RDWY	Roadway
RECONN	Reconnect
RED	Reducer
REF	Refer/Reference
REINF	Reinforce/Reinforcement
RELOC	Relocate
REM	Remove
REPL	Replace
REQD	Required
RET	Retire/Retired
RET WALL	Retaining Wall
RF	Rock Facing
RGS	Rigid Galvanized Steel
RIT	Round Inlet Top
RJ	Restrained Joint
RLWY	Railway
RP	Rock Pocket
RPBA	Reduced Pressure Backflow Assembly
RR	Railroad
RS	Rigid Steel
RT	Right
S	South
SB	Sandbox
SCH	Schedule
SCL	Seattle City Light
SDS	Street Designation Sign
SD	Service Drain
SDOT	Seattle Department of Transportation
SEC	Section
SHLD	Shield
SHT	Sheet
SL	Sleeve, Street Light
℄	Survey Line

added

SLHH	Street Light Handhole
SNS	Street Name Sign
SP	Strain Pole
SPCS	Spaces
SPEC	Specifications
SPR	Seattle Parks & Recreation
SPU	Seattle Public Utilities
SQ	Square
SS	Stainless Steel, Side Sewer–Combined
SSD	Sub–Surface Drain
SSS	Side Sewer–Sanitary
SSTONE	Sandstone
ST	Street
STA	Station
STD	Standard
STL	Steel
STL P	Steel Pipe
STM LOG	Steam Log
STRUCT	Structure/Structural
SW	Sidewalk
SY	Square Yard
SYS	System
T	Tee
TB	Test Boring
TC	Traffic Control
TCB	Telephone Cable
TCD	Telephone Conduit
TCHH	Traffic Control Handhole
TD	Telephone Duct
TEB	Telephone Enclosure Box
TEL	Telephone
TEMP	Temporary
TF	Top Face

REF STD SPEC SEC 1-01.2

City of Seattle | NOT TO SCALE | ABBREVIATIONS

SIGNALIZATION

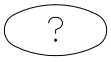
Vehicle & Pedestrian Signal Head
(?=Identification Number)

"Illuminated" removed

Traffic Sign (?=Identificaiton Number)

Cable Runs
(?=Run Number per Wiring Schedule)

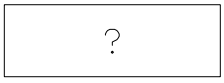
Removal/Relocation Item
(?=Identification Number per Removal/Relocation Plan)



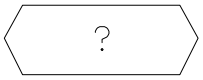
Construction Item
(?=Identification Number per Signalization Plan)

Signal Poles, Signal Pedestals, Push Button Pedestals &
Push Buttons Identified by Number on Signalization Plan.

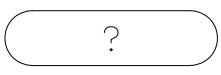
CHANNELIZATION & SIGNAGE



Install Channelization/Signage
(?=Channelization / Signage Identified on Plan)



Remove Channelization / Signage
(?=Channelization / Signage Identified on Plan)



Relocate Signage
(?=Signage Identified on Plan)

REF STD SPEC SEC

City of Seattle	NOT TO SCALE	STANDARD SYMBOLS SIGNALIZATION/CHANNELIZATION & SIGNAGE

REV DATE: MAR 2019

ITEM	EXISTING	PROPOSED
Telephone Cable (direct burial)	TCB	
Telephone Conduit	3"TCD	
Telephone Duct	12'X12"TD	
Telephone Enclosure	TEB	
Telephone Maintenance Hole	TEL VAULT	
Telephone Pole	TP	
Telephone Handhole	THH	
Television Cable (direct Burial)	TVCB	
Television Handhole	TVHH	
Telegraph Maintenance Hole	TELEG MH	
Steam Log	6"STM 14"X14"LOG	
Steam Vault	STEMV	
Gas Main <1'-0"Dia	4"G	
Gas Main ≥1'-0"Dia	12"G	
Gas Valve		
Gas Meter	GM	
Gas Regulator	G REG	
Petroleum or Oil	OIL	
Abandon(ed)	2"ECD(ABAN)	2"ECD–ABAN

revised

REF STD SPEC SEC

City of Seattle | NOT TO SCALE | STANDARD SYMBOLS PRIVATE UTILITIES

REV DATE: MAR 2019

sheet revised due to additions to 003q

ITEM	EXISTING	PROPOSED
90° Bend w/Conc Blocking	details added	
Plug w/Conc Blocking		
Tee w/Conc Blocking		
Watermain <1'-0"Dia	8"W	8"W
Watermain ≥1'-0"Dia	24"W	36"W
11 1/4° Bend		8"–11 1/4°HBorVB
22 1/2° Bend		8"–22 1/2°HBorVB
45° Bend		8"–45°HBorVB
90° Bend		8"–90°HBorVB
Cross		8"X8"X6"X6"CR
Tee		8"X8"X6"T
Pipe Sleeve		
Plug		or
Hydrant		

revised

revised

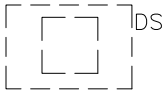
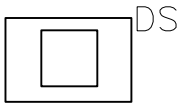
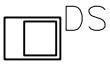
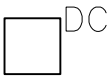
REF STD SPEC SEC

City of Seattle

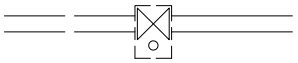
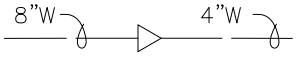
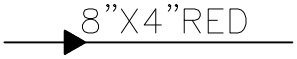
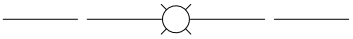
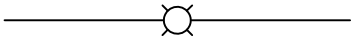
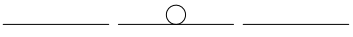
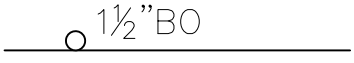
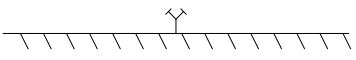
NOT TO SCALE

STANDARD SYMBOLS WATER

REV DATE: MAR 2019

ITEM	EXISTING	PROPOSED
6" & Larger Domestic Service		
3" & 4" Domestic Service		
4" & Larger Fire Service		
2" & Smaller Water Service		

added

Valve Box		
Gate Valve		
Gate Valve w/ Chamber		
Gate Valve w/ Vault Chamber		
Reducer		
Air Valve		
Blowoff		
Fire Standpipe		

REF STD SPEC SEC

City of Seattle	NOT TO SCALE	STANDARD SYMBOLS WATER

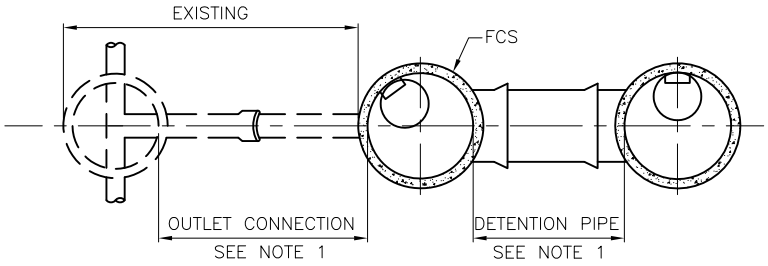
REV DATE: MAR 2019

ITEM	EXISTING	PROPOSED
Water Test Station		new std plan due to additions to 003q
Water Chamber		
Sprinkler Head		
Irrigation Valve		
Angle Valve		
Butterfly Valve		
Ball Valve		
Check Valve		
Cone Valve		
Globe Valve		
Needle Valve		
Plug Valve		
Resilient Seal Gate Valve		
Vertical Bend		
Concrete Blocking		

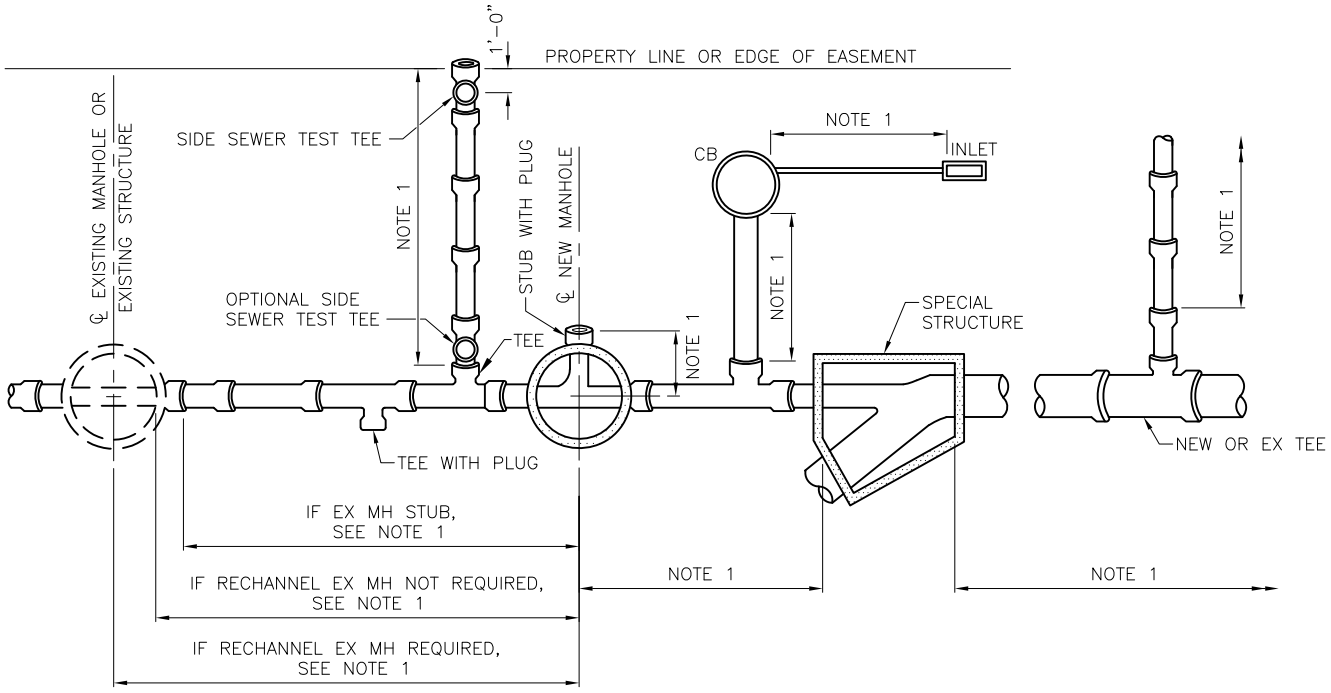
REF STD SPEC SEC

City of Seattle	NOT TO SCALE	STANDARD SYMBOLS WATER

REV DATE: DEC 2019



PLAN VIEW



PLAN VIEW

NOTES:

1. MEASUREMENT PER LINEAR FOOT. PIPE ENDING IN STRUCTURE MEASURED TO EITHER INSIDE FACE OR TO CENTERLINE OF STRUCTURE AS INDICATED, OR TO TEE OR WYE AS INDICATED.
2. TEE OR WYE INCLUDING PLUG – UNIT PRICE EACH
3. ALL PIPE MUST BE MEASURED ON THE SLOPE ALONG THE CENTERLINE OF PIPE TO NEAREST 0.10 LF.

"SHALL" changed to "MUST"

reference added

REF STD SPEC SEC DIVISION 7

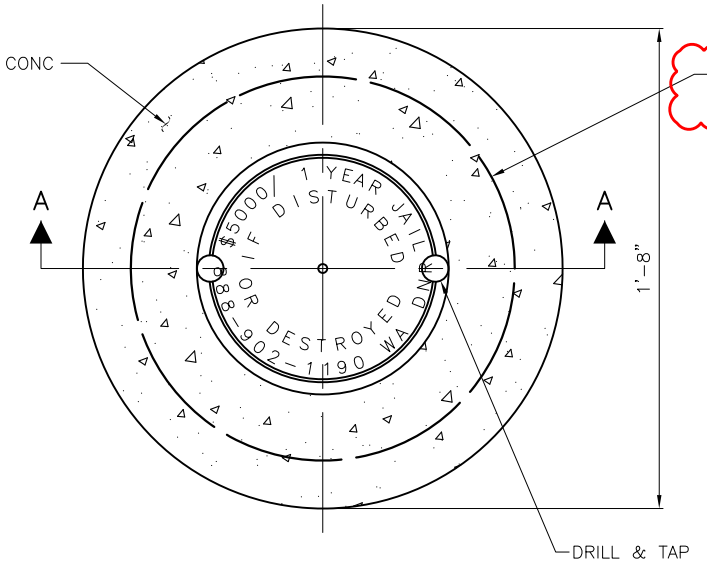
City of Seattle | NOT TO SCALE | SEWER/DRAINAGE MEASUREMENT DIAGRAM

REV DATE: DEC 2019

NOTES:

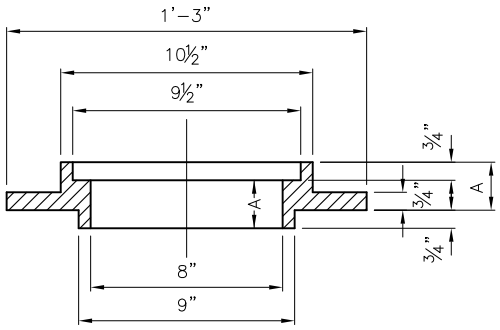
1. MONUMENT CASE TO BE INSTALLED BY CONTRACTOR.
2. BASE TO BE PLACED ON A WELL COMPACTED FOUNDATION.
3. FRAME AND COVER MUST BE TESTED FOR ACCURACY OF FIT AND MUST BE MARKED IN SETS FOR DELIVERY.
4. FRAME AND COVER MUST BE CAST IRON AND HAVE COATING APPLIED TO ALL FACES.
5. CASTINGS IN RIGID PAVEMENT MUST HAVE REINFORCING STEEL IN THE PAVEMENT.
6. USE LOCKING COVER IN R/W. DRILL AND TAP, APPLY ANTI-SEIZE COATING AND BOLT DOWN WITH ⅜"S.S. ALLEN-HEAD BOLTS -2 PLACES.

rebar added

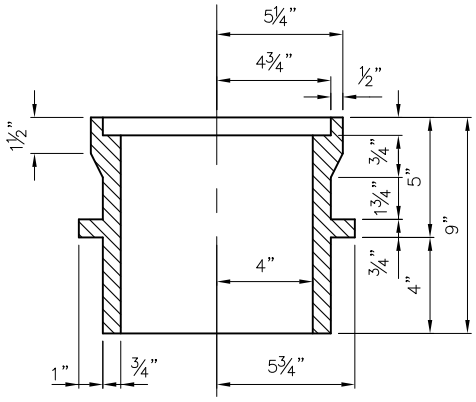


PLAN
SEE SECTION A-A ON STD PLAN NO 020c

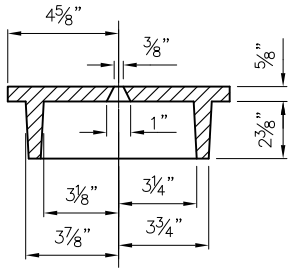
RISER RING DIMENSIONS			
A (SIZE)	1½"	2"	3"



RISER RING SECTION



CASE SECTION



COVER SECTION

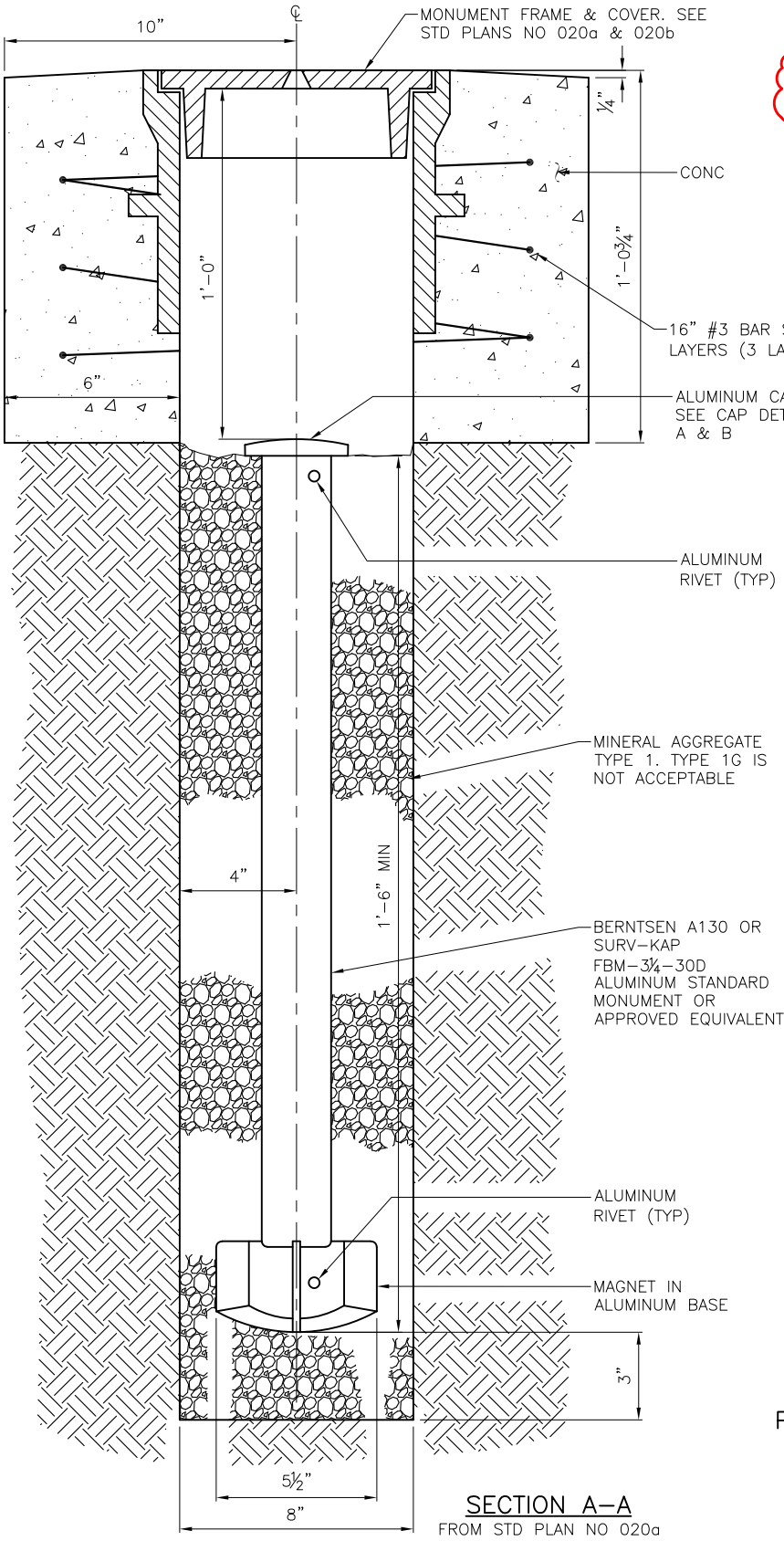
Section A-A moved to new std plan 020c

REF STD SPEC SEC 8-13

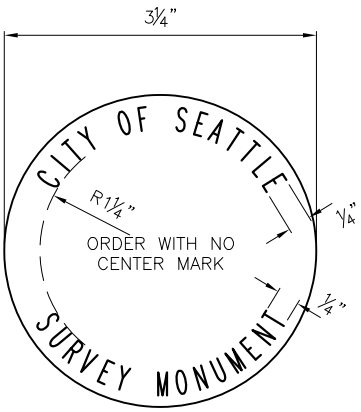
City of Seattle	NOT TO SCALE	MONUMENT FRAME & COVER

REV DATE: DEC 2019

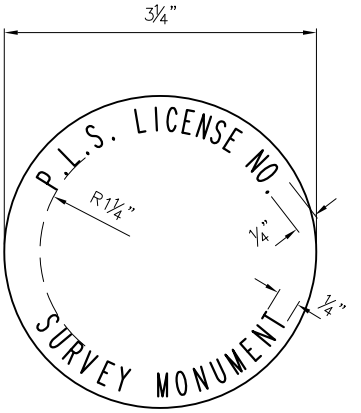
new std plan



SECTION A–A
FROM STD PLAN NO 020a



CAP DETAIL A
CAP LAYOUT FOR
COS CAPITAL PROJECTS

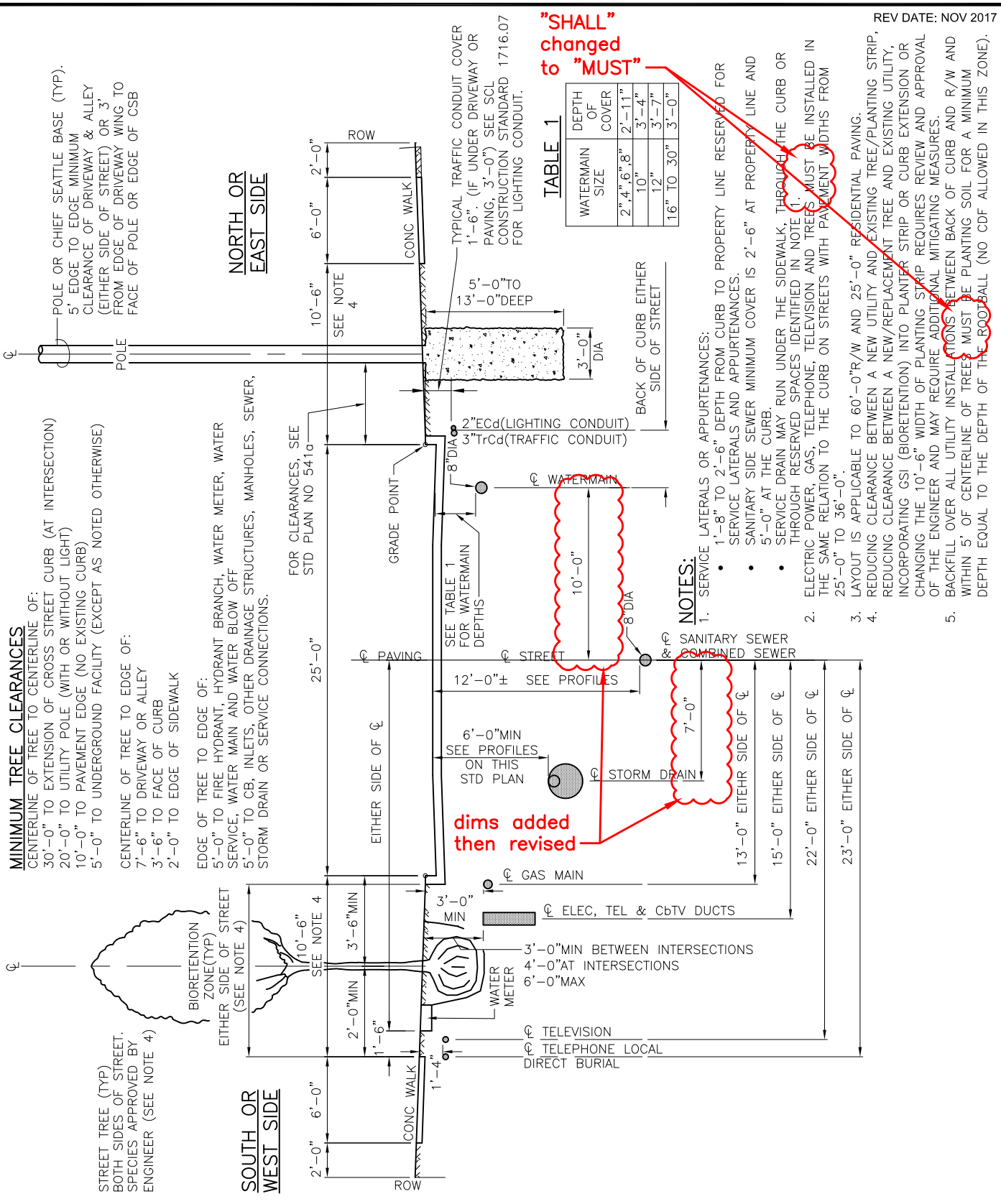


CAP DETAIL B
CAP LAYOUT FOR
PRIVATE DEVELOPMENT PROJECTS

REF STD SPEC SEC 8-13

City of Seattle	NOT TO SCALE	SURVEY MONUMENT

REV DATE: NOV 2017



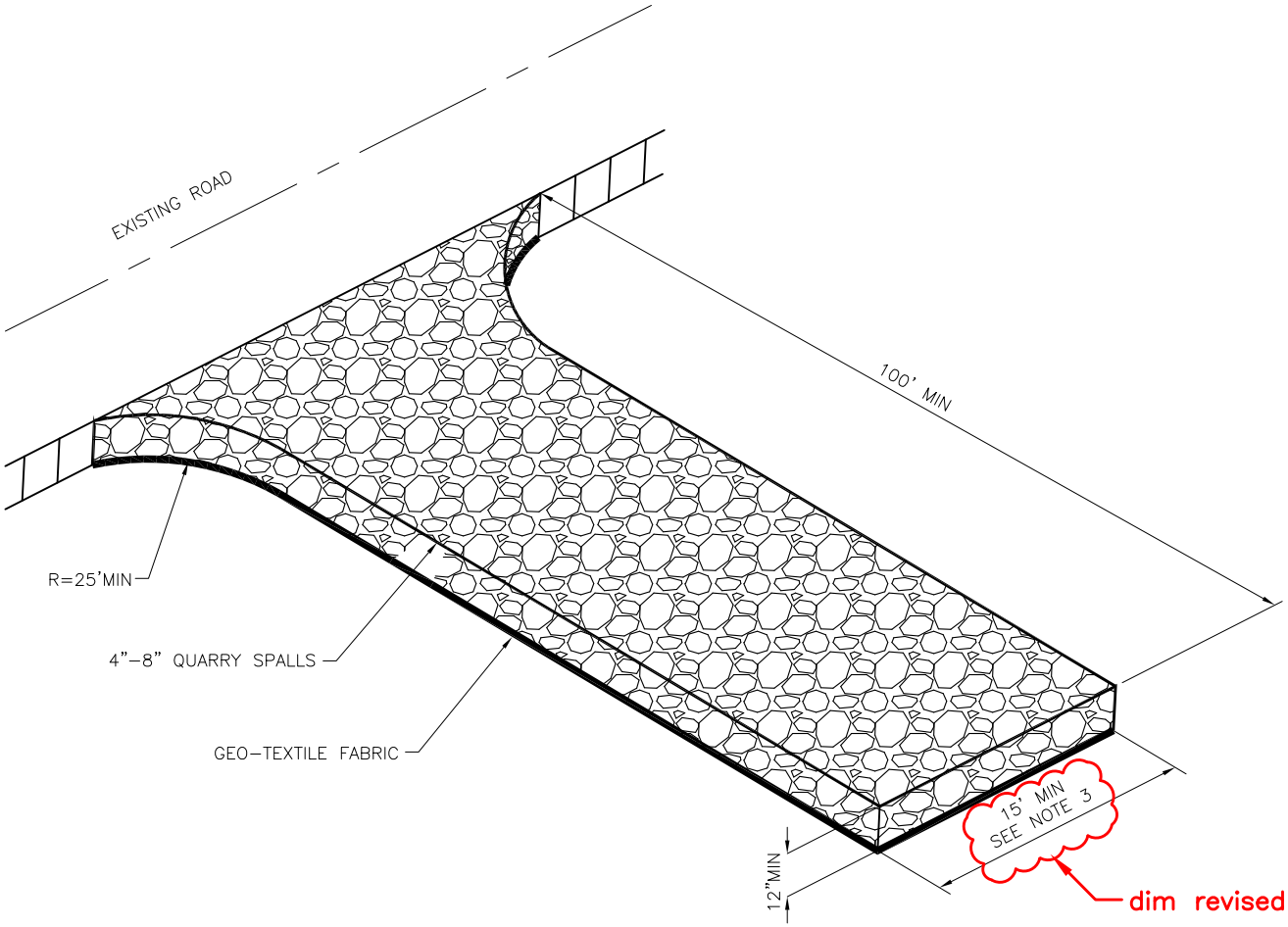
REF STD SPEC SEC 1-07.16, 1-07.17, 1-07.28

City of Seattle

NOT TO SCALE

DESIRABLE LOCATIONS FOR UTILITIES (RESIDENTIAL STREET)

REV DATE: AUG 2017



"SHALL" changed to "MUST"

NOTES:

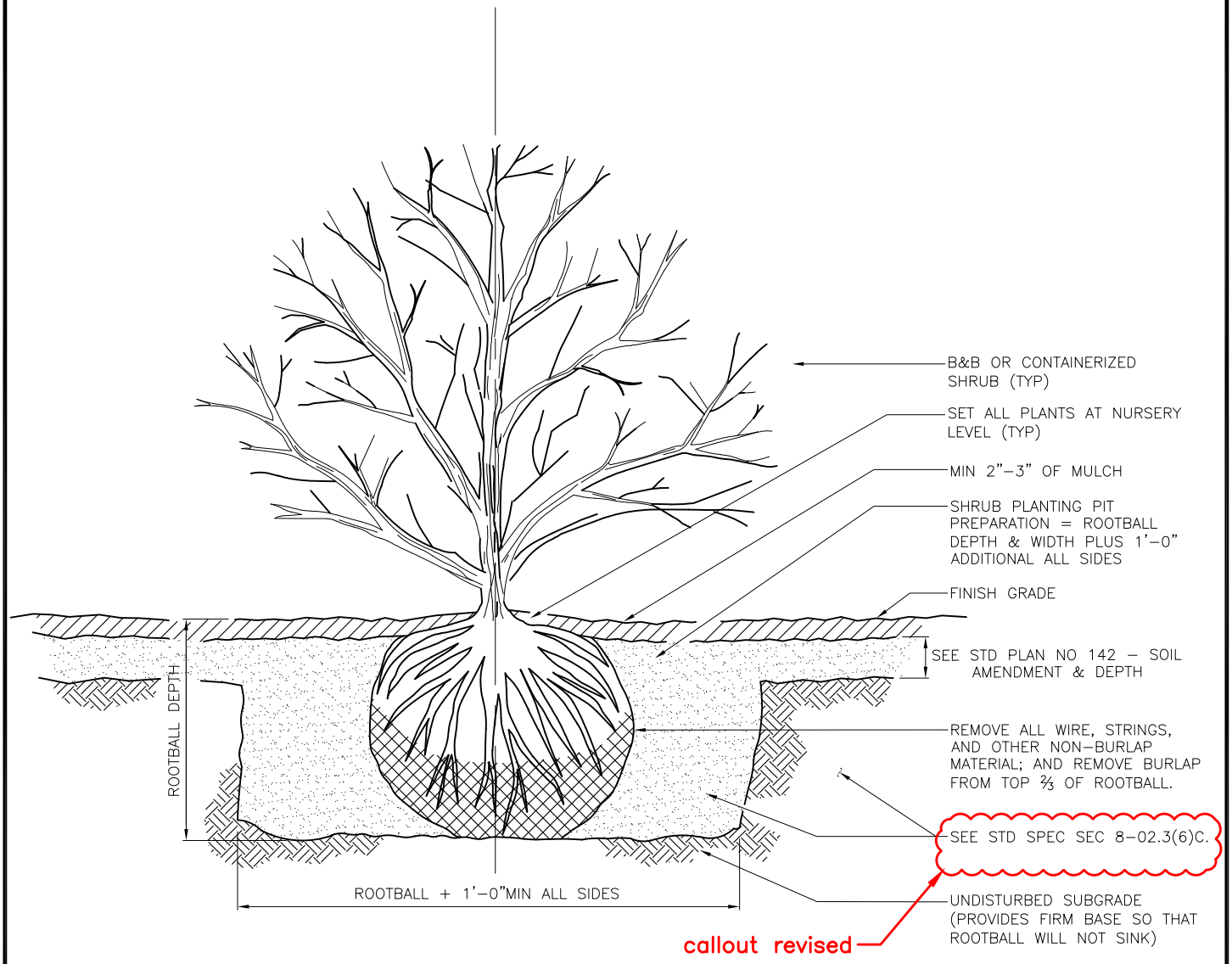
1. STABILIZED ACCESS MUST BE USED IN ALL AREAS OF THE SITE WITH VEHICLE TRAFFIC AND PARKING, INCLUDING PLANTING STRIPS.
2. SEE SECTION 9–37.2 (TABLE 3) FOR GEOTEXTILE REQUIREMENTS. GEOTEXTILE MODIFICATIONS BASED ON SPECIFIC PROJECT SITE CONDITIONS MAY BE APPROVED BY THE ENGINEER.
3. STABILIZED CONSTRUCTION ENTRANCES ON SEATTLE PARKS & RECREATION PROPERTY ARE LIMITED TO A MAXIMUM WIDTH OF 10 FEET UNLESS DIRECTED OTHERWISE.

note 3 added

REF STD SPEC SEC 8-01

City of Seattle	NOT TO SCALE	STABILIZED CONSTRUCTION ENTRANCE

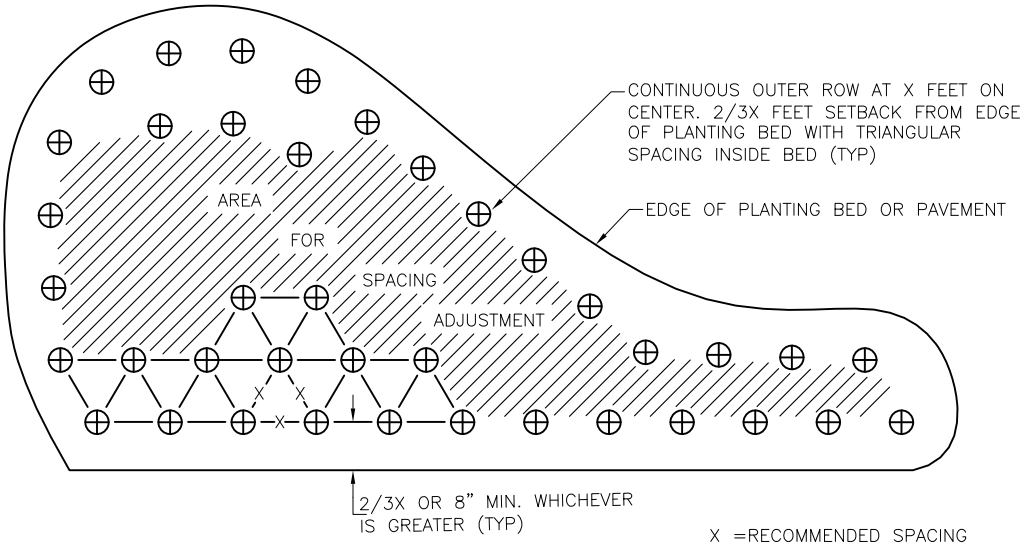
REV DATE: NOV 2019



REF STD SPEC SEC 8-02

City of Seattle	NOT TO SCALE	SHRUB PLANTING

REV DATE: DEC 2019

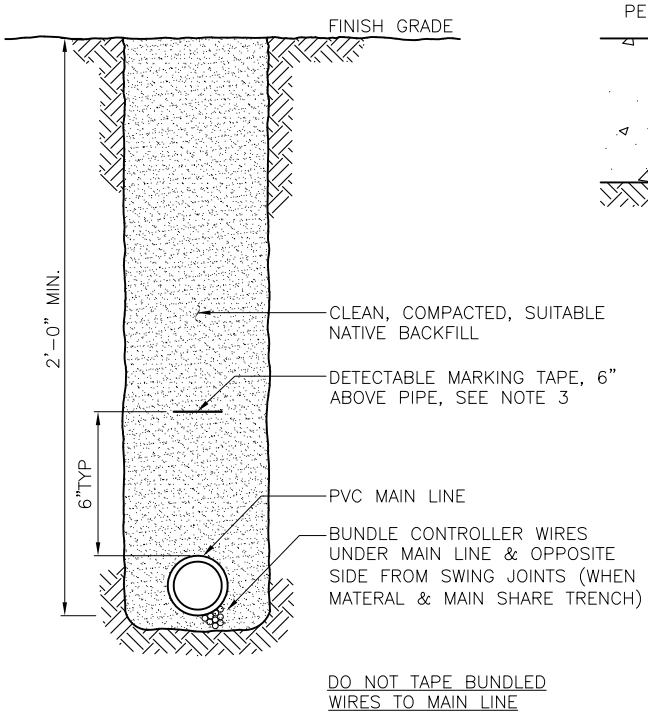


spec section revised

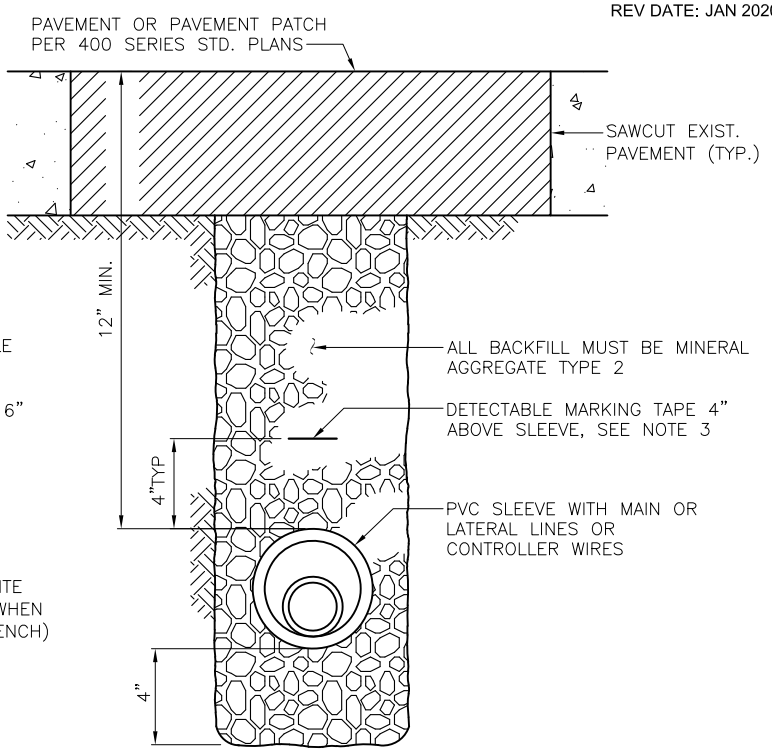
REF STD SPEC SEC 8-02

City of Seattle	NOT TO SCALE	PLANTING PATTERN

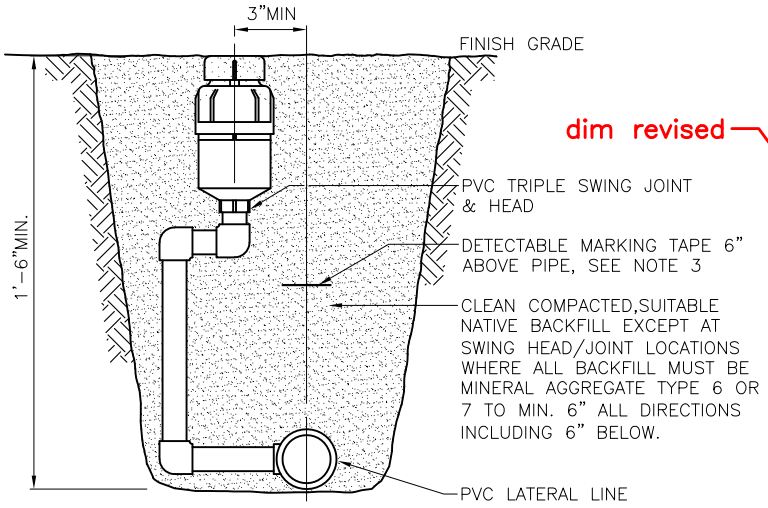
REV DATE: JAN 2020



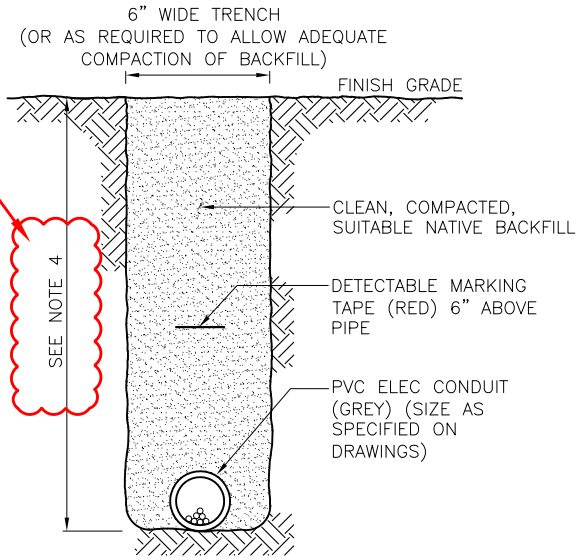
MAIN LINE



SLEEVE TRENCHING



LATERAL LINE



ELECTRICAL SUPPLY TRENCH

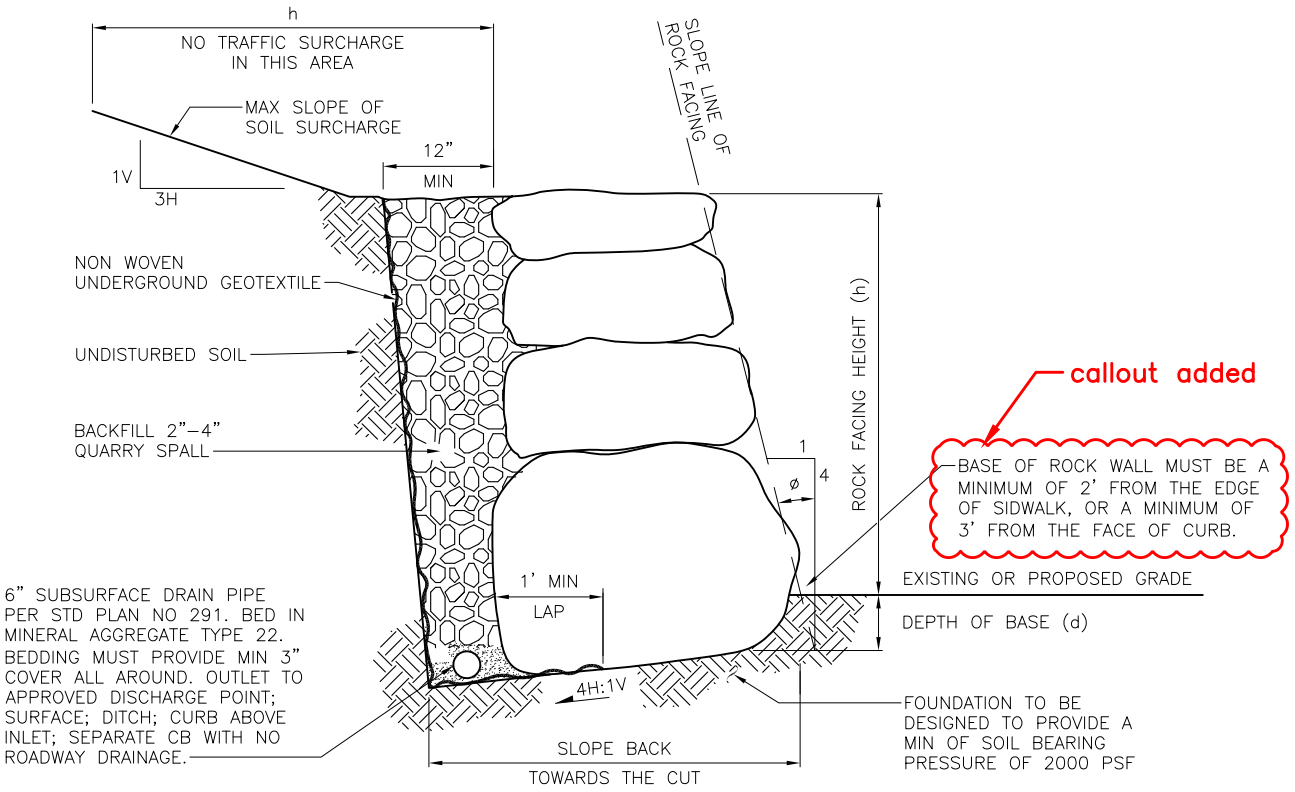
NOTES:

1. SLEEVE SIZE AS SHOWN ON DRAWINGS OR ID OF SLEEVE TO BE 1" GREATER THAN OD OF PIPE
2. SLEEVES REQUIRED UNDER ALL PAVED AREAS
3. DETECTABLE MARKING TAPE COLOR PER STANDARD SPECIFICATIONS SECTION 9-15.11 FOR ~~POTABLE OR NON-POTABLE WATER~~
4. CONDUIT DEPTH MUST BE PER SCL CONSTRUCTION STANDARD 1716.07 — note 4 added

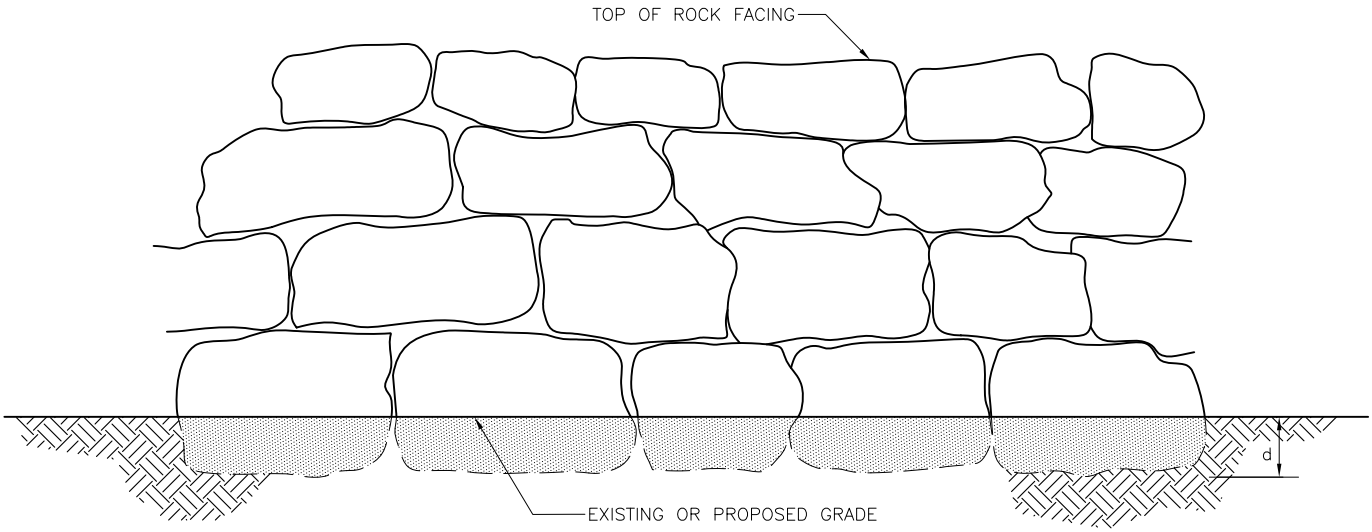
REF STD SPEC SEC 8-03

City of Seattle	NOT TO SCALE	IRRIGATION TRENCHES

REV DATE: DEC 2019



SECTION



ELEVATION

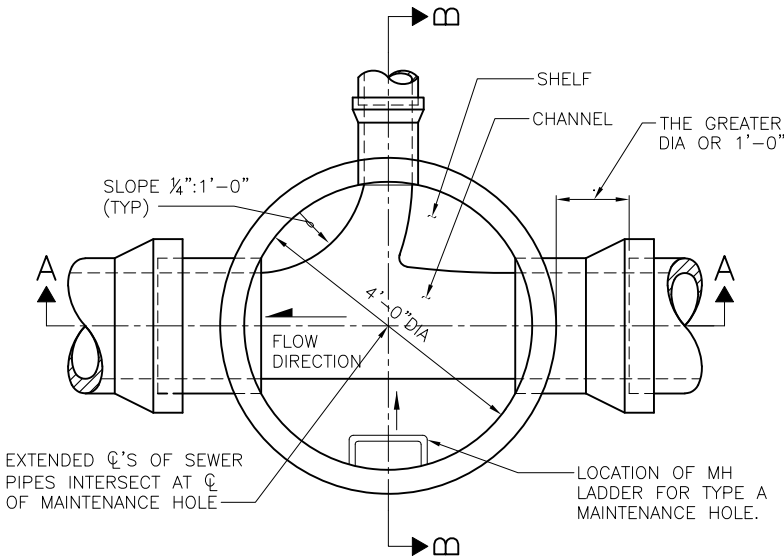
		MINIMUM ROCK	
(h)	(d)	SIZE(BASE)	SIZE(TOP)
2 FEET	3 INCHES	2–MAN	1–MAN
4 FEET	6 INCHES	3–MAN	2–MAN
6 FEET	9 INCHES	4–MAN	2–MAN
8 FEET	12 INCHES	5–MAN	2–MAN

ø = 14° ±1°

REF STD SPEC SEC 2-13

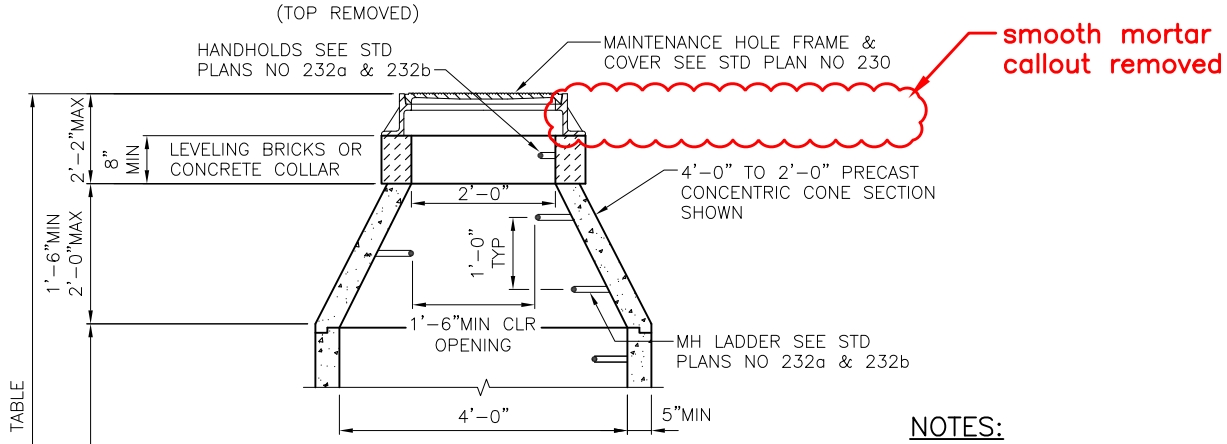
City of Seattle | NOT TO SCALE | ROCK FACING

REV DATE: NOV 2019

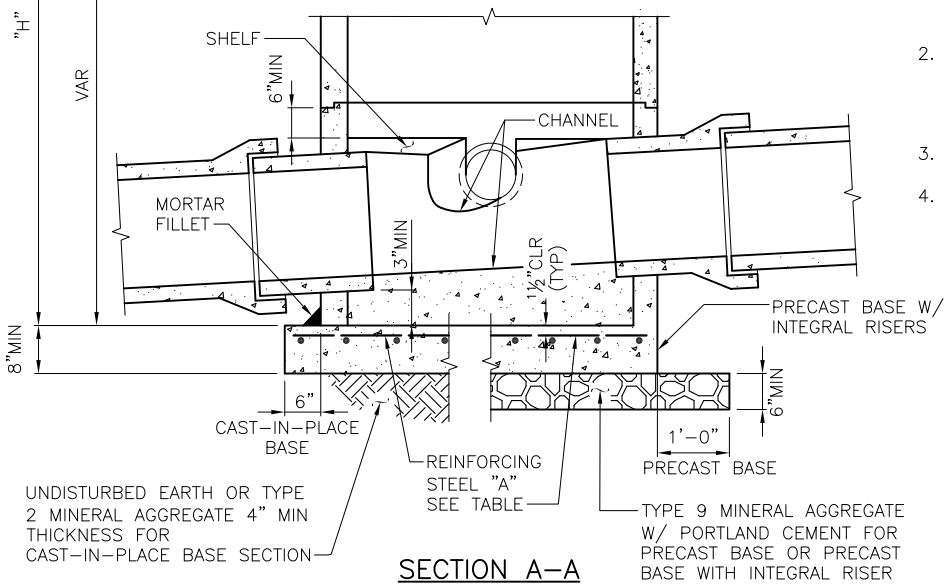


PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.25	0.17
30' MAX	0.31	0.22
40' MAX	0.36	0.25



SECTION B–B



SECTION A–A

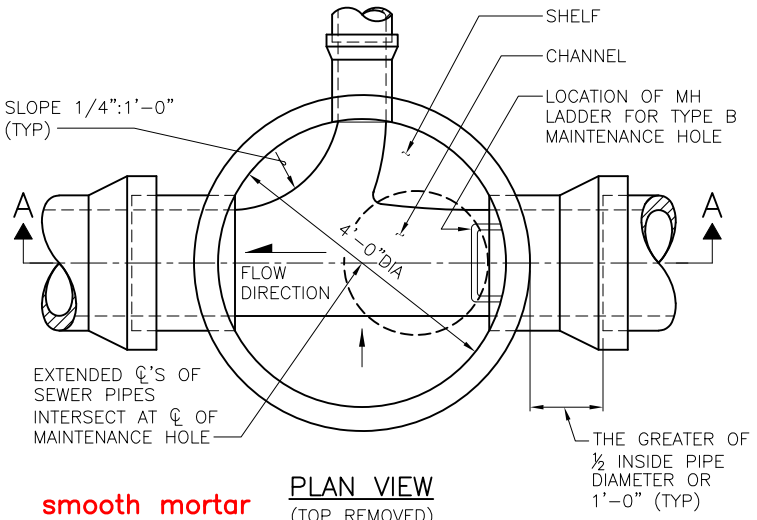
NOTES:

1. MATERIALS: CONCRETE–CLASS 4000; REINFORCING STEEL–ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL – CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 5 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	TYPE 204a MAINTENANCE HOLE

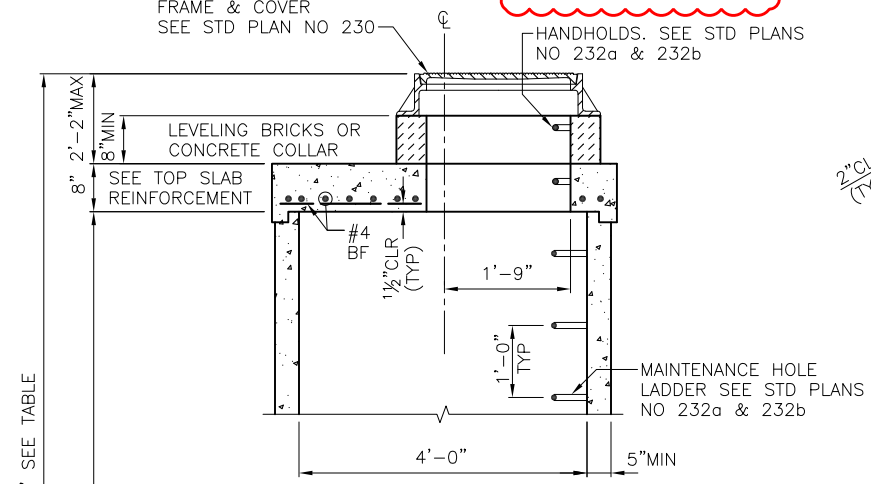
REV DATE: NOV 2019

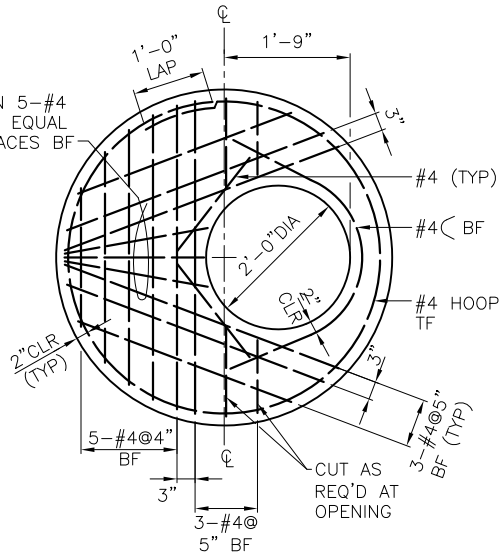


PLAN VIEW
(TOP REMOVED)

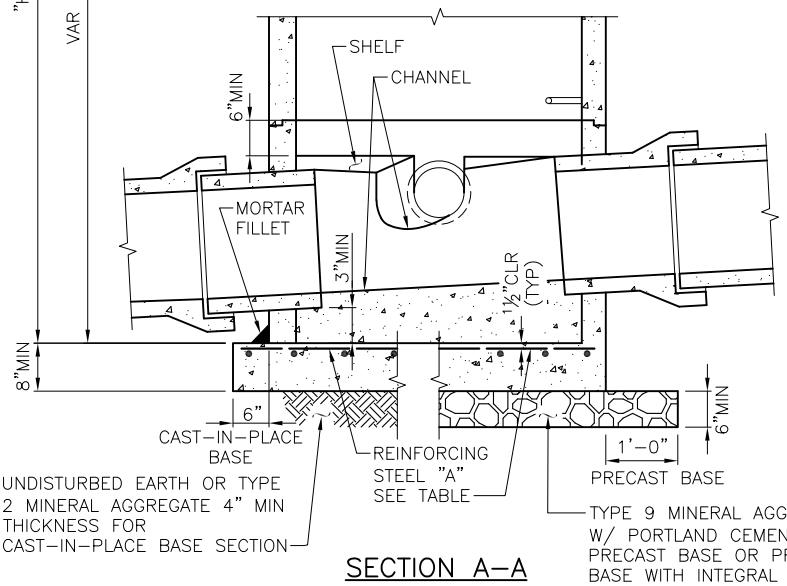
smooth mortar callout removed

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.25	0.17
30' MAX	0.31	0.22
40' MAX	0.36	0.25





TOP SLAB REINFORCEMENT



SECTION A-A

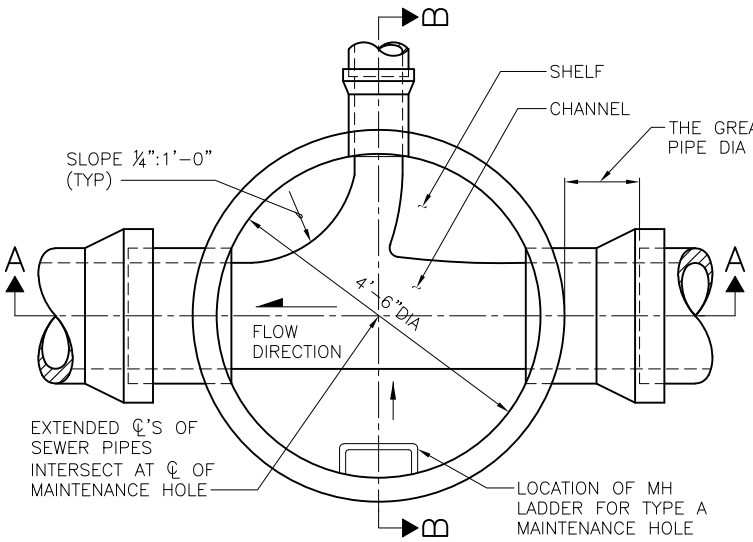
NOTES:

1. MATERIALS: CONCRETE-CLASS 4000; REINFORCING STEEL-ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL - CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 5 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

REF STD SPEC SEC 7-05

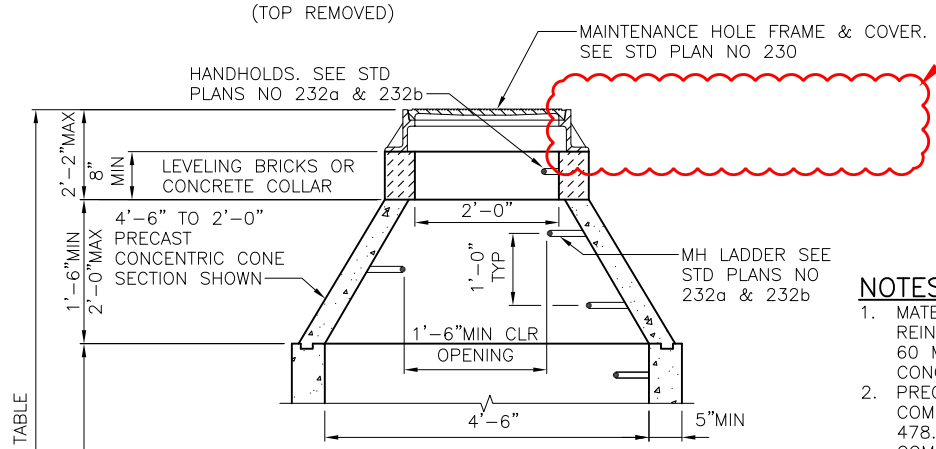
City of Seattle | NOT TO SCALE | TYPE 204b MAINTENANCE HOLE

REV DATE: NOV 2019



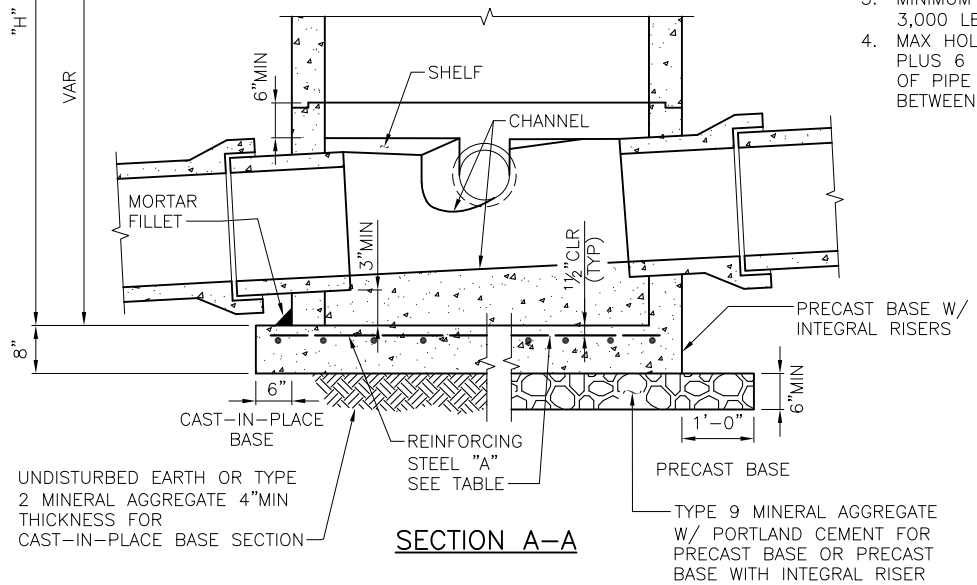
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.29	0.21
30' MAX	0.36	0.26
40' MAX	0.42	0.31



smooth mortar callout removed

SECTION B–B



SECTION A–A

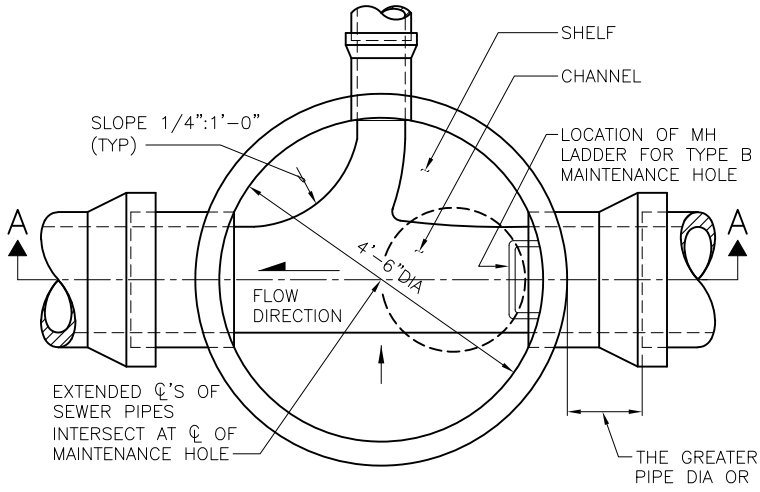
NOTES:

1. MATERIALS: CONCRETE–CLASS 4000; REINFORCING STEEL–ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL – CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 6 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

REF STD SPEC SEC 7-05

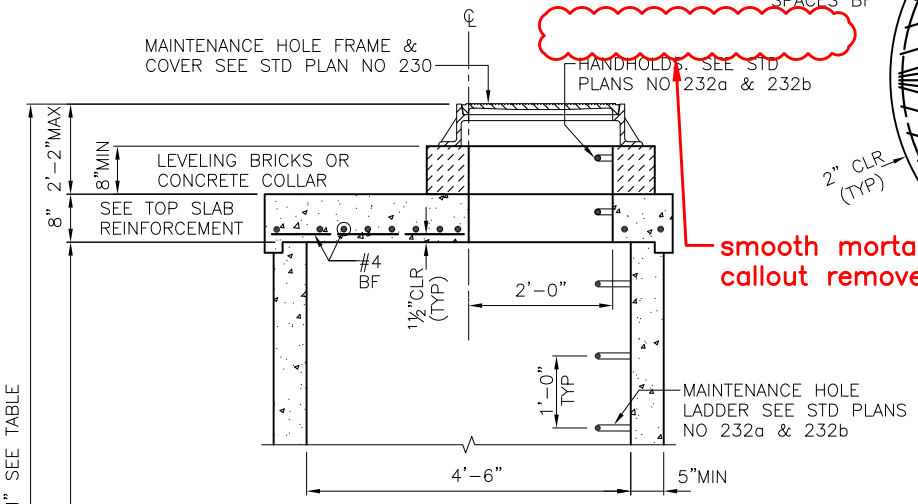
City of Seattle	NOT TO SCALE	TYPE 204.5a MAINTENANCE HOLE

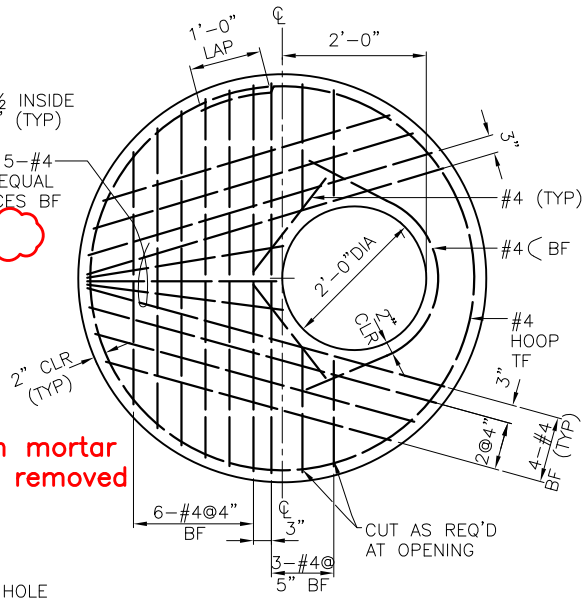
REV DATE: NOV 2019



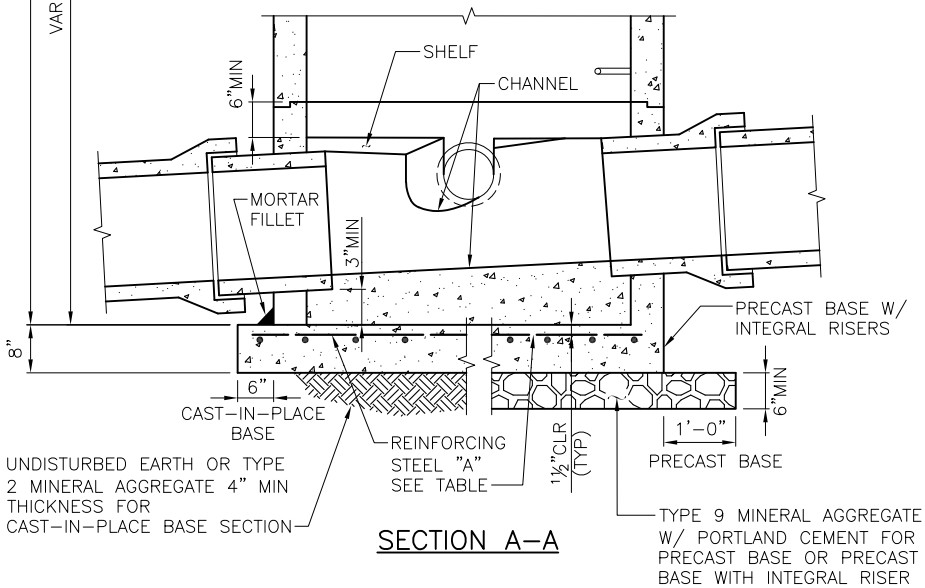
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.29	0.21
30' MAX	0.36	0.26
40' MAX	0.42	0.31





TOP SLAB REINFORCEMENT



SECTION A-A

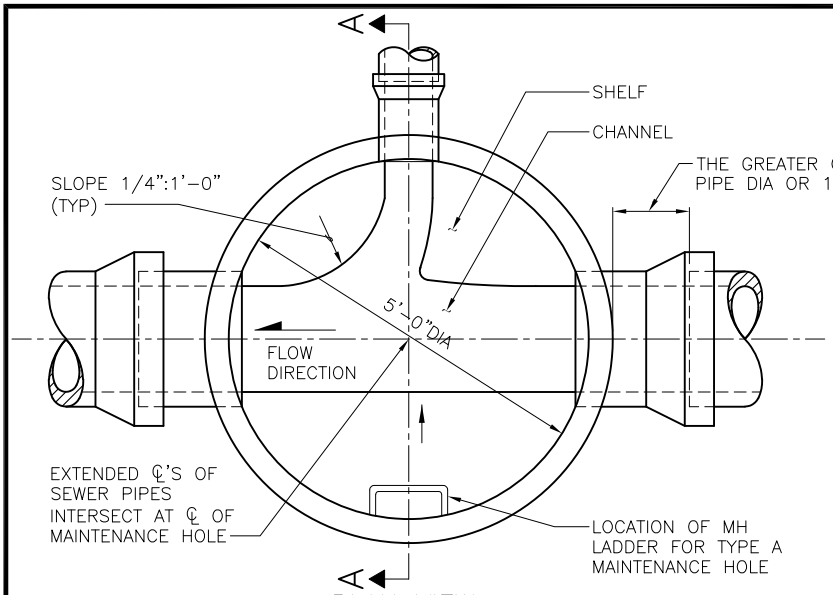
NOTES:

1. MATERIALS: CONCRETE-CLASS 4000; REINFORCING STEEL-ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL - CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 6 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

REF STD SPEC SEC 7-05

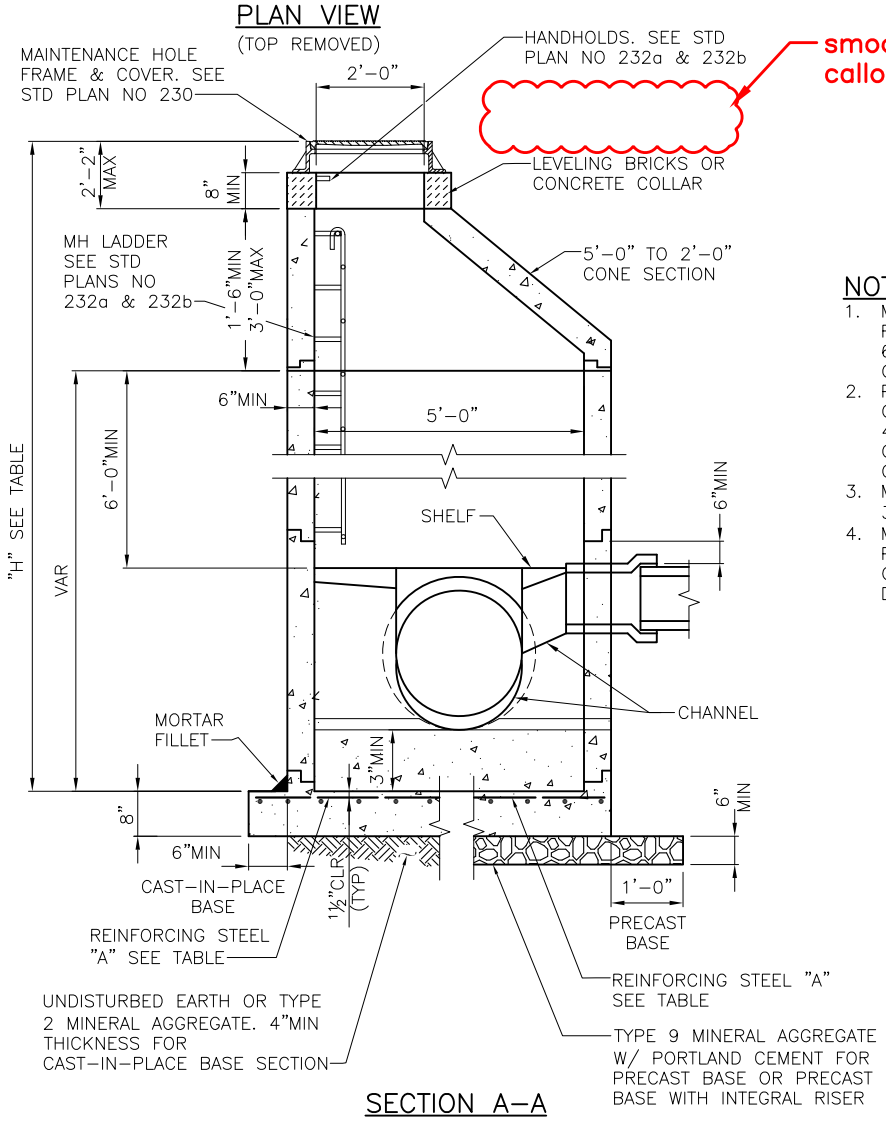
City of Seattle | NOT TO SCALE | TYPE 204.5b MAINTENANCE HOLE

REV DATE: NOV 2019



PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.33	0.25
30' MAX	0.41	0.31
40' MAX	0.49	0.37



SECTION A–A

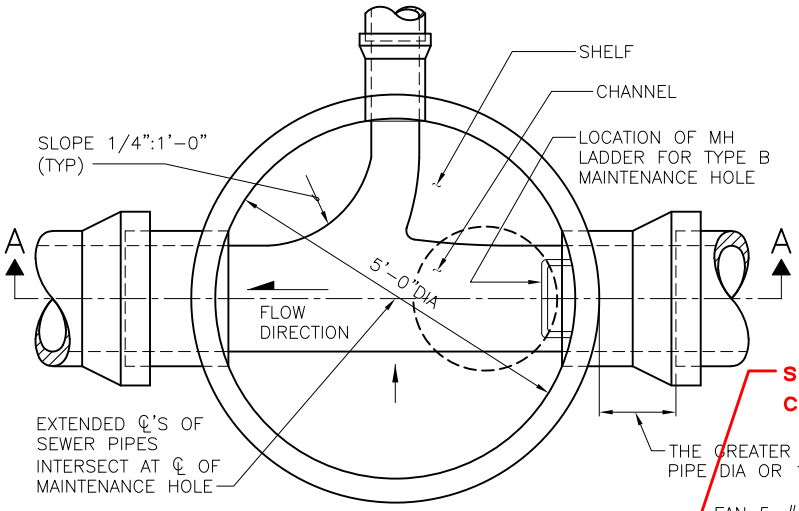
NOTES:

1. MATERIALS: CONCRETE–CLASS 4000; REINFORCING STEEL–ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL – CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 6 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	TYPE 205a MAINTENANCE HOLE

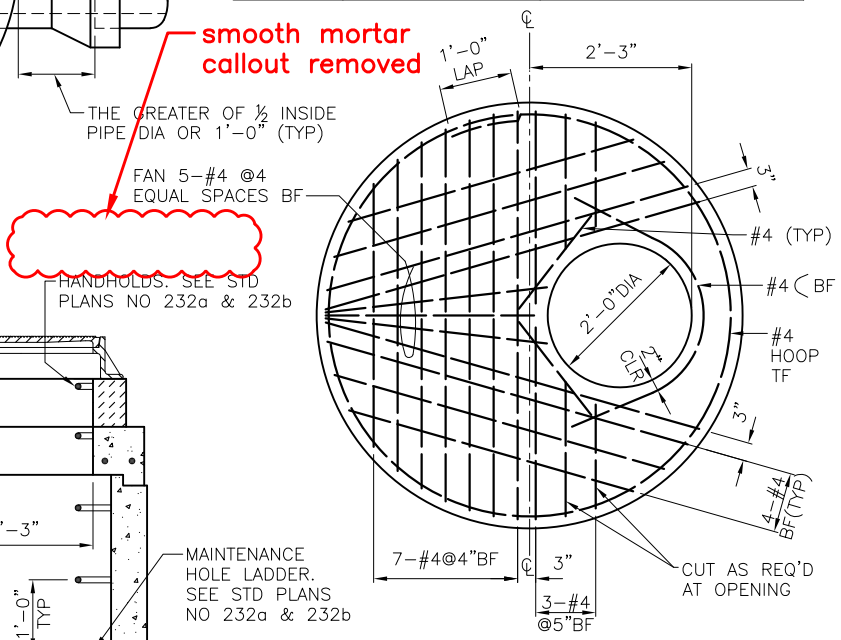
REV DATE: NOV 2019



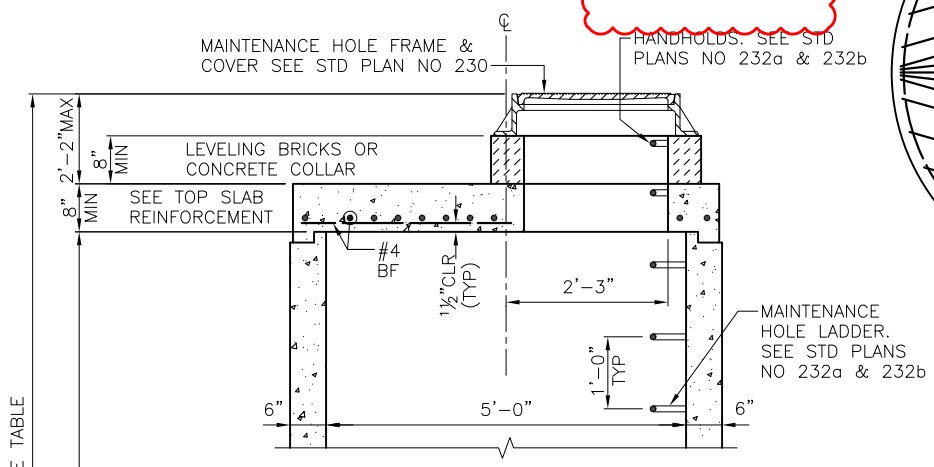
PLAN VIEW
(TOP REMOVED)

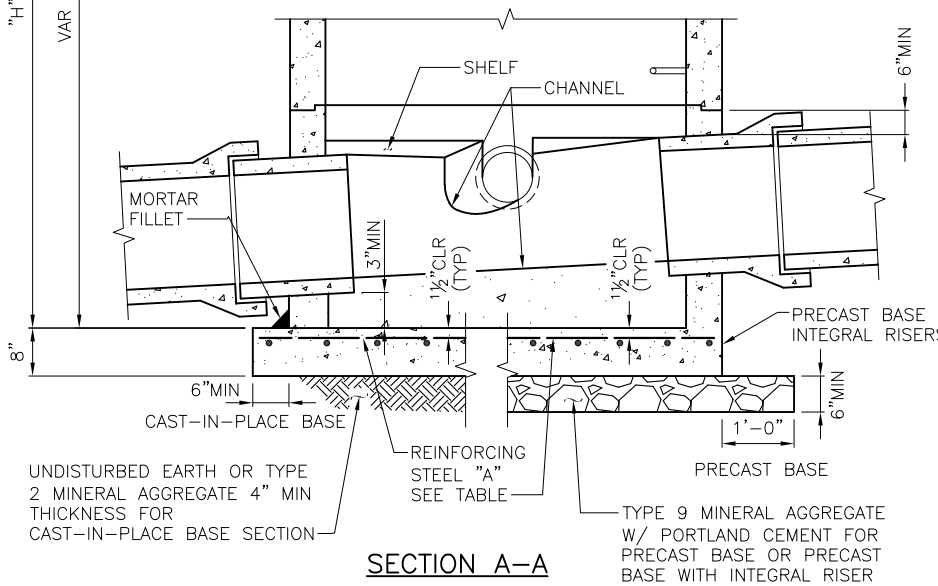
"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.33	0.25
30' MAX	0.41	0.31
40' MAX	0.49	0.37

smooth mortar callout removed



TOP SLAB REINFORCEMENT





SECTION A-A

NOTES:

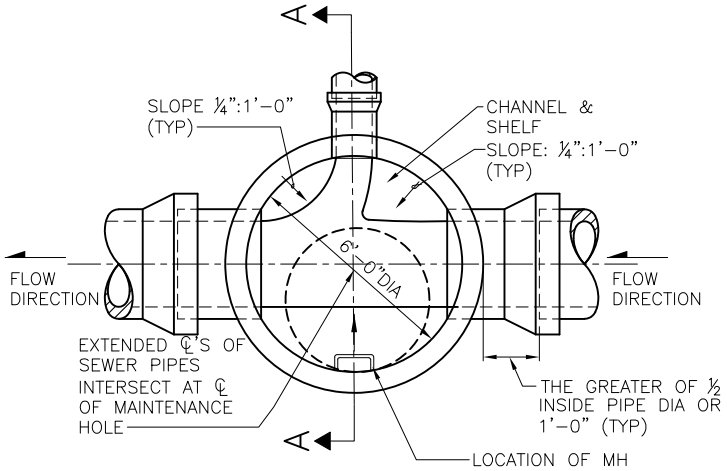
1. MATERIALS: CONCRETE-CLASS 4000; REINFORCING STEEL-ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL - CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 6 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 8 IN.

REF STD SPEC SEC 7-05

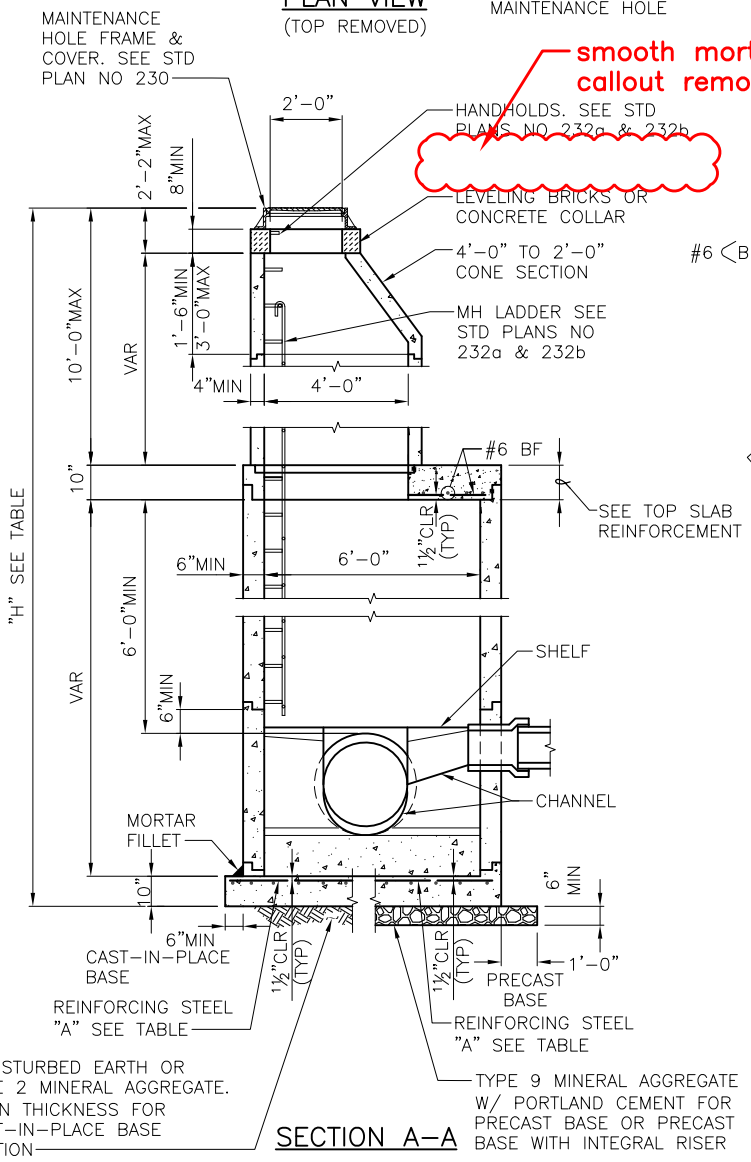
City of Seattle	NOT TO SCALE	TYPE 205b MAINTENANCE HOLE

REV DATE: NOV 2019

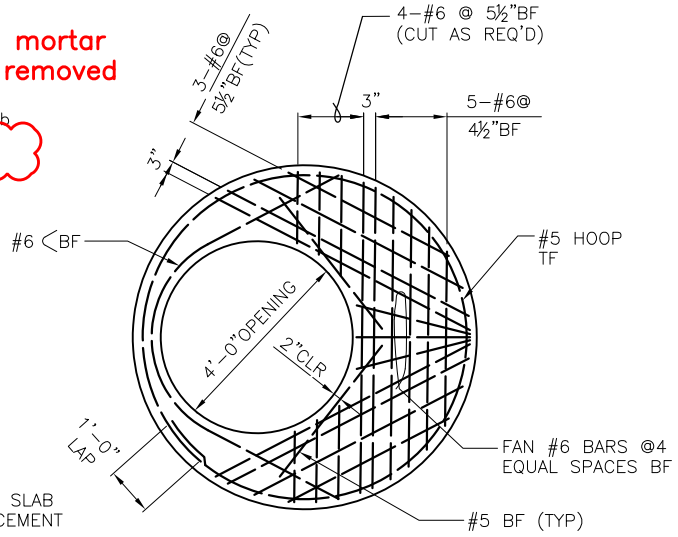
"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.39	0.30
30' MAX	0.47	0.37
40' MAX	0.56	0.46



PLAN VIEW
(TOP REMOVED)



SECTION A-A



TOP SLAB REINFORCEMENT

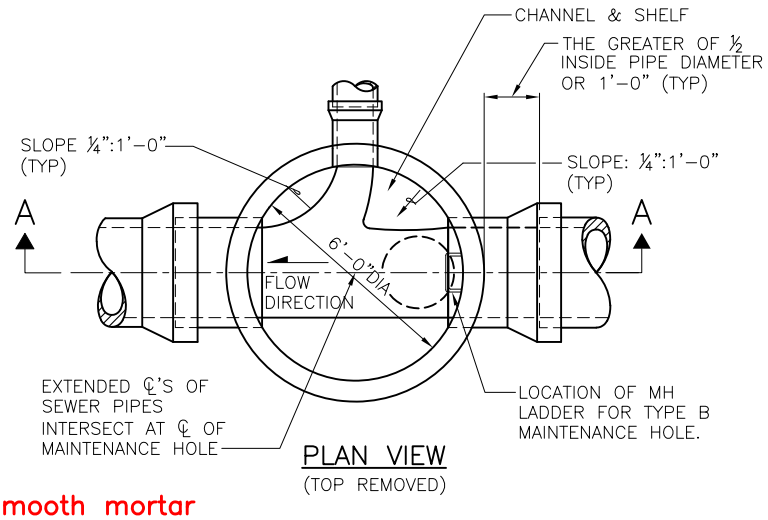
NOTES:

1. MATERIALS: CONCRETE-CLASS 4000; REINFORCING STEEL-ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL - CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 7 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 12 IN.

