June 2023

CITY OF ATHOL

Supplemental Construction Specifications to the ISPWC & Design Standards

PREPARED FOR

CITY OF ATHOL.
30355 N. 3rd Street
Athol, ID, 83801
(208) 683-2101

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

Introduction

The City of Athol has adopted the 2020 version of the Idaho Standards for Public Works Construction (ISPWC) as its standard construction specifications with the modifications listed in this document. In the event of a conflict between ISPWC and the City of Athol Supplemental Construction Specification to the ISPWC arise, this manual shall govern unless the contrary is approved in writing by the City Engineer or the City Council for a specific circumstance.

In the event an error or omission is discovered in these Supplemental Construction Specifications, whether through an oversite or a change in technology, the finder shall notify the City Engineer in writing so that the proper steps may be taken to make corrections.

It is further understood that the City of Athol or its authorized agents are not responsible for errors or omissions.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

TABLE OF CONTENTS

DIVISION 000 GENERAL

DIVISION 100 GENERAL CONDITIONS

DIVISION 200 EARTHWORK

DIVISION 300 TRENCHING

DIVISION 400 WATER

DIVISION 500 SEWER

DIVISION 600 CULVERTS, STORM DRAIN, AND GRAVITY IRRIGATION

DIVISION 700 CONCRETE

DIVISION 800 AGGREGATES AND ASPHALT

DIVISION 900 PRESSURE IRRIGATION

DIVISION 1000 CONSTRUCTION STORMWATER BMPs

DIVISION 1100 TRAFFIC

CITY OF ATHOL STANDARD DETAILS

COA-101 Utility Locations

COA-102 Parking Layout Dimensions

COA-103 Residential Setback Requirements

COA-104 Clear View Triangle - Uncontrolled Intersections

COA-105 Clear View Triangle - Semi-controlled Intersections

COA-106 Clear View Triangle - Controlled Intersections

COA-107 Clear View Triangle - Alleys / Driveways

COA-401 1” Water Service Connection

COA-402 1 ½” & 2” Water Service Connection

COA-406 Valve Box and Lid Detail

COA-409 Sampling Station Detail

COA-504 Sanitary Sewer Inside Drop

COA-508 Manhole Joint & Collar Details

COA-511 Standard Sewer Service Detail

COA-712 Detectable Warning for Pedestrian Access

COA-806 Typical Street Widening

COA-810 Driveway Location & Width Requirement

COA-811 Private Shared Driveway 30’ Common Access Easement Two 10’ Travel Lanes

COA-812 Cul-de-sac Design

COA-813 Minor Streets with Infiltration Drainage

COA-814 Major Streets with Infiltration Drainage

COA-815 Typical Rural Roadway (Within Impact Area)

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 000 – GENERAL

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 000 - General

The following items are general specifications that apply to all Divisions of this document:

1. Contractor's red-lined record drawings with Engineer of Record stamp shall be submitted to the City upon completion of the Work. Electronic files of updated As-Built CAD drawings shall also be submitted to the City upon completion of the Work.

2. All Construction Drawings and As-Built Surveys shall be tied to the Idaho State Plan Coordinate System, West Zone, NAD83, US Survey Feet and the NAVD88 vertical datum.

3. The Petitioner shall be required to submit to the City a set of as-built plans on Mylar as well as on CD-ROM or disc in AutoCAD format and PDF format. The petitioner shall provide development base map files with as-built conditions including parcel lines, easements, sewer, water, storm, pressure irrigation, servicelines, and other utilities in GIS format (shapefile) consistent with the City's GIS system. The CD-ROM shall contain all subdivision coordinates and shall also present, in separate overlays, all separate utilities such as sanitary sewer, storm sewer, water lines, irrigation lines, and all other utilities that are available to the Petitioner's engineer, such as gas lines, power lines, cable T.V. lines, etc. In the event the City adopts GIS Standards, the Petitioner agrees to provide record drawing information in accordance with these standards for all phases of the Petitioner's development that are developed after these standards are adopted. These standards for all phases of the Petitioner's development that are developed after these standards are adopted. These record drawings shall also contain all xyz coordinates for all manholes, gate valves, fire hydrants, water meters, water blowoff valves, and the end of each sanitary service line adjacent to the property lines. An xyz coordinate for each storm sewer, catch basin, and all storm sewer manholes shall also be provided on the as-built data. In summary these record drawings shall contain all subdivision information on separate overlays for property lines, street improvements, water lines, sewer lines, water service lines, and other utilities.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 100 – GENERAL CONDITIONS

No changes to this section.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 200 – EARTHWORK

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 200 - Earthwork

Section 201 – Clearing and Grubbing

Part 3.1 Clearing and Grubbing

- **Replace** paragraph B.1 with the following:

  1. Clearing and grubbing shall extend to no more than 3 feet outside of the construction limits. The clearing and grubbing operation shall be conducted in a manner which will not damage any vegetation outside of the clearing and grubbing limits. All brush, roots, and other debris within the grubbing limits shall be removed to a depth of 8-inches. Completely remove stumps and other debris protruding through the subgrade surface. The Contractor shall chop all brush and debris resulting from the Clearing and Grubbing operation and haul to a disposal site located by the Contractor off-site. Burning of debris on-site will not be allowed.

- **Replace** paragraph B.7 with the following:

  7. Areas within the limits of the project shall be stripped to remove topsoil containing organic material before construction begins over such areas. The topsoil shall not be used in construction of onsite fills or trench backfills. The topsoil shall be hauled to a disposal site located by the Contractor off-site. Dispose of materials at locations that comply with all Federal, State, and Local regulations.

Section 202 – Excavation and Embankment

Part 3.8 Embankment Construction

- **Add** paragraph 8 under section A as follows:

  8. Embankment construction shall conform to the recommendations of an Idaho Licensed Professional geotechnical Engineer for placement and compaction standards.

Part 3.9 Classes of Compaction and Density Requirements

- **Add** paragraph D as follows:

  D. Material & Compaction Testing: All soils testing of samples submitted by the Contractor will be done by an independent testing laboratory mutually agreed upon by the Contractor and Owner and at the Contractor's expense. If tests

indicate work does not meet specific compaction requirements, remove work, replace, and retest at the Contractor's expense.

1. Qualifications of testing company

    a. Basic requirements of ASTM E 329, "Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials as Used in Construction" and ASTM D 3666, "Standard Specification for Minimum Requirements for Agency Testing and Inspecting Bituminous Paving Materials", as applicable.

    b. Calibrate testing equipment at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards or accepted values of natural physical constants.

2. Frequency of Compaction Tests

    a. Curbs and sidewalks: In horizontal plane, test at start with subsequent tests a maximum of every 250 feet. At landscape islands test each island at one location. At every horizontal location, obtain one test at subgrade. Perform subsequent tests every 12 inches of compacted depth and at top of backfill or when materials or procedures change. Perform a minimum of two (2) tests at finished grade.

    b. Parking and vehicle areas, roadways: In horizontal plane, test each backfill area with subsequent test for every 2,500 square feet of backfill surface area. At every horizontal location, obtain one test at subgrade. Perform subsequent tests every 12 inches of compacted depth and at top of backfill or when materials or procedures change.

    c. Concrete slabs for lift station and equalization basin: In horizontal plane, test each backfill area with subsequent test for every 1,000 square feet of backfill surface area. At every horizontal location, obtain one test at subgrade. Perform subsequent tests every 12 inches of compacted depth and at top of backfill or when materials or procedures change.

    d. Linear foundations and footings: In horizontal plane, test at start with subsequent tests a maximum of every 100 feet, and where elevation changes between adjacent footings. At every horizontal location, obtain one test at subgrade. Perform subsequent tests every 12 inches of compacted depth and at top of backfill or when materials or procedures change. Perform a minimum of two (2) tests at finished grade.

e. Along exterior basement walls and retaining walls: In horizontal plane, test each backfill area with subsequent test for every 100 lineal feet of wall, a minimum of two test per exterior wall side. At every horizontal location, obtain one test at subgrade. Perform subsequent tests every 12 inches of compacted depth and at top of backfill or when materials or procedures change.

- **Add** Paragraphs 3.13 and 3.14 as follows:

3.13 DISPOSAL OF WASTE SOIL

A. Contractor shall dispose of waste material at an off-site location determined by the contractor.

3.14 TOLERANCES

A. Finished grade of graded areas shall meet the following requirements:

1. In paved areas including roadways, sidewalks, parking lots, etc., plus or minus 0.10 feet from the grade shown on the plans.
2. Building pads, plus or minus 0.05 feet from the grade shown on the plans.
3. In landscaped areas or similar areas, plus or minus two (2) inches.
4. Differential grades between walking surfaces shall not exceed 1/4-inch.
5. Landscape finish grade adjacent to concrete walks shall be minus 1-inch from walking surface elevation.

Section 204 – Structural Excavation and Compacting Backfill

Part 3.4 Field Quality Control

- **Modify** paragraph E by adding the following at the end of the paragraph:

Test locations shall be randomly chosen by the City. In addition to the required number of tests, the City reserves the right, at the City's expense, to also test locations that appear suspicious or under compacted.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 300 – TRENCHING

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 300 - Trenching

Section 305 – Pipe Bedding

Part 3.10 Compaction

- **Replace** "92%" with "95%" in paragraph A.

Section 306 – Trench Backfill

Part 2 Materials

- **Add** new paragraphs 2.5 and 2.6 as follows:

2.5 UNSUITABLE MATERIALS

A. Unsuitable Materials include the materials listed below:

- Soils which, when classified under ASTM D 2487 – Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System), fall in the classification of Pt, OH, CH, MH, or OL.
- Soils which cannot be compacted sufficiently to achieve the density specified for the intended use.
- Materials that contain hazardous or designated waste materials including petroleum hydrocarbons, pesticides, heavy metals, and any material which may be classified as hazardous or toxic according to applicable regulations.
- Soils that contain greater concentrations of chloride or sulfate irons, or have a soil resistively or pH less than the existing on-site soils.

2.6 IDENTIFICATION TAPE AND LOCATING WIRE

A. Locating wire shall be No. 12 AWG insulated cooper locating wire with 1/64" PVC insulation.

B. Identification tape shall be 3-inches wide, 4 mil polyethylene vinyl. Tape text and color shall meet the following requirements

Pipe Contents	Text	Color
Potable Water	"CAUTION – WATER LINE BURIED BELOW"	Blue
Pressure Sewer	"CAUTION – SEWER LINE BURIED BELOW"	Green
Reclaimed Water	"CAUTION – RECLAIMED WATER LINE BURIED BELOW"	Purple
Pressure Irrigation	"CAUTION – IRRIGATION LINE BURIED BELOW"	Purple

Pipe Contents	Text	Color
Gas	"CAUTION – GAS LINE BURIED BELOW"	Yellow
Telephone	"CAUTION – PIPE LINE BURIED BELOW"	Yellow
Cable TV	"CAUTION – PIPE LINE BURIED BELOW"	Yellow
Electric	"CAUTION – ELECTRICAL LINE BURIED BELOW"	Red

Part 3.3 Type A Trench Backfill

- **Modify** paragraph B.1 to 95% Compaction.
- **Delete** "A-2 and A-3" from paragraph B.4.
- **Modify** paragraph C.4.b to require 95% compaction.
- **Replace** "per Type A-2 Compaction" with "per Type A-1 Compaction" in paragraph E.2.
- **Delete** paragraph E.4 in its entirety.

Part 3.4 Type C Trench Backfill

- **Modify** paragraph B.1 to require 95% compaction.
- **Delete** "A-2 or A-3" from paragraph B.4.

Part 3 Workmanship

- **Add** paragraphs 3.7 and 3.8 as follows:

3.7 IDENTIFICATION TAPE AND LOCATING WIRE PLACEMENT

A. Unless indicated otherwise, attach locating wire to the crown of all buried pipelines using electrical tape, except gravity irrigation, sanitary sewer, or storm sewer mains having visible manholes or clean-out structures at all angle points. Provide 12" of slack wire above ground at each location of valve or wire box.

B. Unless indicated otherwise, identification tape shall be placed above all buried pipelines, 18" - 24" above the crown of the pipe, except gravity irrigation, sanitary sewer, or storm sewer mains having visible manholes or clean-out structures at all angle points.

C. Unless indicated otherwise, identification tape shall be placed above all buried pipelines that are installed with locating wire. Identification tape shall be placed 18" - 24" above the crown of the pipe.

3.8 QUALITY CONTROL

A. Material & Compaction Testing: All soils testing of samples submitted by the Contractor will be done by a testing laboratory mutually agreed upon by the Contractor and Owner and at the Contractor's expense. If tests indicate work does not meet specific compaction requirements, remove work, replace, and retest at the Contractor's expense.

1. Qualifications of testing company

a. Basic requirements of ASTM E 329, "Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials as Used in Construction" and ASTM D 3666, "Standard Specification for Minimum Requirements for Agency Testing and Inspecting Bituminous Paving Materials", as applicable.

b. Calibrate testing equipment at reasonable intervals by devices of accuracy traceable to either the National Bureau of Standards or accepted values of natural physical constants.

2. Frequency of Compaction Tests

a. Test section shall be a test at 2-feet above top of pipe and every 1-foot lift thereafter and at the top of the trench backfill.

b. Two (2) test sections, at different locations for every trench less than 300 feet in length, but not less than once per day.

c. One (1) test section per every 300 feet of additional trench and at locations where materials or construction procedures change, but not less than once per day.

Section 307 – Street Cuts and Surface Repairs

Part 3.1 General Requirements

- **Add** the following new paragraph G:

G. Determining Width Limits for Street Cuts and Surface Repairs due to Trenching (in the public right-of-way).

1. Width limits for trenches out of the improved travel-way: If the required surface cut and repair width extends into the improved travel-way beyond the fog line or edge of pavement, or, more than 3 feet inside a curb and gutter section, measured from the lip of the gutter, the width shall be extended to the center of the adjacent travel lane. If more width is required, then it shall extend to the edge of the travel lane. In no case shall the longitudinal edge of the surface repair be located in a wheel path of a travel lane.

2. Width limits for trenches in the improved travel-way: Surface cuts shall not leave a strip less than 3.5 feet in width. Where the width limit enters a travel lane the width shall be extended to the center of the travel lane. If more width is required then it shall extend to the edge of the travel lane. In no case shall the longitudinal edge of the surface repair be located in a wheel path of a travel lane.
3. Any time a street cut and/or surface repair width exceeds 50% of the roadway width full-width surface repair is required. This determination is independent of the length which is limited to the length of trenching and damage. The minimum length of full-width repair is twenty feet (20').
4. Wheel paths are defined as two and one-half feet wide (2.5') strips where the centerline of each is three feet (3') and nine feet (9') from roadway centerline in each travel lane.
5. All surface cuts shall be perpendicular to the travel direction, except where approved by the City.

Part 3.8 Type "P" Surface Restoration (Asphalt Roadway Surfaces)

- **Replace** paragraphs 3.8.C, D, and E in their entirety with the following:

  C. Use Compacted base course depths as specified on the plans. When depths are not specified, use those shown on the Standard Drawing 303. Base material shall consist of Type 1 Aggregate in accordance with Section 802 – Crushed aggregate.

  D. Compact base course to 95% of maximum density as determined by ASTM 1557.

  E. Use asphalt concrete depths as specified on the plans. When depths are not specified, use those shown on Standard Drawing 303. Asphalt concrete shall conform to the requirements of Section 810 – Plant Mix Pavement.

- **Replace** paragraph F in its entirety with the following:

  F. After base compaction, trim back undisturbed existing pavement a minimum of one foot (1') from undermined pavement by cutting to a straight line.

- **Replace** paragraph J.1 in its entirety with the following:

  J.1. Determination: Where the width of street cuts and/or damage exceeds 50% of the roadway width, full-width surface repair is required.

- **Delete** paragraph J.2 in its entirety.
- Paragraph J.3, **Replace** "2 feet" with "3.5 feet".

Part 3.9 Type "P" Surface Restoration (with Pavement Fabric)

- **Replace** paragraph E in its entirety with the following:

E. After base compaction, trim back undisturbed existing pavement a minimum of one foot (1’) from undermined pavement by cutting to a straight line.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 400 – WATER

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 400 - Water

Section 400 – General

- The Idaho Rules for Public Drinking Water Systems IDAPA 58.01.08 section 501.01 states that "Unless otherwise authorized by the Department on a site-specific basis, materials that are used to construct public drinking water systems and have water contact surfaces must comply with applicable AWWA standards and be certified by an accredited ANSI certified body to meet ANSI/NSF Standard 53 or 61. Corrosion control shall be taken into account during all aspects of public water systems design".

Section 401 – Water Pipe and Fittings

Part 1.3 References

- **Add** paragraph CC as follows:

  CC. NSF/ANSI 372: Drinking Water System Components – Lead Content

Part 2.2 Polyvinyl Chloride (PVC) Pipe & Fittings

- Paragraph A.1, **Replace** "As indicated in the Contract Documents" with "165 p.s.i. Minimum".
- **Delete** paragraph B in its entirety.
- Paragraph C.3, PVC Fittings 4 inch through 8 inch: **Delete** all of paragraph 3.

Part 2.5 Polyethylene Pipe & Fittings

- **Modify** paragraph A.1 to require PE 4710 and Paragraph 3 to specify SDIR 9.
- **Add** the following new paragraph B:

  B. Polyethylene Pipe is allowed only for transmission mains without services, and only if specifically approved in writing by the City Engineer.

Part 2.6 Couplings

- **Replace** paragraph A with the following:

  A. Couplings and Coupling Adapters: As manufactured by Romac Industries Inc., for the type and size of connection or approved substitution.

Part 2.8 Thrust Blocks

- **Add** the following new paragraph C:

  C. All tieback rods and anchors shall be ¾" diameter Corten steel per ASTM A242 or stainless steel, Type 304.

Part 2.12 Health Requirements

- **Replace** paragraph A with the following:

  A. Applicable NSF Compliance: All products used to construct a public drinking water system and will be in contact with potable water must be certified by an accredited ANSI certification body to meet applicable ANSI/NSF standards (NSF/ANSI 61, Annex G or NSF/ANSI 61 and NSF/ ANSI 372). Affidavits of compliance may be required.

Part 2.13 Identification Tape

- **Add** the following new paragraph 2.13:

  2.13 Identification Tape

  A. Type: Blue colored plastic tape, 2 inches wide.

  B. Marking: "Caution – Buried Water Line", 1-1/2 inch letters.

Part 3.1 Examinations

- **Replace** paragraph C with the following:

  C. Verify that excavation will allow a minimum pipe cover of 48 inches on all improved City streets. Where located on unimproved arterial roadways, cover depth shall be increased to five feet (5'). Cover depth shall not exceed 72 inches unless approved by City.

Part 3.4 Thrust Blocks

- **Replace** paragraph F with the following:

  F. For test pressures greater than 150 psi or soil bearing pressures less than 1,500 psi, increase thrust block bearing areas as directed by the City Engineer.

Part 3.6 Pressure Testing

- **Modify** paragraph A to read "Testing shall be completed in the presence of the City's Inspector".

Part 3.7 Locating Wire

- **Replace** paragraph B in its entirety with the following:

  B. Test for and ensure continuity. Continuity test shall be performed prior to paving and after all road construction is complete. Continuity test shall be performed in the presence of the City's Inspector.

Part 3.8 Pipe Markers

- **Replace** paragraph A in its entirety with the following:

  A. Furnish and install a blue painted marker per SD-512 at all main and service line terminuses. Leave marker top 12"below finish grade if in a travel way.

- **Replace** paragraph B in its entirety with the following:

  B. Engineer of Record shall incorporate accurate **surveyed** horizontal and vertical field measurements to pipe ends on contractor record documents.

- **Add** the following new paragraph C:

  C. Install identification tape 6 inches below subgrade over all main line pipe.

- **Add** the following new paragraph D:

  D. Install blue Carsonite utility markers where water main crosses at each right of way line and at 500-foot intervals where water main is not beneath a roadway or sidewalk.

Part 3.9 Flushing and Disinfection

- **Add** paragraph A.7 as follows:

  7. When a new water main is being flushed using a hose connected to the public water system, an approved Reduced Pressure Backflow Assembly shall be installed at the point of connection to the public water system.

