

**RESOLUTION No. 13/14-5
CITY OF DAYTON, OREGON**

Title: A Resolution Adopting Public Works Design Standards Update No. 6

WHEREAS, on October 6, 2006, the Dayton City Council adopted Resolution #06/07-11, A Resolution Adopting City of Dayton Public Works Design Standards (hereafter called "Standards"), and amended on February 5, 2007, by Resolution #06/07-27, A Resolution Adopting Public Works Design Standards Update No. 1; and on January 7, 2008, by Resolution #07/08-17, A Resolution Adopting Public Works Design Standards Update #2; and Resolution 07/08-31, A Resolution Adopting Public Works Design Standards Update #3; and Resolution 09/10-31, A Resolution Adopting Public Works Design Standards Update #4; and Resolution 12/13-35, A Resolution Adopting Public Works Design Standards Update #5; and

WHEREAS, the Standards are subject to change as both the City's needs change and the industry standards change, or if errors are discovered in the document; and

WHEREAS, certain information in the Standards needs to be updated or changed.

The City of Dayton resolves as follows:

- 1) **THAT** Update No. 6 to the City of Dayton Public Works Design Standards, (attached hereto as Exhibit A and by this reference incorporated herein) is hereby adopted; and
- 2) **THAT** this resolution shall become effective immediately upon adoption.

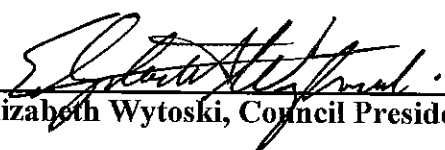
ADOPTED this 6th day of **January, 2014**.

In Favor: Bixler, Collins, Frank, Utt and Wytoski

Opposed: None

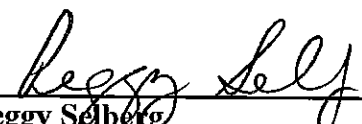
Absent: White

Abstained: None


Elizabeth Wytoski, Council President

1/15/2014
Date of Signing

ATTESTED BY:


Peggy Selberg
City Recorder

1/6/2014
Date of Enactment

Attachment - Exhibit A

TO: All Holders of Public Works Design Standards (PWDS) for the City of Dayton

DATE: Draft November 2013

SUBJECT: Public Works Design Standards Update No. 6 (DRAFT)

The following information is distributed as a public service to the development community of engineers, architects, contractors, builders, and developers to make them aware of any changes in the City Public Works Design Standards (PWDS) or the Public Works Construction Standards (PWCS) which may have an impact on their operations.

A. CLARIFICATIONS AND CORRECTIONS

General Construction Note numbering. Where modifications to construction notes result in new notes being added, existing and subsequent notes are renumbered as applicable by this update notice.

Continuing with current policy, developer’s engineers can request the standard construction notes (in MS Word format) from the City Engineer, and the “Minimum Required Testing and Frequency” table is available in pdf format.

1. General Construction Notes. To clarify requirements, Note 20 was modified as noted below in italics.

“20. Contractor shall field verify location and depth of all existing utilities where new facilities cross *or are closely parallel to the existing facilities.* All utility crossings marked or shown on the drawings shall be potholed using hand tools or other non-invasive methods prior to excavating or boring. Contractor shall be responsible for exposing potential utility conflicts far enough ahead of construction to make necessary grade modifications without delaying the work. If grade modification is necessary, Contractor shall notify the Design Engineer, and the Design Engineer shall obtain approval from the City Engineer prior to construction. All utility crossings shall be potholed as necessary prior to excavating or boring to allow the Contractor to prevent grade or alignment conflicts.”

2. General Construction Notes. To clarify requirements, Note 47 was modified as noted below in italics.

“47. Contractor shall provide a minimum two 3–inch diameter weep holes per lot in curb to provide for lot drainage. One weep hole shall be located 5 feet from the property line on the low point in the lot frontage. Weep holes shall also be provided as required for additional drainpipes shown on the drawings, as well as on both sides of driveway aprons. Contractor shall install drainpipe (smooth wall PVC or ABS) from each weep hole to the

back of sidewalk location prior to acceptance of the curbing by the City, and shall connect to existing drain piping where such piping exists within or adjacent to the right-of-way or easement. Weep holes installed in existing curbs shall be core drilled. *Where storm drain laterals for lots are constructed to weepholes in conjunction with subdivision or development improvements, the Contractor shall install 3" x 4" eccentric reducers just past the back of sidewalk to transition to 4-inch PVC rain drain lines.*"

3. General Construction Notes. To clarify requirements, Note 50 was added as noted below in italics.

"51. *Contraction joints shall be installed directly over any pipes that cross under the sidewalk, to control cracking. In general, cracks in new curbs or sidewalks (at locations other than contraction joints) are not acceptable, and cracked panels shall be removed & replaced unless otherwise approved by Public Works.*"

4. General Construction Notes. To clarify requirements, Note 64 was modified as noted below in italics.

"64. *Before mandrel testing, TV inspection or final acceptance of gravity sewer or storm pipelines, all trench compaction shall be completed and all sewers and storm drains flushed & cleaned to remove all mud, debris & foreign material from the pipelines, manholes and/or catch basins.*"

5. General Construction Notes. To clarify requirements for water service pipe joint style, Note 69 was modified as noted below in italics.

"69. *Unless otherwise approved by the City, 1" and 1½" water service pipe on the public side of the meter shall be CenCore blue HDPE tubing (CTS, SDR 9, 200 psi) conforming to AWWA C901 (ASTM D2239 & D2737), with 2½" long compression inserts and Q style compression fittings.*"

6. General Construction Notes. To clarify disinfection requirements, Note 79 was added as noted below in italics.

"79. *Disinfection of Connections.* *For connections which cannot be disinfected with the waterline mainlines as noted above, all fittings, valves and appurtenances, including tool surfaces which will come in contact with potable water, shall be thoroughly cleaned by washing with potable water and then swabbed or sprayed with a one percent (1%) hypochlorite solution (10,000 mg/L) in accordance with the requirements of AWWA C-651 and OAR 333-061.*"

7. General Construction Notes. To clarify requirements regarding notice to franchise utility companies, Note 100 was modified as noted below in italics.

“100. Contractor shall coordinate with gas, power, telephone, and cable TV company for location of conduits in common trenches, as well as location of vaults, pedestals, etc. *The Contractor shall be responsible for providing franchise utility companies adequate written notice of availability of the open trench (typically 10 days minimum), and reasonable access to the open trench. Unless otherwise approved in writing by the City, all above-grade facilities shall be located in PUEs (where PUEs exist or will be granted by the development), and otherwise shall be placed in a location outside the proposed sidewalk location.*”

8. General Construction Notes. To clarify requirements, the following erosion control note was added.

“10. *In addition to hydroseeding, for slopes 2H:1V or steeper (or where slope protection matting is indicated on the drawings or required by Public Works), the erosion matting shall be a type that has an extended term functional longevity (ie. minimum 24 months degradability) and specifically designed for use of 2:1 or steeper slopes to ensure that the steep slopes are protected until they have adequate vegetation cover established before the matting biodegrades away. Erosion control matting shall be SC150 matting by North American Green, or approved equal.*”

Continuing with current policy, developer's engineers can request the standard construction notes on disk from the City Engineer.

9. As-built Clarification. It has been noted that many of the copy shops that previously offered services to copy record drawings to mylar base sheets have discontinued those services. Therefore, the options for as-built drawings was modified to allow either mylar or vellum. Wording under PWDS 1.14 and PWDS G.14.d was modified to reflect this additional option.

10. Sidewalk Cross Slopes. Recently, certain projects/jurisdictions in the Willamette valley have been inspected by ADA compliance organizations and cited for sidewalks which exceeded ADA maximum cross slopes, which required the replacement of sidewalks and walkways at significant expense (to either the City or to the contractor). In some cases, the sidewalk on one side of a contraction joint was acceptable (2% cross slope), while the sidewalk immediately on the other side of the contraction joint failed (2.1% cross slope), and had to be removed and replaced. Differences as little as 1/16-inch (in one case caused by the screed riding over a small piece of aggregate on the form board) can cause sidewalks to fail if they are formed based on 2% cross slope. To minimize risk to contractors (and the City if the discrepancy is not discovered until after the warranty period), City standard details and notes were modified to require sidewalks to be formed and installed with

1.5% cross slope, to avoid cases where minor construction discrepancies result in sidewalks failing to be ADA compliant. These changes to clarify requirements to ensure compliance with ADA standards applies to the following PWDS sections and standard construction notes (changes noted below in italics).

Note 40 added: “40. *Street pavement widening cross slope shall be a minimum of 2% and a maximum of 5% except at intersections, where the street cross slopes shall not exceed 2% maximum (intersection defined from end of curb radius both directions) to comply with ADA standards. Prior to placing curbs, Contractor shall field verify pavement widening cross slope and contact City if the design pavement widening cross slope is not within the limits stated above.*”

Note 50: “50. Sidewalks shall be a minimum of 4-inches thick and standard driveways shall be a minimum of 6-inches thick. Commercial use driveways and alley approaches shall be minimum 8-inches thick. All curbs, sidewalks and driveways shall be constructed using 3300-psi concrete, and shall be cured with Type 1 or Type 1D clear curing compound. *All sidewalks shall fully comply with all ADA standards.*”

PWDS 2.20.c: “c. *All sidewalks shall fully comply with all ADA standards.* Handicap access ramps meeting current ADA standards shall be provided at all corners of intersections where crossing is permitted, regardless of curb type *(or absence of curb)*, and at the ends of all sidewalks.”

PWDS 2.21.b: “b. Sidewalk access ramps meeting current ADA standards shall be provided at all corners of intersections where crossing is permitted, regardless of curb type *(or absence of curb)*.”

11. Easement Requirement Clarification. To clarify the requirements regarding timing of recordation of easements required in conjunction with a project, PWDS 1.9.i.3 was modified as noted below in italics (wording modified to match in PWDS G.8.b.2).
 - “3. Recorded copies of all required off-site and on-site easements and right-of-way dedications, with the following exception. For subdivisions or partitions where all public utilities will be constructed prior to the recording of a final plat, the execution and recording of the *on-site* easement documents and *on-site* right-of-way dedications can be done in conjunction with the final plat. All easements documents shall use the City’s standard form, and shall include an exhibit map in addition to any legal descriptions. Legal descriptions and exhibit maps shall be submitted for City review and approval prior to recording.”

12. City Construction Note clarification. To clarify the requirement for inclusion of the City's standard construction notes on the construction drawings, PWDS 1.10.d.1.f was modified as noted below in italics.
- “f) General construction notes matching format and content of notes in the Appendix. *Where there is insufficient room on the cover sheet, the notes can be included on a subsequent sheet.*”
13. Drainage Calculation Summary Clarification. To clarify that only a summary of the drainage calculations are required on the drawings, PWDS 1.10.i.1 was modified as noted below in italics. Wording under PWDS 3.10.a.1 was modified to match.
- “1) *A summary of drainage calculations, including basin maps, shall be presented in a clear, concise and complete manner on the site grading or drainage plan sheets. These calculations shall address all runoff into the drainage system and downstream capacity. If required by the City, areas contributing flow to each inlet must be computed separately and each inlet with contributing area shall be designated and shown on an accompanying contour map work sheet.*”
14. Preconstruction Conference clarification. To clarify requirements and avoid potential for further confusion, PWDS 1.12.a was modified as noted below in italics. Wording under PWDS G.17 was modified to match.
- “a. A preconstruction conference shall be scheduled *with the City* before issuance of the public utility construction permits. *In addition to a City representative,* the meeting is to include the developer's representative, developer's engineer and prime contractor, and all affected utility companies. The purpose of the conference is to discuss the construction schedule and times of the work which require special coordination, *as well as to provide the opportunity for parties from the construction team and various agencies/entities involved to meet and coordinate as may be necessary.*”
15. Driveway Apron clarification. To clarify the type of surfacing that can be used for driveway aprons on different type of streets, PWDS 2.29.c-e was modified as noted below in italics.
- “c. Driveway approaches on curbed streets shall be constructed of concrete, and shall be a minimum of 6-inches thick. *Driveway approaches on turnpike (non-curbed) segments may be either concrete or asphalt, and shall be constructed so that they do not block drainage along the street. Sidewalks crossing driveway approaches shall be concrete per City standards.*
- d. All driveways shall have a minimum ten (10) foot paved *or concrete* approach from the back of sidewalk location. Multiple use, *commercial or industrial type* driveways shall be paved completely.

- e. Single family residential driveways: Driveway shall be a minimum of 12 feet wide and a maximum of 24 feet wide at the property line (LUDC 7.2.303.09.C). *See PWDS 2.30.c for residential driveway apron requirements on turnpike streets.*
16. Residential Driveway clarification. To clarify the requirements related to residential driveways, PWDS 2.28.a was modified as noted below in italics.
- “a. No more than one driveway per property shall be permitted in residential zones except for duplexes (*which can have two driveways*). ”
17. Private Street Section Clarification. To clarify the requirements regarding required sections for private streets, PWDS 2.30.a was modified as noted below in italics.
- “a. Private streets serving 3 or more residences shall be constructed to public street *baserock & pavement* section standards.”

18. Driveway Apron clarification. To clarify the type of surfacing that can be used for driveway aprons on different type of streets, PWDS 2.30.c was modified as noted below in italics.

“c. Pavement sections and widths for private streets, common driveways, flaglot drives or partition access easements shall conform to the following:

MINIMUM PAVEMENT WIDTH AND SECTIONS			
Classification ^{5,6}	Minimum ¹ Paved Width ²	Pavement Thickness (inch)	Baserock Thickness (inch)
Private Streets serving 3 to 6 residences ^{3,4}	20 ft	3 (AC)	9
		8 (PCC)	2
Common Drives serving 2 residences ³	20 ft	2½ (AC)	8
		6 (PCC)	2
Flag Lot Driveway	12 ft	2½ (AC)	6
		6 (PCC)	2
Partition Access Easement (1 dwelling unit)	12 ft	2½ (AC)	6
		6 (PCC)	2
Partition Access Easement (2 dwelling unit)	16 ft	2½ (AC)	6
		6 (PCC)	2
<i>Residential driveway apron, turnpike street (no curbs), for portion within ROW</i>	<i>D/W width</i> <i>24 ft max</i>	<i>2½ (AC)</i>	<i>6</i>
		<i>6 (PCC)</i>	<i>2</i>
¹ – Wider pavement widths may be required by the local fire chief or by Oregon Fire Code requirements. ² – Paved width shall be measured from the face of curb where curbs exist ³ – Recorded maintenance agreement required. ⁴ – Sidewalk to City standards required along one side of private street for entire length (LUDC 7.2.302.07.B.4). Provide PUE along one side of street easement for franchise utilities. ⁵ – All common residential driveways & private streets shall be designated as fire lanes and signed for no parking, and shall meet the fire apparatus access road requirements of the Oregon Fire Code where applicable. ⁶ – See PWDS 2.29.d for hard surfacing requirements adjacent to sidewalks.			

19. Culvert clarification. To clarify requirements for driveway cross culverts, the wording on the table under PWDS 3.8.b was modified as noted below in italics.

“Driveway Culverts: Pipe type based on cover depth, minimum size 12-inch diameter or adjacent street crossing or storm drain size, whichever is greater. PVC or HDPE pipe is not allowed *for culverts or outfalls* without structural concrete end caps.”

20. Rainfall IDF (Intensity-Duration-Frequency) Curve. Dayton is located very near the boundary between the Zone 7 and Zone 8 IDF curves, and the incorrect curve was referenced in the original PWDS manual (for reference, rainfall intensity for Zone 7 is about 6-8% less than for Zone 8). To clarify the correct IDF curve callout, the wording under PWDS 3.1.b.1 was modified as noted below in italics.
- “1) Rainfall Intensity-Duration Curve - The rainfall intensity-duration-frequency (IDF) curve for use in the City of Dayton is the ODOT *Zone 7* IDF curve (enclosed herein).”
21. Sewer Main & Survey Monument conflict clarification. To clarify requirements for avoiding conflicts between mainline sewer alignments and survey monuments, PWDS 4.8.c.2 was added as noted below in italics.
- “2) *Where sewer alignments cross the street centerline, the design shall demonstrate that the requirements of ORS 92.044(7) are satisfied with relation to street centerline monuments (ie. utility infrastructure is not to be placed within 1 foot of a survey monument location shown on a plat).*”
22. Sewer Bypass clarification. To clarify requirements and obligations of the Contractor in relation to sewer bypasses required during sewer construction, PWDS 4.17.c.3 was added as noted below in italics.
- 3) *Contractor shall be responsible for all costs related to cleanup, damages and fines resulting from any sewerage spill or overflow associated with any methods used to convey sewage flows during construction.*”
23. Grease Removal. To clarify the requirements for grease removal as required by the City sewer ordinances, the wording under PWDS 4.18.a.7 was modified as noted below in italics.
- “7) Grease Removal. Provisions acceptable to Public Works shall be made for grease removal for any installations with commercial or similar kitchens, or other applications as required by Public Works. Unless otherwise approved by Public Works, a minimum two-compartment *gravity* grease interceptor vault (1,000 gallon minimum) shall be provided, particularly in any application where hot water or steam cleaning of commercial type kitchens is utilized. *Any proposal for a gravity grease interceptor vault smaller than 1,000 gallon capacity shall include documentation that the unit is sized per the requirements of the 2011 Oregon Plumbing Code (OPC) table 10-3 (or current edition).* A maintenance agreement (acceptable to the Public Works Director and City Attorney where applicable) shall be recorded against the property.”

24. Fire Protection Service. To clarify that a fire service line is a private line and the responsibility of the property owner, the wording under PWDS 5.7.a.14 was modified as noted below in italics.

“14) Fire Protection Services: A connection to the public water main intended only for the extinguishment of fires and flushing necessary for its proper maintenance. All fire services connected to building sprinkler systems shall have a double check detector assembly. *The connection of the fire protection service to the public mainline shall be the service connection, and the entire portion of the fire protection service from the public mainline to the building shall be the sole responsibility of the property owner for maintenance and/or repair (ie. a private service line).*”

25. Water Service Pipe & Fittings. To bring callouts into conformance with materials currently used by Public Works, PWDS 5.8.f was modified as noted below in italics (paragraphs not shown were not modified).

“f. Service Pipe and Fittings

- 1) For criteria regarding tapping requirements, see Section 5.19.
- 2) All services that are saddle tapped shall use ductile iron service saddles with stainless steel bolts and double strap clamps. All ductile iron service saddles shall be furnished with a fusion bonded epoxy *or nylon* coating conforming to the requirements of AWWA C-550, Romac 202N, Ford FC202 or approved equal.
- 3) Unless otherwise required by the City Engineer or the Public Works Superintendent, single residential service pipe shall be a minimum of 1-inch in diameter.
- 4) Unless otherwise approved by the City Engineer or the Public Works Superintendent, commercial or industrial service pipe shall be a minimum of 1½-inches in diameter (reducers to be installed at meter location as applicable).
- 5) All service connections to *HDPE or copper service* pipe shall be compression fittings, *with 2½" long inserts provided for all HDPE connections per manufacturer's recommendations.*
- 6) 1-inch Services
 - a) Unless otherwise specified herein, water service lines shall be *blue HDPE tubing (CTS, SDR 9, 200 psi rated) conforming to AWWA C901 (ASTM D2239 & D2737), with compression inserts and Q style compression fittings (Cencore or approved equal).* All water services shall be continuous without splices except for services in excess of 100 feet in length *where approved by Public Works prior to construction.*

- b) All corporation stops shall be brass ball valve corporation stops rated to 300 psi with iron pipe thread inlet and compression outlet to adapt to *HDPE* copper tube size (CTS) pipe. Corporation stops shall be Ford FB-1100-4Q or approved equivalent.
 - c) Each individual water service line shall be equipped with a full size locking ball valve meter stop assembly at the inlet to the meter. All meter stop assemblies shall be brass with copper pipe connector as appropriate and outlet for meter coupling.
 - d) Meter stops for 3/4-inch and 1-inch meters shall be 1-inch locking angle ball valves with compression inlet. 1-inch meter stops shall be Ford KV43-444WQ, or approved equivalent. Provide all services with a 1" x 3/4" adapter on the meter stop for each 1" service.
 - e) Where permitted, service line couplings shall be compression style couplings. Couplings (*where approved by Public Works*) shall be Ford C44-44Q coupling or approved equivalent, *with compression inserts*.
- 6) 1½-inch & 2-inch Services
- a) 1½-inch water service lines for shall be either *blue HDPE tubing (CTS, SDR 9, 200 psi rated) conforming to AWWA C901 (ASTM D2239 & D2737), with compression inserts and Q style compression fittings (Cencore or approved equal)*, or Schedule 80 PVC pipe. All fittings on PVC pipe shall be Schedule 80 PVC. Use IPS Weld-On purple primer P70 with 711 glue or approved equivalent.
 - d) 2-inch and larger services shall have a mainline tee with flanged side outlet and flange x MJ resilient wedge gate valve conforming the requirements specified herein.
- 8) 3-inch and Larger Services
- d) The meter assembly shall include a lockable bypass and may require a backflow preventer if required by Public Works.
- 9) Fire Services
- c) All fire service connections shall have a *minimum 4-inch* mainline tee with flanged side outlet and a flange x MJ resilient wedge gate valve conforming to the requirements specified herein.
 - d) *Each fire service connection shall be provided with a double check detector assembly with a City approved meter on the detector loop."*

26. Waterline Cover clarifications. To clarify the requirements relating to waterlines in areas outside of street improvements, the wording under PWDS 5.13.b was modified as noted below in italics.

“b. Finish grade shall normally be determined as follows:

FINISH GRADE	
Mainline Location	Reference Finish Grade
Waterline under sidewalk in right-of-way	Top of curb
Waterline in front of curb	Gutter
Waterline in cut slope (<i>ie. waterline located behind and parallel with curb/sidewalk</i>)	Top of curb (<i>ie. cover depth measured from top of curb grade</i>)
<i>Waterline in cut slope other than parallel with curbline</i>	<i>Perpendicular from pipe to surface</i>
Fill slopes	Perpendicular from pipe to surface
Easement	Finish grade at pipe centerline

27. Service Tap clarifications. To reiterate the requirement from PWDS 5.19.d.1.d and place this requirement with the fire hydrant design requirements, PWDS 5.17.d.3 was added as noted below in italics.

“3) *Service taps on hydrant leads are prohibited.*”

28. Mainline Tap clarifications. To clarify allowable configurations for mainline taps, PWDS 5.19.c.1 was modified as noted below in italics.

“1) Tapping requirements for water service lines shall be as outlined below.

WATER SERVICE TAPPING REQUIREMENTS		
Service Size	Mainline Type	Tapping Requirements
1"	All pipe types	Service Saddle
1½"	All pipe types	Service Saddle
2" & larger	All pipe types	Mainline tee (<i>or tapping saddle</i>) with flanged valve

29. Backflow clarifications. To clarify backflow requirements, PWDS 5.19.d.2 was modified as noted below in italics.
- “2) Fire Service
- a) A backflow prevention assembly (*with detector loop & detector meter*) shall be placed on fire service lines as required by the City.
 - b) Plans for fire service lines shall meet the requirements of outlined in Division 1 *and in PWDS 5.8.f.6*, and shall be stamped by a licensed Civil Engineer.
 - c) Drawings for fire services shall include vicinity map, adjoining street name, width, curb and property line, location of existing water line referenced to the property line, existing hydrant locations and the distance to property pins where the service crosses the property line.”
30. Backflow clarifications. To clarify backflow requirements, PWDS 5.20.a.3 was added as noted below in italics.
- “3) *A backflow preventer shall be provided if required by Public Works.*”
31. Large Meter Configuration clarifications. To clarify requirements relating to meter larger than 2”, PWDS 5.20.b.3.f was added as noted below in italics.
- “f) *The configuration of the lockable bypass shall be acceptable to Public Works.*”
32. Backflow clarifications. To clarify backflow requirements, wording under PWDS 5.22.a was modified as noted below in italics (to reflect backflow “assemblies”, which are testable, rather than backflow “devices”, which are not testable, and other clarifications), as noted below in italics. Paragraphs not shown were not modified.
- “a. General
- 1) All backflow *assemblies* shall be testable and include provisions for testing by a certified backflow testing person or organization.
 - 2) An approved backflow prevention assembly with an approved metering system shall be required for each use in the following instances:
 - b) *All fire services, including a detector loop & detector meter.*
 - c) On all private water lines or *private* distribution system attached to the City's distribution system, *with or without a master meter.*
 - 5) *All backflow assemblies shall be installed in a box or vault approved by Public Works.*”

33. Fire Department Connection (FDC). Wording under PWDS 5.22.c was modified to clarify that FDCs connections, risers and FDC supply lines are to comply with provisions of the Oregon Fire Code and the applicable NFPA standards, and that the specific location and configuration is subject to approval by the Fire Chief.