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	TYPE 206a MAINTENANCE HOLE

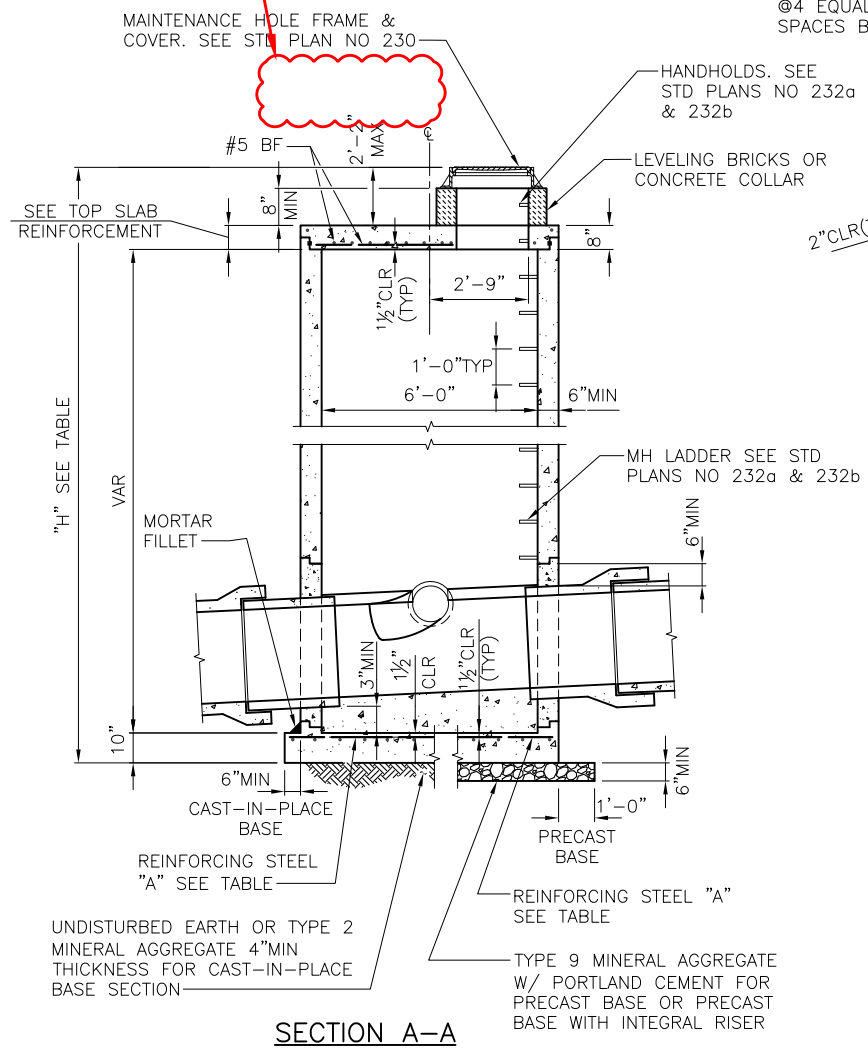
REV DATE: NOV 2019



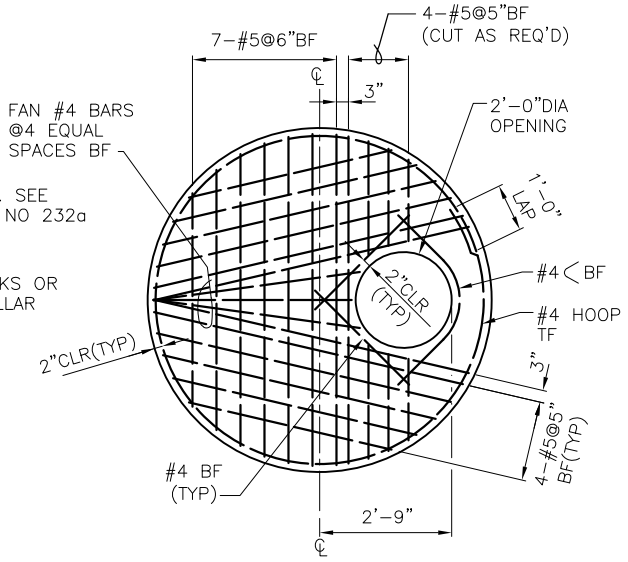
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.29	0.24
30' MAX	0.41	0.32
40' MAX	0.49	0.41

smooth mortar callout removed



SECTION A–A



TOP SLAB REINFORCEMENT

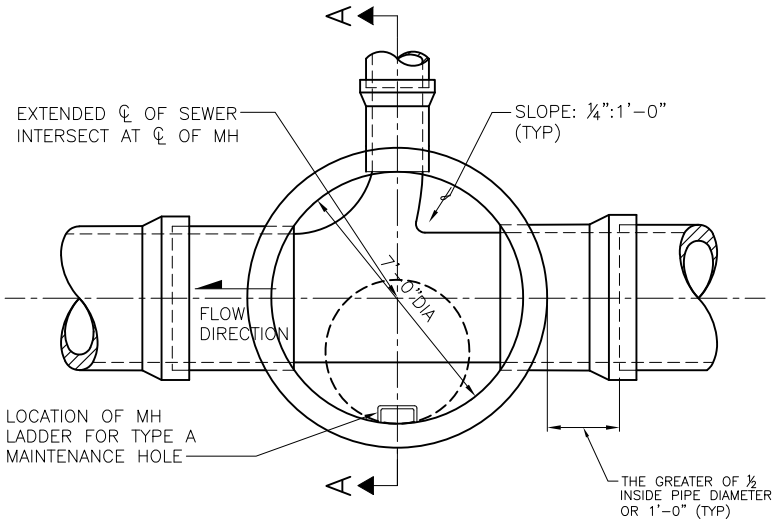
NOTES:

1. MATERIALS: CONCRETE–CLASS 4000; REINFORCING STEEL–ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL – CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 7 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 12 IN.

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 206b MAINTENANCE HOLE

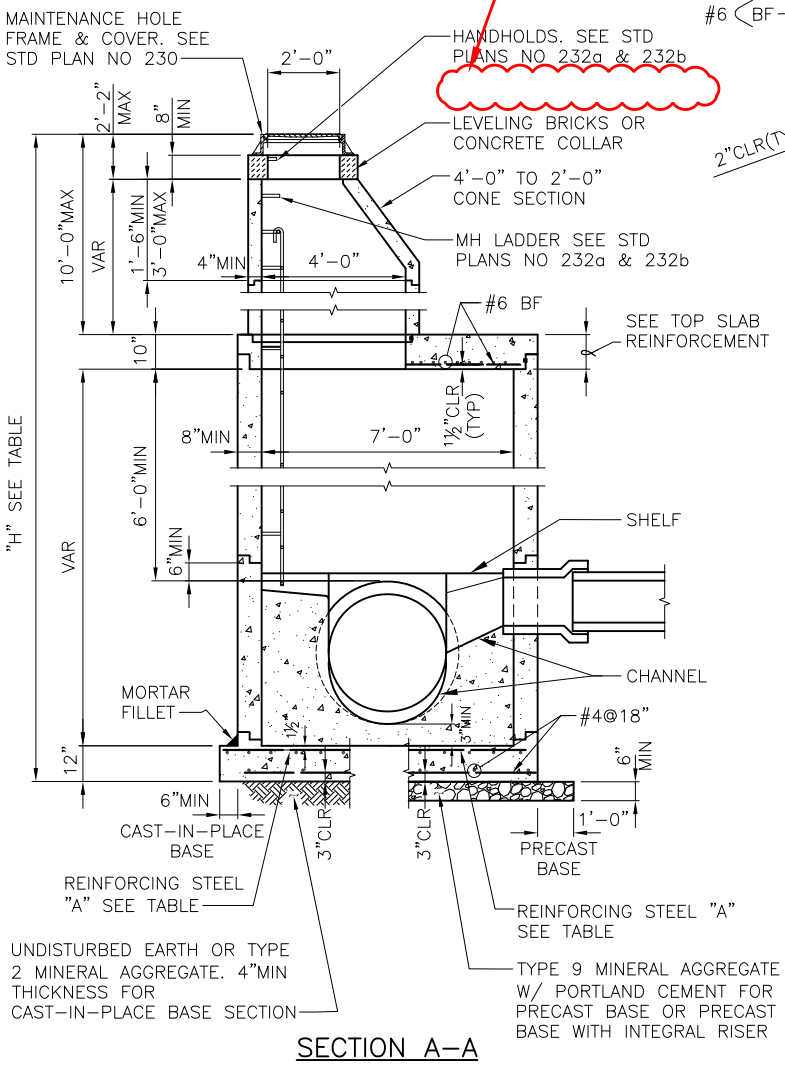
REV DATE: NOV 2019



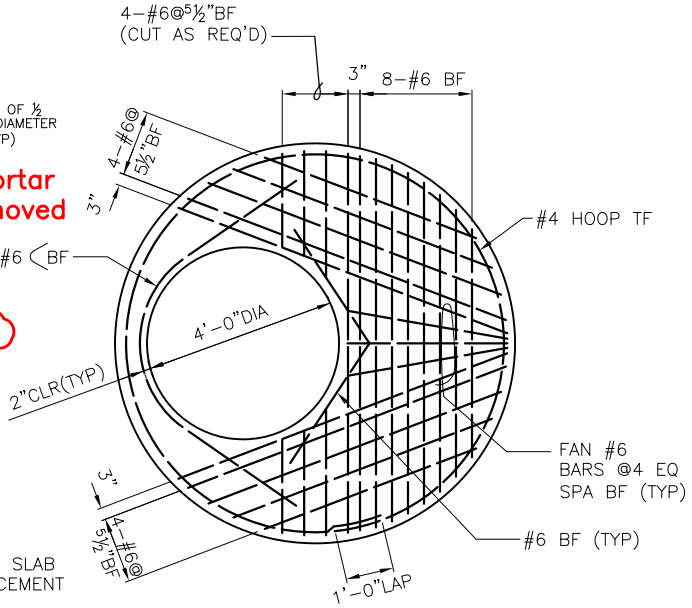
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.42	034
30' MAX	0.51	0.41
40' MAX	0.60	0.48

smooth mortar callout removed



SECTION A–A



TOP SLAB REINFORCEMENT

NOTES:

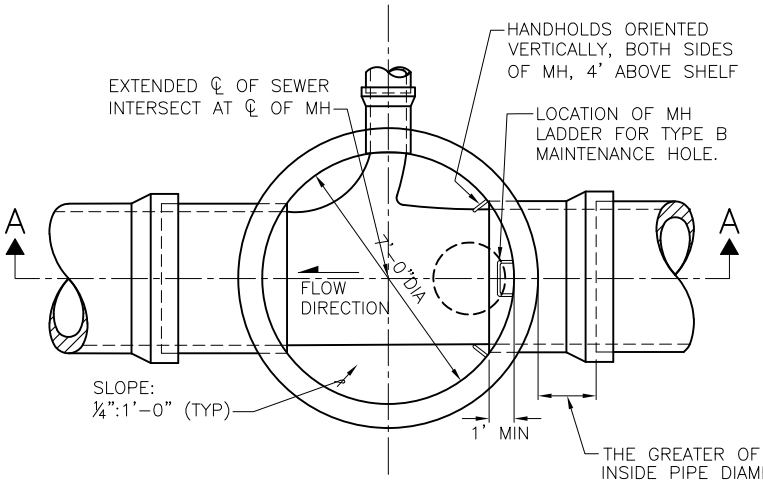
1. MATERIALS: CONCRETE–CLASS 4000; REINFORCING STEEL–ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL – CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 8 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 12 IN.

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	TYPE 207a MAINTENANCE HOLE

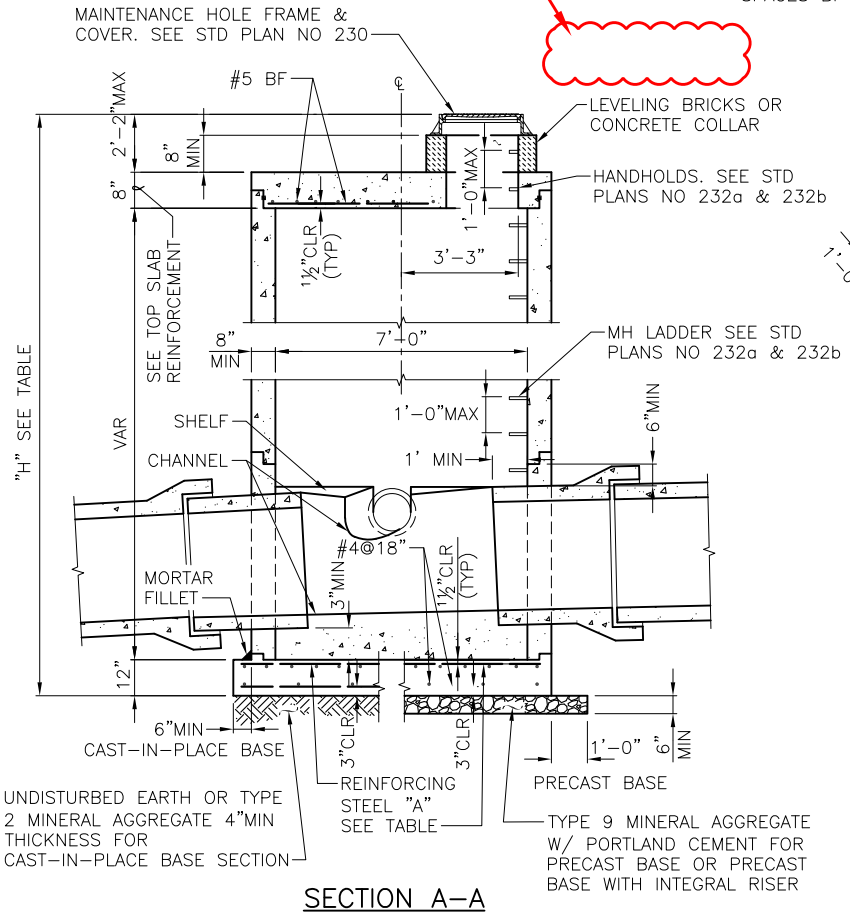
REV DATE: NOV 2019

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.34	0.27
30' MAX	0.43	0.35
40' MAX	0.52	0.42

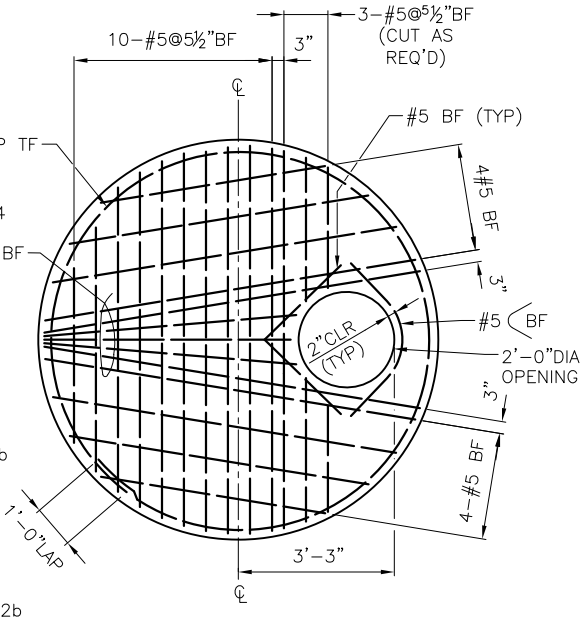


PLAN VIEW
(TOP REMOVED)

smooth mortar callout removed



SECTION A-A



TOP SLAB REINFORCEMENT

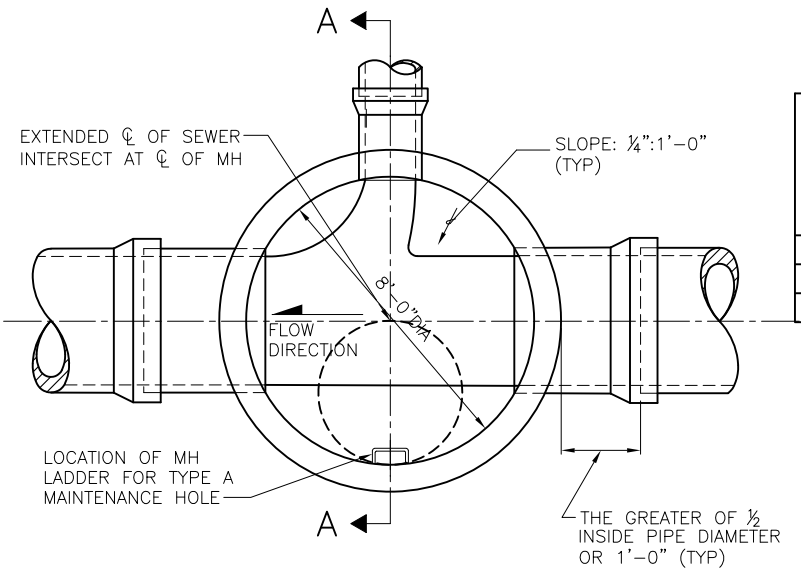
NOTES:

1. MATERIAL: CONCRETE-CLASS 4000; REINFORCING STEEL-ASTM A615 GRADE 60 MIN; CHANNEL AND SHELF MATERIAL-CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 8 IN. MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3 IN. MIN CLEAR DISTANCE BETWEEN HOLES IS 12 IN.

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 207b MAINTENANCE HOLE

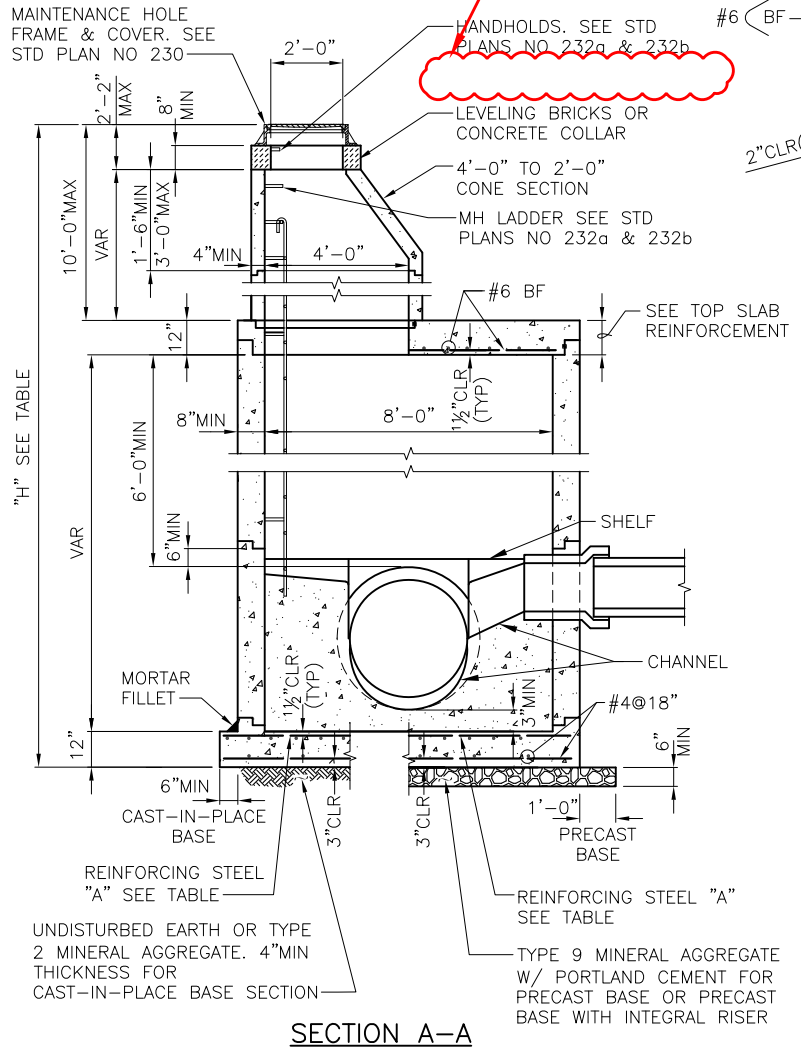
REV DATE: NOV 2019



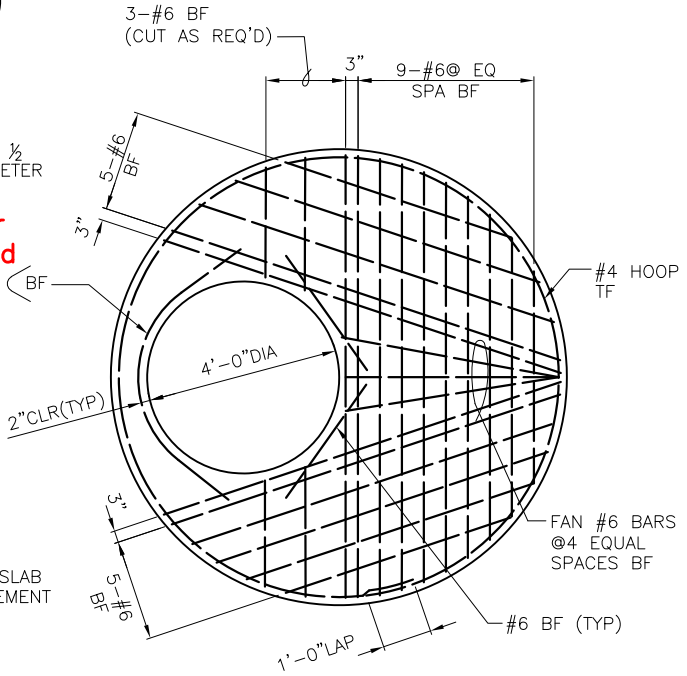
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.54	0.45
30' MAX	0.66	0.55
40' MAX	0.78	0.64

smooth mortar callout removed



SECTION A–A



TOP SLAB REINFORCEMENT

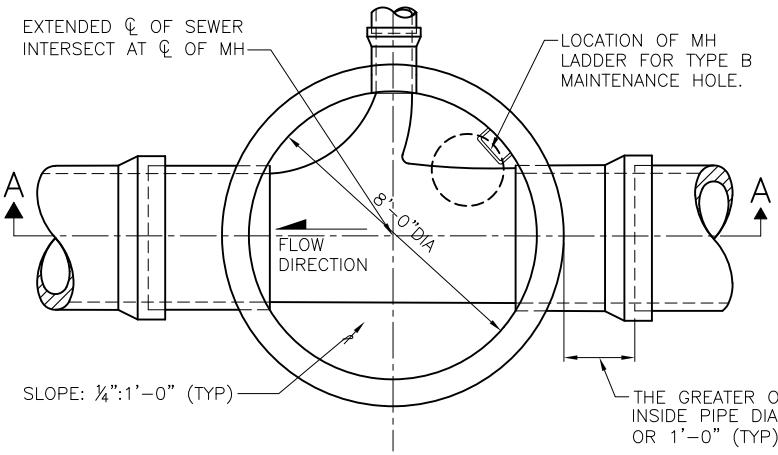
NOTES:

1. MATERIAL; CONCRETE–CLASS 4000 REINFORCING STEEL–ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 9". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

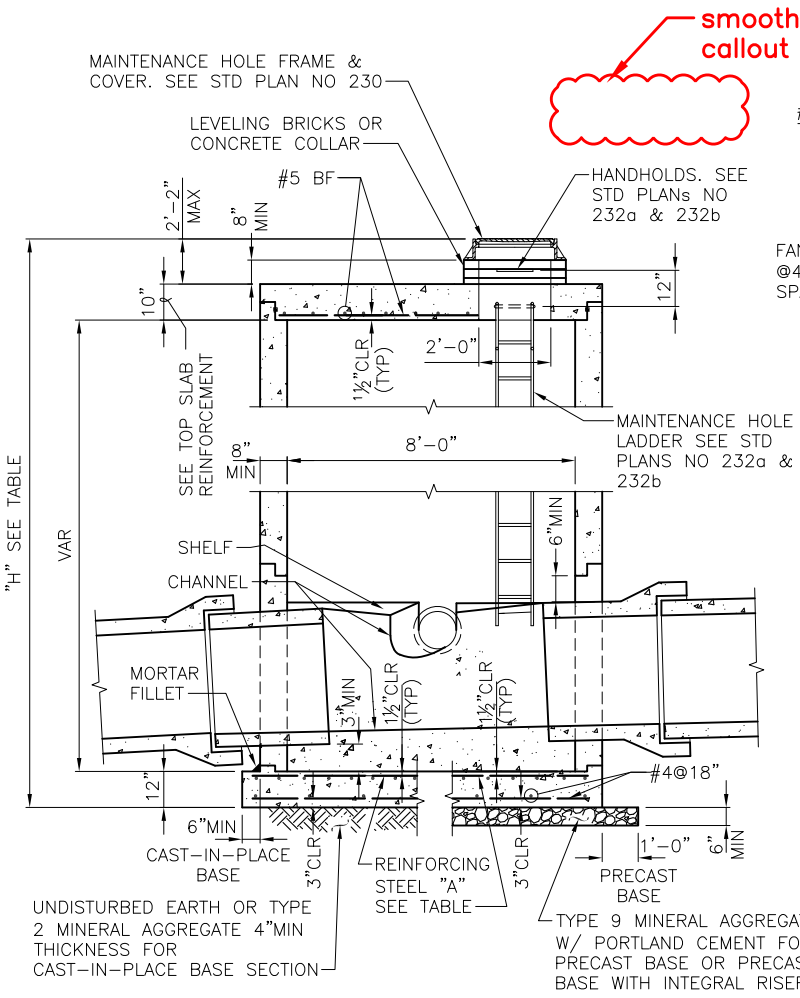
City of Seattle	NOT TO SCALE	TYPE 208a MAINTENANCE HOLE

REV DATE: NOV 2019

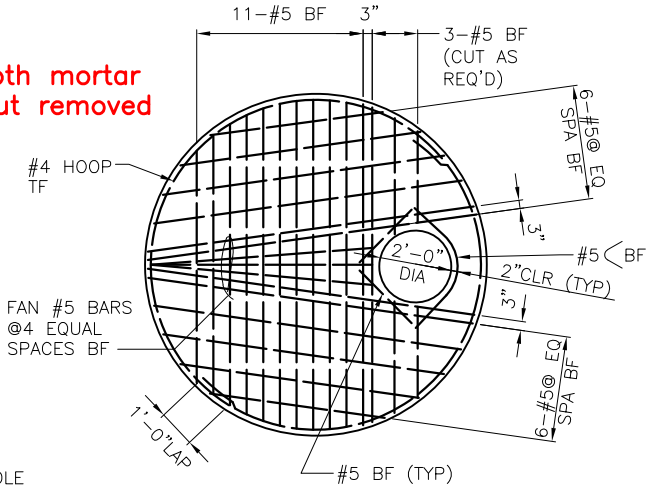


PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.42	0.35
30' MAX	0.53	0.45
40' MAX	0.65	0.54



SECTION A-A



TOP SLAB REINFORCEMENT

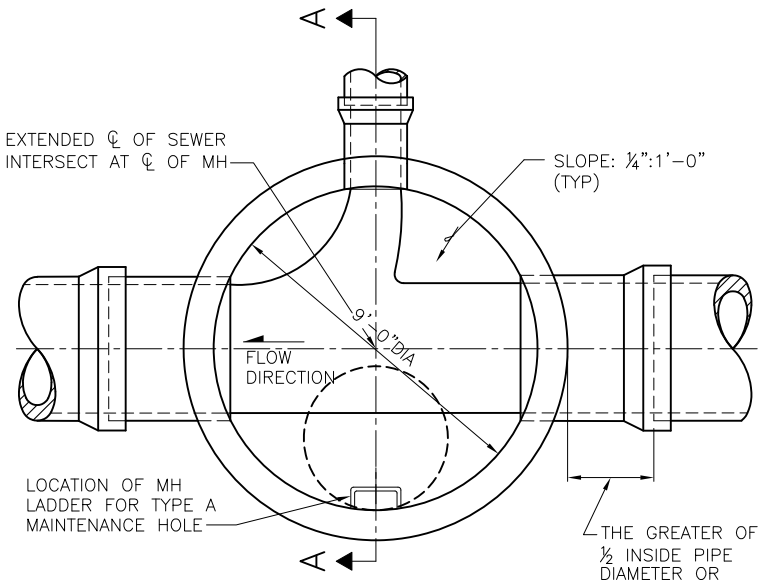
NOTES:

1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 9". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

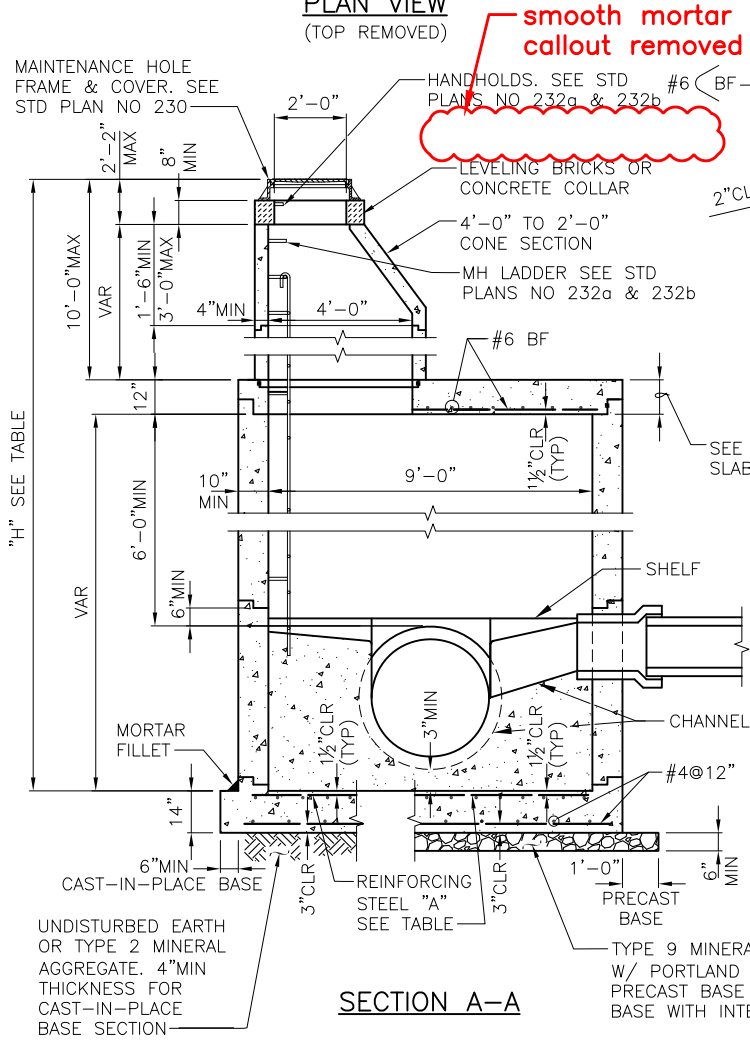
City of Seattle	NOT TO SCALE	TYPE 208b MAINTENANCE HOLE

REV DATE: NOV 2019

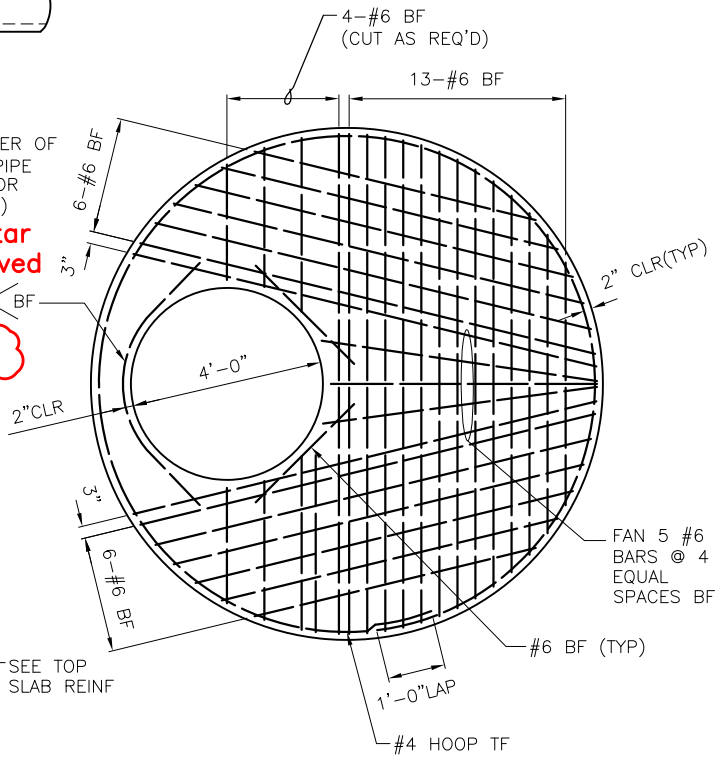


PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.57	0.49
30' MAX	0.70	0.59
40' MAX	0.81	0.69



SECTION A–A



TOP SLAB REINFORCEMENT

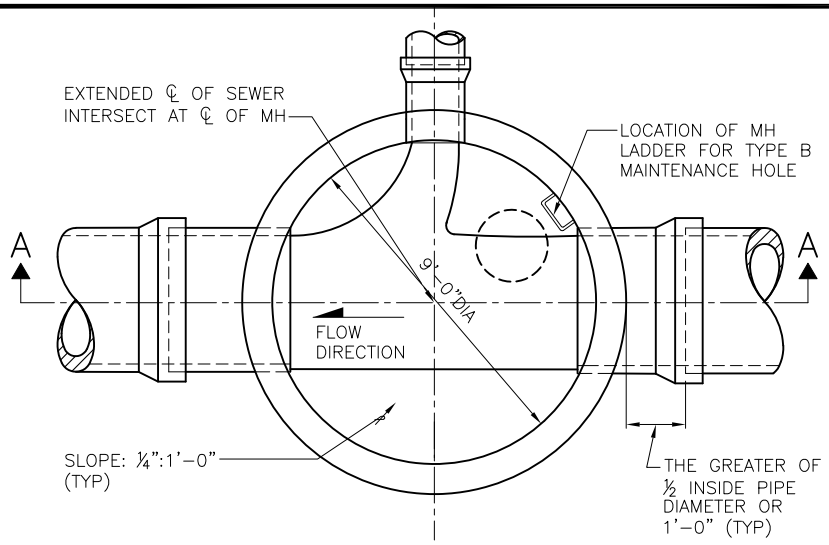
NOTES:

1. MATERIAL; CONCRETE–CLASS 4000 REINFORCING STEEL–ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 10". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	TYPE 209a MAINTENANCE HOLE

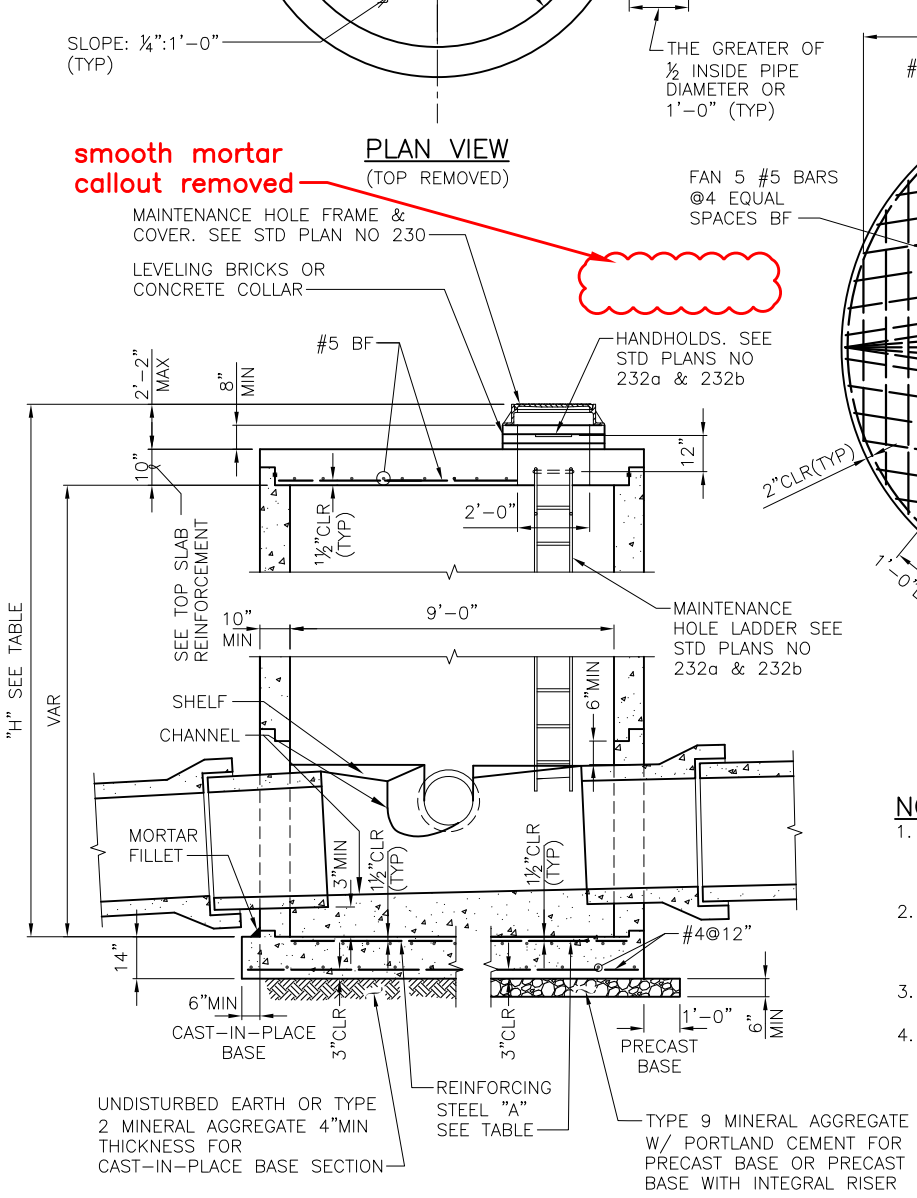
REV DATE: NOV 2019



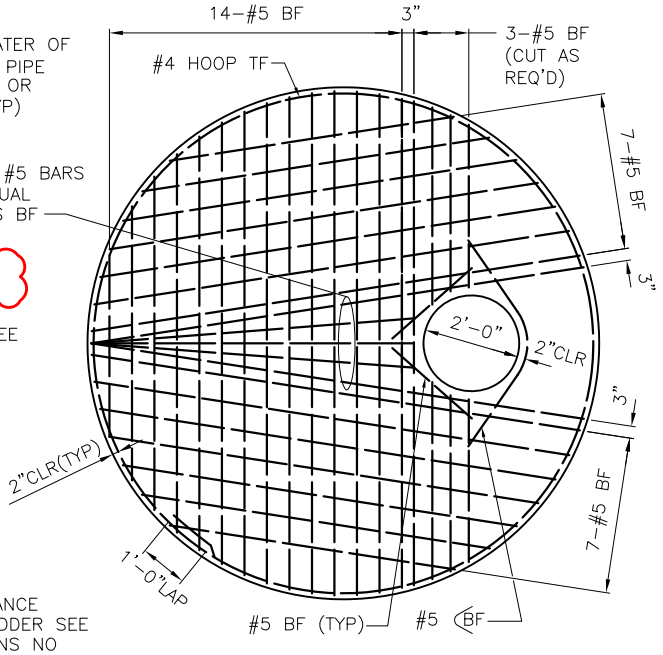
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.44	0.37
30' MAX	0.56	0.48
40' MAX	0.68	0.58

smooth mortar callout removed



SECTION A-A



TOP SLAB REINFORCEMENT

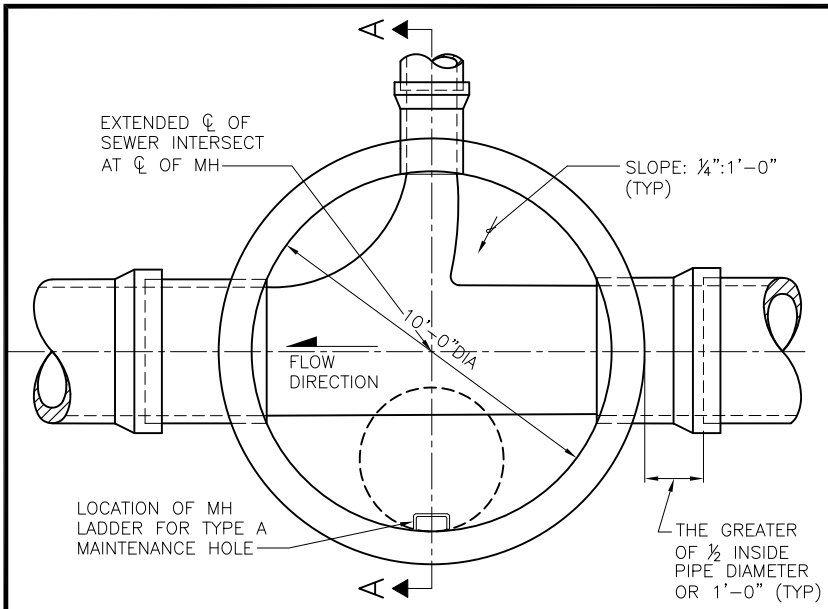
NOTES:

1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 10". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 209b MAINTENANCE HOLE

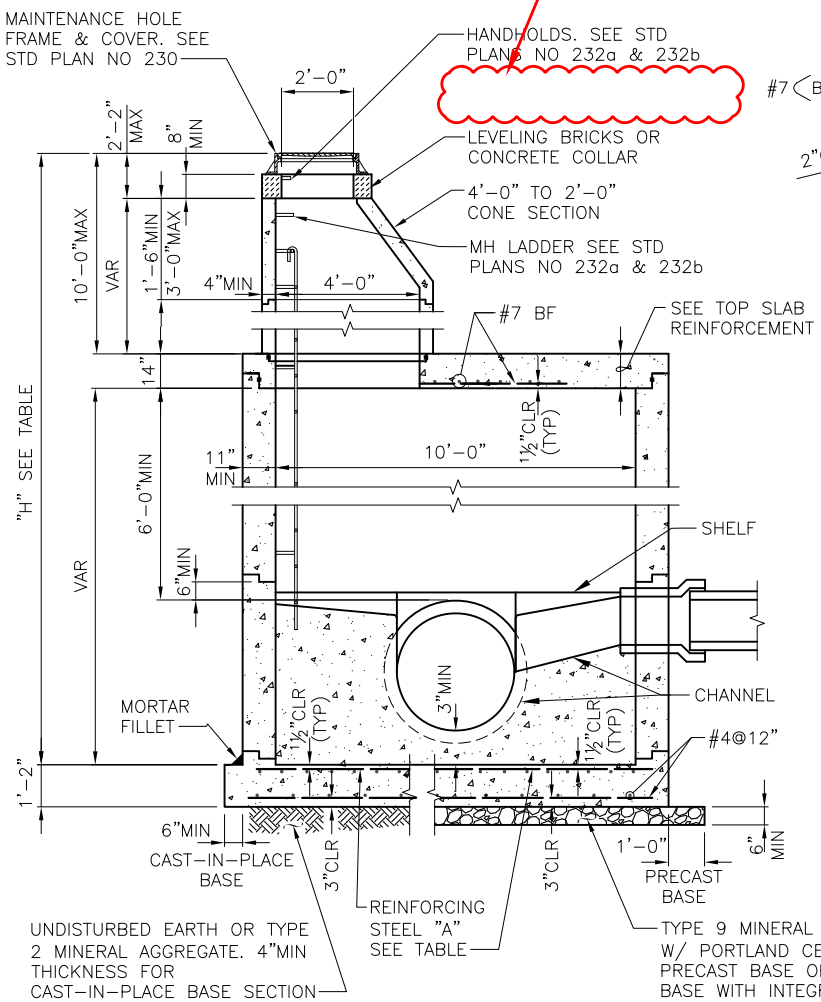
REV DATE: NOV 2019



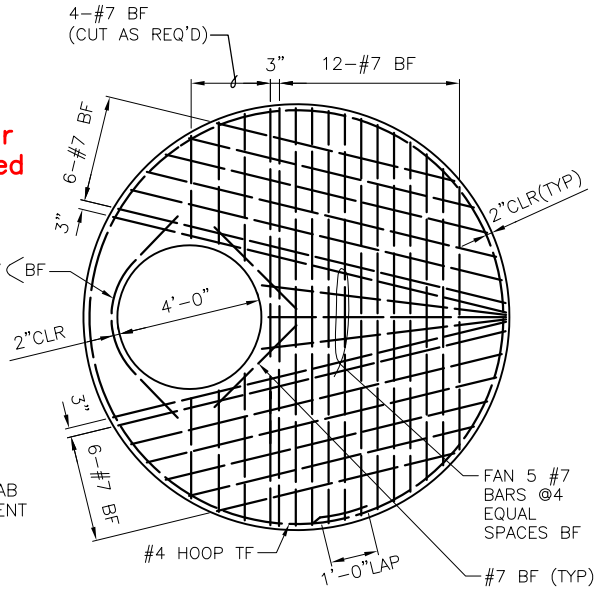
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.70	0.60
30' MAX	0.85	0.73
40' MAX	1.00	0.86

smooth mortar callout removed



SECTION A–A



TOP SLAB REINFORCEMENT

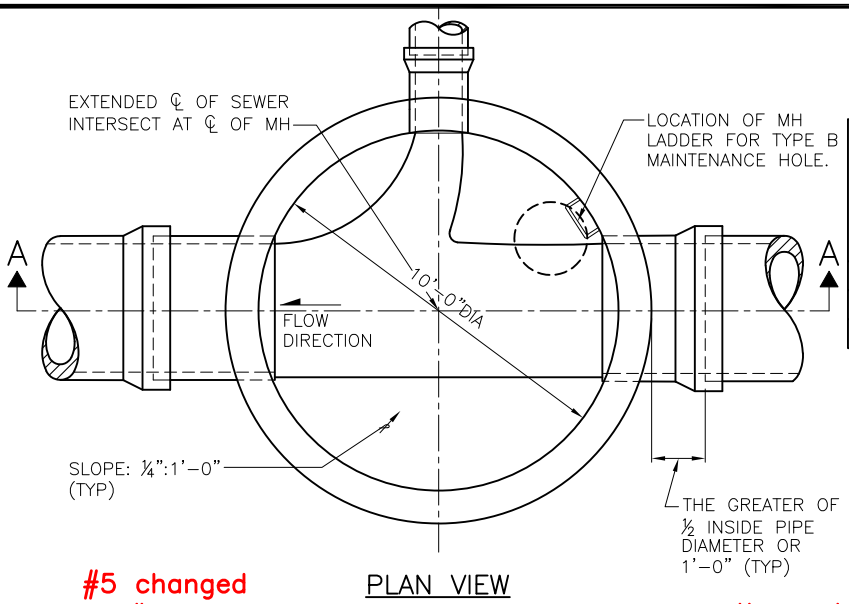
NOTES:

1. MATERIAL; CONCRETE–CLASS 4000 REINFORCING STEEL–ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 11". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 210a MAINTENANCE HOLE

REV DATE: NOV 2019

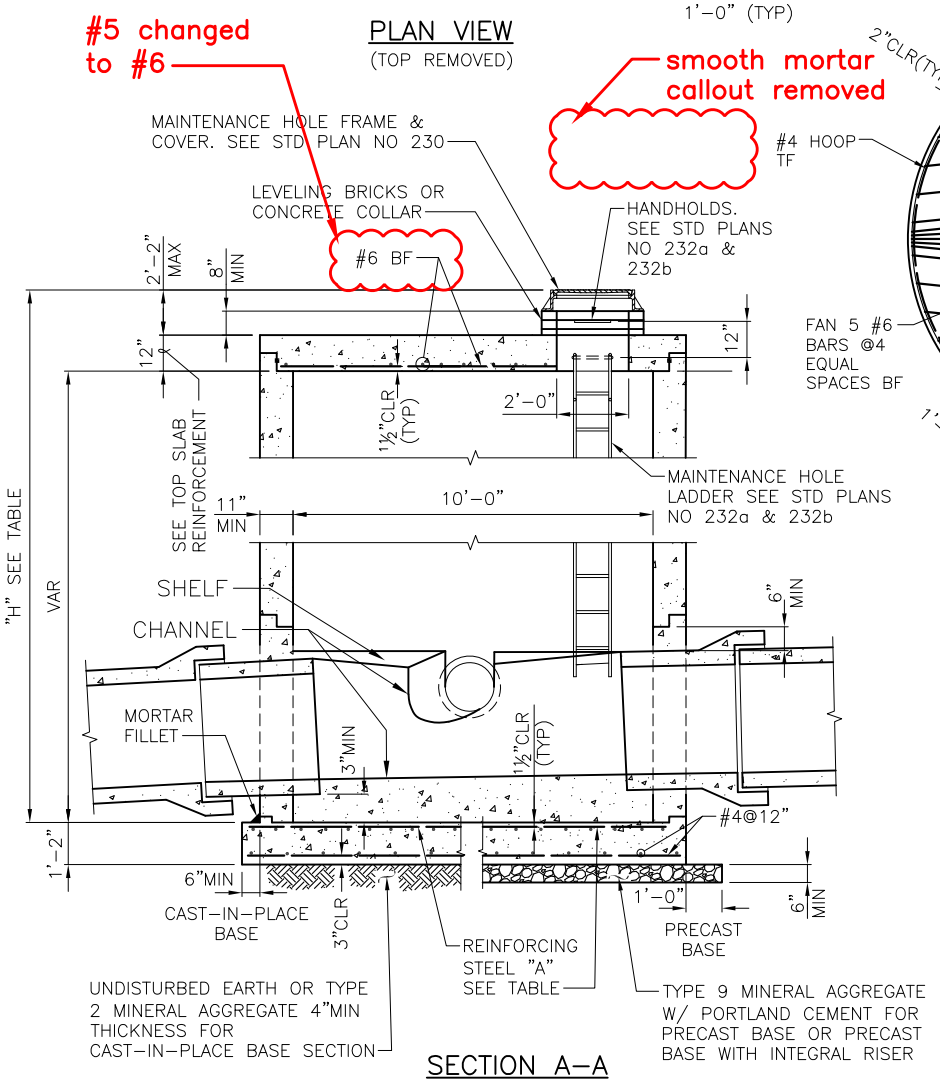


PLAN VIEW
(TOP REMOVED)

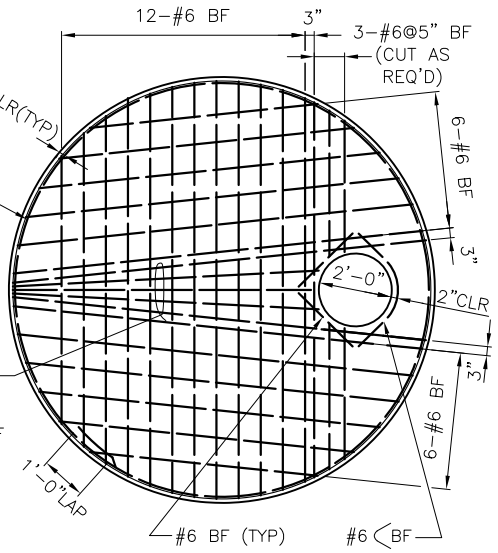
"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	052	0.45
30' MAX	0.66	0.57
40' MAX	0.81	0.70

#5 changed to #6

smooth mortar callout removed



SECTION A-A



TOP SLAB REINFORCEMENT

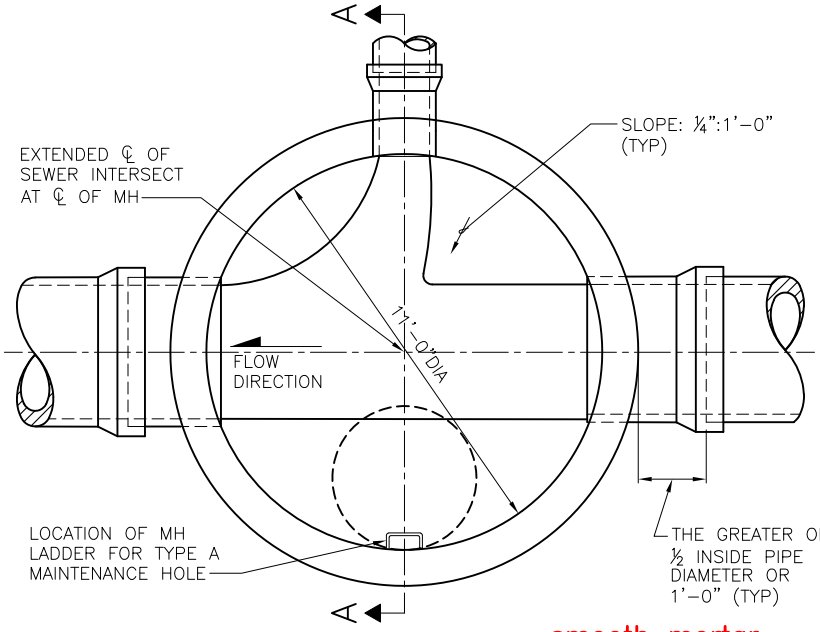
NOTES:

1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN
   CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 11". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

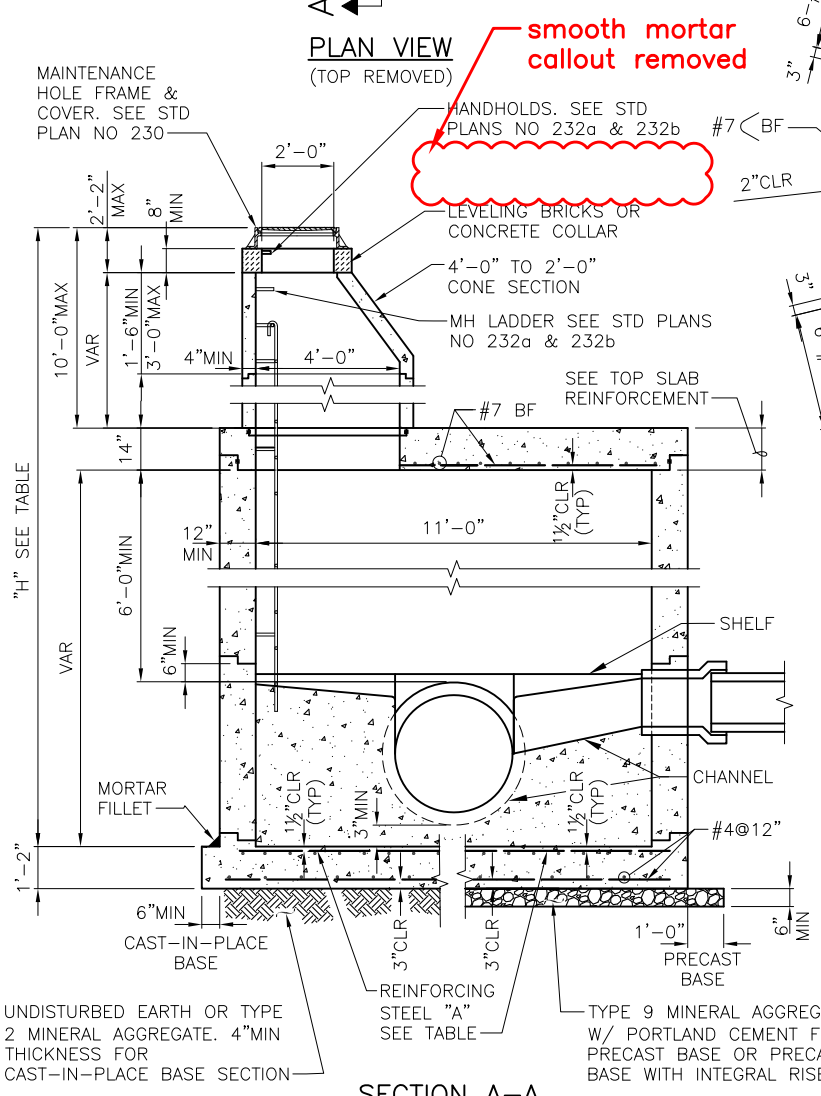
City of Seattle	NOT TO SCALE	TYPE 210b MAINTENANCE HOLE

REV DATE: NOV 2019

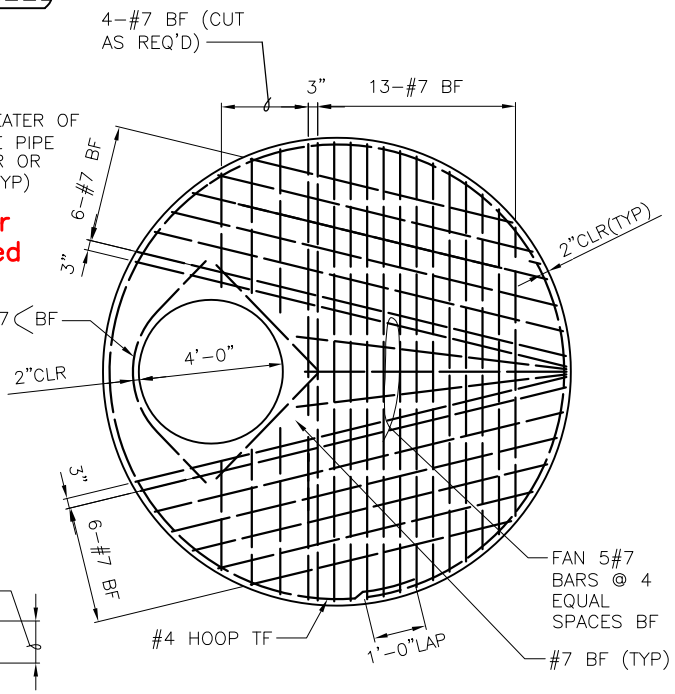


PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST–IN–PLACE BASE
20' MAX	0.85	0.74
30' MAX	1.02	0.89
40' MAX	1.20	1.05



SECTION A–A



TOP SLAB REINFORCEMENT

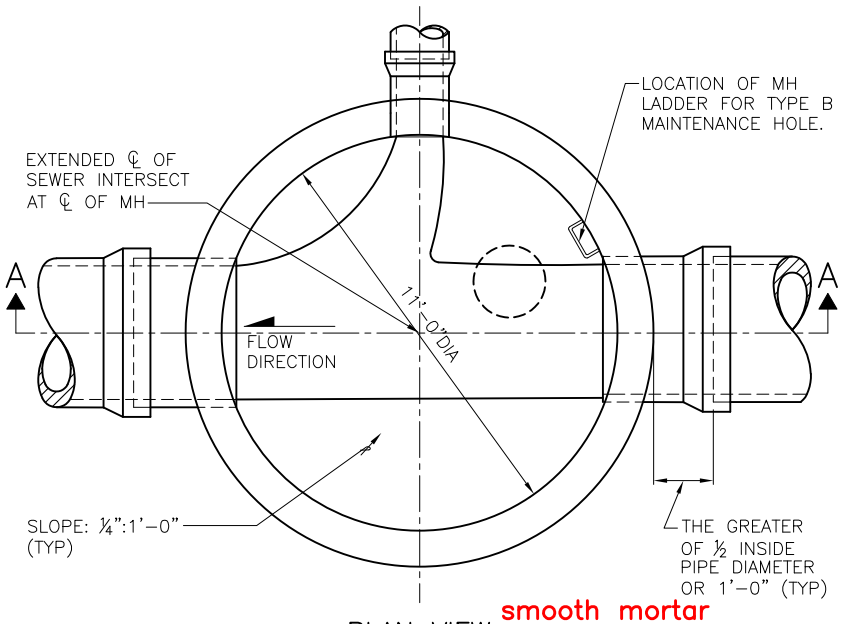
NOTES:

1. MATERIAL; CONCRETE–CLASS 4000 REINFORCING STEEL–ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 12". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 211a MAINTENANCE HOLE

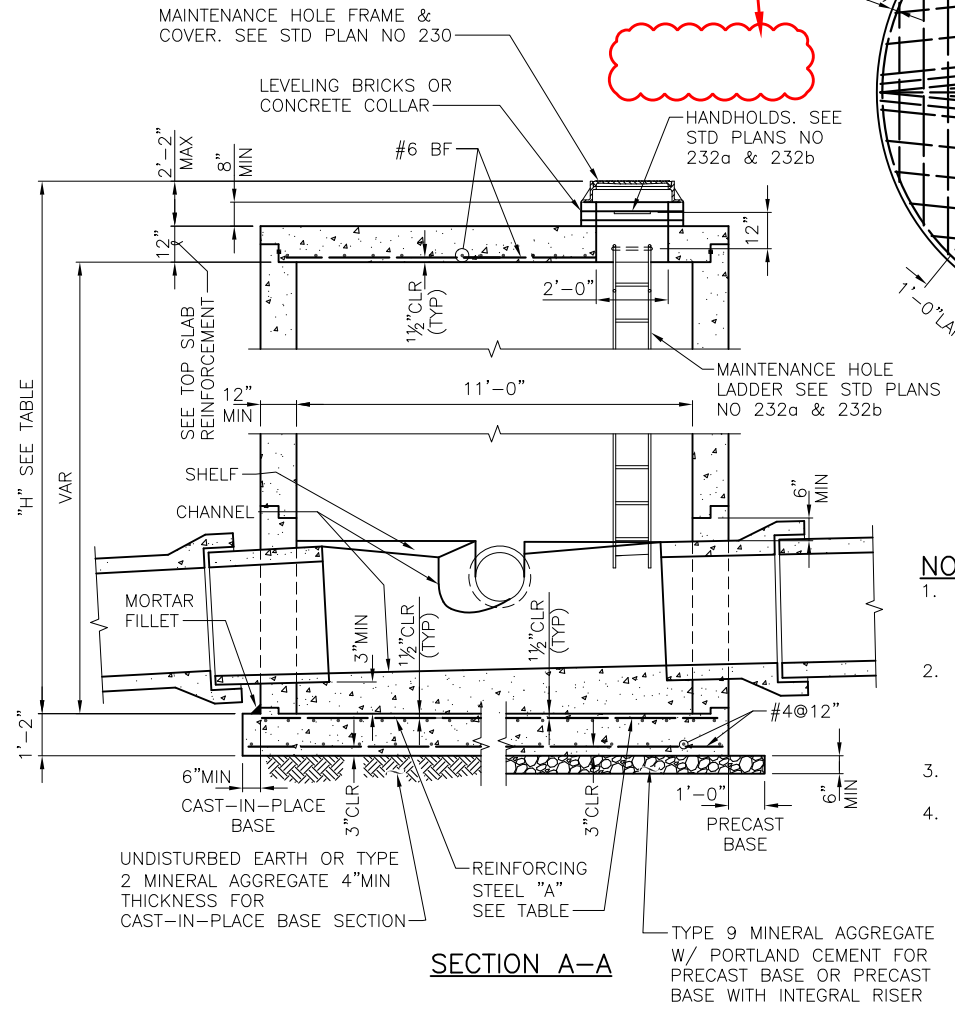
REV DATE: NOV 2019



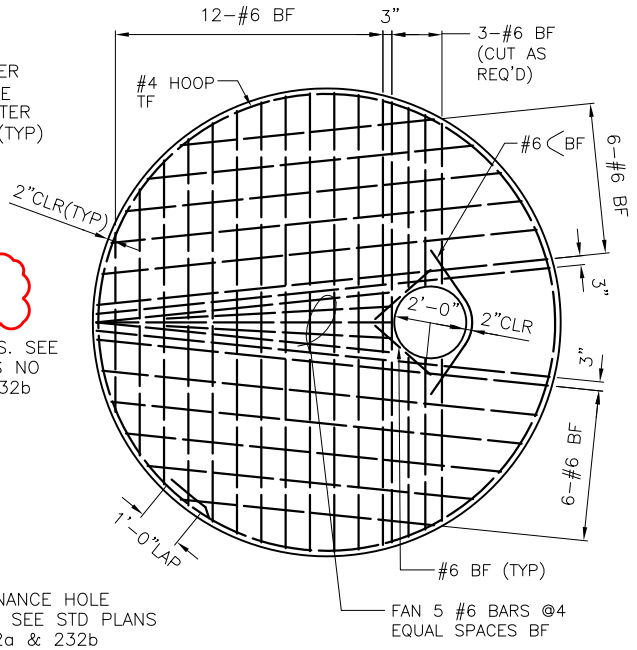
PLAN VIEW
(TOP REMOVED)

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.62	0.54
30' MAX	0.79	0.69
40' MAX	0.97	0.85

smooth mortar callout removed



SECTION A-A



TOP SLAB REINFORCEMENT

NOTES:

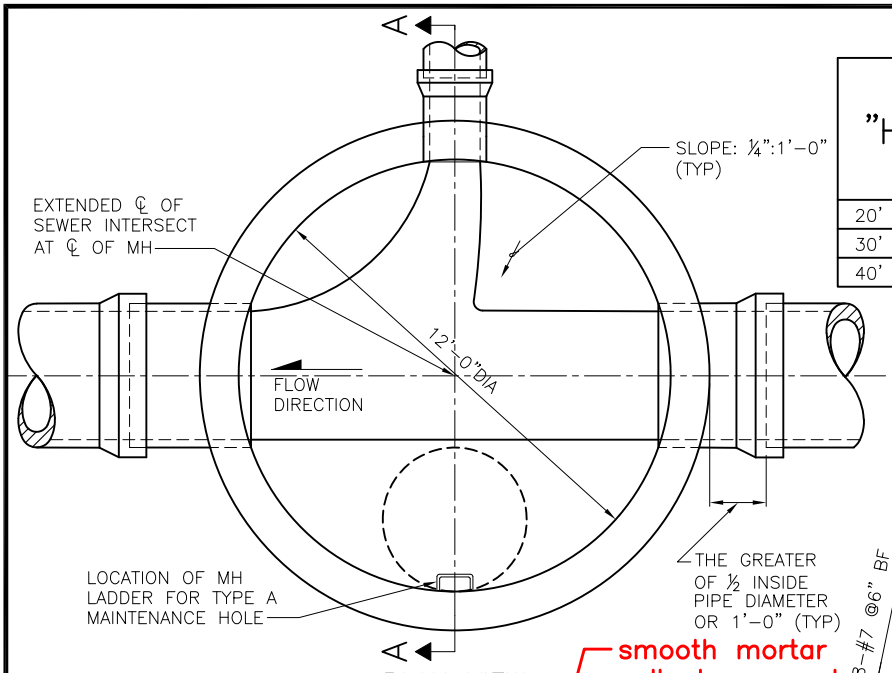
1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 12". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 211b MAINTENANCE HOLE

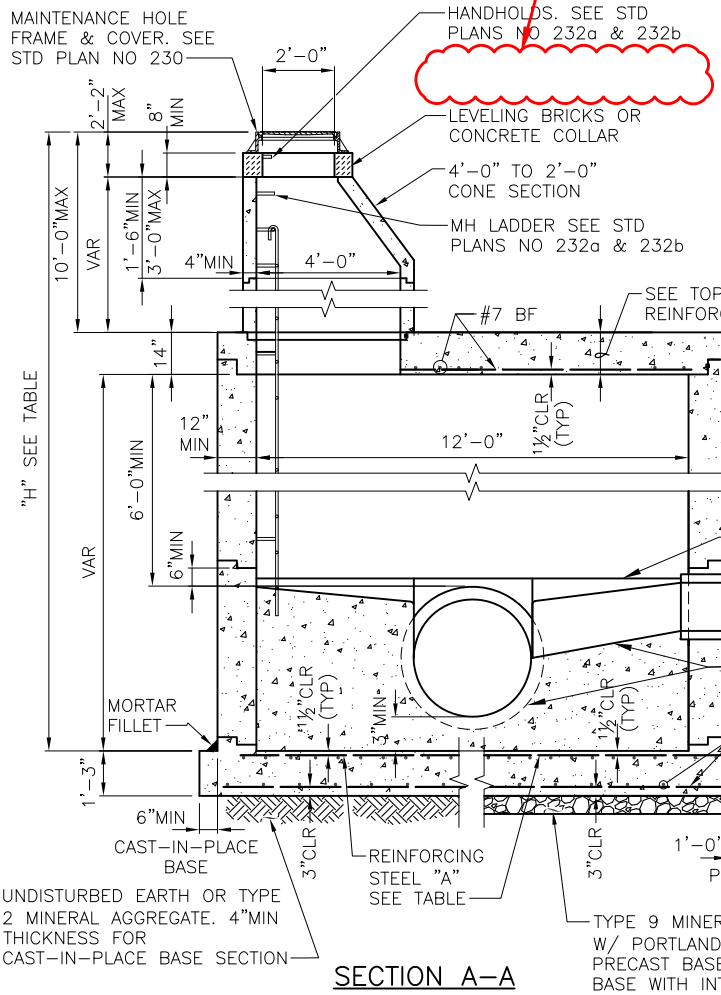
REV DATE: NOV 2019

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	1.01	0.89
30' MAX	1.28	1.13
40' MAX	1.56	1.37

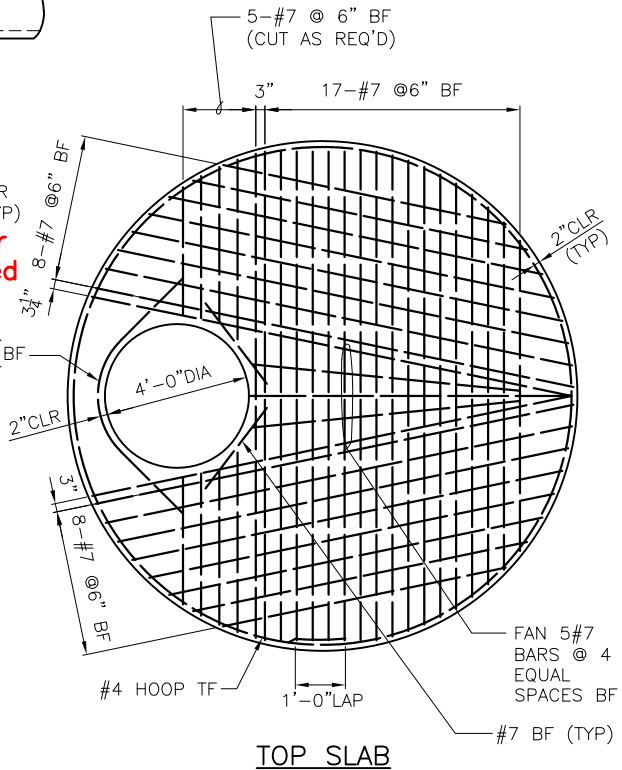


PLAN VIEW
(TOP REMOVED)

smooth mortar callout removed



SECTION A-A



TOP SLAB REINFORCEMENT

NOTES:

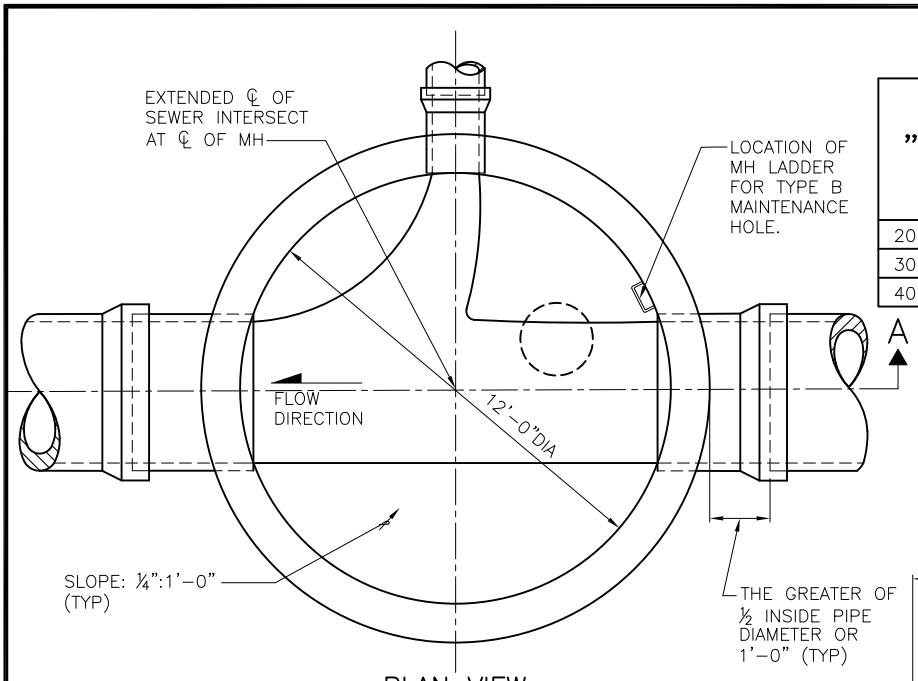
1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 13". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

City of Seattle | NOT TO SCALE | TYPE 212a MAINTENANCE HOLE

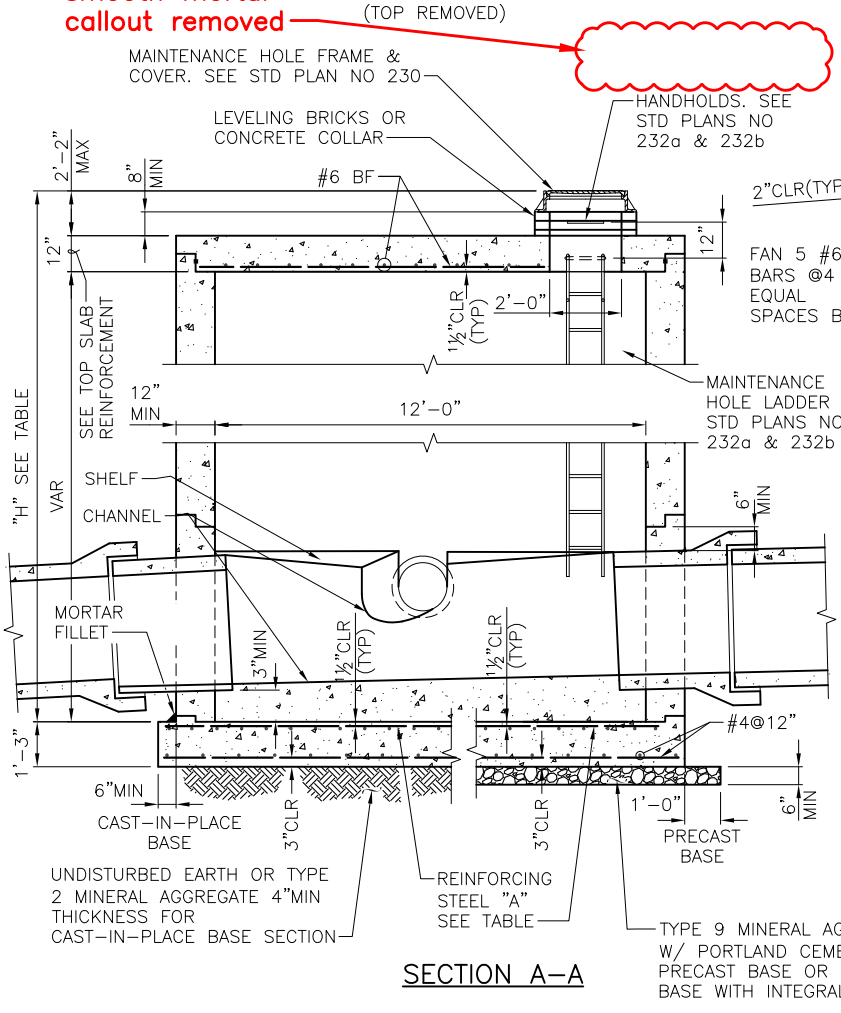
REV DATE: NOV 2019

"H"	REINFORCING STEEL "A" MIN. SQ IN/FT, TOP FACE, IN EACH DIRECTION	
	PRECAST BASE	CAST-IN-PLACE BASE
20' MAX	0.81	0.72
30' MAX	1.09	0.96
40' MAX	1.36	1.20

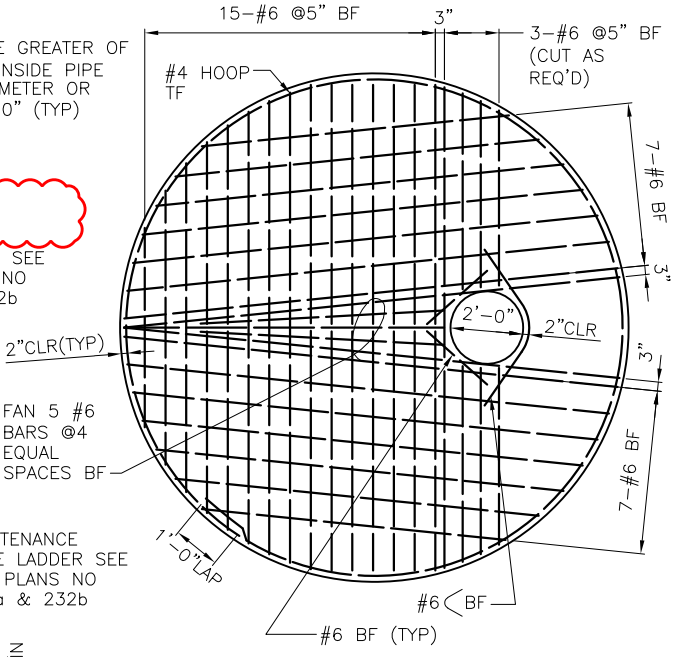


PLAN VIEW
(TOP REMOVED)

smooth mortar callout removed



SECTION A-A



TOP SLAB REINFORCEMENT

NOTES:

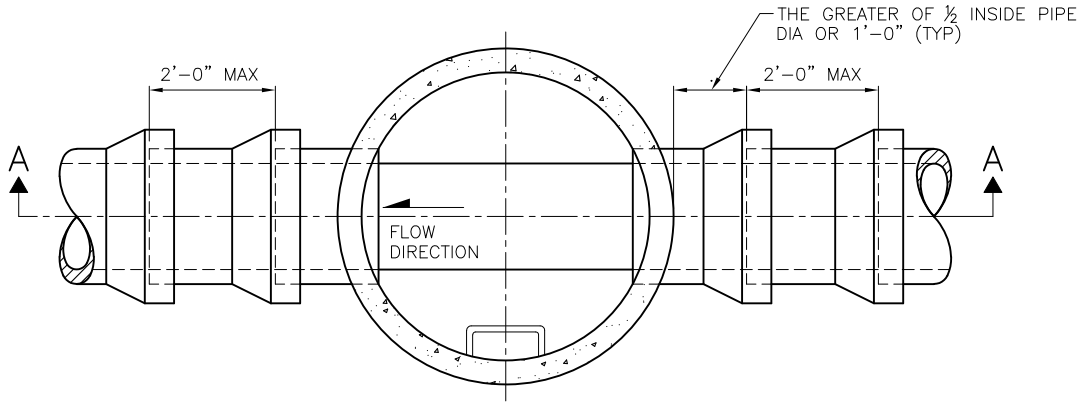
1. MATERIAL; CONCRETE-CLASS 4000 REINFORCING STEEL-ASTM A615 GRADE 60 MIN CHANNEL AND SHELF MATERIAL; CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS MUST CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS MUST BE RUBBER GASKETED CONFORMING TO ASTM C 443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT
4. MAX HOLE SIZE MUST BE OD OF PIPE PLUS 13". MIN HOLE SIZE MUST BE OD OF PIPE PLUS 3". MIN DISTANCE BETWEEN HOLES IS 12".

