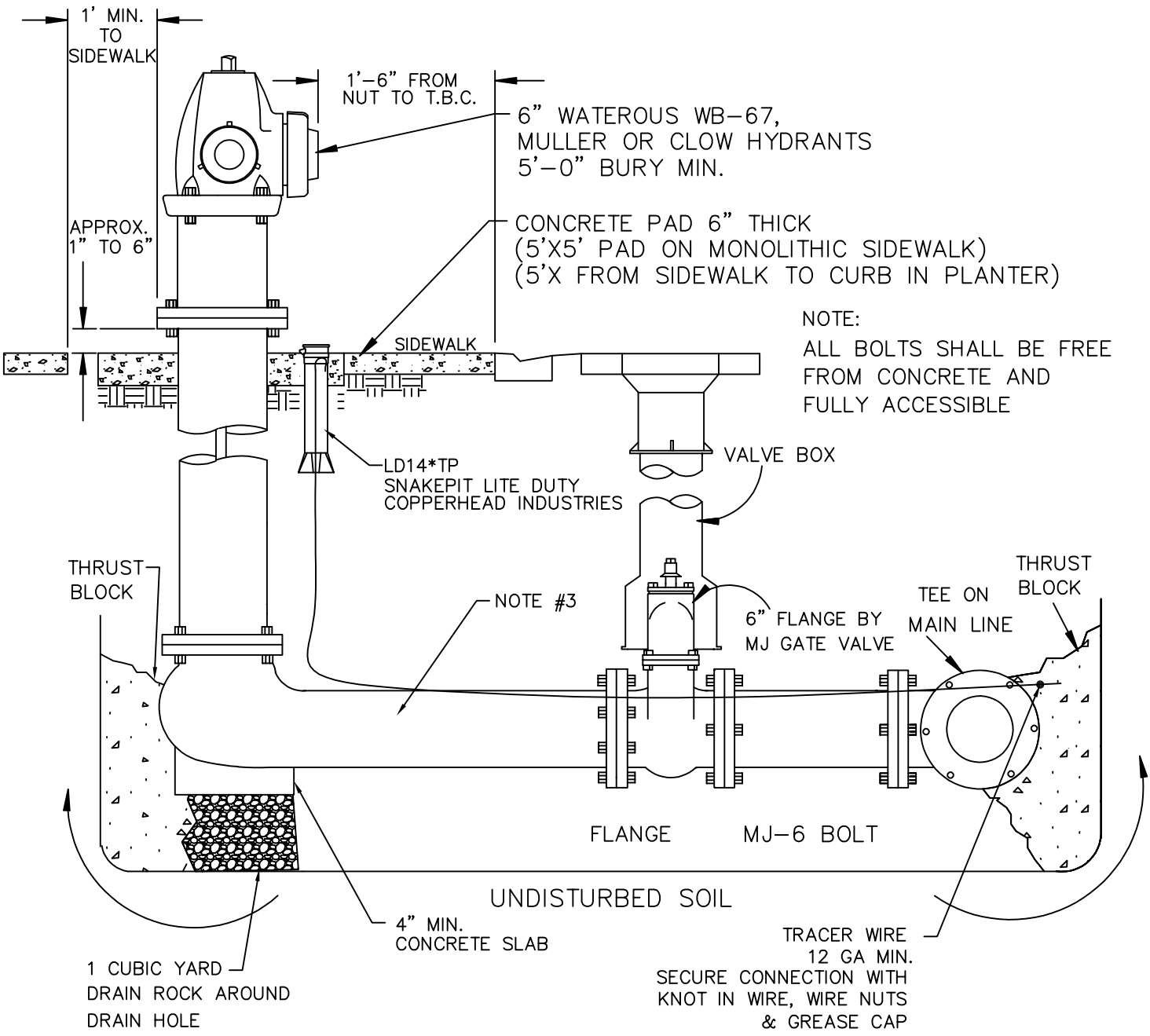
4. BACKFILL: INSTALL AND COMPACT BACKFILL MATERIAL PER SPECIFICATION

DRAWN RSB REVISED APRIL 2024 DATE MARCH 2016 SCALE VARIES	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR WATER AIR VAC	DRAWING NO. 12



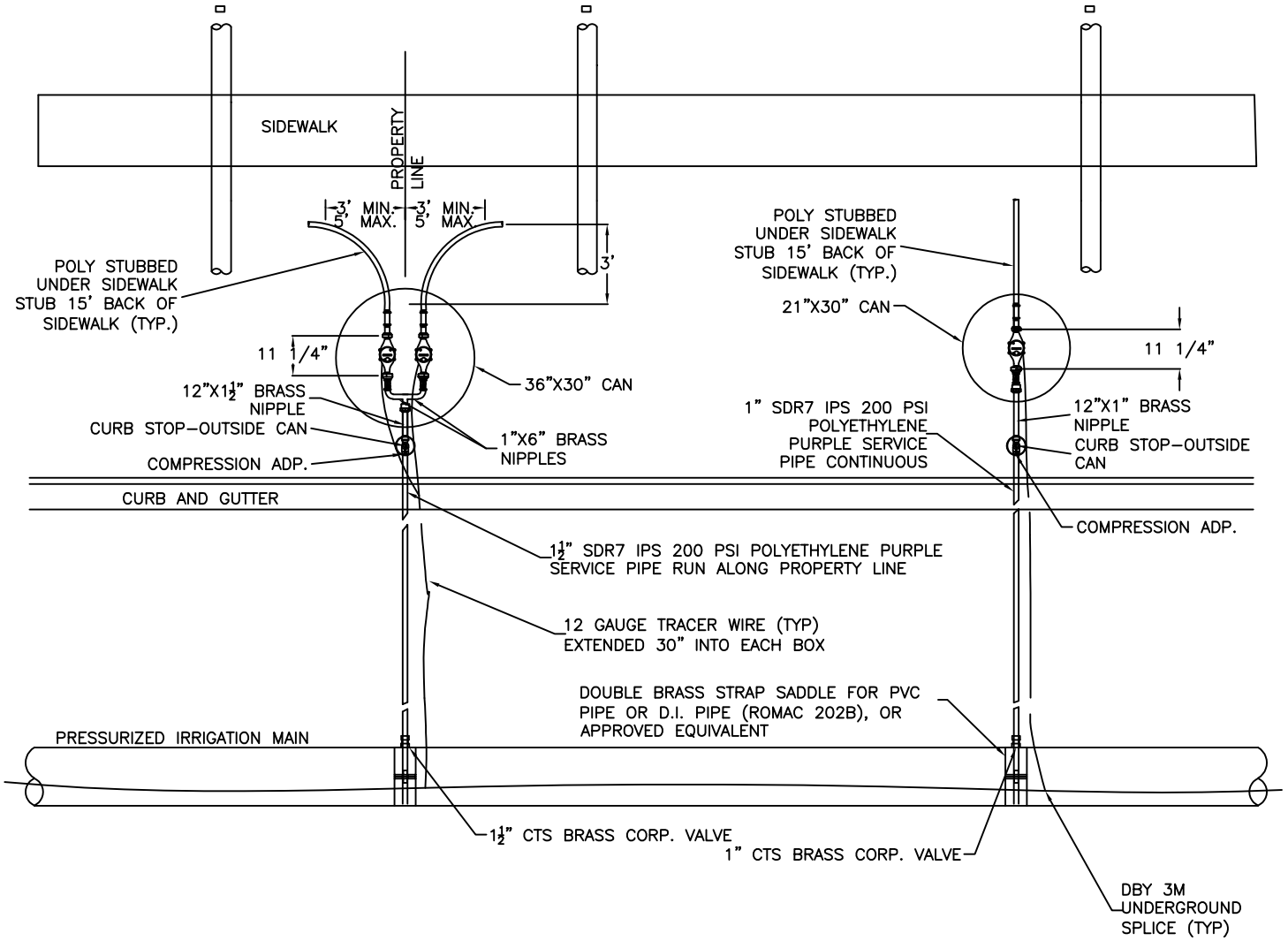
1. LOCATION: LOCATE STANDPIPE BEHIND CURB OR OUTSIDE OF ROADWAY AS SHOWN ON PLANS OR AS REQUIRED
2. INSPECTION: PRIOR TO BOLTING VENT CAP OVER ASSEMBLY, SECURE INSPECTION OF INSTALLATION BY EAGLE MOUNTIAN CITY
3. FABRICATION: FABRICATE FROM ¼" STEEL PLATE.
4. GALVANIZE: HOT DIP GALVANIZE AFTER FABRICATION

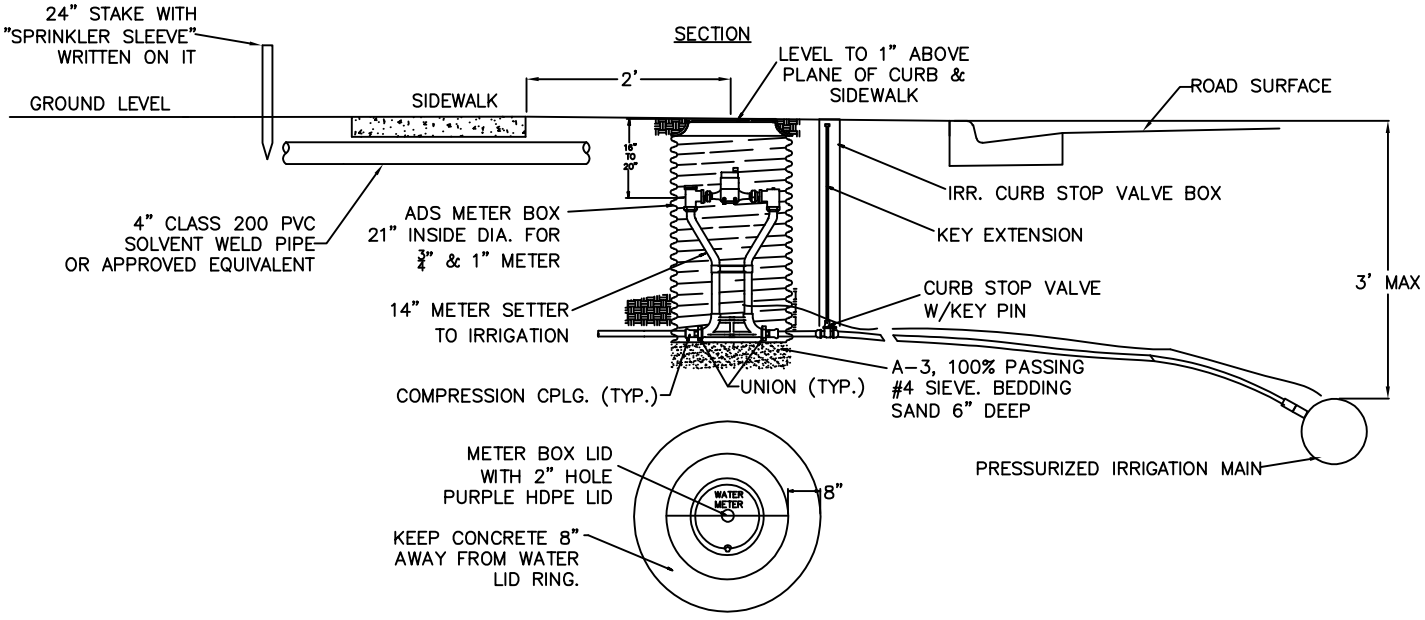
DRAWN RSB REVISED APRIL 2024 DATE MARCH 2016 SCALE VARIES	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR WATER AIR VAC VENT	DRAWING NO. 13



