2022

CITY OF
SEQUIM

ENGINEERING STANDARDS

DEPARTMENT OF PUBLIC WORKS
152 W. CEDAR ST SEQUIM WA, 98382
PHONE: (360) 683-4908



7/12/2022

LIST OF STANDARD DRAWINGS

DIVISION 4 - STREETS

FIGURE NO.	FIGURE NAME	ADOPTION DATE	RESOLUTION NO.
4-00	Typical Street Section Guide	1/11/2021	R2021-01
4-01	Neighborhood Street Section	1/11/2021	R2021-01
4-02	Local Street Section	1/11/2021	R2021-01
4-03	Collector Street Section	1/11/2021	R2021-01
4-04	Arterial Street Section	1/11/2021	R2021-01
4-05	Half-Width Street Section	1/11/2021	R2021-01
4-06	Local Street – Shared Use Path Section	1/11/2021	R2021-01
4-07	Collector Street – Shared Use Path Section	1/11/2021	R2021-01
4-08	Reserved		
4-10	Reserved		
4-11	Reserved		
4-12	Alley Section	1/11/2021	R2021-01
4-13	Street Layout Guide	1/11/2021	R2021-01
4-14	Neighborhood Cul-De-Sac	1/11/2021	R2021-01
4-15	Standard Utility Location	1/11/2021	R2021-01
4-16	Typical Pavement Section	1/11/2021	R2021-01
4-17	Reserved		
4-18	Typical Pavement Patch	1/11/2021	R2021-01
4-19	Cement Concrete Sidewalk	1/11/2021	R2021-01
4-20	Cement Concrete Curbs	1/11/2021	R2021-01
4-21	Cement Concrete Curb and Gutter Pan	1/11/2021	R2021-01
4-22A	Cement Concrete Driveway Entrance Types 1, 2, 3, & 4	1/11/2021	R2021-01
4-22B	Cement Concrete Driveway Entrance Types 1, 2, 3, & 4	1/11/2021	R2021-01
4-23	Parallel Curb Ramp	1/11/2021	R2021-01
4-24	Combination Curb Ramp	1/11/2021	R2021-01
4-25	Perpendicular Curb Ramp	1/11/2021	R2021-01
4-26	Single Direction Curb Ramp	1/11/2021	R2021-01
4-27	Detectable Warning Surface	1/11/2021	R2021-01
4-28A	Light Standard	1/11/2021	R2021-01
4-28B	Light Standard	1/11/2021	R2021-01
4-29	Tree Planting Standard	1/11/2021	R2021-01
4-30	Street Name Sign Detail	1/11/2021	R2021-01
4-31	Street Sign Post Detail	1/11/2021	R2021-01
4-32	Monument Case and Cover	1/11/2021	R2021-01

DIVISION 5 - WATER

FIGURE NO.	FIGURE NAME	ADOPTION DATE	RESOLUTION NO.
5-00	General Water Notes	7/11/2022	R2022-
5-01A	Testing Information	7/11/2022	R2022-
5-01B	Testing Information	7/11/2022	R2022-
5-02	Water Line Trench Section	7/11/2022	R2022-
5-03A	5/8", ¾" and 1" Water Services	7/11/2022	R2022-
5-03B	5/8", ¾" and 1" Water Services	7/11/2022	R2022-
5-04A	1 ½" and 2" Water Services	7/11/2022	R2022-
5-04B	1 ½" and 2" Water Services	7/11/2022	R2022-
5-05	Meter Box	7/11/2022	R2022-
5-06	Reserved	7/11/2022	R2022-
5-07	Thrust Blocks	7/11/2022	R2022-
5-08	Fire Hydrant Assembly	7/11/2022	R2022-
5-09	Fire Hydrant in Cut or Fill	7/11/2022	R2022-
5-10	Relocate Fire Hydrant Assembly	7/11/2022	R2022-
5-11	Wet Tap Connection	7/11/2022	R2022-
5-12	Cut in Connection	7/11/2022	R2022-
5-13	6" and 8" Blow Off Assembly	7/11/2022	R2022-
5-14	1 IN Air and Vacuum Release Assembly	7/11/2022	R2022-
5-15	2 IN Air and Vacuum Release Assembly	7/11/2022	R2022-
5-16A	Meter Vault Assembly 3" to 10"	7/11/2022	R2022-
5-16B	Meter Vault Assembly 3" to 10"	7/11/2022	R2022-
5-17A	Double-Check Detector Assembly – 4" and Larger	7/11/2022	R2022-
5-17B	Double-Check Detector Assembly – 4" and Larger	7/11/2022	R2022-
5-18	Valve Box	7/11/2022	R2022-
5-19	Valve Box Adjustment	7/11/2022	R2022-
5-20	Valve Extension Stem	7/11/2022	R2022-
5-21	Guard Post	7/11/2022	R2022-
5-22A	Pressure Reducing Vault	7/11/2022	R2022-
5-22B	Pressure Reducing Vault	7/11/2022	R2022-
5-23	Reduced Pressure Backflow Assembly ¾" to 2"	7/11/2022	R2022-
5-24	Reduced Pressure Backflow Assembly 2 ½" and Larger	7/11/2022	R2022-
5-25	Double Check Valve Assembly 2" and Smaller	7/11/2022	R2022-
5-26	Reserved	7/11/2022	R2022-
5-27	Reserved	7/11/2022	R2022-
5-28	Reserved	7/11/2022	R2022-

STANDARD SECTION GUIDE					
DESIGN STANDARD	**NEIGHBORHOOD**	**LOCAL**	**COLLECTOR**	**ARTERIAL**	**HALF-WIDTH**
FIGURE	4-01	4-02	4-03	4-04	4-05
FEDERAL FUNCTIONAL CLASSIFICATION (URBAN)	LOCAL ACCESS	LOCAL ACCESS	MINOR & MAJOR COLLECTOR	MINOR ARTERIAL	LOCAL ACCESS, MINOR & MAJOR COLLECTORS
R/W WIDTH	45'	60'	60'	80'	30'
PAVEMENT WIDTH	24'	30'	34'	54'	20'
ESTIMATED AADT @ CITY BUILDOUT	<300	<1,200	<10,000	>8,000	<1,200
POSTED SPEED	20-25 MPH	20-25 MPH	25-35 MPH	30-40 MPH	25 MPH
LANE WIDTH	12'	11'	11'	12'	10'
SIDEWALK/SHARED USE PATH	5' ONE SIDE	5' BOTH SIDES OR 10' SHARED USE PATH (FIGURE 4-06)	6' BOTH SIDES OR 10' SHARED USE PATH W/ 6' SIDEWALK (FIGURE 4-07)	6' BOTH SIDES	BASED ON STREET BUILDOUT FUNCTIONAL CLASSIFICATION
PLANTER	4' ONE SIDE AND 10.5' ONE SIDE	4' BOTH SIDES	4' BOTH SIDES	6' BOTH SIDES	4' ONE SIDE
PLANTING TYPE	TREES	TREES	TREES	TREES & SHRUBS	TREES
STREET TREE SPACING (D)	D=40'-50'	D=40'-50'	D=30'-40'	D=30'-35'	BASED ON STREET BUILDOUT FUNCTIONAL CLASSIFICATION
NETWORK CONNECTIVITY PROVIDED	NO	YES	YES	YES	YES
STREET LIGHTING TYPE	PEDESTRIAN	PEDESTRIAN	PEDESTRIAN	TRAFFIC/PEDESTRIAN	PEDESTRIAN
LIGHTING REQUIREMENT	MAXIMUM SPACING (S) S=200'	MAXIMUM SPACING (S) S=150'	MAXIMUM SPACING (S) S=150'	*DESIGN REQUIRED* MIN. AVERAGE FOOTCANDLES = 0.6 UNIFORMITY RATIO = 4 VEILING RATIO = 0.4	BASED ON STREET BUILDOUT FUNCTIONAL CLASSIFICATION
ON-STREET PARKING	NONE	8' ONE SIDE WITH BULB-OUTS PROVIDED	8' BOTH SIDES WITH BULB-OUTS PROVIDED	8' BOTH SIDES WITH BULB-OUTS PROVIDED	NONE

GENERAL NOTES:

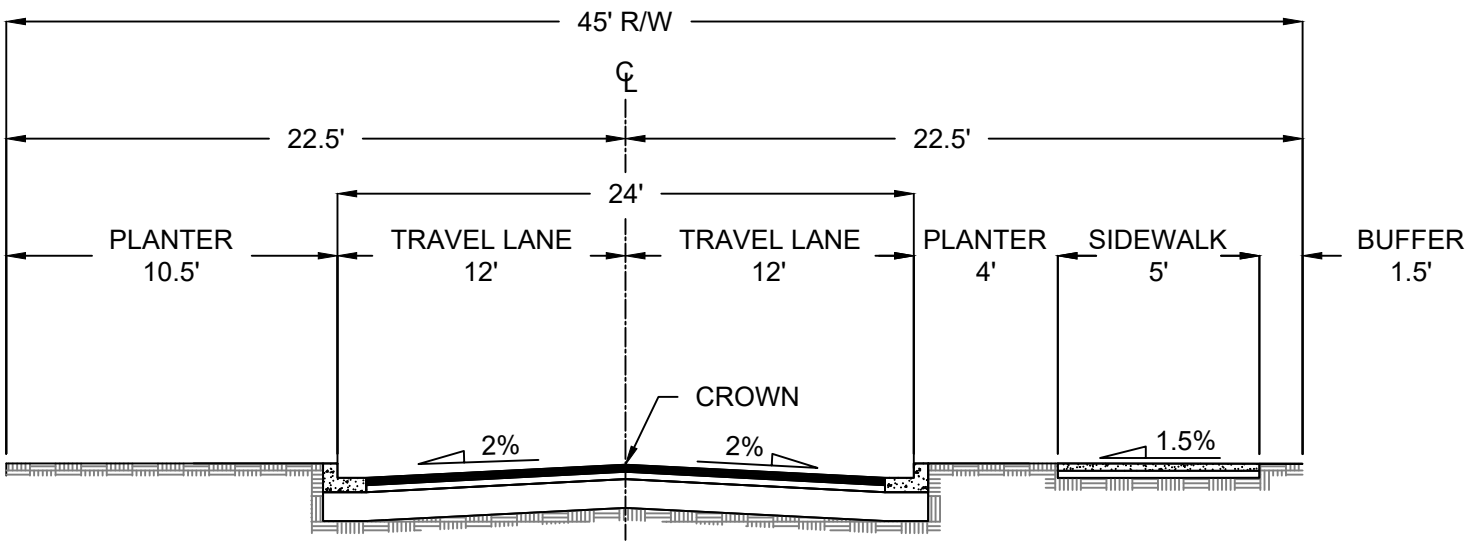
1. WIDTHS FOR STANDARD SECTIONS SHOWN. SEE CORRESPONDING FIGURES FOR ALTERNATE WIDTHS.
2. THE CITY ENGINEER WILL DETERMINE THE APPROPRIATE FUNCTIONAL CLASSIFICATION AND TYPICAL SECTION FOR STREET DESIGN. THE ANNUAL AVERAGE DAILY TRAFFIC (AADT) VALUES SHOWN ARE INTENDED TO HELP GUIDE IN THE DETERMINATION OF THE APPROPRIATE FUNCTIONAL CLASSIFICATION.
3. STREETS PROVIDING NETWORK CONNECTIVITY WILL INCREASE OPTIONS FOR ROUTE OF TRAVEL, FACILITATE WALKING, BICYCLING AND MOBILITY SCOOTERS, AND REDUCE THE DISTANCE OF TRAVEL TO REACH DESTINATIONS.

CITY OF SEQUIM

TYPICAL STREET SECTION GUIDE

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-00



GENERAL NOTES:

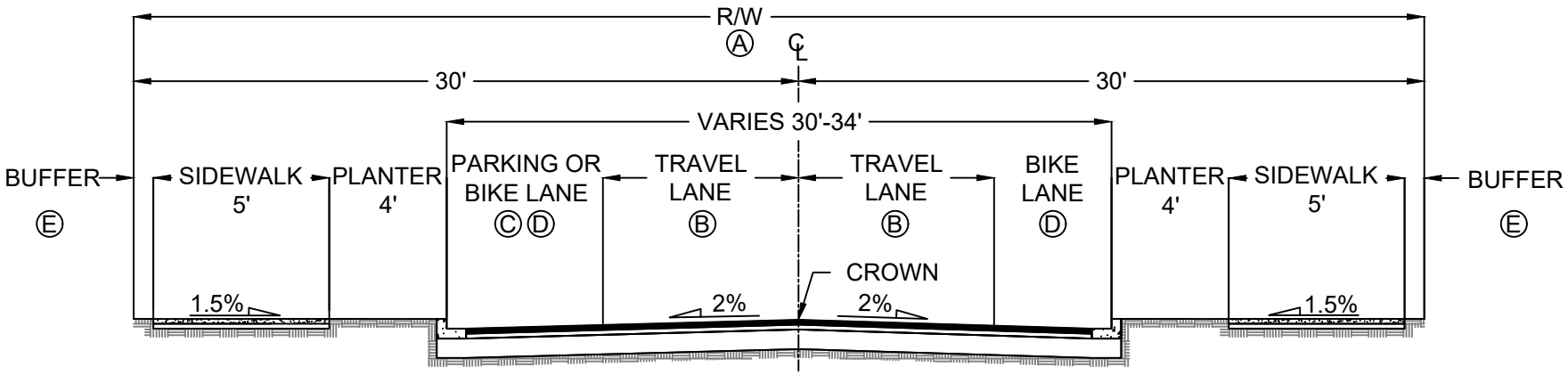
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER.
4. ALTERNATE STREET SECTION CROSS-SLOPES ARE SUBJECT TO THE CITY ENGINEERS APPROVAL.
5. SEE FIGURE 4-14 FOR STREETS ENDING IN A CUL-DE-SAC, HAMMERHEAD, OR "Y".

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NEIGHBORHOOD STREET SECTION

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0	1/11/2021

FIGURE
4-01



	RIGHT OF WAY Ⓐ	TRAVEL LANE Ⓑ	PARKING Ⓒ	BIKE LANE Ⓓ	BUFFER Ⓔ
	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)
STANDARD SECTION	60	11	8	NONE	2,10
ALT BIKE LANE	60	11	NONE	6	4

GENERAL NOTES:

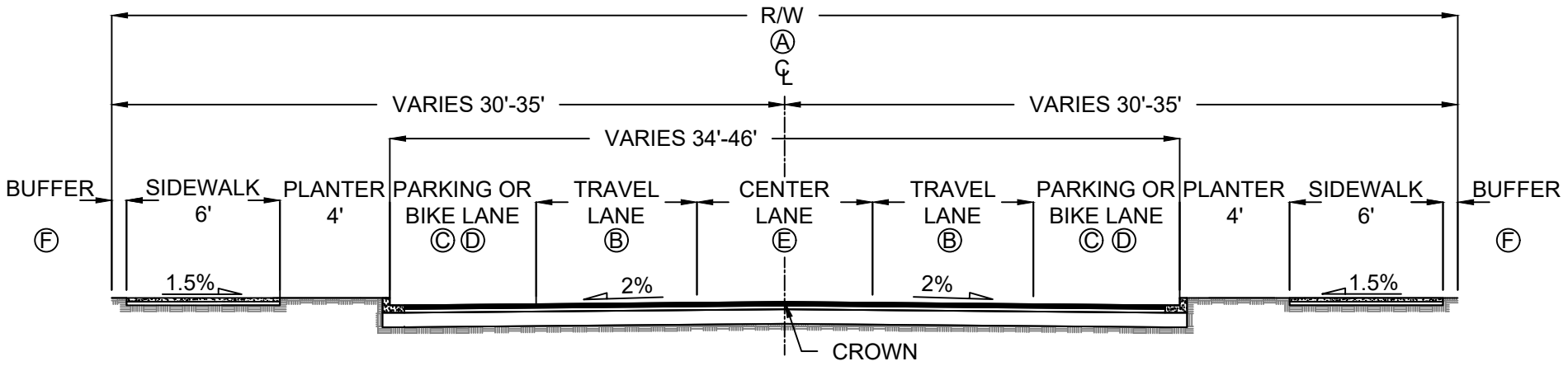
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER.
4. WHEN PARKING IS PROVIDED, THE PARKING LANE MAY BE LOCATED ON EITHER SIDE OF THE STREET.
5. WHEN BIKE LANES ARE PROVIDED, INTERSECTIONS MUST MAINTAIN THE WIDTH OF THE BIKE LANE AT CURB RETURNS AND CURB BULB-OUTS FOR THE CONTINUATION OF THE BIKE LANE THROUGH THE INTERSECTION.
6. ALTERNATE CROWN LOCATIONS AND CROSS-SLOPES ARE SUBJECT TO THE CITY ENGINEERS APPROVAL.

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LOCAL STREET SECTION

REVISION NO.	DATE
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FIGURE
4-02



	RIGHT OF WAY Ⓐ	TRAVEL LANE Ⓑ	PARKING Ⓒ	BIKE LANE Ⓓ	CENTER LANE Ⓔ	BUFFER Ⓕ
	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)
STANDARD SECTION	60	11	8	NONE	NONE	1
ALT BIKE LANE	60	11	NONE	6	NONE	3
ALT CENTER LANE	70	11	NONE	6	12	2

GENERAL NOTES:

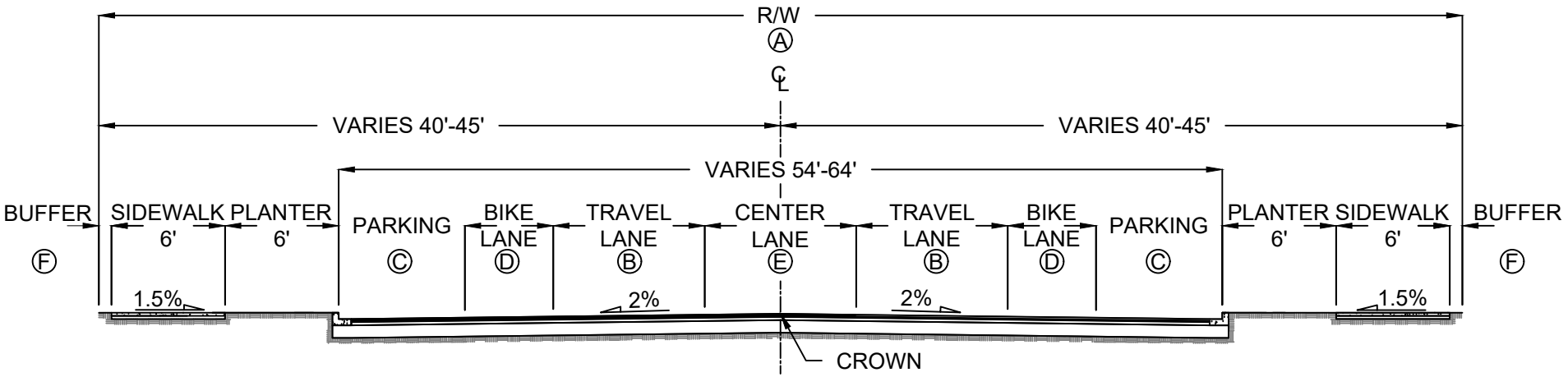
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER.
4. WHEN BIKE LANES ARE PROVIDED, INTERSECTIONS MUST MAINTAIN THE WIDTH OF THE BIKE LANE AT CURB RETURNS AND CURB BULB-OUTS FOR THE CONTINUATION OF THE BIKE LANE THROUGH THE INTERSECTION.
5. ALTERNATE CROWN LOCATIONS AND CROSS-SLOPES ARE SUBJECT TO THE CITY ENGINEERS APPROVAL.

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COLLECTOR STREET SECTION

REVISION NO.	DATE
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FIGURE
4-03



	RIGHT OF WAY Ⓐ	TRAVEL LANE Ⓑ	PARKING Ⓒ	BIKE LANE Ⓓ	CENTER LANE Ⓔ	BUFFER Ⓕ
	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)	(FEET)
STANDARD SECTION	80	12	8	7	NONE	1
ALT CENTER LANE	90	11	8	7	12	1

GENERAL NOTES:

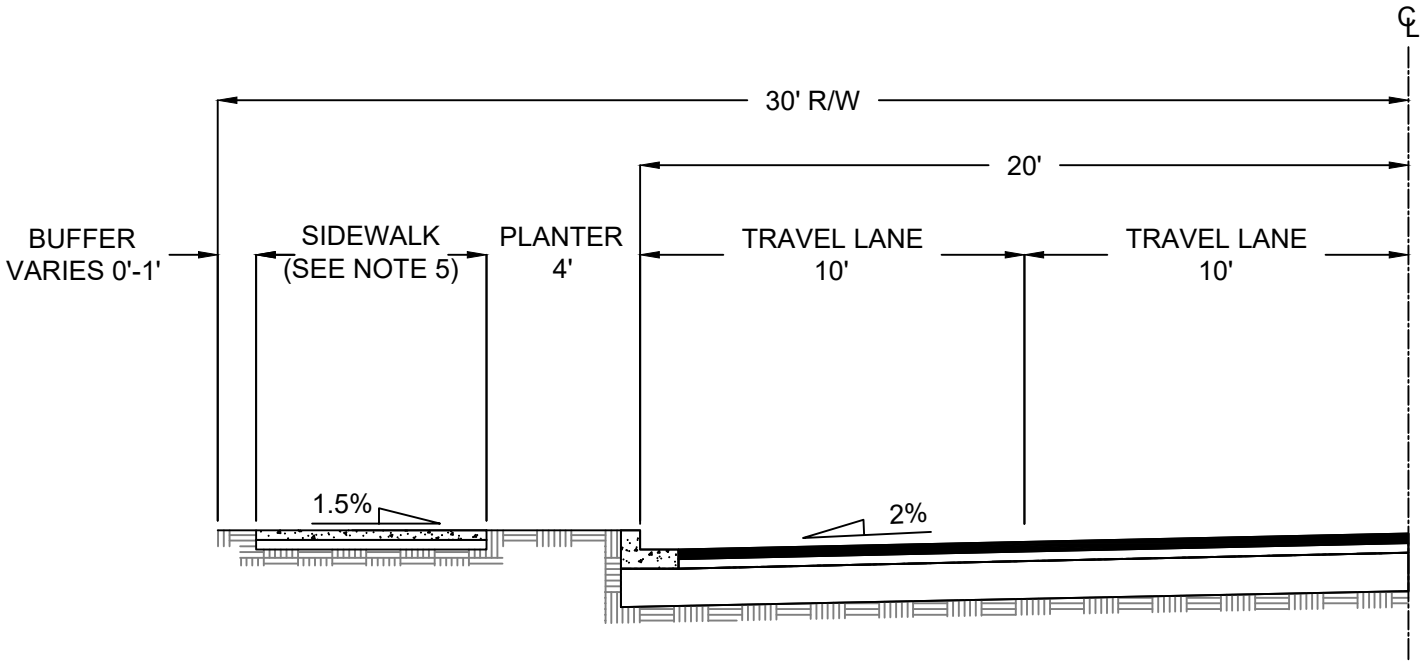
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER
4. INTERSECTIONS MUST MAINTAIN THE WIDTH OF THE BIKE LANE AT CURB RETURNS AND CURB BULB-OUTS FOR THE CONTINUATION OF THE BIKE LANE THROUGH THE INTERSECTION.

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ARTERIAL STREET SECTION

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FIGURE
4-04



GENERAL NOTES:

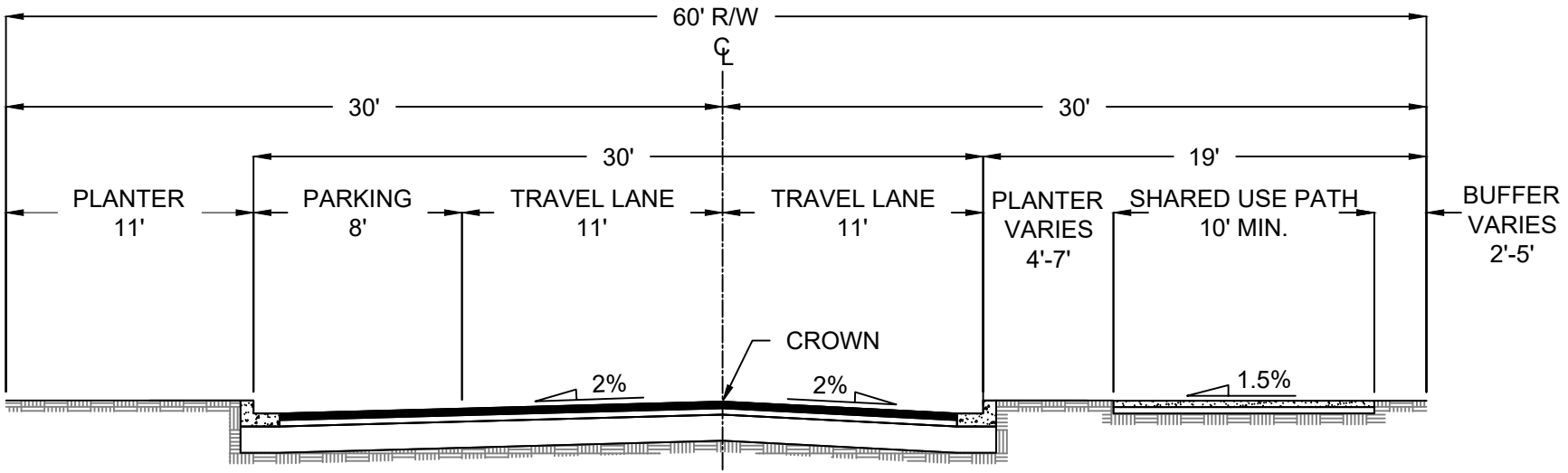
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER.
4. HALF-WIDTH STREET SECTIONS ARE LIMITED TO STREETS LESS THAN 1,200 ANNUAL AVERAGE DAILY TRAFFIC AND WHERE THE RIGHT-OF-WAY WIDTH IS LESS THAN THE WIDTH REQUIRED TO CONSTRUCT A STANDARD STREET SECTION.
5. FOR ALL NEIGHBORHOOD AND LOCAL STREETS THE SIDEWALK MUST BE 5' WIDE. FOR ALL COLLECTOR AND ARTERIAL STREETS THE SIDEWALK MUST BE 6' WIDE.

CITY OF SEQUIM

HALF-WIDTH STREET SECTION

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-05



GENERAL NOTES:

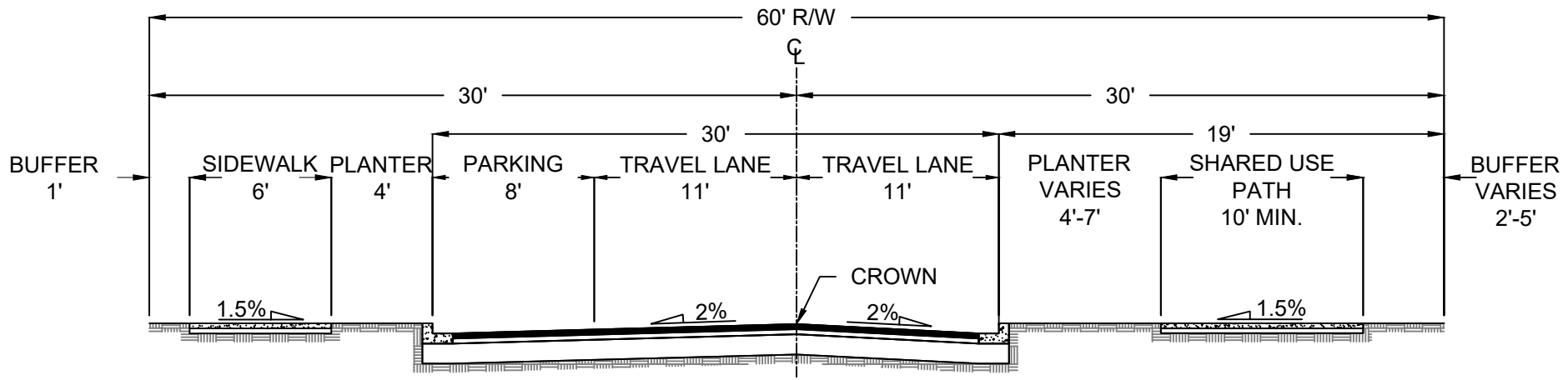
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER.
4. THE PARKING LANE MUST BE LOCATED ON THE OPPOSITE SIDE OF THE STREET AS THE SHARED USE PATH.

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LOCAL STREET - SHARED USE PATH SECTION

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FIGURE
4-06



GENERAL NOTES:

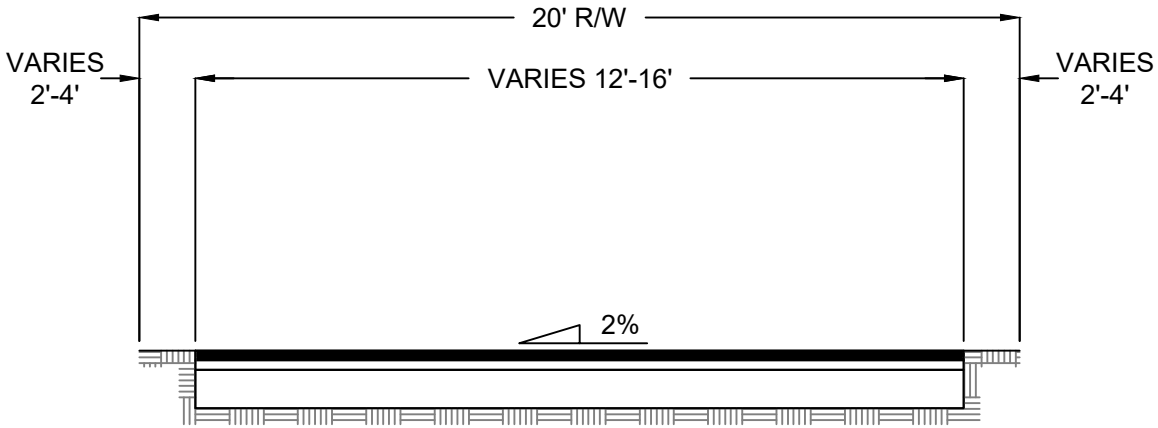
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALL ROADS MUST HAVE VERTICAL CURB AND GUTTER EXCEPT AT STORMWATER LID LOCATIONS APPROVED BY THE CITY ENGINEER.
4. THE PARKING LANE MUST BE LOCATED ON THE OPPOSITE SIDE OF THE STREET AS THE SHARED USE PATH.

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COLLECTOR STREET - SHARED USE PATH SECTION

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FIGURE
4-07



GENERAL NOTES:

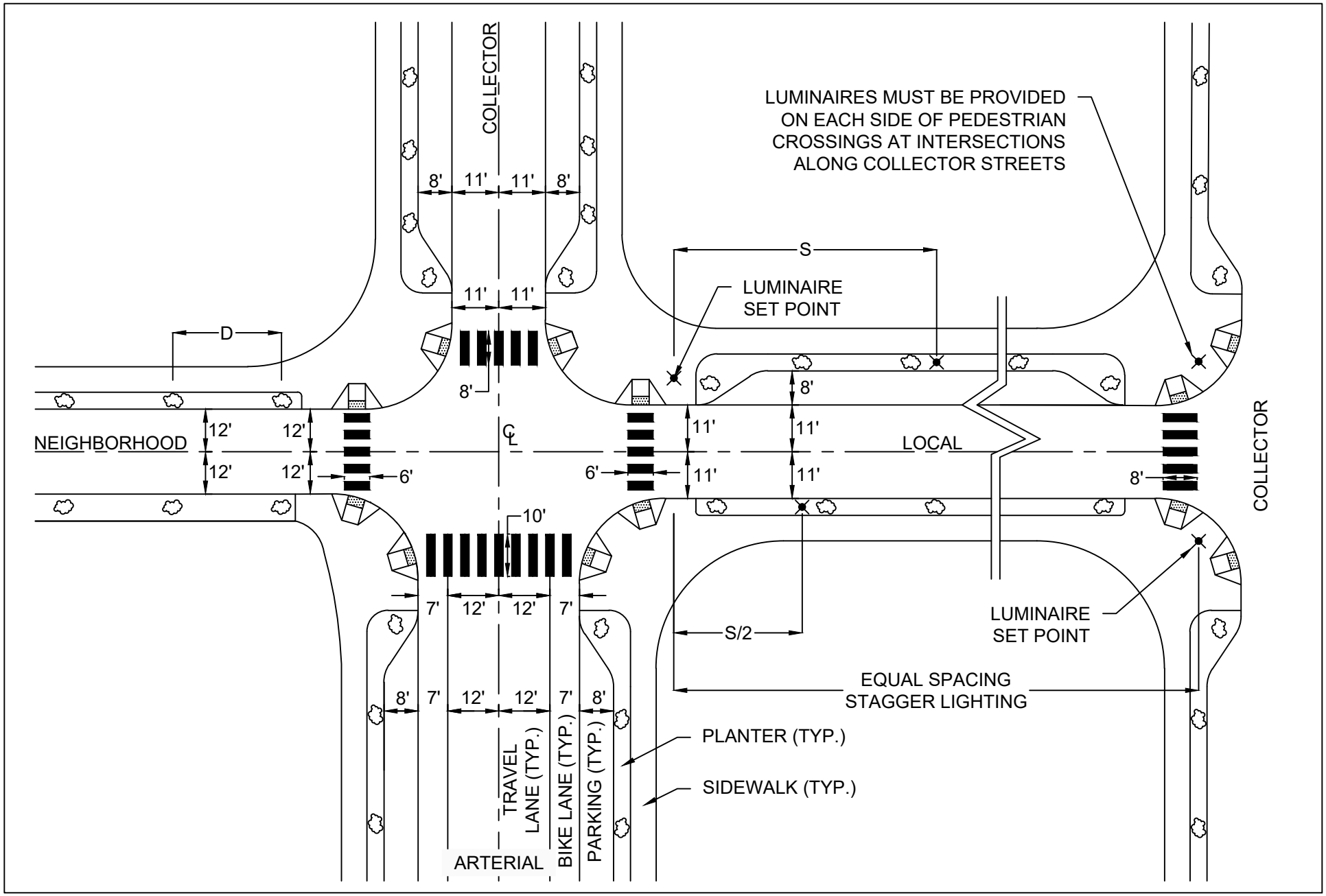
1. SEE FIGURE 4-16 FOR TYPICAL PAVEMENT SECTION.
2. SEE FIGURE 4-15 FOR STANDARD UTILITY LOCATION.
3. ALTERNATE CROSS-SLOPE ARE SUBJECT TO THE CITY ENGINEERS APPROVAL.