REF STD SPEC SEC 7-05

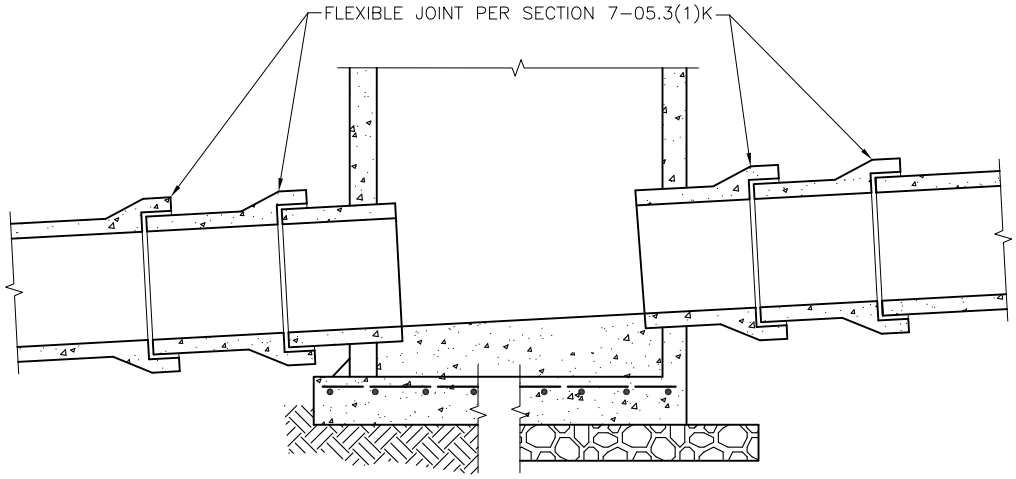
City of Seattle | NOT TO SCALE | TYPE 212b MAINTENANCE HOLE

REV DATE: NOV 2017

new standard plan



PLAN VIEW
(TOP REMOVED)



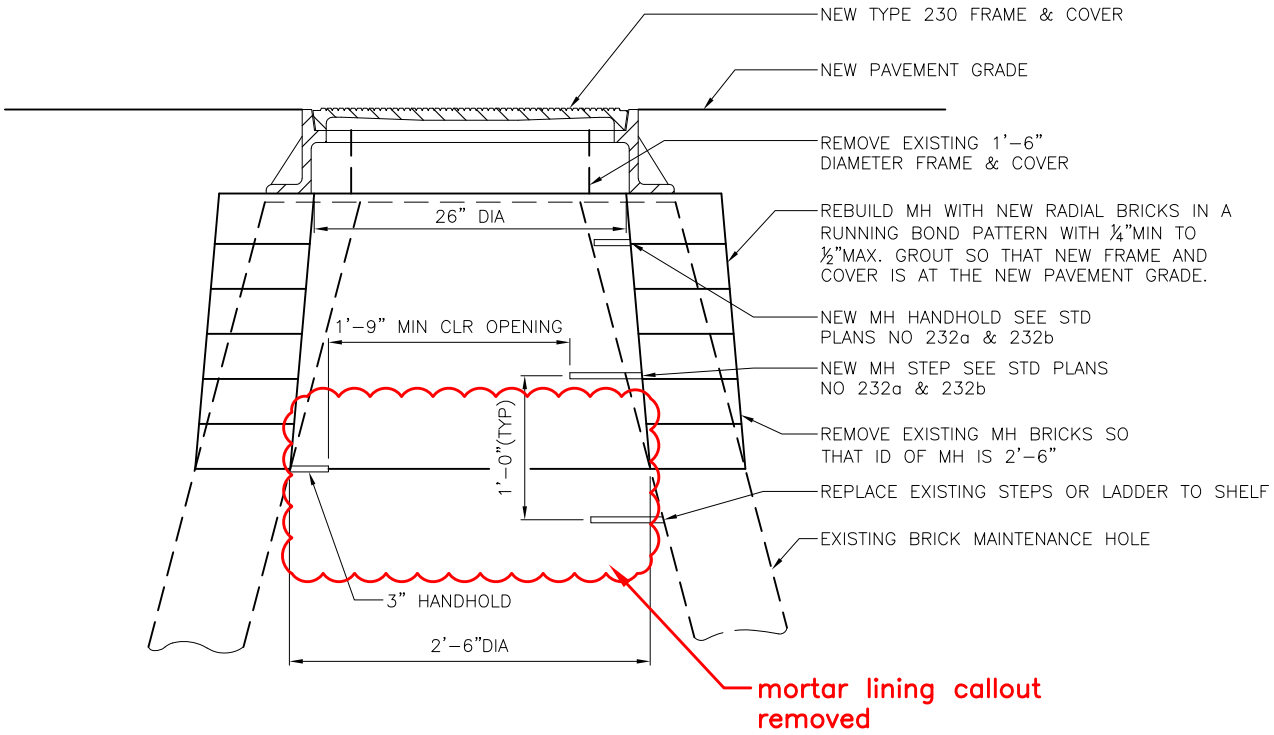
SECTION A–A

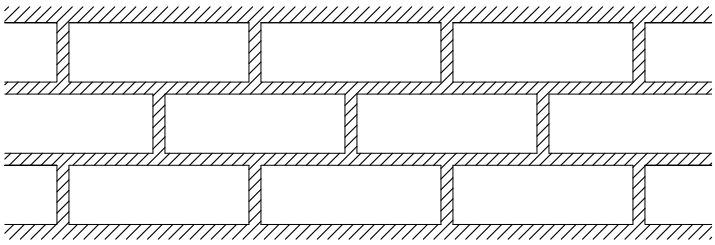
NOTES:
1. SEE STANDARD PLANS NO 204a THROUGH 212b FOR MAINTENANCE HOLE REQUIREMENTS.

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	FLEXIBLE JOINT FOR VCP CONNECTION TO MAINTENANCE HOLES

REV DATE: JAN 2018





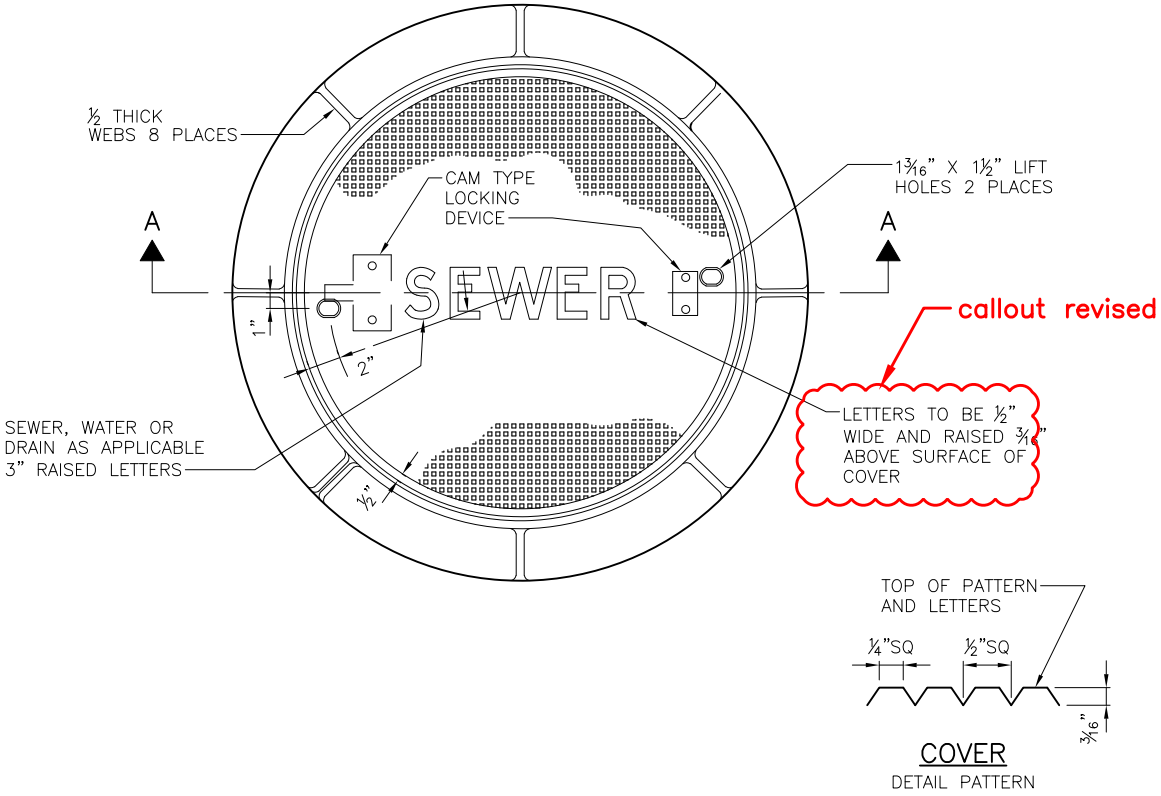
RUNNING BOND PATTERN

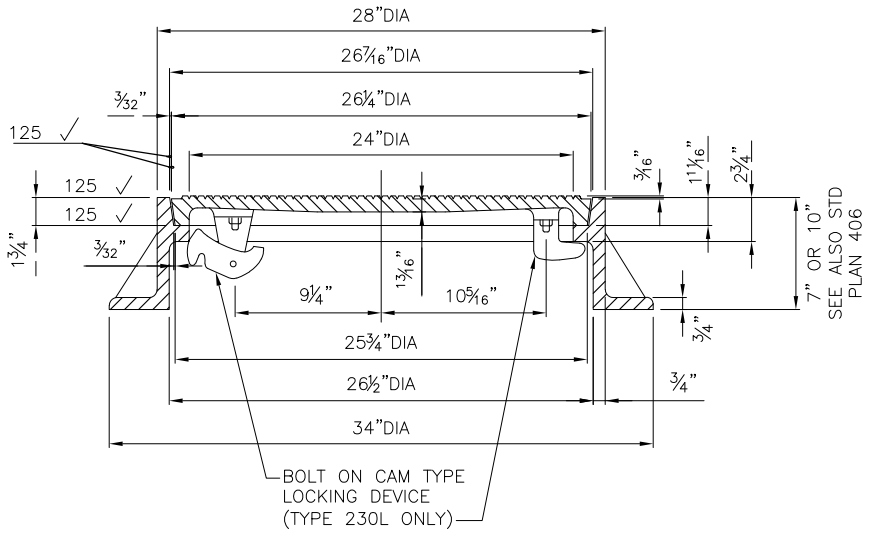
GROUT BETWEEN ALL BRICKS

REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	REBUILD EXISTING BRICK MAINTENANCE HOLE

REV DATE: DEC 2018





SECTION A–A

NOTES:

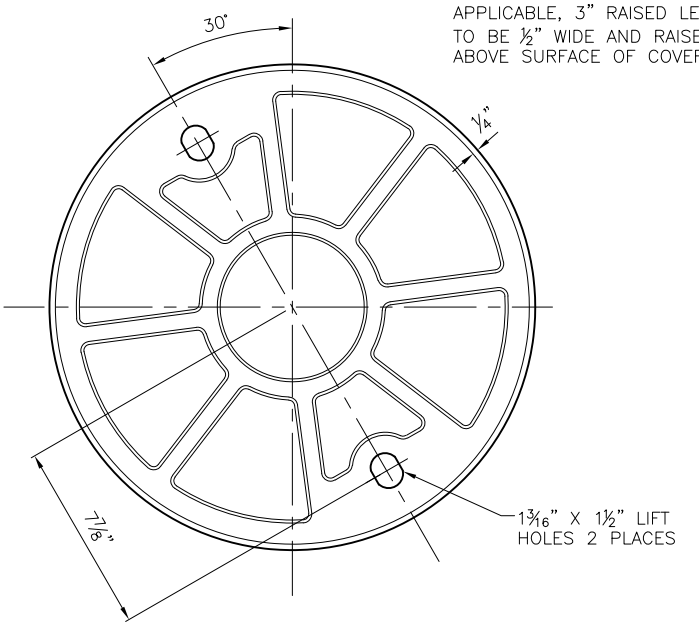
1. DESIGNATE LOCKING COVER AS TYPE 230L FOR USE IN NON–VEHICULAR TRAFFIC AREAS.
2. COVER THICKNESS IS MEASURED FROM THE BOTTOM OF THE PATTERN.
3. FRAMES MUST BE MANUFACTURED FROM CAST IRON OR DUCTILE IRON.
4. COVERS MUST BE MANUFACTURED FROM DUCTILE IRON.

REF STD SPEC SEC 7-05, 9-12

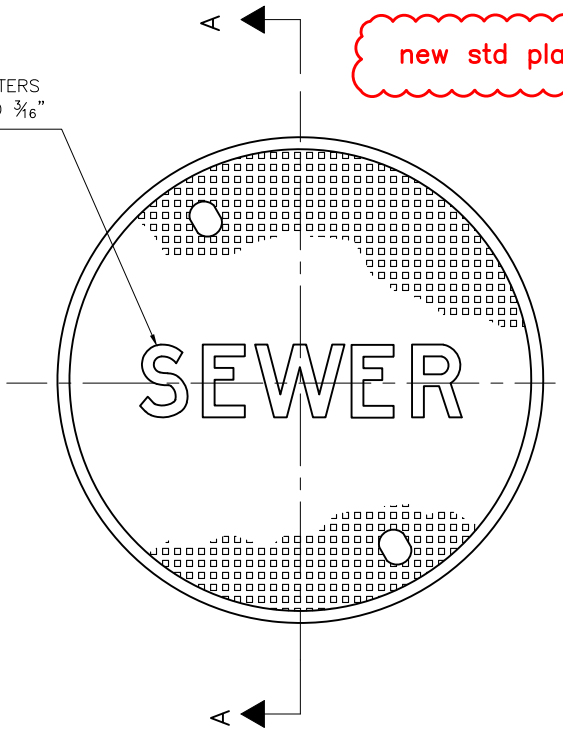
City of Seattle	NOT TO SCALE	2'-0" DIAMETER FRAME & COVER

REV DATE: SEP 2019

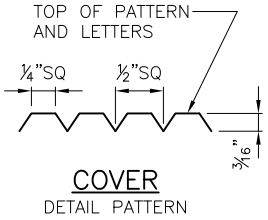
new std plan



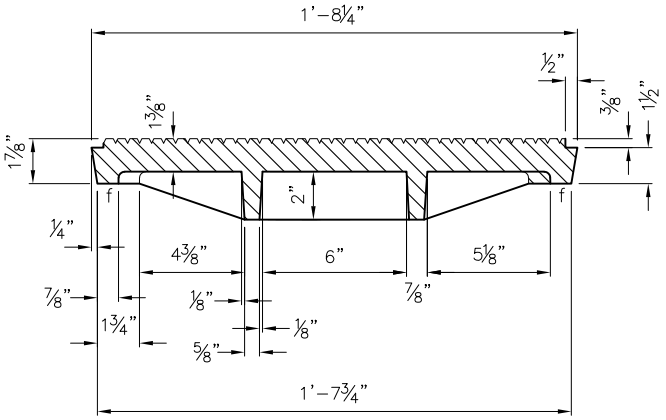
BOTTOM VIEW



TOP VIEW



COVER
DETAIL PATTERN

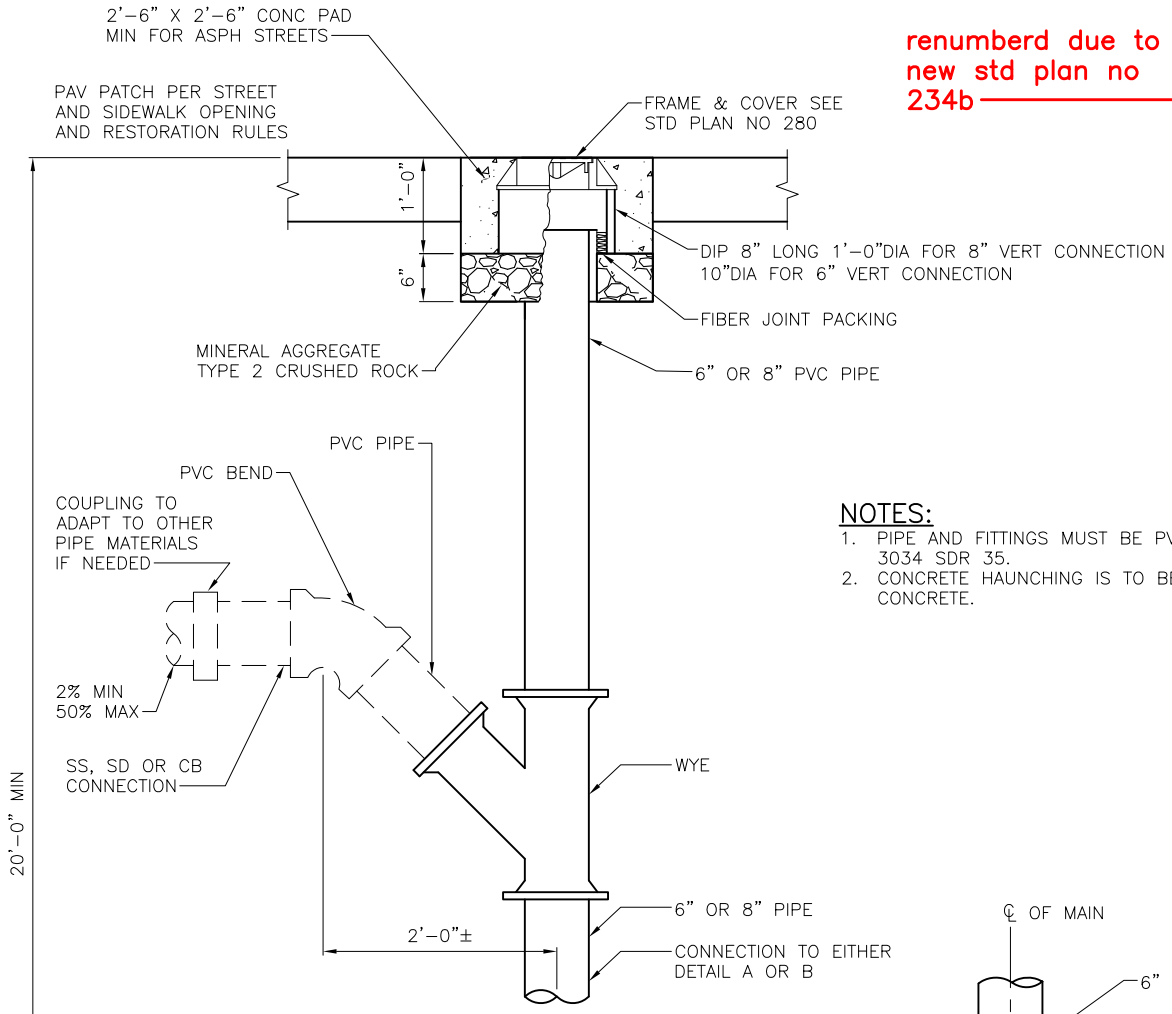


SECTION A–A
f=MACHINED FINISH

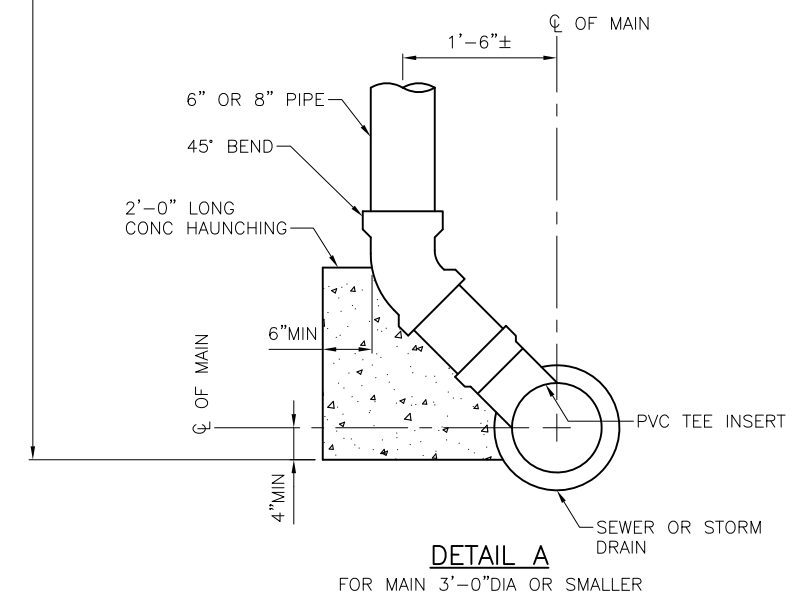
REF STD SPEC SEC 7-05, 7-20

City of Seattle	NOT TO SCALE	SEWER REPLACEMENT COVER

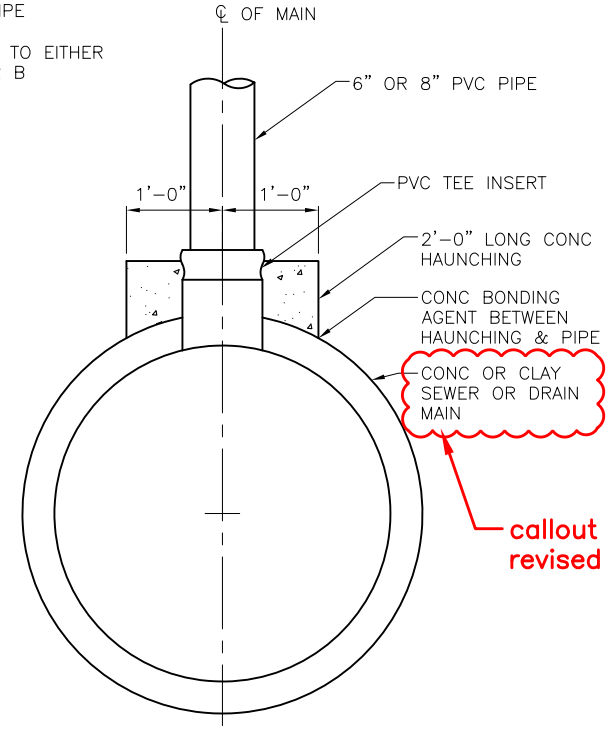
renumberd due to new std plan no 234b



NOTES:
1. PIPE AND FITTINGS MUST BE PVC PER ASTM D 3034 SDR 35.
2. CONCRETE HAUNCHING IS TO BE CLASS 3000 CONCRETE.



DETAIL A
FOR MAIN 3'-0"DIA OR SMALLER



callout revised

DETAIL B
FOR MAIN 3'-6"DIA OR LARGER

title revised

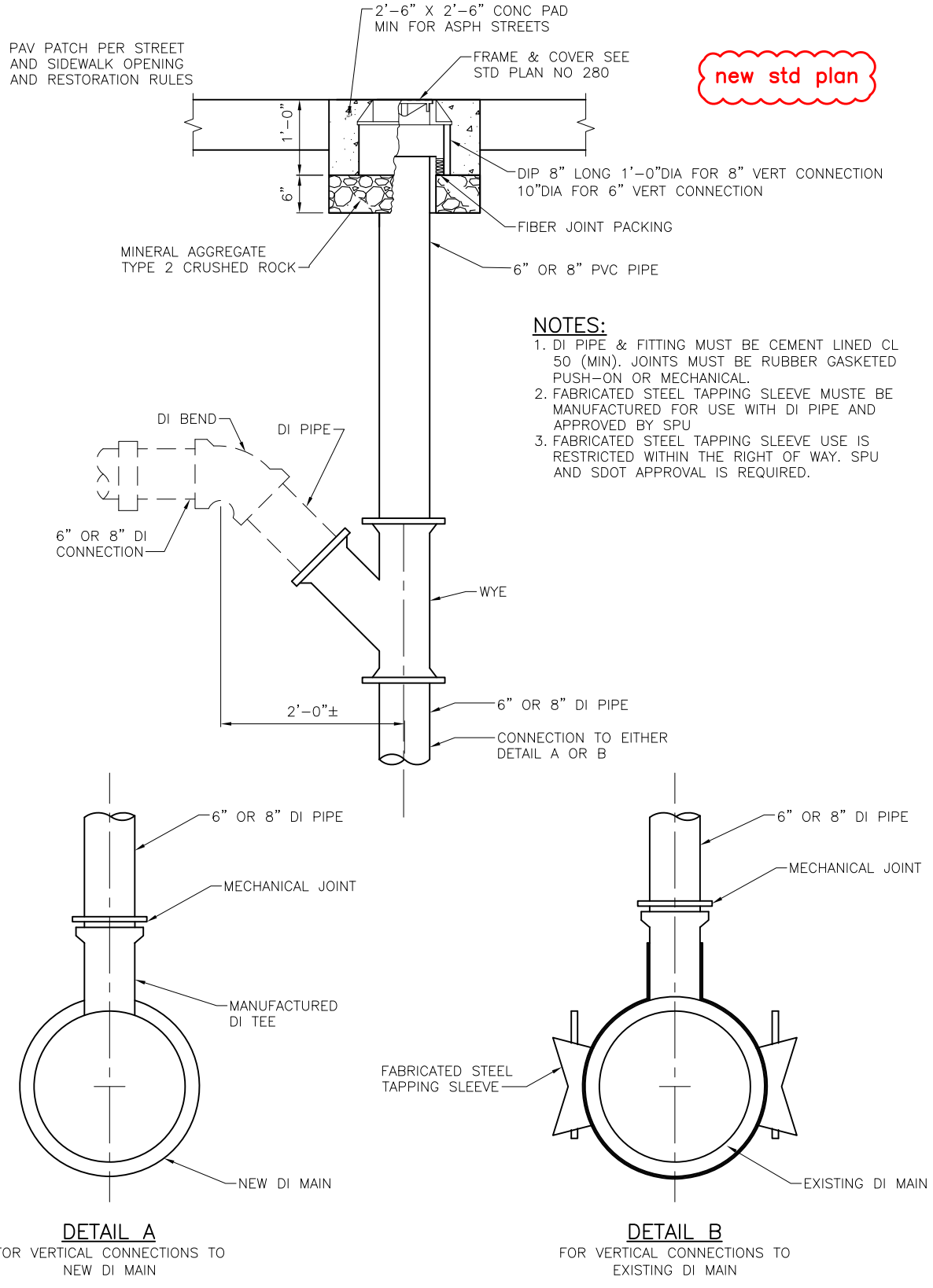
REF STD SPEC SEC 7-08, 7-17

City of Seattle

NOT TO SCALE

6" OR 8" VERTICAL CONNECTION TO CONCRETE OR CLAY PIPE

REV DATE: AUG 2019



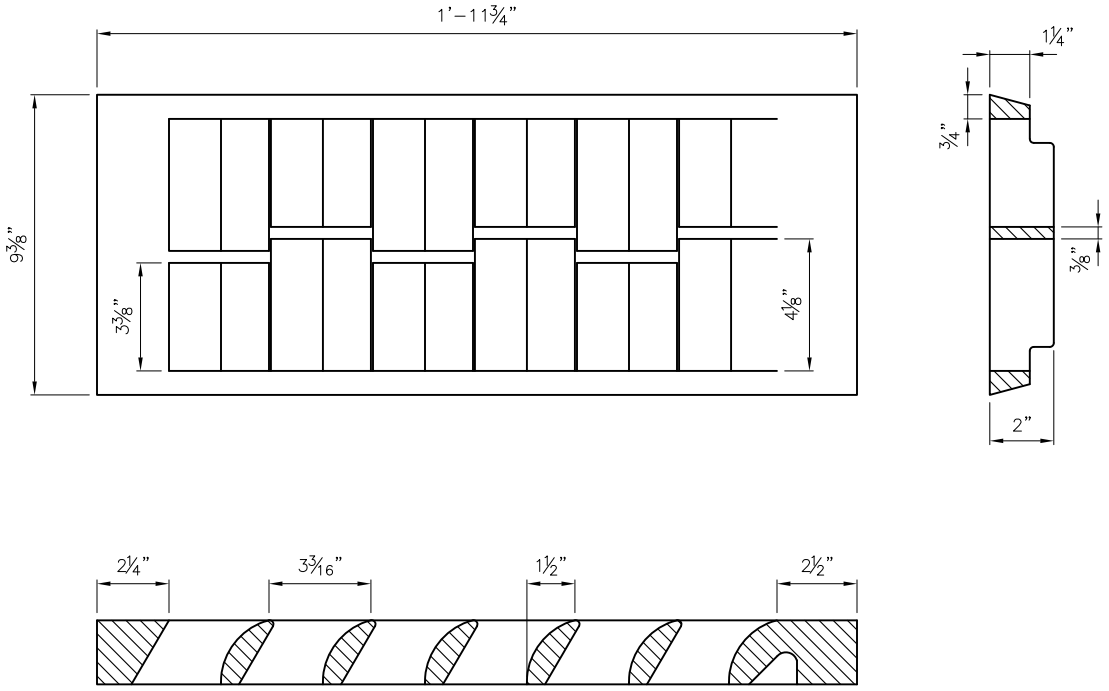
DETAIL A
FOR VERTICAL CONNECTIONS TO NEW DI MAIN

DETAIL B
FOR VERTICAL CONNECTIONS TO EXISTING DI MAIN

REF STD SPEC SEC 7-08, 7-17

City of Seattle	NOT TO SCALE	6" OR 8" VERTICAL CONNECTION TO DUCTILE IRON PIPE

REV DATE: NOV 2019



NOTES:

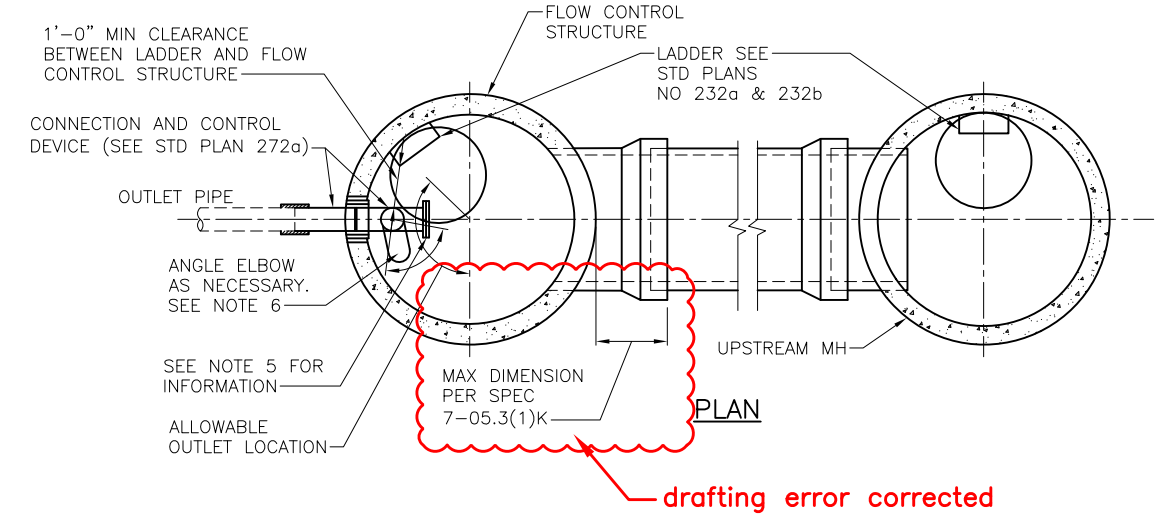
1. OPEN AREA – 100 SQUARE INCHES.
2. SEE STD PLAN NO 265 FOR VANE AND END DETAIL.
3. STD PLAN NO 266 DIMENSIONS GOVERN ON END DETAIL.
4. REPLACEMENT VANED GRATE FOR TYPE 164 INLET FRAMES.

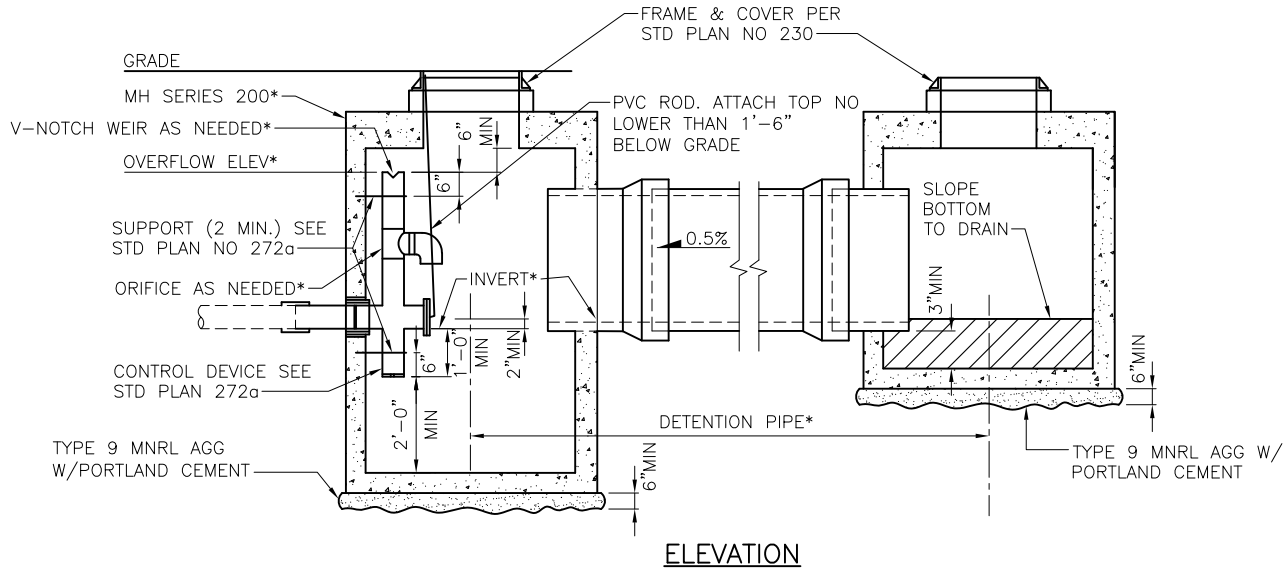
spec section 7–20.3(7) changed to 7–20.3(6)

REF STD SPEC SEC 7-20.3(6), 9-12

City of Seattle	NOT TO SCALE	TYPE 266 REPLACEMENT VANED GRATE

REV DATE: SEP 2018





NOTES:

1. DETENTION PIPE MATERIAL MUST BE AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. MATERIALS THAT MAY BE APPROVED FOR USE IN THE ROW INCLUDE:
   - DUCTILE IRON PIPE (DIP)
   - REINFORCED CONCRETE PIPE (RCP)
   - POLYPROPYLENE PIPE (PP DETENTION)
   - STEEL REINFORCED POLYETHYLENE PIPE (STL REINF PE DETENTION). ONLY MANUFACTURER SUPPLIED TEES MUST BE USED FOR CONNECTIONS.
2. BEDDING FOR DETENTION PIPE MUST BE CLASS B. DIP AND RCP MUST BE BEDDED IN MINERAL AGGREGATE TYPE 9. FLEXIBLE PIPE MUST BE BEDDED IN MINERAL AGGREGATE TYPE 22.
3. INTERMEDIATE MHS WILL BE REQUIRED FOR DETENTION PIPE LENGTHS GREATER THAN 350LF.
4. OUTLET PIPE MUST CONNECT TO MH ON MAINLINE.
5. STRUCTURE DESIGN MUST BE MODIFIED FOR PRIVATE SYSTEM WITH EXCLUSION OF SHEAR GATE
6. ROTATE ELBOW RESTRICTOR CLEAR OF ACCESS OPENING.
7. FRAME LADDER AND STEPS OFFSET:
   - 7.1. CLEAN OUT IS VISIBLE FROM TOP
   - 7.2. CLIMB DOWN SPACE IS CLEAR OF RISER AND CLEAN OUT GATE
   - 7.3. MH OPENING MUST NOT BE PLACED DIRECTLY OVER THE TOP OF INLET PIPE

DETENTION PIPE DIAMETER	FLOW CONTROL STRUCTURE* (MH SIZE)	UPSTREAM** (MH SIZE)
18"	204.5b	204b
24"	205b	204.5b
30"	205b	205b
36"	206b	206b
48"	207b	207b
60"	208b	208b
72"	210b	210b

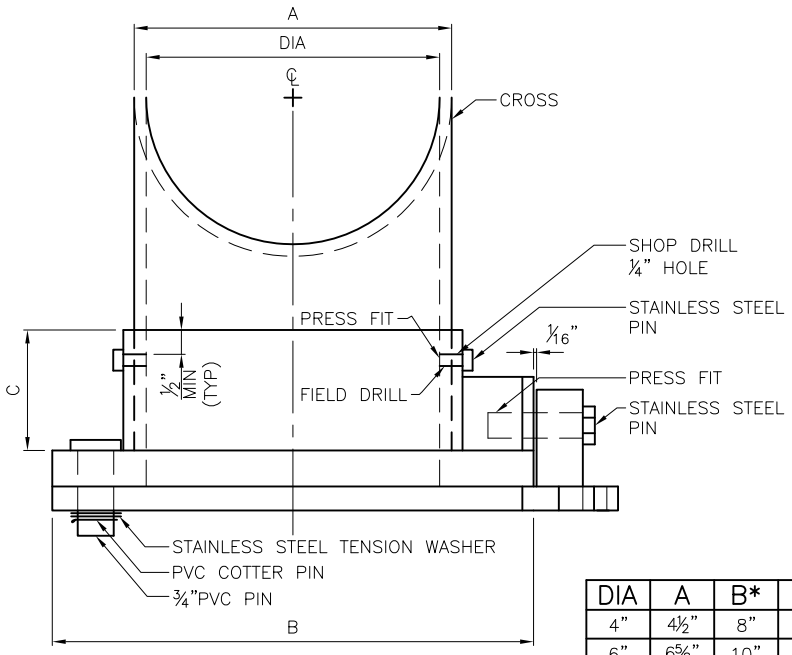
*SPECIFIC DESIGN INFORMATION AS INDICATED ON CONSTRUCTION DRAWINGS

**SIZE OF UPSTREAM MH MUST BE ADJUSTED FOR ALTERNATIVE PIPE MATERIAL

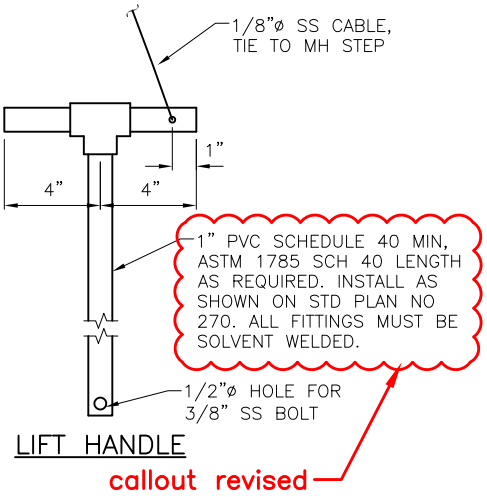
REF STD SPEC SEC 7-16

City of Seattle | NOT TO SCALE | FLOW CONTROL STRUCTURE WITH DETENTION PIPE

REV DATE: JAN 2018



TOP VIEW

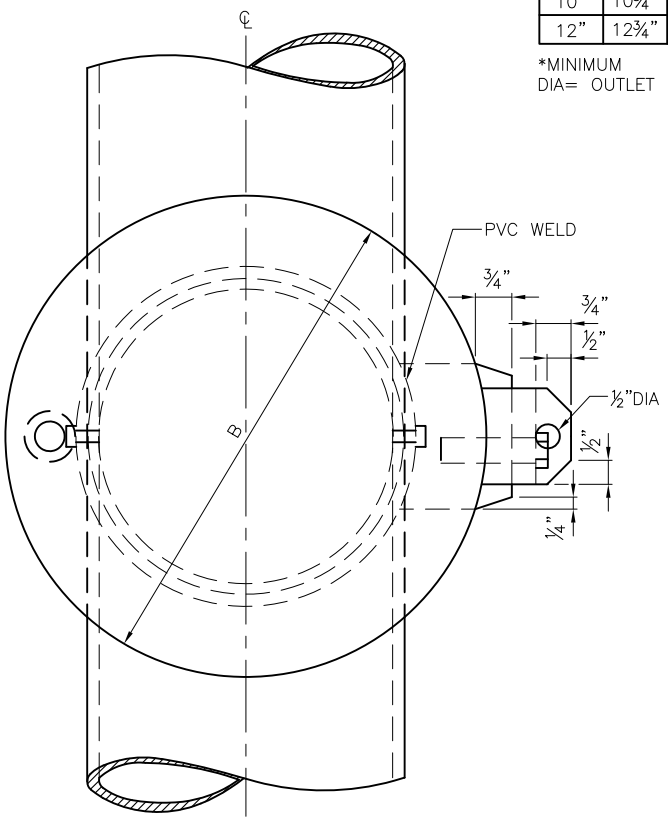


LIFT HANDLE

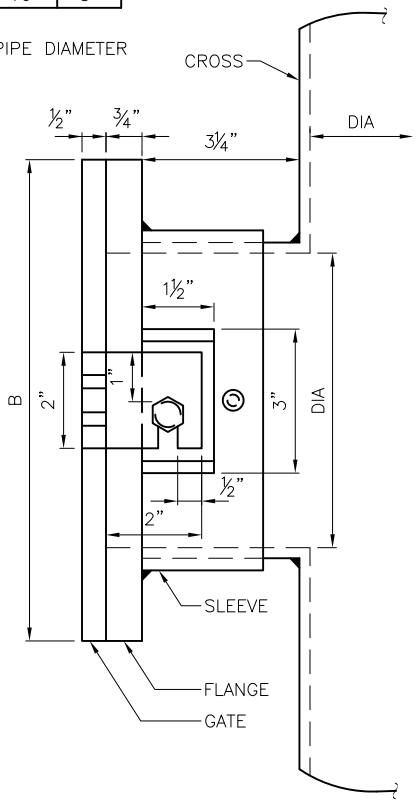
callout revised

DIA	A	B*	C*
4"	4½"	8"	2"
6"	6⅝"	10"	2½"
8"	8⅝"	12"	3"
10"	10¾"	14"	3"
12"	12¾"	16"	3"

*MINIMUM
DIA= OUTLET PIPE DIAMETER



FRONT VIEW

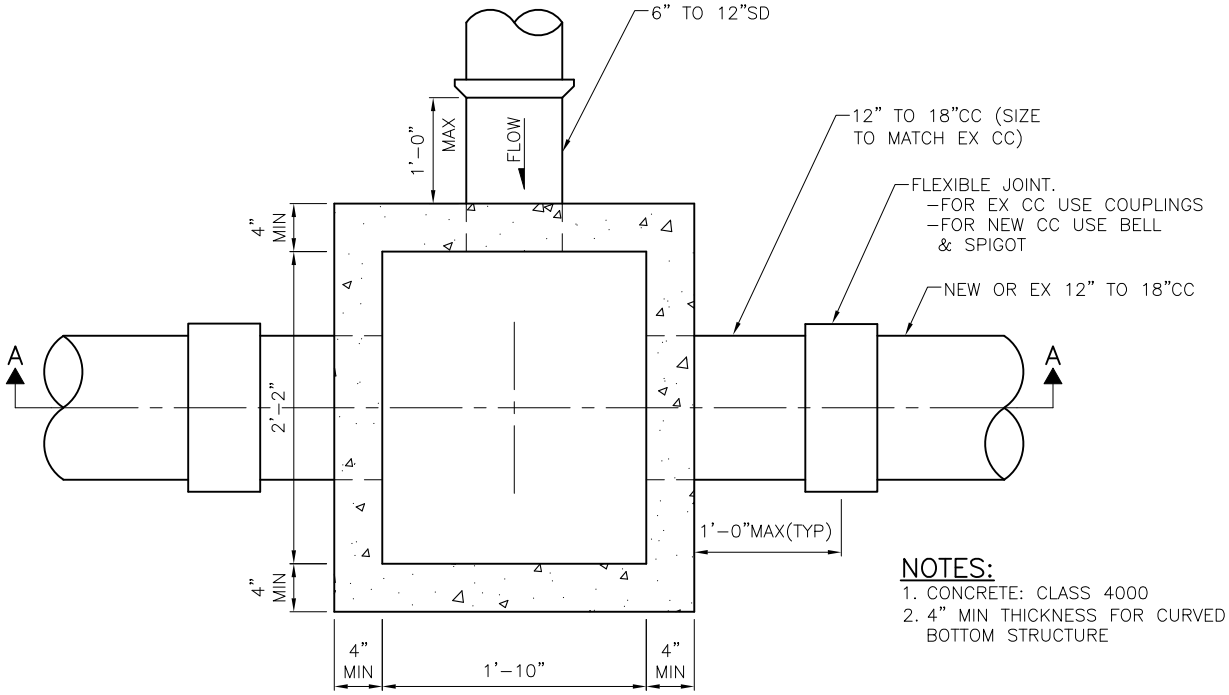


SIDE VIEW

REF STD SPEC SEC 7-16

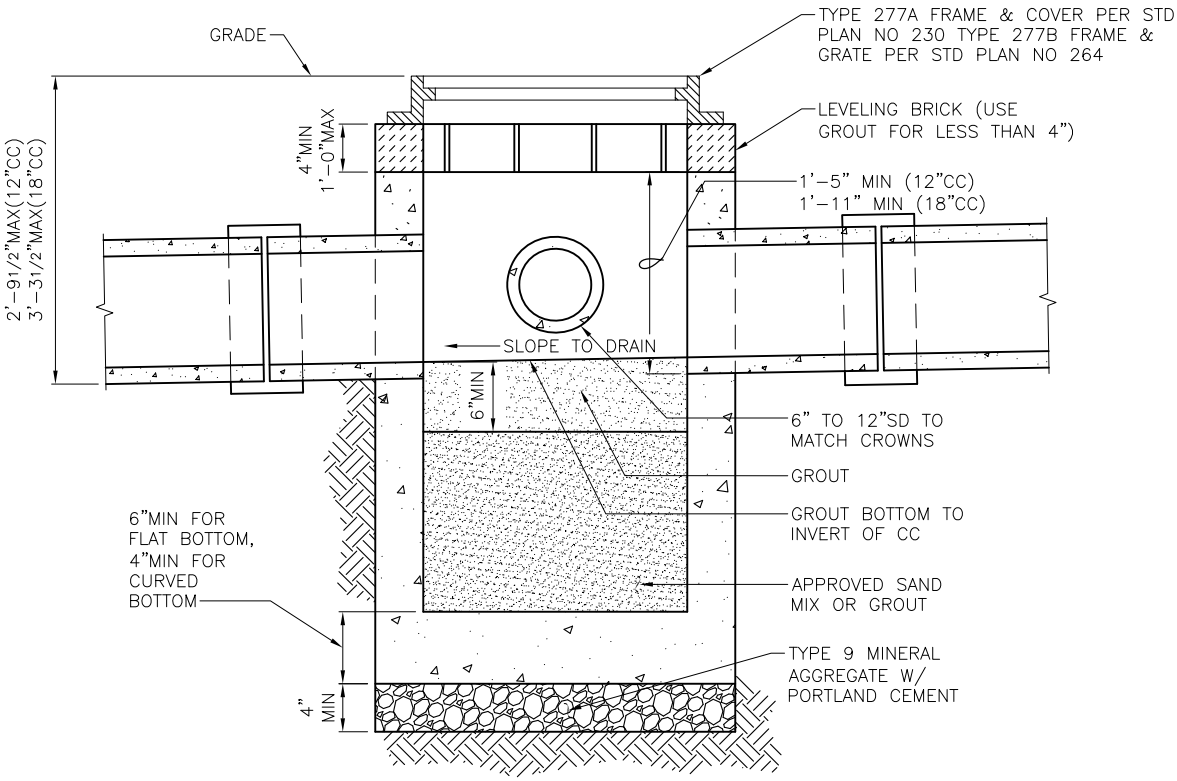
City of Seattle	NOT TO SCALE	PVC SHEAR GATE FOR USE IN ROW ONLY

REV DATE: APR 2018



NOTES:
1. CONCRETE: CLASS 4000
2. 4" MIN THICKNESS FOR CURVED BOTTOM STRUCTURE

PLAN



SECTION A-A

REF STD SPEC SEC 7-05

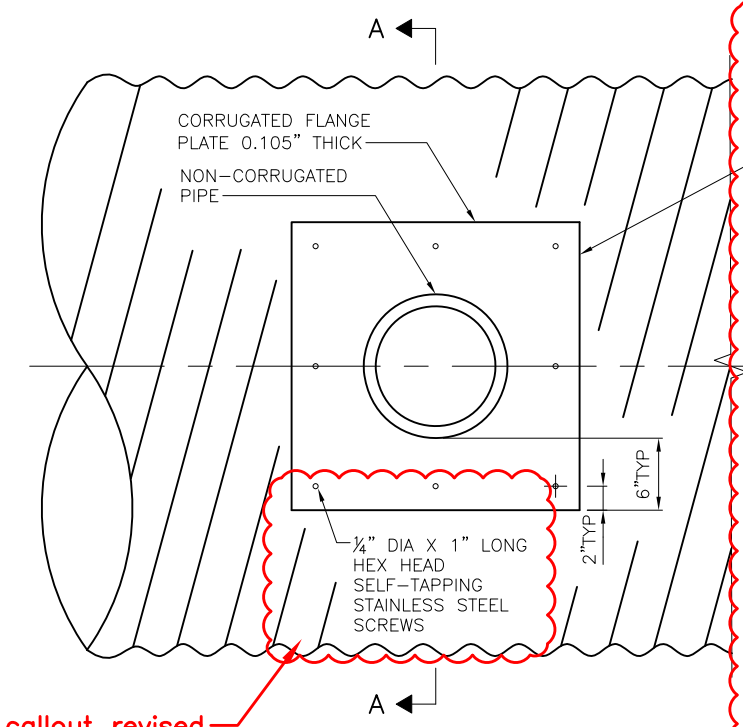
7-02, 9-12.9 revised

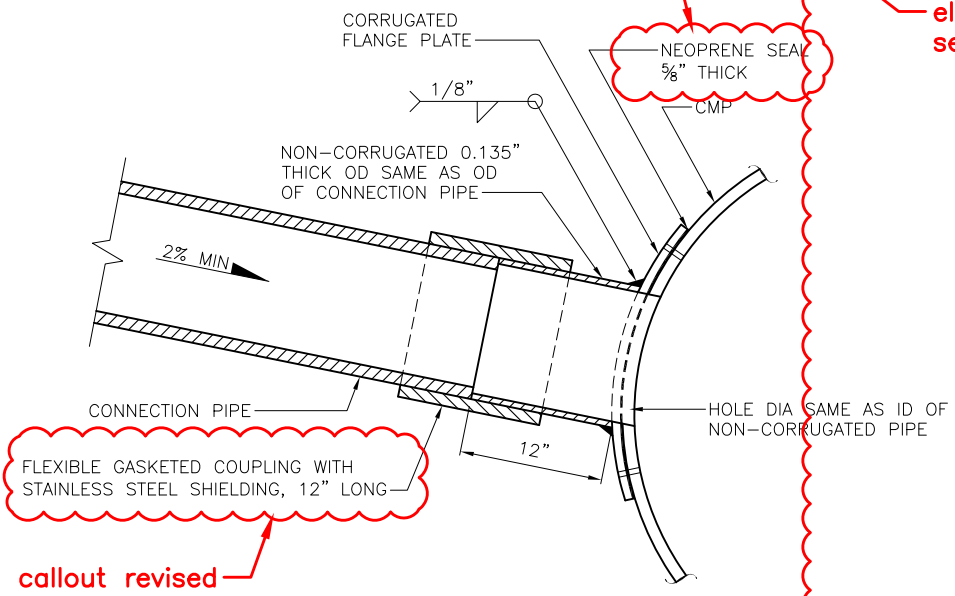
City of Seattle

NOT TO SCALE

TYPE 277 JUNCTION BOX & INSTALLATION

REV DATE: APR 2018





SECTION A–A

note 2 revised

NOTES:

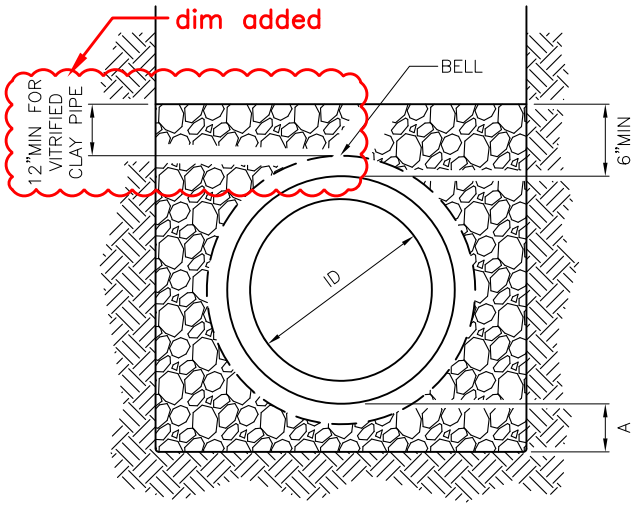
1. CORRUGATED FLANGE PLATE AND NON-CORRUGATED PIPE MUST BE ALUMINUM.
2. SELF-TAPPING SCREWS TO BE STAINLESS STEEL MEETING ASTM A 307.

REF STD SPEC SEC 7-17, 7-16.2

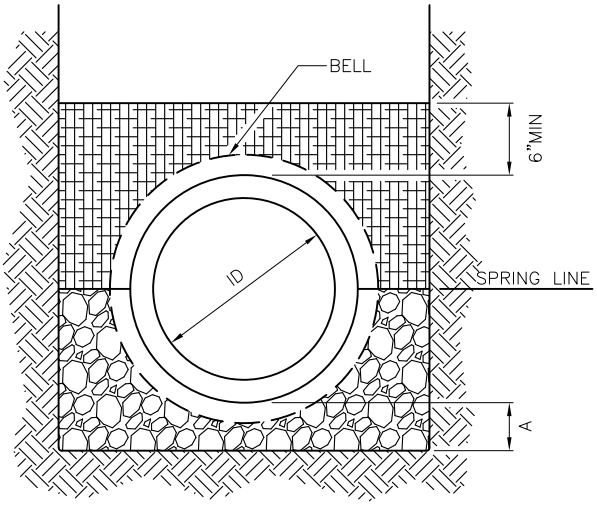
City of Seattle	NOT TO SCALE	TEE INSTALLATION CORRUGATED METAL PIPE

REV DATE: DEC 2019

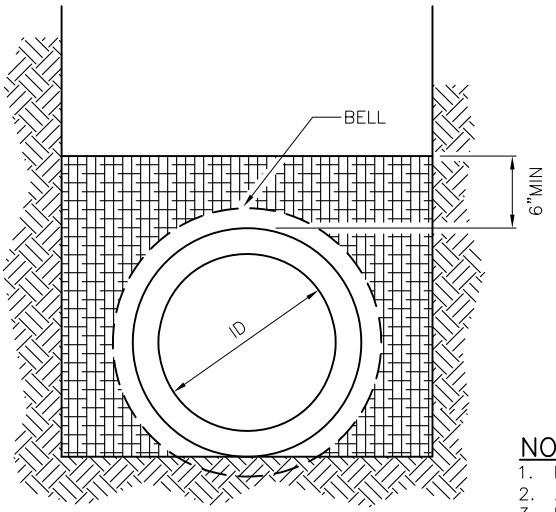
dim added



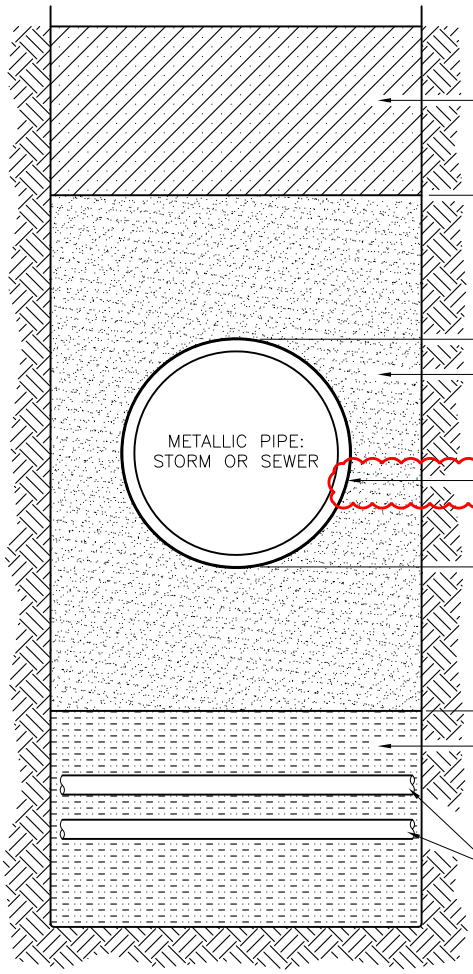
CLASS B BEDDING



CLASS C BEDDING



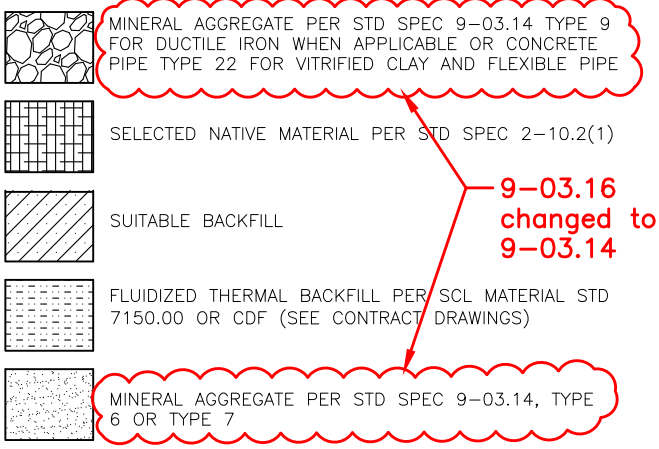
CLASS D BEDDING



callout added

SAND BEDDING AT TRENCH CROSSING OF METAL PIPE

AT METALLIC PIPE CROSSING OF FLUIDIZED THERMAL BACKFILL OR CDF CONDUIT CROSSINGS



9-03.16 changed to 9-03.14

NOTES:

1. FOR TRENCH WIDTH SEE STD PLAN NO 284
2. A=4"WHEN ID IS LESS THAN 2'-6", A=6"WHEN ID IS 2'-6"OR MORE.
3. UNIFORMLY SUPPORT PIPE BARREL. EXCAVATE HOLES FOR BELLS AND COUPLING.
4. FOR FLUIDIZED THERMAL BACKFILL (FTB) OR CDF CROSSINGS OF METALLIC PIPE, WRAP METALLIC PIPE IN 8 MIL POLYETHYLENE ENCASEMENT FOR FULL TRENCH WIDTH.

note 4 added

REF STD SPEC SEC 2-10.2, 7-17

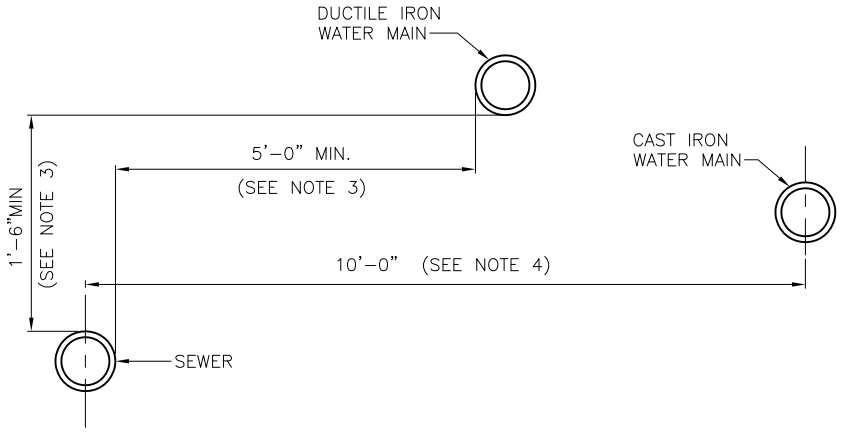
7-11 & 9-03.16 removed

City of Seattle

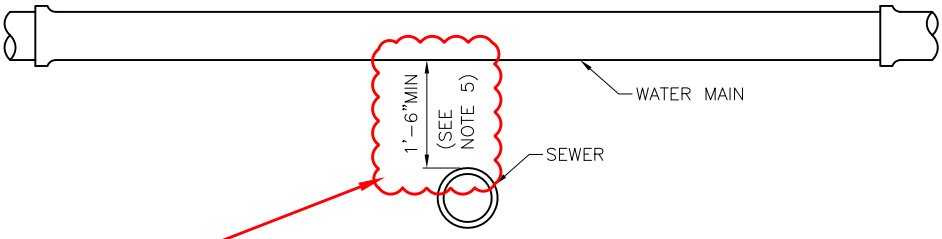
NOT TO SCALE

PIPE BEDDING
SEWER/STORM DRAIN

REV DATE: NOV 2019

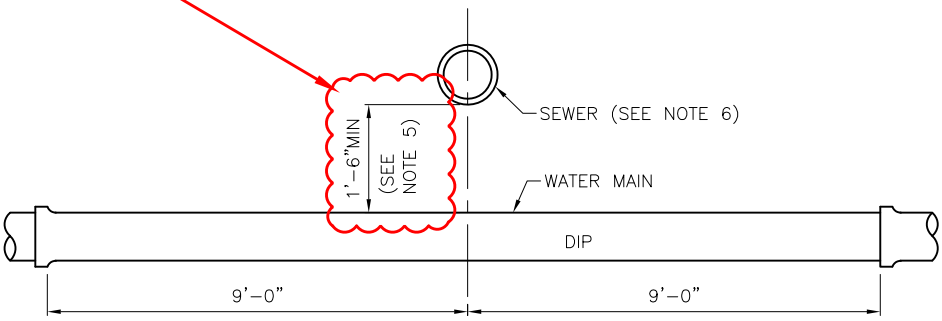


PARALLEL INSTALLATION



CROSSING WATER OVER SEWER

redrafted for clarity



STANDARD SINGLE 18'–0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING

CROSSING WATER UNDER SEWER

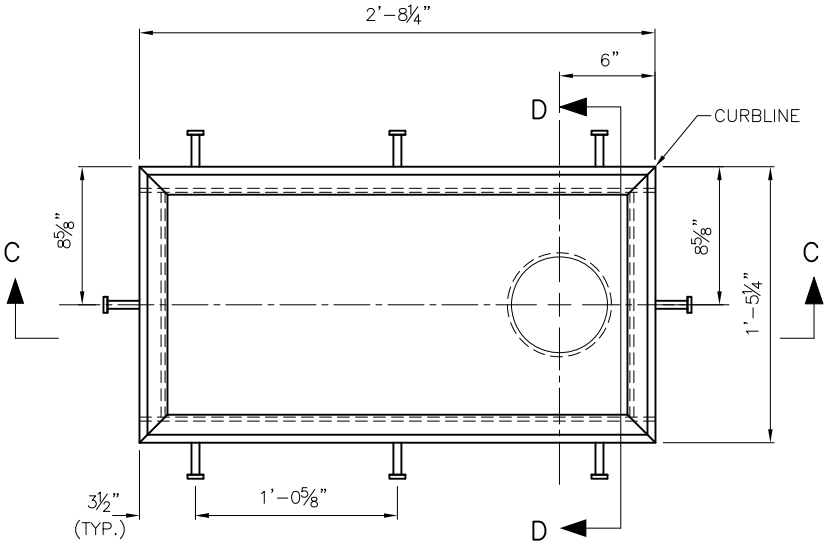
NOTES:

1. EXCEPTIONS TO STD PLAN NO 286 MUST BE APPROVED BY SEATTLE PUBLIC UTILITIES, WATER QUALITY DIVISION.
2. "SEWER" INCLUDES SANITARY SEWER, COMBINED SEWER AND SIDE SEWER.
3. WHERE MINIMUM CLEARANCES CANNOT BE MET, SEWER MUST BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS INCLUDING WATER MAIN PRESSURE TESTING REQUIREMENTS.
4. NO VERTICAL CLEARANCE REQUIRED.
5. IF MINIMUM VERTICAL SEPARATION CANNOT BE MET, WATER MAIN MUST BE A STANDARD SINGLE 18'–0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING.
6. SEWER MUST HAVE ADEQUATE FOUNDATION SUPPORT TO PREVENT SETTLEMENT ON THE WATER MAIN AND TO PREVENT DEFLECTION OF WATER MAIN JOINTS.
7. CROSSINGS AT AN ANGLE BETWEEN 90° AND 45° MAY OCCUR BETWEEN 9'–0" AND 6'–0" OF WATER MAIN JOINT. FOR CROSSINGS LESS THAN 45°, SEE NOTE 1.

REF STD SPEC SEC 1-07.17 & 7-11

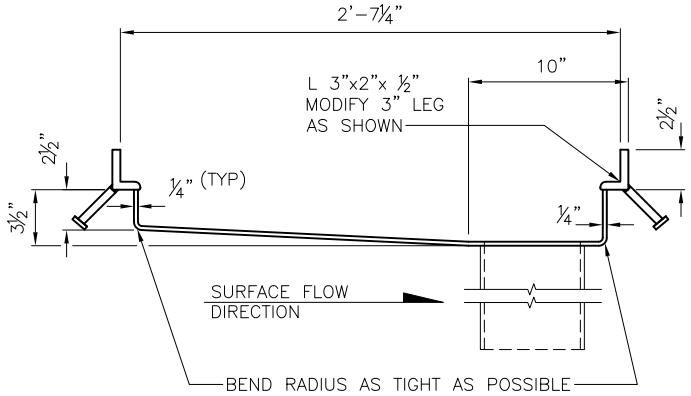
City of Seattle	NOT TO SCALE	SEWER & WATER SPACING & CLEARANCES

REV DATE: APR 2018

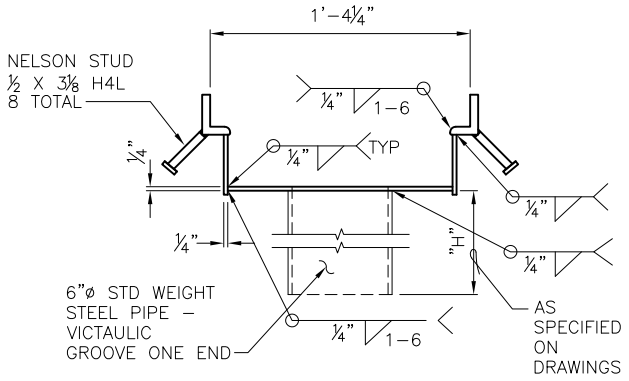


PLAN VIEW – BRIDGE DRAIN

SURFACE FLOW DIRECTION



SECTION C–C



SECTION D–D

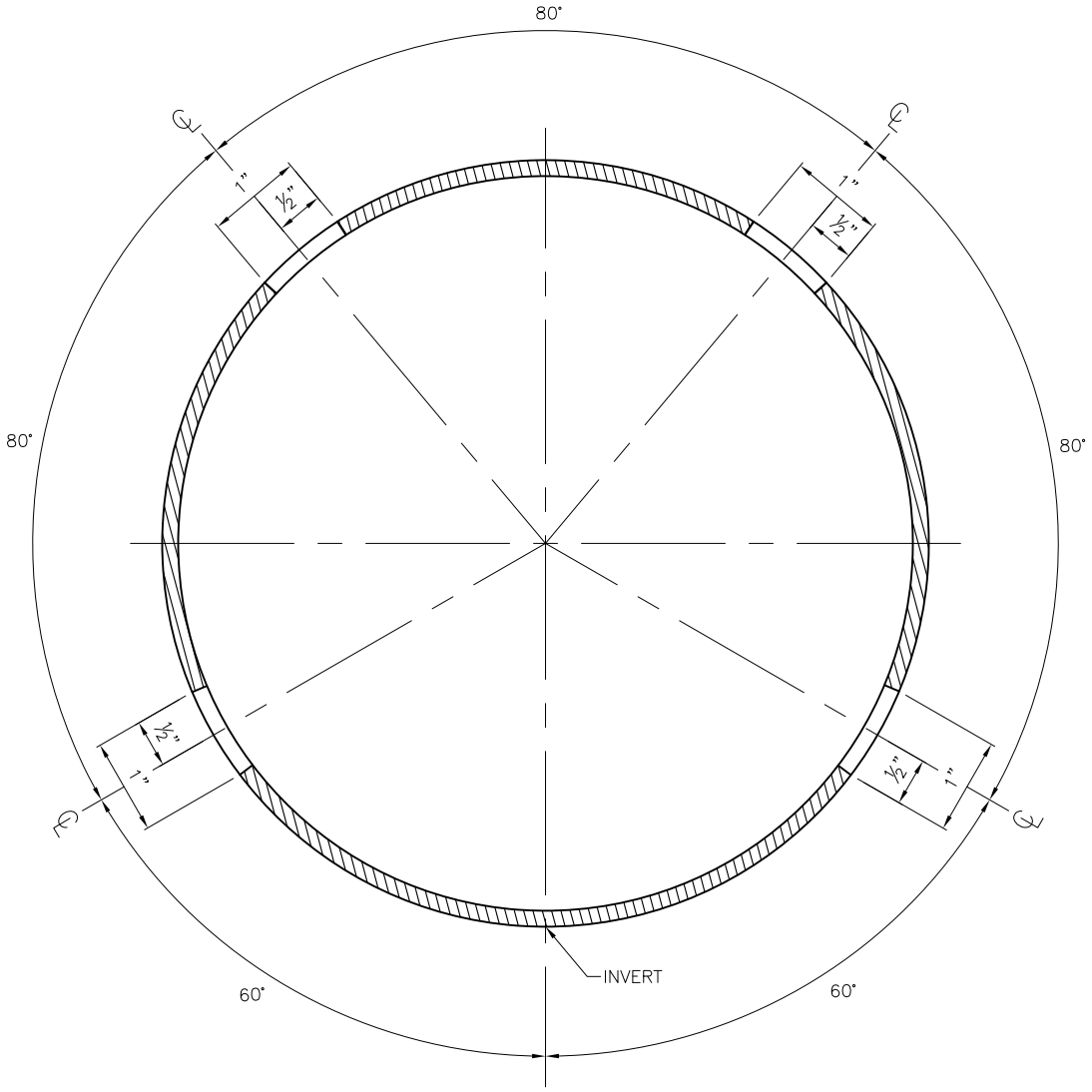
NOTES:

1. ALL ¼" STEEL & L3"x 2"x ½" TO BE A-36.
2. 6"ø PIPE TO BE STANDARD WEIGHT STEEL.
3. AFTER FABRICATION, DRAIN ASSEMBLY TO BE HOT DIP GALVANIZED.
4. VANED GRATE TO BE PER STD PLAN NO 265.

REF STD SPEC SEC 6-01, 7-05 — 6-02 removed

City of Seattle	NOT TO SCALE	BRIDGE DRAIN

REV DATE: NOV 2019



NOTES:

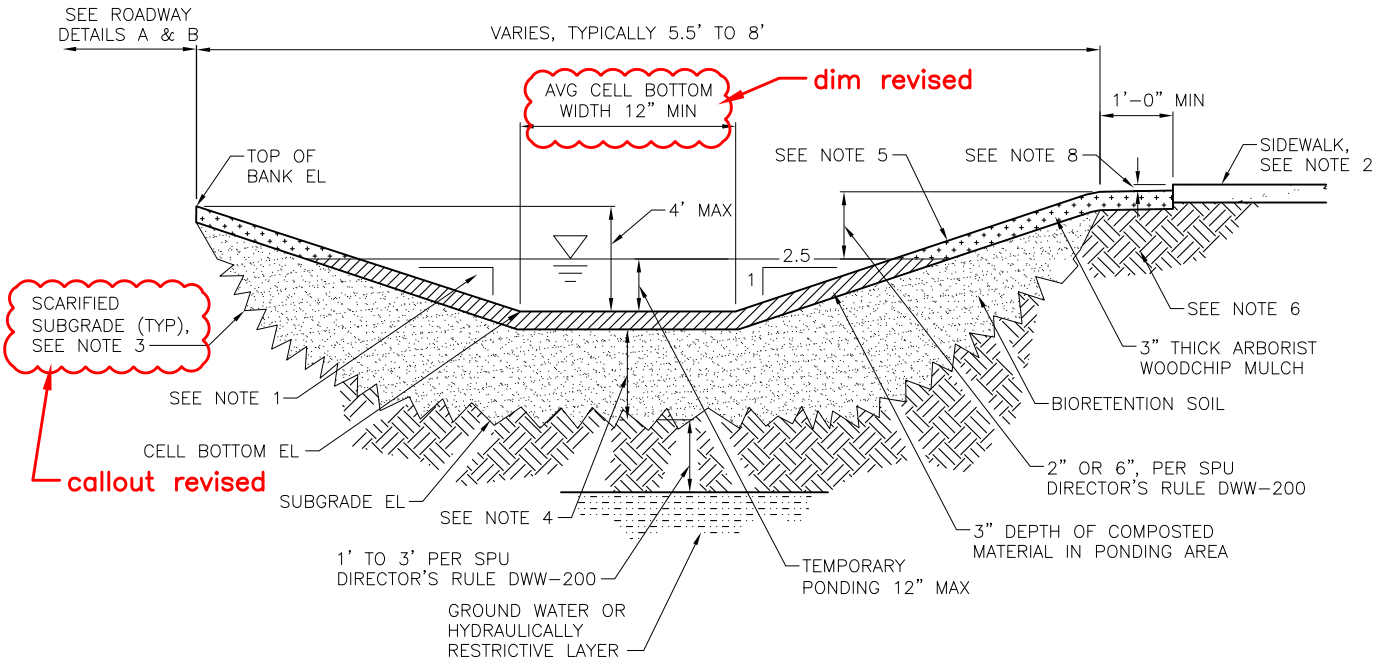
1. ASTM D 2241 SDR 21 CLASS 200 PVC PIPE OR ASTM D 1785 SCH 40.
2. SLOT DIMENSIONS ARE 0.064" WIDE X 1.00" LONG SPACED ALONG PIPE AT 0.3" ON CENTER.

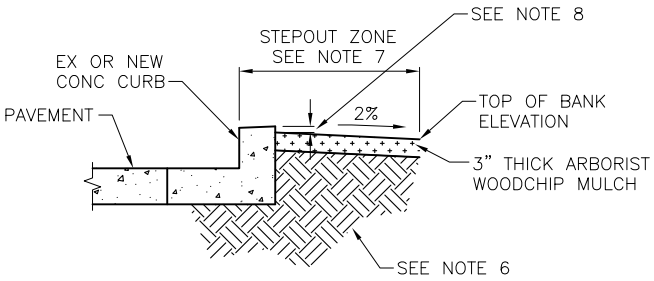
spec section 9–05, 3(1) changed to 9–05.4(1)

REF STD SPEC SEC 9-05.4(1)

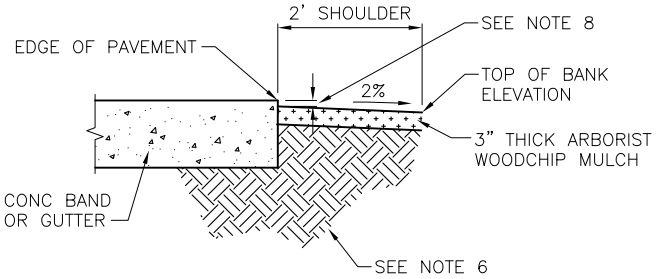
City of Seattle	NOT TO SCALE	PVC SUBSURFACE DRAIN PIPE

REV DATE: DEC 2019





DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)



DETAIL B
CURBLESS ROADWAY

notes 3, 4 & 6 revised

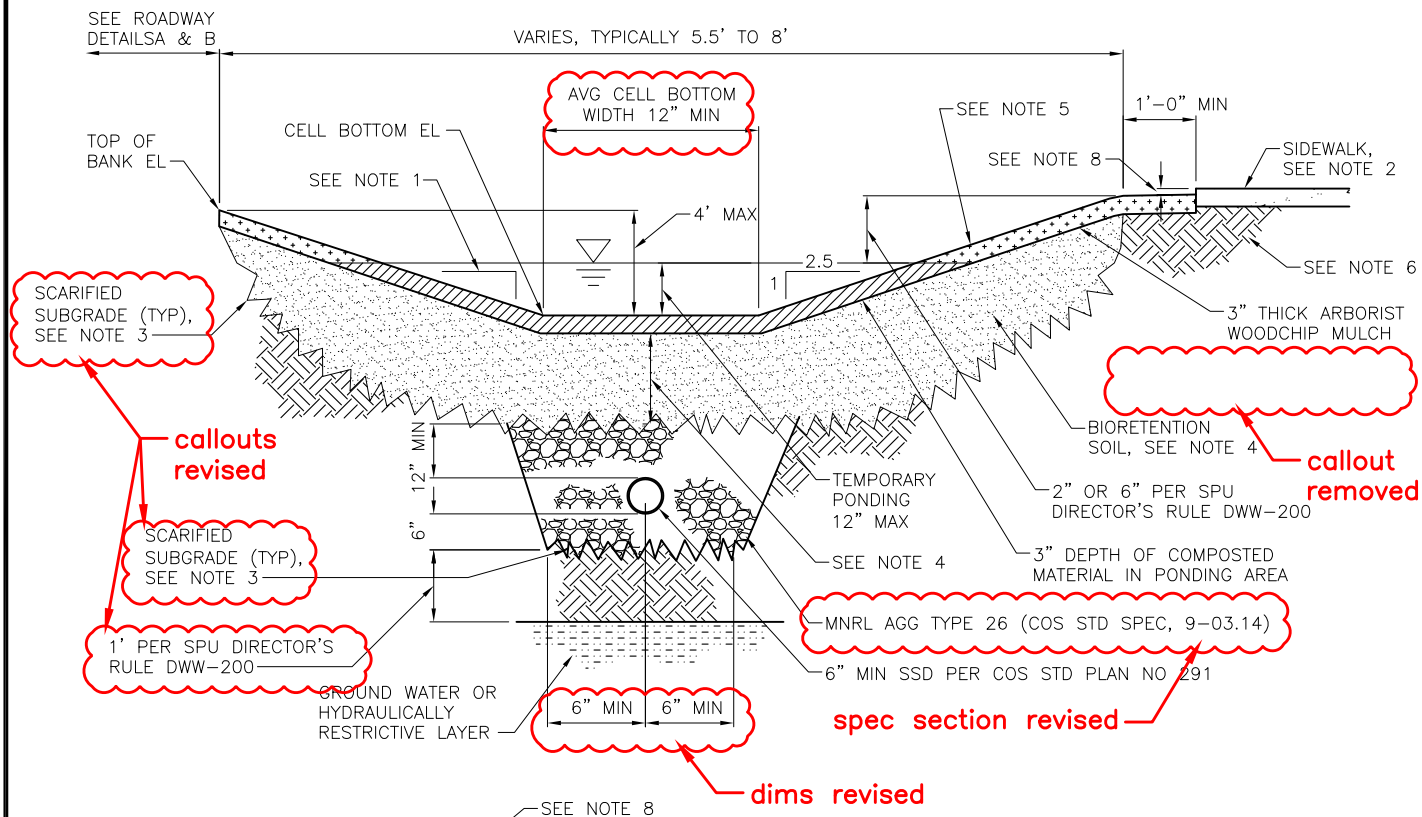
NOTES:

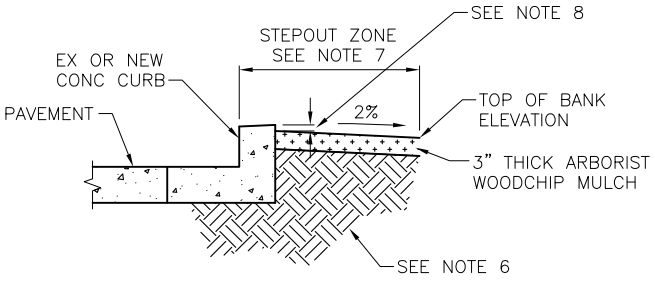
1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50-FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. ~~BIORETENTION OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.~~
3. SCARIFY SUBGRADE AS SPECIFIED IN SPEC SECTION 7-21.3(2)B IN THE AREA SUBJECT TO TEMPORARY PONDING BEFORE BIORETENTION SOIL INSTALLATION.
4. 12" MIN OR 18" MIN IF WATER QUALITY TREATMENT IS REQUIRED PER STORMWATER CODE REQUIREMENT.
5. ~~CELL MUST BE PLANTED PER APPROVED LANDSCAPE PLAN.~~
6. SOIL UNDER SHOULDERS OR PAVED AREAS MUST BE UNDISTURBED NATIVE SOIL OR APPROVED FILL COMPACTED TO 95% DENSITY.
7. ~~FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL~~ STREET, MIN 4'-0" FOR MAJOR ARTERIAL STREET.
8. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF ARBORIST WOODCHIP MULCH.

REF STD SPEC SEC 7-21

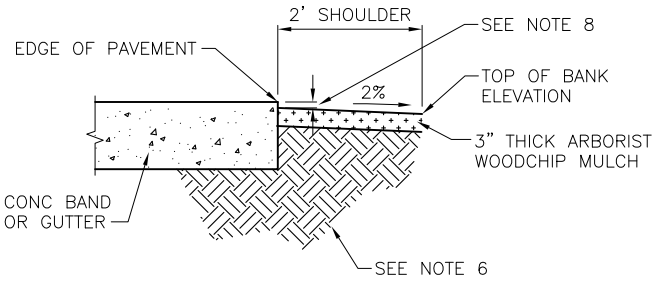
City of Seattle	NOT TO SCALE	INFILTRATING BIORETENTION WITH SLOPED SIDES

REV DATE: DEC 2019





DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)



DETAIL B
CURBLESS ROADWAY

NOTES:

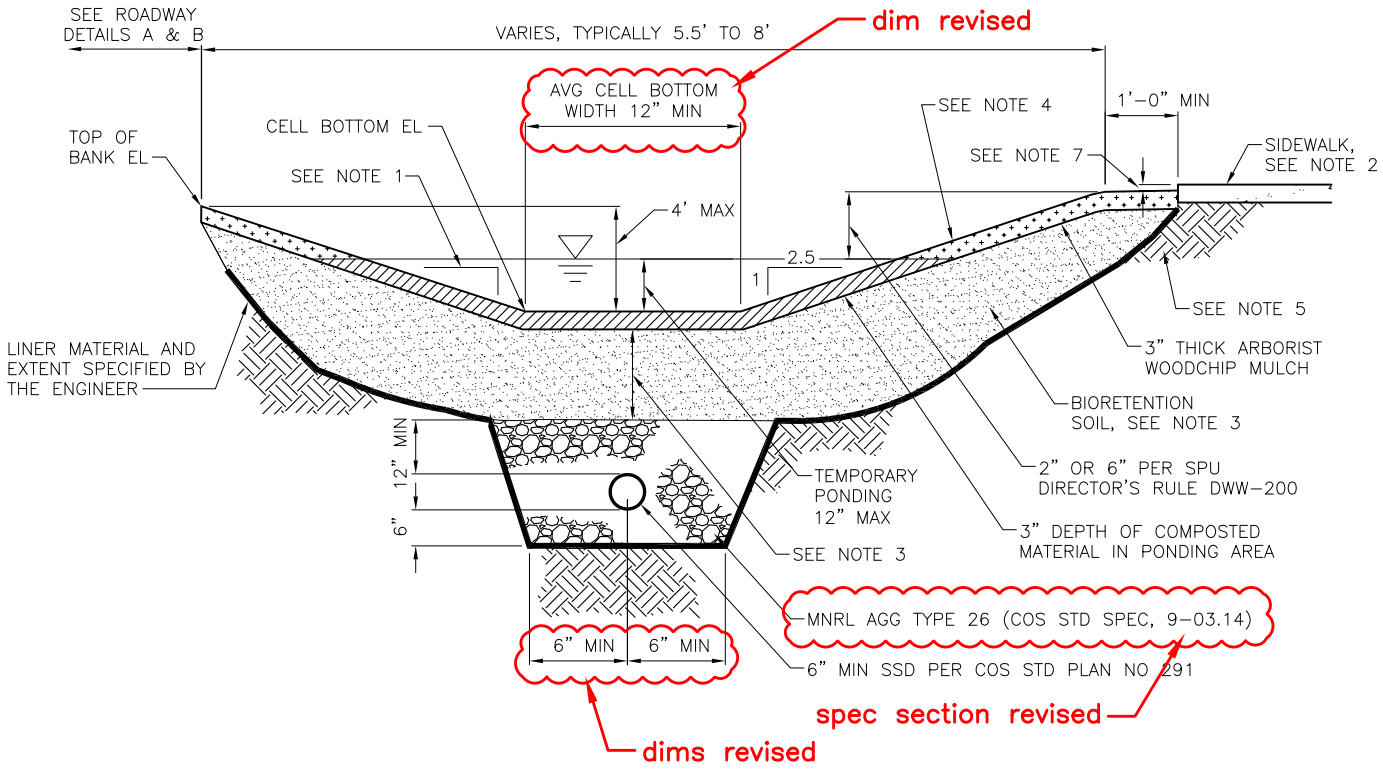
1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50-FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. BIORETENTION OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. SCARIFY SUBGRADE AS SPECIFIED IN SPEC SECTION 7-21.3(2)B IN THE AREA SUBJECT TO TEMPORARY PONDING BEFORE BIORETENTION SOIL INSTALLATION.
4. 12" MIN OR 18" MIN IF WATER QUALITY TREATMENT IS REQUIRED PER STORMWATER CODE REQUIREMENT.
5. CELL MUST BE PLANTED PER APPROVED LANDSCAPE PLAN.
6. SOIL UNDER SHOULDERS OR PAVED AREAS MUST BE UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY.
7. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREET, MIN 4'-0" FOR MAJOR ARTERIAL STREET.
8. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF ARBORIST WOODCHIP MULCH.

