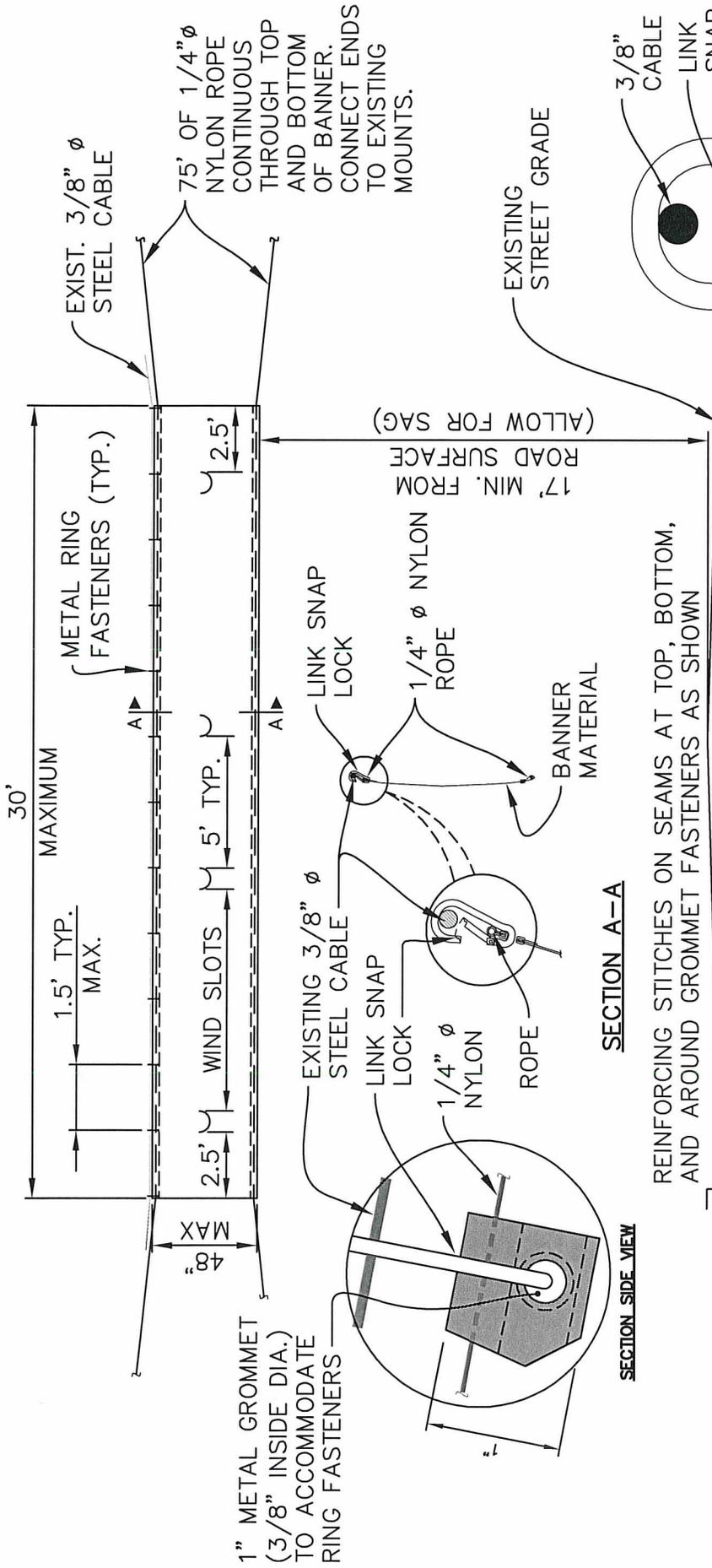


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REINFORCING STITCHES ON SEAMS AT TOP, BOTTOM, AND AROUND GROMMET FASTENERS AS SHOWN

**NOTES:**

1. WIND SLOT SHALL BE 6" DIAMETER HALF CIRCLE, MINIMUM. THEY MAY BE LOCATED IN AREAS WHICH DO NOT DEDUCT FROM THE BANNER.
2. WIND SLOTS SHALL BE SPACED ONE SLOT PER 5 FT. OF BANNER LENGTH.
3. BANNER SHALL BE DURABLE TEARING RESISTANT MATERIAL, I.E., NYLON, ETC.
4. BANNER SHALL BE CONNECTED TO EXISTING CABLE WITH DETACHABLE METAL METAL RINGS, CURTAIN TYPE RINGS WILL NOT BE ALLOWED.
5. REINFORCING STITCHES SHALL BE PROVIDED ON SEAMS AT TOP, BOTTOM, & AROUND GROMMET FASTENERS AS SHOWN.
6. WIND SLOTS SHALL HAVE REINFORCING SEAMS AROUND FULL SLOT LENGTH TO PREVENT TEARING.
7. METAL RINGS SHALL BE SUBMITTED FOR APPROVAL AT TIME OF APPLICATION FOR PERMIT.
8. BANNER SHALL BE CONSTRUCTED USING A SINGLE LAYER OF BANNER MATERIAL. DOUBLE SIDED BANNERS SHALL HAVE PRINT ON BOTH SIDES OF THE SINGLE LAYER MATERIAL.
9. BANNER CONSTRUCTION SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ISSUANCE OF PERMIT.

APPROVED BY CITY ENGINEER:

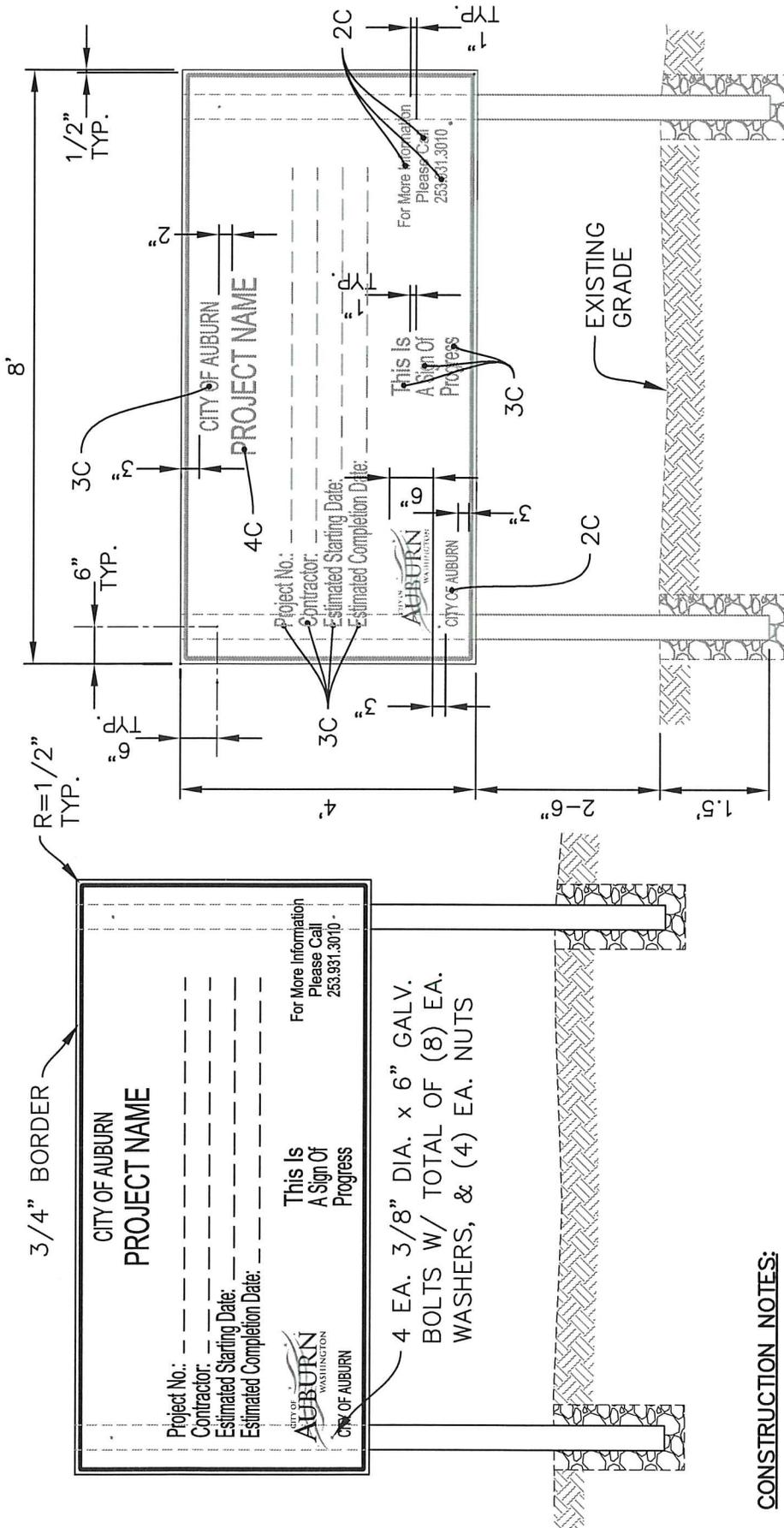
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BANNER  
DETAIL







**CONSTRUCTION NOTES:**

1. SIGN BOARD SHALL BE CONSTRUCTED FROM 4'x4'x3/4" EXTERIOR MARINE PLYWOOD.
2. ALL LETTERS AND NUMERALS SHALL BE SERIES C.
3. LETTERING SHALL BE BLACK ON WHITE BACKGROUND USING 3M SCOTCHLITE EC FILM SERIES 1700 OVER 3M DIAMOND GRADE VIP OR BETTER.
4. SIGN AND POSTS SHALL BE PLANTED INTO AN UNYIELDING SOIL AND REINFORCED BY TAMPING GRAVEL OR SMALL ROCKS WHEN NECESSARY TO ASSURE RESISTANCE AGAINST STRONG WIND. BRACING MAY BE REQUIRED AT SOME LOCATIONS AS DIRECTED BY THE ENGINEER.
5. SIGN BOARD SHALL BE FABRICATED AND MOUNTED ON 2 EACH 4"x4"x8' POSTS WITH THE FOLLOWING GALVANIZED FASTENERS AND SIZES AS INDICATED:
  - 4 EA. 3/8" DIA.x6"
  - 4 EA. 3/8" NUTS
  - 8 EA. 3/8" WASHERS

APPROVED BY CITY ENGINEER:

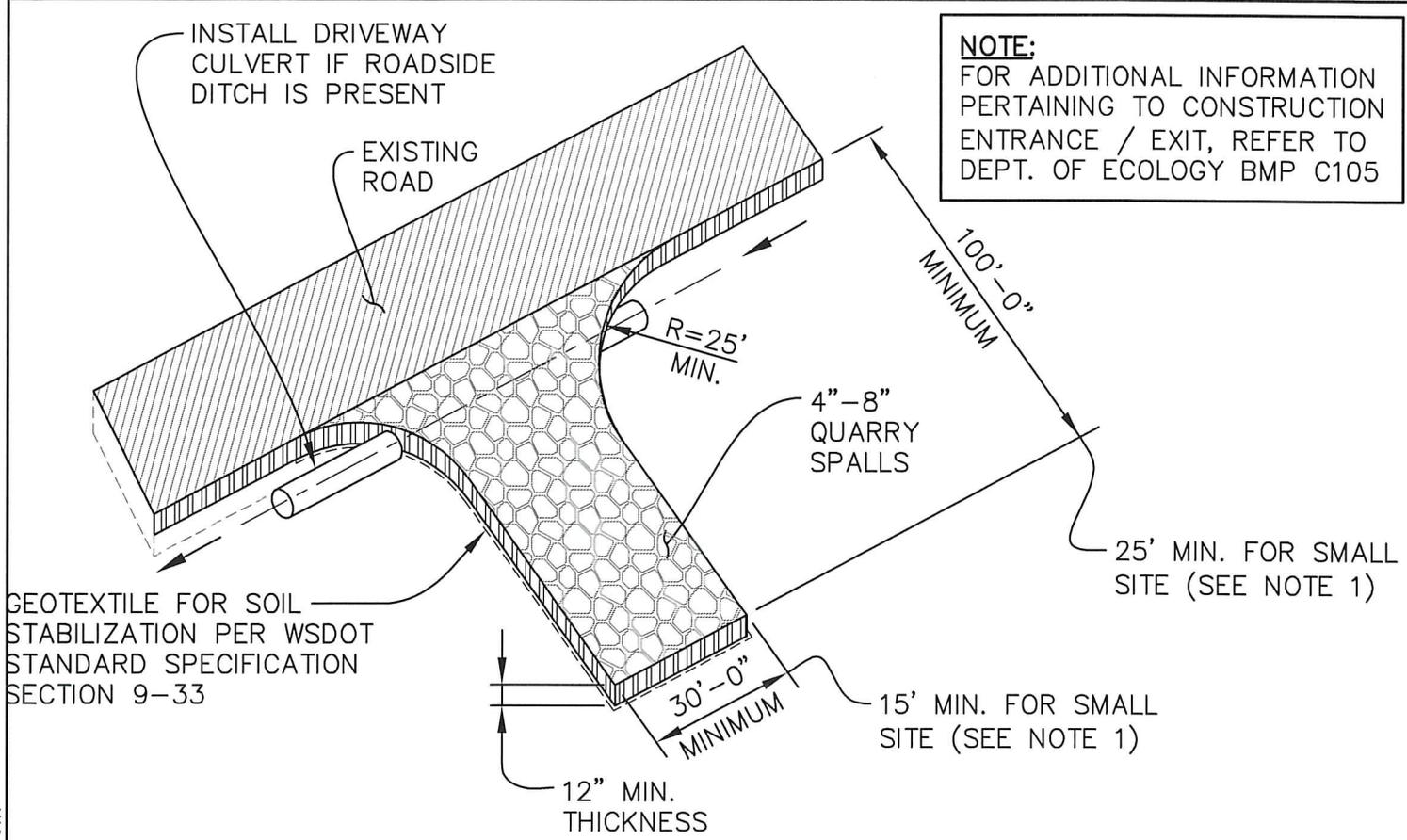
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8/5/2016



TEMPORARY CONSTRUCTION  
SITE SIGN BOARD (8'x4')



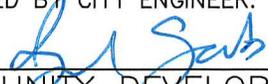
**NOTE:**  
 FOR ADDITIONAL INFORMATION  
 PERTAINING TO CONSTRUCTION  
 ENTRANCE / EXIT, REFER TO  
 DEPT. OF ECOLOGY BMP C105

GEOTEXTILE FOR SOIL  
 STABILIZATION PER WSDOT  
 STANDARD SPECIFICATION  
 SECTION 9-33

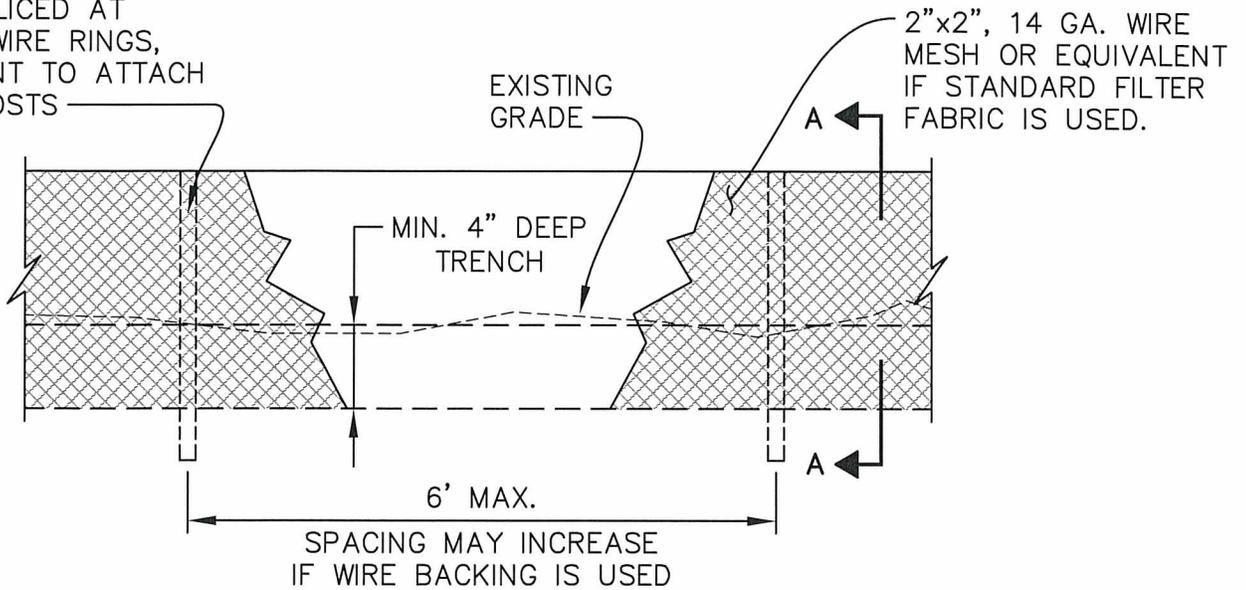
**MAINTENANCE STANDARDS:**

1. SMALL SITE IS DEFINED AS A SITE THAT ADDS OR REPLACES LESS THAN 5,000 SQUARE FEET OF IMPERVIOUS SURFACE & DISTURBS LESS THAN ONE ACRE.
2. QUARRY SPALLS PLUS WOVEN GEOTEXTILE FABRIC UNDER ROCK SHALL BE ADDED AS NEEDED TO KEEP THE ENTRANCE IN CONFORMANCE WITH THESE STANDARDS.
3. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE SHOVELING, PICKUP SWEEPING, & HAND SWEEPING, AN INCREASE IN THE ENTRANCE DIMENSIONS, OR THE INSTALLATION OF A SELF-CONTAINED WHEEL WASH STATION, (REFER TO DOE BMP C-106 FOR MORE INFORMATION).
4. ANY SEDIMENT THAT IS TRACKED ONTO STREET PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SHOVELING, PICKUP SWEEPING, & HAND SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED OR STABILIZED ONSITE. PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE & THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS, A CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
5. ANY ROCK SPALLS THAT ARE LOOSEENED FROM THE DRIVEWAY PAD & ONTO THE ROADWAY SHALL BE REMOVED IMMEDIATELY. VACTOR TRUCK MUST BE USED TO CLEAN CATCH BASIN IF IT BECOMES PLUGGED.
6. VEHICLES SHALL NOT ENTER OR EXIT THE SITE OTHER THAN THE CONSTRUCTION ENTRANCE(S).
7. REMOVE TEMPORARY CONSTRUCTION ENTRANCE/EXIT UPON COMPLETION OF THE ON-SITE WORK.

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Erosion Control\STDETL-E-01.1

APPROVED BY CITY ENGINEER: 	DATE: 8/5/2016	 TEMPORARY CONSTRUCTION ENTRANCE / EXIT
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.		STANDARD DETAIL: E-01.1

JOINTS IN FILTER FABRIC SHALL BE SPLICED AT POSTS. USE WIRE RINGS, OR EQUIVALENT TO ATTACH FABRIC TO POSTS



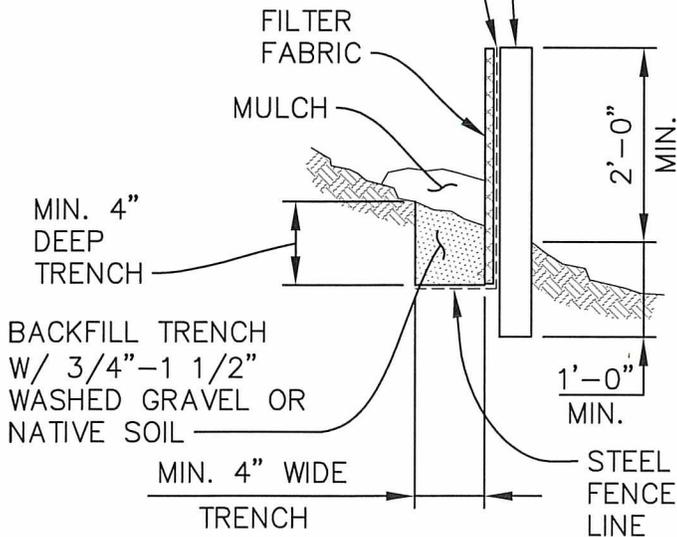
**SILT FENCE**  
NOT TO SCALE

**MAINTENANCE STANDARDS:**

1. INSPECT WEEKLY ON ACTIVE SITES, MONTHLY ON INACTIVE SITES, & AFTER EACH STORM EVENT TO VERIFY PROTECTION IS STILL ADEQUATE. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
3. THE UPHILL SIDE OF THE FENCE SHALL BE PERIODICALLY CHECKED FOR SIGNS OF CLOGGING CAUSING CHANNELIZATION OF THE FLOWS PARALLEL TO THE FENCE. IN SUCH CASE, REPLACE THE FENCE AND OR REMOVE THE TRAPPED DEBRIS AND SEDIMENT.
4. SEDIMENT AND DEBRIS BUILD UP MUST BE REMOVED WHEN 6" HIGH.
5. REMOVE AND REPLACE DETERIORATED FILTER FABRIC DUE TO ULTRAVIOLET BREAKDOWN.
6. UPON COMPLETION OF WORK AND WHEN ALLOWED BY THE CITY OF AUBURN, THE CONTRACTOR SHALL REMOVE ALL FILTER FABRIC FENCE AND GRAVEL. PROVIDE FINISH GRADES WITH SURFACING MATERIAL AND LANDSCAPING AS REQUIRED.

STEEL FENCE POSTS

2"x2", 14 GA. WIRE MESH OR EQUIVALENT IF STANDARD FILTER FABRIC IS USED



**SECTION A-A**  
NOT TO SCALE

**NOTES:**

1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.
2. FOR ADDITIONAL TECHNICAL INFORMATION, REFER TO WSDOE BMP C233.

APPROVED BY CITY ENGINEER:

DATE:

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*8/5/2016*



SILT CONTROL FENCE

DRAINAGE GRATE,  
RECTANGULAR  
GRATE SHOWN

CURB &  
GUTTER

OVERFLOW BYPASS  
OPENING (TYP.)

GEOTEXTILE  
FABRIC

5" MAX.

SEDIMENT AND  
DEBRIS RETRIEVAL  
STRAPS (TYP.)

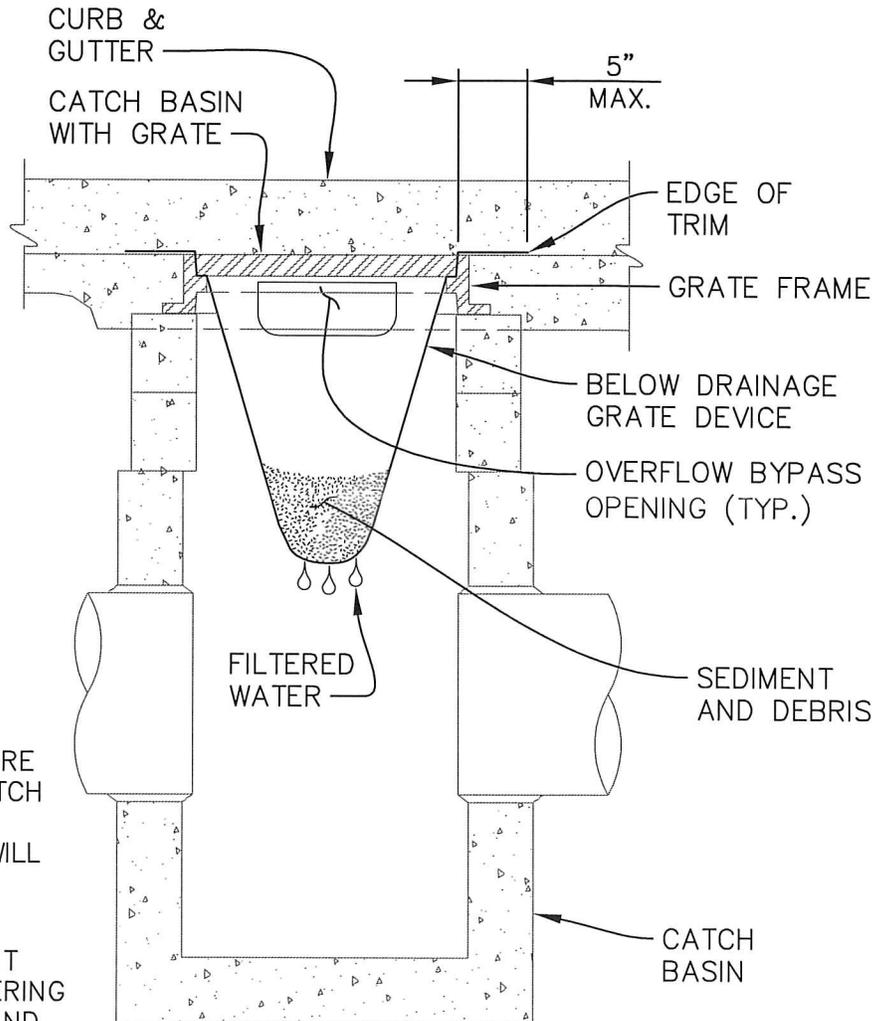
BELOW DRAINAGE  
GRATE DEVICE

**MAINTENANCE STANDARDS:**

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE FILTER FABRIC SHALL BE REMOVED PROMPTLY AND DISPOSED OF.
2. SEDIMENT SHALL NOT BE REMOVED WITH WATER INSIDE THE BASIN.
3. REGULAR MAINTENANCE IS REQUIRED. INSPECT WEEKLY ON ACTIVE SITES, MONTHLY ON INACTIVE SITES, & AFTER EACH STORM EVENT TO VERIFY PROTECTION IS STILL ADEQUATE. REPLACE AS NEEDED.
4. ANY SEDIMENT IN THE CATCH BASIN INSERT SHALL BE REMOVED WHEN IT HAS FILLED 1/3 OF THE STORAGE CAPACITY OF THE FILTER DEVICE.
5. THE GEOTEXTILE FABRIC FILTER MEDIA SHALL BE INSPECTED AFTER EACH STORM EVENT & CLEANED OR REPLACED WHEN 1/3 OF STORAGE CAPACITY IS REACHED, OR MONTHLY, UNDER NORMAL WEATHER CONDITIONS, WHICHEVER OCCURS FIRST.
6. REMOVE CATCH BASIN INLET PROTECTION DEVICE UPON COMPLETION OF THE WORK.

**SCHEMATIC DETAIL VIEW**

NOT TO SCALE



**SECTION A-A**

NOT TO SCALE

**NOTES:**

1. THIS DEVICE IS APPLICABLE TO WHERE PONDING OF WATER ABOVE THE CATCH BASIN WILL NOT CAUSE TRAFFIC PROBLEMS AND WHERE OVERFLOW WILL NOT RESULT
2. THIS INSERT DEVICE SHALL HAVE A MINIMUM OF 0.5 C.F. OF STORAGE. IT SHALL ALSO PROVIDE FOR DE-WATERING STORED SEDIMENT, AN OVERFLOW, AND EASE OF MAINTENANCE.
3. FOR ADDITIONAL TECHNICAL INFORMATION, REFER TO WSDOE BMP C220.

APPROVED BY CITY ENGINEER:

DATE:



CATCH BASIN  
INLET PROTECTION

CEMENT CONCRETE BLOCK WITH HOLES IN HORIZONTAL POSITION, TYP.

OVERFLOW WATER DIRECTION

CEMENT CONCRETE BLOCK WITH HOLES FACING UP, TYP.

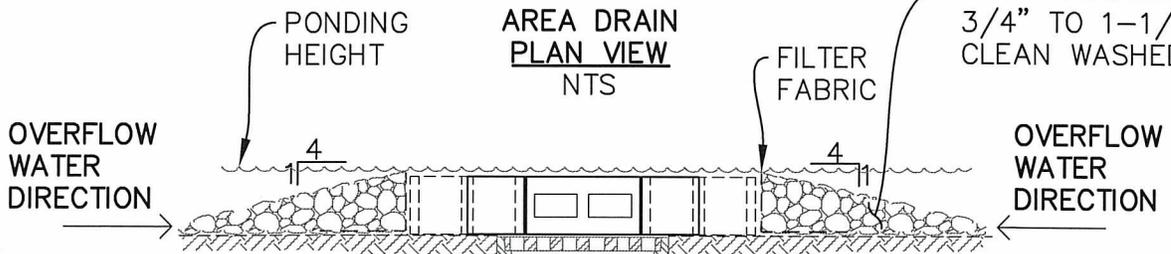
OVERFLOW WATER DIRECTION

FILTER FABRIC

CATCH BASIN GRATE

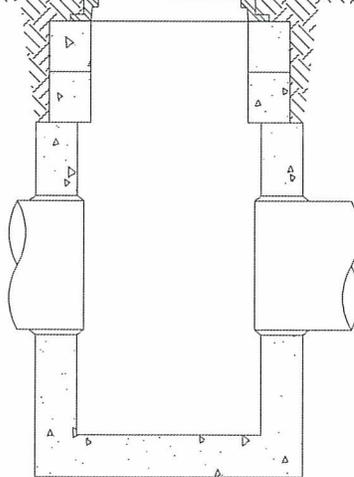
OVERFLOW WATER DIRECTION

GRAVEL FILTER WITH 3/4" TO 1-1/2" OF CLEAN WASHED ROCK

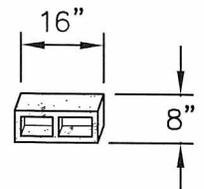


**MAINTENANCE STANDARDS:**

1. ANY ACCUMULATED SEDIMENT ON OR AROUND THE GRAVEL FILTER SHALL BE REMOVED PROMPTLY AND DISPOSED OF.
2. SEDIMENT SHALL NOT BE REMOVED WITH WATER INSIDE THE CATCH BASIN.
3. INSPECT WEEKLY ON ACTIVE SITES, MONTHLY ON INACTIVE SITES, & AFTER EACH STORM EVENT TO VERIFY PROTECTION IS STILL ADEQUATE. REPLACE AS NEEDED.
4. REMOVE CATCH BASIN PROTECTION UPON COMPLETION OF PROJECT.
5. THIS DETAIL IS APPLICABLE ONLY WHERE PAVEMENT DOES NOT EXIST AROUND THE CATCH BASIN.



**SECTION A-A**  
NTS



**TYPICAL CEMENT CONCRETE BLOCK**  
NTS

**NOTES:**

1. BASIN INLET IN SOME AREAS MAY REQUIRE (2) STACKS OF CEMENT CONCRETE BLOCKS, AS DIRECTED BY THE ENGINEER.
2. FOR ADDITIONAL TECHNICAL INFORMATION, REFER TO WSDOE BMP C220.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

2/20/2018



ALTERNATE CATCH BASIN INLET PROTECTION

48" MIN. PERFORATED CMP  
STANDPIPE, W/ (40) 1"Ø MIN.  
HOLES @ 10" O.C., OPEN TOP,  
CLOSED BOTTOM, ENCASED IN  
CONCRETE

DISTANCE GREATER  
THAN MIN. HEAD TO  
PASS DESIGN STORM

SHOW TOP  
OF BERM  
ELEVATION

SHOW OVERFLOW  
ELEVATIONS

SHOW & DESIGNATE  
THE DESIGN STORM  
ELEVATION

SILT FENCE  
(TYP.)

WATER  
SURFACE

WATER  
TIGHT SEAL  
SHOW INVERT  
ELEVATION

8" DIA.  
PVC MIN.

SHOW "Q"  
ALLOWABLE

8"x8"x8" PVC TEE  
WITH RUBBER  
GASKET JOINTS

SHOW ORIFICE SIZE  
AS REQ'D

6" CONC.  
BASE

COMPACTED  
GRAVEL BASE

SHOW POND  
BOTTOM  
ELEVATION

3/4" TO 1-1/2"  
WASHED ROCK  
GRAVEL CONE

6" MIN.  
DEAD  
STORAGE

**NOTES:**

1. PROVIDE A RIP RAP LINED SPILLWAY, 6" MINIMUM ABOVE STANDPIPE, OPEN TOP.
2. A MULTIPLE PHASE POND SEPARATED BY PERVIOUS GRAVEL WINDOW MAY BE REQUIRED TO CONTROL AND TRAP SEDIMENT, AND TO REDUCE DISCHARGE ENERGY.
3. POND CHARACTERISTICS SUCH AS DESIGN VOLUME, INFLOW, OUTFLOW, AND MAXIMUM HEAD SHALL BE SHOWN ON PLANS.
4. THE OUTLET PIPE SHALL BE A MINIMUM OF 8" DIAMETER.
5. INDICATE SEASONAL HIGH GROUND WATER ELEVATION.
6. THIS DETAIL IS FOR DESIGN GUIDANCE ONLY, THE ENGINEER IS RESPONSIBLE FOR PROVIDING THE NECESSARY ELEVATIONS AND ORIFICE SIZES.
7. REFER TO WSDOE BMP 220 FOR ADDITIONAL INFORMATION.

APPROVED BY CITY ENGINEER:

DATE:



GRADING/EROSION DISCHARGE  
CONTROL STRUCTURE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: E-05.1

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CRUSHED SURFACING BASE COURSE (CSBC) PER SECTION 9-03.9(3) BETWEEN TRENCH BACKFILL AND PAVEMENT. MATCH EXISTING THICKNESS (4" MIN.)

SAW CUT FULL DEPTH 12" MIN. FROM EDGE OF TRENCH EXCAVATION, TYP.

FOR RESTORATION OF EXISTING ROADWAY SEE STD DETAIL T-02

ASPHALT TACK APPLIED TO ALL EXISTING PAVEMENT SURFACES PER SECTION 5-04.3(4). TACK COAT SHALL BE CSS-1 OR CSS-1H EMULSIFIED ASPHALT, PG, OR APPROVED EQUAL

EXISTING SUBGRADE

SELECT TRENCH BACKFILL: CRUSHED SURFACING TOP COURSE (CSTC) PER SECTION 9-03.9(3)

IMPORTED PIPE TRENCH BACKFILL: GRAVEL BORROW PER SECTION 9-03.14(1) SEE NOTE 3.

PIPE ZONE BEDDING: CRUSHED SURFACING TOP COURSE (CSTC) PER SECTION 9-03.9(3)

HMA CL. 1/2 IN. PG 64-22 MATCH EXISTING DEPTH 4" MIN.

PIPE O.D. 6" MIN.  
12" MIN.

← TRANSVERSE TRENCH | LONGITUDINAL TRENCH →

IF THE TRENCH BOTTOM IS DETERMINED TO BE UNSUITABLE BY THE ENGINEER, THE UNSUITABLE FOUNDATION MATERIAL SHALL BE REMOVED & REPLACED WITH PIPE FOUNDATION MATERIAL: AGGREGATE FOR GRAVEL BASE PER SECTION 9-03.10

**NOTES:**

1. TRANSVERSE TRENCHES ARE TRENCHES THAT RUN PERPENDICULAR OR DIAGONAL ACROSS THE TRAVELED WAY OF THE ROAD. LONGITUDINAL TRENCHES ARE TRENCHES THAT RUN PARALLEL WITH THE TRAVELED WAY OF THE ROAD.
2. ALL BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY.
3. MAY USE NATIVE MATERIAL FOR LONGITUDINAL TRENCH BACKFILL IF MATERIAL MEETS REQUIREMENTS OF SECTION 9-03.14(1).

APPROVED BY CITY ENGINEER:

DATE:

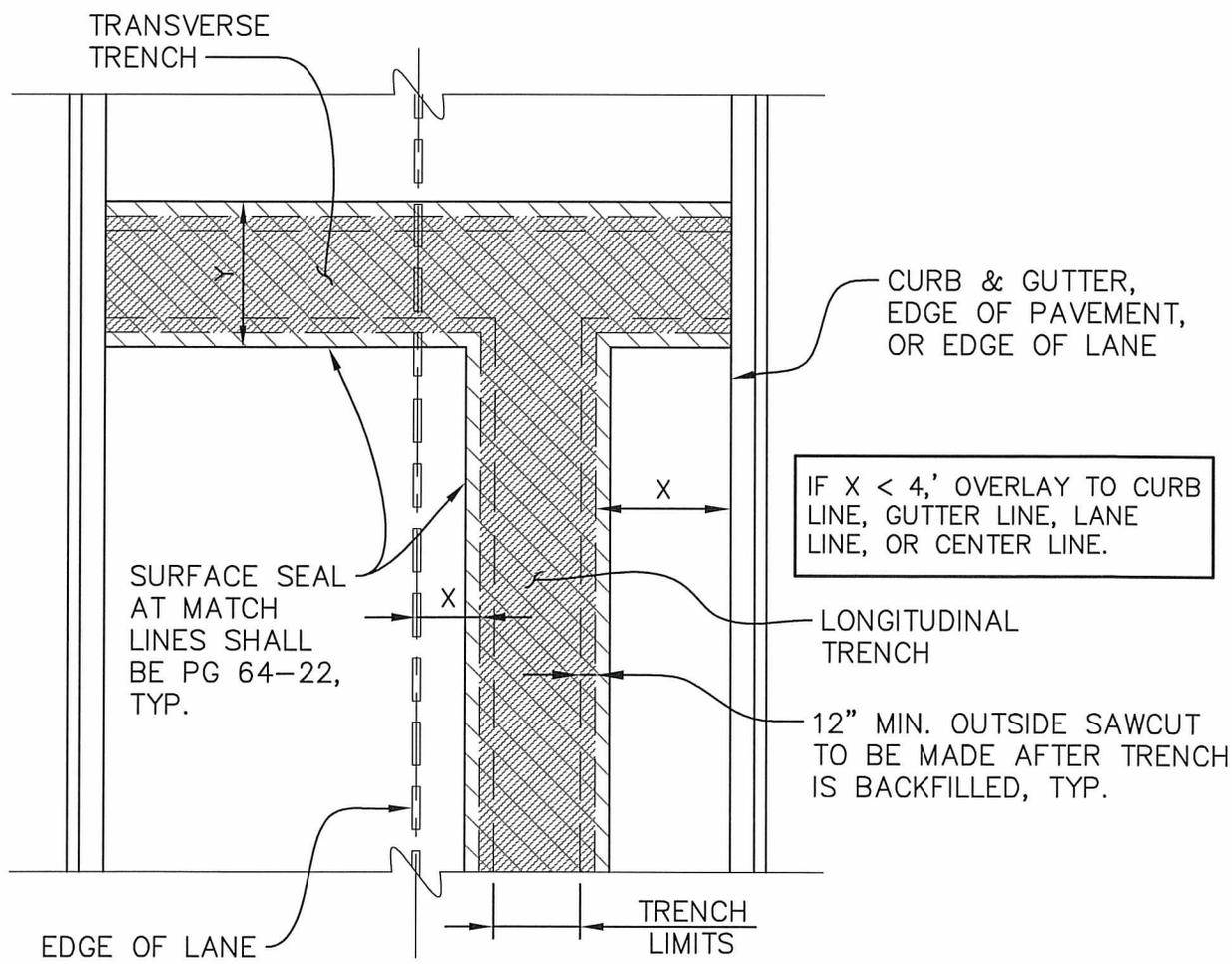


TYPICAL PIPE TRENCH BACKFILL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-01.2

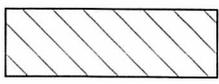
Plotted by: Craig Dobyns on 2/2/2018 File location: M:\Construction Standard Details\Traffic\Working DWG\Traffic\STDETL-T-02.2

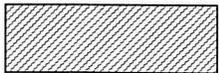


IF X < 4,' OVERLAY TO CURB LINE, GUTTER LINE, LANE LINE, OR CENTER LINE.

TYPE OF STREET	Y
PRINCIPAL ARTERIAL	50'
MINOR ARTERIAL	40'
COLLECTOR	30'
LOCAL	20'

**LEGEND:**

GRIND & OVERLAY (2" MIN. DEPTH, 4' MIN. WIDTH) 

FULL PAVEMENT DEPTH REPLACEMENT (SEE STD. DTL. T-01) 

FULL DEPTH SAWCUT 

**NOTES:**

1. ADDITIONAL RESTORATION OVERLAY MAY BE REQUIRED AS DIRECTED BY ENGINEER.
2. TRENCHES IN/ACROSS INTERSECTIONS SHALL BE CONSIDERED "TRANSVERSE".
3. ASPHALT PAVEMENT SHALL MATCH EXISTING PAVEMENT THICKNESS AND GRADE, OR PER DESIGN STANDARDS, WHICHEVER IS THICKER/STRONGER.
4. WHERE THE TRENCH CROSSES A CROSSWALK/PEDESTRIAN PATH AND THE TOTAL RESTORATION WIDTH EQUALS OR EXCEEDS HALF THE PEDESTRIAN PATH LENGTH, THE CONTRACTOR SHALL UPGRADE EXISTING CURB RAMPS THAT DO NOT MEET CURRENT ADA STANDARDS OR INSTALL NEW CURB RAMPS IF NOT PRESENT.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

2/20/2018

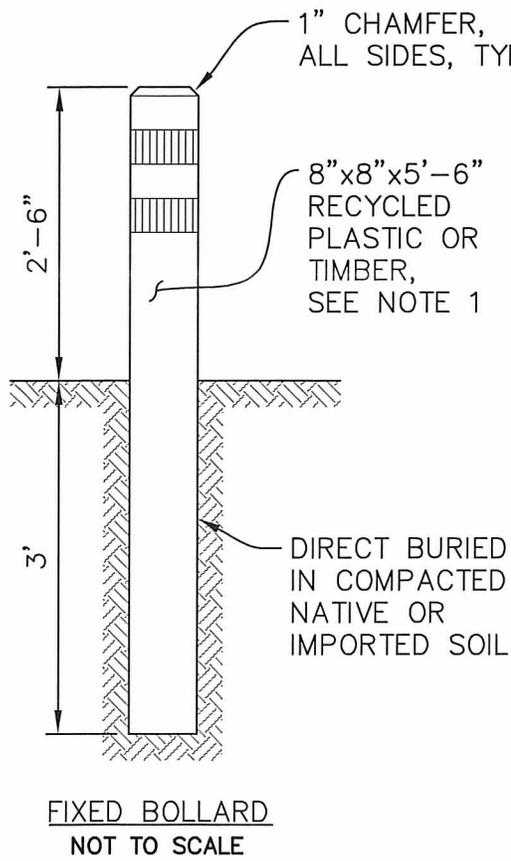
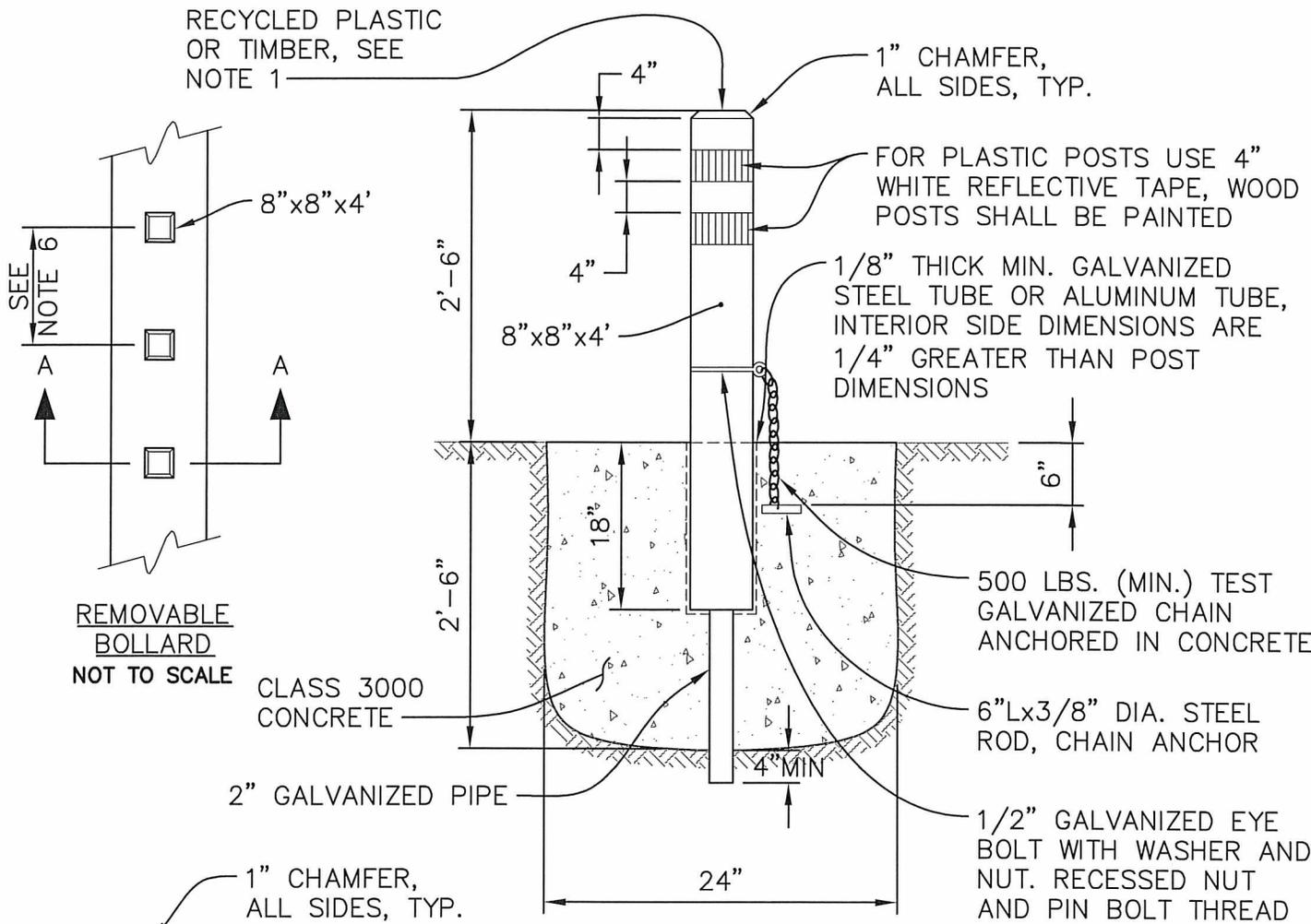


EXISTING ROADWAY RESTORATION OF UTILITY TRENCHES

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-02.2

Plotted by: Craig Dobyms on 2/2/2018 File location: M:\Construction Standard Details\Traffic\STDBETL-T-03.2



**SECTION A-A**  
**NOT TO SCALE**

**NOTES:**

1. RECYCLED PLASTIC BOLLARDS SHALL BE WHITE. TIMBER SHALL BE DOUGLAS FIR OF DENSE CONSTRUCTION GRADE, AND SHALL BE PRESSURE TREATED WITH WEATHER BORNE PRESERVATIVE (ACA, CCA, ACZA) IN ACCORDANCE WITH REQUIREMENTS OF SEC. 9-09.3(1) (GENERAL REQUIREMENTS) OF WSDOT STANDARD SPECIFICATIONS AND CITY'S AMENDMENTS THERETO. TOP 5" OF TIMBER SHALL BE PAINTED WHITE.
2. GALVANIZED STEEL TUBE SHALL CONFORM TO ASTM A53 GRADE A.
3. NUTS, BOLTS, & WASHERS SHALL CONFORM TO ASTM A307.
4. ALL STEEL PARTS SHALL BE GALVANIZED.
5. CEMENT CONCRETE SHALL BE CLASS 3000.
6. MINIMUM OF 5'-0" O.C. SPACING.
7. BOLLARD SHALL BE PLUMBED VERTICALLY IN ALL DIRECTIONS.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

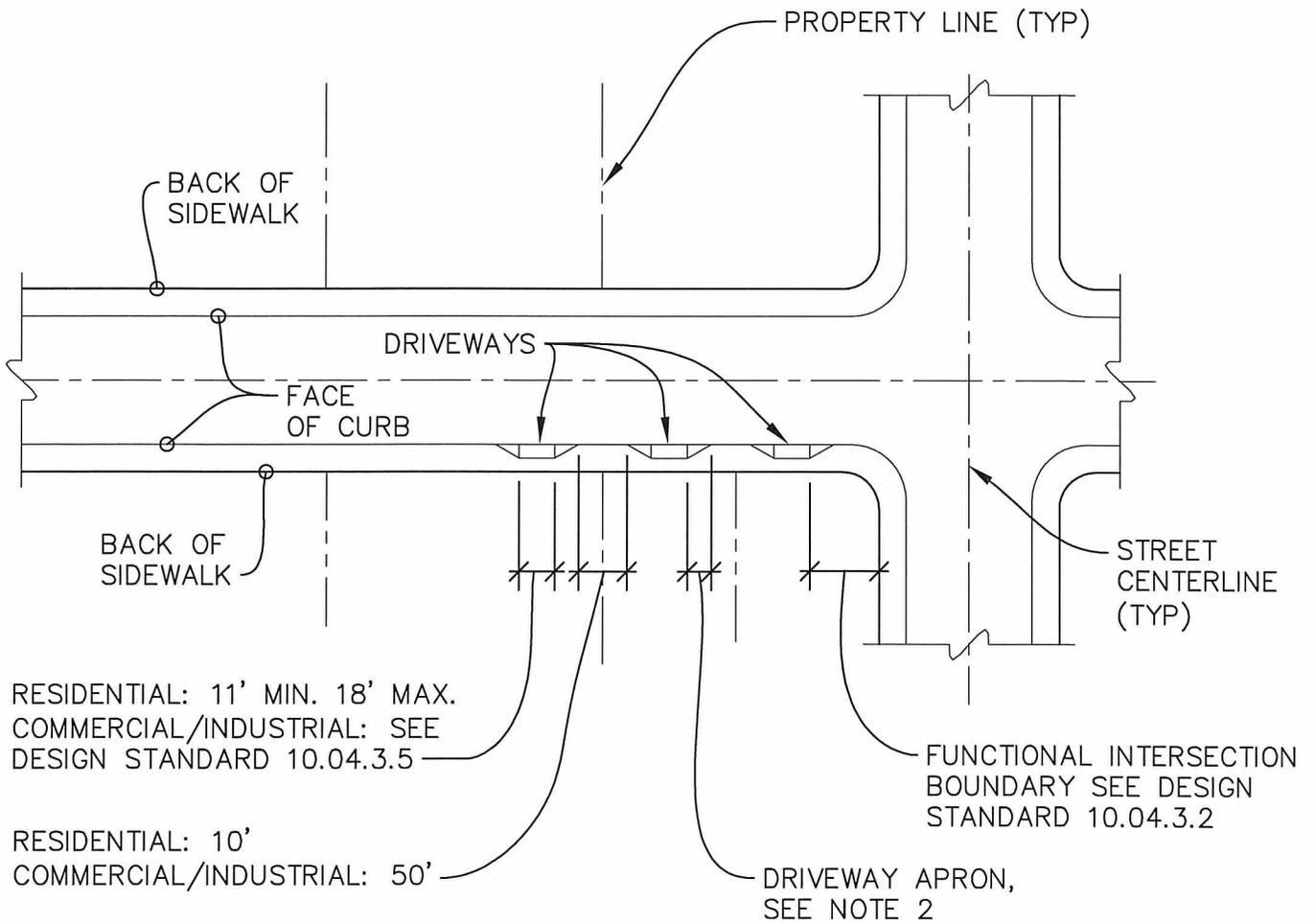
2/20/2018



TYPICAL  
BOLLARD INSTALLATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-03.2



**NOTES:**

1. DRIVEWAY WIDTHS AND LOCATIONS SHALL BE IN ACCORDANCE WITH SECTION 10.04 OF THE DESIGN STANDARDS.
2. DRIVEWAY TO BE CONSTRUCTED PER STANDARD DETAIL T-34 OR T-35.
3. RESIDENTIAL DRIVEWAYS SERVING 2 OR MORE LIVING UNITS SHALL BE LIGHT COMMERCIAL/INDUSTRIAL DRIVEWAYS.