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ALLEY SECTION

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FIGURE
4-12

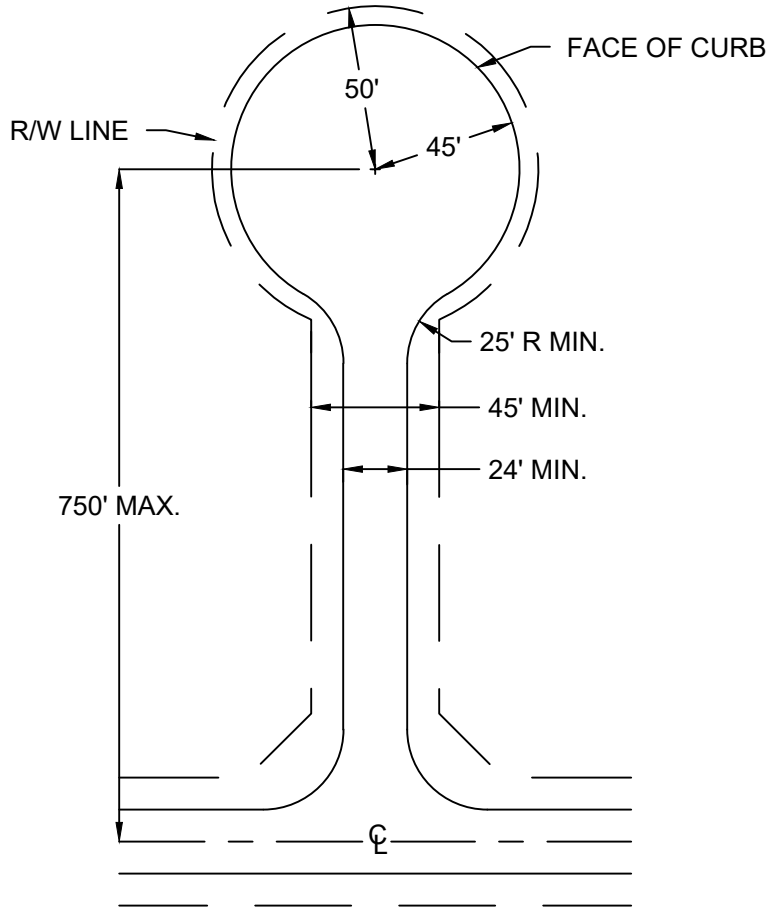


CITY OF SEQUIM

STREET LAYOUT GUIDE

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0	1/11/2021

FIGURE
4-13



REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED	PARKING ALLOWED
0-150	24	NONE REQUIRED	NO, REQUIRES R8-3 NO PARKING SIGNS TO BE INSTALLED
151-500	24	120' HAMMERHEAD, 60' "Y" OR 90' DIAMETER CUL-DE-SAC	NO, REQUIRES R8-3 NO PARKING SIGNS TO BE INSTALLED
501-750	26	120' HAMMERHEAD, 60' "Y" OR 90' DIAMETER CUL-DE-SAC	NO, REQUIRES R8-3 NO PARKING SIGNS TO BE INSTALLED
OVER 750	SPECIAL APPROVAL REQUIRED ALL IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE		

GENERAL NOTES

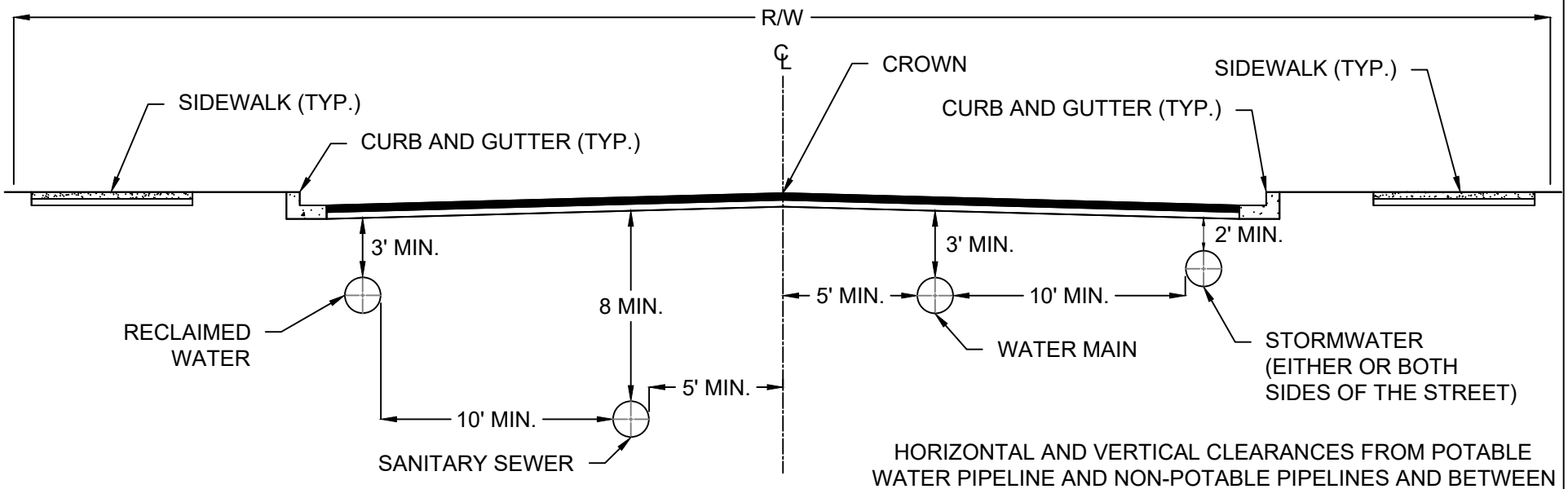
1. REFER TO THE INTERNATIONAL FIRE CODE FOR HAMMERHEAD AND "Y" FIGURES AND DETAILS.
2. WHEN A HYDRANT IS LOCATED ALONG AN ACCESS ROAD, A MINIMUM PAVED STREET WIDTH OF 26' AROUND THE HYDRANT MUST BE PROVIDED FOR A DISTANCE OF 20' ON EACH SIDE OF THE HYDRANT.

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NEIGHBORHOOD CUL-DE-SAC

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FIGURE
4-14



HORIZONTAL AND VERTICAL CLEARANCES FROM POTABLE WATER PIPELINE AND NON-POTABLE PIPELINES AND BETWEEN RECLAIMED PIPELINES AND NON-POTABLE PIPELINES

GENERAL NOTES:

1. UTILITY LOCATIONS SHOWN ARE FOR NEW CONSTRUCTION.
2. WATER MAINS MUST BE CONSTRUCTED ON THE NORTH AND EAST SIDE OF STREETS. SEWER MUST BE CONSTRUCTED ON THE SOUTH AND WEST SIDE OF STREETS.
3. INSTALLATIONS WITHIN EXISTING ROADS CAN VARY SIGNIFICANTLY AND WILL BE EVALUATED BY THE CITY ENGINEER AT THE PERMIT STAGE ON A CASE BY CASE BASIS IN ACCORDANCE WITH THE WASHINGTON STATE DEPARTMENT OF HEALTH AND ECOLOGY PIPELINE SEPARATION DESIGN AND INSTALLATION REFERENCE GUIDE.
4. HORIZONTAL AND VERTICAL PIPE SEPARATION IS MEASURED FROM OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE, SEE TABLE THIS FIGURE.
5. LOCATE CABLE, FIBER OPTIC, AND POWER UTILITIES IN UTILITY EASEMENTS OUTSIDE OF RIGHT-OF-WAY WHEN FEASIBLE.

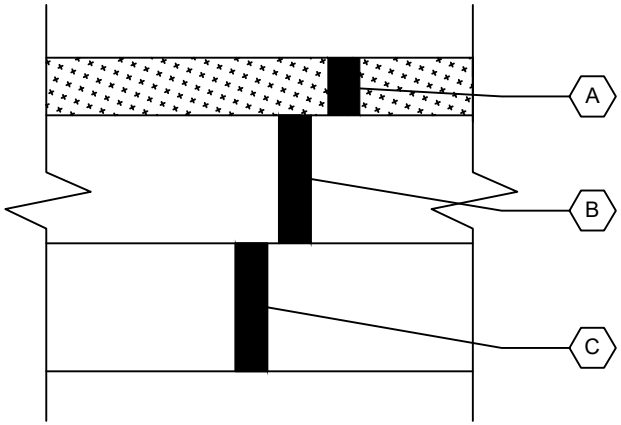
	MINIMUM SEPARATION (FT)	
UTILITY	**HORIZONTAL** BETWEEN PARALLEL PIPELINES	**VERTICAL** AT CROSSING PIPELINES
CABLE	5	1
FIBER OPTIC	5	1
POWER	5	1
IRRIGATION	10	1.5
STORM	10	1.5
SEWER	10	1.5
RECLAIMED WATER	10	1.5

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STANDARD UTILITY LOCATION

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FIGURE
4-15



LEGEND

- (A) HMA FOR PAVEMENT CL 1/2 IN. PG 58H-22
- (B) CRUSHED SURFACING BASE COURSE
- (C) GRAVEL BALLAST

	(A)	(B)	(C)
NEIGHBORHOOD	0.25' (3")	0.65' (7.8")	1.0' (12")
LOCAL	0.25' (3")	0.65' (7.8")	1.0' (12")
COLLECTOR	0.45' (5.4")	1.0' (12")	1.0' (12")
ARTERIAL	0.65' (7.8")	1.0' (12")	1.0' (12")
ALLEY	0.25' (3")	0.50' (6.0")	0.0' (0")

GENERAL NOTES:

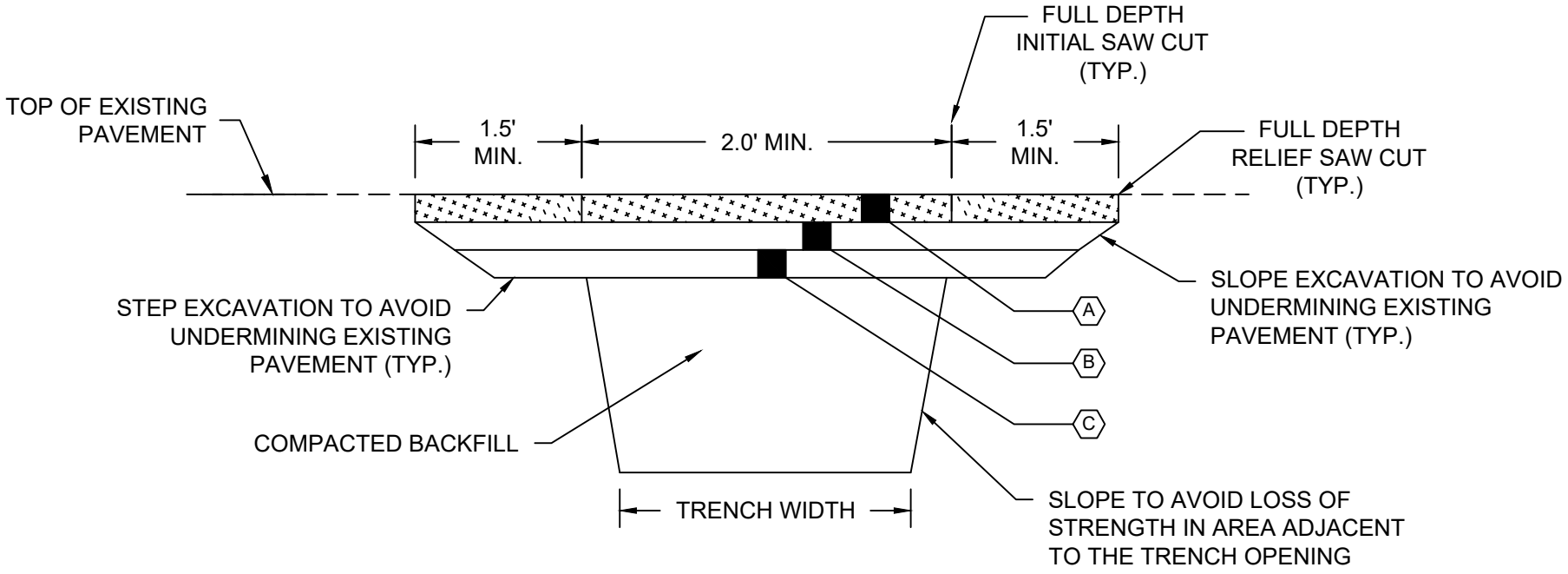
1. GRAVEL BALLAST LAYER C MAY BE OMITTED FOR TYPE 6 CARLSBORG AND TYPE 63 SEQUIM SOILS AS CLASSIFIED BY NATURAL RESOURCE CONSERVATION SERVICE.
2. MINIMUM DEPTHS ALLOWED. THICKER SECTIONS MAY BE REQUIRED AS DETERMINED BY A GEOTECHNICAL REPORT.

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TYPICAL PAVEMENT SECTION

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FIGURE
4-16



GENERAL NOTES:

1. RELIEF SAW CUT SHALL BE MADE AFTER EXCAVATION AND BACKFILL OF TRENCH.
2. THE COMPLETED SURFACE OF THE WEARING COURSE SHALL NOT VARY MORE THAN 1/4 IN. FROM THE LOWER EDGE OF A 10 FOOT STRAIGHT EDGE AT JOINTS.

TYPE	(A)	(B)	(C)
NEIGHBORHOOD	4"	0"	8"
LOCAL	4"	0"	6"
COLLECTOR	7"	0"	8"
ARTERIAL	9"	6"	6"
ALLEY	4"	0"	6"

LEGEND

(A) HMA FOR PAVEMENT REPAIR CL 1/2 IN. PG 58H-22

(B) CEMENT CONCRETE PAVEMENT

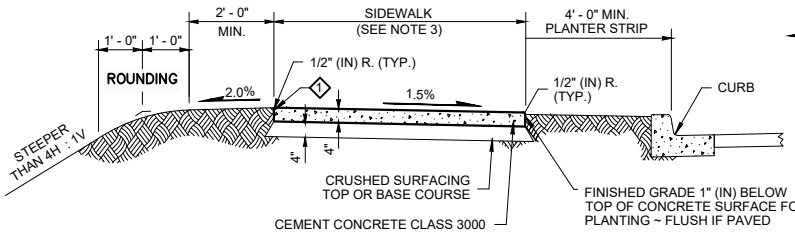
(C) CRUSHED SURFACING BASE COURSE

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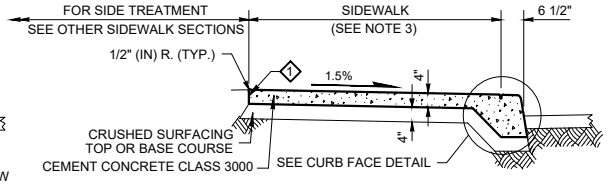
TYPICAL PAVEMENT PATCH

REVISION NO.	DATE
0	1/11/2021

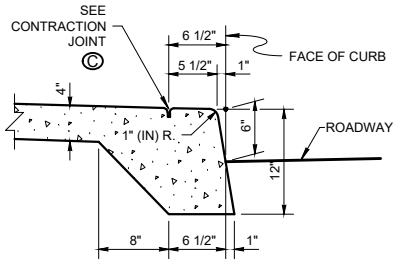
FIGURE
4-18



ADJACENT TO PLANTER STRIP
(STEEP FILL SLOPES)

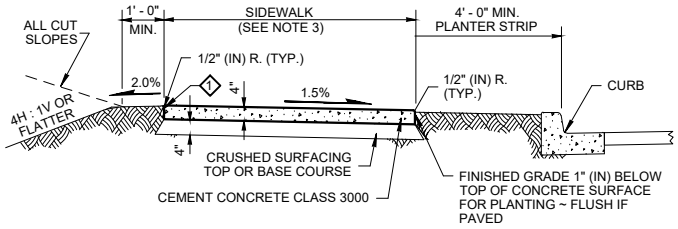


MONOLITHIC CEMENT CONCRETE CURB AND SIDEWALK



CURB FACE DETAIL

EXTEND SIDEWALK TRANSVERSE EXPANSION JOINTS TO INCLUDE CURB (FULL DEPTH)



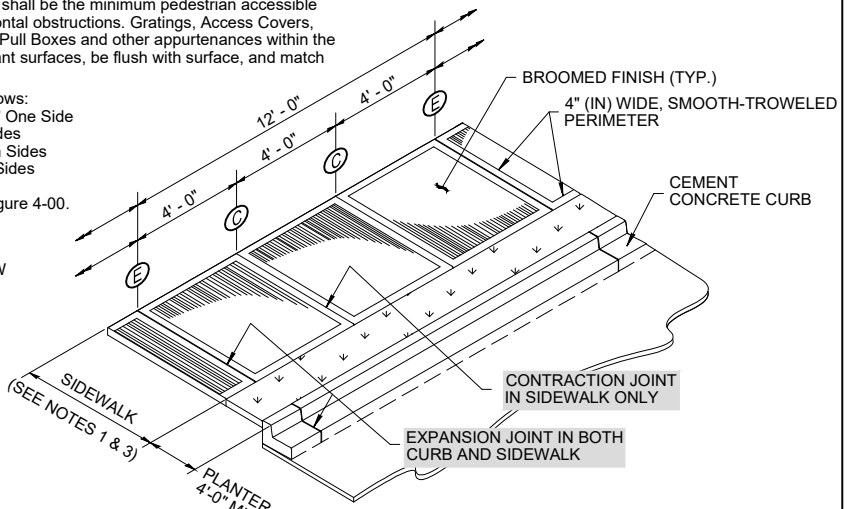
ADJACENT TO PLANTER STRIP
(FLAT FILL OR CUT SLOPES)

NOTES

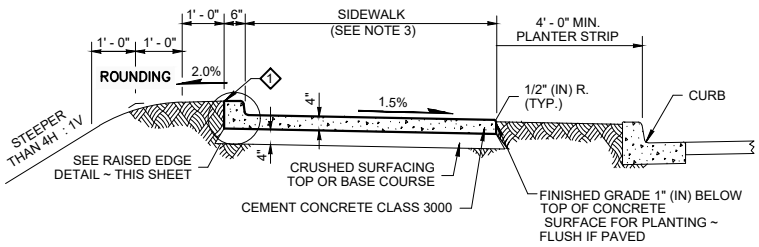
1. Cement concrete sidewalk shall be constructed in accordance with **WSDOT Standard Specification 8-14** except as noted on this plan.
2. Four feet of the sidewalk width shall be the minimum pedestrian accessible route free of vertical and horizontal obstructions. Gratings, Access Covers, Junction Boxes, Cable Vaults, Pull Boxes and other appurtenances within the sidewalk must have slip resistant surfaces, be flush with surface, and match grade of the sidewalk.
3. Sidewalk width must be as follows:
   Neighborhood Street - 5' One Side
   Local Street - 5' Both Sides
   Collector Street - 6' Both Sides
   Arterial Street - 6' Both Sides

   For street classifications see figure 4-00.

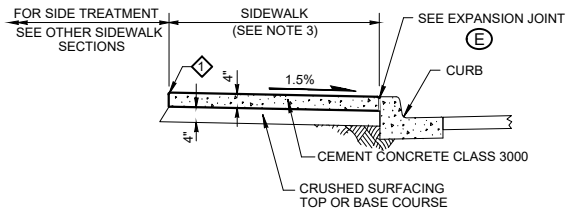
① FINISHED GRADE 1" (IN) BELOW TOP OF CONCRETE SURFACE



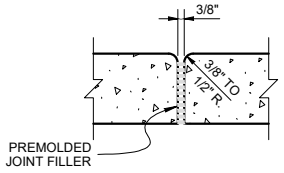
ISOMETRIC VIEW
JOINT AND FINISH DETAIL



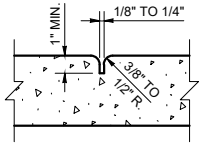
WITH RAISED EDGE



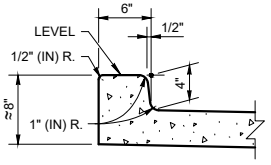
ADJACENT TO CURB



Ⓔ **EXPANSION JOINT**



Ⓒ **CONTRACTION JOINT**



RAISED EDGE DETAIL

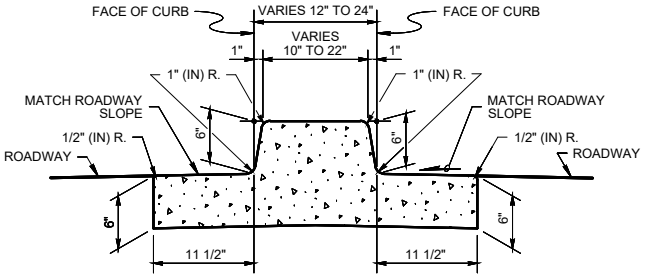
EXTEND SIDEWALK TRANSVERSE JOINTS TO INCLUDE RAISED EDGE

CITY OF SEQUIM

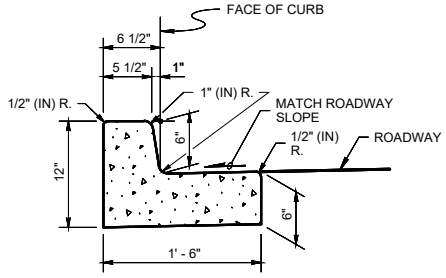
CEMENT CONCRETE SIDEWALK

REVISION NO.	DATE
0	1/11/2021

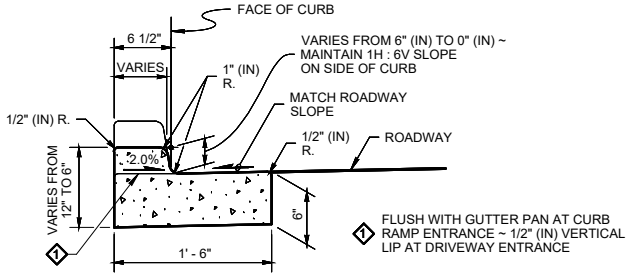
FIGURE
4-19



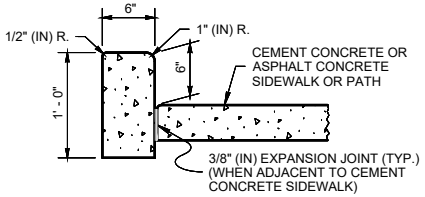
DUAL-FACED CEMENT CONCRETE TRAFFIC CURB AND GUTTER



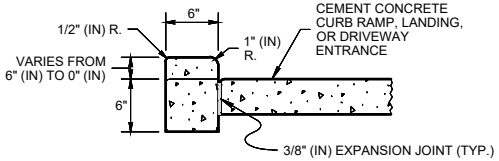
CEMENT CONCRETE TRAFFIC CURB AND GUTTER



DEPRESSED CURB SECTION
AT CURB RAMPS AND DRIVEWAY ENTRANCES



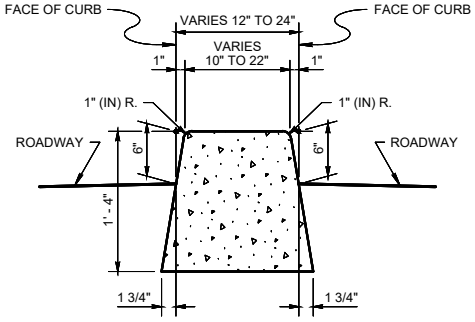
CEMENT CONCRETE PEDESTRIAN CURB



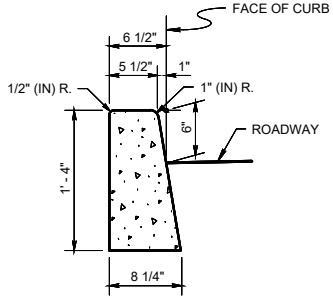
CEMENT CONCRETE PEDESTRIAN CURB
AT CURB RAMPS, LANDINGS, AND DRIVEWAY ENTRANCES

NOTE

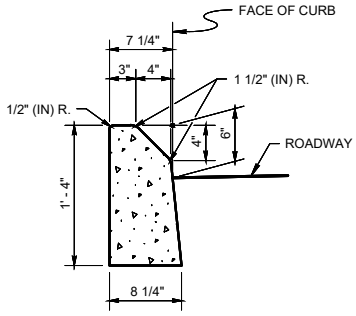
1. See **Figure 4-19** for Curb Expansion and Contraction Joint spacing and see **WSDOT Standard Specification Sections 8-04 and 9-04** for additional requirements.
2. When adjacent permeable pavement, slope gutter pan cross slope towards the pavement.
3. All curbs shall be constructed using air entrained concrete Class 3000 except at driveways entrances where air entrained Class 4000 concrete shall be used. Both must conform to the requirements of **WSDOT Standard Specification Section 6-02.**



DUAL-FACED CEMENT CONCRETE TRAFFIC CURB



CEMENT CONCRETE TRAFFIC CURB



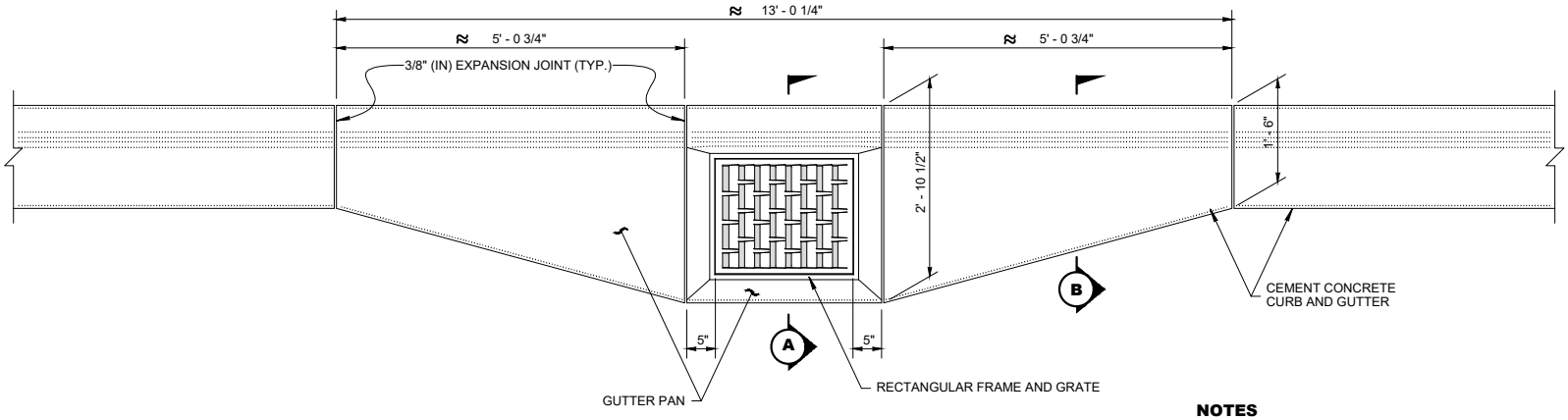
MOUNTABLE CEMENT CONCRETE TRAFFIC CURB

CITY OF SEQUIM

CEMENT CONCRETE CURBS

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-20

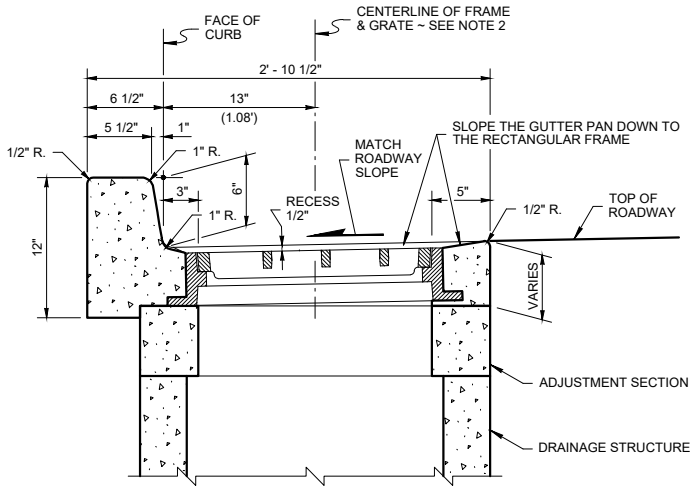


PLAN VIEW

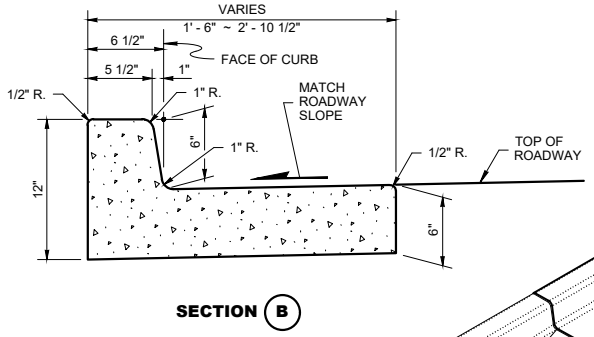
CATCH BASIN GUTTER PAN

NOTES

1. The intent of this design is to facilitate the compaction of Hot Mix Asphalt pavement adjacent to a drainage structure.
2. The centerline of the drainage structure may differ from the centerline of the frame and grate.



SECTION A



SECTION B

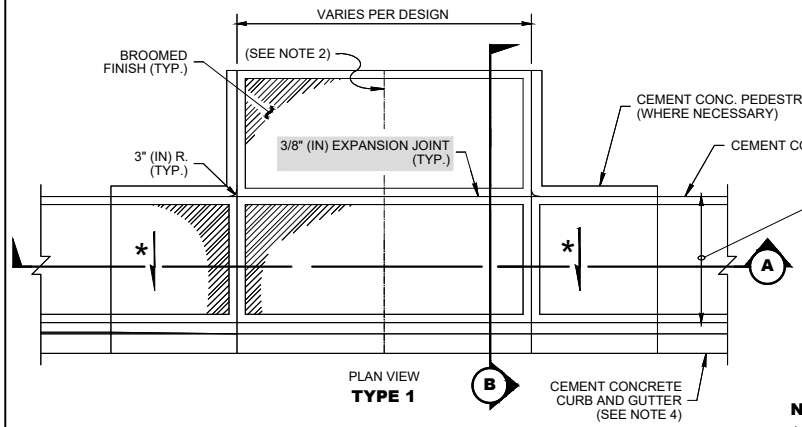
ISOMETRIC VIEW

CITY OF SEQUIM

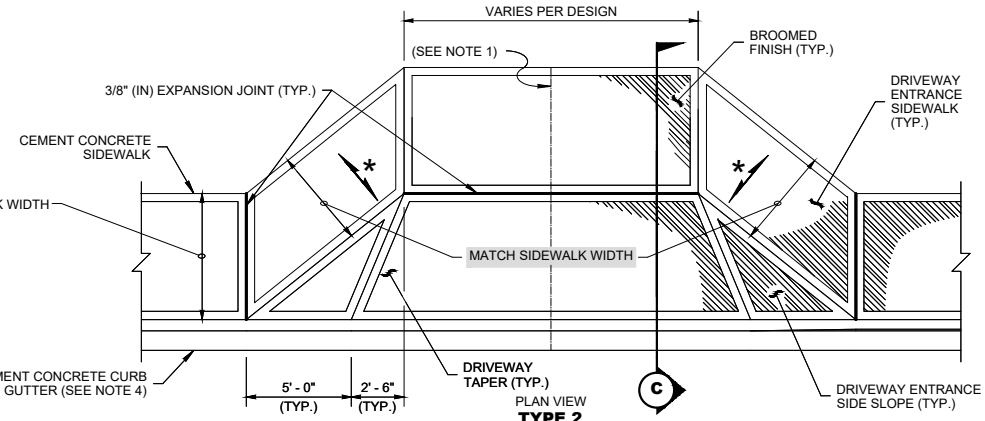
CEMENT CONCRETE CURB AND GUTTER PAN

REVISION NO.	DATE
0	1/11/2021

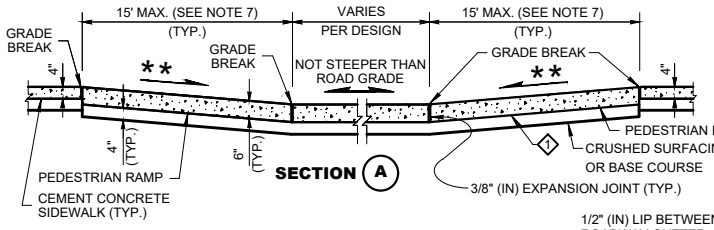
FIGURE
4-21



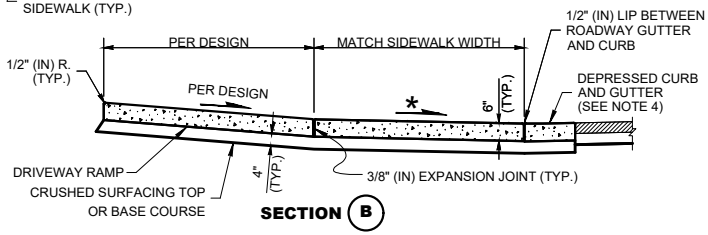
PLAN VIEW
TYPE 1



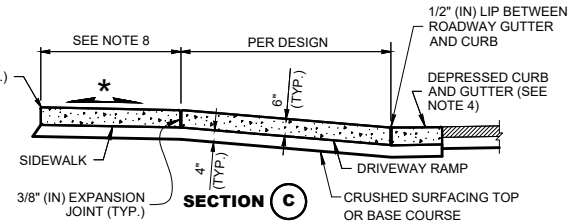
PLAN VIEW
TYPE 2



SECTION A



SECTION B



SECTION C

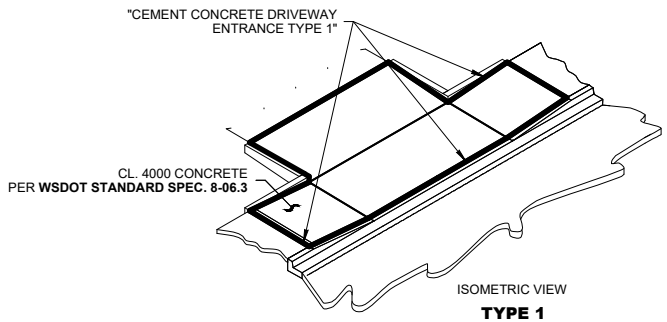
NOTES

1. Cement concrete driveway entrances shall be constructed in accordance with **WSDOT Standard Specification 8-06** except as noted on this plan.
2. When the driveway width exceeds 20' (ft), construct a full depth expansion joint with 3/8" (in) joint filler along the driveway centerline. See **Figure 4-19.** Construct expansion joints parallel with the centerline as required at 15' (ft) maximum spacing.
3. See **Figure 4-19** for sidewalk details.
4. Curb and Gutter shown; see the Contract Plans for the curb design specified. See **Figure 4-20** for Curb Details. See **Figure 4-21** for Curb and Gutter Pan details.
5. Avoid placing drainage structures, junction boxes or other obstructions in front of driveway entrances.
6. Where "GRADE BREAK" is called out, the entire length of the line between the two adjacent surface planes shall be flush.
7. The Pedestrian Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the pedestrian ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.
8. Sidewalk width must be as follows:
   Neighborhood Street - 5' One Side
   Local Street - 5' Both Sides
   Collector Street - 6' Both Sides
   Arterial Street - 6' Both Sides

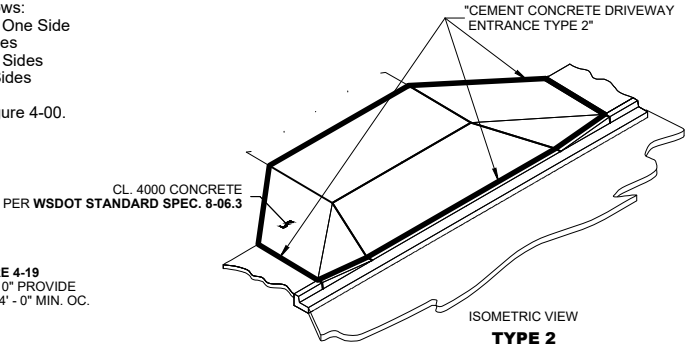
   For street classifications see figure 4-00.