- **Replace** paragraph B.3.a.5 with the following:

  5) Placement When Using Tablets: During construction, place 5g calcium hypochlorite tablets in each section of pipe and also place one tablet in each hydrant, hydrant branch and other appurtenance. Attach tablets so the inside of the pipe using an adhesive such as Permatex Clear RTV Silicone Adhesive Sealant or approved substitution. Adhesive must be NSF approved. Assure no adhesive is on the tablet except on the broad side attached to the surface of the pipe. Attach the tablets at the inside tip of the main, with approximately equal numbers of tablets at each end of a given pipe length. If the tablets are attached before the pipe section is placed in the trench, mark their position on the section so it can be readily determined that the pipe is installed with the tablets at the top.

- **Delete** paragraph B.3.c in its entirety.
- **Add** the following to the end of paragraph D.1: "Test results shall be delivered to the City within seven (7) days of the first test."
- **Add** the following new paragraph E.3:

    3. Any new water main that has a passing bacteriological test shall be subject to retesting if the main is not placed in service within ten (10) days. Mains that have been pressure tested shall not be drained but left filled and the appropriate valve(s) closed. The exception to the mains remaining filled is during freezing weather and if the main is subject to freezing said main shall be protected or drained. Any drained lines shall be subject to bacteriological retesting. If any main is damaged prior to final acceptance, that main shall be subject to retesting.

Part 3.10 Connections to Existing Mains

- Paragraph B, **Add** "All connections to existing mains shall be a wet taps performed by an individual that is approved by the City to perform such taps. To determine a recognized individual, contact the City.

Section 402 – Hydraulic Valves

Part 1.7 Project Record Documents

- **Add** the following new paragraph C:

    C. Provide digital survey file of As-Built locations of valves and structures on project horizontal and vertical datum. Submit to the City with As-Built drawings.

Part 2.2 Resilient Seated Gate Valves

- Paragraph A, **Add** "Valves shall be as manufactured by one of the following: Muller (A2360), Clow, or AVK".
- **Delete** "Push-on Joint" in paragraph A.1.

Part 2.3 Butterfly Valves

- Paragraph A, **Add** "Valves shall be as manufactured by one of the following: Mueller (A2360), Clow, or AVK."
- Paragraph A.1, **Delete** "Push-on Joint".
- **Add** the following new Paragraph B:

    B. The use of butterfly valves is restricted to 16" and larger mains.

Part 2.7 Valve Boxes

- Paragraph A, **Delete** "Locking Style".

- Paragraph E, **Delete** "SD-406" and replace it with "COA-406".

Part 3.2 Installation

- Paragraph B, **Delete** "SD-406" and insert "COA-406".
- **Add** the following new paragraph G:

  G. Drill a hole in the top portion of the valve can, at least 6 inches below the top of the can for the tracer wire. Lace the wire through the drilled hole and tire a knot on the inside of the valve can to prevent the wire from falling out of the can.

Section 403 – Hydrants

Part 2.1 Hydrant Size and Type

- **Delete** paragraph A in its entirety.
- **Delete** paragraph B in its entirety.
- **Add** the following new paragraph D:

  D. Hydrant shall be as manufactured by Mueller: Super Centurian 250, model A-423 with a Muller 5" Storz-Style pumper nozzle manufactured by Red Head Brass or Angus Fire.

Part 2.9 Materials

- **Add** the following new paragraph 2.9:

  2.9 Reflective Hydrant Marker

  A. Stimsonite, Model 88AB, two-way blue reflector.

  B. Adhesive butyl pad; "Hot Spot" two-part epoxy. E-Bond part one - 1240, part two - 1241 (mfg. contact 954-566-6555).

Part 3.2 Installation

- **Add** the following new paragraph H:

  H. Install blue reflective hydrant marker on top of AC pavement. Reflective front and back face traffic flow. Place 0'-6" off centerline on side nearest fire hydrant. Follow manufacturer's installation requirements.

Section 404 – Water Service Lines and Meters

Part 1.3 References

- **Add** the following new paragraph I:

  I. NSF/ANSI 372: Drinking Water System Components – Lead Content

Part 1.5 Project Record Documents

- **Add** the following new paragraph C:

  C. Provide digital survey file of As-Built locations of water meters on Project horizontal and vertical datum. Submit to the City with As-Built Drawings.

Part 2.2 Service Pipe

- **Replace** paragraph A.4 in its entirety with the following:

  4. Ploy Pipe Product:

     a. For 1" services: 1" IPS 200 PSI Poly Black Tubing, CENFLO 4710 250 PSI.

     b. For 1½" services: 1½" IPS 200 PSI Poly Black Tubing, CENFLO 4710 250 PSI.

     c. For 2" services: 2" IPS 200 PSI Poly Black Tubing, CENFLO 4710 250 PSI.

- **Delete** paragraph B in its entirety.
- Paragraph C, **Refer** to Section 401.2.2 Polyvinyl Chloride (PVC) Pipe and Fittings.

Part 2.3 Water Meter

- **Replace** paragraph A.1 in its entirety with the following:

  1. Water Meters 2" and smaller are purchased from and installed by City of Athol. Requests for water meters larger than 2" must be made in writing to the City Engineer, and include a submittal of the proposed meter for approval.

- **Add** new paragraph A.2 as follows:

  2. Water meters larger than 2 inches shall be obtained by the Contractor and shall be a pit set Tru/Flo Compound Meter from Neptune with Enhanced E-Coder) R900i register (read in cubic feet).

Part 2.4 Appurtenances

- **Replace** paragraph A in its entirety with the following:

  A. Service Saddles

     1. For 1 inch services: Romac 101S-9.05X1" CC 8"x1" DI Single SS Strap Service Saddle 8.63-9.05.

     2. For 1½ inch services: Romac 101S-9.05X1½" CC 8"x1½" DI Single SS Strap Service Saddle 8.63-9.05.

     3. For 2 inch services: Romac 101S-9.05X2" CC 8"x2" DI Single SS Strap Service Saddle 8.63-9.05.

- **Replace** paragraph B.3 in its entirety with the following:

  3. Product:

     a. For 1" services: LL 1 B25009N CC x 110IPS Corp Stop Muller Low Lead.

     b. For 1½" services: 1½" 74701B-33 EB CC x IPS Pack Joint Ball Corp Stop AY McDonald.

     c. For 2" services: 2" 74701B-33 EB CC x IPS Pack Joint Ball Corp Stop AY McDonald.

- **Replace** paragraph D.5 in its entirety with the following:

  5. Product:

     a. For 1" services: Muller LL 1"x24" Low-Lead H1404-2A-N Meter Yoke with L/W Stop and Asse Dual CK.

     b. For 1-½" services: Muller Low Lead LL 1-½"x24" B2422-2N Meter Setter with Angle Ball Valve and Check Valve Less By-Pass.

     c. For 2" services: Muller Low Lead LL 2"x24" B2422-2N Meter Setter with Angle Ball Valve and Check Valve Less By-Pass.

- **Replace** paragraph G in its entirety with the following:

  G. Meter Box: Meter box sizes shall be as listed below for the different Service sizes. Boxes exposed to traffic shall be traffic rated. A Manufacturer's certification is required to verify the traffic rating.

     1. For 1" services: Raven 20"x24"x36" high density polyethylene tapered wall meter box with top flange and bottom ears, and white interior. Model No. RMB-RT-20x24x36.

     2. For 1-½" services: 30"x48" CMP meter box.

     3. For 2" services: 30"x48" CMP meter box.

- **Replace** paragraph H in its entirety with the following:

  H. Meter Box Cover

     1. For 1" services: 20" Neptune Recessed CI Meter Box Ring and R-900 Reader Lid, W/1-1/32" Pent Nut, 3 Prongs on Bottom of Ring, D&L Supply.

     2. For 1½" services: 24" Water Manhole Frame with R-900 Neptune Recessed Reader Cover A1055 (D&L Foundry) MH23. Concrete Manhole Riser Ring, 2" or 4".

3. For 2” services: 24” Water Manhole Frame with R-900 Neptune Recessed Reader Cover A1055 (D&L Foundry) MH23. Concrete Manhole Riser Ring, 2” or 4”.

Part 2.5 Health Requirements

- **Replace** paragraph A with the following:

A. Applicable NSF Compliance: All products used to construct a public drinking water system and will be in contact with potable water must be certified by an accredited ANSI certification body to meet applicable ANSI/NSF standards (NSF/ANSI 61, Annex G or NSF/ANSI 61 and NSF/ANSI 372). Affidavits of compliance may be required.

Part 3.1 Examinations

- Paragraph C, **Replace** “48 inches” with “42 inches”.

Part 3.2 Installation

- Paragraph C, **Delete** “SD-401” and “SD-402” and insert “COA-401” and “COA-402”.
- **Add** the following new paragraph M:

M. All service piping for new services shall be a continuous piece from corporation stop to meter setter assembly; no fittings or repair couplings allowed.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 500 – SEWER

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 500 - Sewer

General

The City of Athol does not currently own and operate a municipal sewer utility, however ISPWC Division 500 and the following supplemental specifications shall apply to all sewer utilities constructed within city limits or requesting annexation.

Section 501 - Gravity Sewers

Part 1.4 Submittals

- **Replace** paragraph D in its entirety with the following:

  D. Closed circuit television inspection tapes and logs.

Part 2.1 Pipe Size, Type and Strength

- **Delete** paragraph B in its entirety.
- **Add** the following new paragraph D:

  D. The use of High-Density Polyethylene (HDPE) pipe is only allowed with approval by the City Engineer.

Part 2.2 Gravity Sewer Pipe and Fittings

- **Delete** paragraph C in its entirety.
- **Delete** paragraph D in its entirety.
- **Delete** paragraph E in its entirety.
- **Delete** paragraph G in its entirety.
- **Delete** paragraph H in its entirety.
- **Delete** paragraph I in its entirety.

Part 3.2 Pipe Installation

- **Add** the following to paragraph A:

  Construction debris shall not be allowed to enter existing sewer system. Failure to comply will obligate the contractor to clean downstream mainlines, manholes, and lift stations, CCTV inspect and repair any damaged caused by the debris, as determined by the City.

- **Add** the following new paragraph U:

  U. No asphalt or surface repair shall be placed over new sewer construction until

acceptable testing results have been received by the City.

Part 3.3 Plugs and Pipe Markers

- **Add** the following new paragraph D:

  D. All main line stub-outs shall be surveyed for horizontal and vertical location.

- **Add** the following new paragraph E:

  E. Install green Carsonite utility markers where sewer main crosses at each right of way line and at 500 foot intervals where sewer main is not beneath a roadway or sidewalk.

Part 3.4 Testing

- **Add** the following new paragraph B.2:

  2. Infiltration shall be cause for rejection.

- **Replace** the second sentence of paragraph G.1 with the following:

  Deflection tests shall be required at the city's discretion if visual or CCTV inspection reveals pipe defects, damage or deflection.

- **Modify** paragraph H.1.a to read as follows:

  a. If standing water is observed due to grade defects, use the following table to determine allowable depth of standing water in relationship to the design slope of pipe.

Pipeline Slope	Maximum Allowable Standing Water Depth (inches)	
	New Construction	1-Year Warranty
G < 0.10%	≤ 5/8"	≤ 1-1/4"
0.10% ≤ G < 0.20%	≤ 1/2"	≤ 1"
0.20% ≤ G < 0.40%	≤ 3/8"	≤ 3/4"
0.40% ≤ G < 0.60%	≤ 1/4"	≤ 1/2"
0.60% ≤ G < 0.80%	≤ 1/8"	≤ 1/4"
G > 0.80%	No Standing Water	≤ 1/8"

Section 502 - Manholes

Part 2.2 Manholes

- **Replace** paragraph C in its entirety with the following:

  C. All manholes shall be constructed with eccentric cones.

Part 2.4 Grade Rings

- **Delete** paragraph B in its entirety.
- **Add** the following sentence to end of paragraph C:

  Modify only with preapproval of City Engineer. Maximum height of grade rings shall be 12 inches.
- **Modify** paragraph D by deleting "up to the maximum height shown on the drawings for manholes" and insert "up to a maximum height of 24 inches."

Part 2.7 Liner

- **Replace** paragraph A in its entirety with the following:

  A. Manhole liner shall be SprayWall by SprayRoq applied by the manufacturer's certified replacement

Part 2.9 Manhole Joint Sealant

- **Replace** paragraphs A and B in their entirety with the following:

  A. For manhole joints above high groundwater, use Mastic or rubber gasket.

  B. For manhole joints located below high groundwater, use Mastic, with Vulkem 116, and Butyl Compound Rubber Wrap.
- **Add** the following new paragraph C:

  C. Joint Sealing Material (Mastic): Con Seal CS-102B Bituminous/Butyl Blend Sealant for Precast Structures as supplied by Concrete Sealants, Inc., Tipp City, Ohio or RAM-NEK Preformed Plastic Gasket as supplied by Henry Company, Sealants Division of Huston, Texas, or City approved substitution.

Part 2.10 Drop Manholes

- **Add** the following new paragraph 2.10:

  2.10 Drop Manholes

  A. Controlled Drop Bowl: B-10 Drop Bowl as supplied by RELINER/Duran Inc., Lyme, Connecticut, or City approved substitute.

  B. Pipe Brackets: Stainless Steel Adjustable Pipe Brackets as supplied by RELINER/Duran Inc., Lyme, Connecticut, or City approved substitute.

Part 2.11 Services and Penetrations into Manholes

- **Add** the following new paragraph 2.11:

  2.11 Services and Penetrations into Manholes

  A. Sewer services are not allowed to be connected into manholes.

  B. Penetrations into manholes shall be eight (8) inches or larger in diameter. Penetrations into manholes less than eight (8) inches in diameter are not allowed.

Part 3.2 Placement of Bedding

- Paragraph A, first sentence, **Replace** the "4 inches" with "a minimum of 6 inches".

Part 3.3 Connection of Sewer Lines to New Manholes

- **Delete** paragraph A.1 in its entirety.

Part 3.7 Manhole Barrel and Cone Construction

- **Replace** "21" with "18 Inches" in paragraph C.
- **Modify** paragraph F by deleting "non-shrink" from the last sentence of this paragraph and by **adding** the following after the last sentence of this paragraph: "Seal manhole joints below high groundwater using Mastic, with Vulkem 116, and Butyl Compound Rubber Wrap per Standard Drawing COA-508."

Part 3.8 Placement of Grade Rings

- **Replace** "21" with "18 Inches" in paragraph A.
- **Add** the following new sentence to paragraph A: "Use no more than two grade rings"
- **Replace** paragraph C in its entirety with the following:

  C. Do not grout grade rings.

Part 3.10 Installation of Liner

- **Replace** paragraph 3.10 in its entirety with the following:

  3.10 Installation of Liner

  A. All pressure sewer receiving manholes and lift station wet wells shall be lined, and other locations specified by the City. All liners shall be applied by SprayWall certified installer. Line new structures with 150 mil thick liner. Line existing structures with 250 mil thick liner.

  1. Coverage: Interior surface of the manhole, including inverts and grade rings if not otherwise specified.
  2. Isolation: Completely isolate the concrete surfaces of the manhole from the gases in the sanitary sewer atmosphere.

Part 3.12 Testing

- **Replace** the word "lift" with "all" in paragraph C.2.b.1.

Part 3.14 Construction of Drop Manholes

- **Replace** paragraphs A and B in their entirety with the following:

  A. All drop manholes to be 5-feet in diameter. Construct drop manholes per Standard Drawing COA-504 Drop Manhole and the Contract Documents.

  B. Install Controlled Drop Bowl, vertical pipe, and pipe support brackets according to manufactures recommendations.

Section 503 - Clean-Outs

Part 1.5 Project Record Documents

- **Add** the following new paragraph C:

  C. Provide Digital survey file of As-Built locations of manholes (rim, and pipe inverts) and services on Project horizontal and vertical datum. Submit to the City with As-Built drawings.

Section 504 - Sewer Services

Part 1.5 Project Record Documents

- **Add** the following new paragraph C:

  C. Provide Digital survey file of As-Built locations of manholes (rim, and pipe inverts) on Project horizontal and vertical datum. Submit to the City with As-Built drawings.

Part 2.2 Pipe and Fittings

- **Replace** paragraph A in its entirety with the following:

  A. PVC Sewer Pipe and Fittings: ASTM-D1785

  1. Class: Schedule 40
  2. Joints: Solvent weld joints and fittings conforming to ASTM-D2466
  3. Cell wall classification: 12454

- **Delete** paragraph C in its entirety.
- **Replace** paragraph E.3 in its entirety with the following:

  3. All service connections shall be made with low profile Romac Inserta-Tees consisting of PVC Hub, Rubber Sleeve, and Stainless Steel Band.

Part 3.2 General

- **Replace** paragraph A in its entirety with the following:

A. Perform excavation, bedding placement, pipe installation, backfill, and surface restoration in accordance with the Contract Documents. Install service pipe and fittings per Section 501 – Gravity Sewers and Standard Drawing COA-511 – Standard Sewer Service Detail for New Development Projects.

Part 3.3 Connection to Main

- **Replace** paragraph A in its entirety with the following:

B. Connection to New Mains

1. Solid Wall PVC (8-inch through 15-inch): PVC Tee
2. Solid Wall PVC (18-inch and greater): Service saddle perSection 504.2.2.F
3. Ductile Iron (all sizes): Ductile Iron Tee

- **Replace** paragraph B in its entirety with the following:

C. Connection to Existing Mains

1. All main materials: Service saddle per Section 504.2.2.F.

Part 3.4 Connection to Existing Manholes

- **Add** the following new paragraph D:

D. Connection to existing manholes is not allowed, unless specifically approved by the City in writing.

Part 3.6 Installation of Service Line Markers

- **Add** the following new paragraph G:

G. Where only concrete curb is provided stamp a 4" high letter "S" in the curb face at the location of the service Line. Where sidewalk is provided stamp a letter "S" at the back of the sidewalk.

- **Add** the following new paragraph H:

H. Survey the horizontal location of all sewer services with survey equipment.

Section 505 - Pressure Sewers

Part 2.2 PVC Pipe and Fittings

- **Modify** paragraph A.1 to include "Pipe shall be DR-25 unless otherwise approved by the City Engineer"
- **Delete** paragraph B.

Part 2.6 Valves

- **Add** the following new paragraphs B, C, and D:

B. Plug Valves

1. Plug valves shall be non-lubricated eccentric plug valves. Plug valves shall be manufactured by Dezurik, Pratt, Clow, or approved equal. All plug valves shall be furnished by a single manufacturer.

2. Valves shall have ASTM A126 Class B cast iron body and plug, stainless steel bearings, neoprene resilient plug with welded in overlay nickel seats. Shaft packing shall be multiple V-ring type BUNA filled PTFE. The plug shall have a cylindrical seating surface eccentricity offset from the center of the plug shaft. Flanged valve ends shall be flanged drilled to ANSI B16.5, 150-pound standard. On HDPE pipe, plug valve shall be threaded connection to HDPE coupling adapter. Mechanical joint valve ends shall conform to AWWA C111.

3. Plug valves 4" and larger shall have gear actuators to open and close the valve. Gear actuators shall be housed in a semi-steel housing with stainless steel nuts, bolts and washers. Operator gears shall run in a lubricant in a sealed housing.

4. Buried valves shall have extension stems with a 2-inch operating nut, tee wrench and a cast iron valve box. Valve boxes per Section 402, Paragraph 2.7, with the following modifications: Valve box covers shall have the word "Sewer" cast into them.

C. Check Valves

1. Check valves for pump discharge shall be swing check valves of the outside lever and spring or weight type, in accordance with ANSI/AWWA C 508 - Swing-Check Valves for Waterworks Service, 2 in. through 24 in. NPS. Check valves shall be as manufactured by American Flow Control (Darling), APCO (Valve and Primer Corp.), Kennedy Valve, Mueller Company, Crane, or approved equal.

2. Valves shall have full-opening passages, designed for a water-working pressure of 150 psi. They shall have a flanged cover piece to provide access to the disc.

3. The valve body and cover shall be of ASTM A 126 cast iron, with flanged ends conforming to ANSI/ASME B 16.1. The valve disc shall be of cast iron, ductile iron, or ASTM B 584 bronze, and the hinge pin shall be of bronze or stainless steel. The valve seat and rings shall be of ASTM B 584 or B 148 bronze, or of Buna-N.

D. Combination Air Valve

1. Combination air valves shall combine an air & vacuum orifice and an air release orifice in a single body and shall be designed to operate with raw wastewater. Combination air valves shall be A.R.I. D-025 valves, designed for a working pressure of 150 psi.

2. Valve shall have a body shape designed to prevent solids buildup, independent

spring-guided linkage between lower float/rod assembly and the upper float sealing mechanism to allow free movement of the float and rod, and a rolling seal mechanism (vs. direct float seal) less sensitive to pressure differentials.