APPROVED BY CITY ENGINEER:

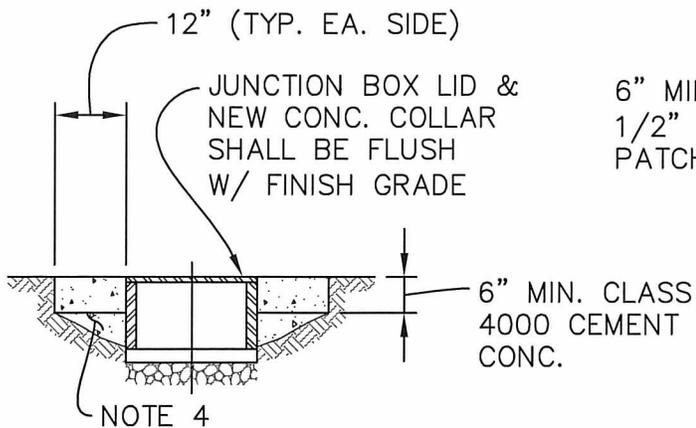
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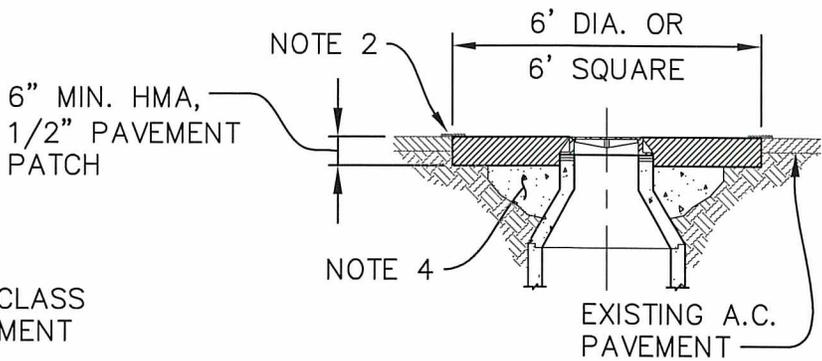
DRIVEWAY WIDTHS  
AND LOCATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

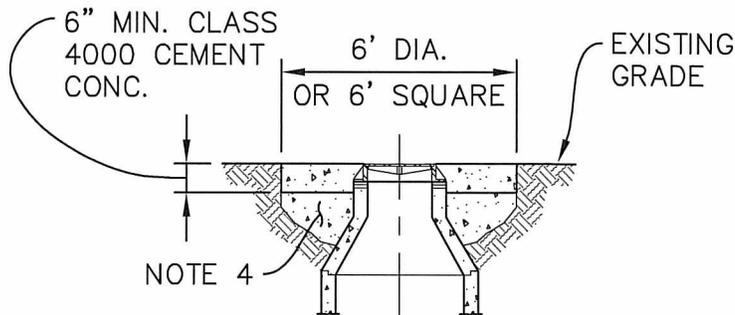
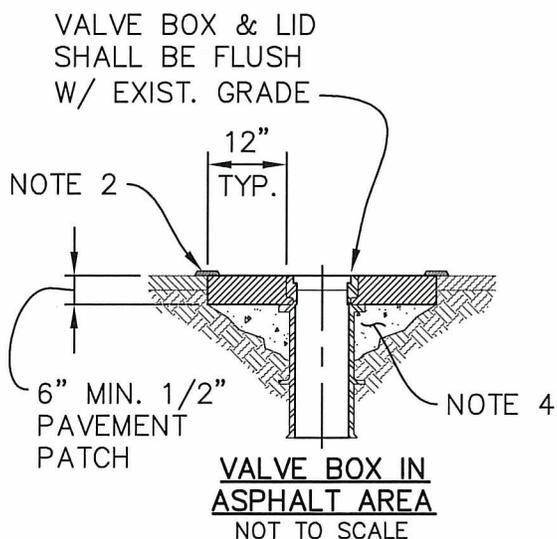
STANDARD DETAIL: T-04.3



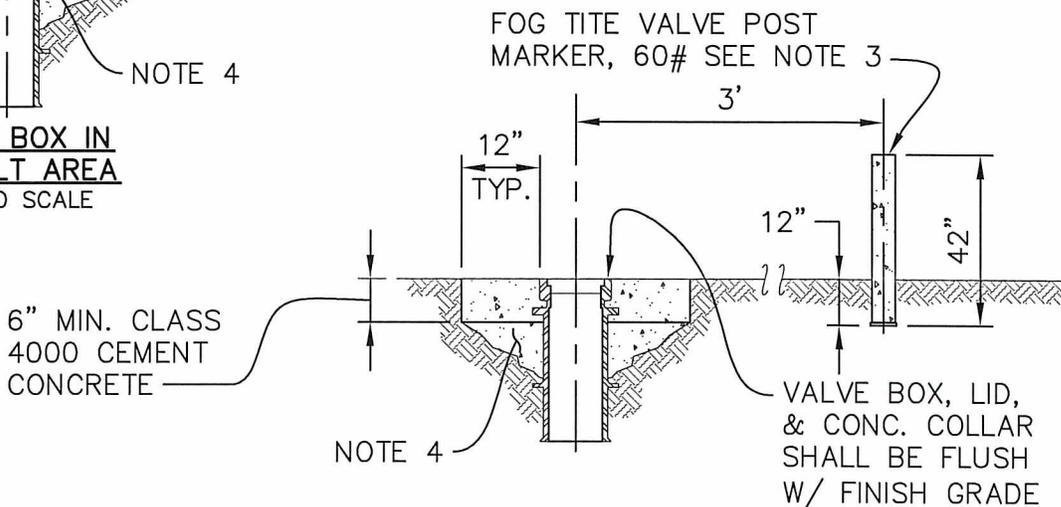
**JUNCTION BOX IN UNIMPROVED OR PARTIAL ASPHALT AREA**  
NOT TO SCALE



**MANHOLE (OR CB) IN ASPHALT AREA**  
NOT TO SCALE



**MANHOLE OR CATCH BASIN IN UNIMPROVED AREA**  
NOT TO SCALE



**VALVE BOX IN UNIMPROVED AREA**  
NOT TO SCALE

**NOTES:**

- ADJUSTMENT OF SANITARY SEWER AND STORM STRUCTURES SHALL BE PER SECTION 7-05.3(1). ADJUSTMENT OF WATER UTILITY STRUCTURES SHALL BE PER SECTION 7-12.3(2).
- SURFACE SEAL AT MATCHLINE SHALL BE CSS-1 OR CSS-1H EMULSIFIED ASPHALT OR PG.
- VALVE IN UNIMPROVED AREAS SHALL HAVE A VALVE POST MARKER.
- FILL ANY VOIDS OR DISTURBED AREAS BELOW 6" WITH QUICK SETTING CEMENT CONCRETE, DEPTH AS REQUIRED.
- RISER RING HEIGHT 2" MIN. 25" MAX. ANY ADJUSTMENT OVER 18" REQUIRES A HAND HOLD.

APPROVED BY CITY ENGINEER:

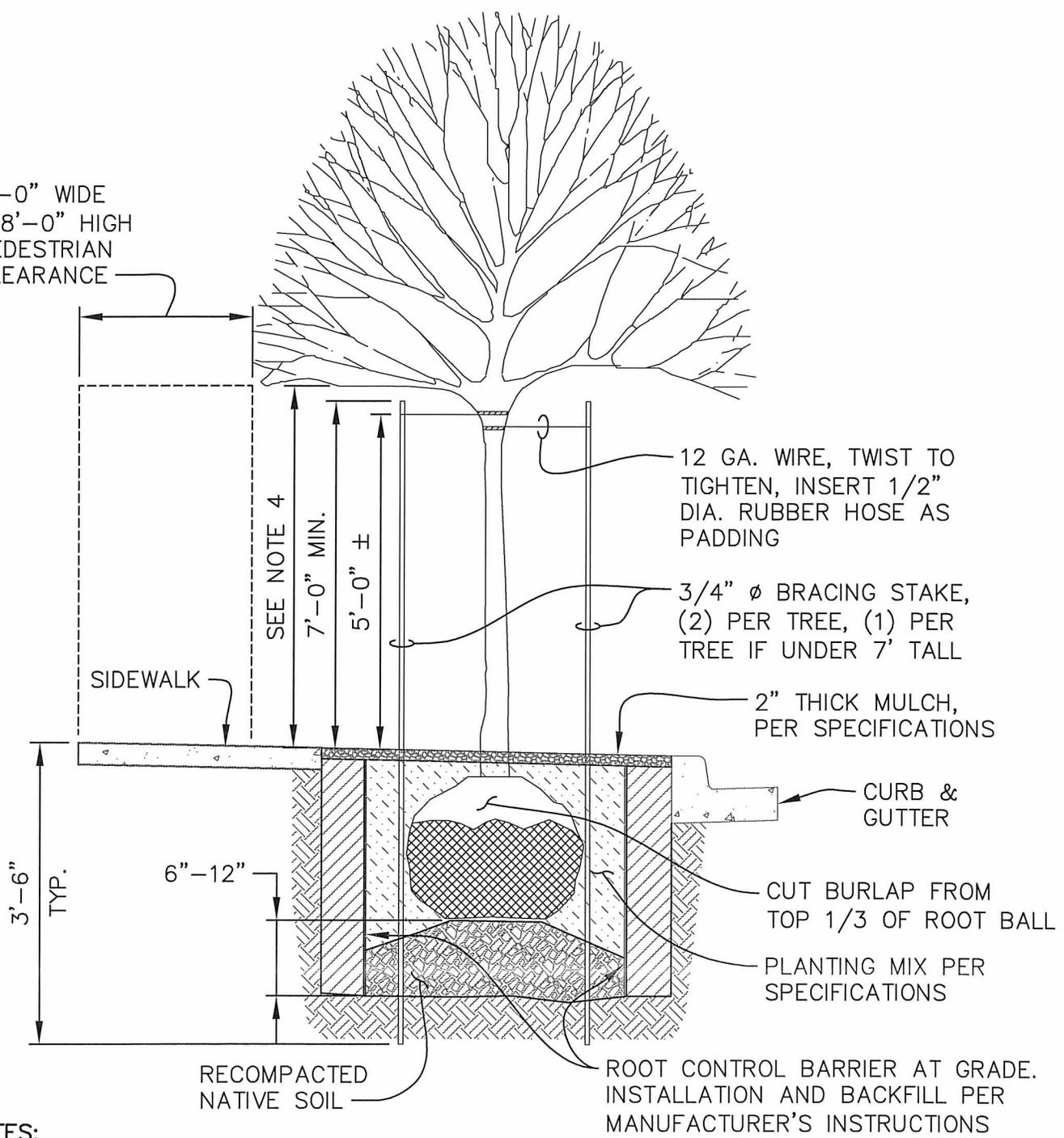
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ADJUSTMENT OF NEW AND EXISTING UTILITY STRUCTURES TO FINISH GRADE

Plotted by: Craig Dobyne on 2/2/2018 File location: M:\Construction Standard Details\Traffic\STDETAIL-T-06.2

4'-0" WIDE  
x 8'-0" HIGH  
PEDESTRIAN  
CLEARANCE



12 GA. WIRE, TWIST TO  
TIGHTEN, INSERT 1/2"  
DIA. RUBBER HOSE AS  
PADDING

3/4" Ø BRACING STAKE,  
(2) PER TREE, (1) PER  
TREE IF UNDER 7' TALL

2" THICK MULCH,  
PER SPECIFICATIONS

CURB &  
GUTTER

CUT BURLAP FROM  
TOP 1/3 OF ROOT BALL

PLANTING MIX PER  
SPECIFICATIONS

ROOT CONTROL BARRIER AT GRADE.  
INSTALLATION AND BACKFILL PER  
MANUFACTURER'S INSTRUCTIONS

RECOMPACTED  
NATIVE SOIL

**NOTES:**

1. PLANT TREES 1" HIGHER THAN GROWN IN NURSERY.
2. TREE PIT SHALL NOT BE LESS THAN 2 TIMES THE ROOT BALL DIAMETER.
3. STREET TREES SHALL NOT BE PLACED WITHIN SIGHT DISTANCE TRIANGLE.
4. AT TIME OF PLANTING, MAINTAIN LOWER BRANCHES OF TREE AT 5' MIN. CLEARANCE ABOVE THE SIDEWALK.
5. STREET TREES SHALL BE SELECTED FROM THE CITY APPROVED LIST OF STREET TREES.

APPROVED BY CITY ENGINEER:

DATE:

2/20/2018

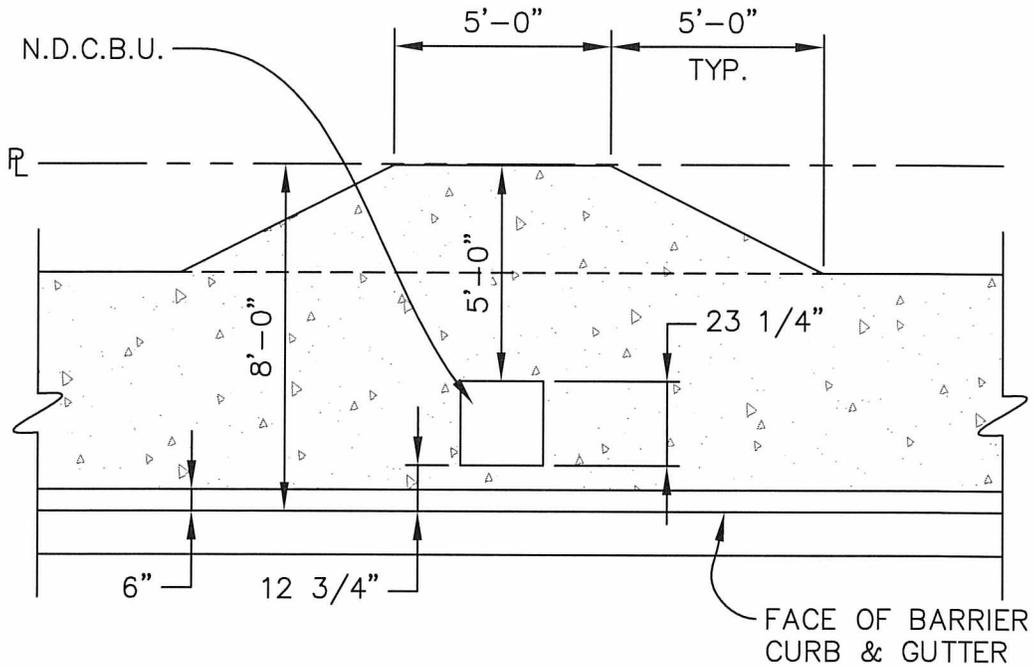


STREET TREE  
IN LANDSCAPE STRIP

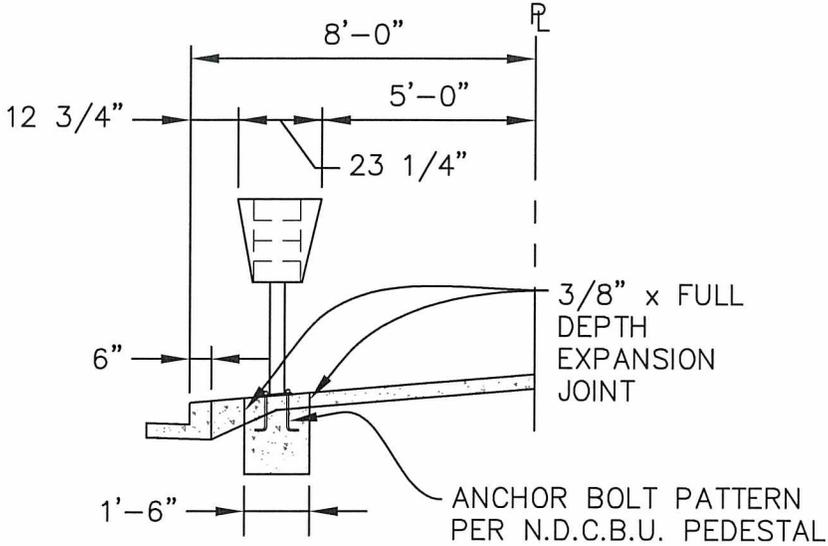
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-06.2

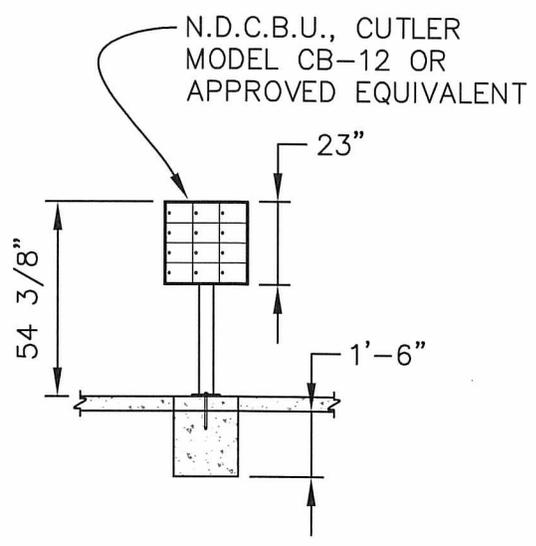
Plotted by: Craig Dabyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Traffic\STDEL-T-07.1



**PLAN VIEW**



**SIDE VIEW**



**FRONT VIEW**

**NOTE:**

MAILBOX LOCATIONS SHALL BE COORDINATED WITH THE SERVING POST OFFICE AND APPROVED BY THE CITY OF AUBURN.

APPROVED BY CITY ENGINEER:

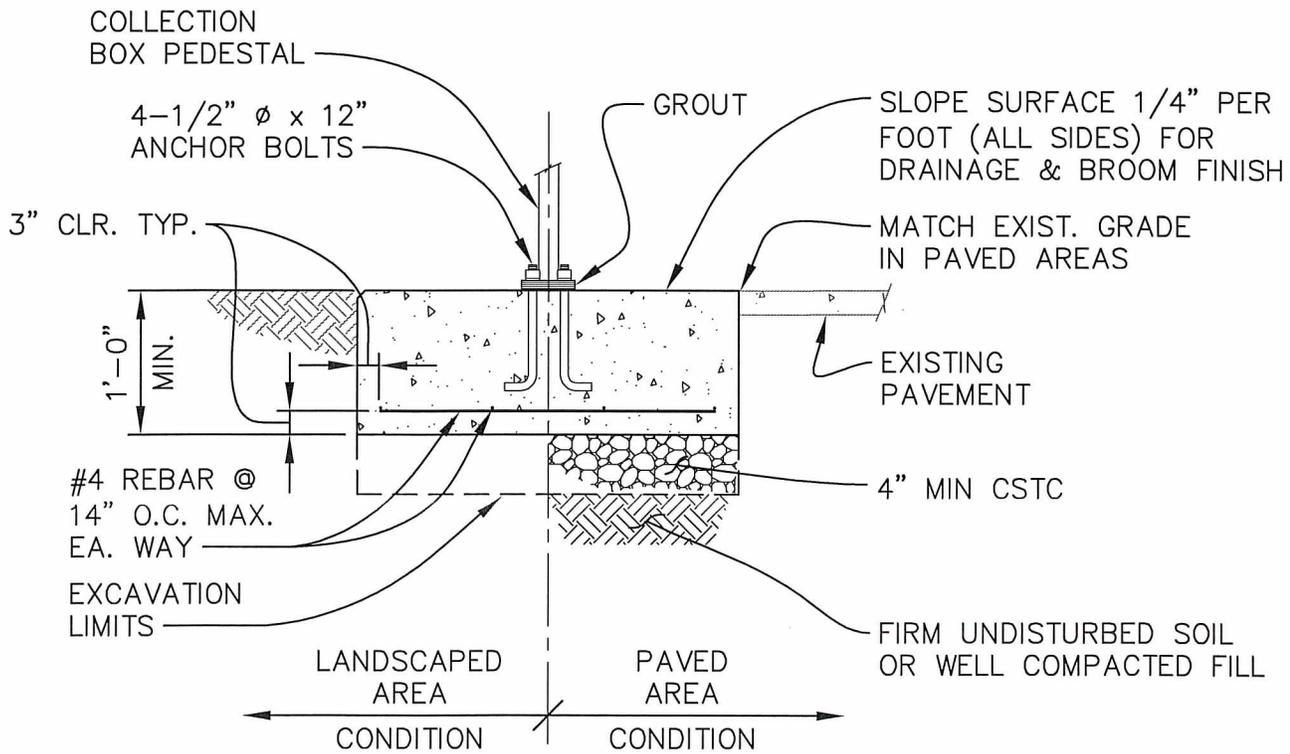
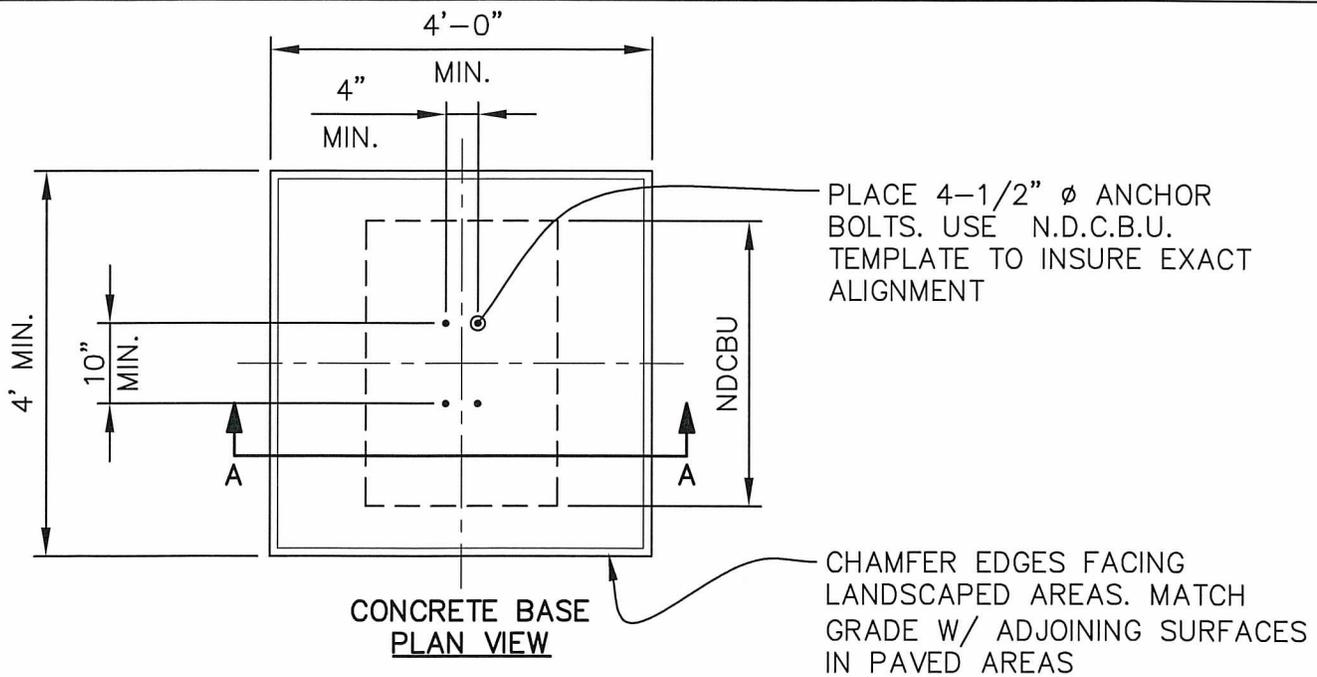
*Paul Gals*

DATE:

8/5/2016



NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (N.D.C.B.U.) INSTALLATION



**NOTES:**

**SECTION A-A**

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, CONTAIN 4% MIN. TO 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3-1/2" TO 4-1/2" SLUMP IN ACCORDANCE WITH ACI 301.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 40.
3. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, GALVANIZED CARBON STEEL OR ASTM A193, B8M (316) STAINLESS STEEL.
4. GROUT SHALL BE NON-SHRINK, NON-METALLIC.

APPROVED BY CITY ENGINEER:

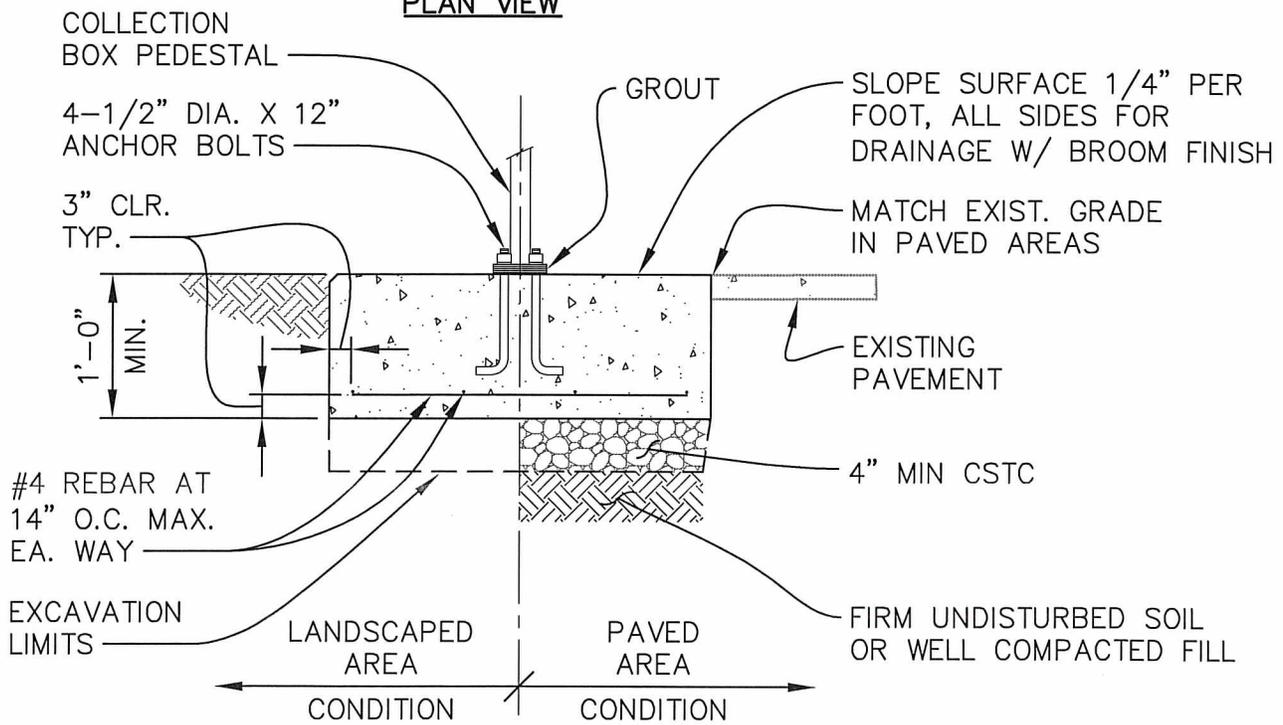
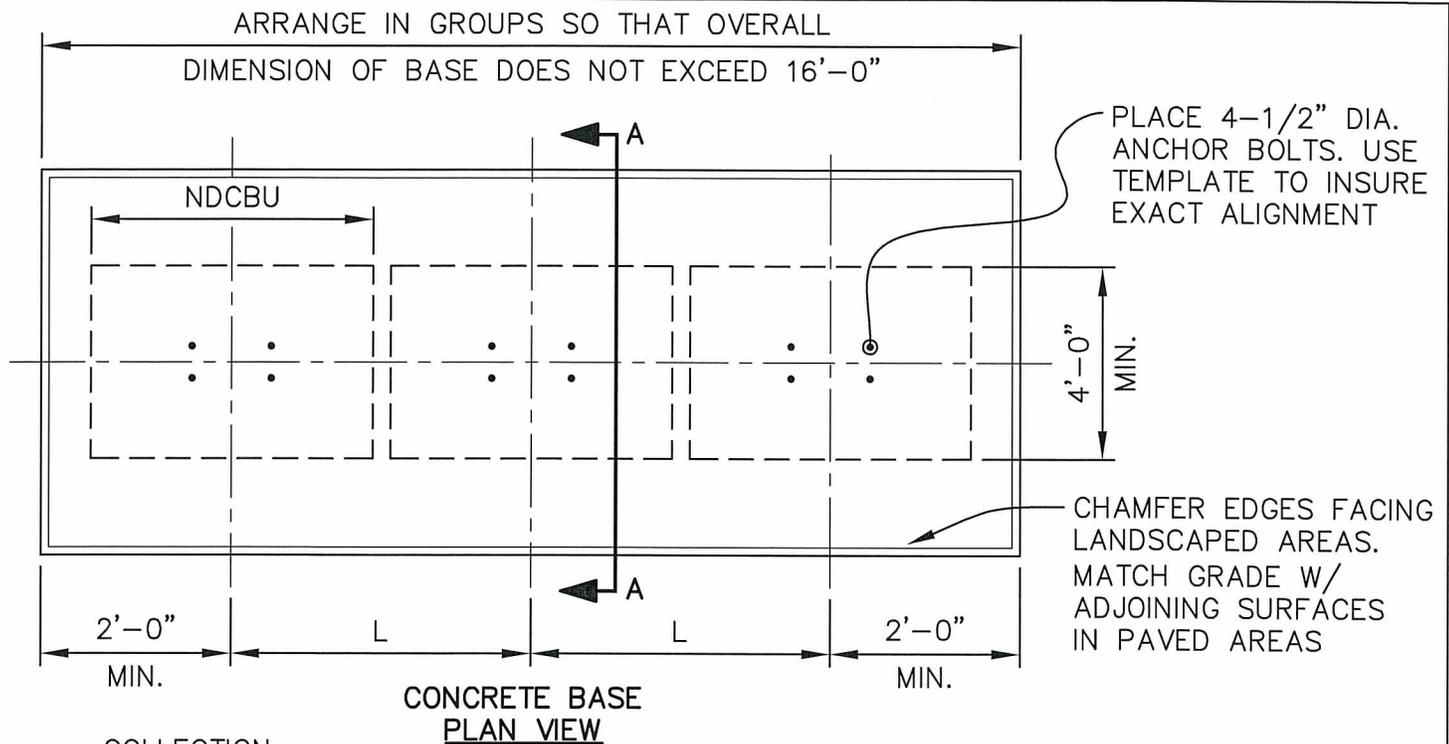
DATE:

*[Signature]*

2/20/2018



NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (N.D.C.B.U.) SINGLE UNIT



**NOTES:**

**SECTION A-A**

1. CONCRETE BASE DIMENSION "L" IS THE WIDTH OF NDCBU PLUS 2". FOUNDATION CAN BE EXTENDED BY LENGTH "L" TO ACCOMODATE ADDITIONAL UNITS.
2. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, CONTAIN 4% MIN. TO 6% MAX. AIR ENTRAINMENT AND BE PLACED W/ A 3 1/2" TO 4 1/2" SLUMP IN ACCORDANCE W/ ACI 301.
3. REINFORCING STALL SHALL CONFORM TO ASTM A615, GRADE 40.
4. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, GALVANIZED CARBON STEEL OR ASTM A193, B8M (316) STAINLESS STEEL.

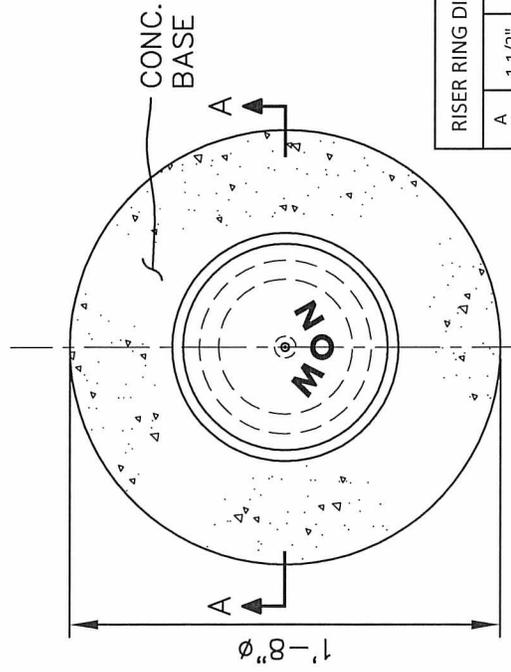
APPROVED BY CITY ENGINEER:

DATE:

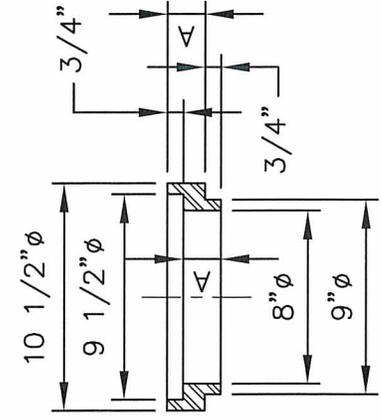
2/20/2008



NEIGHBORHOOD DELIVERY & COLLECTION BOX UNIT (N.D.C.B.U.) MULTIPLE UNITS

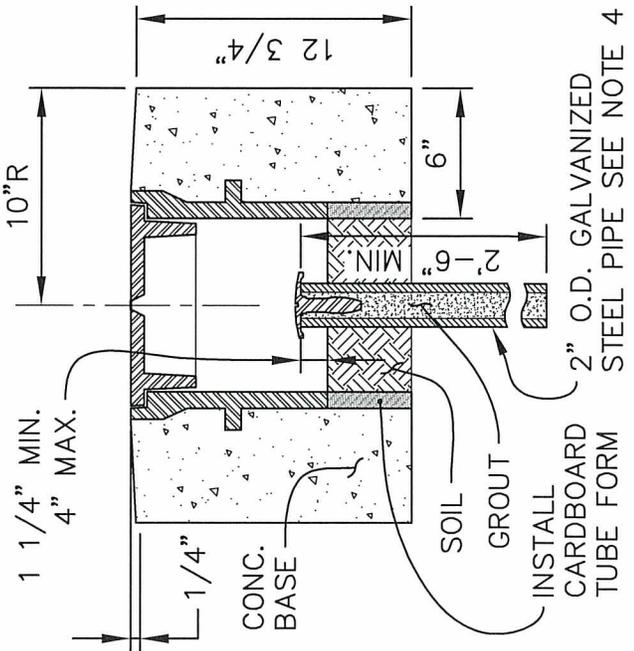
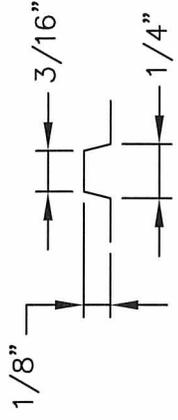


RISER RING DIMENSIONS	
A (SIZE)	1 1/2"
	2"
	3"

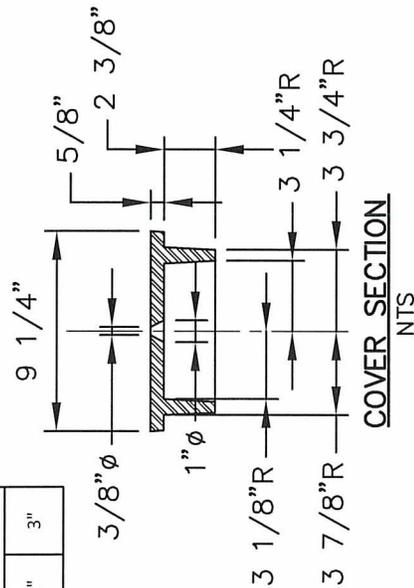


PLAN  
NTS

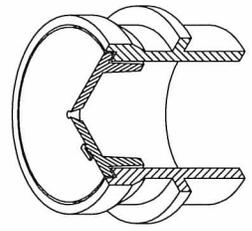
- NOTES:**
1. DIMENSIONS MAY VARY ACCORDING TO MANUFACTURER.
  2. BASE TO BE PLACED ON A WELL COMPACTED FOUNDATION.
  3. MONUMENT CASE TO BE INSTALLED BY CONTRACTOR.
  4. SEE WSDOT STD. PLAN A-10.20 FOR MONUMENT (BRASS DISC) TYPE TO PLACE IN 2" O.D. GALVANIZED PIPE.



SECTION A-A  
NTS

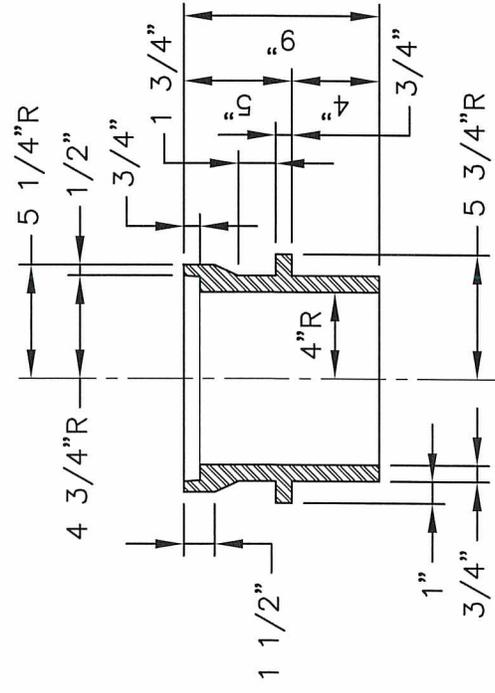


COVER SECTION  
NTS



ISOMETRIC  
NTS

APPROXIMATE WEIGHTS	
CASE	60 LBS.
COVER	19 LBS.
TOTAL	79 LBS.



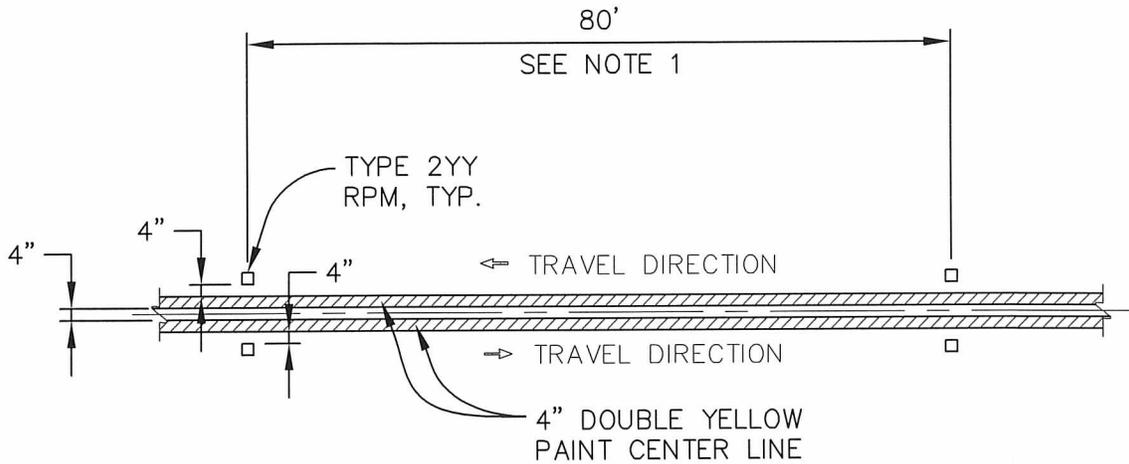
CASE SECTION  
NTS

APPROVED BY CITY ENGINEER:

DATE:



POURED IN PLACE MONUMENT  
TYPE 'B' MODIFIED



PLAN  
DOUBLE CENTERLINE

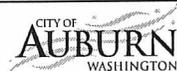
**NOTES:**

1. RAISED PAVEMENT MARKERS SHALL BE SPACED AT 80' (FT.) INTERVALS ON TANGENTS AND ON HORIZONTAL CURVES W/ A RADIUS OF 1500' (FT.) OR MORE, AND 40' (FT.) INTERVALS ON HORIZONTAL CURVES HAVING RADII OF LESS THAN 1500' (FT.).

APPROVED BY CITY ENGINEER: *FOR*

DATE:

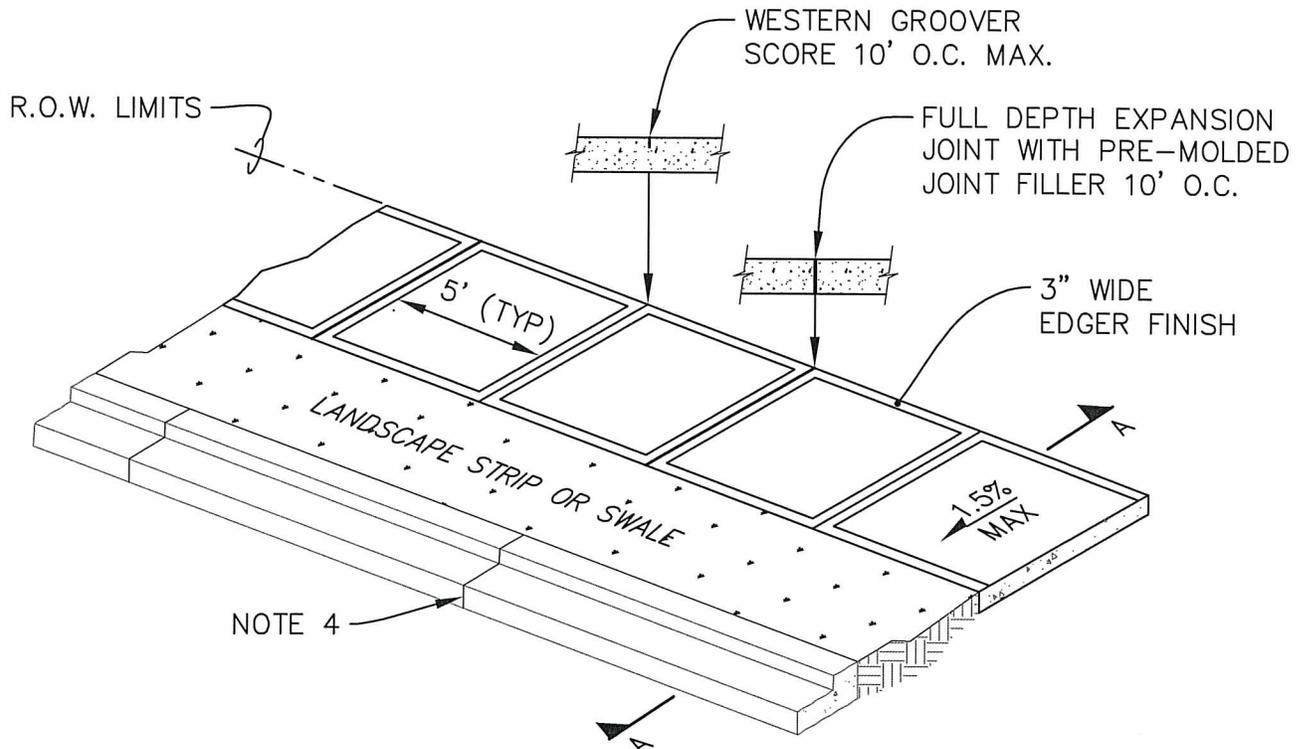
*10/14/16*



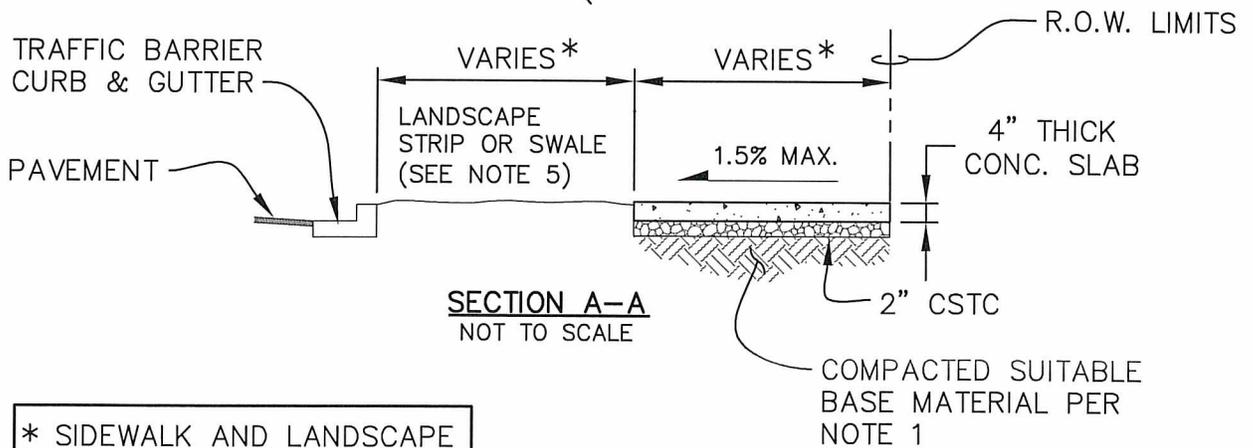
DOUBLE CENTERLINE WITH  
RAISED PAVEMENT MARKERS

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-12.1



NOTE 4



\* SIDEWALK AND LANDSCAPE WIDTHS SHALL BE PER STREET CLASSIFICATION.

**NOTES:**

1. PLACE CEMENT CONCRETE ON COMPACTED SUITABLE BASE, AS PER SPECIFICATION SECTION 2-06.3 AND AS APPROVED BY THE ENGINEER.
2. CEMENT CONCRETE SHALL BE CLASS 3000 PER SPECIFICATION SECTION 6-02.3 WITH 5% AIR ENTRAINMENT.
3. INSPECTION REQUIRED FOR FORM AND SUB GRADE APPROVAL BEFORE POURING CONCRETE.
4. MATCH JOINTS ON SIDEWALK WITH JOINTS ON CURB OR AT 10' O.C.
5. LANDSCAPE STRIP SHALL GENERALLY BE GRADED TOWARDS THE CURB AT 1.5%. OTHER GRADES MAY BE ALLOWED WHERE IT CAN BE DEMONSTRATED TO NOT CAUSE DRAINAGE OR MAINTENANCE ISSUES.

APPROVED BY CITY ENGINEER:

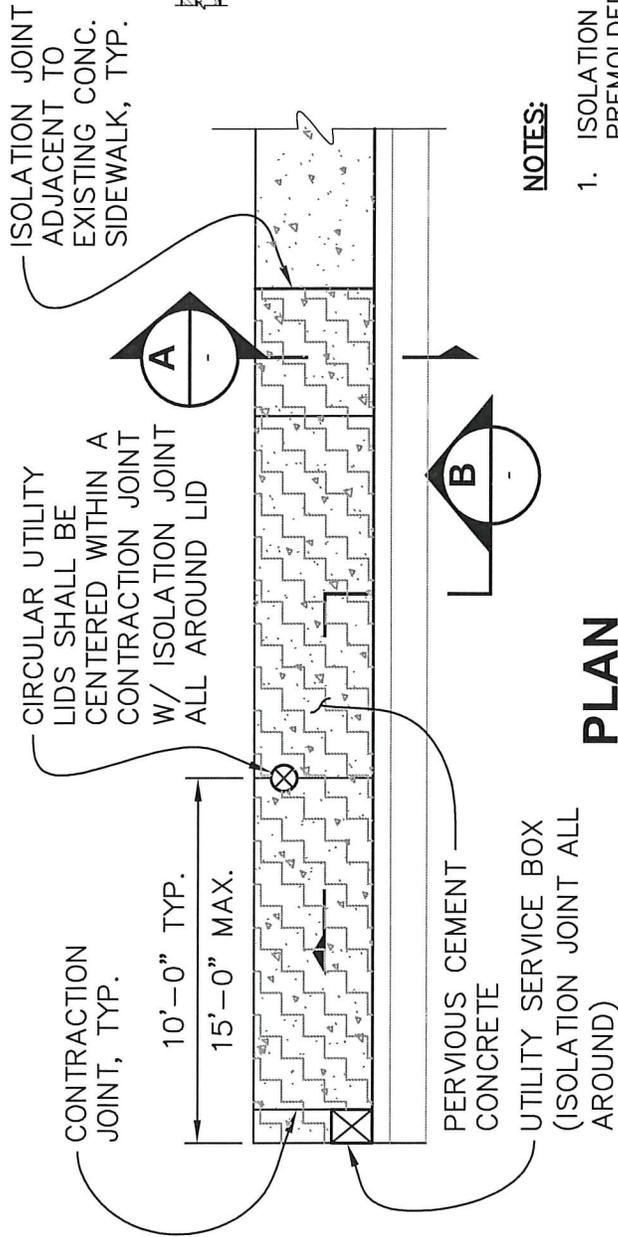
DATE:

*[Handwritten Signature]*

2/20/2018

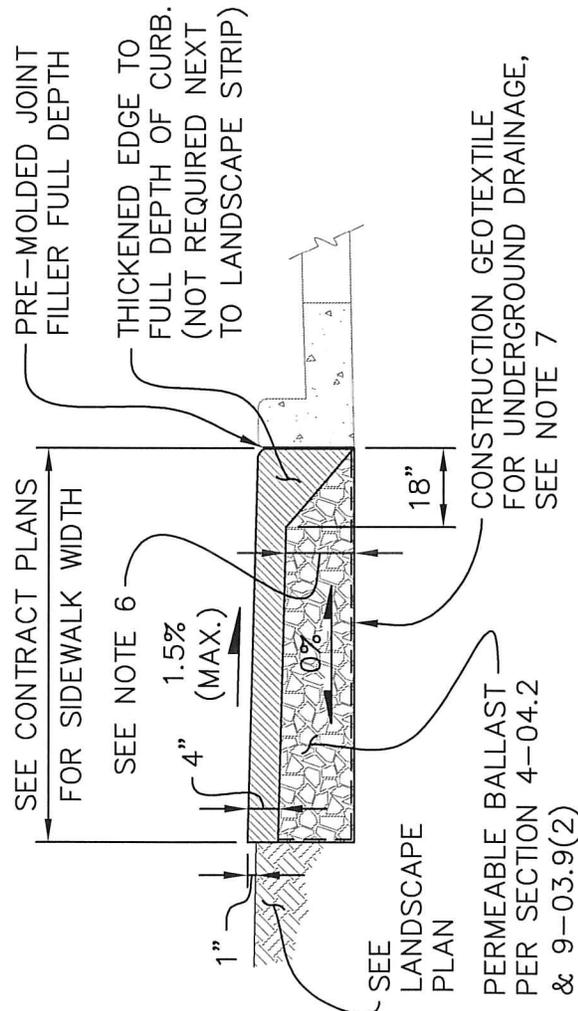


CEMENT CONCRETE SIDEWALK WITH LANDSCAPE STRIP

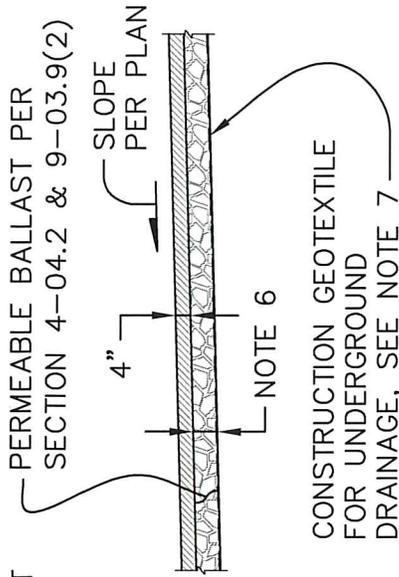


**NOTES:**

- ISOLATION JOINTS SHALL BE FULL DEPTH WITH 3/8" PREMOLDED JOINT FILLER.
- CONTRACTION JOINTS SHALL HAVE A MINIMUM DEPTH OF 1/3 OF THE PERVIOUS CONCRETE THICKNESS AND 1/8" MAXIMUM WIDTH (UNLESS OTHERWISE APPROVED BY THE ENGINEER).
- ALL JOINTS SHALL BE CLEAN & EDGED WITH A 1/2" RADIUS EDGER.
- SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 2-06.3(3) (SUBGRADE FOR PERMEABLE PAVEMENTS). ALL SOFT & YIELDING FOUNDATION MATERIAL SHALL BE REMOVED & REPLACED WITH PERMEABLE BALLAST
- FOR BALLAST DEEPER THAN CURB, PROVIDE A GEOMEMBRANE BARRIER BETWEEN PERMEABLE BALLAST & ROAD SECTION UNLESS ADJACENT ROAD IS PERMEABLE AS REQUIRED BY THE ENGINEER.
- DEPTH OF PERMEABLE BALLAST VARIES. SEE SWMM FOR SPECIFIC REQUIREMENTS.
- CONSTRUCTION GEOSYNTHETIC MAY BE REQUIRED BETWEEN NATIVE SOILS & PERMEABLE BALLAST IF DIRECTED BY THE ENGINEER. WHEN REQUIRED, THE GEOTEXTILE SHALL BE CLASS A, MODERATE SURVIVABILITY PER SECTION 9.33.2(1) TABLES 1 & 2 (UNLESS OTHERWISE APPROVED BY THE ENGINEER).



**SECTION B**  
NTS

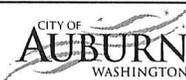


APPROVED BY CITY ENGINEER:

DATE:

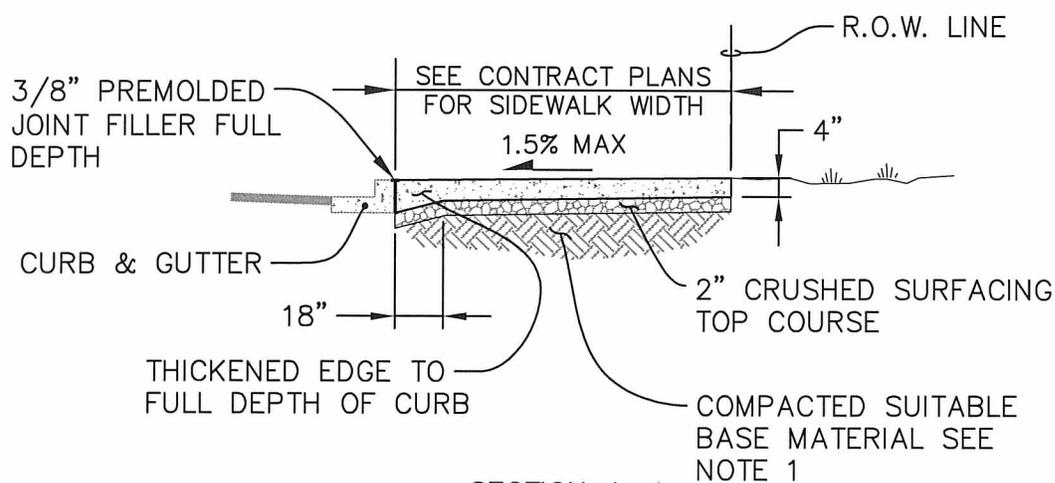
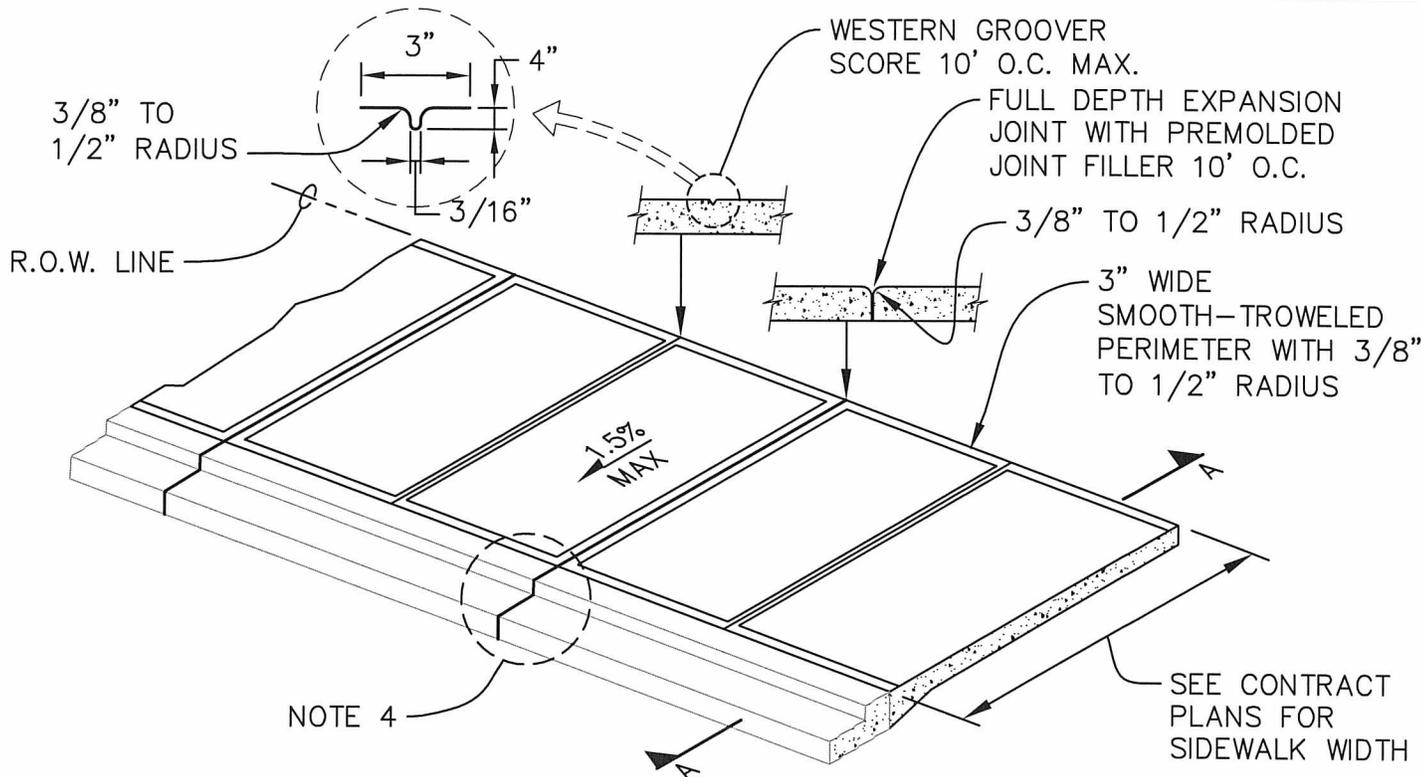
*Paul Gault*

8/5/2016



PERVIOUS CEMENT CONCRETE SIDEWALK

Plotted by: Craig Dobyne on 8/1/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Traffic\STDETL-T-15.1



**SECTION A-A**  
NOT TO SCALE

**NOTES:**

1. PLACE CEMENT CONCRETE ON COMPACTED SUITABLE BASE, AS PER SPECIFICATION SECTION 2-06.3 AND AS APPROVED BY THE ENGINEER.
2. CEMENT CONCRETE SHALL BE CLASS 3000 PER SPECIFICATION SECTION 6-02.3.
3. INSPECTION REQUIRED FOR FORM AND SUB GRADE APPROVAL BEFORE POURING CONCRETE.
4. MATCH EXPANSION JOINTS ON SIDEWALK WITH EXPANSION JOINTS ON CURB OR AT 10' O.C.