NOTES:
1. VALVE TO BE PLACED IN ASPHALT W/CONCRETE RING
2. TRACER WIRE TO BE RUN UP HYDRANT BARREL IN 1" CONDUIT.
3. THERE WILL BE NO SERVICE TAPS ALLOWED ON THE FIRE LINES.

DRAWN RSB REVISED APRIL 2024 DATE NOV 2015 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR FIRE HYDRANT & VALVE	DRAWING NO. 14

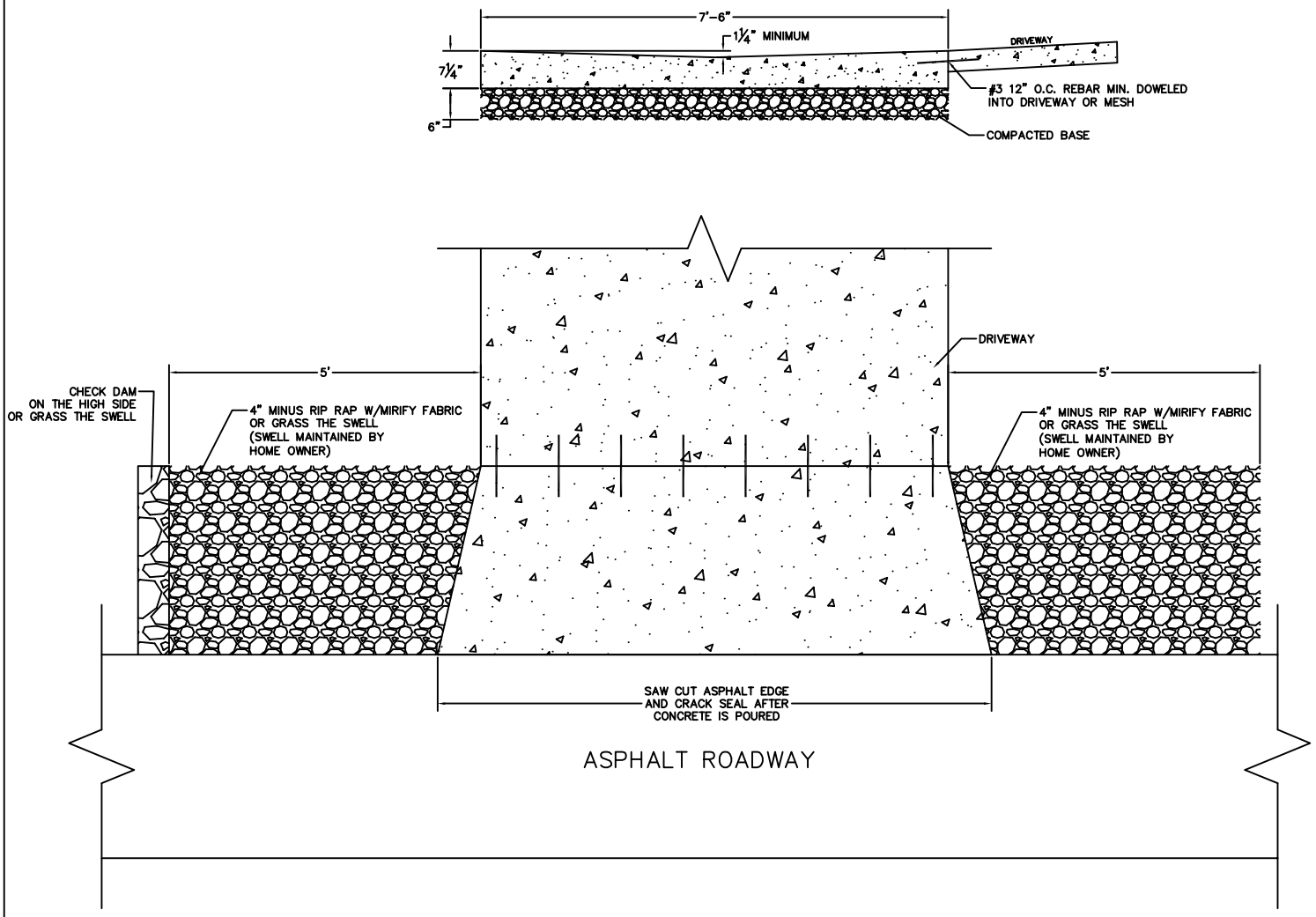




NOTES:

1. STANDARD SERVICE SIZE SHALL BE 1"FOR DUAL SERVICES AND FOR SINGLE SERVICES.
2. STAINLESS STEEL LINER INSERTS WILL BE REQUIRED INSIDE OF TUBING AT COMPRESSION FITTINGS.
3. ALL FITTINGS SHALL BE COMPATIBLE WITH SERVICE SIZE.
4. SERVICE LATERAL SHALL SLOPE TOWARDS PRESSURIZED IRRIGATION MAIN.
5. SPRINKLER SLEEVE SHALL NOT BE IN LINE WITH ANY UTILITY BOXES.
6. 4" SLEEVE SHALL BE BURIED 1' BELOW GRADE.
7. ¾" & 1" METER INSTALLED BY EAGLE MOUNTAIN CITY.
8. 1½" OR LARGER METER SEE CULINARY VAULT DETAIL.

DRAWN RSB REVISED APRIL 2024 DATE NOV 2023 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR 1" SINGLE & DUAL SERVICE LATERALS	DRAWING NO. 15



DRAWN RSB REVISED APRIL 2024 DATE SEPT 2020 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR DRIVE APPROACH WATERWAYS	DRAWING NO. 16

SIDEWALK AGAINST CURB DRIVEWAY REQUIREMENTS FOR ADA COMPLIANCE

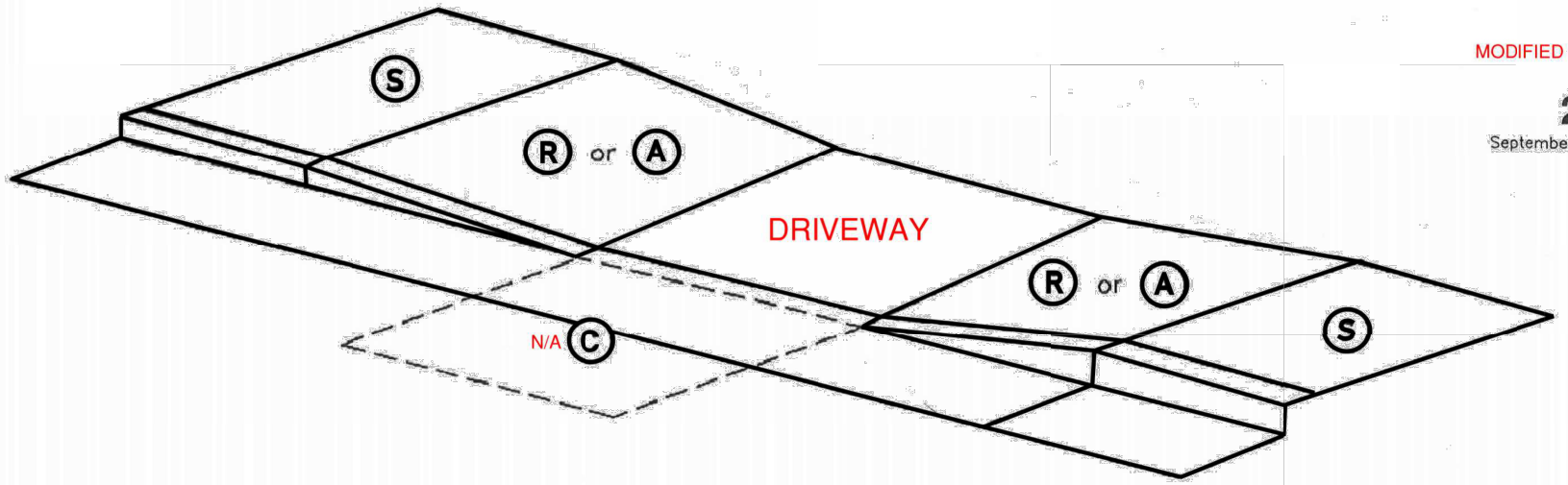
		RUNNING SLOPE (%) MAXIMUM	CROSS SLOPE (%) MAXIMUM
DRIVEWAY		STREET GRADE	2
CURB RAMP	(R)	8.33	2
~~CLEAR SPACE~~	~~(C)~~	~~5~~	~~STREET GRADE~~
SIDEWALK	(S)	STREET GRADE	2
APPROACHE	(A)	8.33	2

N/A

(a) RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE OF FLARE IS PARALLEL TO BACK OF CURB