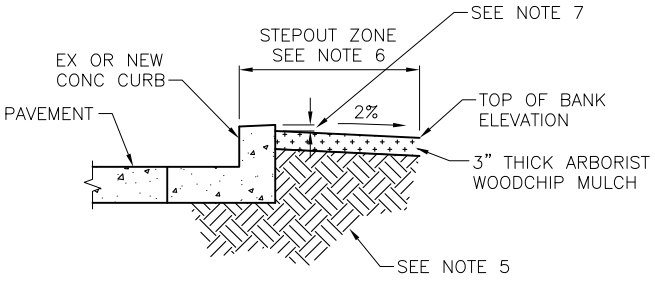
notes 3, 4 & 6 revised

REF STD SPEC SEC 7-21

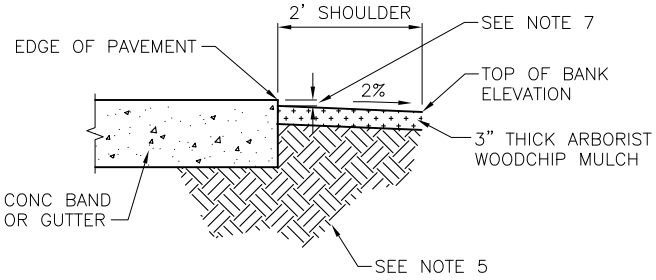
City of Seattle	NOT TO SCALE	INFILTRATING BIORETENTION WITH SLOPED SIDES & UNDER DRAIN

REV DATE: DEC 2019





DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)



DETAIL B
CURBLESS ROADWAY

NOTES:

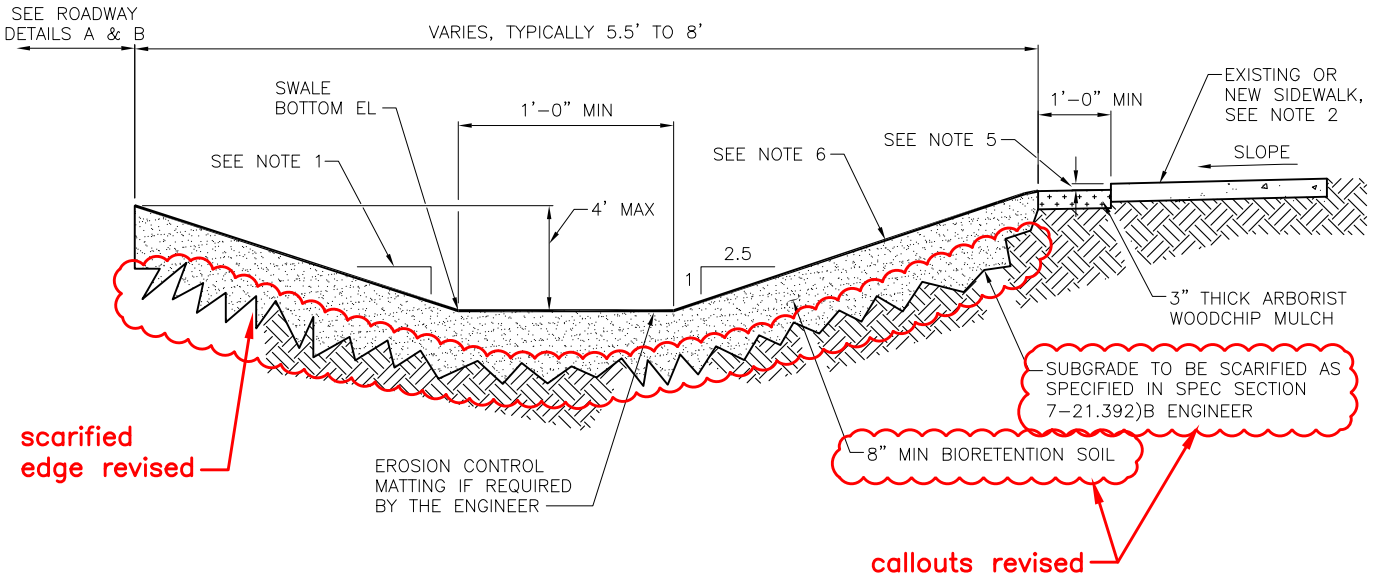
1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50-FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. BIORETENTION OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. 12"MIN OR 18" MIN IF WATER QUALITY TREATMENT IS REQUIRED PER STORMWATER CODE REQUIREMENT.
4. CELL MUST BE PLANTED PER APPROVED LANDSCAPE PLANS.
5. SOIL UNDER SHOULDERS OR PAVED AREAS MUST BE UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY
6. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREET, MIN 4'-0" FOR MAJOR ARTERIAL STREET.
7. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF ARBORIST WOODCHIP MULCH.

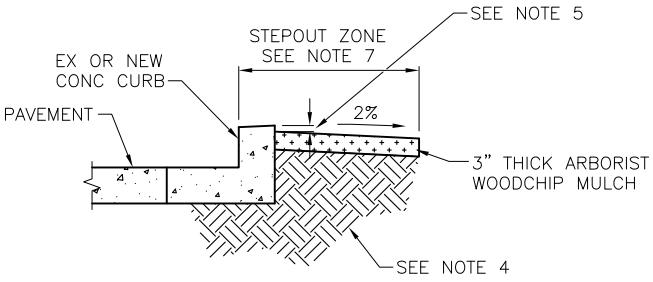
notes 3 & 5 revised

REF STD SPEC SEC 7-21

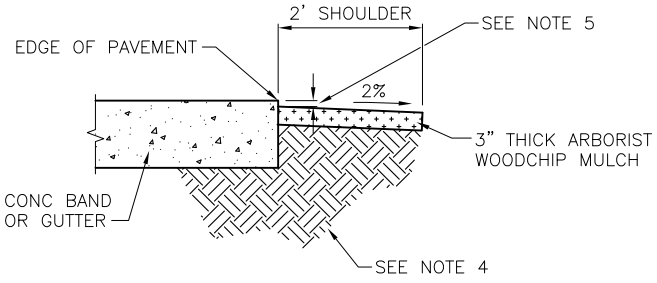
City of Seattle	NOT TO SCALE	NON-INFILTRATING BIORETENTION WITH SLOPED SLIDES & UNDER DRAIN

REV DATE: DEC 2019





DETAIL A
CURBED ROADWAY
(ADJACENT TO PARKING ZONE)



DETAIL B
CURBLESS ROADWAY

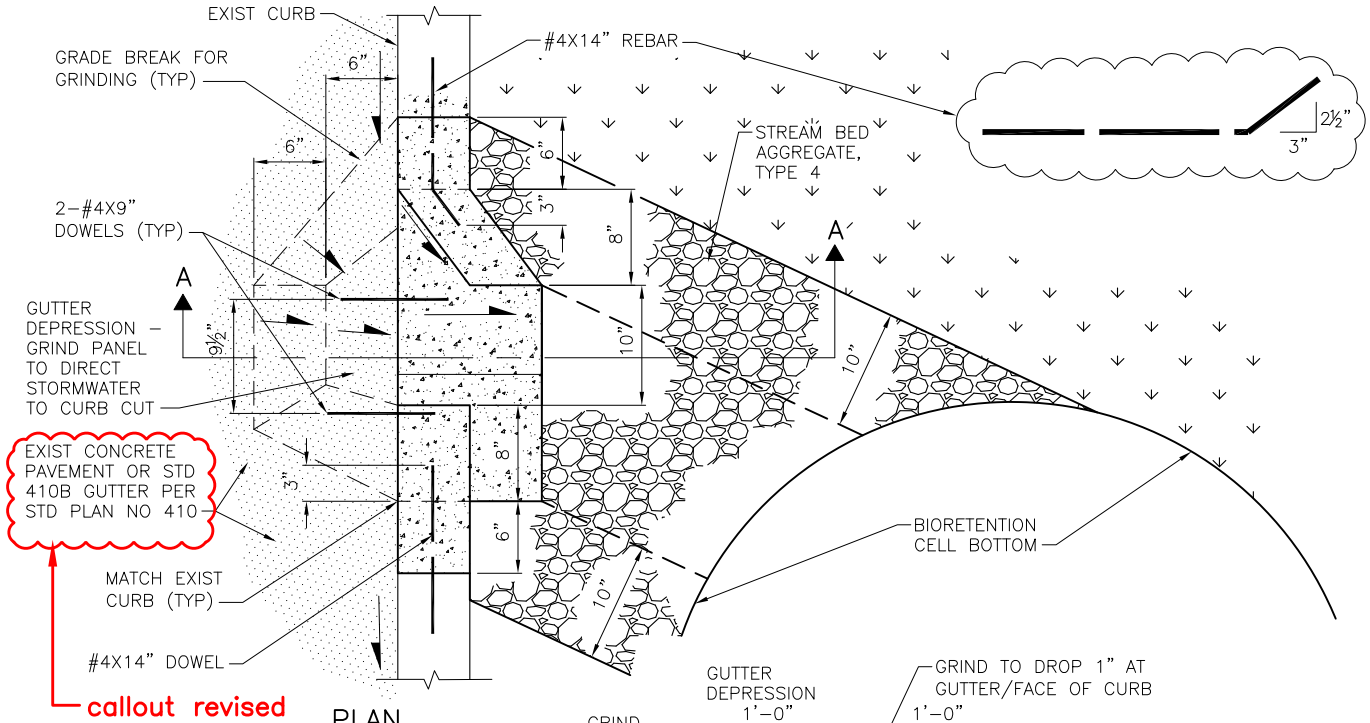
NOTES:

1. TYPICAL MAXIMUM SLOPE ALLOWED IS 2.5H=1V, 3H=1V MAX WHEN WITHIN 50-FEET OF INTERSECTIONS OR CURBLESS ROADWAY.
2. CONVEYANCE SWALE OVERFLOW ELEVATIONS MUST BE SET BELOW SIDEWALK ELEVATION.
3. LONGITUDINAL SLOPE GREATER THAN OR EQUAL TO 4%, CHECK DAM REQUIRED.
4. UNDISTURBED NATIVE SOIL OR APPROVED SOIL COMPACTED TO 95% DENSITY.
5. PROVIDE MIN ONE INCH GAP BETWEEN TOP OF WALKS, CURBS, PAVEMENTS AND DRIVEWAYS AND TOP OF TREATMENT LAYER.
6. PLANTING PER APPROVED LANDSCAPE PLAN.
7. FACE OF CURB TO TOP OF SLOPE MUST BE MIN 2'-0" FOR NON-MAJOR ARTERIAL STREETS, MIN 4'-0" FOR MAJOR ARTERIAL STREETS.

REF STD SPEC SEC 7-21

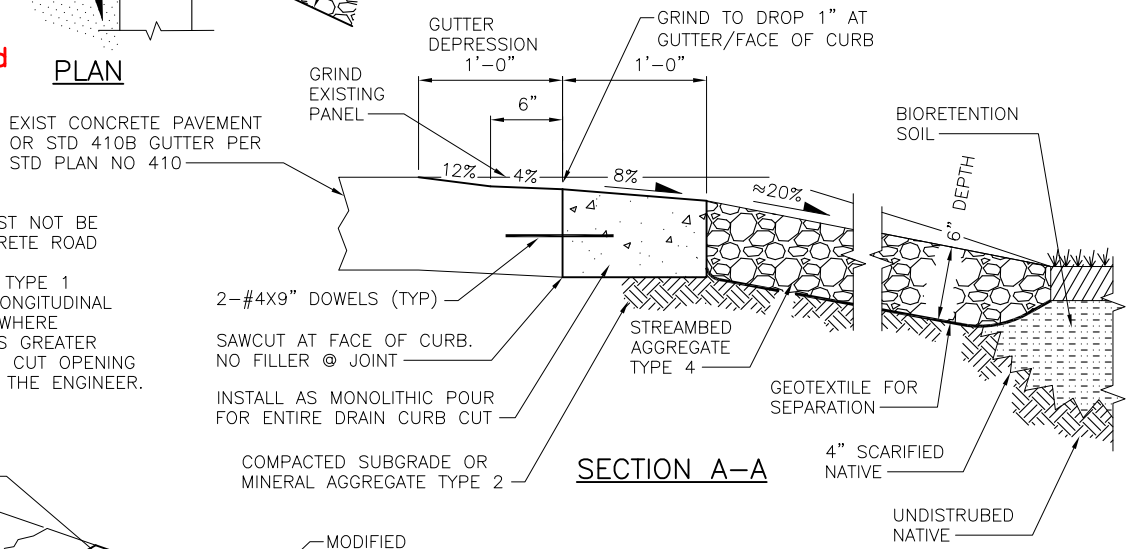
City of Seattle	NOT TO SCALE	VEGETATED CONVEYANCE SWALE (NOT FOR WATER QUALITY TREATMENT)

REV DATE: DEC 2019



callout revised

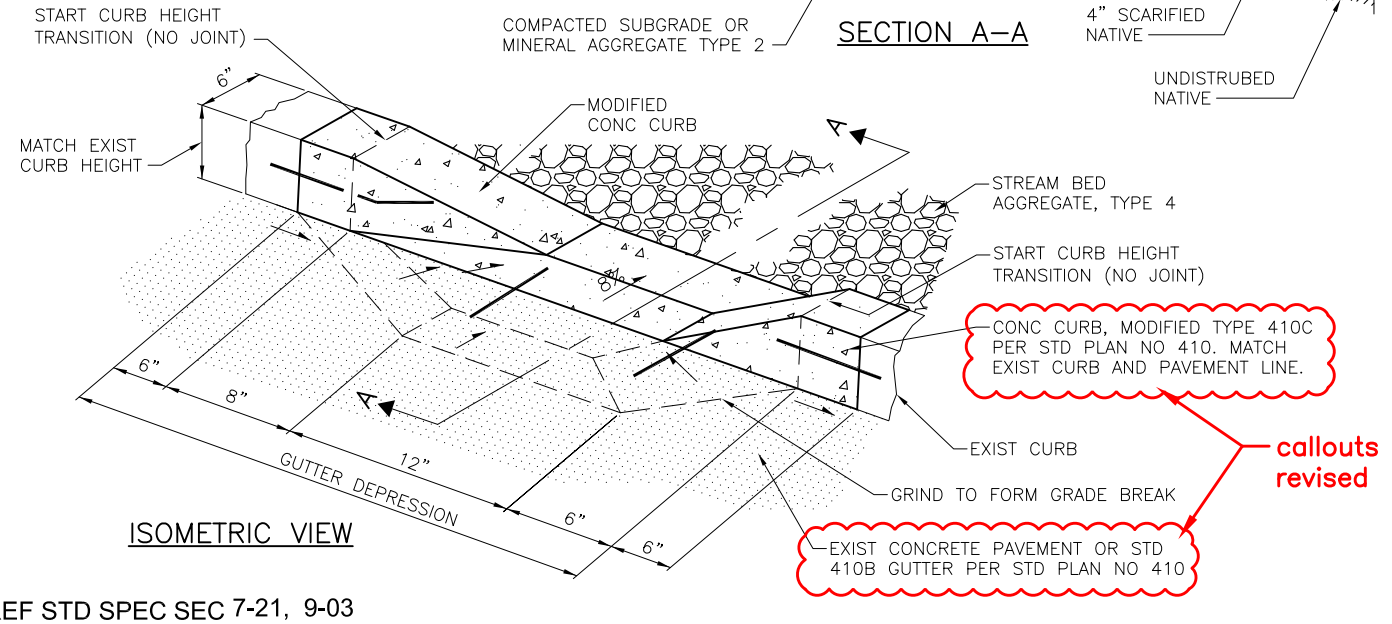
PLAN



SECTION A–A

NOTES:

1. DRAIN CURB CUTS MUST NOT BE LOCATED WITHIN CONCRETE ROAD PANEL JOINT.
2. USE DRAIN CURB CUT TYPE 1 WHERE GUTTER LINE LONGITUDINAL SLOPE IS 0 TO 5%. WHERE LONGITUDINAL SLOPE IS GREATER THAN 5%, DRAIN CURB CUT OPENING WILL BE DESIGNED BY THE ENGINEER.



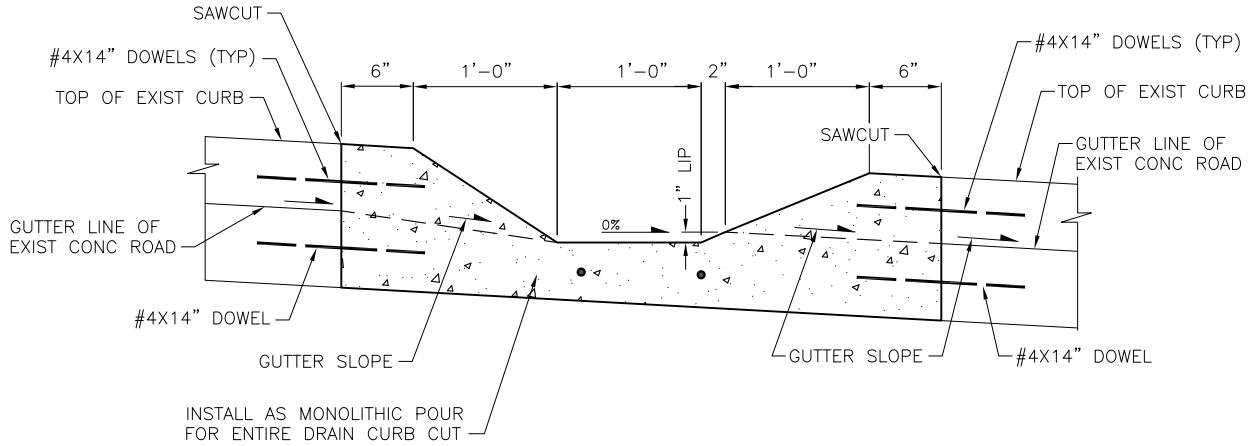
callouts revised

ISOMETRIC VIEW

REF STD SPEC SEC 7-21, 9-03

City of Seattle	NOT TO SCALE	DRAIN CURB CUT TYPE 1

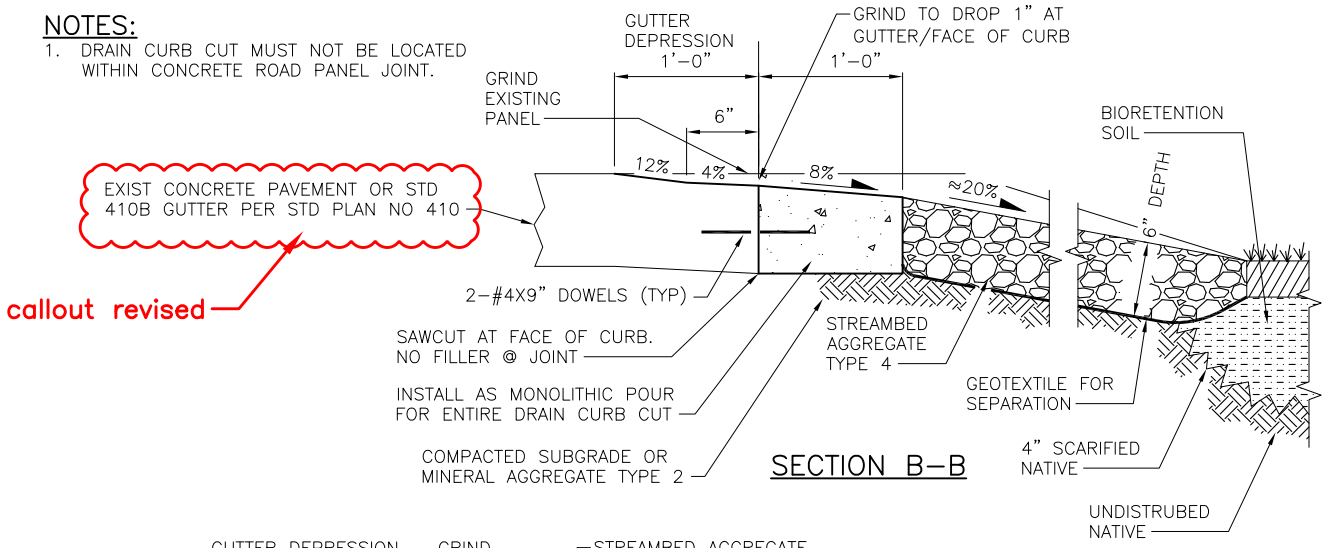
REV DATE: DEC 2019



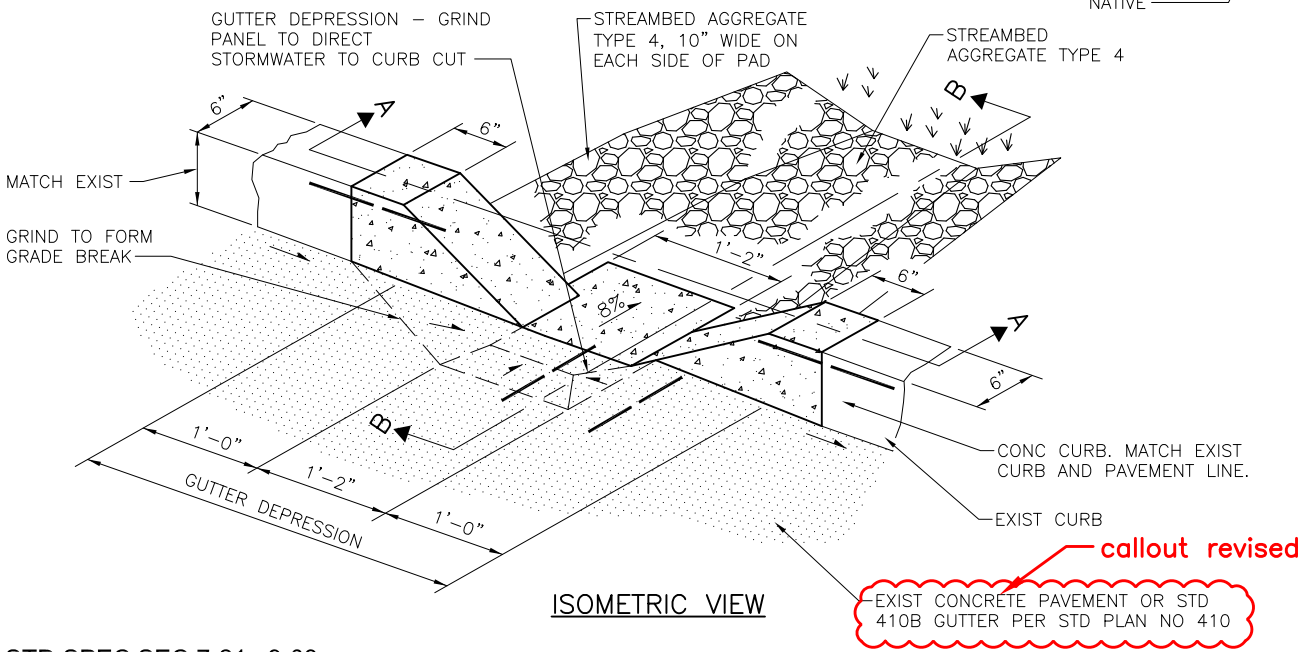
SECTION A–A

NOTES:

1. DRAIN CURB CUT MUST NOT BE LOCATED WITHIN CONCRETE ROAD PANEL JOINT.



SECTION B–B

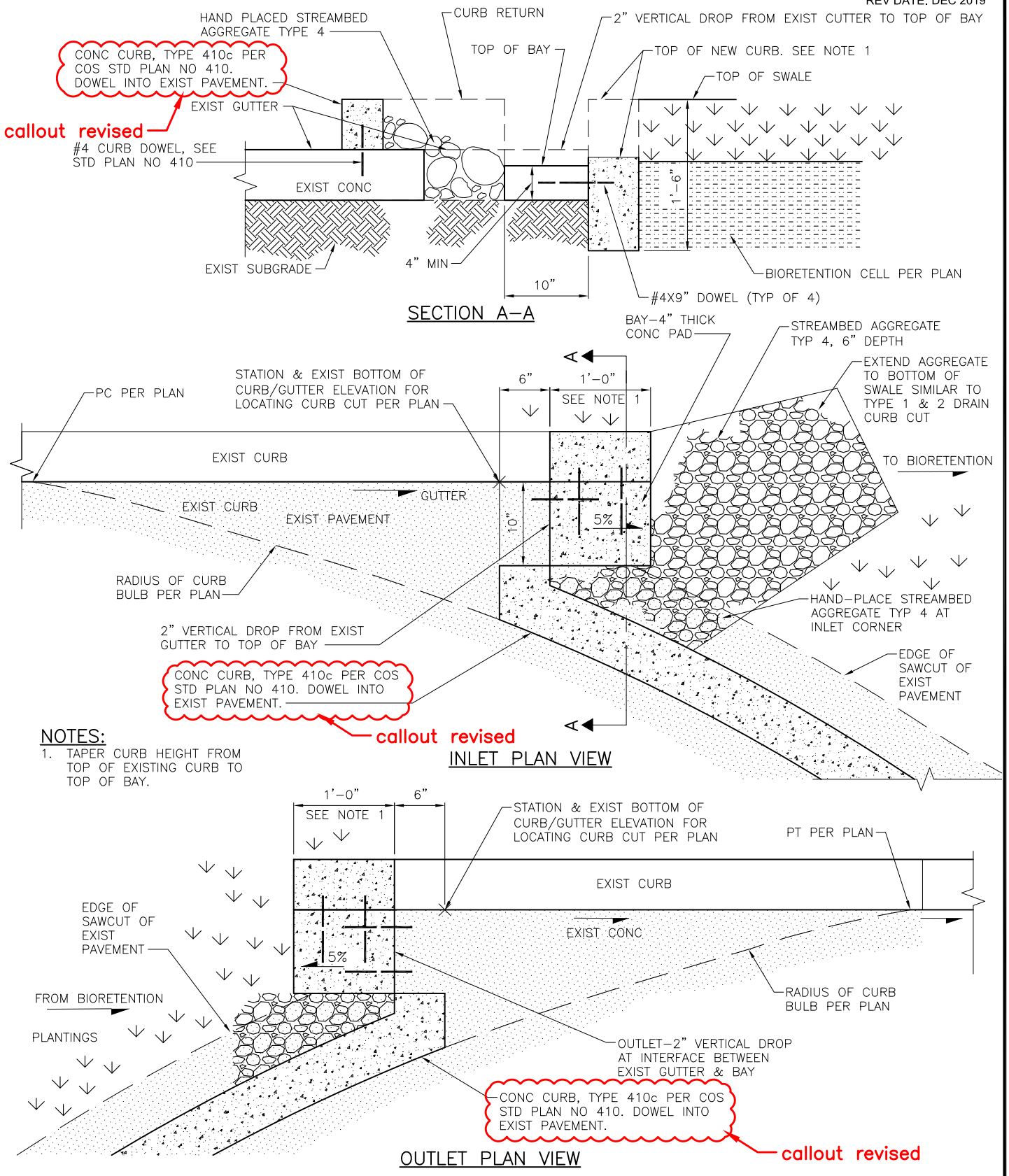


ISOMETRIC VIEW

REF STD SPEC SEC 7-21, 9-03

City of Seattle	NOT TO SCALE	DRAIN CURB CUT TYPE 2

REV DATE: DEC 2019

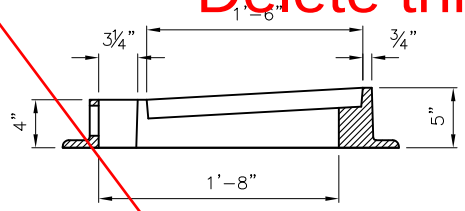


REF STD SPEC SEC 7-21, 9-03

City of Seattle	NOT TO SCALE	DRAIN CURB CUT TYPE 3

REV DATE: SEP 2015

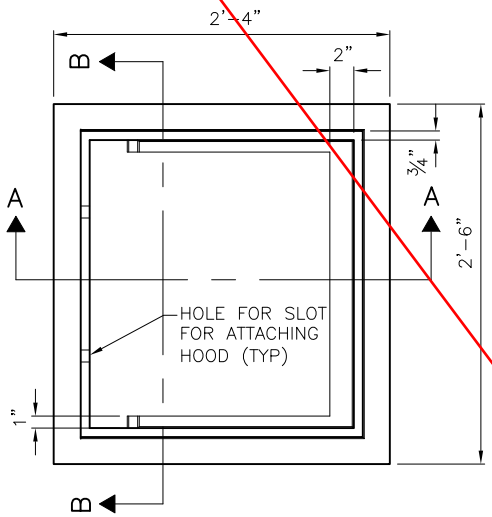
Delete this Standard Plan



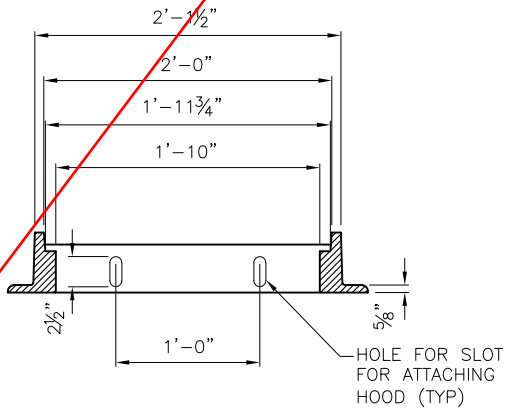
SECTION A–A

NOTES:

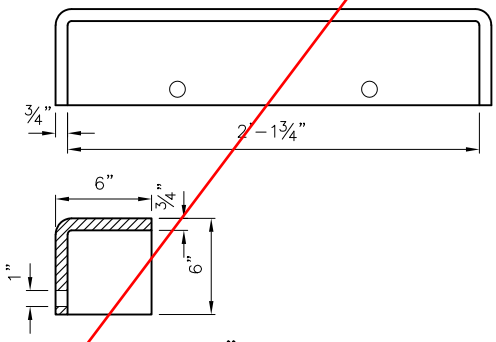
1. ATTACH THE HOOD TO THE FRAME WITH TWO ¾" X 2" HEX HEAD BOLTS, NUTS, AND OVERSIZE WASHERS. THE WASHERS MUST HAVE DIAMETERS ADEQUATE TO ENSURE FULL BEARING ACROSS THE SLOTS.
2. ONLY DUCTILE IRON VANED GRATES MUST BE USED.



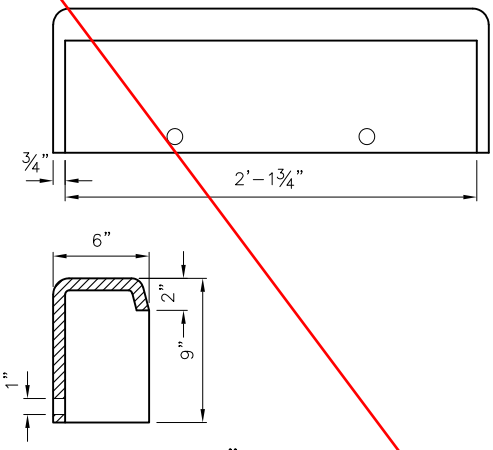
FRAME DETAIL



SECTION B–B



6" HOOD



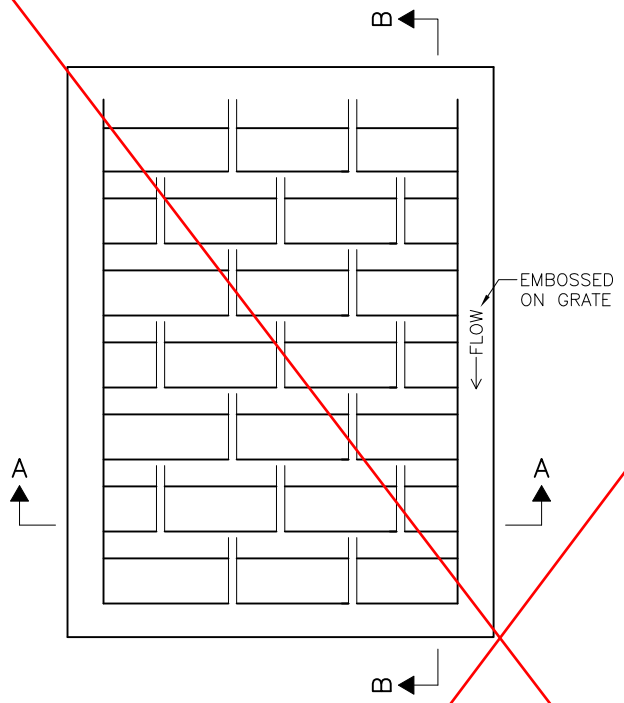
9" HOOD

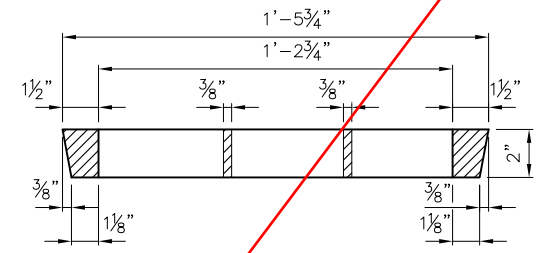
REF STD SPEC SEC 7-05

City of Seattle	NOT TO SCALE	CURB INLET FRAME

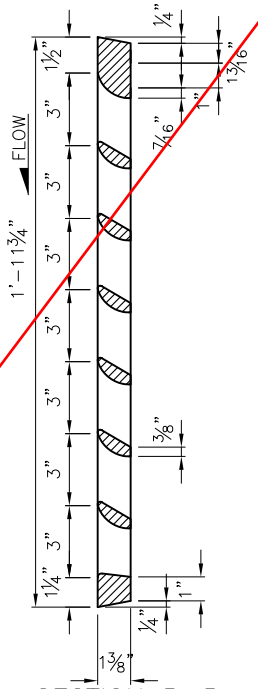
REV DATE: SEP 2015

Delete this Standard Plan





SECTION A–A



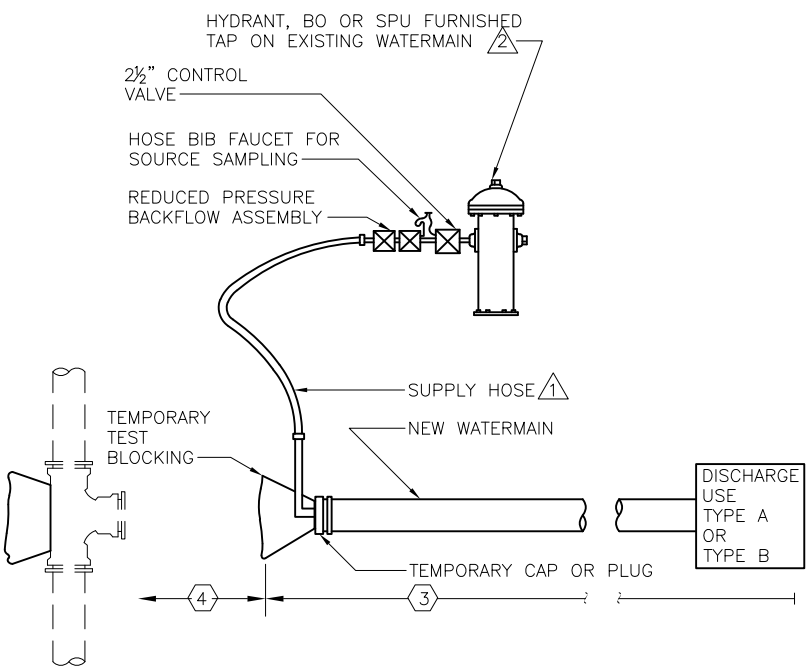
SECTION B–B

GRATE MATERIAL:
DUCTILE IRON

REF STD SPEC SEC

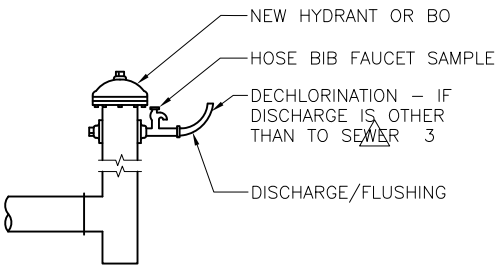
City of Seattle	NOT TO SCALE	CURB INLET VANED GRATE

REV DATE: APR 2018

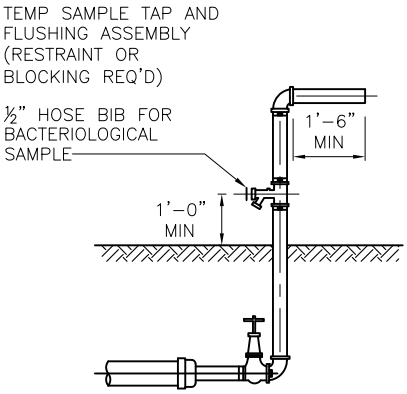


DETAIL 1

TEMPORARY FLUSHING/TESTING CONN



TYPE A



TYPE B

NOTES:

1. ALL FITTINGS MUST BE DUCTILE IRON
2. ALL EXCAVATION MUST PROVIDE A MINIMUM OF 1'–0" CLEAR AROUND PIPE AND FITTINGS.
3. THESE PLANS ARE FOR DIP AND CIP WATERMAINS 12" OR SMALLER DIA OTHER SIZES AND TYPES SEE PROJECT DRAWINGS
4. REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) MUST BE INSTALLED AS A UNIT (TWO SHUT–OFF VALVES, RELIEF PORT, TWO CHECK VALVES AND FOUR TEST COCKS). WHEN RPBA IS CONNECTED TO HYDRANT AND THE HOSE BIB FAUCET SAMPLE THEY MUST BE CAPPED WHEN NOT IN USE. ASSEMBLY MUST BE TESTED WHEN INSTALLED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER (BAT) AND A CURRENT TEST REPORT MUST BE ON SITE. FOR INSTALLATION PROCEDURES CALL 684–3536.
5. ALL FITTINGS AND MATERIALS FURNISHED BY CONTRACTOR AND TO BE INSTALLED BY SPU MUST BE VERIFIED, INSPECTED AND ON THE JOB SITE PRIOR TO SHUTDOWN OF EXISTING MAIN. FAILURE TO MEET THIS REQUIREMENT COULD RESULT IN DELAYS.

LEGEND

△1. CLEAN & DISINFECTED POTABLE WATER HOSE ONLY. SIZE FLUSHING RISER PER TABLE IN STD SPEC SEC 7–11.3(12)

△2. HYDRANT PERMIT REQUIRED

△3. CHECK WITH SEWER UTILITY BEFORE DISCHARGE TO SEWERS

⟨1⟩ CONTRACTOR TO DETERMINE ALIGNMENT, GRADE AND OUTSIDE DIAMETER OF EXISTING PIPE PRIOR TO INSTALLING NEW WATERMAIN. ENGINEER TO DETERMINE OUTSIDE DIAMETER OF EXISTING PIPE WHEN CONTRACTOR EXCAVATES TO DETERMINE ALIGNMENT & GRADE.

⟨2⟩ ALL EXCAVATION, PIPE, FITTINGS (EXCEPT AS NOTED BELOW), OTHER MATERIAL, BEDDING, BACKFILL, COMPACTION & STREET RESTORATION BY CONTRACTOR. ALL MATERIALS MUST BE ON JOB SITE PRIOR TO SHUTDOWN OF EXISTING MAIN.

⟨3⟩ INSTALLED BY CONTRACTOR

⟨4⟩ CONNECTION PIPE: CONTRACTOR FURNISHED, INSTALLED BY SPU

⟨5⟩ WATERMAIN WITH PLAIN ENDS

⟨6⟩ MECHANICAL JOINT SLEEVE WITH SPACER CUT TO FIT GAP, FURNISHED AND INSERTED AT TIME OF CONNECTION BY SPU

⟨7⟩ TAPPING SLEEVE & TAPPING VALVE FURNISHED AND INSTALLED BY SPU

⟨8⟩ APPLIES TO PIPES 4" THROUGH 12". ALL LARGER SIZES TO BE ADDRESSED ON DRAWINGS

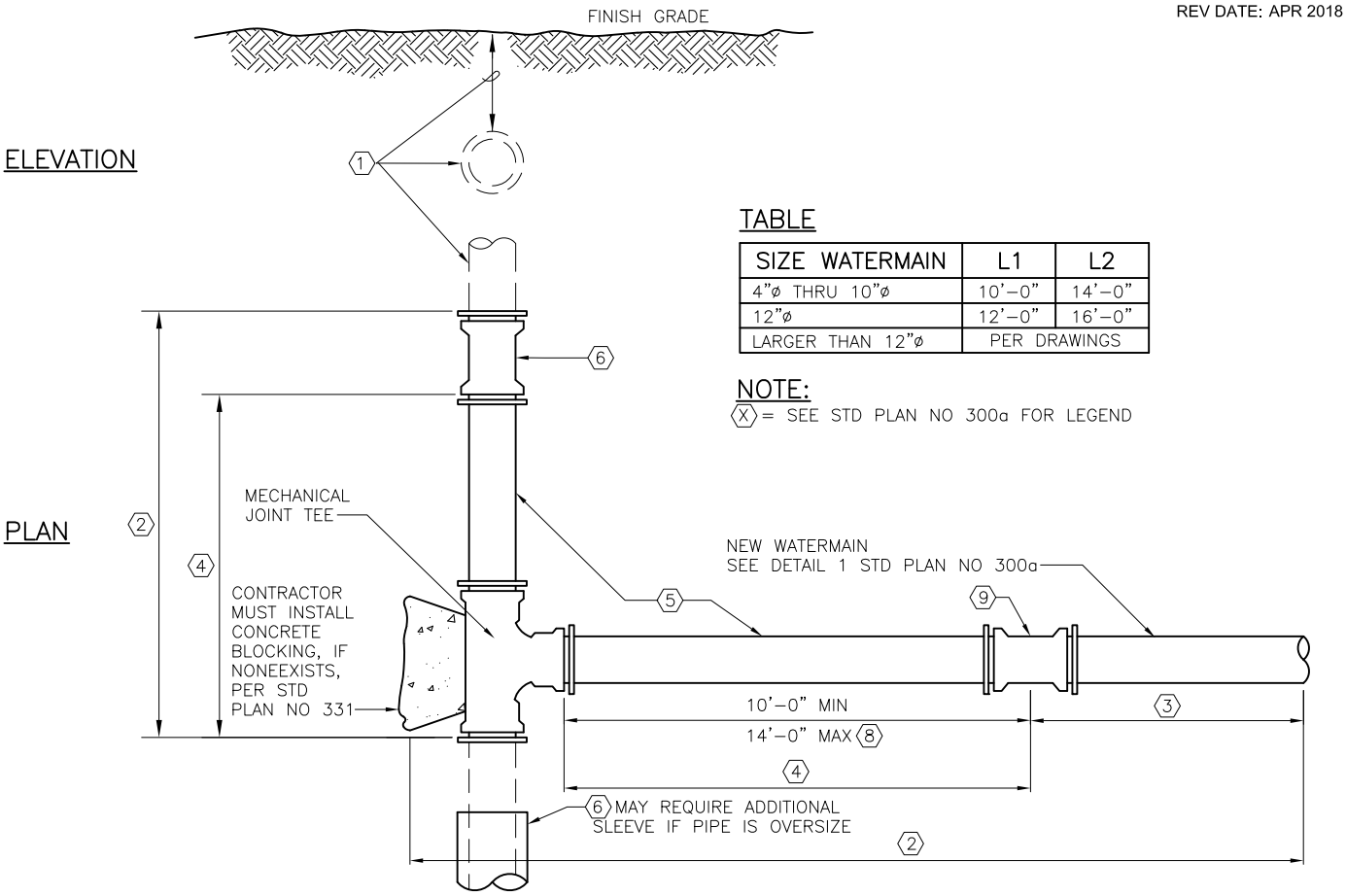
⟨9⟩ MECHANICAL JOINT SLEEVE, FURNISHED BY CONTRACTOR AND INSTALLED BY SPU, SPACERS BY SPU WHERE REQUIRED.

revised

REF STD SPEC SEC 7-11

City of Seattle | NOT TO SCALE | CONNECTIONS TO EXISTING WATERMAINS

REV DATE: APR 2018

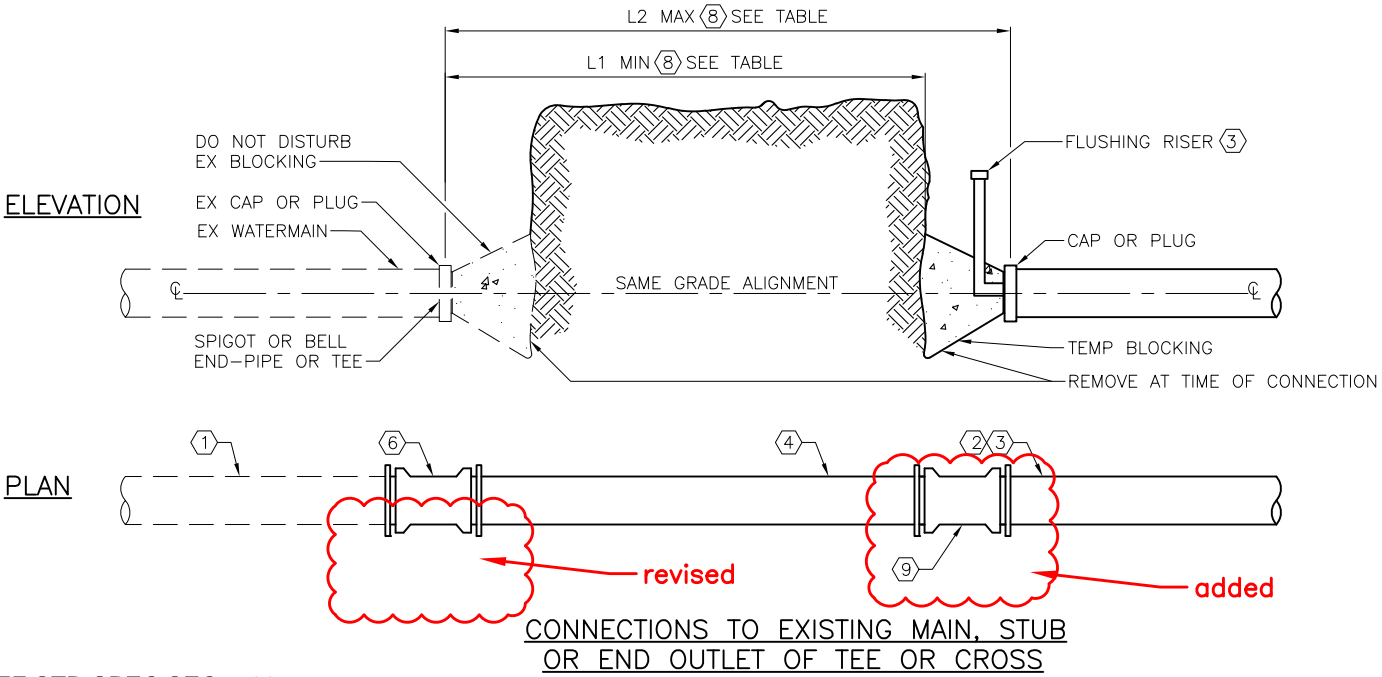


TABLE

SIZE WATERMAIN	L1	L2
4"ø THRU 10"ø	10'–0"	14'–0"
12"ø	12'–0"	16'–0"
LARGER THAN 12"ø	PER DRAWINGS	

NOTE:
(X) = SEE STD PLAN NO 300a FOR LEGEND

CONNECTIONS TO EXISTING MAIN, WITH A NEW TEE OR CROSS
(CUT IN NEW TEE)

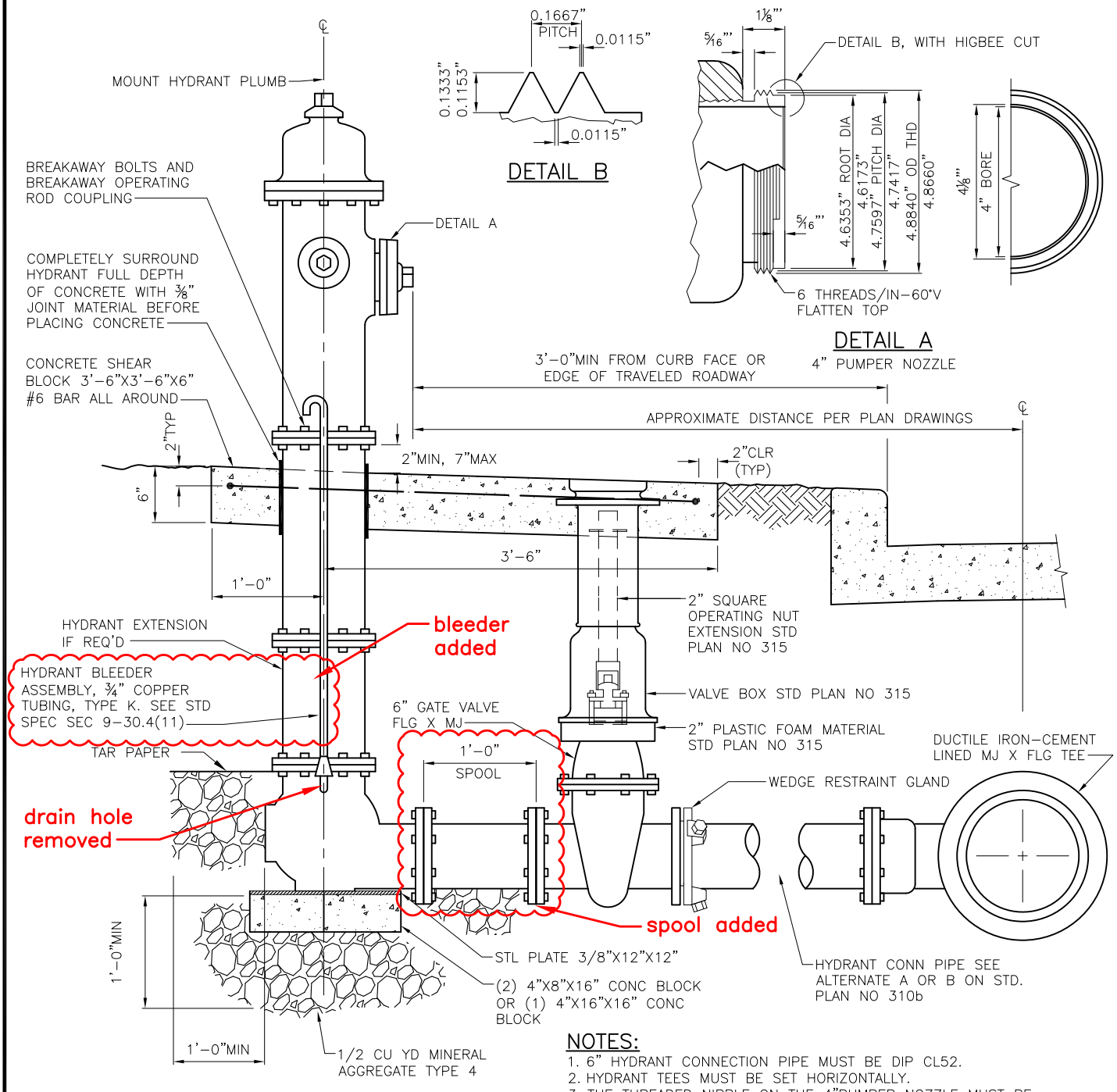


CONNECTIONS TO EXISTING MAIN, STUB OR END OUTLET OF TEE OR CROSS

REF STD SPEC SEC 7-11

City of Seattle | NOT TO SCALE | CONNECTIONS TO EXISTING WATERMAINS

REV DATE: AUG 2017



NOTES:

1. 6" HYDRANT CONNECTION PIPE MUST BE DIP CL52.
2. HYDRANT TEES MUST BE SET HORIZONTALLY.
3. THE THREADED NIPPLE ON THE 4"PUMPER NOZZLE MUST BE EQUIPPED WITH THE BLUNT START OR HIGBEE CUT.
4. THE 2½" NIPPLES MUST BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN NO 194 DATED 1974.
5. AFTER INSTALLATION, ALL SHACKLE BOLTS, NUTS, MECHANICAL JOINT GLANDS AND SHACKLE RODS MUST BE CLEANED AND COATED WITH TWO COATS OF ROYSTON R28 MASTIC.
6. AFTER BACKFILLING, THE OUTSIDE OF THE HYDRANT (ABOVE THE GROUND LINE) MUST BE THOROUGHLY CLEANED AND PAINTED WITH TWO COATS OF KELLY–MOORE LUXLITE 43–616 CAT YELLOW.
7. PUMPER PORT MUST FACE CURB.
8. RESTRAINT MUST BE BY WEDGE RESTRAINT SYSTEM SUCH AS MEGALUG OR UNIFLANGE. SEE STD SPEC 9–30.4(5).

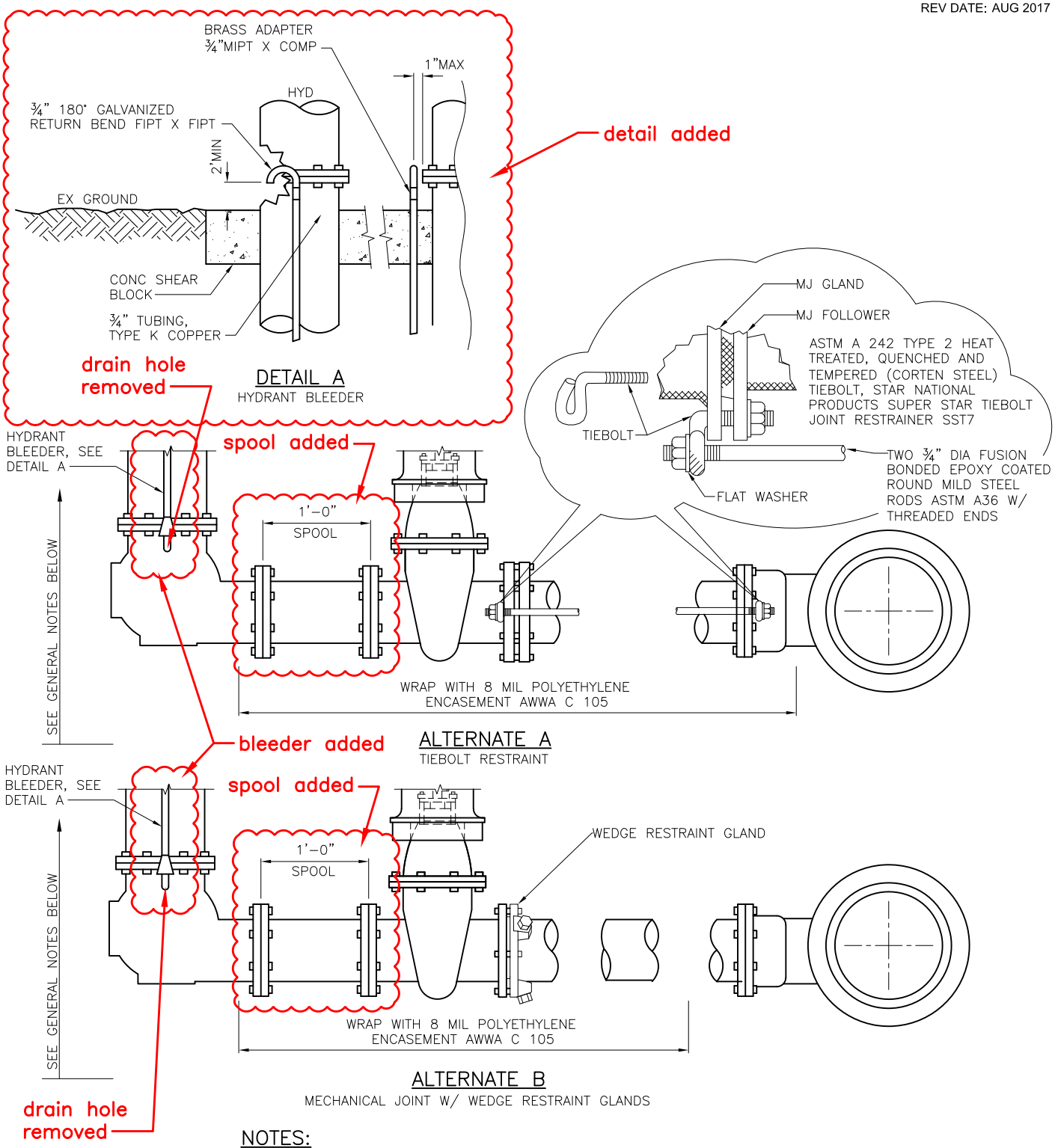
std spec changed from 9–30.5(5) to 9–30.4(5)

note 9 removed

REF STD SPEC SEC 7-14

City of Seattle | NOT TO SCALE | TYPE 310 HYDRANT SETTING DETAIL

REV DATE: AUG 2017



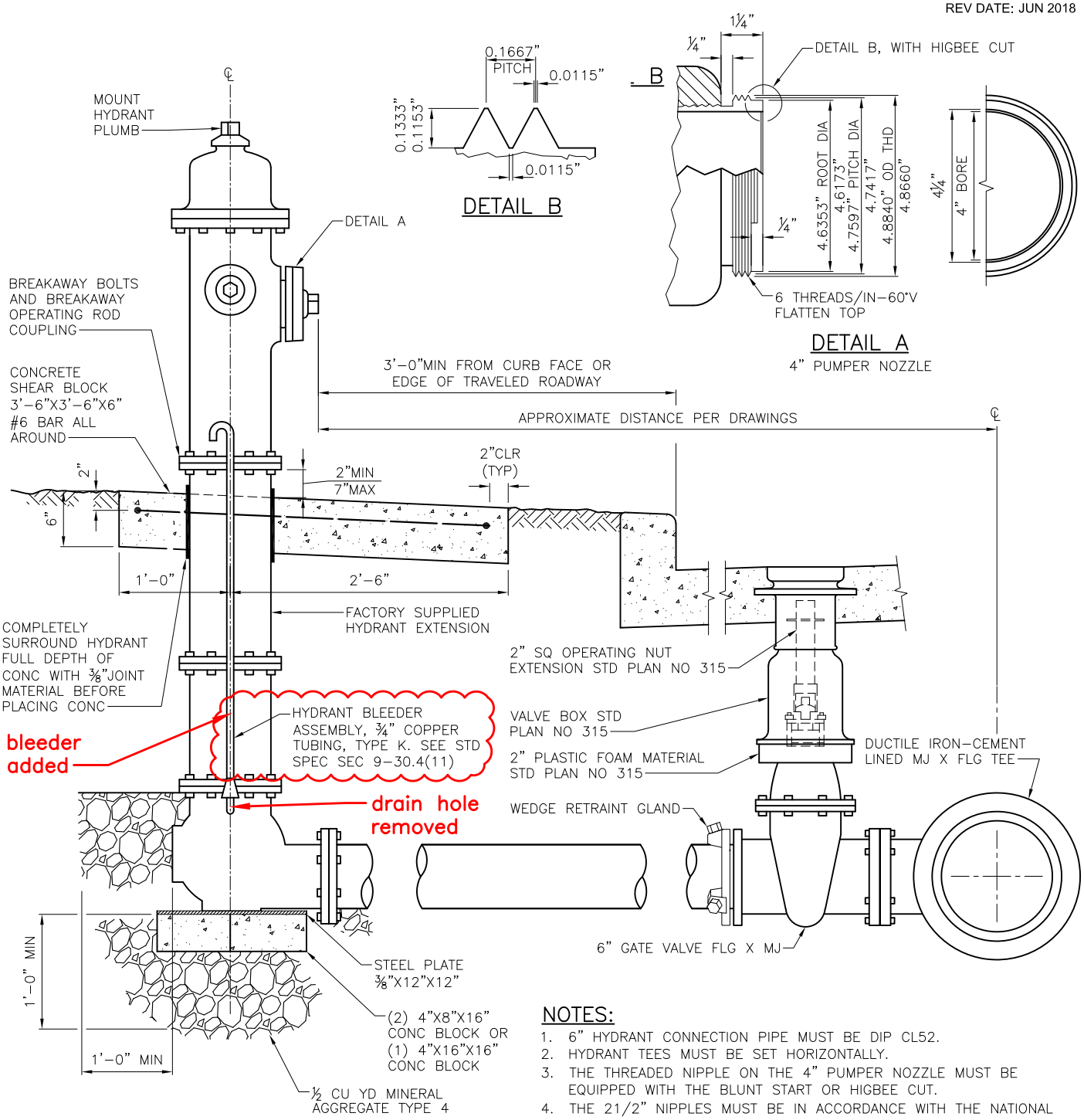
NOTES:

1. WHERE WATERMAINS ARE INSTALLED WITH POLYETHYLENE ENCASEMENT OR TAPE COATINGS, THE HYDRANT BARREL AND VALVE MUST BE SIMILARLY ENCASED, COATED AND/OR JOINTS BONDED. WHERE WATERMAIN IS THERMOPLASTIC COATED, THE HYDRANT BARREL MUST BE TAPE COATED
2. WHERE 6" GATE VALVE IS TO BE LOCATED WITHIN A PARKING–PERMITTED AREA, A SECOND 6" GATE VALVE MUST BE INSTALLED AT THE HYDRANT ASSEMBLY PER STD PLAN NO 310a

REF STD SPEC SEC 7-14

City of Seattle	NOT TO SCALE	TYPE 310 HYDRANT SETTING DETAIL

REV DATE: JUN 2018



HYDRANT DETAIL

NOTES:

1. 6" HYDRANT CONNECTION PIPE MUST BE DIP CL52.
2. HYDRANT TEES MUST BE SET HORIZONTALLY.
3. THE THREADED NIPPLE ON THE 4" PUMPER NOZZLE MUST BE EQUIPPED WITH THE BLUNT START OR HIGBEE CUT.
4. THE 21/2" NIPPLES MUST BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN NO 194 DATED 1974.
5. AFTER INSTALLATION, ALL SHACKLE BOLTS, NUTS, AND SHACKLE RODS MUST BE CLEANED AND COATED WITH TWO COATS OF ASPHALT, ROYSTON ROSKOTE R28.
6. AFTER BACKFILLING, THE OUTSIDE OF THE HYDRANT (ABOVE THE GROUND LINE) MUST BE THOROUGHLY CLEANED AND PAINTED WITH TWO COATS OF KELLY-MOORE 6130-516 CAT YELLOW.
7. PUMPER PORT MUST FACE CURB.
8. RESTRAINT MUST BE BY WEDGE RESTRAINT SYSTEM USCH AS MEGALUG OR UNIFLANGE. SEE STD SPEC SEC 9-30.4(5).

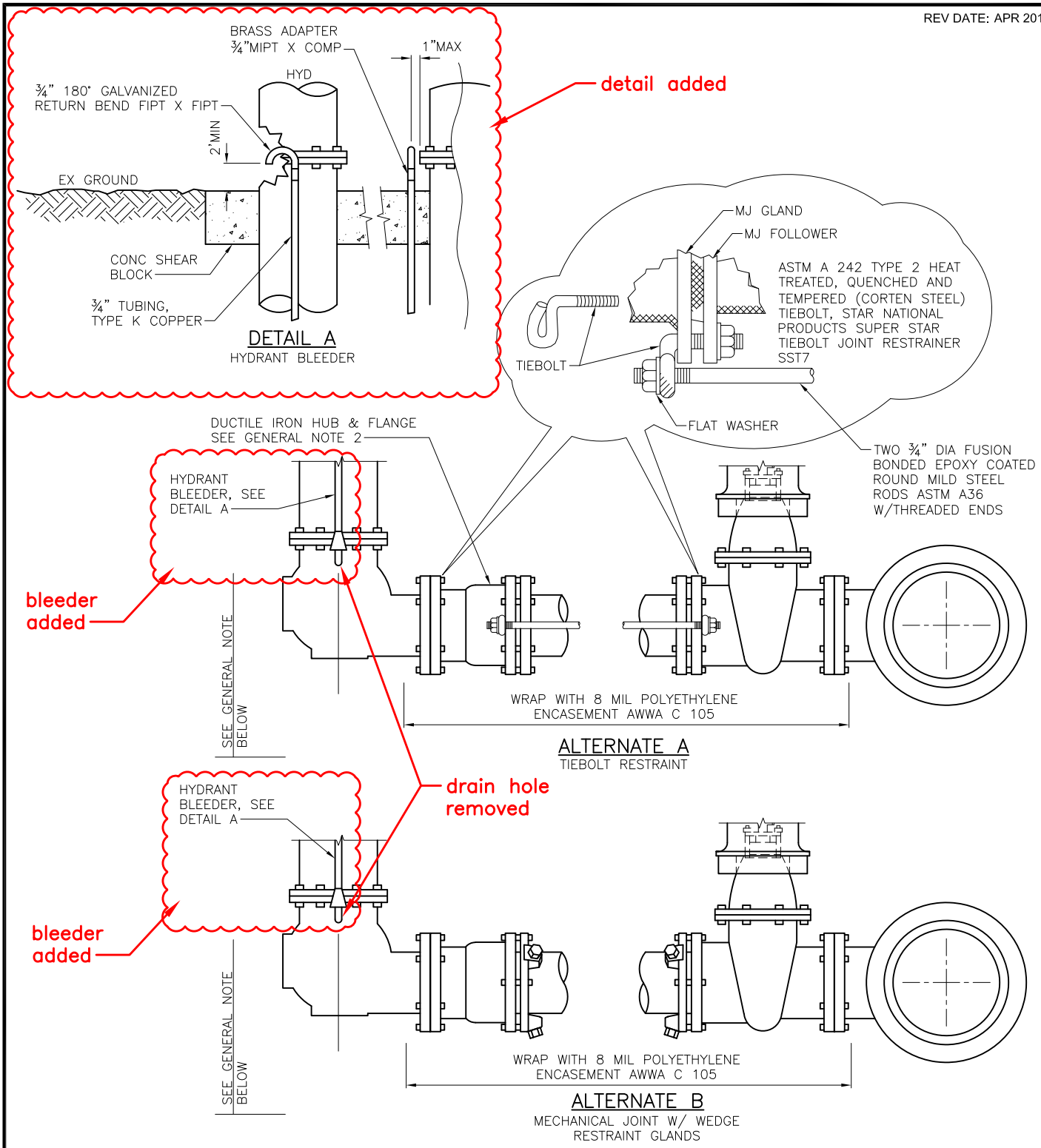
std spec changed from 9-30.5(5) to 9-30.4(5)

Notes 8 & 10 removed, note 9 renumbered to 8

REF STD SPEC SEC 7-14

City of Seattle | NOT TO SCALE | TYPE 311 HYDRANT SETTING DETAIL

REV DATE: APR 2017



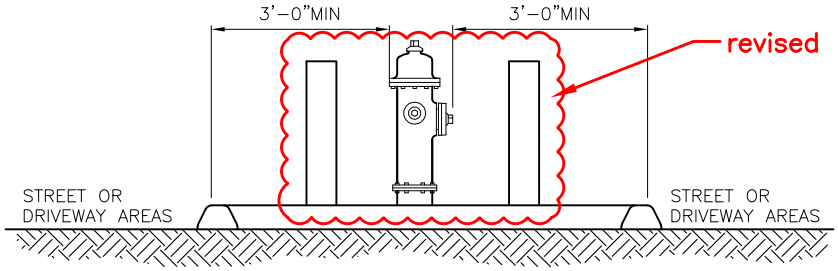
GENERAL NOTES:

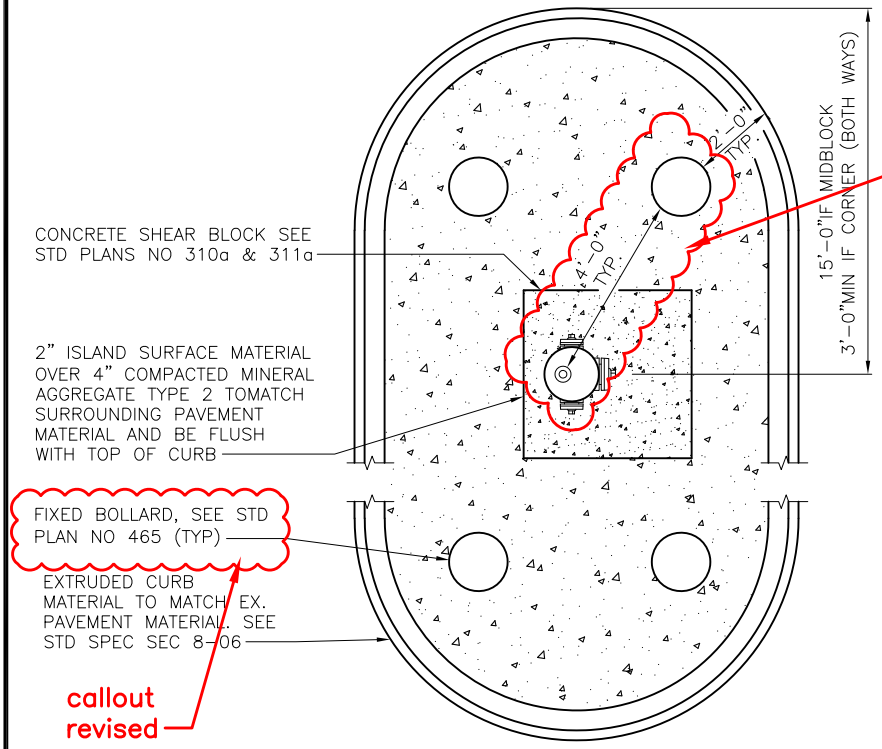
1. WHERE WATERMAINS ARE INSTALLED WITH POLYETHYLENE ENCASEMENT OR TAPE COATINGS, THE HYDRANT BARREL AND VALVE MUST BE SIMILARLY ENCASED, COATED AND/OR JOINTS BONDED. WHERE WATERMAIN IS THERMOPLASTIC COATED, THE HYDRANT BARREL MUST BE TAPE COATED
2. WHERE 6" GATE VALVE IS TO BE LOCATED WITHIN A PARKING–PERMITTED AREA, A SECOND 6"GATE VALVE MUST BE INSTALLED AT THE HYDRANT ASSEMBLY PER STD PLAN NO 310a

REF STD SPEC SEC 7-14

City of Seattle	NOT TO SCALE	TYPE 311 HYDRANT SETTING DETAIL

REV DATE: MAR 2019

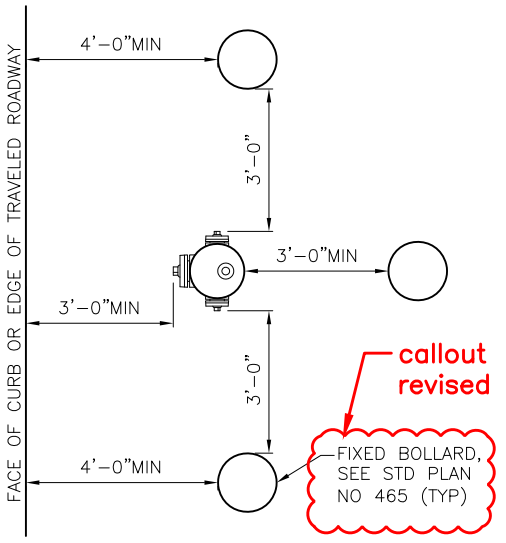




previous note 2 removed

NOTE:
LAYOUT OF MARKER POST MUST BE VERIFIED FIRST WITH SPU AND SDOT

TRAFFIC ISLAND MARKER POST LAYOUT FOR FIRE HYDRANTS IN PARKING AREAS



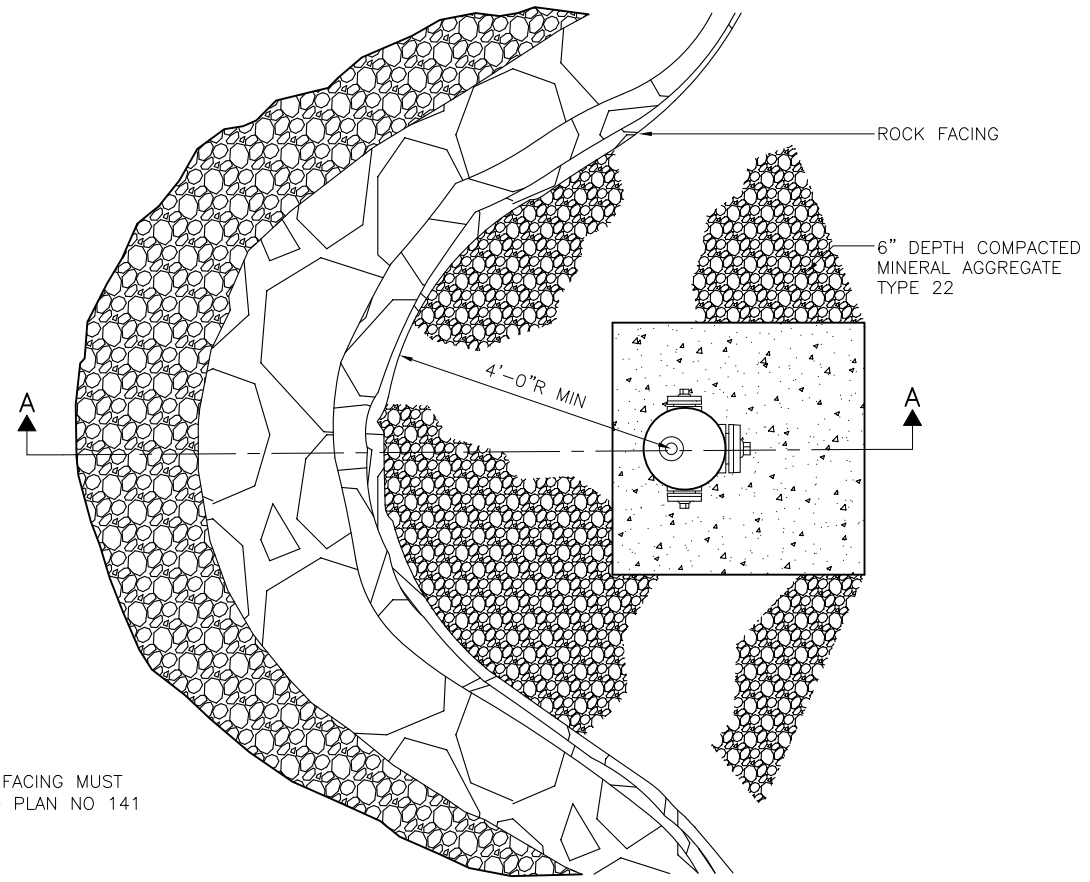
MARKER POST LAYOUT FOR FIRE HYDRANTS IN PARKING AREAS

REF STD SPEC SEC 7-14

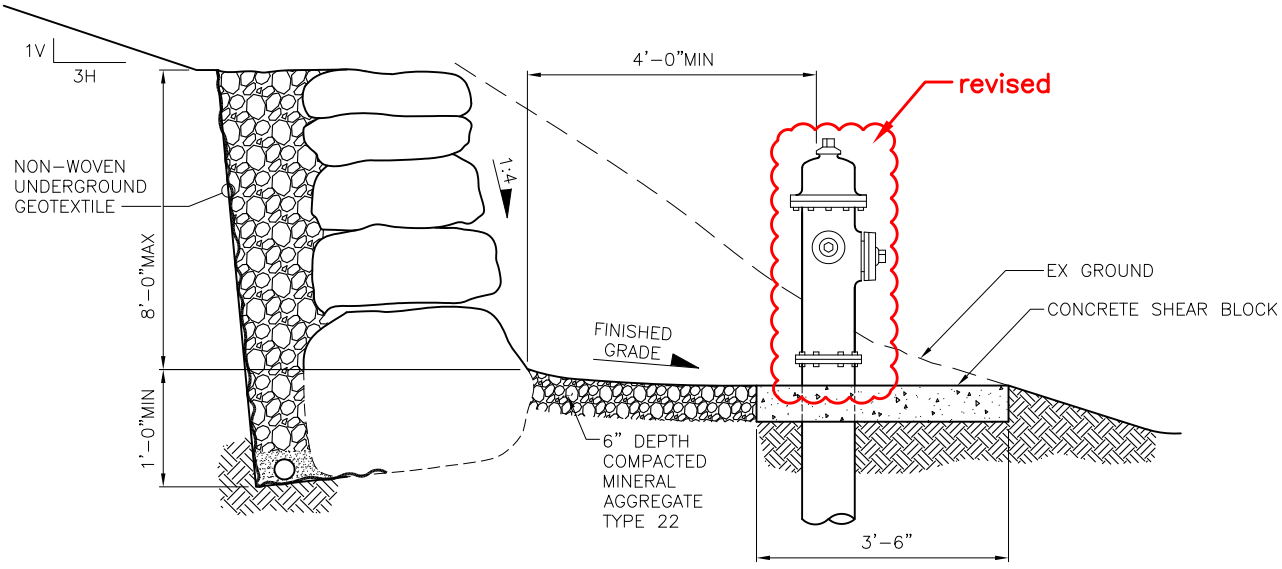
City of Seattle	NOT TO SCALE	FIRE HYDRANT MARKER LAYOUT

REV DATE: MAR 2019

PLAN



NOTE:
ROCK FOR ROCK FACING MUST COMPLY WITH STD PLAN NO 141



SECTION A-A

REF STD SPEC SEC 2-13

City of Seattle	NOT TO SCALE	WALL REQUIREMENTS FOR HYDRANTS

REV DATE: NOV 2019

NOTES:
1. NO PARKING ZONE WITHIN 15'–0" RADIUS OF FIRE HYDRANT.
2. MIN DISTANCE FROM BACK FACE OF HYDRANT TO FRONT EDGE OF CONCRETE WALK MUST BE 2'–0".
3. MARKER MUST BE 6" OFFSET FROM CENTER OF ROADWAY IF CENTERLINE IS NOT STRIPED, OR 6" OFF STRIPED CENTERLINE. WHERE MEDIANS OR TWO–WAY LEFT TURN LANES EXIST, MARKER MUST BE INSTALLED WITH 6" OFFSET FROM THE LANE LINE CLOSEST TO THE HYDRANT

note 3 added

CORNER

INSTALL BLUE TYPE 2A LANE MARKER ADJACENT TO FIRE HYDRANTS. SEE NOTE 3 (TYP)

added

3'–0"MIN, 15'–0"MAX ON CORNERS
7'–0"MAX MIDBLOCK

CURB OR EDGE OF TRAVELED PORTION OF ROADWAY

R/W MARGIN

5'–0" STD

5'–0" MIN

R/W MARGIN

TREE

added

MID–BLOCK

5'–0" MIN

LOT LINE

10'–0" MIN

SIDE SEWER

dim removed

10'–0"STD
N OR E

FACE OF CURB

3'–0"MIN

1'–6"

2'–0"

2'–0"

EXPANSION JOINT

℄ STREET

added

CORNER

UTILITY POLE, GUARD POST, BUILDING WALL OR ANY OTHER FIXED STRUCTURE

5'–0" STD

R/W MARGIN

SEE DETAIL A

DETAIL A
HYDRANT NEAR CURB RAMP

added

REF STD SPEC SEC 7-14, 8-08

City of Seattle

NOT TO SCALE

FIRE HYDRANT LOCATIONS & CLEARANCES

REV DATE: MAR 2019

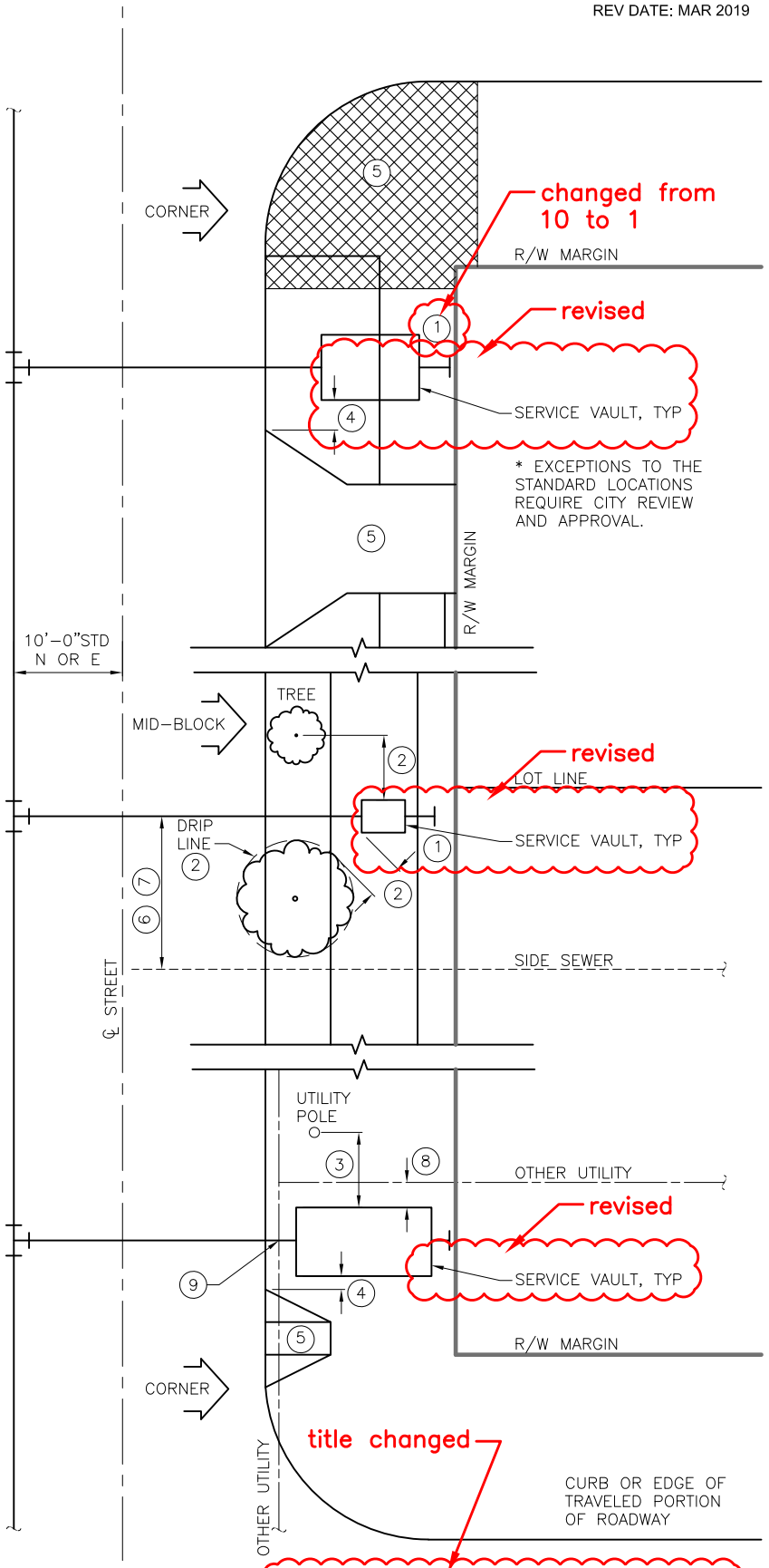
NOTES:

1. UNION POINT 2' OUTSIDE VAULT OR 2' FROM PROPERTY LINE.
2. 5' CLEARANCE FROM NEW TREES OR CLEAR OF DRIP LINE FOR EXISTING TREES
3. 5' CLEAR FROM POLES.
4. 2' CLEAR FROM EDGE OF DRIVEWAY OR ADA RAMP.
5. WATER SERVICE NOT TO BE INSTALLED IN DRIVEWAY, BEHIND ADA RAMP, OR STREET CORNER.
6. SIDE SEWER HORIZONTAL CLEARANCE 10' FOR CAST IRON WATER PIPE OR 5' FOR DUCTILE IRON WATER PIPE.
7. SIDE SEWER VERTICAL CLEARANCE 1.5' MIN.
8. VAULT HORIZONTAL CLEARANCE 12" MIN FROM OTHER UTILITIES. UNLESS OTHERWISE NOTED IN STD SPECS.
9. VERTICAL CLEARANCE 12" MIN FOR ALL OTHER UTILITY CROSSINGS UNLESS OTHERWISE NOTED IN STD SPECS.