LEGEND

- SLOPE IN EITHER DIRECTION
- * 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- * * 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) (SEE NOTE 6)



ISOMETRIC VIEW
TYPE 1



ISOMETRIC VIEW
TYPE 2

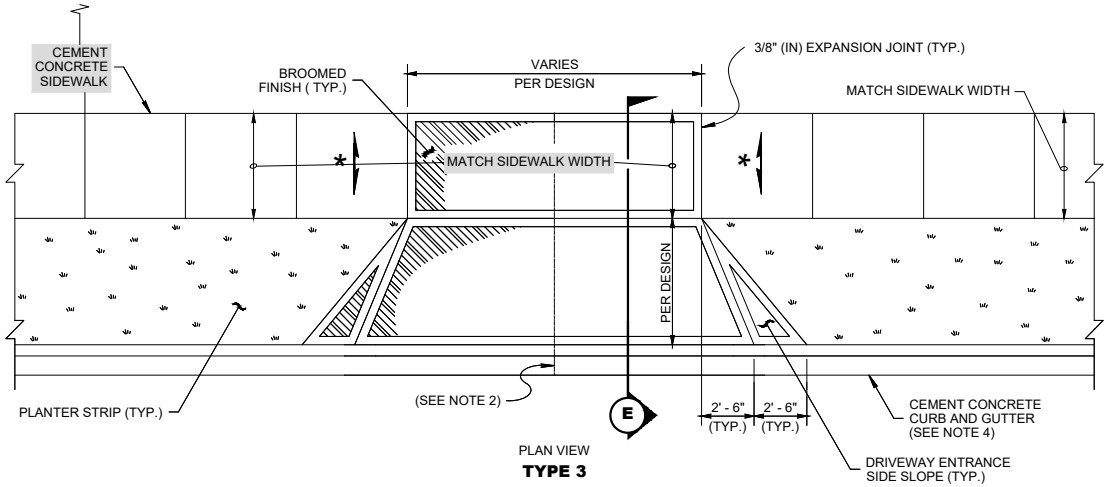
1 CONTRACTION JOINT (TYP.) ~ SEE **FIGURE 4-19** FOR RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

CITY OF SEQUIM

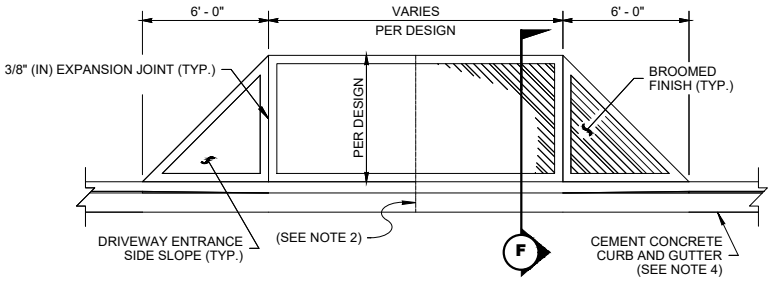
CEMENT CONCRETE DRIVEWAY ENTRANCE TYPES 1, 2, 3, & 4

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0	1/11/2021

FIGURE
4-22A

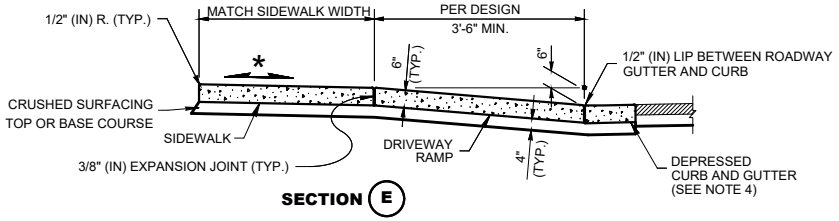


PLAN VIEW
TYPE 3

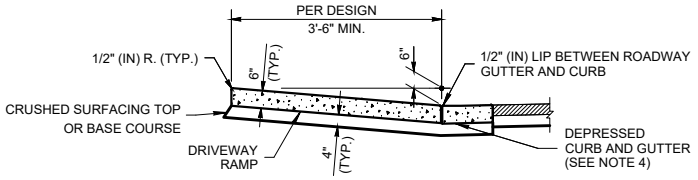


PLAN VIEW
TYPE 4 *

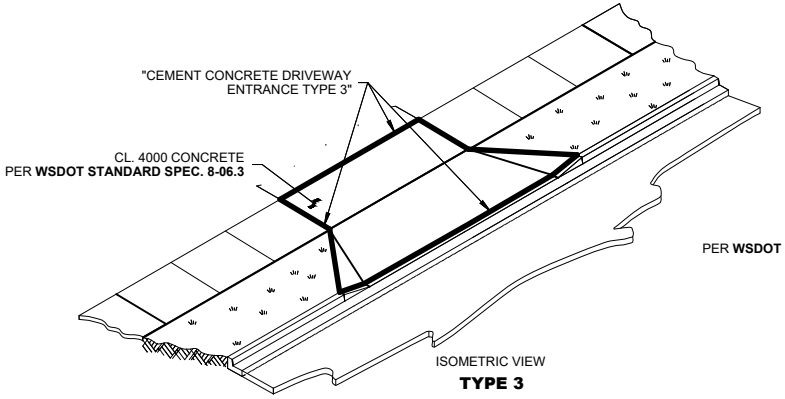
*THIS ENTRANCE TYPE SHALL NOT BE USED ALONG A PEDESTRIAN ROUTE



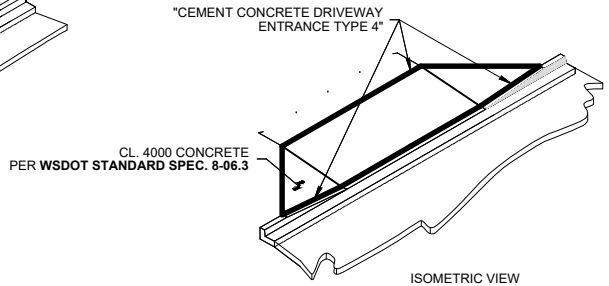
SECTION E



SECTION F



ISOMETRIC VIEW
TYPE 3



ISOMETRIC VIEW
TYPE 4

NOTES

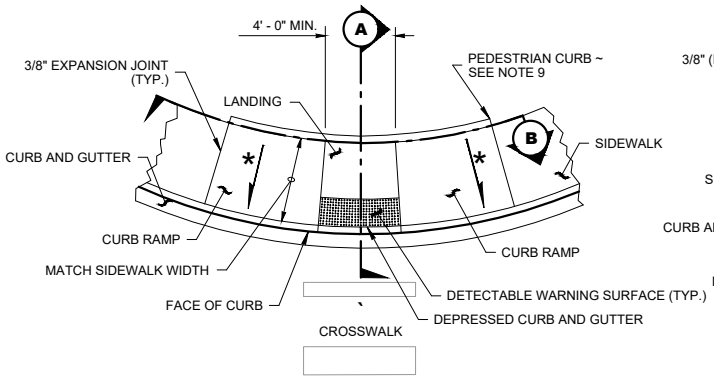
1. Cement concrete driveway entrances shall be constructed in accordance with **WSDOT Standard Specification 8-06** except as noted on this plan.
2. When the driveway width exceeds 20' (ft), construct a full depth expansion joint with 3/8" (in) joint filler along the driveway centerline. See **Figure 4-19.** Construct expansion joints parallel with the centerline as required at 15' (ft) maximum spacing.
3. See **Figure 4-19** for sidewalk details.
4. Curb and Gutter shown; see the Contract Plans for the curb design specified. See **Figure 4-20** for Curb Details. See **Figure 4-21** for Curb and Gutter Pan details.
5. Avoid placing drainage structures, junction boxes or other obstructions in front of driveway entrances.
6. Where "GRADE BREAK" is called out, the entire length of the line between the two adjacent surface planes shall be flush.
7. The Pedestrian Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the pedestrian ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.

CITY OF SEQUIM

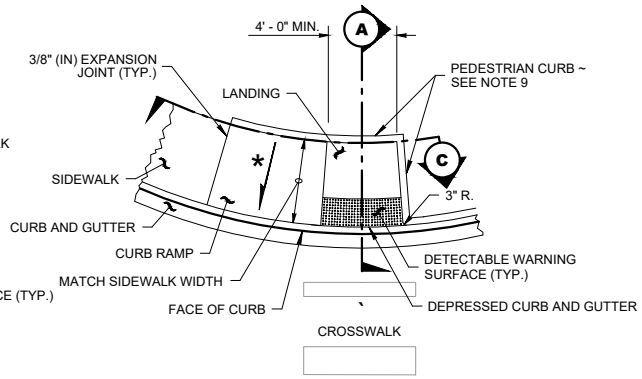
CEMENT CONCRETE DRIVEWAY ENTRANCE TYPES 1, 2, 3, & 4

REVISION NO.	DATE
0	1/11/2021

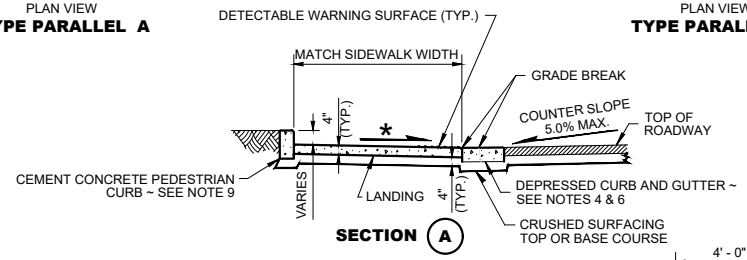
FIGURE
4-22B



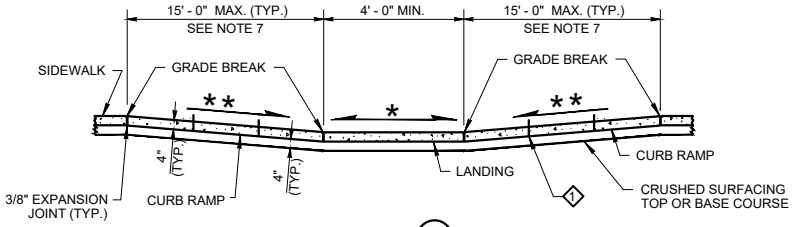
TYPE PARALLEL A



TYPE PARALLEL B

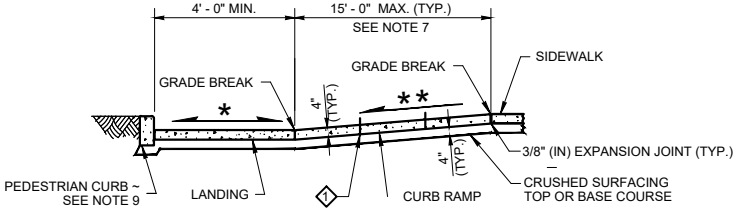


SECTION A



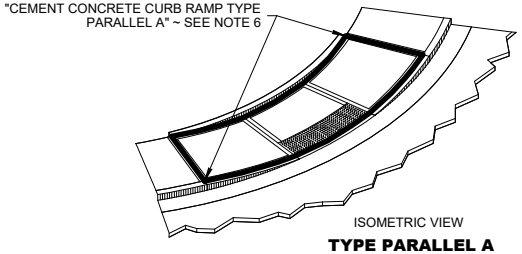
SECTION B

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

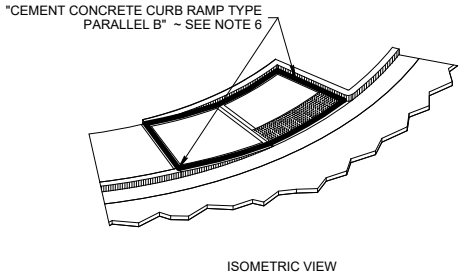


SECTION C

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)



TYPE PARALLEL A



TYPE PARALLEL B

NOTES

1. At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Figure 4-20** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.See **Figure 4-21** for Curb And Gutter Pan details.
5. See **Figure 4-19** for Cement Concrete Sidewalk and 3/8" Expansion Joint Details.See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type ___" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish in accordance with **WSDOT Standard Specifications 8-14**.
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.
10. See **Figure 4-27** for Detectable Warning Surface.

LEGEND

- SLOPE IN EITHER DIRECTION
- * 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- * * 7.5% OR FLATTER RECOMMENDED FOR DESIGN/ FORMWORK (8.3% MAX.) ~ SEE NOTE 7

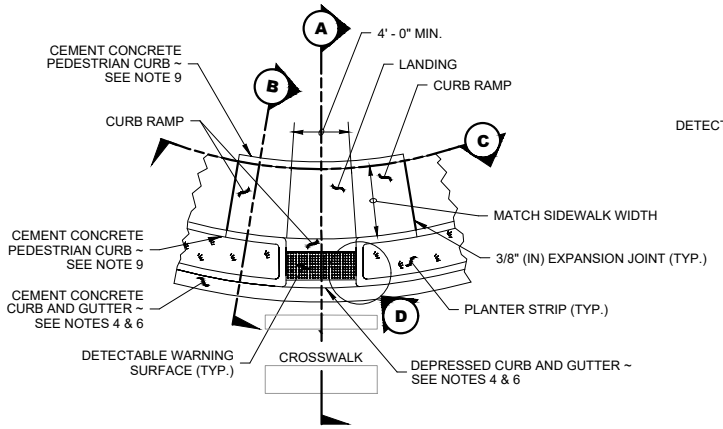
1 CONTRACTION JOINT (TYP.) ~ SEE **FIGURE 4-19** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

CITY OF SEQUIM

PARALLEL CURB RAMP

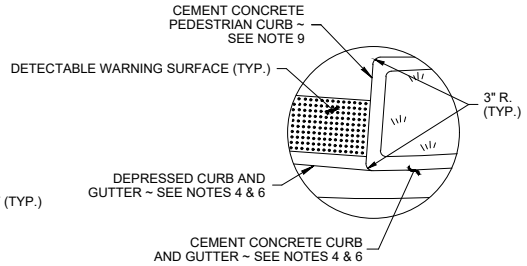
REVISION NO.	DATE
0	1/11/2021

FIGURE 4-23



PLAN VIEW

TYPE COMBINATION WITH BUFFER

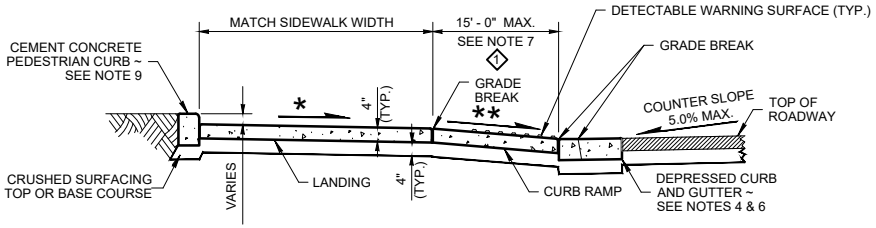


DETAIL D

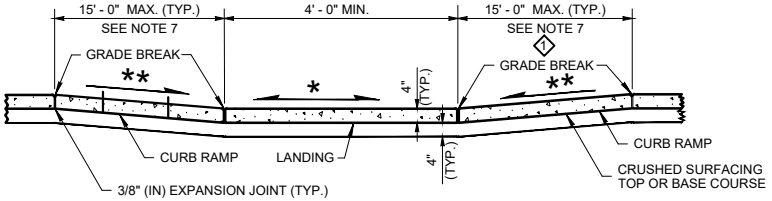
CURB RADIUS DETAIL

NOTES

1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Figure 4-20** for Curb, Curb and Gutter, Depressed Curb, Gutter and Pedestrian Curb details. See **Figure 4-21** for Curb and Gutter Pan details.
5. See **Figure 4-19** for Cement Concrete Sidewalk and 3/8" Expansion Joint Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not included the abutting landing in the 15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish in accordance with **WSDOT Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.
10. See **Figure 4-27** for Detectable Warning Surface.



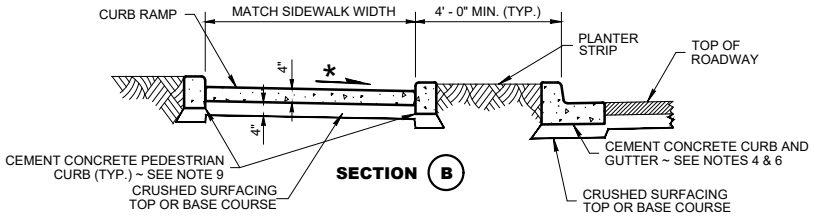
SECTION A



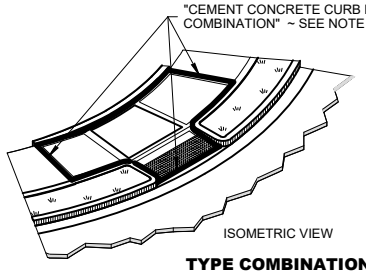
SECTION C

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

1 CONTRACTION JOINT (TYP.) ~ SEE **FIGURE 4-19**
FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



SECTION B



TYPE COMBINATION

LEGEND

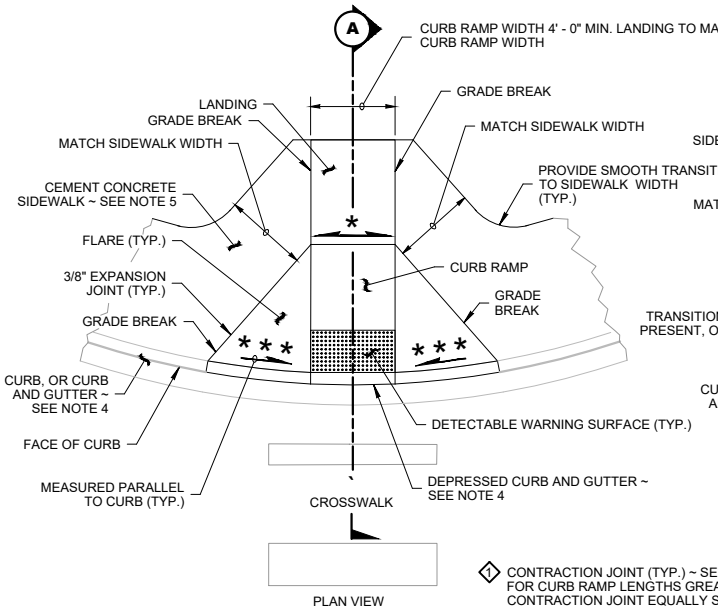
- SLOPE IN EITHER DIRECTION
- * 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- ** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.)

CITY OF SEQUIM

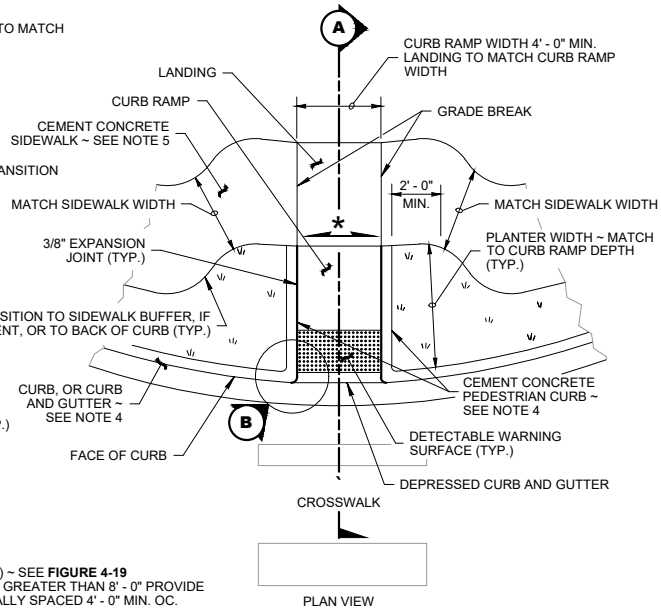
COMBINATION CURB RAMP

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-24



TYPE PERPENDICULAR A

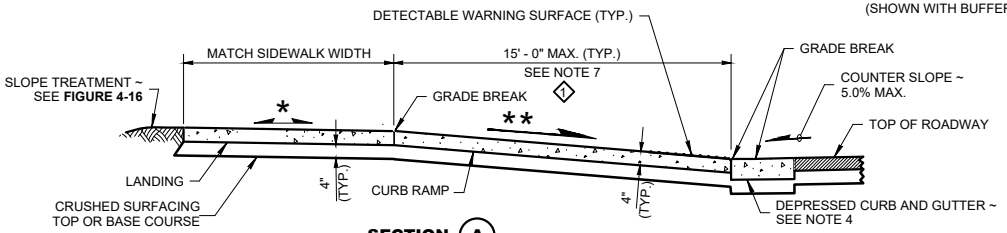


TYPE PERPENDICULAR B
(SHOWN WITH BUFFER)

① CONTRACTION JOINT (TYP.) ~ SEE **FIGURE 4-19**
FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

NOTES

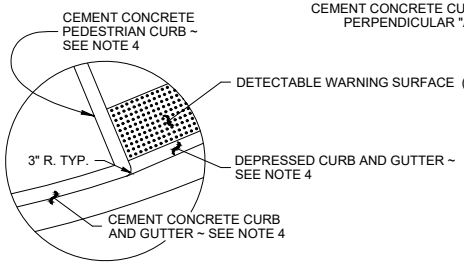
1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in front of the Curb Ramp where it connects to the roadway.
4. See Contract Plans for the curb design specified. See **Figure 4-20** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details. See **Figure 4-21** for Curb and Gutter Pan details.
5. See **Figure 4-19** for Cement Concrete Sidewalk and 3/8" Expansion Joint Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length,the running slope of the Curb Ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the landing over a horizontal distance of 15 feet. Do not include the abutting landing in the 15-foot max. measurement.
8. Curb Ramps and Landings shall receive a broom finish in accordance with **WSDOT Standard Specifications 8-14.**
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.
10. See **Figure 4-27** for Detectable Warning Surface



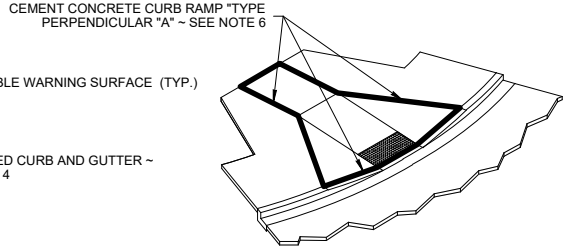
SECTION (A)

LEGEND

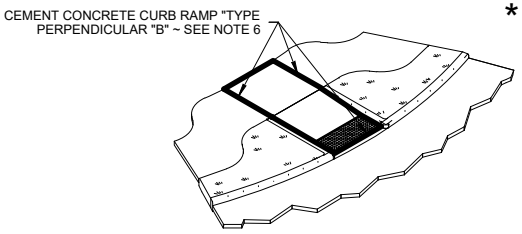
- SLOPE IN EITHER DIRECTION
- * 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- ** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.)
- *** 9.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (10% MAX.)



CURB RADIUS DETAIL (B)



ISOMETRIC VIEW
TYPE PERPENDICULAR A



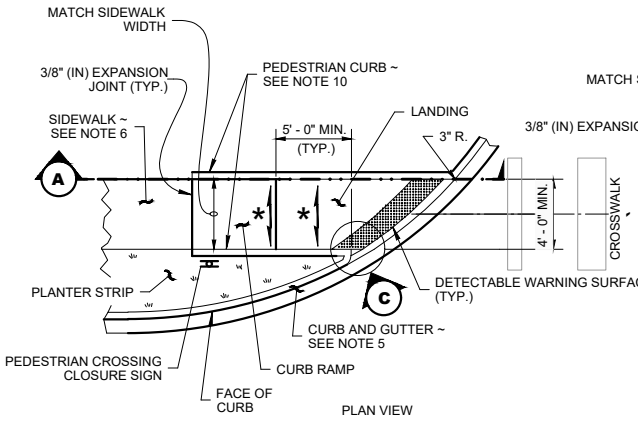
ISOMETRIC VIEW
TYPE PERPENDICULAR B

CITY OF SEQUIM

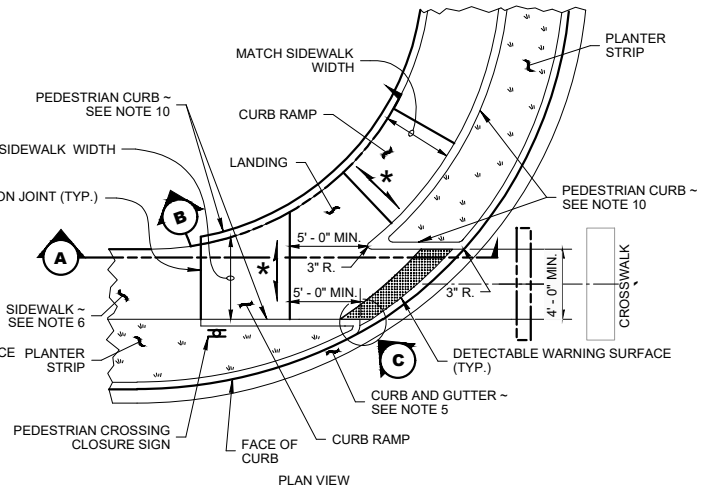
PERPENDICULAR CURB RAMP

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-25



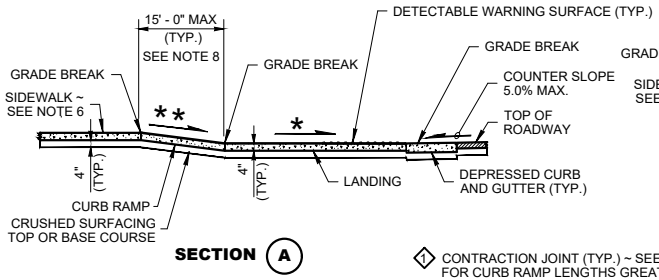
TYPE SINGLE DIRECTION A



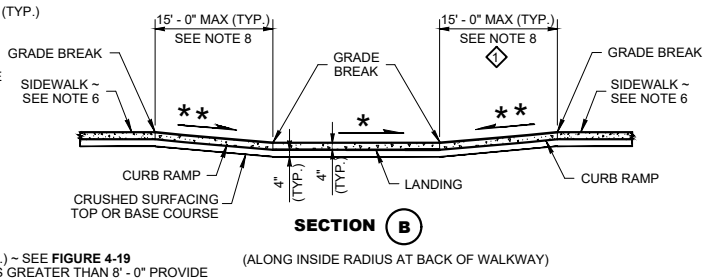
TYPE SINGLE DIRECTION B

NOTES

1. This plan is to be used where pedestrian crossing in one direction is not permitted.
2. At marked crosswalks, the connection between the Landing and the roadway must be contained within the width of the crosswalk markings.
3. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
4. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing or in the Depressed Curb and Gutter where the Landing connects to the roadway.
5. See Contract Plans for the curb design specified. See **Figure 4-20** for Curb, Curb and Gutter, Depressed Curb, Gutter and Pedestrian Curb details. See **Figure 4-21** for Curb and Gutter Pan details.
6. See **Figure 4-19** for Cement Concrete Sidewalk and 3/8" Expansion Joint Details. See Contract Plans for width and placement of sidewalk.
7. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
8. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.
9. Curb Ramps and Landings shall receive a broom finish in accordance with **WSDOT Standard Specifications 8-14.**
10. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.
11. See **Figure 4-27** for Detectable Warning Surface.



SECTION (A)



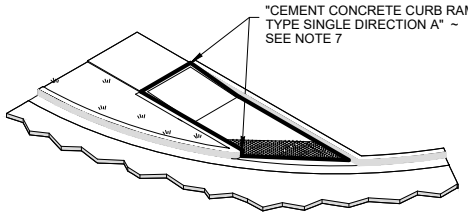
SECTION (B)

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

① CONTRACTION JOINT (TYP.) ~ SEE **FIGURE 4-19** FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

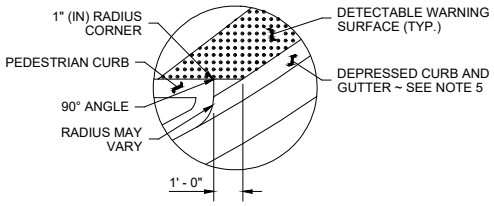
LEGEND

- SLOPE IN EITHER DIRECTION
- * 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- ** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) SEE NOTE 7

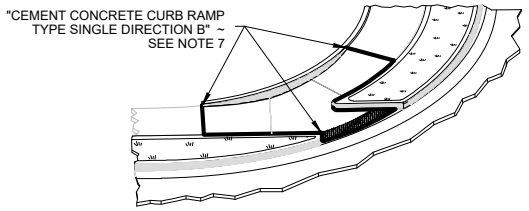


ISOMETRIC VIEW

TYPE SINGLE DIRECTION A



DETAIL (C)



ISOMETRIC VIEW

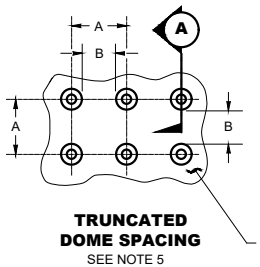
TYPE SINGLE DIRECTION B

CITY OF SEQUIM

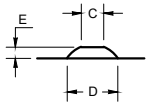
SINGLE DIRECTION CURB RAMP

REVISION NO.	DATE
0	1/11/2021

FIGURE 4-26



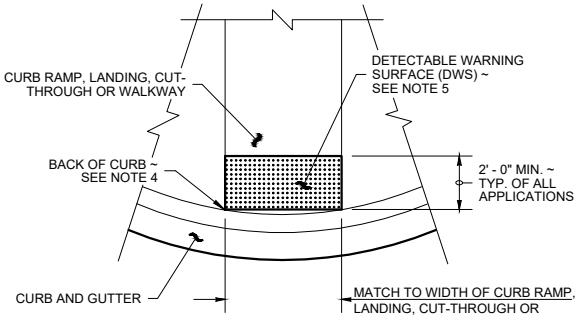
TRUNCATED DOME SPACING
SEE NOTE 5



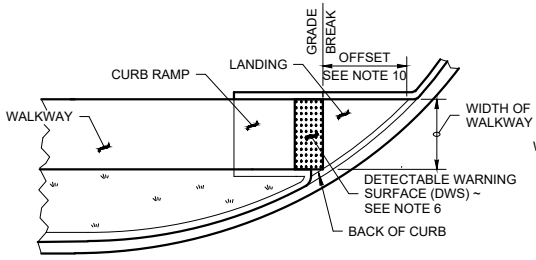
TRUNCATED DOME SECTION (A)

	MIN.	MAX.
A	1.60"	2.40"
B	0.65"	—
C	0.45"	0.90"
D	0.9"	1.40"
E	0.2"	0.2"

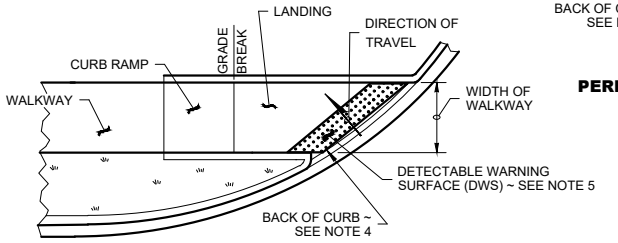
TRUNCATED DOME DETAILS



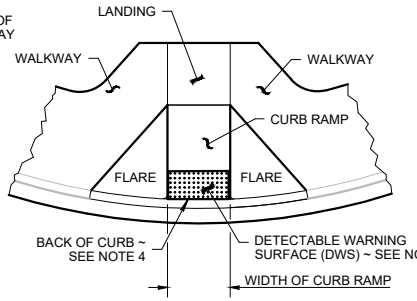
DETECTABLE WARNING SURFACE DETAIL



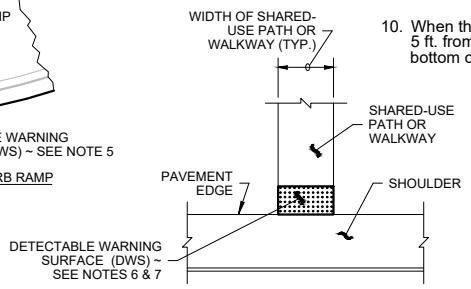
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING ≤ 5 FT. FROM BACK OF CURB)
(SEE NOTE 8)



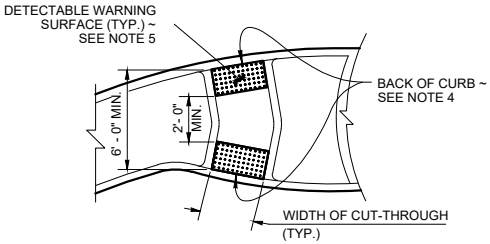
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING > 5 FT. FROM BACK OF CURB)
(SEE NOTE 8)



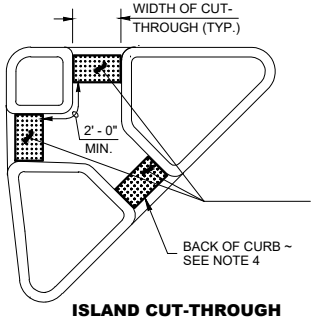
PERPENDICULAR CURB RAMP
(SEE NOTE 8)