“c. Fire Department Connections (FDC)

- 1) The distance from a fire hydrant to the fire department connection (FDC) shall not exceed 40 feet unless otherwise approved in writing by the Fire Chief, but in no case shall a distance of greater than 60 feet be allowed.
- 2) *FDCs connections/risers and FDC supply lines shall be installed in conformance with provisions of the Oregon Fire Code and applicable NFPA standards (including but not limited to installation of accessible ball drip valves, cover depths for freeze protection, etc.), with specific location and configuration subject to approval by the Fire Chief.”*

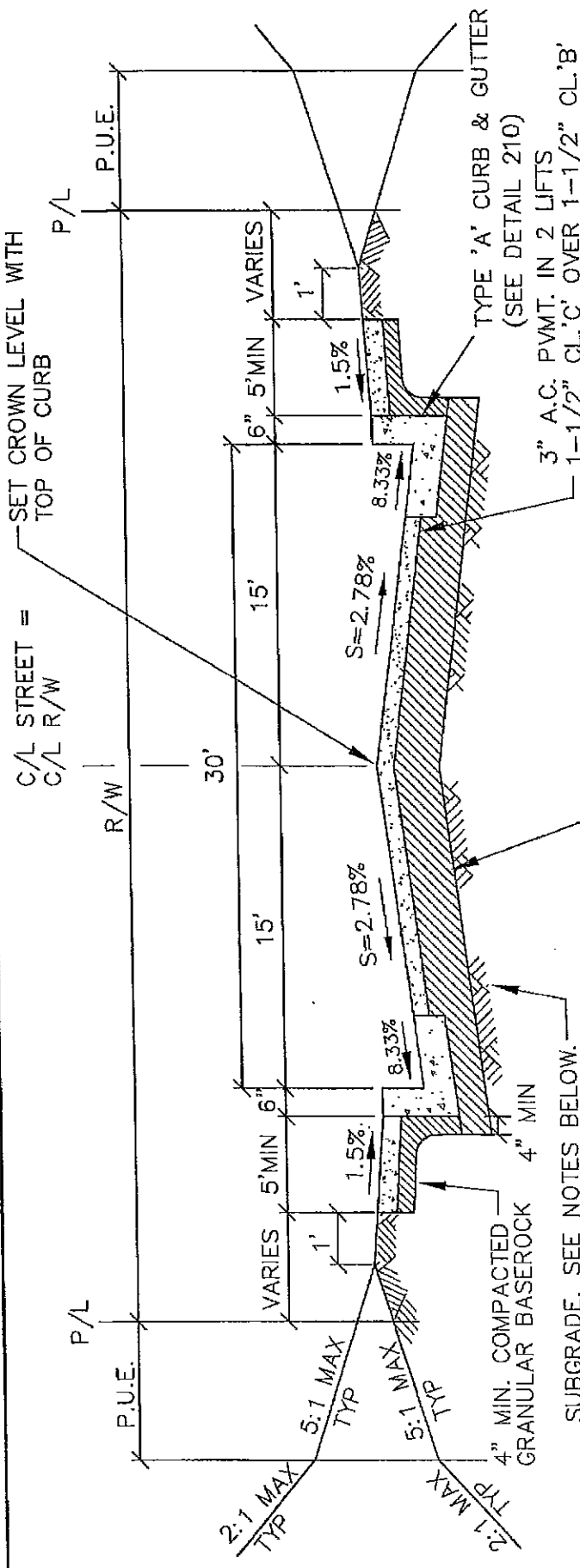
34. Maintenance Bond clarification (Appendix G). In order to clarify the City’s policy regarding the portion of the project which is to be covered by the maintenance bond, PWDS G.14.d.2 was modified as noted below in italics.

- “2) Acceptable Maintenance Bond (*or other security acceptable to the City*) valued at a minimum of 40 percent of the estimated construction costs for *the public portion of the improvements constructed under the Public Works permit*. The period of the bond shall be for the full period of the warranty period, not to be less than 1 year. The warranty period shall not commence prior to provisional acceptance of the public improvements by the City.”

B. STANDARD DETAIL REVISIONS

35. Sidewalk Cross Slopes. The changes discussed above (regarding sidewalk ADA compliance) applies to the sidewalk cross slopes listed on Details 201-1, 201-201-3, 202, 203, 204, 212, 212A, 213, 216, 237 and 238. The revised details (see attached) are dated 11/13.
36. Detail 213A: Notes modified to clarify that the typical clearance shown from the back of curb may be modified by the City based on actual sidewalk widths. The revised detail (see attached) is dated 11/13.
37. Detail 301: Note modified to clarify the trench width listed is based on standard trench boxes set on the trench bottom. The revised detail (see attached) is dated 9/13.

38. Detail 302B: The detail title was modified to clarify that this joint is required for either street widening or street extensions. The revised detail (see attached) is dated 9/13.
39. Detail 303: The detail callouts were modified to clarify the type of baserock for use in the top of the trench for existing and new streets. The revised detail (see attached) is dated 7/13.
40. Detail 407: The drawings notes were modified to reference the note relating to thickness of the AC or concrete pad required around manholes in unpaved traffic areas. The revised detail (see attached) is dated 11/13.
41. Detail 415: The detail was modified to more clearly show the configuration of the cleanout riser pipe and to clarify fittings allowed from the mainline to the cleanout. The revised detail (see attached) is dated 9/13.
42. Detail 416: The detail notes were modified to clarify the fittings which can be used on the cleanout riser with approval by Public Works. The revised detail (see attached) is dated 9/13.
43. Details 501, 502, 503, 505, 506, 507, 517: The detail callouts were modified to clarify the designation of the standard valve box (910 style). The revised details (see attached) is dated 9/13.
44. Detail 511: Modified to reflect standard straddle block for pipe size up to 12-inch diameter. Retainer fitting callout modified to reflect actual fitting currently available. The revised detail (see attached) is dated 9/13.
45. Details 515, 516 & 517. Modified to reflect new water service pipe used by Public Works. The revised details (see attached) are dated 11/13.
46. Detail 518: The detail callouts were modified to clarify several issues regarding installation configuration. The revised detail (see attached) is dated August 2013.
47. Detail 543: A new detail was added for a 3-inch reduced pressure backflow assembly (to complement the existing details for 2" and 4" assemblies). The new detail (see attached) is dated 7/13.
48. Detail 560, 561 & 562: New details were added to show a typical configuration of a check valve or drain valve on an FDC line when the backflow device is located inside the building, and the FDC riser is required by the Fire Chief to be located away from the building. The new details (see attached) are dated 10/13.



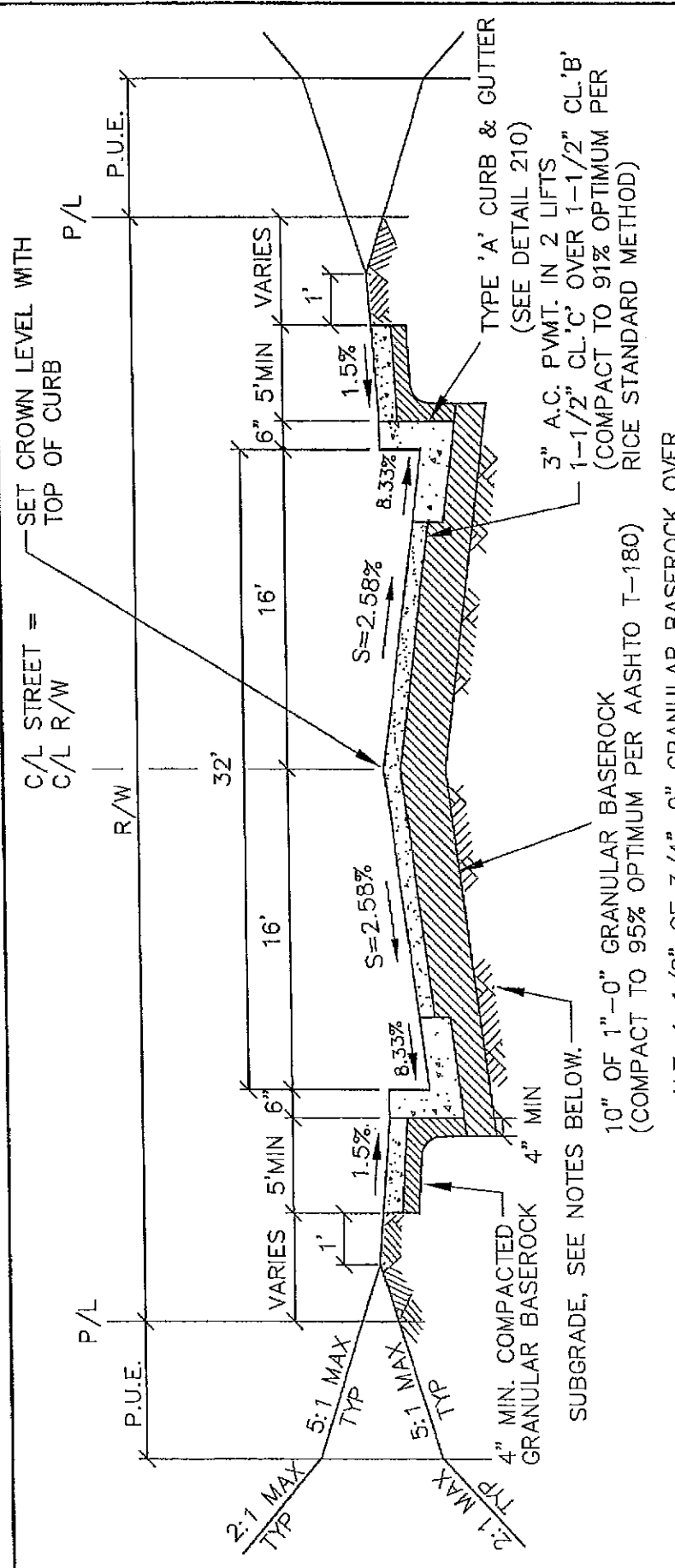
10" OF 1"-0" GRANULAR BASEROCK
 (COMPACT TO 95% OPTIMUM PER AASHTO T-180)

ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER
 8-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.

NOTES:

1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER Tired EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL).
 SEPARATION FABRIC: NON-WOVEN (MIRAFI 160N, GEOTEX 601, LINQ 150EX OR EQUAL), WOVEN (MIRAFI 500X, GEOTEX 200ST, LINQ GTF200 OR EQUAL).

LAST REVISION DATE: NOV 2013	COPYRIGHT 1996 WESTECH ENGINEERING, INC.
30' RESIDENTIAL STREET (LOCAL 1 CLASS) MINIMUM SECTION (NTS)	
DAYTON, OR	DETAIL NO. 201-1



C/L STREET =
 C/L R/W
 R/W | 32'
 P/L | P.U.E. | P/L | P.U.E.

VARIES 5' MIN 6"
 6" 5' MIN VARIES
 1' 1.5%
 8.33%
 S=2.58%
 8.33%
 S=2.58%
 8.33%
 1.5%
 5:1 MAX TYP
 5:1 MAX TYP
 2:1 MAX TYP
 2:1 MAX TYP

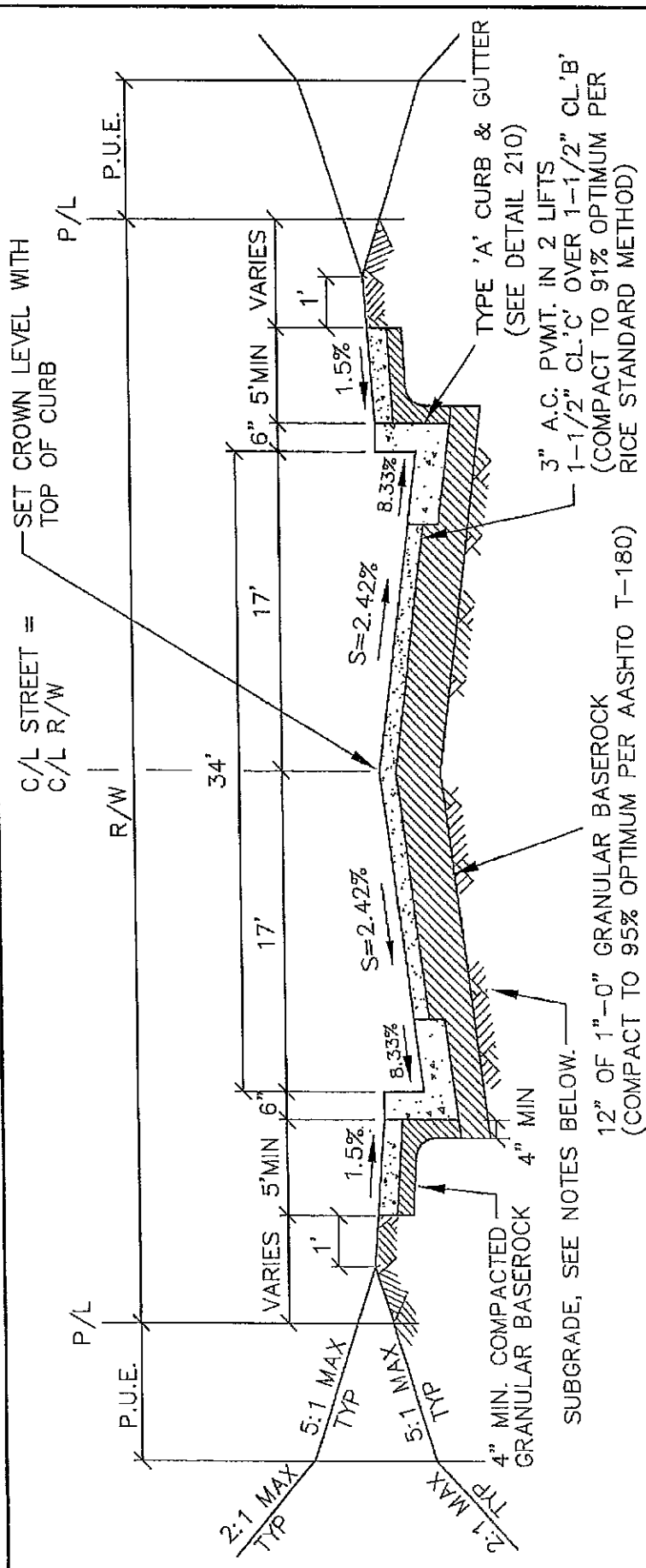
TYPE 'A' CURB & GUTTER
 (SEE DETAIL 210)
 3" A.C. PVMT. IN 2 LIFTS
 1-1/2" CL.C' OVER 1-1/2" CL.'B'
 (COMPACT TO 91% OPTIMUM PER RICE STANDARD METHOD)

4" MIN. COMPACTED GRANULAR BASEROCK 4" MIN
 10" OF 1"-0" GRANULAR BASEROCK (COMPACT TO 95% OPTIMUM PER AASHTO T-180)
 ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER 8-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.

SUBGRADE, SEE NOTES BELOW.

- NOTES:
1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
 2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER Tired EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
 3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
 4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL).

LAST REVISION DATE: NOV 2013	COPYRIGHT 1996 HESSTECH ENGINEERING, INC.
32' RESIDENTIAL STREET (LOCAL II CLASS) MINIMUM SECTION (NTS)	
DAYTON, OR	DETAIL NO. 201-2

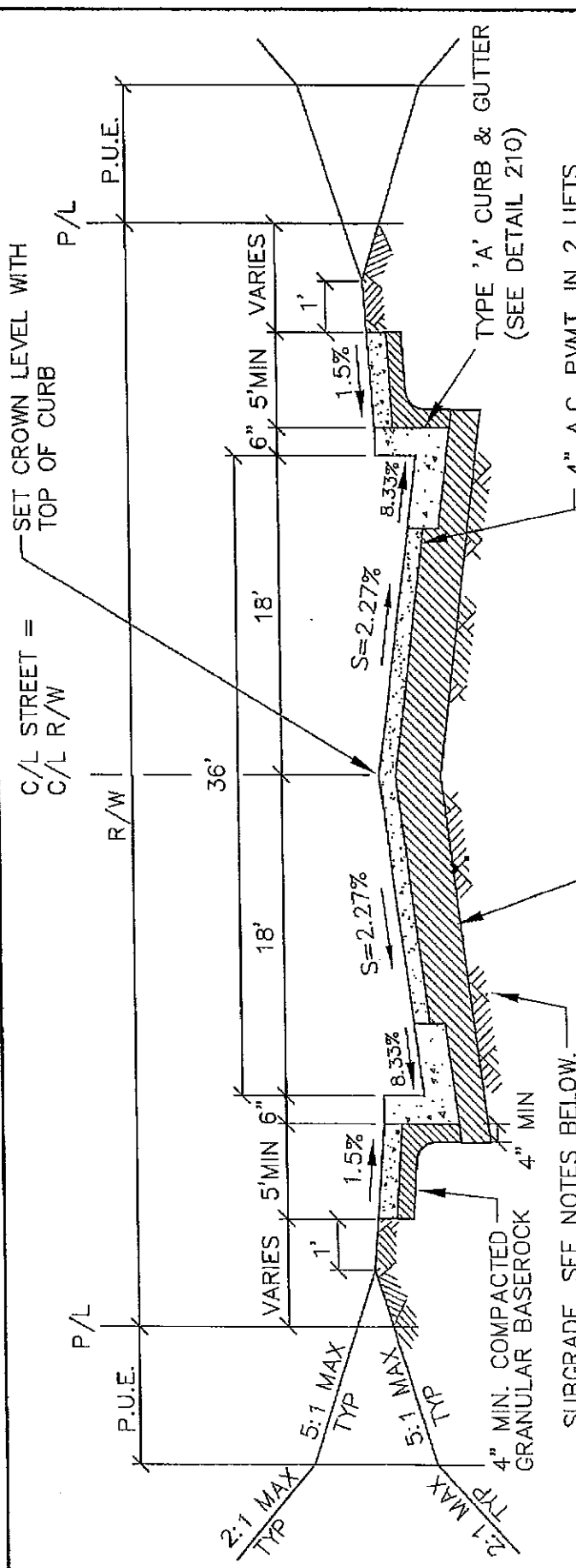


ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER
 10-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.

NOTES:

1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER Tired EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL).

LAST REVISION DATE: NOV 2013	COPYRIGHT 1998 GCS/TECH ENGINEERING, INC.
34' RESIDENTIAL STREET (LOCAL III CLASS) MINIMUM SECTION (NTS)	
DAYTON, OR	DETAIL NO. 201-3



4" MIN. COMPACTED GRANULAR BASEROCK

4" A.C. PVMT. IN 2 LIFTS
2" CL.'C' OVER 2" CL.'B'
(COMPACT TO 91% OPTIMUM PER RICE STANDARD METHOD)

TYPE 'A' CURB & GUTTER (SEE DETAIL 210)

12" OF 1"-0" GRANULAR BASEROCK (COMPACT TO 95% OPTIMUM PER AASHTO T-180)

ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER 10-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.

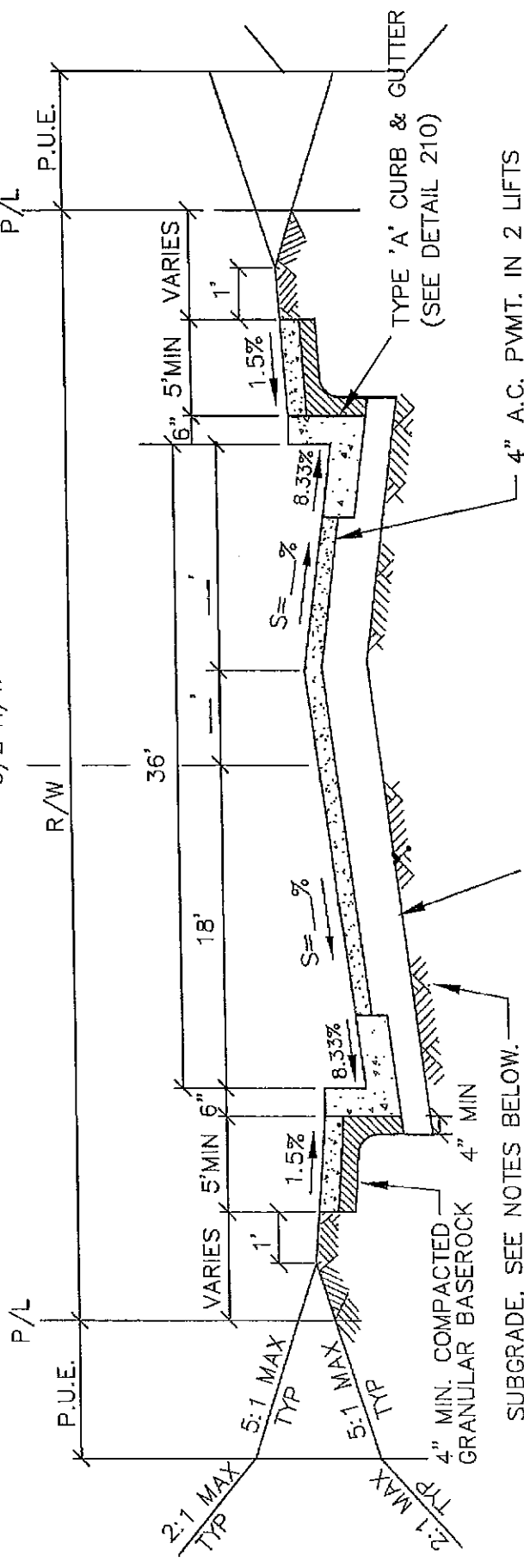
SUBGRADE, SEE NOTES BELOW.

- NOTES:
1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
 2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER Tired EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
 3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
 4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL). SEPARATION FABRIC: NON-WOVEN (MIRAFI 160N, GEOTEX 601, LINQ 150EX OR EQUAL), WOVEN (MIRAFI 500X, GEOTEX 200ST, LINQ GTF200 OR EQUAL).

LAST REVISION DATE: NOV 2013	COPYRIGHT 1995 HESTECH ENGINEERING, INC.
36' COLLECTOR STREET 36' COMMERCIAL STREET MINIMUM SECTION (NTS)	
DAYTON, OR	DETAIL NO. 202

TC RIGHT - - - = TC LEFT
 TC RIGHT - - - = CROWN
 P/L

C/L STREET =
 C/L R/W



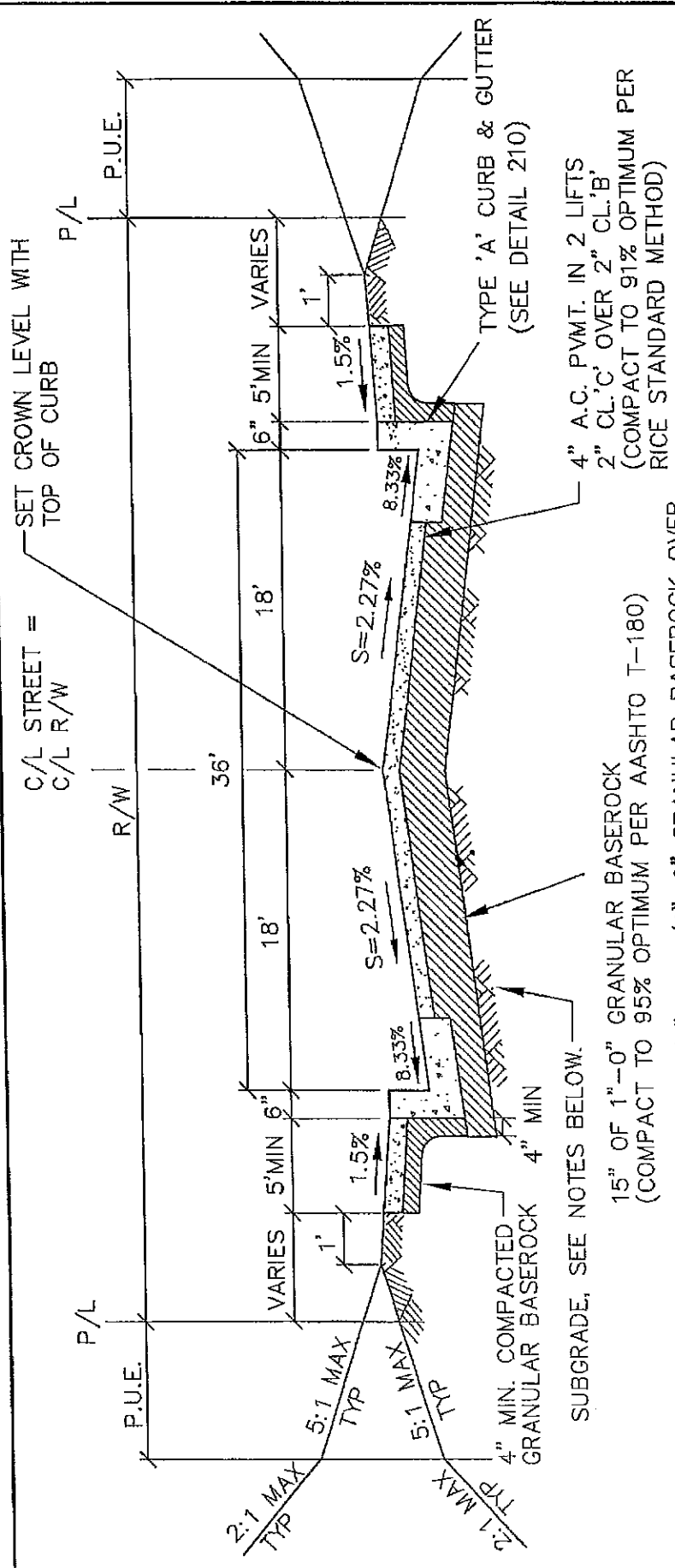
12" OF 1"-0" GRANULAR BASEROCK
 (COMPACT TO 95% OPTIMUM PER AASHTO T-180)

ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER
 10-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.

NOTES:

1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER Tired EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL).

LAST REVISION DATE: NOV 2013	COPYRIGHT 1996 HESSTON ENGINEERING, INC.
36' COLLECTOR STREET OFFSET CROWN MINIMUM SECTION (NTS)	
DAYTON, OR	DETAIL NO. 202-1



15" OF 1"-0" GRANULAR BASEROCK
(COMPACT TO 95% OPTIMUM PER AASHTO T-180)

ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER
13-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.

NOTES:

1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER TIRE EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL).