SEE STD PLAN NO 003q FOR TYPICAL WATER SERVICE VAULTS

note 10 removed, std plan no 003q note added

details moved to std plan no 003q



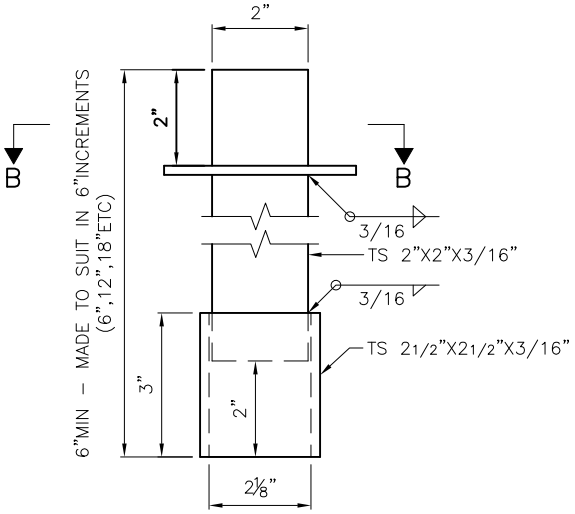
REF STD SPEC SEC 1-07.17(2)

City of Seattle

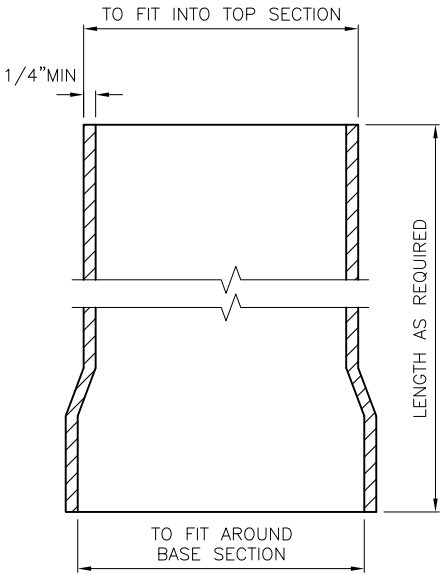
NOT TO SCALE

CLEARANCES FOR TYPICAL WATER SERVICE VAULTS

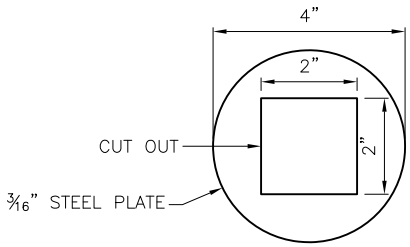
REV DATE: JUN 2019



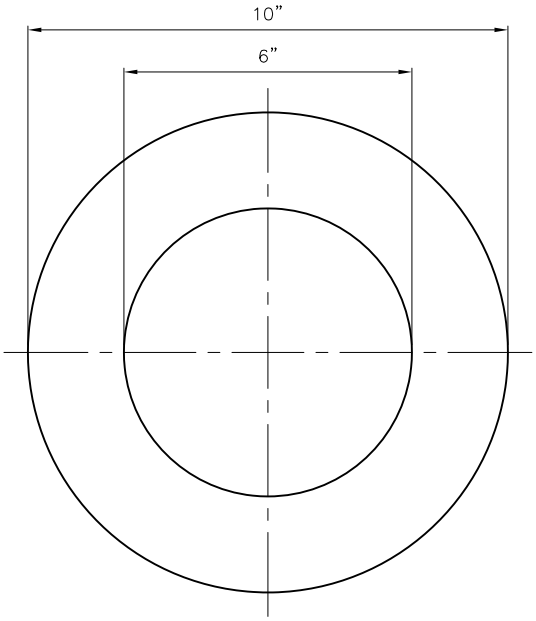
OPERATING NUT EXTENSION DETAIL 1



EXTENSION PIECE 2
WHEN REQUIRED



SECTION B–B



PLASTIC FOAM RING DETAIL

NOTES:

1. FRAME AND COVER MUST BE TESTED FOR ACCURACY OF FIT AND MUST BE MARKED IN SETS FOR DELIVERY
2. CASTINGS AND EXTENSIONS MUST BE HOT–DIPPED IN ASPHALTIC VARNISH ROYSTON ROSKOTE #612XM OR 2 COATS OF MASTIC ROYSTON INSIDE AND OUT
3. VALVE BOXES MUST BE EAST JORDAN: COVER & TOP SECTION #3664, BOTTOM SECTION #8555; OR OLYMPIC FOUNDRY: LID #1908–33, TOP SECTION #1106–33, BASE SECTION #1301–33
4. ~~ALL CASTINGS MUST BE DUCTILE OR GREY CAST IRON~~

note 3 revised

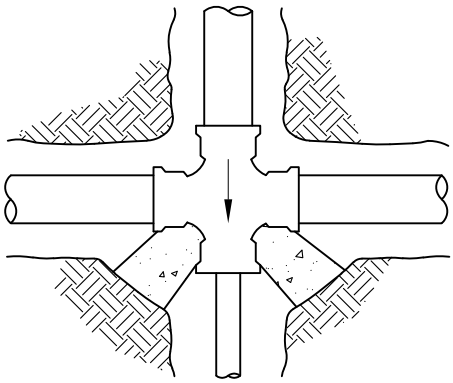
LEGEND:

1. AN OPERATING NUT EXTENSION MUST BE INSTALLED WHEN THE GROUND SURFACE IS MORE THAN 2'–6" ABOVE THE VALVE OPERATING NUT. THE OPERATING NUT EXTENSION MUST EXTEND INTO THE TOP SECTION OF THE STANDARD VALVE BOX AND MUST CLEAR THE BOTTOM OF THE LID BY 6" MIN
2. EXTENSION PIECES (WHEN USED) MUST CONFORM TO MINIMUM THICKNESS REQUIREMENTS AND MUST FIT INTO THE TOP SECTION AND OVER THE BOTTOM SECTION

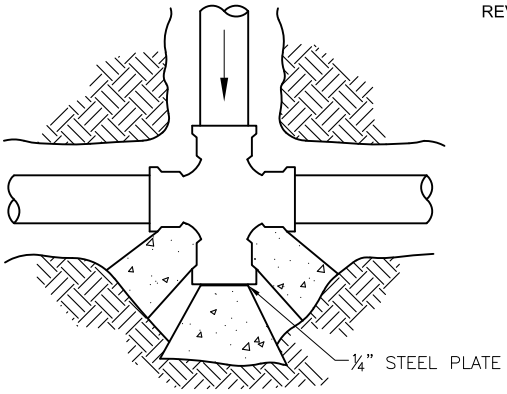
REF STD SPEC SEC 7-12, 9-30

City of Seattle	NOT TO SCALE	CAST IRON VALVE BOX & OPERATING NUT EXTENSION

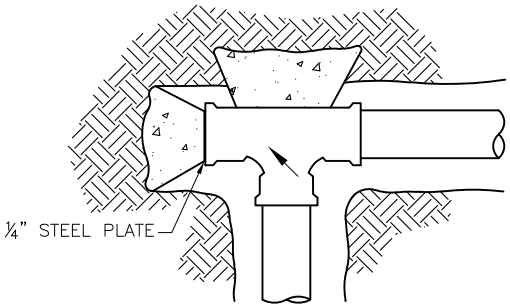
REV DATE: APR 2018



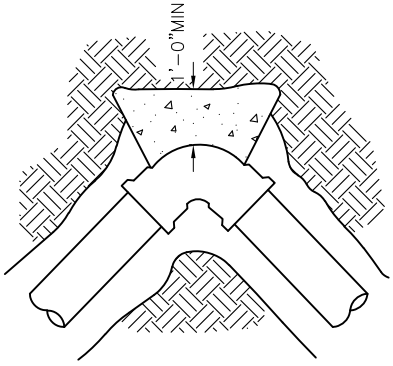
UNBALANCED CROSS



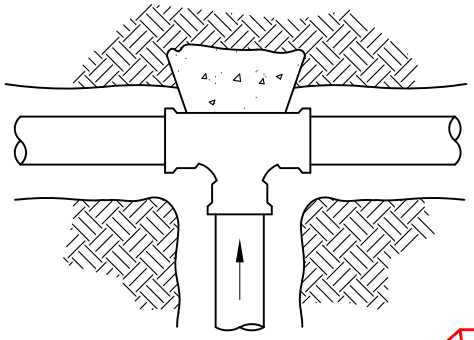
CROSS WITH PLUG



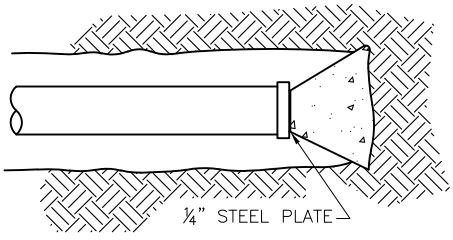
PLUGGED TEE



HORIZONTAL BEND



TEE



PIPE & CAP

bold outline added

THRUST BLOCK AREA IN SQUARE FEET (SEE STD PLAN NO 331B)

SOIL	FIRM SILT OR FIRM SILTY SAND				COMPACT SAND				COMPACT SAND & GRAVEL			
PIPE SIZE / FITTING	90° BEND	TEE	45° BEND CAP OR PLUG	11¼° & 22½° BEND	90° BEND	TEE	45° BEND CAP OR PLUG	11¼° & 22½° BEND	90° BEND	TEE	45° BEND CAP OR PLUG	11¼° & 22½° BEND
4"	7.0	4.2	4.2	1.7	2.9	2.1	2.1	1.0	2.2	1.6	1.6	1.0
6"	13.3	9.4	9.4	3.8	6.7	4.7	4.7	1.9	5.0	3.5	3.5	1.4
8"	23.3	16.7	16.7	6.7	11.7	8.4	8.4	3.4	8.8	6.3	6.3	2.5
12"	53.0	37.5	37.5	15.0	26.5	18.8	18.8	7.5	20.0	14.0	14.0	5.6

AREAS CALCULATED ON 300 PSI TEST PRESSURE AND 3'-0" MIN COVER OVER WATERMAIN

ECOLOGY BLOCKS, PER STD PLAN NO 460, MAY BE USED, AT THE DISCRETION OF THE ENGINEER ONLY, IN LIEU OF POURED-IN-PLACE BLOCKING FOR FITTINGS IN HEAVY OUTLINED PORTION OF TABLE. ECOLOGY BLOCKS USED FOR THRUST BLOCKING AT TEES MUST TRANSFER LOAD TO THE PIPE BODY PER SPEC SECTION 7-11.3(13).

note revised

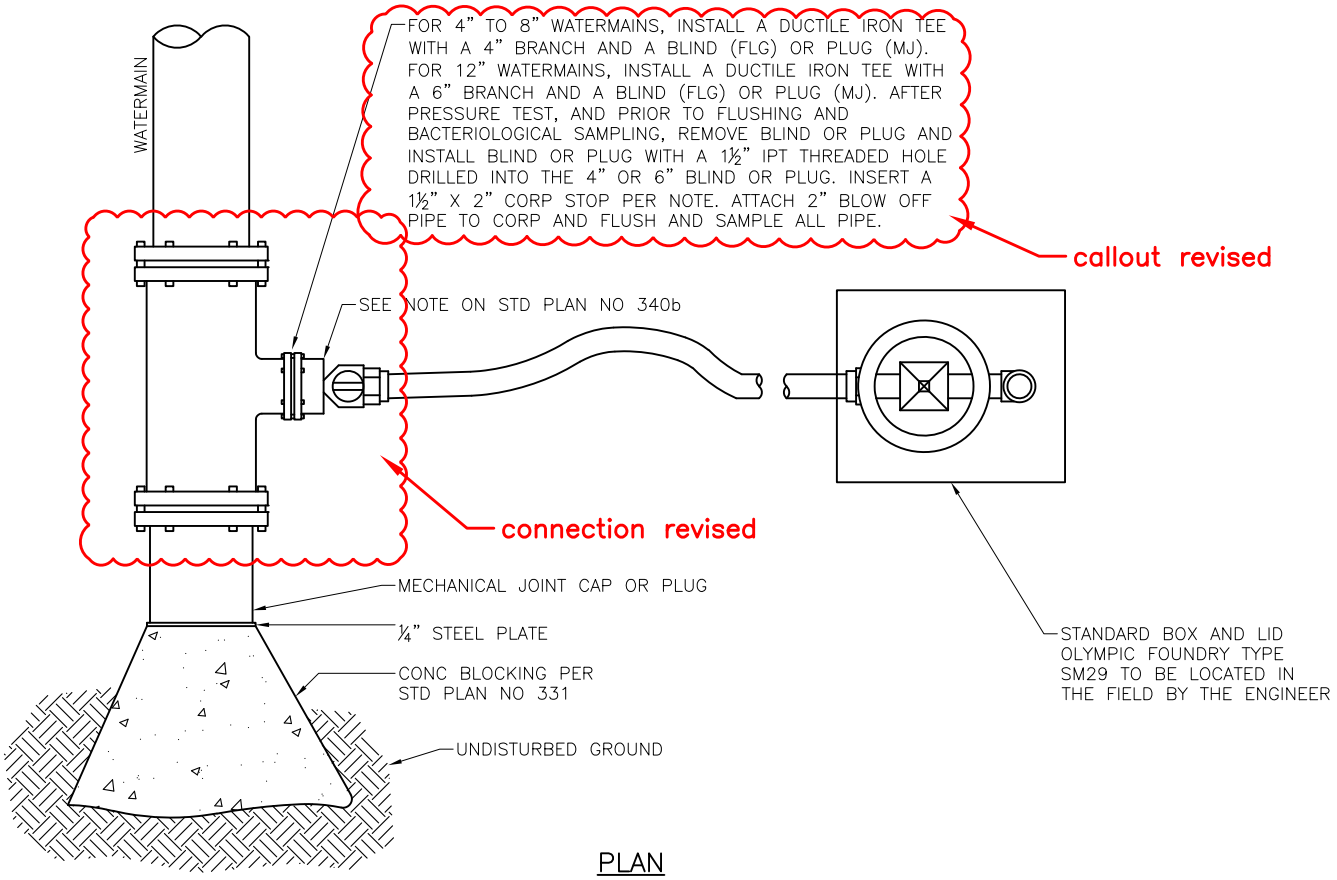
REF STD SPEC SEC 7-11

City of Seattle

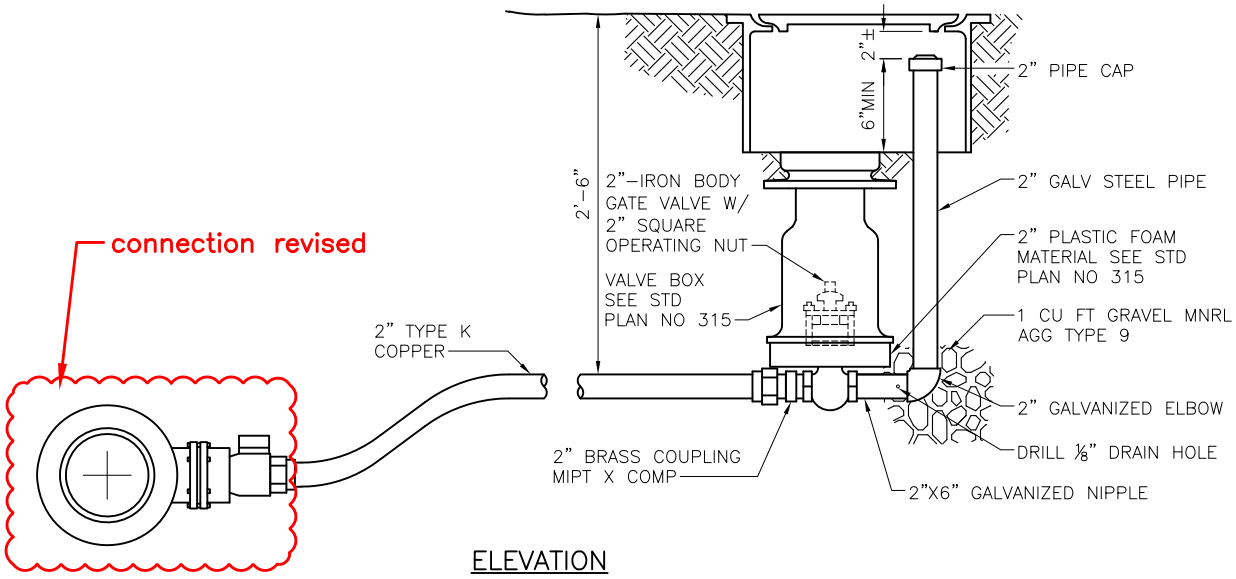
NOT TO SCALE

WATERMAIN THRUST BLOCKING HORIZONTAL FITTINGS

REV DATE: AUG 2019



PLAN

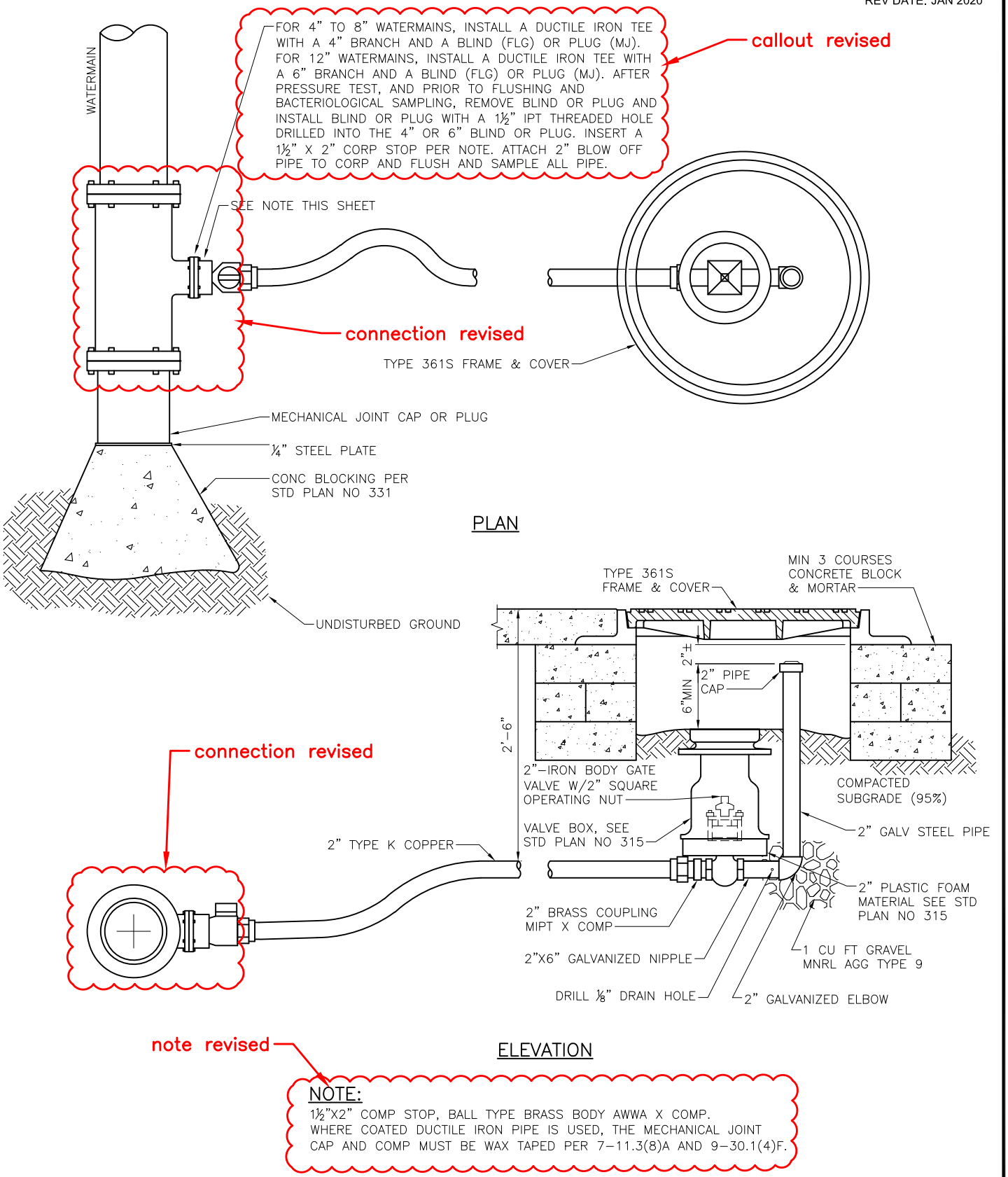


ELEVATION

REF STD SPEC SEC 7-11

City of Seattle	NOT TO SCALE	2" BLOW OFF TYPE A NON TRAFFIC INSTALLATION

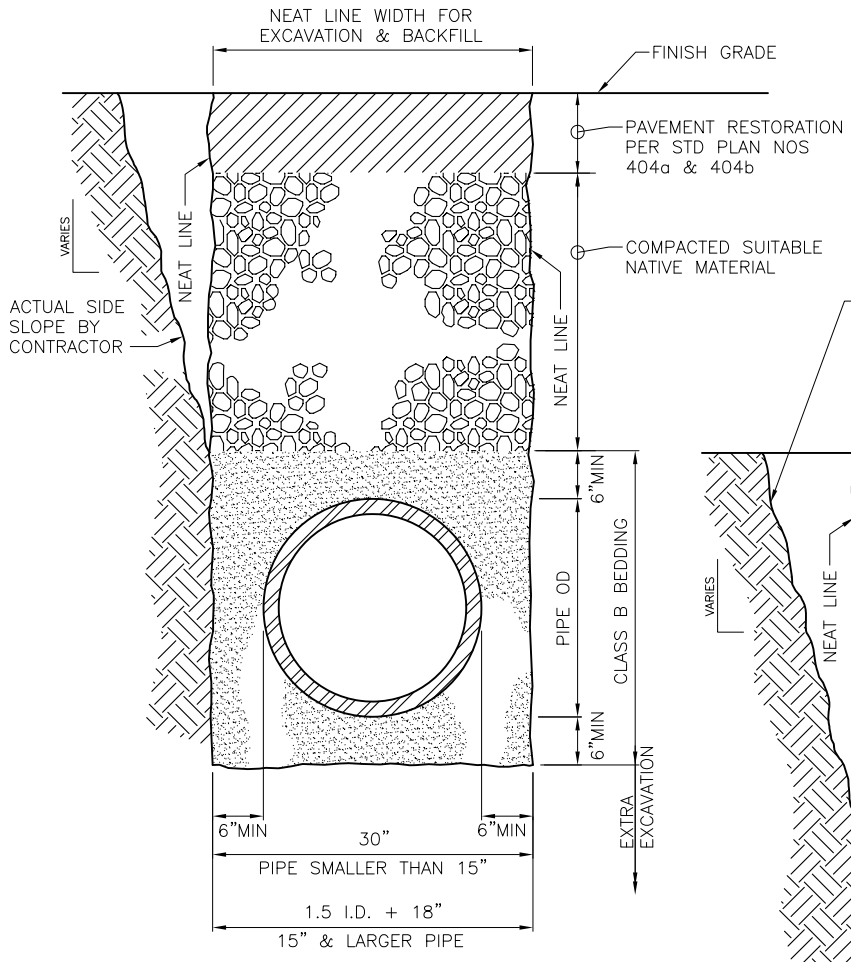
REV DATE: JAN 2020



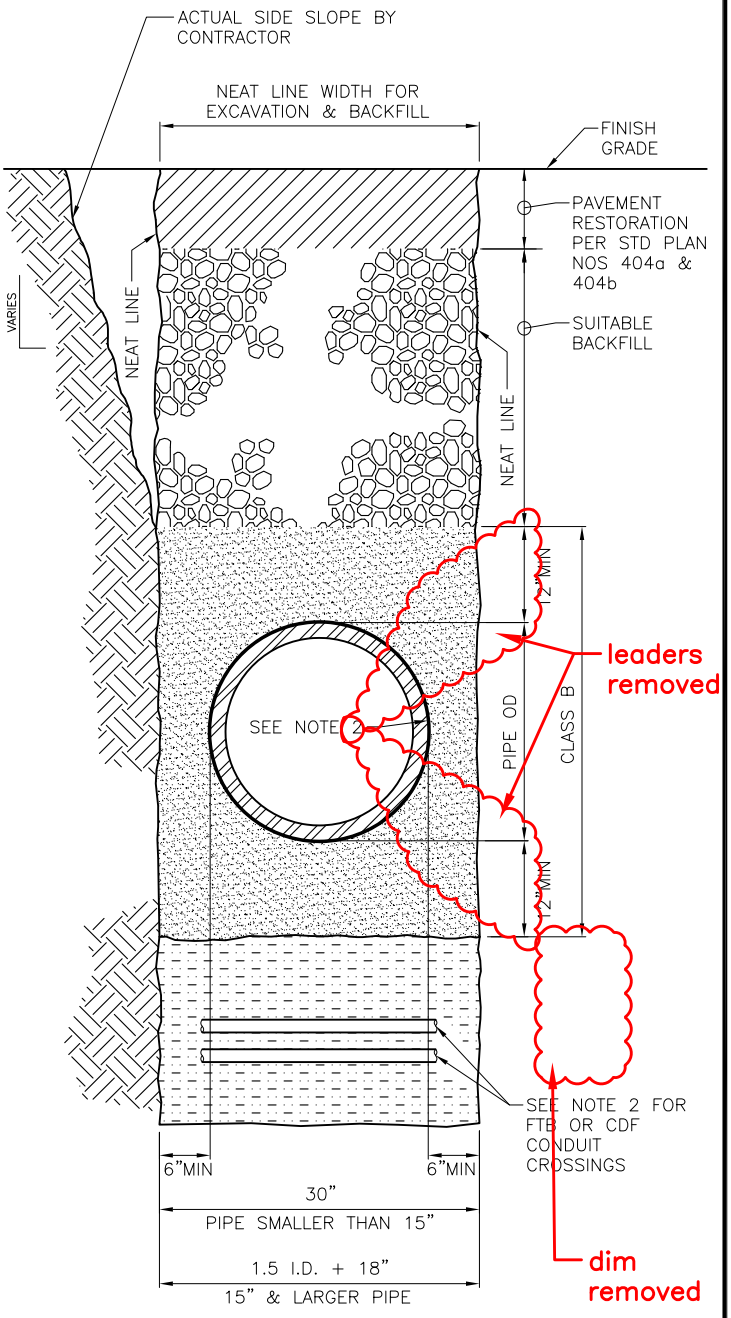
REF STD SPEC SEC 7-11

City of Seattle	NOT TO SCALE	2" BLOW OFF DETAIL TYPE B TRAFFIC INSTALLATION

REV DATE: NOV 2019



TYPICAL BEDDING



BEDDING AT TRENCH CROSSING

BEDDING MATERIAL

CLASS B:

- FOR DISTRIBUTION WATERMAIN, MINERAL AGGREGATE PER STD SPEC 9-03.16 TYPE 6 OR TYPE 7
- FOR TRANSMISSION WATERMAIN, MINERAL AGGREGATE PER STD SPEC 9-03.16 TYPE 9
- SPECIAL BEDDING TO BE INDICATED ON DRAWINGS

NOTES:

1. EXCAVATE FOR THE BELL TO ENSURE UNIFORM SUPPORT FOR THE PIPE BARREL.
2. FOR FLUIDIZED THERMAL BACKFILL (FTB) OR CDF CROSSINGS OF METALLIC PIPE, WRAP METALLIC PIPE IN 8 MIL POLYETHYLENE ENCASEMENT FOR FULL TRENCH WIDTH.
3. FLUIDIZED THERMAL BEDDING PER SCL MATERIAL STANDARD 7150.00

note 2 revised

7-17 removed

REF STD SPEC SEC 7-11, 9-03.16

City of Seattle

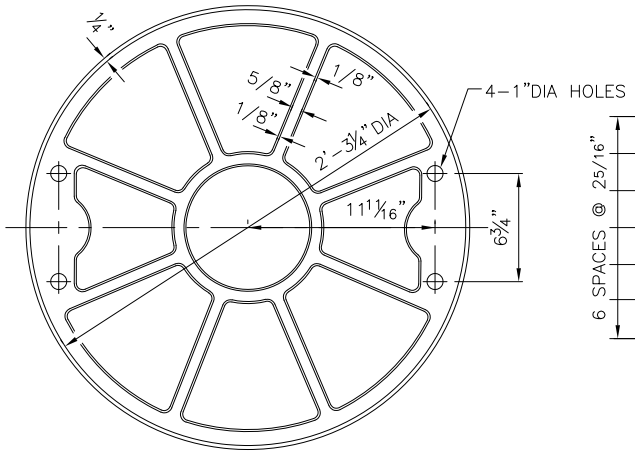
NOT TO SCALE

WATERMAIN TRENCH AND BEDDING

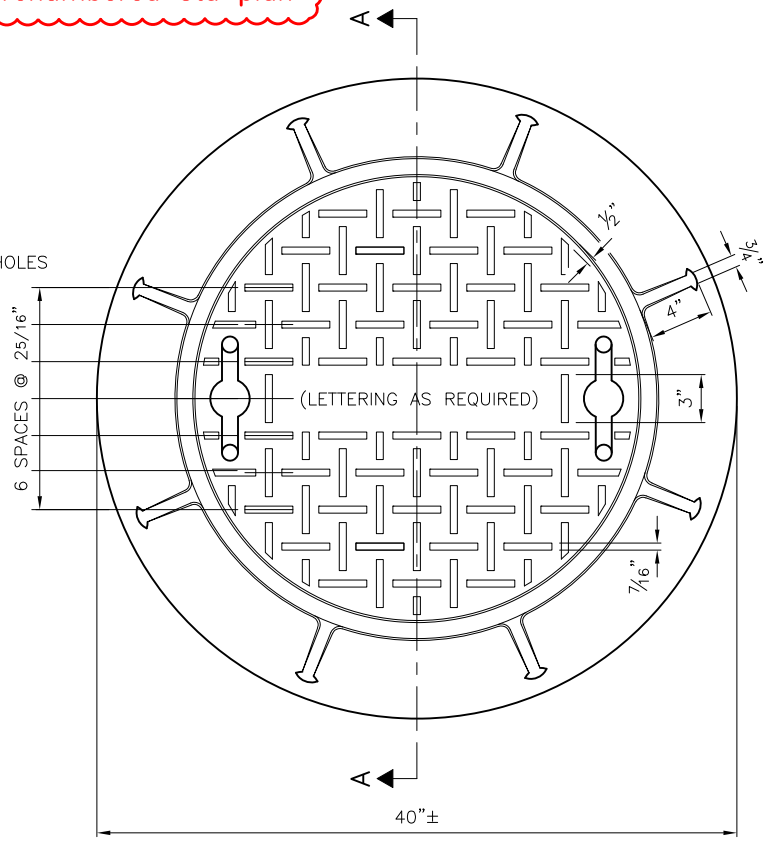
REV DATE: APR 2019

renamed & renumbered std plan

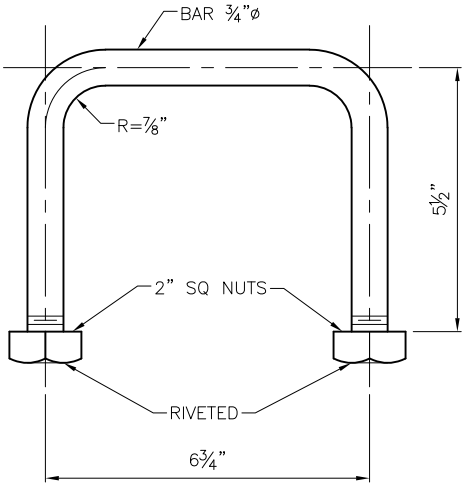
FRAME & COVER MUST BE TESTED FOR ACCURACY OF FIT AND MUST BE MARKED IN SETS FOR DELIVERY



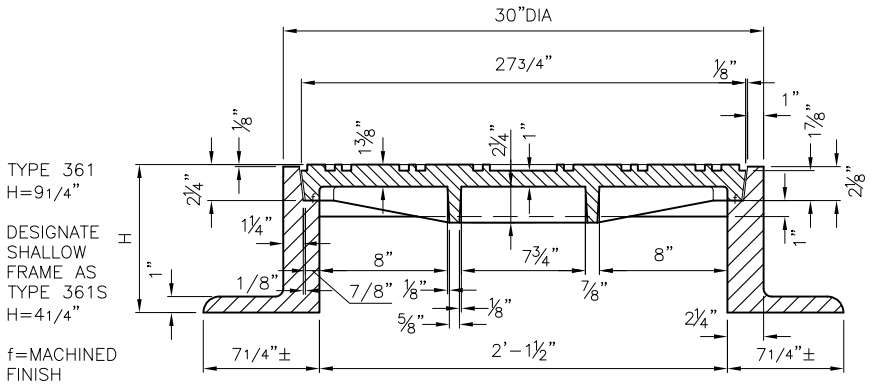
BOTTOM VIEW



TOP VIEW



LIFTING HANDLE
(2 REQUIRED)



TYPE 361
H=9 1/4"

DESIGNATE SHALLOW FRAME AS TYPE 361S H=4 1/4"

f=MACHINED FINISH

SECTION A–A

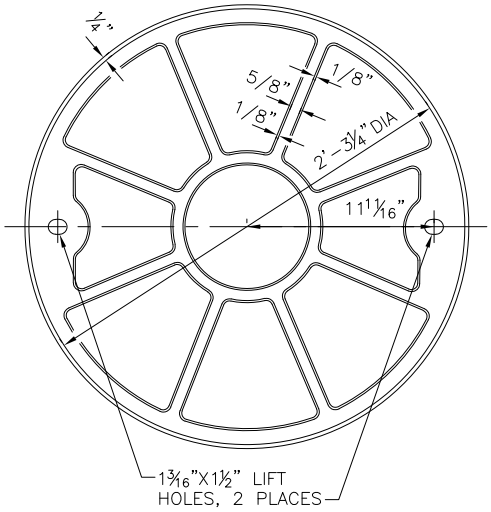
REF STD SPEC SEC 7-12

City of Seattle	NOT TO SCALE	TYPE 361a VALVE CHAMBER FRAME & COVER IN VEHICULAR TRAVELWAYS

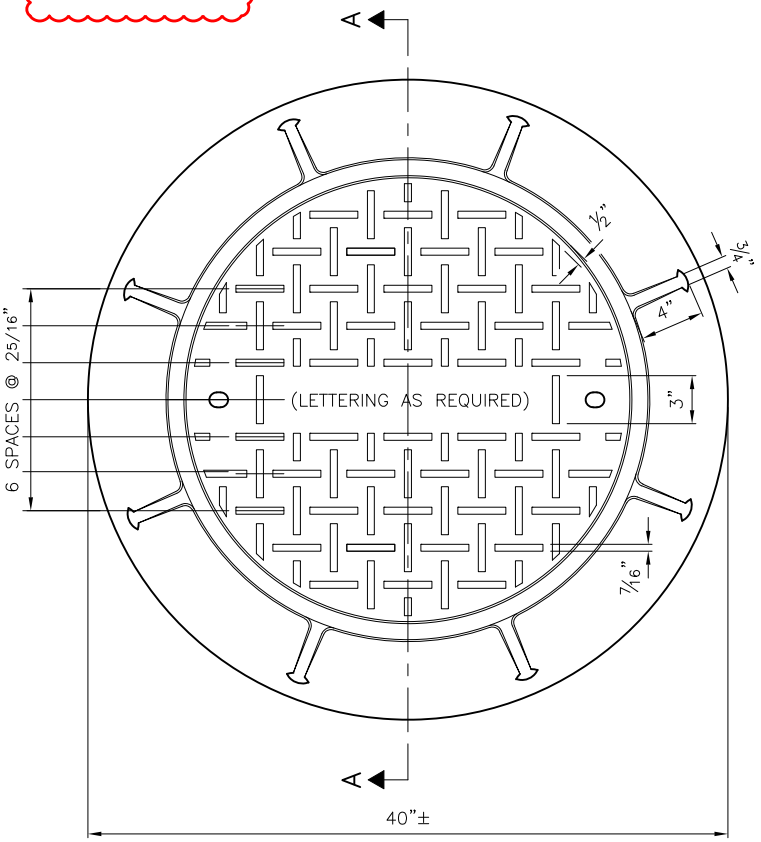
REV DATE: APR 2019

new std plan

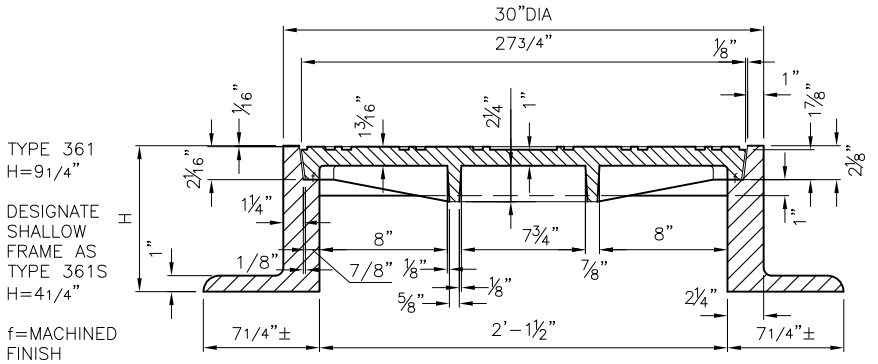
FRAME & COVER MUST BE TESTED FOR ACCURACY OF FIT AND MUST BE MARKED IN SETS FOR DELIVERY



BOTTOM VIEW



TOP VIEW



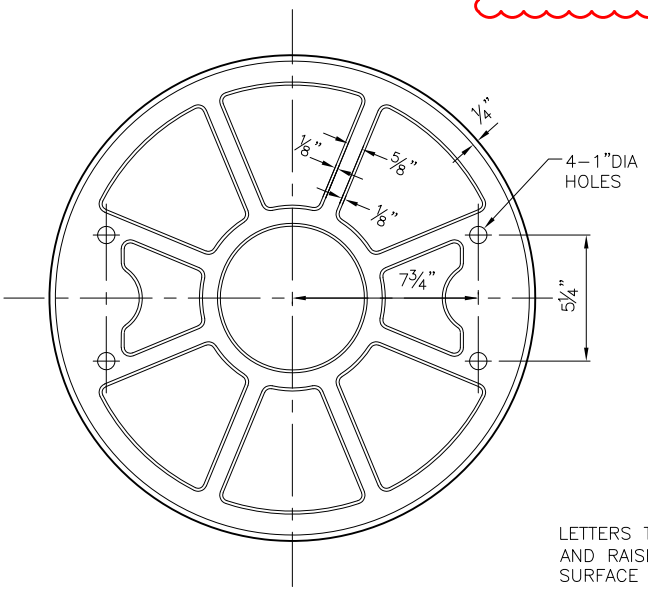
SECTION A–A

REF STD SPEC SEC 7-12

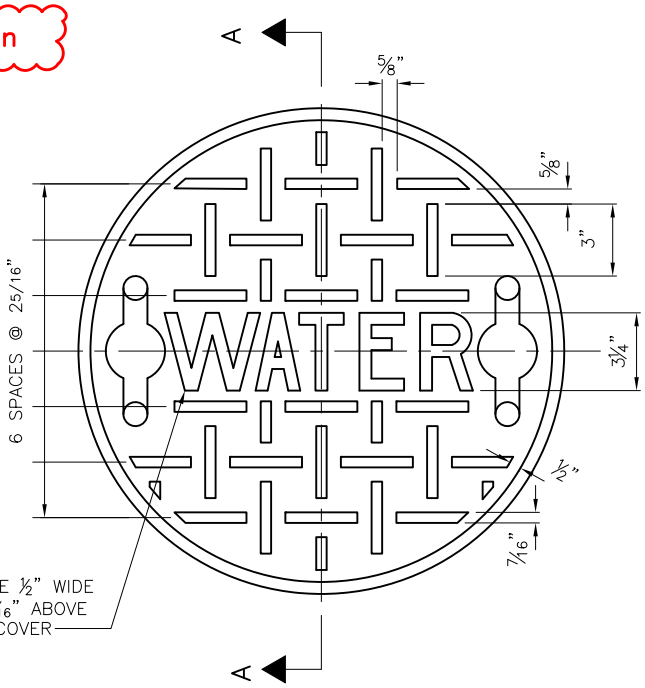
City of Seattle	NOT TO SCALE	TYPE 361b VALVE CHAMBER FRAME & COVER IN PEDESTRIAN PATHWAYS

REV DATE: SEP 2019

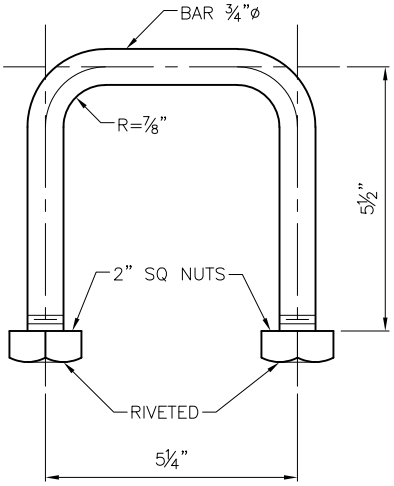
new std plan



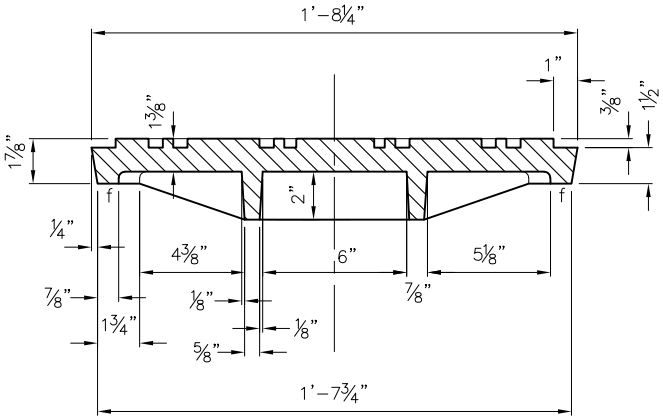
BOTTOM VIEW



TOP VIEW



LIFTING HANDLE
(2 REQUIRED)



SECTION A–A

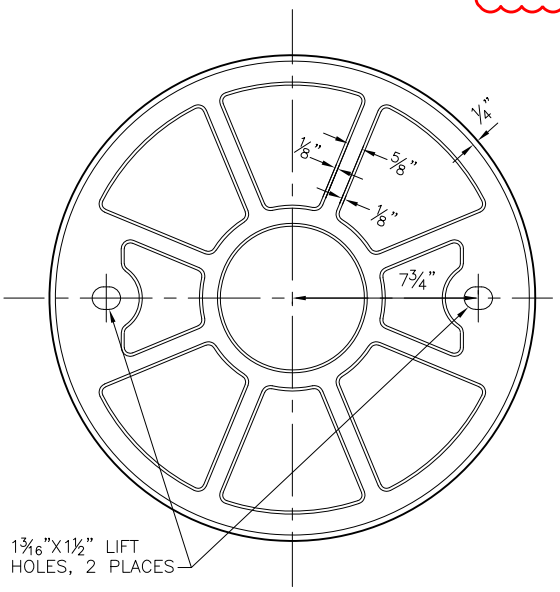
f=MACHINED FINISH

REF STD SPEC SEC 7-12, 7-20

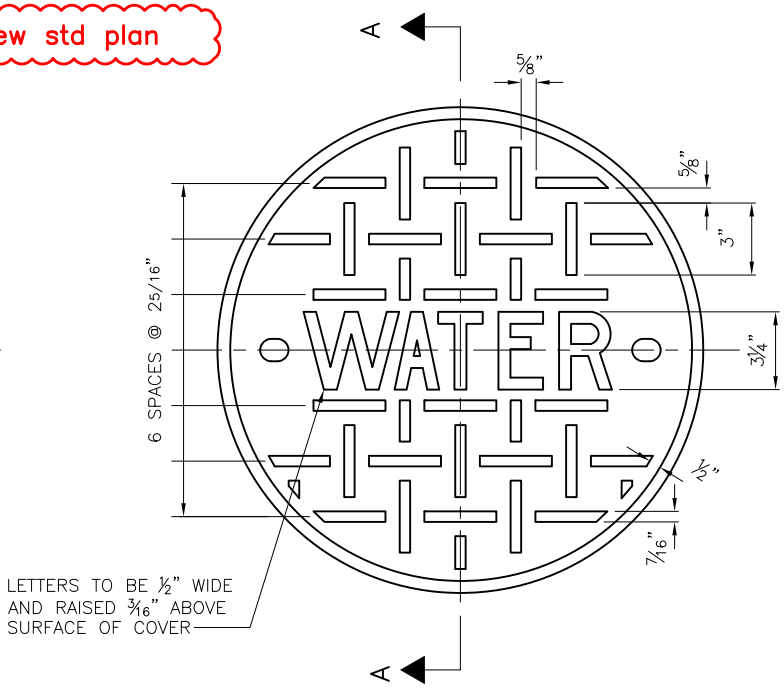
City of Seattle	NOT TO SCALE	TYPE 361c WATER VALVE REPLACEMENT COVER IN VEHICULAR TRAVELWAYS

REV DATE: SEP 2019

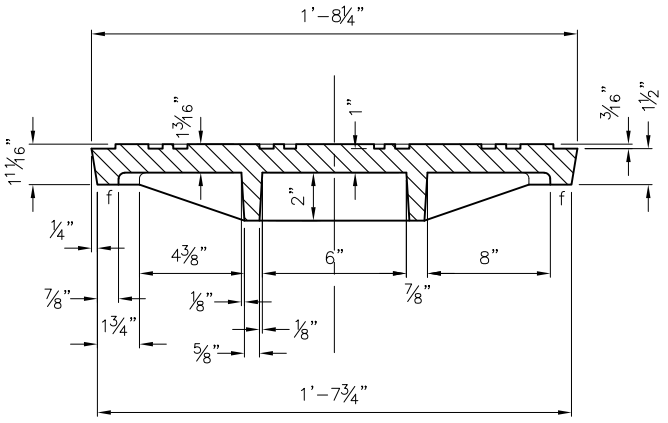
new std plan



BOTTOM VIEW



TOP VIEW



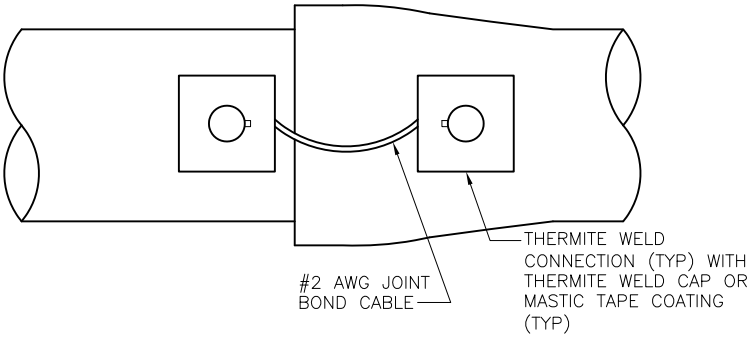
SECTION A–A

f=MACHINED FINISH

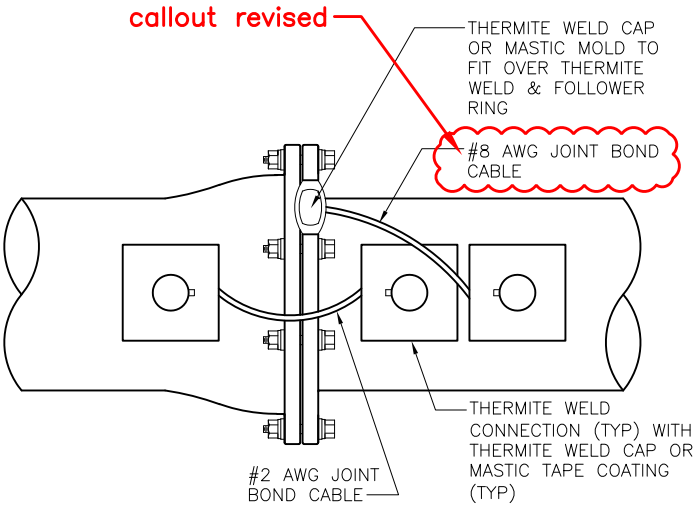
REF STD SPEC SEC 7-12, 7-20

City of Seattle	NOT TO SCALE	TYPE 361d WATER VALVE REPLACEMENT COVER IN PEDESTRIAN PATHWAYS

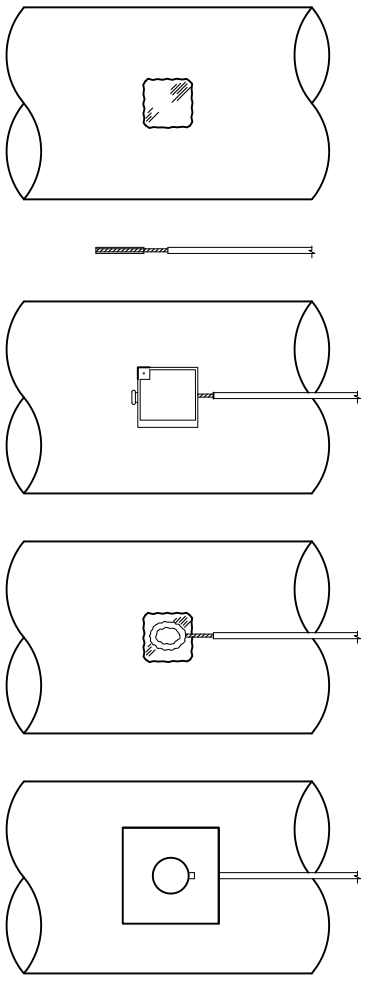
REV DATE: SEP 2019



SLIP JOINT BOND CONNECTION



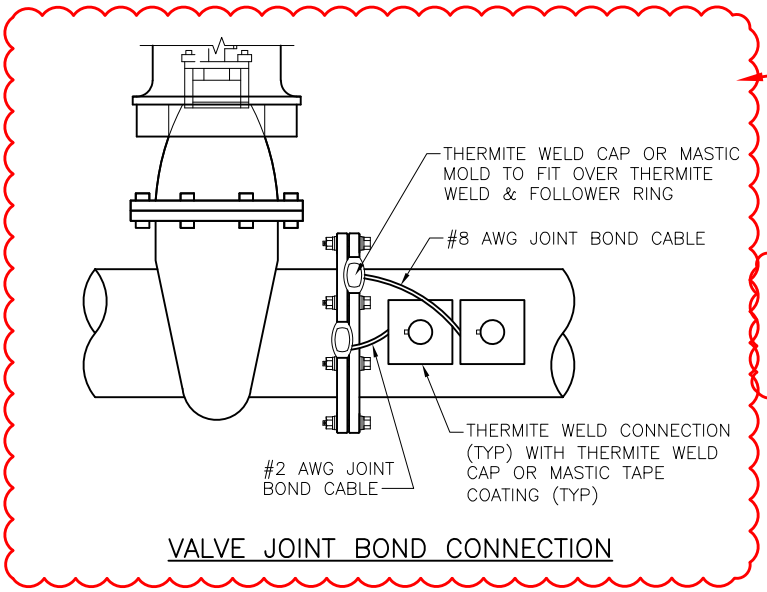
MECHANICAL JOINT BOND CONNECTION



CONNECTION SEQUENCE:

1. REMOVE PIPE COATING TO BRIGHT & CLEAN METAL
2. STRIP INSULATION FROM TEST STION WIRE, INSTALL ADAPTER SLEEVE
3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE
4. REMOVE SLAG AND ALLOW TO COOL
5. 16 OUNCE HAMMER TEST PER STD. SPEC SEC 7-11.3(15)D1
6. FINAL CONNECTION TO BE MADE WATERTIGHT WITH MASTIC COATING OR PREFORMED THERMITE WELD CAP

THERMITE WELD CONNECTION



VALVE JOINT BOND CONNECTION

notes added

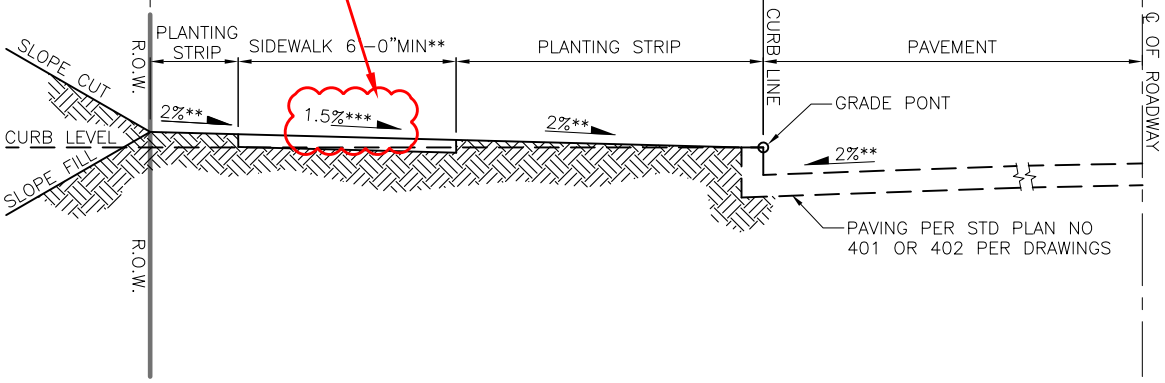
NOTES:
1. JOINT BONDS FOR PIPE 16" DIAMETER AND SMALLER.
2. FOR PIPE LARGER THAN 16" DIAMETER OR IMPRESSED SYSTEMS, SEE PROJECT DRAWINGS FOR JOINT BONDING DETAILS.

REF STD SPEC SEC 7-11

City of Seattle	NOT TO SCALE	JOINT BONDING FOR DIP WATERMAINS & JOINT BONDING DETAIL

REV DATE: DEC 2019

revised



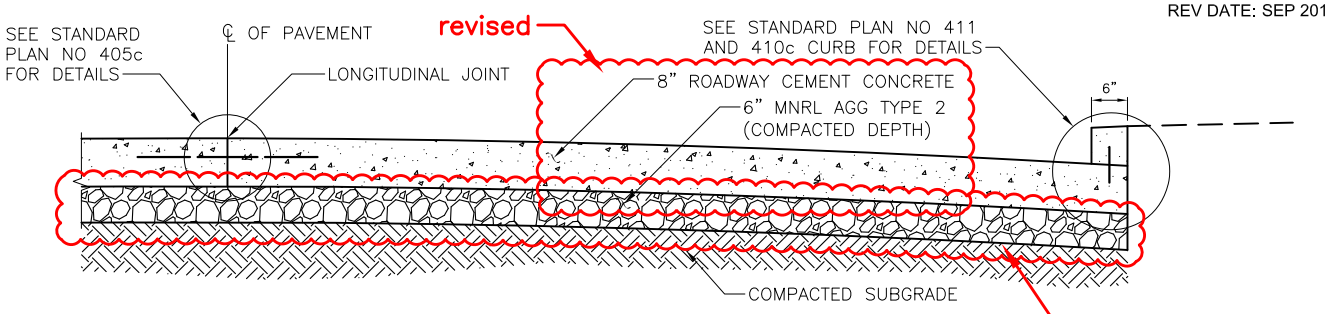
* SEE RIGHT OF WAY IMPROVEMENT MANUAL FOR DIMENSIONS.
** UNLESS OTHERWISE APPROVED BY THE ENGINEER.
*** 2% MAXIMUM, 0.5% MINIMUM; USE 1.5% UNLESS OTHERWISE SHOWN IN CONTRACT OR APPROVED BY THE ENGINEER.

revised

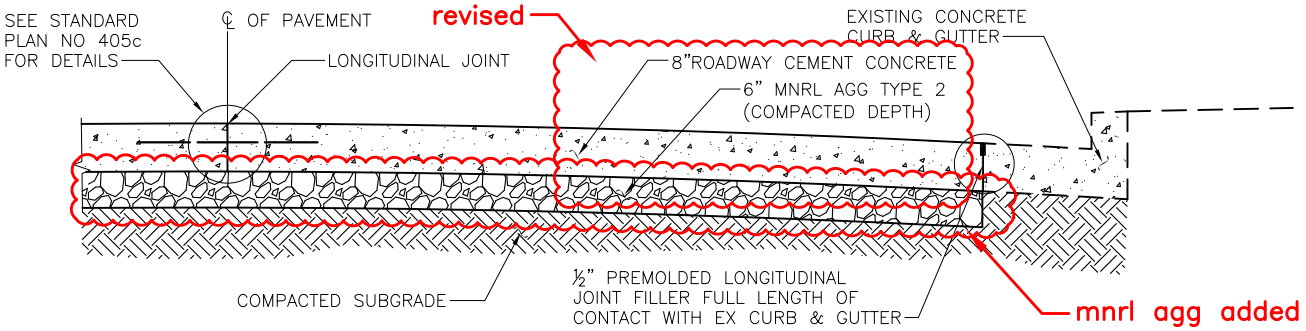
REF STD SPEC SEC 2-04

City of Seattle	NOT TO SCALE	HALF SECTION, GRADING

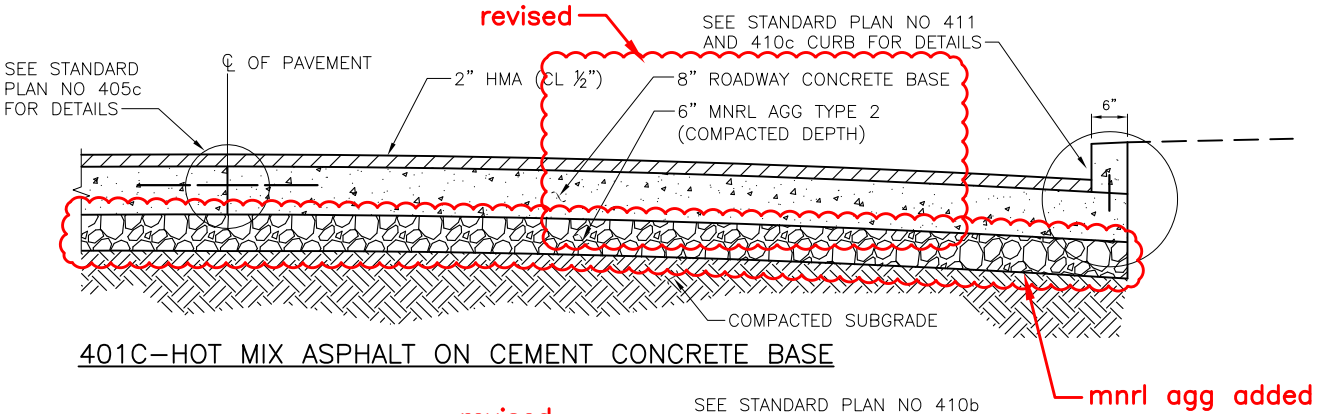
REV DATE: SEP 2019



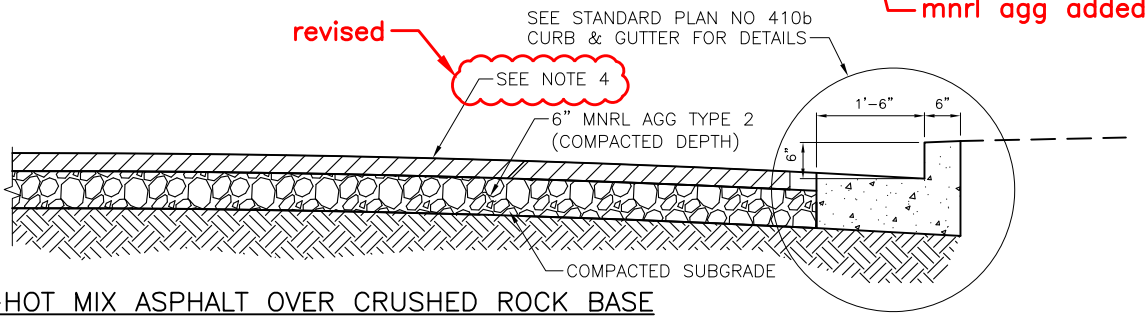
401A–CEMENT CONCRETE PAVEMENT WITH INTEGRAL CURB



401B–CEMENT CONCRETE PAVEMENT WITH EXISTING CURB & GUTTER



401C–HOT MIX ASPHALT ON CEMENT CONCRETE BASE



401D–HOT MIX ASPHALT OVER CRUSHED ROCK BASE

PG 64–22 changed to 58H–22

HMA DESIGN CRITERIA:

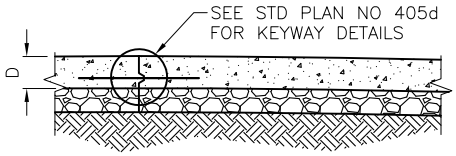
1. ~~3 MILLION ESAL'S UNLESS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS~~
2. ASPHALT PG 58H–22 UNLESS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS
3. WARM MIX ASPHALT MAY BE USED IN PLACE OF HMA WHERE SHOWN ON THE DRAWINGS
4. PAVEMENT DEPTH MUST BE 3" HMA (CL ½") WHEN REPLACING BITUMINOUS SURFACE TREATED RESIDENTIAL STREETS OR 2" HMA (CL ½") OVER 6" HMA (CL 1") FOR ALL OTHER RESIDENTIAL STREETS.
5. PROTECT ADJACENT PANELS FROM DAMAGE DUE TO UNDERMINING DURING EXCAVATION & PLACEMENT OF SUBGRADE. SEE SPEC SECTION 1–07.13.

notes added

REF STD SPEC SEC 4-04, 5-04, 5-05, 8-04

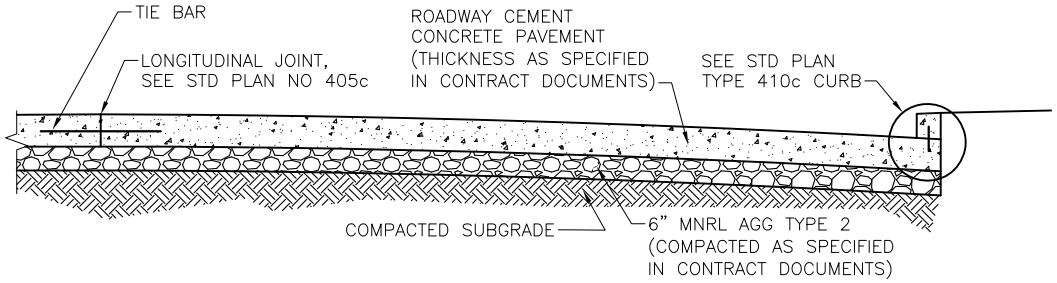
City of Seattle	NOT TO SCALE	RESIDENTIAL PAVEMENT SECTIONS

REV DATE: SEP 2019

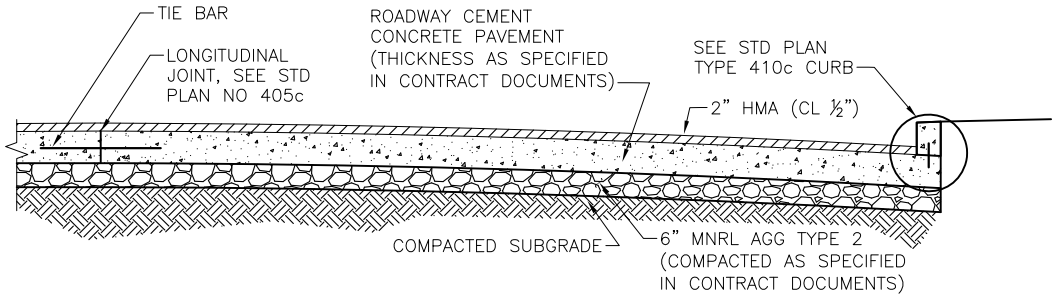


OPTIONAL KEYWAY
FOR LONGITUDINAL JOINT

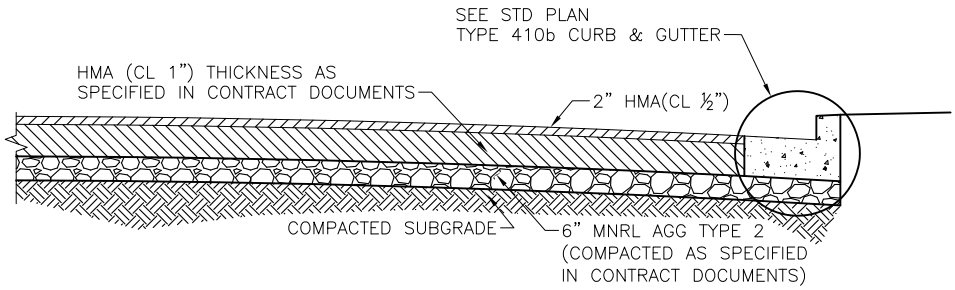
NOTES:
IF CONC THICKNESS IS 9 INCH OR GREATER OPTIONAL KEYWAY MAY BE USED SEE STD PLANS NO 405c & 405d FOR DETAILS



402A–ROADWAY CONCRETE PAVEMENT ON CRUSHED ROCK



402B–HOT MIX ASPHALT ON CEMENT CONCRETE ON CRUSHED ROCK



402C–HOT MIX ASPHALT ON CRUSHED ROCK BASE

PG 64–22 changed to 58H–22

HMA DESIGN CRITERIA:

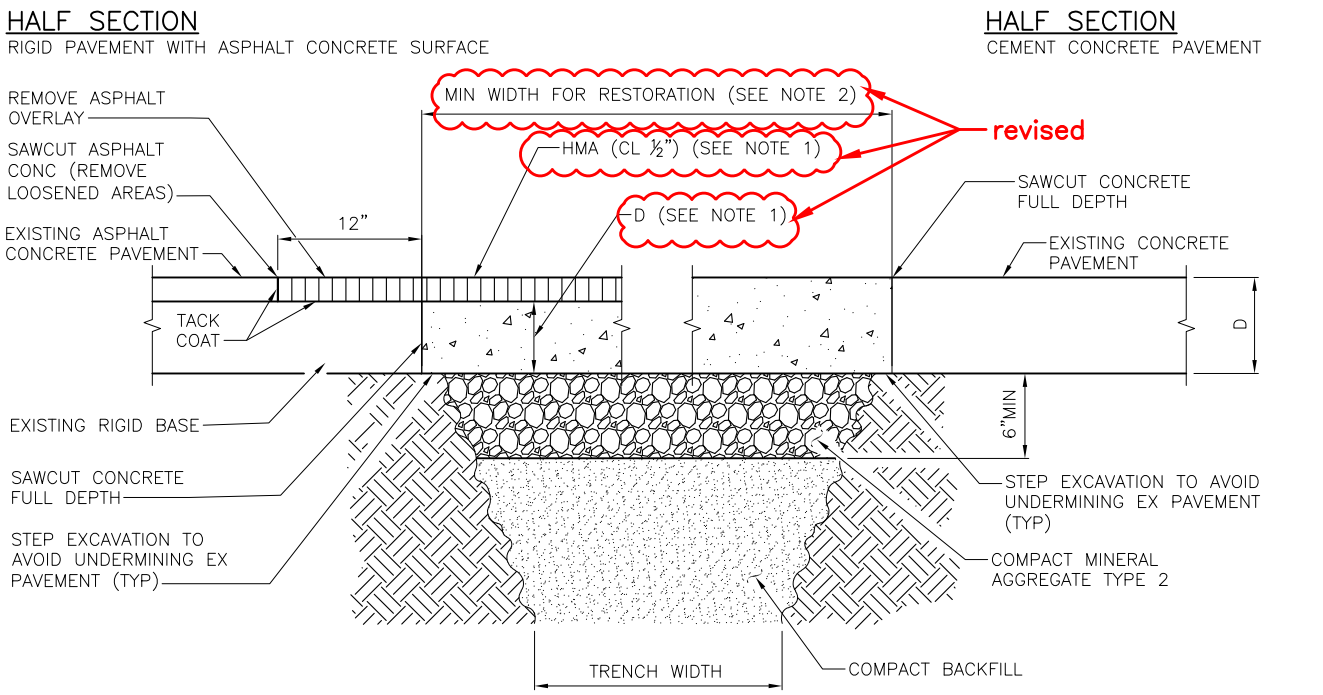
1. ~~10 MILLION ESAL'S UNLESS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS.~~
2. ASPHALT PG 58H–22 UNLESS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS.
3. ~~WARM MIX ASPHALT MAY BE USED IN PLACE OF HMA WHERE SHOWN ON THE DRAWINGS.~~
4. PROTECT ADJACENT PANELS FROM DAMAGE DUE TO UNDERMINING DURING EXCAVATION & PLACEMENT OF SUBGRADE. SEE SPEC SECTION 1–07.13.

note added

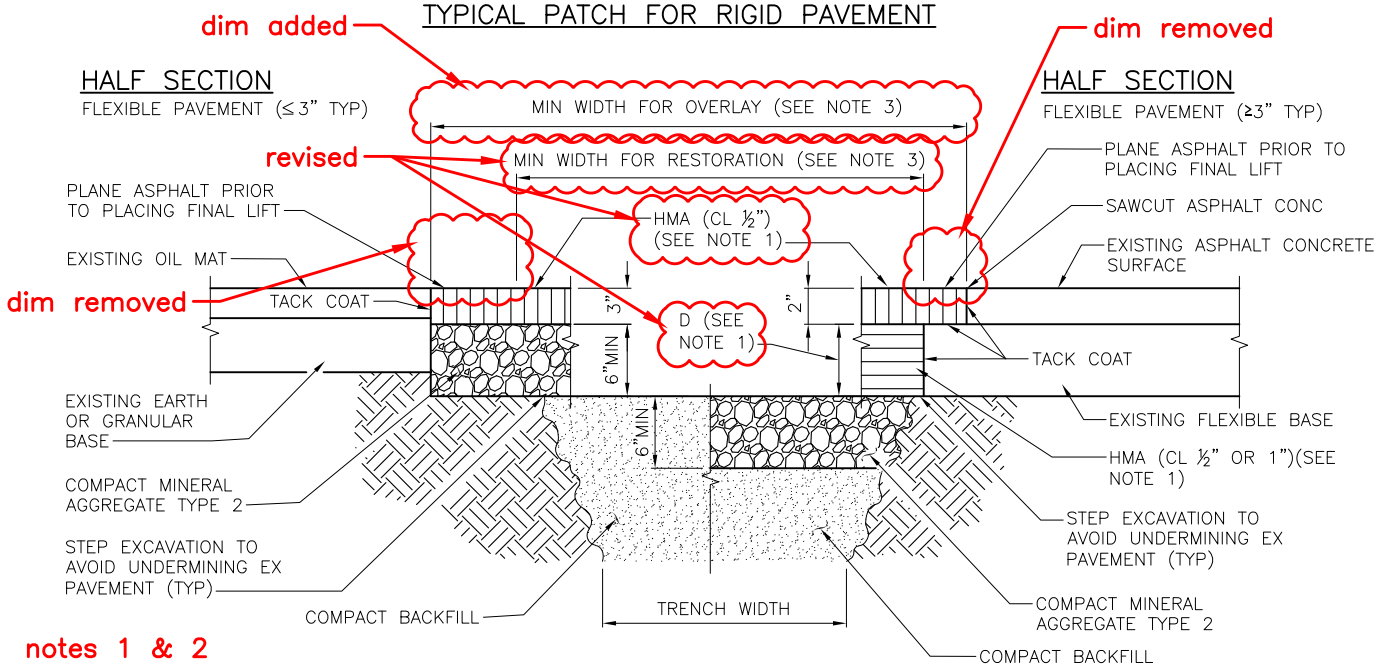
REF STD SPEC SEC 4-04, 5-04, 5-05, 8-04

City of Seattle	NOT TO SCALE	COMMERCIAL AND ARTERIAL PAVEMENT SECTIONS

REV DATE: SEP 2019



TYPICAL PATCH FOR RIGID PAVEMENT



TYPICAL PATCH FOR FLEXIBLE PAVEMENT

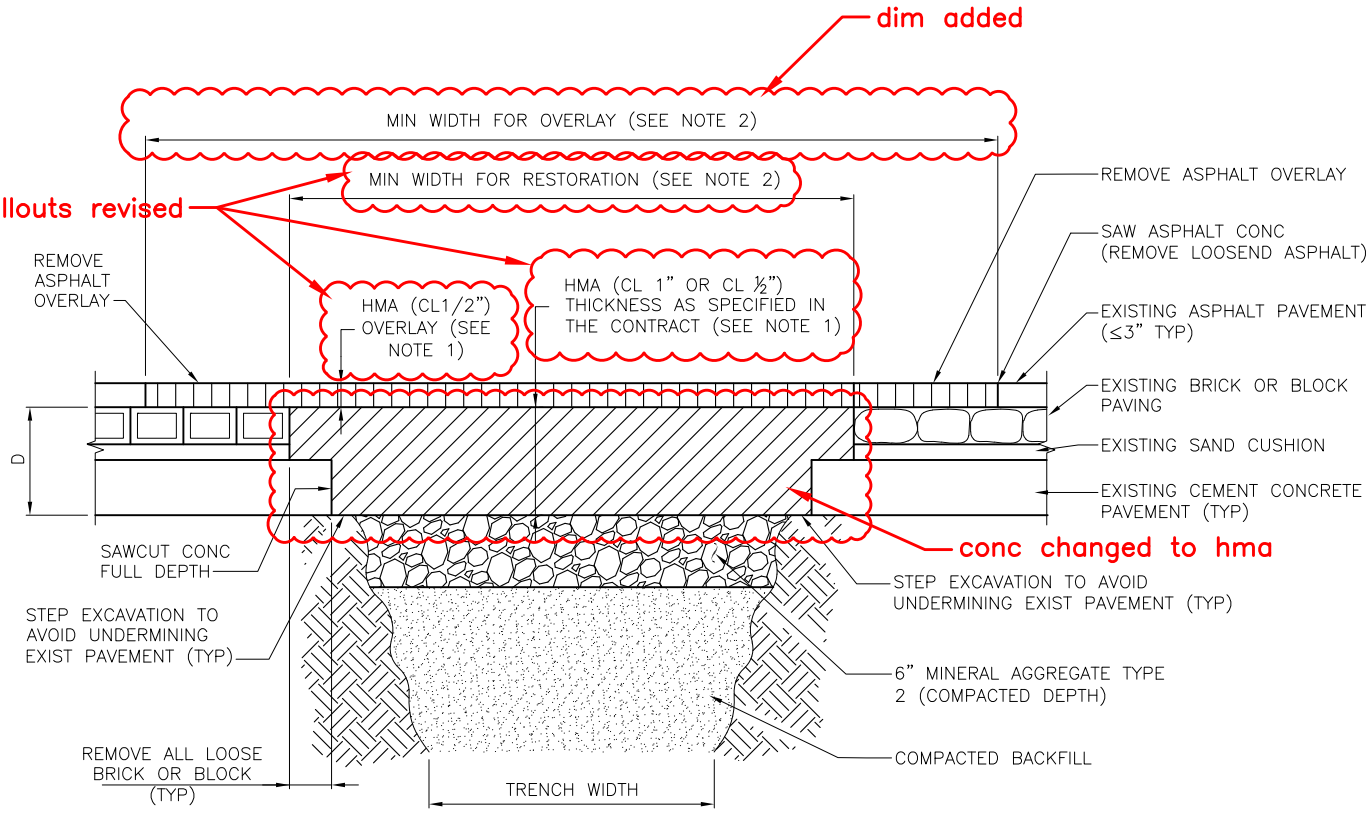
notes 1 & 2 revised, note 3 added

1. DEPTH OF RESTORATION MUST MEET THE REQUIREMENTS OF "RIGHT OF WAY OPENING AND RESTORATION RULES".
2. FOR RIGID PAVEMENT (FULL DEPTH), WIDTH OF RESTORATION MUST EXTEND TO FULL PANEL WIDTH, OR AS REQUIRED IN THE "RIGHT OF WAY OPENING AND RESTORATION RULES" FOR OVERSIZED OR NON-STANDARD PANELS.
3. FOR FLEXIBLE PAVEMENT (FULL DEPTH & OVERLAY) RESTORATION WIDTH MUST MEET REQUIREMENTS OF STANDARD PLAN NO 404c AND THE "RIGHT OF WAY OPENING AND RESTORATION RULES".

REF STD SPEC SEC 2-02, 5-04, 5-05

City of Seattle	NOT TO SCALE	PAVEMENT PATCHING

REV DATE: SEP 2019



HOT MIX ASPHALT OVER SHEET ASPHALT, BRICK, OR STONE BLOCK PAVEMENT

HALF SECTION

title revised

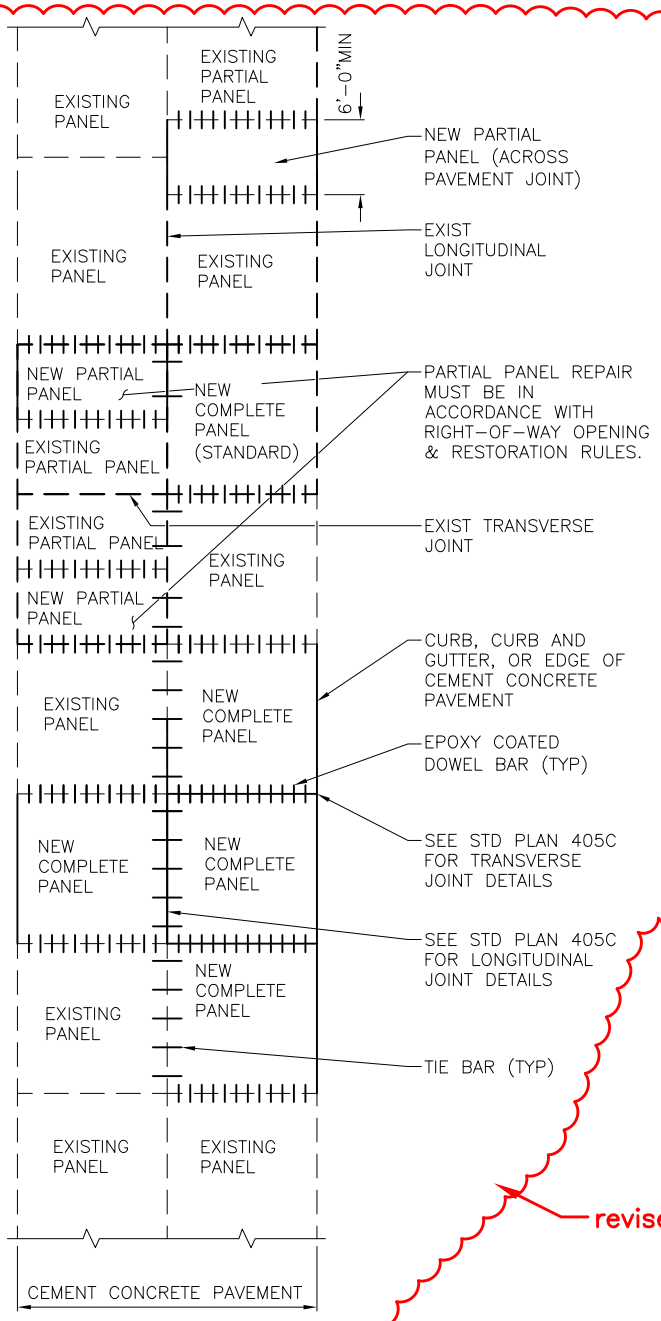
1. DEPTH OF RESTORATION MUST MEET THE REQUIREMENTS OF THE "RIGHT OF WAY OPENING AND RESTORATION RULES".
2. WIDTH OF RESTORATION MUST EXTEND TO FULL PANEL WIDTH, OR AS REQUIRED IN THE "RIGHT OF WAY OPENING AND RESTORATION RULES" FOR OVERSIZED OR NON-STANDARD PANELS.

notes revised

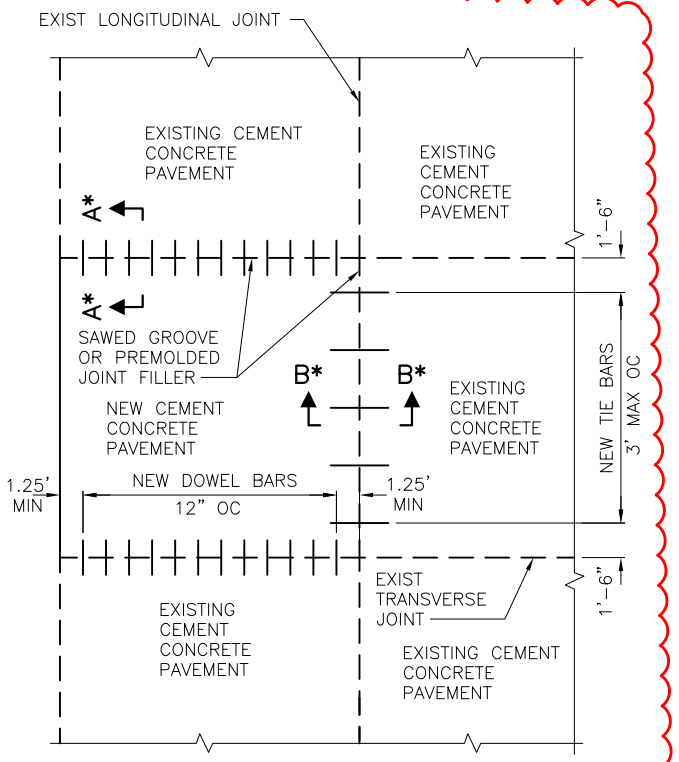
REF STD SPEC SEC 2-02, 5-04, 5-05

City of Seattle	NOT TO SCALE	PAVEMENT PATCHING

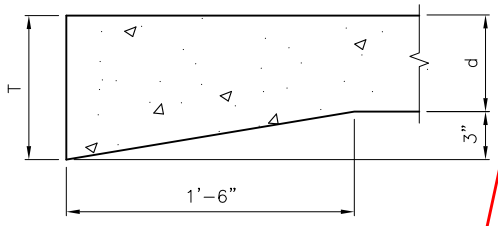
REV DATE: SEP 2019



PLAN VIEW
PANEL REPLACEMENT



PLAN VIEW
COMPLETE PANEL REPLACEMENT



THICKENED EDGE DETAIL
(REQUIRED ONLY WHERE SHOWN ON THE DRAWINGS)

revised

note revised

NOTES

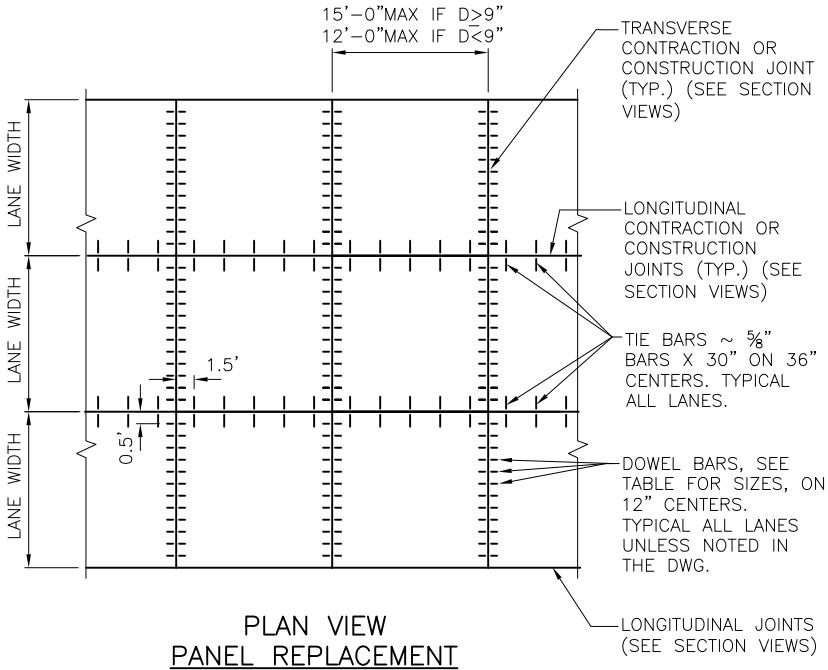
1. INSTALL TIE BARS ALONG LONGITUDINAL JOINT BETWEEN FULL PANEL REPLACEMENT AND EXIST CEMENT CONC PAVEMENT. TIE BARS ARE NOT INSTALLED BETWEEN CEMENT CONC PAVEMENT AND HOT MIX ASPHALT SHOULDERS.
2. TIE BARS AND DOWELS ARE NOT REQUIRED:
   - 2.1. WHEN INDICATED ON THE DRAWINGS BY "NO TIE BARS" OR "NO DOWEL BARS".
   - 2.2. WHEN EXISTING PAVEMENT IS 8" OR LESS OR WHEN THE ENGINEER DETERMINES THE EXISTING CONC NOT TO BE COMPETENT.
3. DO NOT PLACE LONGITUDINAL JOINTS OR SKEWED JOINTS WITHIN BIKE LANES.
4. WHEN PAVING ADJACENT TO EXISTING PANELS, THE NEW TRANSVERSE JOINTS MUST BE PLACED TO MATCH JOINT LOCATIONS OF THE EXISTING ADJACENT PAVEMENT UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SEE STD PLAN NO 405C FOR MAXIMUM TRANSVERSE JOINT SPACING.