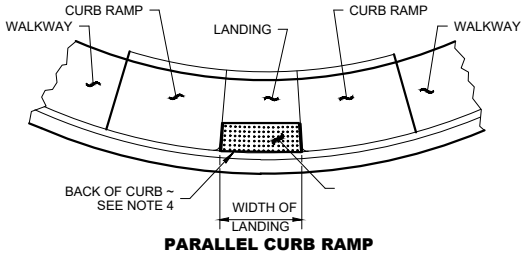
SHARED-USE PATH CONNECTION



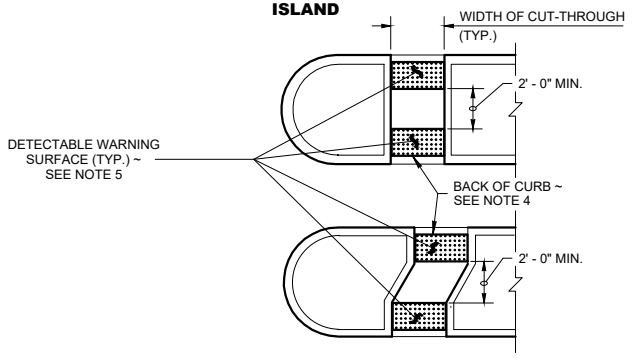
ROUNDABOUT SPLITTER ISLAND



ISLAND CUT-THROUGH



PARALLEL CURB RAMP
(SEE NOTE 8)



MEDIAN CUT-THROUGH

NOTES

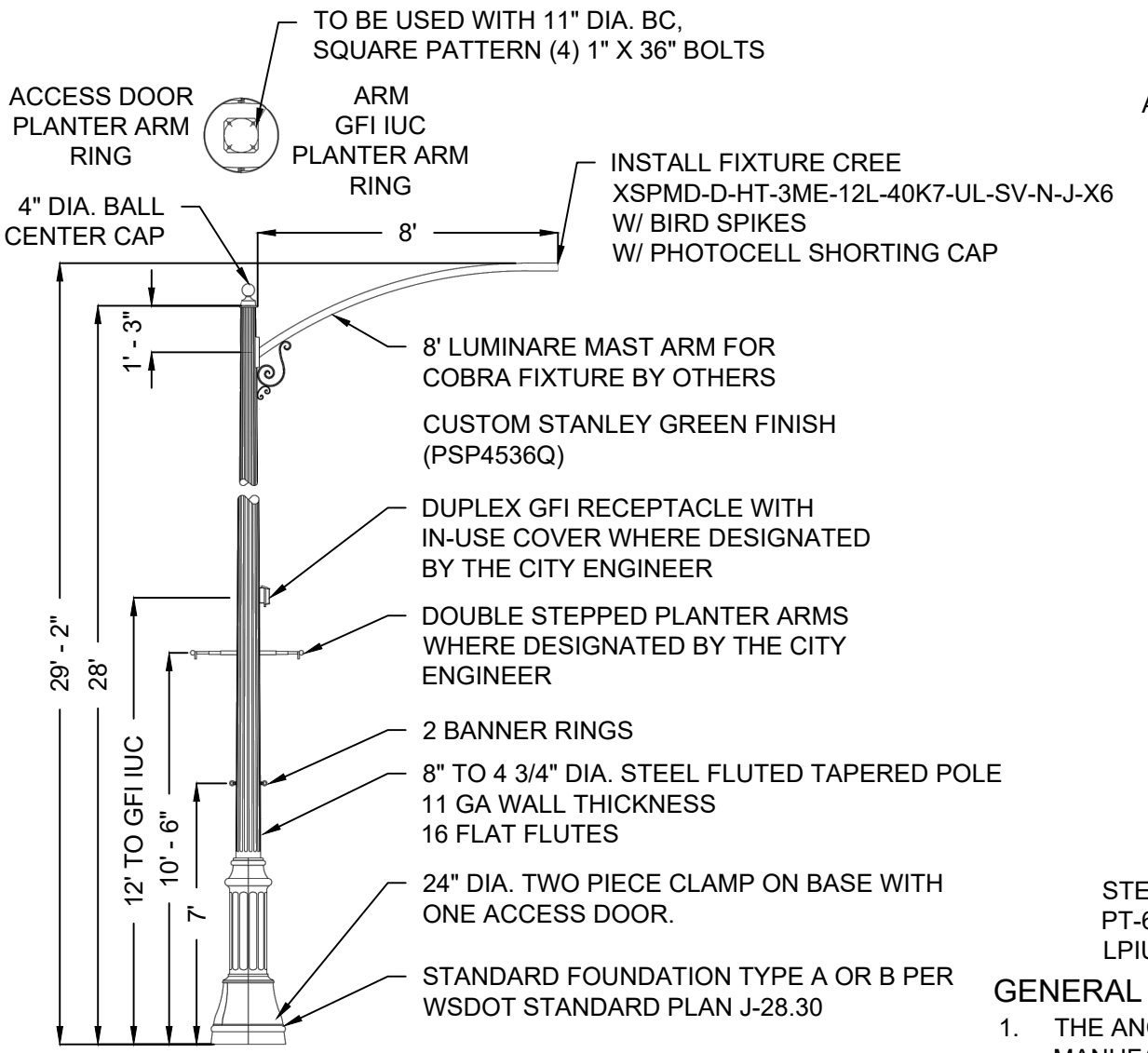
1. Detectable Warning Surface (DWS) shall be in accordance with **WSDOT Standard Specification 8-14** except as noted on this plan.
2. **Detectable Warning Surface shall be uncoated cast iron.**
3. The Detectable Warning Surface (DWS) shall extend the full width of the curb ramp, landing, or other roadway entrance as applicable. Exception: If the Manufacturer of the DWS requires a concrete border around the DWS, a variance of up to 2 inches on each side of the DWS is permitted.
4. The Detectable Warning Surface (DWS) shall be placed at the back of curb, with the two leading corners of the DWS panel placed adjacent to the back of the curb, and with no more than a 2 inch gap between the DWS and the back of the curb measured at the center of the DWS panel. Exception: If the Manufacturer of the selected DWS requires a concrete border around the DWS, a variance of up to 2 inches from the back of the curb is permitted (measured at the leading corners of the DWS panel).
5. The rows of truncated domes shall be aligned to be perpendicular to the grade break at the back of curb.
6. The rows of truncated domes shall be aligned to be parallel to the direction of travel.
7. If curb and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.
8. See **Figure 4-19** for sidewalk details and **Figures 4-23, 4-24, 4-25, and 4-26** for curb ramp details.
9. If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail.
10. When the grade break between the curb ramp and the landing is less than or equal to 5 ft. from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp directly above the grade break.

CITY OF SEQUIM

DETECTABLE WARNING SURFACE

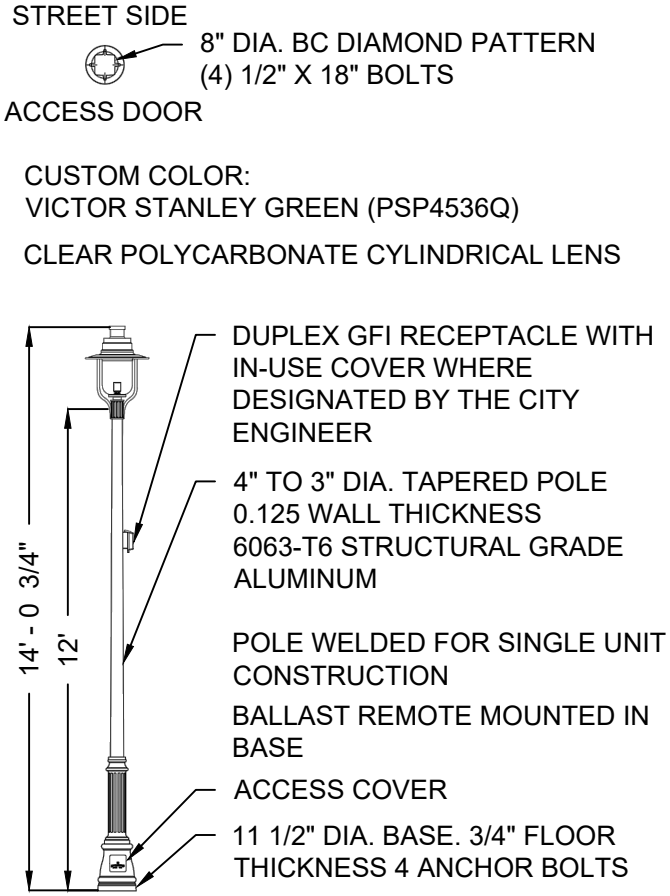
REVISION NO.	DATE
0	1/11/2021

FIGURE
4-27



POLE TYPE - 2 BANNER ARMS

STERNBERG 1-DAG8(MOD)/9728SRTF/16FF/BCC4/2-BR/GFI-IUC/DSPA,
VISCO VI-PG22/50-SI/8'-FF/28' OR EQUAL



POLE TYPE - PEDESTRIAN

STERNBERG
PT-6330-150HPS-240-MOG-RE5-CP/3912T43-.125-GFI
LPIUC/CM OR EQUAL

GENERAL NOTES

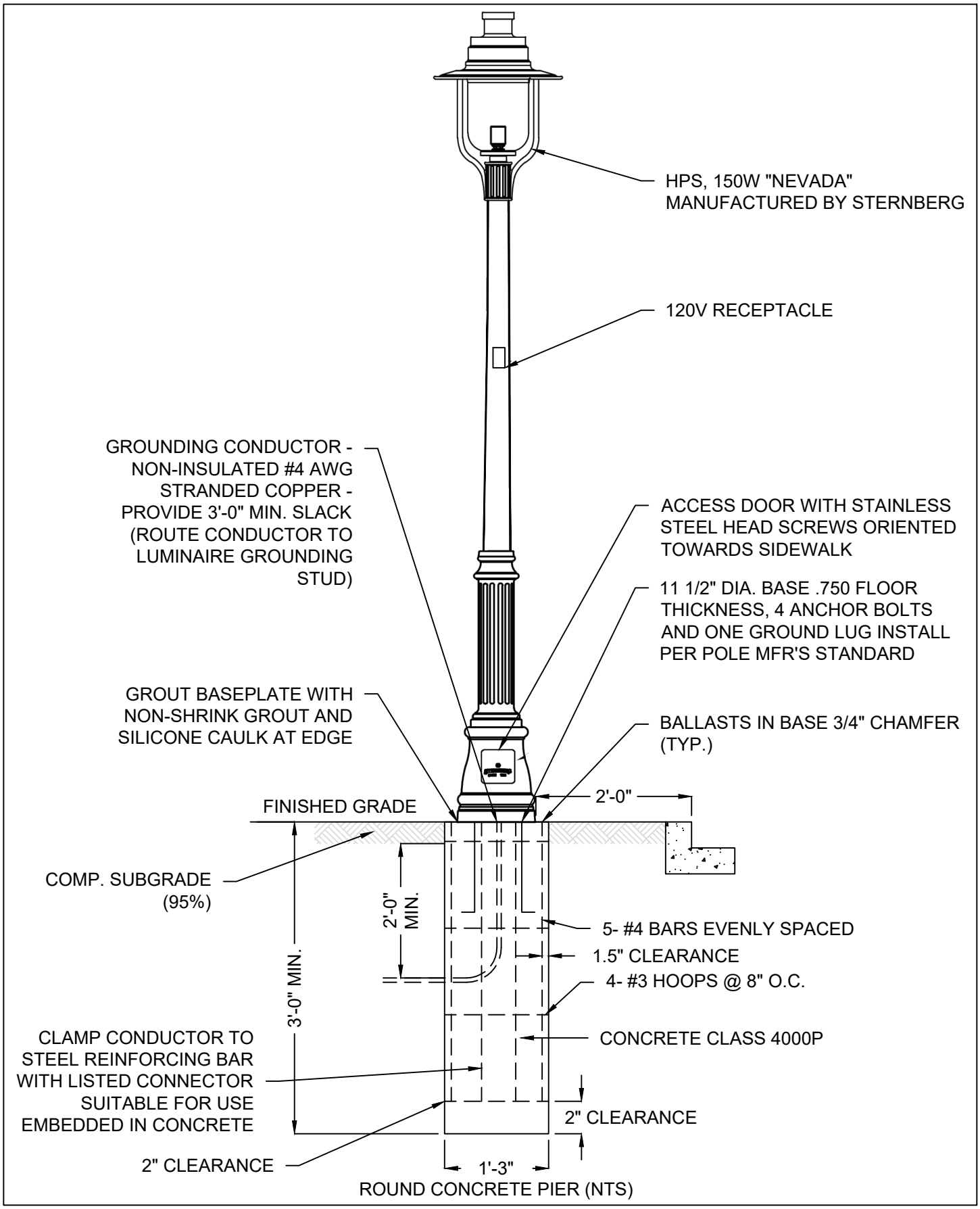
1. THE ANCHOR BOLTS MUST BE HIGH-STRENGTH STEEL, MANUFACTURED FROM ASTM F1554 GRADE 105, WITH HEAVY HEX NUTS AND HARDENED WASHERS. GALVANIZE THE ANCHOR BOLTS ACCORDING TO ASTM F2329.
2. LOCATE A SINGLE PHOTOCELL FOR EACH CIRCUIT AT THE ELECTRICAL SERVICE CABINET.

CITY OF SEQUIM

LIGHT STANDARD

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-28A



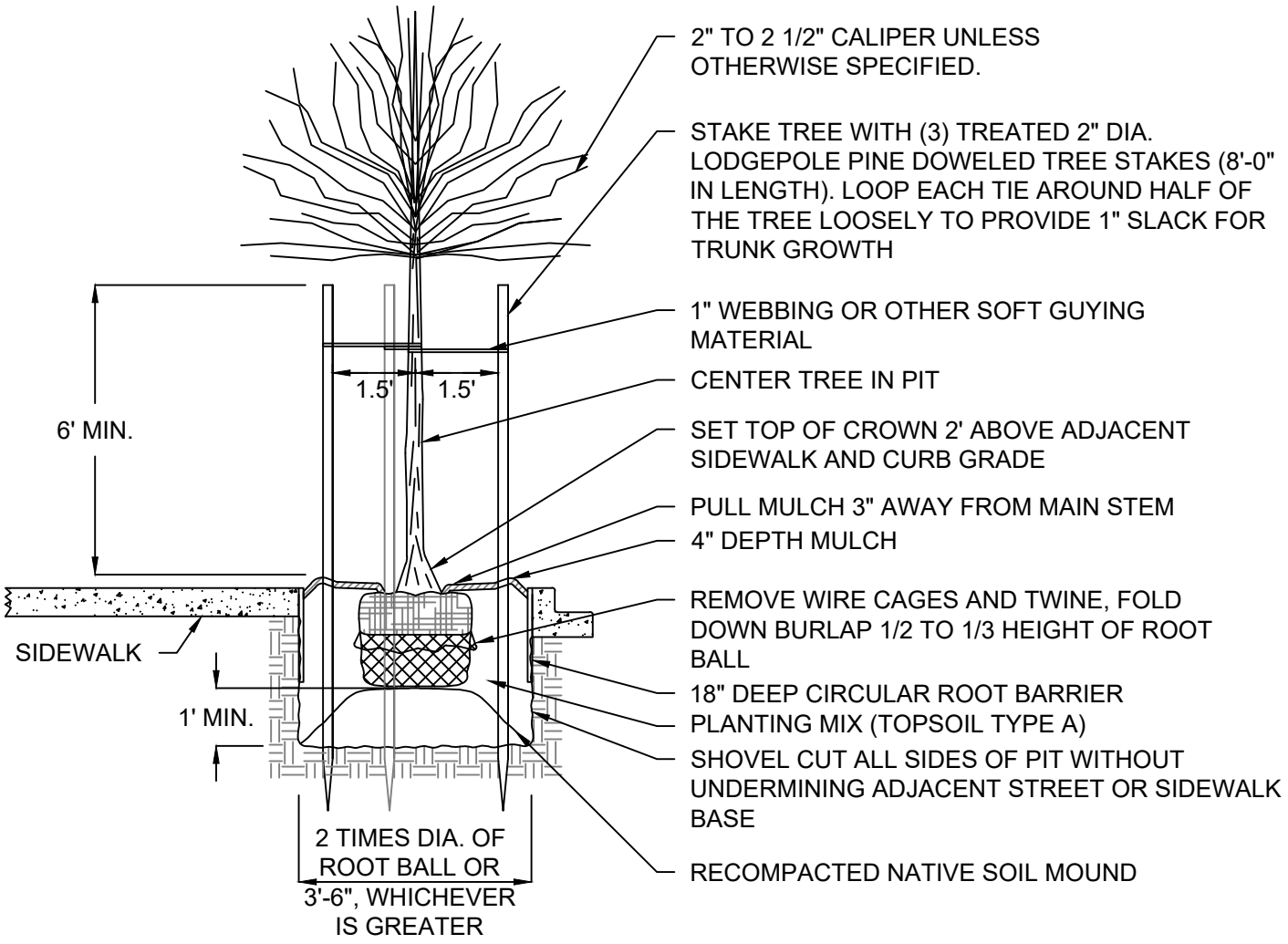
ROUND CONCRETE PIER (NTS)

CITY OF SEQUIM

LIGHT STANDARD

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-28B



GENERAL NOTES:

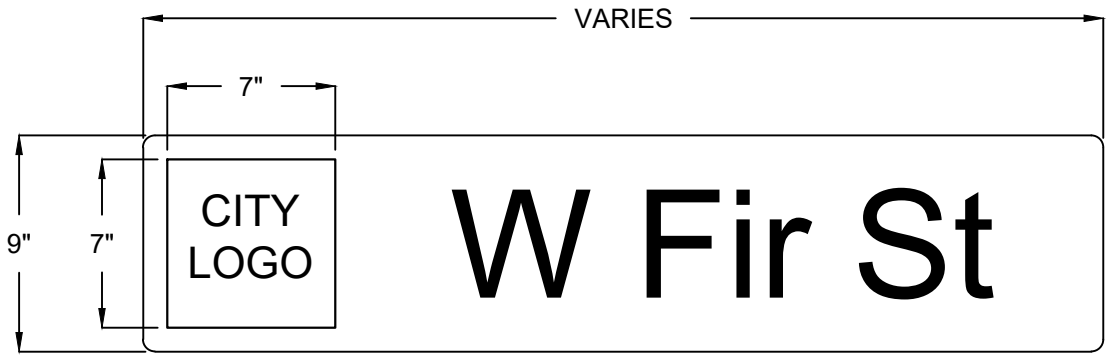
1. SET TREE 2' MIN. FROM FRONT FACE OF TRAFFIC CURB WHEN PLANTING IN PLANTER STRIP LOCATED BETWEEN STREET AND SIDEWALK.
2. SHAPE SOIL SURFACE TO PROVIDE 4" DIAM. WATERING RING.
3. ADJUST TREE TIES DURING ESTABLISHMENT TO ALLOW ROOM FOR GROWTH. (1" SLACK)
4. REMOVE TREE TIE ONE YEAR AFTER INSTALLATION.

CITY OF SEQUIM

TREE PLANTING DETAIL

REVISION NO.	DATE
0	1/11/2021

FIGURE
4-29



GENERAL NOTES:

1. SIGNS SHALL BE SINGLE-SIDED

2. SIGNS SHALL HAVE WHITE LEGEND ON BLUE BACKGROUND

3. SIGN MATERIALS SHALL MEET SECTION 9-28 OF THE 2018 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION

4. SIGN FABRICATION SHALL MEET 2004 AND 2012 SUPPLEMENT OF THE MUTCD STANDARD HIGHWAY SIGNS AND PART 2 OF THE 2009 MUTCD WITH REVISIONS 1 AND 2

5. TYPE IV HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING SHALL BE USED

6. HIGHWAY ALPHABET SERIES C SHALL BE USED FOR D3 STREET NAME SIGNS

7. FOR ALL SIGNS AT INTERSECTION WITH SEQUIM AVENUE AND WASHINGTON STREET, THE HEIGHT OF THE SIGN PLAQUE SHALL BE 12 INCHES WITH A 1/2" WHITE BORDER

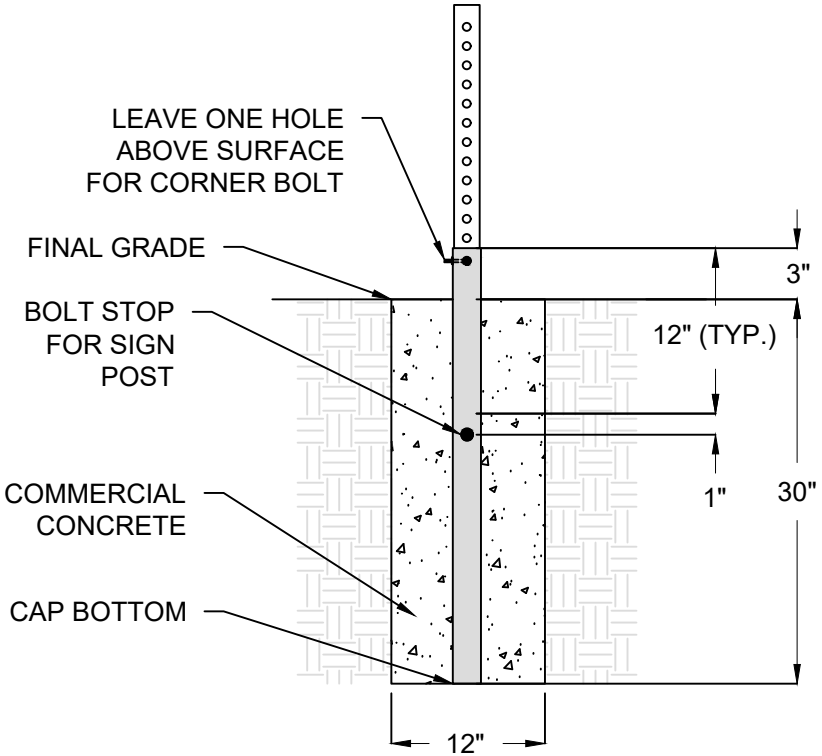
8. MOUNT MATCHING SIGNS WITH THE ENDS PINCHED AND SECURED TOGETHER

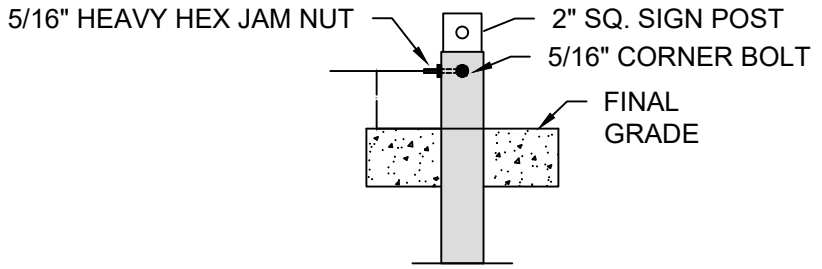
CITY OF SEQUIM

STREET NAME SIGN DETAIL

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FIGURE
4-30





GENERAL NOTES:

1.POST SPECIFICATIONS
- A. 2" SQUARE POST WITH 7/16" QWICK-PUNCHED HOLES (QWICK PUNCH TYPE OR EQUIVALENT), 1" CENTER, ON ALL FOUR SIDES FOR STANDARD SIGN SIZES.
- B. LARGER POST (2-3/16" PR 2-1/2") SIZES MAY BE REQUIRED IN COMPARISON TO SIGN SIZE.
- C. HOT DIPPED GALVANIZED 14 GAUGE STEEL WITH A CLEAR POLYMER COATING
- D. CONFORM TO THE STANDARD SPECIFICATIONS FOR THE STRUCTURAL QUALITY ASTM DESIGNATION A570, GRADE 50

2.POST ANCHOR
- A. GALVANIZED 7 GAUGE HEAVY DUTY 30" ANCHOR. HOLE MUST BE A MINIMUM OF 12" DIAMETER. ANCHOR MUST BE PLUMP AND LEVEL, SET AT 3" ABOVE FINAL GRADE. HUBS INSTALLED IN SIDEWALKS NEED ONLY HALF THE AMOUNT OF CONCRETE TO SET INTO THE HOLE. BOTTOM OF ANCHOR MUST BE CAPPED OR TAPED TO PREVENT CONCRETE AND DIRT ENTERING FROM BOTTOM
- B. MINIMUM POST DEPTH INSIDE OF ANCHOR MUST BE 12"

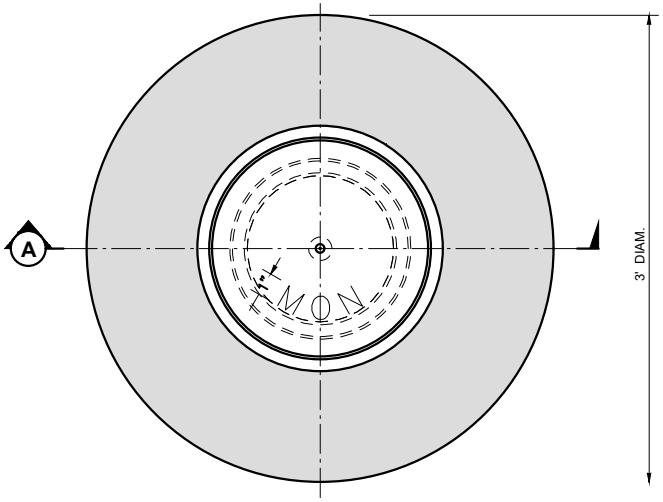
3.SIGN HARDWARE
- A. 3/8" STEEL DRIVE RIVET W/ 3/8" X 1" NYLON WASHER
- B. 0.030" X 3/4" STAINLESS STEEL STRAPPING
- C. 3/4" BAND-IT BUCKLES
- D. GALVANIZED 5/16" CORNER BOLT WITH 5/16" HEAVY HEX JAM NUT
- E. SIGN MOUNTING BRACKET: 2" SQ. 90 DEGREE CROSS PIECE (USE LONG SLOT 5-1/4" W/ ALLEN HEAD SET SCREWS)

CITY OF SEQUIM

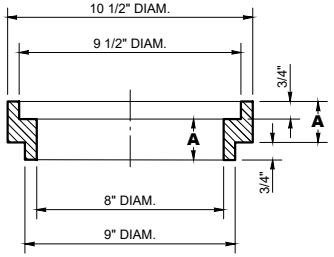
STREET SIGN POST DETAIL

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FIGURE
4-31



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

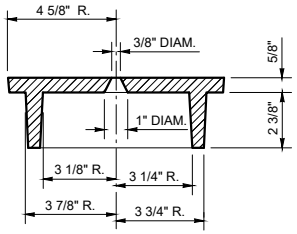


RISER RING SECTION

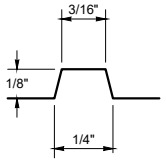
NOTES

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.

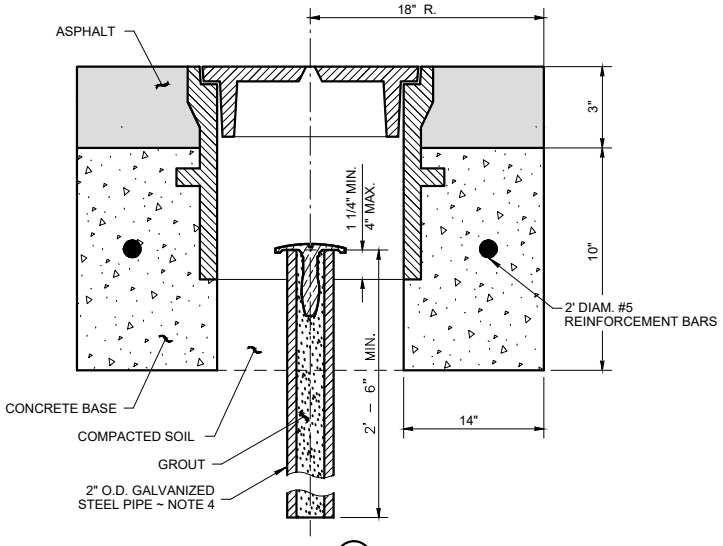
APPROXIMATE WEIGHTS	
CASE	60 LBS
COVER	19 LBS
TOTAL	79 LBS



COVER SECTION

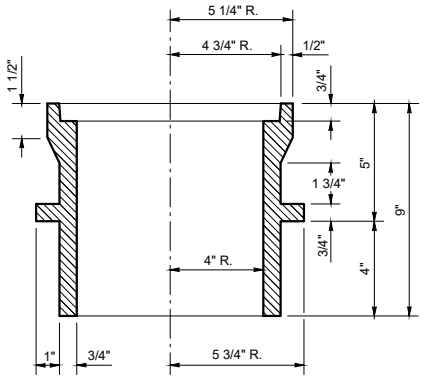


SECTION OF LETTER

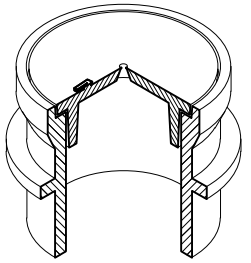


SECTION (A)

INSTALLATION



CASE SECTION



ISOMETRIC

MONUMENT CASE AND COVER

CITY OF SEQUIM

MONUMENT CASE AND COVER

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FIGURE
4-32

GENERAL NOTES:

1. CONSTRUCTING WATER MAINS 16 INCHES IN DIAMETER AND SMALLER MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE *STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION* DEVELOPED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), SPECIFICALLY SECTION 7-09 *WATER MAINS*. ANY DEVIATION FROM THESE STANDARD SPECIFICATION WILL BE CLEARLY NOTED IN THESE STANDARDS.
2. WATER MAIN PIPE MATERIAL MUST BE EITHER DUCTILE IRON CLASS 52 OR C900 PVC PRESSURE CLASS DR18 MINIMUM.
3. FOUNDATION MATERIAL MUST BE CLASS A: PER WSDOT STANDARD SPECIFICATIONS.
4. COMPACTION REQUIREMENTS: 95% PER ASTM D1557
5. TRACE WIRE INFORMATION: ALL TRACE WIRE TO BE 12 GAUGE STRANDED COPPER WIRE WITH BLUE PE INSULATION ON ALL WATER LINES & WITH UNDERGROUND SPLICE KITS ACCEPTABLE TO THE CITY.
6. METER PLACEMENT: METER SHALL BE INSTALLED IN A NON VEHICULAR TRAFFIC AREA SATISFACTORY TO THE CITY. IF THE METER MUST BE PLACED IN A VEHICULAR TRAFFIC AREA, THEN A H20 RATED LID MUST BE PROVIDED.
7. "OR EQUAL" MATERIALS ARE SUBJECT TO CITY APPROVAL.
8. ALL PIPES MUST BE NSF 61 COMPLIANT, ALL JOINTS AND FITTINGS MUST BE NSF 61 & 372 COMPLIANT.
9. ALL NEW CONNECTION 2" AND LARGER MUST HAVE A SHUTOFF VALVE; SEE FIGURE 5-04 FOR PLACEMENT.
10. ALL NEW WATER LINES MUST BE DISINFECTED PER ANSI/AWWA C651, INCLUDING BUT NOT LIMITED TO FIRE HYDRANT EXTENSIONS. SEE FIGURE 5-01.
11. ALL LINES MUST BE FLUSHED AFTER DISINFECTING PROCESS COMPLETE, AND A BACTERIOLOGICAL SAMPLE WILL BE COLLECTED BY THE CITY. SEE FIGURE 5-01.
12. ALL NEW LINES MUST BE PRESSURE TESTED. SEE FIGURE 5-01.
13. ONLY CITY REPRESENTATIVES ARE ALLOWED TO OPERATE EXISTING AND NEW TIE IN VALVES.
14. ALL TESTS MUST BE COMPLETED BEFORE CONNECTING TO THE EXISTING WATER MAIN, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
15. ALL VALVES LARGER THAN 2 INCHES SHALL BE RESILIENT SEAT GATE VALVES.
16. NO SERVICE CONNECTIONS SHALL BE MADE TO FIRE HYDRANT LINES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
17. TRENCH BACKFILL MUST BE EITHER BANK RUN GRAVEL OR NATIVE MATERIAL: PER WSDOT STANDARD SPECIFICATIONS. PLACE IN 6 INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO 95% AND ±3% OF OPTIMUM MOISTURE CONTENT PER ASTM D1557. THICKER LIFTS ALLOWED ONLY WITH ENGINEER'S PRIOR WRITTEN PERMISSION.

GENERAL NOTES:

1. ALL TESTING MUST BE COMPLETED AND APPROVED BEFORE ANY CONNECTION TO THE WATER MAIN OCCURS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. THE ONLY EXCEPTION TO THE PREVIOUS STATEMENT IS WHEN THE DISTANCE FROM THE EXISTING PIPE TO THE NEW VALVE IS 20 FEET OR LESS.
2. ALL TESTS SHALL BE COMPLETED WITH A CITY REPRESENTATIVE ONSITE.
3. ALL EQUIPMENT NEEDED IN ORDER TO COMPLETE THE TESTS SHALL BE FURNISHED AND OPERATED BY THE CONTRACTOR.
4. PRESSURE TESTING SHALL BE LIMITED TO 1000-1500 FEET OF CONTINUOUS PIPE OR BETWEEN VALVES WHICHEVER IS A SHORTER DISTANCE. THE FIRST 1000 FEET OF PIPE MUST BE SUCCESSFULLY TESTED BEFORE ANY ADDITIONAL PIPE MAY BE PLACED.
5. ALL GAUGES AND METERS SHALL BE APPROVED BY THE CITY REPRESENTATIVE.
6. ALL MATERIALS SHALL BE INSTALLED PER MANUFACTURES SPECIFICATIONS OR PER CITY ENGINEER APPROVAL.

DISINFECTION: CHLORINE SHALL BE APPLIED IN ONE OF THE FOLLOWING MANNERS, LISTED IN ORDER OF PREFERENCE, TO SECURE A CONCENTRATION IN THE PIPE OF AT LEAST 50 MG/L.

1. INJECTION OF CHLORINE-WATER MIXTURE FROM CHLORINATING APPARATUS THROUGH CORPORATION COCK AT BEGINNING OF SECTION AFTER PIPE HAS BEEN FILLED, AND WITH WATER EXHAUSTING AT END OF SECTION AT A RATE CONTROLLED TO PRODUCE THE DESIRED CHLORINE CONCENTRATION;
2. INJECTION SIMILARLY OF A HYPOCHLORITE SOLUTION;
3. PLACEMENT OF DRY CALCIUM HYPOCHLORITE THROUGHOUT PIPELINE, AS CONSTRUCTED, IN PROPER QUANTITIES TO PRODUCE THE DESIRED DOSAGE. FILLING OF PIPELINE WITH THIS METHOD SHOULD BE AT A VERY SLOW RATE. PIPELINE SHOULD BE FILLED WITHIN 2 DAYS OF PLACING STERILIZING AGENT
4. AFTER THE DESIRED CHLORINE CONCENTRATION HAS BEEN OBTAINED THROUGHOUT THE SECTION OF LINE, THE WATER IN THE LINE SHALL BE FILLED BY THE CITY AT THE REQUEST OF THE DEVELOPER AND LEFT STANDING FOR A PERIOD OF NO LESS THAN 24 HOURS.