(b) CROSS SLOPE IS PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAVEL

SLOPE TABLE



MODIFIED FROM APWA Plan 236.3 September 2011

EXAMPLE 5

DRAWING NO. 17

STANDARD DETAILS FOR ADA FOR DRIVEWAYS

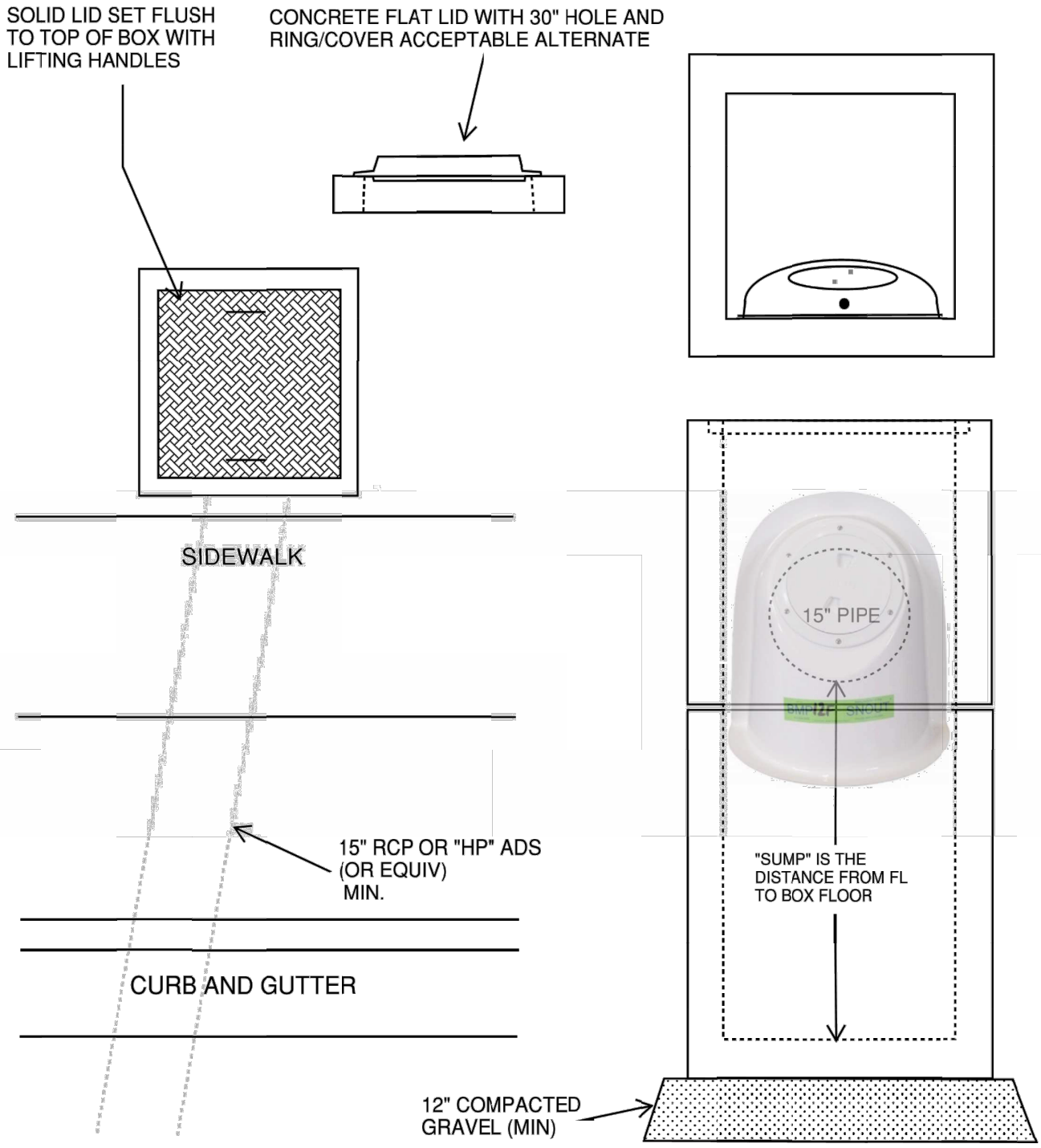
EAGLE MOUNTAIN CITY

DRAWN RSB

REVISED APRIL 2024

DATE MARCH 2024

SCALE N.T.S.

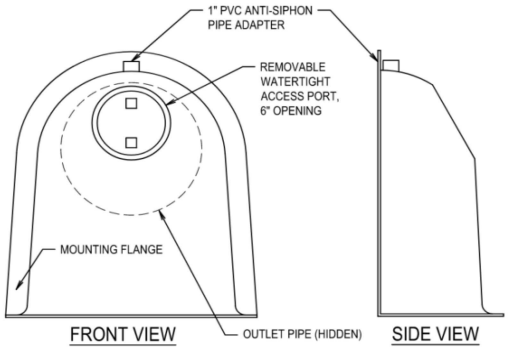


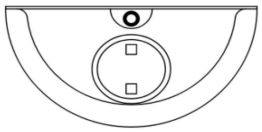
ISOLATION BOX WITH "SNOUT" OIL / WATER SEPARATOR (OR EQUIV)

NOTES:

1) SUMP TO BE 2.5 TO 3 TIMES I.D. OF OUTLET PIPE.
2) 3' X 3' I.D. BOX MINIMUM. (T.B.D BY PIPE SIZE)
3) BOX BASE SECTION MAY BE NEEDED TO MEET SUMP REQ'S.
4) BOX, PIPE AND ALL MATERIALS MUST MEET EMC CONSTRUCTION STANDARDS.
5) BOX, PIPE AND ALL MATERIALS MUST BE ACCEPTED THROUGH THE SUBMITTAL PROCESS BEFORE INSTALLATION.
6) ALL STORM DRAIN UPSTREAM UP ISOLATION BOX CONSIDERED PRIVATE AND NOT MAINTAINED BY EAGLE MTN CITY.

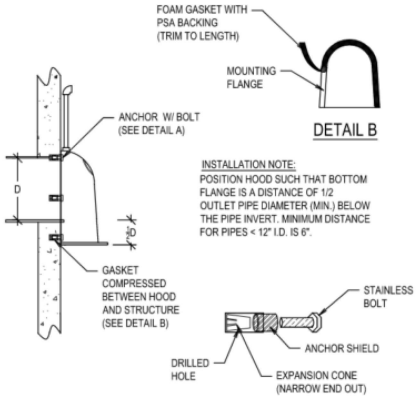
DRAWN RSB REVISED APRIL 2024 DATE MARCH 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR ISO BOX W/SNOUT SHT. #1	DRAWING NO. 18





PLAN VIEW

SNOUT CONFIGURATION



DETAIL A

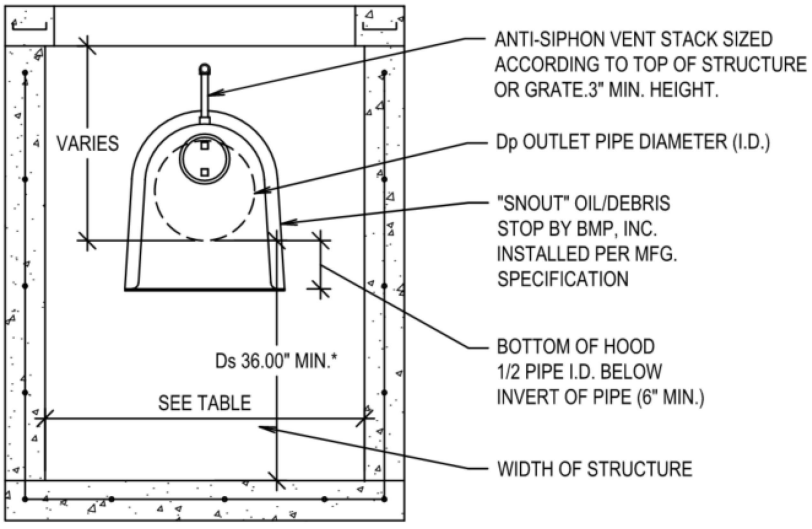
SPECIFICATIONS:

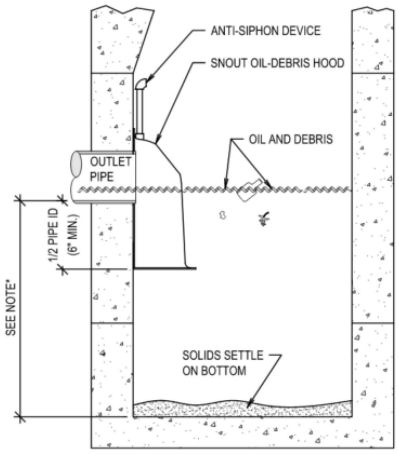
1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
   BEST MANAGEMENT PRODUCTS, INC.
   53 MT. ARCHER RD.
   LYME, CT 06371
   (860) 434-0277, (860) 434-3195 FAX
   TOLL FREE: (800) 504-8008 OR (888) 354-7585
   WEB SITE: www.bmpinc.com
   OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED
   SMOOTH AND FREE OF LOOSE MATERIAL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8' STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
   INSTALLATION KIT SHALL INCLUDE:
   A. INSTALLATION INSTRUCTIONS
   B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
   C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
   D. 3/8" STAINLESS STEEL BOLTS
   E. ANCHOR SHIELDS

SIZING EXAMPLES:

OUTLET HOLE SIZE	SNOUT SIZE	STRUCTURE SIZE
11.9" O.D. OR LESS	12 F or R	R FITS 36"-48" DIAM STRUCTURE
12.0"-17.9" O.D.	18 F or R	R FITS 48"-60" DIAM STRUCTURE
18.0"-23.9" O.D.	24 F or R	R FITS 48"-60" DIAM STRUCTURE
24.0"-29.9" O.D.	30 F or R	R FITS 60"-72" DIAM STRUCTURE
30.0"-47.9" O.D.	48 F	
30.0"-53.9" O.D.	54R/72	FITS 72" DIAM STRUCTURE ONLY
48.0"-95.9" O.D.	96 F	

NOTE: USE ONLY "F" SERIES SNOUTS FOR RECTANGULAR OR SQUARE STRUCTURES, AVAILABLE IN 12", 18", 24", 30", 48", AND 96" SIZES. USE ONLY "R" SERIES SNOUTS FOR ROUND STRUCTURES, AVAILABLE IN 12", 18", 24", 30", AND 54" SIZES.