TYPE 'A' CURB & GUTTER
(SEE DETAIL 210)

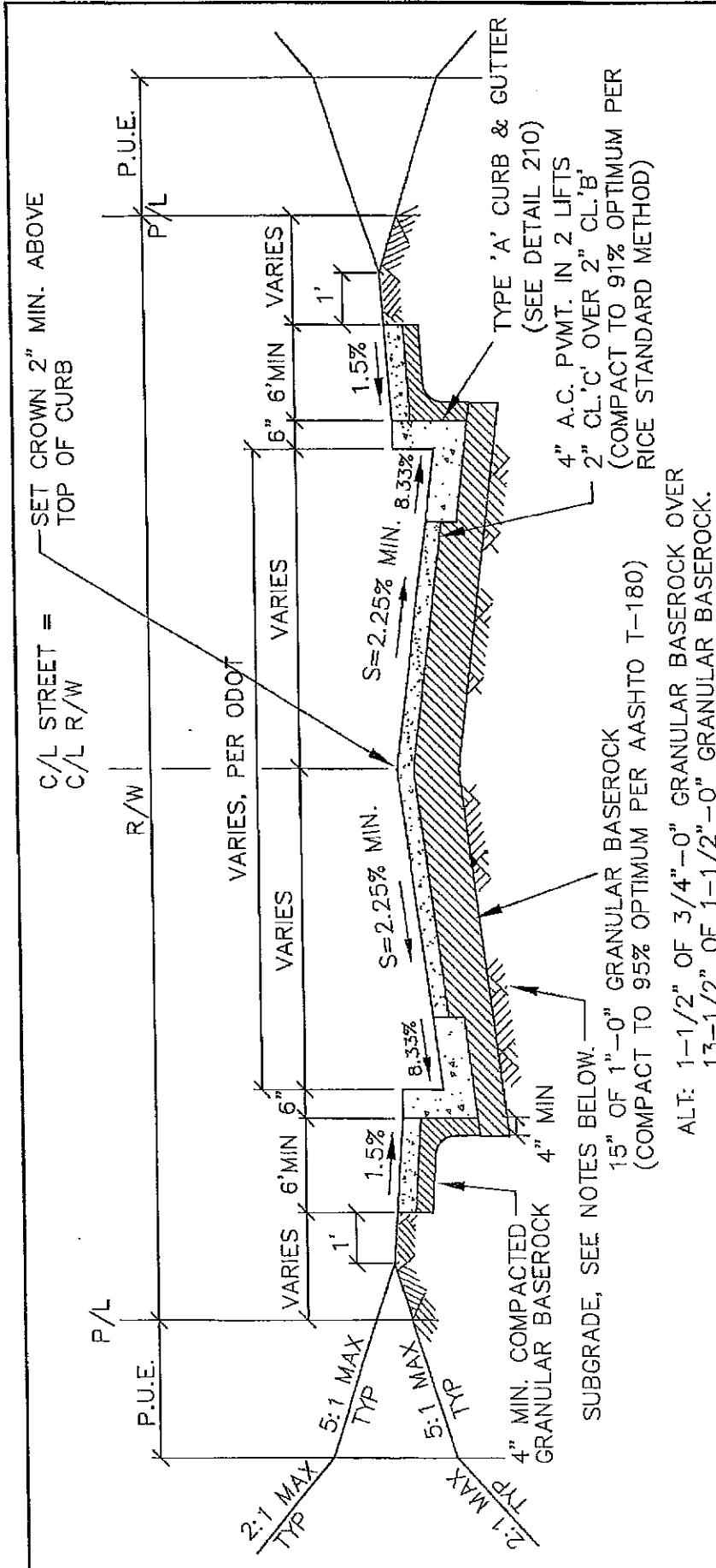
4" A.C. P.V.M.T. IN 2 LIFTS.
2" CL.'C' OVER 2" CL.'B'.
(COMPACT TO 91% OPTIMUM PER RICE STANDARD METHOD)

4" MIN. COMPACTED GRANULAR BASEROCK 4" MIN

SUBGRADE, SEE NOTES BELOW.

36' INDUSTRIAL STREET
MINIMUM SECTION
(NTS)

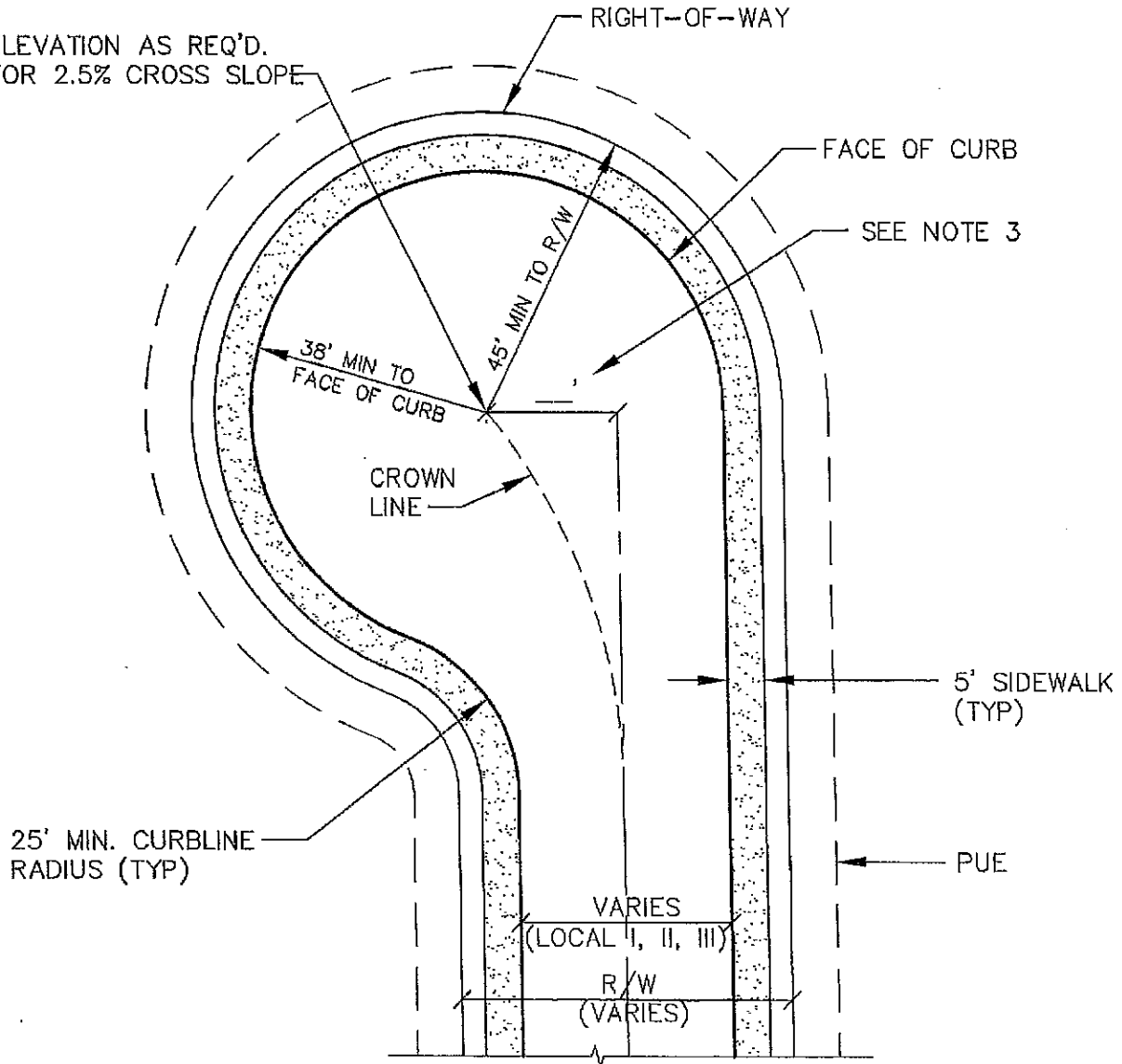
LAST REVISION DATE: NOV 2013	COPYRIGHT 1986 WESTECH ENGINEERING, INC.
36' INDUSTRIAL STREET MINIMUM SECTION (NTS)	
DAYTON, OR	DETAIL NO. 203



- SET CROWN 2" MIN. ABOVE TOP OF CURB
- TYPE 'A' CURB & GUTTER (SEE DETAIL 210)
- 4" A.C. PVMT. IN 2 LIFTS (COMPACT TO 91% OPTIMUM PER RICE STANDARD METHOD)
- 4" MIN. COMPACTED GRANULAR BASEROCK
- 15" OF 1"-0" GRANULAR BASEROCK (COMPACT TO 95% OPTIMUM PER AASHTO T-180)
- ALT: 1-1/2" OF 3/4"-0" GRANULAR BASEROCK OVER 13-1/2" OF 1-1/2"-0" GRANULAR BASEROCK.
- SUBGRADE, SEE NOTES BELOW.
- NOTES:
1. ALL DESIGN SUBGRADES SHALL BE COMPACTED AND PROOF-ROLLED PRIOR TO PLACEMENT OF BASEROCK. COMPACTION TESTING OF SUBGRADE MAY BE WAIVED AS OUTLINED UNDER NOTE 3.
 2. IF SUBGRADE FAILS THE PROOF-ROLL, SUBGRADE SHALL BE OVEREXCAVATED TO UNDISTURBED SOIL AND BACKFILLED WITH BASEROCK OVER GEOTEXTILE REINFORCEMENT FABRIC (AS SPECIFIED) TO ALLOW COMPACTION OF UPPER (DESIGN) BASEROCK SECTION AND TO MAINTAIN STRUCTURAL INTEGRITY OF NATIVE SUBGRADE SOILS. TYPICAL MIN. OVEREXCAVATION REQUIRED IS 12-INCHES. NO RUBBER Tired EQUIPMENT ALLOWED ON SUBGRADE FOLLOWING OVEREXCAVATION.
 3. IF SUBGRADE PASSES PROOF-ROLL BUT CANNOT BE COMPACTED TO 95% OPTIMUM DENSITY PER AASHTO T-180 (OR IF CONTRACTOR CHOOSES NOT TO TEST), GEOTEXTILE SEPARATION FABRIC (AS SPECIFIED) SHALL BE PLACED ON THE SUBGRADE PRIOR TO PLACEMENT OF THE BASEROCK.
 4. REINFORCEMENT FABRIC: NON-WOVEN (MIRAFI 1000N, GEOTEX 1001, LINQ 250EX OR EQUAL), WOVEN (MIRAFI 550X, GEOTEX 250ST, LINQ GTF250 OR EQUAL). SEPARATION FABRIC: NON-WOVEN (MIRAFI 160N, GEOTEX 601, LINQ 150EX OR EQUAL), WOVEN (MIRAFI 500X, GEOTEX 200ST, LINQ GTF200 OR EQUAL).

LAST REVISION DATE: NOV 2013	COPYRIGHT 1998 WSTECHE ENGINEERING, INC.
ARTERIAL STREET MINIMUM SECTION	
(NTS)	
DAYTON, OR	DETAIL NO. 204

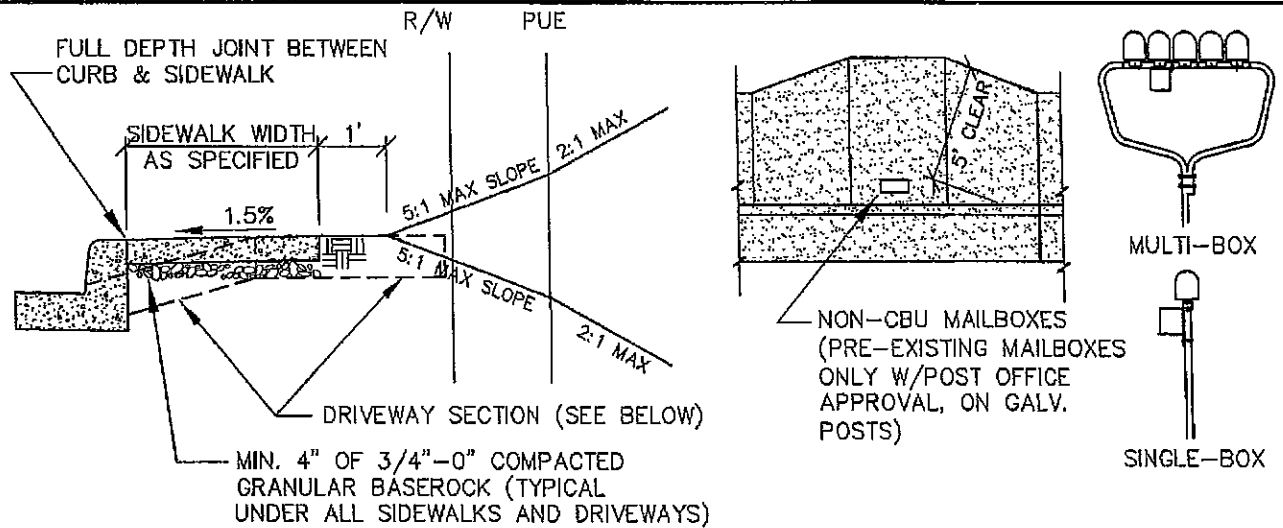
ELEVATION AS REQ'D.
FOR 2.5% CROSS SLOPE



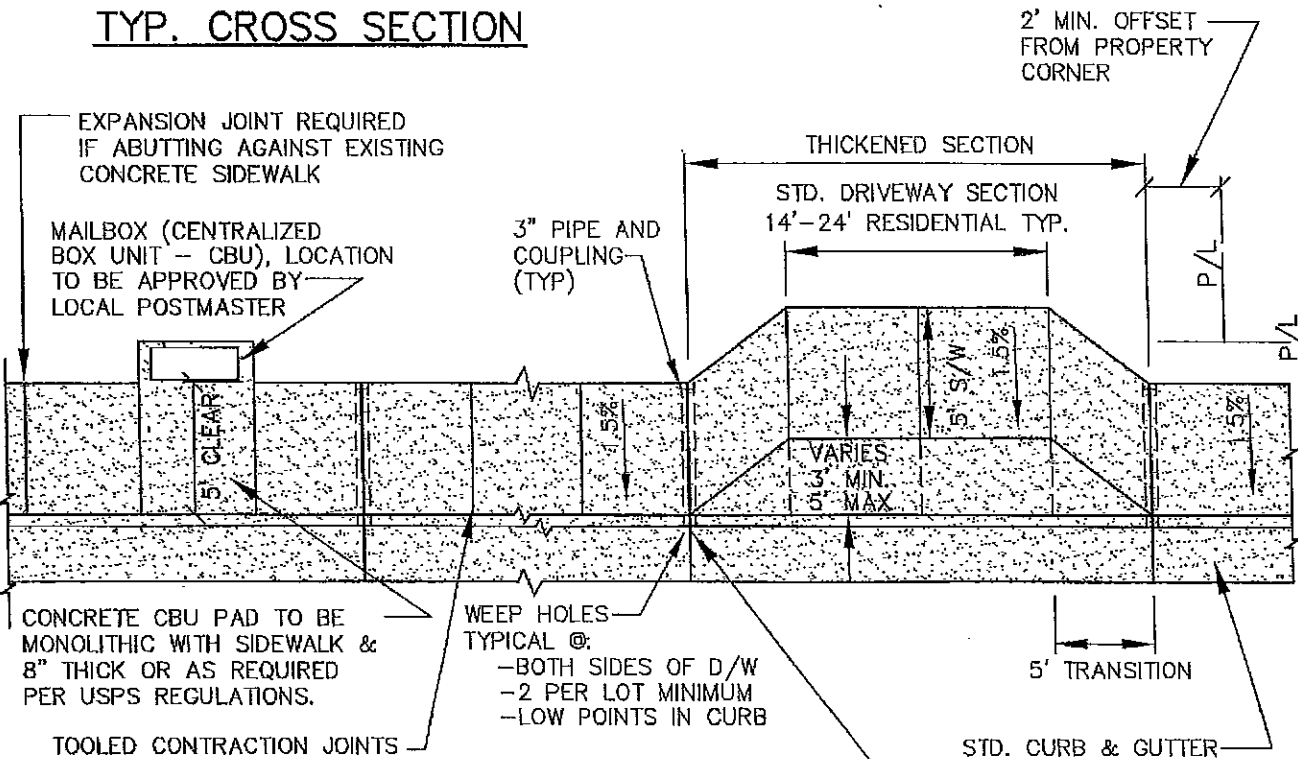
NOTES:

1. 2.5% MIN. CROSS SLOPE REQUIRED FROM CENTER OF BULB TO GUTTER.
2. MAINTAIN CROWN LINE TO CENTER OF CUL-DE-SAC BULB.
3. OFFSET FROM ROADWAY CENTERLINE TO CENTER OF BULB = CURB RADIUS MINUS ONE-HALF STREET WIDTH.

LAST REVISION DATE: SEPT 2013	COPYRIGHT 1998 HESTECH ENGINEERING, INC.
OFFSET CUL-DE-SAC (RESIDENTIAL) (NTS)	
DAYTON, OR	DETAIL NO. 206



TYP. CROSS SECTION



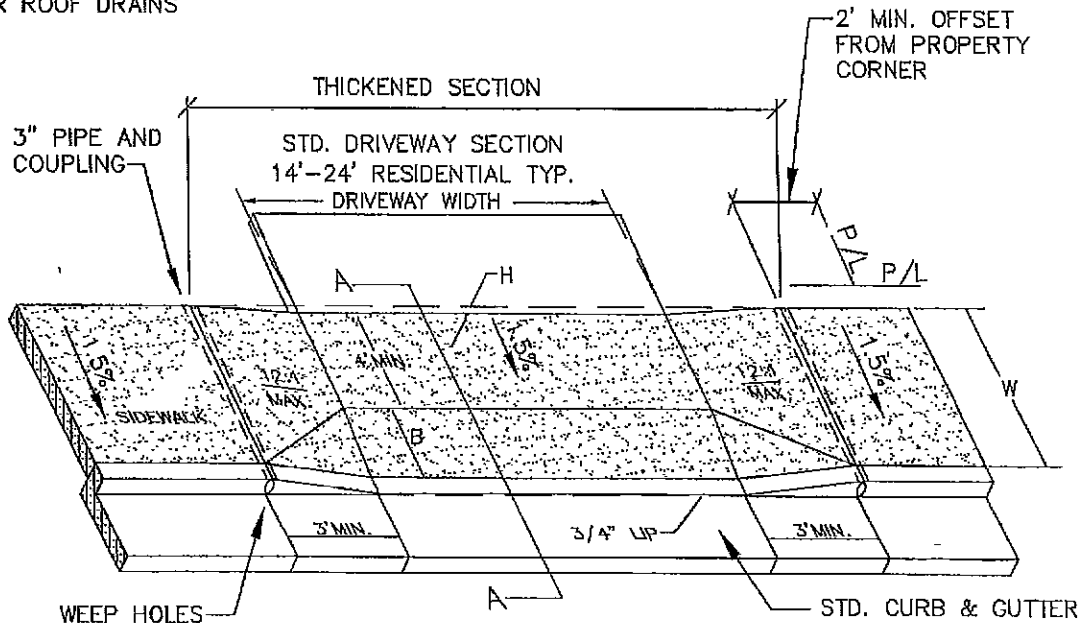
TYP. PLAN VIEW

NOTES:

1. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MIN.
2. SIDEWALKS THROUGH RESIDENTIAL DRIVEWAYS (INCLUDING WINGS) SHALL BE 6" MIN. THICKNESS. COMMERCIAL DRIVEWAYS SHALL BE 8" MIN. THICK.
3. SIDEWALKS 8' & WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT MIDPOINT.
4. CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
5. PCC APRONS JOINED TO MATCH SIDEWALK PATTERN.
6. SIDEWALKS SHALL BE LOCATED ENTIRELY WITHIN PUBLIC RIGHT-OF-WAY OR SIDEWALK EASEMENTS, INCLUDING AT DRIVEWAYS & INTERSECTIONS.
7. ADA ACCESS TO CBU MAILBOXES SHALL CONFORM WITH SECTION 1111 OF OSSC (OREGON STRUCTURAL SPECIALTY CODE).

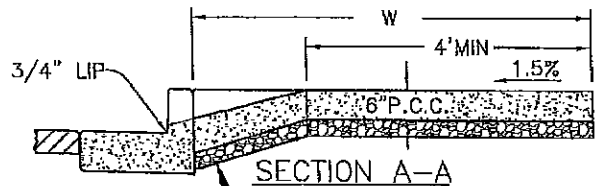
LAST REVISION DATE: NOV 2013	COPYRIGHT 1996 PESBECH ENGINEERING, INC.
CURBLINE SIDEWALKS AND DRIVEWAY APRONS	
(NTS)	
DAYTON, OR	DETAIL NO. 212

NOTE:
CONTRACTION JOINT REQUIRED
AT BOTH SIDES OF DRIVEWAY
AND OVER ROOF DRAINS



WEEP HOLES
TYPICAL @:
-BOTH SIDES OF D/W

W	B	H	
5'	1'	0.27'	(3-1/4")
6'	2'	0.23'	(2-3/4")
7'	3'	0.19'	(2-1/4")



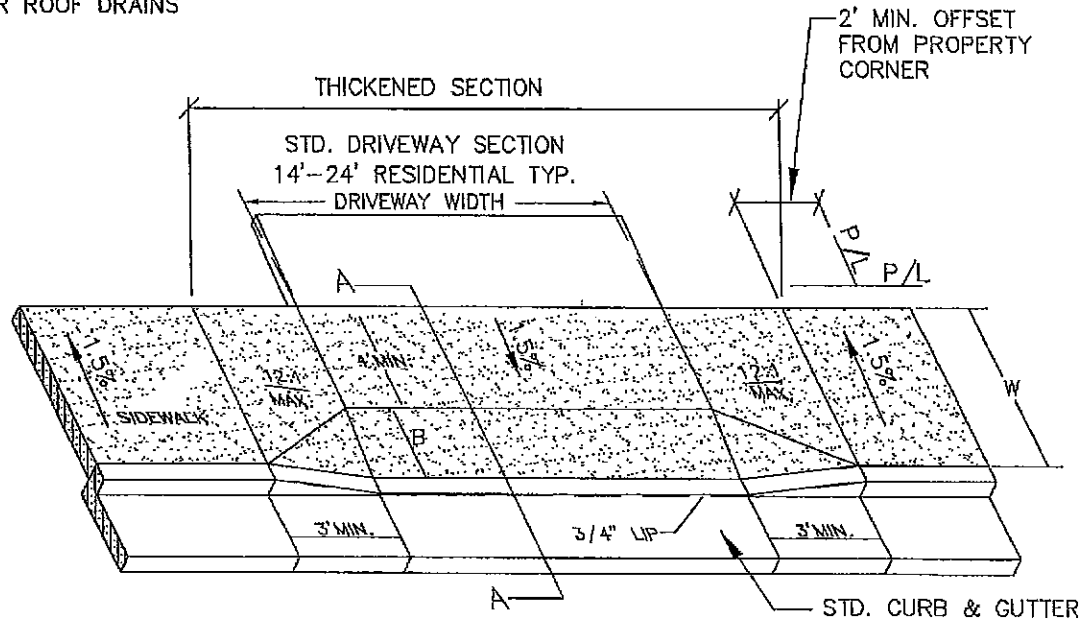
MIN. 4" OF 3/4"-0" COMPACTED
GRANULAR BASEROCK (TYPICAL
UNDER ALL SIDEWALKS AND
DRIVEWAYS)

NOTES:

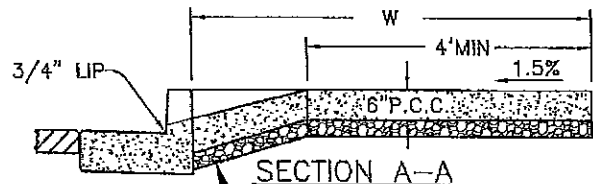
1. SEE DETAIL 212 FOR STANDARD APRON & SIDEWALK DETAILS. USE OF THIS DETAIL REQUIRES SPECIFIC APPROVAL BY PUBLIC WORKS PRIOR TO FORMING.
2. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MIN.
3. SF & DUPLEX RESIDENTIAL DRIVEWAY SECTIONS INCLUDING SIDEWALKS THROUGH DRIVEWAYS SHALL BE 6" MIN. THICKNESS.
4. CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
5. PCC APRONS SHALL BE JOINTED TO MATCH SIDEWALK PATTERN.
6. PUBLIC SIDEWALKS SHALL BE LOCATED ENTIRELY WITHIN RIGHT-OF-WAY OR SIDEWALK EASEMENTS, INCLUDING SIDEWALKS THROUGH DRIVEWAY APRONS & AT CORNERS.
7. CROSS SLOPE IS MEASURED FROM HORIZONTAL. 12:1 SIDEWALK SLOPE IS RELATIVE TO THE RUNNING SLOPE OF THE SIDEWALK.

LAST REVISION DATE: NOV 2013	
RESIDENTIAL D/W APRON CURBLINE SIDEWALK STEEP UPHILL LOTS ONLY (NTS)	
DAYTON, OR	DETAIL NO. 212A

NOTE:
CONTRACTION JOINT REQUIRED
AT BOTH SIDES OF DRIVEWAY
AND OVER ROOF DRAINS



W	B	
6'	2'	

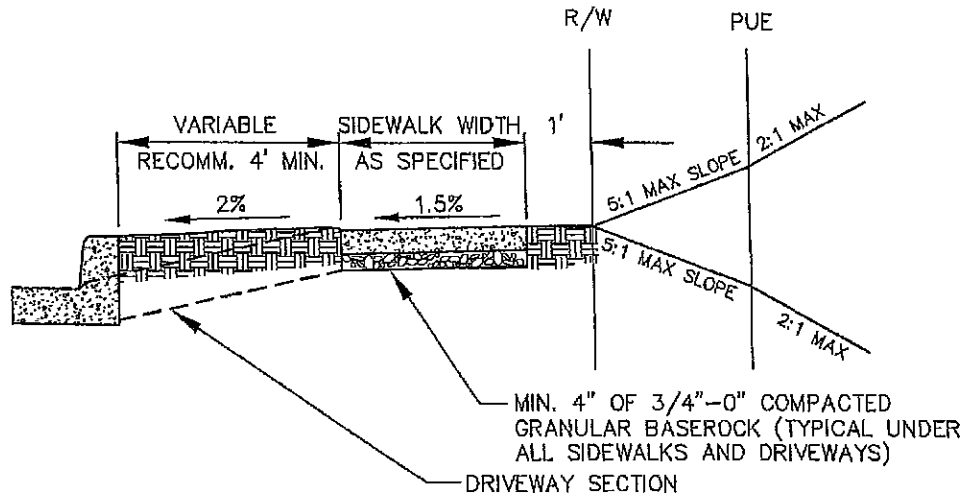


MIN. 4" OF 3/4"-0" COMPACTED GRANULAR BASEROCK (TYPICAL UNDER ALL SIDEWALKS AND DRIVEWAYS)

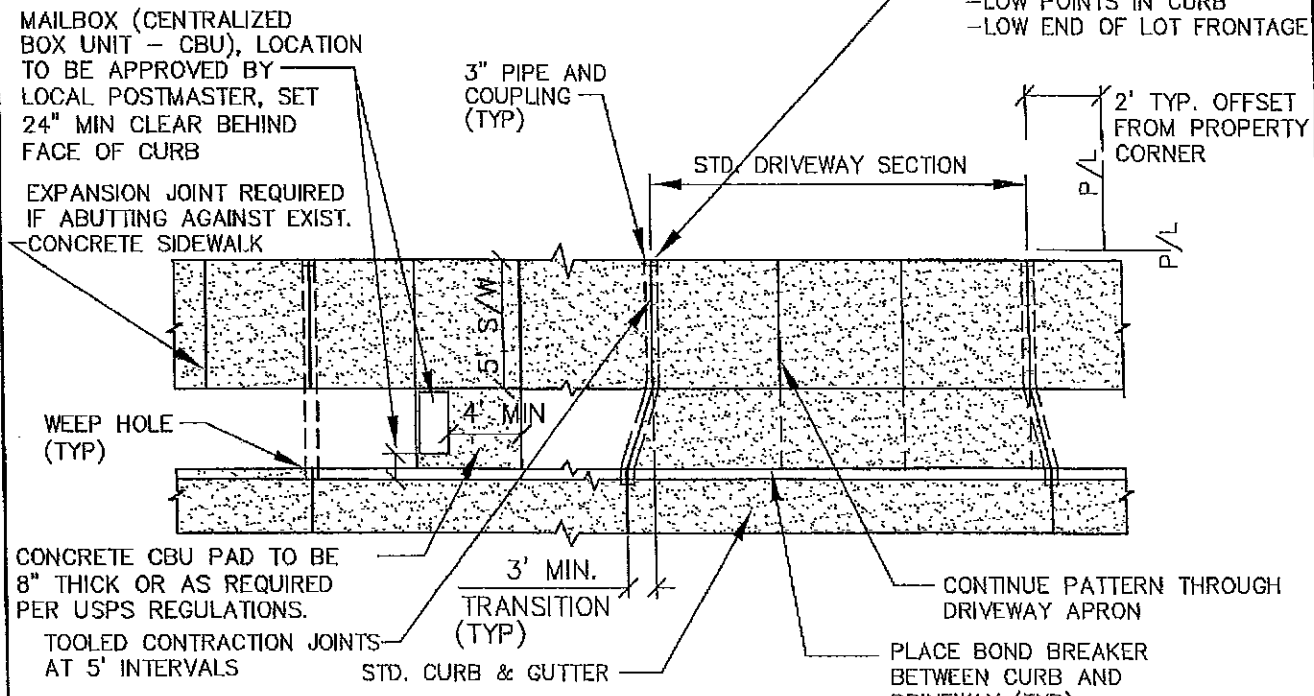
NOTES:

1. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MIN.
2. SF & DUPLEX RESIDENTIAL DRIVEWAY SECTIONS INCLUDING SIDEWALKS THROUGH DRIVEWAYS SHALL BE 6" MIN. THICKNESS.
3. CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
4. PCC APRONS SHALL BE JOINTED TO MATCH SIDEWALK PATTERN.
5. CROSS SLOPE IS MEASURED FROM HORIZONTAL. 12:1 SIDEWALK SLOPE IS RELATIVE TO THE RUNNING SLOPE OF THE SIDEWALK.