SEE FIGURE 5-01B FOR MORE TESTING INFORMATION

CITY OF SEQUIM

TESTING INFORMATION

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FIGURE
5-01A

PRESSURE TESTING/LEAKAGE TEST: PRESSURE TESTS SHALL BE COMPLETED IN CONJUNCTION WITH THE LEAKAGE TEST. ALL THRUST BLOCKS AND ANCHORS SHALL BE IN PLACE AND THE PIPE SHALL BE SECURED OR BURIED, BUT ALL CONNECTIONS MUST BE LEFT UNCOVERED FOR OBSERVATION. THE SYSTEM WILL THEN BE PUMPED UP TO 225 PSI FOR A TIME OF 30 MINUTES (ONCE IT REACHES PRESSURE). IF THERE IS AN ABRUPT DROP IN PRESSURE OR ANY VISIBLE LEAKS DISCOVERED IN THE 30 MINUTE PERIOD THE TEST WILL BE STOPPED AND THE ISSUE WILL BE RESOLVED. UPON COMPLETION OF THE 30 MINUTE PERIOD IF THERE ARE NO ABRUPT DROPS IN PRESSURE OR VISIBLE LEAKS, THE WATER LINE WILL BE PUMPED BACK UP TO 225 PSI THROUGH A POSITIVE DISPLACEMENT WATER METER. THE LEAKAGE TEST WILL BE DETERMINED BY THE AMOUNT OF WATER THAT IS REQUIRED TO PUMP THE WATER LINE BACK TO PRESSURE. THE AMOUNT OF WATER THAT LEAKED IN THE 30 MINUTE TIME FRAME MAY NOT EXCEED THE VALUE SPECIFIED IN THE TABLE BELOW. IF THE AMOUNT OF LEAKAGE EXCEEDS THE ALLOWABLE LEAKAGE, THE LEAK MUST BE LOCATED AND FIXED BEFORE A FOLLOW-UP TEST CAN BE COMPLETED.

ALLOWABLE LEAKAGE TABLE	
PIPE DIAM. (IN.)	GAL. PER 0.5 HOUR PER 100 FT@ 225 PSI
2	0.0056
4	0.0113
6	0.0169
8	0.0225
10	0.0282
12	0.0338
15	0.0422
18	0.0507

$$L=(SD\sqrt{P})/266400$$

WHERE:

L = ALLOWABLE LEAKAGE, GALLONS/HOUR

D = NOMINAL DIAMETER OF THE PIPE IN INCHES

P = TEST PRESSURE DURING THE LEAKAGE TEST (PSI)

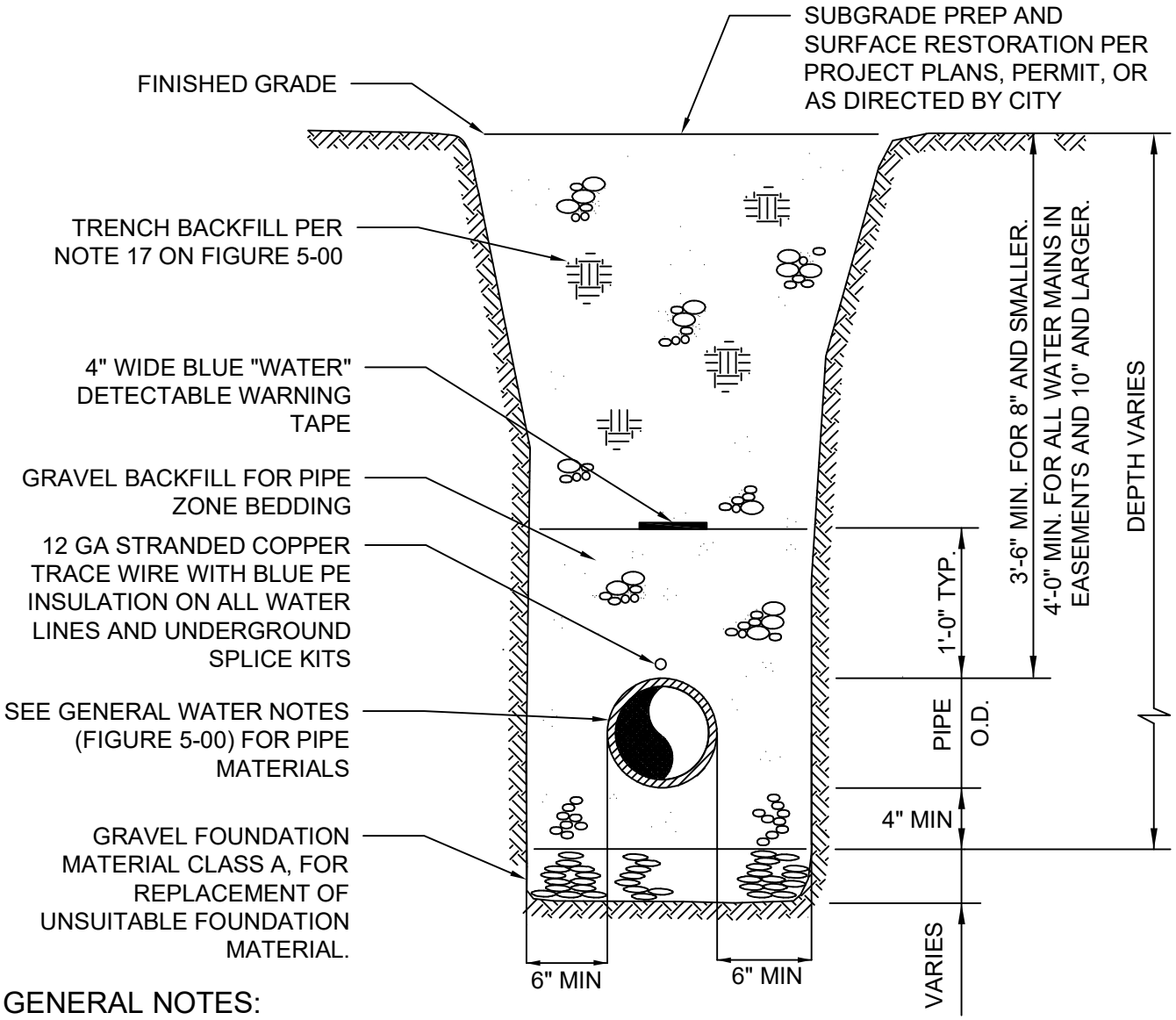
S = GROSS LENGTH OF PIPE TESTED, FEET

NOTE: EQUATION IS GAL/HOUR, DIVIDE BY 2 TO GET GAL/ HALF HOUR
MULTIPLY BY 10 TO GET PER 1000 FT DATA

DECHLORINATING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF DISINFECTING SOLUTION TO THE SATISFACTION OF THE CONTRACTING AGENCY AND LOCAL AUTHORITIES. AT A MINIMUM, CHLORINATED WATER SHALL BE DECHLORINATED TO A CONCENTRATION OF 0.1 PARTS PER MILLION (ppm) OR LESS, AND PH ADJUSTMENT TO WITHIN 6.5-8.5 STANDARD UNITS BEFORE DISCHARGING TO SURFACE WATERS OF THE STATE OR TO A STORM SEWER SYSTEM THAT DRAINS TO SURFACE WATERS OF THE STATE.

FLUSHING:. THE WATER MAINS SHALL BE FLUSHED AT A RATE TO PROVIDE A MINIMUM VELOCITY OF 2.5 FEET PER SECOND IN THE MAIN. ANY PERMANENT OR TEMPORARY TAP REQUIRED FOR RELEASE OF AIR, CHLORINATION, OR FLUSHING PURPOSES SHALL BE PROVIDED BY THE DEVELOPER.

SEE 5-01A FOR MORE TESTING INFORMATION



GENERAL NOTES:

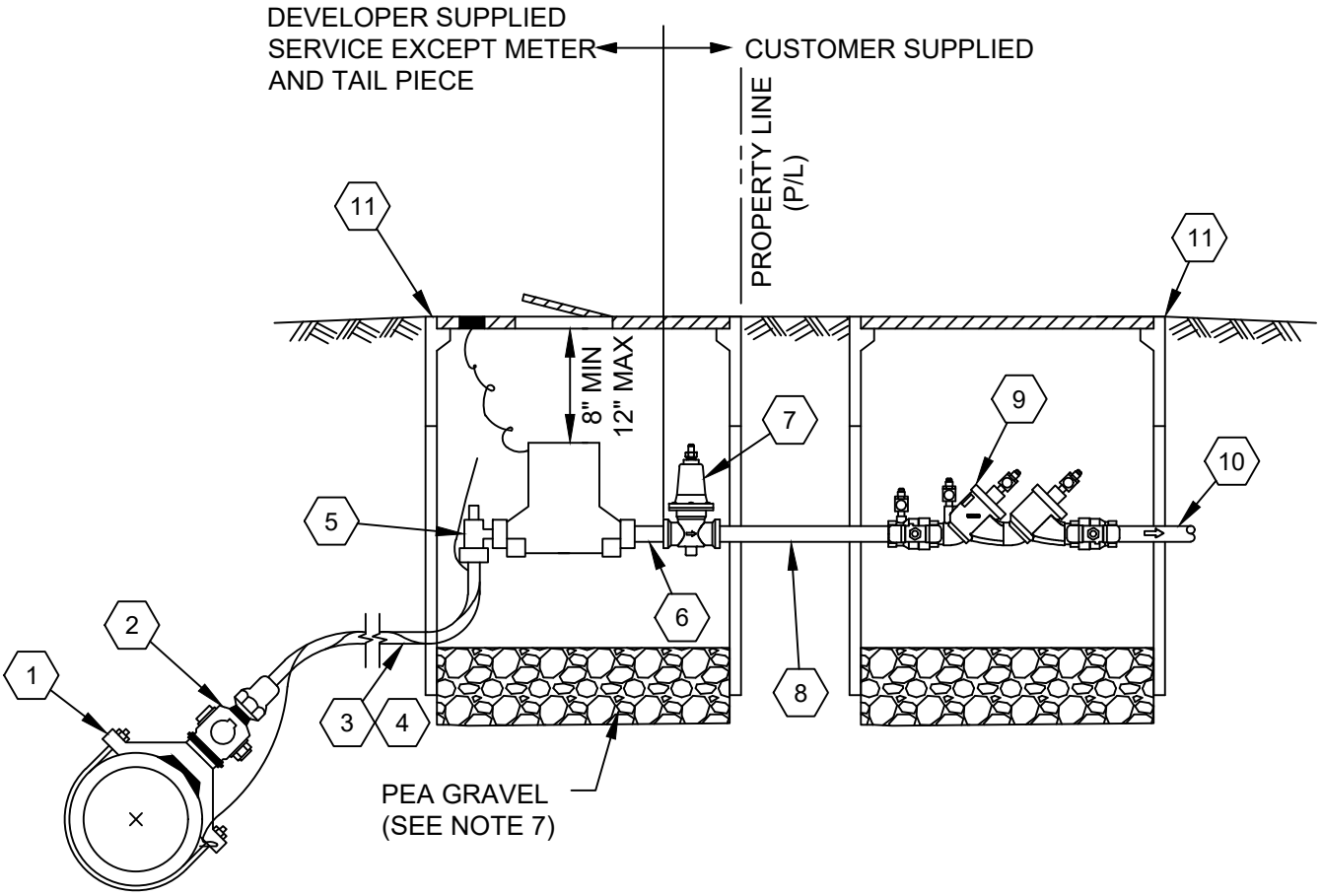
1. FOUNDATION MATERIAL, BEDDING, AND BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THIS DETAIL, OR THE MOST CURRENT WSDOT STANDARD SPECIFICATIONS, AND/OR PROJECT OR PERMIT SPECIFIC REQUIREMENTS, WHICHEVER IS MOST STRINGENT.
2. FOR TRENCH BACKFILL, PLACE IN 6 INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO 95% AND ±3% OF OPTIMUM MOISTURE CONTENT PER ASTM D1557. THICKER LIFTS ALLOWED ONLY WITH ENGINEER'S PRIOR WRITTEN PERMISSION.
3. DEPTH OF COVER IN EXCESS OF 7-FEET REQUIRES CITY APPROVAL.
4. CLAY OR BENTONITE DAMS SHALL BE INSTALLED ACROSS THE TRENCH AND TO THE FULL DEPTH OF THE GRANULAR MATERIAL IN ALL AREAS OF STEEP SLOPES, STREAM CROSSINGS, AND WETLANDS TO PREVENT MIGRATION OF WATER ALONG THE PIPELINE.
5. TRENCH SECTIONS FOR WATER MAINS, FIRE HYDRANTS, BLOW OFFS, AIR VALVES, WATER SERVICES, AND OTHER WATER LINE APPURTENANCES SHALL BE SIMILAR TO THIS WATER LINE TRENCH SECTION.

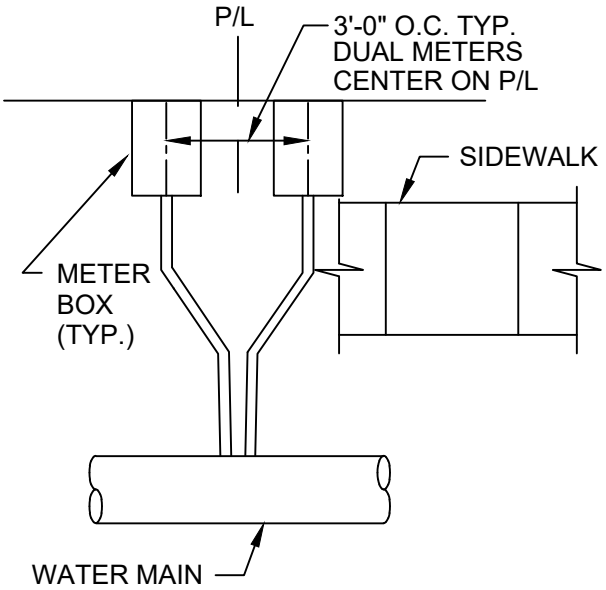
CITY OF SEQUIM

WATER LINE TRENCH SECTION

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1	03/12/2024

FIGURE
5-02





PLAN

SEE FIGURE 5-03B FOR CALLOUTS AND NOTES

CITY OF SEQUIM

5/8", 3/4", AND 1" WATER SERVICES

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FIGURE
5-03A

1. SERVICE SADDLE WITH DOUBLE STAINLESS STEEL STRAPS, ROMAC 202NS OR EQUAL
2. 1" BRASS BALL CORP STOP, 300 PSI WORKING PRESSURE, MUELLER OR EQUAL, WITH STAINLESS STEEL TUBING INSERT STIFFENERS FOR 1" IPS SIDR 7 POLY TUBING
3. 1" IPS POLY WATER SERVICE TUBING, SIDR 7, ADS OR EQUAL
4. 12 GA STRANDED COPPER TRACE WIRE WITH BLUE PE INSULATION AND WITH UNDERGROUND SPLICE KITS, SPLICE TO WATER MAIN TRACE WIRE, WRAP TRACE WIRE AROUND WATER TUBING FULL LENGTH AND STORE 2' LENGTH IN METER BOX
5. 1" IPS PACKJOINT X 3/4" WITH PINCH NUT OR 1" METER SWIVEL NUT LOCKING BRASS BALL-TYPE METER ANGLE STOP, 300 PSI WORKING PRESSURE, MUELLER OR EQUAL, WITH STAINLESS STEEL TUBING INSERT STIFFENERS FOR 1" IPS SIDR 7 POLY TUBING
6. 3/4" X 5/8", 3/4", OR 1" WATER METER WITH 3/4" OR 1" TAIL PIECE (METER AND TAIL PIECE SUPPLIED BY CITY)
7. 3/4" OR 1" BRASS PRESSURE REDUCING VALVE, 300 PSI MAX INLET PRESSURE, WATTS OR EQUAL
8. 3/4" OR 1" X 12" BRONZE PIPE NIPPLE
9. 3/4" OR 1" LEAD FREE BRONZE DOUBLE CHECK VALVE BACKFLOW PREVENTER WITH SHUTOFF VALVES (FOR LOW HAZARD INSTALLATIONS), 175 PSI WORKING PRESSURE, WATTS LF007 OR EQUAL
10. CUSTOMER WATER SERVICE LINE
11. SEE FIGURE 5-05 FOR METER BOX DETAILS

GENERAL NOTES:

1. NO SPLICES IN POLY WATER SERVICE TUBING BETWEEN WATER MAIN CONNECTION AND WATER METER.
2. SERVICE FROM WATER METER TO SERVED STRUCTURE BY CUSTOMER.
3. INDIVIDUAL SERVICE REQUIRED FOR EACH STRUCTURE OR LOT.
4. METER TO BE INSTALLED BY THE CITY AT CUSTOMER'S EXPENSE.
5. PRESSURE REDUCING VALVE AND BACKFLOW PREVENTER SHALL BE INSTALLED AND MAINTAINED AT CUSTOMERS EXPENSE, INCLUDING PRE-START UP AND ANNUAL THIRD PARTY BACKFLOW PREVENTER TESTING BY A PROPERLY CERTIFIED TESTER.
6. EASEMENT PROVIDED TO CITY AROUND METERS LOCATED OUTSIDE RIGHT OF WAY.
7. PEA GRAVEL SHALL BE DEEP ENOUGH TO PROVIDE POSITIVE DRAINAGE OUT OF THE BOX.
8. METER BOXES SHALL BE INSTALLED IN A NON-VEHICULAR TRAFFIC AREA. IF METER BOXES MUST BE INSTALLED IN A VEHICULAR TRAFFIC AREA, H20 RATED LIDS MUST BE PROVIDED AS A MINIMUM.

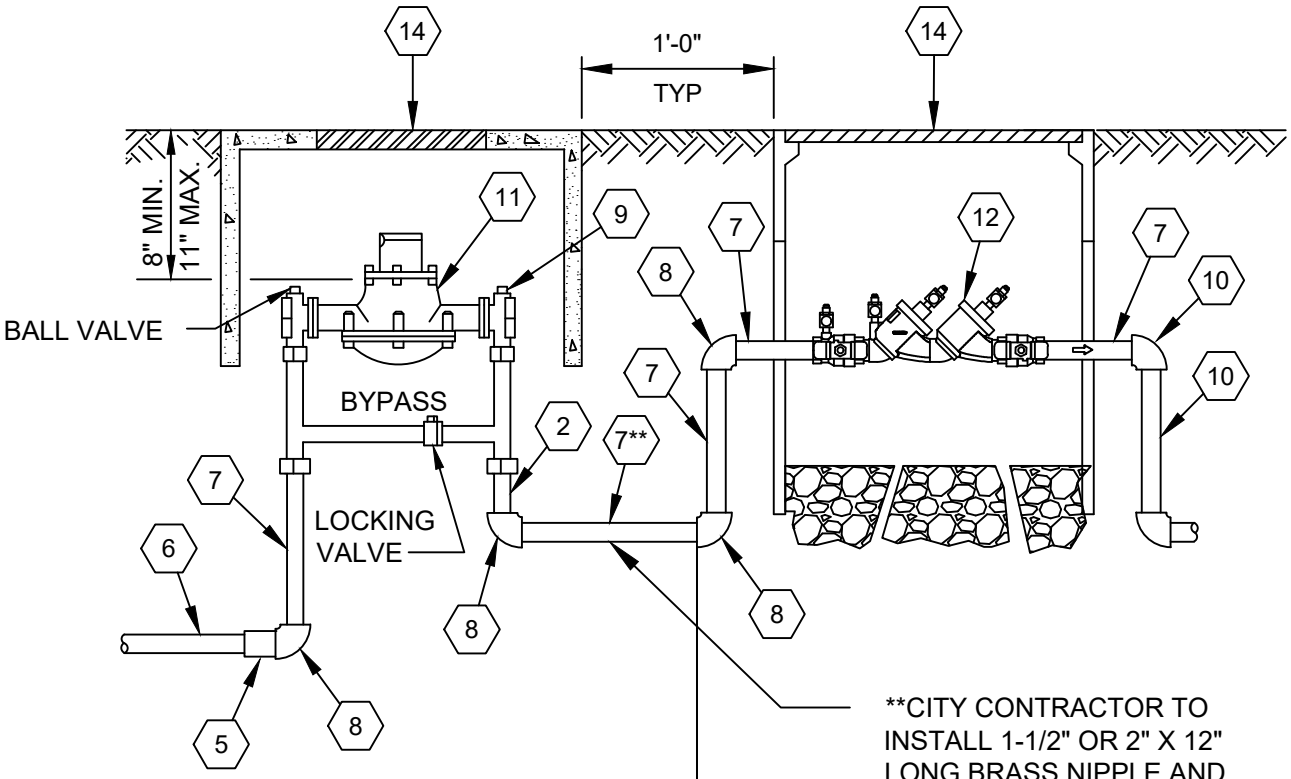
SEE FIGURE 5-03A FOR PLAN AND SECTION

CITY OF SEQUIM

5/8", 3/4", AND 1" WATER SERVICES

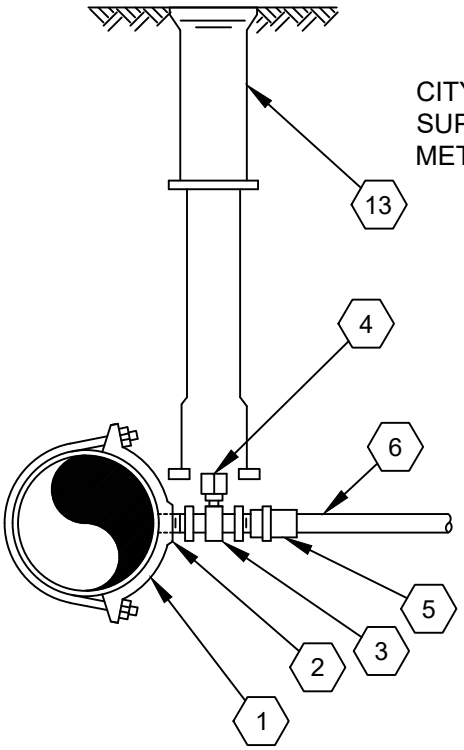
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FIGURE
5-03B



**CITY CONTRACTOR TO INSTALL 1-1/2" OR 2" X 12" LONG BRASS NIPPLE AND 1-1/2" OR 2" TEMPORARY BRASS CAP AT BACKFLOW PREVENTER END (CAP NOT SHOWN) FOR EXTENSION BY CUSTOMER

CITY CONTRACTOR SUPPLIED EXCEPT METER ← → CUSTOMER SUPPLIED



SEE FIGURE 5-04B FOR CALLOUTS AND NOTES

CITY OF SEQUIM

1 ½", AND 2" WATER SERVICES

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FIGURE
5-04A

1. SERVICE SADDLE WITH DOUBLE STAINLESS STEEL STRAPS , ROMAC 202NS OR EQUAL
2. 1-1/2" OR 2" DIAMETER X 6" BRASS PIPE NIPPLE
3. 1-1/2" OR 2" BRASS CURB BALL VALVE, 300 PSI WORKING PRESSURE, MUELLER OR EQUAL
4. 2" BRASS WRENCH NUT ADAPTER, MUELLER OR EQUAL
5. 1-1/2" OR 2" BRASS STRAIGHT COUPLING MALE PIPE THREAD X IPS PACKJOINT WITH STAINLESS STEEL TUBING INSERT STIFFENERS FOR 1-1/2" OR 2" IPS SIDR 7 POLY TUBING, MUELLER OR EQUAL
6. 1-1/2" OR 2" IPS POLY WATER SERVICE TUBING, SIDR 7, ADS OR EQUAL
7. 1-1/2" OR 2" X LENGTH AS REQUIRED BRASS PIPE NIPPLE
8. 1-1/2" OR 2" 90 DEGREE BRASS ELBOW, CLASS 150
9. 1-1/2" OR 2" COPPER METER SETTER WITH BYPASS, VERTICAL INLET AND OUTLET, WITH 300 PSI WORKING PRESSURE LOCKING BALL VALVES AT METER INLET AND IN BYPASS AND CHECK VALVE AT METER OUTLET, MUELLER OR EQUAL
10. CUSTOMER WATER SERVICE LINE
11. 1-1/2" OR 2" WATER METER (SUPPLIED AND INSTALLED BY CITY AT CUSTOMERS EXPENSE)
12. 1-1/2" OR 2" LEAD FREE BRONZE DOUBLE CHECK VALVE BACKFLOW PREVENTER WITH SHUTOFF VALVES (FOR LOW HAZARD INSTALLATIONS), 175 PSI WORKING PRESSURE, WATTS LF007 OR EQUAL
13. CAST IRON VALVE BOX PER FIGURE 5-18
14. SEE FIGURE 5-05 FOR METER BOX DETAILS

GENERAL NOTES:

1. NO SPLICES IN 1-1/2" OR 2" POLY TUBING ALLOWED.
2. INDIVIDUAL SERVICES REQUIRED FOR EACH STRUCTURE.
3. EASEMENT PROVIDED TO CITY AROUND METERS LOCATED OUTSIDE RIGHT OF WAY.
4. ALL SERVICES SHALL HAVE WASHINGTON STATE APPROVED BACKFLOW PREVENTER LOCATED IMMEDIATELY BEHIND METER. CONFIRM LOCATION OF ASSEMBLY WITH CITY. INITIAL AND ANNUAL TESTING REQUIRED AND SUBMITTAL OF TEST RESULTS TO CITY FOR CONFIRMATION.
5. METER BOXES SHALL BE INSTALLED IN A NON-VEHICULAR TRAFFIC AREA. IF METER BOXES MUST BE INSTALLED IN VEHICULAR TRAFFIC AREA, H20 RATED LIDS MUST BE PROVIDED AS A MINIMUM.

SEE FIGURE 5-04A FOR SECTIONS

CITY OF SEQUIM

1 ½", AND 2" WATER SERVICES

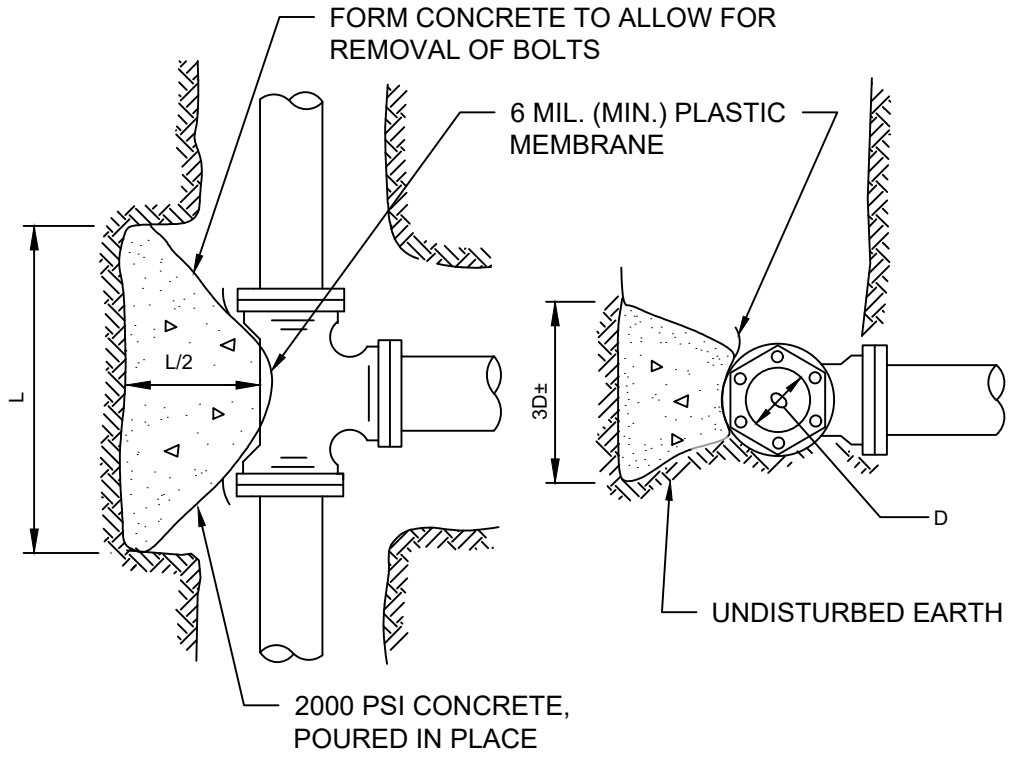
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FIGURE
5-04B

PIPE CONNECTION SIZE	METER BOX
1" AND BELOW	CARSON BCF HEAVYWALL 1324, "OR EQUAL"
2"	CARSON BCF HEAVYWALL 1324, "OR EQUAL"
3" AND ABOVE	CONSULT CITY FOR PROJECT SPECIFIC SPECIFICATIONS

NOTES:

- SEE GENERAL NOTES FOR METER PLACEMENT
- ALL METER BOXES SPECIFIED ARE DESIGNED FOR NON-VEHICULAR TRAFFIC
- BOX LID WILL BE FLUSH SOLID COVER
- LID MATERIAL WILL BE SPECIFIED BY THE CITY BASED UPON PROJECT REQUIREMENTS
- "OR EQUAL" SUBJECT TO CITY APPROVAL



PLAN ELEVATION

MINIMUM BEARING AREA TABLE					
FITTING D	TEE	90°	45°	22 1/2°	11 1/4°
6"	4 SQ. FT.	6 SQ. FT.	3 SQ. FT.	2 SQ. FT.	2 SQ. FT.
8"	7 SQ. FT.	10 SQ. FT.	6 SQ. FT.	3 SQ. FT.	2 SQ. FT.
10"	10 SQ. FT.	15 SQ. FT.	9 SQ. FT.	5 SQ. FT.	3 SQ. FT.
12"	14 SQ. FT.	22 SQ. FT.	12 SQ. FT.	6 SQ. FT.	4 SQ. FT.
16"	25 SQ. FT.	38 SQ. FT.	21 SQ. FT.	11 SQ. FT.	7 SQ. FT.
18"	32 SQ. FT.	48 SQ. FT.	27 SQ. FT.	14 SQ. FT.	8 SQ. FT.

GENERAL NOTES:

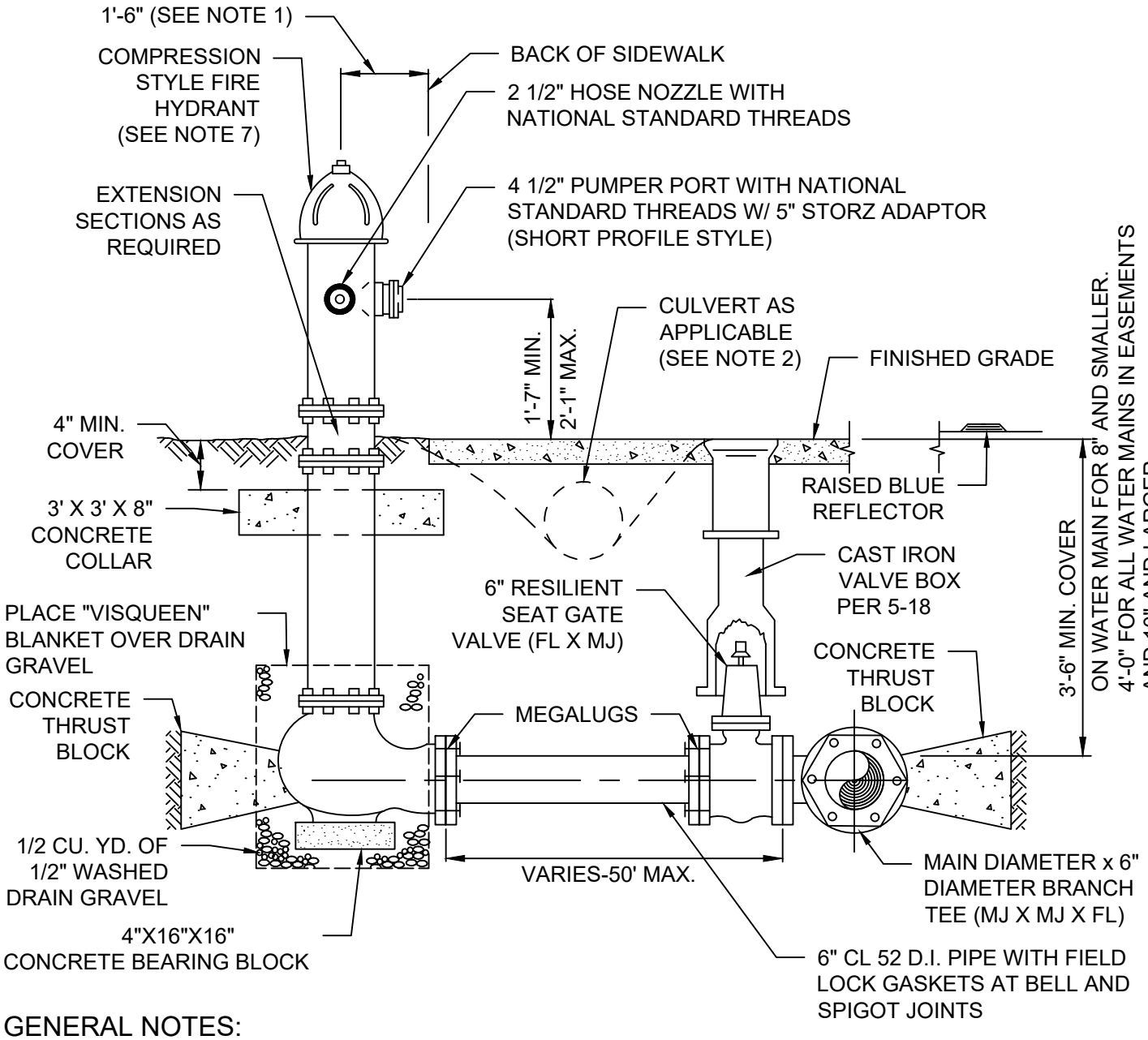
1. BEARING AREA TABLE BASED ON 250 PSI PRESSURE AND 2000 PSF SOIL BEARING. IF PRESSURE IS GREATER OR SOIL BEARING IS LESS, THE THRUST BLOCK SIZE SHALL INCREASE.
2. THIS TABLE REPRESENTS THE "MINIMUM" CONSTRUCTION STANDARDS. THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE APPROPRIATE SIZE OF ALL THRUST BLOCKS BASED ON EXISTING AND LOCAL CONDITIONS.
3. IN LIEU OF VERTICAL ANCHOR BLOCKS, PIPE BEND JOINTS AND STRAIGHT PIPE JOINTS ON BOTH VERTICAL BENDS SHALL BE RESTRAINED FOR LENGTHS AS NECESSARY TO RESIST PIPE JOINT SEPARATION BY A SAFETY FACTOR OF 2:1, USING "MEGALUGS", FIELD LOCK GASKETS (FOR DUCTILE IRON PIPE), BELL-AND-SPIGOT JOINT RESTRAINTS (SUCH AS ROMAC 611 SYSTEMS FOR PVC C900 PIPE), OR OTHER RESTRAINT SYSTEMS ACCEPTABLE TO THE CITY.
4. THE CITY WILL USE "EBAA IRON'S RESTRAINT LENGTH CALCULATOR" AT EBAA.COM/CALCULATOR/ FOR VERIFYING ADEQUACY OF RESTRAINED JOINT LENGTHS.