A* SEE SECTION A–A STANDARD PLAN 405b
B* SEE SECTION B–B STANDARD PLAN 405b

REF STD SPEC SEC 5-05

City of Seattle	NOT TO SCALE	ROADWAY CONCRETE PAVEMENT REPAIR

REV DATE: MAY 2019



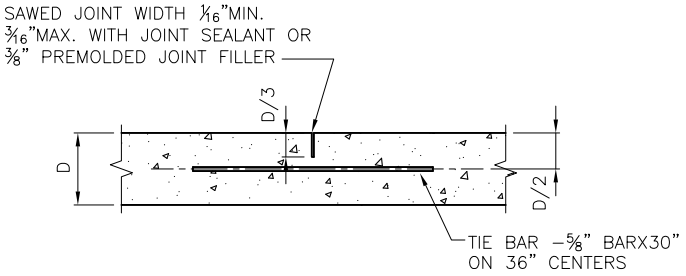
PLAN VIEW
PANEL REPLACEMENT

NOTES:

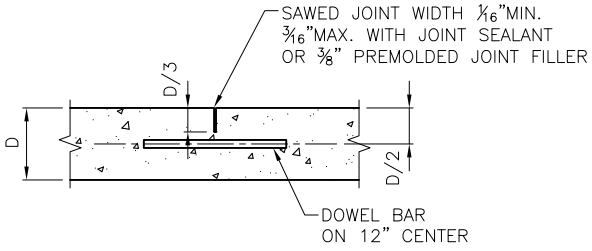
1. DO NOT PLACE LONGITUDINAL JOINTS OR SKEWED JOINTS WITHIN BIKE LANES.
2. WHEN A JOINT IS WITHIN 18 INCHES OF A CASTING JOINTS SHOULD BE SKEWED TO MEET THE CASTING AT 90 DEGREES UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR SHOWN ON THE DRAWINGS.
3. SEE STD PLAN NO 406 OR DRAWINGS FOR REBAR DETAIL AROUND CASTING 18 INCHES OR GREATER FROM JOINTS.
4. DOWEL BARS MUST NOT BE PLACED WITHIN 15 INCHES OF THE EDGE OF PAVEMENT OR A PARALLEL JOINT.
5. DOWEL BARS NOT REQUIRED FOR RESIDENTIAL PAVEMENT SECTIONS. SEE STD PLAN NO 401.

note 5 added

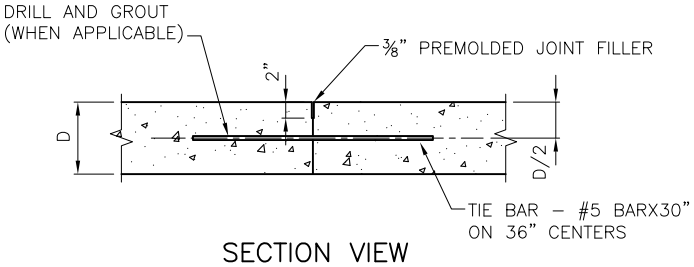
DEPTH (D) OF RDWY CEM. CONC	DOWEL BAR SIZE (DIA ø)
6"≤D <9"	1"X18"
9"≤D <11"	1¼"X18"
11"≤D	1½"X18"



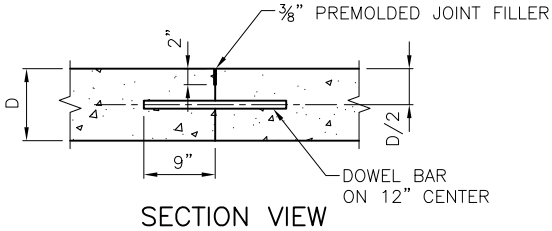
SECTION VIEW
LONGITUDINAL CONTRACTION JOINT



SECTION VIEW
TRANSVERSE CONTRACTION JOINT



SECTION VIEW
LONGITUDINAL CONSTRUCTION JOINT



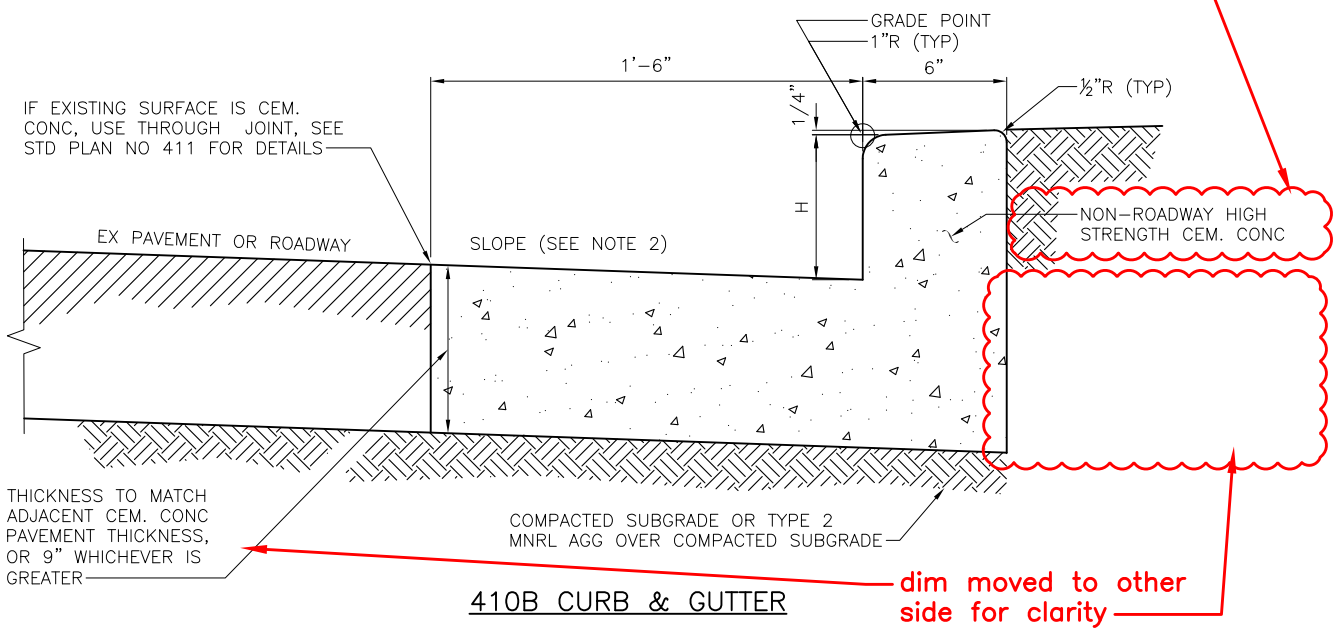
SECTION VIEW
TRANSVERSE CONSTRUCTION JOINT

REF STD SPEC SEC 5-05

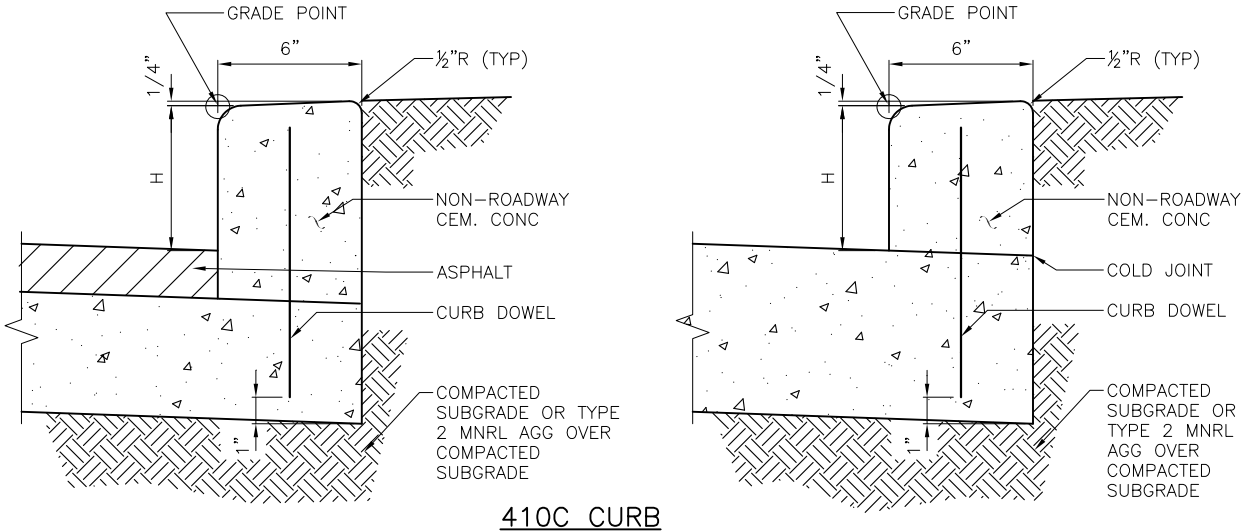
City of Seattle | NOT TO SCALE | ROADWAY CONCRETE PAVEMENT JOINTS

REV DATE: NOV 2019

"HIGH STRENGTH" added



410B CURB & GUTTER



410C CURB

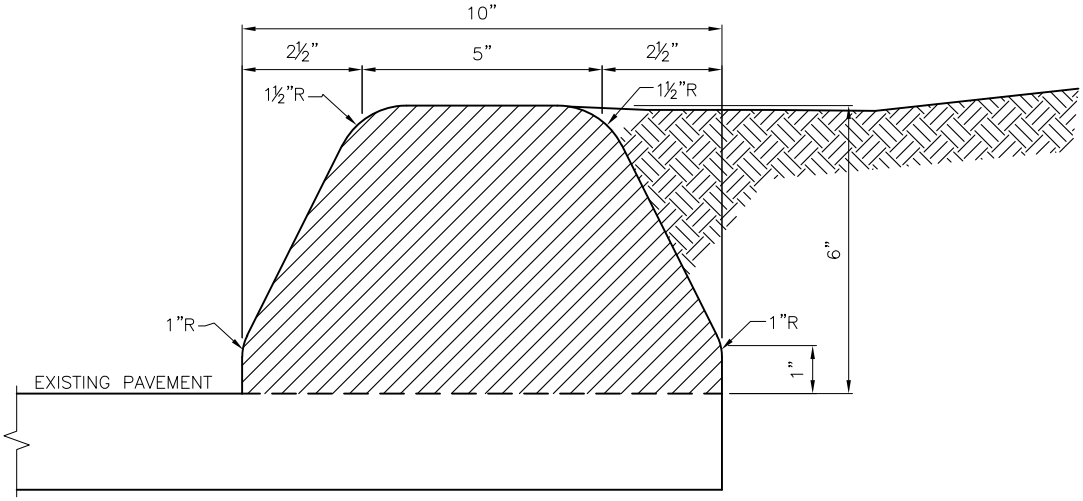
NOTES:

1. "H" MUST BE 6" FROM FINISHED ROADWAY GRADE UNLESS OTHERWISE SHOWN ON DRAWINGS
2. GUTTER MUST BE SLOPED THE SAME AS ADJACENT PAVEMENT OR 2% MIN, WHICHEVER IS GREATER.
3. SEE STD PLAN NO 411 FOR CURB DOWELS

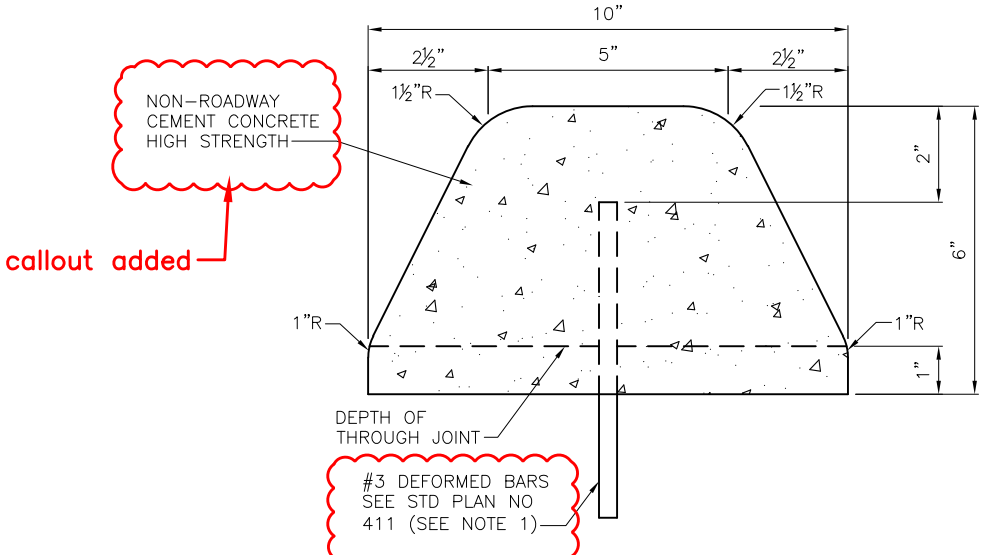
REF STD SPEC SEC 8-04

City of Seattle	NOT TO SCALE	TYPE 410 CURB

REV DATE: AUG 2019



EXTRUDED ASPHALT CONCRETE CURB



callout added

callout revised

EXTRUDED CEMENT CONCRETE CURB

NOTE:

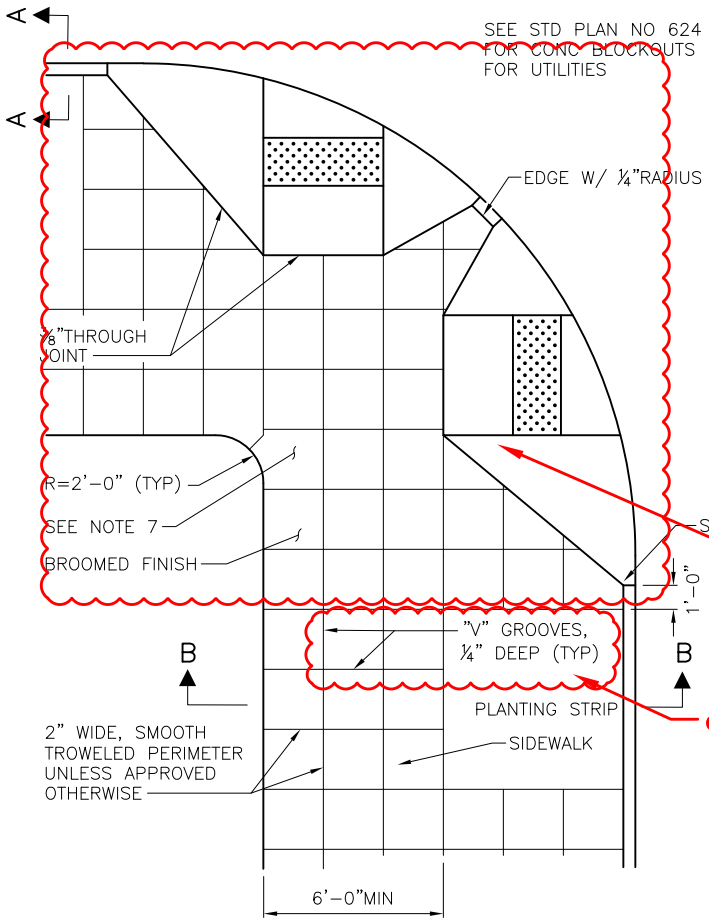
1. ALTERNATELY, THE USE OF EPOXY BONDING AGENT, IN PLACE OF #3 DEFORMED BARS, WILL BE ALLOWED.
2. EXTRUDED CURB MUST NOT BE USED IN SDOT MANAGED PUBLIC RIGHT OF WAY.

note 2 added

REF STD SPEC SEC 8-06

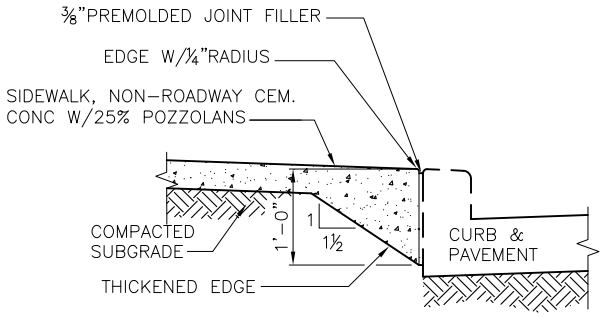
City of Seattle	NOT TO SCALE	EXTRUDED CURB

REV DATE: AUG 2019



curb ramp layout revised

callout revised

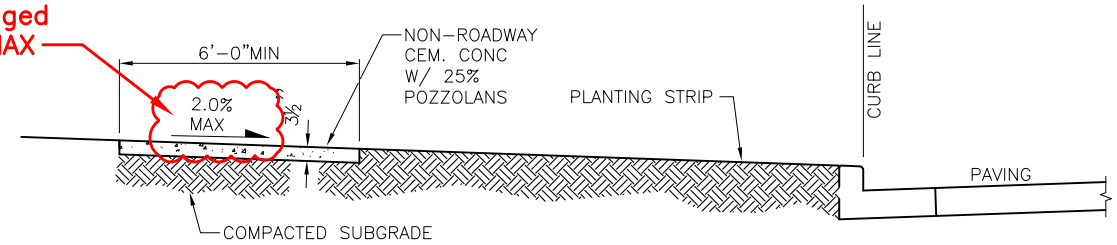


THROUGH JOINT @ SECTION A–A

UNLESS CURB IS MONOLITHIC WITH SIDEWALK

TYPICAL SIDEWALK & CURB RAMP DETAIL

2% changed to 2% MAX



SECTION B–B

note 2 revised, note 7 added

NOTES:

1. ⅜" THROUGH AND CONTRACTION JOINTS MUST BE LOCATED AS REQUIRED BY SECTION 8-14.3(6).
2. SAWCUT SCORING MUST MATCH PATTERN IN ADJACENT EXISTING SIDEWALK OR MUST BE A 2' SQUARE SCORING PATTERN UNLESS OTHERWISE OTHERWISE APPROVED BY THE ENGINEER.
3. FOR CURB RAMPS, SEE STANDARD PLAN NO 422.
4. FOR TREE PITS, SEE STANDARD PLAN NO 424.
5. 12" MINIMUM BETWEEN EDGE OF RAMP WING AND PLANTING STRIP IS DESIRABLE.
6. ALL SIDEWALK MUST BE NON-ROADWAY CEM CONC W/ 25% POZZOLANS.
7. 6'-0" MINIMUM CONTINUOUS SIDEWALK MUST BE MAINTAINED AROUND CORNERS.

REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CONCRETE SIDEWALK DETAILS

REV DATE: JAN 2020

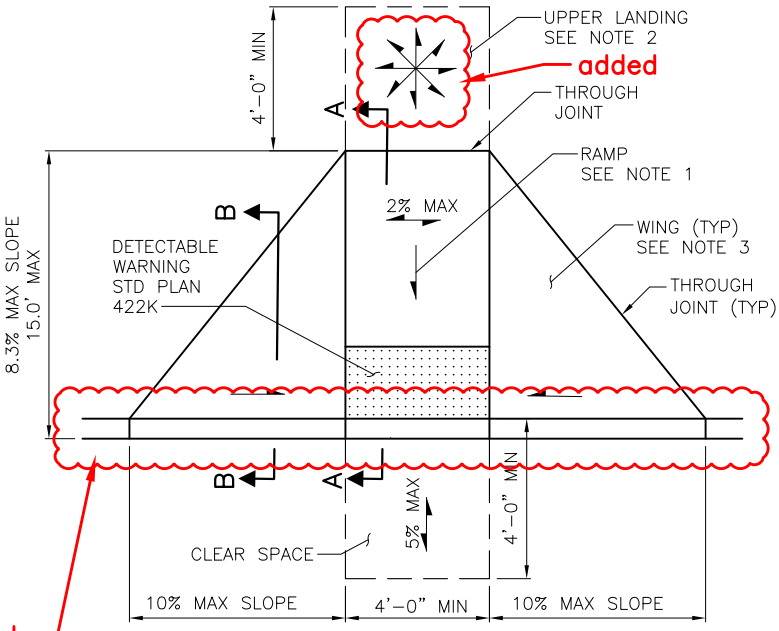
NOTES:

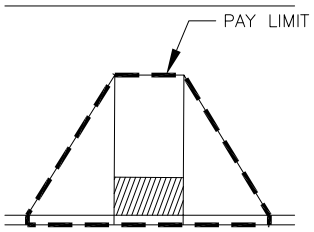
1. RAMP CENTERLINE MUST BE RADIAL/PERPENDICULAR TO THE ALIGNMENT OF THE FACE OF CURB.
2. THE SLOPE ON THE LANDING MUST BE A MINIMUM OF 0.5% IN ANY ONE DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION. UPPER LANDING AT THE TOP OF THE CURB RAMP MUST MATCH THE FULL WIDTH OF THE RAMP AND MUST HAVE A MINIMUM DEPTH OF 4'–0". IF THE LANDING IS LIMITED AT THE BACK–OF–SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE MUST BE 5'–0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP.
3. WINGS MUST HAVE A MAXIMUM SLOPE OF 10%. WINGS MUST HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB MUST CONTINUE THROUGH EACH WING.
4. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE PARALLEL TO THE CURB.
5. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.
6. RAMP WIDTH MUST BE 5' –0" MINIMUM WHEN SIDE CURB IS USED ON BOTH SIDES INSTEAD OF WINGS.

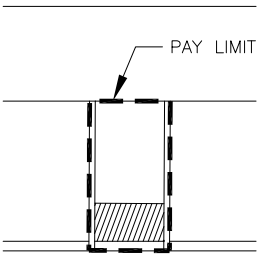
2% MAX = MAX SLOPE IN EITHER DIRECTION

changed from curved to straight

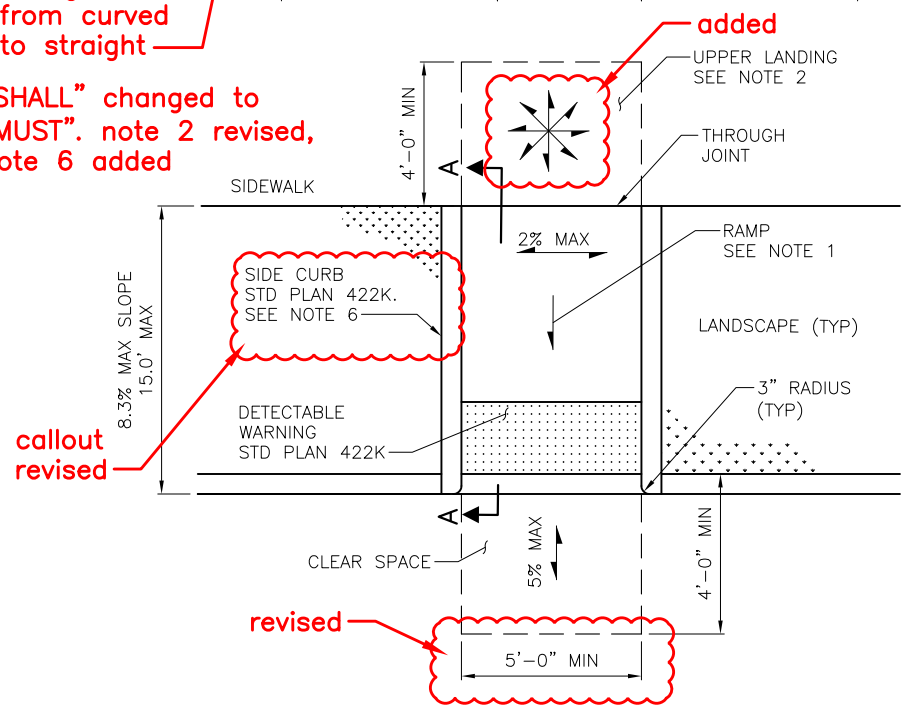
"SHALL" changed to "MUST". note 2 revised, note 6 added



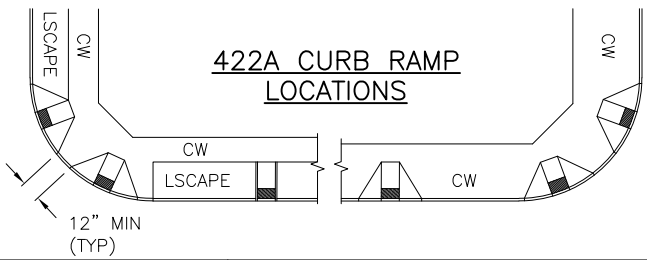




PAY LIMITS



PERPENDICULAR CURB RAMPS
(TYPE 422A)



REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CURB RAMP DETAILS

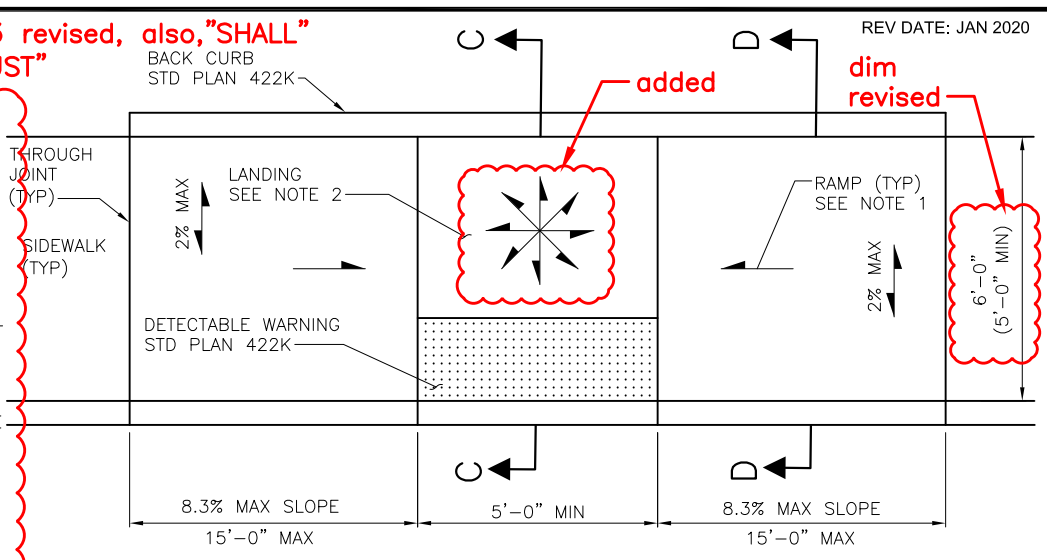
REV DATE: JAN 2020

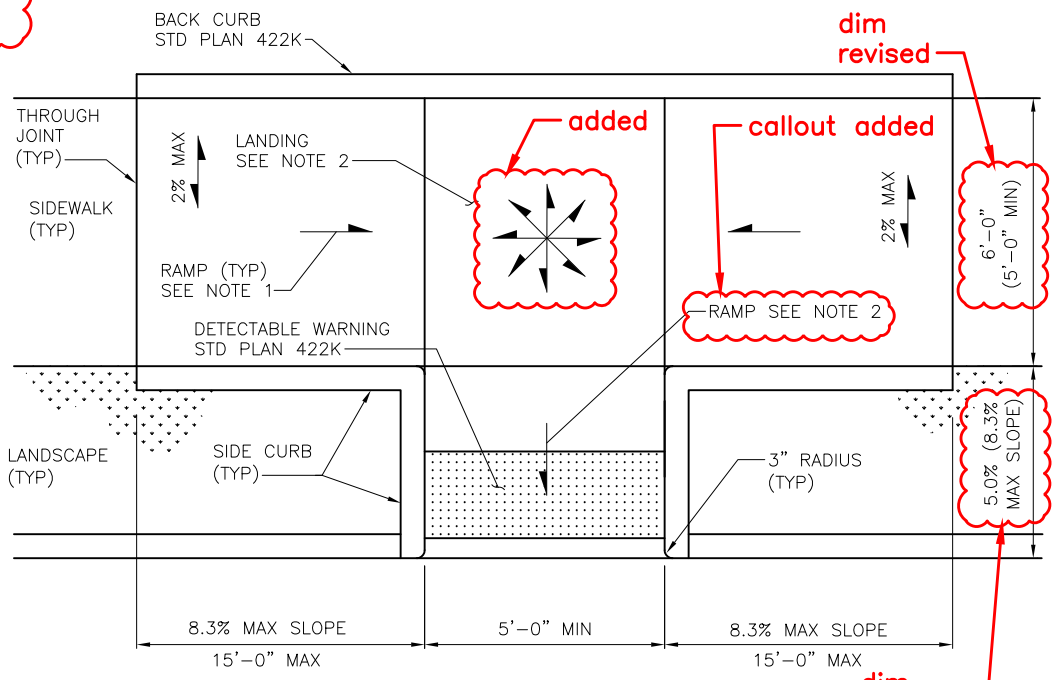
notes 1, 2 & 3 revised, also,"SHALL" changed to "MUST"

NOTES:

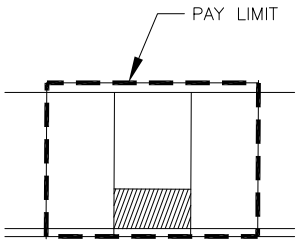
1. RAMP CENTERLINE(S) MUST BE PARALLEL TO THE ALIGNMENT OF THE FACE OF CURB. THE WIDTH OF THE RAMP MUST BE 6'–0" (5'–0" MINIMUM).
2. RAMP CENTERLINE MUST BE RADIAL/PERPENDICULAR TO THE ALIGNMENT OF THE FACE OF CURB.
3. THE SLOPE ON THE LANDING MUST BE A MINIMUM OF 0.5% IN ANY ONE DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION. UPPER LANDING AT THE TOP OF THE CURB RAMP MUST MATCH THE FULL WIDTH OF THE RAMP AND MUST HAVE A MINIMUM DEPTH OF 4'–0". IF THE LANDING IS LIMITED AT THE BACK–OF–SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE MUST BE 5'–0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP.
4. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE RADIAL/PERPENDICULAR TO THE CURB.
5. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.

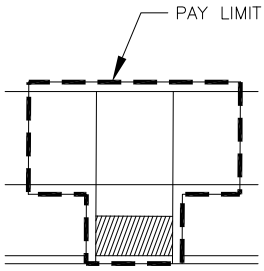
2% MAX ◄► = MAX SLOPE IN EITHER DIRECTION



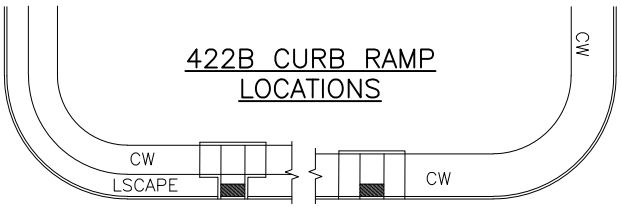


PARALLEL CURB RAMPS
(TYPE 422B)





PAY LIMITS



REF STD SPEC SEC 8-14

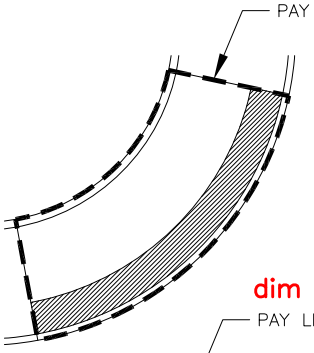
City of Seattle	NOT TO SCALE	CURB RAMP DETAILS

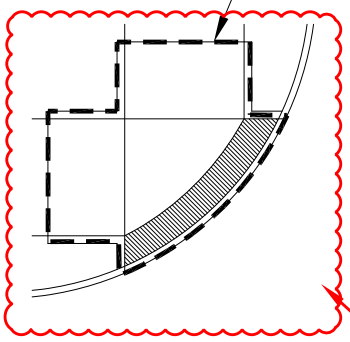
REV DATE: JAN 2020

NOTES:
1. RAMP CENTERLINE MUST BE PARALLEL TO THE ALIGNMENT OF THE FACE OF CURB. THE WIDTH OF THE RAMP MUST BE 6'–0" (5'–0" MINIMUM).
2. THE SLOPE ON THE LANDING MUST BE A MINIMUM OF 0.5% IN ANY ONE DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION. UPPER LANDING AT THE TOP OF THE CURB RAMP MUST MATCH THE FULL WIDTH OF THE RAMP AND MUST HAVE A MINIMUM DEPTH OF 4'–0". IF THE LANDING IS LIMITED AT THE BACK–OF–SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE MUST BE 5'–0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP.
3. RADIAL TILE MUST BE USED, CUTTING OR ALTERING DETECTABLE WARNING SURFACES MUST BE FIRST APPROVED BY THE ENGINEER.
4. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE, RADIAL/PERPENDICULAR TO THE CURB.
5. REFER TO DETAILS 422k AND 422l FOR GENERAL NOTES AND TYPICAL SECTIONS

2% MAX = MAX SLOPE IN EITHER DIRECTION

notes revised, including "SHALL" changed to "MUST".

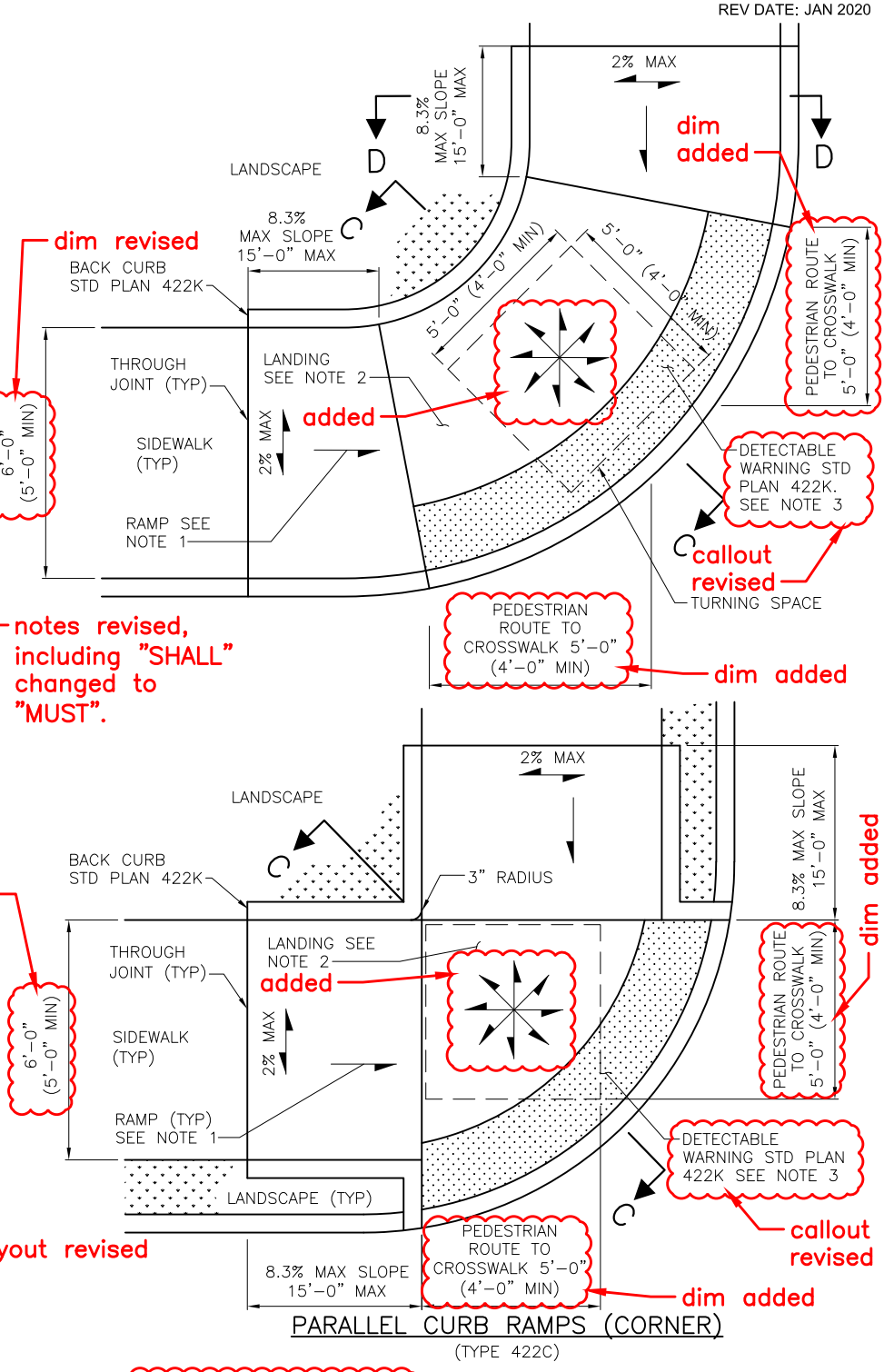




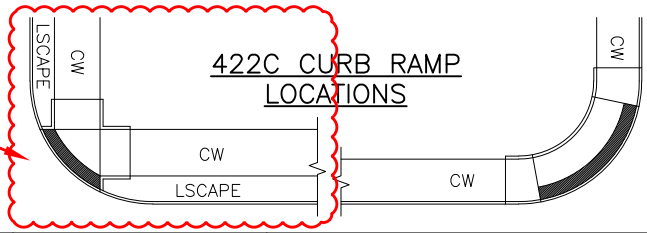
dim added

layout revised

PAY LIMITS



PARALLEL CURB RAMPS (CORNER)
(TYPE 422C)



layout revised

REF STD SPEC SEC 8-14

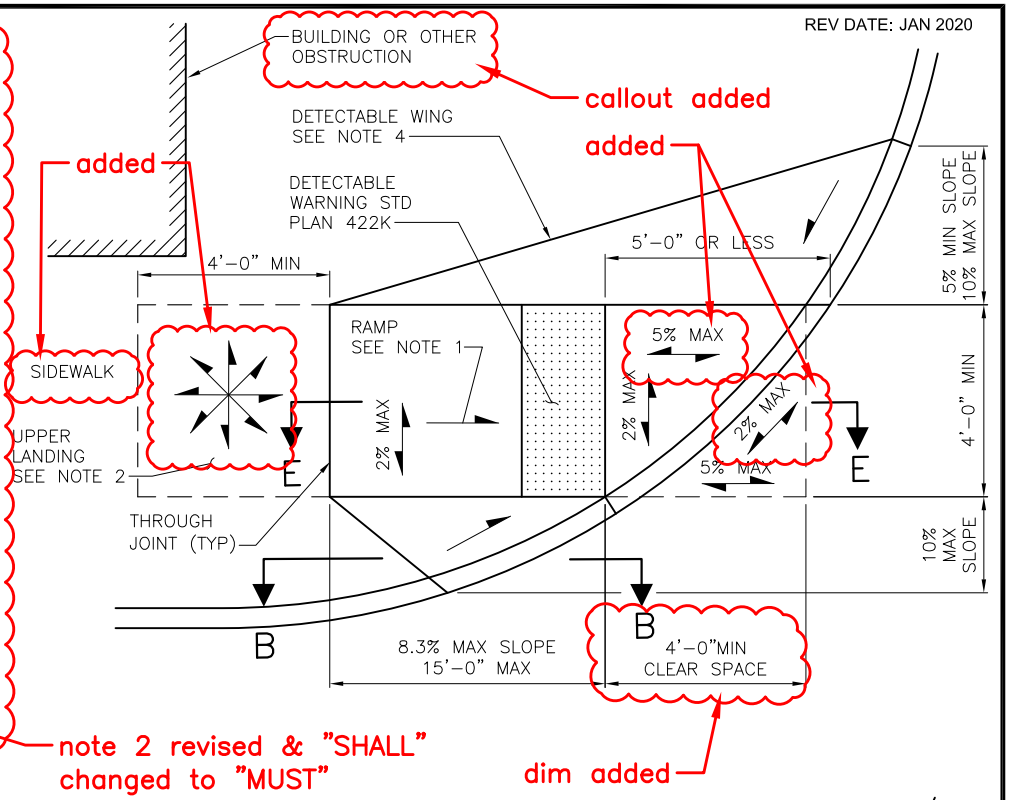
City of Seattle | NOT TO SCALE | CURB RAMP DETAILS

REV DATE: JAN 2020

NOTES:

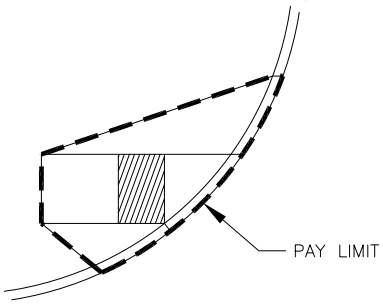
1. RAMP CENTERLINE MUST BE PARALLEL TO CROSSWALK AND/OR THE SIDEWALK.
2. THE SLOPE ON THE LANDING MUST BE A MINIMUM OF 0.5% IN ANY ONE DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION. UPPER LANDING AT THE TOP OF THE CURB RAMP MUST MATCH THE FULL WIDTH OF THE RAMP AND MUST HAVE A MINIMUM DEPTH OF 4'–0". IF THE LANDING IS LIMITED AT THE BACK–OF–SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE MUST BE 5'–0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP.
3. WINGS MUST HAVE A MAXIMUM SLOPE OF 10%. WINGS MUST HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB MUST CONTINUE THROUGH EACH WING.
4. WING ON THE OPEN SIDE OF THE CURB RAMP MUST HAVE A MINIMUM SLOPE OF 5% TO ASSIST PEDESTRIANS WITH VISUAL IMPAIRMENTS WHERE THE DETECTABLE WARNING SURFACE IS OFFSET FROM THE CURB LINE.
5. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED FINISH PERPENDICULAR TO THE PATH OF TRAVEL.
6. REFER TO DETAILS 422k AND 422l FOR GENERAL NOTES AND TYPICAL SECTIONS.

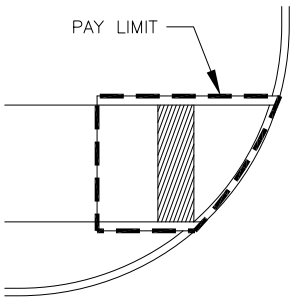
note 2 revised & "SHALL" changed to "MUST"



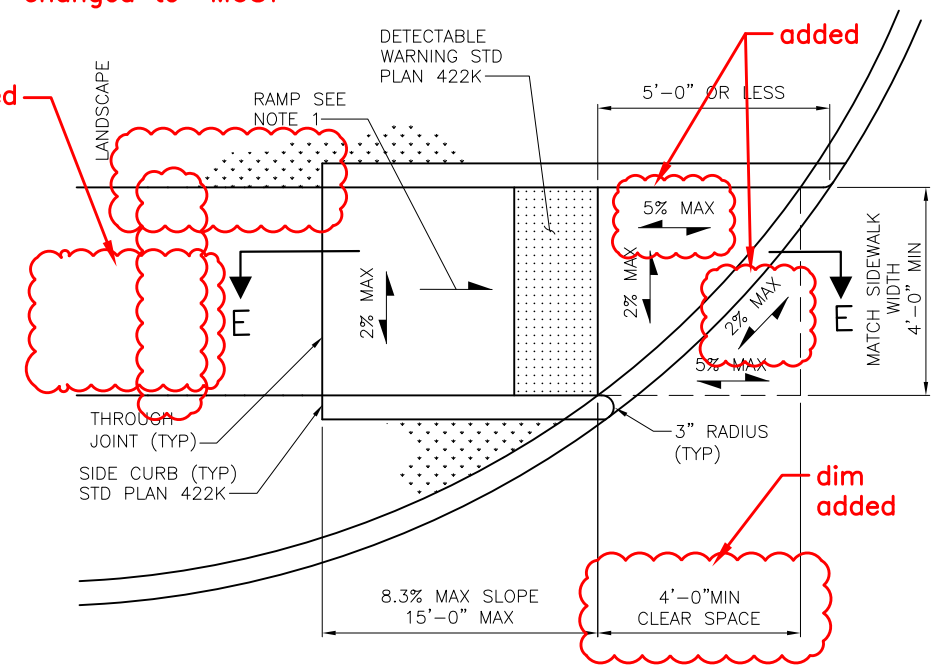
2% MAX = MAX SLOPE IN EITHER DIRECTION

upper landing removed

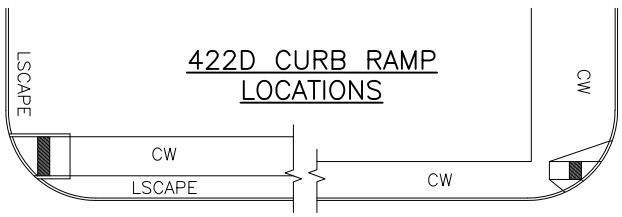




PAY LIMITS



DIRECTIONAL CURB RAMPS
(TYPE 422D)



422D CURB RAMP LOCATIONS

REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CURB RAMP DETAILS

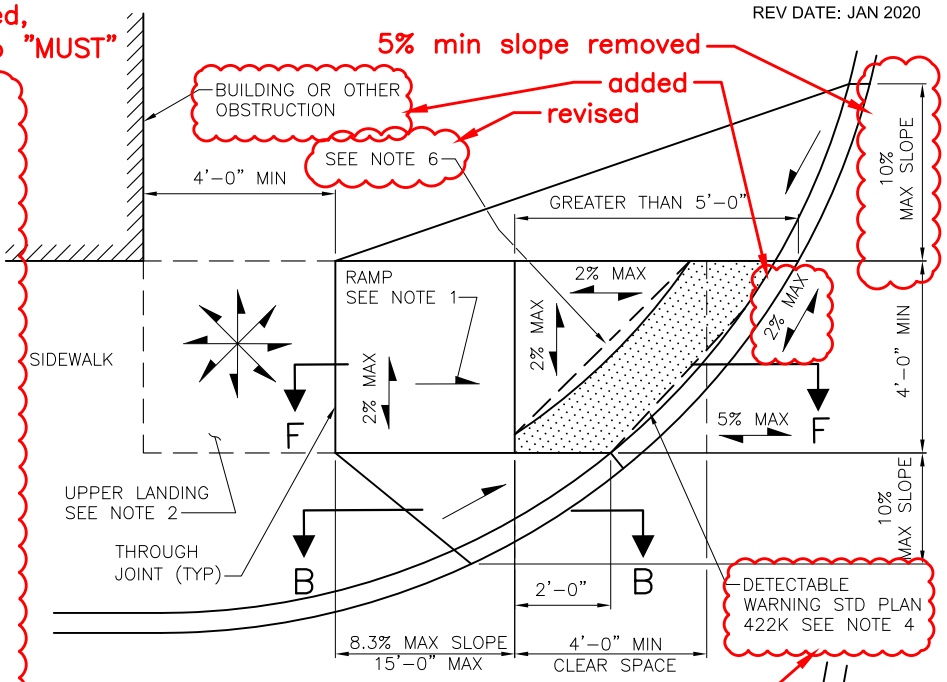
REV DATE: JAN 2020

notes 2 & 4 revised, "SHALL" changed to "MUST"

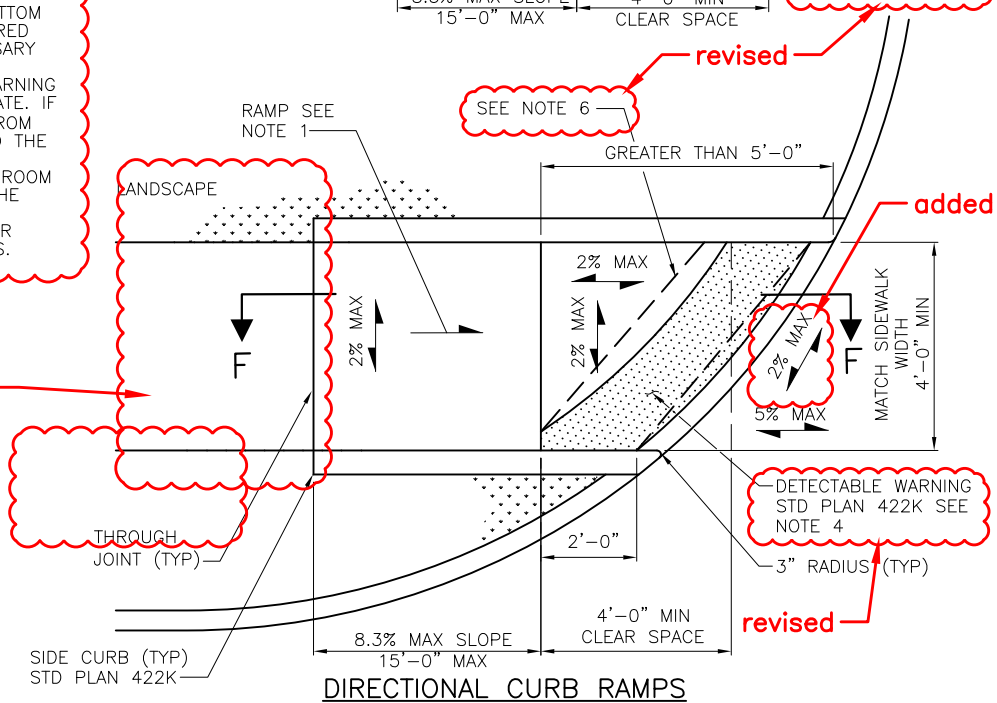
NOTES:

1. RAMP CENTERLINE MUST BE PARALLEL TO CROSSWALK AND/OR THE SIDEWALK.
2. THE SLOPE ON THE LANDING MUST BE A MINIMUM OF 0.5% IN ANY ONE DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION. UPPER LANDING AT THE TOP OF THE CURB RAMP MUST MATCH THE FULL WIDTH OF THE RAMP AND MUST HAVE A MINIMUM DEPTH OF 4'–0". IF THE LANDING IS LIMITED AT THE BACK–OF–SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE MUST BE 5'–0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP.
3. WINGS MUST HAVE A MAXIMUM SLOPE OF 10%. WINGS MUST HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB MUST CONTINUE THROUGH EACH WING.
4. WHERE THE SETBACK FROM THE BOTTOM OF THE CURB RAMP TO THE BACK OF CURB LINE EXCEEDS 5'–0", THE DETECTABLE WARNING SURFACE MUST BE INSTALLED AT THE BACK OF CURB (NOT AT THE BOTTOM OF RAMP). RADIAL TILE MUST BE USED. CUTTING OR ALTERING DETECTABLE WARNING SURFACE MUST BE FIRST APPROVED BY THE ENGINEER.
5. DIRECTIONAL CURB RAMPS WITH LARGE SETBACK FROM BACK OF CURB TO BOTTOM OF THE CURB RAMP ARE NOT PREFERRED DESIGNS BUT MAY BE USED IF NECESSARY DUE TO EXISTING SITE CONSTRAINTS.
6. STRAIGHT SECTIONS OF DETECTABLE WARNING SURFACE IS PERMITTED AS AN ALTERNATE. IF USED, THERE MUST BE 2" MAXIMUM FROM THE DETECTABLE WARNING SURFACE TO THE BACK OF CURB AT ANY POINT.
7. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED FINISH PERPENDICULAR TO THE PATH OF TRAVEL.
8. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.

5% min slope removed
added
revised

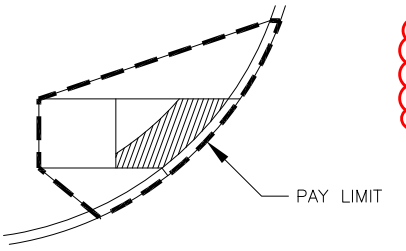


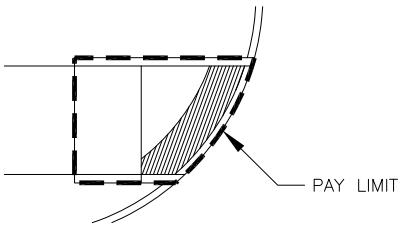
revised



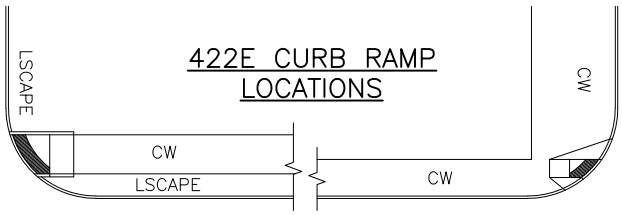
2% MAX = MAX SLOPE IN EITHER DIRECTION

DIRECTIONAL CURB RAMPS
(TYPE 422E)





PAY LIMITS



422E CURB RAMP LOCATIONS

REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CURB RAMP DETAILS

renumbered

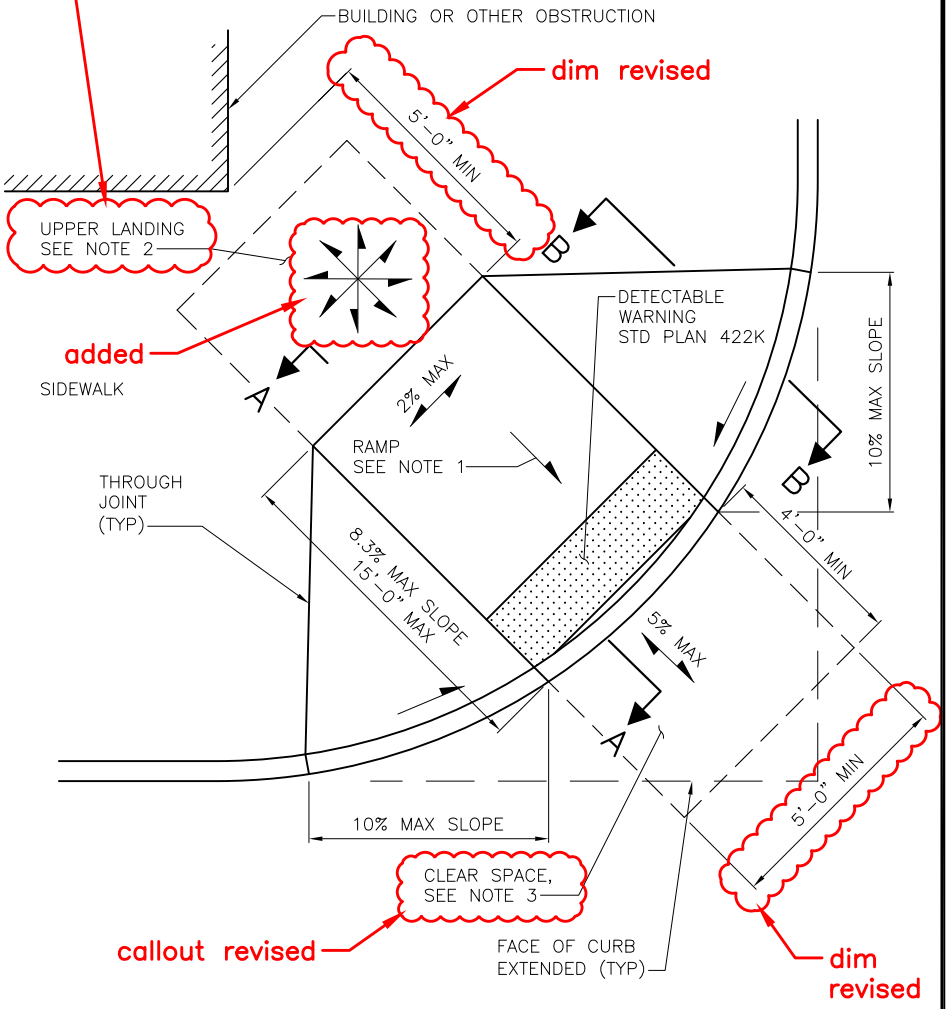
REV DATE: ~~JAN 2020~~

notes revised & "SHALL" changed to "MUST"

NOTES:

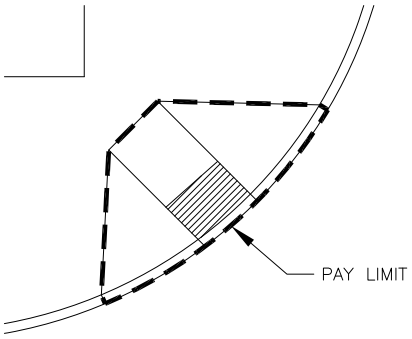
1. RAMP CENTERLINE MUST BE RADIAL/PERPENDICULAR TO THE ALIGNMENT OF THE FACE OF CURB.
2. THE SLOPE ON THE LANDING MUST BE A MINIMUM OF 0.5% IN ANY ONE DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION. UPPER LANDING AT THE TOP OF THE CURB RAMP MUST MATCH THE FULL WIDTH OF THE RAMP AND MUST HAVE A MINIMUM DEPTH OF 4'–0". IF THE LANDING IS LIMITED AT THE BACK–OF–SIDEWALK BY A PERMANENT VERTICAL BARRIER, THE DEPTH OF THE TURNING SPACE MUST BE 5'–0" MINIMUM, MEASURED PARALLEL TO THE RUN OF THE CURB RAMP.
3. CLEAR SPACE AT THE BOTTOM OF THE RAMP MUST BE 5–0" MINIMUM IN WIDTH AND MUST EXTEND A MINIMUM OF 4'–0' BEYOND THE RAMP LOWER GRADE BREAK. THE CLEAR SPACE MUST FALL WHOLLY WITHIN THE LEGAL CROSSWALK, MARKED OR UNMARKED. THE CLEAR SPACE MUST FIT BEHIND LINES EXTENDING FROM THE FACE OF CURB RUNNING PARALLEL TO EACH ROADWAY. THERE IS NO ALLOWABLE EXEMPTION FOR MINIMUM CLEAR SPACE REQUIREMENTS AT SHARED DIAGONAL PERPENDICULAR CURB RAMPS.
4. WINGS MUST HAVE A MAXIMUM SLOPE OF 10%. WINGS MUST HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB MUST CONTINUE THROUGH EACH WING.
5. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE PARALLEL TO THE CURB.
6. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTIONS.

changed to "NOTE 2"

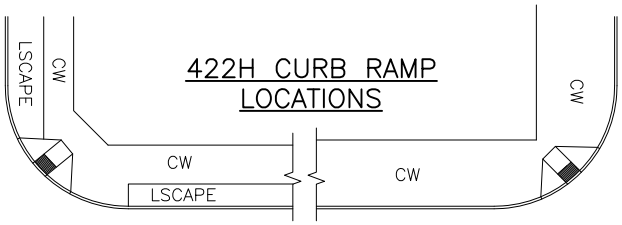


2% MAX ⟷ = MAX SLOPE IN EITHER DIRECTION

SHARED DIAGONAL PERPENDICULAR CURB RAMP
(TYPE 422F)



PAY LIMITS



REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CURB RAMP DETAILS

renumbered

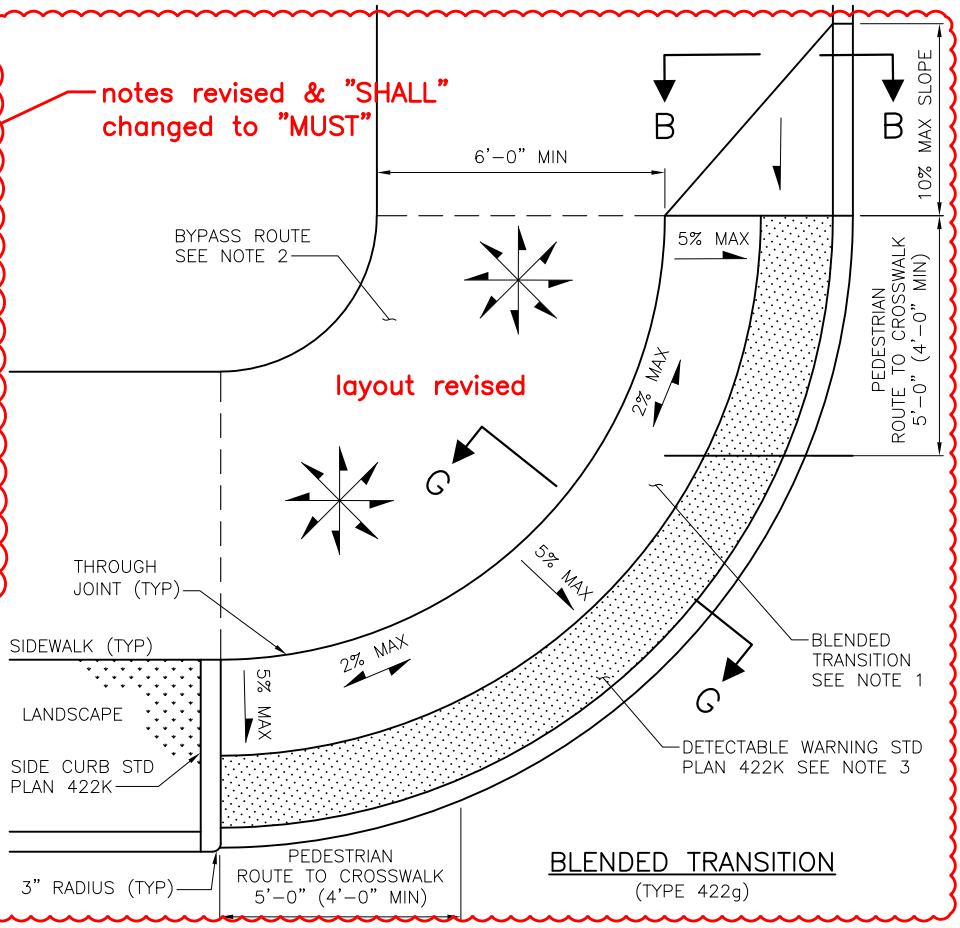
STANDARD PLAN NO 422g

REV DATE: ~~JAN 2020~~

NOTES:

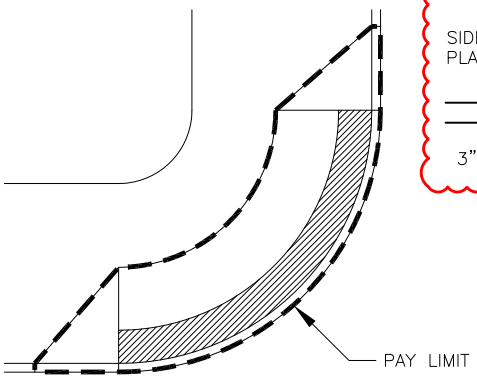
1. THE SIDEWALK MUST TRANSITION DOWN TO THE ROADWAY WITH A MAXIMUM RUNNING SLOPE OF 5%. THE CROSS SLOPE ON THE TRANSITION MUST NOT EXCEED 2% AT ANY POINT.
2. A BYPASS ROUTE MUST BE PROVIDED AT THE TOP OF THE BLENDED TRANSITION WITH A MINIMUM WIDTH OF 6'–0" (5'–0" MIN). THE CROSS SLOPE OF THE BYPASS ROUTE MUST BE A MINIMUM OF 0.5% IN ANY DIRECTION AND MUST NOT EXCEED 2% IN ANY DIRECTION.
3. RADIAL TILE MUST BE USED, CUTTING OR ALTERING DETECTABLE WARNING SURFACES MUST BE FIRST APPROVED BY THE ENGINEER.
4. WINGS MUST HAVE A MAXIMUM SLOPE OF 10%. WINGS MUST HAVE A BRUSHED FINISH PARALLEL TO THE CURB. THE CONCRETE WALK THICKENED EDGE ALONG THE CURB MUST CONTINUE THROUGH EACH WING.
5. BLENDED TRANSITION SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE RADIAL/PERPENDICULAR TO THE CURB.
6. REFER TO DETAILS 422K AND 422L FOR GENERAL NOTES AND TYPICAL SECTION B.

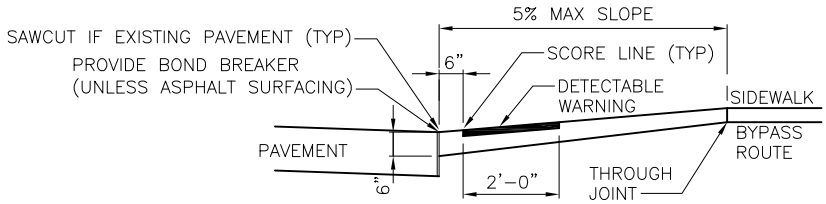
notes revised & "SHALL" changed to "MUST"



BLENDED TRANSITION
(TYPE 422g)

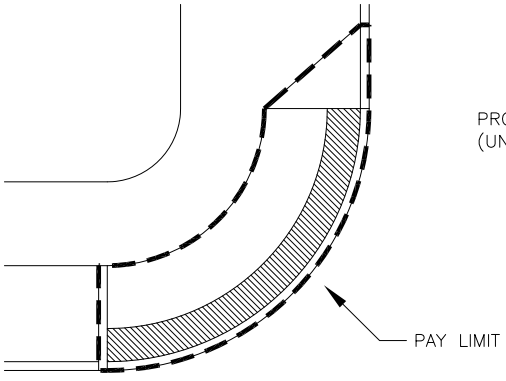
2% MAX = MAX SLOPE IN EITHER DIRECTION

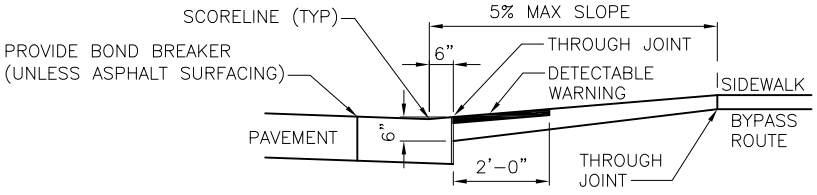




SECTION G–G

CURB MONOLITHIC WITH RAMP. NEW PAVEMENT BLOCKED OUT FULL DEPTH. EXISTING PAVEMENT REMOVED AT FACE OF CURB



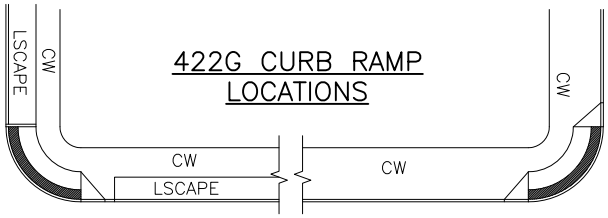


SECTION G–G

DEPRESSED CURB & GUTTER SEPARATE FROM RAMP.

PAY LIMITS

422G CURB RAMP LOCATIONS



REF STD SPEC SEC 8-14

City of Seattle | NOT TO SCALE | CURB RAMP DETAILS

renumbered

STANDARD PLAN NO **422h**

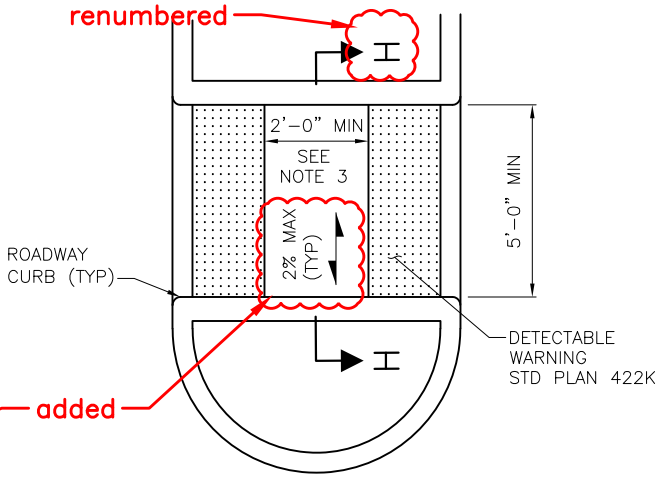
REV DATE: SEP 2019

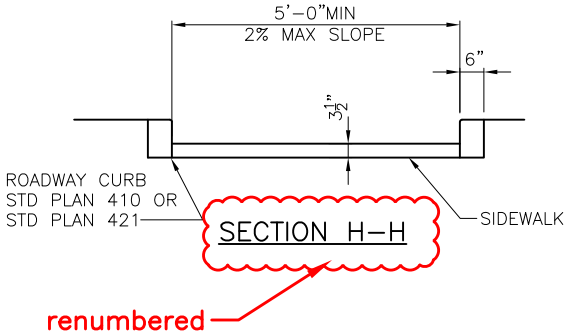
NOTES:

1. SIZE, SHAPE, AND/OR DIMENSIONS OF CHANNELIZING ISLANDS OR PEDESTRIAN REFUGE ISLANDS MAY VARY. DETAILS SHOWN ARE INTENDED TO SHOW MINIMUM REQUIRED CLEARANCES AND DETECTABLE WARNING SURFACE PLACEMENT LOCATIONS.
2. ACCESS THROUGH CHANNELIZING ISLANDS OR PEDESTRIAN REFUGE ISLANDS MAY BE CUT–THROUGH OR ACCESS MAY BE PROVIDED USING STANDARD CURB RAMP DETAILS.
3. AT PEDESTRIAN REFUGE ISLANDS, DETECTABLE WARNING IS NOT TO BE INSTALLED IF THE REFUGE AREA IS LESS THAN 6'–0" IN DEPTH (IN THE DIRECTION OF TRAVEL).
4. PROVIDE A MINIMUM 4'–0" WIDTH x 4'–0" DEPTH CLEAR SPACE FOR ACCESS FROM THE CHANNELIZING ISLAND OR PEDESTRIAN REFUGE ISLAND FOR EACH CROSSWALK.

added

2% MAX
MAX SLOPE IN EITHER DIRECTION





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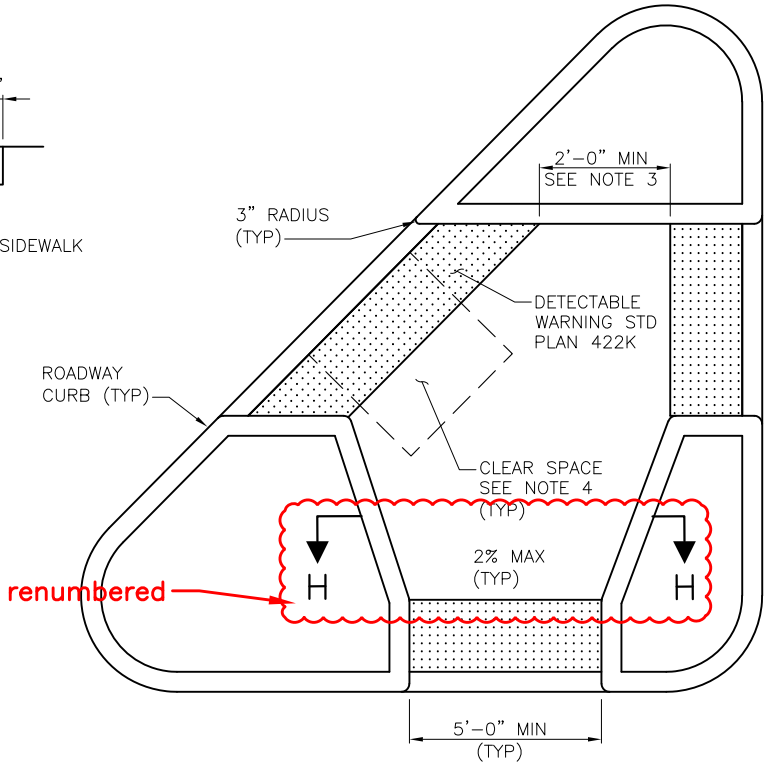


ISLAND CUT–THROUGHS
(TYPE 422H)

REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CURB RAMP DETALS

"SHALL" changed to "MUST", minor other text revisions

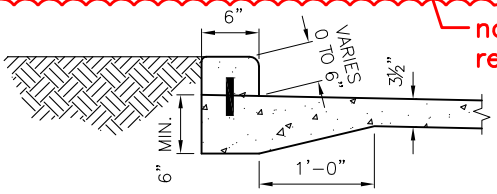
REV DATE: JAN 2020

CURB RAMP GENERAL NOTES:

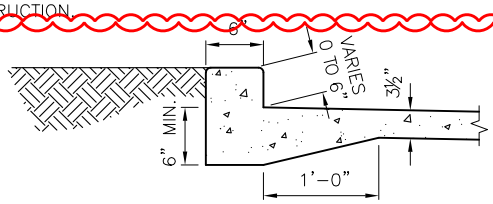
1. TWO CURB RAMPS MUST BE INSTALLED AT EACH CORNER UNLESS OTHERWISE DIRECTED BY ENGINEER. SHARED DIAGONAL PERPENDICULAR RAMPS MUST NOT BE INSTALLED UNLESS ALL OTHER DESIGN OPTIONS ARE UNABLE TO BE CONSTRUCTED DUE TO EXISTING SITE CONSTRAINTS.
2. CURB RAMPS MUST BE AS CLOSELY ALIGNED WITH THE SIDEWALK AND THE PEDESTRIAN STREET CROSSING SERVED AS POSSIBLE.
3. CURB RAMP MUST BE CONSTRUCTED WITH COMPANION RAMP ON OPPOSITE SIDE OF THE ROADWAY WHERE NO RAMP IS PROVIDED UNLESS OTHERWISE DIRECTED BY ENGINEER.
4. RAMPS MUST TYPICALLY HAVE A MAXIMUM RUNNING SLOPE OF 8.3% AND A MINIMUM WIDTH OF 4'–0" UNLESS OTHERWISE DIRECTED BY ENGINEER. THE CROSS SLOPE OF RAMPS MUST BE A MAXIMUM OF 2%. CURB RAMPS ARE NOT REQUIRED TO EXCEED A LENGTH OF 15 FEET UNLESS OTHERWISE DIRECTED BY ENGINEER.*
5. GRADE BREAKS AT THE TOP AND THE BOTTOM OF CURB RAMP RUNS MUST BE PERPENDICULAR TO THE PATH OF TRAVEL. CURB RAMP RUNS ARE DEFINED BY RUNNING SLOPES THAT EXCEED 5% BUT ARE NO MORE THAN 8.3%. SURFACES ABUTTING AT CURB RAMP GRADE BREAKS MUST BE FLUSH.
6. AREAS ADJACENT TO CURB RAMPS OR CURB RAMP LANDINGS USABLE BY PEDESTRIANS MUST COMPLY WITH STANDARD PLAN SIDEWALK SLOPE LIMITS OR A CURB RAMP WING MUST BE PROVIDED AS SHOWN IN THE APPLICABLE CURB RAMP DETAILS. THE INSTALLATION OF CURBED EDGES IS NOT REQUIRED BUT MAY BE USED AT THE SIDES OR BACKS OF CURB RAMPS OR CURB RAMP LANDING WHERE THE ADJACENT SURFACE IS LANDSCAPED OR OTHERWISE NOT USABLE BY PEDESTRIANS.
7. THE COUNTER SLOPE OF THE GUTTER OR THE STREET AT THE BOTTOM OF CURB RAMP RUNS MUST BE 5% MAXIMUM. IF TURNING OR CHANGE OF ORIENTATION IS REQUIRED WITHIN THE PEDESTRIAN CROSSING AT THE BOTTOM OF CURB RAMP RUNS, THE SLOPE MUST BE 2% MAXIMUM IN ANY DIRECTION FOR A MINIMUM 4'–0" WIDTH X 4'–0" DEPTH MEASURED FROM THE RAMP BOTTOM GRADE BREAK.
8. CURB RAMPS WITH RUNS THAT TERMINATE AT THE ENTRANCE TO THE PEDESTRIAN STREET CROSSING MUST HAVE A CLEAR SPACE AT THE BOTTOM OF THE RAMP. "CLEAR SPACE" IS DEFINED AS A NAVIGABLE 4'–0" BY 4'–0" SPACE, EXTENDING FROM THE RAMP LOWER GRADE BREAK, THAT FALLS WHOLLY WITHIN THE LEGAL CROSSWALK, MARKED OR UNMARKED, AND OUTSIDE THE PARALLEL VEHICULAR TRAFFIC LANE.
9. A 4'–0" MINIMUM WIDTH UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE MUST BE PROVIDED FROM EACH CURB RAMP, BLENDED TRANSITION, OF FLUSH TRANSITION TO THE LEGAL CROSSWALK THAT IS SERVED, MARKED OR UNMARKED, AND LOCATED OUTSIDE THE PARALLEL VERTICAL TRAFFIC LANE.
10. DETECTABLE WARNING MUST BE PROVIDED AT CURB RAMPS AND AT LOCATIONS WHERE THE SIDEWALK AND ROADWAY ARE FLUSH. THE DETECTABLE WARNING SURFACE MUST HAVE A TRUNCATED DOME PATTERN AS SHOWN, WITH A MINIMUM DEPTH OF 2'–0", AND MUST BE PLACED AT THE BACK OF CURB BUT NO MORE THAN 8" FROM THE FACE OF CURB FOR MONOLITHIC CURBS OR ATYPICAL CURB WIDTHS. DETECTABLE WARNING MUST MATCH THE WIDTH OF THE RAMP RUN OR THE OPENING WHERE THE SIDEWALK AND ROADWAY ARE FLUSH. THE TRUNCATED DOMES ON THE DETECTABLE WARNING SURFACE SHOULD ALIGN WITH THE CURB RAMP RUN OR THE DIRECTION OF TRAVEL. DOMES MAY BE ON A RADIAL GRID PATTERN WHERE THE DETECTABLE WARNING SURFACE IS PLACED AT CURB RADII.
11. DETECTABLE WARNING COLOR MUST BE "FEDERAL SAFETY YELLOW", UNLESS OTHERWISE DIRECTED BY ENGINEER.
12. DETECTABLE WARNING SURFACES SHOULD GENERALLY NOT BE CUT OR ALTERED TO FIT UNLESS THERE IS NO ALTERNATIVE AVAILABLE. IF REQUIRED, CUT OR ALTER THE DETECTABLE WARNING SURFACE PER THE MANUFACTURER'S DIRECTIONS. DETECTABLE WARNING SURFACES PLACED AT CURB RADII MUST MATCH THE CURB RADII WITHOUT GAPS OR INCONSISTENCIES IN PLACEMENT.
13. AVOID LOCATING HANDHOLES, UTILITY CASTINGS, OR ANY OTHER SURFACE OBSTRUCTIONS IN THE CURB RAMP RUN(S) OR LANDING(S). IF NECESSARY DUE TO EXISTING CONSTRAINTS, HANDHOLES, UTILITY CASTINGS, OR OTHER SURFACE OBSTRUCTIONS MAY BE LOCATED WITHIN A RAMP RUN, LANDING, OR TURNING SPACE BUT MUST ADHERE TO SURFACE REQUIREMENTS. LEVEL CHANGES BETWEEN SURFACES MUST NOT EXCEED ¼" OR ½" WITH A 1:2 BEVEL. GAPS BETWEEN SURFACES OR GRATINGS MAY NOT EXCEED ½". SURFACES MUST BE FIRM, STABLE, AND SLIP RESISTANT.
14. HANDHOLES, UTILITY CASTINGS, OR OTHER SURFACE OBSTRUCTIONS MUST NOT REDUCE THE REQUIRED DEPTH OF DETECTABLE WARNING.
15. POLES, HYDRANTS AND OTHER ABOVE GROUND OBSTRUCTIONS MUST HAVE A MINIMUM LATERAL CLEARANCE OF 1'–0" FROM RAMP RUN(S) OR LANDING(S).
16. ALL CHANGES IN LEVEL ACROSS JOINTS MUST BE FLUSH. ANY DIFFERENCE IN ELEVATION OF 3/16 INCH OR GREATER MUST BE REPAIRED OR REPLACED.
17. CURB RAMPS ARE DESIGNED TO ENSURE THAT WATER DOES NOT ACCUMULATE ON RAMP SURFACES. THE CONTRACTOR MUST CHECK GRADE LINES AND GUTTER FLOW LINE PRIOR TO CONSTRUCTION. IF THE CHECK REVEALS THAT SITE CONDITIONS WOULD RESULT IN PONDING, OR WOULD CONFLICT WITH OBTAINING THE GRADES AT THE BOTTOM OF CURB RAMPS OR AT CURB RAMP LOWER LANDINGS AS SHOWN ON THE DRAWINGS OR PLANS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND STOP WORK ON THE CURB RAMP UNTIL DIRECTED TO CONTINUE BY THE ENGINEER.

* IT IS RECOMMENDED THAT CURB RAMPS RUNNING SLOPES BE DESIGNED TO 7.5% MAX. AND CURB RAMP LANDINGS BE DESIGNED TO 1.5% MAX TO ALLOW FOR A LIMITED MARGIN OF ERROR DURING CONSTRUCTION.

notes 8 & 16 revised, note 9 added, previous note 17 removed

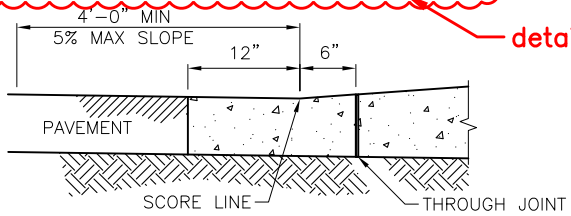


SIDE/BACK CURB – DOWELED

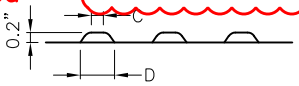


SIDE/BACK CURB – MONOLITHIC

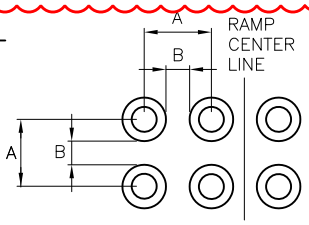
details revised



DEPRESSED CURB AND GUTTER DETAIL



	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	50% TO 65% OF D	
D	0.9"	1.4"



DETECTABLE WARNING TRUNCATED DOMES PATTERN

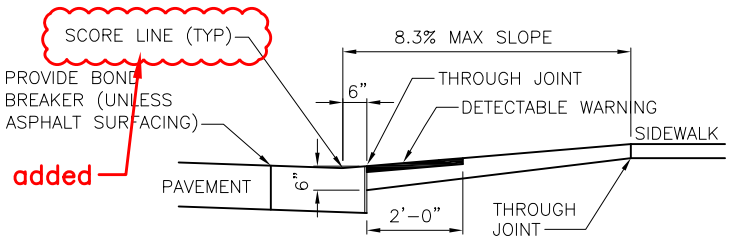
REF STD SPEC SEC 8-14

City of Seattle

NOT TO SCALE

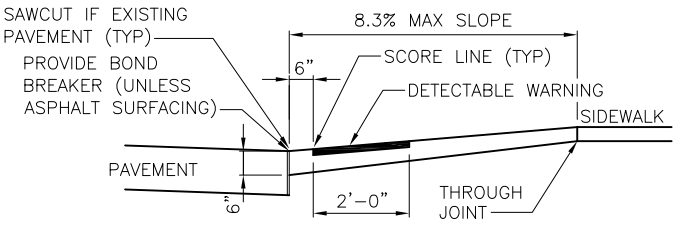
CURB RAMP DETAILS

REV DATE: SEP 2019



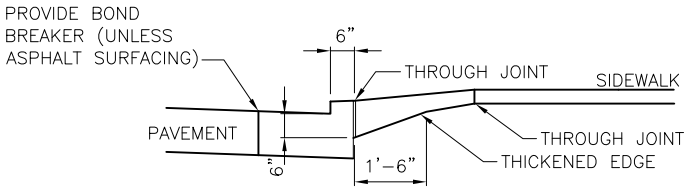
SECTION A–A

DEPRESSED CURB & GUTTER SEPARATE FROM RAMP.

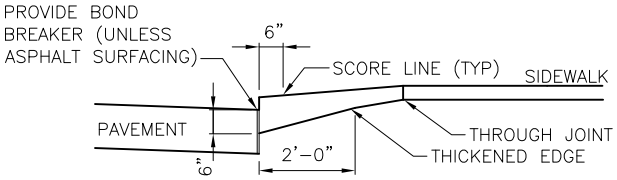


SECTION A–A

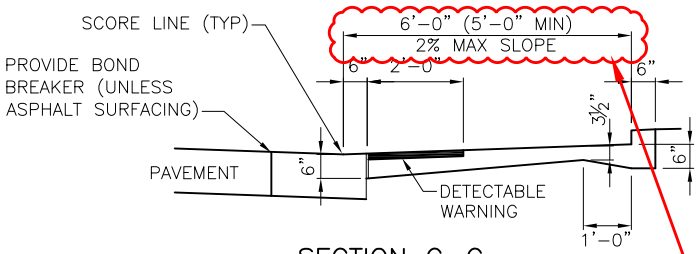
CURB MONOLITHIC WITH RAMP. NEW PAVEMENT BLOCKED OUT FULL DEPTH. EXISTING PAVEMENT REMOVED AT FACE OF CURB



SECTION B–B

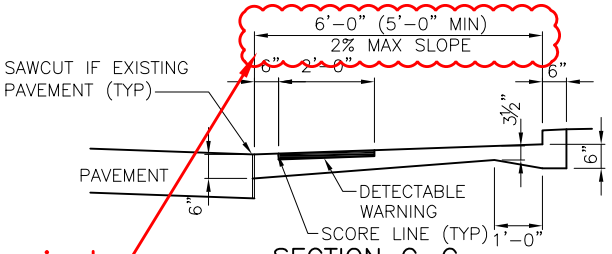


SECTION B–B



SECTION C–C

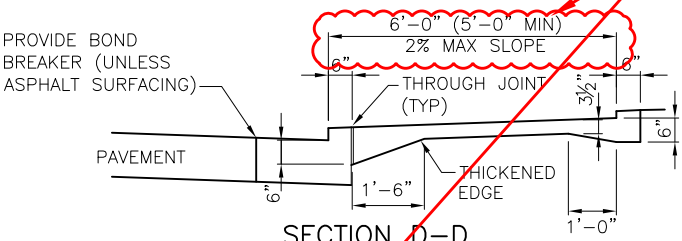
DEPRESSED CURB & GUTTER SEPARATE FROM RAMP.