LAST REVISION DATE: NOV 2013	
RESIDENTIAL D/W APRON CURBLINE SIDEWALK (North side of Ferry Str) (NTS)	
DAYTON, OR	DETAIL NO. 212B



TYP. CROSS SECTION

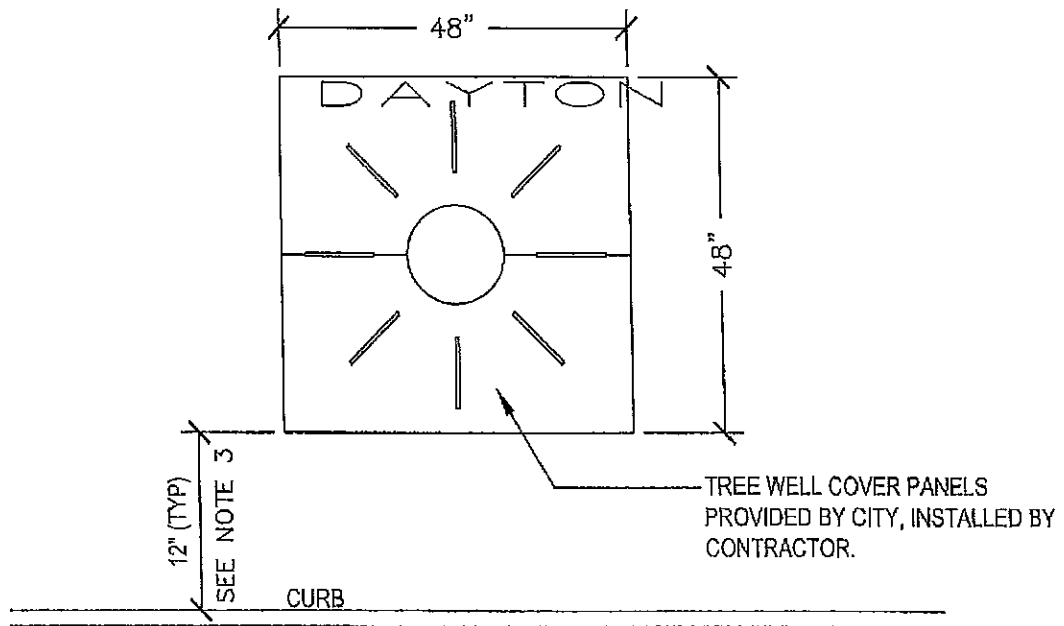


NOTES:

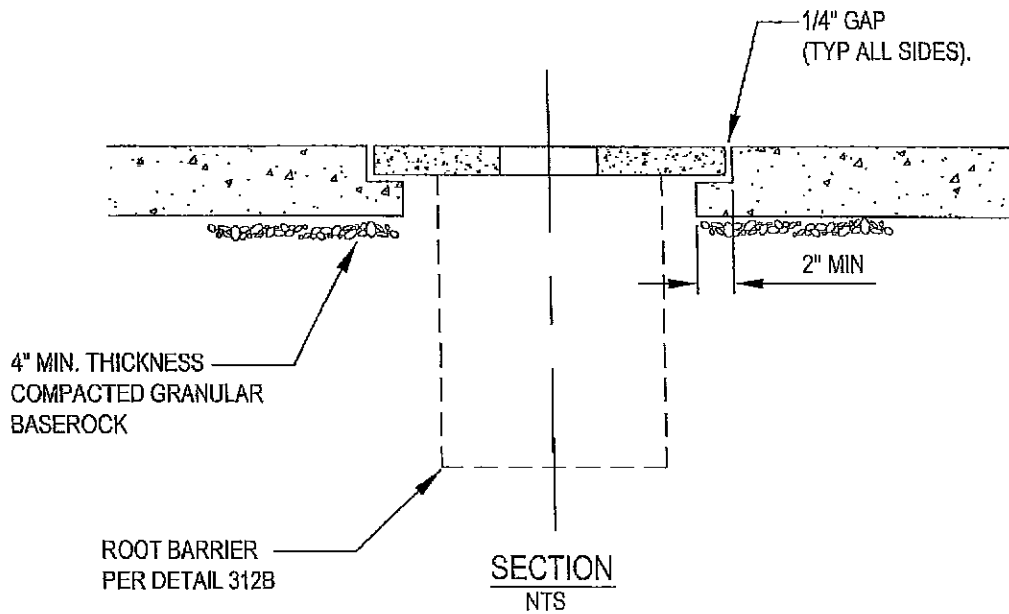
1. CONCRETE DEPTH FOR STANDARD SIDEWALKS SHALL BE 4" MIN.
2. RESIDENTIAL DRIVEWAY SECTIONS INCLUDING SIDEWALKS THROUGH DRIVEWAYS SHALL BE 6" MIN. THICKNESS. COMMERCIAL D/W & ALLEY APPROACHES SHALL BE 8" MIN. THICKNESS.
3. SIDEWALKS 10' & WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT 5' ON CENTER.
4. PCC APRONS SHALL BE JOINTED TO MATCH SIDEWALK PATTERN.
5. CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
6. ADA ACCESS TO CBU MAILBOXES SHALL CONFORM WITH SECTION 1111 OF THE OSSC (OREGON STRUCTURAL SPECIALTY CODE).

TYP. PLAN VIEW

LAST REVISION DATE: NOV 2013	COPYRIGHT 1986 TESTECH ENGINEERING, INC.
PROPERTY LINE SIDEWALKS AND DRIVEWAY APRONS	
(NTS)	
DAYTON, OR	DETAIL NO. 213



PLAN
NTS

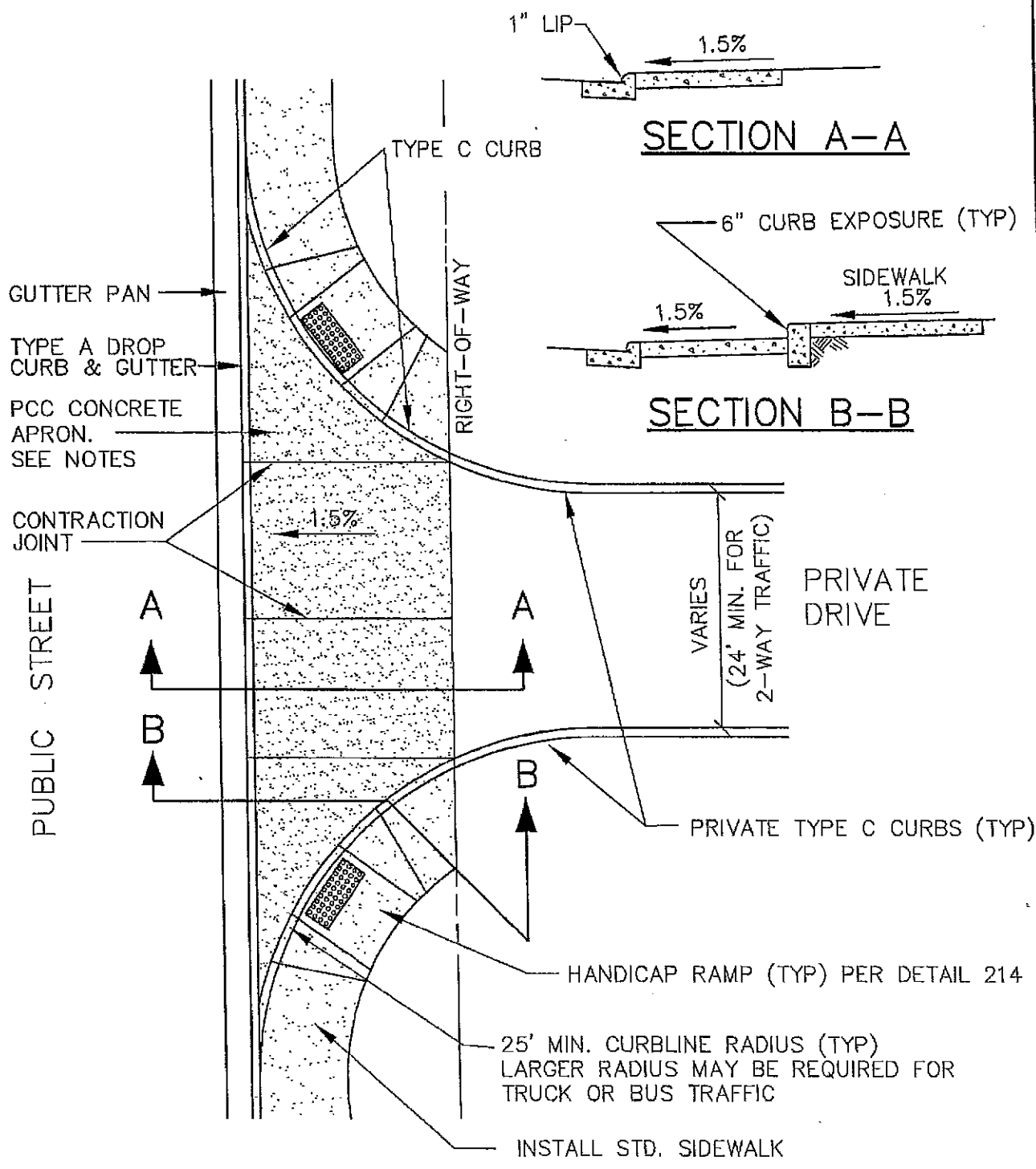


SECTION
NTS

NOTES:

1. CONTRACTOR TO VERIFY INSET PANEL DIMENSIONS AND THICKNESS PRIOR TO FORMING BLOCKOUT AND LIP.
2. DRAWING NOT TO SCALE.
3. SPACING FROM CURB TO TREE WELL MAY VARY FOR SIDEWALKS NARROWER THAN 12 FOOT STANDARD FOR CBO ZONE (SEE DRAWINGS FOR ACTUAL DIMENSION).

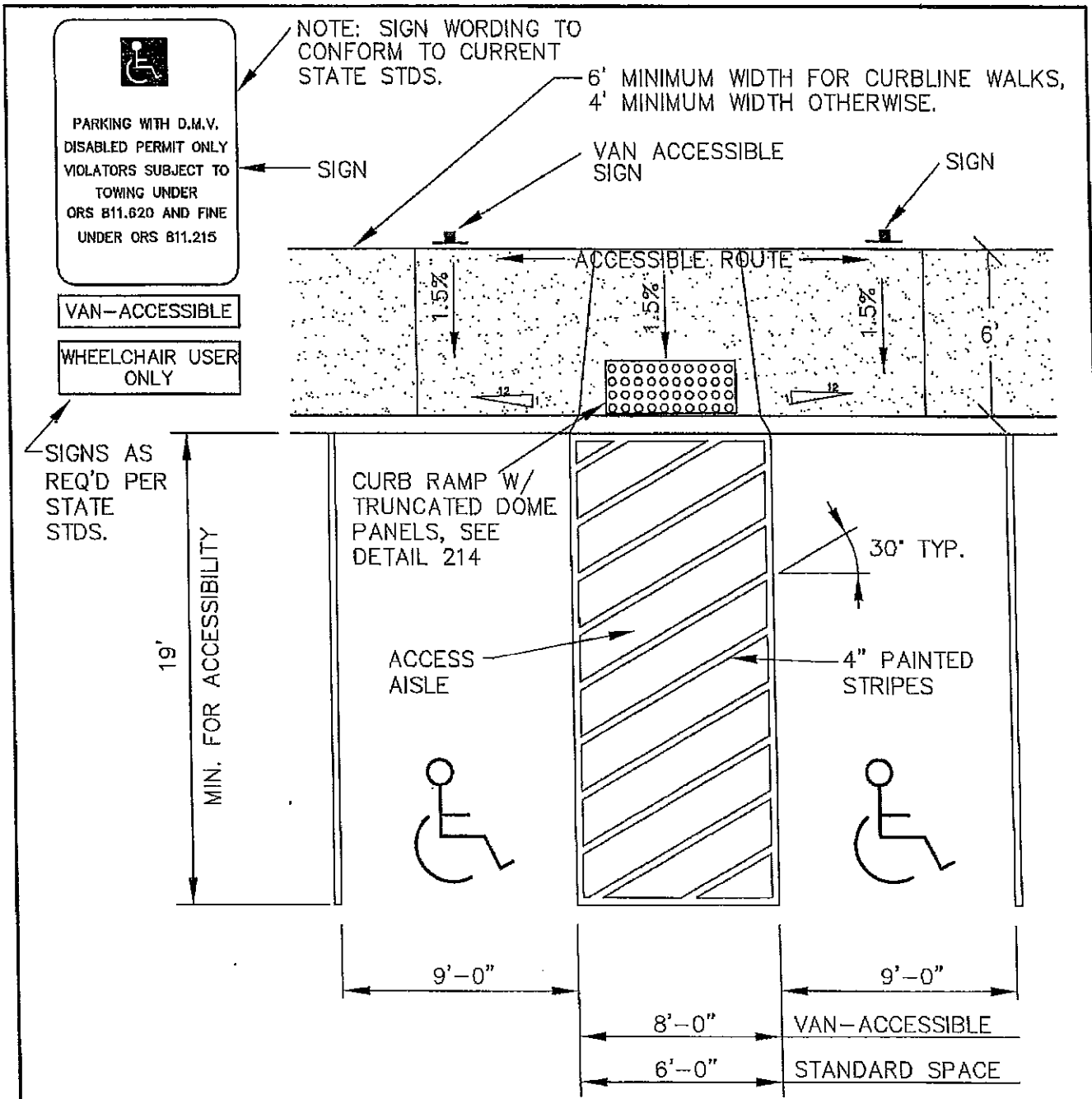
LAST REVISION DATE: NOV 2013	COPYRIGHT 1996 WESTECH ENGINEERING, INC.
48" SQUARE TREE WELL COVER PANELS (NTS)	
DAYTON, OR	DETAIL NO. 213A



NOTES:

1. CONCRETE APRON TO HAVE A MIN. THICKNESS OF 8" CLASS 3300 PCC WITH #3 REBAR @ 12" O.C. EACH WAY, OR 6"X6" 10 GA. WELDED WIRE MESH, SET ON 3" DOBIES.

LAST REVISION DATE: NOV 2013	COPYRIGHT 1986 WESTTECH ENGINEERING, INC.
COMMERCIAL DRIVEWAY APPROACH	
(NTS)	
DAYTON, OR	DETAIL NO. 216



DOUBLE ACCESSIBLE PARKING SPACE

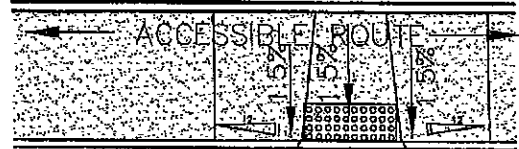
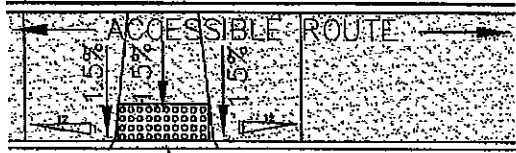
NOTES:

1. ONE ACCESSIBLE PARKING SPACE MUST BE DESIGNATED "VAN-ACCESSIBLE", THE OTHER SPACE CAN BE EITHER "VAN-ACCESSIBLE" OR STANDARD PARKING SPACE.
2. VAN-ACCESSIBLE OR WHEELCHAIR ONLY SPACES SHALL HAVE AN ADDITIONAL SIGN MOUNTED BELOW THE STANDARD PARKING SPACE PARKING SIGN.
3. VAN-ACCESSIBLE SPACE CAN BE USED BY ANY VEHICLE WITH A DMV DISABLED PERMIT.
4. MAXIMUM 2% CROSS SLOPE ALLOWED IN PARKING SPACE OR ACCESS AISLE.
5. POST MOUNTED SIGNS SHALL HAVE 7' (±3") CLEARANCE FROM SIGN BOTTOM TO GROUND.

LAST REVISION DATE:	NOV 2013
DOUBLE ACCESSIBLE PARKING SPACE	
(NTS)	
DAYTON, OR	DETAIL NO. 237

BUILDING

BUILDING

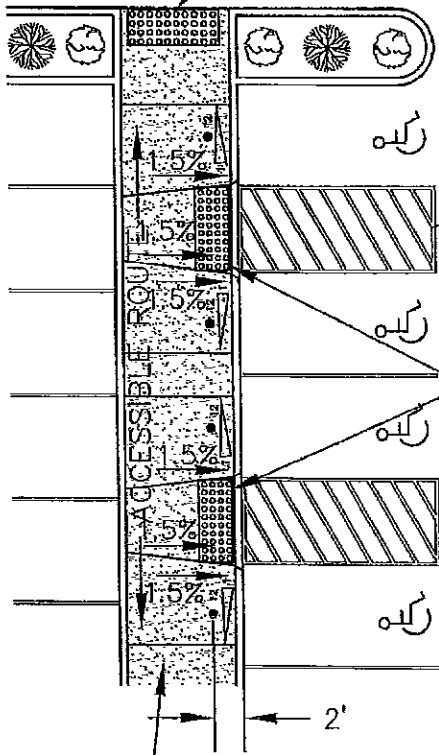


DETECTABLE MARKING (TYP)

TRUNCATED DOME PANELS, SEE DETAIL 214

VEHICULAR AREA

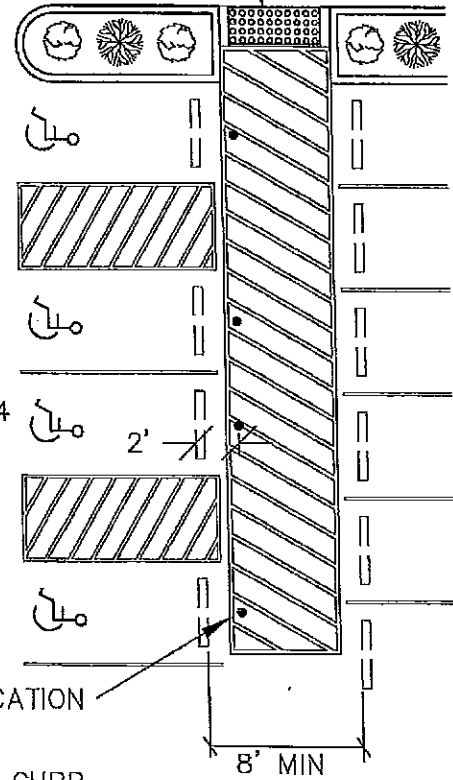
CURB RAMP W/ TRUNCATED DOME PANELS, SEE DETAIL 214



ACCESS AISLE

TRUNCATED DOME PANELS, SEE DETAIL 214

6' MIN WIDTH WITH WHEEL STOPS 2' FROM CURB
8' MINIMUM OTHERWISE



SIGN LOCATION (TYP)

8' MIN

ACCESSIBLE PARKING PLAN ①

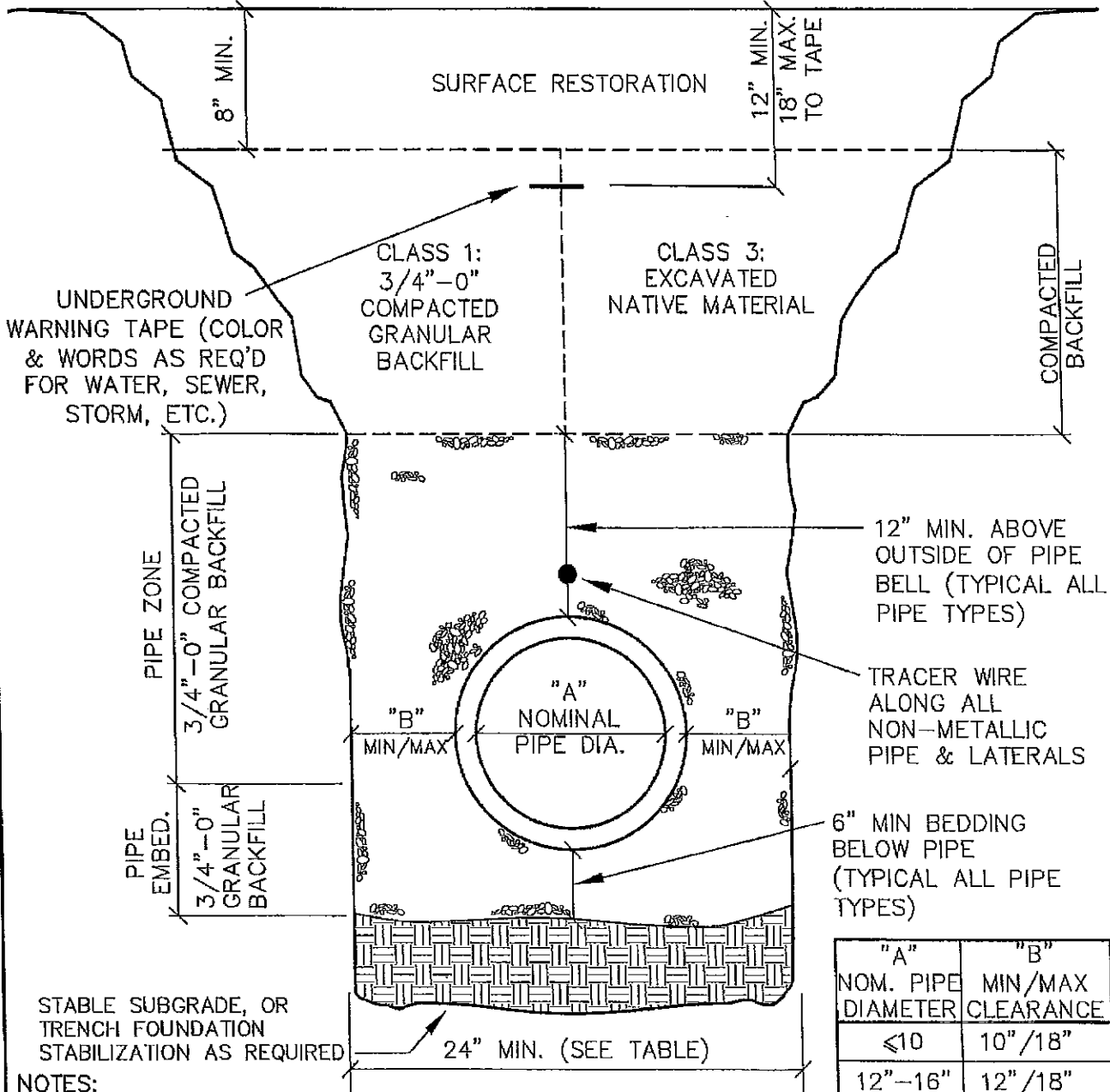
ACCESSIBLE PARKING PLAN ②

NOTES:

- 1. SEE DETAIL 237 FOR ACCESSIBLE PARKING PARKING SPACE LAYOUT.