CITY OF SEQUIM

THRUST BLOCKS

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FIGURE
5-07



GENERAL NOTES:

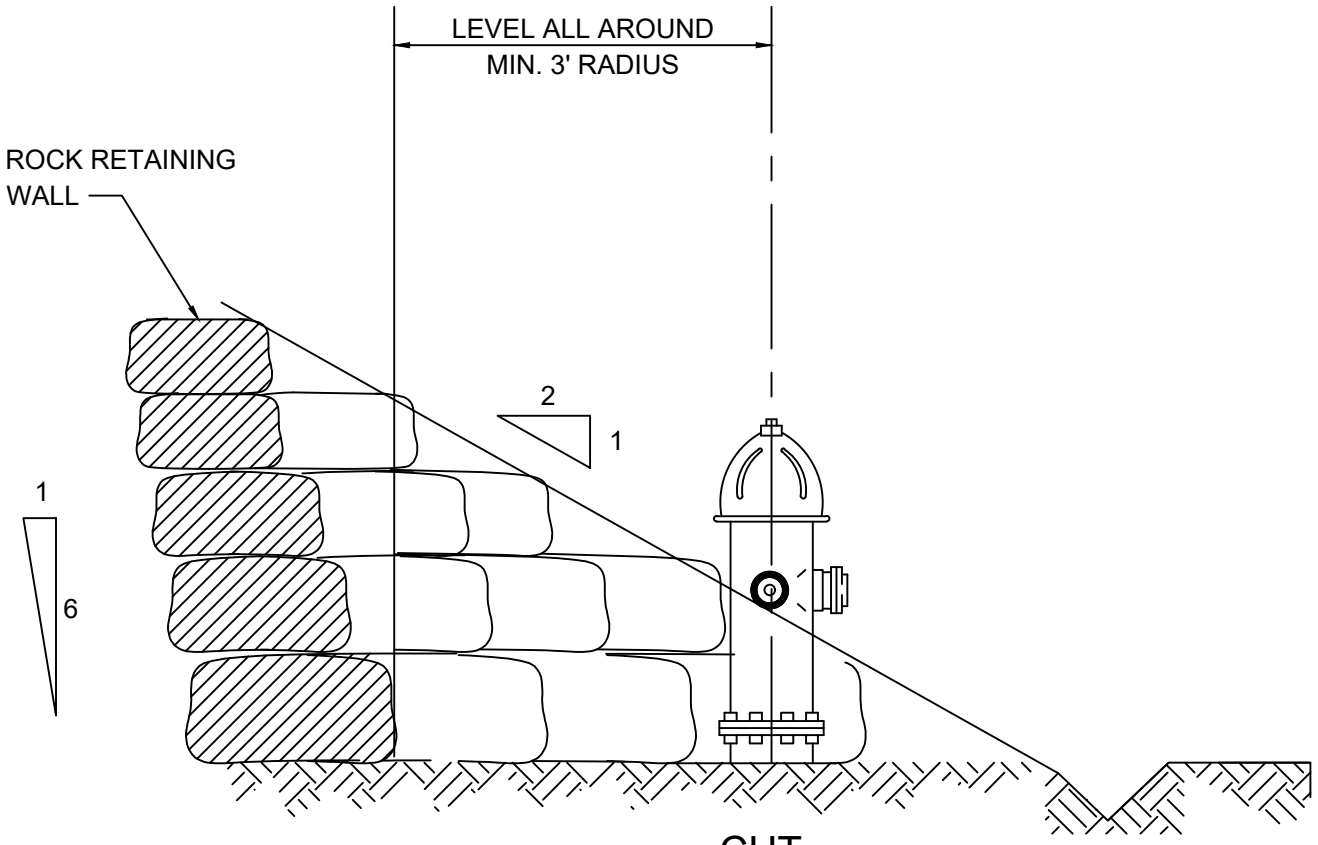
1. OR 3' FROM BACK OF CURB.
2. PROVIDE 8' MINIMUM OF CULVERT AND COVER, 12" MIN. DIA. OR EQUAL IN SIZE TO ADJACENT DITCH CROSSINGS. PIPE TO COUNTY, STATE OR CITY STANDARDS AS APPLICABLE.
3. PROVIDE MIN. 3'-0" CLEARANCE AND LEVEL AREA AROUND HYDRANT.
4. PAINT FIRE HYDRANT WITH TWO COATS SAFETY YELLOW.
5. STENCIL FOOTAGE TO VALVE ON HYDRANT UNDER PORT FACING GV.
6. REMOVE ALL CHAINS FOR FIRE HYDRANT CAPS.
7. ACCEPTABLE HYDRANTS: CLOW MEDALLION AND MUELLER CENTURION OR EAST JORDAN WATER MASTER 5CD250.
8. INSTALL BLUE FIRE HYDRANT REFLECTOR OFFSET 1 FOOT FROM ROAD CENTERLINE.
9. ALL FLANGES TORQUE TESTED TO MANUFACTURE RECOMMENDATIONS.
10. NO SERVICE CONNECTIONS SHALL BE MADE TO THE FIRE HYDRANT LINE UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

CITY OF SEQUIM

FIRE HYDRANT ASSEMBLY

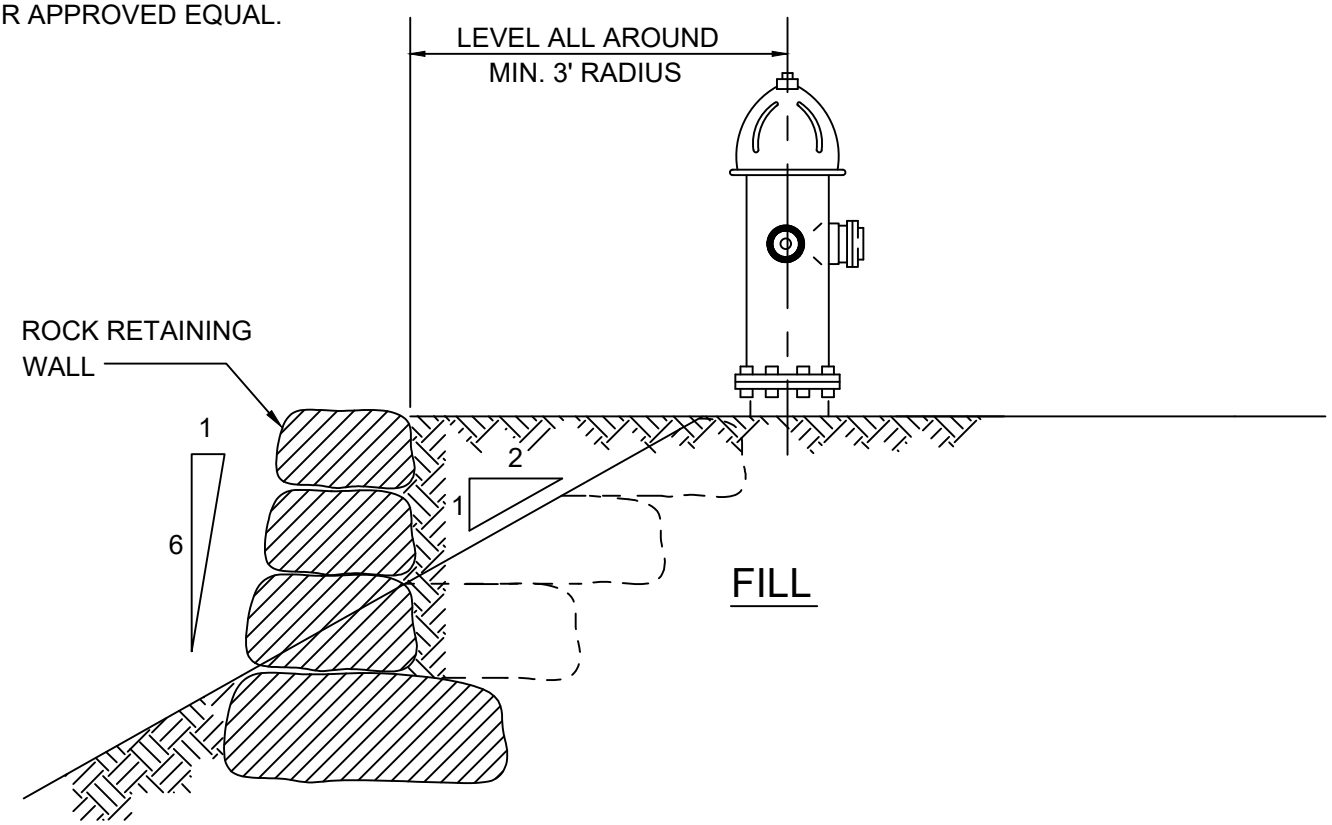
REVISION NO.	DATE
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FIGURE
5-08



CUT

NOTE: IN CUT BANK FIBERGLASS HILLSIDE BARRIERS CAN BE CONSIDERED. PROGLASS, INC. OR APPROVED EQUAL.



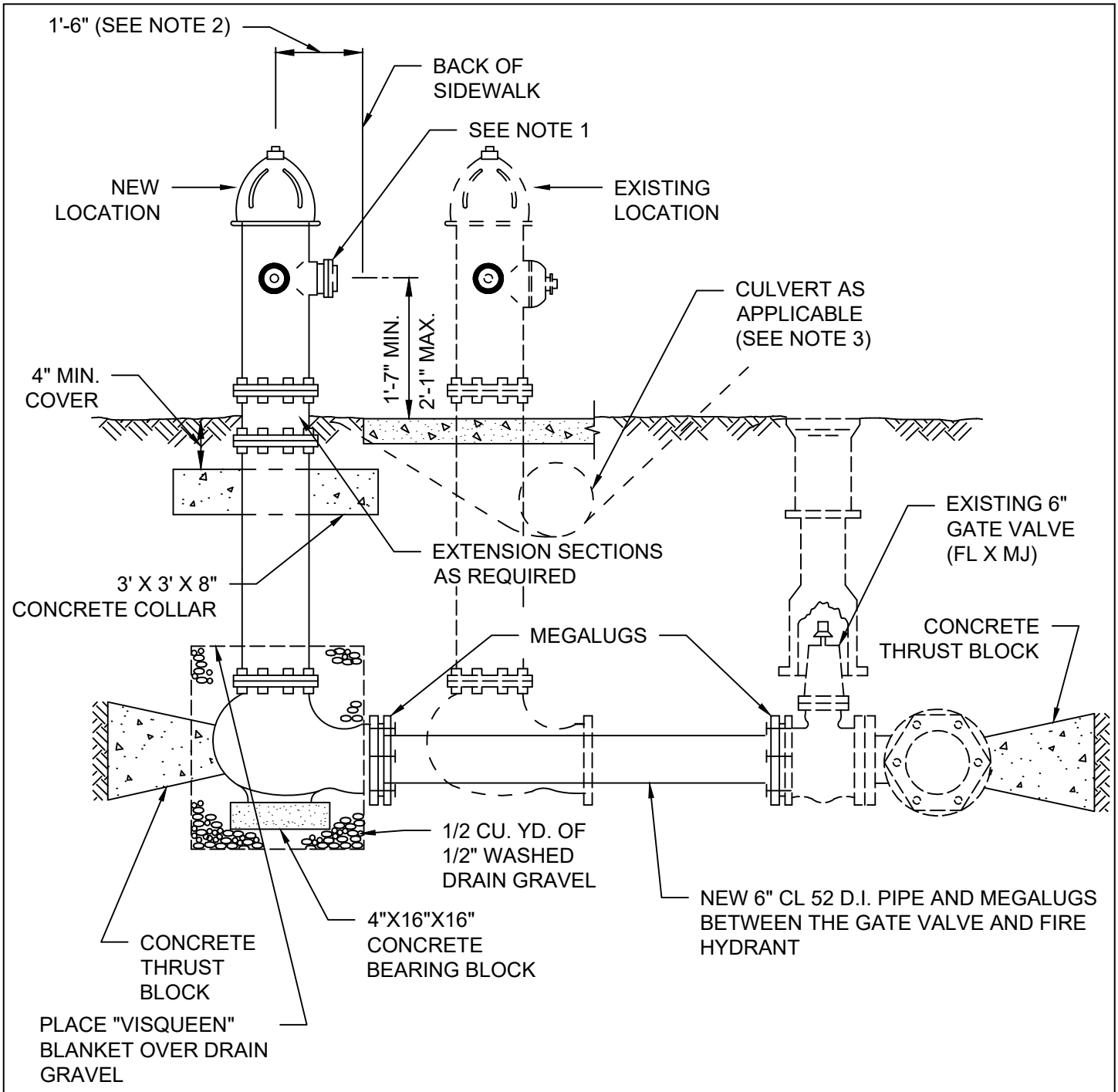
FILL

CITY OF SEQUIM

FIRE HYDRANT LOCATED IN CUT OR FILL

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FIGURE
5-09



GENERAL NOTES:

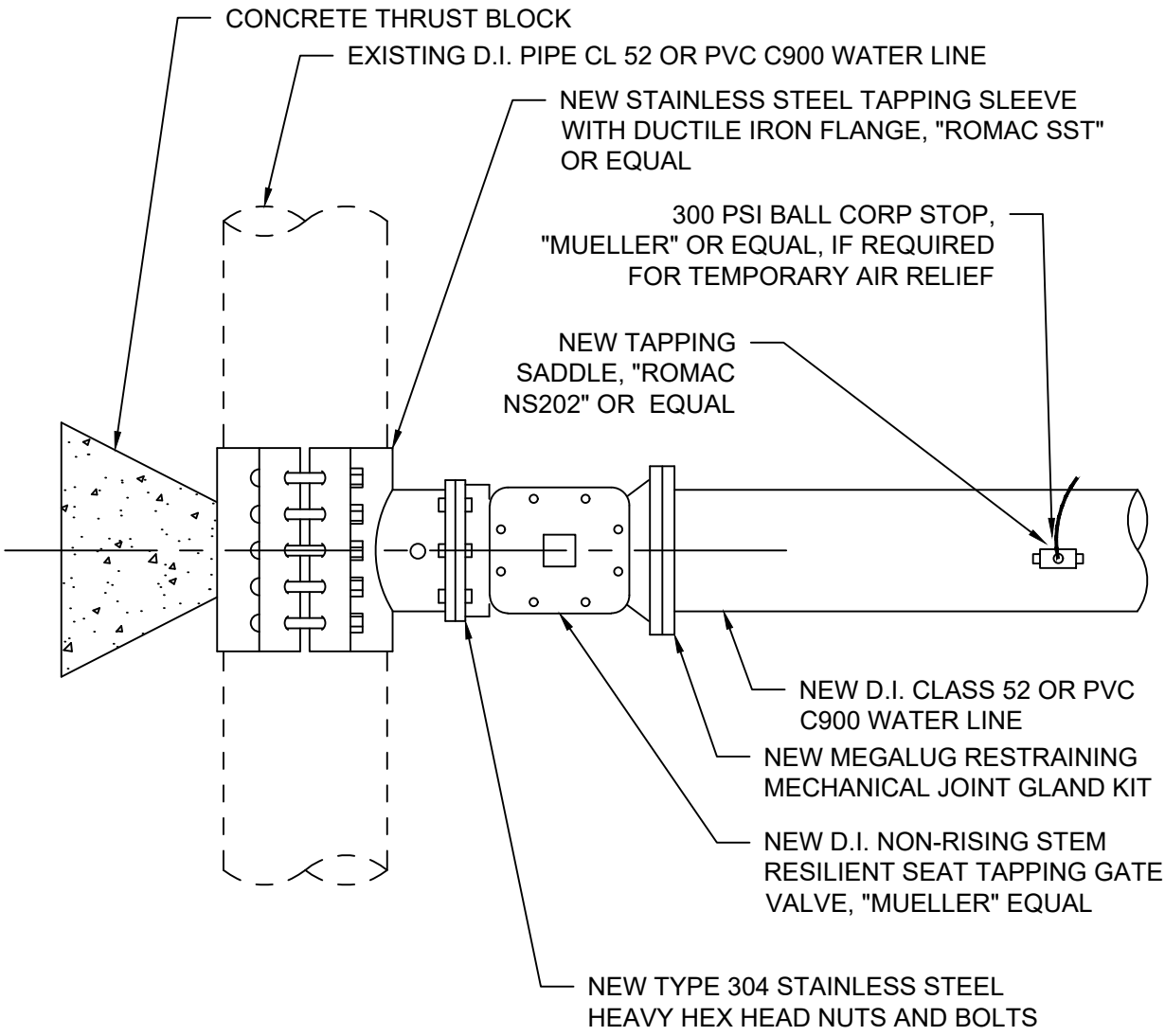
1. FIRE HYDRANT MUST MEET CITY REQUIREMENTS. FOR NEW HYDRANTS, SEE FIGURE 5-08. REPLACE WITH NEW FIRE HYDRANT IF REQUIRED.
2. OR 3' FROM BACK OF CURB.
3. PROVIDE 8' MINIMUM OF CULVERT AND COVER, 12" MIN. DIA. OR EQUAL IN SIZE TO ANY ADJACENT DITCH CROSSINGS, PIPE TO COUNTY, STATE OR CITY STANDARDS AS APPLICABLE.
4. NEW MJ GASKETS, T-BOLTS, AND NUTS SHALL BE INSTALLED AT NEW MEGALUGS. NEW FIELD LOCK GASKETS SHALL BE INSTALLED AT BELL-AND-SPIGOT JOINTS IN 6" HYDRANT LEG PIPING. ALL MUST BE TORQUE TESTED TO MANUFACTURERS RECOMMENDATIONS.

CITY OF SEQUIM

RELOCATE FIRE HYDRANT ASSEMBLY

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FIGURE 5-10



GENERAL NOTES:

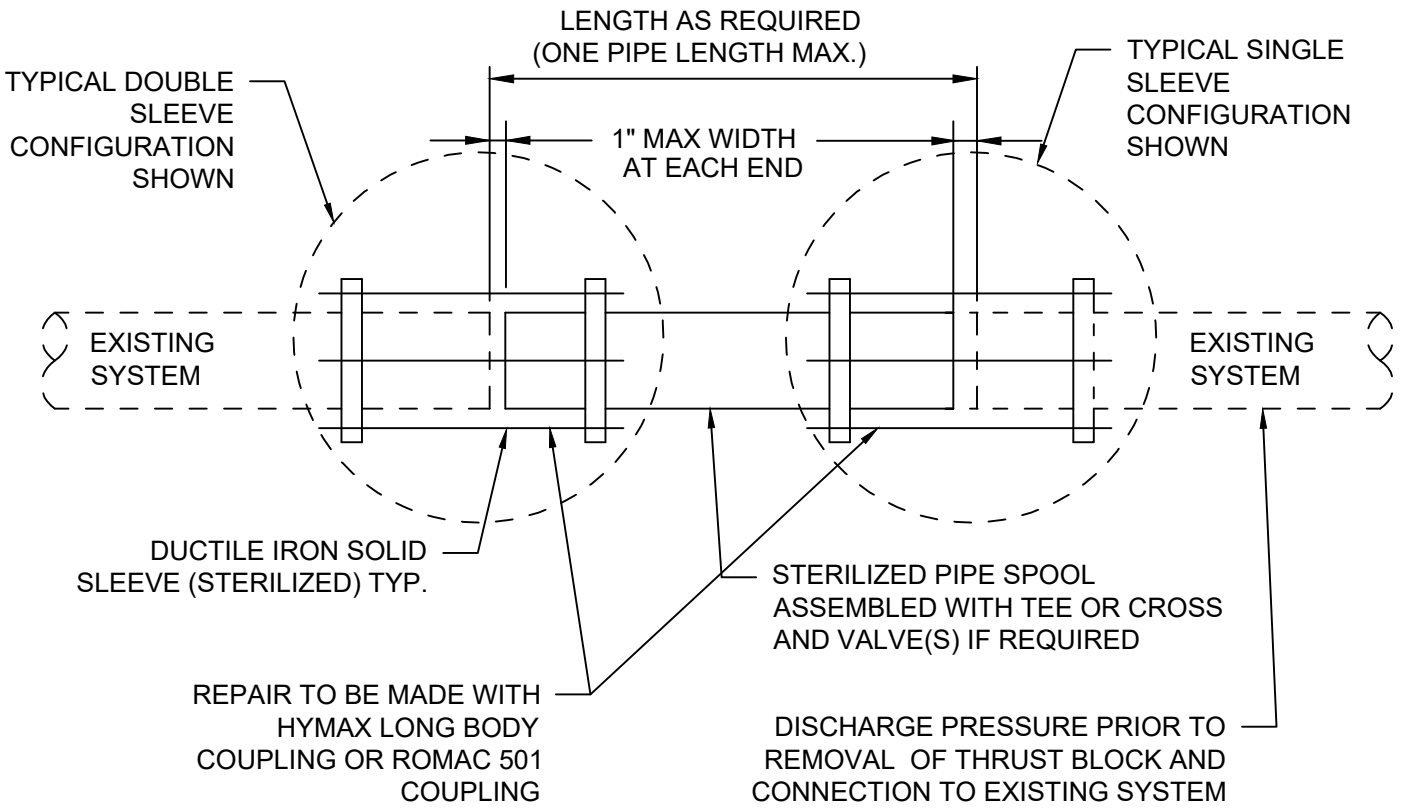
1. TAP TO BE INSTALLED AT DEVELOPERS EXPENSE UNDER CITY OBSERVATION.
2. TAPPING TEES SHALL BE AIR PRESSURE TESTED TO 100 PSI PRIOR TO TAPPING MAIN.
3. CONNECTIONS NOT ALLOWED ON FRIDAYS, SATURDAYS, SUNDAYS, HOLIDAYS, OR DAYS BEFORE HOLIDAYS.

CITY OF SEQUIM

WET TAP CONNECTION

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FIGURE
5-11



GENERAL NOTES:

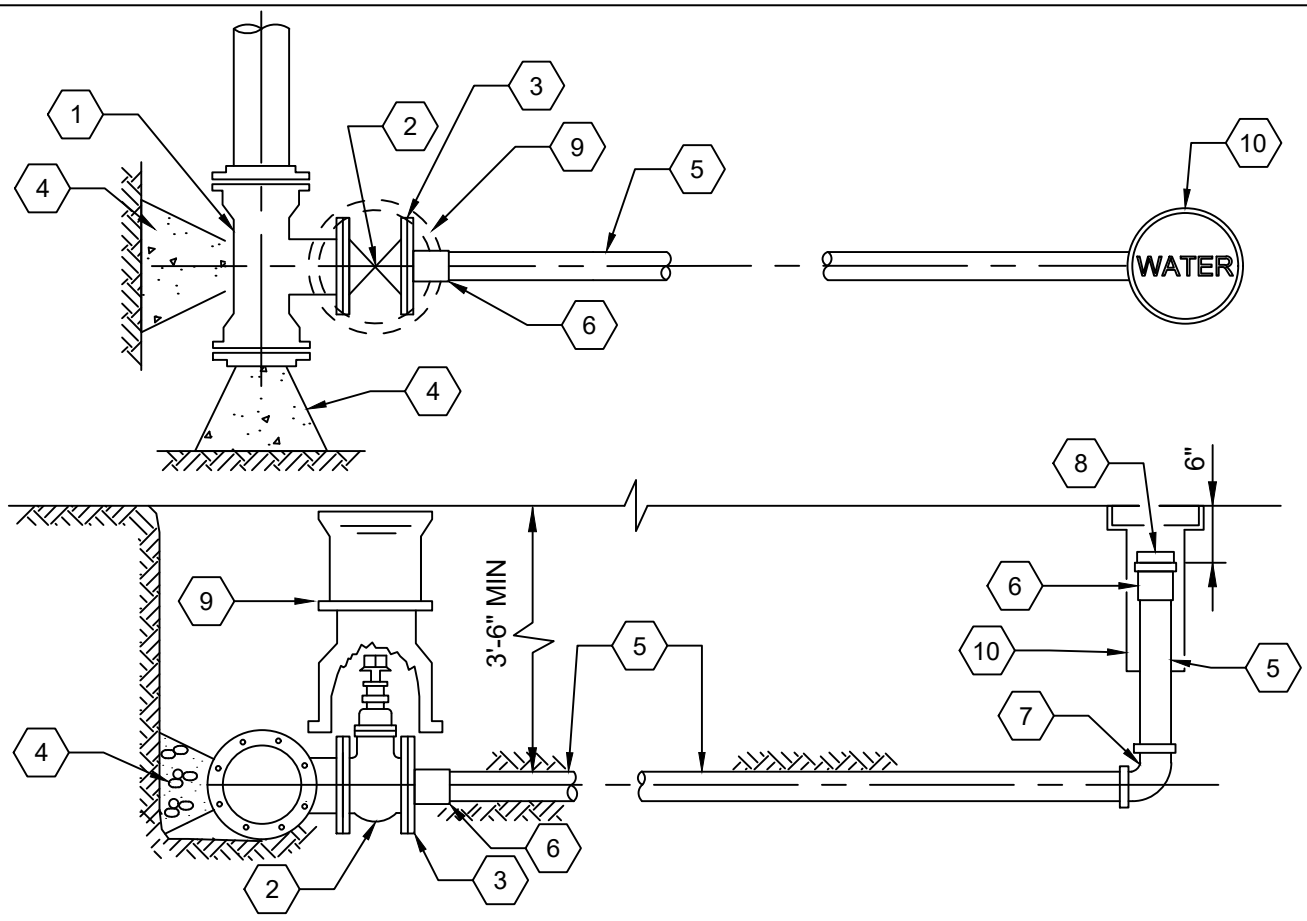
1. IN-LINE VALVE(S) IN EXISTING SYSTEM ARE REQUIRED BY THE CITY AT NEW INTERTIE LOCATIONS. VALVE(S) ARE NOT SHOWN ABOVE FOR CLARITY
2. MAXIMUM SPACES BETWEEN PIPES SHALL BE 1-INCH.
3. CONNECTIONS NOT ALLOWED ON FRIDAYS, SATURDAYS, SUNDAYS, HOLIDAYS, OR DAYS BEFORE HOLIDAYS.
4. REPAIR CAN BE MADE WITH C900 OR DUCTILE IRON PIPE.

CITY OF SEQUIM

CUT IN CONNECTION

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FIGURE
5-12



1. MJ X MJ X 4" FL D.I. TEE.
2. 4" AWWA RESILIENT SEAT GATE VALVE, FL X FL, WITH OPERATING NUT.
3. 4" DUCTILE IRON BLIND FLANGE WITH 2" DIAMETER FEMALE PIPE THREAD CONCENTRIC TAP.
4. CONCRETE THRUST BLOCK.
5. 2" IPS POLY WATER SERVICE TUBING, SIDR 7, "ADS" OR CITY OF SEQUIM ACCEPTED EQUAL.
6. 2" BRASS STRAIGHT COUPLING, MALE PIPE THREAD X IPS PACK JOINT, WITH 2 EACH STAINLESS STEEL TUBING INSERT STIFFNERS FOR 2" IPS SIDR 7 POLY TUBING, "MUELLER" OR CITY OF SEQUIM ACCEPTED EQUAL.
7. 2" BRASS QUARTER BEND COUPLING, IPS PACK JOINT X IPS PACK JOINT, WITH 2 EACH STAINLESS STEEL TUBING INSERT STIFFNERS FOR 2" IPS SIDR 7 POLY TUBING, "MUELLER" OR CITY OF SEQUIM ACCEPTED EQUAL.
8. 2" PVC FEMALE THREADED PIPE CAP, CAP INSTALLED HAND TIGHT.
9. CAST IRON VALVE BOX PER FIGURE 5-18.
10. CAST IRON VALVE BOX TOP SECTION WITH "WATER" COVER, "OLYMPIC FOUDARY" OR CITY OF SEQUIM ACCEPTED EQUAL.

GENERAL NOTES:

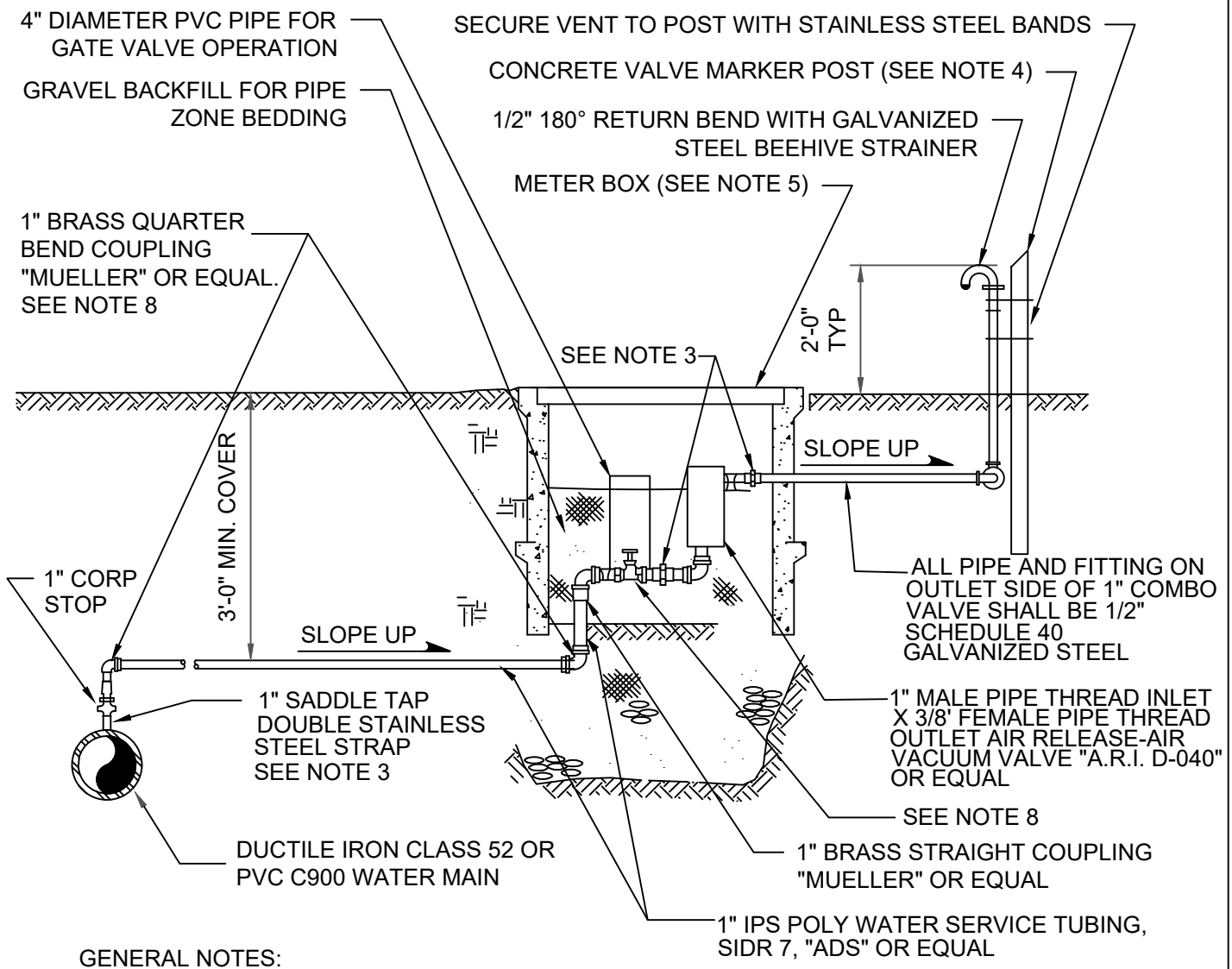
1. FOR WATER LINES LARGER THAN 8" DIAMETER, FIRE HYDRANT ASSEMBLIES SHALL BE INSTALLED AND USED AS BLOW-OFFS.