APPROVED BY CITY ENGINEER:

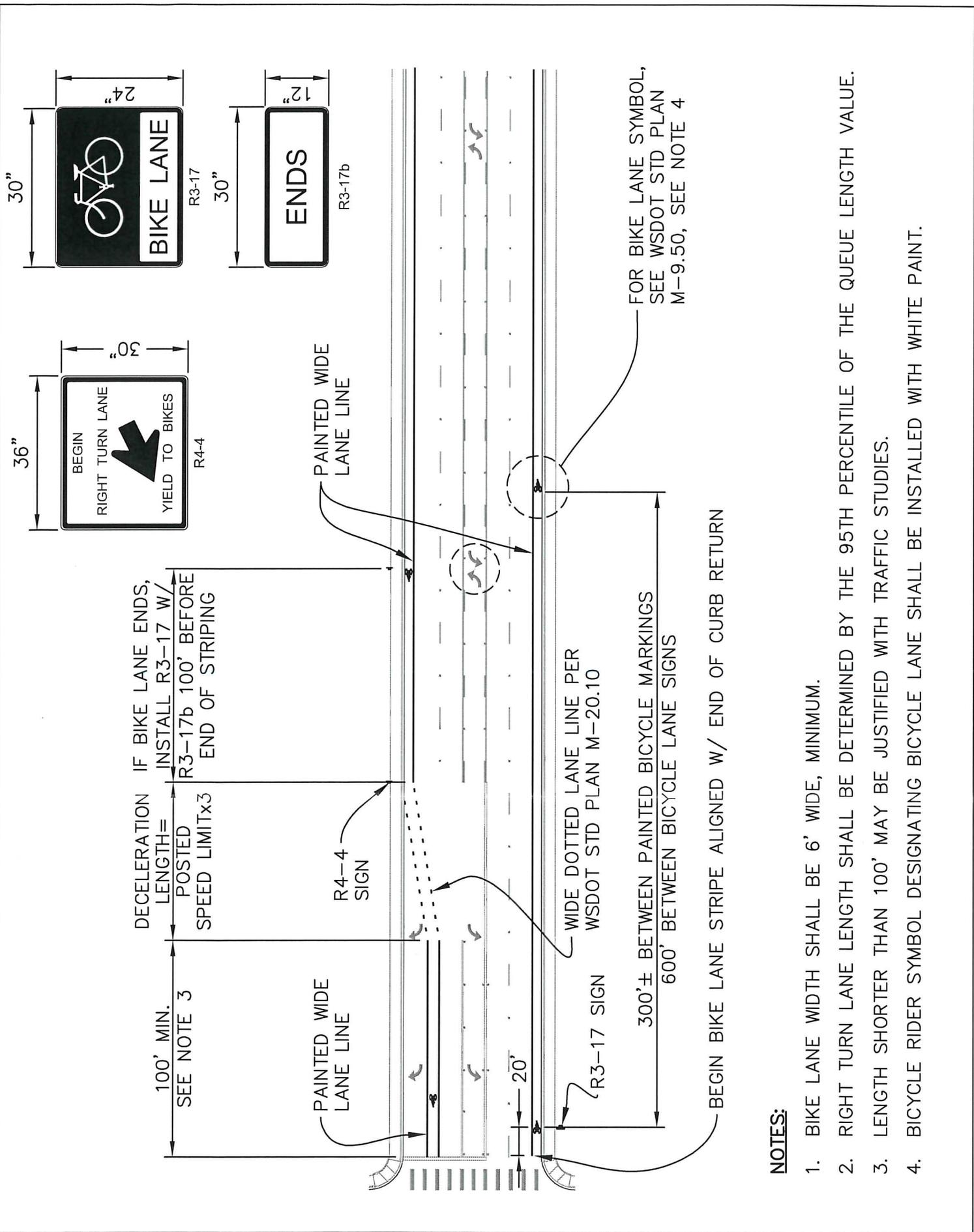
*Bob Gals*

DATE:

8/5/2016



CEMENT CONCRETE SIDEWALK  
WITHOUT LANDSCAPE STRIP

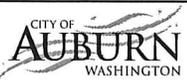


**NOTES:**

1. BIKE LANE WIDTH SHALL BE 6' WIDE, MINIMUM.
2. RIGHT TURN LANE LENGTH SHALL BE DETERMINED BY THE 95TH PERCENTILE OF THE QUEUE LENGTH VALUE.
3. LENGTH SHORTER THAN 100' MAY BE JUSTIFIED WITH TRAFFIC STUDIES.
4. BICYCLE RIDER SYMBOL DESIGNATING BICYCLE LANE SHALL BE INSTALLED WITH WHITE PAINT.

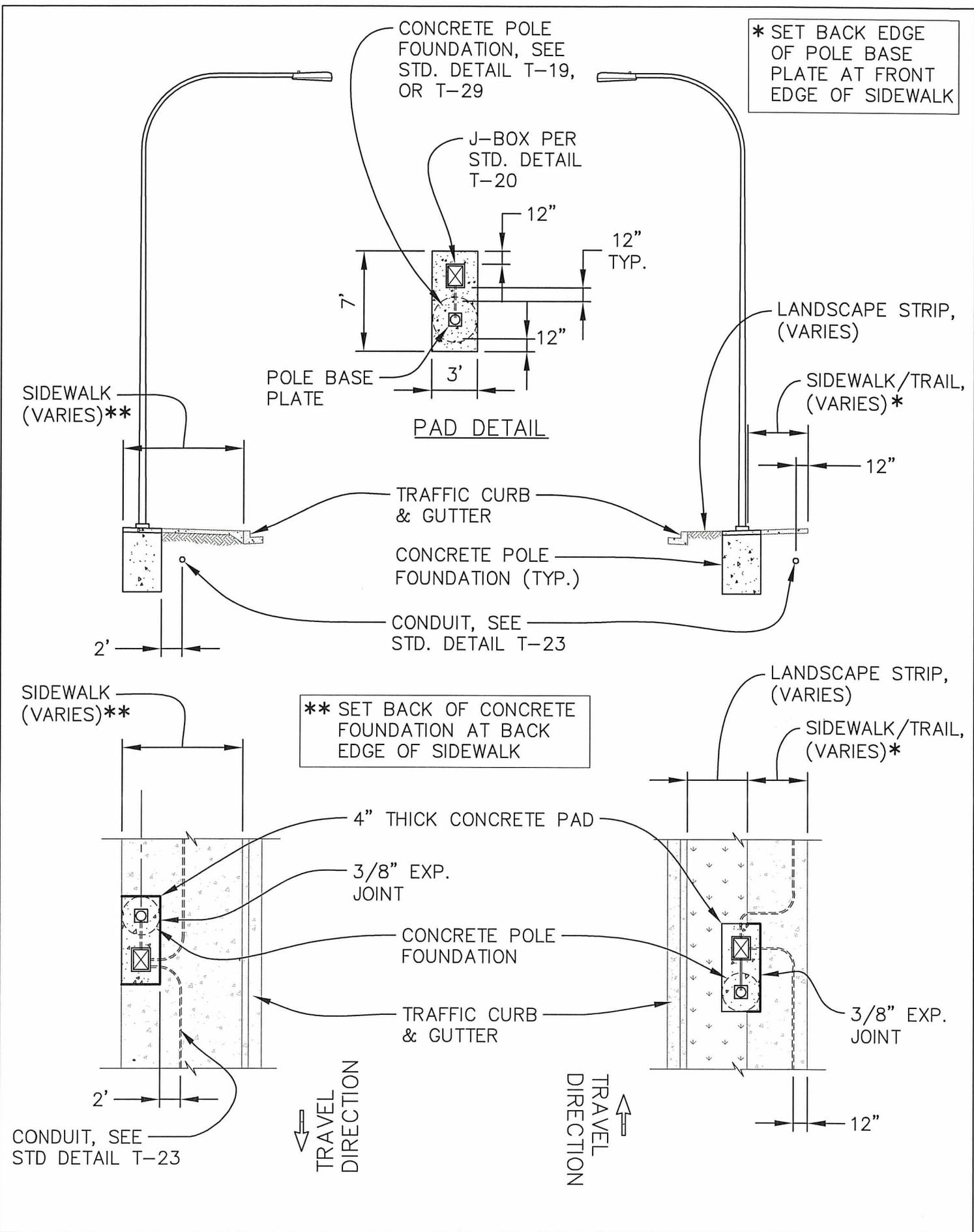
APPROVED BY CITY ENGINEER:

DATE:



BICYCLE LANE MARKINGS

Plotted by: Craig Dobyns on 2/2/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDELL-T-18.2



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*[Signature]*

DATE:

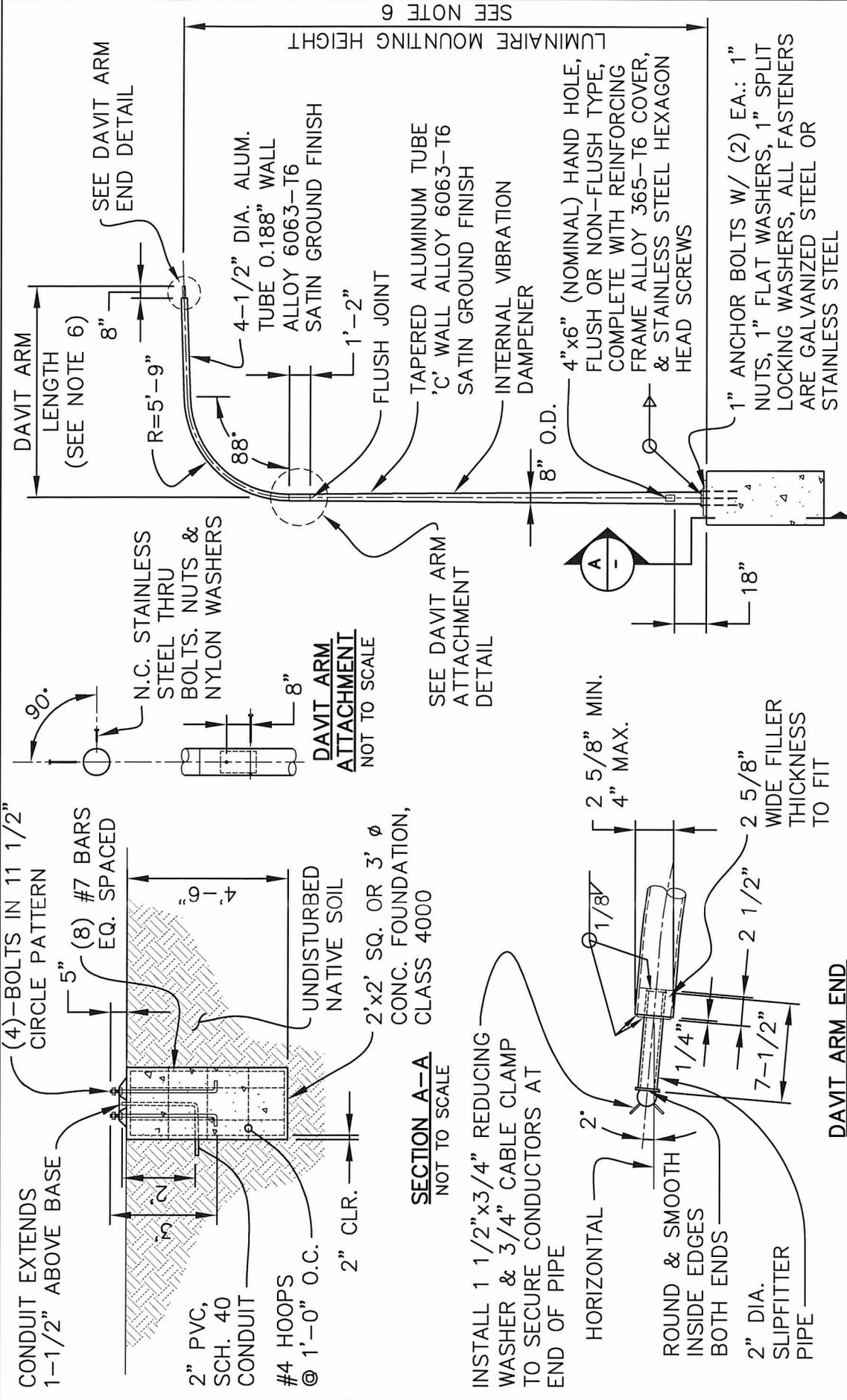
2/20/2018



LUMINAIRE AND CONDUIT LAYOUT DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-18.2



**ELEVATION**  
NOT TO SCALE

**DAVIT ARM END**  
NOT TO SCALE

**NOTES:**

1. POLE ASSEMBLIES DESIGNED TO SUPPORT MAXIMUM LUMINAIRE SIZE OF 1.5 SQ. FT. E.P.A. AND 60 LBS. IN A 100 MPH ISOTACH/130 MPH GUST VELOCITY WIND.
2. 4043 FILLER WIRE USED FOR WELDING.
3. ONLY THE BASE FLANGE WELDS ARE HEAT TREATED.
4. BASE FLANGE SHALL ACCOMMODATE 11" TO 12" BOLT CIRCLE.
5. 1"-8NC STEEL ANCHOR BOLT ASTM A576, AISI GRADE 1021-1046, 50,000 PSI=MIN. YIELD MEAN DIA. OF ROD STOCK 0.908± 0.011", OUT OF ROUND TOLERANCE: ± 0.012" ROLLED OR CUT THREADS PER A307, CLASS 2A, TOP 10" GALV. PER ASTM A153 COMPLETE WITH (8) 1" 8NC GALV. STL. HEX NUTS & (8) 1" GALV. STL. FLAT WASHERS.
6. SEE DESIGN STANDARDS TABLE 10-8.
7. SEE STD. DETAIL T-18 FOR POLE, CONDUIT, AND FOUNDATION PLACEMENT.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

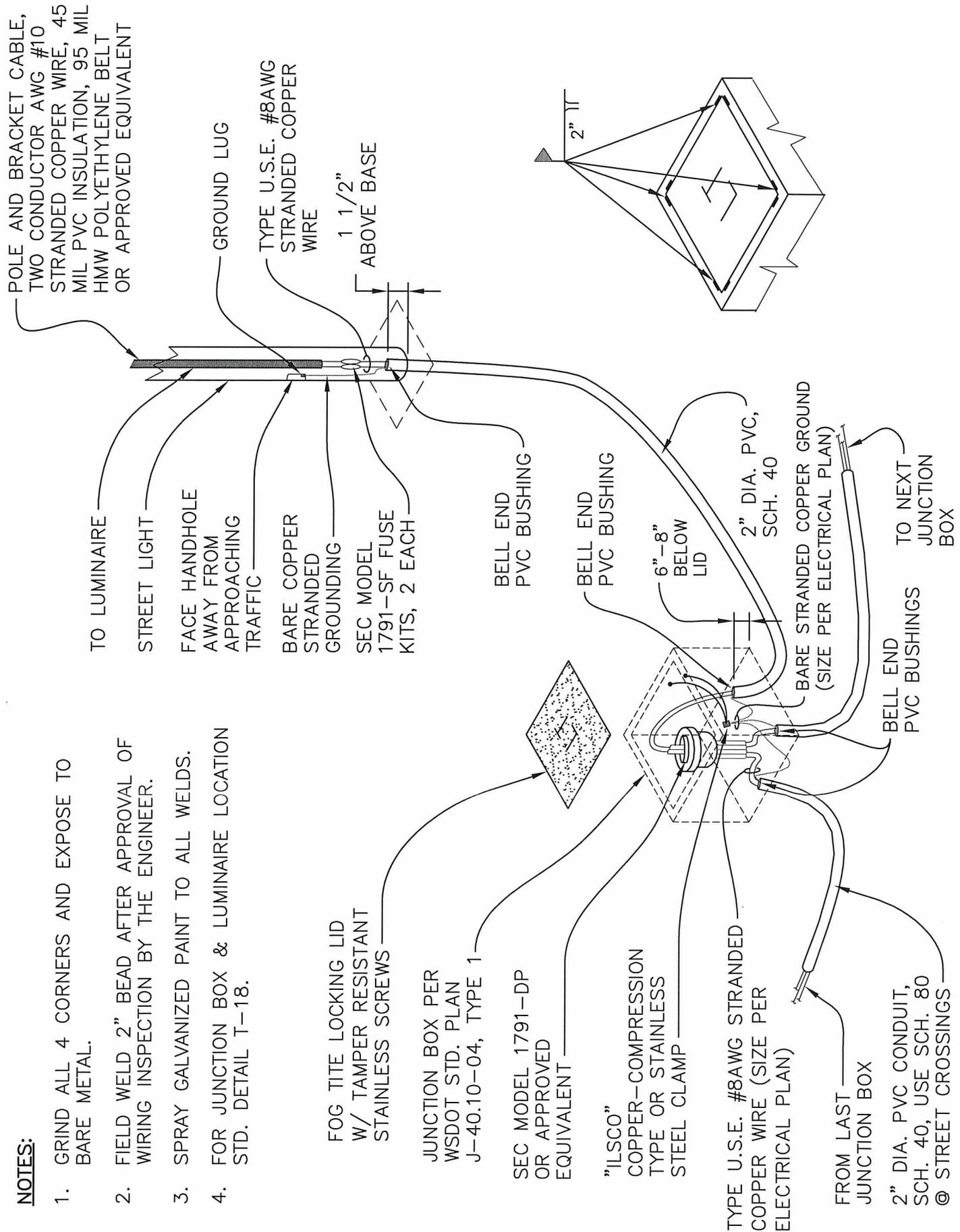
6/29/2018



LUMINAIRE  
POLE

**NOTES:**

1. GRIND ALL 4 CORNERS AND EXPOSE TO BARE METAL.
2. FIELD WELD 2" BEAD AFTER APPROVAL OF WIRING INSPECTION BY THE ENGINEER.
3. SPRAY GALVANIZED PAINT TO ALL WELDS.
4. FOR JUNCTION BOX & LUMINAIRE LOCATION STD. DETAIL T-18.

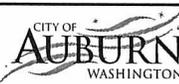


APPROVED BY CITY ENGINEER:

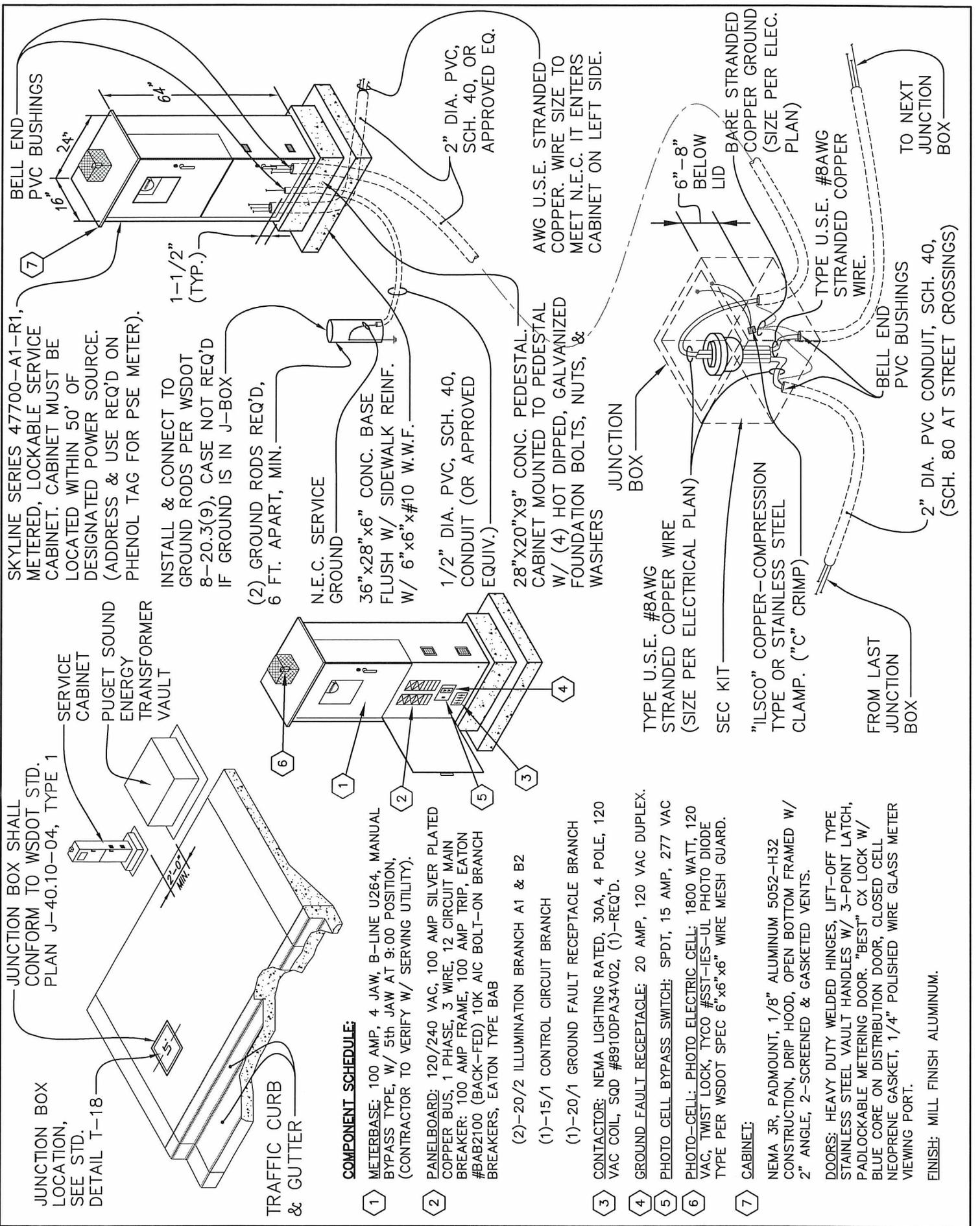
DATE:

*[Signature]*

*2/20/2018*



UNIFORM LUMINAIRE WIRING DETAIL



**COMPONENT SCHEDULE:**

- 1 METERBASE: 100 AMP, 4 JAW, B-LINE U264, MANUAL BYPASS TYPE, W/ 5th JAW AT 9:00 POSITION, (CONTRACTOR TO VERIFY W/ SERVING UTILITY).
- 2 PANELBOARD: 120/240 VAC, 100 AMP SILVER PLATED COPPER BUS, 1 PHASE, 3 WIRE, 12 CIRCUIT MAIN BREAKER: 100 AMP FRAME, 100 AMP TRIP, EATON #BAB2100 (BACK-FED) 10K AIC BOLT-ON BRANCH BREAKERS, EATON TYPE BAB
- 3 CONTACTOR: NEMA LIGHTING RATED, 30A, 4 POLE, 120 VAC COIL, S0D #8910DPA34V02, (1)-REQ'D.
- 4 (2)-20/2 ILLUMINATION BRANCH A1 & B2
- 5 (1)-15/1 CONTROL CIRCUIT BRANCH
- 6 (1)-20/1 GROUND FAULT RECEPTACLE BRANCH
- 7 GROUND FAULT RECEPTACLE: 20 AMP, 120 VAC DUPLEX.
- 8 PHOTO CELL BYPASS SWITCH: SPDT, 15 AMP, 277 VAC
- 9 PHOTO-CELL: PHOTO ELECTRIC CELL: 1800 WATT, 120 VAC, TWIST LOCK, TYCO #SST-IES-UL PHOTO DIODE TYPE PER WSDOT SPEC 6"x6"x6" WIRE MESH GUARD.
- 10 CABINET: NEMA 3R, PADMOUNT, 1/8" ALUMINUM 5052-H32 CONSTRUCTION, DRIP HOOD, OPEN BOTTOM FRAMED W/ 2" ANGLE, 2-SCREENED & GASKETED VENTS. DOORS: HEAVY DUTY WELDED HINGES, LIFT-OFF TYPE STAINLESS STEEL VAULT HANDLES W/ 3-POINT LATCH, PADLOCKABLE METERING DOOR. "BEST" CX LOCK W/ BLUE CORE ON DISTRIBUTION DOOR, CLOSED CELL NEOPRENE GASKET, 1/4" POLISHED WIRE GLASS METER VIEWING PORT. FINISH: MILL FINISH ALUMINUM.

APPROVED BY CITY ENGINEER:

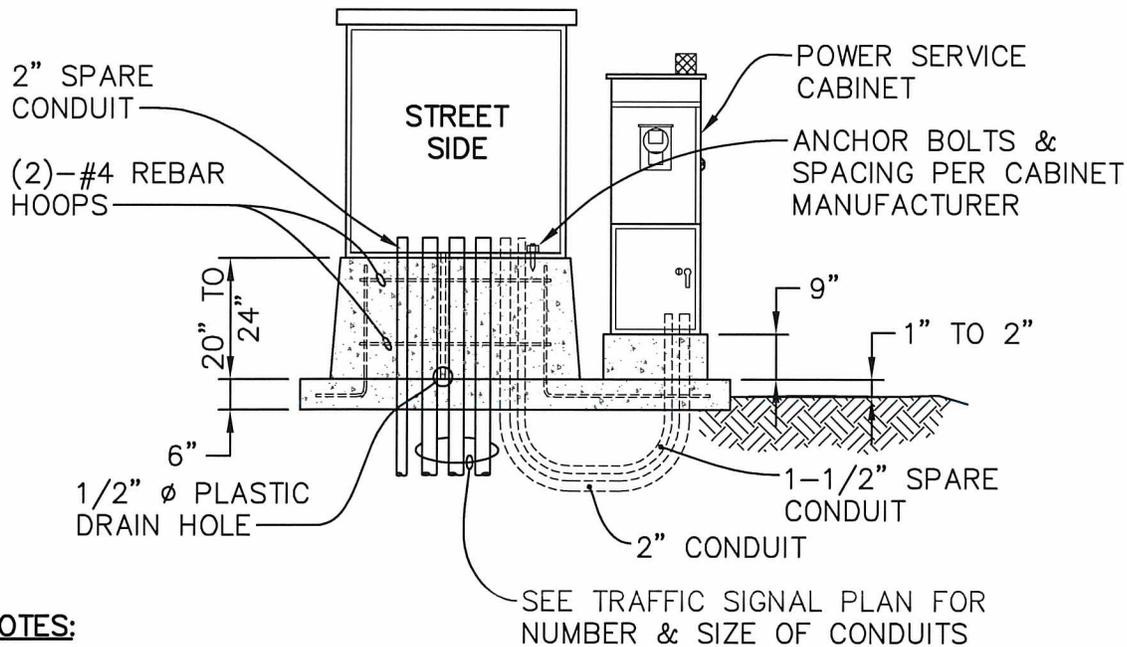
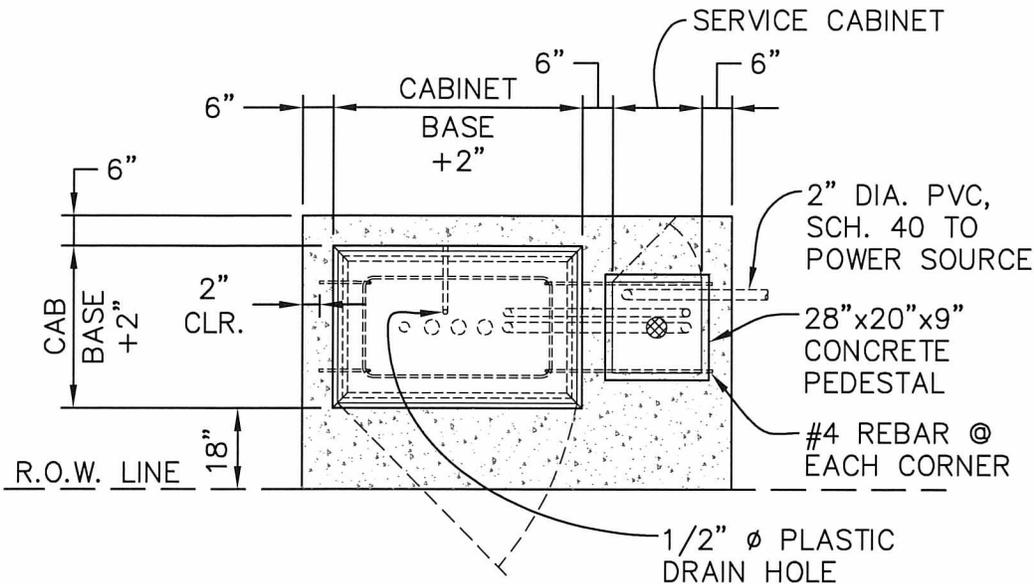
DATE:

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.



POWER SERVICE CABINET  
DETAIL

STANDARD DETAIL: T-21.2



**NOTES:**

1. FOUNDATION SHALL BE CONSTRUCTED WITH CLASS 3000 CONCRETE WITH 3/4" CHAMFERED EDGE ON THE LOWER PAD.
2. CONDUITS SHALL BE EXTENDED NO MORE THAN 2" ABOVE CONCRETE SURFACE, ALIGNED, AND CENTERED ON CABINET.
3. CABINET POWER CONDUIT SHALL BE ON THE RIGHT SIDE WHEN FACING FRONT OF CABINET.
4. 2" DIA. SPARE CONDUIT SHALL BE INSTALLED AND RUN INTO THE JUNCTION BOX.
5. ENDS OF 1/2" DIA. DRAIN POLY TUBING SHALL BE CUT FLUSHED WITH CONCRETE SURFACE.
6. 1-1/2" DIA. SPARE CONDUIT SHALL BE INSTALLED AND RUN INTO SERVICE CABINET.
7. JOINT BETWEEN CABINET AND FOUNDATION SHALL BE SEALED USING A CLEAR WATERPROOF ADHESIVE CAULK.

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DATE:

*[Signature]*

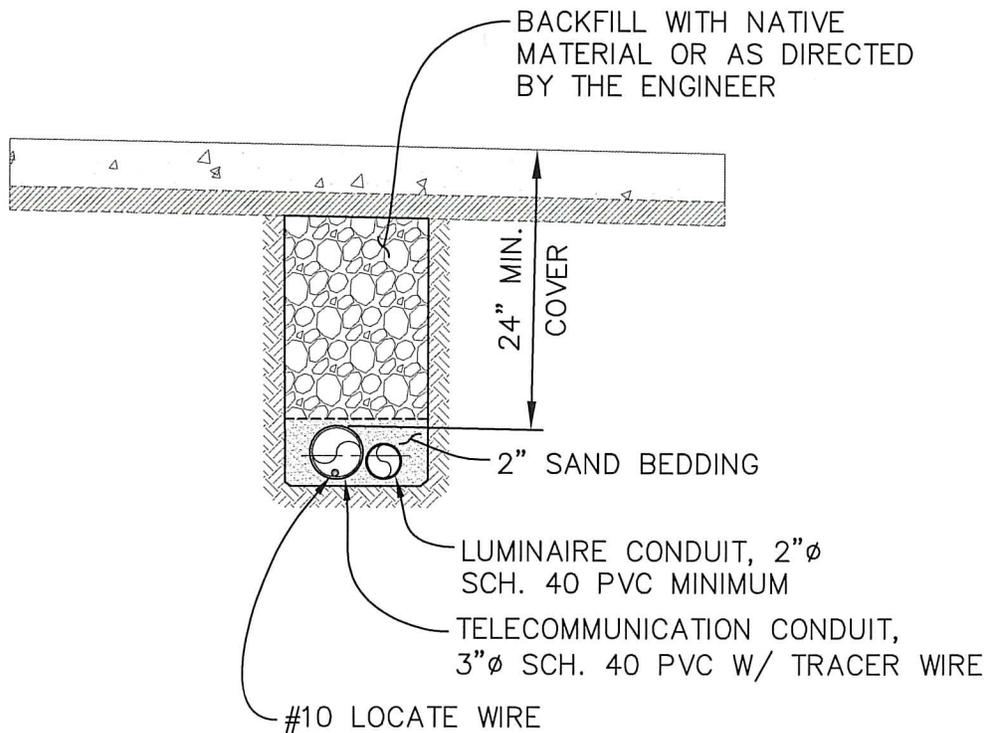
6/29/2018



TRAFFIC SIGNAL CONTROLLER  
& FOUNDATION DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-22.2



NOTES:

1. PULL STRING SHALL BE INSTALLED IN ALL SPARE CONDUIT.
2. SEE STD. DETAIL T-18 FOR CONDUIT PLACEMENT.

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2/20/2018



TELECOMMUNICATION AND LUMINAIRE ELECTRICAL TRENCH

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-23.2

(2) TAMPER PROOF  
DRIVE RIVETS OR  
EQUAL AT 90° FROM  
EACH OTHER

10" Ø SONO TUBE  
OR 3/8" EXP.  
JOINT IN SIDEWALK  
APPLICATIONS

18" LONG SLEEVE  
2-1/4" SQ.

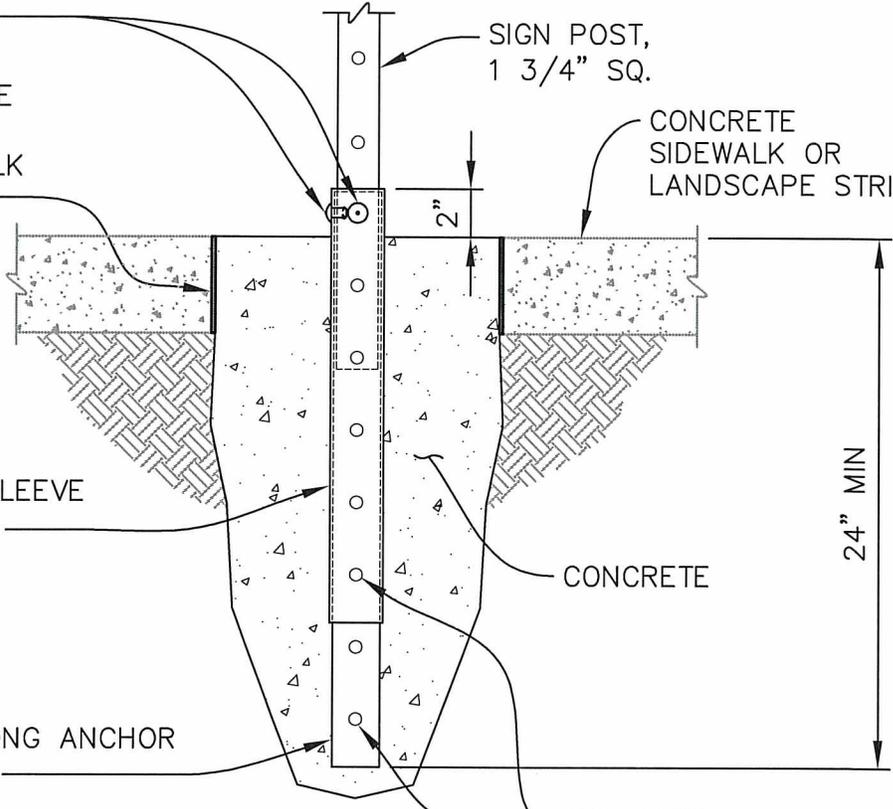
24" LONG ANCHOR  
2" SQ.

SIGN POST,  
1 3/4" SQ.

CONCRETE  
SIDEWALK OR  
LANDSCAPE STRIP

CONCRETE

SEE NOTE 4



**NOTES:**

1. ALL TUBING MATERIAL SHALL BE "UNISTRUT TELESPEAR" TYPE GALVANIZED STEEL (ASTM A570 GRADE 33) OR ENGINEER APPROVED EQUIVALENT.
2. SIDEWALKS AND PAVED AREAS SHALL BE CORE DRILLED BEFORE SIGN INSTALLATION.
3. SIGNS SHALL HAVE A MIN. HEIGHT OF 7 FT. FROM THE LOWER EDGE OF THE SIGN TO SIDEWALK GRADE, AND A 2 FT. LATERAL OFFSET FROM THE FACE OF CURB TO THE NEAR EDGE OF SIGN. SIGN LOCATION SHALL BE AS SHOWN ON PLANS AND PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D).
4. WRAP ANCHOR TUBING WITH TAPE BEFORE PLACING IN CONCRETE.
5. DEMONSTRATE SIGN POST IS REMOVABLE BEFORE RIVETING.

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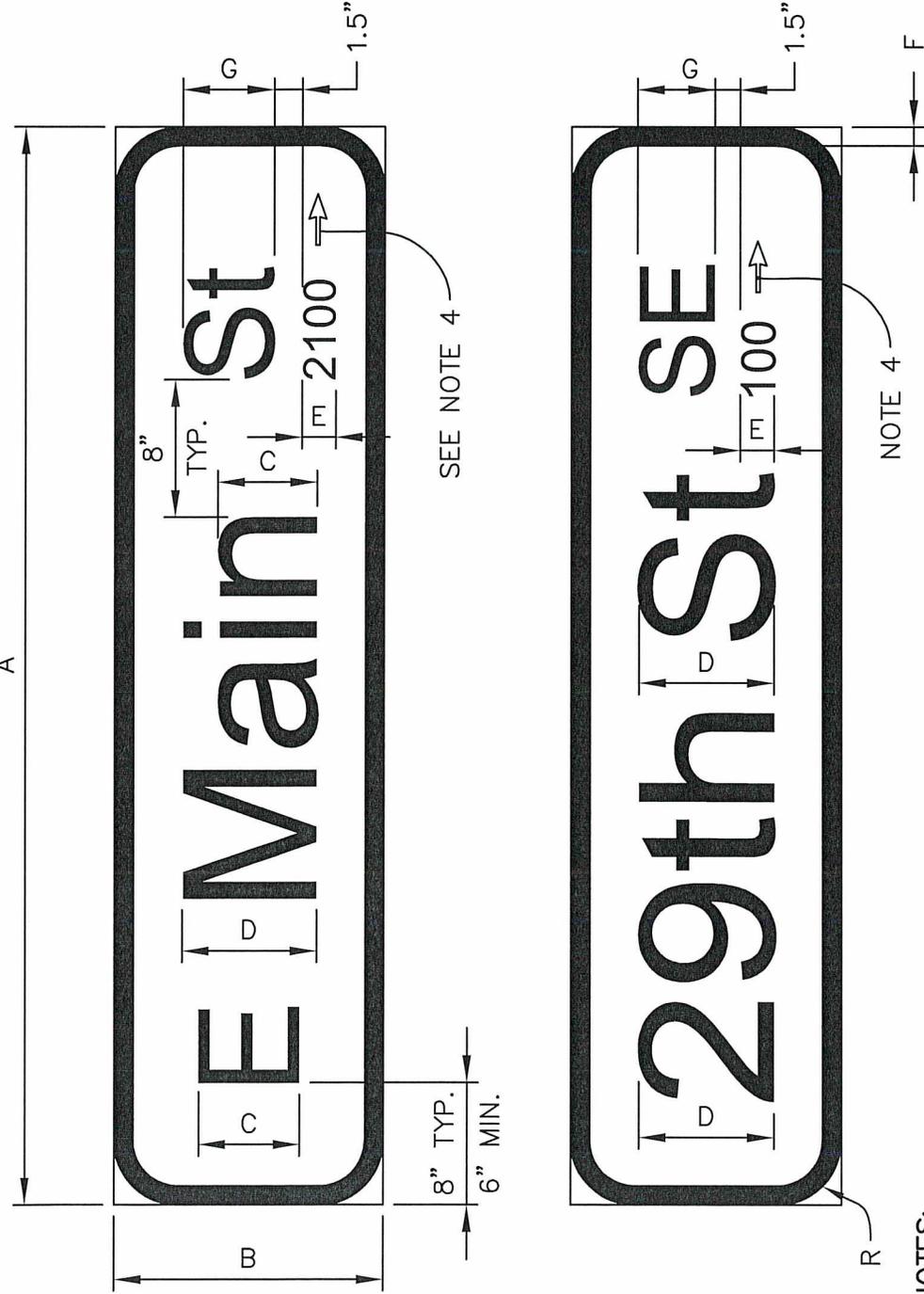
DATE:



TYPICAL SIGN POST  
INSTALLATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-24.2



SIGN STANDARDS	
DIMENSION	INCHES
A	VARIES
B	16
C	6
D	8
E	2
F	1 1/4
G	4 1/2
R	3

**NOTES:**

1. SIGN BLADES SHALL BE 0.125" THICK TEMPERED ALUMINUM ALLOY.
2. BACKGROUND FOR STREET NAME SIGNS SHALL BE GREEN COLOR, ENGINEERING GRADE REFLECTIVE SHEETING.
3. ALL LETTERING AND 1-1/4" BORDER FOR STREET NAME SIGNS SHALL BE WHITE COLOR, REFLECTIVE HIGH INTENSITY GRADE SHEETING.
4. ARROW ON THE RIGHT SIDE OF THE BLOCK NUMBER INDICATES AN INCREASING BLOCK NUMBER IN THE ARROW DIRECTION.
5. FOR GUIDANCE ON LETTERING AND NUMERAL WIDTHS AND SPACING, SEE WSDOT "SIGN FABRICATION MANUAL" APPENDIX C.
6. ENGINEER APPROVAL OF SIGN PROOF(S) REQUIRED BEFORE FABRICATION.

APPROVED BY CITY ENGINEER:

*Paul Sob*

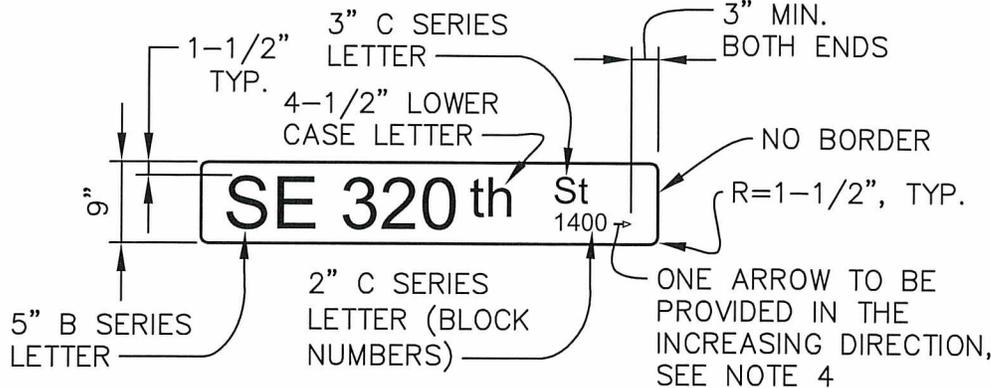
DATE:

8/5/2016

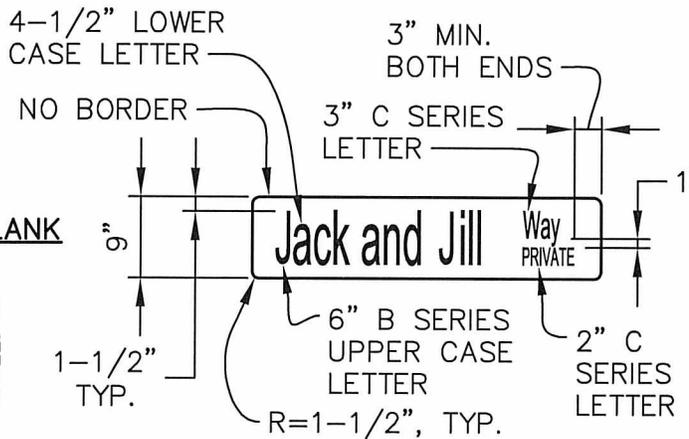


MAST ARM MOUNTED,  
STREET NAME SIGN DETAIL

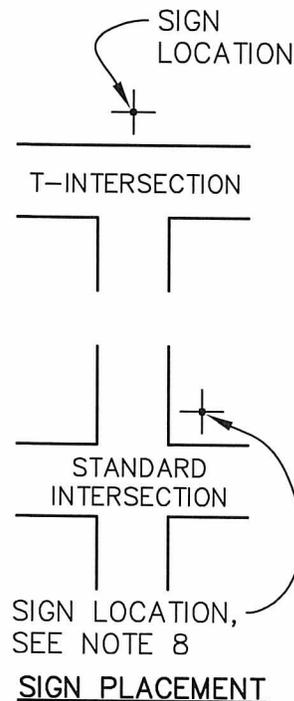
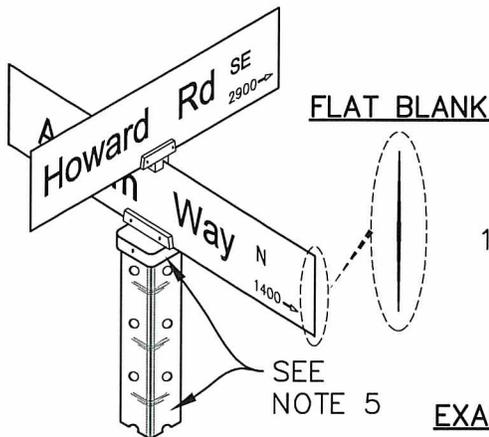
STREET NAME STANDARD	
NAME	ABBREVIATION
AVENUE	Ave
BOULEVARD	Blvd
COURT	Ct
DRIVE	Dr
LANE	Ln
LOOP	Lp
PARKWAY	Pkwy
PLACE	Pl
ROAD	Rd
STREET	St
STREET SOUTHEAST	St SE
WAY	Way



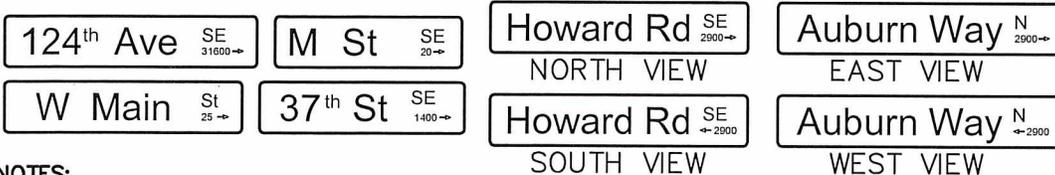
**PUBLIC ROAD SIGN**



**PRIVATE ROAD SIGN**



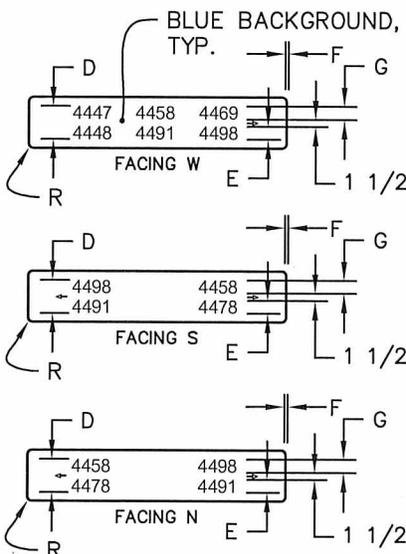
**EXAMPLES:**



**NOTES:**

1. NAME PLATE SHALL BE 9" WIDE X VARIABLE LENGTH OF FLAT BLANK, 0.080 GAUGE ALUMINUM, TREATED WITH ALODINE 1200 CONVERSION COATING, ZUMAR OR APPROVED EQUIVALENT.
2. BACKGROUND FOR PUBLIC ROAD STREET NAME SIGNS SHALL BE GREEN COLOR, ENGINEERING GRADE REFLECTIVE SHEETING.
3. BACKGROUND FOR PRIVATE ROAD STREET NAME SIGNS SHALL BE BLUE COLOR, ENGINEERING GRADE REFLECTIVE SHEETING.
4. ALL LETTERING FOR STREET NAME SIGNS SHALL BE WHITE COLOR, REFLECTIVE HIGH INTENSITY GRADE SHEETING.
5. POST INSTALLATION SHALL CONFORM TO REQUIREMENTS SET BY STANDARD DETAIL T-24.
6. HARDWARE SHALL BE ZUMAR STYLE 850 LONG OR APPROVED EQUIVALENT.
7. MOUNTING HEIGHT SHALL BE 8'-0".
8. WHEN AN INTERSECTION IS STOP SIGN CONTROLLED, THE STREET NAME SIGN SHALL BE PLACED ON THE SAME POST AND ABOVE THE STOP SIGN.
9. ENGINEER APPROVAL OF SIGN PROOF(S) SHALL BE REQUIRED BEFORE FABRICATION.

**PRIVATE TRACT SIGNS:**



PRIVATE TRACT SIGN STANDARDS	
DIMENSION	INCHES
A	VARIABLE
B	16
C	6
D	8
E	2
F	1 1/4
G	4 1/2
R	3

APPROVED BY CITY ENGINEER:

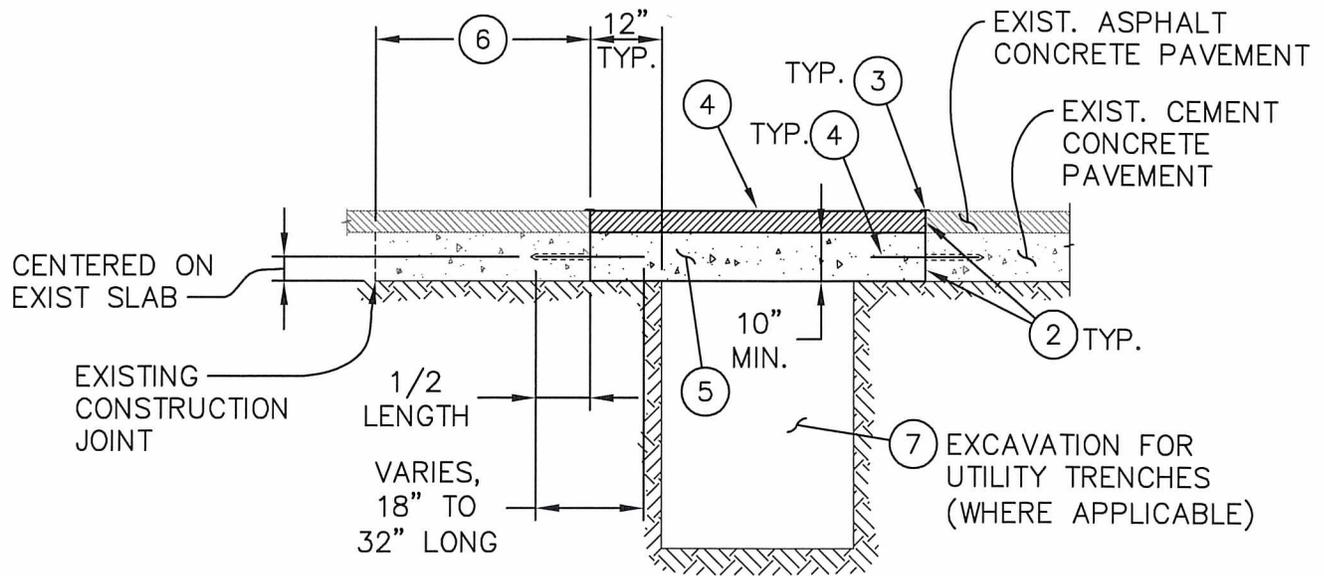
DATE:

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2/20/2018



POST MOUNTED, STREET NAME SIGN DETAIL



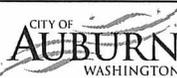
**NOTES:**

- ① FOR TRANSVERSE JOINTS CONSTRUCTION, THE DOWEL BARS SHALL BE 1 1/2" DIA. x 18" LONG AND INSTALLED AT 12" ON CENTER. FOR LONGITUDINAL JOINTS CONSTRUCTION, TIE BARS SHALL BE #5 x 32" LONG AND INSTALLED AT 36" ON CENTER. DRILL HOLES TO EXISTING ADJACENT CONCRETE PANELS AND PARALLEL TO EXISTING GRADE. HOLES SHALL BE BLOWN CLEAN WITH COMPRESSED AIR PRIOR TO APPLYING EPOXY RESIN INTO THE HOLES. THEN INSERT EPOXY RESIN COATED BARS IN THE HOLES SUCH THAT THE BACK OF THE HOLES ARE FILLED FIRST.
- ② APPLY HOT POURED ELASTIC TYPE SEALANT TO ENTIRE EDGE AND FULL DEPTH OF THE JOINTS BEFORE PAVING.
- ③ APPLY SURFACE SEAL WITH ASPHALT CEMENT AR-4000 AT MATCHLINES.
- ④ WHERE REPLACEMENT OF EXISTING ASPHALT CONCRETE PAVEMENT IS REQUIRED, APPLY NEW HMA CL. 1/2" TO MATCH EXISTING THICKNESS.
- ⑤ MATCH THICKNESS OF EXISTING CEMENT CONCRETE PAVEMENT, BUT IN NO CASE SHALL IT BE LESS THAN 10". CEMENT CONCRETE SHALL BE CL. 4000 WITH 5% AIR ENTRAINMENT. TRAFFIC SHALL BE KEPT OFF NEW PAVEMENT FOR 7 DAYS OR UNTIL DESIGN STRENGTH IS ACHIEVED, WHICHEVER COMES FIRST.
- ⑥ WHENEVER A REMAINING CONCRETE PANEL IS 3' WIDE OR LESS IN ANY DIRECTION FROM EXISTING CONSTRUCTION JOINT TO NEW CONSTRUCTION JOINT, IT SHALL BE REMOVED AND REPLACED AS PART OF THE NEW PANEL.
- ⑦ BEDDING/BACKFILL SHALL BE PER STANDARD DETAIL T-01.