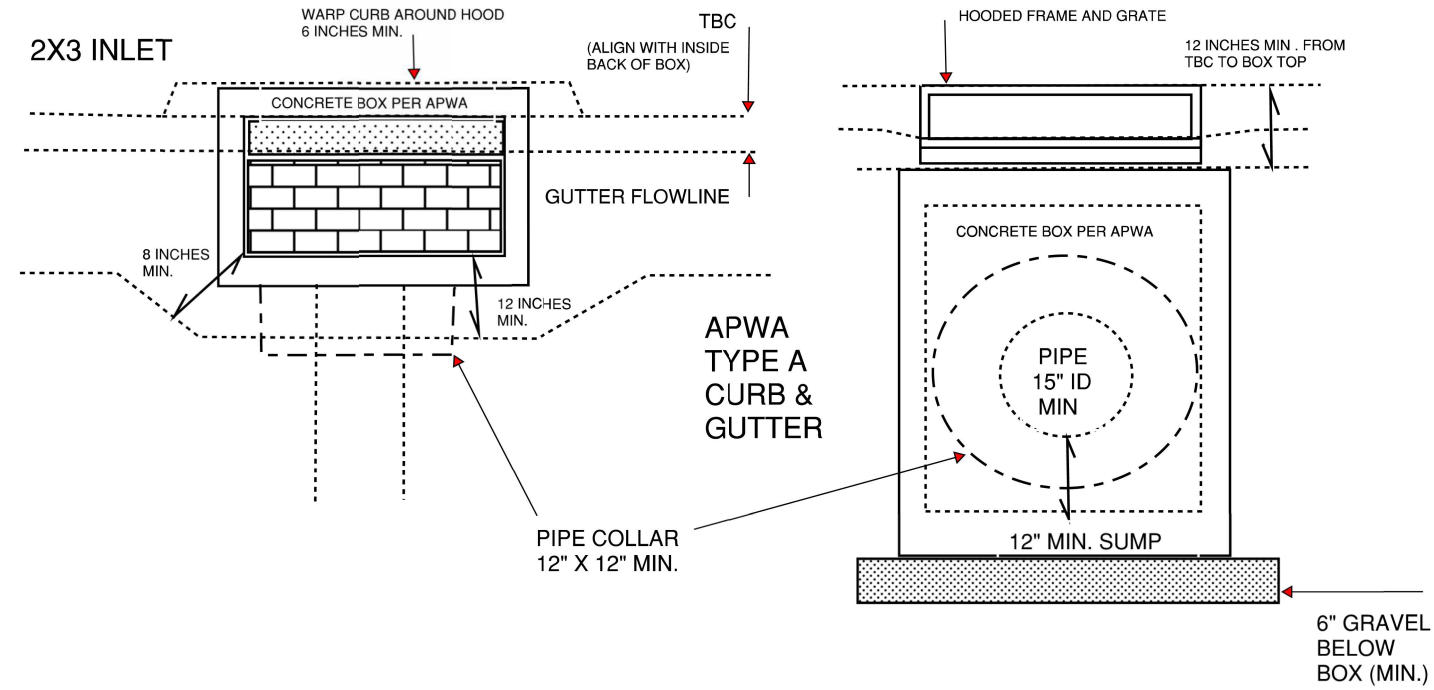
NOTE:
SUMP DEPTH OF 36" MIN. FOR < OR= 12" DIA. OUTLET.
FOR OUTLETS >OR= 15", DEPTH = 2.5 TO 3 X's DIAM.

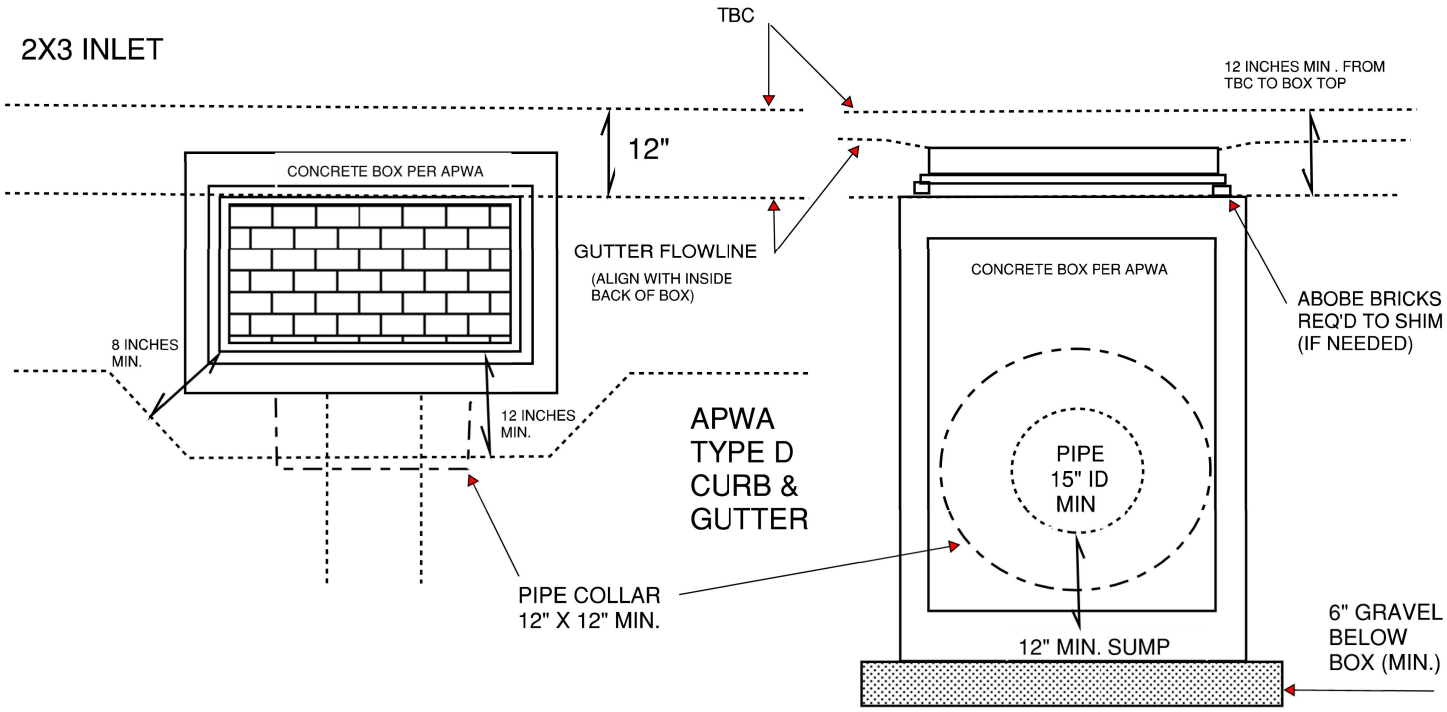
TYPICAL INSTALLATION

US Patent # 6126817

HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES		
DESCRIPTION	DATE	SCALE
OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	09/08/00	NONE
	DRAWING NUMBER	
	SP-SN	

DRAWN RSB REVISED APRIL 2024 DATE MARCH 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR ISO BOX W/SNOUT SHT. #2	DRAWING NO. 19