3. Valve body and float shall be manufactured of composite materials. All internal metal parts shall be Type 316 Stainless Steel.

Section 506 - Plastic Liner

- Delete Section 506 in its entirety.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 600 – CULVERTS, STORM DRAIN, AND GRAVITY IRRIGATION

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 600 - Culverts, Storm Drains, and Gravity Irrigation

Section 601 - Culverts, Storm Drain, and Gravity Irrigation Pipe

Part 2.2 Culvert, Storm Drain, and Gravity Irrigation Pipe and Fittings

- **Delete** paragraphs C through M in its entirety.
- **Replace** paragraph N with the following:

  N. Triple wall polypropylene Pipe: 12 inch to 60 inch: ASTM 2764.

Section 602 - Storm Drain Inlets, Catch Basins, Manholes, and Gravity Irrigation Structures

Part 2.2 Precast Appurtenances

- **Add** the following new paragraph C:

  C. All manholes shall be constructed with eccentric cones.

Part 2.3 Cast-in-Place Appurtenances

- **Add** the following new paragraph C:

  C. All manholes shall be constructed with eccentric cones.

Part 2.5 Grade Rings, Frames, Grates, and Covers

- **Modify** paragraph B to read as follows:

  B. Grade rings to be 3,000 psi per Section 703 Concrete. Modify only with preapproval of City Engineer. Maximum height of grade rings shall be 12 inches. WhirlyGig or approved substitution installed per manufacturer's recommendations, may be used in lieu of grade rings up to a maximum height of 24 inches.

Part 2.7 Liner

- **Replace** paragraph A in its entirety with the following:

  A. Manhole liner shall be SprayWall by SprayRoq applied by the manufacturer's certified representative.

Part 2.11 PVC Drainage Structures

- **Delete** paragraph B in its entirety.

Part 2.12 Manhole Joint Sealant

- **Add** the following new paragraph 2.12:

2.12 MANHOLE JOINT SEALANT

A. For manhole joints above high groundwater, use Mastic or rubber gasket.

B. For manhole joints located below high groundwater, use Mastic, with Vulkem 116, and butyl compound rubber wrap.

Part 2.13 Drop Manholes

- **Add** the following new paragraph 2.13:

2.13 DROP MANHOLES

A. Controlled Drop Bowl: B-10 Drop Bowl as supplied by RELINER/Duran Inc., Lyme, Connecticut, or City approved substitute.

B. Pipe Brackets: Stainless Steel Adjustable Pipe Brackets as supplied by RELINER/Duran Inc., Lyme, Connecticut, or City approved Substitute.

Part 2.14 Catch Basin Grates

- **Add** the following new paragraph 2.14:

2.14 CATCH BASIN GRATES

A. Catch Basins on continuous grade slopes through the basin shall use Type I grates.

Part 3.2 Placement of Bedding

- **Replace** paragraph A in its entirety with the following:

A. Place 6 inches of compacted Type 1 bedding on prepared subgrade as specified in Section 305 Pipe Bedding. Extend bedding either to the limits of excavation or at least 12 inches outside the limits of the base section. Provide a minimum of 12 inches of space between the outer surface of the structure and earth wall for inspection purposes.

Part 3.3 Connection of Storm Drain or Gravity Irrigation Lines

- **Delete** Paragraph A.1.

Part 3.7 Appurtenances Barrel or Box Construction

- **Replace** paragraph B in its entirety with the following:

B. Prior to installation of barrel or box sections, clean all joining surfaces thoroughly and place non-shrink grout or a mastic (Ram-Nek or approved substitution) or pre-lubricated gasket (TYLOX Super Seal or approved substitution) to the top of the concrete base providing a watertight seal. Alternatively, imbed the barrel section in the concrete base prior to the concrete curing. Any visual leakage will be cause for rejection.

- **Add** new paragraph C:

  C. Ensure that the top of the cone or box sections allows for a maximum of 18" from top of the cone or box to the finished rim elevation.

- **Add** new paragraph D:

  D. Trim mastic flush with the inside wall of the manhole.

- **Add** new paragraph E:

  E. Do not backfill barrel or box until grout has set up.

Part 3.9 Placement of Grade Rings

- Paragraph A, **Replace** "21 inches" with "18 inches"
- Paragraph A, **Add** the following new sentence: "Use no more than two grade rings."
- **Add** new Paragraph C:

  C. Place polyethylene grade rings in accordance with the manufacture specifications. To be used only with written pre-approval of the City Engineer.

Part 3.14 Installation of Liner

- **Delete** paragraph 3.14 in its entirety and replace it with the following:

  A. All locations specified by the City shall be lined with SprayWall by a certified installer. Line new structures with a 150 mil thick liner, and existing structures with a 250 mil thick liner.

  1. Coverage: Interior surface of the manhole or structure including inverts and grade rings if not otherwise specified.
  2. Isolation: Completely isolate the concrete surface of the manhole from the gases in the sanitary sewer atmosphere.

Part 3.15 Construction of Drop Manholes

- **Add** new paragraph 3.15 as follows:

  3.15 CONSTRUCTION OF DROP MANHOLES

  A. All drop manholes to be 5-feet in diameter. Construct drop manholes per Standard Drawing COA-504 - Drop Manhole and the Contract Documents.

  B. Install Controlled Drop Bowl, vertical pipe and pipe support brackets according to manufactures recommendations.

Part 3.16 Catch Basin Grates

- **Add** new paragraph 3.16 as follows:

  3.16 CATCH BASIN GRATES

  A. Place Type I grates on catch basins with a continuous slope through the basin with the transverse bars installed to intercept upstream flows.

  B. Place Type II grates on catch basins installed at sags and low points.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 700 – CONCRETE

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 700 - Concrete

Section 703 - Cast-in-Place Concrete

Part 2.4 Concrete Mix

- **Replace** Part 2.4 "Concrete Mix" with the following:

A. Furnish commercial ready mix shall have the following properties:

Construction Type	Minimum Compressive Strength	Minimum Cement Content	Maximum Water / Cement Ratio	Air Entrainment Percentage	Max Slump
Light Pole, Sign, Fence Foundations	3,000 psi	560 LB/CY	0.49	6.5 ± 1.5	4 ± 1
Curbs, Gutters	4,000 psi	560 LB/CY	0.44	6.5 ± 1.5	2.5 ± 1
Concrete Pavement	4,000 psi	560 LB/CY	0.44	6.5 ± 1.5	4 ± 1
Retaining Walls	4,000 psi	560 LB/CY	0.44	6.5 ± 1.5	4 ± 1
Walking Surfaces Sidewalks, Patios, Driveways, Stairs	4,500 psi	564 LB/CY	0.44	6.5 ± 1.5	4 ± 1
Walking Surfaces with Reinforcement Sidewalks, Patios, Driveways, Stairs	5,000 psi	611 LB/CY	0.40	6.5 ± 1.5	4 ± 1

B. Fly ash may be used to replace a portion of the Portland cement in the concrete mix. The fly ash used shall not exceed twenty five percent (25%) ofthe total cement material in the mix. The Cement material in the mix includes both Portland cement and fly ash. Fly ash shall be class F conforming to AASHTO M 295 with the additional requirement that the available alkalis in the fly ash shall not exceed two percent (2%).

C. Ready-mixed concrete shall conform to the provisions in ASTM C 94 regarding batching, mixers and agitators, mixing and delivery, inspection, consistency and air content, and certification of batches.

Part 3.4 Concrete Finishing

- **Replace** Paragraph A with the following:

A. Provide formed concrete surfaces to be left exposed with Sacked Finish, if not otherwise specified.

- **Add** the following paragraphs:

D. Point & Patch: Patch defects, chip or rub off fins exceeding one-quarter inch (1/4') in height. Patch tie holes and defects and remove fins completely. When surface texture is impaired and form joints misaligned by more than one-eighth inch, grind and bush hammer. Slurry grout areas evidencing minor mortar leakage to match adjacent concrete.

E. Sacked Finish: Sacked finished to be applied unless specifically stated otherwise on the drawings. Remove forms and perform necessary patching as soon after placement as possible. Finish newly hardened concrete no later than the day following form removal. Wet surfaces and rub with carborundum brick or other abrasive until uniform color and texture are produced. No cement grout to be used other than paste drawn from concrete rubbing process.

Part 3.8 Defective Concrete

- **Replace** with new Paragraph B as follows:

B. Concrete not meeting the 28-day design strength shall be deemed defective and will be rejected unless specifically approved in writing by the City Engineer for non-crucial installations. When the City Engineer accepts concrete in non- crucial installations not meeting the 28-day design strength, the contract price for the work will be adjusted in accordance with the following table. If concrete is at incidental cost or included in the overall cost of an item, the Engineer will establish a value of the concrete proportional to the total contract price for purposes of establishing a price reduction on the concrete that does not meet specified strength but is allowed to remain in place. The strength of the concrete will be determined by the individual strength tests.

Percent of Specified Strength	Pay Factor Adjustment
≥ 100	1.0
≥ 95 < 100	0.90
≥ 90 < 95	0.80
< 90	Subject to rejection [a]

[a] If allowed to remain in place, as determined by the City Engineer, the pay factor will be 0.5.

Section 705 – Portland Cement Concrete Pavement

Part 2.5 Curing and Protective Coating Materials

- **Replace** paragraph A with the following:

  A. Sealer: Use Conspec Silane 40 or approved equal.

Section 706 - Other Concrete Construction

Part 1.1 Section Includes

- Paragraph A, **Add** "detectable warning domes".

Part 1.4 Submittals for Review

- **Add** new paragraph C as follows:

  C. Contractor shall submit a request for approval of the proposed detectable warning dome units to the City Engineer.

Part 2.4 Portland Cement Concrete

- **Replace** paragraph A with the following:

  A. All concrete sidewalk, vehicle ramps, and curb and gutter shall conform to Section 703, as modified in accordance with these special provisions.

Part 2.5 Accessories

- **Add** new paragraph B as follows:

  B. Detectable Warning Domes: Detectable ADA warning domes shall be pre-manufactured units integrally cast into concrete ramp. The detectable warning surface shall be removable. Use Replaceable Wet-Set, manufactured by ADA Solutions, or approved equal. Color shall be "Brick Red" UV stable solid color throughout, and UV stable and replaceable cast-in-place style.

- **Add** new paragraph C as follows:

C. Colored Concrete

1. Integral concrete colorant: ASTM C 979, factory-measured powdered mix in self-dissolving packaging, consisting of non-fading finely-ground synthetic mineral-oxide coloring pigments and water reducing wetting agent.
   a. Product: Butterfield Color Uni-mix Integral Colorant.
   b. Color shall be as indicated on plans.
2. Liquid Release Agent: Clear, evaporating formulation that facilitates release of form stamps and texture rollers from colored concrete.
   a. Product: Butterfield Color Perma-Cast Clear Liquid Release.

Part 2.6 Standard Details

- **Replace** paragraph A with the following:

A. Comply with Standard Drawings SD-701 – SD-714 A (except SD-712) and COA-712 for miscellaneous new concrete construction unless otherwise detailed in the Contract Documents.

Part 2.7 Pedestrian Ramps

- **Add** paragraph 2.7 as follows:

2.7 PEDESTRIAN RAMPS

A. Detectable warning Surfaces shall be yellow in color.

Part 3.8 Finishing

- **Replace** paragraphs A and D with the following:

A. Driveways, Vehicle Approaches, and Sidewalk: Concrete flatwork shall not be troweled. Use screed, float, and broom. Light broom.

D. Inclined Vehicular Ramps: Concrete flatwork shall not be troweled. Use screed, float, and broom. Broomed perpendicular to slope.

Part 3.13 Standard Details

- **Replace** paragraph A with the following:

A. Comply with Standard Drawings SD-701 – SD-714 A (except SD-712) and COA-712 for other concrete construction unless otherwise detailed in the Contract Documents.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 800 – AGGREGATES AND ASPHALT

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 800 - Aggregates and Asphalt

Section 801 - Uncrushed Aggregates

Part 2.2 Uncrushed Aggregate Gradation

- Table 1, Delete in its entirety and replace with the following table:
- **Add** paragraphs I through M as follows:

I. Uncrushed aggregate under roadways, sidewalks, and pathways shall be Aggregate Subbase (Pit Run) as defined below.

J. Aggregate Subbase (Pit Run): Uncrushed rock aggregate subbase material that can be compacted readily by watering and rolling to form a firm stable subbase. The material shall meet the following requirements:

Sieve Size	Percent Passing By Weight
4”	100
3”	90-100
No. 4	30-75
No. 200	0 – 15.0

a. The sand equivalent value shall be not less than 30, sand equivalent not required if less than 5% passing the No. 200 sieve.

b. The material shall have a Los Angeles Abrasion of 40% or less.

K. Imported Trench Backfill (8” Pit Run): Uncrushed rock aggregate material that can be compacted readily by watering and rolling to form a firm stable trench. The sand equivalent value shall be not less than 25, sand equivalent not required if less than 5% passing the No. 200 sieve, and the material shall meet the following requirements:

Sieve Size	Percent Passing By Weight
8”	100
No. 4	15 - 60
No. 200	0 - 12

L. Rip Rap: Riprap material shall be hard, durable, angular in shape and free from overburden and organic material. The breadth or thickness of any stone shall not be less than one-third of its length. The minimum unit weight of the stone shall be 165 pounds per cubic foot. Riprap material shall have less than 10 percent loss after five cycles in the sulfate soundness tests and shall conform to the following gradation:

Weight of Stones	Percent of Total Weight Less than the Stone Weight
200 lbs	100
130 lbs	80
90 lbs	50
25 lbs	10 max.

M. Landscape Rock: Provide samples and color selection submittal to the Owner for selection. Material shall be at least 1-1/2" minus rock conforming to the following gradation:

Sieve Size	Percent Passing by Weight
1-1/2"	100
1"	25 - 60
3/8"	0 - 4
No. 200	0 - 2

Section 802 - Crushed Aggregates

Part 2.2 Crushed Aggregate for Base Gradation

- **Add** paragraph H as follows:

H. Crushed aggregate under roadways, sidewalks, and pathways shall be Type 1, ¾ inch minus crushed aggregate. This aggregate may also be referred to as Aggregate Base or ¾" Road Mix.

Part 2.6 Additional Suitable Materials

- **Add** Section 2.6 as follows:

2.6 ADDITIONAL SUITABLE MATERIALS

A. Crushed Stone Backfill (Bedding Chips): Manufactured angular, crushed stone, crushed rock, or crushed slag with the following gradation requirements:

Sieve Size	Percent Passing By Weight
1”	100
3/4"	80 - 100
3/8”	20 - 70
No. 4	5 - 20
No. 200	0 - 3

B. Coarse Gravel (Drain Rock): Crushed rock or gravel which is free of shale, clay, friable materials, and or debris that conforms to the gradation below. Drain Rock shall have a minimum of 35% Air Voids as determined by ASTM C 29 Standard Test Method for Unit Weight and Voids in aggregate, Jigging Procedure.

Sieve Size	Percent Passing By Weight
3”	100
1”	25 - 60
3/8”	0 - 4
200	0 - 2

C. Gravel Surfacing: Meet the following requirements for gravel surfacing, including added binder or blending material:

Sieve Size	Percent Passing By Weight
3/4"	100
No. 4	40-80
No. 10	25-60
No. 200	8-20

a. Dust Ratio: the portion passing the No. 200 (0.075 mm) sieve cannot exceed two-thirds of the portion passing the No. 40 (0.425 mm) sieve.

b. For material passing the No. 40 (0.425 mm) sieve, the liquid limit must not exceed 35 and the plasticity index must not be below 6 or above 12.

c. A wear factor not exceeding 40% at 500 revolutions.

d. At least 35% by weight of the aggregate retained on the No. 4 (4.75 mm) sieve must have one fractured face.

D. See Section 2.2 for additional requirements for uncrushed aggregates.

Section 805 – Asphalt

Part 2.4 Anti-Stripping Additive

- **Replace** paragraph A with the following:

A. Anti-stripping additive shall be Kling beta 2700, ACRA 500 or equal. Anti-stripping additive shall be added to the asphalt at the refinery at a minimum rate of 0.5 percent by weight of asphalt.

Section 810 - Plant Mix Pavement

Part 2.1 Hot Mix Asphalt Design

- **Delete** paragraph A.
- **Delete** paragraph B.
- **Delete** paragraph C.
- **Add** paragraph D.3 as follows:

3. Superpave Method Design Criteria:

a. Residential: ½" SP 58:28

b. Collector and Arterial Roads: ½" SP 64:28

- **Add** paragraph D.4 as follows:

4. Submittals:

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

B. Superpave Hot Mix Asphalt: Submit job mix formula and ITD approval letter of previously approved Mix Design. Prepare a submittal that includes:

1. The original approved mix design that includes the confirmed JMF from the previous project;

2. adjustments made to the JMF that make it the C-JMF;

3. adjustments made to the C-JMF during production;

4. documentation supporting these adjustments.

5. Current Stockpile Quality Control testing that includes the following to

confirm the material in stockpile is similar to the material used for the original mix design, including RAP:

a. Sieve analysis on the stockpiles to be used, including crusher control charts;

6. Note: Previously used mix designs that are used during the calendar year of confirmation may omit Step 5 if the stockpiles consist of the crushed material, including RAP, from the original mix design. Previously used mix designs that more than one calendar year has elapsed from the time of confirmation must include Step 5.

7. JMF with a content of more than 30% recycle asphalt pavement (rap) will not be accepted, regardless of prior ITD approval.

C. Material Test Reports: For each paving material.

- **Delete** paragraph E.
- **Delete** paragraph F.

Section 811 - Road Mix Pavement

- **Delete** this section in its entirety.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 900 – PRESSURE IRRIGATION

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 900 – Pressure Irrigation

Section 901 - Pressure Irrigation Pipe

Part 2.13 Pressure Irrigation Sleeves

- **Add** new section 2.13 as follows:

2.13 Pressure Irrigation Sleeves

A. All pressure irrigation sleeves shall be PVC pressure rated pipe (ASTM D 2241) per Section 901.2.1.A, or C-900 PVC pipe per Section 401.2.1.A rated for no less than 200 psi.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 1000 – CONSTRUCTION STORMWATER BEST MANAGEMENT PRACTICES

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 1000 – Construction Stormwater Best Management Practices

Section 1001 – Construction Site Management

Part 2.1 Incorporated by Reference

- **Add** paragraphs B and C as follows:

  B. Contractor responsible for providing all sediment control items and maintaining throughout the project.

  C. Contractor responsible for furnishing a Stormwater Pollution Prevention Plan (SWPPP) and erosion and sediment control drawings to the City for review.

Part 4 Measurement and Payment

- **Add** the following to paragraph 4.1.A:

  This item shall include but not limited to all stormwater and sediment control measures needed to meet the stormwater management plan, City and State/Federal standards including witches hats, maintenance of controls, fiber waddles, mulching, creation of SWPPP and sediment control plans/drawings.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

DIVISION 1100 – TRAFFIC

CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

Division 1100 – Traffic

Section 1102 Street Lighting

Part 2.8 Mast Arms for Wood Poles

- **Delete** Section 2.8 in its entirety.

Part 2.9 Wood Poles

- **Delete** Part 2.9 in its entirety.

Part 2.11 Fiberglass Poles

- **Delete** Part 2.11 in its entirety.