CITY OF SEQUIM

6" AND 8" WATER LINE BLOW OFF ASSEMBLY

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FIGURE
5-13



GENERAL NOTES:

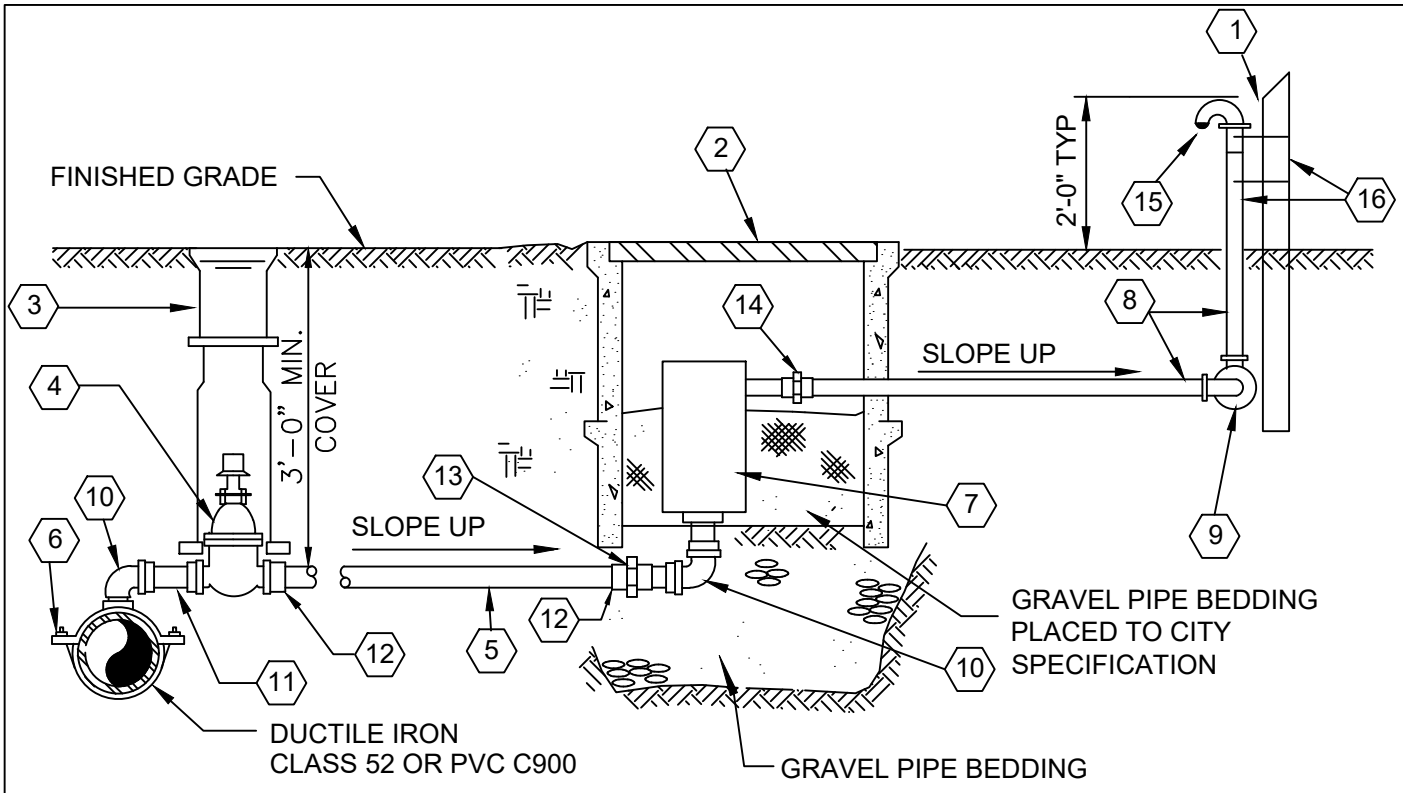
1. USE OF 1" AIR VAC REQUIRES CITY APPROVAL, 2" AIR VAC STANDARD.
2. TAP WATER MAIN AT HIGH POINT AT LOCATION DESIGNATED BY CITY.
3. FEMALE PIPE THREAD PIPING UNIONS TO BE INSTALLED ON INLET AND OUTLET AIR VALVE PIPING AS SHOWN, 1" BRASS UNION ON INLET SIDE OF AIR VALVE AND 1/2" GALVANIZED STEEL UNION ON OUTLET SIDE.
4. PAINT EXPOSED PORTION ON VENT PIPE AND MARKER POST WITH 2 COATS OF SAFETY YELLOW.
5. SEE FIGURE 5-05 FOR METER BOX DETAILS.
6. AIR VALVE ASSEMBLY METER BOX AND ABOVE-GRADE PIPING SHALL BE INSTALLED IN A NON-VEHICULAR TRAFFIC AREA SATISFACTORY TO THE CITY. IF THE METER BOX MUST BE INSTALLED IN A VEHICULAR TRAFFIC AREA A H20 RATER LID MUST BE PROVIDED AT MINIMUM.

CITY OF SEQUIM

1" AIR AND VACUUM RELEASE ASSEMBLY

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FIGURE
5-14



1. CONC. VALVE MARKER POST
2. METER BOX PER 5-05
3. CAST IRON VALVE BOX PER 5-18
4. 2" RESILIENT WEDGE GATE VALVE AWWA C509, "MUELLER" OR EQUAL
5. 2" IPS POLY WATER SERVICE TUBING, SIDR 7 "ADS" OR EQUAL
6. SERVICE SADDLE, MAIN DIAMETER AS REQUIRED WITH DOUBLE STAINLESS STEEL STRAPS, 2" FEMALE PIPE THREAD TAP, "ROMAC 202NS" OR EQUAL
7. AIR RELEASE-AIR VACUUM VALVE, 2" MALE INLET X 1-1/2" FEMALE OUTLET, "A.R.I. D-040" OR EQUAL
8. 1-1/2" SCHEDULE 40 GALVANIZED STEEL THREADED PIPE AND FITTINGS
9. 1-1/2" GALVANIZED STEEL DOUBLE 90 DEGREE ELBOW & NIPPLE SWING JOINT
10. 2" BRASS 90 DEGREE ELBOW, FEMALE THREAD BOTH ENDS WITH 2" X 3" LONG LONG BRASS MALE PIPE THREAD NIPPLE
11. 2" DIAMETER X 6" LONG BRASS MALE THREADED PIPE NIPPLE
12. 2" STRAIGHT COUPLING MALE THREADED "MUELLER" OR EQUAL, WITH STAINLESS STEEL TUBING INSERT STIFFENER
13. 2" BRASS PIPING UNION, FEMALE THREAD BOTH ENDS
14. 1-1/2" GALVANIZED STEEL PIPING UNION, FEMALE PIPE THREADS ENDS
15. 1-1/2" OPEN PATTERN RETURN BEND WITH 1-1/2" BEEHIVE STRAINER, GALVANIZED STEEL
16. PAINT EXPOSED PORTION OF VENT PIPE AND MARKER POST WITH TWO COATS OF SAFETY YELLOW. SECURE VENT TO POST WITH STAINLESS STEEL BANDS

GENERAL NOTES:

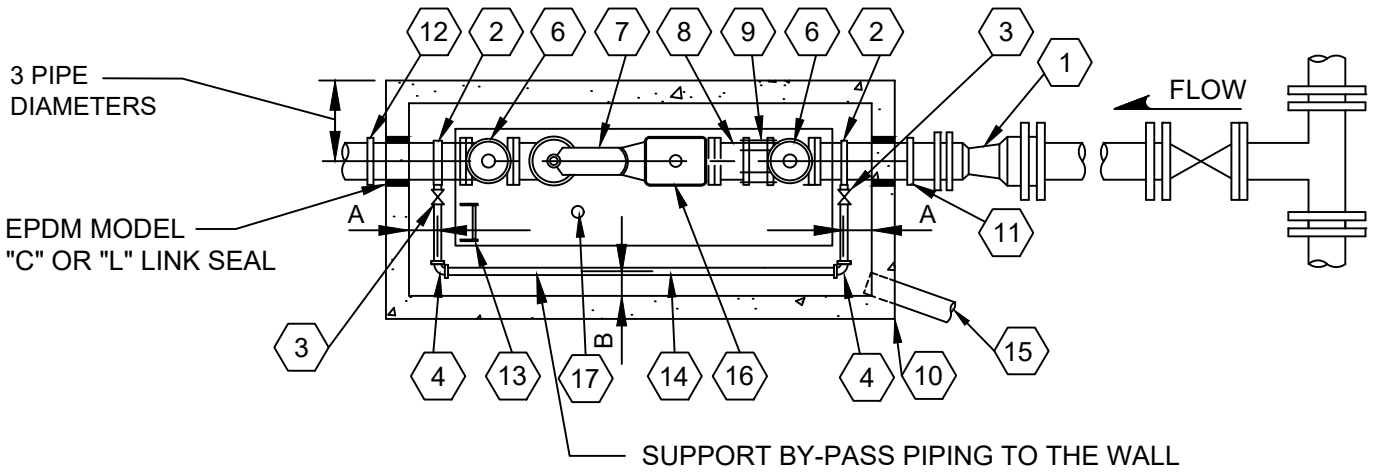
1. TAP WATER MAIN AT HIGH POINT AT LOCATION TO BE DETERMINED BY THE CITY.
2. AIR VALVE ASSEMBLY METER AND ABOVE-GRADE PIPING SHALL BE INSTALLED IN A NON-VEHICULAR AREA SATISFACTORY TO THE CITY. IF THE METER MUST BE INSTALLED IN A VEHICULAR TRAFFIC AREA, A H20 RATED LID MUST BE PROVIDED AT MINIMUM.

CITY OF SEQUIM

2" AIR AND VACUUM RELEASE ASSEMBLY

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FIGURE
5-15



PLAN

1. 4"x3" REDUCER, M.J. FOR 3" METER
2. DOUBLE STRAP SERVICE CLAMP, ROMAC 101 WITH IPS TAP, OR APPROVED EQUAL (1 1/2" OR 2" BYPASS, 4-INCH BYPASS REQUIRES D.I. TEE).
3. RESILIENT WEDGE GATE VALVE AWWA C509, "MUELLER" OR EQUAL.
4. BRASS DOUBLE FEMALE THREADED QUARTER BEND COUPLING.
5. BALL VALVE WITH PADLOCK WING OR LOCK CAP, FORD B21-444W OR B21-666 WITH LOCK CAP OR B21-777 WITH LOCK CAP. SIZED TO LINE.
6. RESILIENT SEAT GATE VALVE, FL X FL SIZED TO METER.
7. 3" TO 10" SENSUS METER FOR IRRIGATION SERVICES AND 3" TO 10" COMPOUND METER IF FOR DOMESTIC SERVICE. READ IN CUBIC FEET WITH MXU RADIO UNIT AS SPECIFIED BY CITY SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.
8. D.I. PIPE SPOOL FL X PE LENGTH TO FIT.
9. FL CPLG. ADAPT.
10. PRECAST CONCRETE VAULT, UTILITY VAULT OR APPROVED EQUAL, SEE DETAIL 5-16B FOR SIZING AND REQUIREMENTS.
11. MEGA-LUG FOLLOWER INSTALLED ON INFLOW SIDE OF VAULT WITH CONCRETE THRUST BLOCK OR SHACKLE TO THRUST BLOCK TO PREVENT MOVEMENT IF METER IS REMOVED. (BLOCK NOT SHOWN)
12. DIELECTRIC CPLG. TO BUILDING SERVICE. SIZE AS REQUIRED.
13. POLYPROPYLENE STEPS 12" O.C. COORDINATE LOCATION FOR ACCESS.
14. BY-PASS (SIZE BY TABLE BELOW).
15. 6" PVC TO CATCH BASIN OR DAYLIGHT. WHERE GRAVITY DRAIN IS NOT FEASIBLE, PROVIDE SUMP, ELECTRICAL SERVICE AND PUMP WITH DISCHARGE TO SURFACE DRAIN. PUMP SHALL BE 1/2 HP ZOELLER M-53, WITH CHECK VALVE ON DISCHARGE LINE.
16. WATER METER STRAINER (FL) SENSUS OR EQUAL.
17. 2" DIAM. HOLE DRILLED IN LID, STREET SIDE FOR MXU HOLE.

METER SIZE	MAIN-LINE	BYPASS	A	B
3"	4" DI.	1 1/2" COPPER	9"	4"
4"	4" DI.	1 1/2" COPPER	9"	4"
6"	6" DI.	2" COPPER	9"	4"
8"	8" DI.	4" DI.	14"	6"
10"	10" DI.	4" DI.	16"	6"

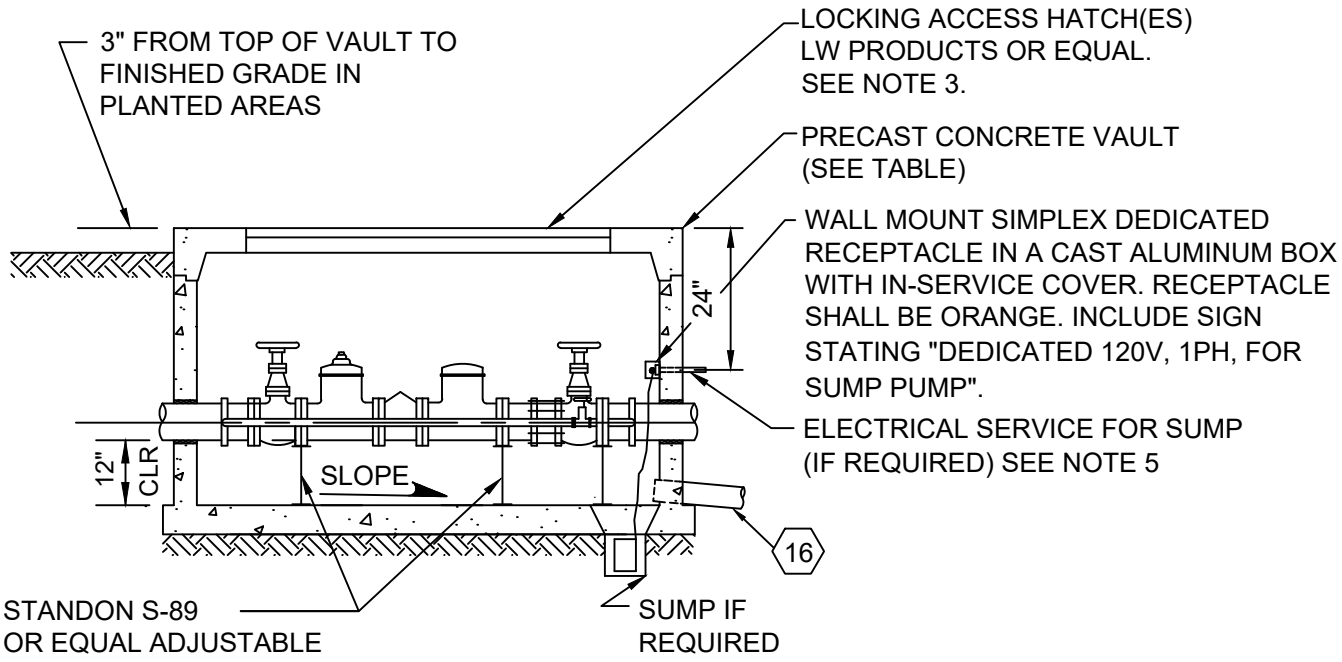
SEE 5-16B FOR ELEVATION AND NOTES.

CITY OF SEQUIM

METER VAULT ASSEMBLY 3" TO 10"

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FIGURE 5-16A



ELEVATION

SEE DETAIL 5-16A FOR CALLOUTS

METER SIZE	MAIN-LINE	MINIMUM I/S VAULT DIM. L x W x H			UTILITY VAULT CO APPROVED MODEL	MIN. HATCH OPENING
3"	4" DI.	8'-4"	4'-4"	3'-4"	4484-LA	3' x 6'
4"	4" DI.	8'-4"	4'-4"	3'-4"	4484-LA	3' x 6'
6"	6" DI.	10'-6"	5'-0"	6'-2"	5106-LA	3' x 6'
8"	8" DI.	12'-0"	6'-0"	6'-6"	612-LA	3' x 6'
10"	10" DI.	14'-0"	8'-0"	6'-6"	814-LA	3' x 6'

NOTES:

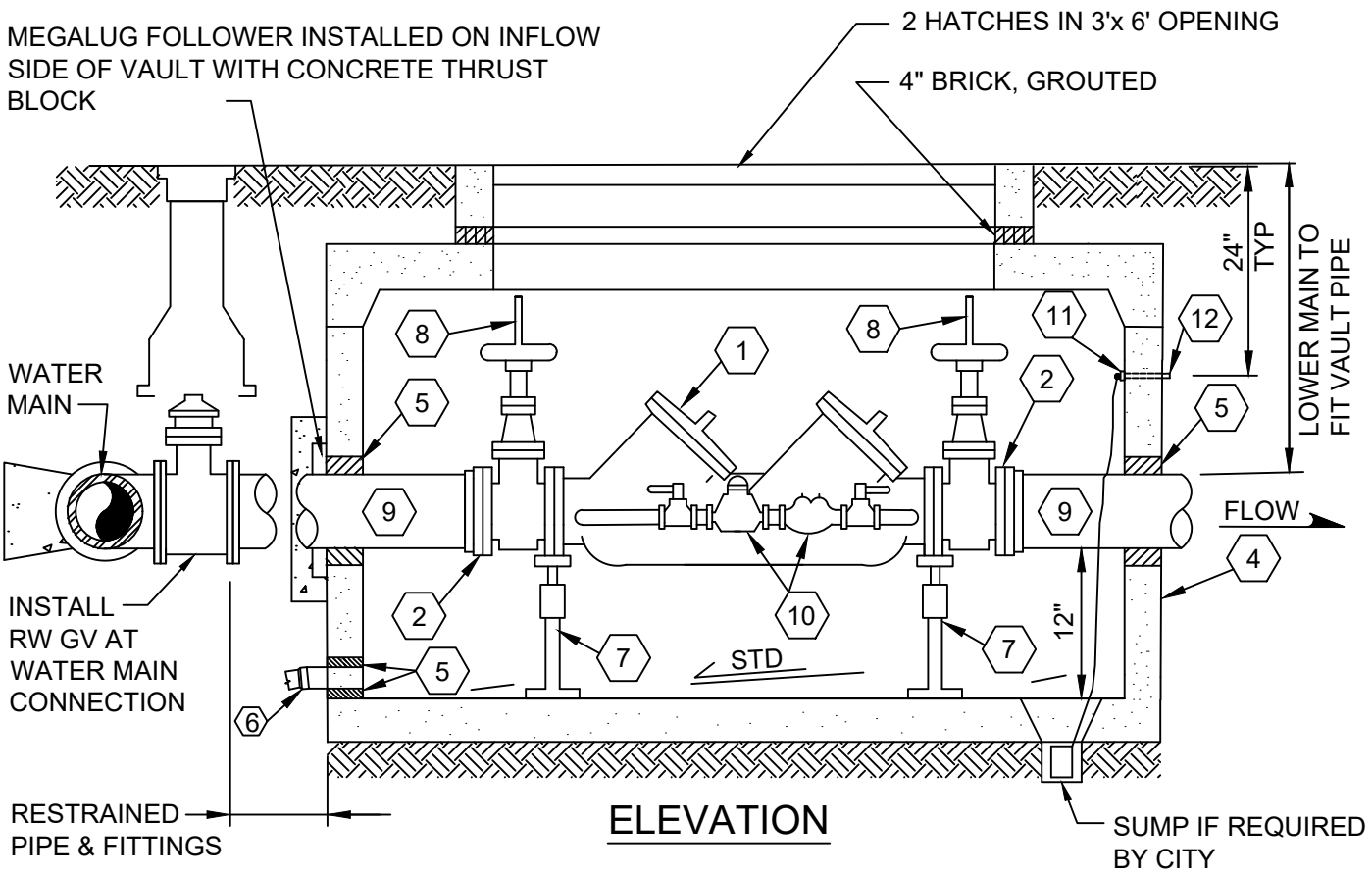
1. WASHINGTON STATE APPROVED REDUCED PRESSURE BACKFLOW PREVENTOR REQUIRED. SEE 5-24. CONFIRM INSTALLATION WITH CITY. INITIAL AND ANNUAL TEST REQUIRED.
2. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITHOUT ENTERING VAULT WITH ACCESS HATCH OPEN.
3. COORDINATE ORIENTATION OF HATCH(ES) TO PROVIDE CLEAR VERTICAL ACCESS TO METER ASSEMBLY, AND WITH LADDER LOCATION. VERIFY WITH CITY.
4. DRAIN DRAIN HATCH(ES) TO VAULT FLOOR WITH PVC PIPE AND FITTINGS.
5. 3/4" (MINIMUM) PVC SCH-40 CONDUIT. WIRING SHALL BE COMPLETELY SEALED 120V, UNDER GROUND. CONTRACTOR TO SEAL CONDUIT PENETRATION WITH NON-SHRINK GROUT. (NOT REQUIRED IF GRAVITY VAULT DRAIN PROVIDED).
6. EASEMENT TO BE PROVIDED TO CITY AROUND METERS LOCATED OUTSIDE RIGHT OF WAY.
7. SEE 5-16A FOR PLAN AND NOTES.

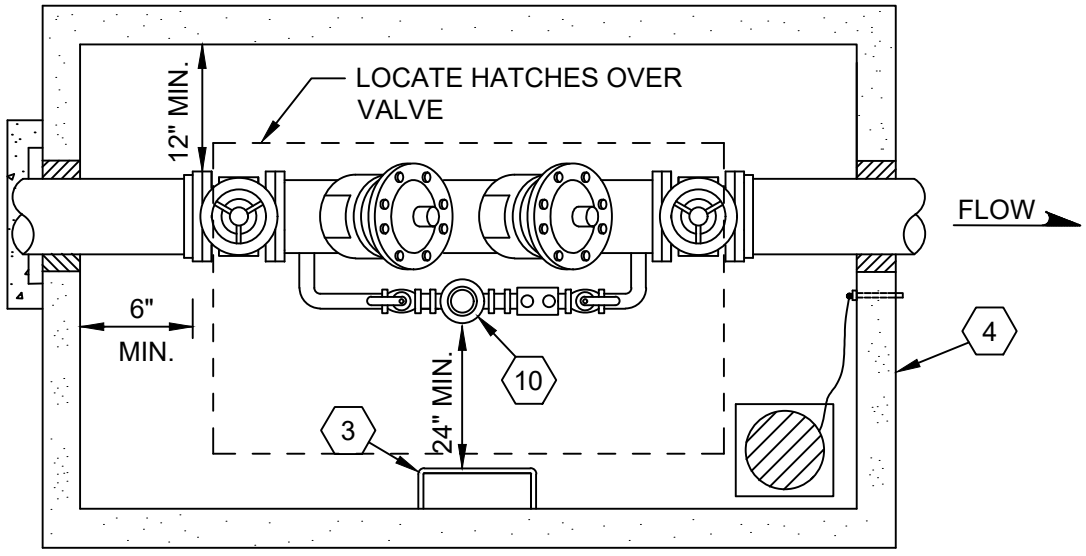
CITY OF SEQUIM

METER VAULT ASSEMBLY 3" TO 10"

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FIGURE 5-16B





SEE 5-17B FOR NOTES AND CALLOUTS

CITY OF SEQUIM

DOUBLE-CHECK DETECTOR ASSEMBLY - 4" AND LARGER

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FIGURE
5-17A

LEGEND

1. WASHINGTON STATE APPROVED DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) WITH OS&Y RESILIENT SEAT GATE VALVE EA. END AND LOW FLOW BYPASS METER ASSEMBLY.
2. RESTRAINED FLANGE COUPLING ADAPTER, "ROMAC" OR EQUAL
3. GALVANIZED STEEL OR ALUMINUM LADDER, SECURED TO VAULT, SAME SIDE AS BYPASS METER.
4. VAULT:

   UTILITY VAULT CO, OR APPROVED EQUAL WITH 4" BRICK AND ADJUSTABLE COVER.

   ACCESS HATCHES:

   3'x3', LW PRODUCTS, H-2O LOAD RATED. PROVIDE DRAINS FROM HATCHES TO VAULT FLOOR.

DCDA SIZE	UTILITY VAULT CO APPROVED MODEL	MINIMUM I/S VAULT DIM. L X W X H			MIN. HATCH OPENING
4"	4484-LA	8'-4"	4'-4"	6'-2"	3' X 6'
6"	4484-LA	8'-4"	4'-4"	6'-2"	3' X 6'
8"	5106-LA	10'-6"	5'-0"	6'-2"	3' X 6'
10"	612-LA	12'-0"	6'-0"	6'-6"	3' X 6'

5. EPDM MODEL "C" OR "L" LINK SEAL.
6. DRAIN TO NEAREST CATCH BASIN. MINIMUM SLOPE 1% UNLESS OTHERWISE APPROVED. WHERE GRAVITY DRAIN IS NOT FEASIBLE, PROVIDE SUMP AND ELECTRIC PUMP WITH DISCHARGE TO SURFACE DRAIN. PUMP SHALL BE 1/2 HP ZOELLER M-53, WITH CHECK VALVE ON DISCHARGE LINE. POWER FROM SERVED FACILITY WITH GFI OUTLET IN VAULT, LOCATED ABOVE METER. SLOPE VAULT FLOOR TO DRAIN TO GRAVITY DRAIN OR SUMP.
7. STANDON S-89 OR EQUAL ADJUSTABLE PIPE SUPPORTS, BOLT TO VALVE FLANGE.
8. VALVE ASSEMBLY TO BE POSITIONED IN VAULT TO ALLOW STEMS TO EXTEND INTO ACCESS OPENING.
9. CL. 52 D.I., MJ WITH MEGALUGS.
10. LOW FLOW BYPASS METER, INCLUDING 5/8" x 3/4" SENSUS RADIO READ WATER METER W/ SENSUS AMR AND MXU RADIO UNIT, WASHINGTON STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY (DCVA) AND 2 BRONZE BODY ISOLATION BALL VALVES, BRASS OR TYPE K COPPER PIPING.
11. SIMPLEX DEDICATED RECEPTACLE IN A CAST ALUMINUM BOX WITH IN SERVICE COVER. RECEPTACLE SHALL BE ORANGE. INCLUDE SIGN STATING "DEDICATED 120V, 1PH, FOR SUMP PUMP."
12. 3/4" PVC SCH-40, CONDUIT SHALL BE COMPLETELY SEALED 120V, UNDER GROUND. CONTRACTOR TO SEAL CONDUIT PENETRATION WITH NON-SHRINK GROUT.

GENERAL NOTES:

1. VAULT SHALL BE LOCATED OUTDOORS AND ACCESSIBLE TO CITY. ALTERNATE TO VAULT INSTALLATION REQUIRES CITY APPROVAL.
2. SYSTEM SHALL NOT BE PUT INTO SERVICE UNTIL DCDA IS APPROVED BY THE CITY AND TESTED/CERTIFIED BY A WASHINGTON STATE LICENSED TESTER.
3. DCDA IS CONSIDERED PART OF THE PRIVATE SYSTEM AND SHALL BE MAINTAINED BY THE PROPERTY OWNER WITH ANNUAL CERTIFICATION REQUIRED.
4. PRESSURE TEST AND DISINFECT PER A.W.W.A. STANDARDS.
5. NO BRANCH CONNECTIONS ALLOWED BETWEEN METER AND DCDA.

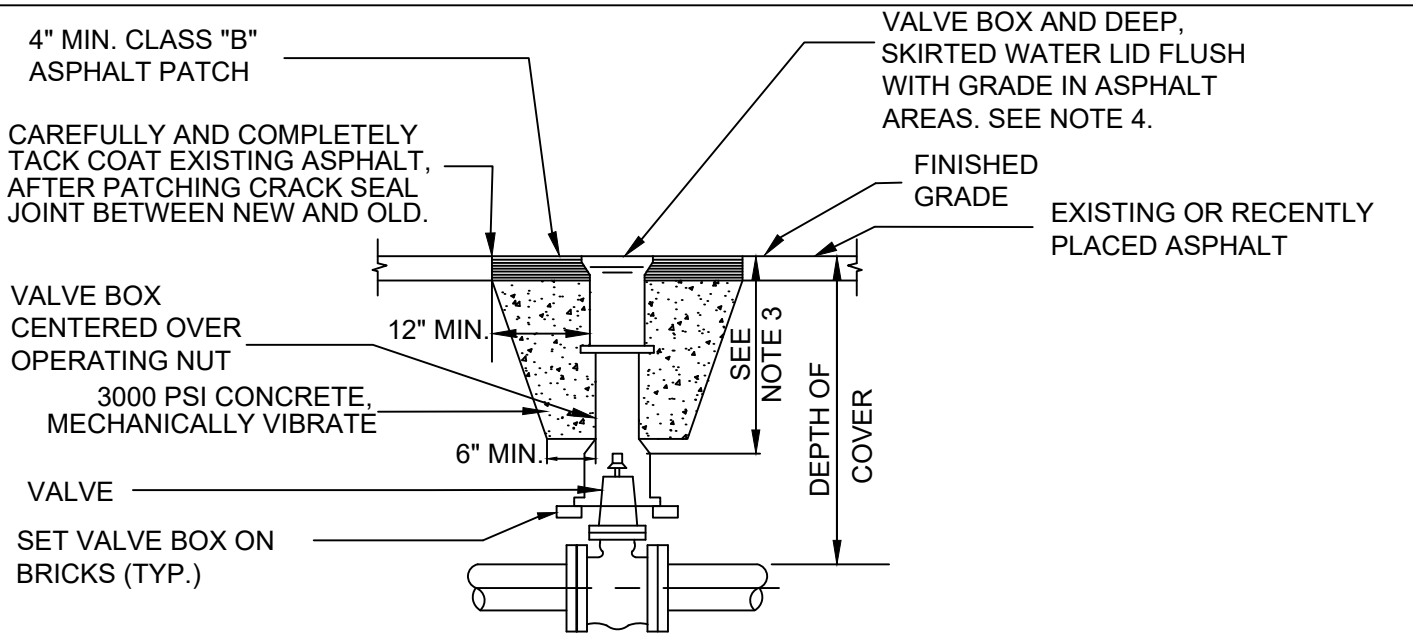
SEE FIGURE 5-17A FOR ELEVATION AND PLAN

CITY OF SEQUIM

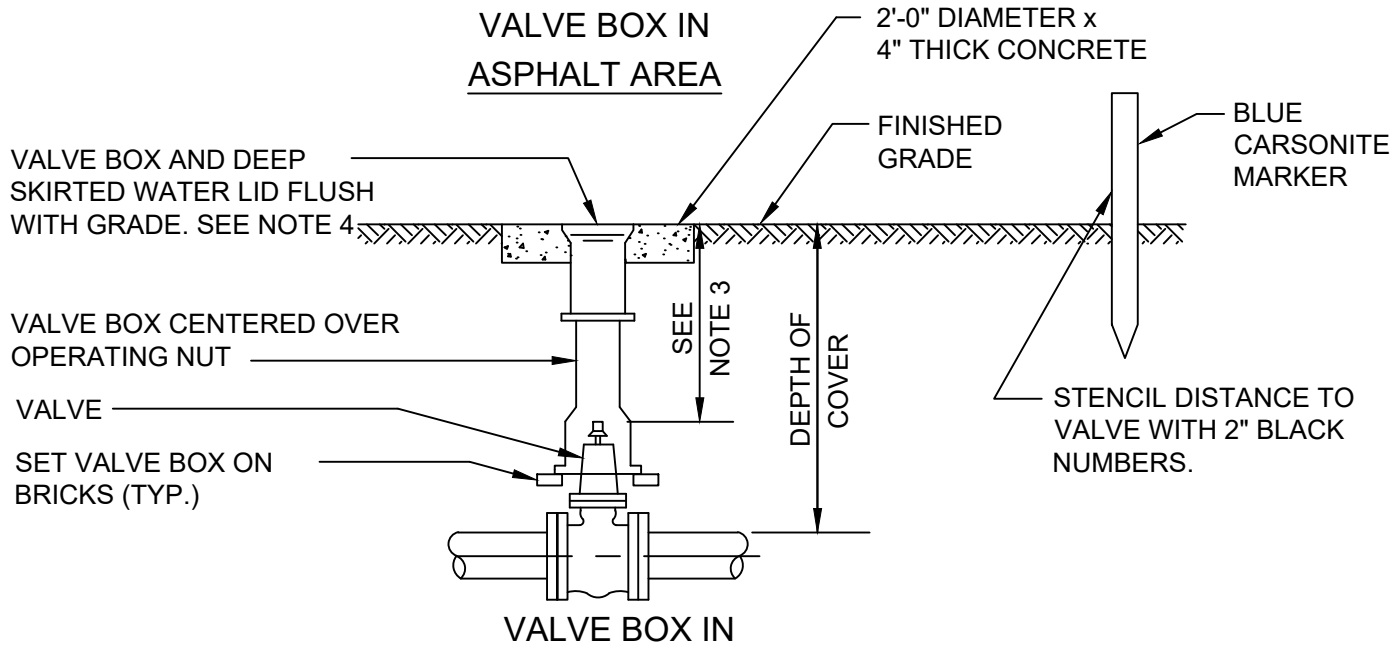
DOUBLE-CHECK DETECTOR ASSEMBLY - 4" AND LARGER

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FIGURE 5-17B



VALVE BOX IN ASPHALT AREA



VALVE BOX IN UNIMPROVED AREA (VALVE MARKER REQUIRED)

GENERAL NOTES:

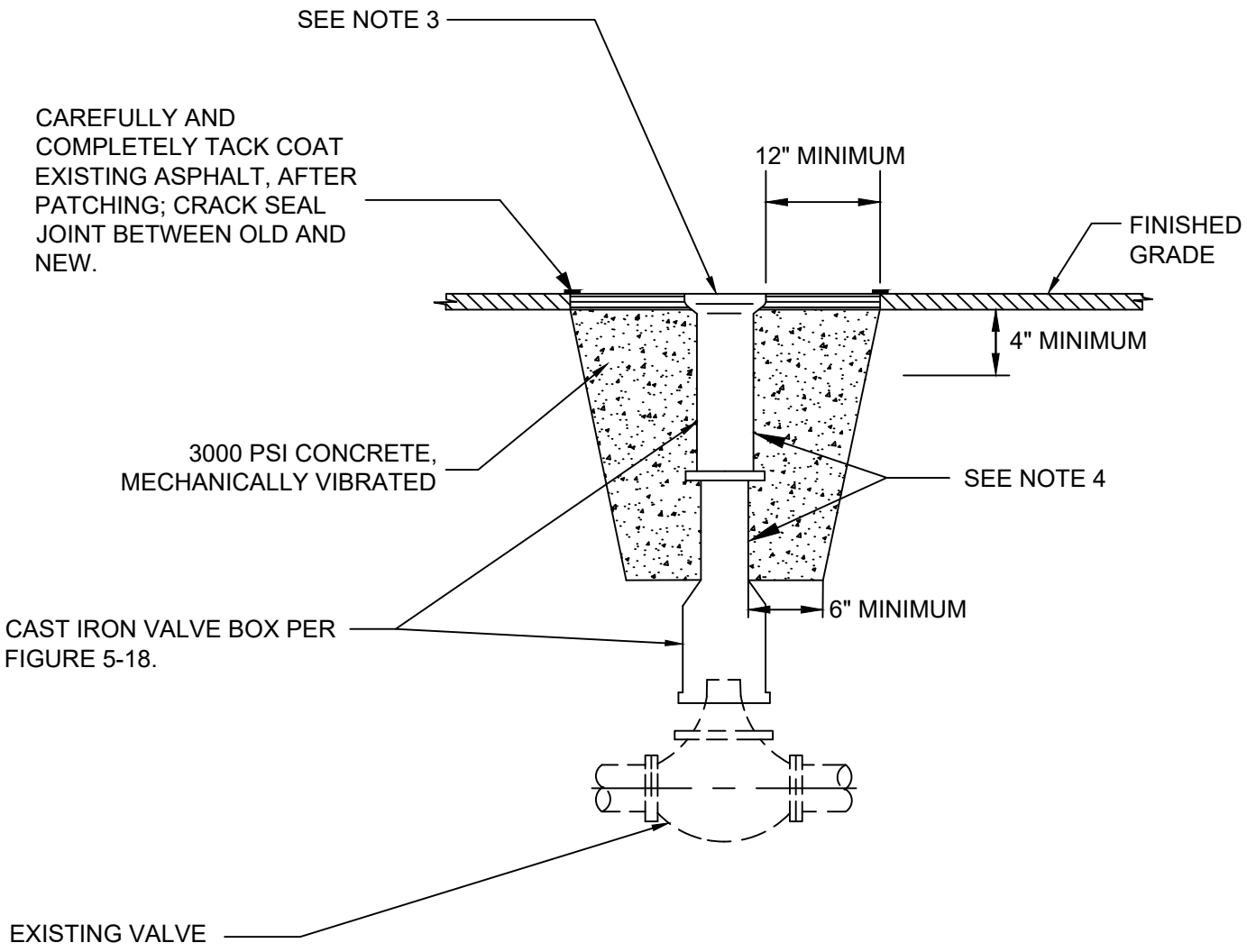
1. EACH VALVE SHALL BE PROVIDED WITH AN ADJUSTABLE CAST IRON VALVE BOX OF 5 INCHES (5") INSIDE DIAMETER. VALVE BOXES SHALL HAVE A TOP SECTION WITH AN EIGHTEEN INCH (18") MIN. LENGTH AND A BOTTOM SECTION WITH A 24" LENGTH. THE VALVE BOX SHALL BE OLYMPIC FOUNDARY No. 940 OR APPROVED EQUAL.
2. IF VALVE BOX TOP AND BOTTOM SECTIONS ARE NOT SUFFICIENTLY LONG, ALLOWING FOR A 6" MINIMUM VERTICAL OVERLAP OF THE 2 SECTIONS, THEN THE VALVE BOX SHALL BE EXTENDED AS REQUIRED WITH A SECTION OF 6" DIAMETER HUB X PLAIN END CAST IRON SOIL PIPE CUT TO THE REQUIRED LENGTH AND INSTALLED HUB DOWN BETWEEN THE VALVE BOX AND BOTTOM SECTION.
3. VALVE STEM ENTENSION REQUIRED IF TOP OF VALVE BOX TO VALUE OPERATING NUT EXCEEDS 48'.
4. VALVE BOX LID EARS SHALL BE PLACED IN LINE WITH THE PIPES SERVED.