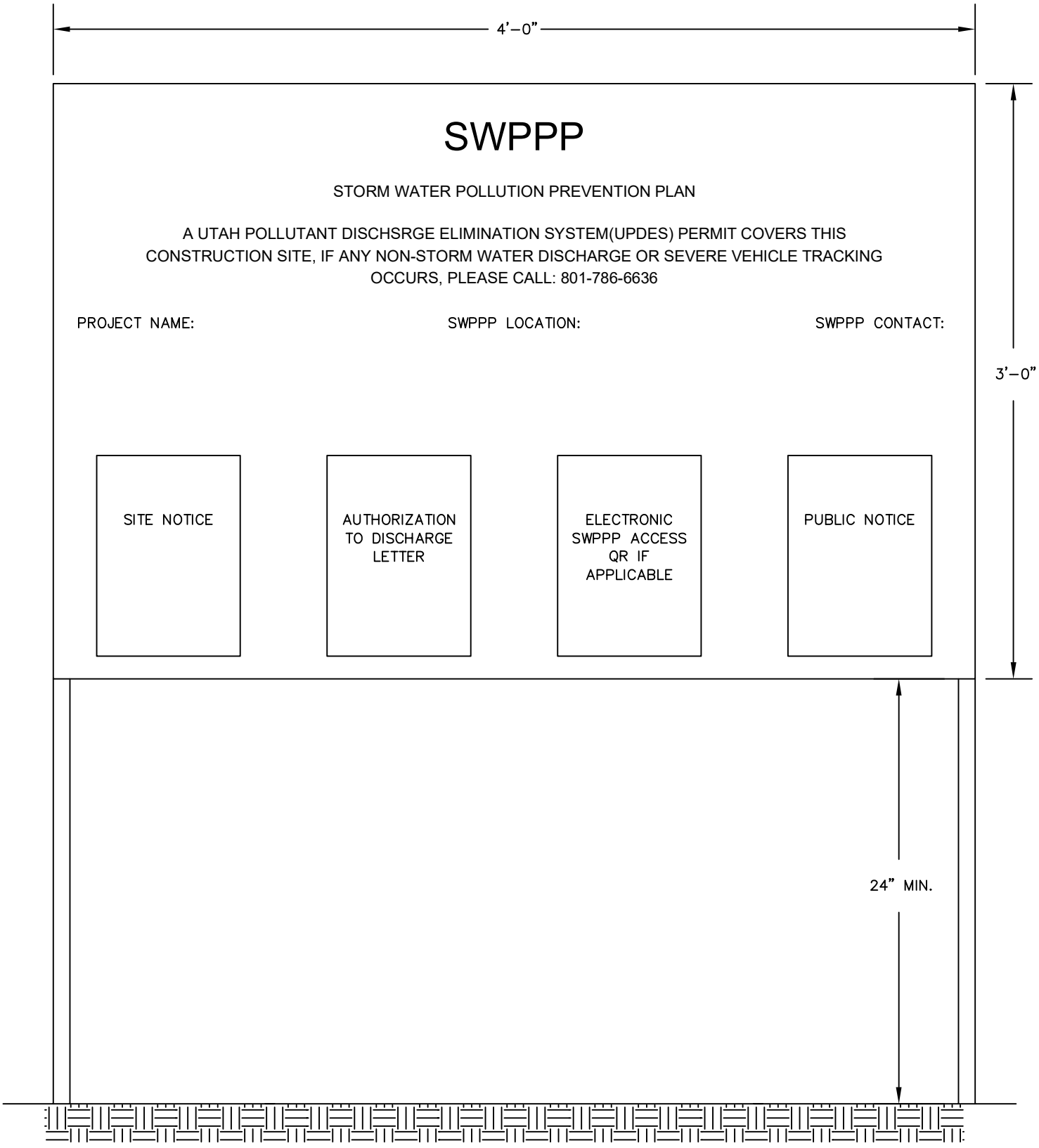




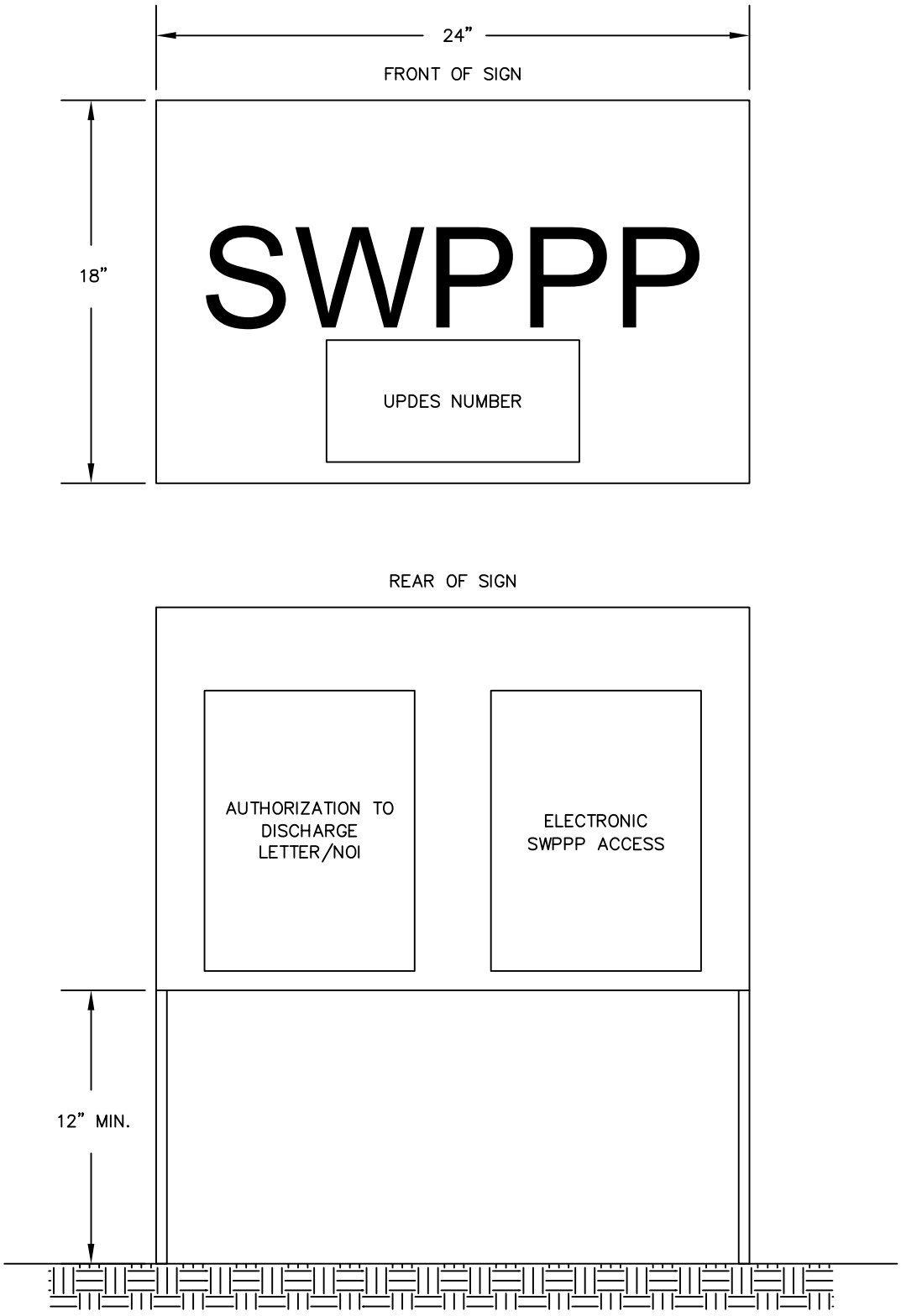
BOX PLACEMENT FOR APWA TYPE A AND D CURB AND GUTTER

NOTES:
1) ALL BOXES MUST BE IN ALIGNMENT TO CURB AND GUTTER AS SHOWN + - 2".
2) CONCRETE BETWEEN FRAME / GRATE AND CONCRETE BOX MUST BE FORMED TO HAVE A SMOOTH SEALED FACE (NO HONEYCOMB).
3) STRUCTURAL SUPPORTS MUST REMAIN IN PLACE (CORNERS AND TOP OF BOX).
4) ALL GRATES TO BE "BICYCLE SAFE".

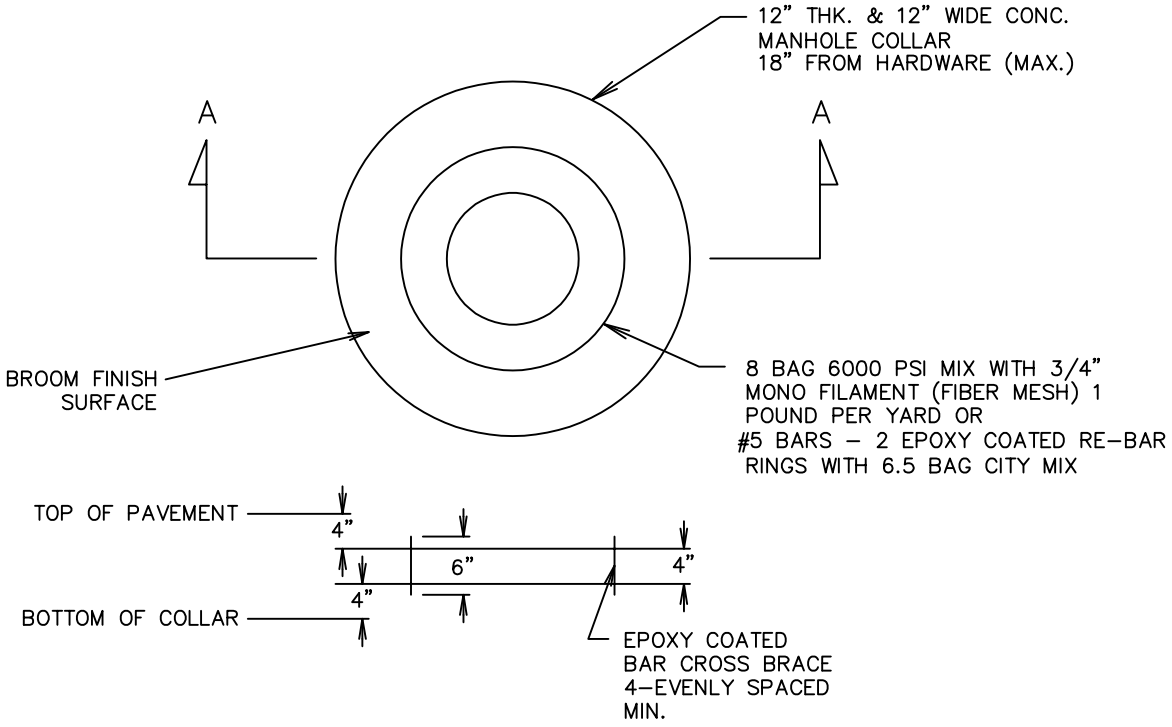
DRAWN RSB REVISED JULY 2024 DATE APRIL 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR TYPE 'A' & 'D' CURB BOX PLACEMENT	DRAWING NO. 20



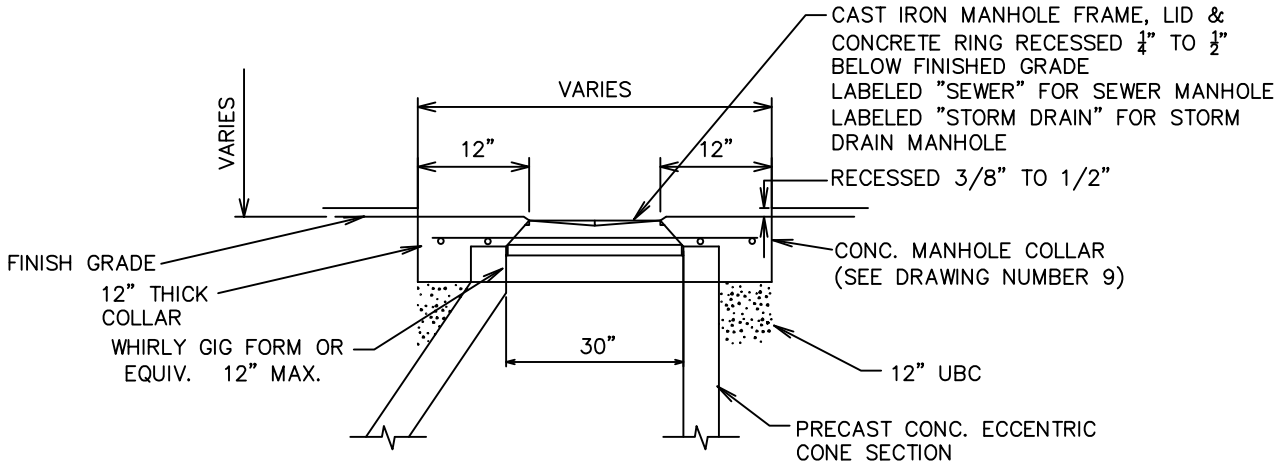
DRAWN RSB REVISED APRIL 2024 DATE MAY 2022 SCALE VARIES	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR 1 ACRE OR LARGE RESIDENCE AND ALL COMMERCIAL SWPPP SIGN	DRAWING NO. 21