LAST REVISION DATE: NOV 2013	
ACCESSIBLE ROUTES AND CROSSINGS IN VEHICULAR AREAS (NTS)	
DAYTON, OR	DETAIL NO. 238

COMPACTION: CLASS 1 - 92% OPTIMUM PER AASHTO T-180
 CLASS 3 - 85% OPTIMUM PER AASHTO T-180



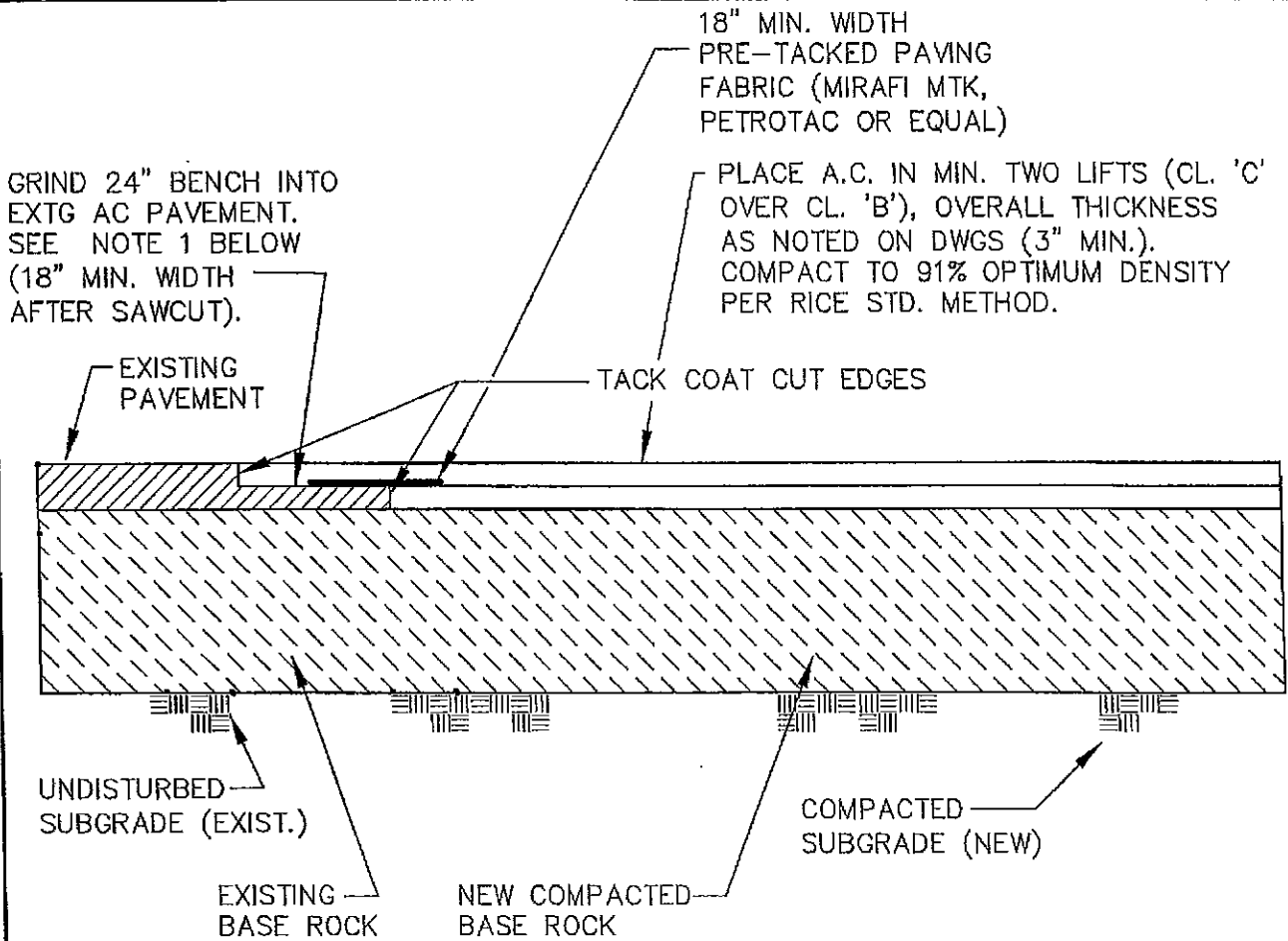
STABLE SUBGRADE, OR TRENCH FOUNDATION STABILIZATION AS REQUIRED

NOTES:

1. CLASS 1 REQ'D. UNDER ALL EXIST. OR FUTURE IMPROVED AREAS INCLUDING SIDEWALKS.
2. WHERE NEW PIPING IS IN SAME ALIGNMENT AS EXISTING PIPING, THE PIPE EMBEDMENT SHALL EXTEND TO A MIN. OF 6" BELOW THE NEW PIPING OR 6" BELOW EXISTING PIPING, WHICHEVER IS DEEPER.
3. FOR FLEXIBLE PIPE, BOTTOM OF TRENCH SHORING SHALL BE ABOVE PIPE SPRINGLINE PRIOR TO COMPACTING BACKFILL BELOW THE PIPE SPRINGLINE AND UNDER THE PIPE HAUNCHES.
4. MINIMUM CLEARANCES SHOWN ("B") ASSUMES STANDARD WALL TRENCH BOXES SET ON TRENCH BOTTOM, AND REPRESENTS WIDTH REQUIRED TO CONSOLIDATE GRANULAR MATERIAL UNDER PIPE HAUNCHES (TO AVOID LOSS OF SIDE SUPPORT WHEN TRENCH BOX IS MOVED OR PULLED FORWARD). TRENCH WIDTH REDUCTION REQUIRES PRIOR APPROVAL BASED ON ACTUAL TRENCH SHORING PROPOSED.

"A" NOM. PIPE DIAMETER	"B" MIN/MAX CLEARANCE
≤10	10"/18"
12"-16"	12"/18"
18"-21"	16"/24"
24"-30"	18"/30"
>30"	24"/36"

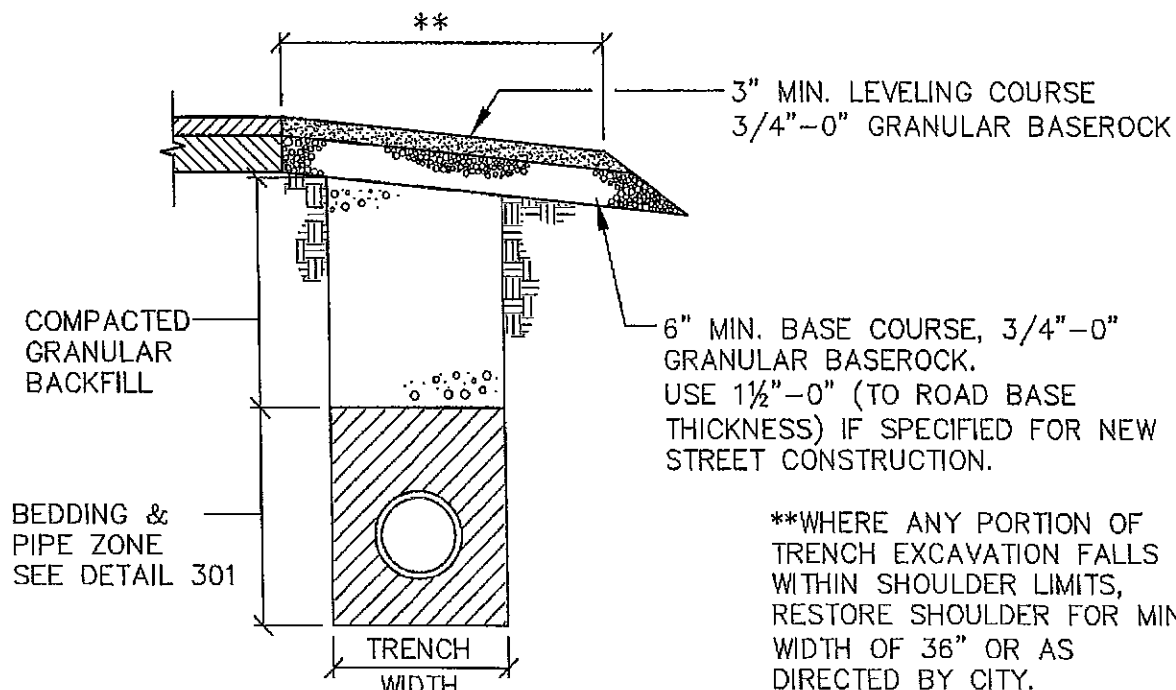
LAST REVISION DATE: SEPT 2013	
TRENCH BACKFILL, BEDDING, AND PIPE ZONE (NTS)	
DAYTON, OR	DETAIL NO. 301



NOTES:

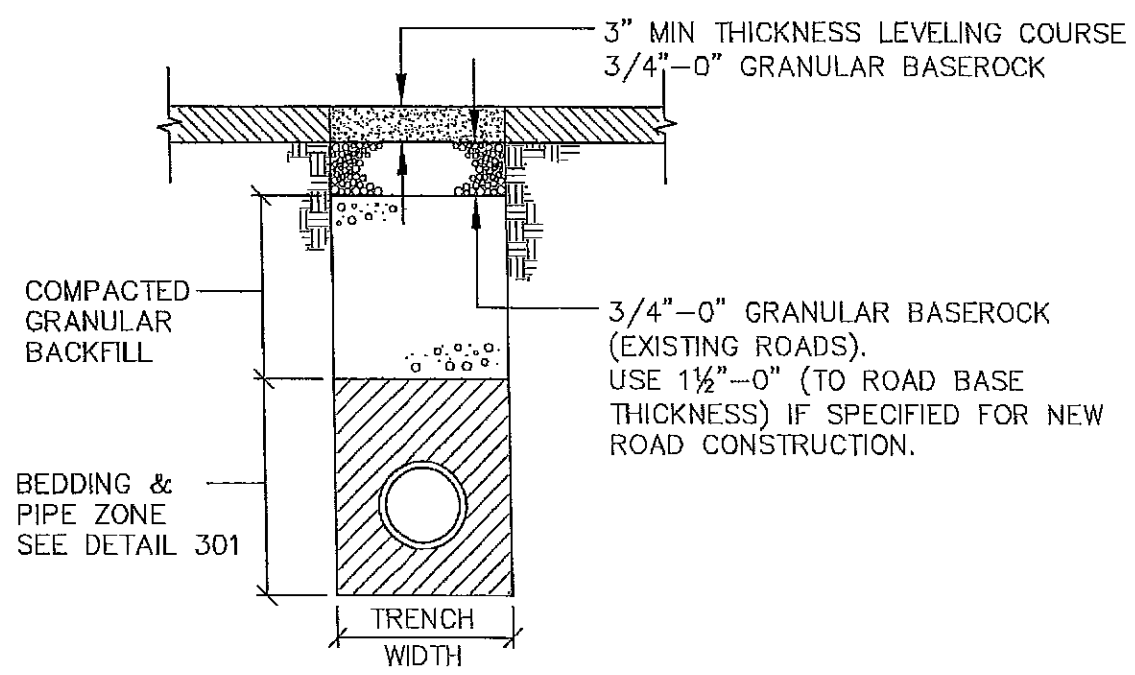
1. PRIOR TO SAWCUTTING, GRIND BENCH IN EXISTING AC 1-1/2' DEEP OR HALF THE DEPTH OF EXISTING AC, WHICHEVER IS GREATER. BENCH TO EXTEND TO A POINT 18" MINIMUM BACK FROM SAWCUT LOCATION.
2. FOLLOWING GRINDING, SAWCUT PAVEMENT EDGES.
3. TACK COAT CUT EDGES AND INSTALL BASE LIFT OF AC LEVEL WITH GROUND BENCH.
4. INSTALL JOINT SEAL FABRIC & TACK COAT EDGES & INSTALL TOP LIFT OF AC.
5. SAND SEAL ALL JOINTS (REMOVE EXCESS SAND AFTER CURE).

LAST REVISION DATE: SEPT 2012	
AC STREET CUT FOR STREET WIDENING OR EXTENSION (NTS)	
DAYTON, OR	DETAIL NO. 302B



**WHERE ANY PORTION OF TRENCH EXCAVATION FALLS WITHIN SHOULDER LIMITS, RESTORE SHOULDER FOR MIN. WIDTH OF 36" OR AS DIRECTED BY CITY.

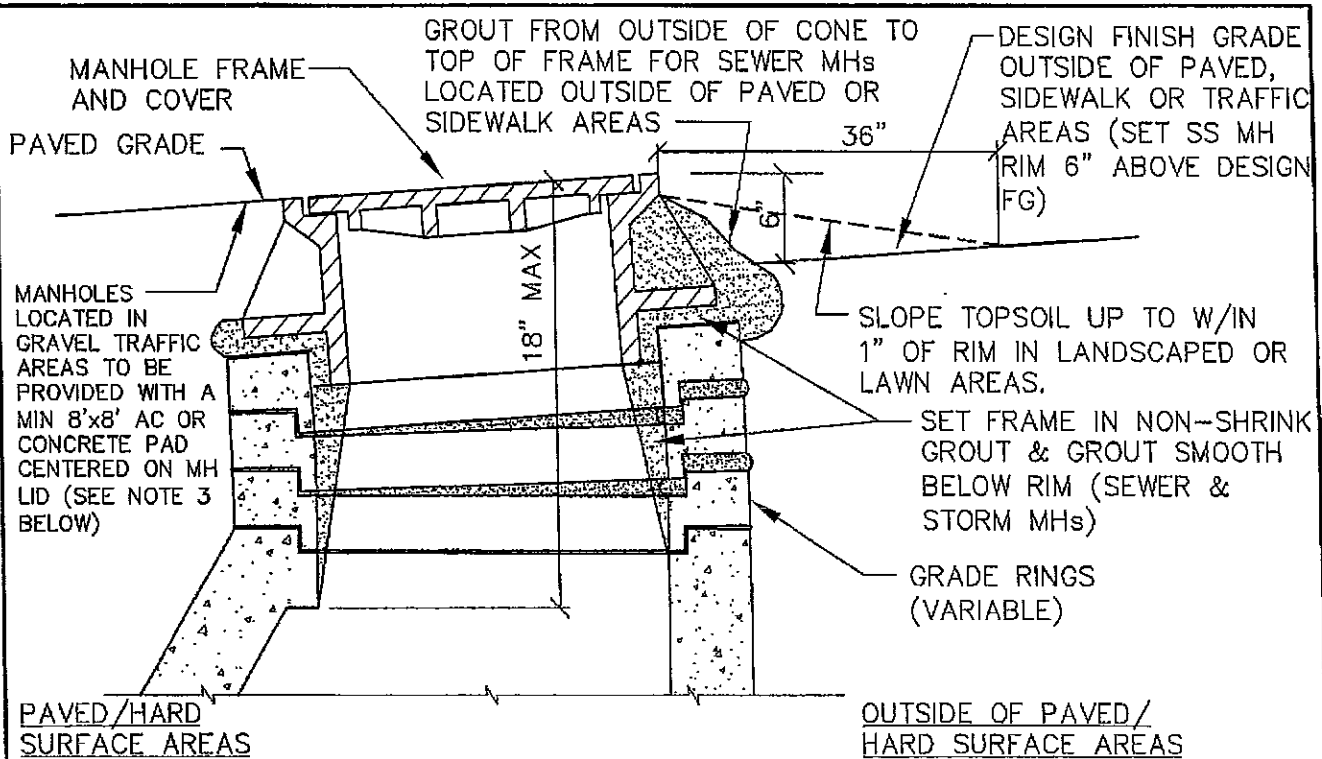
CLASS 'C'
GRAVEL SHOULDER



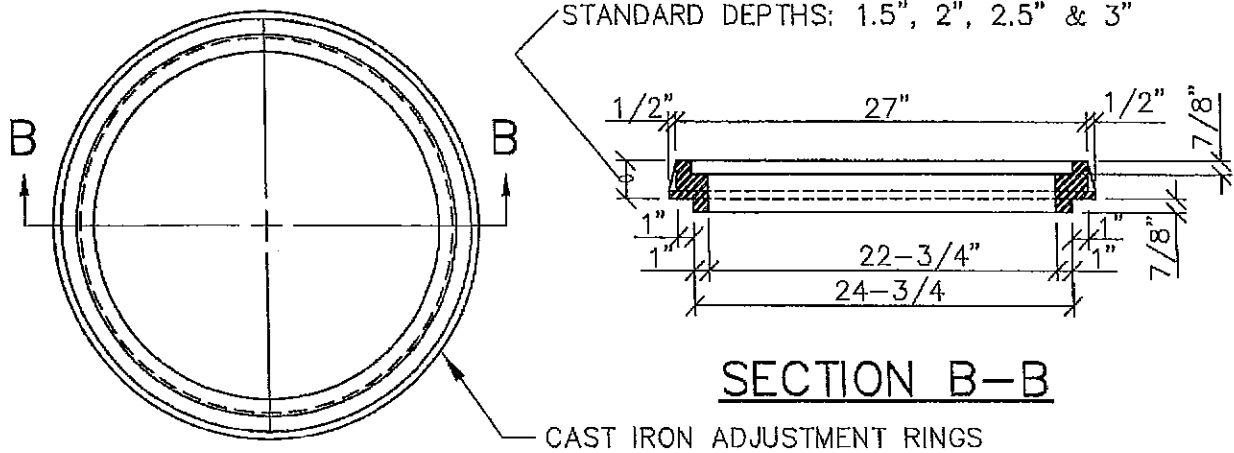
CLASS 'D'
GRAVEL STREET

- NOTES:
1. COMPACTION STANDARD WILL BE 92% OPTIMUM PER AASHTO T-180

LAST REVISION DATE: JULY 2013	
GRAVEL SURFACE RESTORATION	
(NTS)	
DAYTON, OR	DETAIL NO. 303



TYPICAL MANHOLE GRADE ADJUSTMENT



MANHOLE ADJUSTMENT RINGS FOR RESURFACING ONLY

NOTES:

1. CAST IRON ADJUSTMENT RINGS ALLOWED ONLY WITH OVERLAYS AND NOT ON NEW MANHOLES. MAXIMUM 1 ADJUSTMENT RING PER MANHOLE.
2. SANITARY SEWER - 2 HOLE LIDS
STORM DRAINS - 16 HOLE LIDS
3. MH PADS IN UNPAVED AREAS TO BE (A) MIN OF 3" AC OVER 10" COMPACTED BASEROCK (OR PUBLIC ROAD STANDARD THICKNESS IF LOCATED IN R.O.W), OR (B) 8" CONCRETE OVER 2" BACKROCK.

LAST REVISION DATE: NOV 2013	JD #
MANHOLE RIM ADJUSTMENT DETAILS	
(NTS)	
DAYTON, OR	DETAIL NO. 407

NOTE: NO VERTICAL OR HORIZONTAL BENDS GREATER THAN 22-1/2° WITHIN RIGHT-OF-WAY OR PUBLIC UTILITY EASEMENT (IE. FROM MAINLINE TO CLEANOUT).

PRESSURE TREATED 2" X 4" WIRED TO INVERT AND EXTENDING ABOVE FINISH GRADE. STAKE SHALL BE CONTINUOUS AND REMAIN VERTICAL AFTER BACKFILLING. END SHALL BE PAINTED & LABELED (WHITE FOR SEWER) (GREEN FOR STORM), AND LABELED WITH DEPTH TO PIPE. EXTEND TONING WIRE TO SURFACE.

NOTE: PER ORS 92.044(7).

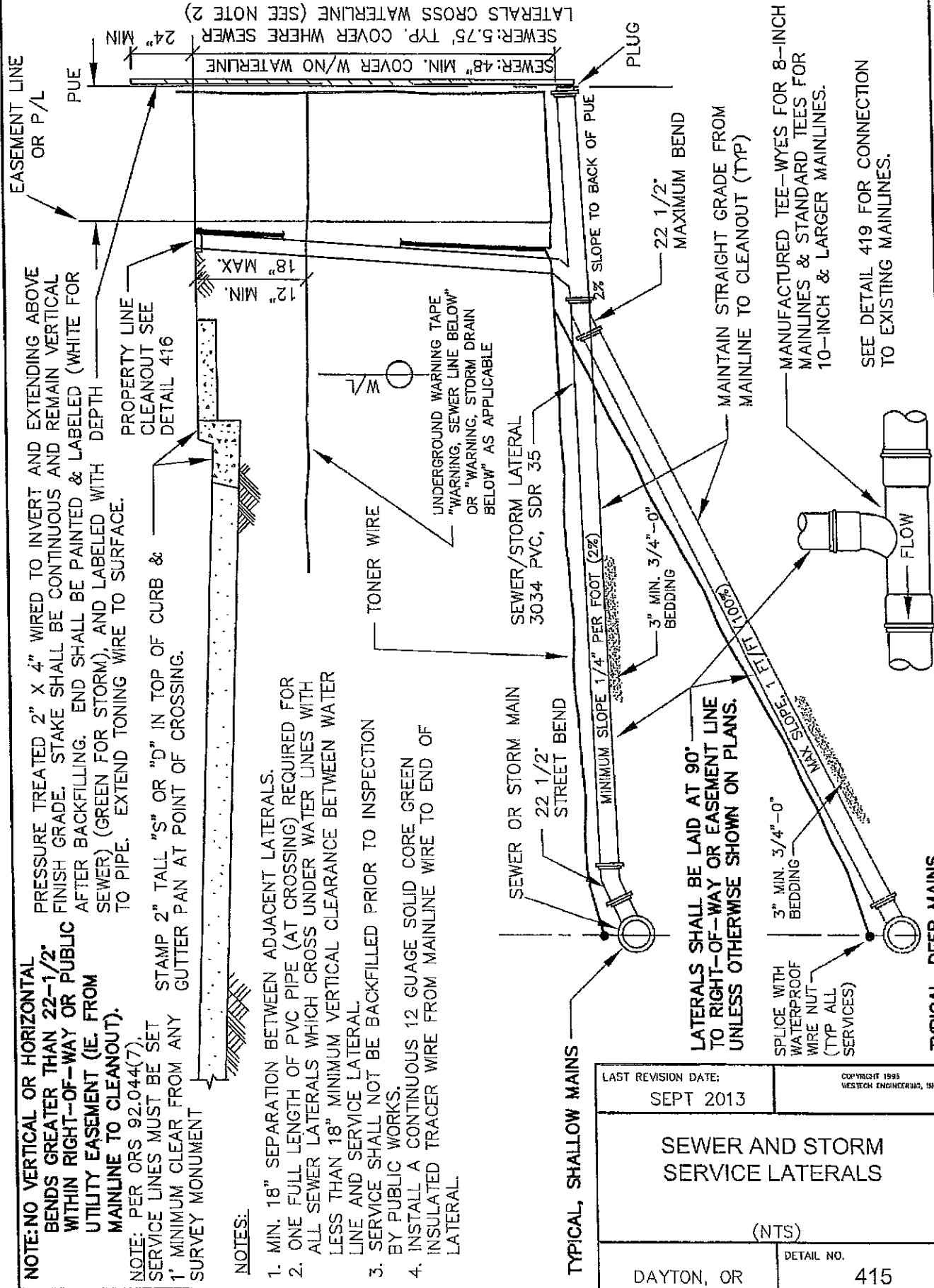
SERVICE LINES MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

STAMP 2" TALL "S" OR "D" IN TOP OF CURB & GUTTER PAN AT POINT OF CROSSING.

PROPERTY LINE CLEANOUT SEE DETAIL 416

NOTES:

1. MIN. 18" SEPARATION BETWEEN ADJACENT LATERALS.
2. ONE FULL LENGTH OF PVC PIPE (AT CROSSING) REQUIRED FOR ALL SEWER LATERALS WHICH CROSS UNDER WATER LINES WITH LESS THAN 18" MINIMUM VERTICAL CLEARANCE BETWEEN WATER LINE AND SERVICE LATERAL.
3. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION BY PUBLIC WORKS.
4. INSTALL A CONTINUOUS 12 GAUGE SOLID CORE GREEN INSULATED TRACER WIRE FROM MAINLINE WIRE TO END OF LATERAL.



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SEWER AND STORM SERVICE LATERALS			
(NTS)			
DAYTON, OR		DETAIL NO. 415	

CLEANOUT COVERS: ALL SEWER CLEANOUT LIDS TO READ "SEWER"
 ALL STORM CLEANOUT LIDS TO READ "STORM" OR "C/O".

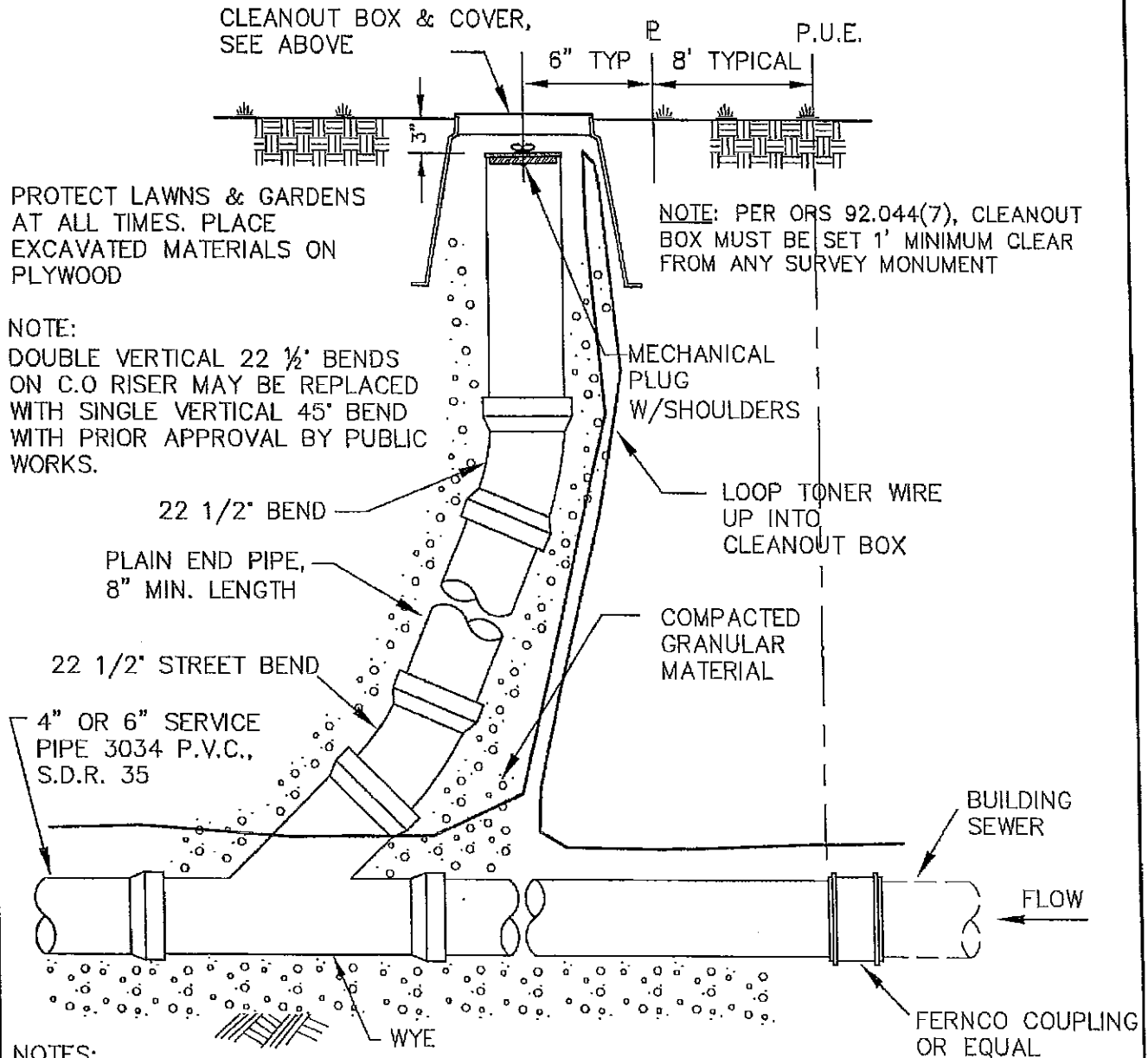
1. NON-TRAFFIC AREAS:

CARSON MODEL 910 T-COVER OR EQUAL (GREEN FOR SEWER, GREY FOR STORM).