CITY OF SEQUIM

VALVE BOX

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FIGURE 5-18



GENERAL NOTES:

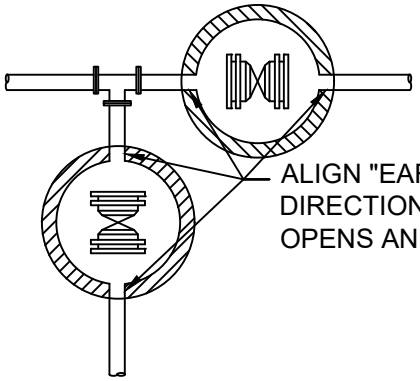
1. ALL EXISTING CONCRETE VALVE BOXES SHALL BE REPLACED WITH CAST IRON BOXES AND ADJUSTED WITH SOIL PIPE TO GRADE AS NEEDED.
2. ALIGNMENT OF THE VALVE BOX SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND CARE SHALL BE TAKEN TO ENSURE THAT THE VALVE IS OPERABLE.
3. VALVE BOX LID EARS SHALL BE PLACED IN LINE WITH THE PIPE SERVED.
4. IF THE VALVE BOX TOP AND BOTOM SECTIONS ARE NOT SUFFICIENTLY LONG, ALLOWING FOR A 6" MINIMUM VERTICAL OVERALP OF THE TWO SECTIONS, THEN THE VALVE BOX SHALL BE EXTENDED. A SECTION OF 6" DIAMETER HUB X PLAIN END CAST IRON SOIL PIPE CUT TO THE REQUIRED LENGTH AND INSTALLED HUB DOWN BETWEEN THE VALVE BOX SECTIONS.

CITY OF SEQUIM

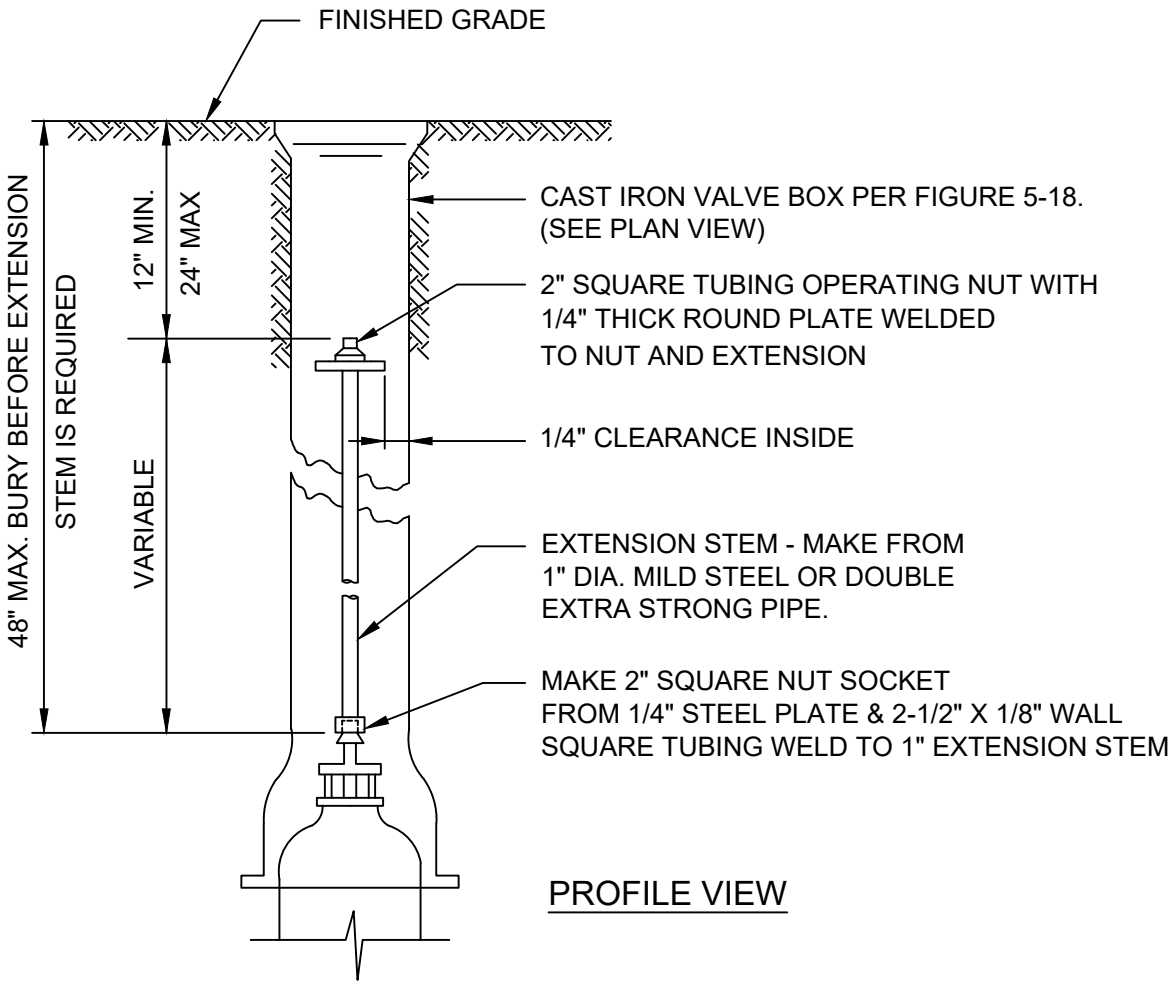
VALVE BOX ADJUSTMENT

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FIGURE
5-19



PLAN VIEW



PROFILE VIEW

GENERAL NOTES:

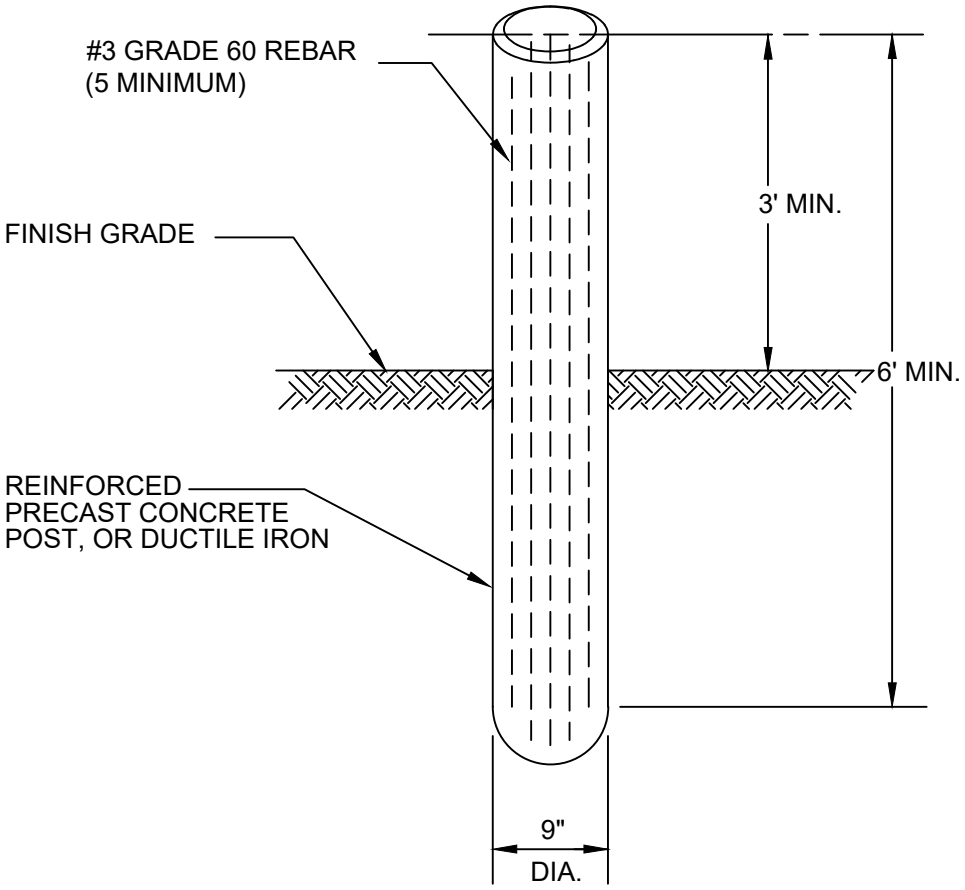
1. EXTEND TRACER WIRE ROUTING WITH EXTENSION STEM, AWAY FROM THE OPERATING NUT.

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VALVE EXTENSION STEM

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FIGURE
5-20



GENERAL NOTES:

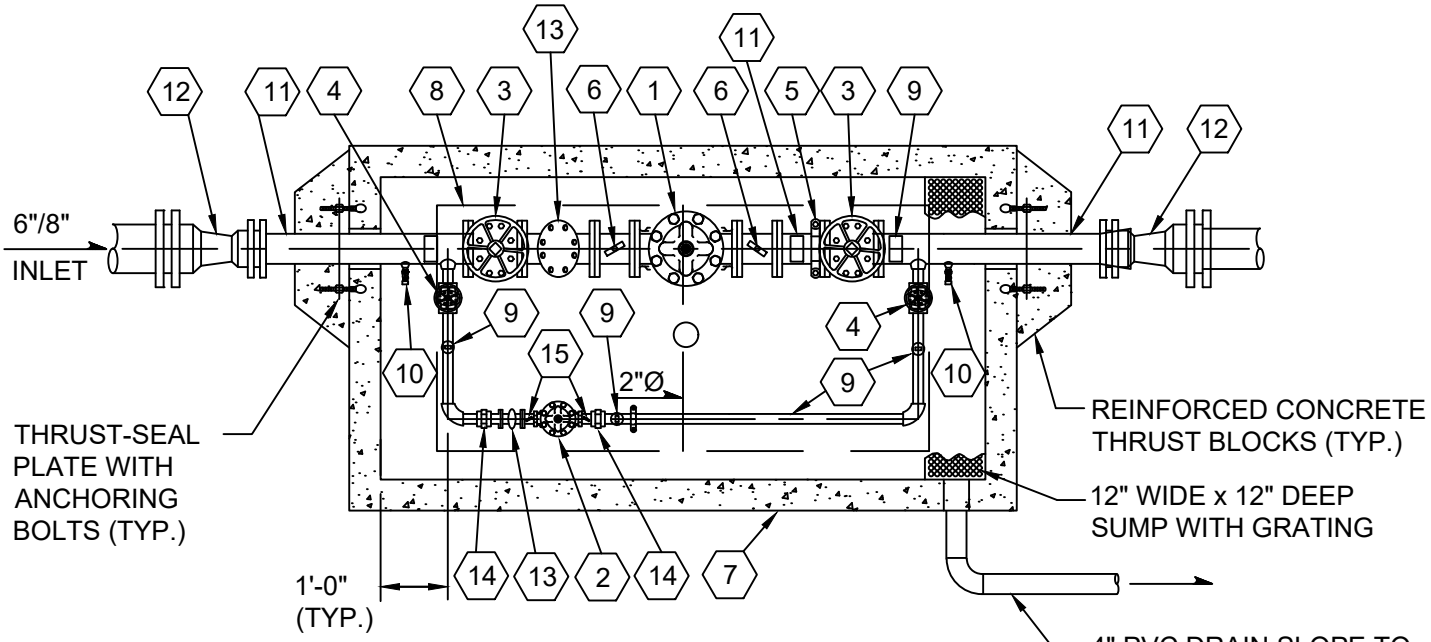
1. THE NUMBER AND CONFIGURATION OF THE GUARD POSTS SHALL BE DETERMINED BY THE CITY BASED ON FIELD CONDITIONS.
2. PAINT GUARD POSTS WITH TWO (2) COATS OF SAFETY YELLOW.
3. BACKFILL GUARD POSTS WITH GRAVEL BORROW, PLACED IN 6" LOOSE LIFTS, AND COMPACTED ALL AROUND TO 95% MINIMUM.

CITY OF SEQUIM

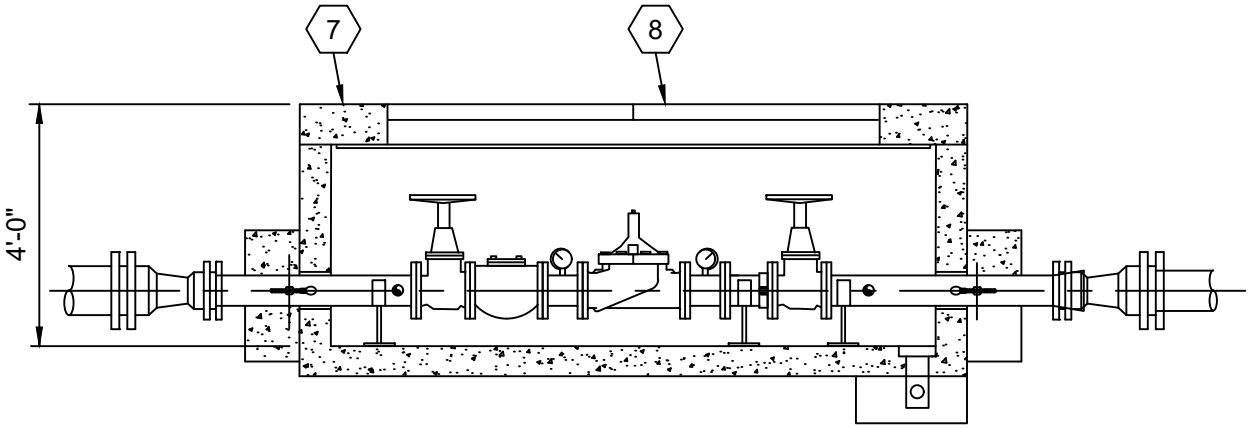
GUARD POST

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FIGURE
5-21



PLAN



SECTION

GENERAL NOTES:

1. ALTERNATE TO FIELD ASSEMBLED PRV AND IF SYSTEM AS MANUFACTURED BY CLA-VAL.

SEE FIGURE 5-22B FOR CALLOUTS AND NOTES

CITY OF SEQUIM	PRESSURE REDUCING VAULT	REVISION NO.	DATE	FIGURE
		0	07/11/2022	5-22A

LEGEND

1. 6" CLA-VAL 92G-01BCSY PRESSURE REDUCING VALVE WITH X101 POSITION INDICATOR DI BODY, S.S. TRIM, #150 FL.
2. 2" CLA-VAL 90G-01BC PRESSURE REDUCING VALVE WITH X101 POSITION INDICATOR DI BODY, BRONZE TRIM - THREADED.
3. 6" D.I. RW NRS GATE VALVE WITH HANDWHEEL, #150 FL.
4. 2" MUELLER A2360-6W41 W55 RW NRS GATE VALVE WITH HANDWHEEL, THD.
5. UNIFLANGE
6. 4" 0-300 PSI PRESSURE GAUGE WITH SNUBBER AND GAUGE COCK. LOCATION SHALL BE AS SHOWN ON V-W18A ON THE TOP OF THE PIPE. GAUGE SHALL BE INSTALLED ON BOTH PRIMARY AND BYPASS PRV ASSEMBLIES (SEE ITEM 15 BELOW).
7. PRECAST CONCRETE VAULT 10'L x 5'W x 3'-7"H INSIDE, SOLID WALL WITH WHITE INTERIOR & BLACK EXTERIOR SEALANT
8. 48" X 96" DOUBLE DOOR ALUMINUM HATCH, LW PRODUCTS OR APPROVED EQUAL. H-20 RATED. DRAIN HATCH TO VAULT FLOOR.
9. ADJUSTABLE PIPE SUPPORTS
10. 3/4" HOSE BIB ASSEMBLY INSTALLED ON SADDLE TAP
11. PIPE SPOOL (FLxPE) LENGTH AS REQUIRED.
12. REDUCER (AS REQUIRED), MJ WITH MEGA-LUGS
13. WATER METER STRAINER, SENSUS OR APPROVED EQUAL.
14. UNIONS
15. 2" 0-300 PSI PRESSURE GAUGE WITH SNUBBER.

GENERAL NOTES:

1. 6" x 2" PRV ASSEMBLY SHOWN. SIZES TO BE DETERMINED BY THE CITY BASED ON DOWNSTREAM DEMANDS.
2. ALL 3" AND LARGER PIPE INSIDE WETTED SURFACES TO BE SANDBLASTED, EPOXY LINED AND COATED TO AWWA C210 AND NSF-61 SPECIFICATION. EXTERIOR COATING SHALL BE BLUE ENAMEL.
3. ALL PIPE 2" AND SMALLER TO BE BRASS.

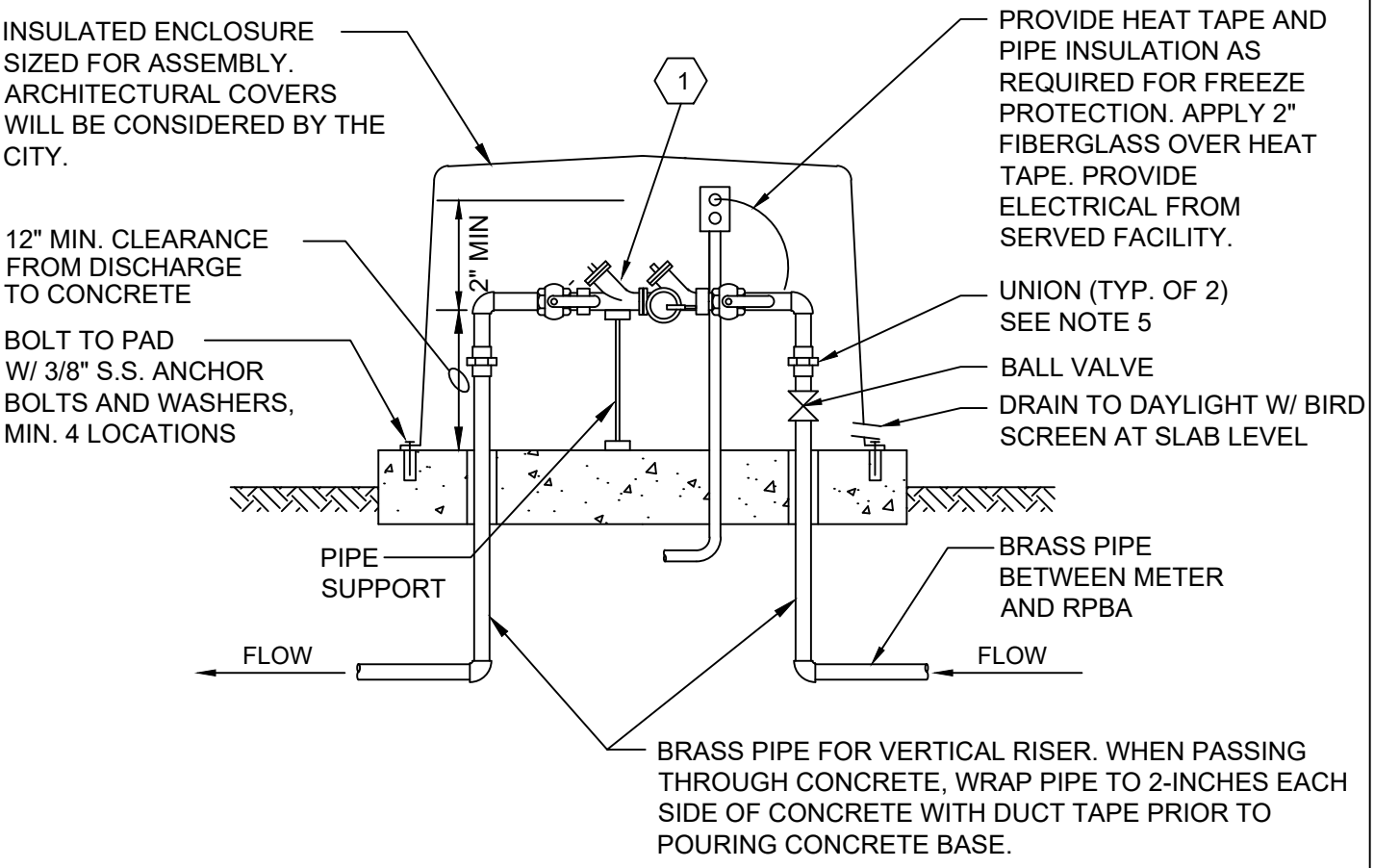
SEE FIGURE 5-22A FOR PLAN AND SECTION

CITY OF SEQUIM

PRESSURE REDUCING VAULT

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FIGURE
5-22B



1 WASHINGTON STATE APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) WITH TEST COCK PROTECTION AND BRONZE BODY BALL VALVE AT EACH END.

GENERAL NOTES:

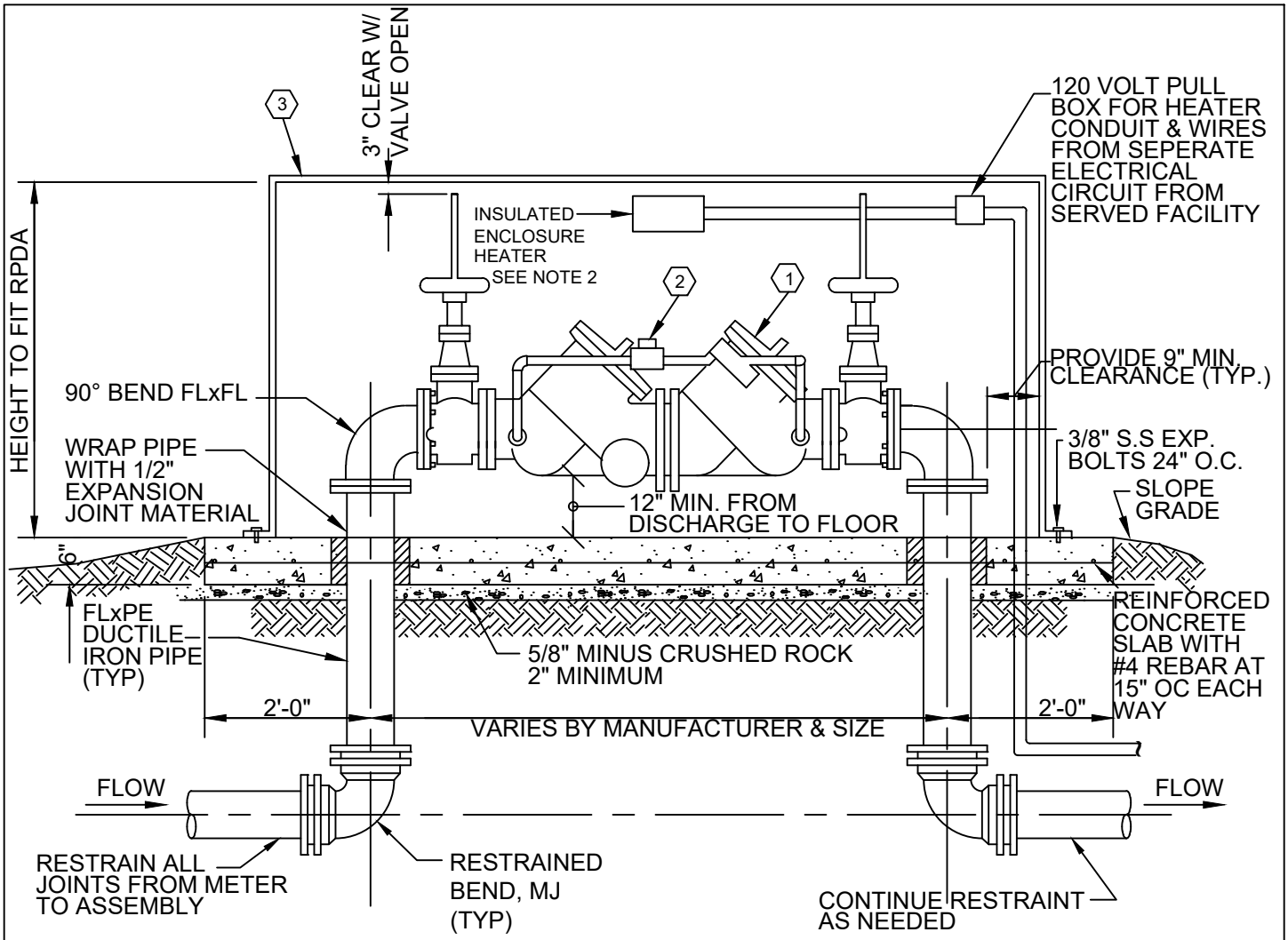
1. CONCRETE TO BE 3000 PSI (MINIMUM) MIX WITH AIR ENTRAINMENT.
2. SYSTEM SHALL NOT BE PUT INTO SERVICE UNTIL RPBA IS APPROVED BY THE CITY AND TESTED/CERTIFIED BY A WASHINGTON STATE LICENSED TESTER.
3. BY THE PROPERTY OWNER WITH ANNUAL CERTIFICATION REQUIRED. RPBA IS CONSIDERED PART OF THE PRIVATE SYSTEM AND SHALL BE MAINTAINED
4. DIELECTRIC UNIONS SHALL BE USED TO SEPARATE DISSIMILAR MATERIALS.
5. NO BRANCH CONNECTIONS ALLOWED BETWEEN METER AND RPBA.

CITY OF SEQUIM

REDUCED PRESSURE BACKFLOW ASSEMBLY ¾" TO 2"

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FIGURE 5-23



1. WASHINGTON STATE APPROVED REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) WITH OS&Y RESILIENT SEAT GATE VALVE EACH END AND LOW FLOW METER ASSEMBLY.
2. LOW FLOW BYPASS METER, INCLUDING 5/8"x3/4" NEPTUNE OR SENSUS RADIO READ WATER METER WITH SENSUS AMR AND MXU RADIO UNIT, WASHINGTON STATE APPROVED REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) AND 2 BRONZE BODY ISOLATION BALL VALVES, BRASS PIPING.
3. ALUMINUM INSULATED ENCLOSURE MODELS 4 THROUGH 10 FOR RESPECTIVE SIZE RPDA SHALL BE MODIFIED TO FIT ABOVE HEIGHT REQUIREMENTS. VALVE STEM SHALL NOT EXTEND OUTSIDE OF BOX.

GENERAL NOTES:

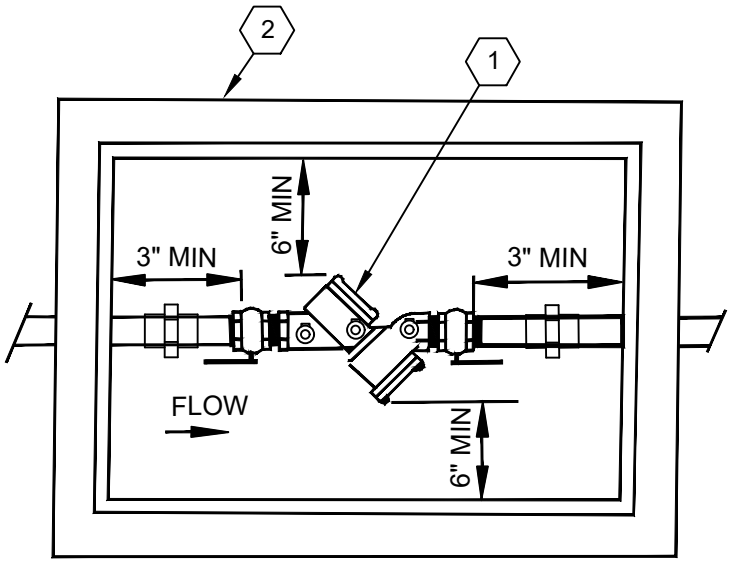
1. INSULATED ENCLOSURE TO BE LOCATED OUTDOORS AND ACCESSIBLE TO CITY. ALTERNATE LOCATION REQUIRES CITY APPROVAL.
2. HEATERS AND WIRING SHALL BE RATED AT 2,000 WATT FOR 8" AND UNDER: 3,000 WATT FOR 10".
3. CONCRETE TO BE 3000 PSI (MINIMUM) MIX WITH AIR ENTRAINMENT.
4. COMPLETE ALL WORK IN ACCORDANCE WITH STATE, CITY AND MANUFACTURER STANDARDS.
5. SYSTEM SHALL NOT BE PUT INTO SERVICE UNTIL RPDA IS APPROVED BY THE CITY AND TESTED/CERTIFIED BY A WASHINGTON STATE LICENSED TESTER.
6. RPDA IS CONSIDERED PART OF THE PRIVATE SYSTEM AND SHALL BE MAINTAINED BY THE PROPERTY OWNER WITH ANNUAL CERTIFICATION REQUIRED.
7. DRAIN TO DAYLIGHT WITH BIRD SCREEN LOCATED AT SLAB LEVEL (SIZED PER MANUFACTURERS RECOMMENDATIONS).
8. NO BRANCH CONNECTIONS ALLOWED BETWEEN METER AND RPDA.

CITY OF SEQUIM

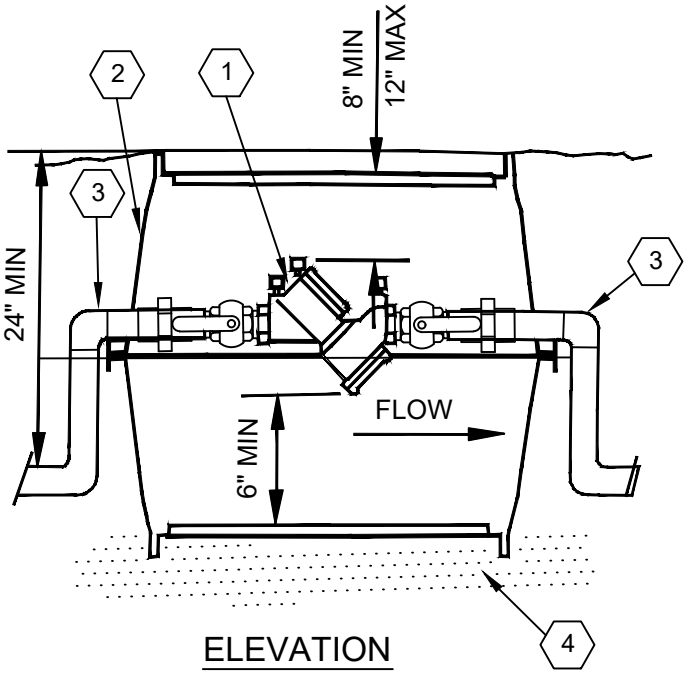
REDUCED PRESSURE BACKFLOW ASSEMBLY 2 ½" AND LARGER

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FIGURE 5-24



PLAN



ELEVATION

1. WASHINGTON STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY (DCVA)
2. METER BOX. BERG VAULT CO. OF WASH NO. 2 CONCRETE, OR MID STATES PLASTICS MSBCF 1730-12 COMPOSITE. BOX SHALL BE H-20 LOAD RATED WHERE REQUIRED.
3. BENDS MAY BE LOCATED INSIDE OR OUTSIDE OF BOX SO LONG AS SUFFICIENT ROOM IS ALLOWED AT EACH END FOR VALVE OPERATION AND DCVA REPAIR OR MAINTENANCE.
4. PROVIDE FREE DRAINING BACKFILL BELOW BOX. (1/2" PEA GRAVEL).

GENERAL NOTES:

1. ALL TEST COCKS SHALL POINT UPWARDS AND HAVE BRASS PLUGS.
2. DCVA SHALL BE CENTERED IN BOX (PLAN).
3. COMPLETE ALL WORK IN ACCORDANCE WITH STATE, CITY AND MANUFACTURER STANDARDS.
4. SYSTEM SHALL NOT BE PUT INTO SERVICE UNTIL DCVA IS APPROVED BY THE CITY AND TESTED/CERTIFIED BY A WASHINGTON STATE LICENSED TESTER.
5. DCVA IS CONSIDERED PART OF A PRIVATE SYSTEM AND SHALL BE MAINTAINED BY THE PROPERTY OWNER WITH ANNUAL CERTIFICATION REQUIRED.
6. INSTALL DCVA USING UNIONS ON EACH END OF ASSEMBLY. UNIONS TO BE EXPOSED INSIDE OF BOX.
7. BOTTOM OF BOX TO BE OPEN TO DRAIN.
8. NO BRANCH CONNECTIONS ALLOWED BETWEEN METER AND DCVA.

CITY OF SEQUIM

DOUBLE CHECK VALVE ASSEMBLY - 2" AND SMALLER

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FIGURE
5-25