DRAWN RSB REVISED APRIL 2024 DATE MAY 2022 SCALE VARIES	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR SINGLE FAMILY RESIDENCE SWPPP SIGN	DRAWING NO. 22



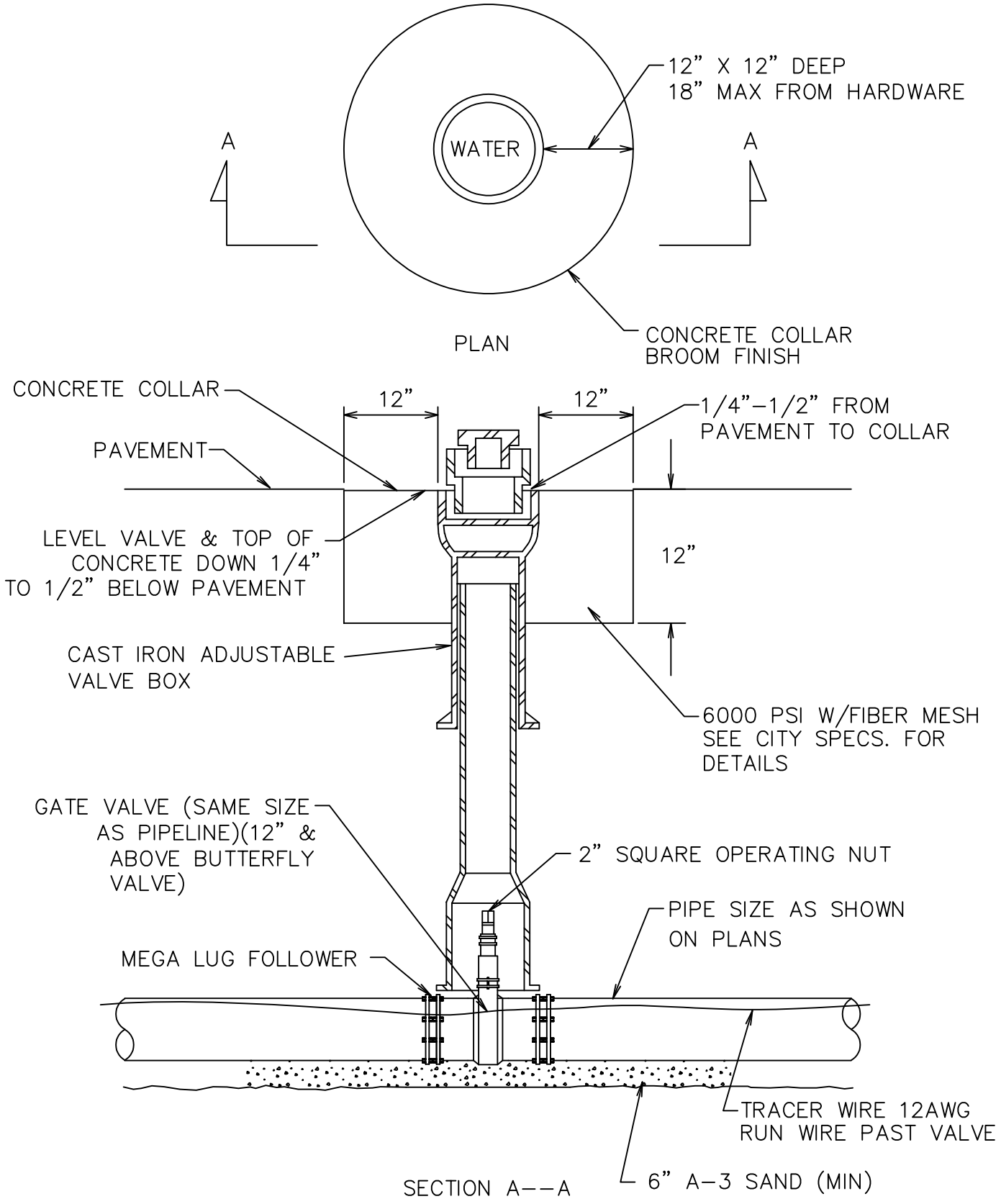
RE-BAR RING



SECTION A--A

NOTE:
1. CONCRETE COLLAR TO BE 1/4' TO 1/2" BELOW PAVEMENT SURFACE
2. CONCRETE MUST BE FROM RIM TO MANHOLE CONE & DOWN THE SIDES OF MANHOLE CONE TO GET 12" MIN.

DRAWN RSB REVISED DATE MAY 2024 SCALE VARIES	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR CONCRETE COLLARS FOR MANHOLES	DRAWING NO. 23

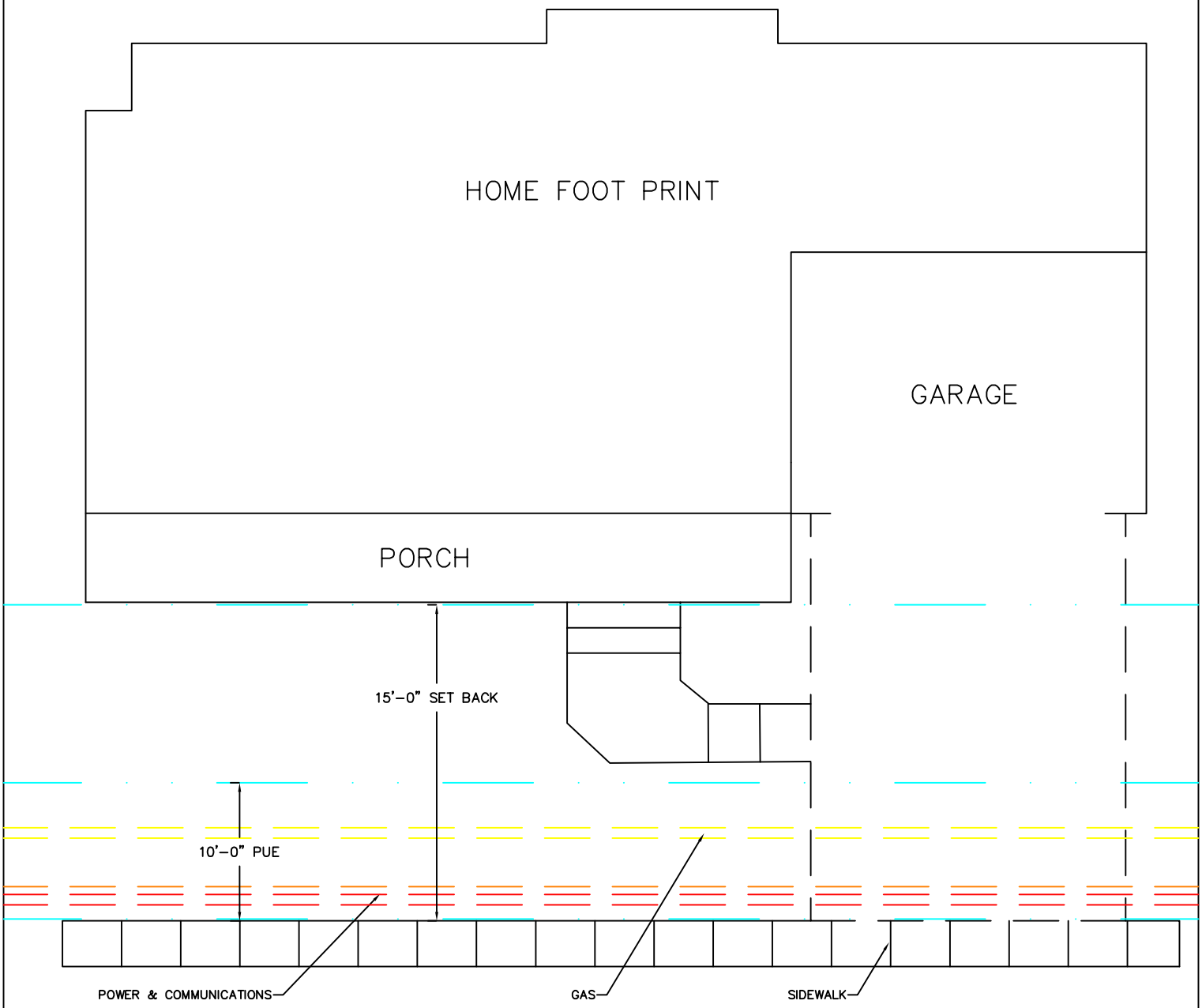


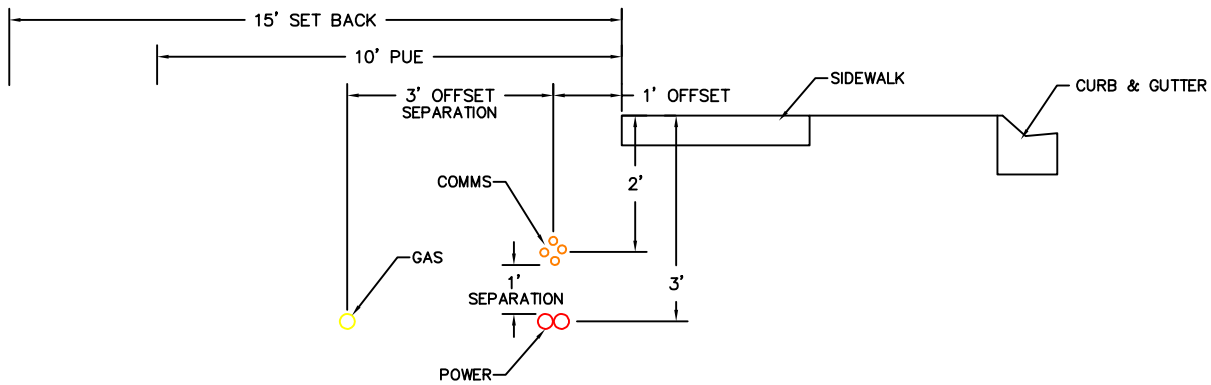
NOTES:

1. STREET COLLAR CONCRETE MUST BE 6000 PSI (MIN.) W/1 LBS. 3/4" MONOFILAMENT PER YARD.
2. ALL VALVE BOX ADJUSTMENT MUST BE THROUGH SLIDER RISER. IF ONE BASE & TOP IS STILL TOO LOW ANOTHER BASE MUST BE CUT TO GRADE & USED. NO DROP IN RISERS ALLOWED.
3. COLLARS MUST BE 12" FROM VALVE BOX (WIDE-CIRCULAR) & 12" DEEP. NO COLLARS ALLOWED OVER 18" FROM HARDWARE. COMPACT ALL LOOSE UTBC OR TRENCH FILL BEFORE POURING COLLAR.
4. ALL COLLARS REQUIRE INSPECTION BEFORE PLACING CONCRETE.
5. VALVE BOXES & MANHOLES IN LANDSCAPING REQUIRE 8" WIDE BY 8" DEEP, 4000 PSI COLLAR.