2. TRAFFIC AREAS, INCLUDING DRIVEWAYS:

8" X 4" CAST IRON FRAME & COVER, OLYMPIC M1007 OR EQUAL.

(CI CLEANOUTS IN UNPAVED AREAS, SET IN 12" CONCRETE PAD)



PROTECT LAWNS & GARDENS AT ALL TIMES. PLACE EXCAVATED MATERIALS ON PLYWOOD

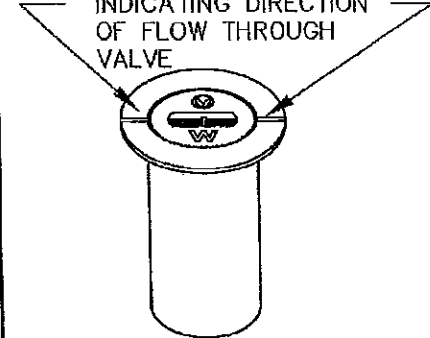
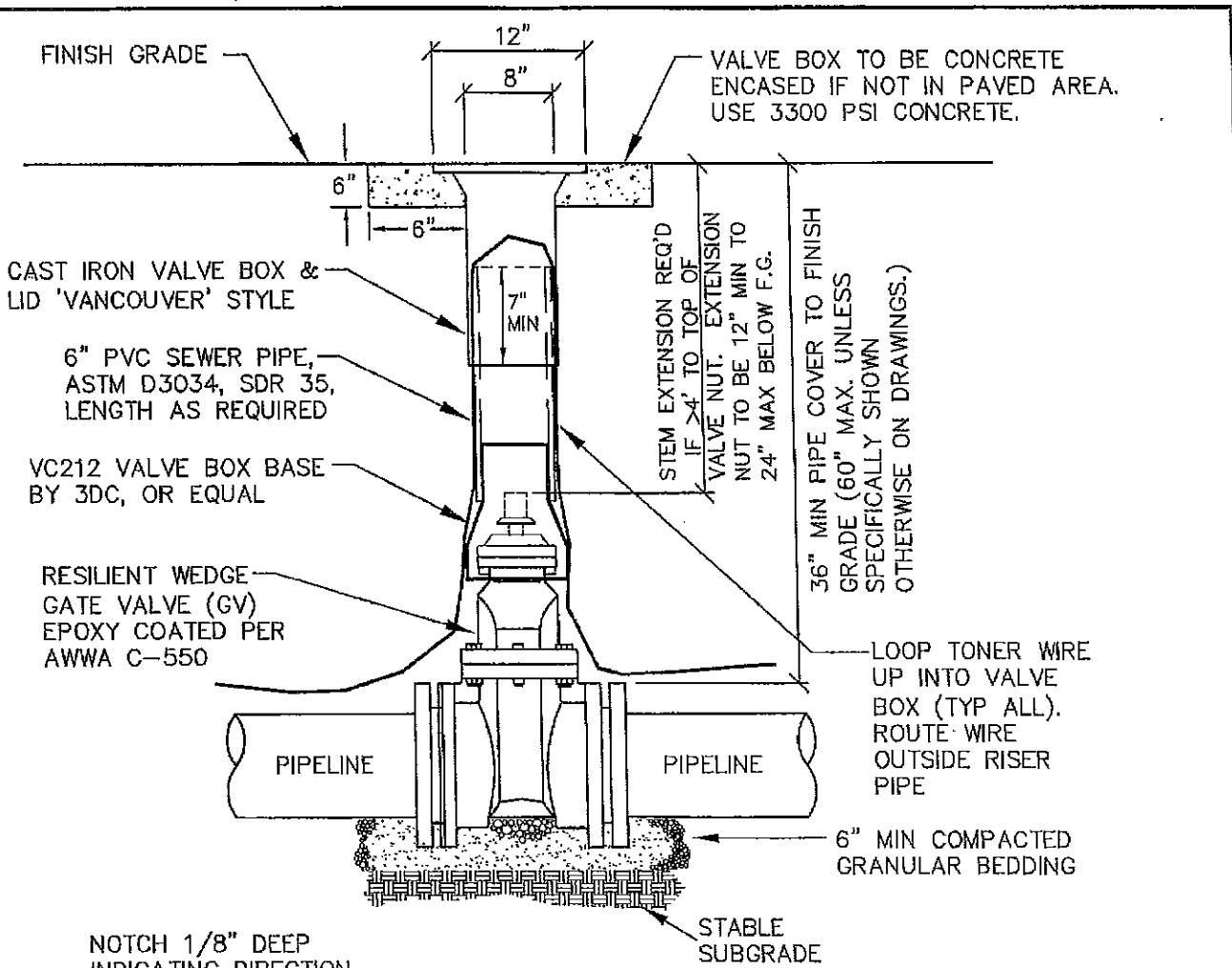
NOTE: PER ORS 92.044(7), CLEANOUT BOX MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

NOTE:
 DOUBLE VERTICAL 22 1/2° BENDS ON C.O RISER MAY BE REPLACED WITH SINGLE VERTICAL 45° BEND WITH PRIOR APPROVAL BY PUBLIC WORKS.

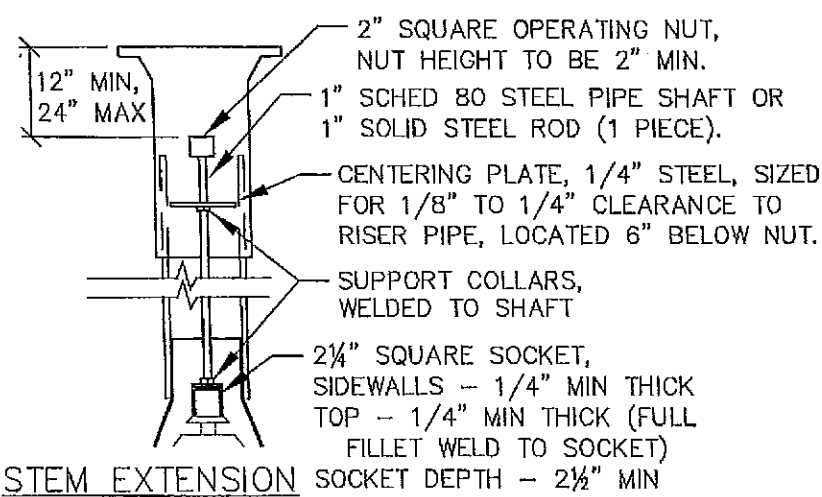
NOTES:

1. CLEANOUT RISER SHALL BE SAME SIZE AND MATERIAL AS LATERAL PIPE.
2. PROVIDE CASTING FOR CLEANOUTS LOCATED IN DRIVEWAYS.
3. CLEANOUT PIPE SHALL BE LEFT A MINIMUM OF 18" ABOVE EXISTING GRADE UNTIL ALL CURBING IS INSTALLED AND ALL PRIVATE UTILITY TRENCHES ARE BACKFILLED. CLEANOUTS SHALL THEN BE SET FLUSH WITH FINISH GRADE.

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STANDARD SERVICE LATERAL CLEANOUT	
(NTS)	
DAYTON, OR	DETAIL NO. 416



VANCOUVER '910' STYLE
18" TALL VALVE BOX

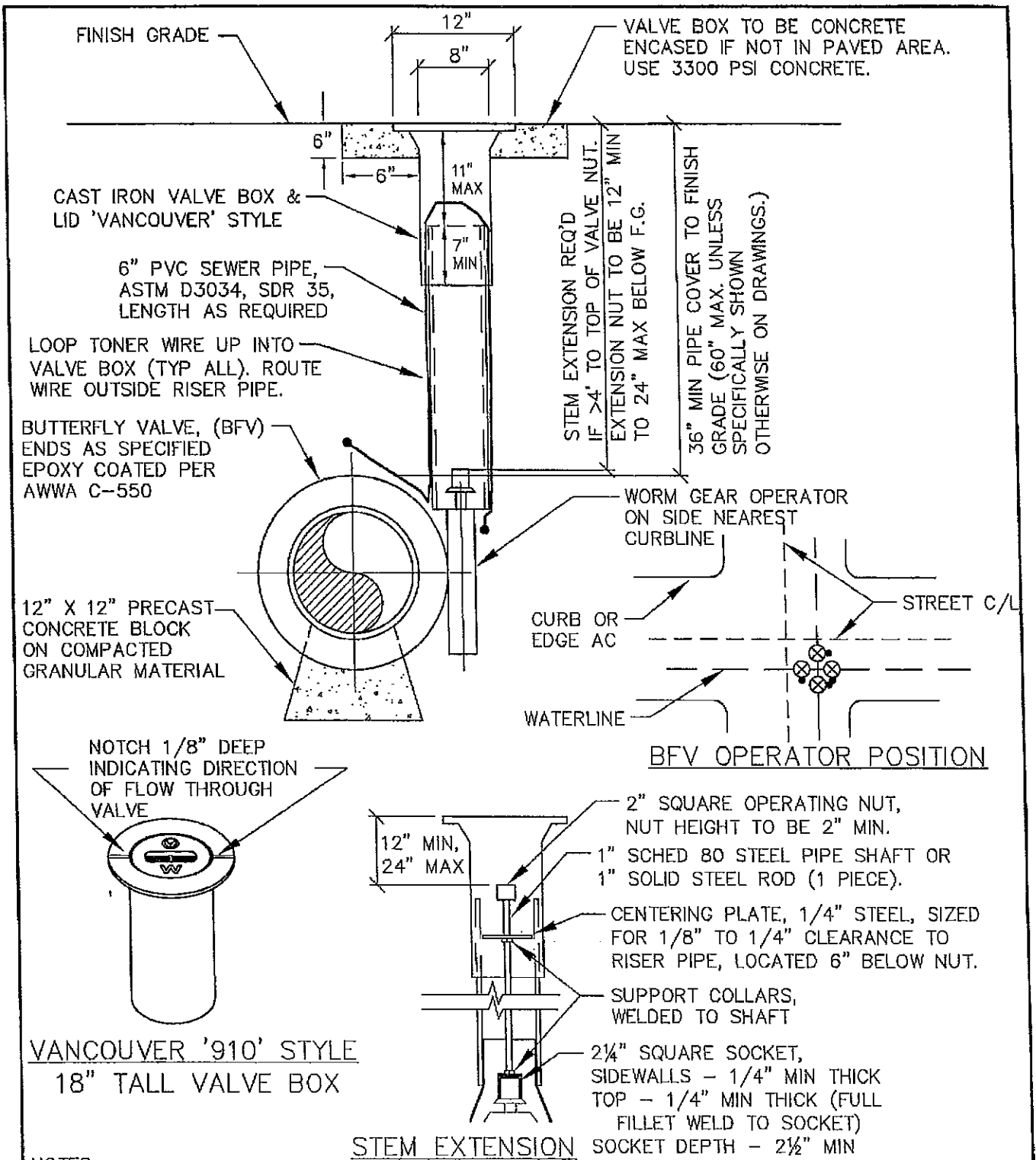


STEM EXTENSION

NOTES:

1. GV SHALL CONFORM TO AWWA C-509.
2. VALVE BOXES SHALL BE PLUMB AND CENTERED DIRECTLY OVER THE VALVE NUT.
3. VALVE BOX TOP SHALL BE ADJUSTED TO FINISHED GRADE.
4. PVC SHALL BE ONE CONTINUOUS PIECE, NO BELLS OR COUPLERS.

LAST REVISION DATE: SEPT 2013	JO # STANDARD
GATE VALVE AND VALVE BOX DETAIL	
(NTS)	
DAYTON, OR	DETAIL NO. 501



NOTES:

1. BFV SHALL BE SHORT BODY TYPE B VALVE PER AWWA C-504.
2. VALVE BOXES SHALL BE PLUMB AND CENTERED DIRECTLY OVER THE VALVE NUT.
3. VALVE BOX TOP SHALL BE ADJUSTED TO FINISHED GRADE.
4. PVC SHALL BE ONE CONTINUOUS PIECE, NO BELLS OR COUPLERS.
5. BFV ACTUATOR TO BE LOCATED ON THE CURBLINE SIDE OF WATERLINE AS SHOWN. INSTALL DI SPOOLS OR FLEX ADAPTER IF REQUIRED FOR ACTUATOR CLEARANCE.

LAST REVISION DATE:	JO #
SEPT 2013	STANDARD
BUTTERFLY VALVE AND VALVE BOX DETAILS	
(NTS)	
DAYTON, OR	DETAIL NO. 502

NOTE: HYDRANT COLOR TO BE FACTORY YELLOW

(2) 2½" HOSE NOZZLES (NST). REMOVE CHAINS FROM CAPS

4 1/2" PUMPER NOZZLE W/NST THREAD, INSTALL 5-INCH STORZ ADAPTER (FSAF/MF) WITH SNAP-TITE STORZ BLIND CAP & CABLE.

NOTE: PER ORS 92.044(7), FIRE HYDRANT MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

6" MIN. FROM P/L S/W

2" MIN 6" MAX

12" MIN. BEHIND S/W
24" MIN. BEHIND CURB

STD. VALVE BOX (VANCOUVER 910 STYLE) W/VC212 VB BASE

3' TYP
2%
S/W

DRAIN ROCK SEE NOTE 3

THRUST BLOCK, BEARING TO BE EQUIV. TO SIZING FOR TEE, SEE NOTE 5 & 8.

36" MIN.
FIELD-LOK TYPE GASKETS REQUIRED ON ANY PUSH-ON JOINTS

LOOP TONER WIRE UP INTO VALVE BOX (TYP ALL)

6" FL X MJ RESILIENT WEDGE GATE VALVE

6" D.I.

RETAINER GLANDS (TYP ALL JOINTS)

UNDISTURBED EARTH (TYP)

NOTES:

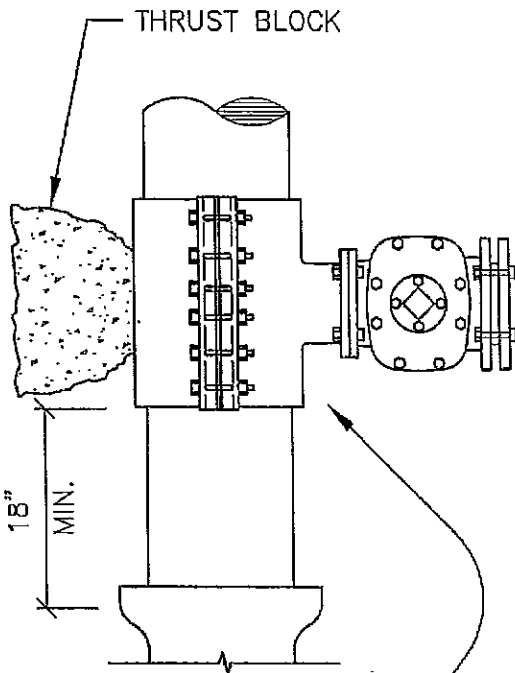
1. HYDRANTS TO BE KENNEDY GUARDIAN K81D WITH FULL SIZE (5¼") FOOT VALVE.
2. **ALL FITTINGS IN CONTACT WITH CONCRETE SHALL BE WRAPPED IN PLASTIC.** HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
3. 1-1/2" TO 3/4" CLEAN DRAIN ROCK SHALL BE PLACED A MIN. OF 6" ABOVE DRAIN OUTLET.
4. WHERE PLANTER STRIP EXISTS, HYDRANT SHALL BE PLACED SO FRONT PORT IS A MIN. OF 24" BEHIND FACE OF CURB.
5. THRUST BLOCK AT STANDARD 6" FIRE HYDRANT TEE SHALL HAVE MIN. 3.7 SQ. FT. BEARING AREA.
6. ALL HYDRANTS SHALL BE SET PLUMB.
7. FOR HYDRANT LEADS LONGER THAN 30', AN ADDITIONAL GATE VALVE SHALL BE PROVIDED WITHIN 3 FT. OF THE HYDRANT.
8. RETAINER GLANDS MAY BE USED IN LEIU OF HYDRANT THRUST BLOCK ON NEAR SIDE HYDRANTS.
9. PAINT CURB YELLOW 10 FEET EACH WAY FROM HYDRANT & INSTALL REFLECTIVE BLUE TRAFFIC MARKER @ STREET CENTERLINE.

12" X 12" CONC. BLOCK

6" FLG X MJ SHOE

MAINLINE TEE 6" SIDE OUTLET FLANGED

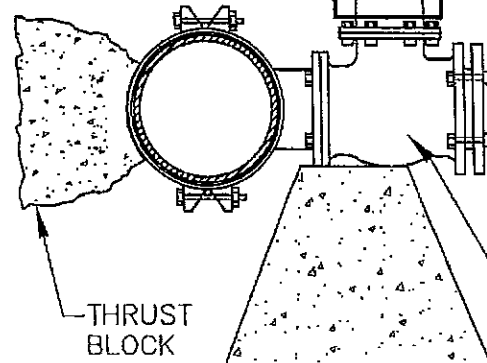
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STANDARD FIRE HYDRANT ASSEMBLY	
(NTS)	
DAYTON, OR	DETAIL NO. 503



ROMAC SST/SSTIII, MUELLER H304,
JCM MODEL 432 OR APPROVED EQUAL
(STAINLESS STEEL SLEEVE & FLANGE)

TOP VIEW

STD. VALVE BOX
(VANCOUVER '910'
STYLE) W/VC212 VB
BASE & PVC RISER



12" X 12"
CONCRETE BLOCK

RESILIENT WEDGE GATE VALVE
(FL x MJ UNLESS OTHERWISE
NOTED ON PLANS)

SIDE VIEW

NOTES:

1. WATER MAIN SHALL BE CLEANED & SPRAYED WITH CHLORINE SOLUTION IN TAP AREA BEFORE ATTACHING SLEEVE.
2. TAPPING SLEEVE SHALL BE ALL STAINLESS STEEL WITH FULL PERIMETER GASKET.
3. TAPPING VALVE SHALL BE EPOXY COATED PER AWWA C-550.
4. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP. PRESSURE TEST AND TAP SHALL BE MADE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE.
5. APPROVED TAPPING MACHINE SHALL BE USED TO MAKE TAP.
6. 3/4" GRANULAR BACKFILL SHALL BE PLACED AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
7. THRUST BLOCKING REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER.
8. TAP SHALL BE MADE NO CLOSER THAN 18" FROM THE NEAREST JOINT.
9. **SLEEVE AND VALVE SHALL BE WRAPPED WITH 8 MIL PLASTIC PRIOR TO CONCRETE PLACEMENT.**
10. CONCRETE BLOCK(S) SHALL COMPLETELY SUPPORT TAPPING TEE AND VALVE.
11. CONTRACTOR SHALL COORDINATE ALL TAPS WITH CITY AND PERFORM ALL TAPS WITH PUBLIC WORKS STAFF PRESENT.
12. ALL TAPPING EQUIPMENT (AND ANY TOOL COMING IN CONTACT WITH THE PIPE THROUGH THE TAPPING SLEEVE) SHALL BE CHLORINE DISINFECTED WITH A 300 MG/L CHLORINE SOLUTION.

LAST REVISION DATE:
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TAPPING TEE
AND VALVE

(NTS)

DAYTON, OR

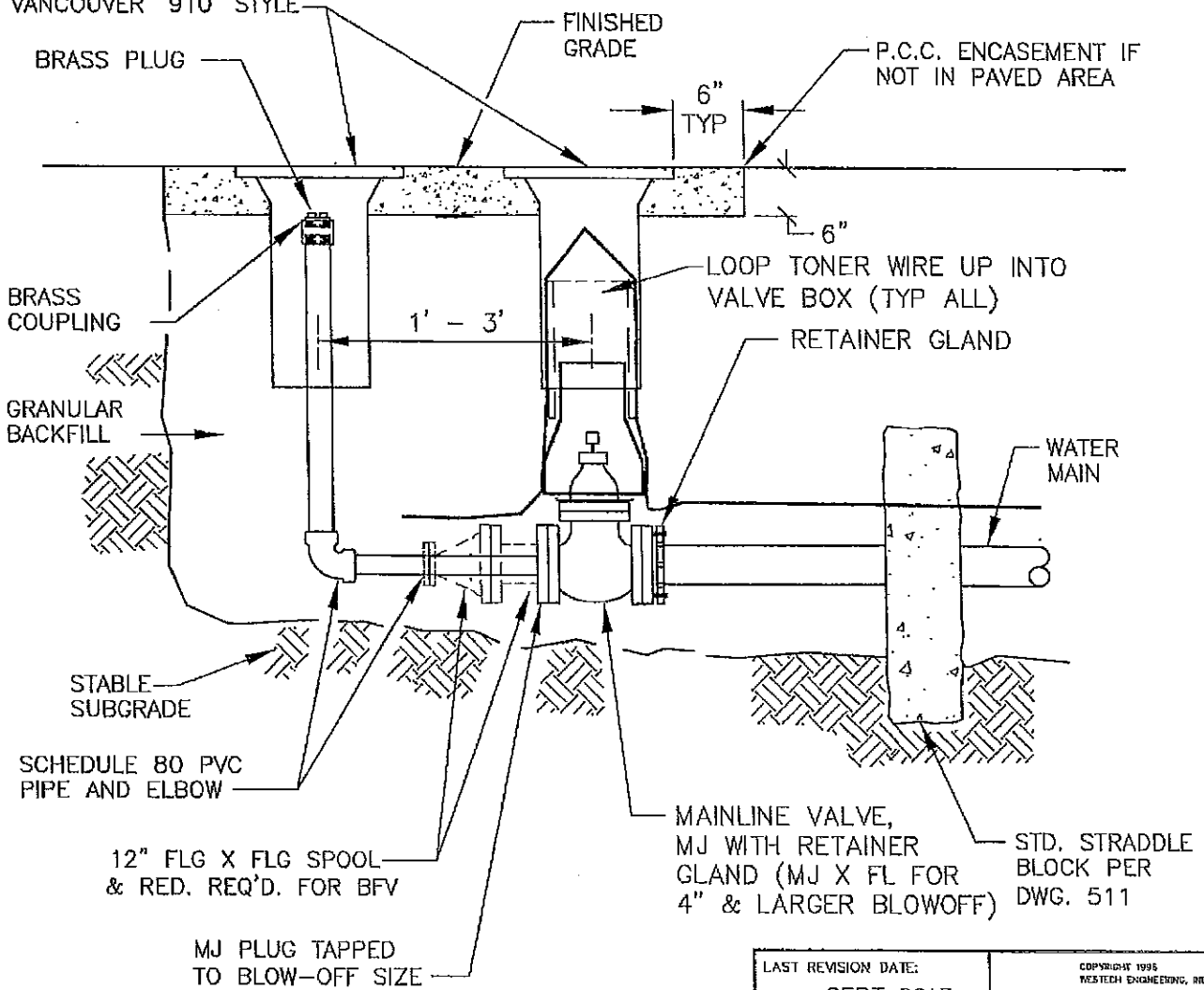
DETAIL NO.
505

BLOW-OFF SIZES REQUIRED (ASSUMES 40 PSI RESIDUAL PRESS.)	
MAIN SIZE	BLOW-OFF SIZE
6" - 8"	2"
10" - 12"	4"
>12"	BY ENGR.

NOTES:

1. BACKFILL WITH GRANULAR BACKFILL.
2. REQUIRED ON ALL LINES WHICH MAY BE EXTENDED IN FUTURE OR AS DIRECTED BY CITY ENGINEER.
3. ALL CONCRETE TO BE 3300 PSI @ 28 DAYS.
4. FLANGED DUCTILE IRON PIPE AND FITTINGS MAY BE REQUIRED FOR 4" & LARGER BLOWOFFS.