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016

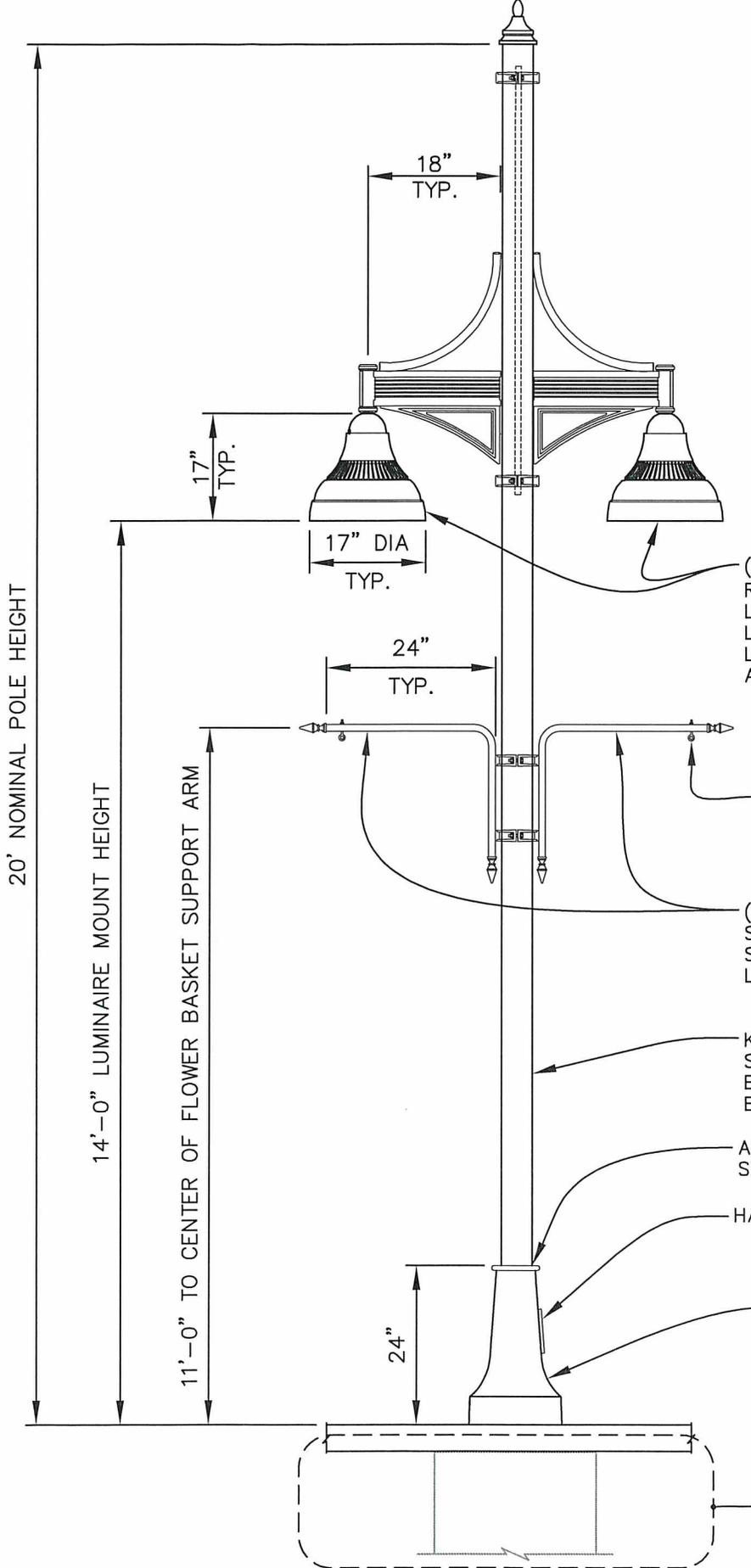


REPAIR OF EXISTING CEMENT CONCRETE PANEL IN ROADWAY

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

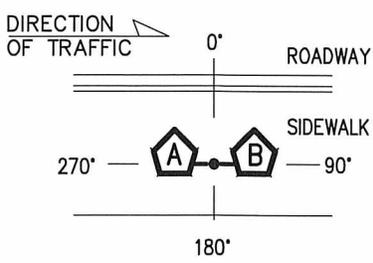
STANDARD DETAIL: T-27.1

Plotted by: Lazario Cauha on 8/23/2016 File location: M:\Construction Standard Details\Traffic\STDDET-T-28B.1



**ORIENTATION LOCATIONS:**

- LUMINAIRES SHALL BE MOUNTED AT 90° AND 270°
- BANNER SUPPORT ARMS SHALL BE MOUNTED AT 0°
- FLOWER BASKET SUPPORT ARMS SHALL BE MOUNTED AT 90° & 270°
- RECEPTACLES SHALL BE MOUNTED AT 180°
- HANDHOLES SHALL BE MOUNTED AT 90°
- STREET NAME SIGNS SHALL BE MOUNTED AT 0° & 90°
- STOP SIGN SHALL BE MOUNTED AT 270°



(2) 17" DIA. ERA BELL, 5200K LED ROTATABLE OPTICAL SYSTEM W/ LABEL TO SHOW ORIENTATION OF LIGHT PATTERN, FLAT LENS LUMINAIRE BY KIM LIGHTING OR APPROVED EQ.

(2) 3/8" EYE BOLTS

(2) BP1-5-24-A-P/D1 CLAMP STYLE FLOWER BASKET 100 LB. SUPPORT ARMS BY CYCLONE LIGHTING OR APPROVED EQ.

KRS20-5120 5" SMOOTH ROUND STRAIGHT STEEL 11 GA. POLE BY KIM LIGHTING OR APPROVED EQ.

APPLY BLACK SILICONE SEALANT AT INSTALLATION

HANDHOLE, MOUNTED 90°

HBC1-5 DECORATIVE ALUMINUM CLAMHELL BASE COVER BY KIM LIGHTING OR APPROVED EQ.

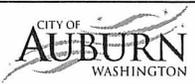
FOR FOUNDATION INSTALLATION, SEE SEE STD. DETAIL T-28B

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

9/12/2016



DOWNTOWN PEDESTRIAN POLE MOUNT LIGHTING STANDARD

(RECEPTACLE WIRING & FLEXIBLE CONDUIT NOT SHOWN)

BUSHING FOR RACEWAY SHALL BE PROVIDED BY MANUFACTURER

FACTORY CONDUCTORS

WELDED J-HOOK

LOCKABLE DIE CAST NEMA 3R WEATHERPROOF COVER

CLEAR WEATHERPROOF "IN-USE" BUBBLE COVER

RECEPTACLE, FOR LOCATION, SEE STD. DETAIL T-28

HOSPITAL GRADE WR DUPLEX GFI, RECEPTACLE 20 AMP, 120V

RECEPTACLE W/ CAST ALUMINUM FRAME

(2)-#12 (RECEPTACLE)

**POLE RECEPTACLE**  
NOT TO SCALE

**LUMINAIRE WIRING**  
NOT TO SCALE

FOR ILLUMINATION QUICK DISCONNECT DETAILS, SEE STD. DETAIL T-20

GROUND LUG  
BARE COPPER STRANDED GROUND (#8)

RECEPTACLE QUICK DISCONNECT, SEC MODEL 1791, OR APPROVED EQUIVALENT

RECEPTACLE QUICK DISCONNECT, SEC MODEL 1791-DP (DOUBLE PIN), OR APPROVED EQUIVALENT

FOR ILLUMINATION QUICK DISCONNECT DETAILS SEE STD. DETAIL T-20

HANDHOLE, SEE STD. DETAIL T-20

STREET LIGHT JUNCTION BOX, SEE STD. DETAIL T-20

SIDEWALK

(2)-#8 OR #10 (RECEPTACLE)

6"-8" BELOW LID, TYP.

FOR FOUNDATION, REFER TO STD. DETAIL T-28B

24" MIN TYP.

GROUND CLAMP, SEE STD. DETAIL T-20

SEE ILLUMINATION PLANS FOR CONDUIT SIZE & WIRING

INSTALL CONDUIT SWEEPS AS NEEDED TO AVOID UNDERGROUND UTILITY CONFLICTS

**TYPICAL LUMINAIRE/JUNCTION BOX WIRING**  
NOT TO SCALE

(3)-#8 (ILL, ONE IS GROUND) (2)-#8 OR #10 (RECEPTACLE)

\* REFER TO STD. DETAIL T-20 FOR INFORMATION NOT SHOWN  
\* SPARE/EMPTY CONDUITS SHALL CONTAIN DETECTABLE PULL TAPE

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

2/20/2018



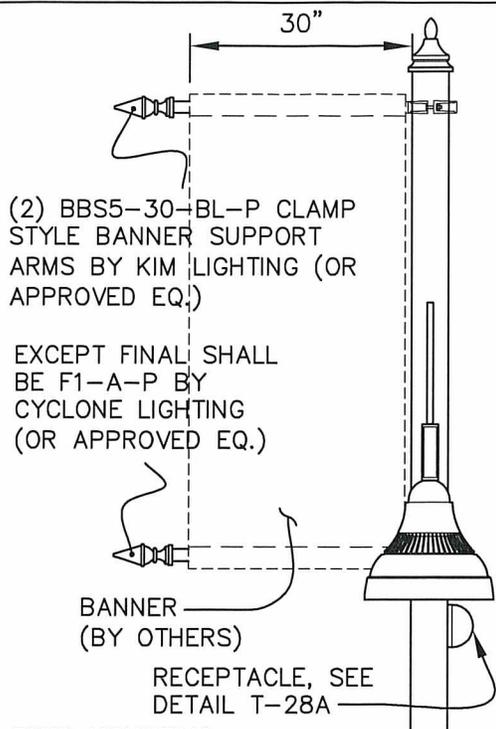
DOWNTOWN PEDESTRIAN  
POLE MOUNT LIGHTING STANDARD

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

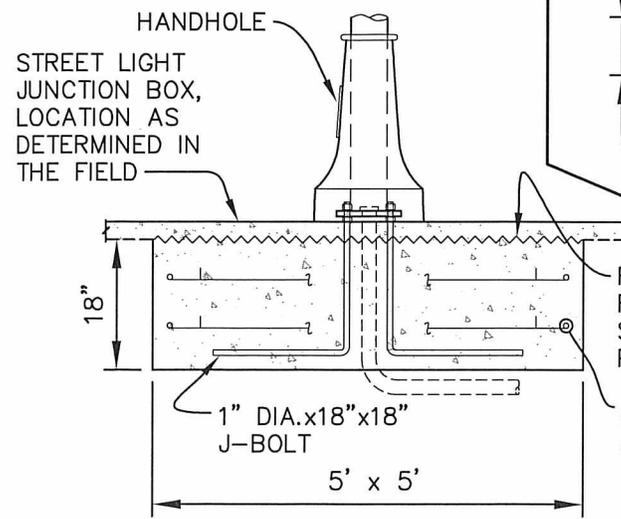
STANDARD DETAIL: T-28A.2

Plotted by: Craig Dobyns on 2/15/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-28A.2

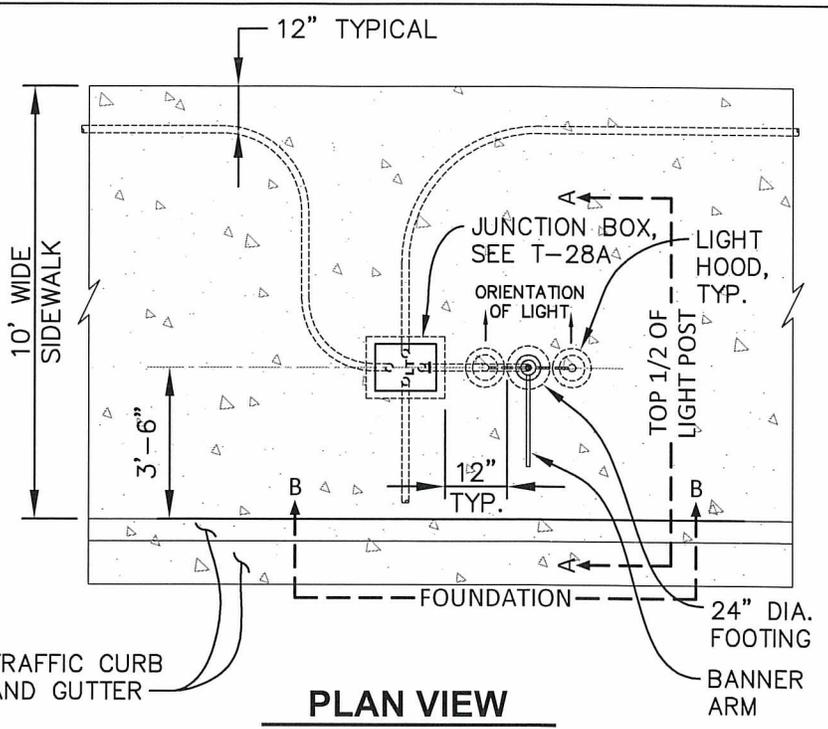
Plotted by: Lazlo Ceauha on 9/9/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Traffic\STDELT-T-28B.1



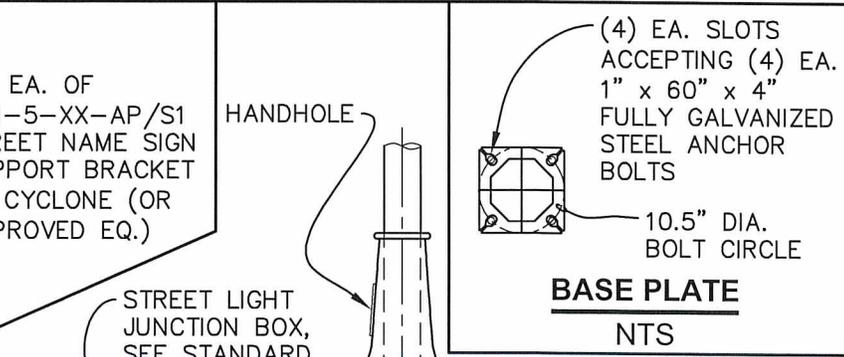
**SECTION A-A**  
NTS



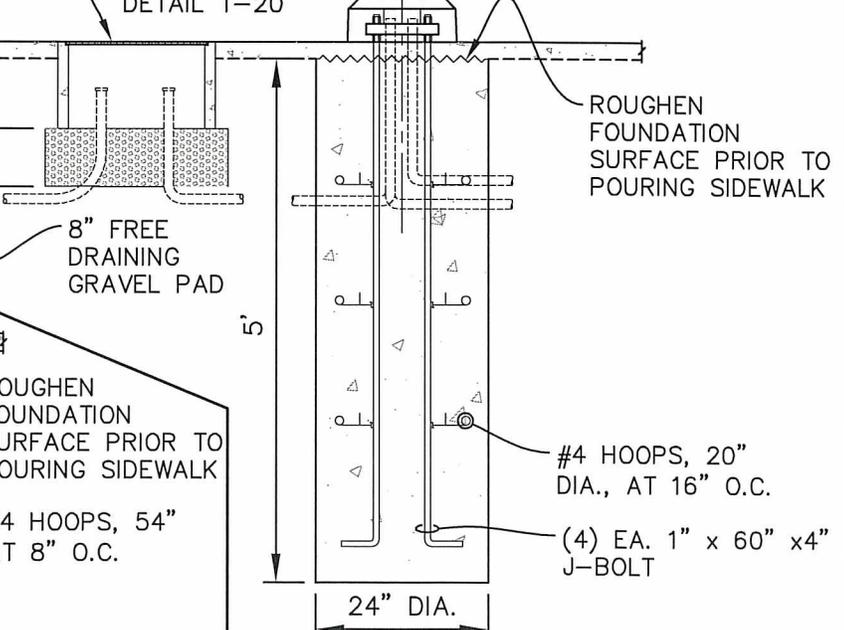
**ALTERNATE BASE (SPREAD FOOTING)**  
NTS



**PLAN VIEW**  
NTS



**BASE PLATE**  
NTS



**SECTION B-B**  
NTS

APPROVED BY CITY ENGINEER: *[Signature]* DATE: 9/12/2016

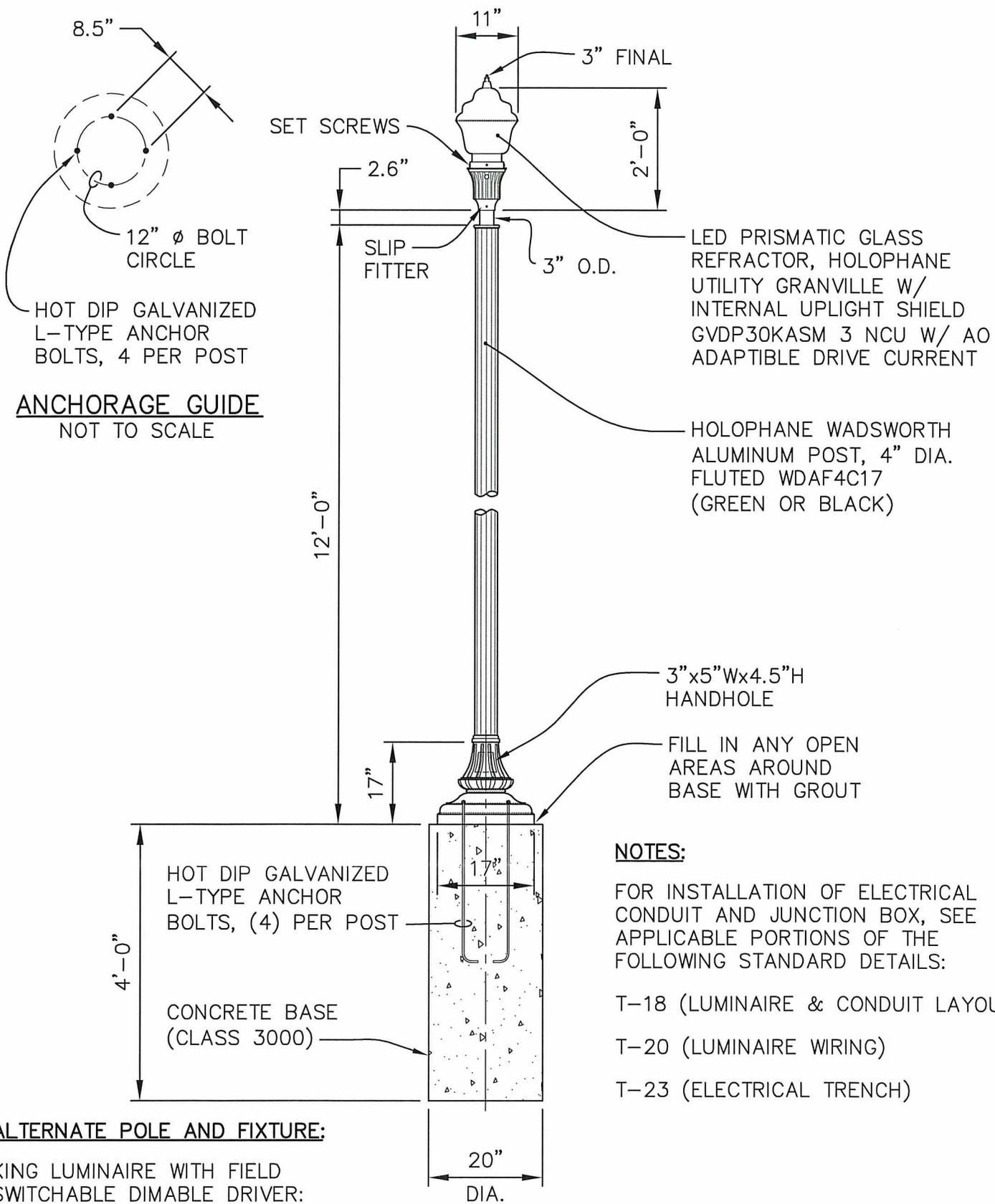
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.



DOWNTOWN PEDESTRIAN POLE MOUNT LIGHTING STANDARD

STANDARD DETAIL: T-28B.1

Plotted by: Craig Dobyns on 2/15/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDDET-T-29.2



**ANCHORAGE GUIDE**  
NOT TO SCALE

**NOTES:**

- FOR INSTALLATION OF ELECTRICAL CONDUIT AND JUNCTION BOX, SEE APPLICABLE PORTIONS OF THE FOLLOWING STANDARD DETAILS:
- T-18 (LUMINAIRE & CONDUIT LAYOUT)
- T-20 (LUMINAIRE WIRING)
- T-23 (ELECTRICAL TRENCH)

**ALTERNATE POLE AND FIXTURE:**

KING LUMINAIRE WITH FIELD SWITCHABLE DIMABLE DRIVER: K445R-T1GR-V-XX (SSL)-4006-120:277-K24-3K-WS

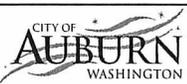
HAPCO ARLEN LIGHT POLE: 37936-012 (GREEN OR BLACK)

**ELEVATION**  
NOT TO SCALE

APPROVED BY CITY ENGINEER:

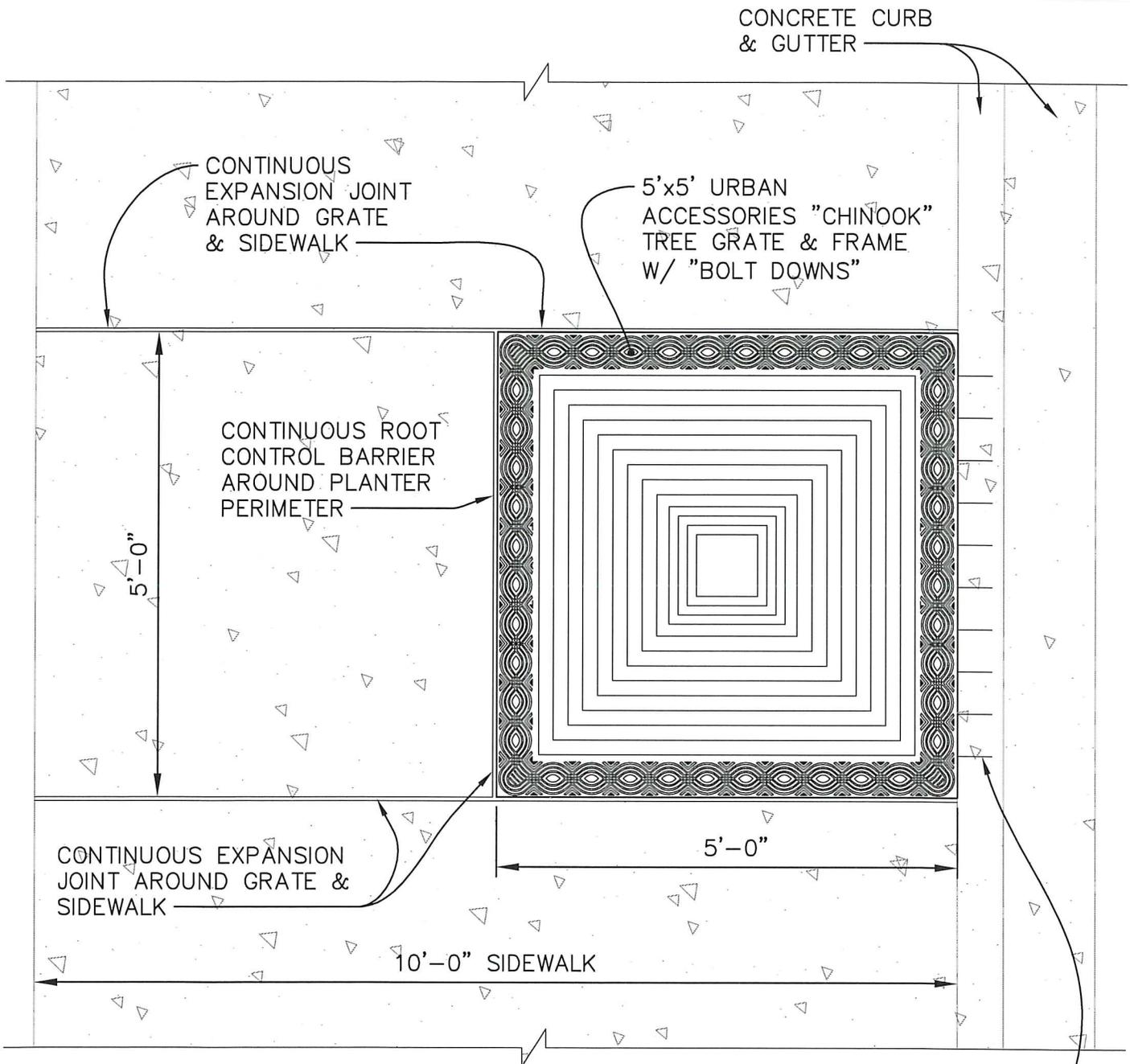
DATE:

2/20/2018



LOCAL RESIDENTIAL ORNAMENTAL STREET LIGHTING STANDARD

Plotted by: Craig Dobyne on 7/25/2016 File location: M:\Construction Standard Details\Traffic\STDEL-T-30.1



FOR INSTALLATION AT EXISTING CURBS, CUT FRAME STUBS

ROADWAY

MATERIAL SCHEDULE	
<b>GRATE:</b>	
MATERIAL	GREY IRON ASTM A48 CLASS 358 OR BETTER
FINISH	NATURAL PATINA OF RAW IRON
<b>FRAME:</b>	
MATERIAL	MILD STEEL ASTM A36
FINISH	NATURAL PATINA OF RAW STEEL
LOAD RATING: PEDESTRIAN	

**NOTE:**  
 4' WIDE x 6' LONG TREE GRATES SHALL BE USED WHERE SIDEWALK WIDTH IS LESS THAN 10'.

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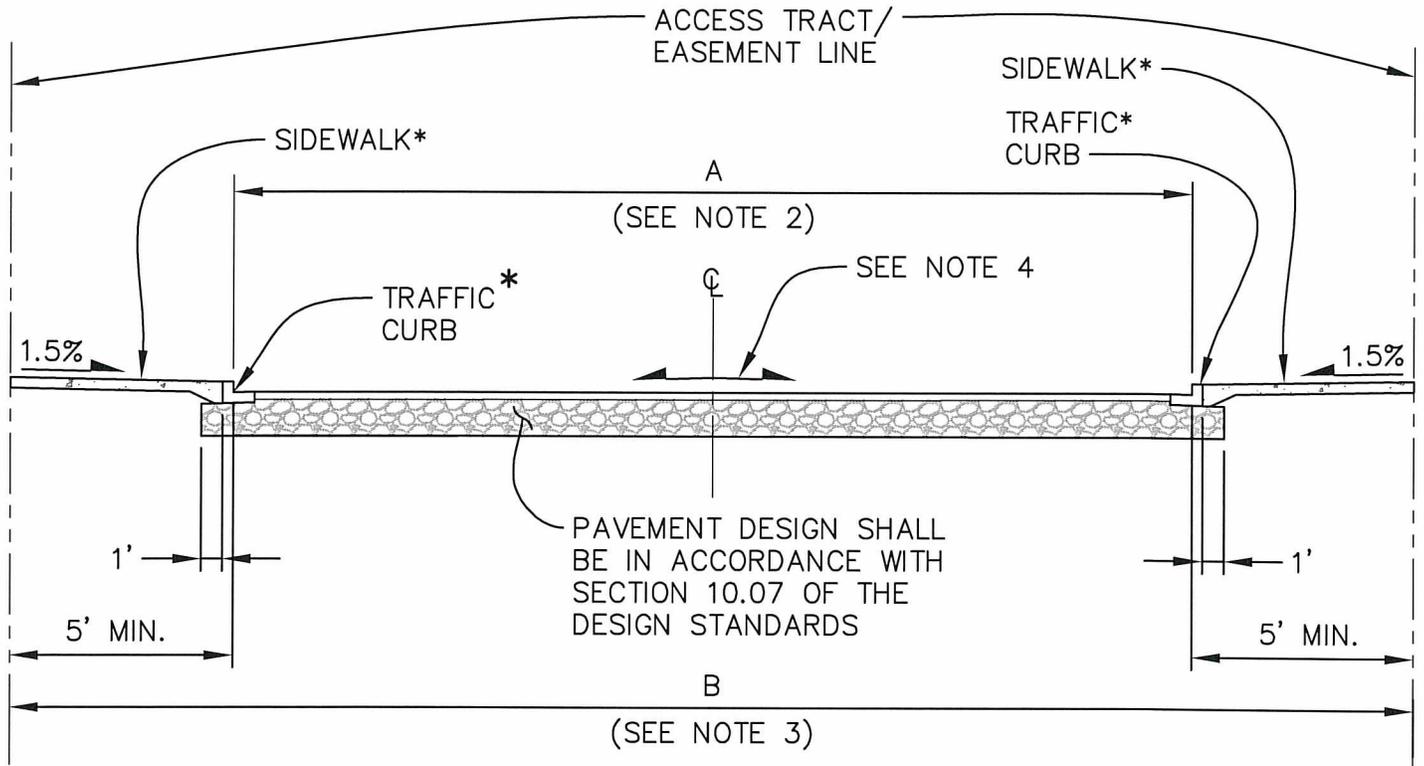
DATE:

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*8/5/2016*



TYPICAL PLAN FOR TREE GRATE

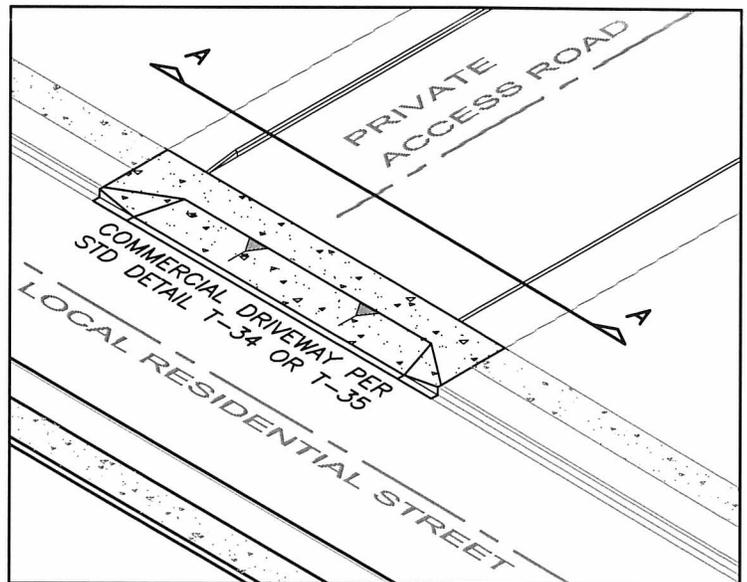


**SECTION A-A**  
NTS

**NOTES:**

1. CEMENT CONCRETE TRAFFIC CURB & GUTTER SHALL BE IN ACCORDANCE WITH WSDOT STANDARD PLAN F-10.12
2. PAVEMENT WIDTHS:
  - A = 30' - INDUSTRIAL
  - A = 24' - COMMERCIAL
  - A = 20' - RESIDENTIAL
3. EASEMENT/TRACK WIDTHS
  - B = 40' - INDUSTRIAL
  - B = 34' - COMMERCIAL
  - B = 25' - RESIDENTIAL
4. ACCESS ROADS SHALL MEET SECTIONS 10.02.1 THRU 10.02.6 OF THE DESIGN STANDARDS FOR LOCAL RESIDENTIAL STREETS.
5. SIDEWALK SHALL BE PER STANDARD DETAIL T-13, T-14, OR T-15.

\* CURB AND SIDEWALK REQUIRED ON BOTH SIDES OF ACCESS ROAD/DRIVEWAY FOR COMMERCIAL AND INDUSTRIAL USE. CURB AND SIDEWALK MAY BE OMITTED WHERE ACCESS ROAD/DRIVEWAY SERVES 2 OR LESS RESIDENTIAL UNITS.



**ISOMETRIC**  
NTS

APPROVED BY CITY ENGINEER:

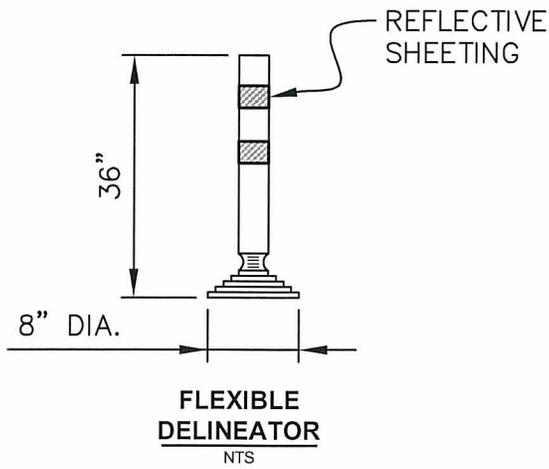
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6/29/2018

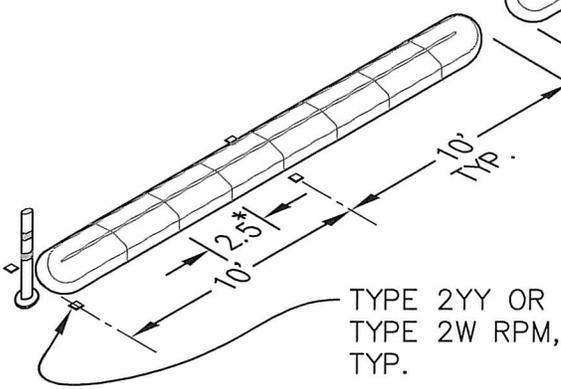
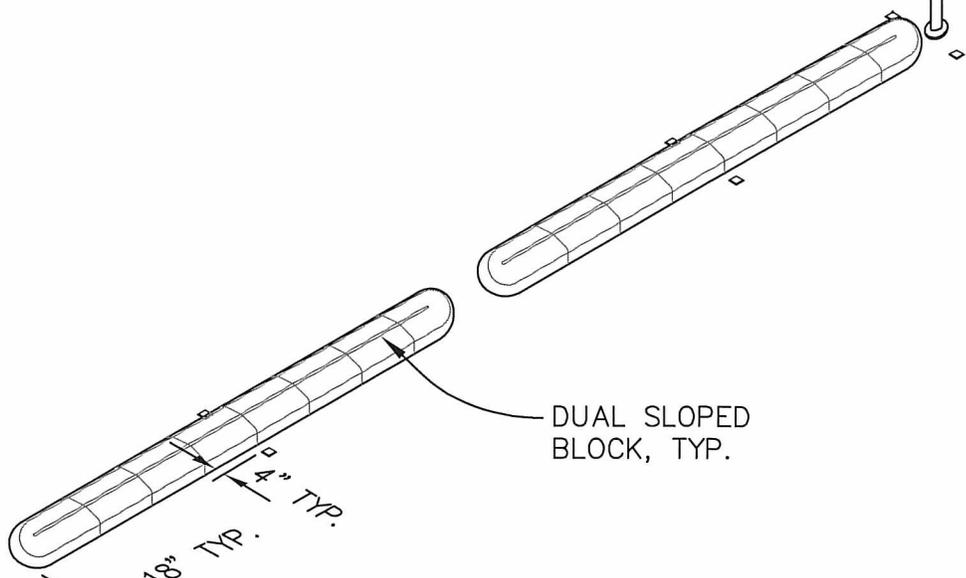


PRIVATE ACCESS ROAD  
/ SHARED DRIVEWAY



FLEXIBLE DELINEATOR POST W/ BASE

\* 5' SEGMENTS ALLOWED ON STRAIGHT SECTIONS AS APPROVED BY THE ENGINEER.



**DUAL SLOPED MOUNTABLE CURB**  
NTS

**NOTES:**

1. PRECAST CONCRETE DUAL FACED, SLOPED MOUNTABLE CURB SHALL BE PER WSDOT STANDARD PLAN F-10.64, 12" WIDE.
2. CURB SHALL BE INSTALLED USING EPOXY ADHESIVE PER WSDOT STANDARD SPECIFICATION 9-26.2. EPOXY SHALL BE APPLIED AT A RATE OF ONE GALLON PER SEVEN FEET OF CURBING.
3. CURB SHALL BE INSTALLED IN 20' SEGMENTS, WITH 18" OPENING BETWEEN ENDS, OR MODIFIED TO FIT FIELD DIMENSIONS AS APPROVED BY THE ENGINEER.
4. CURB AND DELINEATOR SHALL BE THE SAME COLOR AS THE CHANNELIZATION STRIPE.
5. FLEXIBLE DELINEATOR POSTS SHALL BE MOUNTED ON BASE WITH SPRING BACK MECHANISM.
6. DELINEATOR BASE SHALL BE AFFIXED TO PAVEMENT WITH FLEXIBLE BITUMINOUS PAVEMENT MARKER ADHESIVE PER WSDOT STANDARD SPECIFICATION 9-02.1(8).
7. RPM'S SHALL BE PLACED AT EACH APPROACH END OF THE CURBING AND CENTERED ON EACH SECTION AS SHOWN. THEY SHALL BE THE SAME COLOR AS THE CHANNELIZATION STRIPE.
8. THIS DETAIL IS USED TO RETRO-FIT EXISTING STREETS. NEW CONSTRUCTION SHALL REQUIRE CAST-IN-PLACE CURBS.

APPROVED BY CITY ENGINEER:

DATE:

2/20/2018

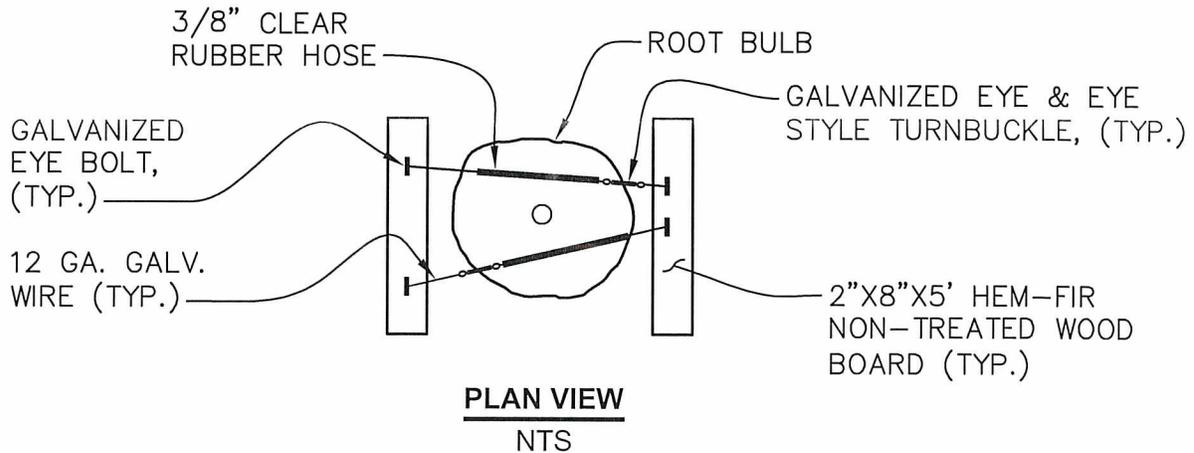
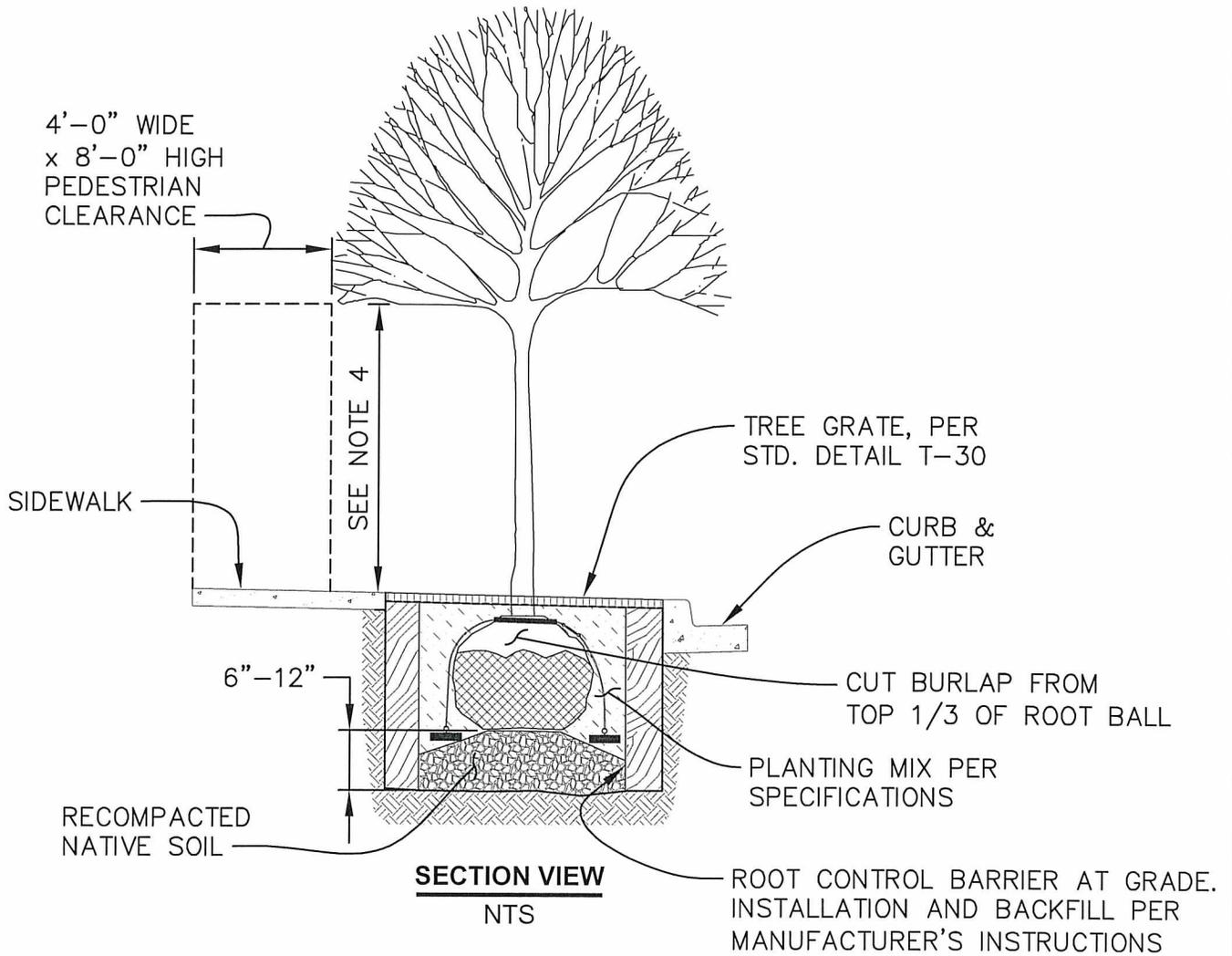


PRECAST CONCRETE DUAL FACED SLOPED MOUNTABLE CURB RETROFIT

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-32.2

Plotted by: Craig Dobyne on 2/2/2018 File location: M:\Construction Standard Details\Traffic\STDETL-T-32.2



**NOTES:**

1. PLANT TREES 1" HIGHER THAN GROWN IN NURSERY.
2. TREE PIT SHALL NOT BE LESS THAN 2 TIMES THE ROOT BALL DIAMETER.
3. STREET TREES SHALL NOT BE PLACED WITHIN SIGHT DISTANCE TRIANGLE.
4. AT TIME OF PLANTING, MAINTAIN LOWER BRANCHES OF TREE AT 5' MIN. CLEARANCE ABOVE THE SIDEWALK.
5. STREET TREES SHALL BE SELECTED FROM THE CITY APPROVED LIST OF STREET TREES.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

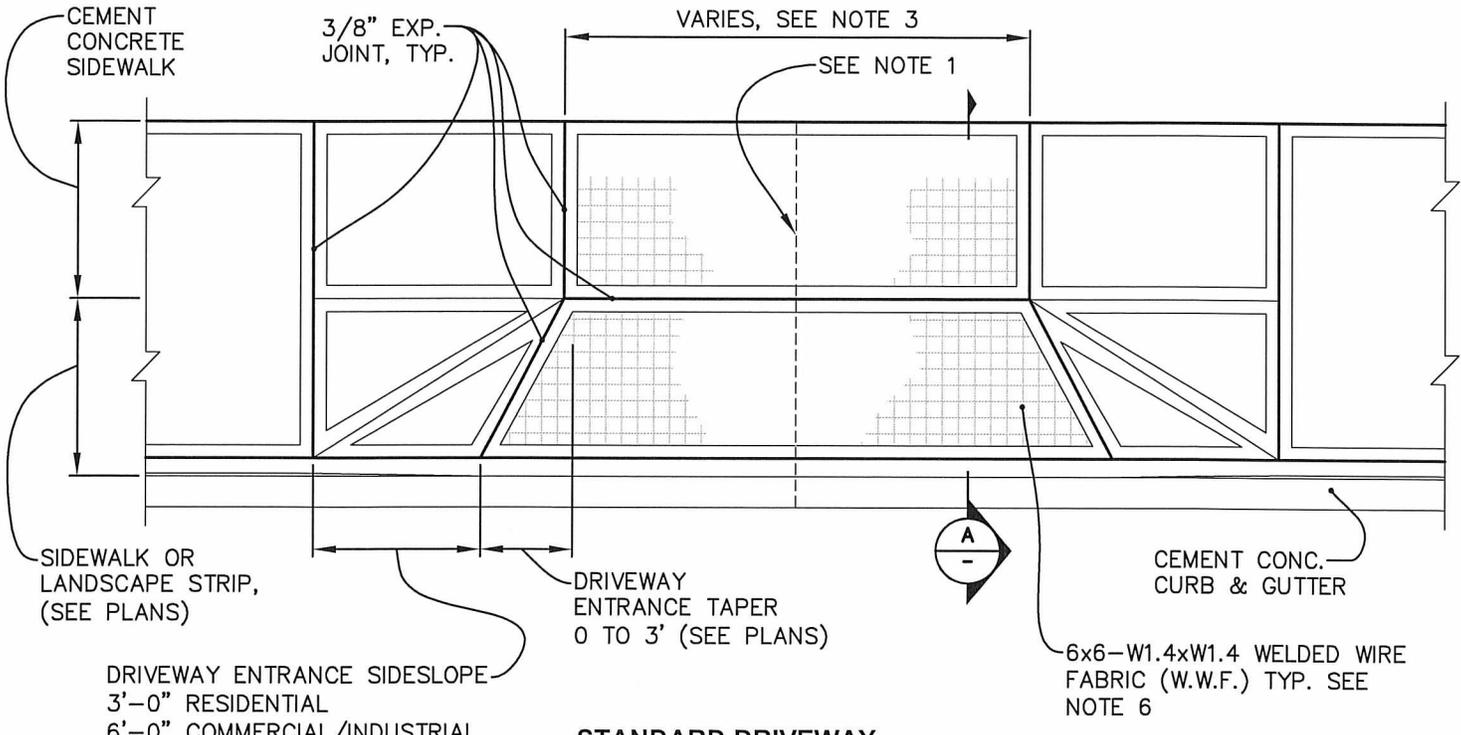
2/20/2018



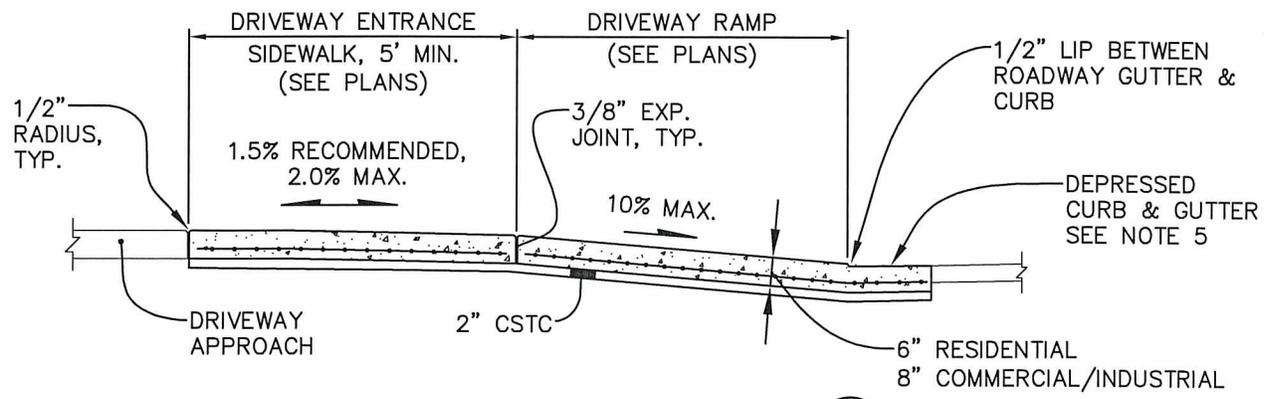
STREET TREE UNDERGROUND STABILIZATION

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-33.1



**STANDARD DRIVEWAY**  
NTS



**SECTION**  
NTS

**NOTES:**

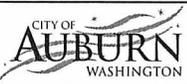
1. WHEN THE DRIVEWAY WIDTH EXCEEDS 15'(FT), CONSTRUCT A FULL DEPTH EXPANSION JOINT WITH 3/8" JOINT FILLER ALONG THE DRIVEWAY CENTERLINE. SEE WSDOT STANDARD PLAN F-30.10. CONSTRUCT EXPANSION JOINTS PARALLEL WITH THE CENTERLINE AS REQUIRED AT 15'(FT) MAXIMUM SPACING WHEN DRIVEWAY WIDTHS EXCEED 30'(FT).
2. RESIDENTIAL DRIVEWAY SERVING 2 OR MORE LIVING UNITS AND/OR THAT CONNECT TO AN ACCESS ROAD SHALL BE CONSTRUCTED AS A COMMERCIAL/INDUSTRIAL DRIVEWAY.
3. SEE STANDARD DETAIL T-04 FOR DRIVEWAY WIDTHS AND LOCATIONS.
4. CONCRETE SHALL BE CLASS 4000 WITH 5% AIR ENTRAINMENT WITH A BROOM FINISH PARALLEL TO CURB LINE.
5. DEPRESSED CURB FOR HEAVY COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL BE POURED INTEGRAL/MONOLITHIC TO DRIVEWAY.
6. WELDED WIRE FABRIC (W.W.F.) SHALL BE PLACED 3" FROM BOTTOM, AND 2" FROM ALL OTHER LIMITS. WELDED WIRE FABRIC (W.W.F.) NOT REQUIRED FOR RESIDENTIAL DRIVEWAYS.
7. WHEN DRIVEWAY OPENING IS TO BE CONSTRUCTED WHERE CURB EXISTS, THE ENTIRE CURB AND GUTTER SECTION SHALL BE REMOVED TO THE NEAREST EXPANSION JOINT ON EACH SIDE OF THE OPENING AND REPLACED.

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

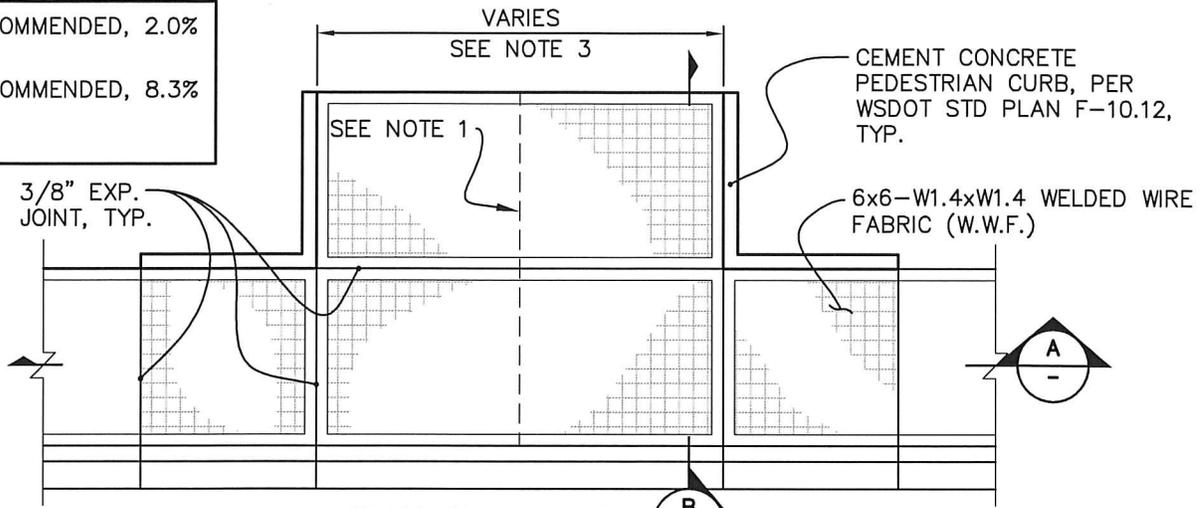
2/23/2018



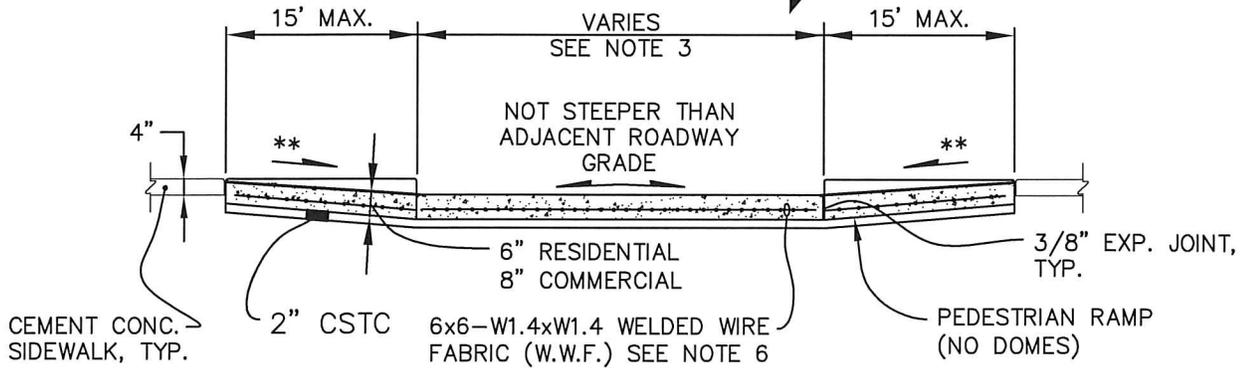
STANDARD DRIVEWAY -  
OFFSET APRON

Plotted by: Craig Dobyns on 2/22/2018 File location: M:\Construction Standard Details\Current Working DWG\Traffic\STDETL-T-34.1

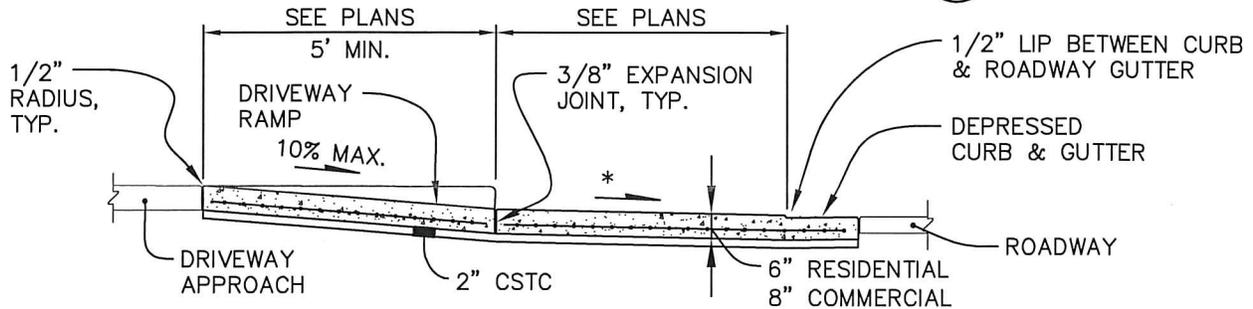
\* 1.5% RECOMMENDED, 2.0% MAX.  
 \*\* 7.5% RECOMMENDED, 8.3% MAX.