Section 1104 Permanent Pavement Markings

Part 3.3 Paint Application

- **Add** paragraphs O and P as follows:

  O. All markings shall be placed with two coats of paint

  P. The second coat of paint shall be applied no earlier than two (2) hours after the first coat is applied.

CITY OF ATHOL

SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS TO THE ISPWC

CITY OF ATHOL STANDARD DETAILS

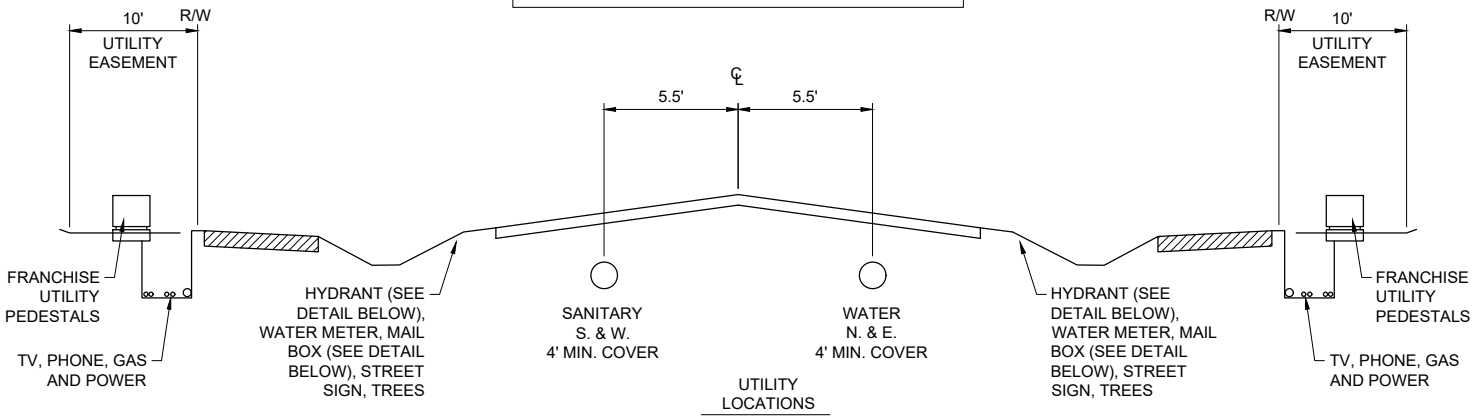
CITY OF ATHOL
SUPPLEMENTAL SPECIFICATIONS
TO THE ISPWC

City of Athol (COA) Standard Details

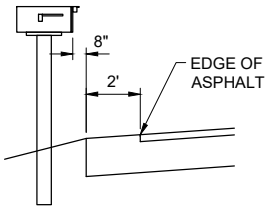
COA-101	Utility Locations
COA-102	Parking Layout Dimensions
COA-103	Residential Setback Requirements
COA-104	Clear View Triangle - Uncontrolled Intersections
COA-105	Clear View Triangle - Semi-controlled Intersections
COA-106	Clear View Triangle - Controlled Intersections
COA-107	Clear View Triangle - Alleys / Driveways
COA-401	1” Water Service Connection
COA-402	1 ½” & 2” Water Service Connection
COA-406	Valve Box and Lid Detail
COA-409	Sampling Station Detail
COA-504	Sanitary Sewer Inside Drop
COA-508	Manhole Joint & Collar Details
COA-511	Standard Sewer Service Detail
COA-712	Detectable Warning for Pedestrian Access
COA-806	Typical Street Widening
COA-810	Driveway Location & Width Requirement
COA-811	Private Shared Driveway 30’ Common Access Easement Two 10’ Travel Lanes
COA-812	Cul-de-sac Design
COA-813	Minor Streets with Infiltration Drainage
COA-814	Major Streets with Infiltration Drainage
COA-815	Typical Rural Roadway (Within Impact Area)

Note: All ISPWC standard details shall be referenced except those replaced by these City of Athol Standard Details. Any deviations must be requested in writing and approved by the City Engineer.

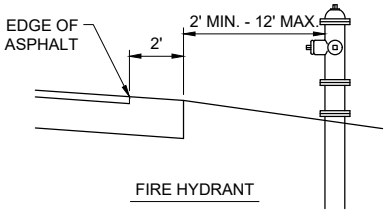
"CALL TWO WORKING DAYS BEFORE YOU DIG 1-800-342-1585 OR 811"



UTILITY LOCATIONS



RESIDENTIAL MAILBOX



FIRE HYDRANT

NOTES:

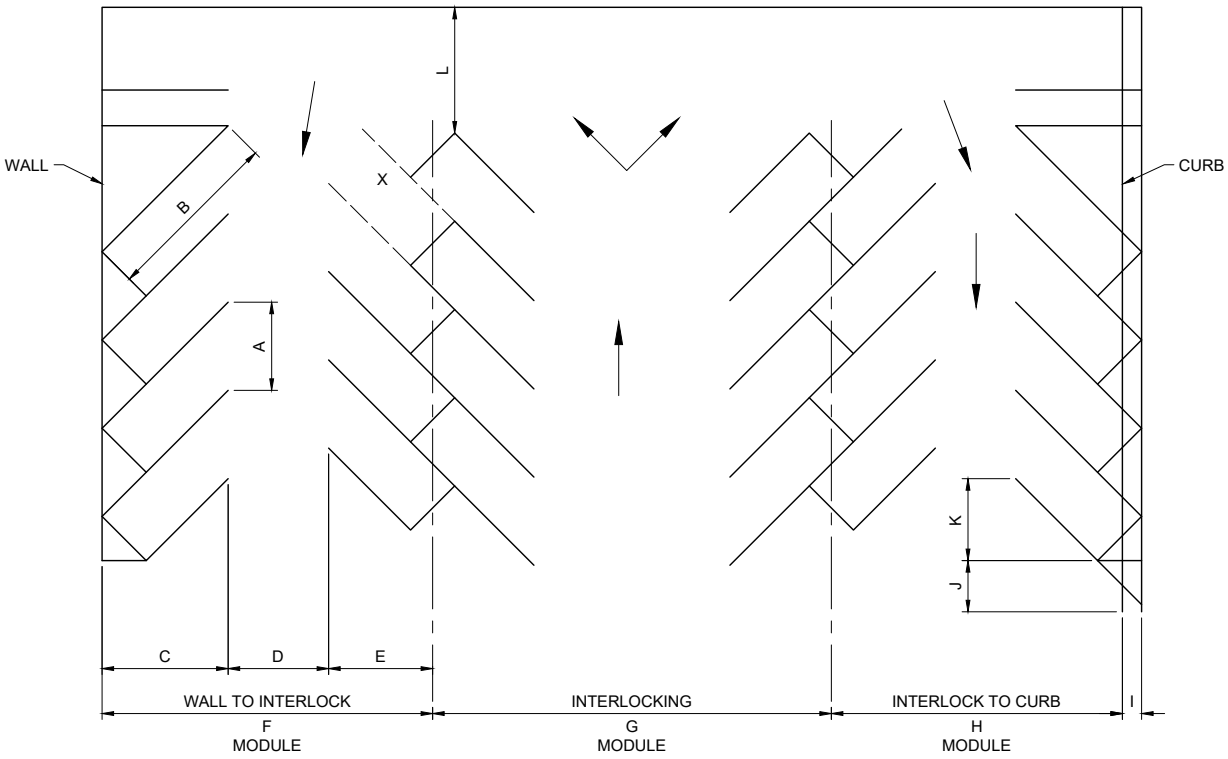
1. LOCATIONS OF EXISTING UTILITIES MUST BE FIELD LOCATED WITH RESPECTIVE OWNERS BEFORE DIGGING OR MAKING NEW CONNECTIONS.
2. SANITARY SEWER CAN VARY 4' FROM CENTERLINE AROUND CURVES, HOWEVER DEQ MINIMUM SEPARATION DISTANCES MUST BE MET.
3. WATER AND SEWER LATERALS SHALL BE STUBBED OUT TO FAR SIDE OF THE UTILITY EASEMENTS AND CLEARLY MARKED AS PER CITY STANDARD.
4. STREET LIGHTING SHALL BE AT EACH INTERSECTION AND MID-BLOCK WITH A MAXIMUM SPACING OF 350' BETWEEN LIGHT POLES.
5. UTILITY POLES, FIRE HYDRANTS, LIGHT POLES, AND STREET SIGNS SHALL BE LOCATED WITH 1.5' MINIMUM CLEARANCE FROM EDGE OF ASPHALT TO CLOSEST FACE OF UTILITY AND SHALL NOT BE PLACED INTO SIDEWALK UNLESS APPROVED BY CITY ENGINEER.
6. TRAFFIC CONTROL DEVICES AND THEIR LOCATION SHALL CONFORM TO LATEST ADOPTED EDITION OF MUTCD.
7. ALL UTILITY FRAME AND LIDS TO BE LOCATED OUTSIDE OF WHEEL PATHS AREAS. THE TOP OF THE UTILITIES WILL HAVE A TOLERANCE OF +0 TO -1/4".
8. TREE SPECIES AND PLACEMENT WITHIN RIGHT-OF-WAY MUST HAVE WRITTEN APPROVAL OF CITY ENGINEER.
9. ANY DEVIATION FROM THESE STANDARD SHALL HAVE WRITTEN CONSENT OF THE CITY ENGINEER.

CITY OF
ATHOL, IDAHO

UTILITY LOCATIONS

STANDARD DWG:

COA-101



X = STALL NOT ACCESSIBLE IN CERTAIN LAYOUTS
PARKING LAYOUT DIMENSION (IN FT.) FOR 9' x 18.5' STALLS AT VARIOUS ANGLES.

DIMENSION	ON DIAGRAM	ANGLE 45°	60°	75°	90°
STALL WIDTH, PARALLEL TO AISLE	A	12.7	10.4	9.3	9.0
STALL LENGTH OF LINE	B	27.5	23.7	20.9	18.5
STALL DEPTH TO WALL	C	19.5	20.5	20.0	18.5
AISLE WIDTH BETWEEN STALL LINES	D	12.0	16.0	23.0	26.0
STALL DEPTH, INTERLOCK	E	16.5	18.5	18.5	18.5
MODULE, WALL TO INTERLOCK	F	48.0	55.0	62.0	63.0
MODULE, INTERLOCKING	G	45.0	53.0	61.0	63.0
MODULE, INTERLOCK TO CURB FACE	H	46.0	53.2	59.5	60.5
BUMPER OVERHANG (TYPICAL)	I	2.0	2.3	2.5	2.5
OFFSET	J	6.4	2.6	0.6	0.0
SETBACK	K	13.1	9.3	4.8	0.0
CROSS AISLE, ONE-WAY	L	14.0	14.0	14.0	14.0
CROSS AISLE, TWO-WAY	-	24.0	24.0	24.0	24.0

THE MINIMUM WIDTH OF PARKING STALLS IS 9 FT., HOWEVER THE RECOMMENDED STALL WIDTH FOR HIGH TURNOVER PARKING LOTS IS 10 FT.

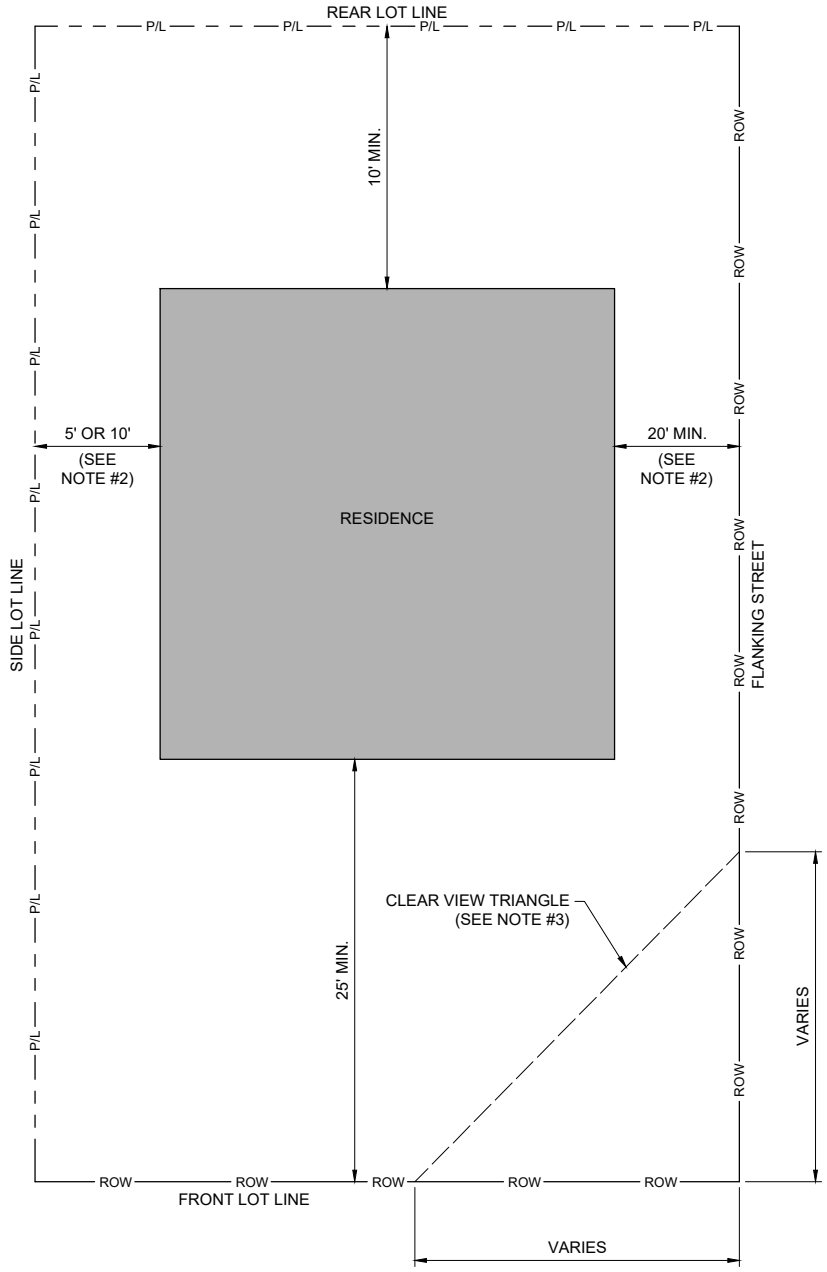
PARALLEL PARKING STALLS SHALL BE 8' WIDE x 23' LONG.

CITY OF
ATHOL, IDAHO

PARKING LAYOUT DIMENSIONS

STANDARD DWG:

COA-102



NOTES:

1. FENCES ARE OKAY TO BE PLACED ALONG/NEAR PROPERTY LINE. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO ENSURE THAT THESE ARE PLACED ON THE PROPERTY LINE. FAILURE TO DO SO MAY RESULT IN HAVING TO REMOVE/RELOCATE THE FENCELINE AT THE PROPERTY OWNER'S EXPENSE.

2. SIDE YARDS SHALL HAVE A MINIMUM DEPTH OF FIVE FEET (5') FROM ONE SIDE PROPERTY LINE AND TEN FEET (10') FROM THE OTHER SIDE PROPERTY LINE. IN THE CASE OF A CORNER LOT, THE INTERIOR SIDE PROPERTY LINE SETBACK SHALL BE A MINIMUM OF FIVE FEET (5') IN DEPTH. THE MINIMUM SETBACK FROM THE FLANKING (SIDE) STREET FRONTAGE FOR A CORNER LOT SHALL BE TWENTY FEET (20') MINIMUM FROM THE FLANKING STREET FRONTAGE PROPERTY LINE.

3. NO BUILDING OR FENCING, NOR ANY SIGHT OBSTRUCTION WHICH CONSTITUTES A HAZARD TO THE TRAVELING PUBLIC, SHALL BE PERMITTED ON ANY CORNER LOT WITHIN THE AREA DESIGNATED AS THE "CLEAR VIEW TRIANGLE". SEE STANDARD DRAWINGS COA-104, 105, 106, AND 107 FOR REQUIREMENTS.

4. MAXIMUM LOT COVERAGE FOR ALL BUILDINGS AND STRUCTURES SHALL BE FIFTY PERCENT (50%).

PROFESSIONAL ENGINEER
LICENSED
14713
6/01/2023
STATE OF IDAHO
STILLMAN NORTON

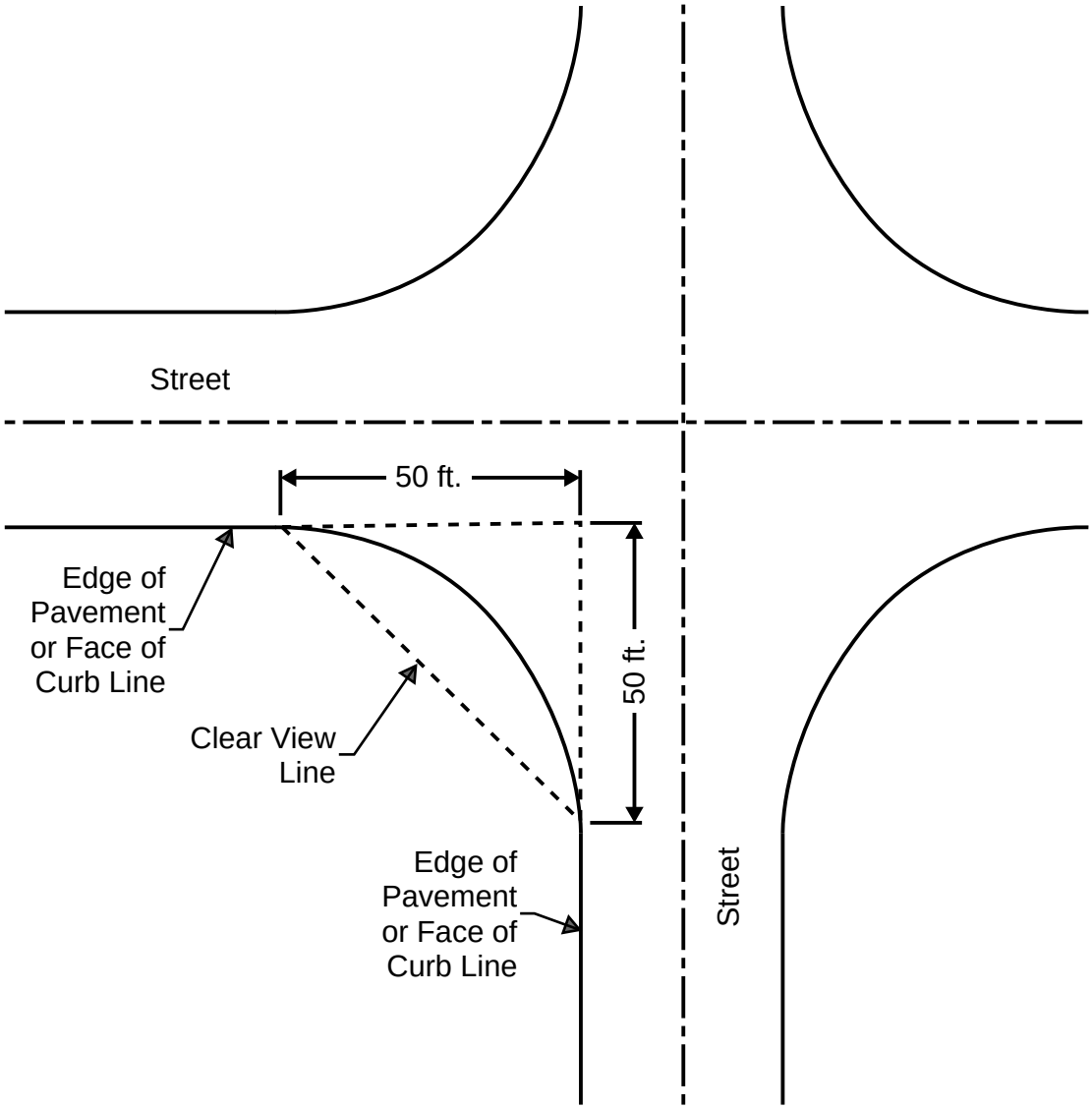
CITY OF
ATHOL, IDAHO

RESIDENTIAL SETBACK REQUIREMENTS

STANDARD DWG:

COA-103

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-103 RESIDENTIAL SETBACK.dwg DATE: 06/01/2023 TIME: 01:36:49 PM