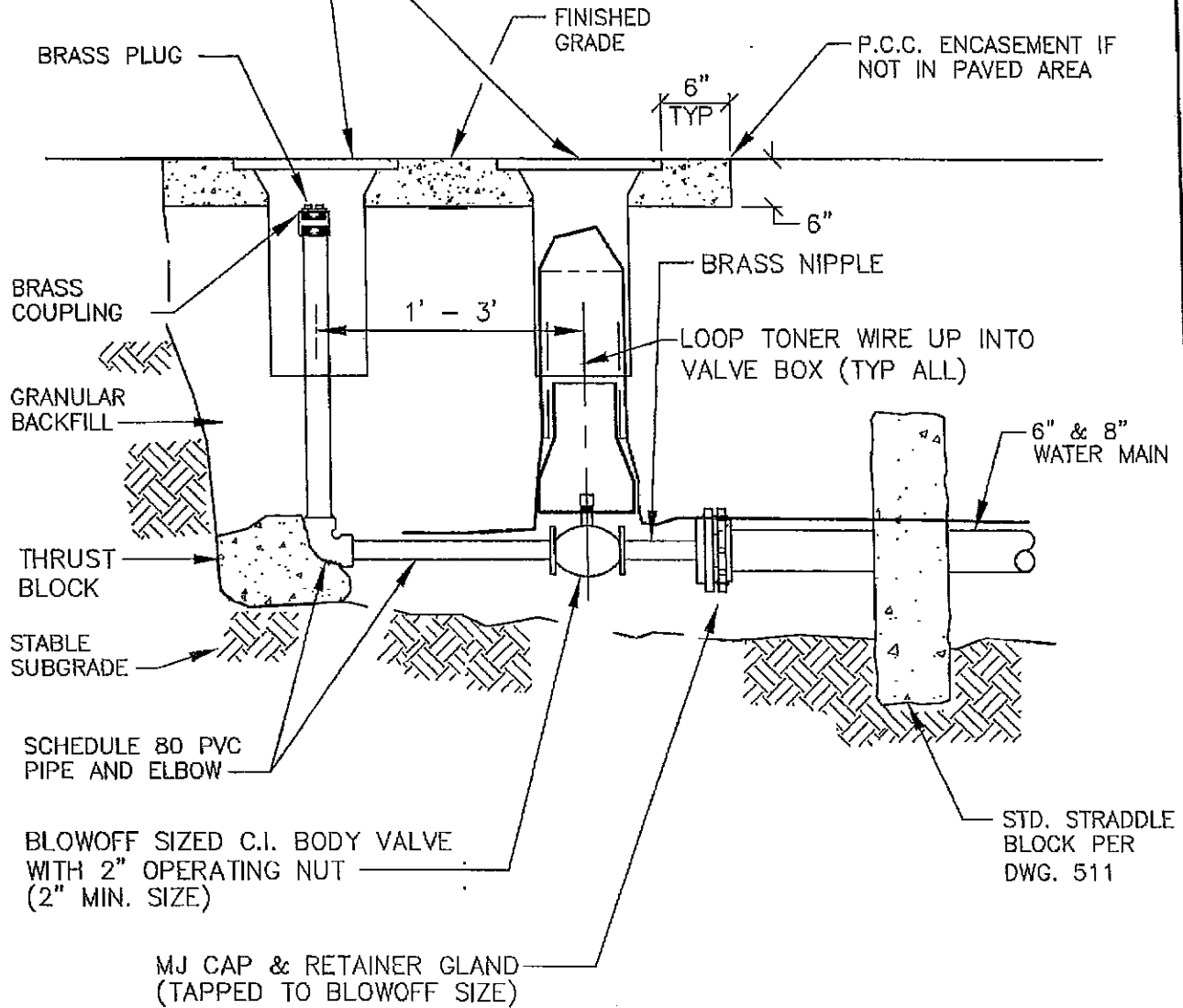
STANDARD VALVE BOX
(TWO REQUIRED)
VANCOUVER '910' STYLE



NOTE: PER ORS 92.044(7),
VALVE BOXES MUST BE SET
1' MINIMUM CLEAR FROM
ANY SURVEY MONUMENT

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MAINLINE BLOWOFF ASSEMBLY	
(NTS)	
DAYTON, OR	DETAIL NO. 506

STANDARD VALVE BOX
(TWO REQUIRED)
VANCOUVER 910 STYLE



NOTE: PER ORS 92.044(7),
VALVE BOXES MUST BE SET
1' MINIMUM CLEAR FROM
ANY SURVEY MONUMENT

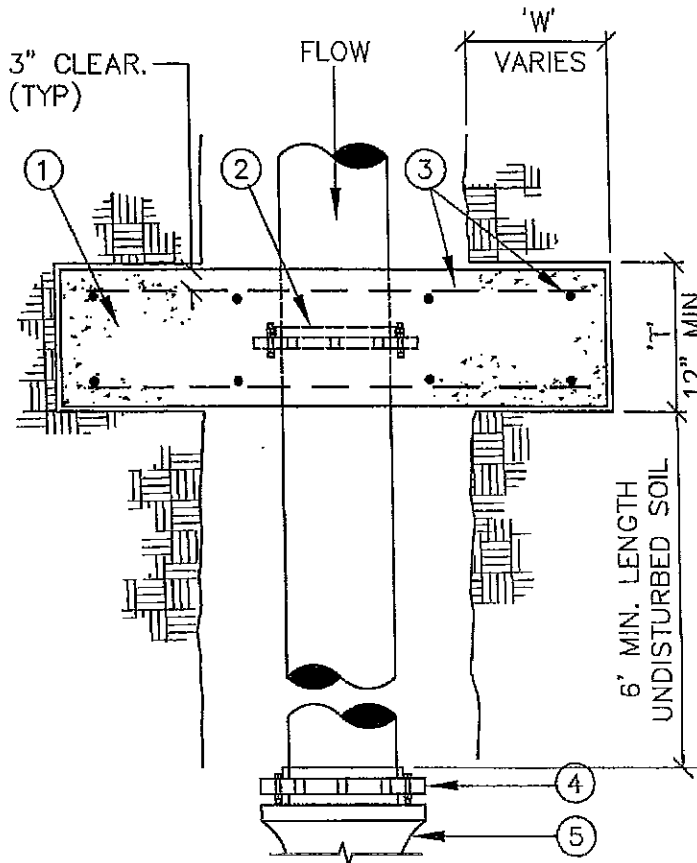
NOTES:

1. BACKFILL WITH GRANULAR BACKFILL.
2. ALLOWED ONLY ON PERMANENT DEAD END LINES IN CUL-DE-SACS WHICH CANNOT BE EXTENDED IN THE FUTURE.
3. ALL CONCRETE TO BE 3300 PSI @ 28 DAYS.
4. 2" BLOWOFF SIZE ASSUMES 40 PSI RESIDUAL PRESSURE.

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STANDARD BLOWOFF WITH PLUGGED END	
(NTS)	
DAYTON, OR	DETAIL NO. 507

MATERIALS

- ① CONCRETE STRADDLE BLOCK.
- ② ~~ONE~~ SERRATED-LOCK STYLE SPLIT-RING RESTRAINT HARNESS (ROMAC 600 OR EQUAL), OR TWO WEDGE-STYLE SPLIT-RING RESTRAINTS (SET OPPOSED).
- WEDGE STYLE RESTRAINTS SHALL BE WRAPPED WITH PLASTIC PRIOR TO CONCRETE PLACEMENT.
- ③ #4 REBAR EA. WAY, 12" O.C.
- ④ RETAINER GLAND.
- ⑤ MJ FITTING, VALVE OR BLOWOFF.

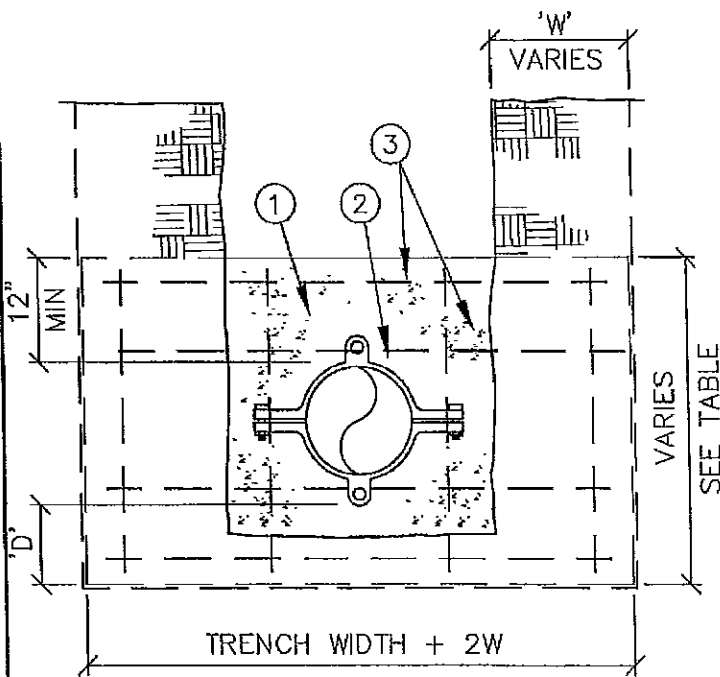


TOP VIEW

PIPE SIZE	'W'	'D'	'T'
6"	12"	8"	12"
8"	16"	10"	12"
10"	20"	12"	12"
12"	24"	18"	18"
>12"	BY ENGINEER		

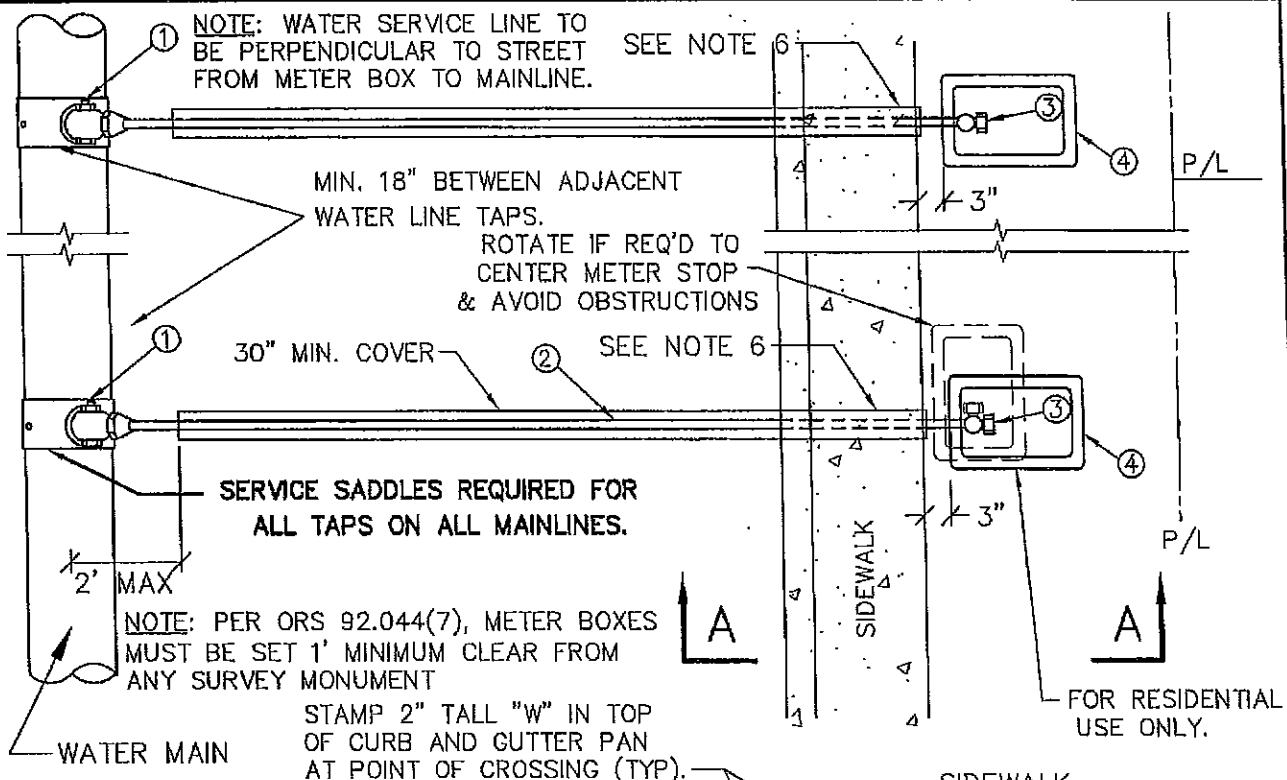
NOTES:

1. STRADDLE BLOCKS FOR >12" PIPE SHALL BE DESIGNED INDIVIDUALLY BY THE ENGINEER AND SHALL BE BASED ON THE FOLLOWING:
 - a.) 200 PSI WATER PRESSURE.
 - b.) SOIL BRG. CAPACITY, STEEL SIZE & SPACING BY THE ENGINEER.
2. BEARING AREA OF BLOCK SHALL BE AGAINST UNDISTURBED SOIL.
3. STRADDLE BLOCK SHALL HAVE A MINIMUM OF 18" COVER.
4. CONCRETE SHALL HAVE A MIN. 28 DAY STRENGTH OF 3300 PSI.



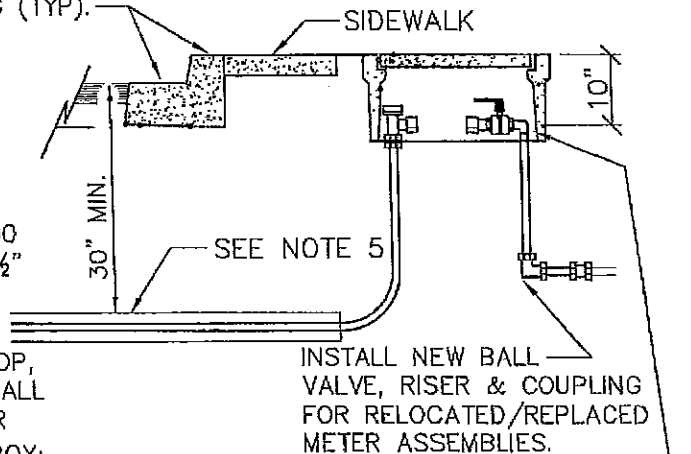
FRONT VIEW

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STRADDLE BLOCK FOR 12" AND SMALLER PIPE	
(NTS)	
DAYTON, OR	DETAIL NO. 511



MATERIALS:

- ① BALL STYLE CORPORATION STOP FORD FB-1100. SET AT 30° ANGLE UP FROM HORIZONTAL.
- ② CENCORE BLUE HDPE (CTS OD, SDR 9, 200 PSI) CONFORMING TO AWWA C901, USE 2½" LONG INSERTS ON COMPRESSION FITTINGS. SINGLE RESIDENTIAL SERVICE: 1" (TYP)
- ③ BALL STYLE 1" LOCKING ANGLE METER STOP, FORD KV43-444WQ OR EQUAL. PROVIDE ALL SERVICES WITH 1" x 3/4" METER ADAPTER
- ④ ARMORCAST POLYMER CONCRETE METER BOX: A6001946PCX12 W/A6001866 LID IN TRAFFIC AREAS A6001946PCX12 W/A6001866R LID ELSEWHERE PROVIDE ALL METER BOXES WITH KNOCKOUTS FOR TOUCH-READ SENSORS



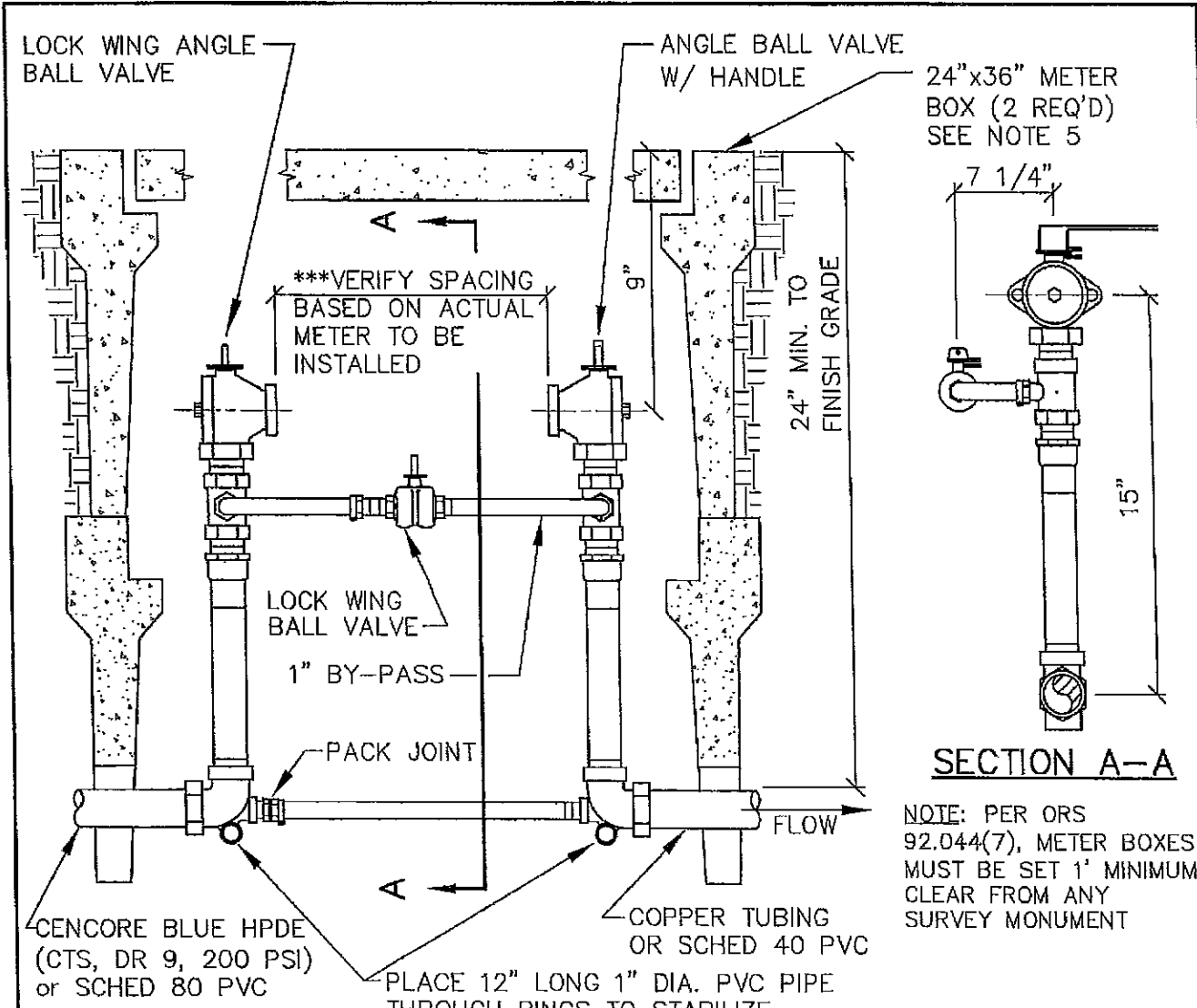
SECTION A-A

NOTES:

- 1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
- 2. ALL PIPE AND BACKFILL ZONES SHALL BE BACKFILLED USING 3/4" MINUS GRANULAR MATERIAL AND COMPACTED TO 92% MAX. DENSITY DETERMINED BY AASHTO T-180.
- 3. SET FRONT OF METER BOX 3-INCHES BEHIND BACK OF SIDEWALK LOCATION FOR CURBLINE WALKS.
- 4. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY.
- 5. MIN. SIZE COMMERCIAL SERVICES SHALL BE 1-INCH.
- 6. FAR SIDE COMMERCIAL SERVICES SHALL BE INSTALLED IN A 4" MIN DIA SCHED 40 PVC SLEEVE WHICH BEGINS 2' FROM MAIN AND EXTENDS TO BACK OF FAR SIDE SIDEWALK.

METER COUPLING (TAIL), BALL VALVE W/HANDLE & 90° ELBOW. PROVIDE PRIOR TO WATER METER INSTALLATION.

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TYPICAL 1" WATER SERVICE	
(NTS)	
DAYTON, OR	DETAIL NO. 515



SECTION A-A

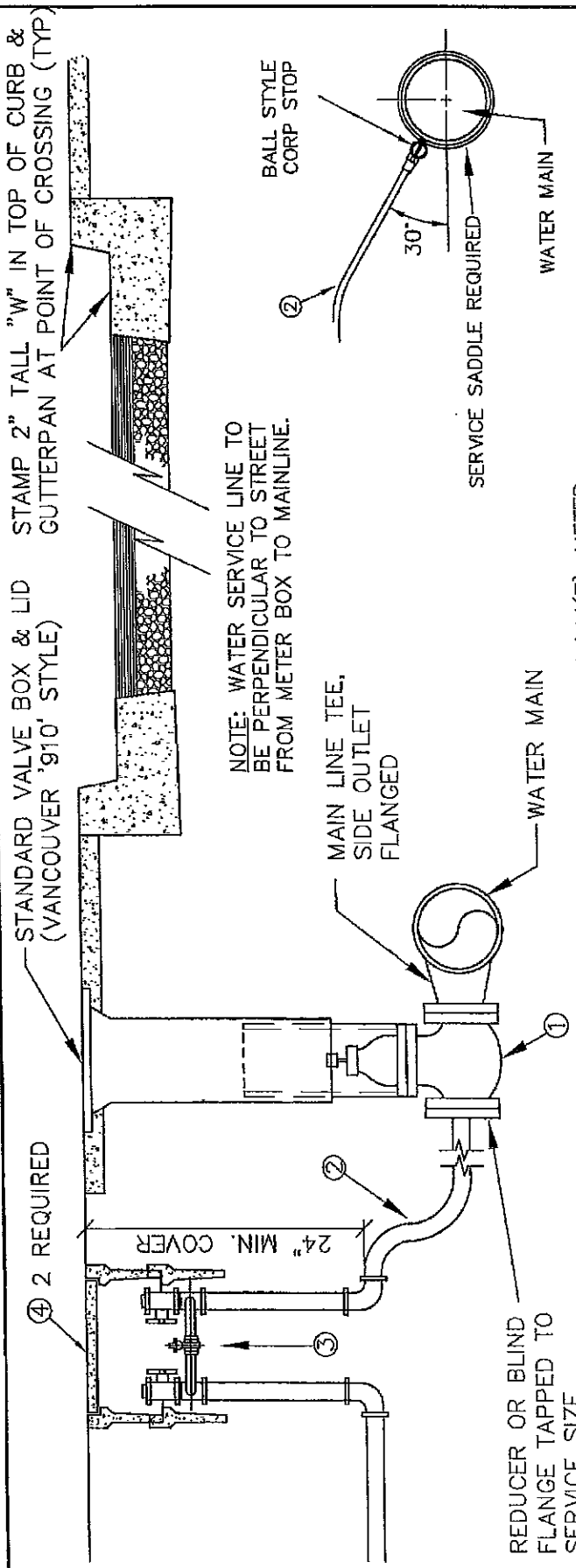
NOTE: PER ORS 92.044(7), METER BOXES MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

NOTES:

1. METERSET TO BE FORD 70 SERIES COPPERSETTER, #VBB76-12HB-11-66 (1½") OR #VBB77-12HB-11-77 (2") WITH RAISED LOCKING BYPASS OR APPROVED EQUAL.
2. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
3. ALL PIPE AND BACKFILL ZONES SHALL BE BACKFILLED USING ¾" MINUS GRANULAR MATERIAL AND COMPACTED TO 92% OPTIMUM DENSITY PER AASHTO T-180.
4. SET FRONT OF METER BOX 3-INCHES BEHIND SIDEWALK (TYPICAL) FOR CURBLINE WALKS. NO METERS ON PRIVATE PROPERTY WITHOUT A RECORDED EASEMENT.
5. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY. METER BOX TO BE ARMORCAST -A6001974PCX12 W/A6001975 LID IN NON-TRAFFIC AREAS. -TRAFFIC RATED VERSION OF BOX/LID IN TRAFFIC AREAS. PROVIDE WITH KNOCKOUTS FOR TOUCH-READ SENSORS.
6. COPPERSETTER, METER BOX, & ALL FITTINGS PROVIDED BY CONTRACTOR. CONTRACTOR TO VERIFY DIMENSIONS & CLEARANCE BASED ON ACTUAL METER TO BE PROVIDED BY THE CITY. WATER METER INSTALLED BY CONTRACTOR UNDER CITY INSPECTION & APPROVAL.
7. SEE DETAIL 517 FOR TAPPING REQUIREMENTS.

***TYPICAL METER LENGTHS (VERIFY)
 1½" COMPOUND - 13" TYP,
 2" COMPOUND - 15¼" TYP,
 2" TURBINE - 17" TYP.

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1-1/2" AND 2" METER SET W/1" HIGH BY-PASS	
(NTS)	
DAYTON, OR	DETAIL NO. 516



1-1/2" SERVICE

NOTE: PER ORS 92.044(7), METER BOXES MUST BE SET 1' MINIMUM CLEAR FROM ANY SURVEY MONUMENT

2" & LARGER SERVICE

REDUCER OR BLIND FLANGE TAPPED TO SERVICE SIZE.

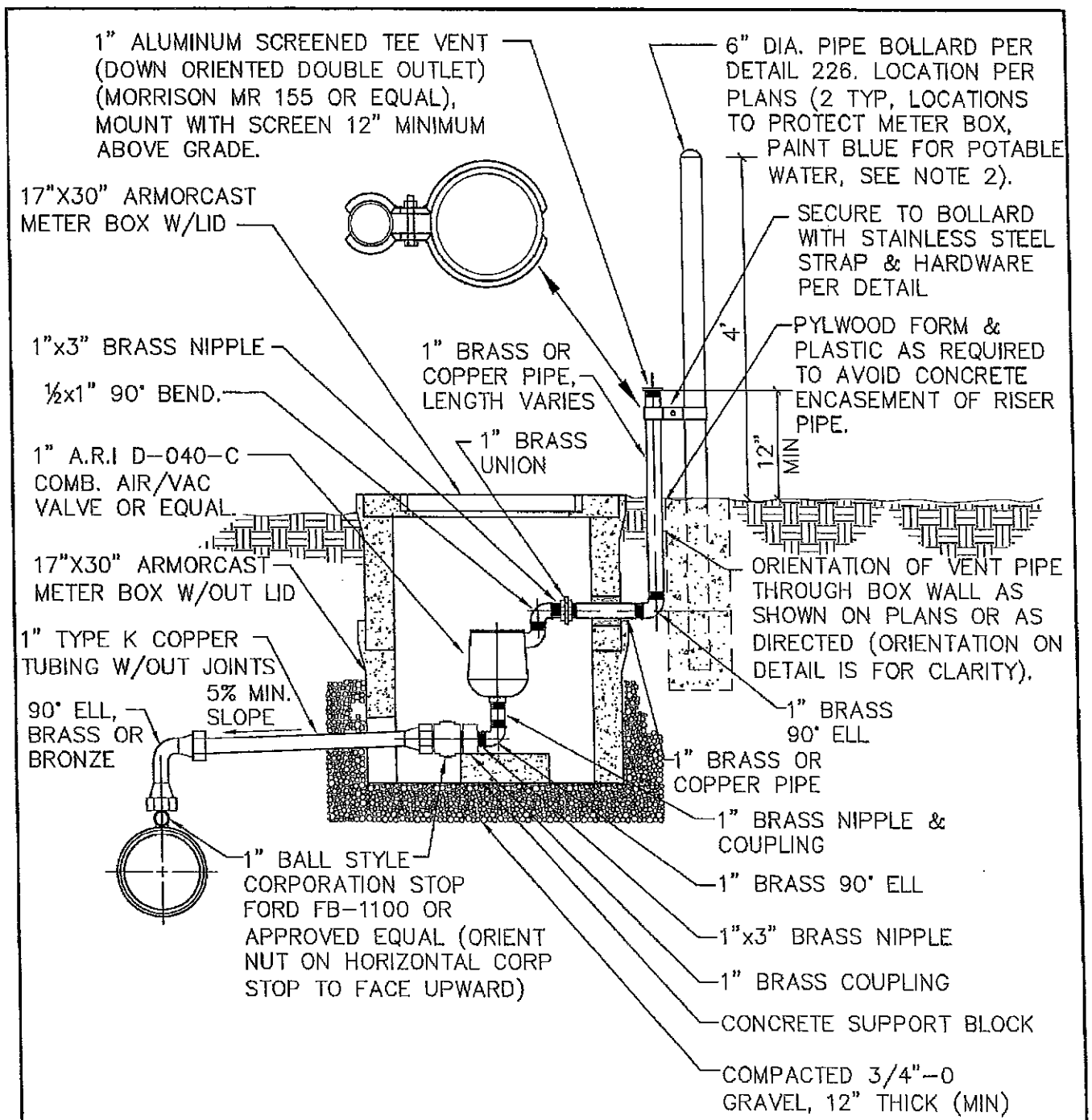
MATERIALS

- ① FLG X FLG RESILIENT WEDGE GATE VALVE PER AWWA C-509. 4" DIA. OR SERVICE SIZE, WHICHEVER IS LARGER. EPOXY COATED PER AWWA C-550.
- ② CENCORE BLUE HDPE (CTS, DR 9, 200 PSI) W/OUT JOINTS (USE 2 1/2" LONG INSERTS ON COMPRESSION FITTINGS) OR SCHEDULE 80 PVC PIPE & FITTINGS.
- ③ METER STOP ASSEMBLY W/BYPASS PER PUBLIC WORKS REQUIREMENTS. SEE DETAIL 516 FOR 1-1/2 & 2" SERVICES.
- ④ METER BOX FOR 1-1/2" AND 2" SHALL BE PER DETAIL 516. USE TRAFFIC RATED VERSION OF BOX/LID FOR TRAFFIC AREAS. METER VAULT FOR LARGER SERVICE PER PUBLIC WORKS REQUIREMENTS. PROVIDE W/TOUCH-READ SENSOR KNOCKOUT.