**ALTERNATE DRIVEWAY**  
NTS



**SECTION**  
NTS



**SECTION**  
NTS

- NOTES:**
1. WHEN THE DRIVEWAY WIDTH EXCEEDS 15'(FT), CONSTRUCT A FULL DEPTH EXPANSION JOINT WITH 3/8" JOINT FILLER ALONG THE DRIVEWAY CENTERLINE. SEE WSDOT STANDARD PLAN F-30.10. CONSTRUCT EXPANSION JOINTS PARALLEL WITH THE CENTERLINE AS REQUIRED AT 15'(FT) MAXIMUM SPACING WHEN DRIVEWAY WIDTHS EXCEED 30'(FT).
  2. RESIDENTIAL DRIVEWAY SERVING 2 OR MORE LIVING UNITS AND/OR THAT CONNECT TO AN ACCESS ROAD SHALL BE CONSTRUCTED AS A COMMERCIAL/INDUSTRIAL DRIVEWAY.
  3. SEE STANDARD DETAIL T-04 FOR DRIVEWAY WIDTHS AND LOCATIONS.
  4. CONCRETE SHALL BE CLASS 4000 WITH 5% AIR ENTRAINMENT WITH A BROOM FINISH PARALLEL TO CURB LINE.
  5. DEPRESSED CURB FOR HEAVY COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL BE POURED INTEGRAL/MONOLITHIC TO DRIVEWAY.
  6. WELDED WIRE FABRIC (W.W.F.) SHALL BE PLACED 3" FROM BOTTOM, AND 2" FROM ALL OTHER LIMITS. WELDED WIRE FABRIC (W.W.F.) NOT REQUIRED FOR RESIDENTIAL DRIVEWAYS.
  7. WHEN DRIVEWAY OPENING IS TO BE CONSTRUCTED WHERE CURB EXISTS, THE ENTIRE CURB AND GUTTER SECTION SHALL BE REMOVED TO THE NEAREST EXPANSION JOINT ON EACH SIDE OF THE OPENING AND REPLACED.

APPROVED BY CITY ENGINEER:

DATE:



ALTERNATE DRIVEWAY -  
INLINE (DROP) APRON

**STREET LIGHTING LAMP SCHEDULE**

STREET CLASSIFICATION	LAMP TYPE	LAMP PART NO. (LEOTEK)	ALTERNATE LAMP PART NO. (AEL AUTOBAHN)*
PRINCIPAL ARTERIAL	TYPE A	GC2-96G-MV-NW-3R-GY-750 S WL (226 Watts)	ATB2 60BLEDE10 MVOLT R3 HK NL P7 SH
MINOR ARTERIAL	TYPE B	GCM2-40H-MV-NW-2R-GY-950 S WL (121 Watts)	ATB0 30BLEDE13 MVOLT R2 NL P7 SH
MINOR ARTERIAL W/ CENTER TURN LANE OR MEDIAN	TYPE C	GCL1-60G-MV-NW-2RGY-700 S WL (137 Watts)	ATB2 40BLEDE10 MVOLT R2 HK NL P7 SH
NON-RESIDENTIAL COLLECTOR	TYPE B	GCM2-40H-MV-NW-2R-GY-950 S WL (121 Watts)	ATB0 30BLEDE13 MVOLT R2 NL P7 SH
RESIDENTIAL COLLECTOR	TYPE D	GCJ2-20H-MV-NW-2R-GY-1A S WL (68 Watts)	ATB0 20BLEDE10 MVOLT R2 NL P7 SH
RESIDENTIAL COLLECTOR WITH CENTER TURN LANE OR MEDIAN	TYPE E	GCM2-30H-MV-NW-2R-GY-700 S WL (69 Watts)	ATB0 20BLEDE10 MVOLT R2 NL P7 SH
LOCAL NON-RESIDENTIAL	TYPE D	GCJ2-20H-MV-NW-2R-GY-1A S WL (68 Watts)	ATB0 20BLEDE10 MVOLT R2 NL P7 SH
RUSTIC ROADS		N/A	N/A
LOCAL RESIDENTIAL AND LOCAL RESIDENTIAL ALTERNATIVE **	TYPE F	GCJ1-20H-MV-NW-2R-GY-580 S WL (39 Watts)	ATB0 20BLEDE53 MVOLT R2 NL P7 SH

\* UNLESS SPECIFIED OTHERWISE SEE TABLE 10-8 IN DESIGN STANDARDS FOR LIGHTING DESIGN CRITERIA.

\*\* SEE STD DETAIL T-29 FOR LOCAL RESIDENTIAL ORNAMENTAL OPTION.

APPROVED BY CITY ENGINEER:

DATE:



6/29/2018



STREET LIGHTING  
LAMP SCHEDULE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: T-37.2

PROPERTY LINE, R.O.W., OR  
PUBLIC SEWER EASEMENT

4'X2"X4", PRESSURE TREATED  
TEMPORARY MARKER, WRAP  
WIRE AROUND MARKER

5' OR WIDTH OF  
UTILITY EASEMENT  
(WHICHEVER IS GREATER)

SEWER CLEANOUT,  
REFER TO STD.  
DETAIL S-02

FINISH  
GRADE

**NOTES:**

1. LAY SIDE SEWERS PERPENDICULAR TO THE MAIN. EXTEND SIDE SEWERS FROM THE SEWER MAIN ONLY WITH TEES.
2. BENDS ARE NOT ALLOWED IN THE PUBLIC RIGHT OF WAY (R.O.W.).
3. PORTION OF THE TEMPORARY MARKER EXTENDING OUT OF THE GROUND SHALL HAVE 2" HIGH STENCILED "SS" LETTERS IN BLACK PAINT, DEPTH TO THE STUB SHALL BE NOTED.
4. SIDE SEWERS SHALL BE 6" DIA. UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER, WITH A MINIMUM SLOPE OF 2%.
5. GREATER THAN 25° ANGLE (47% SLOPE) REQUIRES CONCRETE BLOCKING. GREATER THAN 45° REQUIRES EPOXY LINED DUCTILE IRON TEE.

1'x2"x4"  
PRESSURE  
TREATED  
CLEAT

9 GAUGE  
GALV. WIRE

PVC PLUG (TO BE  
REMOVED WHEN  
CONNECTION IS MADE)

GASKETED  
SWEEPING WYE

6" DIA. MIN.,  
2% MIN. SLOPE

TEE

PVC PLUG  
OR CAP AT  
END OF LINE

SEWER MAIN

12"X2"X4" PRESSURE  
TREATED ANCHOR

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016



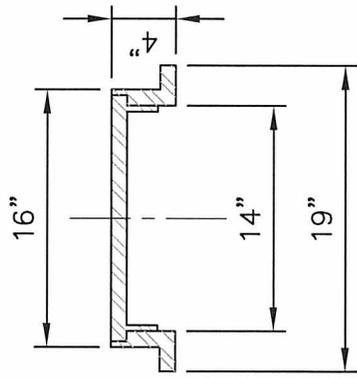
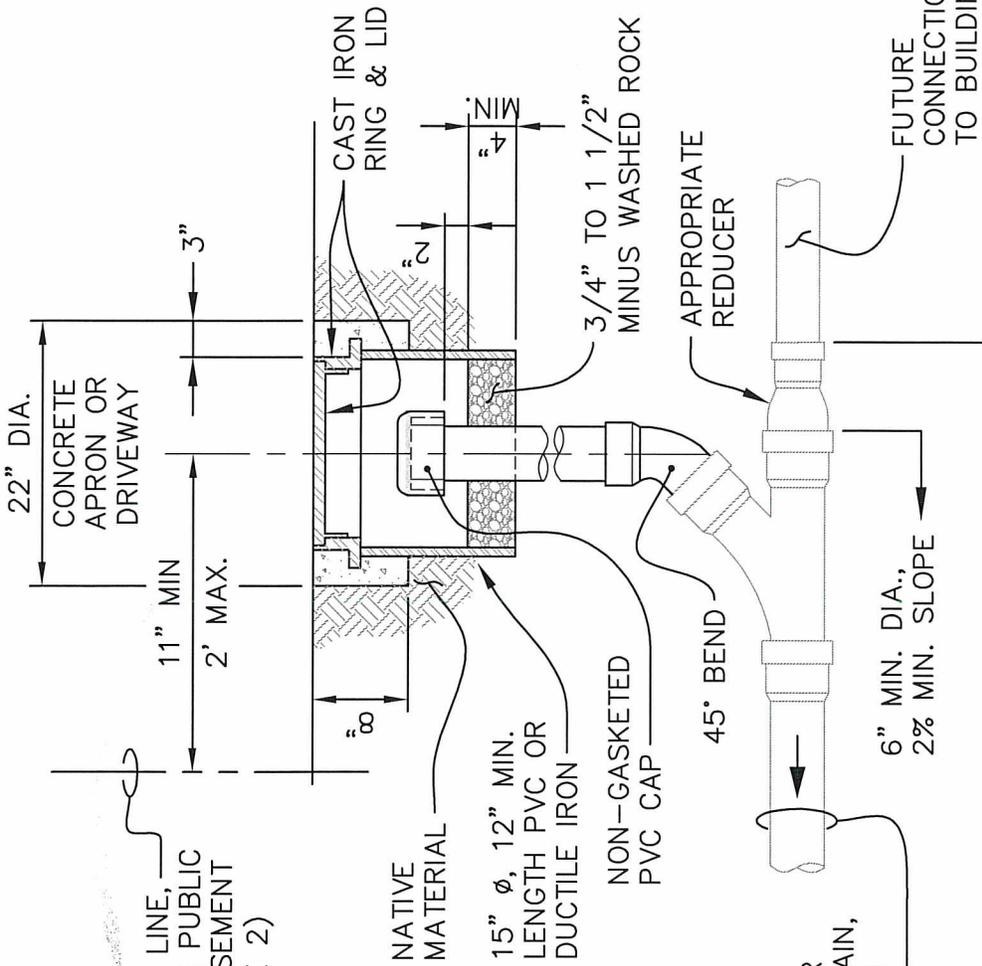
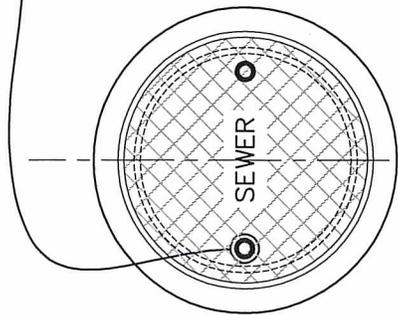
SIDE SEWER  
STUB

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-01.1

Plotted by: Craig Dobyms on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Sewer and Storm\STDETL-S-01.1

5/8" - 11 N.C. x1-1/4" STAINLESS STEEL COL., HEX DRIVE CAP SCREW (2) EA. REQ'D



CAST IRON RING & LID

**NOTES:**

1. BENDS IN THE SIDE SEWER LINE ARE NOT ALLOWED WITHIN THE PUBLIC R.O.W.
2. CLEAN OUTS MAY BE ESTABLISHED ON BACKSIDE OF UTILITY EASEMENTS IF APPROVED BY CITY ENGINEER.
3. ADDITIONAL CLEAN OUTS ARE REQUIRED ON SIDE SEWER LINE WITHIN PRIVATE PROPERTY WHEN CUMULATIVE BENDS ON SIDE SEWER LINE EQUALS OR EXCEEDS 135°

APPROVED BY CITY ENGINEER:

*Paul Gals*

DATE:

1/31/2017



PRIVATE SANITARY SIDE SEWER CLEAN OUT

LOCKING MANHOLE RING & COVER SHALL CONFORM TO STANDARD DETAIL S-04

NON-GASKETED PVC CAP

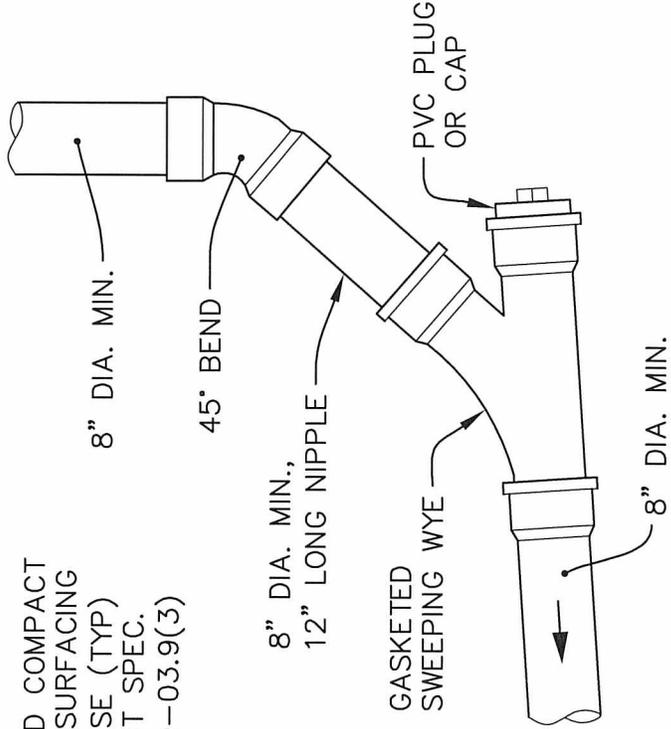
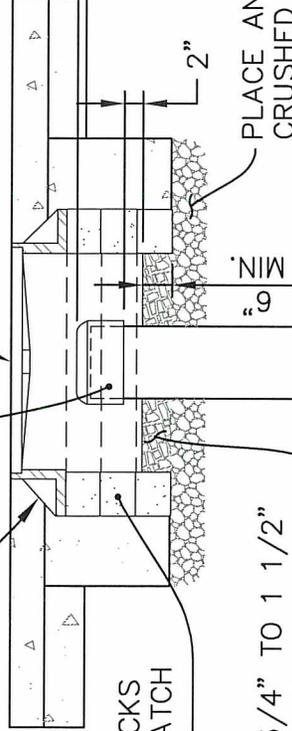
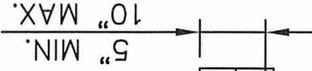
CLEANOUT RING AND COVER ADJUSTMENT SHALL CONFORM TO STANDARD DETAIL T-05

INSTALL PRECAST CONCRETE ADJUSTING RINGS/LEVELLING BLOCKS AS NECESSARY TO MATCH FINAL GRADE

3/4" TO 1 1/2" MINUS WASHED ROCK

PLACE AND COMPACT CRUSHED SURFACING TOP COURSE (TYP) PER WSDOT SPEC. SECTION 9-03.9(3)

**NOTE:**  
MANHOLES ARE REQUIRED AT UPSTREAM END OF ALL SEWER MAINS.



**STANDARD  
INSTALLATION**  
NTS

**ALTERNATE  
INSTALLATION**  
NTS

APPROVED BY CITY ENGINEER:

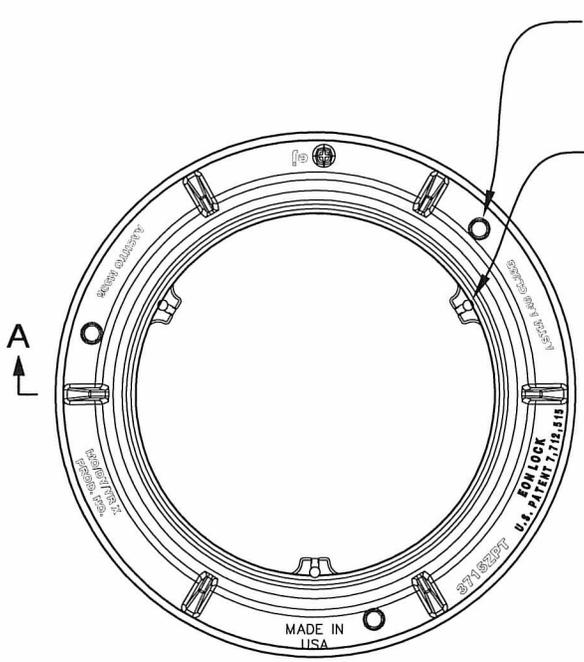
*Chris Gault*

DATE:

8/5/2016

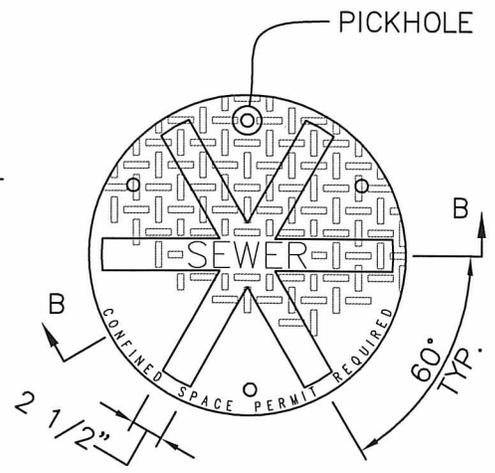


PUBLIC SIDE SEWER  
CLEANOUT (8" OR LARGER)

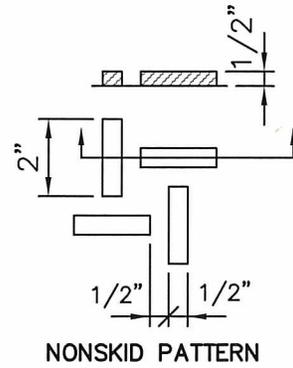


**FRAME - PLAN**  
NTS

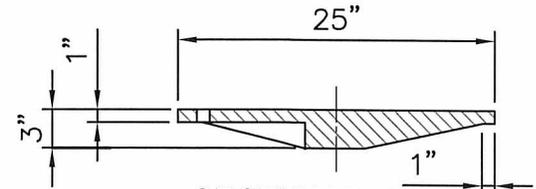
(3) 1"  $\phi$  HOLES EQ. SPACED AT 120° APART ON A 30 1/4"  $\phi$  B.C.  
(3) 5/8" POCKETS EQ. SPACED AT 120° APART ON A 23 1/16"  $\phi$  BOLT CIRCLE



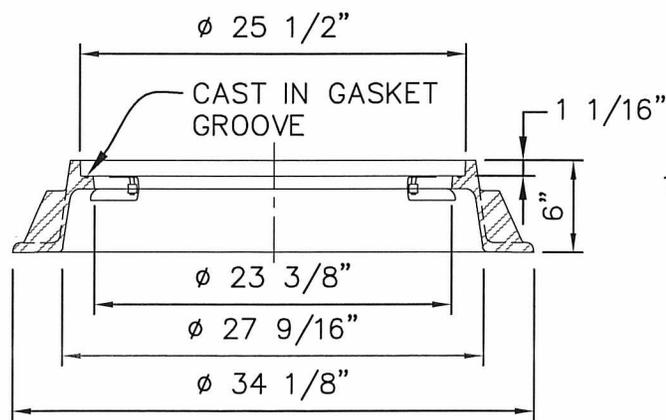
**COVER - PLAN**  
NTS



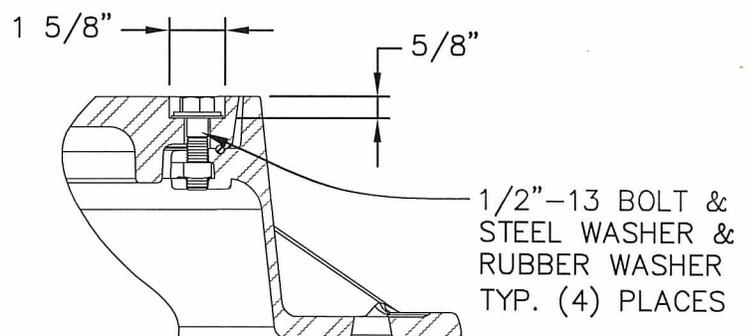
**NONSKID PATTERN**



**SECTION B-B**  
NTS



**SECTION A-A**  
NTS



**BOLT DETAIL**  
NTS

**NOTES:**

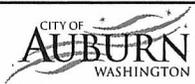
- COVERS SHALL HAVE THEIR USE CAST IN 2" RAISED LETTERS: 'SEWER' FOR SANITARY SEWERS, 'DRAIN' FOR STORM SEWERS AND 'WATER' FOR WATER CONVEYANCE. THE WORDS 'CONFINED SPACE PERMIT REQUIRED' SHALL BE CAST IN 1" LETTERS AS SHOWN.
- GRAY OR DUCTILE IRON FRAME AND DUCTILE IRON COVER WITH MINIMUM WEIGHTS AS FOLLOWS:  
FRAME = 210 LBS.  
COVER = 150 LBS.
- PROVIDE SLIP RESISTANT COATING IN PAVED AREAS.

APPROVED BY CITY ENGINEER:

DATE:

*Handwritten signature*

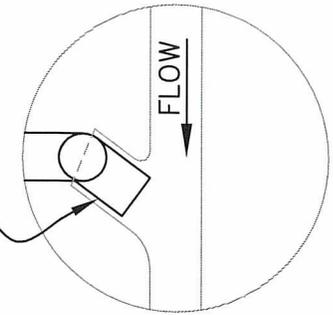
2/20/2018



24" DIA. MANHOLE  
FRAME AND COVER

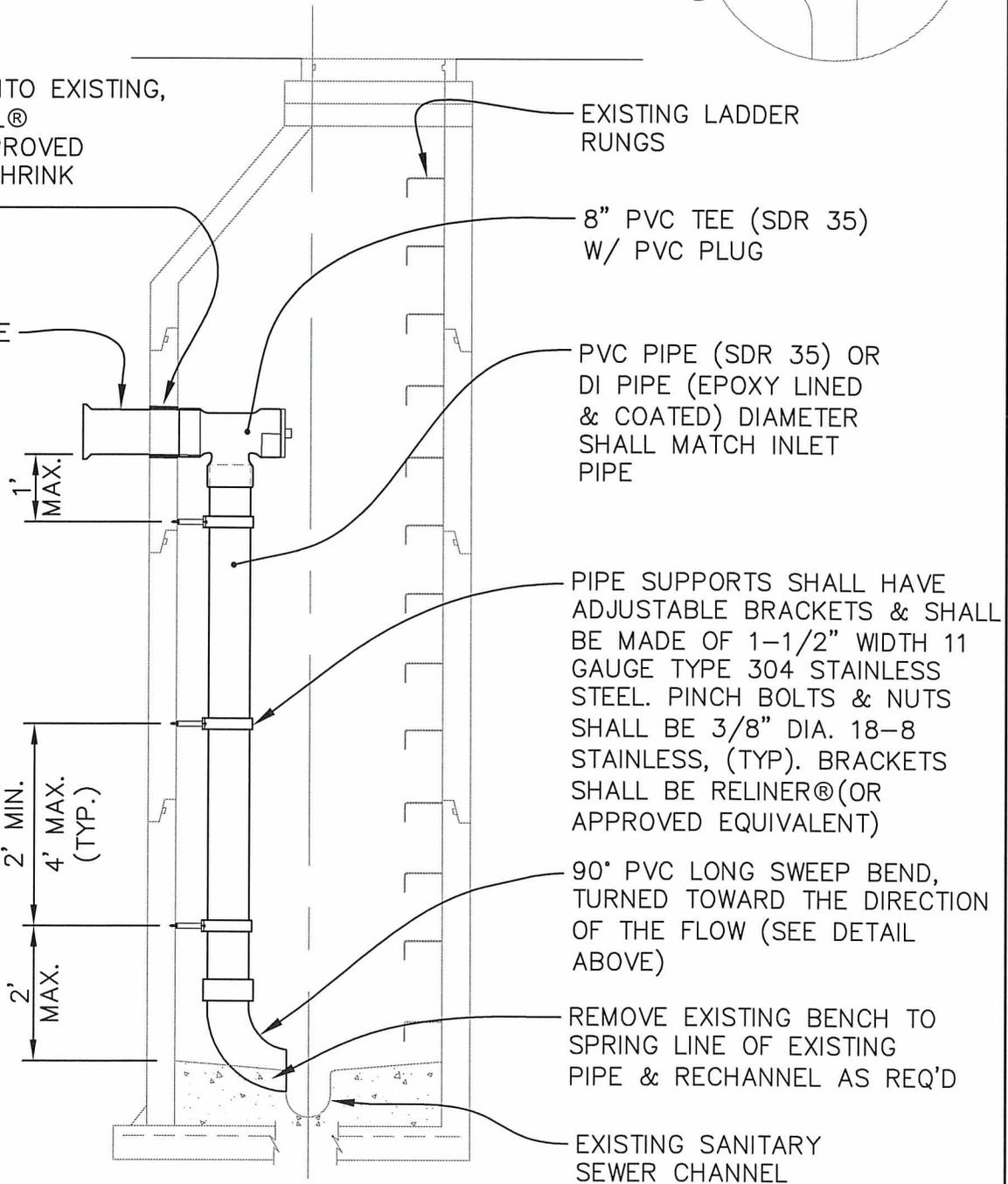
Plotted by: Vlad Rubashka on 1/10/2018 File location: M:\Construction\_Standard\_Details\Current\_Details\Working\_DWG\Sewer and Storm\STDETL-S-04.2

90° PVC LONG SWEEP BEND, TURNED TOWARD THE DIRECTION OF THE FLOW



CORE DRILL HOLE INTO EXISTING, APPLY KOR-N-SEAL® CONNECTOR OR APPROVED EQUIVALENT, NON-SHRINK GROUT AS REQ'D

12" MIN. 18" MAX. INLET SANITARY LINE



EXISTING LADDER RUNGS

8" PVC TEE (SDR 35) W/ PVC PLUG

PVC PIPE (SDR 35) OR DI PIPE (EPOXY LINED & COATED) DIAMETER SHALL MATCH INLET PIPE

PIPE SUPPORTS SHALL HAVE ADJUSTABLE BRACKETS & SHALL BE MADE OF 1-1/2" WIDTH 11 GAUGE TYPE 304 STAINLESS STEEL. PINCH BOLTS & NUTS SHALL BE 3/8" DIA. 18-8 STAINLESS, (TYP). BRACKETS SHALL BE RELINER® (OR APPROVED EQUIVALENT)

90° PVC LONG SWEEP BEND, TURNED TOWARD THE DIRECTION OF THE FLOW (SEE DETAIL ABOVE)

REMOVE EXISTING BENCH TO SPRING LINE OF EXISTING PIPE & RECHANNEL AS REQ'D

EXISTING SANITARY SEWER CHANNEL

1' MAX.

2' MIN. 4' MAX. (TYP.)

2' MAX.

**NOTES:**

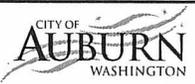
1. TYPE 1 MANHOLE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DETAIL MAY ALSO BE APPLIED TO TYPE 2 & 3 MANHOLES.
2. DROP CONNECTIONS TO EXISTING 48" OR LARGER MANHOLES ONLY WITH ENGINEER APPROVAL.

APPROVED BY CITY ENGINEER:

DATE:

*[Handwritten signature]*

*8/5/2016*



RETROFIT EXISTING MANHOLE WITH INSIDE DROP

Plotted by: Craig Dobyne on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Sewer and Storm\STDETL-S-05.1

**NOTE:**

CITY ENGINEER APPROVAL IS  
REQUIRED BEFORE USING THIS  
DETAIL

MANHOLE RING &  
COVER ADJUSTMENT  
SHALL CONFORM TO  
STD DETAIL T-05

LEVELING BRICKS OR GRADE  
RINGS AS REQUIRED. 3000 PSI  
SMALL AGGREGATE CONCRETE  
BETWEEN EACH RING

LOCKING MANHOLE  
RING & COVER SHALL  
CONFORM TO STD  
DETAIL S-04

FINISH  
GRADE

PRECAST CONCENTRIC CONE

FULL DEPTH  
CAHNNEL

HAND HOLD  
12" O.C.  
(1 STEP MIN.)

1/2"/FT.  
(TYP)

5"  
TYP.

18" TO 36"

4"  
TYP.

32" MIN.  
50" MAX.

GROUT  
FILLET (TYP)

FIELD CONSTRUCT 3000  
PSI SMALL AGGREGATE  
CONCRETE CHANNEL  
AND SHELF TO CROWN  
OF THE PIPE

12"  
MIN.

8"-12" DIA.  
PIPE

5'-6" DIA. CEMENT  
CONCRETE BASE, CL.  
3000, CAST IN PLACE

REBAR #4 @ 12" EW

RUBBER GASKET

48" DIA.

**ALTERNATE:**

MANUFACTURED BASE WITH FLAT TOP,  
FRAME AND COVER IS ACCEPTABLE

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016

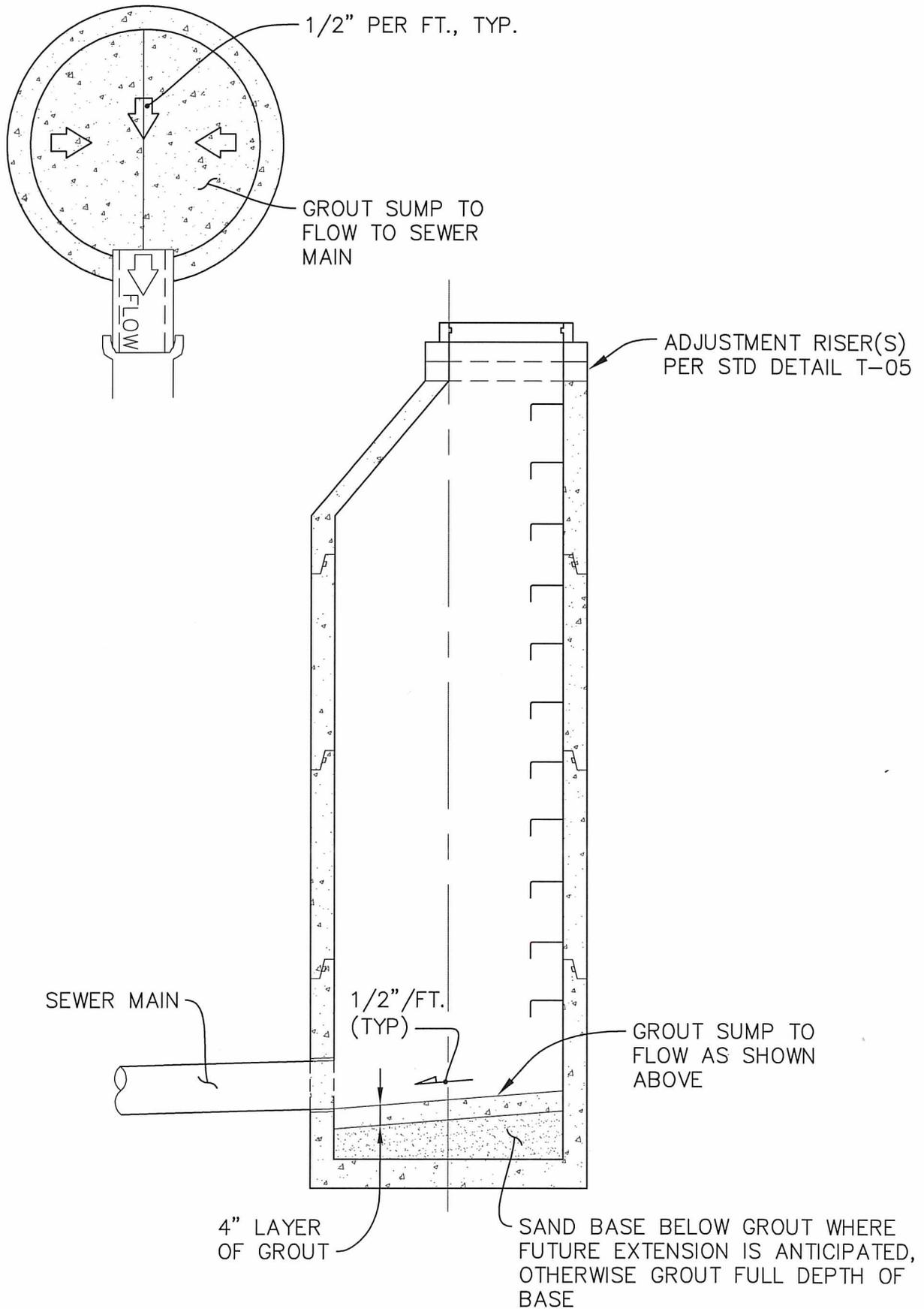


EXTRA SHALLOW  
MANHOLE DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-06.1

Plotted by: Vlad Rubashka on 1/17/2018 File location: M:\Construction Standard Details\Current Working DWG\Sewer and Storm\STDETL-S-07.2



APPROVED BY CITY ENGINEER:

DATE:



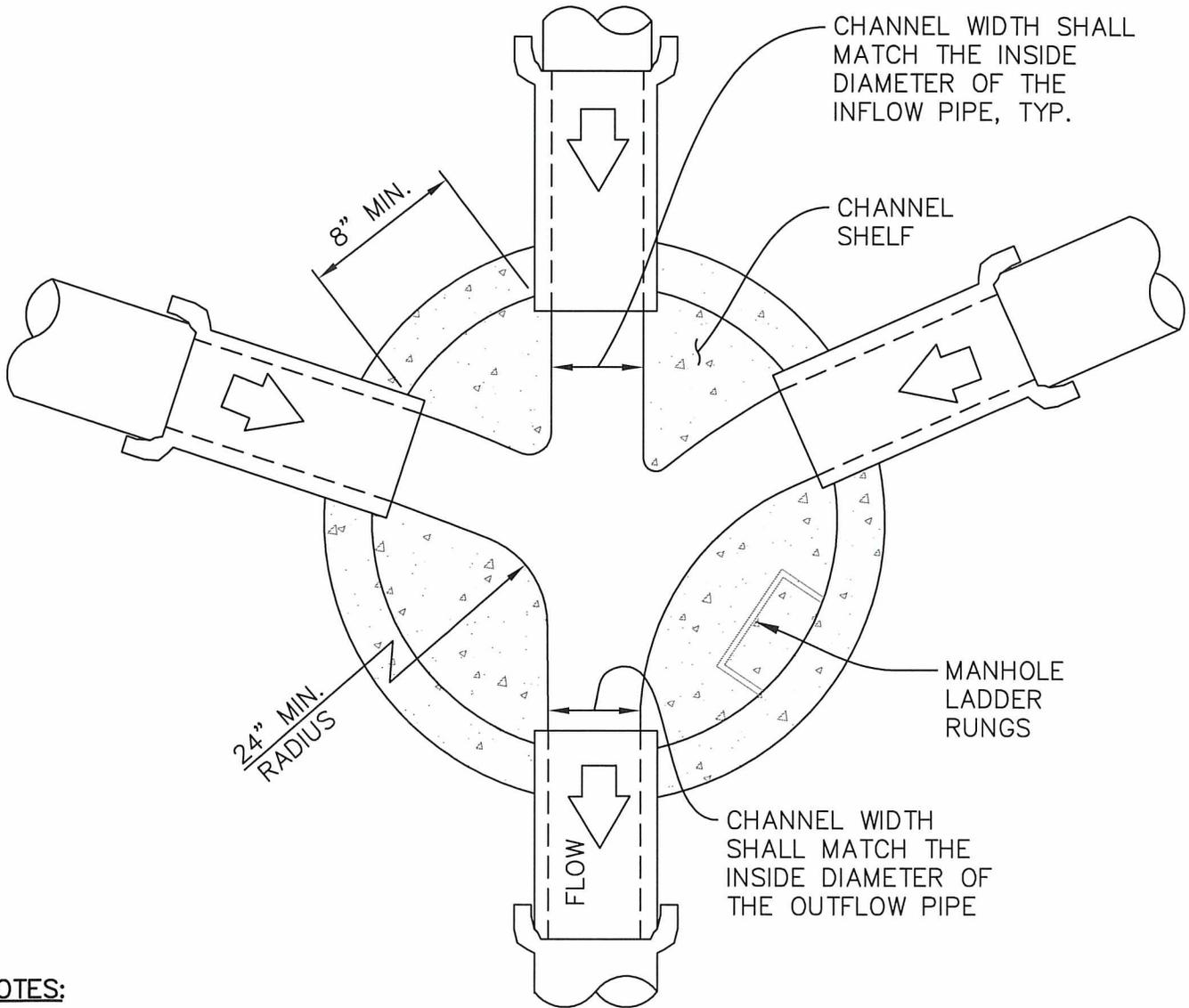
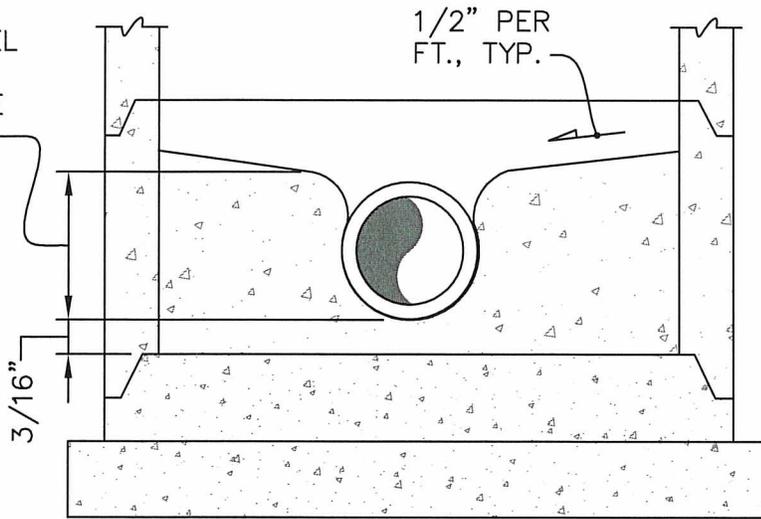
MANHOLE AT END OF  
SANITARY SEWER LINE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-07.2

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Sewer and Storm\STDETL-S-08.1

FULL DEPTH CHANNEL SHALL MATCH THE LARGEST INSIDE PIPE DIAMETER



**NOTES:**

1. NO STEPS OVER PIPES OR MANHOLE CHANNELS. WHEN POSSIBLE, STEPS SHALL BE POSITIONED OVER THE LARGEST BENCH AREA.
2. FAST SETTING CONCRETE SHALL NOT BE USED.

APPROVED BY CITY ENGINEER:

DATE:

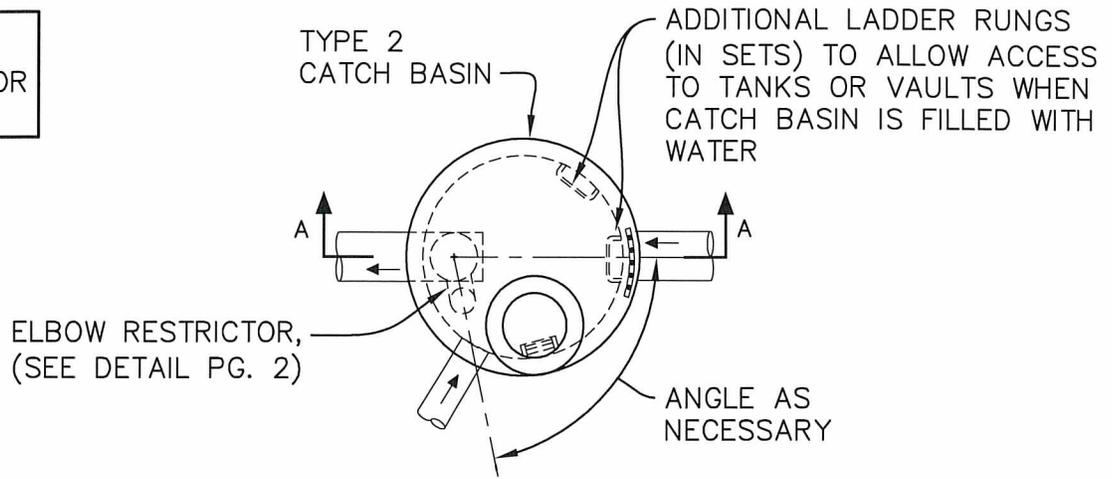
8/5/2016



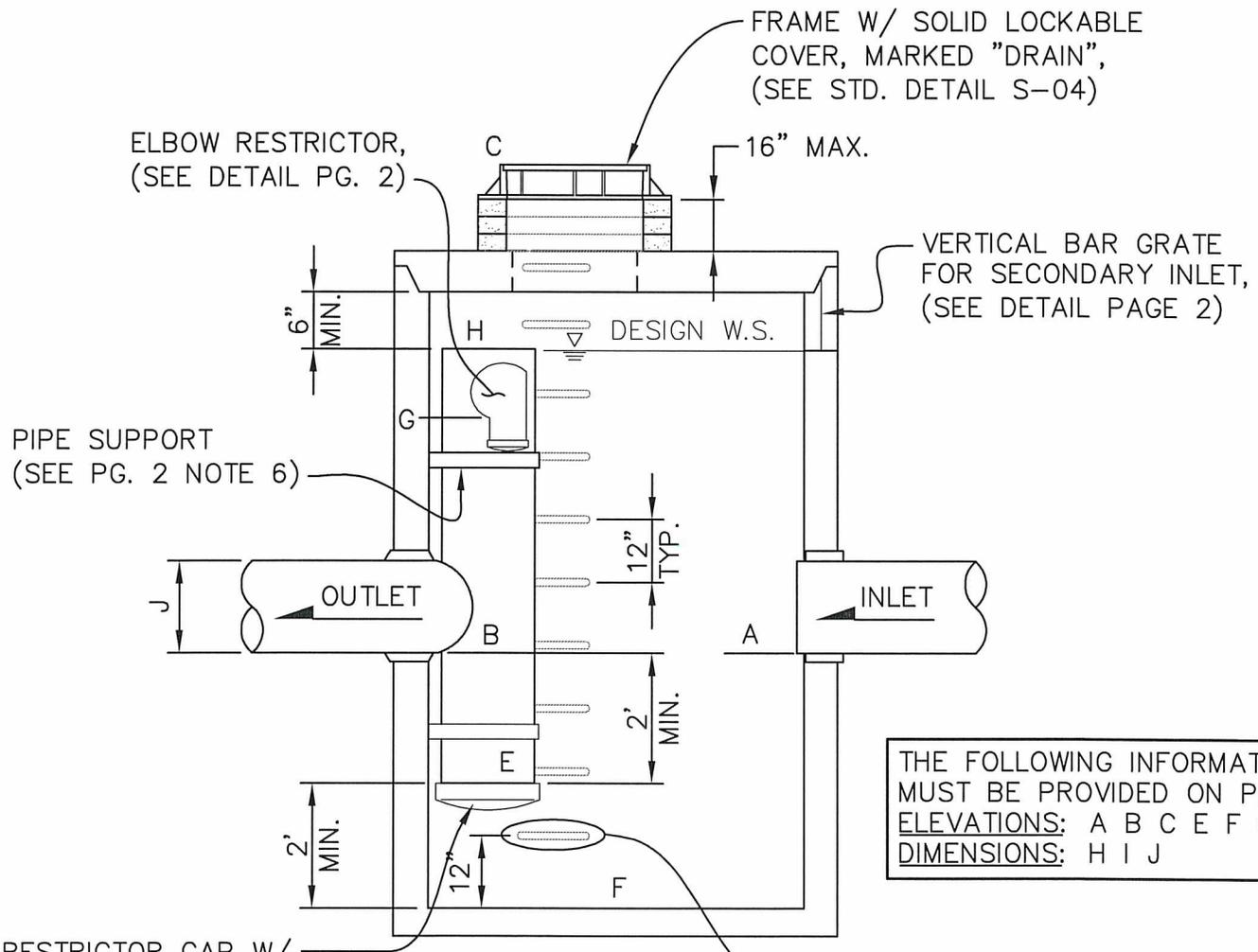
MANHOLE CHANNEL  
CONSTRUCTION

**NOTE:**

THIS DETAIL IS FOR STORM USE ONLY



**PLAN VIEW**  
NTS



THE FOLLOWING INFORMATION MUST BE PROVIDED ON PLANS:  
ELEVATIONS: A B C E F G  
DIMENSIONS: H I J

RESTRICTOR CAP W/ ORIFICE DIA. TO BE SPECIFIED (NOT NEEDED IF FOR SPILL CONTROL ONLY)

HANDHOLDS, STEPS, OR LADDER RUNGS (SEE PG. 2 NOTE 5)

**SECTION A-A**  
NTS

APPROVED BY CITY ENGINEER:

DATE:



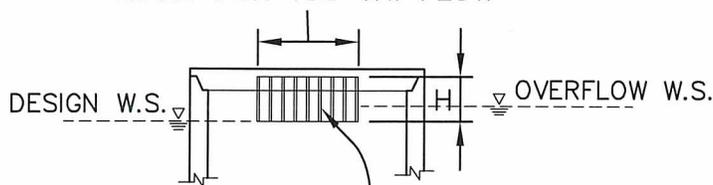
FLOW RESTRICTOR (TEE)

Plotted by: Craig Dobyne on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Sewer and Storm\STDETL-S-09.1

**NOTE:**

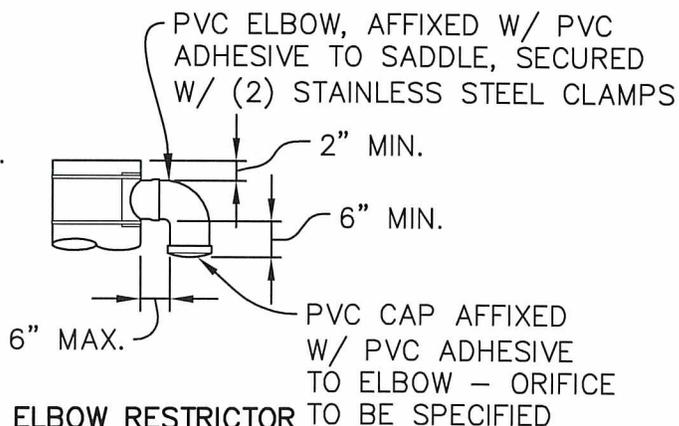
THIS DETAIL IS FOR  
STORM USE ONLY

CIRCUMFERENCE LENGTH  
OF OPENING SHALL BE  
SIZED FOR 100 YR. FLOW



3/4"  $\phi$  VERTICAL BAR  
GRATE @ 4" O.C. FOR  
SECONDARY INLET

**VERTICAL BAR GRATE  
DETAIL**  
NTS



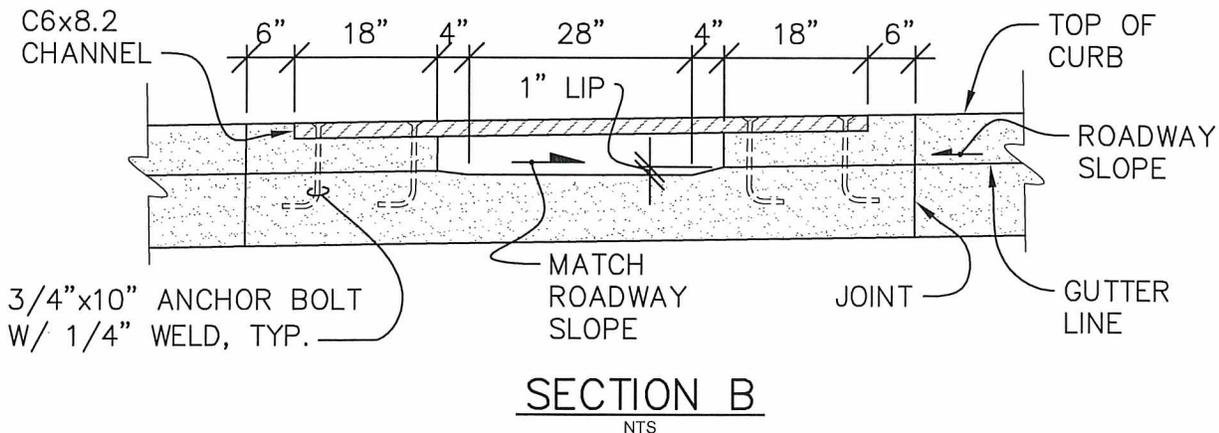
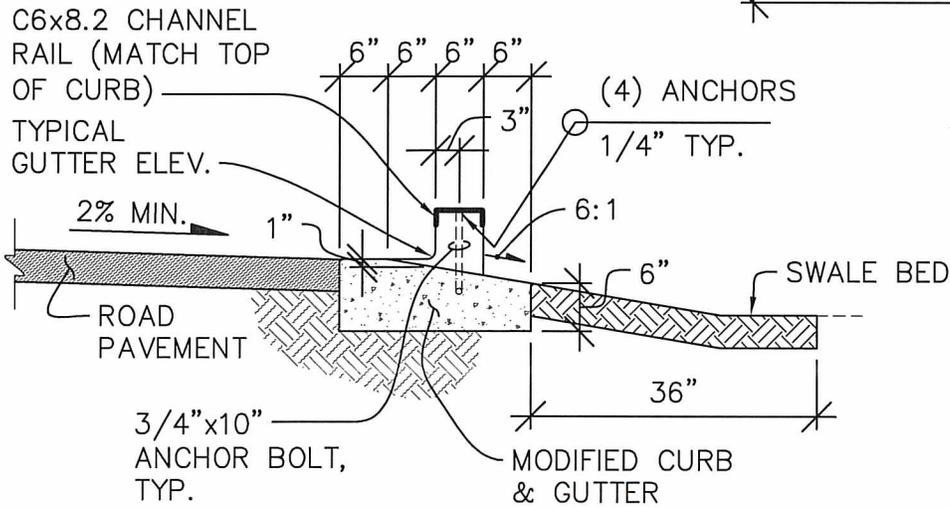
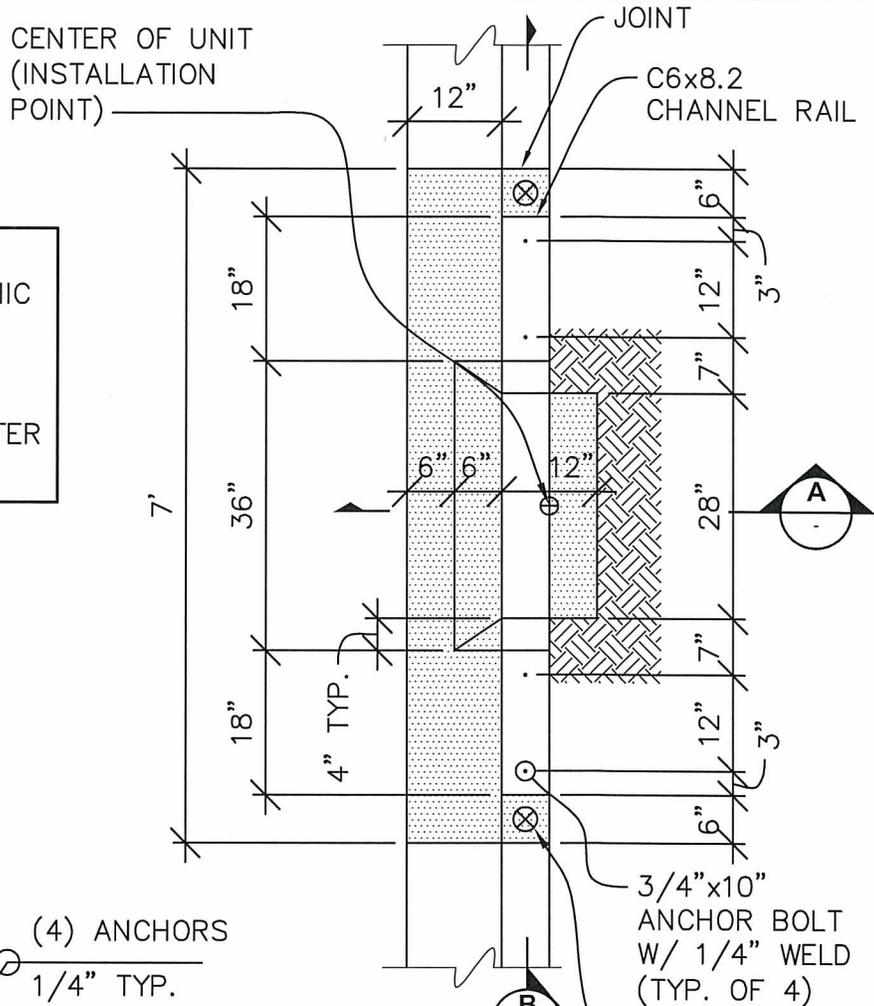
**ELBOW RESTRICTOR  
DETAIL**  
NTS

**NOTES:**

1. USE A MINIMUM OF 54" DIA. TYPE 2 CATCH BASIN.
2. OUTLET CAPACITY SHALL BE 100-YR. DEVELOPED PEAK FLOW.
3. RESTRICTOR TO BE MADE WITH NON-GASKETED PVC, SDR-35.
4. FLOW RESTRICTOR TO BE CONNECTED TO OUTLET PIPE WITH GASKETED CONNECTION OR ROMAC COUPLER.
5. BASIN LID FRAME AND LADDER RUNGS OR STEPS ARE OFFSET SO THAT:
  - A. RESTRICTOR IS VISIBLE FROM TOP.
  - B. ACCESS SPACE IS CLEAR OF RISER AND RESTRICTOR.
  - C. COVER FRAME IS CLEAR OF CURB.
6. PROVIDE AT LEAST TWO 3"x0.090 GAUGE STAINLESS STEEL SUPPORT BRACKET ANCHORED 2" INTO CONCRETE WALL WITH MAX. 3' VERTICAL SPACING.
7. LOCATE ELBOW RESTRICTOR AS NECESSARY TO PROVIDE MINIMUM CLEARANCE AS SHOWN. PIPE SIZES AND SLOPE PER PLAN. SHOW ALLOWABLE DISCHARGE "Q"

Plotted by: Vlad Rubashka on 1/10/2018. File location: M:\Construction Standard Details\Current Working DWG\Sewer and Storm\STDETL-S-10.1

- CURB OPENING INLET NOTES:**
- STRUCTURE SHALL BE MONOLITHIC AIR-ENTRAINED CLASS 3000 CONCRETE.
  - HOT DIP GALVANIZE C6x8.2 CHANNEL & ANCHOR BOLTS AFTER FABRICATION.