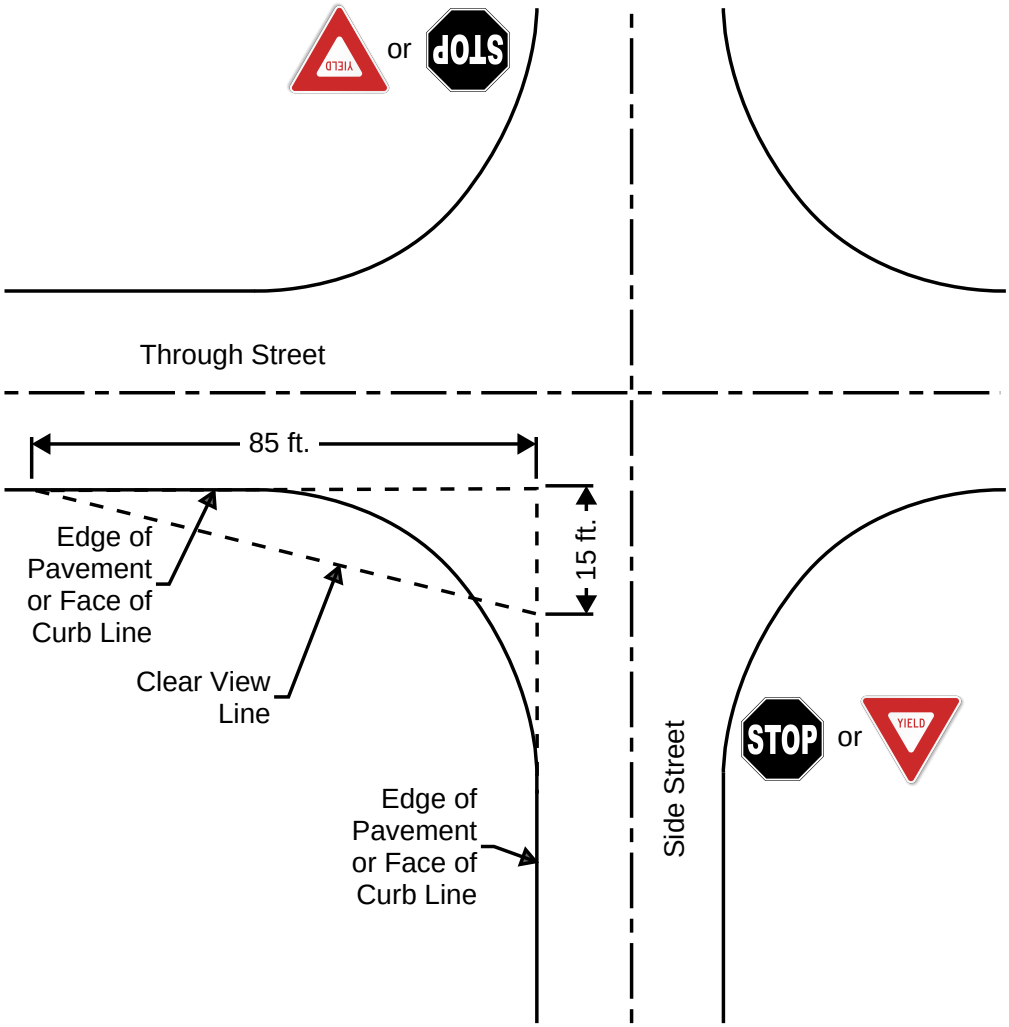
PROFESSIONAL ENGINEER
LICENSED
14713
6/01/2023
STATE OF IDAHO
STILLMAN NORTON

CITY OF
ATHOL, IDAHO

CLEAR VIEW TRIANGLE UNCONTROLLED INTERSECTIONS

STANDARD DWG:
COA-104

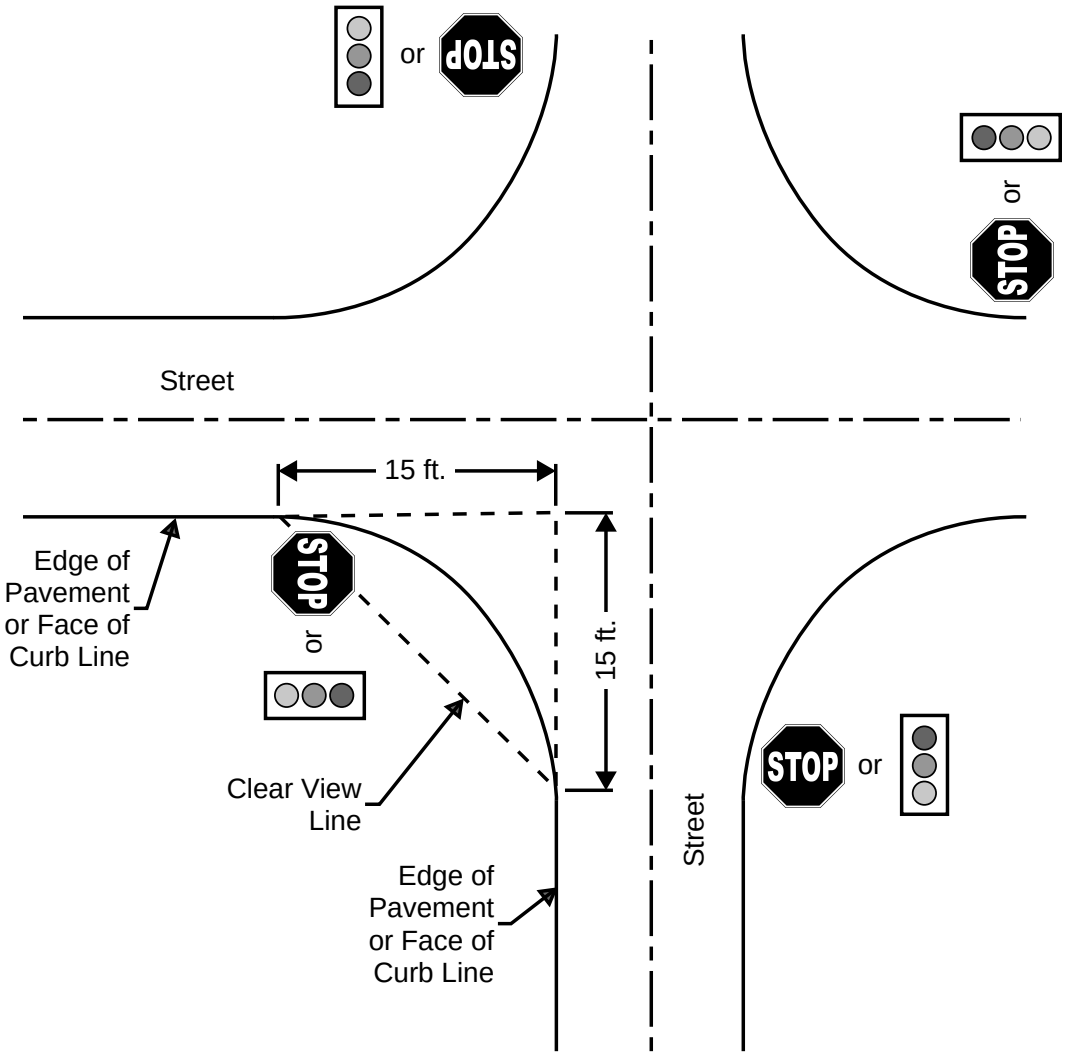
J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-104 CLEAR VIEW TRIANGLE - UNCONTROLLED INT.dwg DATE: 06/01/2023 TIME: 01:40:45 PM



PROFESSIONAL ENGINEER
LICENSED
14713
6/01/2023
STATE OF IDAHO
STILLMAN NORTON

CITY OF **ATHOL, IDAHO**	CLEAR VIEW TRIANGLE SEMI-CONTROLLED INTERSECTIONS	STANDARD DWG: COA-105

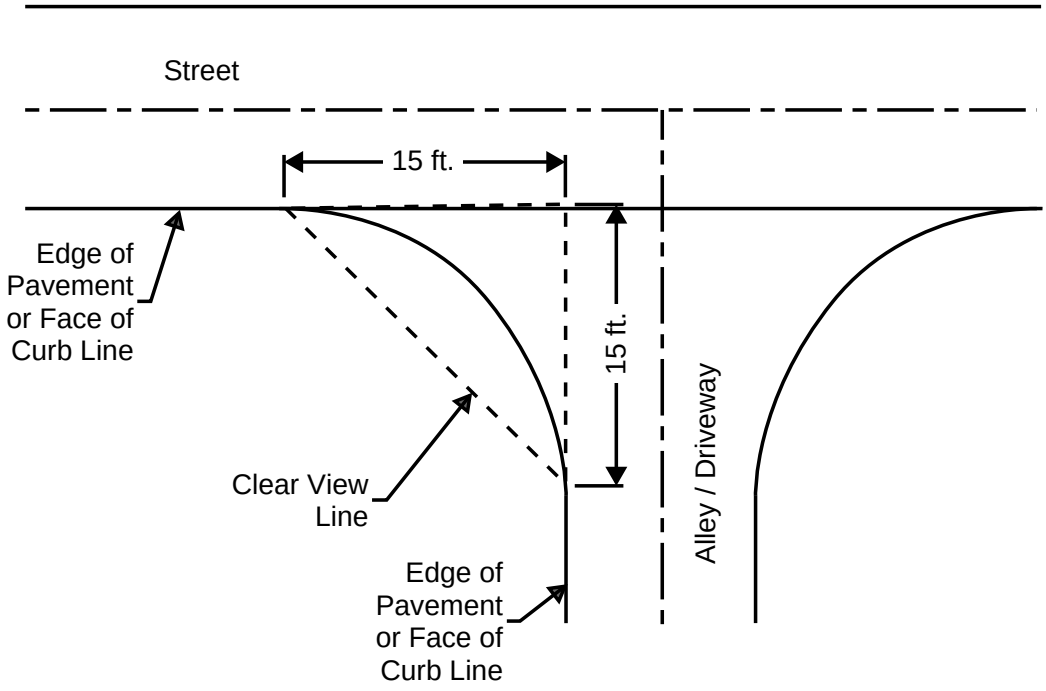
J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-105 CLEAR VIEW TRIANGLE - SEMI-CONTROLLED INT.dwg DATE: 06/01/2023 TIME: 01:42:06 PM



PROFESSIONAL ENGINEER
LICENSED
14713
6/01/2023
STATE OF IDAHO
STILLMAN NORTON

CITY OF **ATHOL, IDAHO**	CLEAR VIEW TRIANGLE CONTROLLED INTERSECTIONS	STANDARD DWG: COA-106

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-106 CLEAR VIEW TRIANGLE - CONTROLLED INT.dwg DATE: 06/01/2023 TIME: 01:43:29 PM



PROFESSIONAL ENGINEER
LICENSED
14713
6/01/2023
STATE OF IDAHO
STILLMAN NORTON

CITY OF
ATHOL, IDAHO

CLEAR VIEW TRIANGLE
ALLEYS / DRIVEWAYS

STANDARD DWG:
COA-107

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-107 CLEAR VIEW TRIANGLE - ALLEYS-DRIVEWAYS.dwg DATE: 06/01/2023 TIME: 01:44:52 PM

NOTES:

(A) ALL PRODUCTS AS LISTED OR APPROVED SUBSTITUTIONS.

(B) NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS TO BE USED.

(C) SERVICE PIPE: 1" CENFLOW 4710 250 PSI

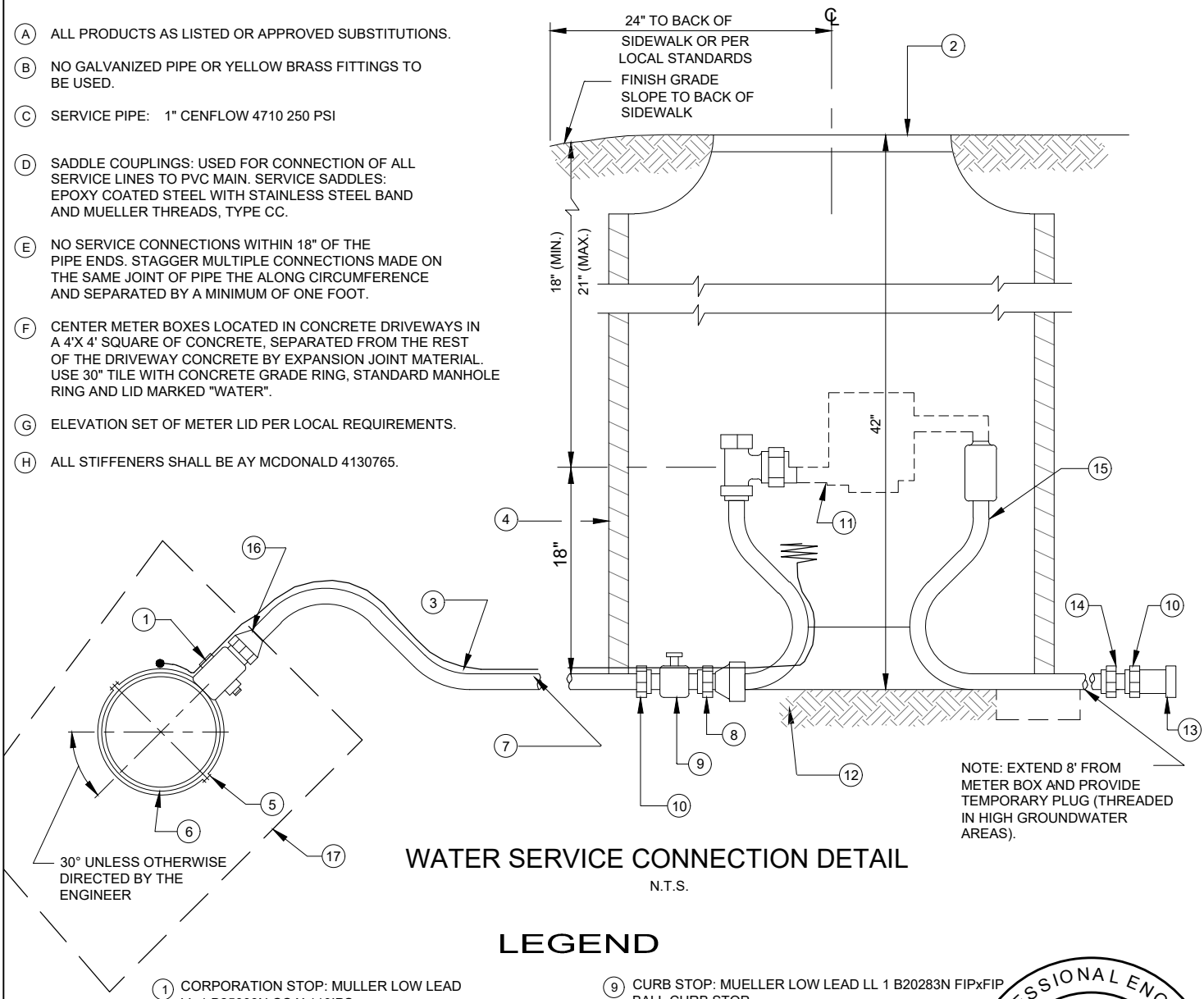
(D) SADDLE COUPLINGS: USED FOR CONNECTION OF ALL SERVICE LINES TO PVC MAIN. SERVICE SADDLES: EPOXY COATED STEEL WITH STAINLESS STEEL BAND AND MUELLER THREADS, TYPE CC.

(E) NO SERVICE CONNECTIONS WITHIN 18" OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE THE ALONG CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF ONE FOOT.

(F) CENTER METER BOXES LOCATED IN CONCRETE DRIVEWAYS IN A 4'X 4' SQUARE OF CONCRETE, SEPARATED FROM THE REST OF THE DRIVEWAY CONCRETE BY EXPANSION JOINT MATERIAL. USE 30" TILE WITH CONCRETE GRADE RING, STANDARD MANHOLE RING AND LID MARKED "WATER".

(G) ELEVATION SET OF METER LID PER LOCAL REQUIREMENTS.

(H) ALL STIFFENERS SHALL BE AY MCDONALD 4130765.



WATER SERVICE CONNECTION DETAIL

N.T.S.

LEGEND

(1) CORPORATION STOP: MULLER LOW LEAD LL 1 B25009N CC X 110IPS.

(2) METER BOX COVER: D&L SUPPLY 20" NEPTUNE RECESSED CI METER BOX RING AND R-900 READER LID, W/ 1-1/32" PENT NUT, 3 PRONGS ON BOTTOM OF RING.

(3) N0. 12 AWG COPPER WIRE WITH INSULATION. SEE SD-514 FOR SPLICING.

(4) METER BOX: RAVEN 20"x24"x36" HIGH DENSITY POLYETHYLENE TAPERED WALL METER BOX TOP FLANGE AND BOTTOM EARS, AND WHITE INTERIOR. MODEL NO. RMB-RT-20x24x36.

(5) SERVICE SADDLE: ROMAC 101S CC DI SINGLE STAINLESS STEEL STRAP.

(6) WATER MAIN.

(7) SERVICE PIPE: 1" CENFLOW 4710 250 PSI. NO SPLICING IS ALLOWED.

(8) END CONNECTION: MUELLER LOW LEAD 1" H14223N MIP END CONNECTION.

(9) CURB STOP: MUELLER LOW LEAD LL 1 B20283N FIPxFIP BALL CURB STOP.

(10) ADAPTER: MUELLER LOW LEAD 1" H15429N 110IPS x MIPT ADAPTER.

(11) WATER METER: INSTALLED BY CITY OF ATHOL.

(12) FIRM UNDISTURBED EARTH. (SET TILE ON 2"X 22" DIAMETER PRECAST CONCRETE BLOCK IF OVER EXCAVATION OCCURS).

(13) PROVIDE TEMPORARY PLUG: 1" INS PLUG POLY 1449-010.

(14) END CONNECTION: MUELLER LOW LEAD 1" H14222N MULTI PURPOSE END CONNECTION.

(15) METER SETTER: MULLER METER YOKE LL 1"x24" LOW-LEAD H1404-2A-N WITH L/W STOP AND ASSE DUAL CK.

(16) MUELLER H-15072.

(17) INSTALLED BY A PROFESSIONALLY LICENSED CONTRACTOR OR BY CITY. HOT TAP TO BE OBSERVED BY THE CITY. WATER SERVICE INSTALLATION SHALL BE PERMITTED THROUGH CITY.

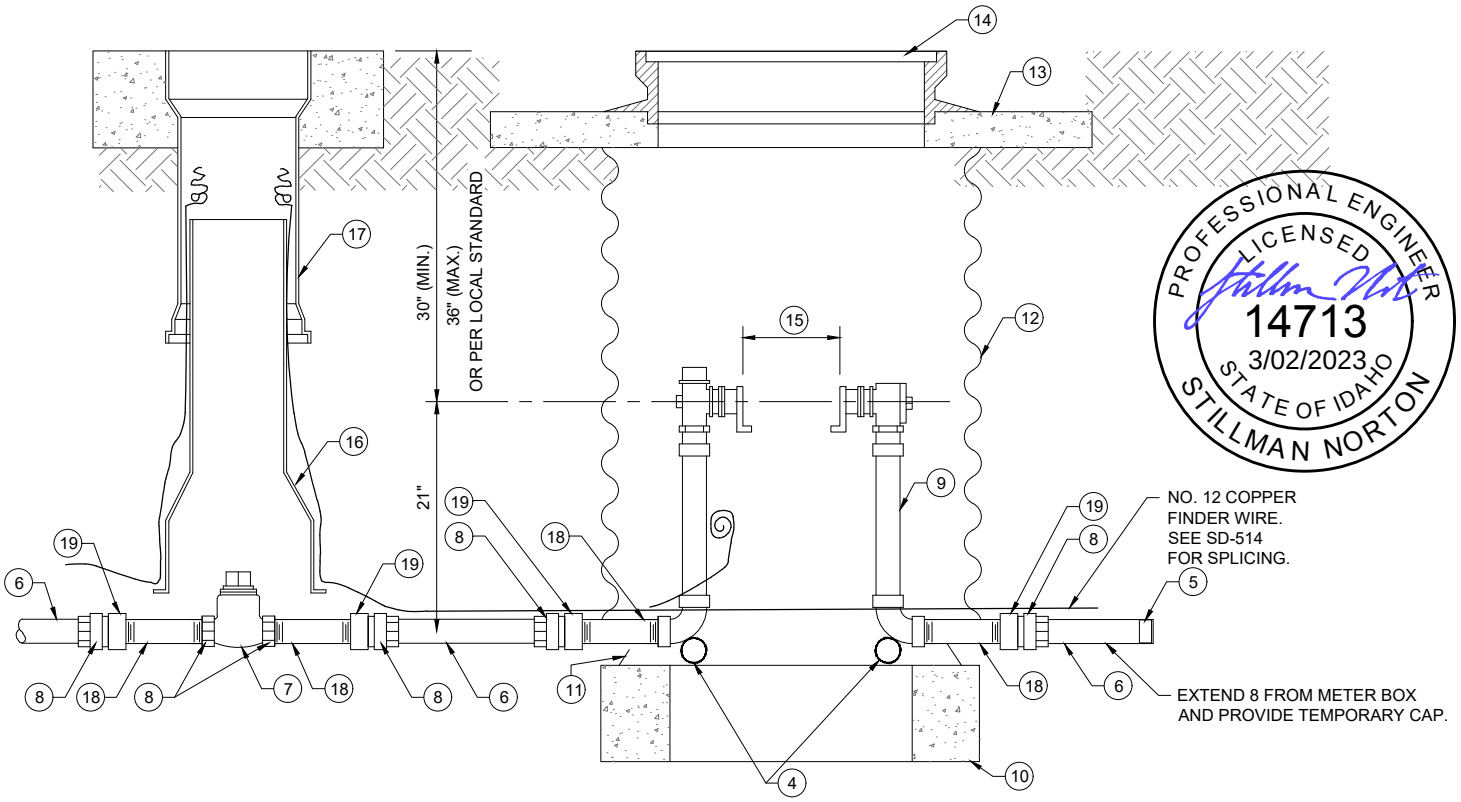
PROFESSIONAL ENGINEER LICENSED 14713 3/02/2023 STATE OF IDAHO STILLMAN NORTON

CITY OF ATHOL, IDAHO

1" WATER SERVICE CONNECTION

STANDARD DWG: COA-401

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-401 1-in Water Service Connection.dwg DATE: 03/02/2023 TIME: 05:45:06 PM



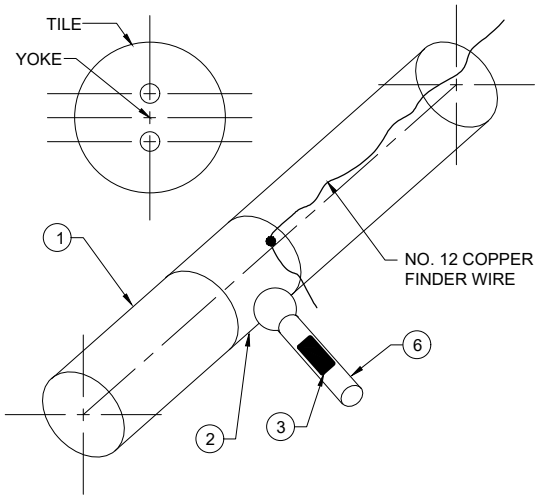
PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

WATER SERVICE CONNECTION DETAIL

N.T.S.