NOTES

- 1. SUBSTITUTES FOR ANY MATERIAL SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
- 2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" MINUS GRANULAR MATERIAL AND COMPACTED TO 95% MAX DENSITY AS DETERMINED BY ASHTO T-180.
- 3. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER AND FITTING ASSEMBLY.
- 4. CUSTOMER SHALL INSTALL AN APPROVED BACKFLOW PREVENTION DEVICE ON PRIVATE PROPERTY IMMEDIATELY DOWNSTREAM OF WATER METER.

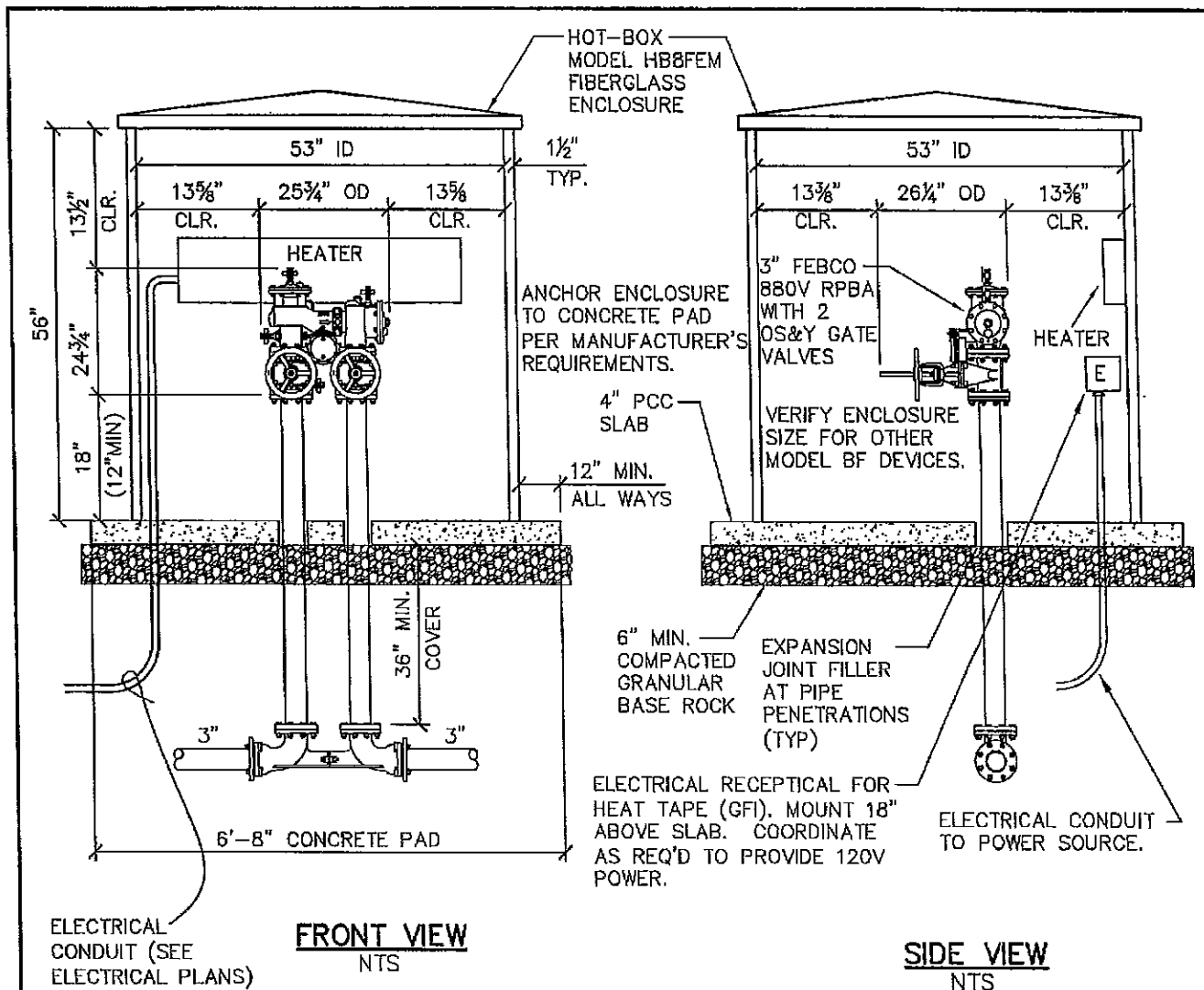
LAST REVISION DATE: NOV 2013	COPYRIGHT 1995 WESTECH ENGINEERING, INC.
TAPPING REQUIREMENTS, 1-1/2" AND LARGER SERVICE	
(NTS)	
DAYTON, OR	DETAIL NO. 517



NOTES:

1. RISER SHALL BE PROTECTED FROM VEHICULAR OR PEDESTRIAN TRAFFIC AS APPROVED BY THE CITY ENGINEER & PUBLIC WORKS.
2. PAINT BOLLARD & TOP SAFETY BLUE FOR POTABLE WATER APPLICATIONS.
3. WHERE ARV ASSEMBLIES ARE INSTALLED ADJACENT TO FENCES, BOLLARDS SHALL BE SET 3" MIN CLEAR FROM FENCE UNLESS OTHERWISE APPROVED BY PROPERTY OWNER.
4. EXACT LOCATION OF RISER PENETRATION THROUGH BOX & BOLLARDS TO BE VERIFIED IN FIELD WITH CITY ENGINEER & PUBLIC WORKS PRIOR TO RISER & BOLLARD INSTALLATION.

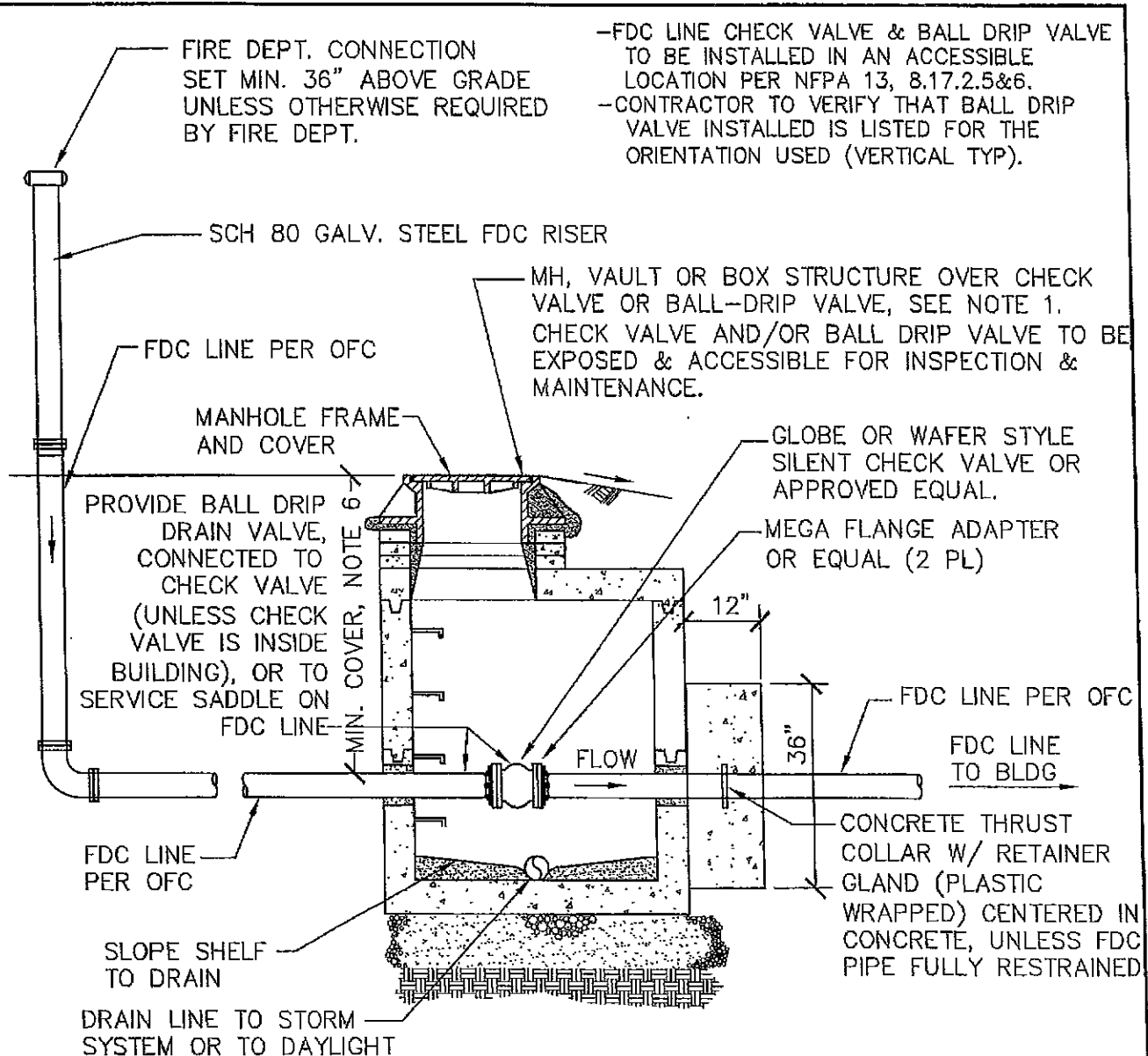
LAST REVISION DATE: AUG 2013	JD #
1" COMBINATION AIR RELEASE VALVE (CARV) (NTS)	
DAYTON, OR	DETAIL NO. 518



NOTES:

1. RPBA- REDUCED PRESSURE BACKFLOW ASSEMBLY.
2. RPBA & VAULT INSTALLATION SHALL MEET STATE OF OREGON, DEPARTMENT OF HUMAN RESOURCES, HEALTH DIVISION REQUIREMENTS.
3. CONTRACTOR SHALL HAVE RPBA TESTED AND CERTIFIED PRIOR TO APPROVAL BY THE CITY.
4. RPBA & VAULT SHALL CONFORM TO REQUIREMENTS OF PUBLIC/PRIVATE AGENCIES HAVING JURISDICTION.
5. VAULTS SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL OTHER VAULTS OR STRUCTURES.
6. VERIFY ENCLOSURE DIMENSIONS ARE ADEQUATE FOR CLEARANCE BASED ON HEIGHT OF REDUCED PRESSURE ASSEMBLY.
7. ENCLOSURE SHALL BE CENTERED OVER THE COMPLETED REDUCED PRESSURE BACKFLOW ASSEMBLY.
8. POWER SHALL BE INSTALLED IN SCHEDULE 40 RIGID CONDUIT PER NEC REQUIREMENTS.
9. ALL CONCRETE SHALL HAVE 3,300 PSI COMPRESSIVE STRENGTH @ 28 DAYS.
10. HOT BOX DRAINAGE OPENINGS SHALL NOT BE OBSTRUCTED BY GRADING OR PLANTINGS.
11. RPBA SHALL BE INSTALLED A MIN. OF 12 INCHES ABOVE THE 100-YEAR FLOOD ELEVATION AS DETERMINED BY FEMA.
12. FINISH GRADE TO SLOPE AWAY FROM VAULT AT MIN. SLOPE = 2%

LAST REVISION DATE: JULY 2013	JD #
3" REDUCED PRESSURE ASSEMBLY	
(NTS)	
DAYTON, OR	DETAIL NO. 543

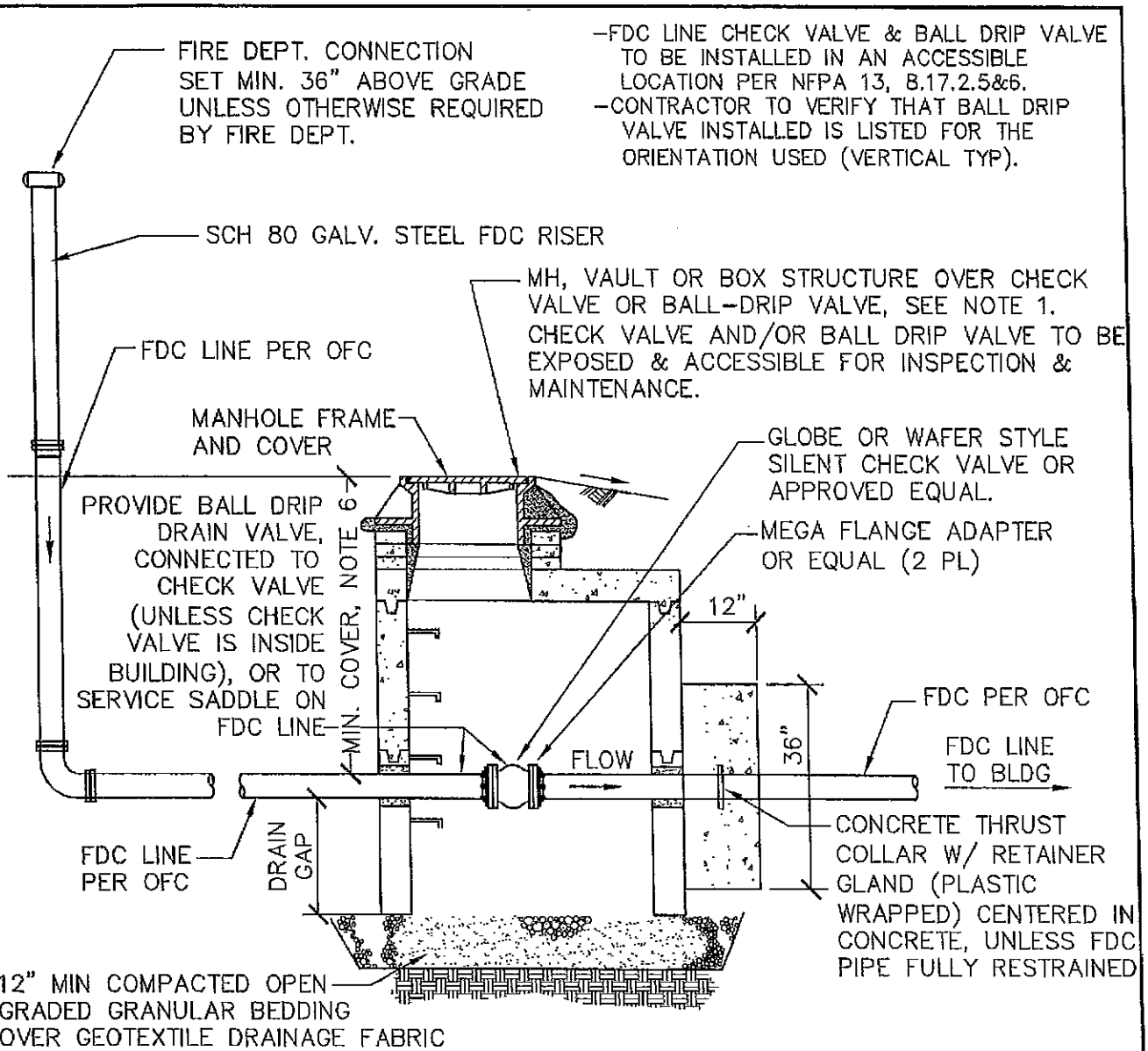


-FDC LINE CHECK VALVE & BALL DRIP VALVE TO BE INSTALLED IN AN ACCESSIBLE LOCATION PER NFPA 13, 8.17.2.5&6.
 -CONTRACTOR TO VERIFY THAT BALL DRIP VALVE INSTALLED IS LISTED FOR THE ORIENTATION USED (VERTICAL TYP).

NOTES:

1. INSTALL 48" PRECAST MANHOLE PER DETAIL 402, UNLESS OTHER APPROVED VAULT OR BOX IS SHOWN OR NOTED ON DWGS.
2. ALL PIPE OPENINGS SHALL BE SEALED WITH NON-SHRINK WATERTIGHT GROUT.
3. WHERE REQUIRED, THRUST COLLAR CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
4. IF AN FDC LINE CHECK VALVE IS PROVIDED INSIDE BUILDING, AN EXTERIOR FDC LINE CHECK VALVE IS NOT REQUIRED UNLESS OTHERWISE DIRECTED IN WRITING BY FIRE CODE OFFICIAL. BALL DRIP DRAIN VALVE SHALL BE INSTALLED ON CHECK VALVE OR AT LOW POINT ON FDC LINE (DETAIL 562) TO DRAIN FDC LINE BETWEEN CHECK VALVE & FDC RISER.
5. PER NFPA 13, A10.4.1, 36" MIN COVER REQUIRED FOR "WET" FDC LINES (ANY PORTION OF FDC LINE WHICH REMAINS FILLED WHEN NOT IN USE). COVER MAY BE REDUCED TO 12" MIN ON "DRY" FDC LINE WHICH IS DRAINED COMPLETELY WHEN NOT IN USE.
6. THIS DETAIL DOES NOT SUPERCEDE REQUIREMENTS UNDER THE OREGON FIRE CODE, NFPA STANDARDS OR DIRECTION FROM FIRE CHIEF.

LAST REVISION DATE:	JO #
OCT 2013	STANDARD
BELOW GRADE CHECK VALVE & BALL DRIP VALVE, IN CLOSE BOTTOM DRAIN STRUCT (NTS)	
DAYTON, OR	DETAIL NO. 560

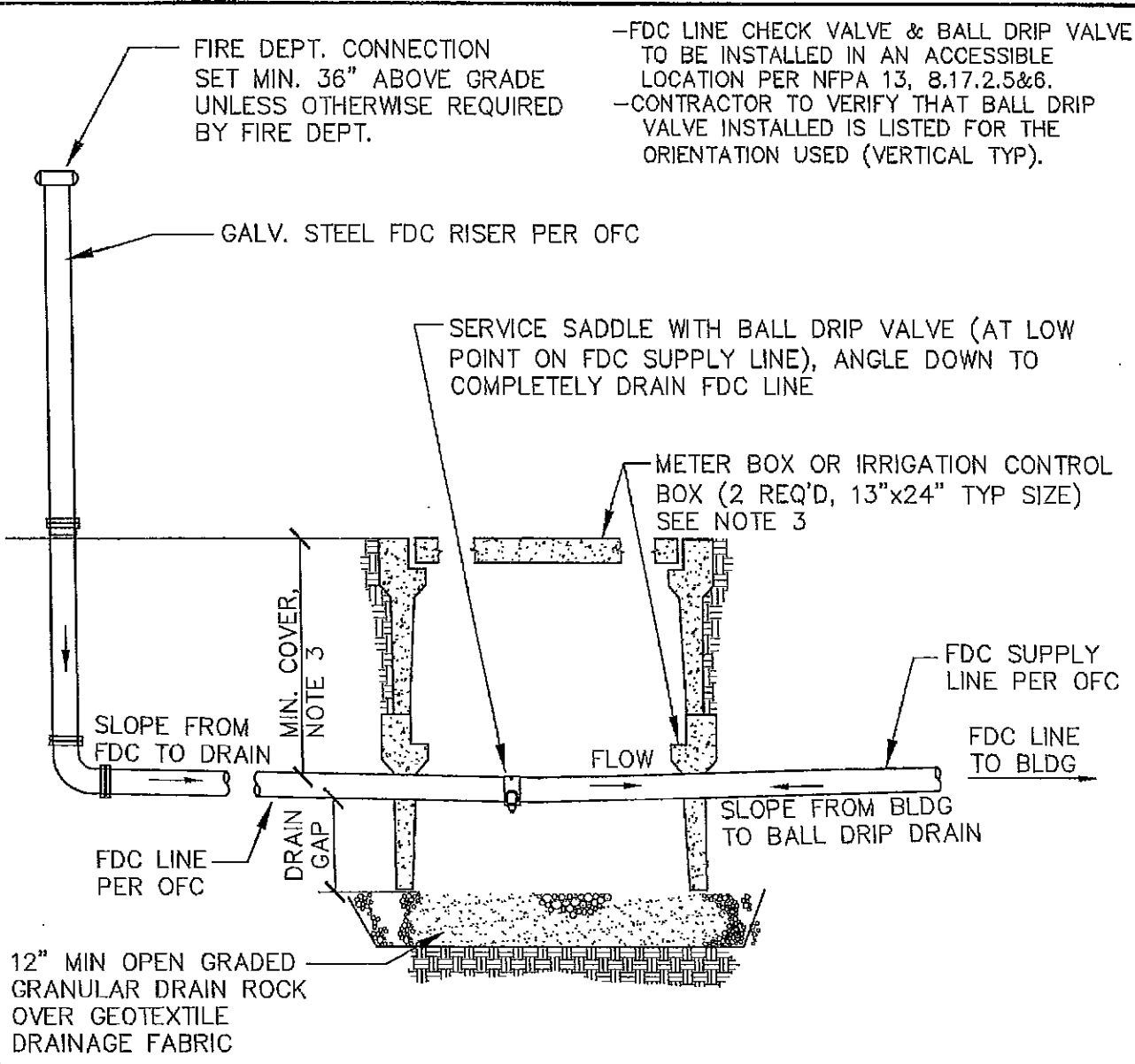


-FDC LINE CHECK VALVE & BALL DRIP VALVE TO BE INSTALLED IN AN ACCESSIBLE LOCATION PER NFPA 13, 8.17.2.5&6.
 -CONTRACTOR TO VERIFY THAT BALL DRIP VALVE INSTALLED IS LISTED FOR THE ORIENTATION USED (VERTICAL TYP).

NOTES:

1. INSTALL 48" PRECAST MANHOLE PER DETAIL 402, UNLESS OTHER APPROVED VAULT OR BOX IS SHOWN OR NOTED ON DWGS.
2. ALL PIPE OPENINGS SHALL BE SEALED WITH NON-SHRINK WATERTIGHT GROUT.
3. WHERE REQUIRED, THRUST COLLAR CONCRETE SHALL BE 3300 PSI @ 28 DAYS.
4. IF AN FDC LINE CHECK VALVE IS PROVIDED INSIDE BUILDING, AN EXTERIOR FDC LINE CHECK VALVE IS NOT REQUIRED UNLESS OTHERWISE DIRECTED IN WRITING BY FIRE CODE OFFICIAL. BALL DRIP DRAIN VALVE SHALL BE INSTALLED ON CHECK VALVE OR AT LOW POINT ON FDC LINE (DETAIL 562) TO DRAIN FDC LINE BETWEEN CHECK VALVE & FDC RISER.
5. PER NFPA 13, A10.4.1, 36" MIN COVER REQUIRED FOR "WET" FDC LINES (ANY PORTION OF FDC LINE WHICH REMAINS FILLED WHEN NOT IN USE). COVER MAY BE REDUCED TO 12" MIN ON "DRY" FDC LINE WHICH IS DRAINED COMPLETELY WHEN NOT IN USE.
6. THIS DETAIL DOES NOT SUPERCEDE REQUIREMENTS UNDER THE OREGON FIRE CODE, NFPA STANDARDS OR DIRECTION FROM FIRE CHIEF.

LAST REVISION DATE: OCT 2013	JO # STANDARD
BELOW GRADE CHECK VALVE & BALL DRIP VALVE, IN OPEN BOTTOM DRAIN STRUCTURE (NTS)	
DAYTON, OR	DETAIL NO. 561



-FDC LINE CHECK VALVE & BALL DRIP VALVE TO BE INSTALLED IN AN ACCESSIBLE LOCATION PER NFPA 13, 8.17.2.5&6.
 -CONTRACTOR TO VERIFY THAT BALL DRIP VALVE INSTALLED IS LISTED FOR THE ORIENTATION USED (VERTICAL TYP).

- NOTES:**
1. INSTALL BALL-DRIP DRAIN VALVE & BOX AT LOW POINT IN FDC LINE PROFILE (IE. BALL DRIP VALVE SHALL BE CONFIGURED TO DRAIN ENTIRE FDC PIPE BETWEEN FDC RISER & BUILDING WHEN FDC IS NOT IN USE).
 2. CONFIGURATION SHOWN IS BASED ON FDC LINE CHECK VALVE INSIDE BUILDING (IE. FDC LINE "DRY" WHEN NOT IN USE).
 3. UNLESS OTHERWISE REQUIRED TO ADDRESS UTILITY CONFLICTS OR OTHER ISSUES, COVER DEPTH FOR "DRY" FDC LINE SHALL BE 12" MIN AT ALL LOCATIONS.
 4. BALL DRIP VALVE SHALL BE ACCESSIBLE IN BOX FOR INSPECTION & MAINTENANCE AS SHOWN (PROVIDE LARGER BOXES AS NECESSARY TO ACCOMPLISH THIS).
 5. THIS DETAIL DOES NOT SUPERCEDE REQUIREMENTS UNDER THE OREGON FIRE CODE, NFPA STANDARDS OR DIRECTION FROM FIRE CHIEF.

LAST REVISION DATE: OCT 2013	JO # STANDARD
FDC LINE BALL DRIP DRAIN VALVE (CHECK VALVE IN BLDG) OPEN BOTTOM DRAIN STRUCT (NTS)	
DAYTON, OR	DETAIL NO. 562