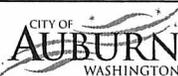


APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

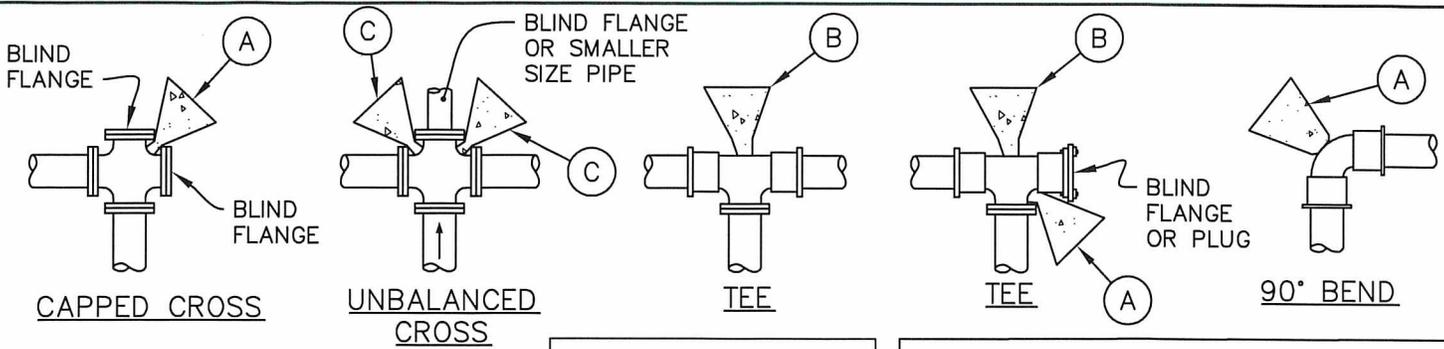
2/20/2018



COVERED CURB OPENING INLET

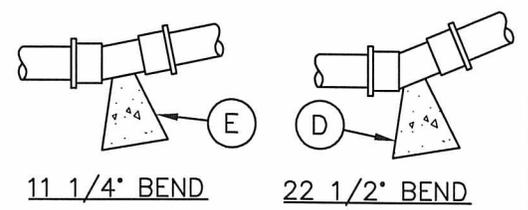
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: S-10.1

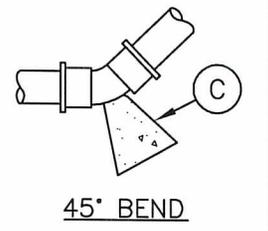


**NOTE:**  
SEE STD. DETAIL W-03 FOR TYPICAL BLOW OFF ASSEMBLY. MAINTAIN 2" CLEARANCE BETWEEN CONCRETE AND PIPE

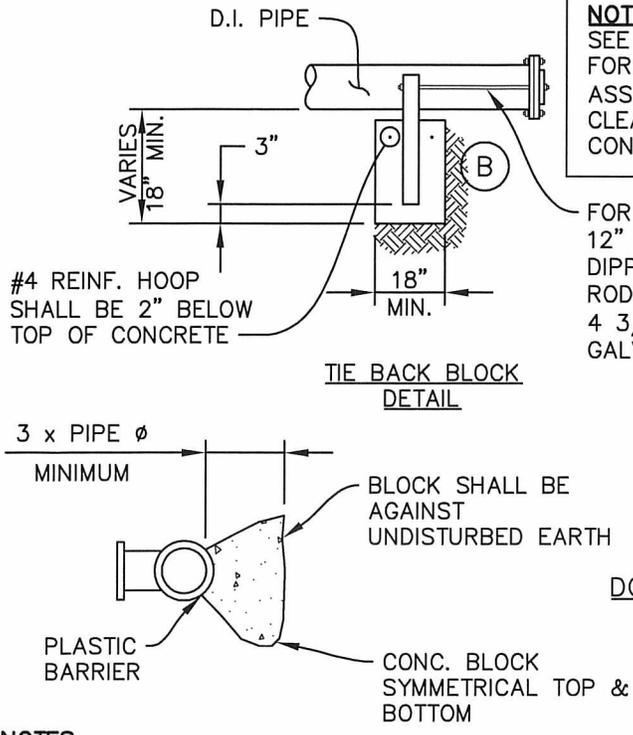
**HORIZ OR UPWARD VERT. BENDS**



FOR PIPE SIZES UNDER 12" USE 2 3/4" Ø HOT DIPPED GALV. THREADED RODS FOR 12" & 14" USE 4 3/4" Ø HOT DIPPED GALV. RODS



**DOWNWARD VERTICAL BEND**



- NOTES:**
1. BEARING AREA OF CONC. THRUST BLOCK IS BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2000 PSF.
  2. AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZES, PRESSURES, AND SOIL CONDITIONS.
  3. CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
  4. THE BLOCK SHALL BEAR AGAINST THE FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP AND DISMANTLING OF JOINT.
  5. THE CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.
  6. USE 2" THICK STYROFOAM TO FORM THE CONCRETE BLOCKING. PLASTIC SHALL BE INSTALLED BETWEEN ALL CONCRETE BLOCKING AND FITTINGS.
  7. RESTRAINED JOINTS ARE REQUIRED WHERE BEARING SOILS OR FILL MATERIAL ARE DETERMINED BY THE ENGINEER TO BE UNSUITABLE TO PROVIDE ADEQUATE BEARING LOAD, OR THIS SOIL HAS BEEN DISTURBED.

**THRUST BLOCK TABLE  
MIN. BEARING AGAINST UNDISTURBED SOIL**

PIPE SIZE	(A) SQ. FT.	(B) SQ. FT.	(C) SQ. FT.	(D) SQ. FT.	(E) SQ. FT.
4"	3	3	2	2	2
6"	4	3	2	2	2
8"	7	5	4	2	2
10"	11	8	6	3	2
12"	16	11	9	5	3
14"	22	15	12	6	3
16"	29	20	16	8	4
18"	36	25	20	10	5
20"	45	32	24	13	6
22"	54	38	29	15	8
24"	64	45	35	18	9
28"	87	62	48	24	12
30"	101	71	55	28	14
36"	145	102	78	40	20
42"	197	139	107	55	27
48"	257	181	140	71	36

APPROVED BY CITY ENGINEER:

DATE:

*[Signature]*

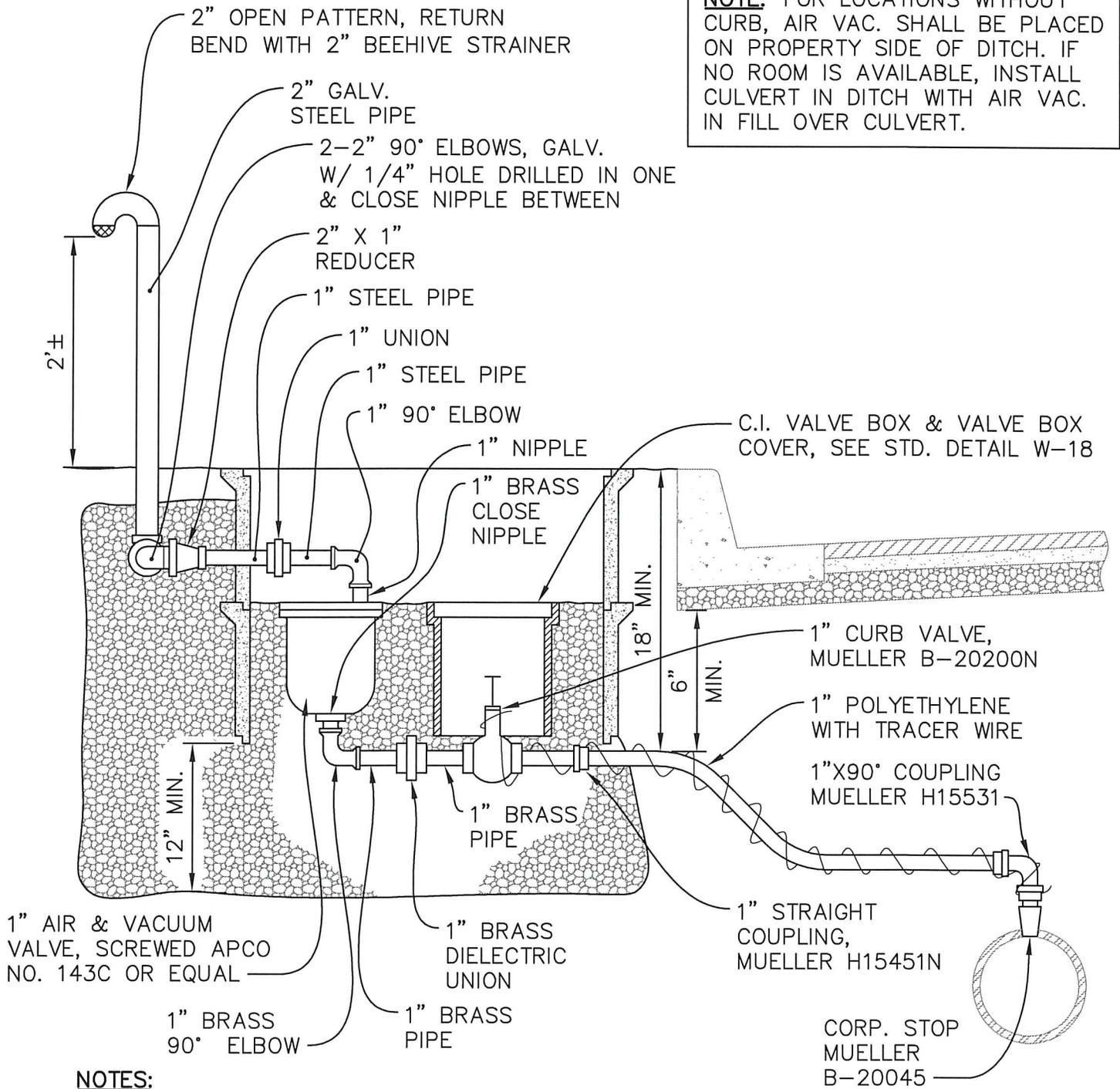
9/8/2016



WATER MAIN  
BLOCKING

Plotted by: Craig Dobyns on 8/10/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETL-W-01.1

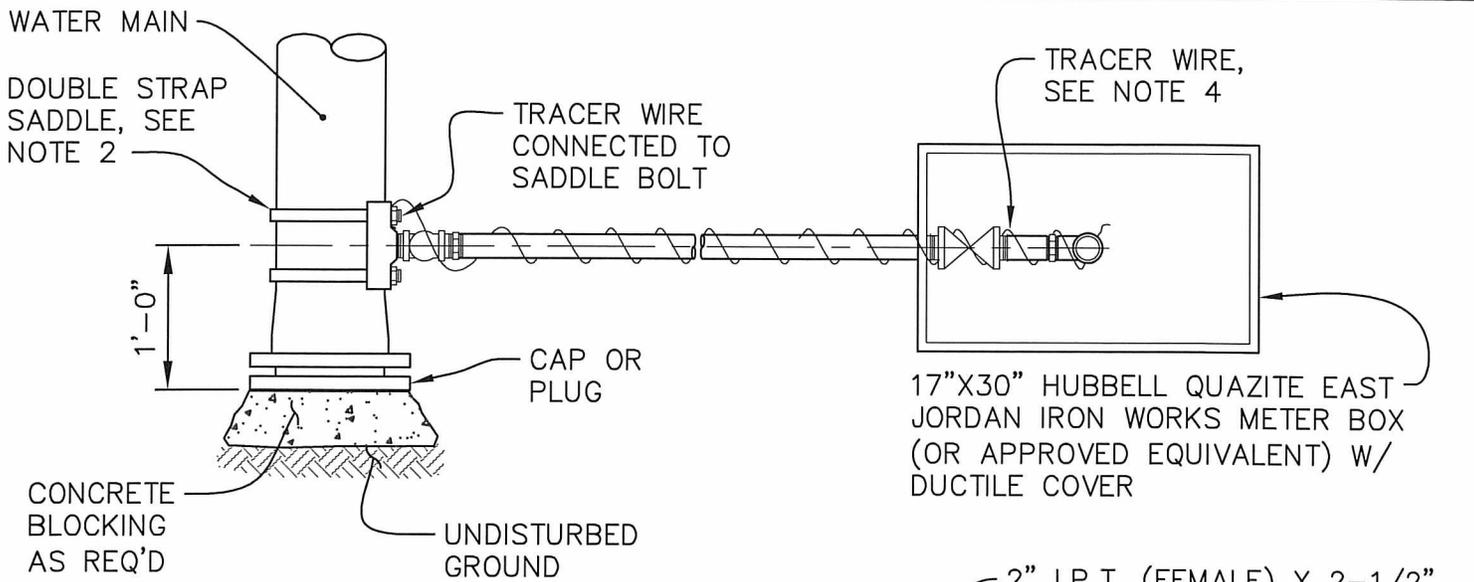
**NOTE:** FOR LOCATIONS WITHOUT CURB, AIR VAC. SHALL BE PLACED ON PROPERTY SIDE OF DITCH. IF NO ROOM IS AVAILABLE, INSTALL CULVERT IN DITCH WITH AIR VAC. IN FILL OVER CULVERT.



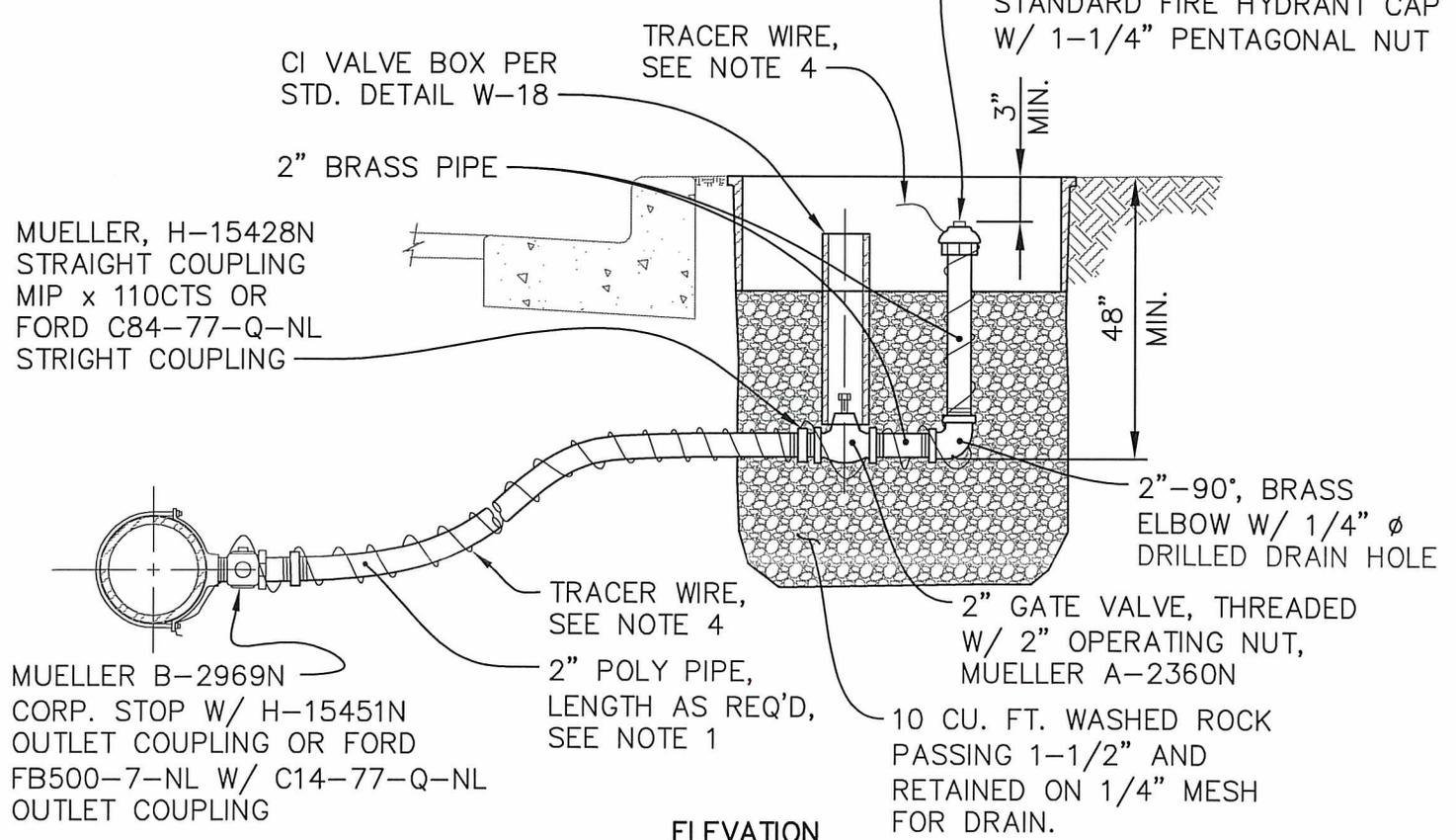
**NOTES:**

1. AIR VALVE TO BE INSTALLED IN 17" X 30" HUBBELL QUAZITE METER BOX W/ DUCTILE COVER, EAST JORDAN IRON WORKS OR APPROVED EQUIVALENT.
2. BED WITH 3/4"-1 1/2" WASHED ROCK, PASSING -1/2" AND RETAINED ON 1/4" MESH.
3. POLYETHYLENE PIPE SHALL BE AS SPECIFIED IN SECTION 9-30.6(3) OF THE STANDARD SPECIFICATION.
4. DIELECTRIC UNIONS ARE REQUIRED FOR JOINING DISSIMILAR MATERIAL TYPES.
5. MAINTAIN POSITIVE GRADE FROM MAIN TO VALVE.

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Water\STDETL-W-02.1



**PLAN**



**ELEVATION**

**NOTES:**

1. 2" POLY PIPE SHALL BE AS SPECIFIED IN SECTION 9-30.6(3) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.
2. SADDLE SHALL BE AS SPECIFIED IN SECTION 9-30.6(1) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.
3. FOR LOCATIONS WITHOUT CURB, BLOWOFF SHALL BE PLACED ON PROPERTY SIDE OF THE DITCH. IF NO ROOM IS AVAILABLE, INSTALL CULVERT IN DITCH W/ BLOWOFF IN FILL OVER CULVERT.
4. TRACER WIRE SHALL BE INSULATED #10 COPPER WIRE, BARED AT ENDS.

APPROVED BY CITY ENGINEER:

DATE:

2/20/2018

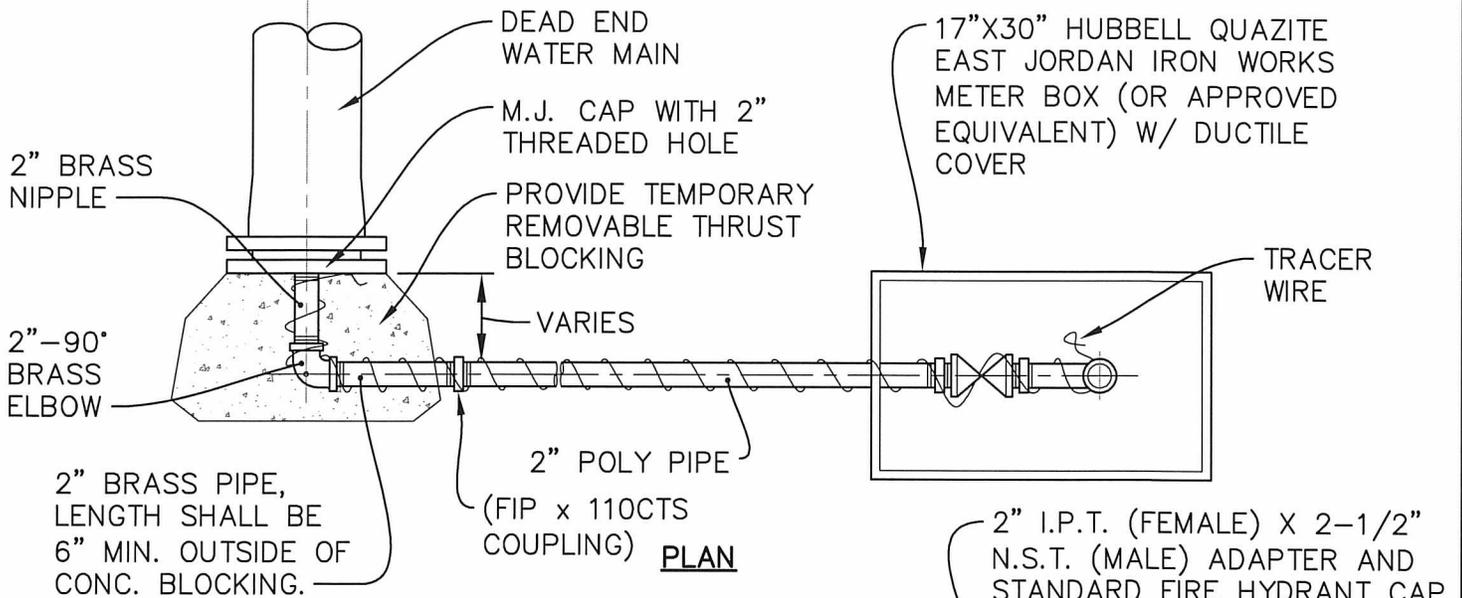


2" PERMANENT BLOW OFF ASSEMBLY

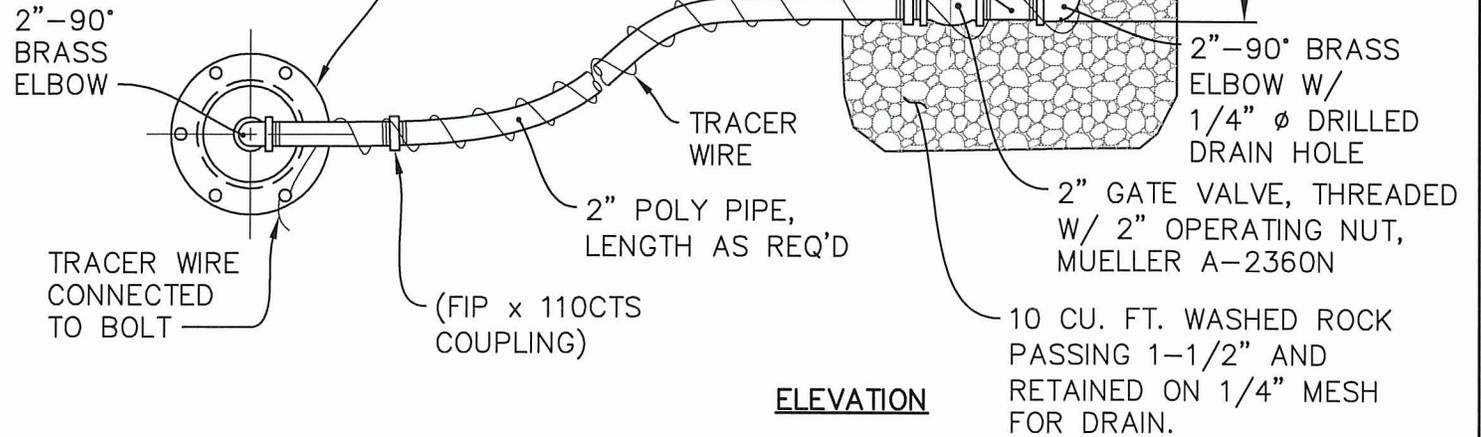
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-03.2

Plotted by: Vlad Rubashka on 1/10/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STDETL-W-03.2



WRAP END OF PIPE ASSEMBLY W/ 4 MIL. PLASTIC SHEET PRIOR TO POURING CONCRETE THRUST BLOCKING (BLOCKING NOT SHOWN FOR CLARITY)



**NOTES:**

1. 2" POLY PIPE SHALL BE AS SPECIFIED IN SECTION 9-30.6(3) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.
2. TEMPORARY BLOWOFFS SHALL BE USED ON ALL DEAD END WATERLINES WITH LOCATION OF BLOWOFF BOX AS SHOWN ON THE PLAN OR WHERE DIRECTED BY THE ENGINEER.
3. TRACER WIRE SHALL BE INSULATED #10 COPPER WIRE, BARED AT ENDS.
4. GATE VALVE SHALL BE AS SPECIFIED IN SECTION 9-30.3(1) OF THE CONSTRUCTION STANDARDS AND THE CONTRACT PROVISIONS.

APPROVED BY CITY ENGINEER:

DATE:

*Handwritten signature: [Signature]*

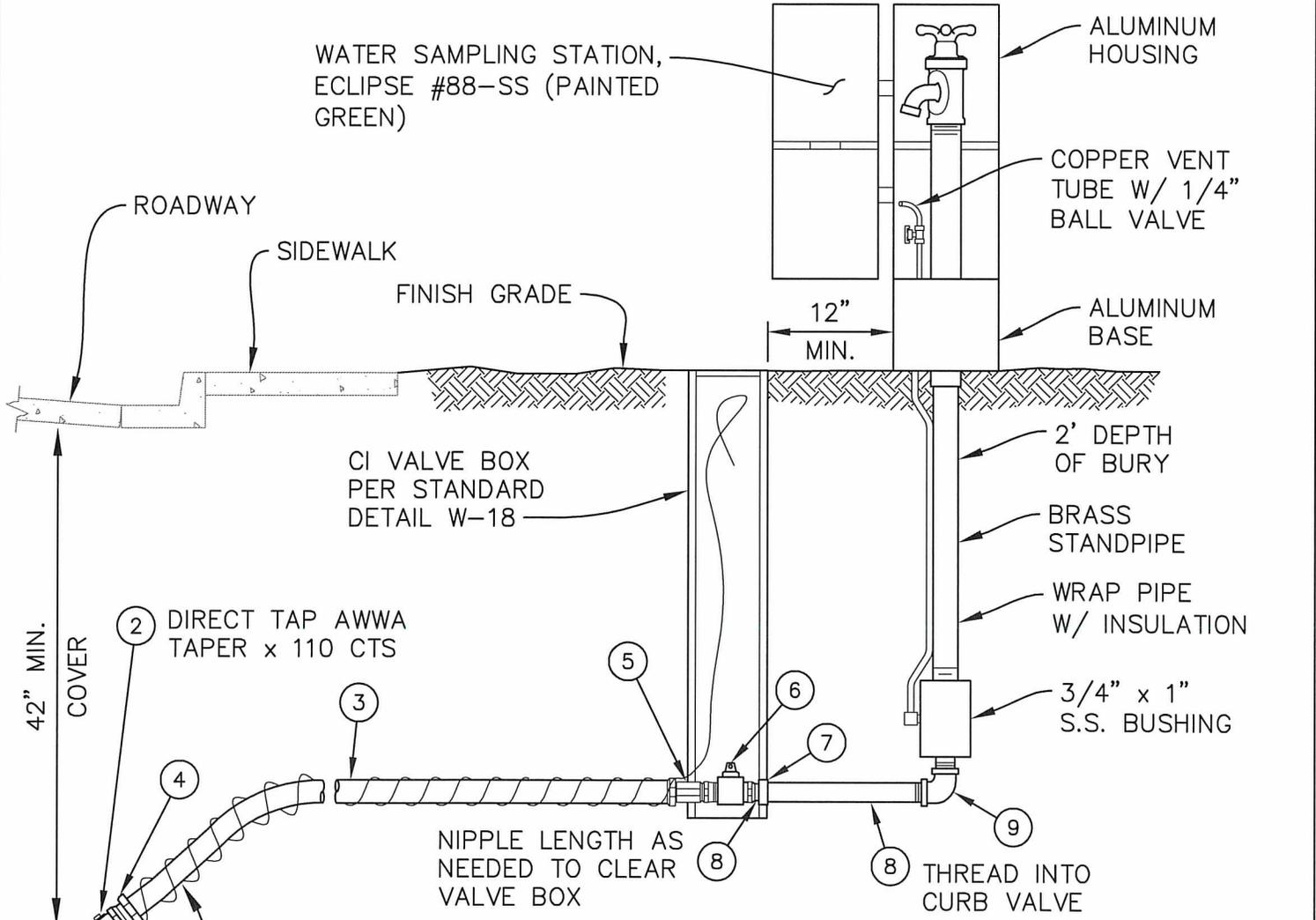
*Handwritten date: 8/5/2016*



TEMPORARY BLOW OFF  
DETAIL

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-04.1



MATERIAL LIST			
ITEM NO.	DESCRIPTION	FORD PART #	MUELLER PART #
* (1)	1" SADDLE I.P.T. MIPx110 CTS	N/A	N/A
(2)	1" CORPSTOP	FB1000-4-Q	B-25008N
(3)	1" TYPE K COPPER	N/A	N/A
(4)	1" FIP COMPRESSION ADAPTOR	C14-44-Q-NL	H-15451N
(5)	1" COMPRESSION x 1" MIP	C84-44-Q-NL	H-15428N
(6)	1" BALL CURB FIP x FIP	B11-444W-NL	B-20200N
(7)	1" BRASS UNION	N/A	N/A
(8)	1" BRASS NIPPLE	N/A	N/A
(9)	1" 90° BRASS STREET ELL	N/A	N/A

\* SADDLES FOR 1-1/2" OR 2" PIPE TAPS SHALL BE EPOXY COATED OR E-COATED DUCTILE IRON W/ DOUBLE STAINLESS STEEL STRAPS & NEOPRENE GASKETS. SADDLES SHALL HAVE I.P.S. FEMALE THREADS.

**NOTES:**

1. ALL PIPE AND FITTINGS TO BE ASSEMBLED W/ TEFLON AND PIPE DOPE UNLESS OTHERWISE NOTED.
2. SERVICE LINES SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN.
3. THE SERVICE LINE SHALL BE INSTALLED TO ALLOW FOR THE FAR SIDE OF THE SAMPLE STATION TO BE INSTALLED IN THE ROW OR EASMENT LINE, UNLESS OTHERWISE DIRECTED BY THE CITY.

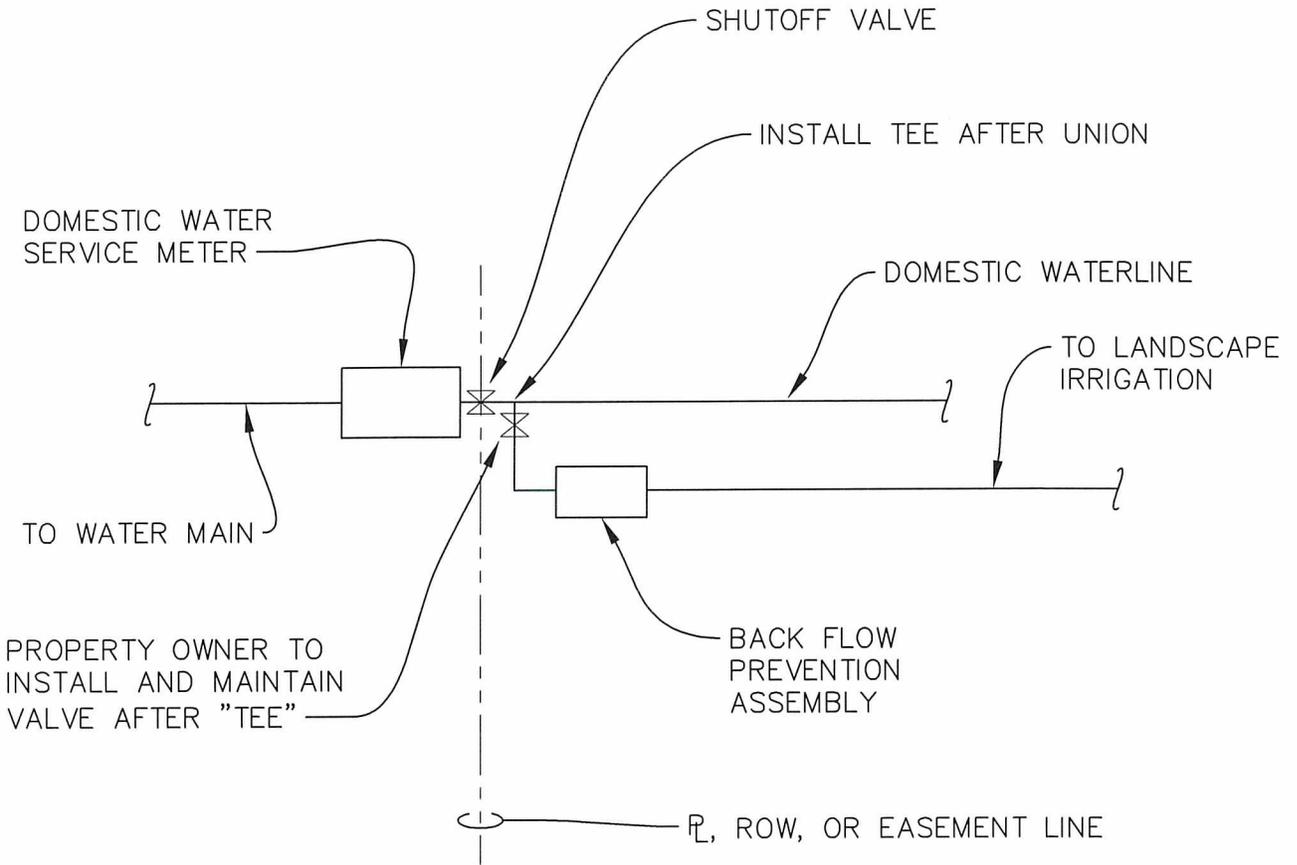
APPROVED BY CITY ENGINEER:

DATE:



WATER SAMPLING STATIONING DETAIL

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETAIL-W-05.1



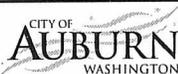
PLAN  
NTS

**NOTES:**

1. BACK FLOW ASSEMBLY SHALL BE PER DESIGN STANDARDS.
2. THIS DETAIL IS APPLICABLE TO SINGLE FAMILY RESIDENCE ONLY.

APPROVED BY CITY ENGINEER:

DATE:

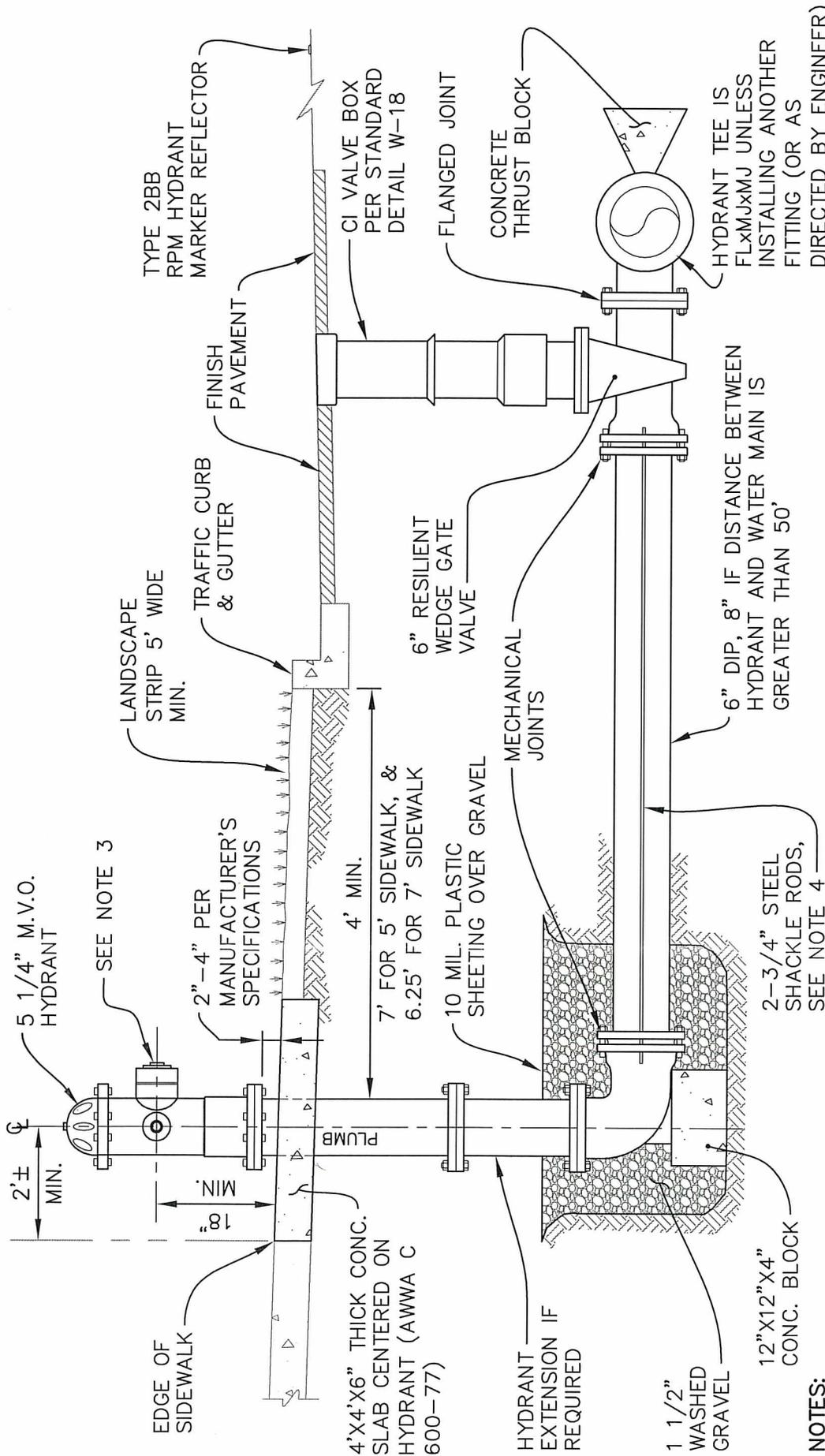


3/4" TO 2" IRRIGATION FROM DOMESTIC SERVICE LINE (SINGLE FAMILY)

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-06.2

I:\Users\jgibson\OneDrive\Documents\Projects\2016\12-29-2016\12-29-2016.dwg



**NOTES:**

1. HYDRANT SHALL BE LOCATED WITHIN THE LANDSCAPE STRIP. WHERE LANDSCAPE STRIP IS NOT PRESENT OR IS LESS THAN 5' WIDE, HYDRANT AND PAD SHALL BE PLACED BEHIND THE SIDEWALK IN R.O.W. OR EASEMENT.
2. WHERE NO CURB & GUTTER IS INSTALLED, FIRE HYDRANT SHALL BE LOCATED (IN RELATION TO STREET CENTER LINE) AS INDICATED ON THE DRAWINGS.
3. HYDRANTS SHALL HAVE 2-2 1/2" NATIONAL STANDARD THREAD (NST) HOSE PORTS & 1-4 1/2" NST WITH 5" STORZ ADAPTER AND CAP.
4. MEGA-LUGS OR PUSH-ON JOINT RESTRAINTS MAY BE USED IN PLACE OF SHACKLE RODS WITH PRIOR ENGINEER APPROVAL.
5. ENSURE 5' MINIMUM CLEARANCE TO OBSTACLES FROM CENTERLINE OF HYDRANT.
6. REMOVE CHAINS.

APPROVED BY CITY ENGINEER:

DATE:



5 1/4" M.V.O. HYDRANT  
SETTING DETAIL

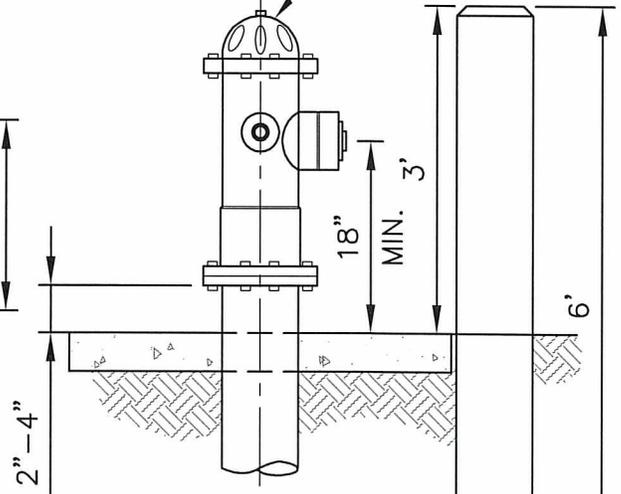
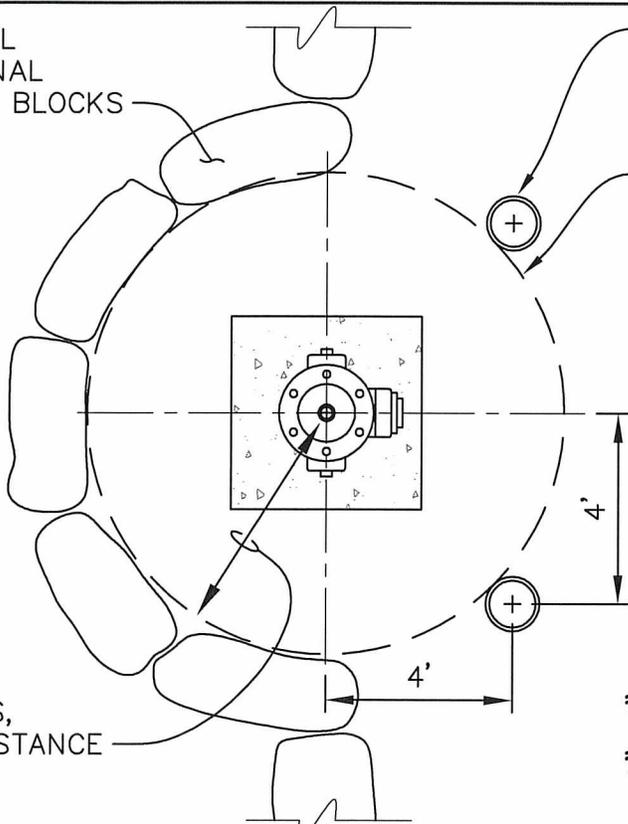
ROCK WALL  
OR OPTIONAL  
KEYSTONE BLOCKS

GUARD POST, 9" ROUND X 6'-0" LONG  
REINFORCED CONCRETE, PER SECTION  
9-30.5(6) OF THE STANDARD  
SPECIFICATIONS TYPICAL OF 2.

MIN. AREA OF LEVEL  
GROUND SURFACE

FIRE HYDRANT SEE  
STD. DETAIL W-07

5' RADIUS,  
CLEAR DISTANCE

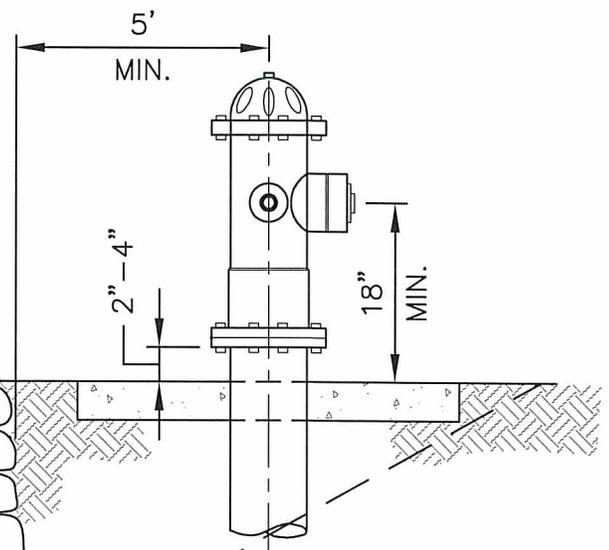
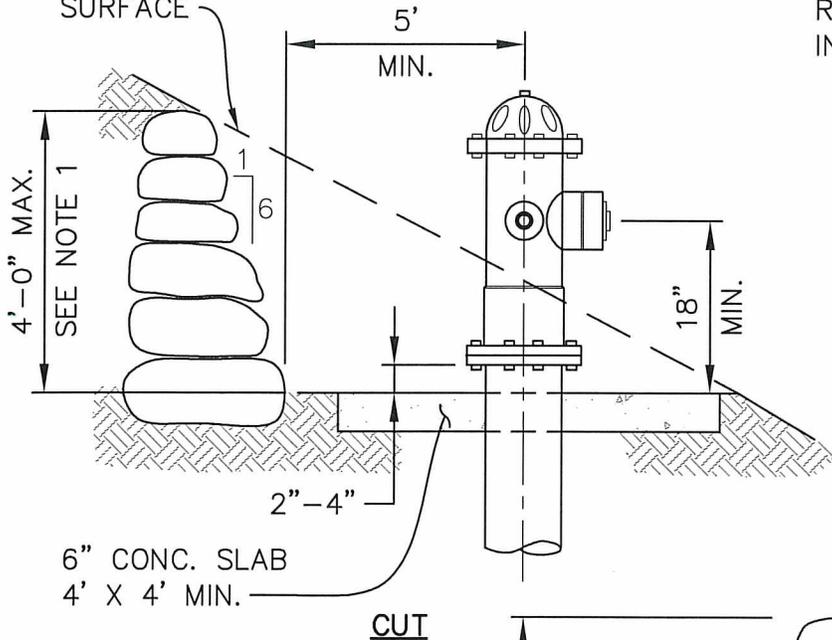


GUARD POST (ONLY  
WHEN SPECIFICALLY  
REQUIRED AS SHOWN  
IN THE PLAN)

**GUARD POST  
ELEVATION**

EXISTING  
GROUND  
SURFACE

**PLAN**



**FILL**

EXISTING GROUND  
SURFACE

**NOTES:**

1. SEE PLAN FOR WALLS EXCEEDING 4'-0" IN HEIGHT.

APPROVED BY CITY ENGINEER:

DATE:

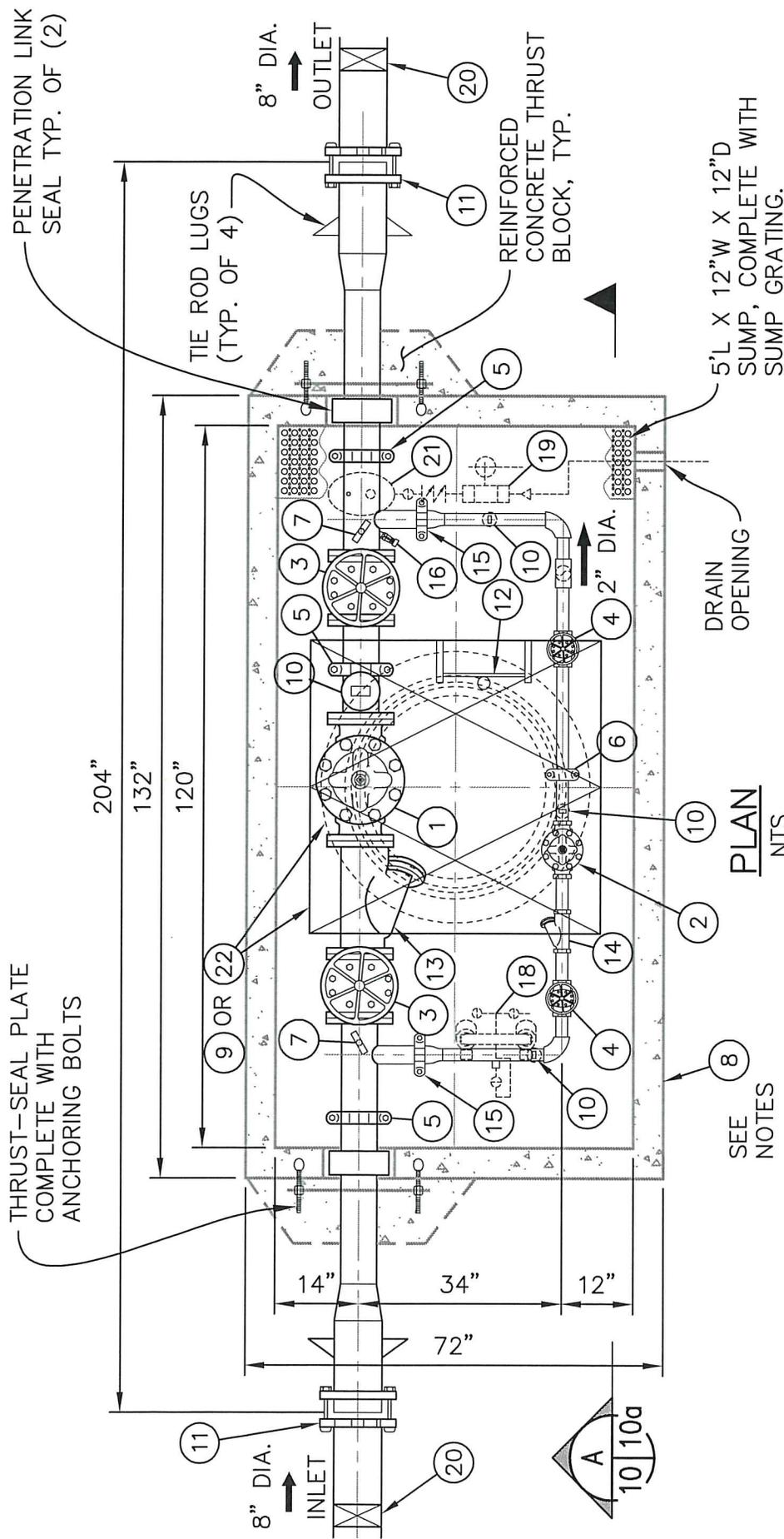
*Paul Sals*

8/5/2016



FIRE HYDRANT LOCATION IN CUT  
OR FILL W/ GUARD POSTS





**NOTES:**

1. VAULT #10565 (H-20 LOADING)  
INSIDE DIMENSIONS:  
10' L x 5' W x 6'-6" H
2. VAULT WEIGHT:  
TOP.....12,300 Lbs  
BOTTOM.....12,000 Lbs  
(WEIGHTS ±10%)

**STANDARD FABRICATION & FINISHING SPECIFICATION:**

1. FABRICATED STEEL PIPING & FITTINGS SHALL BE SCHEDULE 40 FOR SIZES 3" TO 10" IN DIAMETER.
2. ALL 3" DIA. PIPE AND LARGER INSIDE WETTED SURFACES SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-210 AND NSF-61 SPECIFICATION. FINISH COATING SHALL BE BLUE ENAMEL.
3. FABRICATED STAINLESS STEEL PIPING AND FITTINGS SHALL BE SCHEDULE 40 FOR SIZES UP TO 2"

FLOOR TO CENTERLINE OF MAIN PIPING = 24"  
(RELIEF LINE REMOVED FOR CLARITY)

PLAN  
NTS

SEE  
NOTES

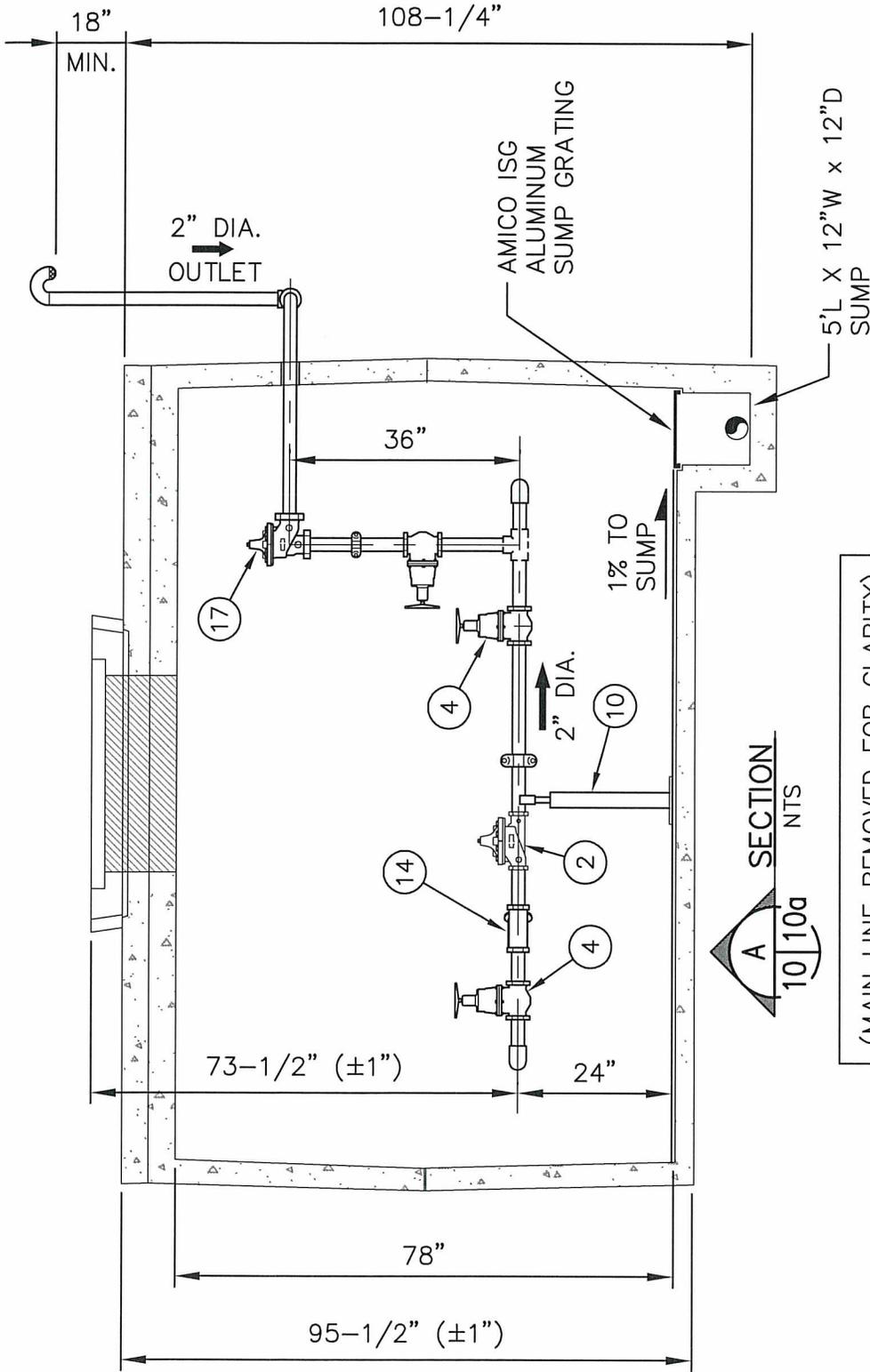
APPROVED BY CITY ENGINEER:

DATE:

8/5/2016



PRESSURE REDUCING VALVE STATION  
FOR 8" DIA. WATER LINE



**NOTES:**

1. VAULT #10565 (H-20 LOADING)  
INSIDE DIMENSIONS:  
10' L x 5' W x 6'-6" H
2. VAULT WEIGHT:  
TOP.....12,300 Lbs  
BOTTOM.....12,000 Lbs  
(WEIGHTS ±10%)

**STANDARD FABRICATION & FINISHING SPECIFICATION:**

1. FABRICATED STEEL PIPING & FITTINGS SHALL BE SCHEDULE 40 FOR SIZES 3" TO 10" IN DIAMETER.
2. ALL 3" DIA. PIPE AND LARGER INSIDE WETTED SURFACES SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-210 AND NSF-61 SPECIFICATION. FINISH COATING SHALL BE BLUE ENAMEL.
3. VAULTS SHALL BE WATER TIGHT AND PROVIDED WITH GRAVITY DRAIN LINE CONNECTED TO EXISTING STORM SYSTEM OR DRAIN FIELD. WHERE GRAVITY DRAIN IS NOT FEASIBLE, A SUMP PUMP WITH CHECK VALVE ON DISCHARGE LINE SHALL BE PROVIDED.