LEGEND

1. WATER MAIN PER SECTION-401.
2. SERVICE SADDLE: ROMAC 101S CC DI SINGLE STAINLESS STEEL STRAP.
3. CORPORATION STOP: MUELLER PACK JOINT BALL CORPORATION STOP 1-1/2" OR 2" 74701B-33 EB CC X IPS.
4. 1" DIA. GALVANIZED BRACE PIPE (APPROX. 18" LONG), 2 REQUIRED.
5. PLUG: PROVIDE A TEMPORARY SPEARS 1449-015 1-1/2" OR 2" INS PLUG.
6. SERVICE LINE: 1-1/2" OR 2" IPS 250 PSI BLACK POLY TUBING, OR CENFLOW 4710 250 PSI.
7. CURB STOP: MUELLER LOW LEAD B20283N 1-1/2" OR 2" FIPxFIP BALL CURB STOP.
8. ADAPTER: MUELLER 1-1/2" OR 2" 74753-33 EB IPS PJxMIPT CPLG ADAPTER.
9. METER SETTER: MUELLER LOW LEAD 1-1/2" OR 2" x 24" B2422-2N METER SETTER WITH ANGLE BALL VALVE AND CHECK VALVE LESS BY-PASS.
10. RISER RING: 2" CONCRETE MANHOLE RISER RING.
11. NOTCH CMP FOR OFFSET ON GRADE RING.
12. METER BOX: 30"x48" CMP METER BOX.
13. RISER RING: 4" CONCRETE MANHOLE RISER RING.
14. METER BOX COVER: D&L FOUNDRY 24" WATER MANHOLE FRAME WITH R900 NEPTUNE RECESSED READER COVER A1055 MH23.
15. METER: METER INSTALLED BY CITY OF ATHOL.
16. 4" DIA. SEWER PIPE. NOTCH BOTTOM TO FIT OVER CURB STOP.
17. VALVE BOX: REFER TO COE-406.
18. 1-1/2" OR 2" x 6" BRASS NIPPLE
19. 1-1/2" OR 2" x 6" BRASS COUPLING



TAP CONNECTION

N.T.S.

NOTES:

A. ALL PRODUCTS AS NOTED OR APPROVED SUBSTITUTION.

B. THE DIAMETER (1-1/2" OR 2") OF EACH APPURTENANCE SHOWN HEREON IS THE SAME AS THE METER SIZE.

C. COE-402 WATER SERVICE CONNECTION (1-1/2"- 2") ALLOWED IF TWO OR MORE YOKES ARE USED FOR THE SAME SERVICE.

D. NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS.

E. NO TAPS WITHIN 18" OF THE PIPE ENDS.

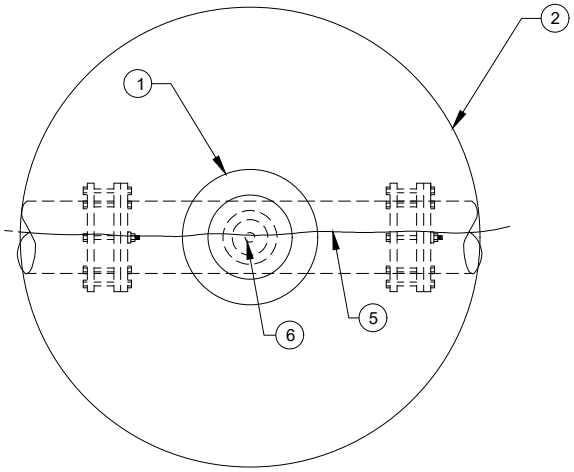
F. ALL STIFFENERS SHALL BE AY MCDONALD 1-1/2" OR 2" 6136 STAINLESS STEEL IPS STIFFENERS.

CITY OF
ATHOL, IDAHO

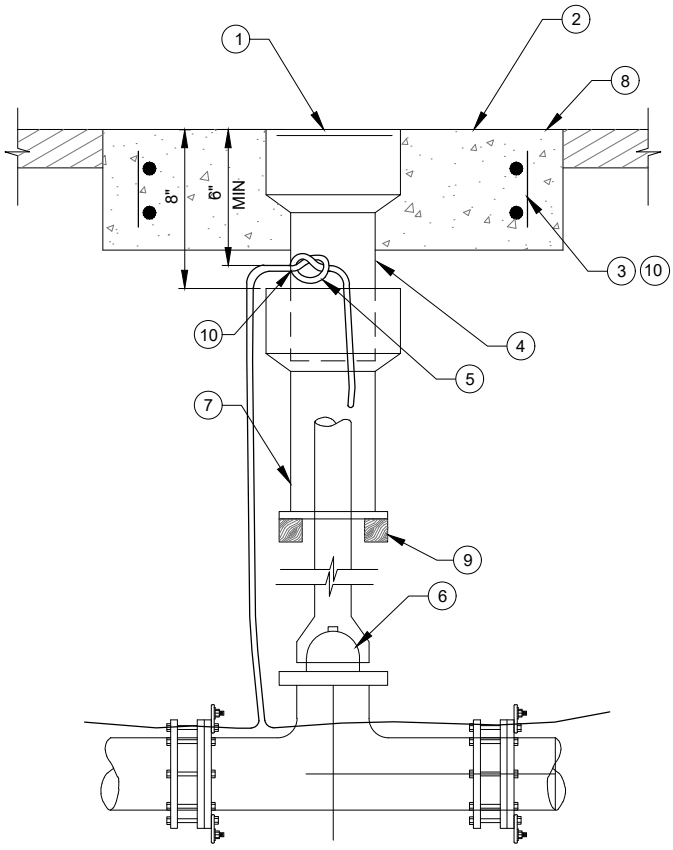
2" WATER SERVICE CONNECTION

STANDARD DWG:

COA-402



PLAN VIEW



ELEVATON VIEW

VALVE BOX AND LID

N.T.S.

LEGEND

1. 5 1/4" LID.
2. 24"Ø X 6" CONCRETE COLLAR.
3. (2) #4 REBAR HOOPS WITH #4 VERTICALS.
4. PACK VOID WITH RUBBER SILICONE.
5. NO. 12 AWG. COPPER WIRE FINDER TIED IN KNOT TO PREVENT WIRE FROM FALLING OUT OF HOLE.
6. VALVE.
7. CAST IRON VALVE RISER.
8. FINISHED GRADE.
9. REDWOOD BLOCKS.
10. DRILL HOLE FOR LOCATE WIRE.

NOTE:

A. ALL PRODUCTS AS INDICATED OR APPROVED SUBSTITUTION.

B. IF AUTHORIZED BY THE ENGINEER, A HEAVY (10 GAGE) STEEL VALVE BOX AND CAP MAY BE USED IN LIEU OF CAST IRON BOX AND LID.

PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

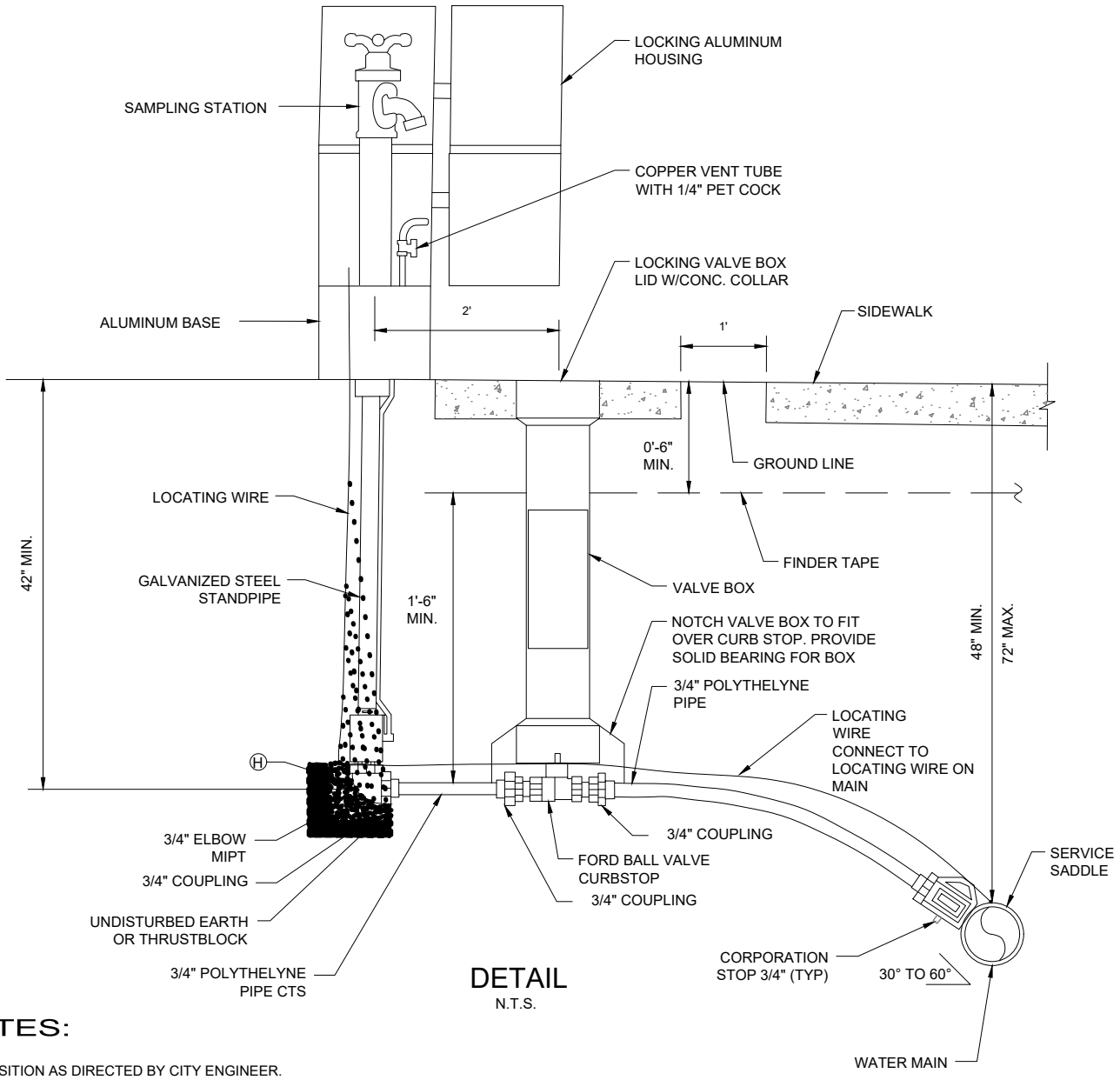
CITY OF
ATHOL, IDAHO

VALVE BOX AND LID DETAIL

STANDARD DWG:

COA-406

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-406 Valve Box and Lid Detail.dwg DATE: 03/02/2023 TIME: 05:48:47 PM



DETAIL
N.T.S.

NOTES:

(A) POSITION AS DIRECTED BY CITY ENGINEER.

(B) SAMPLING STATIONS SHALL BE 42" BURY, WITH A 3/4" FIP INLET, AND A (3/4" HOSE OR UNTHREADED) NOZZLE.

(C) ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVEABLE, ALUMINUM-CAST HOUSING.

(D) WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.

(E) ALL WORKING PARTS WILL BE OF BRASS AND BE REMOVEABLE FROM ABOVE GROUND WITH NO DIGGING. EXTERIOR PIPING SHALL BE BRASS.

(F) A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIA GROWTH.

(G) SAMPLING STATION SHALL BE ECLIPSE NO. 88 AS MANUFACTURED BY KUPFERLE FOUNDARY, ST. LOUIS, MO.

(H) PROVIDE 1/4 CUBIC YARD DRAIN ROCK SUMP.

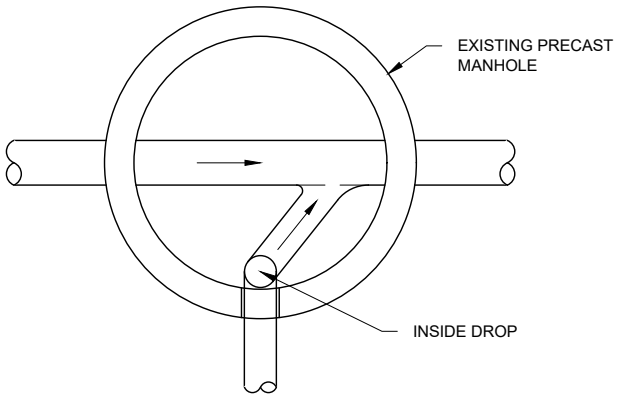
PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

CITY OF
ATHOL, IDAHO

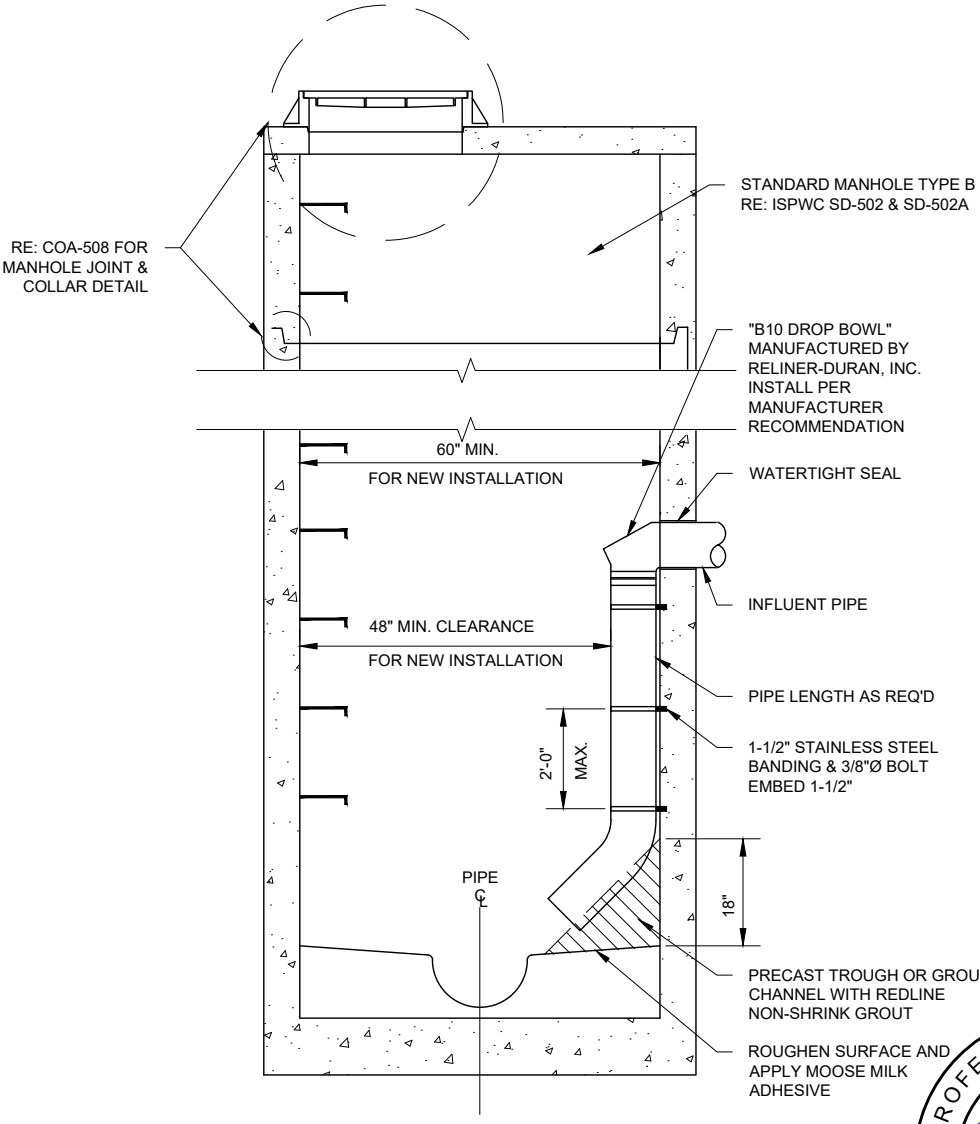
SAMPLING STATION DETAIL

STANDARD DWG:
COA-409

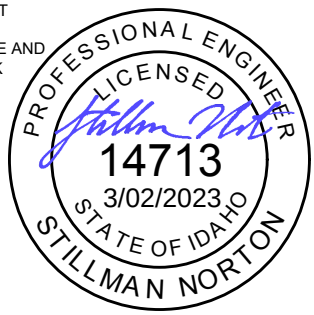
J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-409 Sampling Station Detail.dwg DATE: 12/08/2022 TIME: 10:29:45 AM



CHANNEL DETAIL



SANITARY SEWER INSIDE DROP

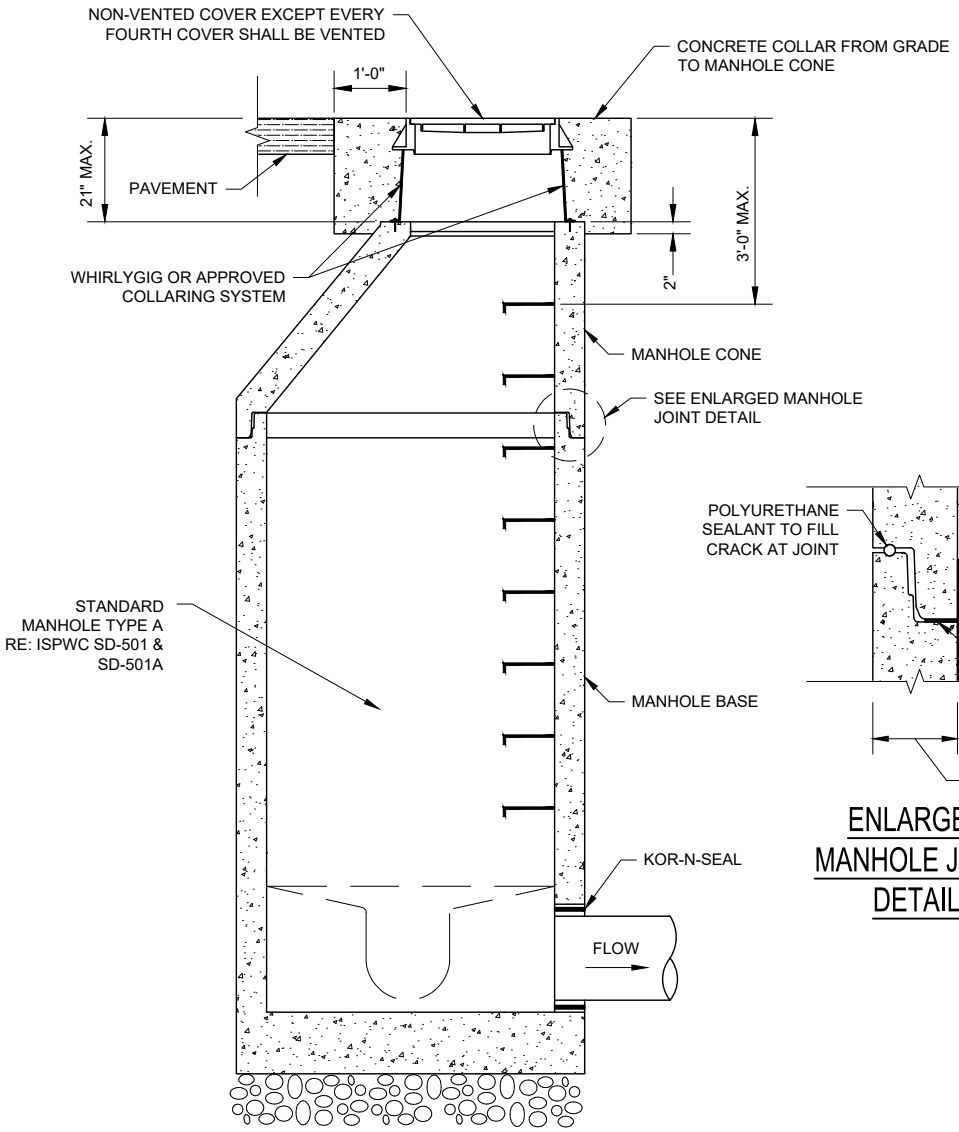


CITY OF
ATHOL, IDAHO

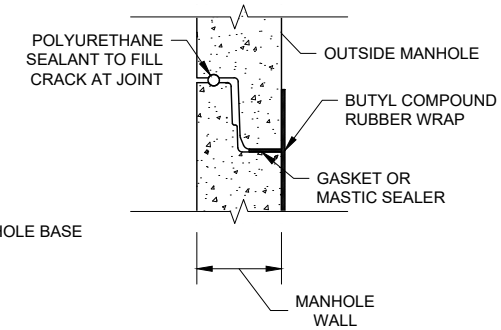
SANITARY SEWER INSIDE DROP

STANDARD DWG:

COA-504



MANHOLE DETAIL



ENLARGED MANHOLE JOINT DETAIL

PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

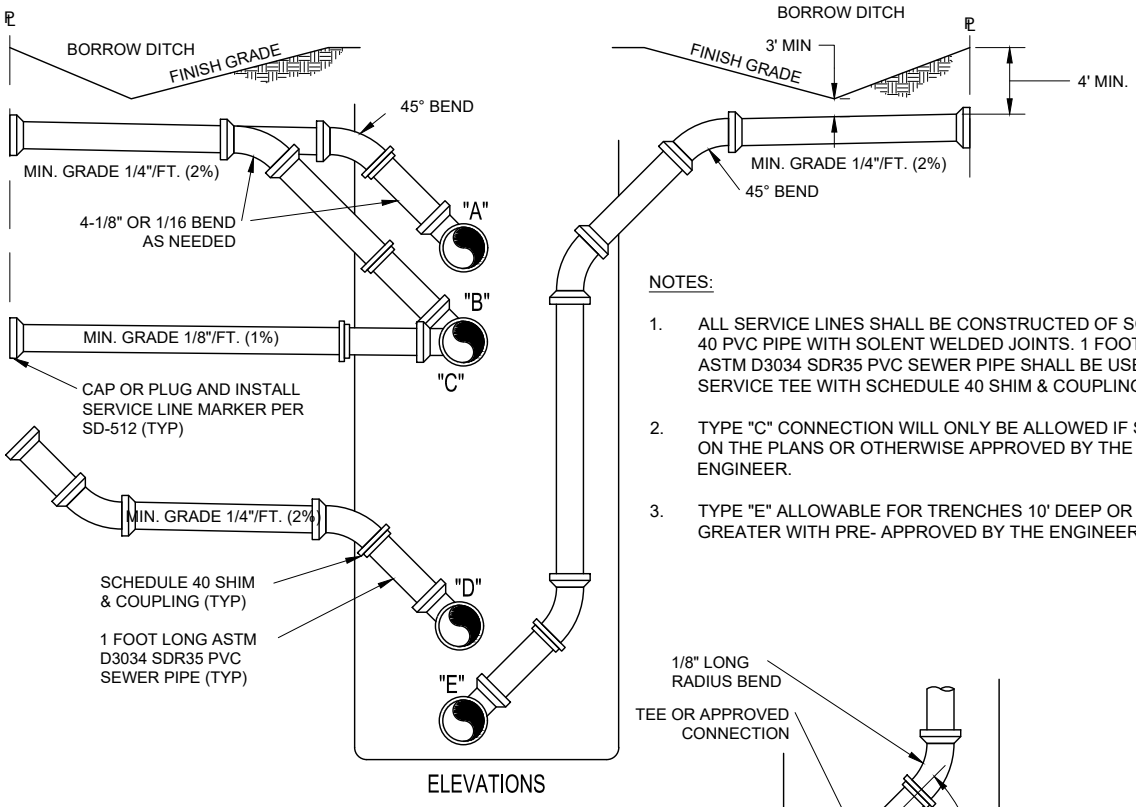
J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-508 Manhole Joint and Collar Details.dwg DATE: 12/08/2022 TIME: 10:29:55 AM

CITY OF **ATHOL, IDAHO**

MANHOLE JOINT & COLLAR DETAILS

STANDARD DWG:

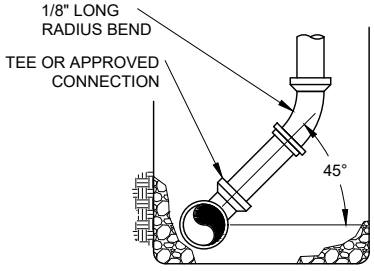
COA-508



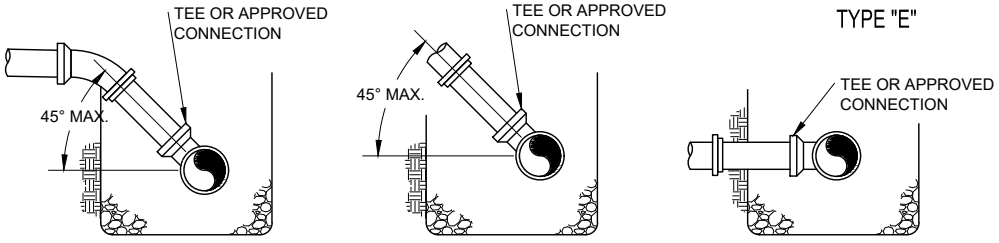
ELEVATIONS

NOTES:

1. ALL SERVICE LINES SHALL BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE WITH SOLENT WELDED JOINTS. 1 FOOT LONG ASTM D3034 SDR35 PVC SEWER PIPE SHALL BE USED AT SERVICE TEE WITH SCHEDULE 40 SHIM & COUPLING.
2. TYPE "C" CONNECTION WILL ONLY BE ALLOWED IF SHOWN ON THE PLANS OR OTHERWISE APPROVED BY THE ENGINEER.
3. TYPE "E" ALLOWABLE FOR TRENCHES 10' DEEP OR GREATER WITH PRE- APPROVED BY THE ENGINEER.



TYPE "E"



TYPE "A" & "D" TYPE "B" TYPE "C"

CONNECTION DETAILS

PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

CITY OF ATHOL, IDAHO	STANDARD SEWER SERVICE DETAIL	STANDARD DWG: COA-511

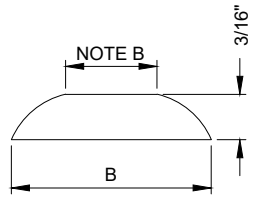
J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-511 Standard Sewer Service Detail.dwg DATE: 12/08/2022 TIME: 10:30:01 AM

NOTES:

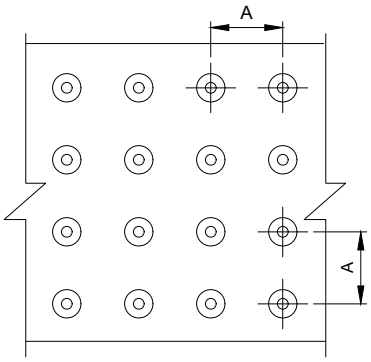
(A) DETECTABLE WARNINGS SHALL BE 24" IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP, LANDING OR BLEND TRANSITION.

(B) DETECTABLE WARNINGS SHALL HAVE A DIAMETER OF 50% TO 65% OF THE BASE DIAMETER OF DOME.

(C) DETECTABLE WARNING DOMES SHALL BE PRE-MANUFACTURED UNITS INTEGRALLY CAST INTO CONCRETE RAMP. THE DETECTABLE WARNING SURFACE SHALL BE REMOVABLE. USE REPLACEABLE WET-SET MANUFACTURED BY ADA SOLUTIONS, OR APPROVED EQUAL. COLOR SHALL BE BRICK RED.

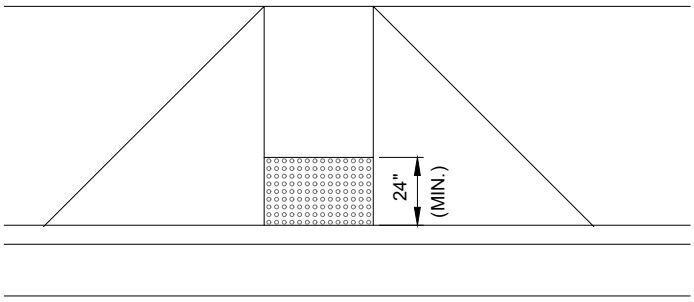


DOME SECTION

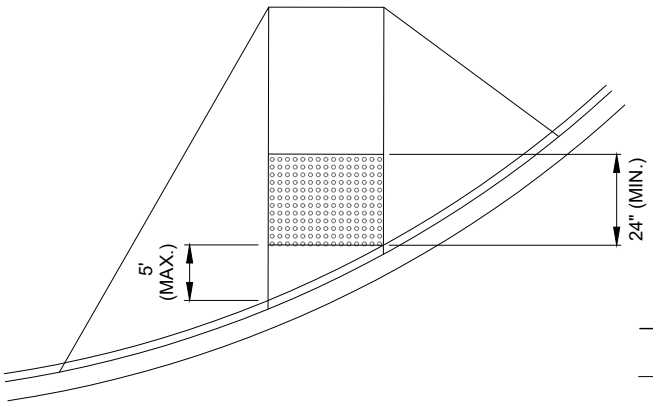


DOME SPACING

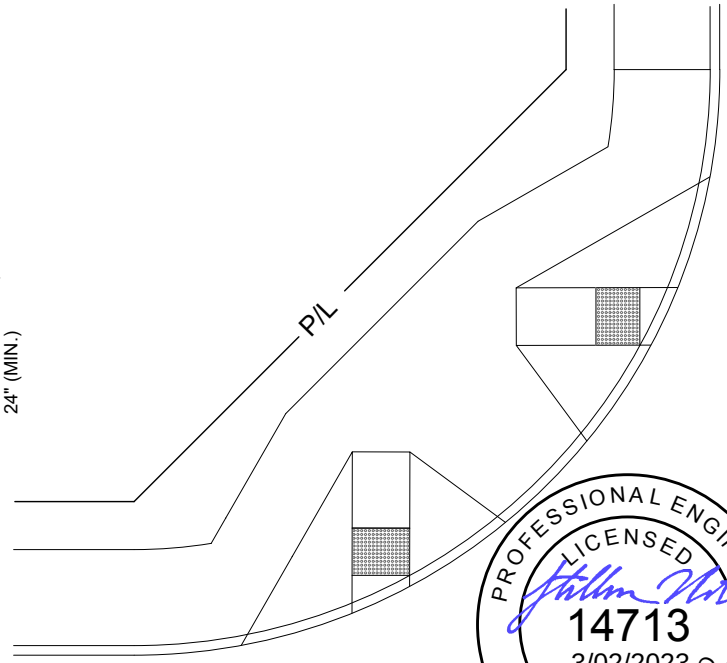
	MIN.	MAX.
A	1 5/8"	2 3/8"
B	7/8"	1 7/16"

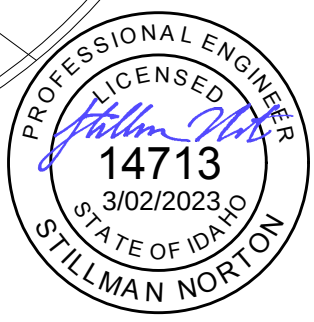


PERPENDICULAR RAMP



SKEWED RAMP





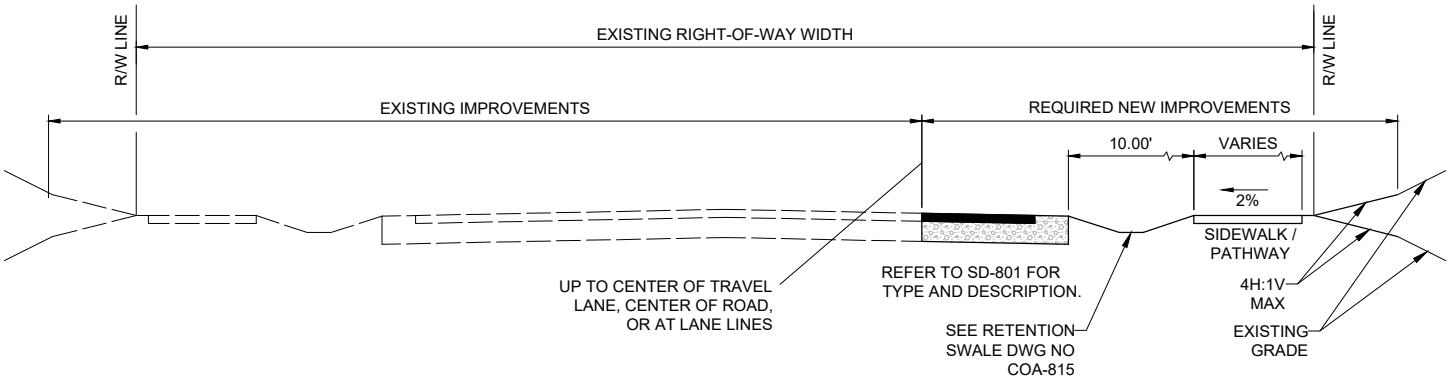
CITY OF
ATHOL, IDAHO

DETECTABLE WARNING FOR PEDESTRIAN ACCESS

STANDARD DWG:

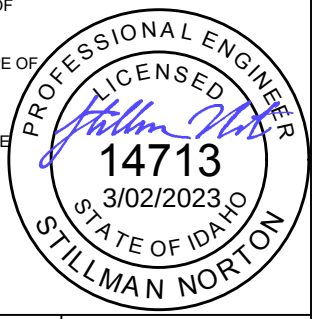
COA-712

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-712 Detectable Warning for Pedestrian Access.dwg DATE: 12/08/2022 TIME: 10:30:11 AM



NOTES:

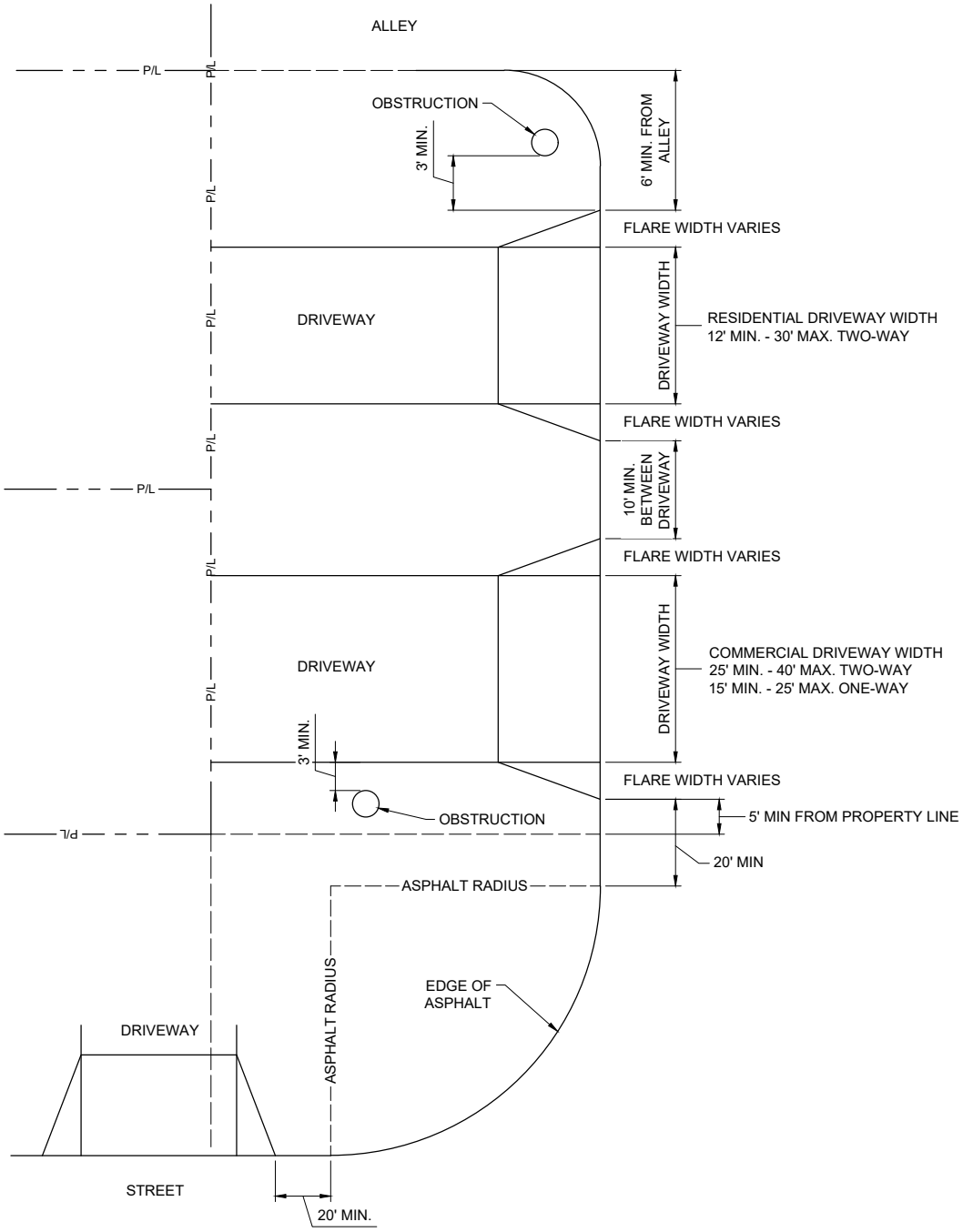
1. ALL CONSTRUCTION SHALL BE PER ISPWC SPECIFICATIONS.
2. STREET PROFILE GRADES 0.4% MINIMUM UNLESS OTHERWISE APPROVED BY THE OWNER.
3. RIGHT-OF-WAY WIDTHS AND STREET WIDTHS SET BY LOCAL POLICY, TYPE OF USE AND CITY OF ATHOL STANDARD DRAWINGS.
4. MINIMUM ASPHALT AND AGGREGATE BASE THICKNESS SET BY LOCAL POLICY AND TYPE OF USE. ACTUAL THICKNESS SHALL BE DESIGNED BY ENGINEER BASED ON TRAFFIC INDEX AND "R" VALUE OF SUBGRADE SOILS AND APPROVED BY LOCAL AGENCY.
5. MINIMUM CONCRETE PAVEMENT AND AGGREGATE BASE THICKNESS SET BY LOCAL POLICY AND TYPE OF USE. ACTUAL THICKNESS SHALL BE DESIGNED BY ENGINEER BASED ON TRAFFIC INDEX AND SOIL TYPE. SEE CITY OF ATHOL STANDARD DRAWINGS.
6. CONCRETE SIDEWALK REQUIRED WIDTH SET BY LOCAL POLICY AND TYPE OF USE. SEE CITY OF ATHOL STANDARD DRAWINGS.
7. ASPHALT PATHWAY REQUIRED WIDTH SET BY LOCAL POLICY AND TYPE OF USE. SEE CITY OF ATHOL STANDARD DRAWINGS.
8. STREET CORNER RADII SIZES SET BY LOCAL POLICY AND TYPE OF USE.
9. SUPER ELEVATION, VERTICAL CURVE AND HORIZONTAL CURVE REQUIREMENTS BASED ON SIGHT DISTANCE, VEHICLE DESIGN SPEEDS, MATCHING EXISTING IMPROVEMENTS AND SET BY LOCAL POLICY AND TYPE OF USE.
10. ASPHALT MATCH SHALL DRAIN TOWARD EDGE OF PAVEMENT AND SHALL HAVE A MINIMUM CROSS SLOPE OF 1% WITH 2% RECOMMENDED. CROSS SLOPE OF 4% MAXIMUM IN TRAFFIC LANE WITH 8% MAXIMUM IN PARKING AREA.
11. EXISTING ASPHALT SHALL BE CUT TO A NEAT STRAIGHT LINE PARALLEL AND/OR PERPENDICULAR TO THE CENTERLINE OF THE STREET AND SEALED WITH AN ASPHALT TACK COAT BEFORE PAVING.