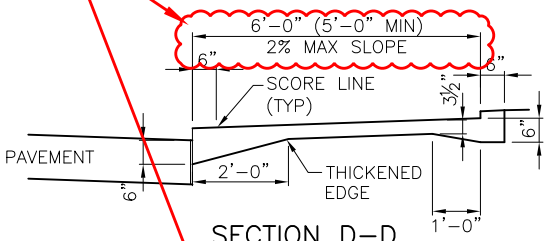
SECTION C–C

CURB MONOLITHIC WITH RAMP. NEW PAVEMENT BLOCKED OUT FULL DEPTH. EXISTING PAVEMENT REMOVED AT FACE OF CURB

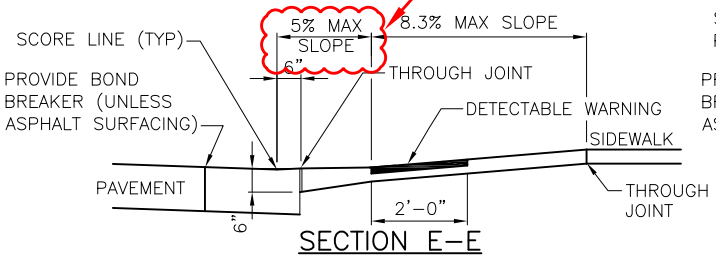
revised



SECTION D–D

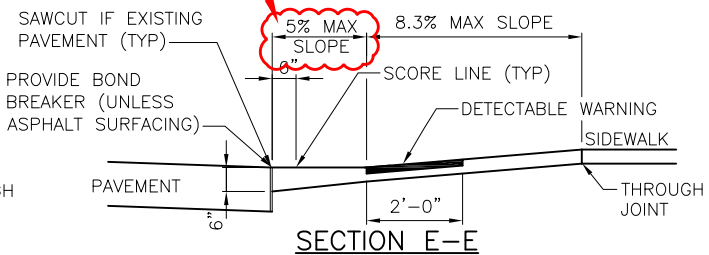


SECTION D–D



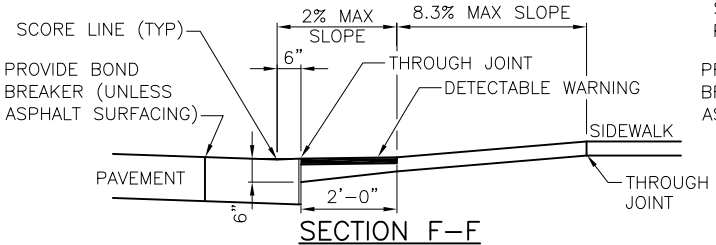
SECTION E–E

DEPRESSED CURB & GUTTER SEPARATE FROM RAMP.



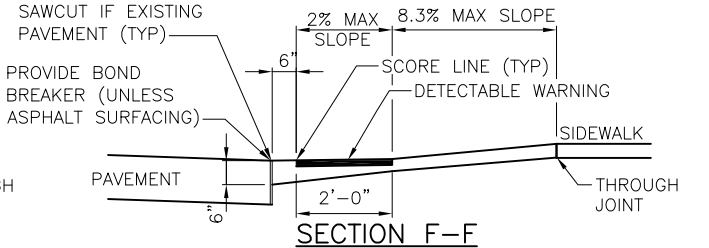
SECTION E–E

CURB MONOLITHIC WITH RAMP. NEW PAVEMENT BLOCKED OUT FULL DEPTH. EXISTING PAVEMENT REMOVED AT FACE OF CURB



SECTION F–F

DEPRESSED CURB & GUTTER SEPARATE FROM RAMP



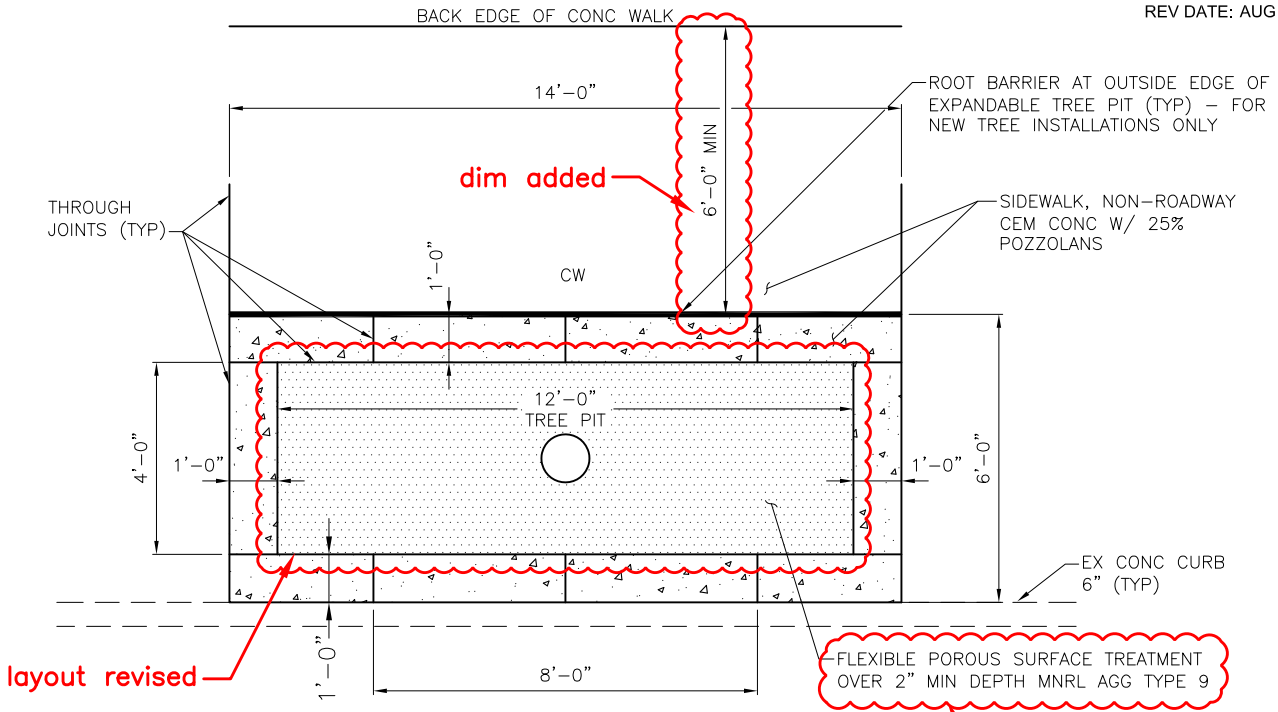
SECTION F–F

CURB MONOLITHIC WITH RAMP. NEW PAVEMENT BLOCKED OUT FULL DEPTH. EXISTING PAVEMENT REMOVED AT FACE OF CURB

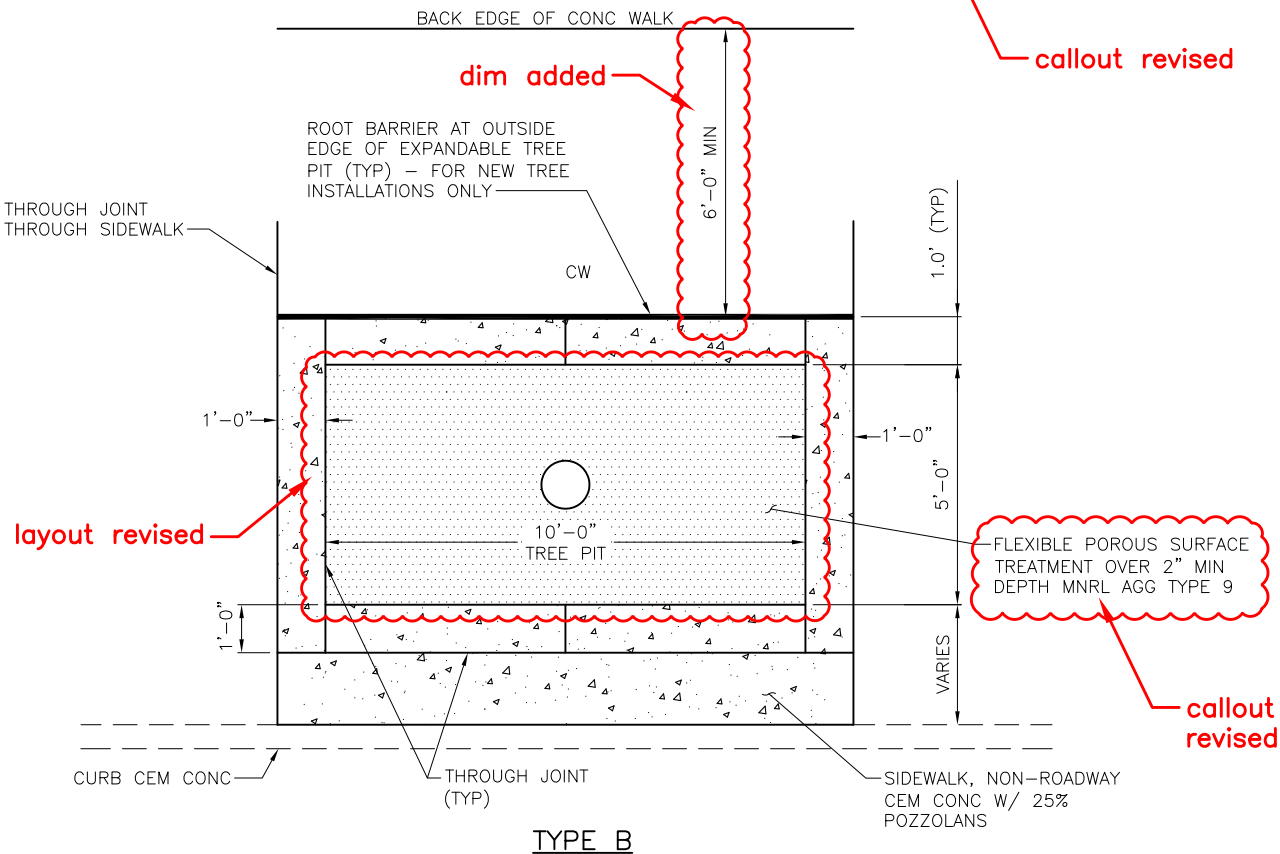
REF STD SPEC SEC 8-14

City of Seattle	NOT TO SCALE	CURB RAMP SECTIONS

REV DATE: AUG 2019



TYPE A



TYPE B

NOTES:

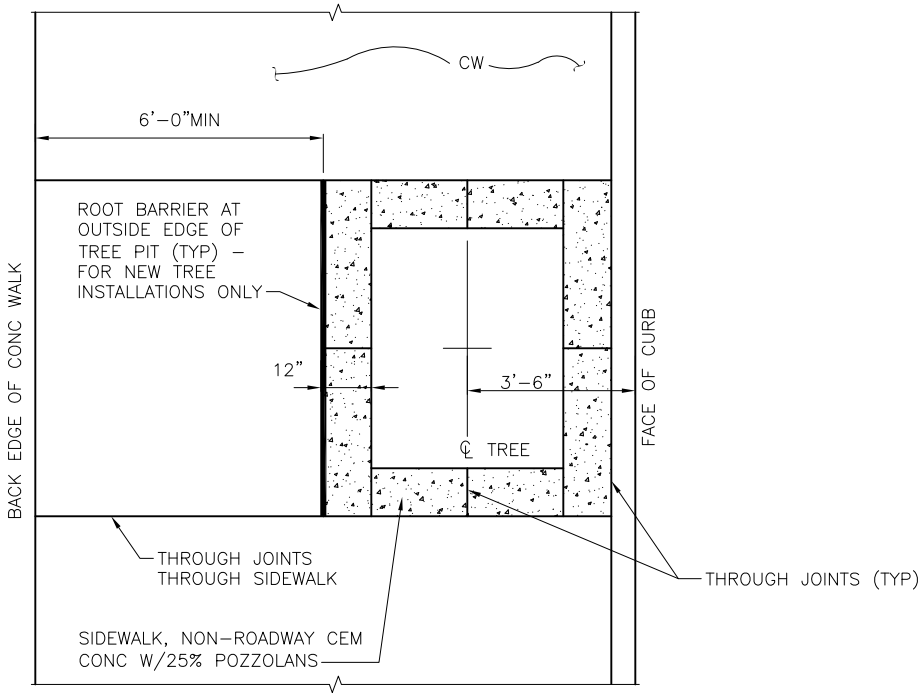
1. SEE STD PLAN 420 FOR CW SCORING DETAILS.
2. INSTALL ROOT BARRIER PER STANDARD PLAN NO 100a.
3. WHEN INSTALLING NEW TREE PITS IN EXISTING SIDEWALK, REMOVE SIDEWALK TO FULL PANEL WIDTH. INSTALL TREE PIT AS SHOWN ON THIS DETAIL.

note 3 added

REF STD SPEC SEC 8-02, 8-14

City of Seattle	NOT TO SCALE	EXPANDABLE TREE PIT DETAIL

REV DATE: MAY 2019



FOR ADDITIONAL SIDEWALK SCORING REQUIREMENTS SEE STD PLAN NO 420

TYPE C

TREE PIT DIMENSIONAL REQUIREMENTS:
- 24 SQ FT MIN TREE PIT SIZE
- 3'–0"MIN REQ'D BETWEEN TREE ℄ & FACE OF CURB
- 2'–0"MIN REQ'D BETWEEN TREE ℄ & CONC SIDEWALK
- 6'–0"MIN CONC WALKING SURFACE

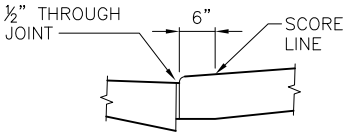
NOTES:
1. INSTALLATIONS REQUIRING LESS THAN STANDARD MIN CLEARANCES MUST BE ALLOWED ONLY WITH APPROVAL BY THE ENGINEER.
2. INSTALL ROOT BARRIER AS NOTED. SEE STANDARD PLAN NO 100a.
3. SEE STD PLAN NO 420 FOR CW SCORING DETAILS.
4. WHEN INSTALLING NEW TREE PITS IN EXISTING SIDEWALK, REMOVE SIDEWALK TO FULL PANE WIDTH. INSTALL TREE PIT AS SHOWN ON THIS DETAIL.

note 4 added

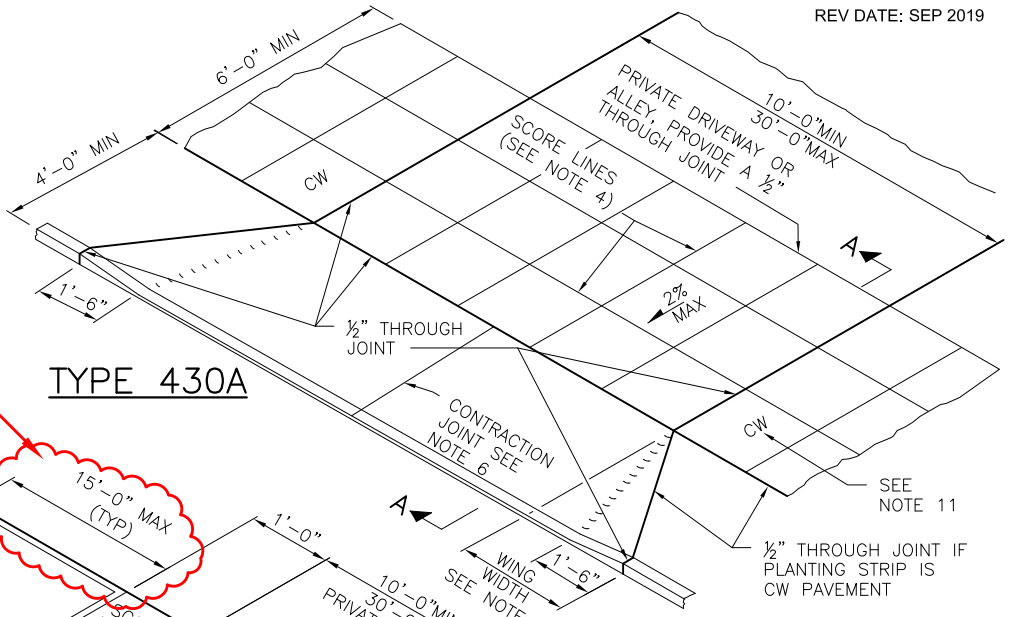
REF STD SPEC SEC 8-02, 8-14

City of Seattle	NOT TO SCALE	TREE PIT DETAIL

REV DATE: SEP 2019



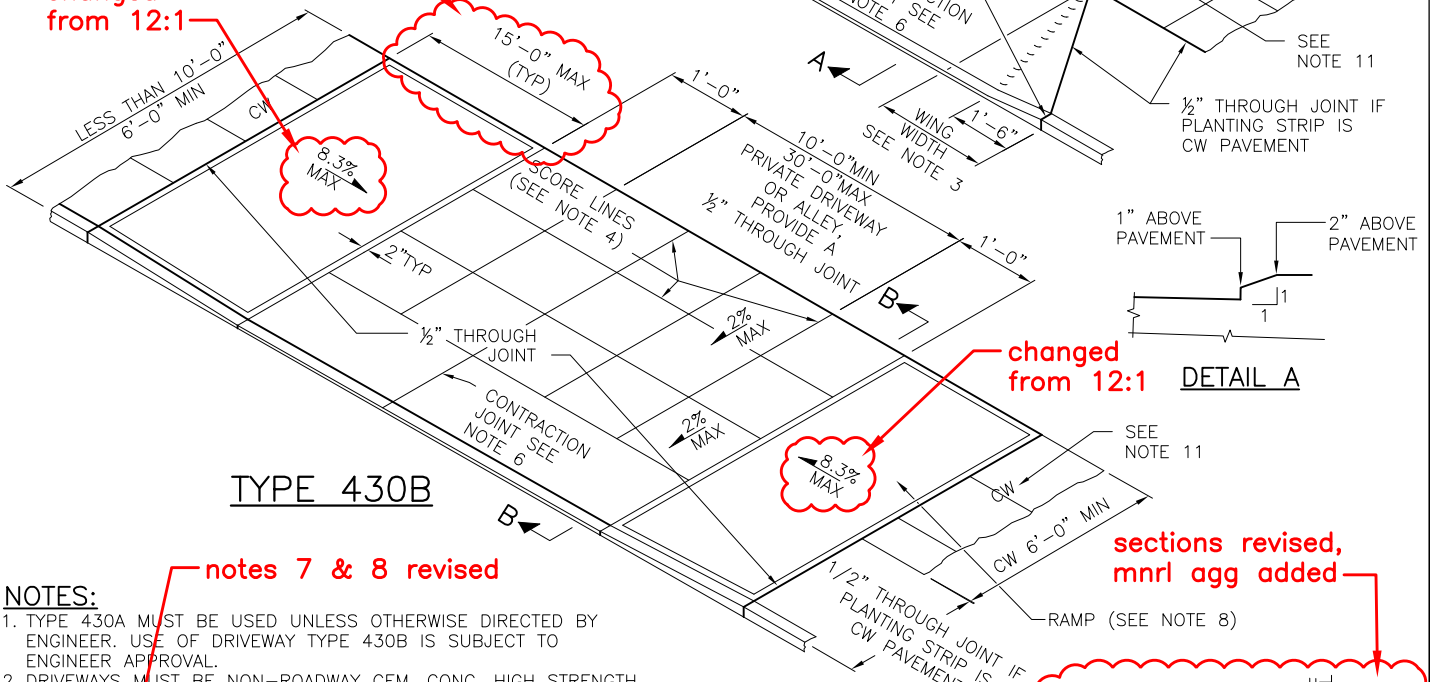
DETAIL B
DRIVEWAY W/ MONOLITHIC CURB & APPROACH



TYPE 430A

changed from 12:1

dim added



TYPE 430B

changed from 12:1

DETAIL A

notes 7 & 8 revised

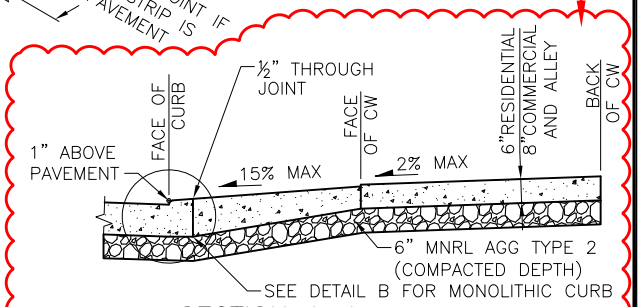
sections revised, mnrl agg added

NOTES:

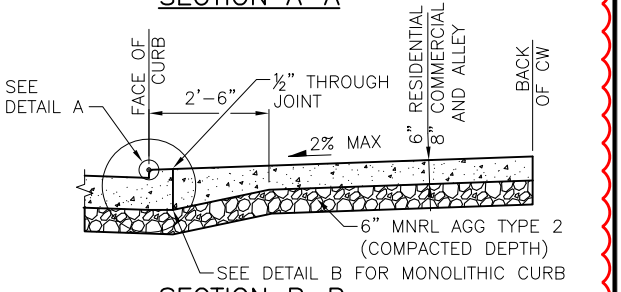
1. TYPE 430A MUST BE USED UNLESS OTHERWISE DIRECTED BY ENGINEER. USE OF DRIVEWAY TYPE 430B IS SUBJECT TO ENGINEER APPROVAL.
2. DRIVEWAYS MUST BE NON-ROADWAY CEM. CONC. HIGH STRENGTH.
3. WING WIDTH ON ARTERIAL STREETS WHERE TRAVEL LANE IS NEXT TO THE CURB MUST BE 5'-0". OTHERWISE, WING WIDTH MUST BE 2'-6".
4. "V" GROOVE SCORING MUST MATCH PATTERN IN ADJACENT EXISTING SIDEWALK.
5. FOR CONCRETE DRIVEWAY CONSTRUCTED WITH CONCRETE SIDEWALK, SEE STANDARD PLAN NO 431.
6. CONCRETE DRIVEWAYS WITH A WIDTH GREATER THAN 15'-0" MUST HAVE A ⅜" TRANSVERSE CONTRACTION JOINT NEAR THE CENTERLINE OF DRIVEWAY. SEE DETAIL SECTION C-C STANDARD PLAN NO 420.
7. FOR TYPE 430A CROSS-SLOPE IN THE 6'-0" MINIMUM WIDE AREA CONNECTING TO CW ON EACH SIDE OF THE DRIVEWAY MUST BE MAXIMUM 2% AND MINIMUM 0.5%. FOR TYPE 430B, CROSS-SLOPE OF THE DRIVEWAY BETWEEN THE TWO RAMP SECTIONS MUST BE MAXIMUM 2% AND MINIMUM 0.5%. DRIVEWAY ON THE PRIVATE SIDE OF THE CW MAY BE SLOPED AS NEEDED TO MATCH EXISTING SITE CONDITIONS.
8. RAMP MUST HAVE A MAXIMUM SLOPE OF 8.3% AND A MINIMUM WIDTH OF 6'-0". THE CROSS SLOPE OF THE RAMP MUST BE MAXIMUM OF 2.0%. RAMP SURFACE MUST HAVE A HEAVY BROOM BRUSHED SURFACE PERPENDICULAR TO THE CURB.
9. ~~ALL CHANGES IN LEVEL ACROSS JOINTS MUST BE FLUSH WITH A MAXIMUM~~ DIFFERENCE IN ELEVATION OF $\frac{3}{16}$ INCH.
10. ALL SLOPE GRADES MUST BE MEASURED OFF THE HORIZON-LINE. IF EXISTING SITE CONDITIONS CONFLICT WITH OBTAINING GRADES SHOWN, THE CONTRACTOR MUST MAKE MINIMUM ADJUSTMENTS TO THE GRADES TO ACCOMMODATE EXISTING SITE CONDITIONS, ADJUSTMENTS ARE SUBJECT TO ENGINEER APPROVAL.
11. ~~CONCRETE WALKWAY OUTSIDE OF THE DRIVEWAY CROSSING MAY BE PERVIOUS.~~
12. PROTECT ADJACENT PANELS FROM DAMAGE DUE TO UNDERMINING DURING EXCAVATION & PLACEMENT OF SUBGRADE. SEE SPEC SECTION 1-07.13.

note 12 added

REF STD SPEC SEC 8-19



SECTION A-A

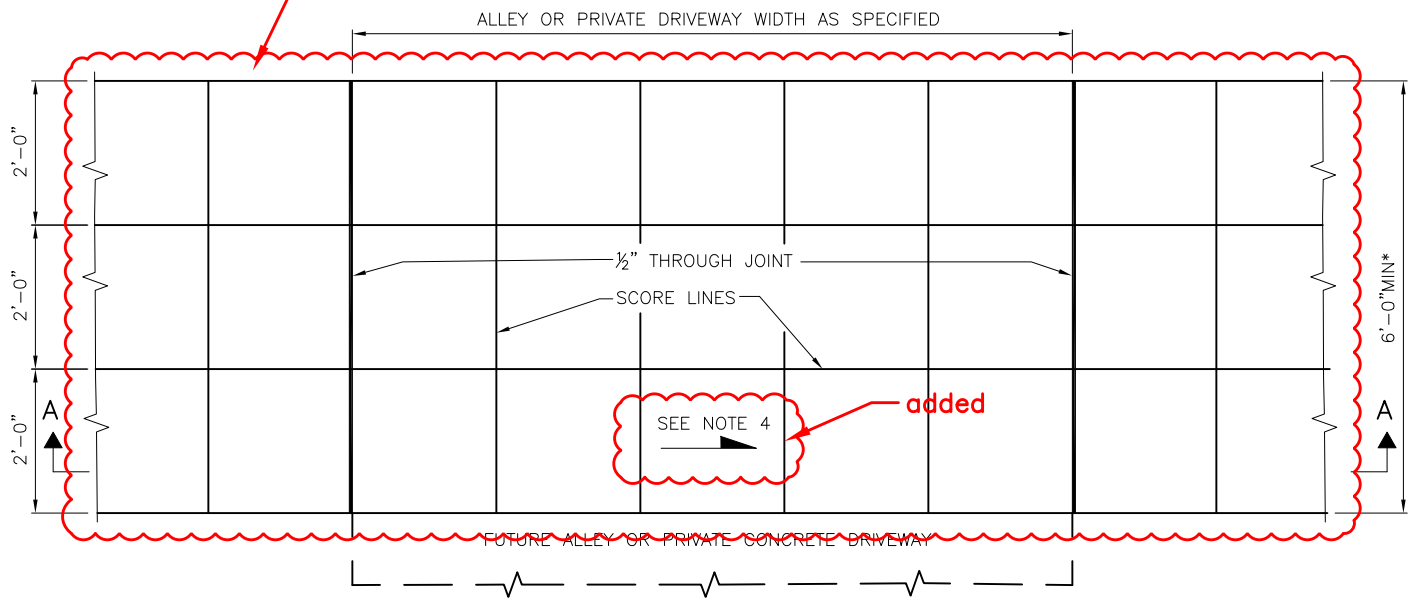


SECTION B-B

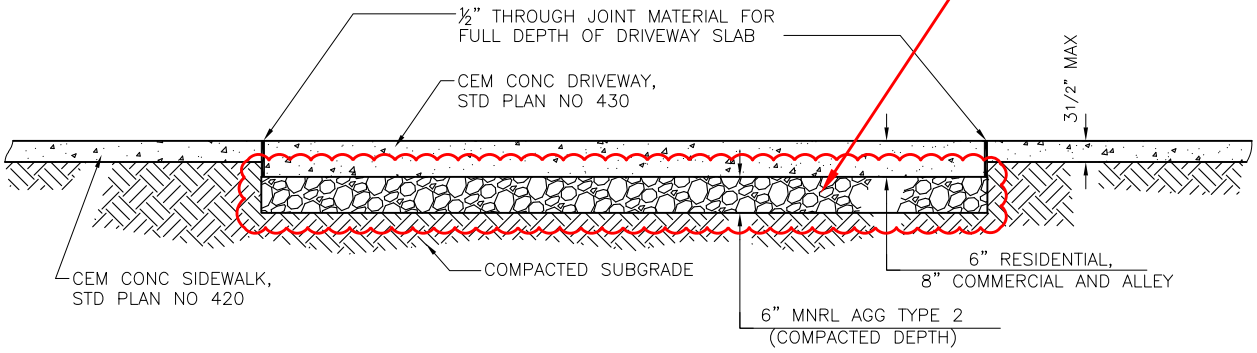
City of Seattle | NOT TO SCALE | TYPE 430A & 430B DRIVEWAYS

REV DATE: SEP 2019

score lines redrawn at 2'x2' grid



mnrl agg added



SECTION A–A

* UNLESS OTHERWISE APPROVED BY SDOT.

NOTES:

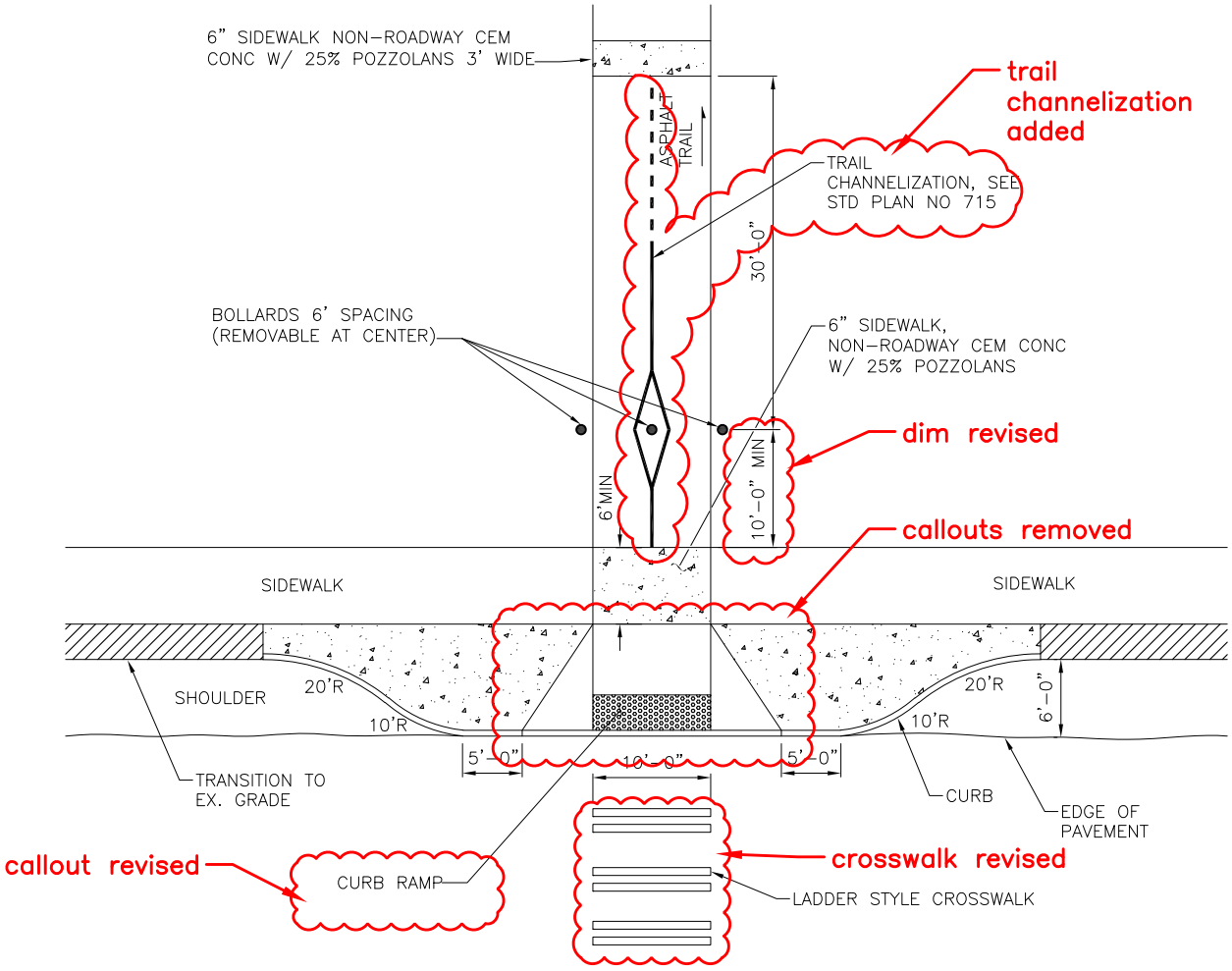
1. DRIVEWAY WIDTH GREATER THAN 15'–0" AND LESS THAN OR EQUAL TO 30' MUST HAVE TRANSVERSE CONSTRUCTION JOINTS AT IT'S CENTER.
2. DRIVEWAY GREATER THAN 30'–0" REQUIRES SDOT APPROVAL AND MUST HAVE TRANSVERSE CONTRACTION JOINTS EVENLY PLACED SO THE DISTANCE BETWEEN CONTRACTION JOINTS, OR BETWEEN THE EDGE THROUGH JOINTS AND CONTRACTION JOINTS IS NOT GREATER THAN 15'–0".
3. PROVIDE SCORE LINES PER STD PLAN NO 420 AND THE DRAWINGS.
4. THE SURFACE MUST BE BRUSHED IN THE TRANSVERSE DIRECTION IN RELATION TO THE CENTERLINE OF THE DRIVEWAY OR ALLEY WITH A FIBER HAIR BRUSH OR OTHER APPROVED BRUSH TYPE.
5. PROTECT ADJACENT PANELS FROM DAMAGE DUE TO UNDERMINING DURING EXCAVATION & PLACEMENT OF SUBGRADE. SEE SPEC SECTION 1–07.13.

notes 4 & 5 added

REF STD SPEC SEC 8-14, 8-19

City of Seattle	NOT TO SCALE	CEMENT CONCRETE DRIVEWAY PLACED WITH CEMENT CONCRETE SIDEWALK

REV DATE: DEC 2019

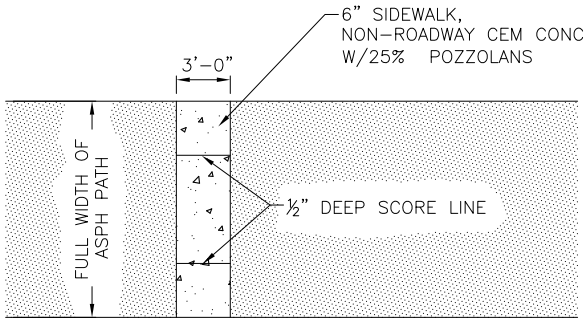


MULTI PURPOSE TRAIL AT ARTERIAL STREET W/BULB-OUT (TYP)

note 1 revised

NOTES:

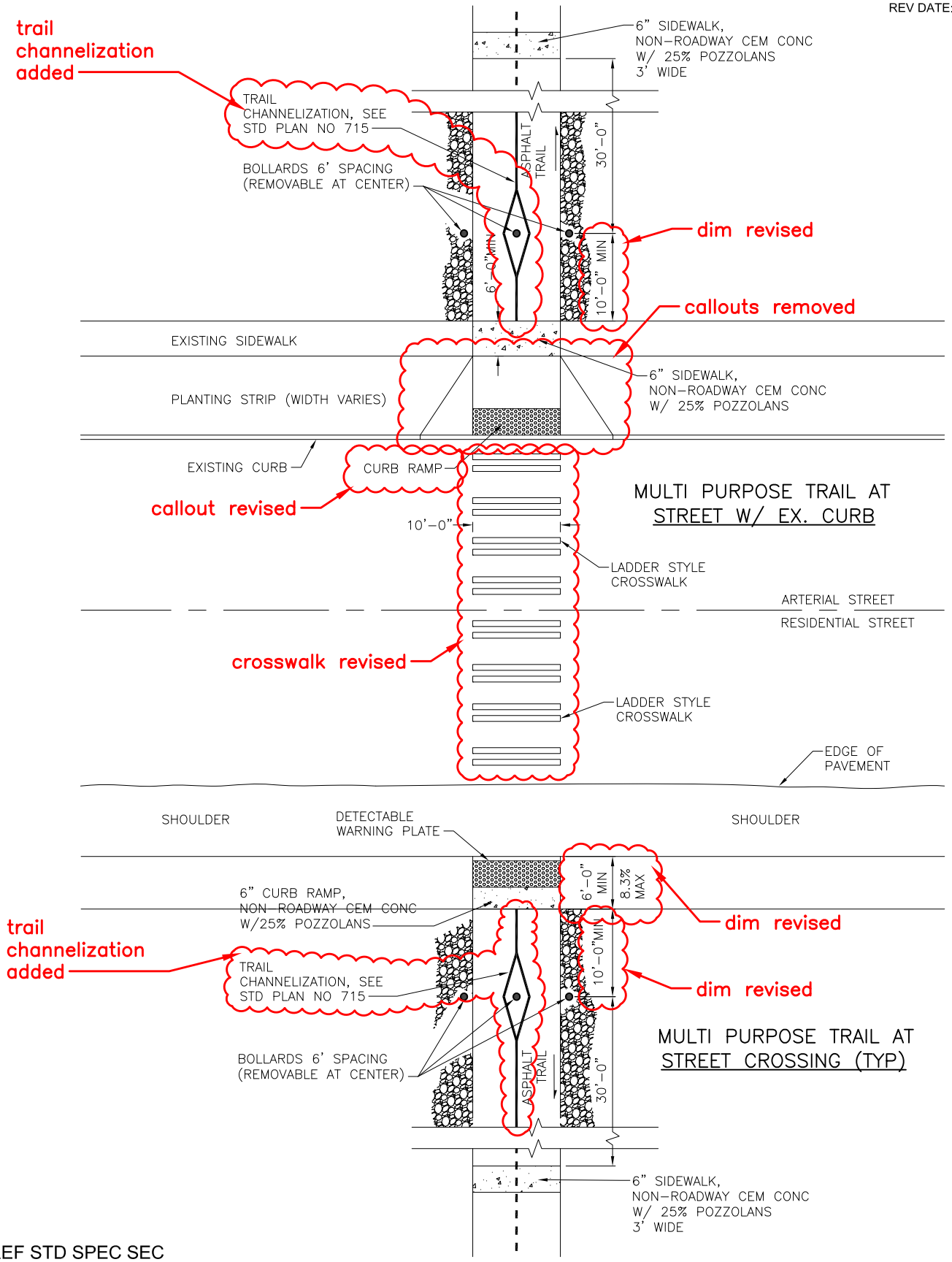
1. FOR CURB RAMP AND DETECTABLE WARNING DETAILS SEE STANDARD PLAN NO 422 (SERIES).
2. FOR CROSSWALK DETAILS SEE STANDARD PLAN NO 712.
3. FOR BOLLARD DETAIL SEE STANDARD PLAN NO 463.
4. ASPHALT TRAIL CROSS SLOPE MINIMUM 1%, MAXIMUM 2%.
5. CEMENT CONCRETE WARNING PAD THICKNESS TO MATCH ASPHALT THICKNESS OR MINIMUM 6" THICK WHICHEVER IS GREATER.
6. CRUSHED ROCK ON EDGE OF TRAIL AS NEEDED TO DISBURSE DRAINAGE FLOW.
7. ALL CHANGES IN LEVEL ACROSS JOINTS MUST BE FLUSH WITH A MAXIMUM DIFFERENCE IN ELEVATION OF $\frac{3}{16}$ INCH.
8. ALL SLOPE GRADES MUST BE MEASURED OFF THE HORIZON-LINE. IF EXISTING SITE CONDITIONS CONFLICT WITH OBTAINING GRADES SHOWN, THE CONTRACTOR MUST MAKE MINIMUM ADJUSTMENTS TO THE GRADES TO ACCOMMODATE EXISTING SITE CONDITIONS, ADJUSTMENTS ARE SUBJECT TO APPROVAL BY THE ENGINEER.
9. ALL CEMENT CONCRETE WARNING PADS MUST BE BRUSHED FINISHED AND "V" GROOVED TO MATCH PATTERN IN ADJACENT OR NEARBY SIDEWALKS.



REF STD SPEC SEC

City of Seattle	NOT TO SCALE	MULTI-PURPOSE TRAIL AT STREET CROSSING

REV DATE: DEC 2019



REF STD SPEC SEC

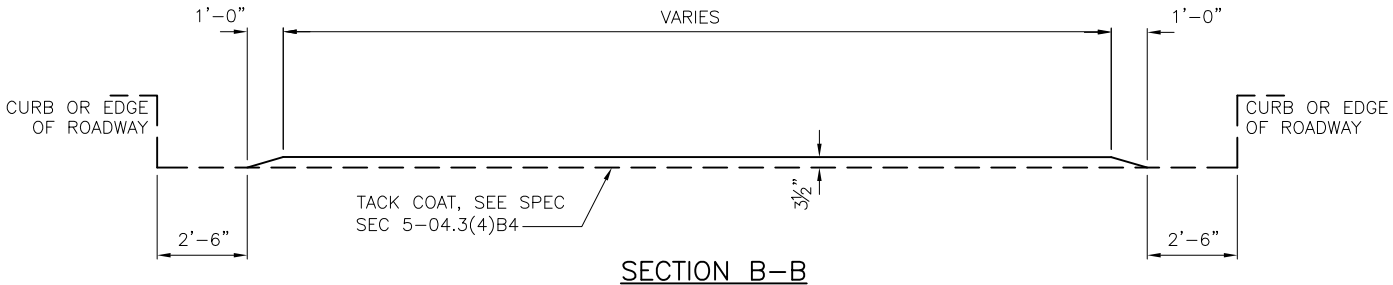
City of Seattle

NOT TO SCALE

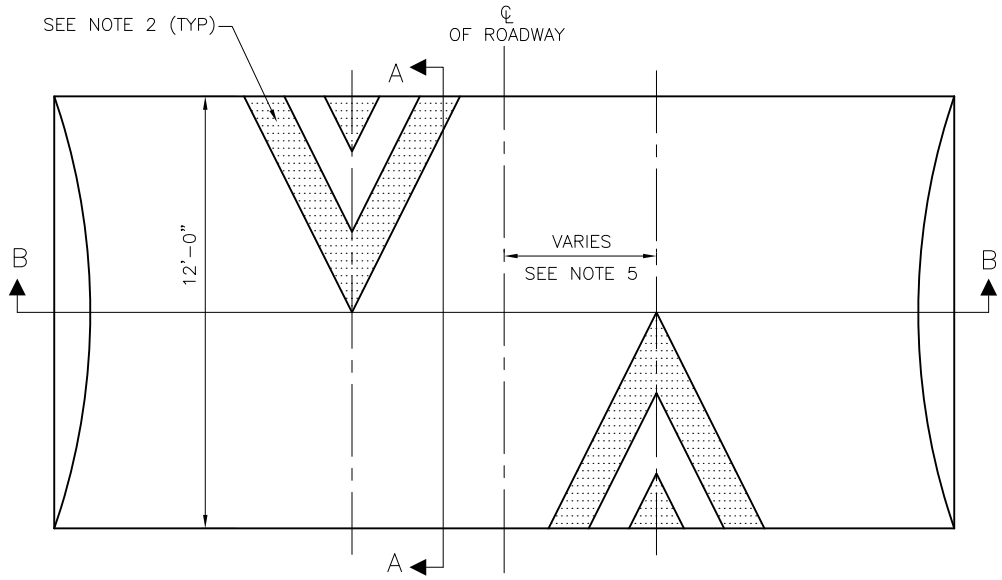
MULTI-PURPOSE TRAIL AT STREET CROSSING

REV DATE: DEC 2019

new std plan



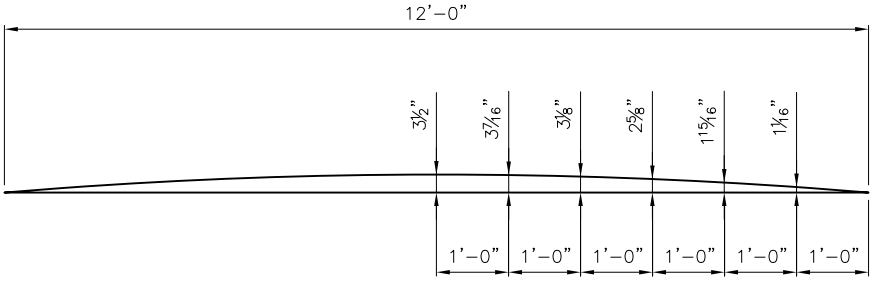
SECTION B–B
NTS



PLAN
NTS

NOTES:

1. SPEED HUMP MUST BE HMA CL ⅜"
2. CHEVRON SYMBOL PER STD PLAN NO 728A
3. TOLERANCE AT CENTER IS ½"
4. PARABOLIC SHAPE MUST BE MAINTAINED
5. CHEVRON MUST BE CENTERED IN THE TRAVEL WAY AND MISSING THE WHEEL PATH
6. SEAL ALL EDGES WHERE NEW ASPHALT MEETS EXISTING PER 5–04.3(10)B
7. SEALING MATERIALS MUST MEET 9–02.1(8)



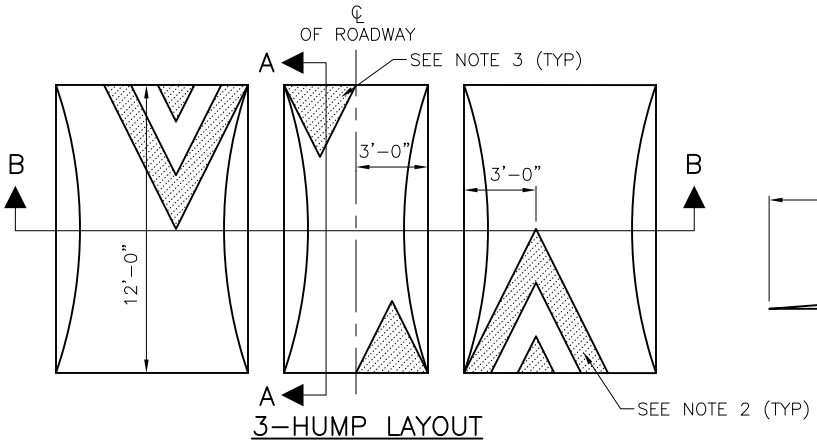
SECTION A–A
NTS

REF STD SPEC SEC 5-04

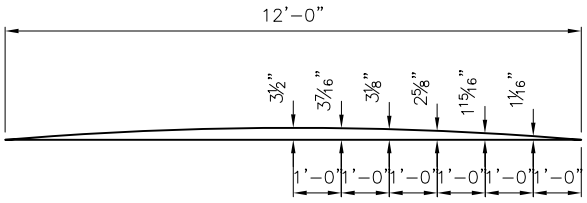
City of Seattle	NOT TO SCALE	SPEED HUMP

REV DATE: JUL 2019

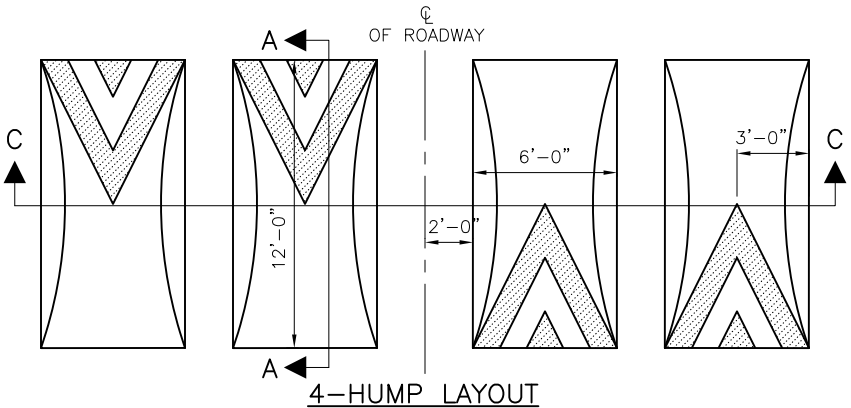
new std plan



3–HUMP LAYOUT
NTS

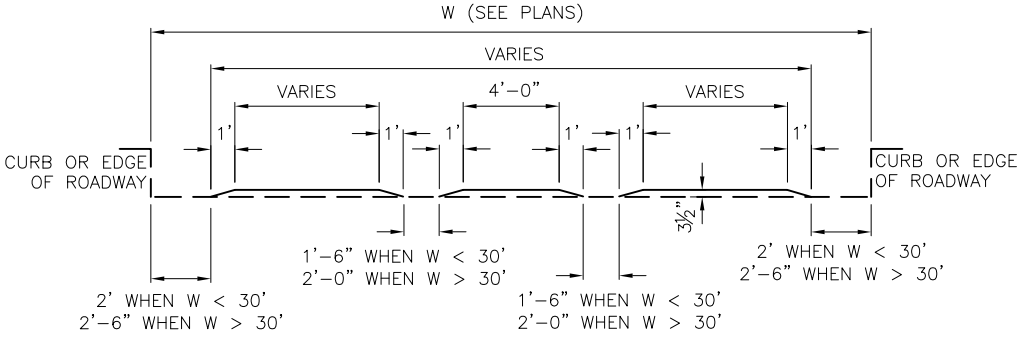


SECTION A–A
NTS

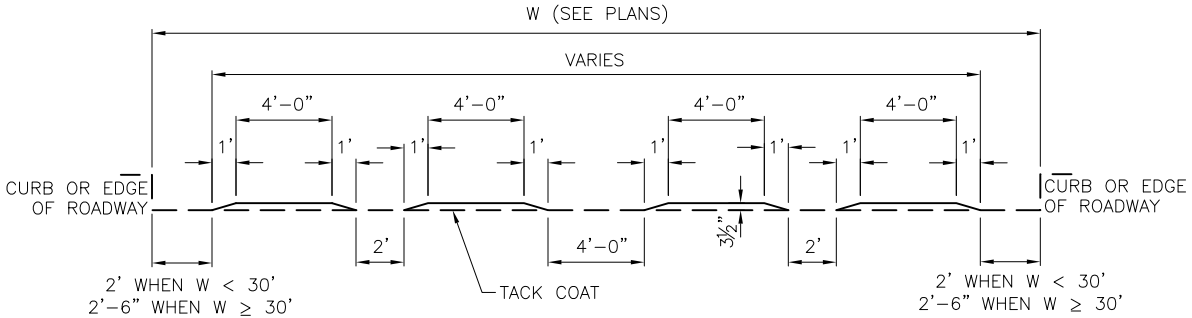


4–HUMP LAYOUT
NTS

NOTES:
1. CUSHION MUST BE HMA CL ⅜".
2. CHEVRON SYMBOL PER STD PLAN NO 728A
3. TRIANGLE SYMBOL PER STD PLAN NO 728B
4. TOLERANCE AT CENTER IS ½"
5. PARABOLIC SHAPE MUST BE MAINTAINED



SECTION B–B
NTS

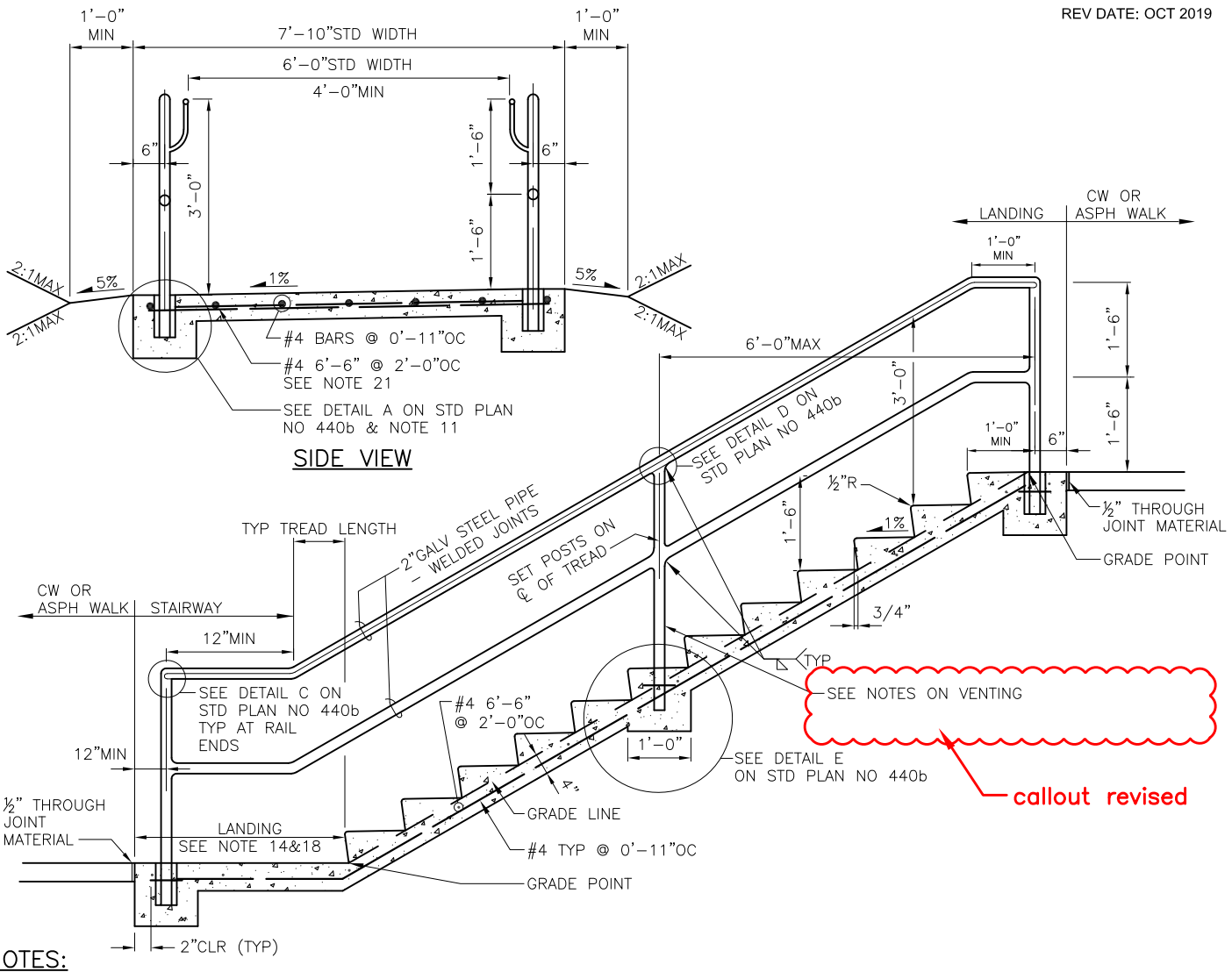


SECTION C–C
NTS

REF STD SPEC SEC 5-04

City of Seattle	NOT TO SCALE	SPEED CUSHION

REV DATE: OCT 2019



NOTES:

1. FLIGHTS OF STAIRS MUST HAVE MAX VERTICAL RISE OF 12' BEFORE A LANDING.
2. AVOID FEWER THAN 2 RISERS PER FLIGHT.
3. STEPS IN FLIGHT MUST HAVE UNIFORM TREAD RUNS AND UNIFORM RISER HEIGHTS WITH TOLERANCE OF ±3/8".
4. TREADS MUST BE 11"MIN, 12"MAX. RISERS MUST BE 5"MIN, 7"MAX.
5. LANDINGS BETWEEN FLIGHTS OF RISERS MUST HAVE SAME WIDTH AS STEPS AND A MIN LENGTH OF 4'–0".
6. STAIRWAYS WITH 1 OR MORE RISERS MUST HAVE HANDRAILS ON BOTH SIDES.
7. HANDRAILS MUST BE CONTINUOUS ACROSS LANDINGS BETWEEN FLIGHTS OF STEPS.
8. ALL STEEL MUST BE HOT DIPPED GALVANIZED.
9. PIPE MATERIAL MUST BE ASTM A53 AND ROUND BAR ASTM A36.
10. REINFORCING STEEL MUST BE ASTM A615 GR 60.
11. FOR FORMAL DRAINAGE PICK UP SEE DETAIL B ON STD PLAN NO 440b (THIS IS ORTIONAL AND MUST BE CALLED OUT ON DRAWINGS).
12. PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
13. CONCRETE CLASS CL3000.
14. LANDINGS MUST BE 0.5%MIN FOR A MIN LENGTH OF 4', ADJACENT SIDEWALK MAY BE PART OF LANDING IF SLOPE CRITERIA AND SETBACKS FROM HANDRAILS ARE MET.
15. TREAD SURFACE MUST HAVE GROOVES AT THE NOSE FOR TRACTION.
16. IF LANDING IS ELEVATED, LANDING MUST HAVE VERTICAL RAILING PER RIGHT OF WAY IMPROVEMENT MANUAL.
17. STAIRWAYS DEVIATING FROM STANDARD PLAN TO ACCOMMODATE BICYCLE FEATURES MAY BE USED PER STD PLAN NO 440C OR 440D.
18. DIMENSION FROM THE BOTTOM LANDING RAILING TO THE NOSE OF THE TREAD MUST BE 12"MIN AT 1 TREAD LENGTH.
19. HANDRAIL GRIPPING SURFACE AND ADJACENT SURFACES MUST BE FREE FROM SHARP OR ABRASIVE ELEMENTS AND MUST HAVE ROUNDED EDGES.
20. BOTTOM HANDRAIL EXTENSION MUST EXTEND ONE TREAD LENGTH MINIMUM PARALLEL TO THE SLOPE OF THE STAIR BEYOND BOTTOM STAIR NOSING.
21. TOP HANDRAIL EXTENSION MUST EXTEND HORIZONTALLY ABOVE LANDING 12" MINIMUM BEYOND TOP STAIR NOSING.
22. REBAR SIZING AND SPACING MAY CHANGE FOR WIDER OR NARROWER STAIRWAYS.
23. EXTERNAL VENT HOLES MUST BE AS CLOSE TO THE WELD AS POSSIBLE AND MUST BE 25% THE SIZE OF THE I.D. OF THE PIPE, BUT NOT LESS THAN ⅜" IN DIA.
24. VENT HOLES IN END SECTIONS OR IN SIMILAR SECTIONS MUST BE ½" IN DIA.
25. ENDS MUST BE LEFT COMPLETELY OPEN. ANY DEVICE USED FOR FIELD–ERECTION THAT PREVENTS FULL OPENINGS ON ENDS OF HORIZONTAL RAILS AND VERTICAL LEGS MUST BE GALVANIZED SEPARATELY AND ATTACHED AFTER GALVANIZING.

notes 6, 9 & 12 revised

note 19 added

notes 22–25 added

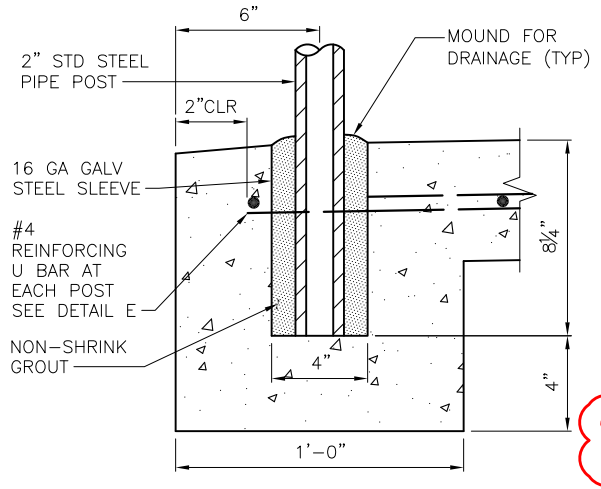
REF STD SPEC SEC 8-18

City of Seattle

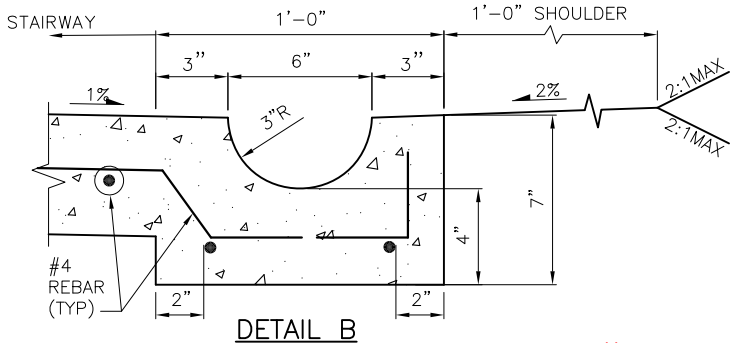
NOT TO SCALE

CEMENT CONCRETE STAIRWAY & HANDRAIL

REV DATE: DEC 2019



DETAIL A

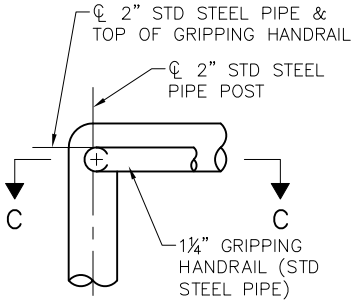


DETAIL B

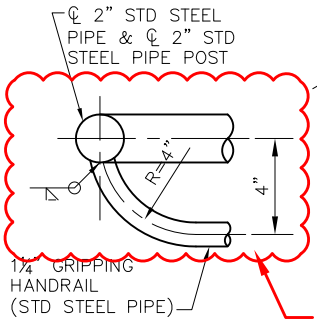
SEE NOTE 11 ON STD PLAN NO 440a

ø symbol removed from callouts

section revised

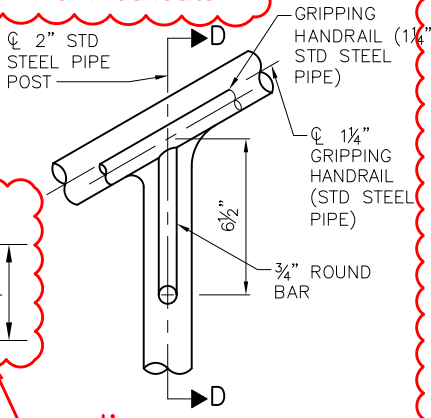


DETAIL C
HAND GRIP TERMINATION

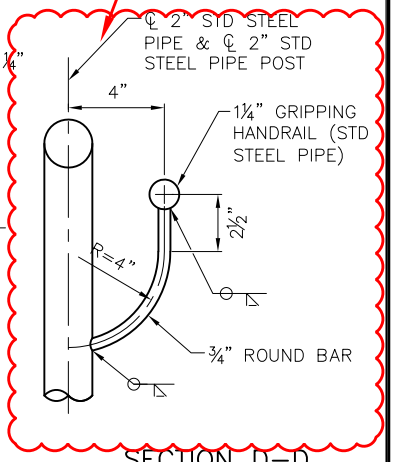


SECTION C-C

section revised



DETAIL D



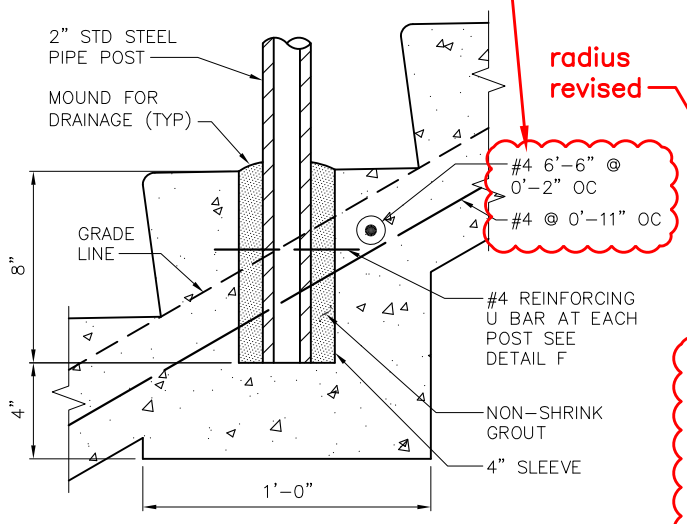
SECTION D-D

note added

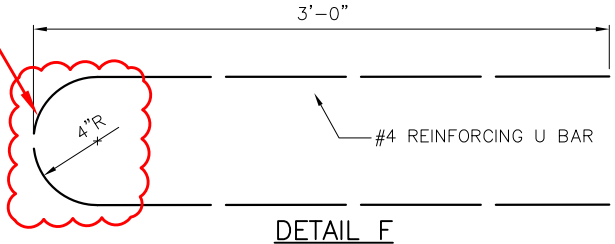
NOTE:
PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

callouts revised

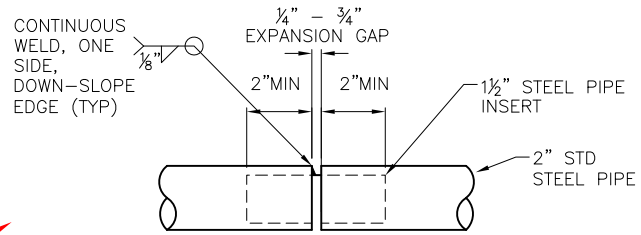
radius revised



DETAIL E



DETAIL F



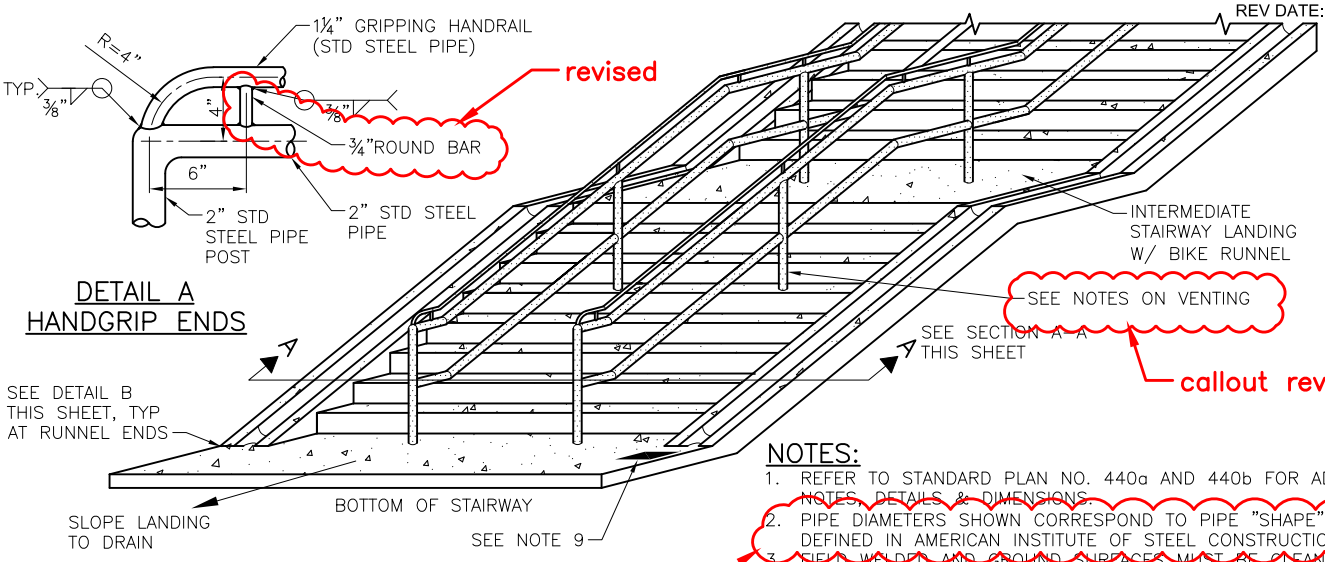
DETAIL G
SLIP JOINT

new detail

REF STD SPEC SEC 8-18

City of Seattle | NOT TO SCALE | CEMENT CONCRETE STAIRWAY & HANDRAIL

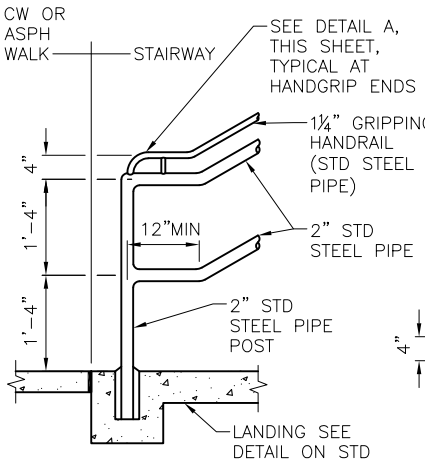
REV DATE: JAN 2019

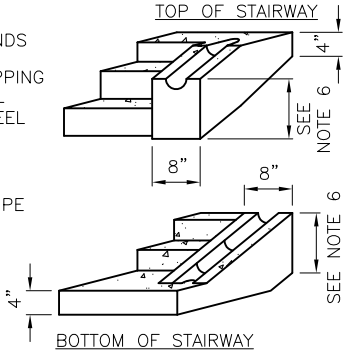


revised

callout revised

DETAIL A HANDGRIP ENDS





DETAIL B BIKE RUNNEL ENDS

note 2 added

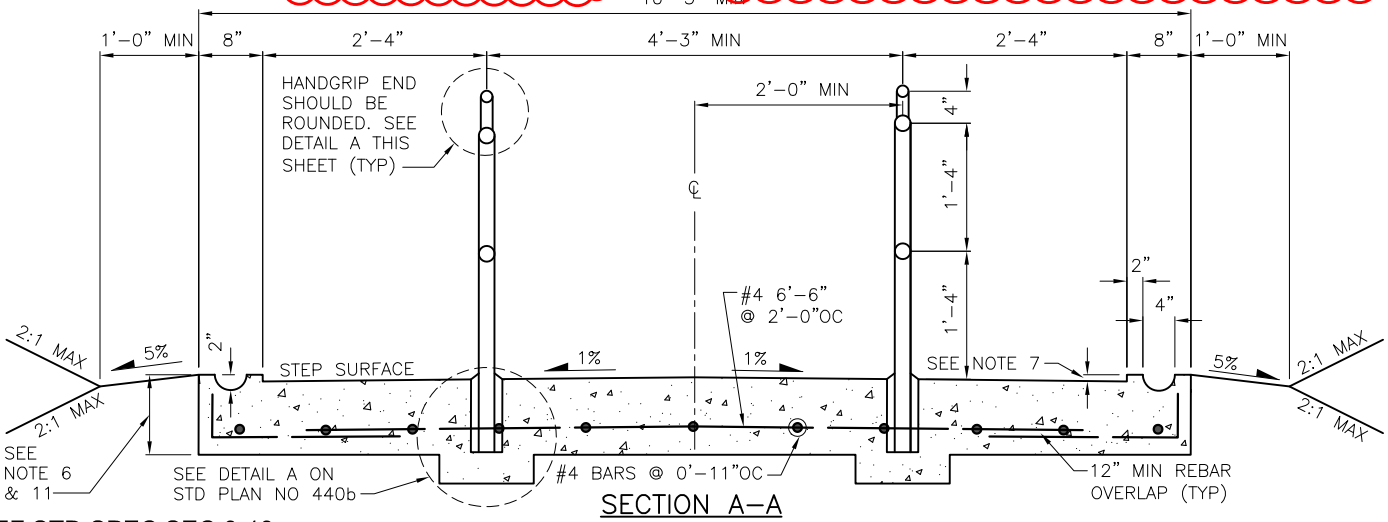
NOTES:

1. REFER TO STANDARD PLAN NO. 440a AND 440b FOR ADDITIONAL NOTES, DETAILS & DIMENSIONS.
2. PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL
3. FIELD WELDED AND GROUND SURFACES MUST BE CLEANED AND COATED WITH ZINC SPRAY TO A MIN. OF 3 MILS, DRY PAINT THICKNESS.
4. DIMENSIONS SHOWN ON ONE SIDE OF THE SECTION VIEW ARE TYPICAL TO THE OTHER SIDE, UNLESS NOTED OTHERWISE.
5. DISTANCE BETWEEN HANDGRIP SUPPORTS MUST NOT EXCEED 6'-0".
6. BIKE RUNNEL SLAB THICKNESS VARIES WITH STEP RISER HEIGHT. MIN. 10.5", MAX. 12.5"
7. RUNNEL LIP HEIGHT 1.5" ABOVE STEP NOSING AND LANDING.
8. INTERMEDIATE STAIR LANDINGS THAT INTERSECT OTHER STAIRS OR WALKS MUST BE AT LEAST 6' LONG TO ALLOW FOR A MIN. 4' OF CLEAR AREA WITHOUT RUNNEL & RAIL.
9. STAMP CONCRETE AT TOP AND BOTTOM OF RUNNEL. SEE CONCRETE STAMP DETAIL STD PLAN NO 440d.
10. LONG STAIRWAYS OR STAIRWAYS WITH SIGHT OBSTRUCTIONS TO CYCLISTS MUST HAVE SIDEWALK BREAKS TO ALLOW ONCOMING CYCLISTS PASSAGE. LOCATIONS OF SIDEWALK BREAKS TO BE DETERMINED BY ENGINEER.
11. ANY CONSTRUCTION OUTSIDE OF RUNNEL MUST ALLOW ENOUGH CLEARANCE FOR BIKE PEDALS AND HANDLEBARS FROM INTERFERING WITH MOVEMENT.
12. EXTERNAL VENT HOLES MUST BE AS CLOSE TO THE WELD AS POSSIBLE AND MUST BE 25% THE SIZE OF THE I.D. OF THE PIPE, BUT NOT LESS THAN ⅜" IN DIA.
13. VENT HOLES IN END SECTIONS OR IN SIMILAR SECTIONS MUST BE ½" IN DIA.
14. ENDS MUST BE LEFT COMPLETELY OPEN. ANY DEVICE USED FOR FIELD-ERECTION THAT PREVENTS FULL OPENINGS ON ENDS OF HORIZONTAL RAILS AND VERTICAL LEGS MUST BE GALVANIZED SEPARATELY AND ATTACHED AFTER GALVANIZING.

notes 12-14 added

RAIL ENDS DETAIL

ø symbol removed from callouts

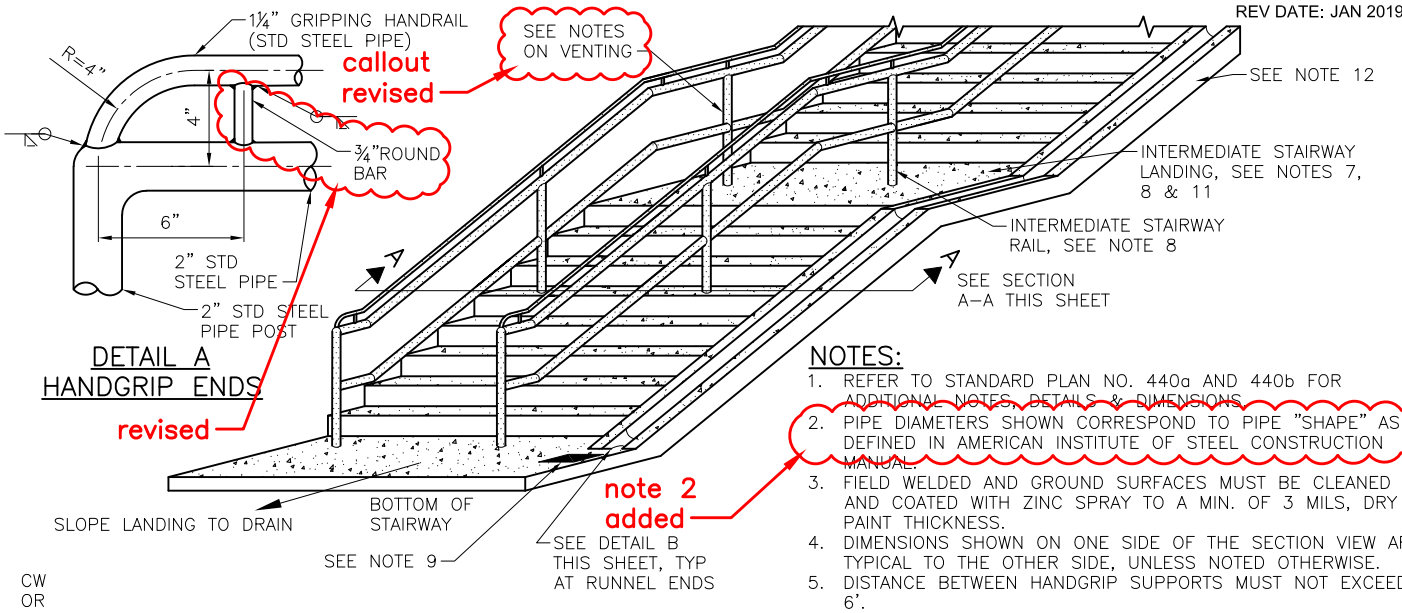


SECTION A-A

REF STD SPEC SEC 8-18

City of Seattle | NOT TO SCALE | CEMENT CONCRETE STAIRWAY & BIKE RUNNEL

REV DATE: JAN 2019



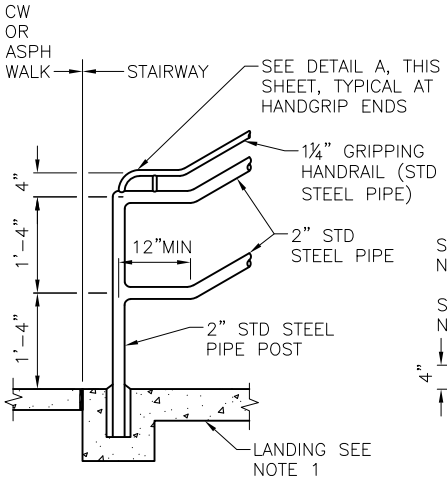
DETAIL A
HANDGRIP ENDS

revised

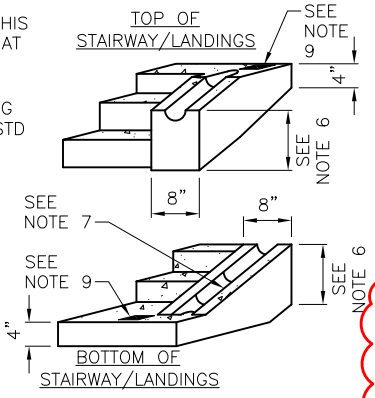
note 2 added

NOTES:

1. REFER TO STANDARD PLAN NO. 440a AND 440b FOR ADDITIONAL NOTES, DETAILS & DIMENSIONS.
2. PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
3. FIELD WELDED AND GROUND SURFACES MUST BE CLEANED AND COATED WITH ZINC SPRAY TO A MIN. OF 3 MILS, DRY PAINT THICKNESS.
4. DIMENSIONS SHOWN ON ONE SIDE OF THE SECTION VIEW ARE TYPICAL TO THE OTHER SIDE, UNLESS NOTED OTHERWISE.
5. DISTANCE BETWEEN HANDGRIP SUPPORTS MUST NOT EXCEED 6'.
6. BIKE RUNNEL SLAB THICKNESS VARIES WITH STEP RISER HEIGHT. MIN. 10.5", MAX. 12.5"
7. RUNNEL LIP HEIGHT 1.5" ABOVE STEP NOSING AND LANDING.
8. LANDINGS THAT INTERSECT OTHER STAIRS OR WALKS MUST BE AT LEAST 6' LONG TO ALLOW FOR A MIN. 4' OF CLEAR AREA WITHOUT RUNNEL & RAIL.
9. STAMP CONCRETE AT TOP AND BOTTOM OF RUNNEL. SEE CONCRETE STAMP DETAIL.
10. RUNNEL LOCATION MUST BE ON EITHER SIDE OF STAIRWAY AS DETERMINED BY ENGINEER.
11. LONG STAIRWAYS OR STAIRWAYS WITH SIGHT OBSTRUCTIONS TO CYCLISTS MUST HAVE SIDEWALK BREAKS TO ALLOW ONCOMING CYCLISTS PASSAGE. LOCATIONS OF SIDEWALK BREAKS TO BE DETERMINED BY ENGINEER.
12. ANY CONSTRUCTION OUTSIDE OF RUNNEL MUST ALLOW ENOUGH CLEARANCE FOR BIKE PEDALS AND HANDLEBARS FROM INTERFERING WITH MOVEMENT.
13. EXTERNAL VENT HOLES MUST BE AS CLOSE TO THE WELD AS POSSIBLE AND MUST BE 25% THE SIZE OF THE I.D. OF THE PIPE, BUT NOT LESS THAN ⅜" IN DIA.
14. VENT HOLES IN END SECTIONS OR IN SIMILAR SECTIONS MUST BE ½" IN DIA.
15. ENDS MUST BE LEFT COMPLETELY OPEN. ANY DEVICE USED FOR FIELD–ERECTION THAT PREVENTS FULL OPENINGS ON ENDS OF HORIZONTAL RAILS AND VERTICAL LEGS MUST BE GALVANIZED SEPARATELY AND ATTACHED AFTER GALVANIZING.