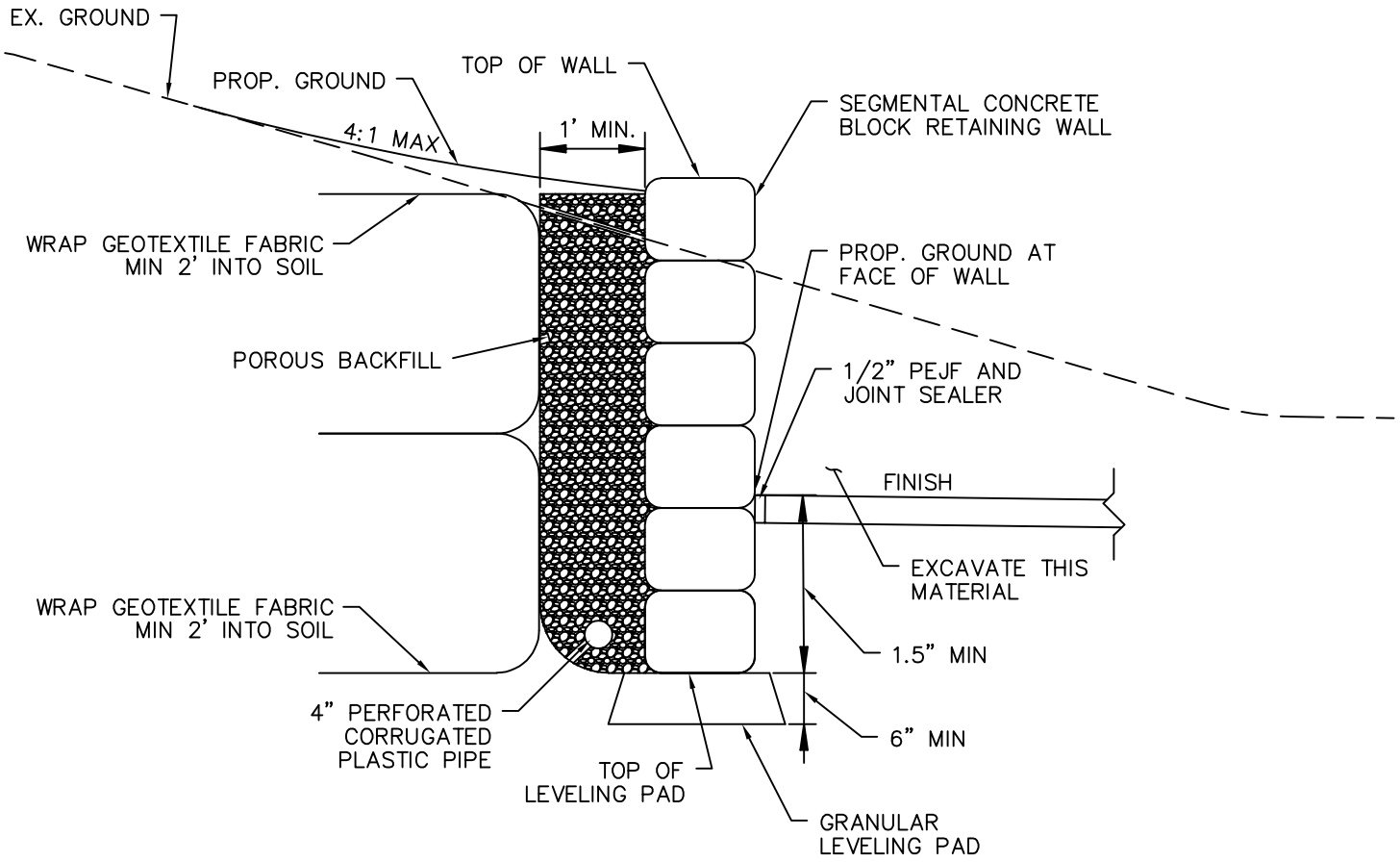
DRAWN RSB REVISED AUG. 2024 DATE MAY 2024 SCALE VARIES	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR CONCRETE COLLARS FOR WATER VALVES	DRAWING NO. 24

PUE, UTILITIES & SET BACK DETAIL





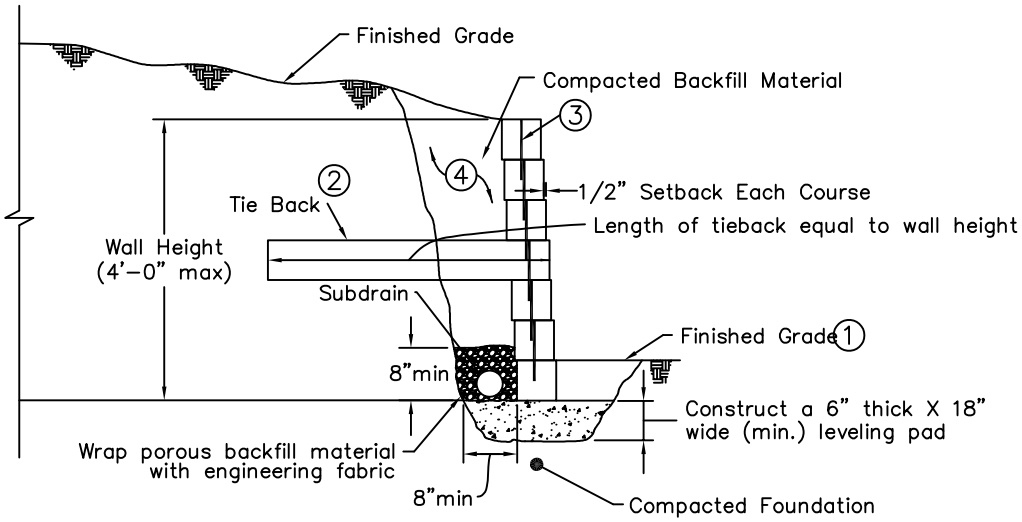
DRAWN RSB REVISED -- DATE JULY 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR PUE, UTILITIES & SETBACK DETAIL	DRAWING NO. 25



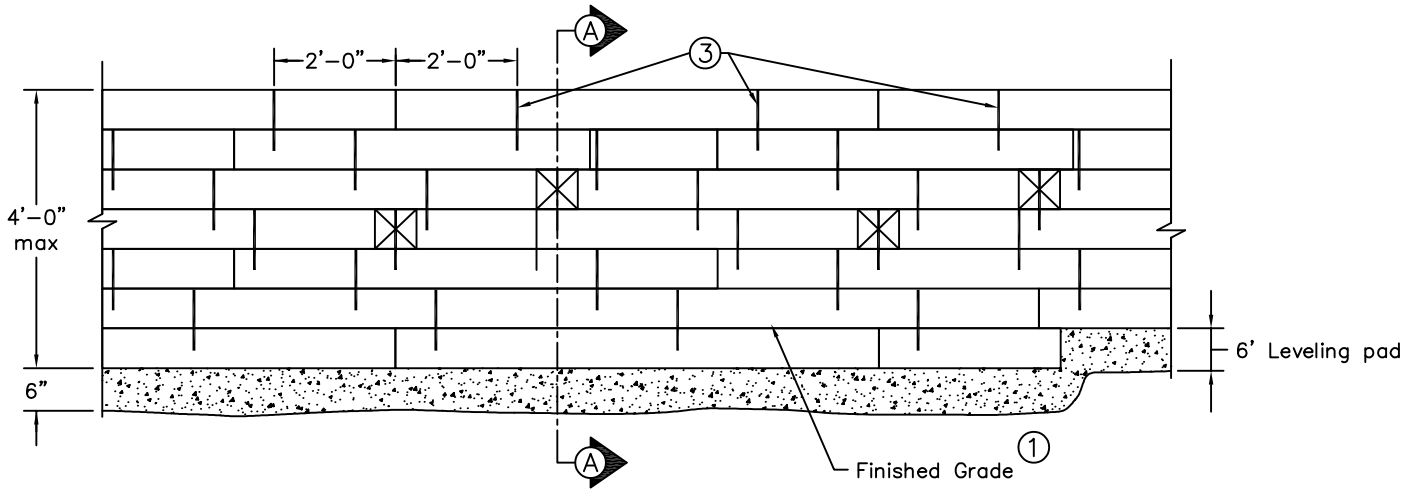
NOTES:

1. RETAINING WALLS OVER 4' TALL REQUIRES A BUILDING PERMIT.

DRAWN RSB REVISED -- DATE AUG 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR CMU BLOCK RETAINING WALL	DRAWING NO. 26