Sheet 2 of 3

APPROVED BY CITY ENGINEER:

DATE:

*[Handwritten Signature]*

8/5/2016



PRESSURE REDUCING VALVE STATION FOR 8" DIA. WATER LINE

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
①	1	6" CLA-VAL 90G-01YBS PRESSURE REDUCING VALVE COMPLETE WITH X101 POS. IND., DIBT-#150 FLGD
②	1	2" CLA-VAL 90G-01YBS PRESSURE REDUCING VALVE COMPLETE WITH X101 POS. IND., DIBT-THREADED
③	2	6" RW NRS GATE VALVE COMPLETE WITH HANDWHEEL-#150 FLGD
④	2	2" RW NRS GATE VALVE COMPLETE WITH HANDWHEEL-THREADED
⑤	3	6" VICTAULIC #07 COUPLING
⑥	1	2" VICTAULIC #07 COUPLING
⑦	2	4" WIKA (0-200 PSI) PRESSURE GAUGE COMPLETE WITH GAUGE COCK
⑧	1	#10565 PRECAST CONCRETE VAULT - C555 BLACK EXTERIOR DAMP PROOFING, C555 LATEX INTERIOR PAINT
⑨	1	BILCO 48" X 48" ALUMINUM DOUBLE DOOR HATCH OR APPROVED EQUIVALENT
⑩	4	ADJUSTABLE PIPE SUPPORTS
⑪	2	8" SMITH BLAIR OR EBAA TRANSITION COUPLINGS
⑫	1	ALUMINUM LADDER WITH TELESCOPING SAFETY POST (LADDER UP)
⑬	1	6" MUELLER 758 CAST IRON BODY "Y" STRAINER COMPLETE WITH BLOWDOWN VALVE - #125 FLGD
⑭	1	2" MUELLER 11M CAST IRON BODY "Y" STRAINER COMPLETE WITH BLOWDOWN VALVE-THREADED
⑮	2	3" VICTAULIC #07 COUPLING
⑯	1	3/4" HOSE BIB ASSEMBLY
⑰	1	<u>PRESSURE RELIEF VALVE ASSEMBLY INCLUDES:</u> 2" CLA-VAL 50A-01B PRESSURE RELIEF VALVE ANGLE STYLE - #150 FLGD 2" VICTAULIC #07 COUPLING 2" VICTAULIC #741 COUPLING ADAPTER 2" MUELLER A2360 RW NRS GATE VALVE
⑱	1	DUPLEX PILOT STRAINER (PIPE MOUNTED)
⑲	1	AUTOMATIC SUMP DRAIN EJECTOR
⑳	2	8" RW NRS GATE VALVE W/ VALVE BOX-RESTRAINED JOINT
㉑	1	1" APCO 143C.1 COMBINATION AIR VALVE ISOLATION VALVE, EXTENSION & BRASS UNION
㉒	1	<u>OPTIONAL:</u> 30" MANHOLE COVER & FRAME (H2O LOADING) (APPLIES ONLY IF ABSOLUTELY NECESSARY; IT LIMITS EQUIPMENT REMOVAL FROM VAULT)

**NOTE:**

OPTIONAL EQUIPMENT SHALL BE PROVIDED AS DIRECTED, OR AS APPROVED BY THE CITY OF AUBURN.

Sheet 3 of 3

APPROVED BY CITY ENGINEER:

DATE:

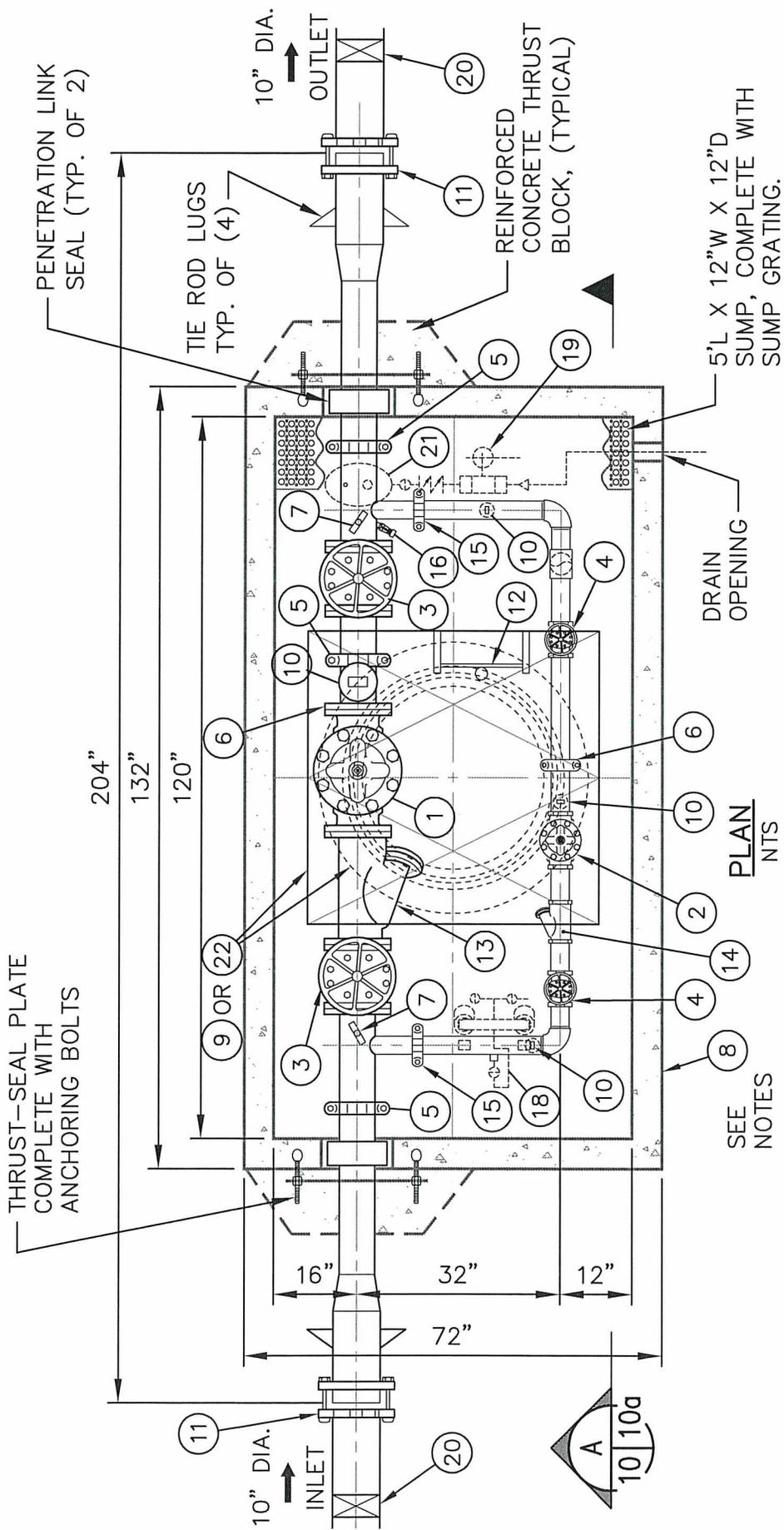


PRESSURE REDUCING VALVE STATION  
FOR 8" DIA. WATER LINE

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-10b.2

Plotted by: Craig Dobyns on 5/16/2018 File location: M:\Construction Standard Details\Current Details\Working DWG\Water\STDETL-W-10b.2



**NOTES:**

1. VAULT #10565 (H-20 LOADING)  
INSIDE DIMENSIONS:  
10' L x 5' W x 6'-6" H
2. VAULT WEIGHT:  
TOP.....12,300 Lbs  
BOTTOM.....12,000 Lbs  
(WEIGHTS ±10%)

**STANDARD FABRICATION & FINISHING SPECIFICATION:**

1. FABRICATED STEEL PIPING & FITTINGS SHALL BE SCHEDULE 40 FOR SIZES 3" TO 10" IN DIAMETER.
2. ALL 3" DIA. PIPE AND LARGER INSIDE WETTED SURFACES SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-210 AND NSF-61 SPECIFICATION. FINISH COATING SHALL BE BLUE ENAMEL.
3. FABRICATED STAINLESS STEEL PIPING AND FITTINGS SHALL BE SCHEDULE 40 FOR SIZES UP TO 2"

FLOOR TO CENTERLINE OF MAIN PIPING = 24"  
(RELIEF LINE REMOVED FOR CLARITY)

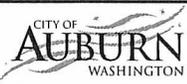
SEE NOTES  
PLAN  
NTS

APPROVED BY CITY ENGINEER:

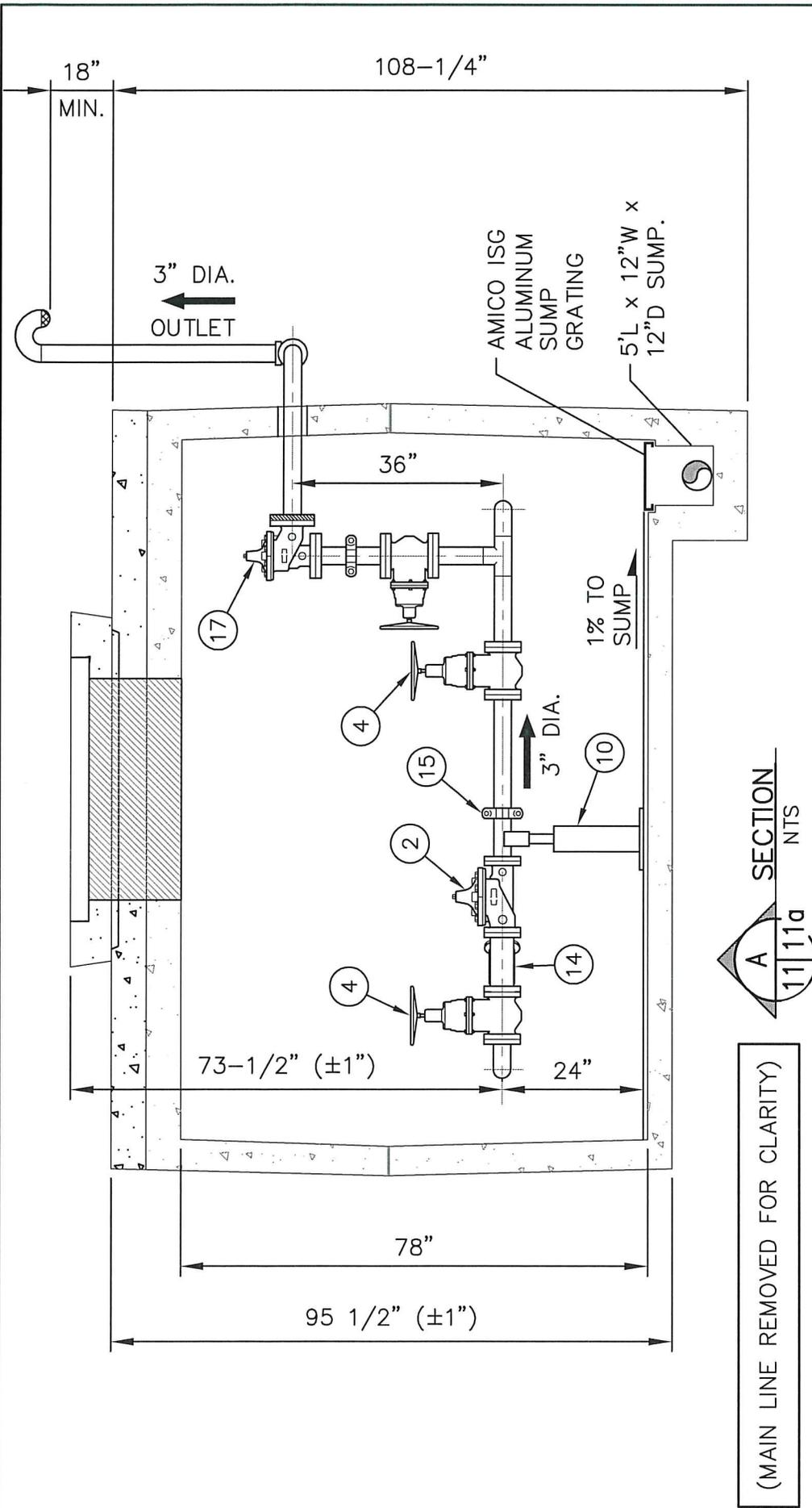
*[Signature]*

DATE:

8/5/2016



PRESSURE REDUCING VALVE STATION  
FOR 10" DIA. WATER LINE



(MAIN LINE REMOVED FOR CLARITY)

**A** SECTION  
11|11a  
NTS

**STANDARD FABRICATION & FINISHING SPECIFICATION:**

1. FABRICATED STEEL PIPING & FITTINGS SHALL BE SCHEDULE 40 FOR SIZES 3" TO 10" IN DIAMETER.
2. ALL 3" DIA. PIPE AND LARGER INSIDE WETTED SURFACES SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-210 AND NSF-61 SPECIFICATION. FINISH COATING SHALL BE BLUE ENAMEL.
3. VAULTS SHALL BE WATER TIGHT AND PROVIDED WITH GRAVITY DRAIN LINE CONNECTED TO EXISTING STORM SYSTEM OR DRAIN FIELD. WHERE GRAVITY DRAIN IS NOT FEASIBLE, A SUMP PUMP WITH CHECK VALVE ON DISCHARGE LINE SHALL BE PROVIDED.

**NOTES:**

1. VAULT #10565 (H-20 LOADING)  
INSIDE DIMENSIONS:  
10' L x 5' W x 6'-6" H
2. VAULT WEIGHT:  
TOP.....12,300 Lbs  
BOTTOM.....12,000 Lbs  
(WEIGHTS ±10%)

APPROVED BY CITY ENGINEER:

*[Signature]*

DATE:

8/5/2016



PRESSURE REDUCING VALVE STATION FOR 10" DIA. WATER LINE

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
①	1	8" CLA-VAL 90G-01YBS PRESSURE REDUCING VALVE COMPLETE WITH X101 POS. IND., DIBT-#150 FLGD
②	1	3" CLA-VAL 90G-01YBS PRESSURE REDUCING VALVE COMPLETE WITH X101 POS. IND., DIBT-THREADED
③	2	8" RW NRS GATE VALVE COMPLETE WITH HANDWHEEL-#150 FLGD
④	2	3" RW NRS GATE VALVE COMPLETE WITH HANDWHEEL-THREADED
⑤	3	8" VICTAULIC #07 COUPLING
⑥	1	3" VICTAULIC #07 COUPLING
⑦	2	4" WIKA (0-200 PSI) PRESSURE GAUGE COMPLETE WITH GAUGE COCK
⑧	1	#10565 PRECAST CONCRETE VAULT - C555 BLACK EXTERIOR DAMP PROOFING, C555 WHITE LATEX INTERIOR PAINT
⑨	1	BILCO 48" X 48" ALUMINUM DOUBLE DOOR HATCH OR APPROVED EQUIVALENT
⑩	4	ADJUSTABLE PIPE SUPPORTS
⑪	2	10" SMITH BLAIR OR EBAA TRANSITION COUPLINGS
⑫	1	ALUMINUM LADDER WITH TELESCOPING SAFETY POST (LADDER UP)
⑬	1	8" MUELLER 758 CAST IRON BODY "Y" STRAINER COMPLETE WITH BLOWDOWN VALVE - #125 FLGD
⑭	1	3" MUELLER 11M CAST IRON BODY "Y" STRAINER COMPLETE WITH BLOWDOWN VALVE-THREADED
⑮	2	3" VICTAULIC #07 COUPLING
⑯	1	3/4" HOSE BIB ASSEMBLY
⑰	1	<u>PRESSURE RELIEF VALVE ASSEMBLY INCLUDES:</u> 3" CLA-VAL 50A-01B PRESSURE RELIEF VALVE ANGLE STYLE - #150 FLGD 3" VICTAULIC #07 COUPLING 3" VICTAULIC #741 COUPLING ADAPTER 3" MUELLER A2360 RW NRS GATE VALVE
⑱	1	DUPLEX PILOT STRAINER (PIPE MOUNTED)
⑲	1	AUTOMATIC SUMP DRAIN EJECTOR
⑳	2	10" RW NRS GATE VALVE W/ VALVE BOX-RESTRAINED JOINT
㉑	1	1" APCO 143C.1 COMBINATION AIR VALVE ISOLATION VALVE, EXTENSION & BRASS UNION
㉒	1	<u>OPTIONAL:</u> 30" MANHOLE COVER & FRAME (H2O LOADING) (APPLIES ONLY IF ABSOLUTELY NECESSARY; IT LIMITS EQUIPMENT REMOVAL FROM VAULT)

**NOTE:**

OPTIONAL EQUIPMENT SHALL BE PROVIDED AS DIRECTED, OR AS APPROVED BY THE CITY OF AUBURN.

APPROVED BY CITY ENGINEER:

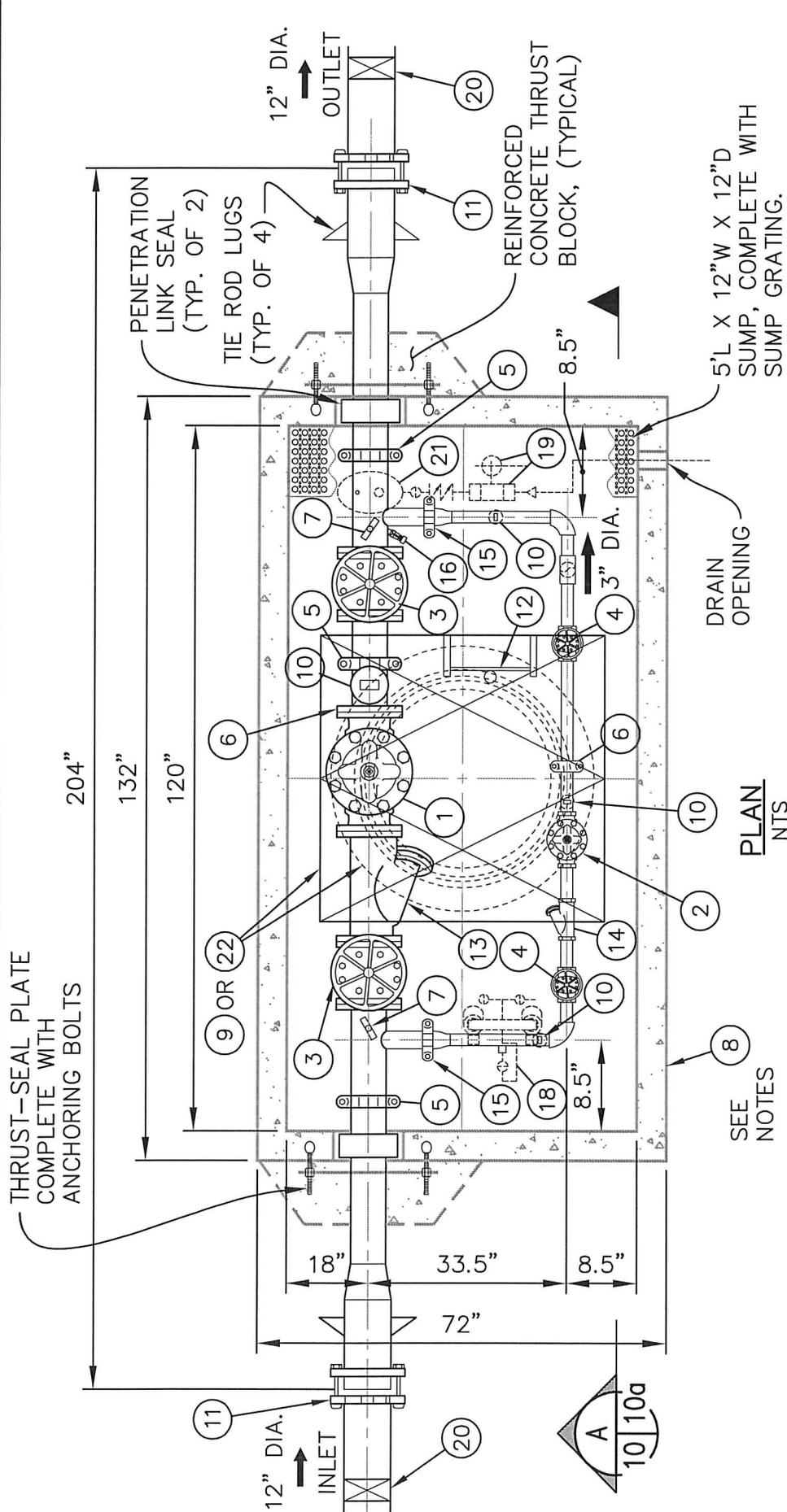
DATE:

6/29/2018



PRESSURE REDUCING VALVE STATION  
FOR 10" DIA. WATER LINE

Plotted by: Craig Dobyms on 5/16/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STDTEL-W-11b.2



FLOOR TO CENTERLINE OF MAIN PIPING = 24"  
(RELIEF LINE REMOVED FOR CLARITY)

**STANDARD FABRICATION & FINISHING SPECIFICATION:**

1. FABRICATED STEEL PIPING & FITTINGS SHALL BE SCHEDULE 40 FOR SIZES 3" TO 10" IN DIAMETER.
2. ALL 3" DIA. PIPE AND LARGER INSIDE WETTED SURFACES SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-210 AND NSF-61 SPECIFICATION. FINISH COATING SHALL BE BLUE ENAMEL.
3. FABRICATED STAINLESS STEEL PIPING AND FITTINGS SHALL BE SCHEDULE 40 FOR SIZES UP TO 2"

**NOTES:**

1. VAULT #10565 (H-20 LOADING)  
INSIDE DIMENSIONS:  
10' L x 5' W x 6'-6" H
2. VAULT WEIGHT:  
TOP.....12,300 Lbs  
BOTTOM.....12,000 Lbs  
(WEIGHTS ±10%)

PLAN  
NTS

SEE  
NOTES

APPROVED BY CITY ENGINEER:

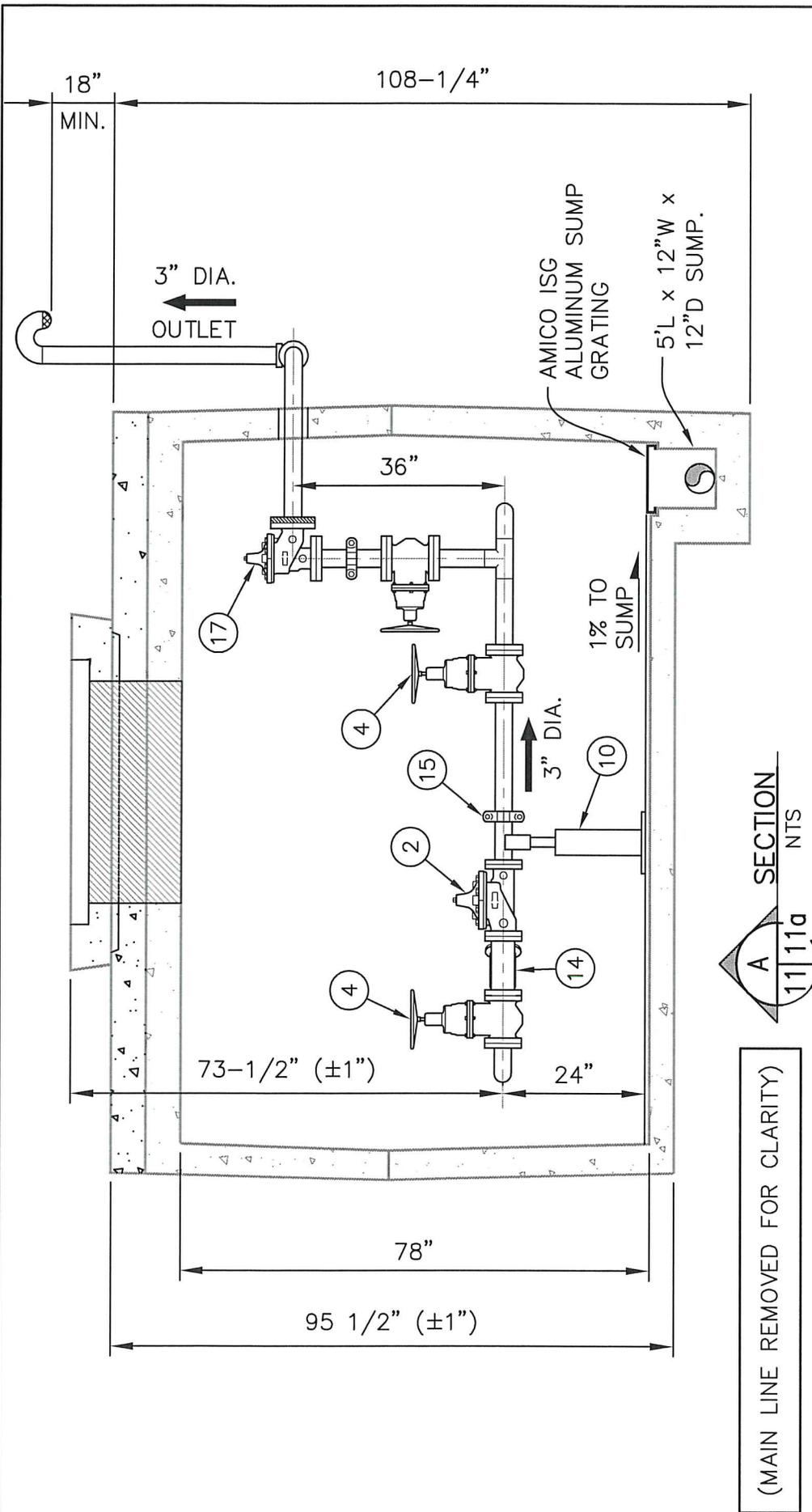
DATE:

*Paul Sals*

8/5/2016



PRESSURE REDUCING VALVE STATION FOR 12" DIA. WATER LINE



**NOTES:**

1. VAULT #10565 (H-20 LOADING)  
INSIDE DIMENSIONS:  
10' L x 5' W x 6'-6" H
2. VAULT WEIGHT:  
TOP.....12,300 Lbs  
BOTTOM.....12,000 Lbs  
(WEIGHTS ±10%)

**STANDARD FABRICATION & FINISHING SPECIFICATION:**

1. FABRICATED STEEL PIPING & FITTINGS SHALL BE SCHEDULE 40 FOR SIZES 3" TO 10" IN DIAMETER.
2. ALL 3" DIA. PIPE AND LARGER INSIDE WETTED SURFACES SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-210 AND NSF-61 SPECIFICATION. FINISH COATING SHALL BE BLUE ENAMEL.
3. VAULTS SHALL BE WATER TIGHT AND PROVIDED WITH GRAVITY DRAIN LINE CONNECTED TO EXISTING STORM SYSTEM OR DRAIN FIELD. WHERE GRAVITY DRAIN IS NOT FEASIBLE, A SUMP PUMP WITH CHECK VALVE ON DISCHARGE LINE SHALL BE PROVIDED.

APPROVED BY CITY ENGINEER:

*Paul Gans*

DATE:

8/5/2016



PRESSURE REDUCING VALVE STATION FOR 12" DIA. WATER LINE

# BILL OF MATERIALS

ITEM	QTY	DESCRIPTION
①	1	10" CLA-VAL 90G-01YBS PRESSURE REDUCING VALVE COMPLETE WITH X101 POS. IND., DIBT-#150 FLGD
②	1	3" CLA-VAL 90G-01YBS PRESSURE REDUCING VALVE COMPLETE WITH X101 POS. IND., DIBT-THREADED
③	2	10" RW NRS GATE VALVE COMPLETE WITH HANDWHEEL-#150 FLGD
④	2	3" RW NRS GATE VALVE COMPLETE WITH HANDWHEEL-THREADED
⑤	3	10" VICTAULIC #07 COUPLING
⑥	1	3" VICTAULIC #07 COUPLING
⑦	2	4" WIKA (0-200 PSI) PRESSURE GAUGE COMPLETE WITH GAUGE COCK
⑧	1	#10565 PRECAST CONCRETE VAULT WHITE LATEX INTERIOR & BLACK TAR EXTERIOR
⑨	1	BILCO 48" X 48" ALUMINUM DOUBLE DOOR HATCH OR APPROVED EQUIVALENT
⑩	4	ADJUSTABLE PIPE SUPPORTS
⑪	2	12" SMITH BLAIR OR EBAA TRANSITION COUPLINGS
⑫	1	ALUMINUM LADDER WITH TELESCOPING SAFETY POST (LADDERUP)
⑬	1	10" MUELLER 758 CAST IRON BODY "Y" STRAINER COMPLETE WITH BLOWDOWN VALVE - #125 FLGD
⑭	1	3" MUELLER 11M CAST IRON BODY "Y" STRAINER COMPLETE WITH BLOWDOWN VALVE-THREADED
⑮	2	4" VICTAULIC #07 COUPLING
⑯	1	3/4" HOSE BIB ASSEMBLY
⑰	1	<u>PRESSURE RELIEF VALVE ASSEMBLY INCLUDES:</u> 3" CLA-VAL 50A-01B PRESSURE RELIEF VALVE ANGLE STYLE - #150 FLGD 3" VICTAULIC #07 COUPLING 3" VICTAULIC #741 COUPLING ADAPTER 3" MUELLER A2360 RW NRS GATE VALVE
⑱	1	DUPLEX PILOT STRAINER (PIPE MOUNTED)
⑲	1	AUTOMATIC SUMP DRAIN EJECTOR
⑳	2	12" RW NRS GATE VALVE W/ VALVE BOX-RESTRAINED JOINT
㉑	1	1" APCO 143C.1 COMBINATION AIR VALVE ISOLATION VALVE, EXTENSION & BRASS UNION
㉒	1	<u>OPTIONAL:</u> 30" MANHOLE COVER & FRAME (H2O LOADING) (APPLIES ONLY IF ABSOLUTELY NECESSARY; IT LIMITS EQUIPMENT REMOVAL FROM VAULT)

**NOTE:**

OPTIONAL EQUIPMENT SHALL BE PROVIDED AS DIRECTED, AND OR AS APPROVED BY THE CITY OF AUBURN.

APPROVED BY CITY ENGINEER:

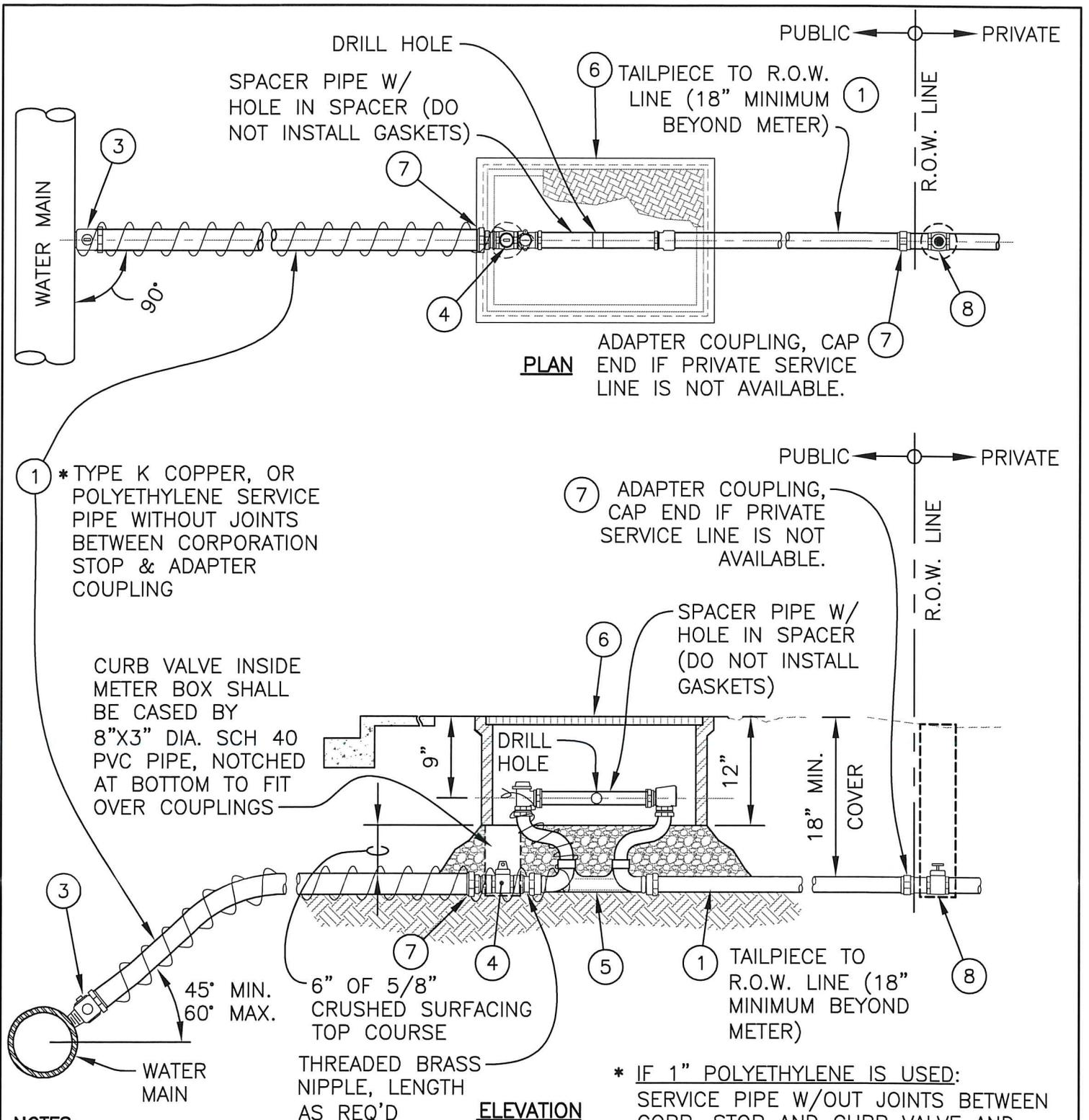
DATE:



6/29/2018



PRESSURE REDUCING VALVE STATION  
FOR 12" DIA. WATER LINE



1 \*TYPE K COPPER, OR POLYETHYLENE SERVICE PIPE WITHOUT JOINTS BETWEEN CORPORATION STOP & ADAPTER COUPLING

CURB VALVE INSIDE METER BOX SHALL BE CASD BY 8"X3" DIA. SCH 40 PVC PIPE, NOTCHED AT BOTTOM TO FIT OVER COUPLINGS

45° MIN. 60° MAX.

6" OF 5/8" CRUSHED SURFACING TOP COURSE

THREADED BRASS NIPPLE, LENGTH AS REQ'D

**ELEVATION**

\* IF 1" POLYETHYLENE IS USED: SERVICE PIPE W/OUT JOINTS BETWEEN CORP. STOP AND CURB VALVE AND WRAPPED W/ #10 INSULATED COPPER TRACER WIRE. ATTACH BARE TRACER WIRE TO CORP. STOP AND WRAP IT AROUND THE HDPE PIPE AND METER SETTER AS SHOWN W/ HIGH TORQUE SMOOTH STAINLESS STEEL HOSE CLAMPS. A MINIMUM OF 8" BARE WIRE SHALL PROTRUDE PAST CLAMP AT THE METER SETTER

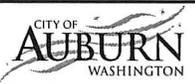
**NOTES:**

1. SEE STANDARD DETAIL W-15 FOR MATERIAL SCHEDULE.
2. ALL DOMESTIC SERVICE LINES FROM THE WATER MAIN TO THE ADAPTER COUPLING, STRAIGHT COUPLING, OR CURB VALVE, SHALL BE A MINIMUM OF 1" IN DIAMETER.
3. METER PROVIDED BY CITY, CONNECTIONS MADE FROM EXISTING WATER MAIN SHALL BE INSTALLED BY THE CITY OF AUBURN AND PAID FOR BY THE APPLICANT OR CONTRACTOR.

APPROVED BY CITY ENGINEER:

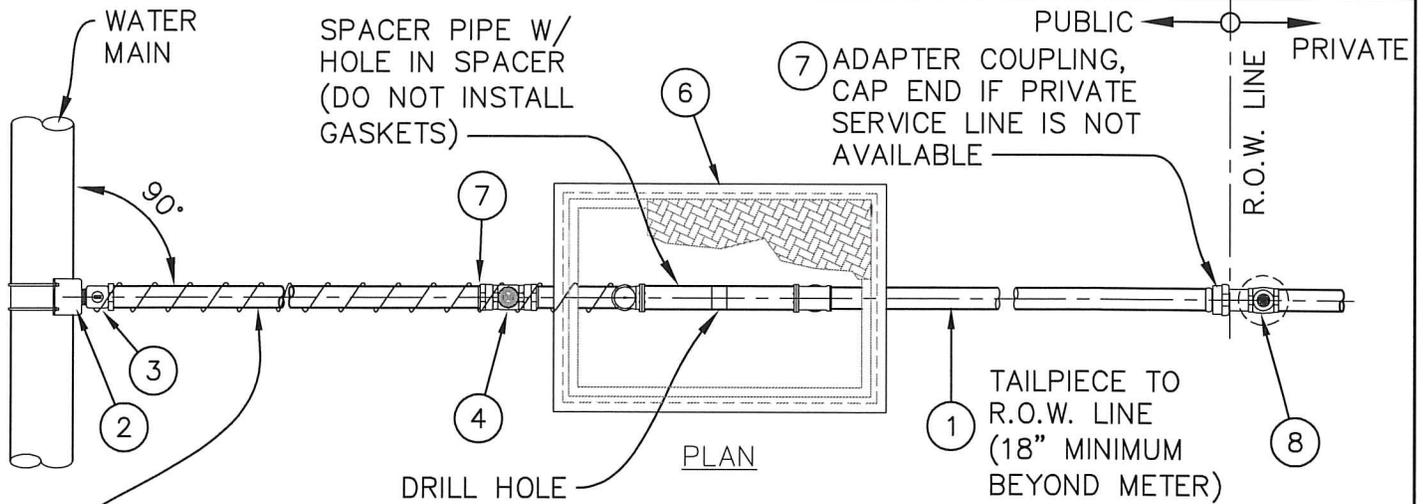
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6/29/2018



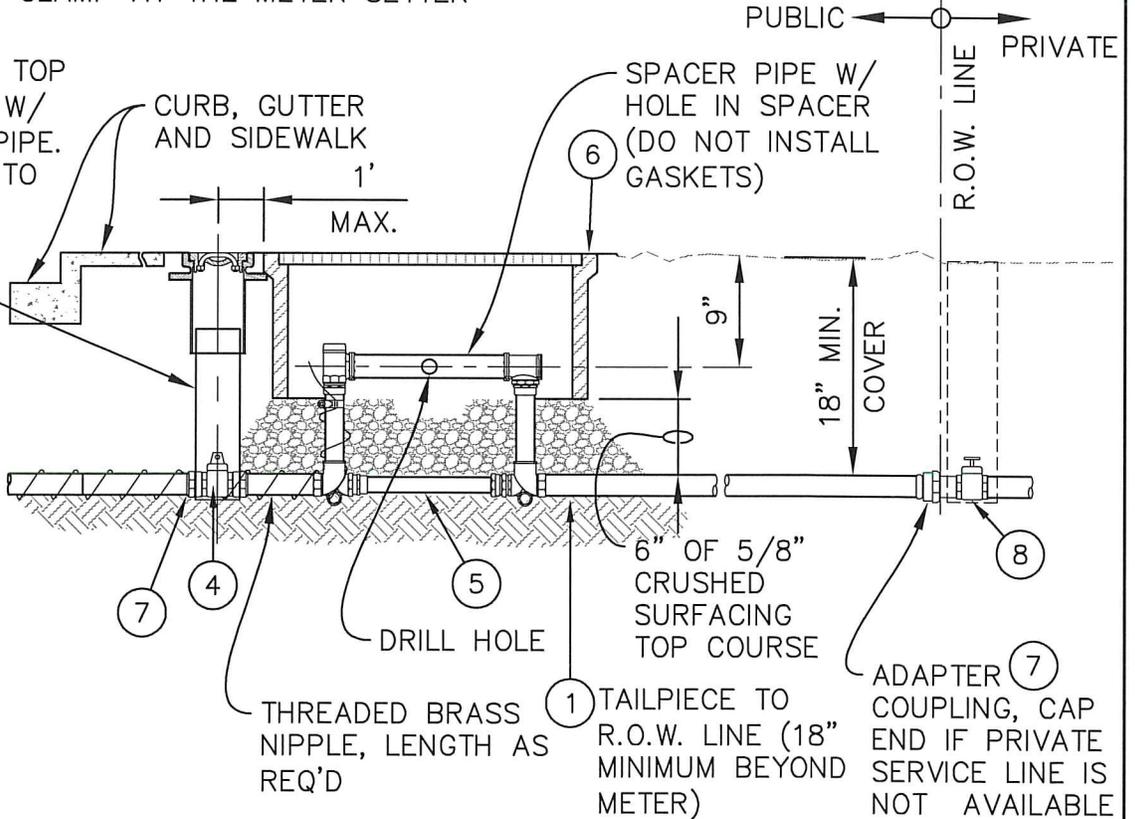
3/4" & 1" WATER METER INSTALLATION

Plotted by: Craig Dobyns on 5/16/2018 File location: M:\Construction Standard Details\Water\STDETAIL-W-13.2



1 SERVICE PIPE W/OUT JOINTS BETWEEN CORP. STOP AND CURB VALVE AND WRAPPED W/ #10 INSULATED COPPER TRACER WIRE. ATTACH BARE TRACER WIRE TO CORP. STOP AND WRAP IT AROUND THE HDPE PIPE AND METER SETTER AS SHOWN W/ HIGH TORQUE SMOOTH STAINLESS STEEL HOSE CLAMPS. A MINIMUM OF 8" BARE WIRE SHALL PROTRUDE PAST CLAMP AT THE METER SETTER

INSTALL CAST IRON VALVE BOX (8" LONG, TOP SECTION AND COVER) W/ 4" DIA. SCH 40 PVC PIPE. NOTCHED AT BOTTOM TO FIT OVER COUPLING



**ELEVATION**

**NOTES:**

1. SEE STANDARD DETAIL W-15 FOR MATERIAL SCHEDULE.
2. ALL DOMESTIC SERVICE LINES FROM THE WATER MAIN TO THE ADAPTER COUPLING, STRAIGHT COUPLING, OR CURB VALVE, SHALL BE A MINIMUM OF 1" IN DIAMETER.
3. METER PROVIDED BY CITY, CONNECTIONS MADE FROM EXISTING WATER MAIN SHALL BE INSTALLED BY THE CITY OF AUBURN AND PAID FOR BY THE APPLICANT OR CONTRACTOR.

APPROVED BY CITY ENGINEER:

DATE:



1 1/2" & 2" WATER METER INSTALLATION

### WATER SERVICE MATERIAL SCHEDULE

- ① THE CITY OF AUBURN ALLOWS 1-1/2" TO 2" POLYETHYLENE SDR-9 (IN COPPER TUBE SIZES) W/ STAINLESS STEEL LINERS IN ALL COUPLINGS & WRAPPED W/ A #10 INSULATED COPPER TRACER WIRE. FOR 1" COPPER, IT SHALL BE TYPE K COPPER TUBING W/OUT TRACER WIRE FOR WATER SERVICE & TAILPIECE CONNECTION, IN ACCORDANCE W/ STANDARD SPECIFICATION SECTION 9-30.6(3). ALL CONNECTIONS TO POLYETHYLENE OR COPPER TUBING SHALL BE W/ MUELLER 110 COMPRESSION CONNECTIONS OR EQUAL. TAILPIECE SHALL EXTEND TO R.O.W. LINE (18" MINIMUM BEYOND METER) & SHALL BE THE SAME SIZE AS THE SERVICE LINE.
- ② SADDLES FOR 1", 1-1/2", OR 2" PIPE TAPS SHALL BE EPOXY COATED OR E-COATED DUCTILE IRON W/ DOUBLE STAINLESS STEEL STRAPS & NEOPRENE GASKETS. SADDLES SHALL HAVE I.P.S. FEMALE THREADS.
- ⑧ CONTRACTOR SHALL FURNISH & INSTALL PRIVATE SERVICE LINE SHUT-OFF VALVE & RISER. FOR CAPITAL PROJECTS, SEE CONTRACT DOCUMENTS, OTHERWISE PROPERTY OWNER TO INSTALL PRIVATE SERVICE LINE SHUT-OFF VALVE AT POINT OF CONNECTION.

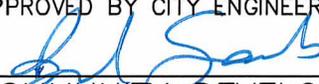
**METER LOCATIONS:**

- 1) WHERE LANDSCAPE STRIPS ARE PLANNED OR EXIST, THE METER & METER BOX WILL BE PLACED BETWEEN THE BACK OF THE CURB & THE SIDEWALK, ADJACENT TO THE SIDEWALK IF ROOM PERMITS;
- 2) WHERE THE SIDEWALK IS LOCATED ADJACENT TO THE BACK OF THE CURB OR THE LANDSCAPE STRIP IS TOO NARROW TO ACCOMMODATE THE METER BOX, THE METER & METER BOX WILL BE PLACED ADJACENT TO & AT THE BACK OF SIDEWALK;
- 3) WHERE METERS & METER BOXES ARE LOCATED IN THE STREET OR SIDEWALK OR IN LOCATIONS WHICH ARE SUBJECTED TO VEHICULAR TRAFFIC, INCLUDING DRIVEWAYS, ETC., A TRAFFIC BEARING METER BOX & LID OF APPROPRIATE LOAD RATING SHALL BE PROVIDED AS SPECIFIED (EAST JORDAN IRON WORKS, OR EQUAL).
- 4) LOCATE CURB VALVE IN THE METER BOX WHERE POSSIBLE & 1 FT. OUTSIDE IF NO ROOM INSIDE METER BOX IS AVAILABLE.
- 5) OFF STREET METER LOCATION SHALL BE APPROVED BY THE CITY.

SCHEDULE NO. & PART	SERVICE LINE SIZE & MUELLER/FORD CATALOG NO. OR APPROVED EQUAL		
	1"	1-1/2"	2"
③ CORP. STOP	<u>DIRECT TAP OPTION:</u> MUELLER B-25008N OR FORD FB1000-4-Q-NL  <u>SADDLE OPTION:</u> MUELLER B-20013N W/ H-15451N OUTLET COUPLING OR FORD FB500-4-NL W/ C14-44-Q-NL OUTLET COUPLING	MUELLER B-2969N W/ H-15451N OUTLET COUPLING OR FORD FB500-6-NL W/ C14-66-Q-NL OUTLET COUPLING	MUELLER B-2969N W/ H-15451N OUTLET COUPLING OR FORD FB500-7-NL W/ C14-77-Q-NL OUTLET COUPLING
④ CURB VALVE	MUELLER B-20200N OR FORD B11-444W-NL	MUELLER B-20200N OR FORD B11-666W-NL	MUELLER B-20200N OR FORD B11-777W-NL
⑤ METER YOKE	MUELLER B-2404R-2N W/ H-14222N INLET & H-14227N OUTLET COUPLINGS, 12" RISER W/ MUELLER H-10879 5/8"x3/4"x1" ADAPTERS FOR 3/4" METERS	MUELLER B-2423-2N W/ H-15428N OUTLET COUPLING OR FORD VBH76-12B-11-66-NL W/ C84-66-Q-NL OUTLET COUPLING, 12" RISER	MUELLER B-2423-2N W/ H-15428N OUTLET COUPLING OR FORD VBH77-12B-11-77-NL W/ C84-77-Q-NL OUTLET COUPLING, 12" RISER
⑥ METER BOX	HUBBELL QUAZITE 13"x24"x12" POLYMER CONCRETE BOX & COVER W/ READER LID & 2" AMR PORT W/ (2) 2 1/2 X 3 MOUSEHOLES (BO3132412M)	HUBBELL QUAZITE 17"x30"x12" POLYMER CONCRETE BOX & COVER W/ READER LID & 2" AMR PORT & W/ (2) 2 1/2 X 3 MOUSEHOLES (BO3173012M)	
⑦ COUPLING	MUELLER H-15428N OR FORD C84-44-Q-NL	MUELLER H-15428N OR FORD C84-66-Q-NL	MUELLER H-15428N OR FORD C84-77-Q-NL
⑧ SHUT-OFF VALVE	MUELLER B-20200N W/ B-20298-99000 LEVER HANDLE, W/ 8" IRRIGATION BOX AND 6" PVC RISER		

APPROVED BY CITY ENGINEER:

DATE:

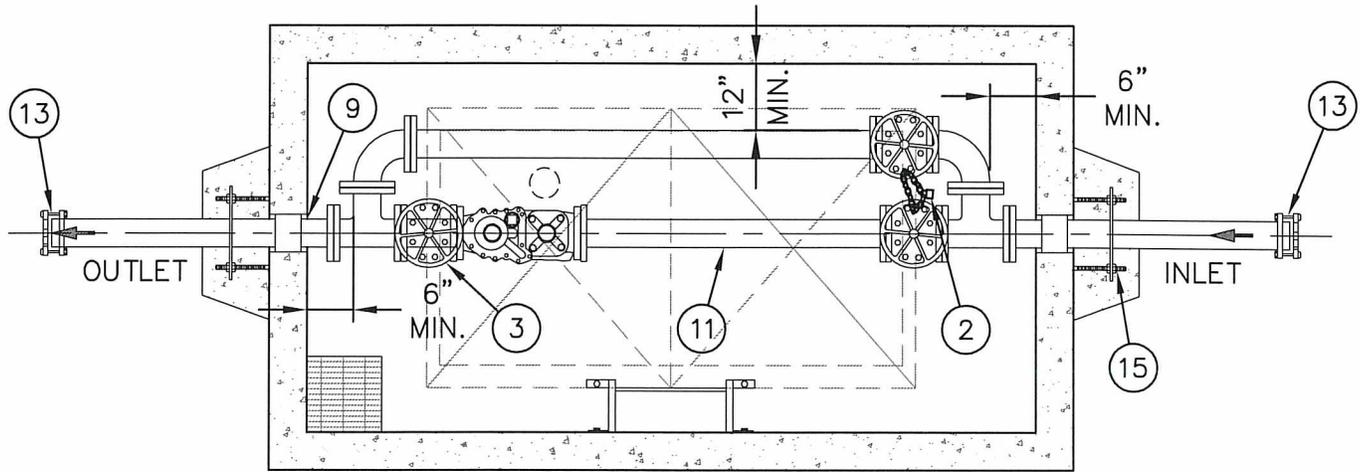


6/29/2018

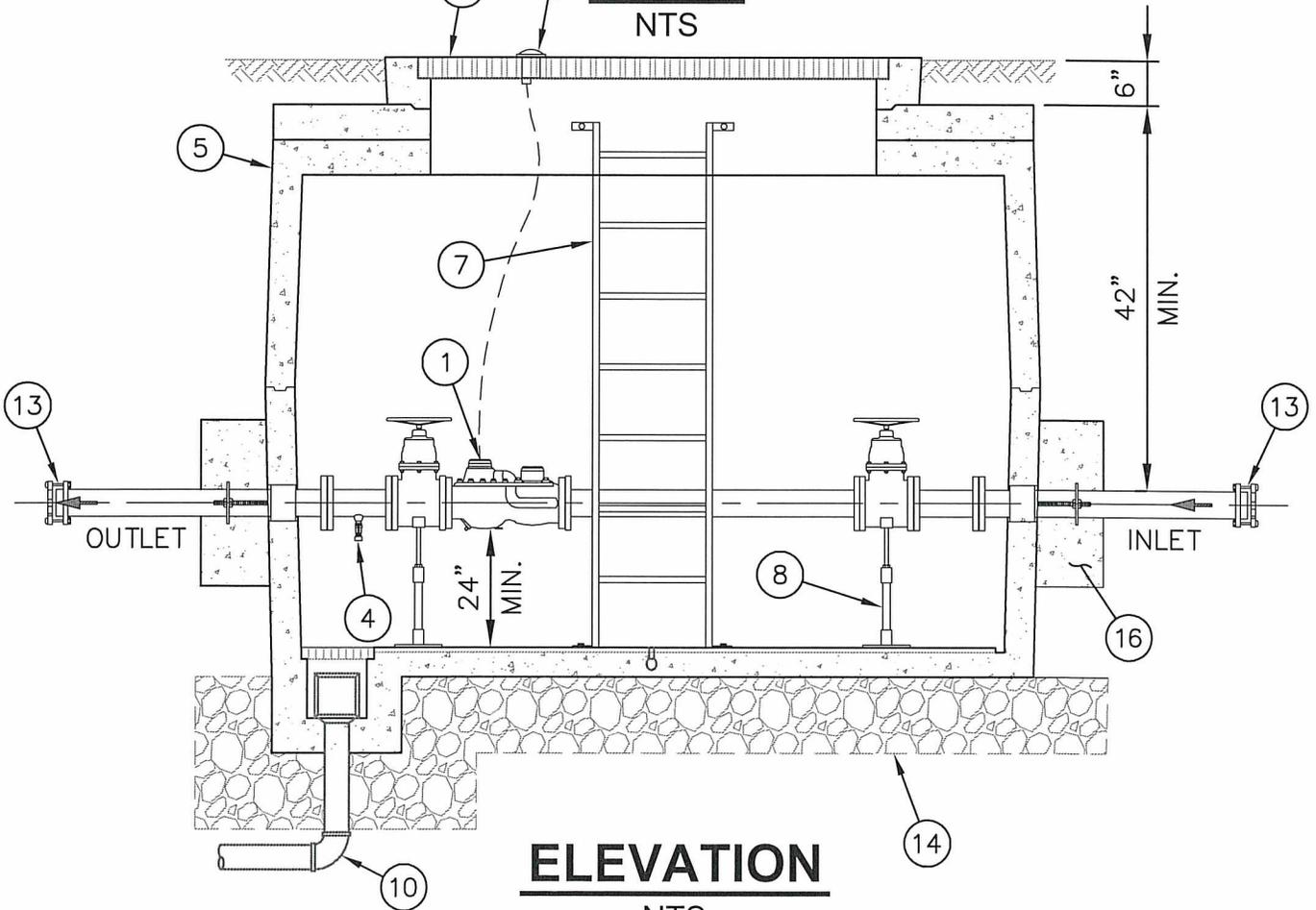


WATER METER LOCATION  
& MATERIAL SCHEDULE

METER SIZE	MAIN LINE	BYPASS	METER LENGTH FLG. TO FLG.
3"	3" D.I.P.	3" D.I.P.	17"
4"	4" D.I.P.	4" D.I.P.	20"
6"	6" D.I.P.	6" D.I.P.	24"
8"	8" D.I.P.	8" D.I.P.	30 1/8"
10"	10" D.I.P.	10" D.I.P.	41 7/8"



**PLAN**  
NTS



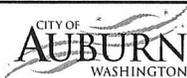
**ELEVATION**  
NTS

APPROVED BY CITY ENGINEER:

DATE:

*Paul Sals*

8/5/2016



3" OR LARGER WATER  
METER INSTALLATION

## BILL OF MATERIALS

Part Number	Quantity	Description
①	1	METER PROVIDED BY CITY FOR CONTRACTOR INSTALLATION: SENSUS OMNI C2 COMPOUND METER OR APPROVED EQUAL FLANGED WITH BUILT-IN STRAINER AND ENCODERS COMPATIBLE WITH CURRENT SENSUS AMR/AMI SYSTEM.
②	1	LOCK WITH CHAINS.
③	3	AWWA C-509 OR C-515 GATE VALVE COMPLETE WITH HAND WHEEL.
④	1	3/4" HOSE BIB COMPLETE WITH VACUUM BREAKER
⑤	1	PRECAST CONCRETE VAULT COMPLETE WITH COLLAR, C555 BLACK EXTERIOR DAMPROOFING, C555 WHITE INTERIOR PAINT
⑥	1	36"x72" ALUMINUM HATCH H20-44 CLASS B, STATIC LOADING
⑦	1	O.S.H.A. APPROVED SAFETY LADDER W/ TELESCOPING SAFETY POST (IF VAULT IS OVER 30" DEEP)
⑧	2	GALVANIZED STEEL ADJUSTABLE PIPE SUPPORT
⑨	2	PIPE SEAL ASSEMBLY
⑩	1	SUMP DRAIN, CONNECT TO CITY STORM SYSTEM, IF GRAVITY DRAIN IS NOT FEASIBLE, A SUMP PUMP WITH CHECK VALVE ON DISCHARGE LINE IS REQUIRED
⑪	1	SPOOL, LENGTH AS REQUIRED AND PER METER MANUFACTURER REQUIREMENTS
⑫	1	2" AMR PORT
⑬	2	SMITH BLAIR OR EBAA TRANSITION COUPLINGS
⑭	AS REQ'D	5/8" MINUS CRUSHED ROCK FOUNDATION WITH COMPACTED DEPTH OF 12" MINIMUM
⑮	2	THRUST SEAL PLATE C/W ANCHORING BOLTS
⑯	2	REINFORCED CONCRETE THRUST BLOCKS

STANDARD FABRICATION & FINISHING SPECIFICATION

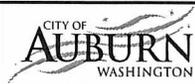
- 1) ALL STEEL PIPE SHALL BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C-120 AND NSF-61 SPECIFICATIONS. FINISH COATING SHALL BE BLUE ENAMEL.
- 2) GATE VALVE ON THE BYPASS SHALL BE NORMALLY CLOSED AND LOCKED WITH THE GATE VALVE ON THE MAIN LINE AS SHOWN AND KEYS GIVEN TO THE CITY.
- 3) DUCTILE IRON PIPE SHALL BE ACCORDING TO 9-30.1(1) OF THE STANDARD SPECIFICATIONS.