CITY OF
ATHOL, IDAHO

TYPICAL STREET WIDENING

STANDARD DWG:
COA-806



1. LOCATION AND NUMBER OF ALL DRIVEWAYS ACCESS SHALL BE APPROVED BY THE CITY ENGINEER.
2. ALL DRIVEWAYS, EXCEPT FOR JOINT-USE DRIVEWAYS AND DRIVEWAYS ON LOTS HAVING 21' FRONTAGE OR LESS, SHALL BE LOCATED AT LEAST 5 FEET FROM THE SIDE PROPERTY LINE EXTENDED.
3. ALL DRIVEWAYS AND SHALL BE A MINIMUM OF 3 FEET FROM AN OBSTRUCTION, IE POLES, HYDRANTS, ETC...
4. NO PORTION OF ANY DRIVEWAY SHALL BE ALLOWED ACROSS A PROPERTY LINE EXTENDED NORMAL TO THE ROADWAY FROM THE FRONT CORNER OF THE PROPERTY, EXCEPT THAT JOINT-USE DRIVEWAYS MAY BE PERMITTED IN SPECIAL INSTANCES WHERE WRITTEN APPROVAL OF BOTH PROPERTY OWNERS IS FILED WITH THE COUNTY RECORDER'S OFFICE.
5. APPROACH ALIGNMENT: APPROACH ANGLES OF LESS THAN 45° OR GREATER THAN 135° WILL NOT BE PERMITTED.
6. DRIVEWAYS MUST BE POSITIONED TO PRESERVE A CLEAR VIEW TRIANGLE OF 20 FEET ALONG THE PROPERTY LINE.
7. ON CORNER LOTS, DRIVEWAYS MUST BE ALONG THE PROPERTY LINE FURTHEST FROM THE INTERSECTION. LEAVE A TWO FOOT SPACE BETWEEN THE DRIVEWAY AND PROPERTY LINE FOR THE WATER METER.

PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

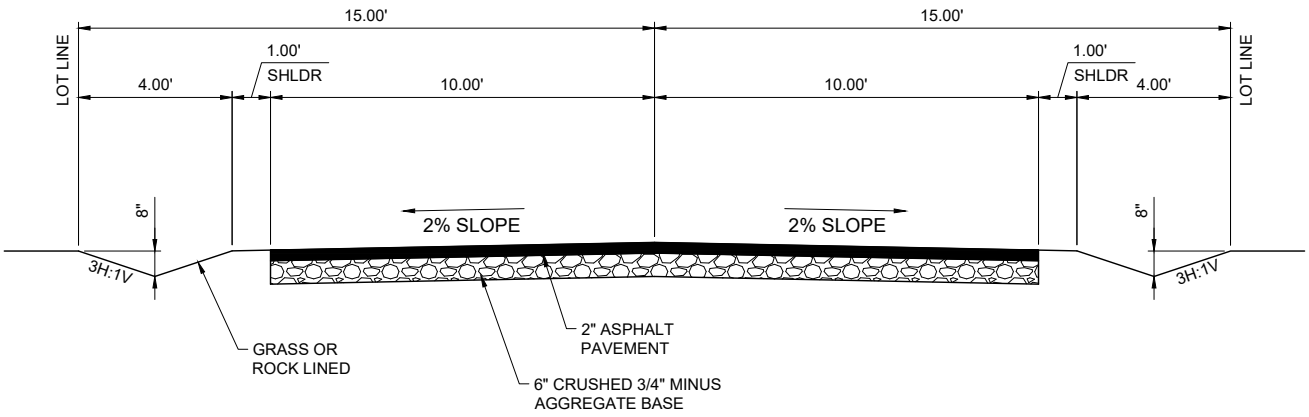
CITY OF
ATHOL, IDAHO

DRIVEWAY LOCATION & WIDTH REQUIREMENT

STANDARD DWG:

COA-810

J:\222222 Athol Road Standards\b_ROAD STDS\CAD\COA-810 DWY LOCATION.dwg DATE: 03/03/2023 TIME: 10:11:47 AM



NOTES:

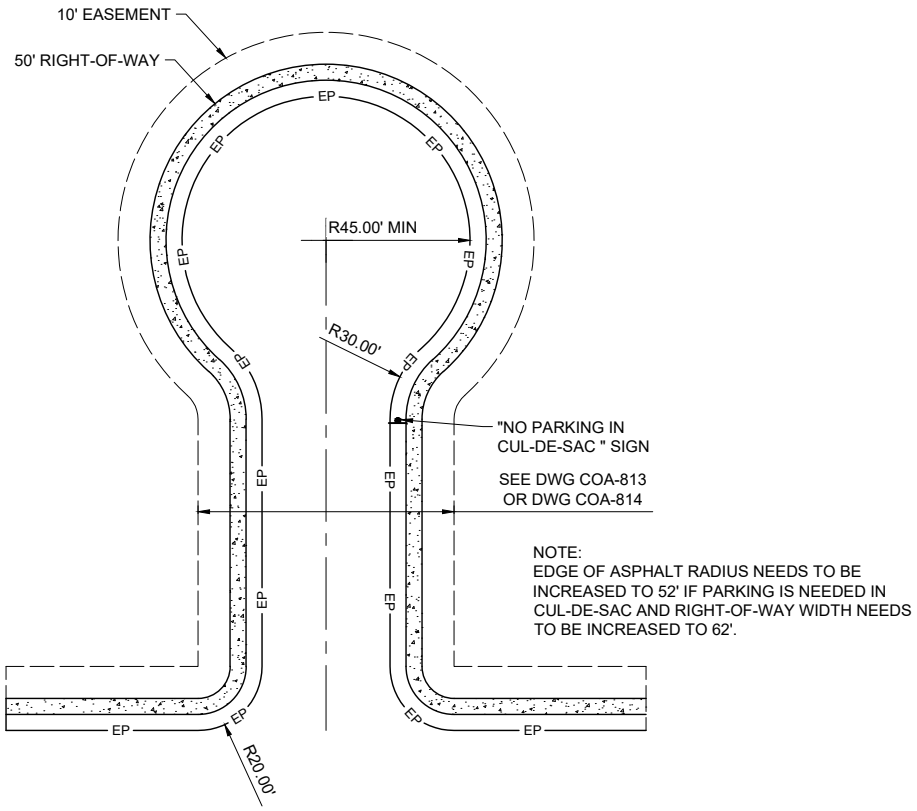
1. MUTUAL 30' COMMON ACCESS EASEMENT IS REQUIRED.
2. 11% GRADE MAX.
3. NO CURVES ALLOWED.
4. NO CURB AND GUTTER NEEDED - OPTIONAL.
5. 10' TRAVEL LANES.
6. NO PARKING LANES.
7. NO SIDEWALK REQUIREMENT - OPTIONAL.
8. A SHARED DRIVEWAY WHICH IS NOT LOOPED MUST MEET THE FIRE DEPT. TURNAROUND CRITERIA.

CITY OF
ATHOL, IDAHO

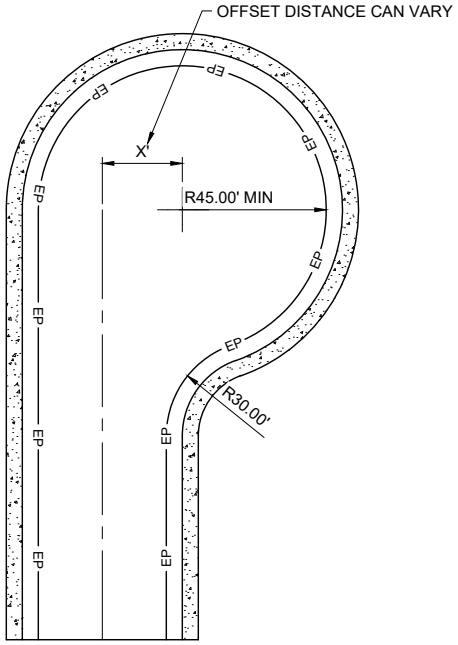
PRIVATE SHARED DRIVEWAY
30' COMMON ACCESS EASEMENT
TWO 10' TRAVEL LANES

STANDARD DWG:

COA-811



STANDARD LAYOUT



OFFSET BULB OPTION

PROFESSIONAL ENGINEER
LICENSED
14713
3/02/2023
STATE OF IDAHO
STILLMAN NORTON

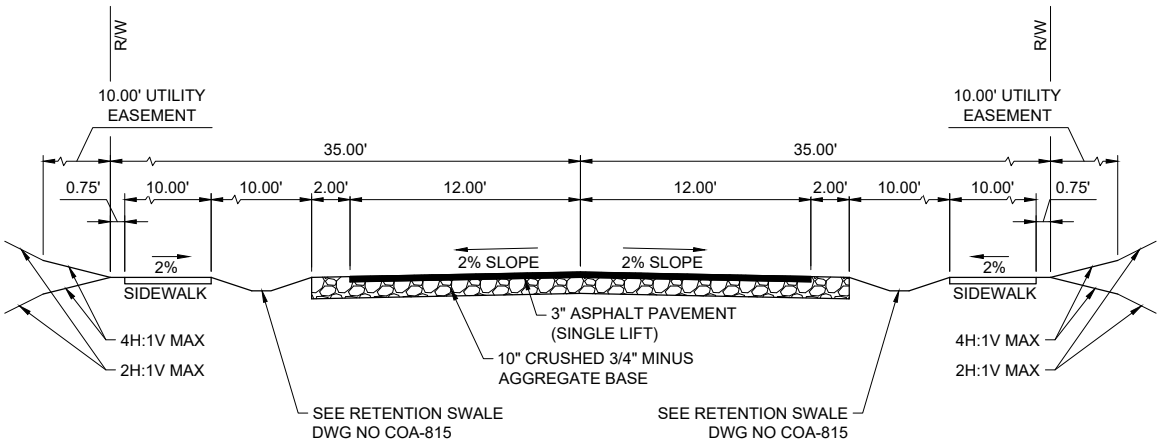
J:\2222222 Athol Road Standards\b_ROAD STDS\CAD\COA-812 CUL-DE-SAC.dwg DATE: 12/08/2022 TIME: 10:30:36 AM

CITY OF
ATHOL, IDAHO

CUL-DE-SAC DESIGN

STANDARD DWG:

COA-812



NOTES:

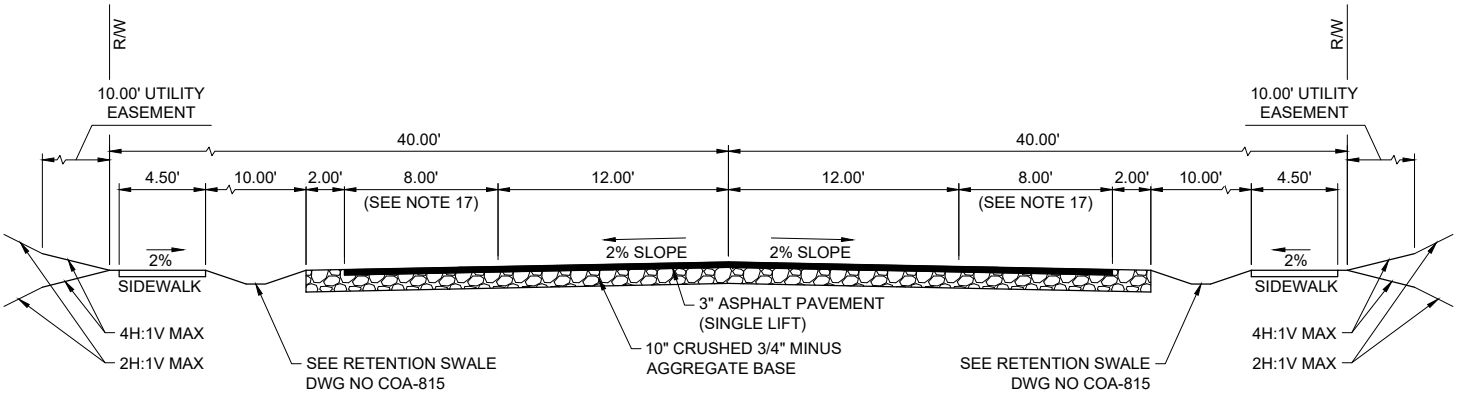
1. 70' RIGHT OF WAY WIDTH.
2. 5% GRADE MAX.
3. 200' CENTERLINE RADIUS MIN. SMALLER RADIUS MAY BE ALLOWED IF CURVE IS SUPERELEVATED - REFER TO AASHTO MANUAL.
4. CITY ENGINEER MAY REQUIRE SOIL TEST AND/OR GEOTECHNICAL ENGINEERING EVALUATION TO VERIFY LOAD BEARING CAPACITY OF SUBGRADE.
5. TRAFFIC CALMING AND ENTRANCE FEATURES SHALL BE EVALUATED ON A CASE BY CASE BASIS; FINAL APPROVAL SHALL BE BY CITY ENGINEER.
6. ASPHALT PAVEMENT MAYBE WATER TESTED FOR PROPER DRAINAGE PRIOR TO FINAL APPROVAL.
7. CITY ENGINEER MAY REQUIRE CORING OF THE ASPHALT PAVEMENT TO VERIFY PAVEMENT THICKNESS OR DENSITY.
8. ANY VARIATION TO PROPOSED ROAD CROSS-SECTION MUST HAVE WRITTEN APPROVAL FROM CITY ENGINEER.
9. ALL TREE AND UTILITY PLACEMENT MUST MEET DWG NO. COA-101.
10. A 0.5' MINIMUM STRIP TO BE LOCATED BEHIND THE SIDEWALK FOR PLACEMENT OF PROPERTY PINS.

CITY OF
ATHOL, IDAHO

MINOR STREETS WITH INFILTRATION DRAINAGE

STANDARD DWG:

COA-813



NOTES:

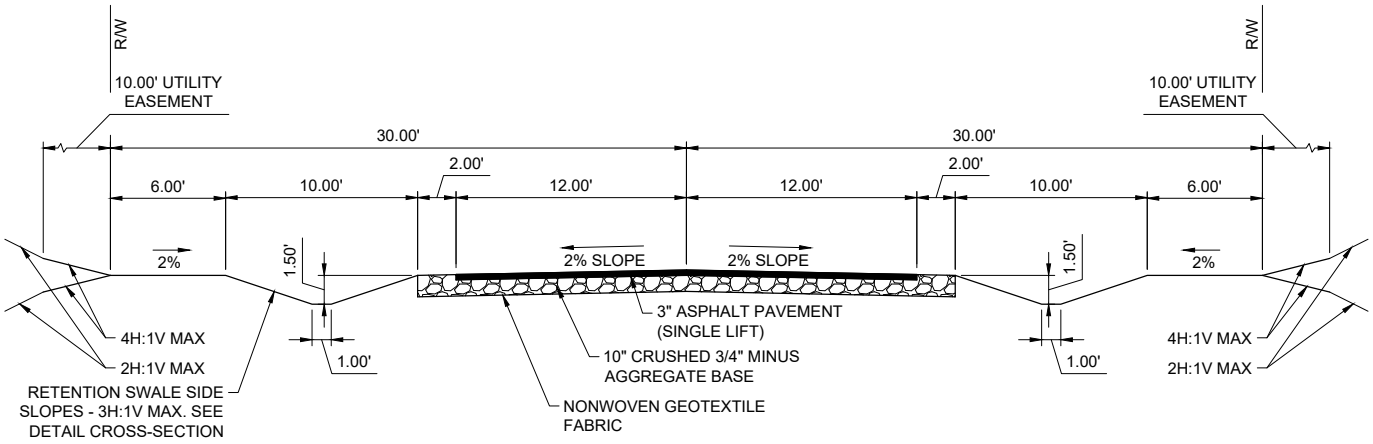
1. 80' RIGHT OF WAY WIDTH.
2. 5% GRADE MAX.
3. 200' CENTERLINE RADIUS MIN.
4. DESIGN ENGINEER MUST ACCOUNT FOR TRUCK TRAILER OFF TRACKING ON CURVES, STREET WIDTH AND/OR RIGHT-OF-WAY WIDTH MAY NEED TO BE INCREASED.
5. ADDITIONAL RIGHT-OF-WAY AT INTERSECTIONS MAY BE NEEDED TO ALLOW FOR TURNING LANE.
6. CITY ENGINEER MAY REQUIRE SOIL TEST AND/OR GEOTECHNICAL ENGINEERING EVALUATION TO VERIFY LOAD BEARING CAPACITY OF SUBGRADE.
7. TRAFFIC CALMING AND ENTRANCE FEATURES SHALL BE EVALUATED ON A CASE BY CASE BASIS; FINAL APPROVAL SHALL BE BY CITY ENGINEER.
8. ALTERNATE CROSS-SECTION - NO PARKING, TWO 12' TRAVEL LANES, AND ONE 12' TURN LANE.
9. ASPHALT PAVEMENT MAYBE WATER TESTED FOR PROPER DRAINAGE PRIOR TO FINAL APPROVAL.
10. CITY ENGINEER MAY REQUIRE CORING OF THE ASPHALT PAVEMENT TO VERIFY PAVEMENT THICKNESS OR DENSITY.
11. ANY VARIATION TO PROPOSED ROAD CROSS-SECTION MUST HAVE WRITTEN APPROVAL FROM CITY ENGINEER.
12. ALL TREE AND UTILITY PLACEMENT MUST MEET DWG NO. COA-101.
13. A 0.5' MINIMUM STRIP TO BE LOCATED BEHIND THE SIDEWALK OR PATHWAY FOR PLACEMENT OF PROPERTY PINS.
14. PROVIDE 8' WIDTH WHERE PROVIDING ON-STREET PARKING. REDUCE TO 0' WIDTH IF NO ON-STREET PARKING WILL BE PROVIDED.

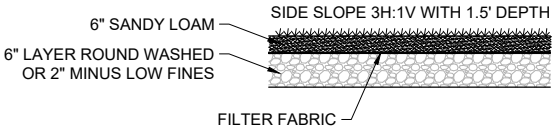
CITY OF
ATHOL, IDAHO

MAJOR STREETS WITH INFILTRATION DRAINAGE

STANDARD DWG:

COA-814

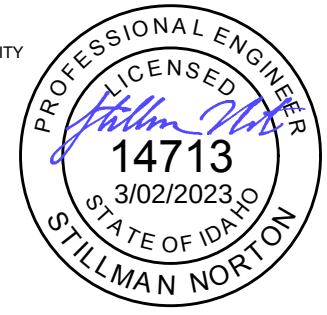




DETAIL CROSS-SECTION

NOTES:

1. 60' RIGHT OF WAY WIDTH.
2. 5% MAX. GRADE; STEEPER SLOPES MAY BE ACCEPTABLE IF CHECK DAMS AND ENERGY DISSIPATING MEASURE ARE USED FOR GRADES UP TO 11%, BUT MUST BE APPROVED BY CITY ENGINEER.
3. 200' CENTERLINE RADIUS MIN. SMALLER RADIUS MAY BE ALLOWED IF CURVE IS SUPERELEVATION - REFER TO AASHTO MANUAL.
4. CITY ENGINEER MAY REQUIRE SOIL TEST AND/OR GEOTECHNICAL ENGINEERING EVALUATION TO VERIFY LOAD BEARING CAPACITY OF SUBGRADE.
5. TRAFFIC CALMING AND ENTRANCE FEATURES SHALL BE EVALUATED ON A CASE BY CASE BASIS; FINAL APPROVAL SHALL BE BY CITY ENGINEER.
6. CITY ENGINEER MAY REQUIRE CORING OF THE ASHTON PAVEMENT TO VERIFY PAVEMENT THICKNESS OR DENSITY.
7. ANY VARIATION TO PROPOSED ROAD CROSS-SECTION MUST HAVE WRITTEN APPROVAL FROM CITY ENGINEER.



CITY OF **ATHOL, IDAHO**

TYPICAL RURAL ROADWAY (WITHIN IMPACT AREA)

STANDARD DWG:

COA-815