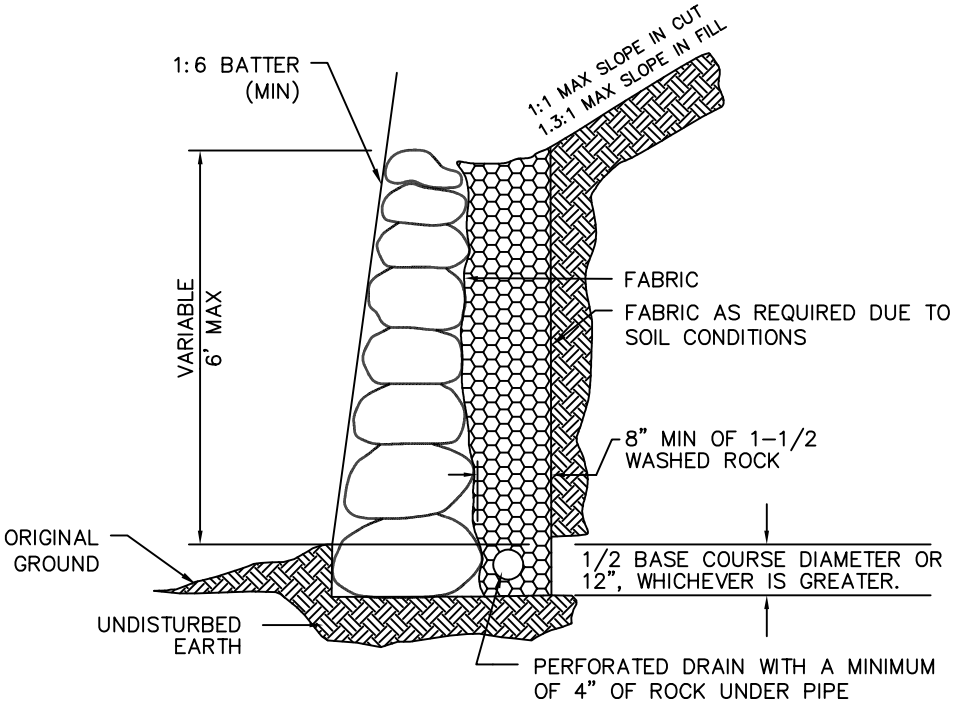
SECTION A-A



ELEVATION

1. Construct entire first course of timbers beneath finished grade.
2. No tie backs in upper two courses or lower three courses of timbers. Stagger tie back location.
3. Secure each course with spikes.
4. Excavate and place backfill material. Use suitable soil or granular material.

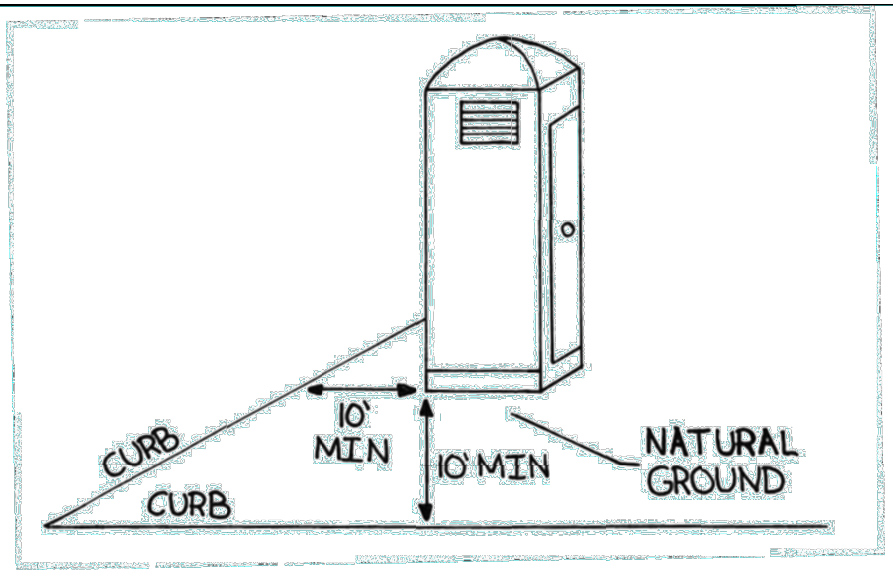
DRAWN RSB REVISED -- DATE AUG 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR TIMBER RETAINING WALL	DRAWING NO. 27



GENERAL NOTES:

1. Rockeries of 4' or lower shall be constructed of 3–man to 2–man from bottom to top. rock size categories shall include:
   Two–man rocks (300 to 600 pounds),
   13 inches in least dimension;
   Three–man rocks (800 to 1200 pounds),
   16 inches in least dimension;
   Four–man rocks (1500 to 2200 pounds),
   18 inches in least dimension;
   Five–man rocks (2400 to 3400 pounds),
   24 inches in least dimension.
2. The rockery shall be installed with a smooth surface.
3. The long dimension of the rocks shall be oriented towards the bank to provide maximum stability.
4. The rock shall be placed so as to lock into two rocks in the lower tier.
5. Design varying from those indicated shall carry the seal of a Professional Engineer licensed in the State of Utah, experienced in soil mechanics.
6. Rockery walls higher than 4' must be designed by qualified engineer & inspected.
7. Drain runoff away from top of retaining wall.

DRAWN RSB REVISED -- DATE AUG 2024 SCALE N.T.S.	EAGLE MOUNTAIN CITY		STANDARD DETAILS FOR ROCKERY RETAINING WALL	DRAWING NO. 28



APPLICATION

- Provide temporary sanitary facilities when permanent facilities are too far from activities or are unavailable.

INSTALLATION/USE PROCEDURE

- Locate portable toilets away from waters of the state, and at least 10 feet from any storm water conveyance, inlet, curb and gutter, or conduit to a waterway.
- Wherever possible, locate portable toilets upon natural ground and not on impervious surfaces such as asphalt, concrete, or similar
- Prepare a level surface and provide clear access to the toilet(s) for servicing and for on-site personnel
- Secure portable toilets to prevent tipping

ALTERNATIVE DESIGN

- If it is not possible to locate toilets away from waters of the state, storm water conveyances, or paved surfaces, evaluate the need for additional controls such as secondary containment, additional surface preparation, or berms and implement as appropriate

MAINTENANCE

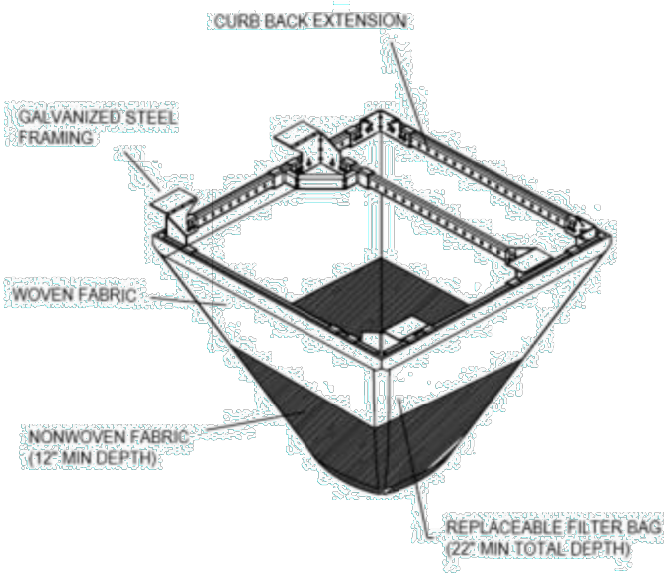
- Portable toilets should be maintained in good working order by licensed service
- Portable toilets should be inspected daily to detect any leaks.
- Damaged toilets must be repaired/replaced immediately
- All waste must be deposited in the sanitary sewer system for treatment with appropriate agency approval.

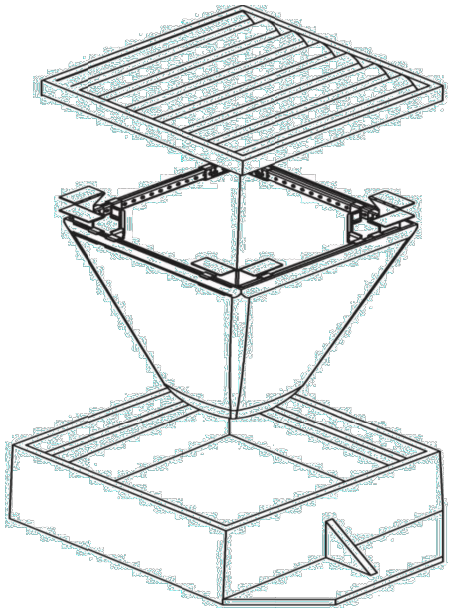
PERFORMANCE

- Portable toilets must be placed, secured, and maintained in such a way that sanitary waste is contained without leaks.
- Portable toilets must be placed, secured, and maintained in such a way that in the event of a spill or leak, sanitary waste would not enter any waters of the state, storm water conveyance, inlet, curb and gutter, or conduit to a waterway.

GENERAL

- The operator is responsible for selecting effective BMPs.





APPLICATION

- As per Eagle Mountain City code 15.50.070, inlet protection must meet or exceed ASTM D8057.
- Use inlet protection methods to trap sediment and debris from runoff before it enters the stormwater system.
- Ideal for areas near storm drains, curb inlets, and other drainage structures.
- Not intended for high-flow areas without additional support measures.

SUBMITTAL AND OPERATION PROCEDURE

- Submit manufactures detail to the oversight authority and attach to this detail.
- Attached manufacturer installation and maintenance literature.
- Ensure the devices are securely fastened and properly positioned to maximize effectiveness.
- Regularly inspect and maintain the devices to ensure they are functioning correctly.
- Use appropriate types of inlet protection based on site-specific conditions.
- Do not install drop inlet systems without overflows in sag locations where hydroplaning is a risk.
- Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries storm water flow from your site to surface water of the state, provided you have authority to access the storm drain inlet.
- Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found

ALTERNATIVE DESIGN

- Alternative inlet protection devices may be used if they demonstrate equal or better performance to ASTM D8057.
- Submit alternatives to the oversight authority for approval.
- Document any alternative designs with detailed installation procedures and maintenance requirements.

MAINTENANCE

- Inspect inlet protection devices regularly, especially after storm events.
- Remove accumulated sediment and debris as needed to maintain effectiveness.
- Repair or replace damaged inlet protection devices prior to the next wet condition risk.
- Ensure a clear area around inlet protection devices to facilitate inspections and maintenance.

DRAWN RSB REVISED -- DATE NOV. 2024 SCALE VARIES	EAGLE MOUNTAIN CITY	EAGLE MOUNTAIN UTAH	STANDARD DETAILS FOR SWPPP INLET PROTECTION	DRAWING NO. 30