APPROVED BY CITY ENGINEER:

DATE:



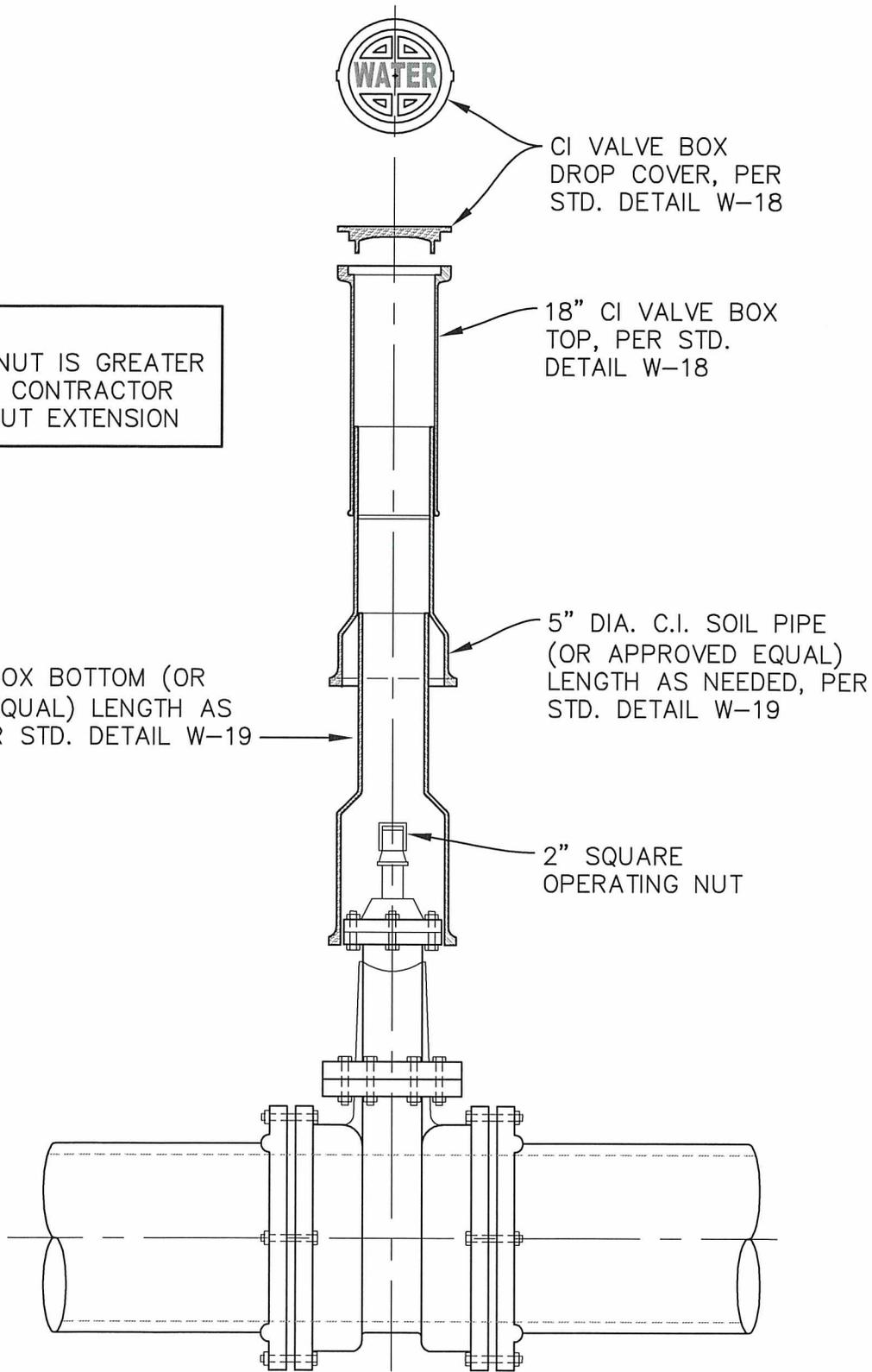
6/29/2018



3" OR LARGER WATER  
METER INSTALLATION

Plotted by: Craig Dobyms on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDDET-W-17.1

NOTE:  
IF DEPTH OF NUT IS GREATER  
THAN 7 FEET, CONTRACTOR  
TO PROVIDE NUT EXTENSION



C.I. VALVE BOX BOTTOM (OR  
APPROVED EQUAL) LENGTH AS  
NEEDED, PER STD. DETAIL W-19

CI VALVE BOX  
DROP COVER, PER  
STD. DETAIL W-18

18" CI VALVE BOX  
TOP, PER STD.  
DETAIL W-18

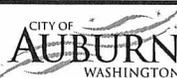
5" DIA. C.I. SOIL PIPE  
(OR APPROVED EQUAL)  
LENGTH AS NEEDED, PER  
STD. DETAIL W-19

2" SQUARE  
OPERATING NUT

APPROVED BY CITY ENGINEER:

DATE:

8/5/2016

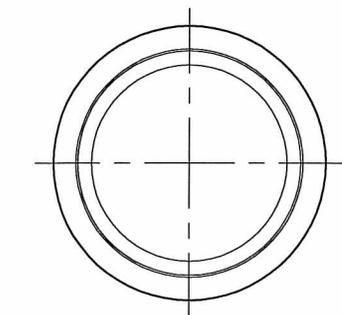


VALVE WRENCH  
EXTENSION BOX

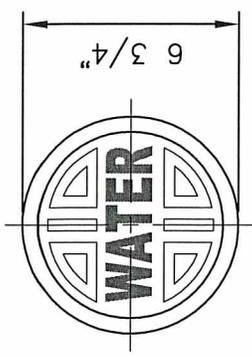
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-17.1

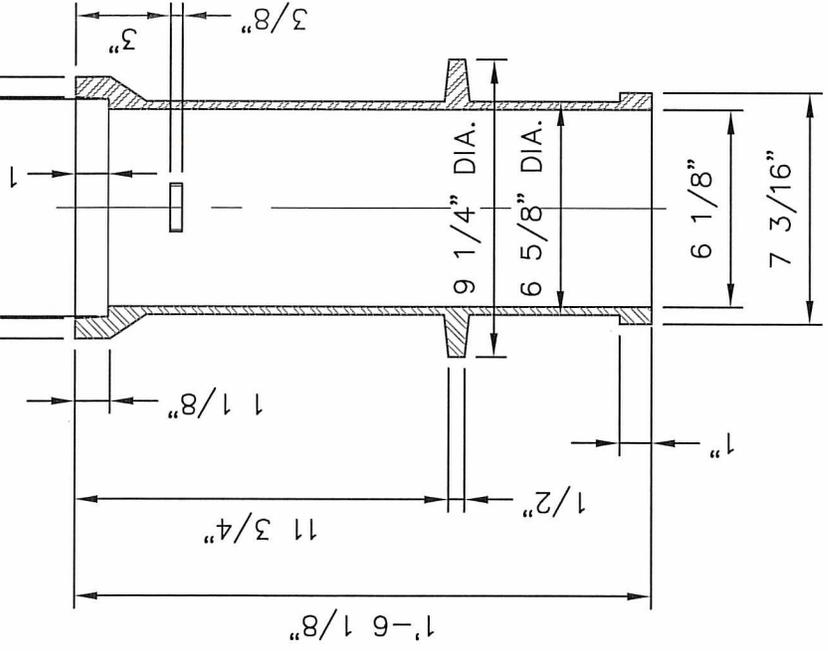
Plotted by: Craig Dobyns on 2/15/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STDETL-W-18.2



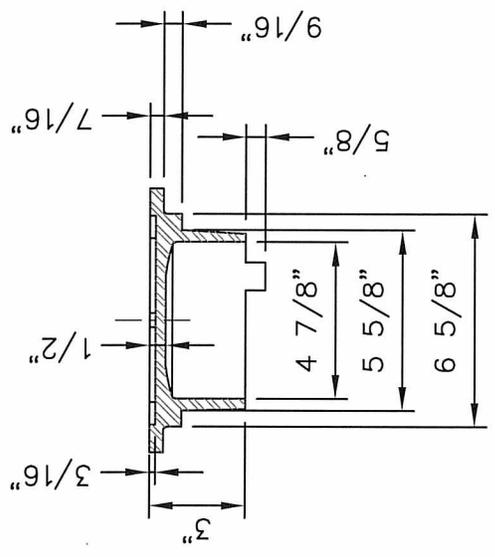
TOP VIEW



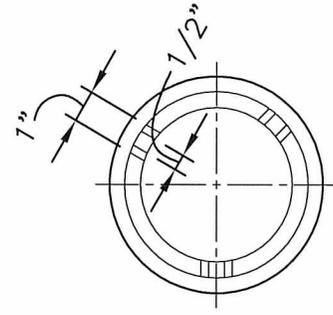
TOP VIEW



18" CAST IRON VALVE  
BOX TOP & COVER  
NOT TO SCALE



BOTTOM VIEW  
VALVE BOX DROP  
COVER (DEEP SKIRT)  
NOT TO SCALE



APPROVED BY CITY ENGINEER:

DATE:

*Bob Gels*

*2/20/2018*

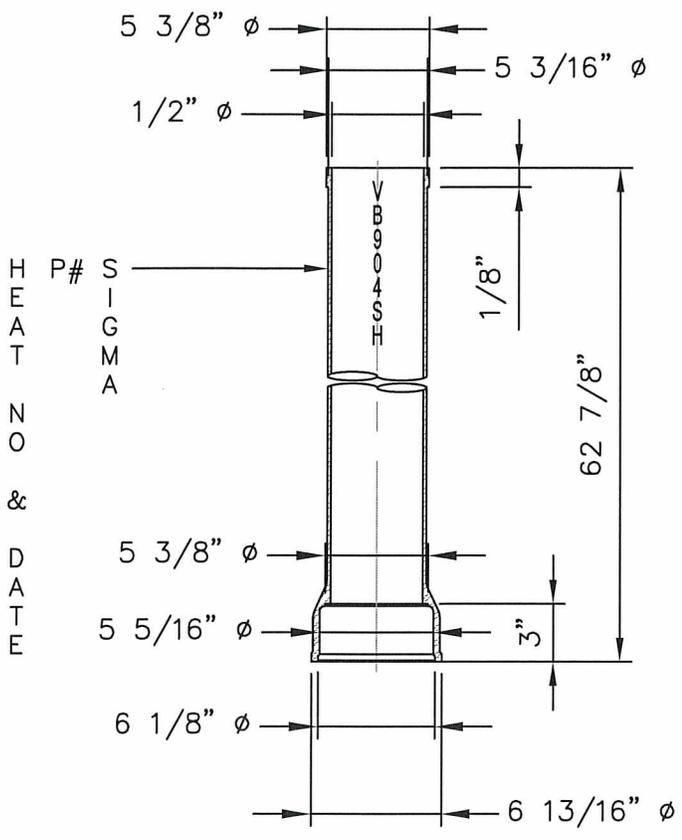


C.I. VALVE BOX TOP &  
VALVE BOX COVER

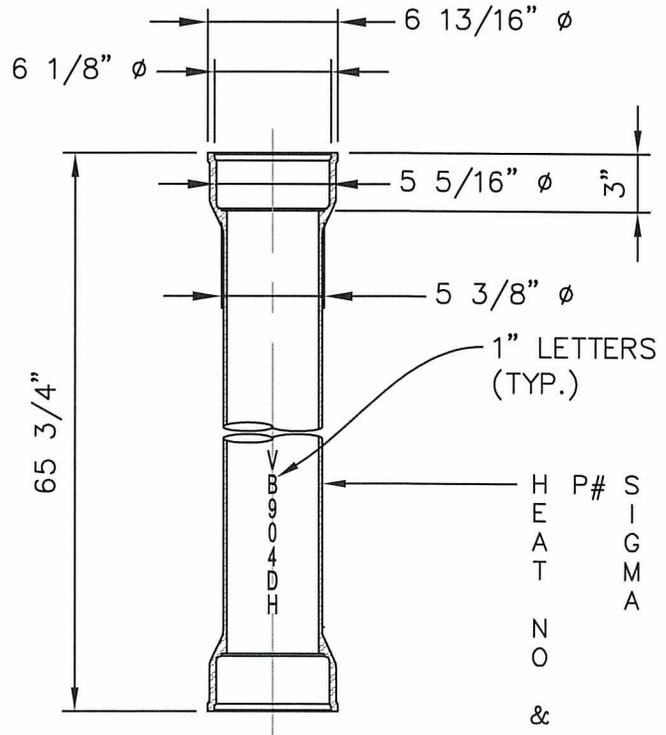
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-18.2

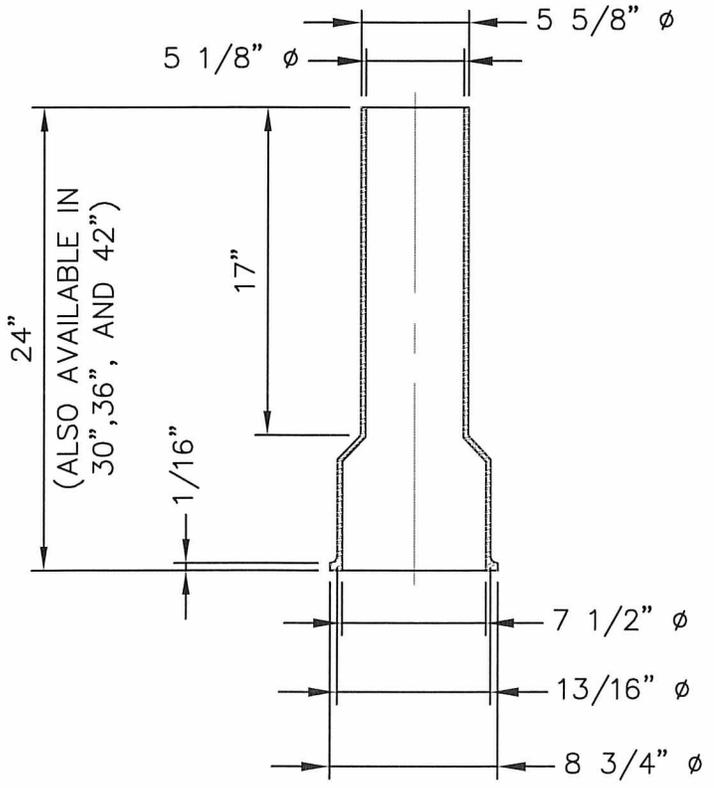
Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDDET-W-19.1



**SINGLE HUB 5" C.I. SOIL PIPE VALVE BOX EXTENSION**  
NOT TO SCALE



**DOUBLE HUB 5" C.I. SOIL PIPE VALVE BOX EXTENSION**  
NOT TO SCALE



**C.I. VALVE BOX BOTTOM**  
NOT TO SCALE

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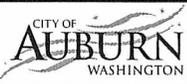
P# S I G M A

APPROVED BY CITY ENGINEER:

DATE:

*Paul Sabo*

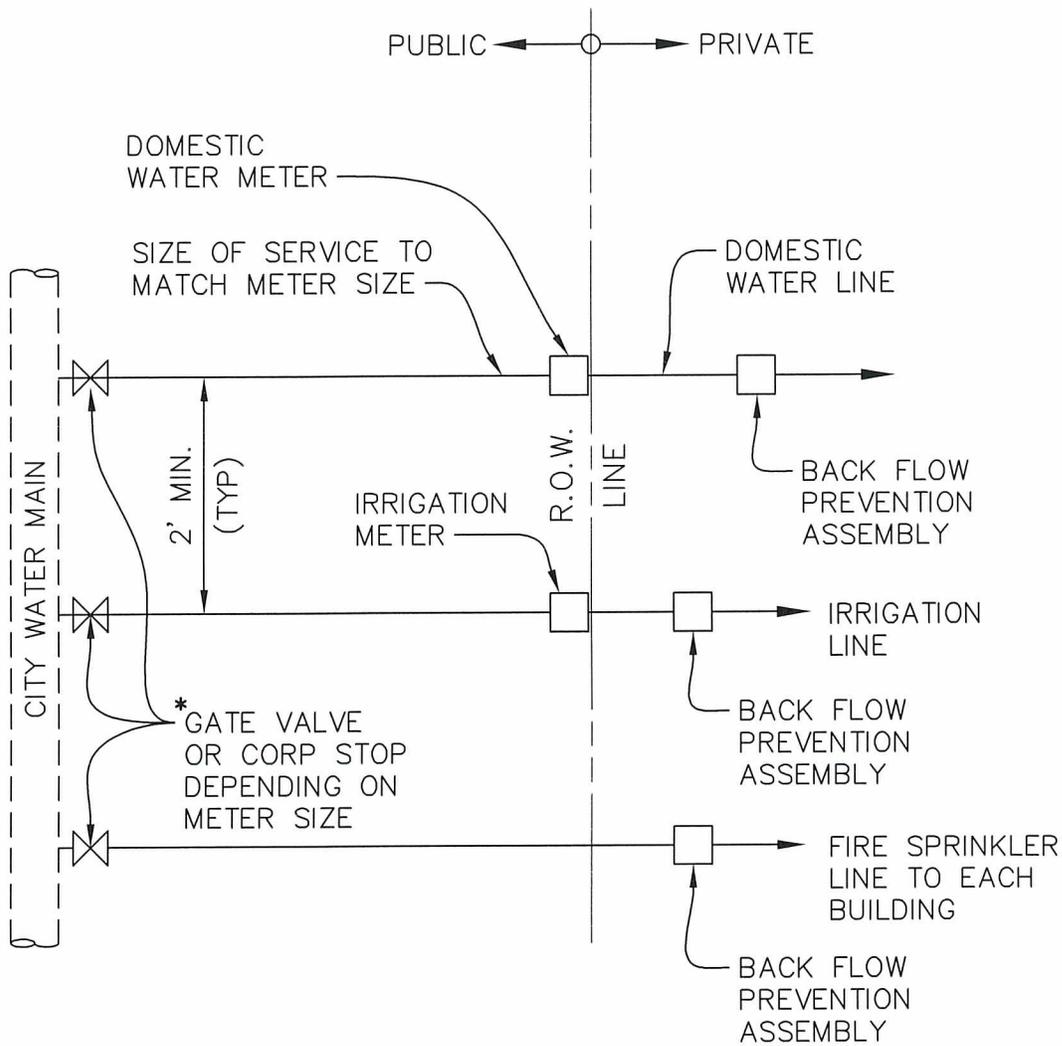
8/5/2016



5" C.I. SOIL PIPE VALVE BOX EXTENSION & C.I. VALVE BOX BOTTOM

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-19.1



**NOTES:**

1. CONNECTION TO CITY WATER MAIN PER CITY OF AUBURN REQUIREMENTS.
2. BACK FLOW ASSEMBLY IS REQUIRED ON FIRE SPRINKLER, DOMESTIC, & IRRIGATION LINES. TYPE OF ASSEMBLY SHALL BE PER DESIGN STANDARDS.
3. PLANS FOR SEPARATE FIRE SPRINKLER LINE MUST BE SUBMITTED & APPROVED BY THE FIRE MARSHAL PRIOR TO INSTALLATION, AND SHALL BE DESIGNED BY A FIRE PROTECTION ENGINEER.

\* FOR METERS 2" OR LESS USE CORP STOP & FOR METERS LARGER THAN 2" USE GATE VALVE WITH 2" STANDARD OPERATING NUT & COA VALVE BOX TO SURFACE.

APPROVED BY CITY ENGINEER:

DATE:

*[Handwritten Signature]*

*12/29/2016*



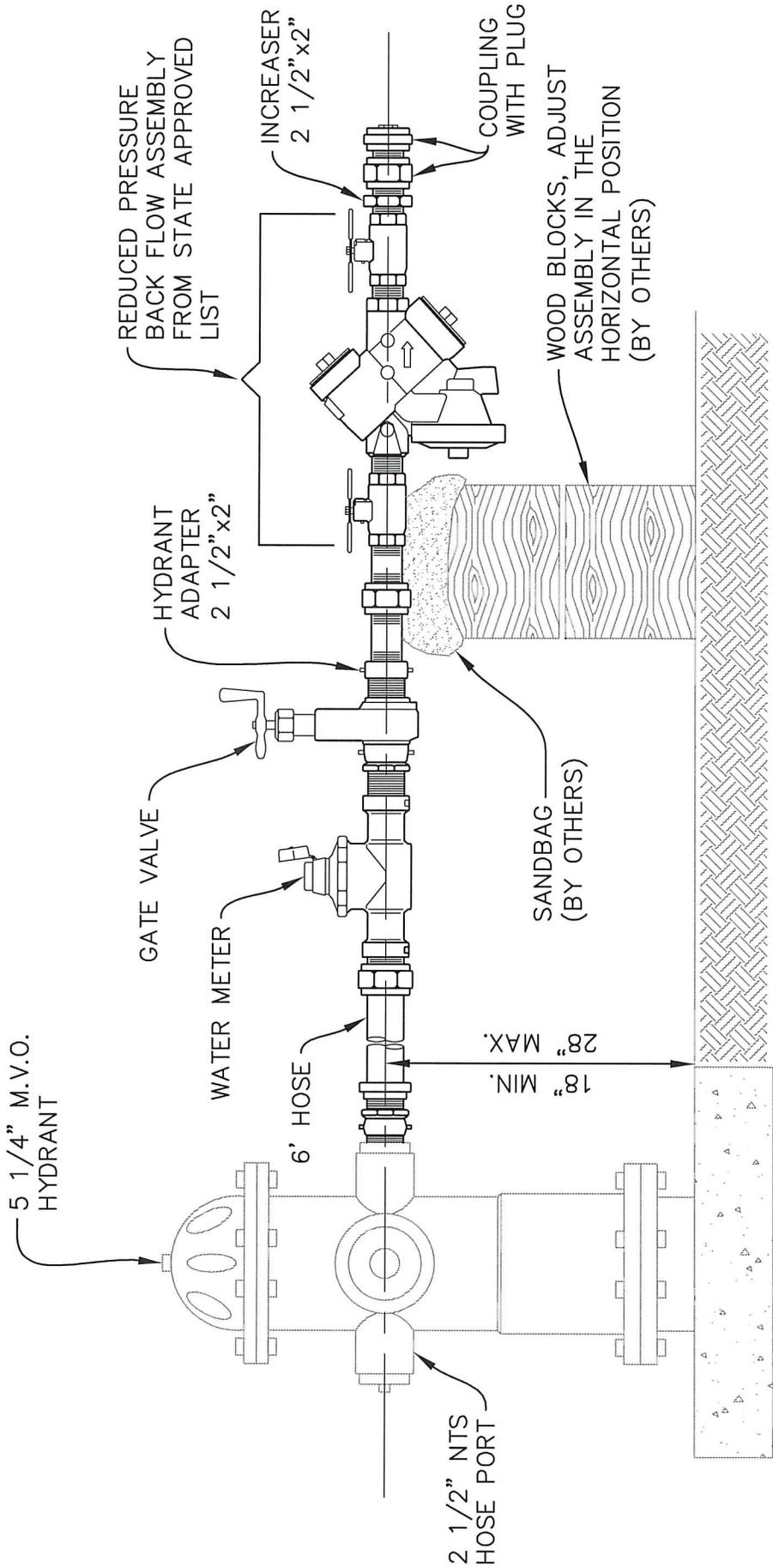
NON-SINGLE FAMILY SERVICE LINES

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-20.2

1. 12/29/2016 2. 12/29/2016 3. 12/29/2016 4. 12/29/2016 5. 12/29/2016 6. 12/29/2016 7. 12/29/2016 8. 12/29/2016 9. 12/29/2016 10. 12/29/2016 11. 12/29/2016 12. 12/29/2016 13. 12/29/2016 14. 12/29/2016 15. 12/29/2016 16. 12/29/2016 17. 12/29/2016 18. 12/29/2016 19. 12/29/2016 20. 12/29/2016 21. 12/29/2016 22. 12/29/2016 23. 12/29/2016 24. 12/29/2016 25. 12/29/2016 26. 12/29/2016 27. 12/29/2016 28. 12/29/2016 29. 12/29/2016 30. 12/29/2016 31. 12/29/2016 32. 12/29/2016 33. 12/29/2016 34. 12/29/2016 35. 12/29/2016 36. 12/29/2016 37. 12/29/2016 38. 12/29/2016 39. 12/29/2016 40. 12/29/2016 41. 12/29/2016 42. 12/29/2016 43. 12/29/2016 44. 12/29/2016 45. 12/29/2016 46. 12/29/2016 47. 12/29/2016 48. 12/29/2016 49. 12/29/2016 50. 12/29/2016 51. 12/29/2016 52. 12/29/2016 53. 12/29/2016 54. 12/29/2016 55. 12/29/2016 56. 12/29/2016 57. 12/29/2016 58. 12/29/2016 59. 12/29/2016 60. 12/29/2016 61. 12/29/2016 62. 12/29/2016 63. 12/29/2016 64. 12/29/2016 65. 12/29/2016 66. 12/29/2016 67. 12/29/2016 68. 12/29/2016 69. 12/29/2016 70. 12/29/2016 71. 12/29/2016 72. 12/29/2016 73. 12/29/2016 74. 12/29/2016 75. 12/29/2016 76. 12/29/2016 77. 12/29/2016 78. 12/29/2016 79. 12/29/2016 80. 12/29/2016 81. 12/29/2016 82. 12/29/2016 83. 12/29/2016 84. 12/29/2016 85. 12/29/2016 86. 12/29/2016 87. 12/29/2016 88. 12/29/2016 89. 12/29/2016 90. 12/29/2016 91. 12/29/2016 92. 12/29/2016 93. 12/29/2016 94. 12/29/2016 95. 12/29/2016 96. 12/29/2016 97. 12/29/2016 98. 12/29/2016 99. 12/29/2016 100. 12/29/2016

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDETL-W-21.1

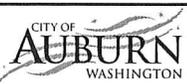


APPROVED BY CITY ENGINEER:

DATE:

*Paul Gals*

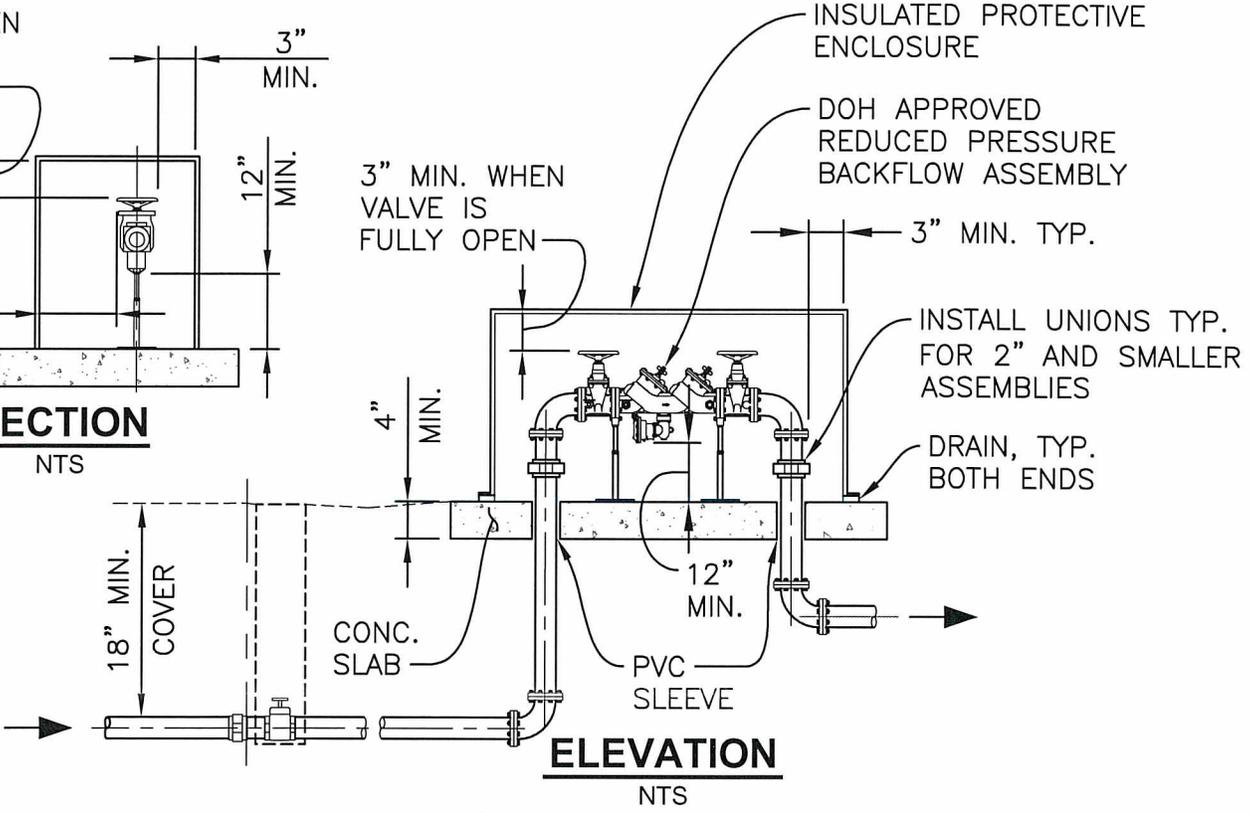
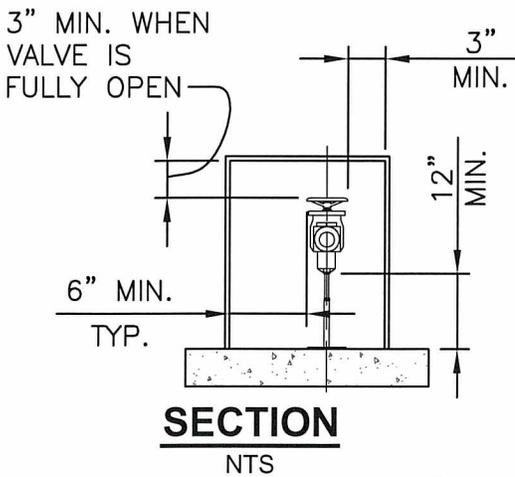
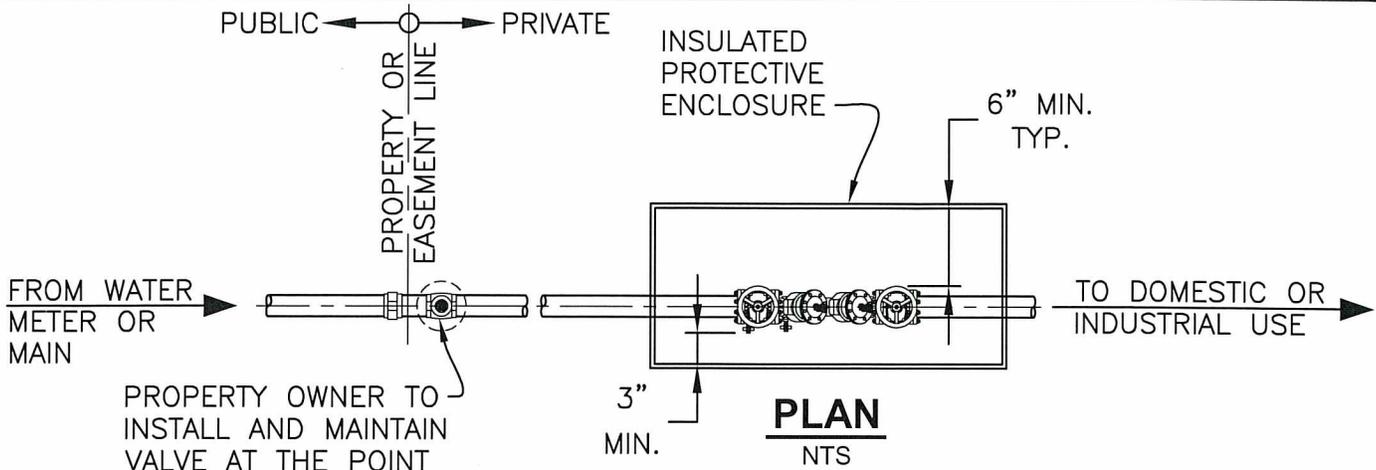
8/5/2016



TEMP. COMBINATION HYDRANT METER/  
REDUCED PRESSURE BACKFLOW ASSY.

COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.

STANDARD DETAIL: W-21.1

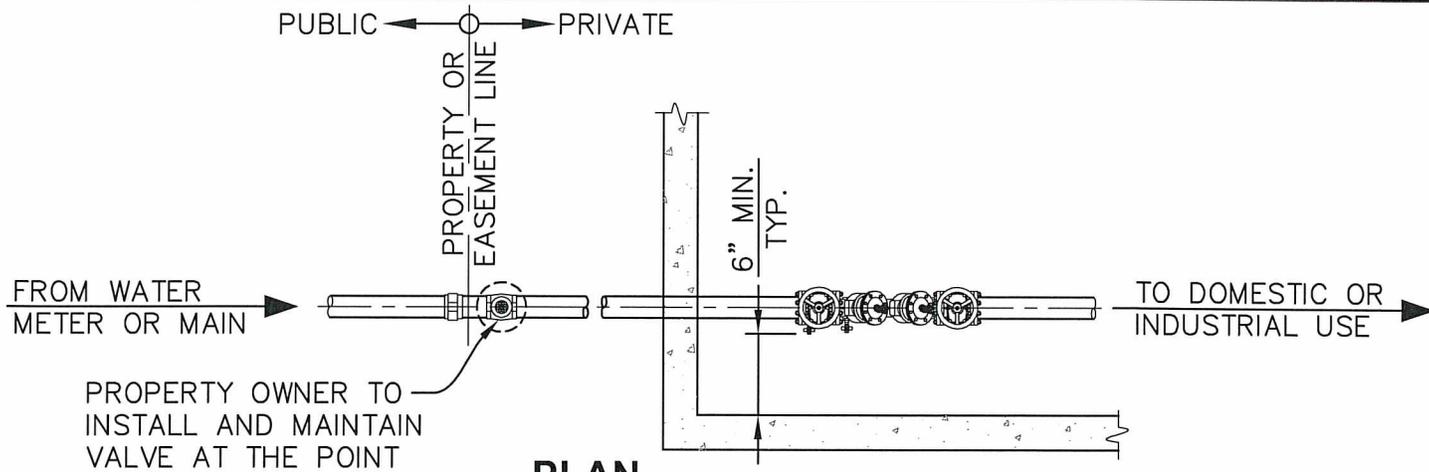


**NOTES:**

1. INSULATED PROTECTIVE ENCLOSURE MUST COMPLY WITH THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) 1060 OUTDOOR ENCLOSURES FOR BACKFLOW PREVENTION ASSEMBLIES. IT SHALL BE LOCKABLE WITH A KEY LOCK OR PADLOCK AND SHALL ALLOW FOR MINIMUM CLEARANCES AND PROVIDE ADEQUATE DRAINAGE.
2. RPBA SHALL BE INSTALLED ADJACENT TO THE METER AND HAVE NO BRANCH CONNECTION BETWEEN THE METER AND THE BACKFLOW ASSEMBLY.
3. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
4. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
5. A MINIMUM OF TWO SUPPORTS MUST FIRMLY ANCHOR THE ASSEMBLY.

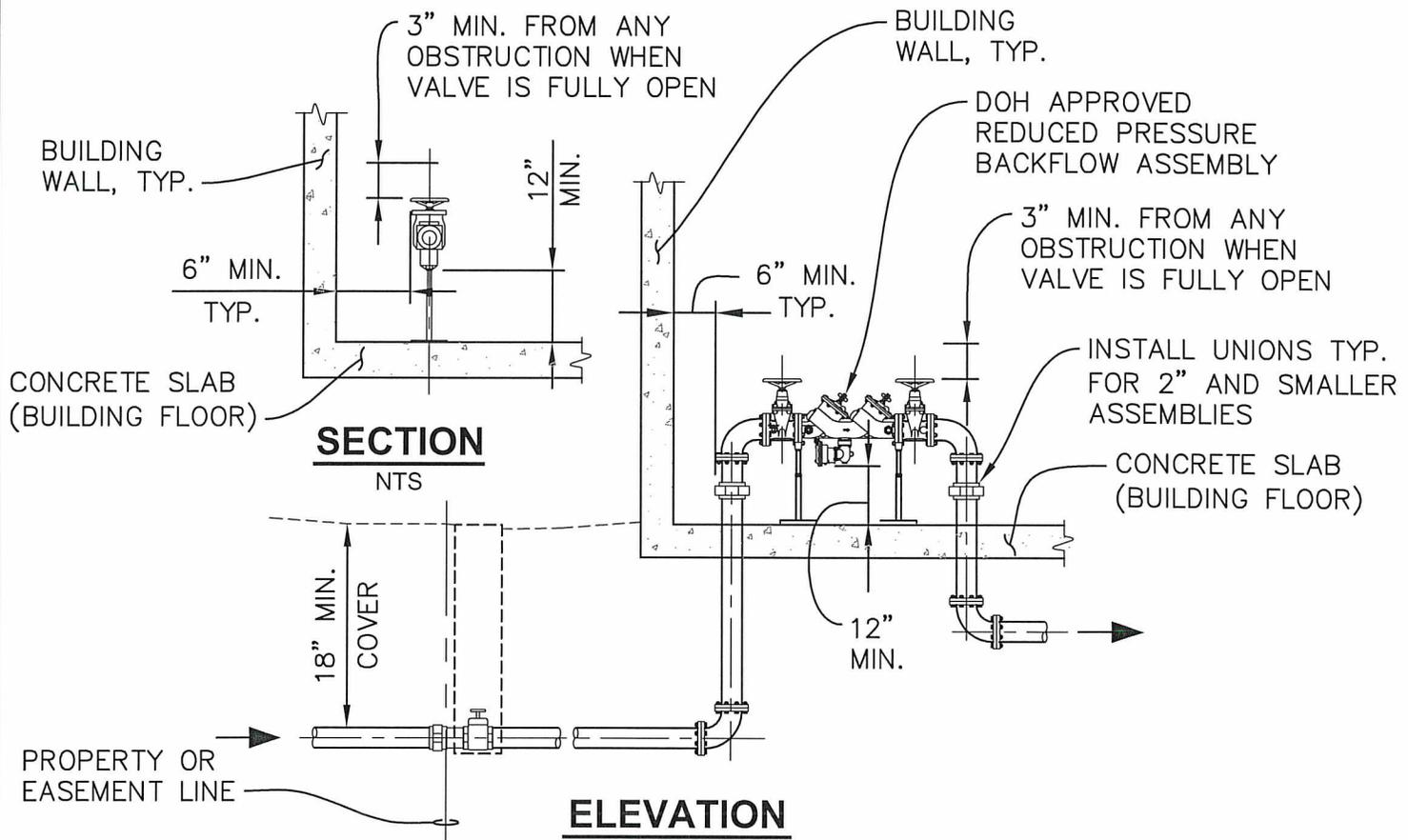
APPROVED BY CITY ENGINEER: 	DATE: 6/29/2018	CITY OF <b>AUBURN</b> WASHINGTON	REDUCED PRESSURE BACKFLOW ASSY. (OUTSIDE INSTALLATION)
COMMUNITY DEVELOPMENT & PUBLIC WORKS DEPT.			STANDARD DETAIL: W-22.2

Plotted by: Craig Dobyns on 5/16/2018 File location: M:\Construction Standard Details\Current Working DWG\Water\STDETAIL-W-22.2



PROPERTY OWNER TO  
INSTALL AND MAINTAIN  
VALVE AT THE POINT  
OF CONNECTION

**PLAN**  
NTS



**SECTION**  
NTS

**ELEVATION**  
NTS

**NOTES:**

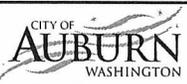
1. RPBA INSTALLED INSIDE BUILDING SHALL HAVE NO BRANCH CONNECTIONS BETWEEN THE METER AND THE BACKFLOW ASSEMBLY.
2. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
3. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
4. A MINIMUM OF TWO SUPPORTS MUST FIRMLY ANCHOR THE ASSEMBLY.

APPROVED BY CITY ENGINEER:

DATE:

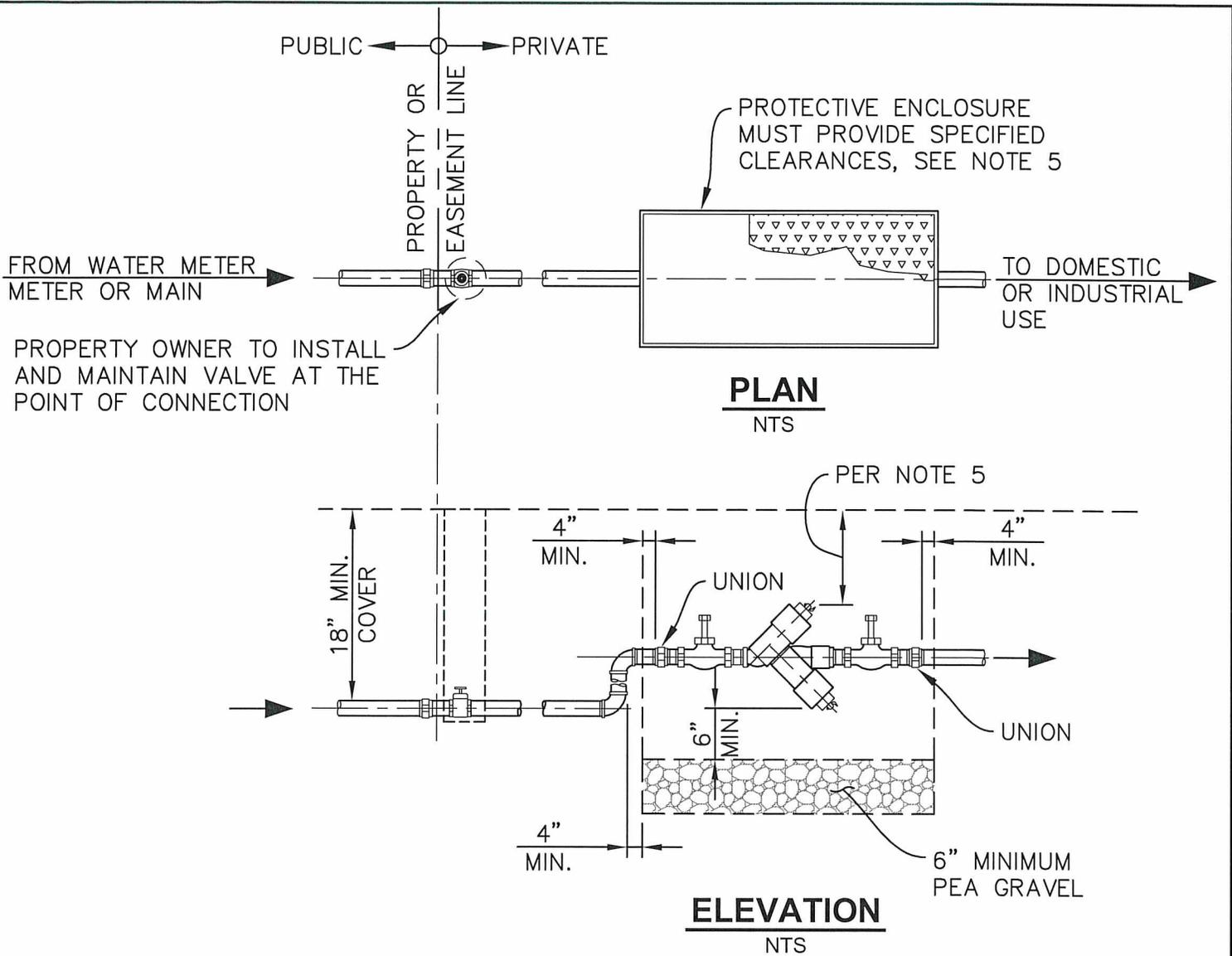
*Paul Galt*

8/5/2016



REDUCED PRESSURE BACKFLOW ASSY.  
(INSIDE INSTALLATION)

Plotted by: Craig Dobyns on 7/13/2016 File location: M:\Construction Standard Details\Approved Drawing Files (dwg)\Water\STDDET-W-23.1



**NOTES:**

1. BACKFLOW ASSEMBLY MUST HAVE ADEQUATE SPACE CONSIDERATIONS FOR PROPER TESTING AND MAINTENANCE. A MINIMUM OF 12" CLEARANCE FROM ANY OBSTRUCTIONS ON THE TEST SIDE. A MINIMUM OF 6" CLEARANCE BELOW ASSEMBLY AND A MINIMUM OF 6" OF PEA GRAVEL IN THE BOTTOM OF THE BOX. THE MINIMUM CLEARANCE FROM THE TOP OF THE PEA GRAVEL TO THE BOTTOM OF THE ASSEMBLY IS 6".
2. DCVA MUST BE INSTALLED WITH TEST COCKS FACING UP. TEST COCKS MUST BE PLUGGED WITH BRASS OR PLASTIC PLUGS.
3. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
4. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
5. MINIMUM CLEARANCE AT ABOVE ASSEMBLY SHALL BE: 9" (FOR 3/4" METER), 12" (FOR 1" METER), AND 14" (FOR 1 1/2" & 2" METER).

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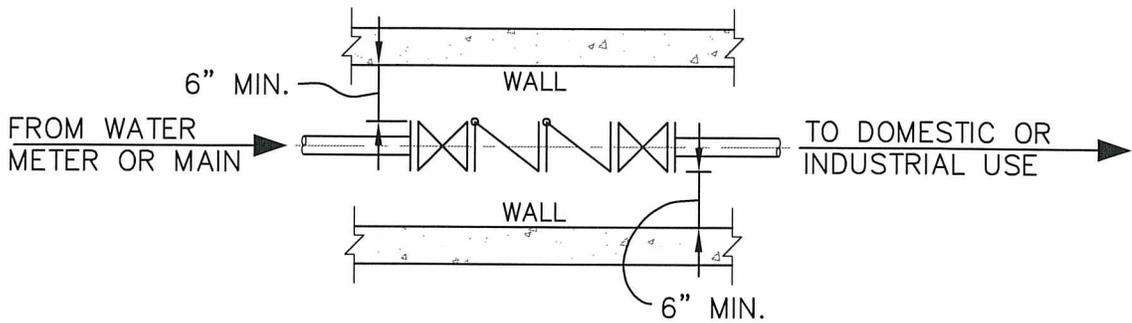
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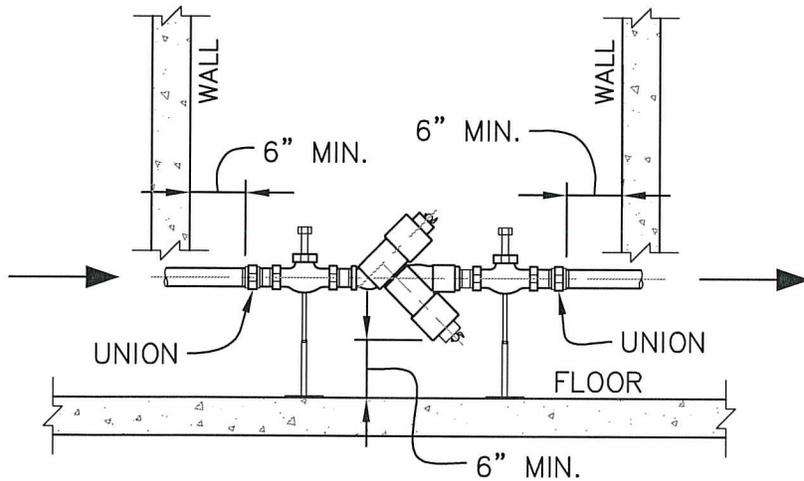
8/5/2016



DOUBLE CHECK VALVE ASSEMBLY  
(OUTSIDE INSTALLATION)



**PLAN**  
NTS



**ELEVATION**  
NTS

**NOTES:**

1. BACKFLOW ASSEMBLY MUST HAVE ADEQUATE SPACE CONSIDERATIONS FOR PROPER TESTING AND MAINTENANCE. A MINIMUM OF 6" SIDE CLEARANCE BETWEEN DCVA AND WALL OR ANY OBSTRUCTIONS AND A MINIMUM OF 6" CLEARANCE BELOW ASSEMBLY SHALL BE PROVIDED.
2. DCVA MUST BE INSTALLED WITH TEST COCKS FACING UP. TEST COCKS MUST BE PLUGGED WITH BRASS OR PLASTIC PLUGS.
3. DCVA INSTALLED INSIDE BUILDING SHALL HAVE NO BRANCH CONNECTIONS BETWEEN THE METER AND THE BACKFLOW ASSEMBLY.
4. BACKFLOW ASSEMBLY MUST BE APPROVED FOR USE IN WASHINGTON STATE BY THE DEPARTMENT OF HEALTH (DOH). IT MUST BE TESTED BY A STATE CERTIFIED "BAT" AT THE TIME OF INSTALLATION, ANNUALLY, AFTER THE ASSEMBLY IS REPAIRED, MOVED OR AFTER AN INCIDENT AT OWNER'S EXPENSE.
5. BACKFLOW ASSEMBLY SHALL BE PURCHASED AND INSTALLED AS A UNIT, AS SHIPPED BY THE MANUFACTURER, WITH NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY.
6. TWO SUPPORTS, EITHER WALL OR FLOOR, ONE ON EACH SIDE OF THE ASSEMBLY, MUST FIRMLY ANCHOR THE ASSEMBLY.

APPROVED BY CITY ENGINEER:

DATE:

*Paul Sab*

8/5/2016



DOUBLE CHECK VALVE ASSEMBLY  
(INSIDE INSTALLATION)