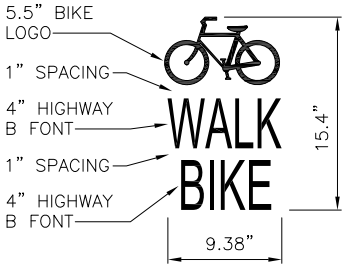


RAIL ENDS DETAIL

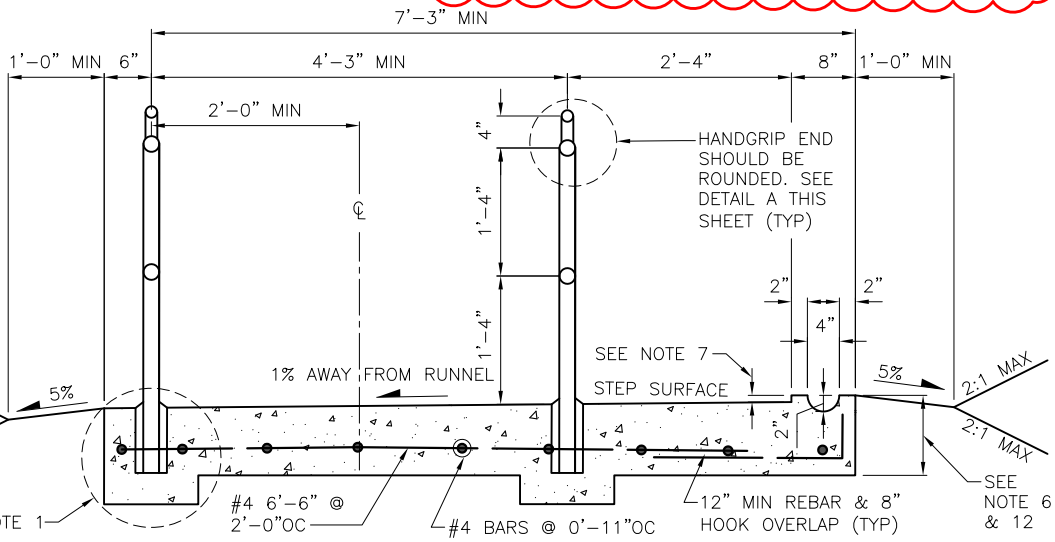


DETAIL B
BIKE RUNNEL ENDS

notes 12–15 added



CONCRETE
STAMP DETAIL



ø symbol removed from callouts

SECTION A–A

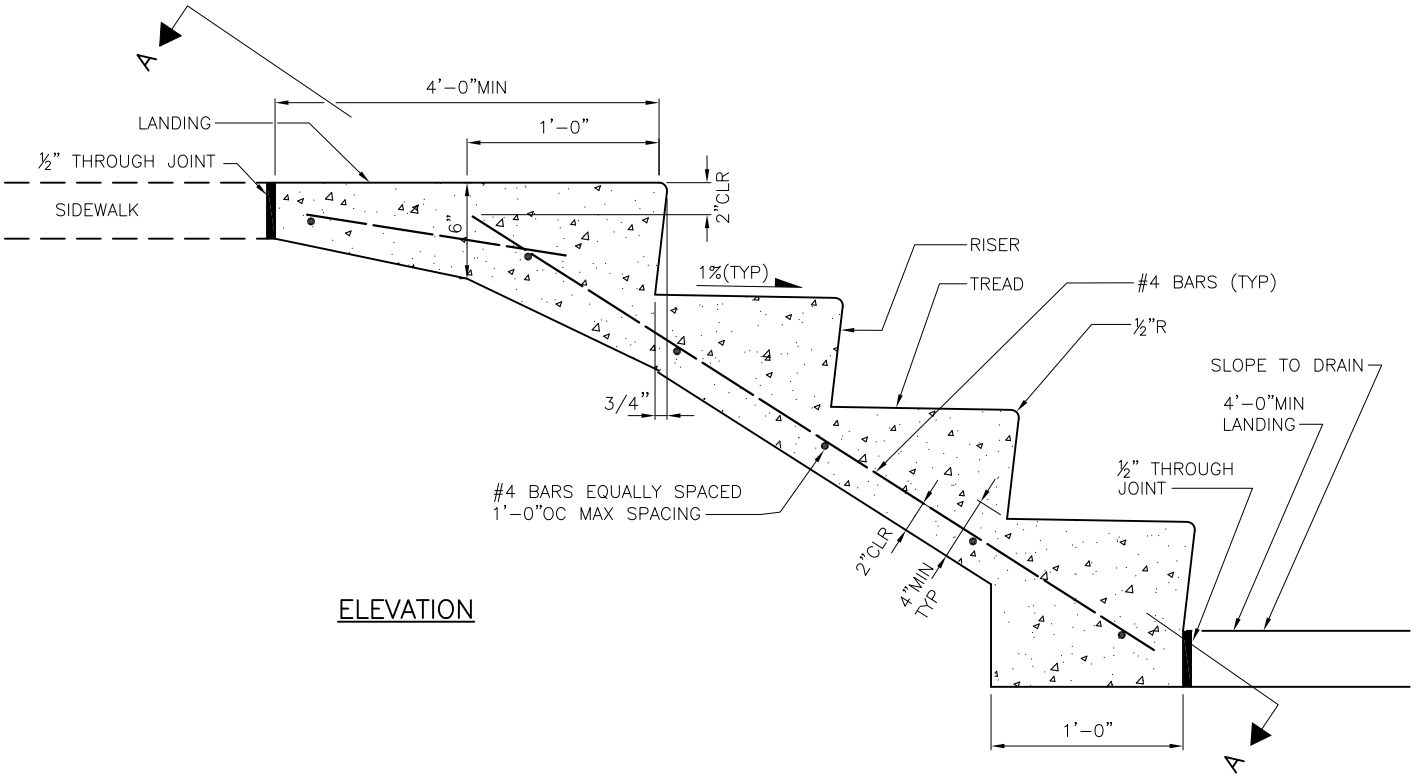
REF STD SPEC SEC 8-18

City of Seattle

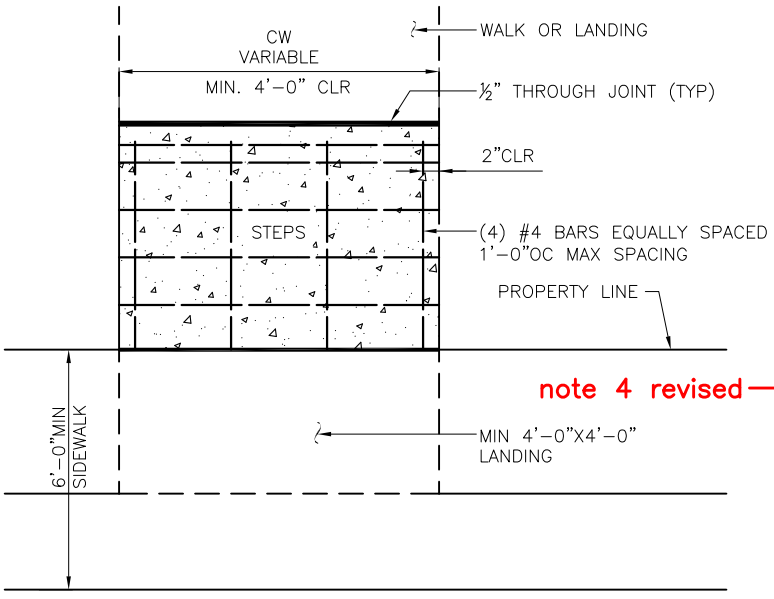
NOT TO SCALE

CEMENT CONCRETE STAIRWAY & SINGLE BIKE RUNNEL

REV DATE: OCT 2019



ELEVATION



SECTION A–A

NOTES:

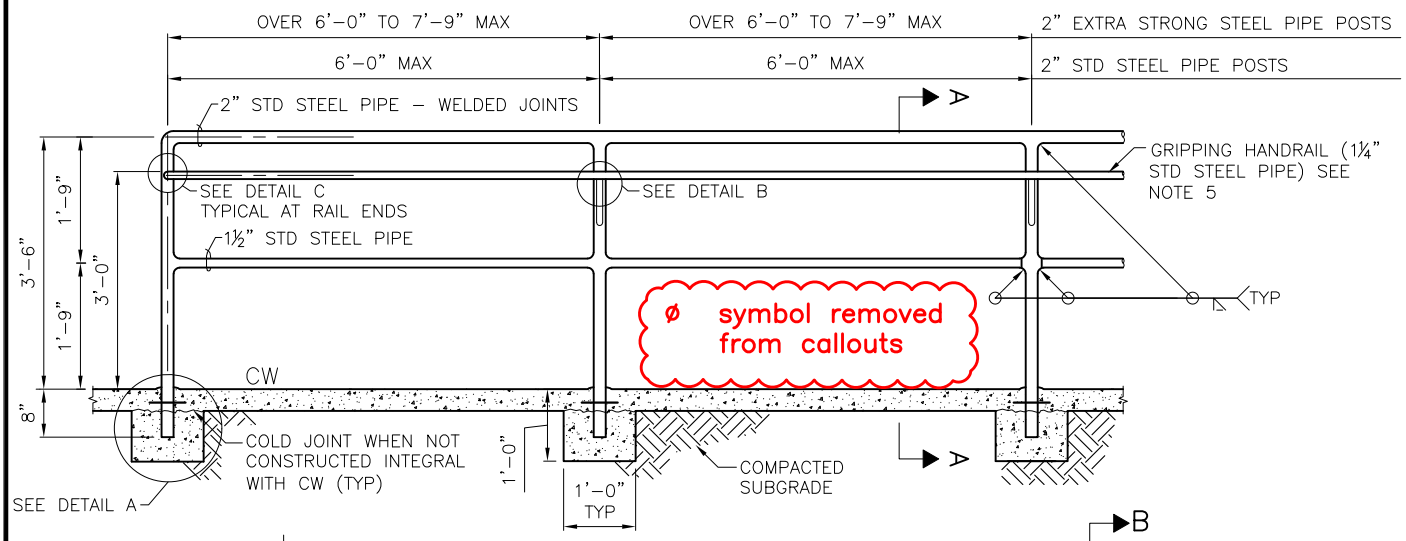
1. CEMENT CONCRETE MUST BE CL 3000 TROWEL FINISH
2. NUMBER OF STEPS MUST SUIT INDIVIDUAL CONDITIONS WITH UNIFORM TREAD AND RISER DIMENSIONS AS FOLLOWS:
   TREADS MUST BE 11"MIN – 1'–0"MAX
   RISERS MUST BE 5"MIN – 7"MAX
3. STEP WIDTH MUST MATCH WIDTH OF EXISTING WALK, BUT MUST BE NO LESS THAN 2'–6"WIDE
4. STAIRWAYS WITH 1 OR MORE RISERS MUST INCLUDE A HANDRAIL ON BOTH SIDES. SEE STD PLAN NO 440
5. REINFORCING STEEL ASTM A 615 GR60
6. TREAD SLOPES OUTWARD @1%

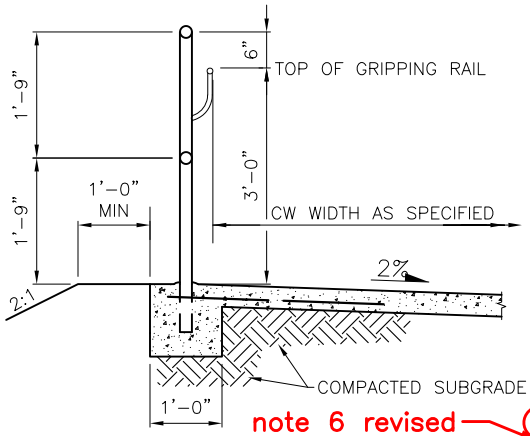
note 4 revised

REF STD SPEC SEC 8-18

City of Seattle	NOT TO SCALE	CEMENT CONCRETE STEPS

REV DATE: JAN 2019



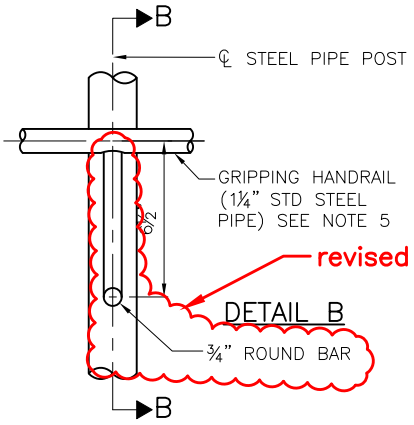


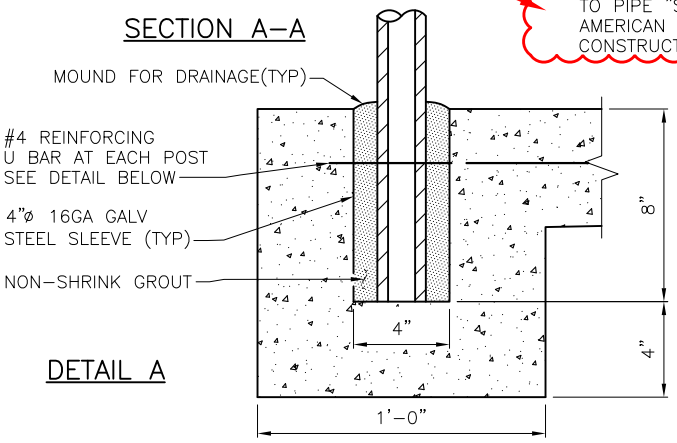
SECTION A–A

NOTES:

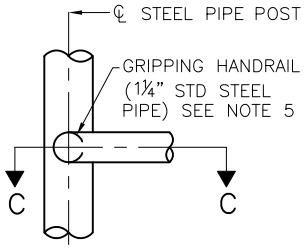
1. RAILING MUST BE HOT DIP GALVANIZED AFTER FABRICATION.
2. ALL POSTS MUST BE PLUMB AND RAILS PARALLEL TO THE GROUND.
3. PIPE MATERIAL MUST CONFORM TO ASTM A 53.
4. REINFORCING STEEL ASTM A 706 GR 60.
5. IF THE CONCRETE WALK SLOPE IS 5% OR GREATER A GRIPPING HANDRAIL IS REQUIRED. GRIPPING HANDRAILS ON RAMPS (SLOPE EXCEEDS 5%) MUST EXTEND HORIZONTALLY A MINIMUM OF 12" BEYOND TOP AND BOTTOM OF RAMP RUNS.
6. PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

note 6 revised



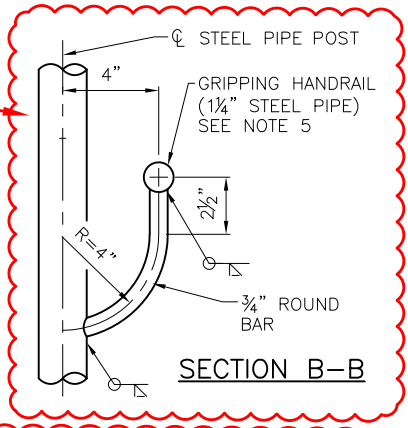


DETAIL A

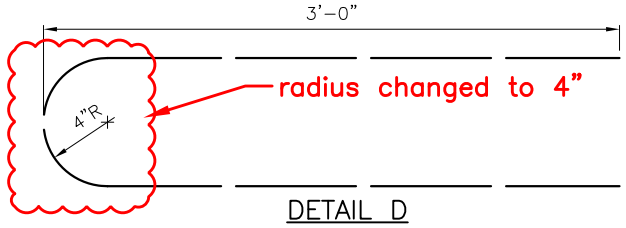


DETAIL C

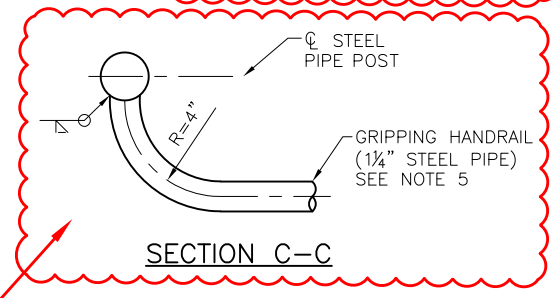
section revised



SECTION B–B



DETAIL D



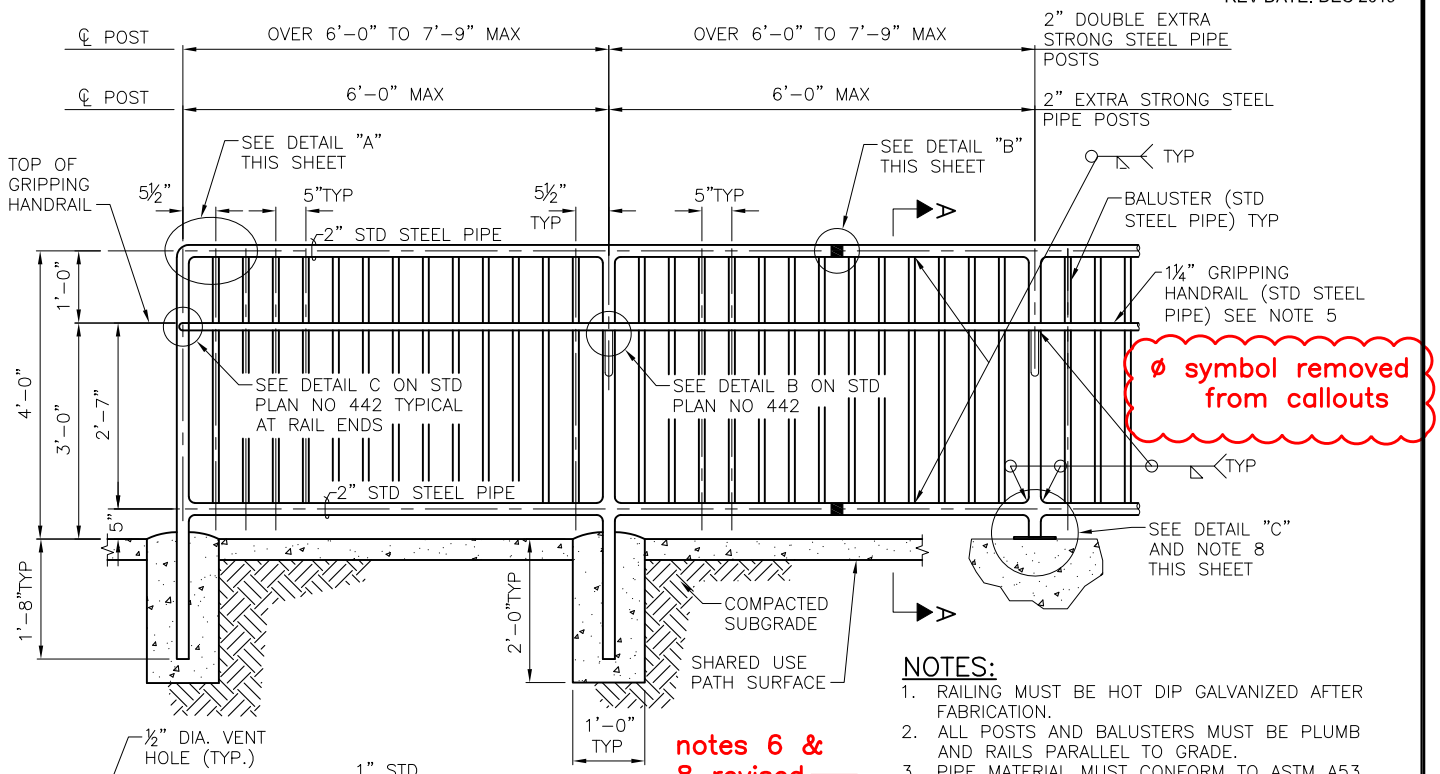
SECTION C–C

section revised

REF STD SPEC SEC 8-14, 8-18

City of Seattle	NOT TO SCALE	STEEL PIPE HANDRAIL

REV DATE: DEC 2019

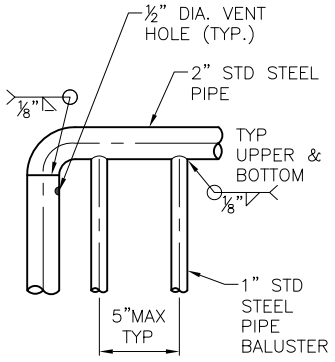


ø symbol removed from callouts

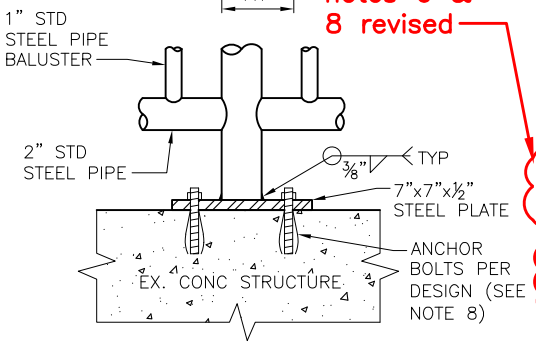
NOTES:

1. RAILING MUST BE HOT DIP GALVANIZED AFTER FABRICATION.
2. ALL POSTS AND BALUSTERS MUST BE PLUMB AND RAILS PARALLEL TO GRADE.
3. PIPE MATERIAL MUST CONFORM TO ASTM A53.
4. REINFORCING STEEL ASTM A706 GR 60.
5. IF THE CONCRETE WALK SLOPE IS 5% OR GREATER A GRIPPING HANDRAIL IS REQUIRED. GRIPPING HANDRAILS ON RAMPS (SLOPE EXCEEDS 5%) MUST EXTEND HORIZONTALLY A MINIMUM OF 12" BEYOND TOP AND BOTTOM OF RAMP RUNS.
6. PIPE DIAMETERS SHOWN CORRESPOND TO PIPE "SHAPE" AS DEFINED IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
7. PLACE EXPANSION GAP AT EVERY OTHER PANEL.
8. "DETAIL C" IS FOR EXISTING CONCRETE STRUCTURE CONNECTION ONLY. ANCHOR BOLTS MUST BE DESIGNED PER AASHTO CODE.

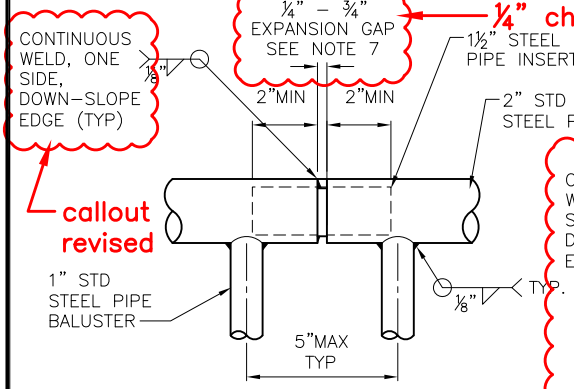
notes 6 & 8 revised



DETAIL A
RAIL ENDS

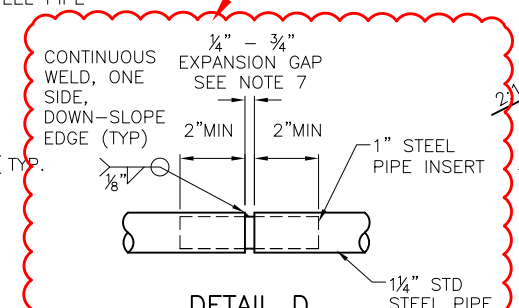


DETAIL C
EXISTING CONC. STRUCTURE CONNECTION

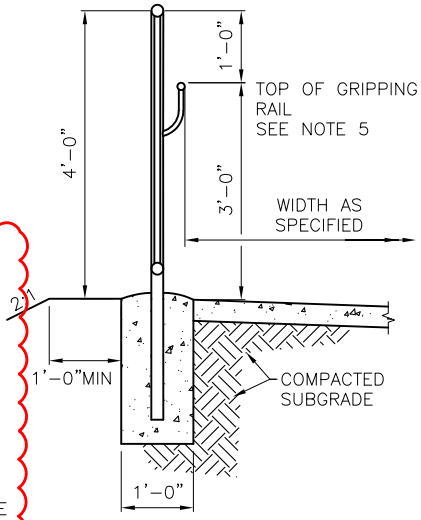


DETAIL B
SLIP JOINT

detail added



DETAIL D
HANDRAIL SLIP JOINT



SECTION A–A

REF STD SPEC SEC 8-18

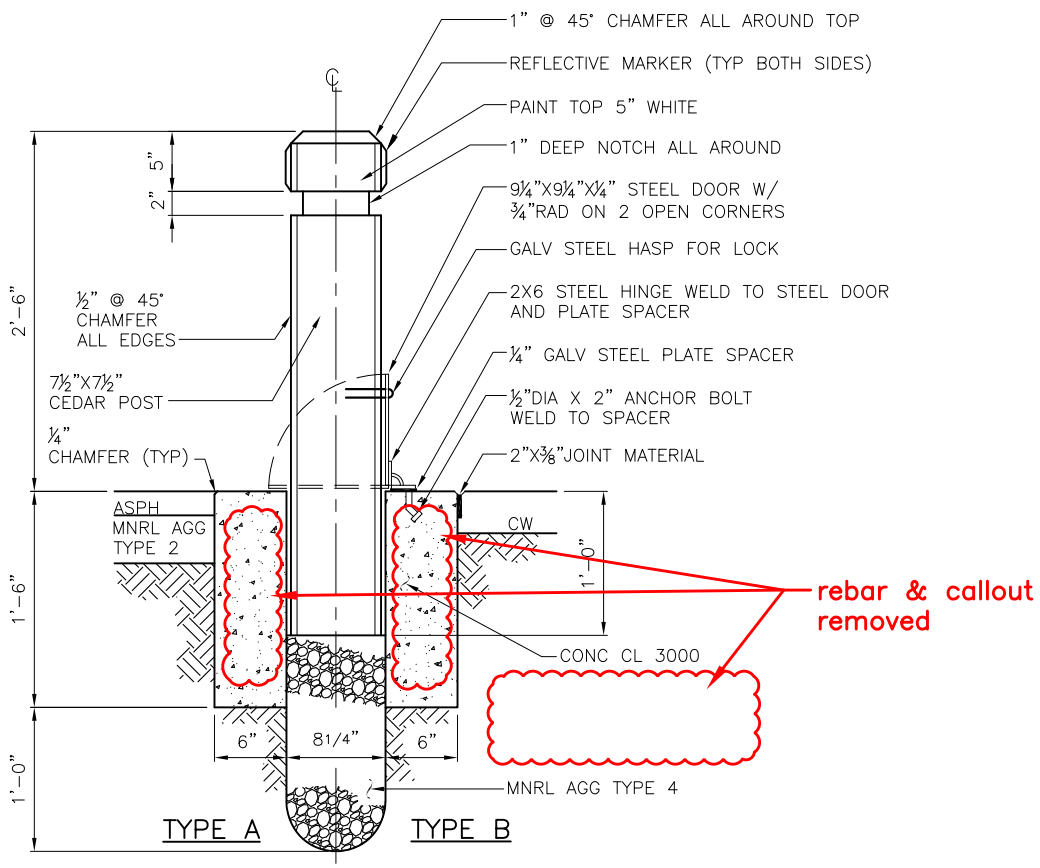
City of Seattle

NOT TO SCALE

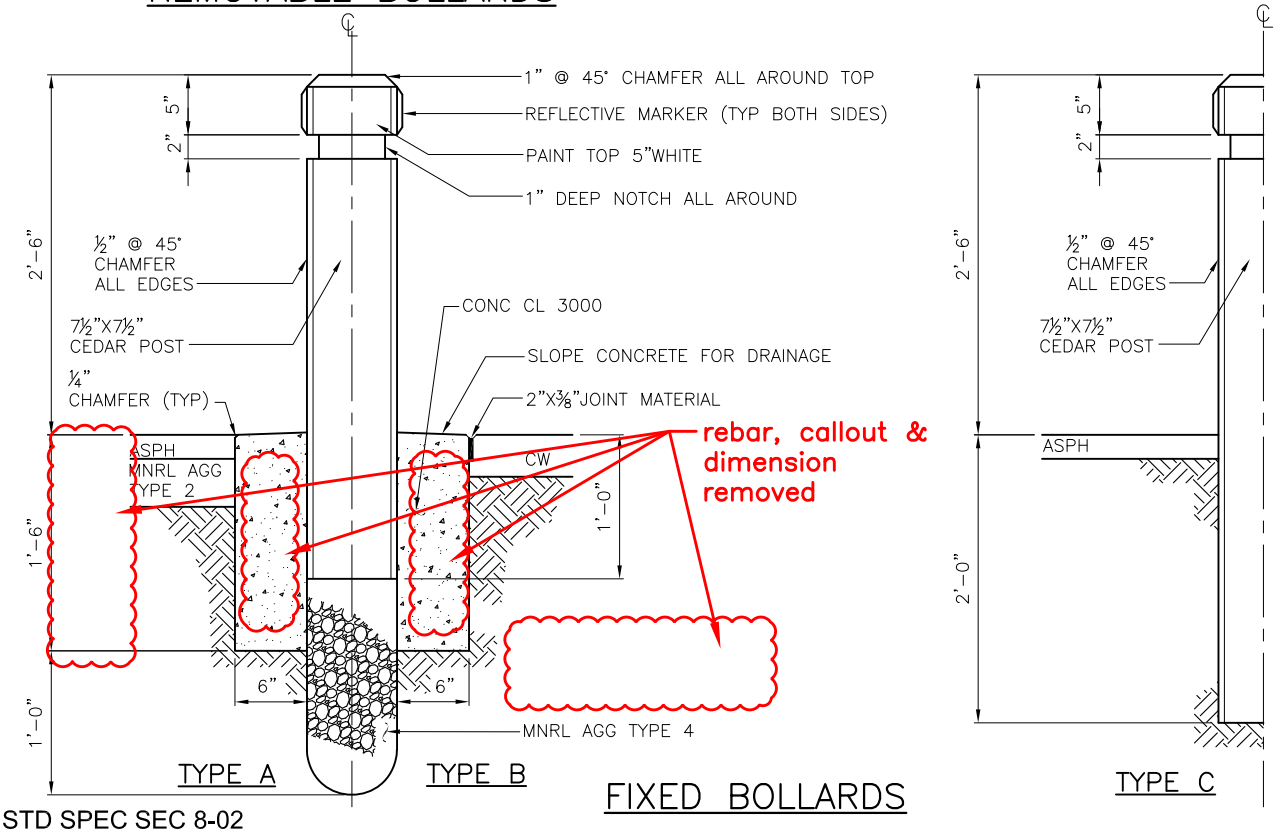
title revised

PEDESTRIAN RAILING

REV DATE: APR 2019



REMOVABLE BOLLARDS



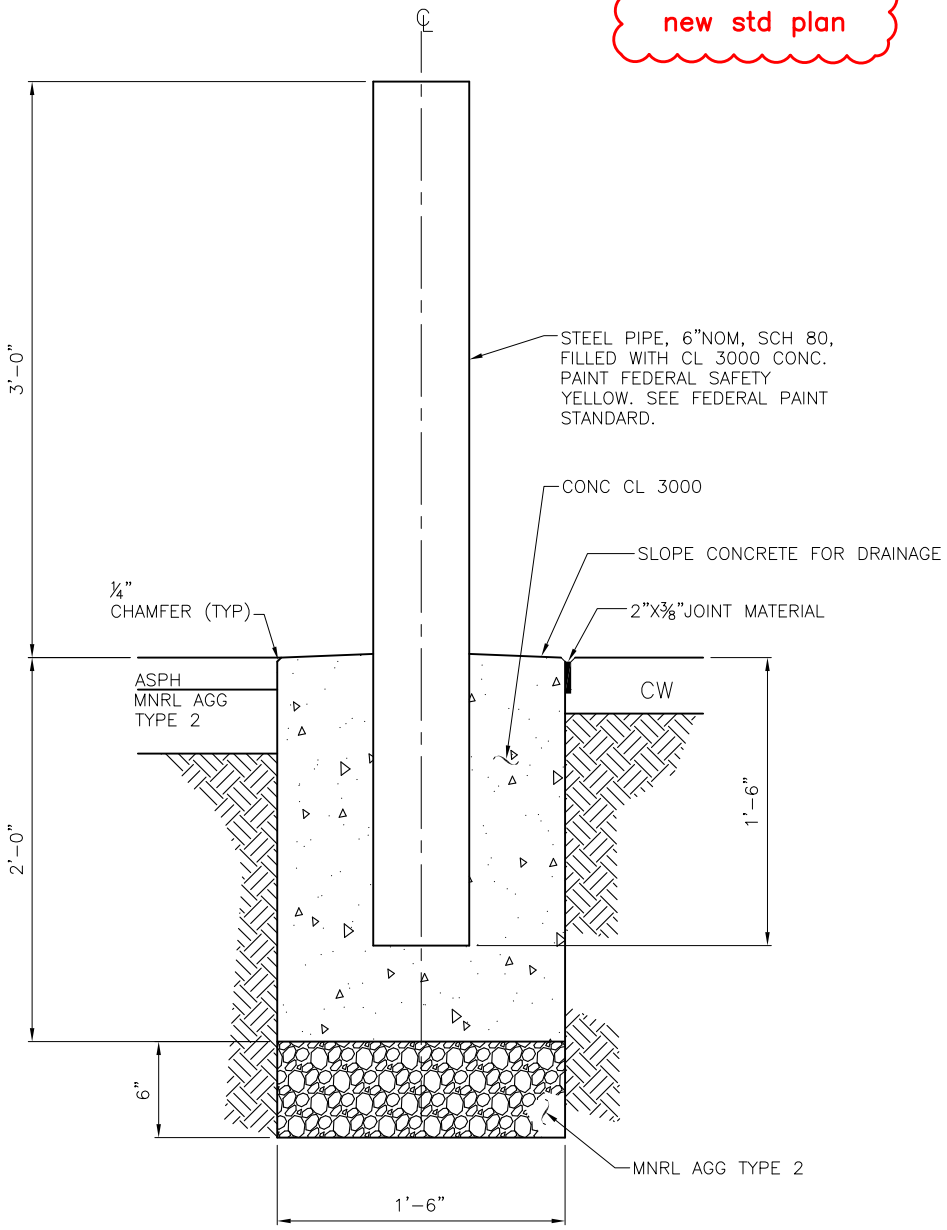
FIXED BOLLARDS

REF STD SPEC SEC 8-02

City of Seattle	NOT TO SCALE	FIXED & REMOVABLE WOOD BOLLARD

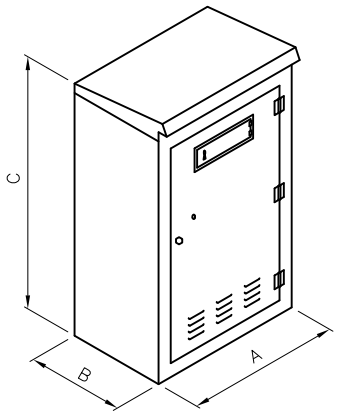
REV DATE: JUN 2019

new std plan



REF STD SPEC SEC 8-02

City of Seattle	NOT TO SCALE	FIXED STEEL BOLLARD



NOTES:

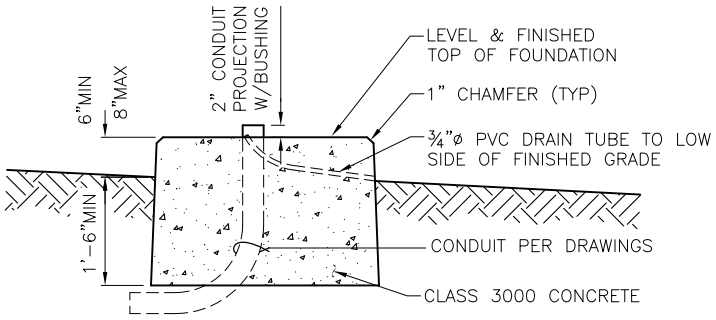
1. UNLESS OTHERWISE SPECIFIED, TRAFFIC SIGNAL CONTROLLER CABINET MUST BE FURNISHED BY THE CITY
2. UNLESS OTHERWISE SPECIFIED, EXACT CABINET DIMENSIONS & ANCHOR BOLT LOCATIONS MUST BE PROVIDED BY THE TRAFFIC SIGNAL SHOP
3. PLACE CABINET DOOR ON SIDEWALK SIDE OF FOUNDATION
4. SEAL CABINET TO FOUNDATION WITH GREY OR CLEAR SILICONE TO PREVENT MOISTURE FROM ENTERING THE CABINET
5. CABINET FOUNDATIONS INSTALLED IN A LANDSCAPE AREA MUST INCLUDE A CONCRETE SIDEWALK MAINTENANCE PAD ON THE SDOT DOOR SIDE OF THE FOUNDATION, SEE STD SPEC SEC 8-32.3(2)B

note 5 added

revised

DIMENSION	TYPE II	TYPE III	VI
A	30"	44"	44"
B	17"	25 ½"	25½"
C	38" TO 52"	50" TO 58"	64¾" TO 67½"

SIGNAL CONTROLLER CABINET–TYPES II, III, VI



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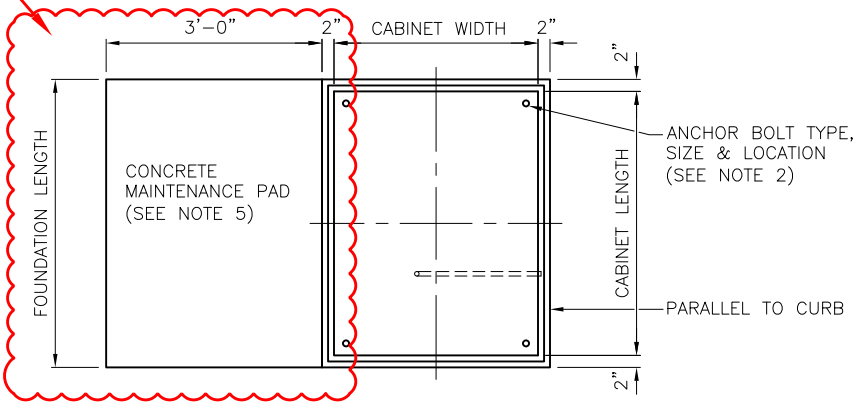


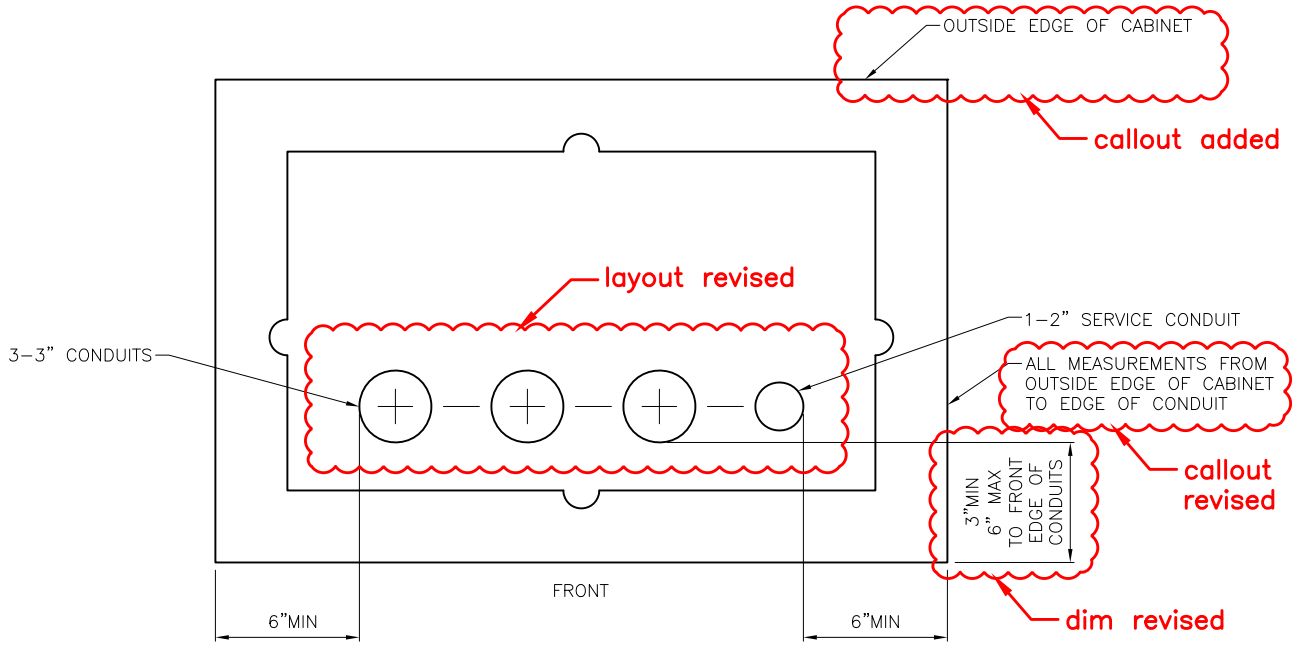
SIGNAL CONTROLLER FOUNDATION

SEE STD PLANS NO 500b & 500c FOR CONDUIT LAYOUT

REF STD SPEC SEC 8-31, 8-32

City of Seattle | NOT TO SCALE | SIGNAL CONTROLLER CABINET & FOUNDATION

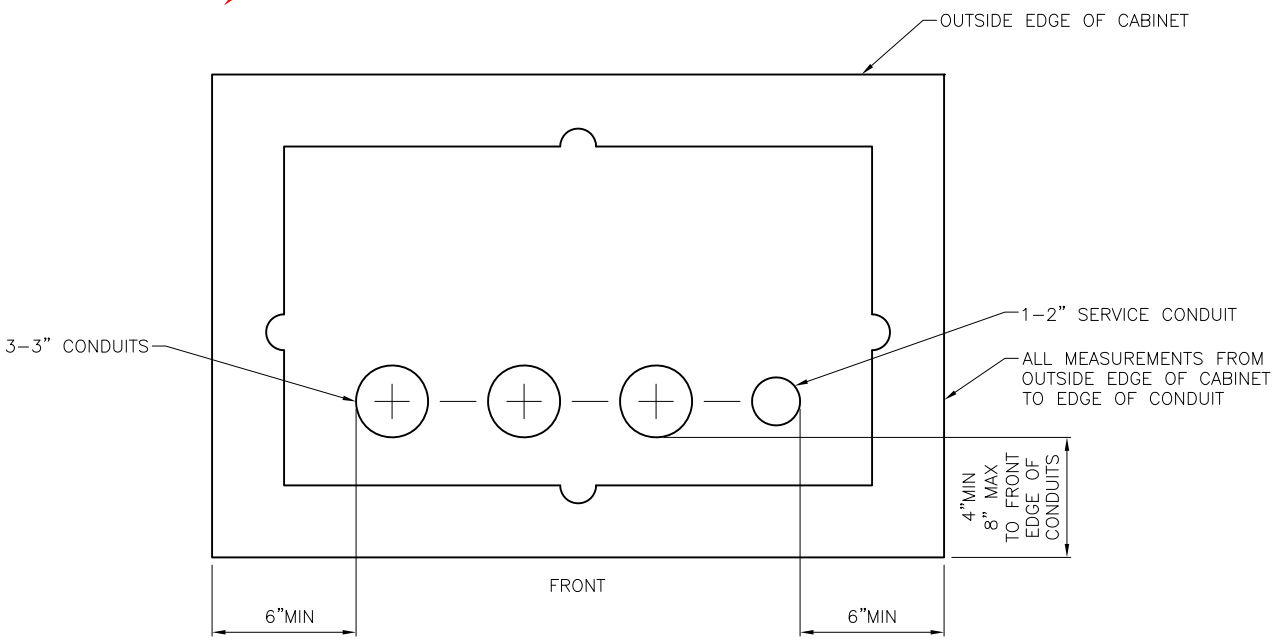
REV DATE: JAN 2020



CONDUIT LAYOUT – TYPE II SIGNAL CONTROLLER FOUNDATION

title revised

new detail

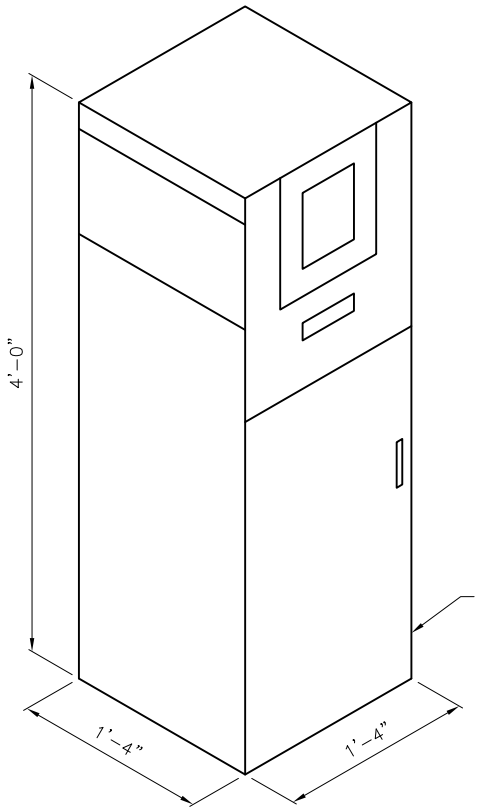


CONDUIT LAYOUT – TYPE III/VI SIGNAL CONTROLLER FOUNDATION

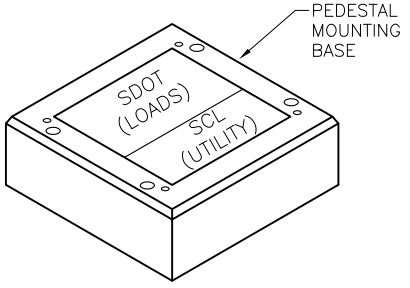
REF STD SPEC SEC 8-31, 8-32

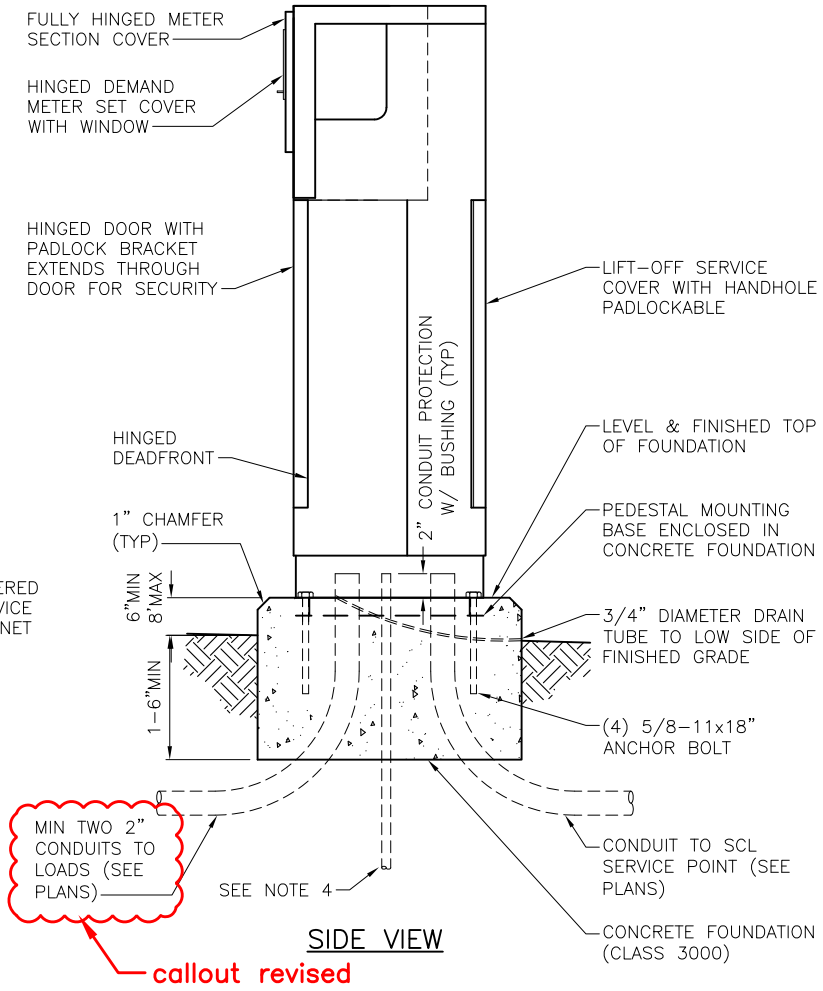
City of Seattle	NOT TO SCALE	SIGNAL CONTROLLER FOUNDATION CONDUIT LAYOUT

REV DATE: JAN 2020



ISOMETRIC VIEW

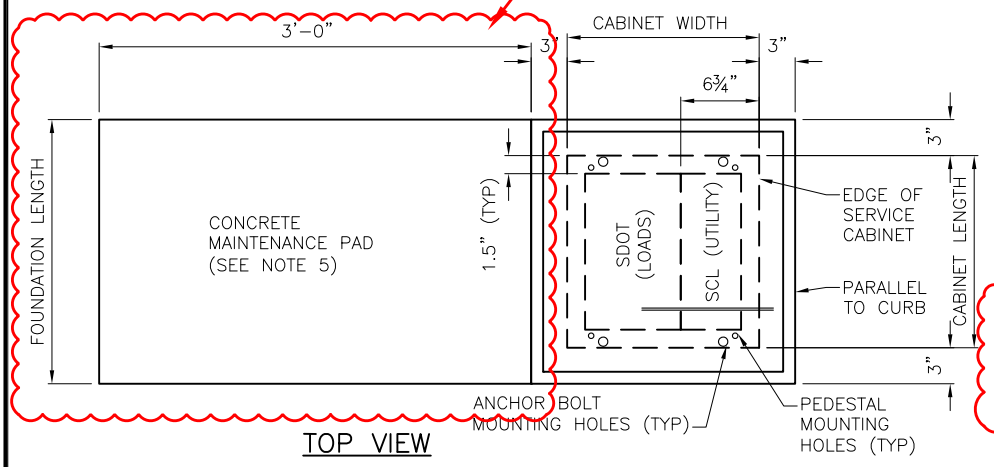




SIDE VIEW

callout revised

maintenance pad added



TOP VIEW

NOTES:

1. 36" MINIMUM CLEARANCE MUST BE REQUIRED IN FRONT OF BOTH FRONT AND BACK CABINET DOOR.
2. SEAL CABINET TO FOUNDATION WITH GREY OR CLEAR SILICON TO PREVENT MOISTURE FROM ENTERING THE CABINET.
3. EXACT SERVICE CABINET DIMENSIONS, ANCHOR BOLT LOCATIONS AND PEDESTAL MOUNTING HOLES MUST BE PROVIDED BY THE MANUFACTURER.
4. GROUND ROD 3/4"x120" COPPER CLAD WITH GROUND ROD CLAMP. A SECOND GROUND MUST BE INSTALLED A MINIMUM 8' AWAY IN A GROUND ROD HANDHOLE AS PER CITY OF SEATTLE STANDARD PLAN NO 550b. COORDINATE WITH ELECTRICAL INSPECTOR FOR LOCATION. INSTALL #4 AWG COPPER GROUND WIRE BETWEEN CABINET FOUNDATION AND GROUND ROD HANDHOLE.
5. CABINET FOUNDATIONS INSTALLED IN A LANDSCAPE AREA MUST INCLUDE A CONCRETE SIDEWALK MAINTENANCE PAD ON THE SDOT DOOR SIDE OF THE FOUNDATION, SEE STD SPEC SEC 8-32.3(2)B

note 5 added

REF STD SPEC SEC 8-31,8-32

City of Seattle | NOT TO SCALE | SERVICE CABINET FOUNDATION DETAIL

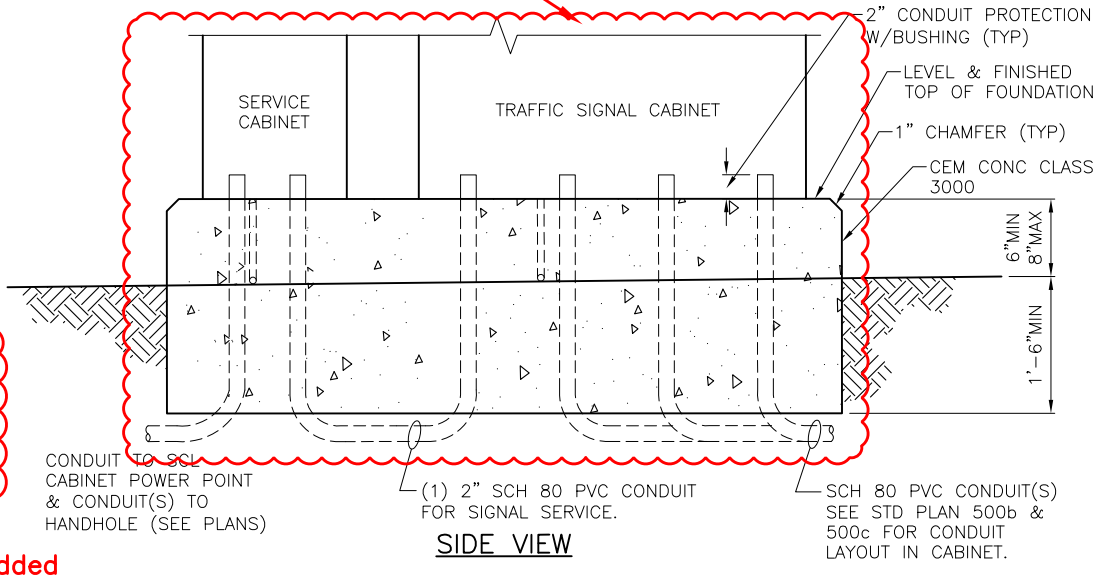
REV DATE: JAN 2020

NOTES:

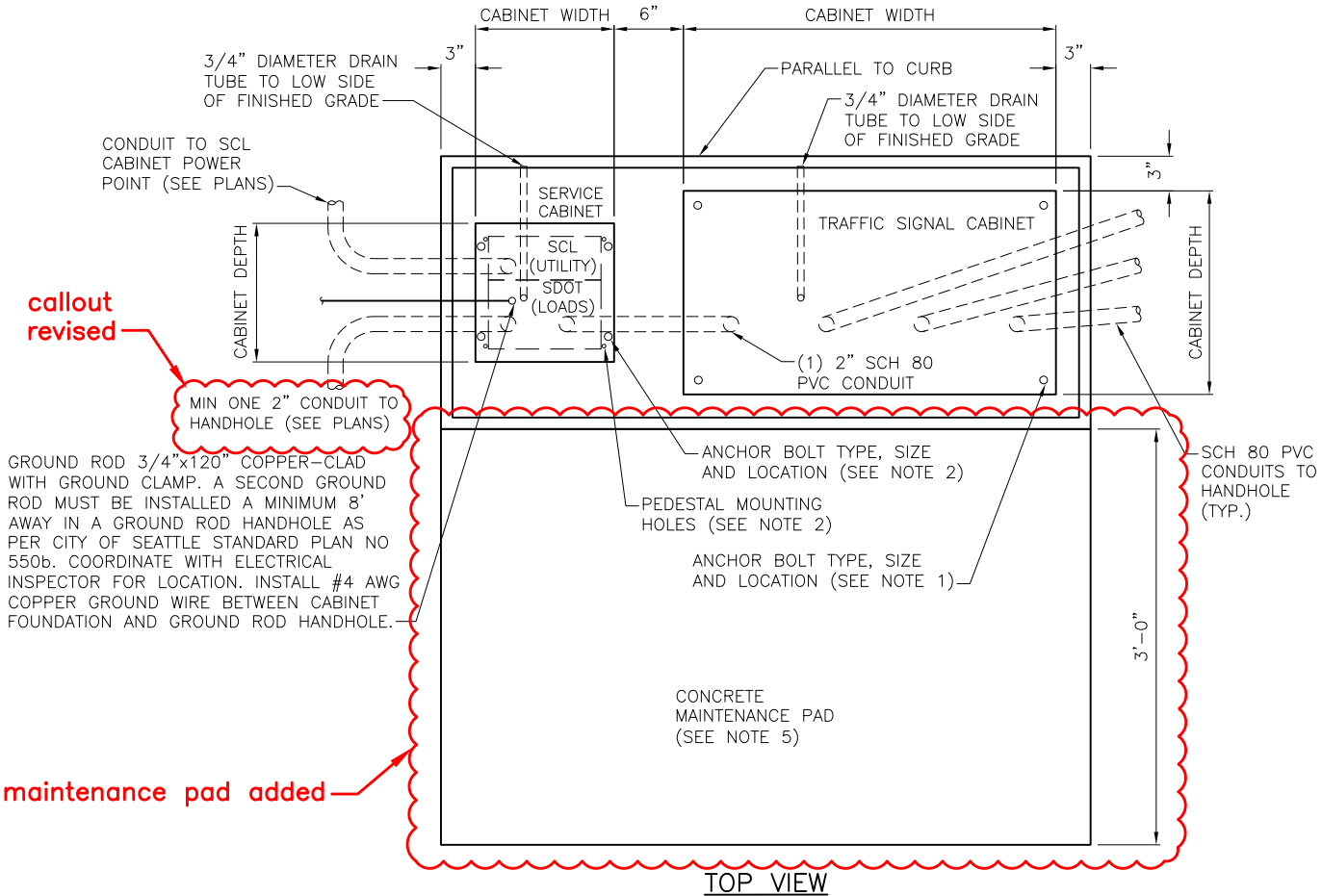
1. FOR SIGNAL CONTROLLER DIMENSIONS AND OTHER REQUIREMENTS, SEE STD PLAN NO. 500a.
2. FOR SERVICE CABINET DIMENSIONS AND OTHER REQUIREMENTS, SEE STD PLAN NO 501a.
3. SEAL CABINETS TO FOUNDATION WITH GREY OR CLEAR SILICON TO PREVENT MOISTURE FROM ENTERING THE CABINET.
4. THE SERVICE CABINET MUST BE PLACED ON THE OPPOSITE SIDE OF THE CONTROLLER CABINET FROM THE UPS.
5. CABINET FOUNDATIONS INSTALLED IN A LANDSCAPE AREA MUST INCLUDE A CONCRETE SIDEWALK MAINTENANCE PAD ON THE SDOT DOOR SIDE OF THE FOUNDATION, SEE STD SPEC SEC 8-32.3(2)B

note 5 added

cabinet positions swapped



SIDE VIEW



TOP VIEW

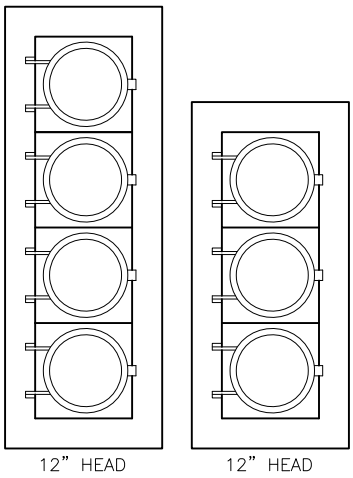
JOINT SIGNAL CONTROLLER/SERVICE CABINET FOUNDATION DETAIL

NOT TO SCALE

REF STD SPEC SEC 8-31,8-32

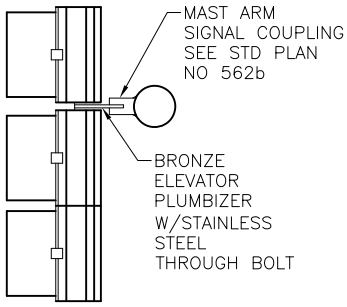
City of Seattle	NOT TO SCALE	JOINT SIGNAL CONTROLLER/ SERVICE CABINET FOUNDATION DETAIL

REV DATE: JUN 2018



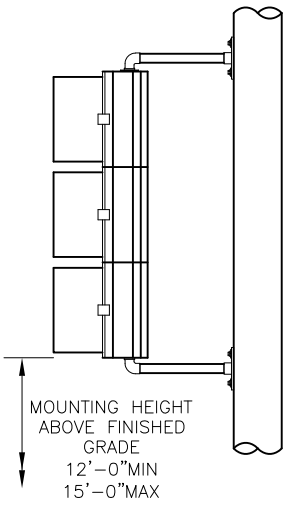
TYPICAL SIGNAL FACES

W/ TUNNEL VISORS &
5" BACKPLATE (LOUVERED)
1" YELLOW, DIAMOND GRADE RETRO REFLECTIVE TAPE



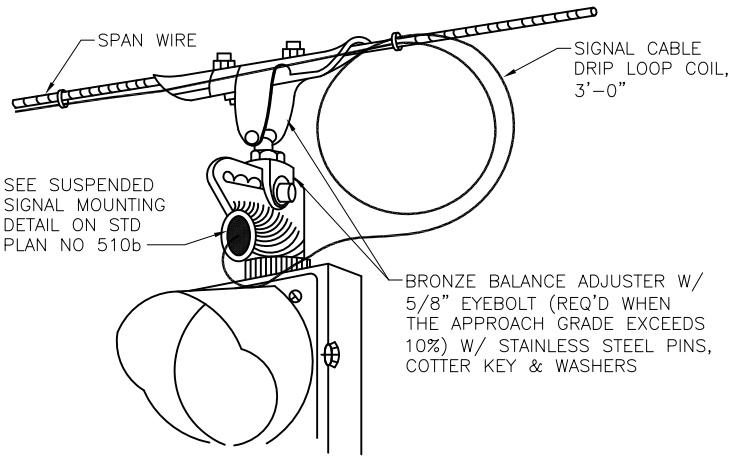
MAST ARM MOUNTING

SEE NOTE 1



BRACKET MOUNTING

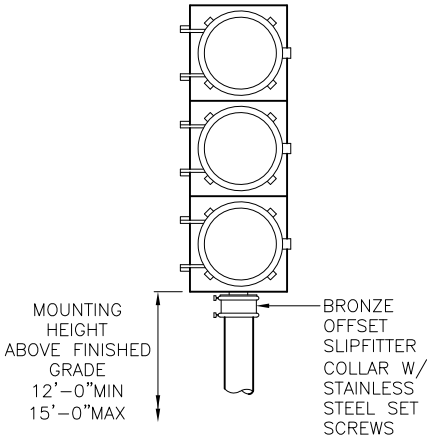
FOR SIGNAL HEAD BRACKET ASSEMBLY SEE STD PLAN NO 511



SIGNAL HANGER DETAIL

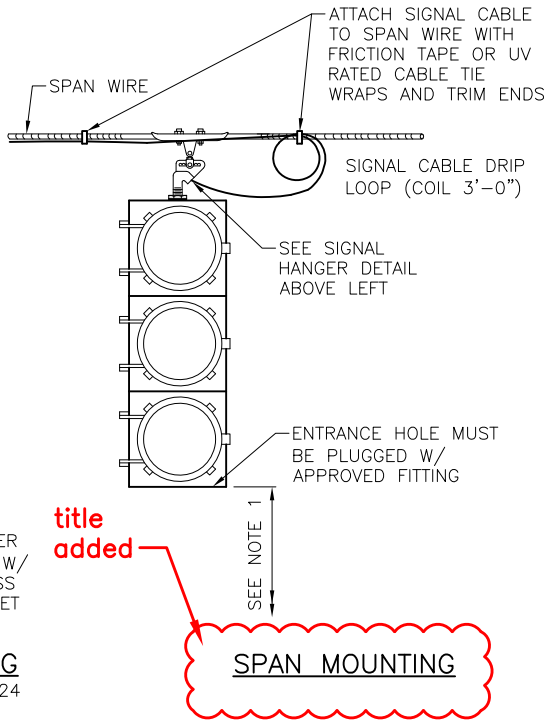
NOTES:

1. VERTICAL CLEARANCE: 17' MIN TO ROADWAY 19'-0" MAX (ON TRUCK ROUTES USE 18' TO 19')
2. BACKPLATES HAVE BEEN OMITTED FROM VARIOUS VIEWS FOR CLARITY



PEDESTAL TOP MOUNTING

FOR PEDESTAL SEE STD PLAN NO 524

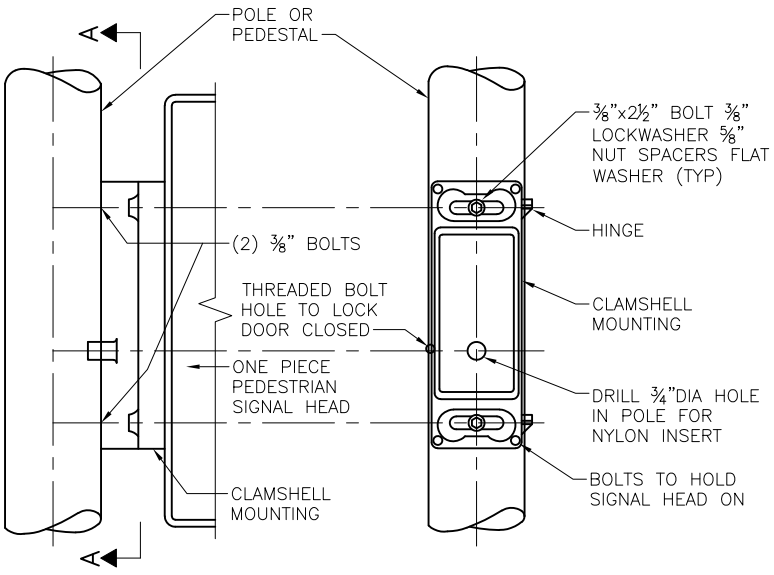


SPAN MOUNTING

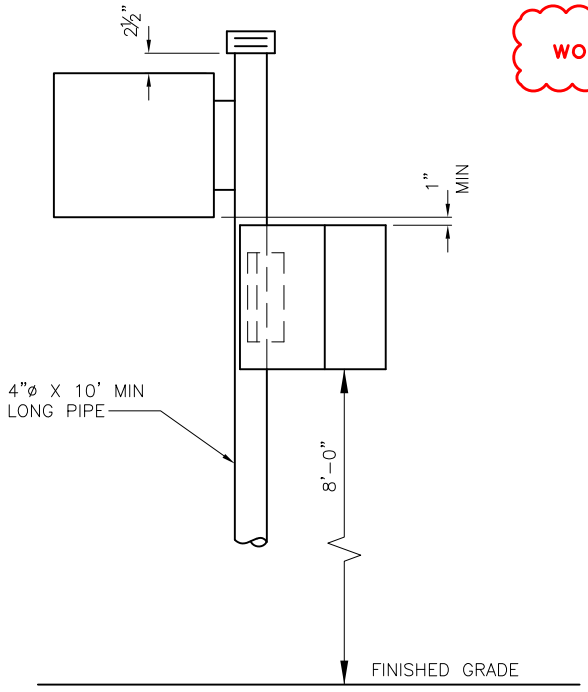
REF STD SPEC SEC 8-31

City of Seattle | NOT TO SCALE | VEHICULAR SIGNAL MOUNTING

REV DATE: JAN 2020



METAL POLE MOUNT



PEDESTAL MOUNT

wood pole mount detail removed

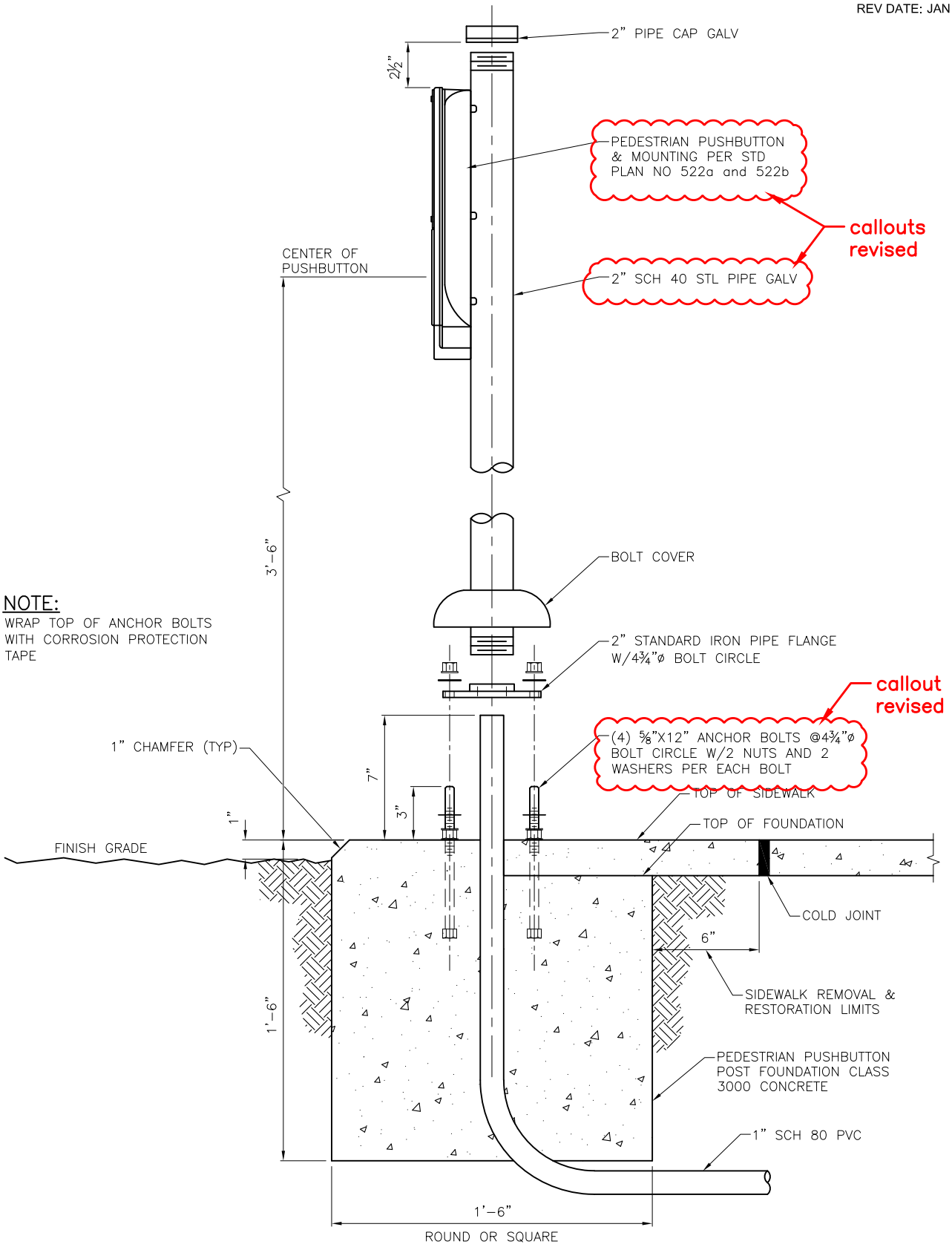
NOTES:

1. BOLT AND WASHERS MUST BE STAINLESS STEEL PER ASTM A 563 DH AND ASTM F 436
2. MOUNTING MUST BE AS FOLLOWS:
   –ON METAL POLES THINNER THAN 7 GAUGE, USE ⅜" STAINLESS STEEL RIVNUTS
   –ON METAL POLES 7 GAUGE OR THICKER, DRILL AND TAP FOR ⅜" BOLT (STAINLESS STEEL RIVNUTS OPTIONAL)
   –ON POLES FILLED WITH OR MADE FROM CONCRETE USE ⅜"X2½" STUD BOLT ANCHORS WITH HEX NUT
3. FOR STREET NAME SIGN PEDESTAL INSTALLATION, SEE STD PLAN NO 623

REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	PEDESTRIAN SIGNAL CLAMSHELL MOUNTING

REV DATE: JAN 2020



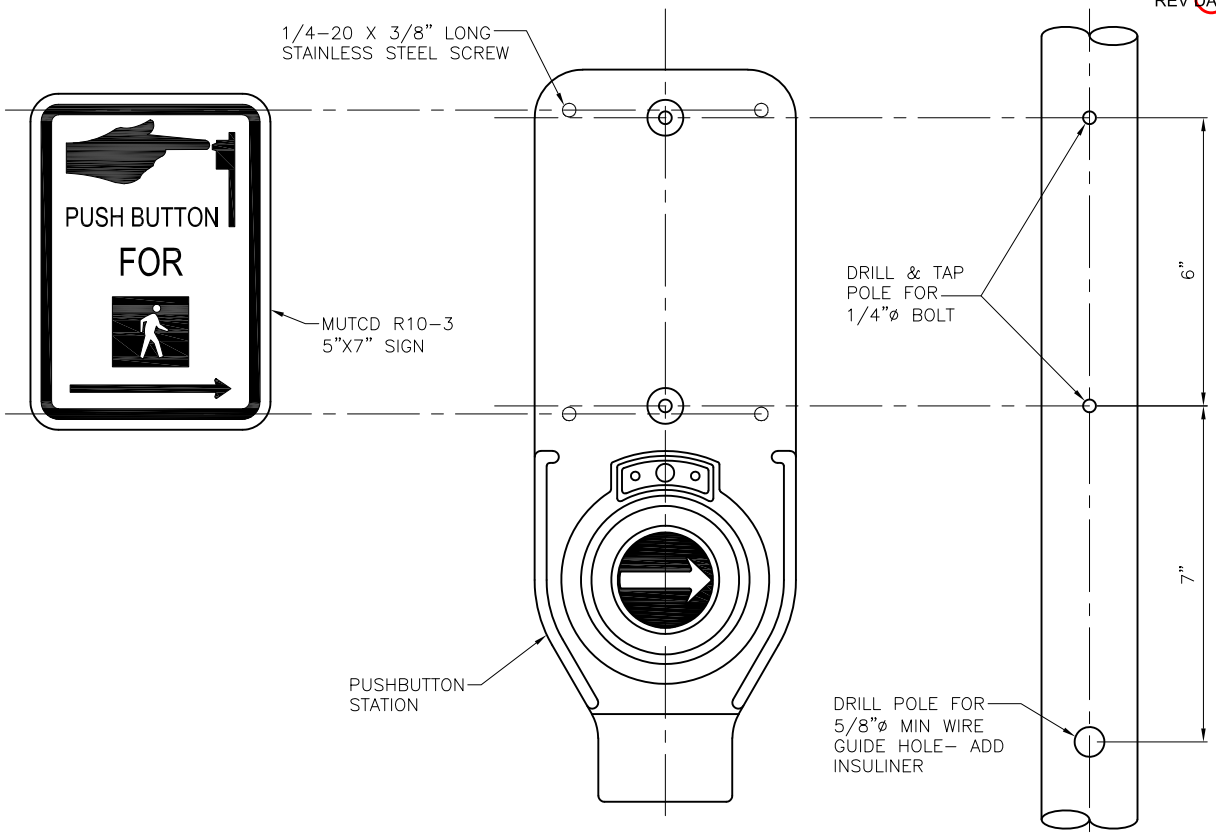
REF STD SPEC SEC 8-31, 8-32

City of Seattle	NOT TO SCALE	PEDESTRIAN PUSHBUTTON POST & FOUNDATION

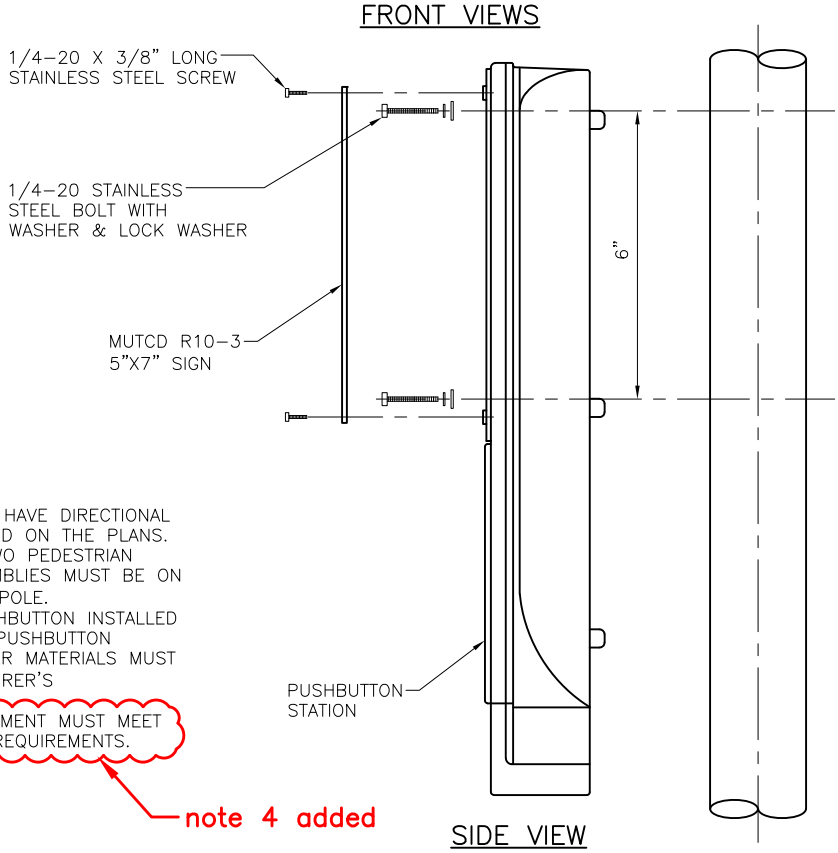
renumbered from 522b

STANDARD PLAN NO **522a**

REV DATE: JUL 2019



FRONT VIEWS



SIDE VIEW

NOTES:

1. PUSHBUTTON MUST HAVE DIRECTIONAL ARROW AS SPECIFIED ON THE PLANS.
2. INSTALLATION OF TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES MUST BE ON A 4"ø OR LARGER POLE.
3. DETAIL SHOWS PUSHBUTTON INSTALLED ON METAL POLE. PUSHBUTTON INSTALLED ON OTHER MATERIALS MUST BE PER MANUFACTURER'S RECOMMENDATION.
4. PUSHBUTTON PLACEMENT MUST MEET MUTCD AND SDOT REQUIREMENTS.

note 4 added

REF STD SPEC SEC 8-31

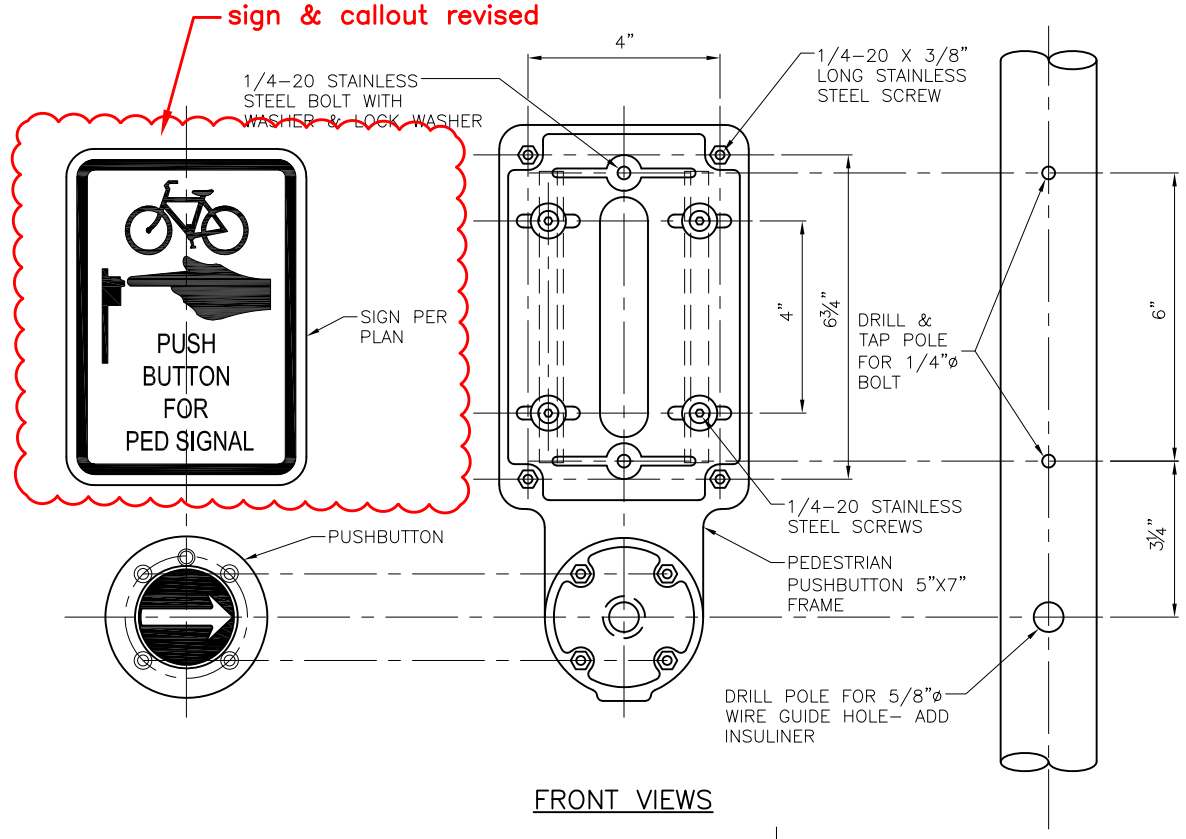
City of Seattle	NOT TO SCALE	ACCESSIBLE PEDESTRIAN SIGNAL (APS) PED. PUSHBUTTON ASSEM.

renumbered from 522a

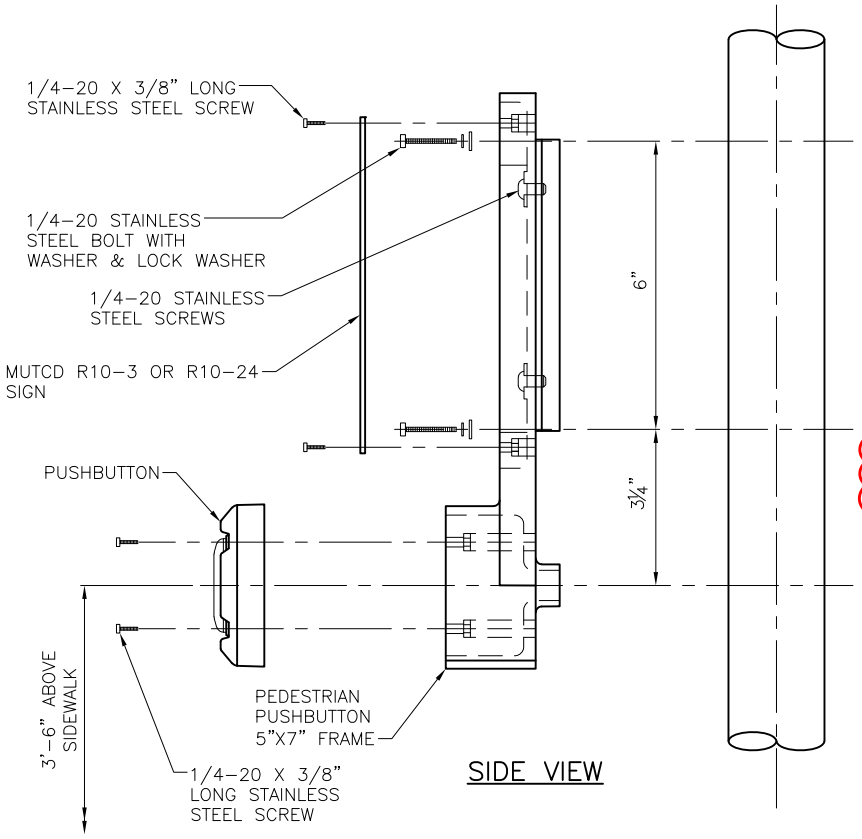
STANDARD PLAN NO **522b**

REV DATE: JAN 2020

sign & callout revised



FRONT VIEWS



SIDE VIEW

NOTES:

1. PUSHBUTTON MUST HAVE DIRECTIONAL ARROW AS SPECIFIED ON THE PLANS.
2. INSTALLATION OF TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES MUST BE ON A 4"ø OR LARGER POLE.
3. DETAIL SHOWS PUSHBUTTON INSTALLED ON METAL POLE. PUSHBUTTON INSTALLED ON OTHER MATERIALS MUST BE PER MANUFACTURER'S RECOMMENDATION.
4. THIS PUSHBUTTON ASSEMBLY MUST NOT BE INSTALLED FOR PEDESTRIAN USE UNLESS APPROVED BY THE ENGINEER.

note 4 added

REF STD SPEC SEC 8-31

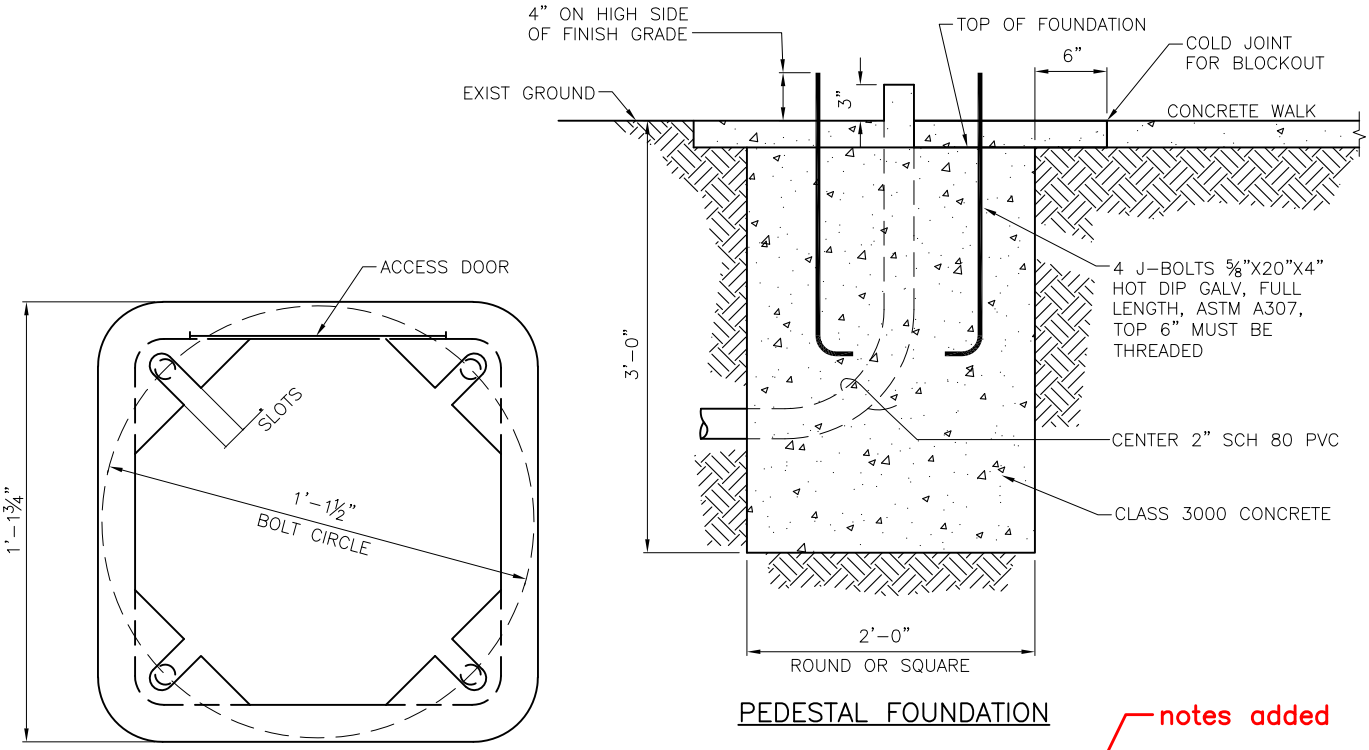
City of Seattle

NOT TO SCALE

title revised

BICYCLE PUSHBUTTON ASSEMBLY

REV DATE: JAN 2020

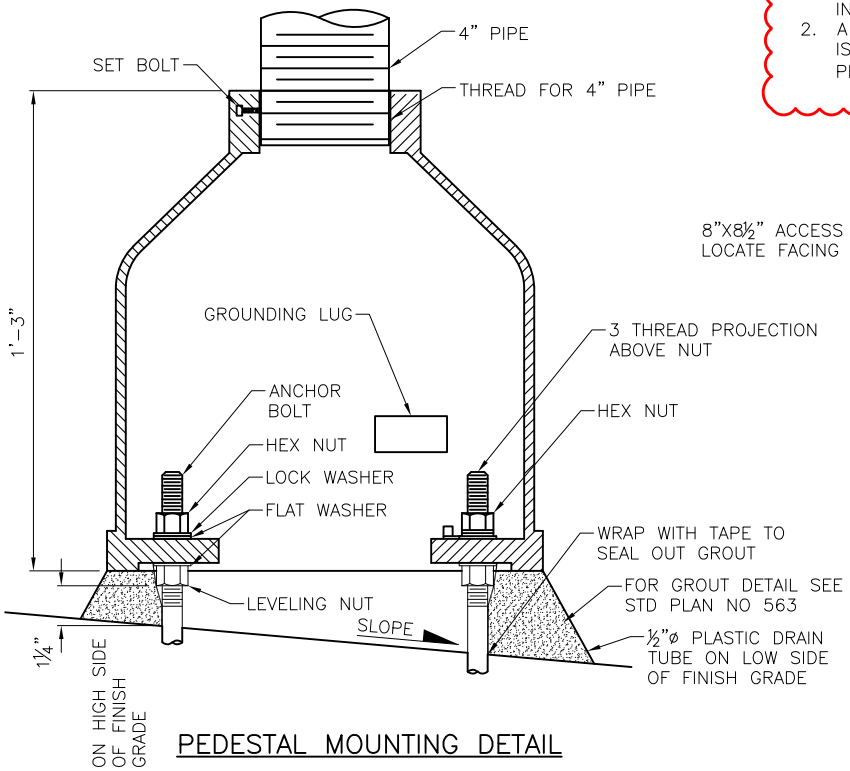


PEDESTAL FOUNDATION

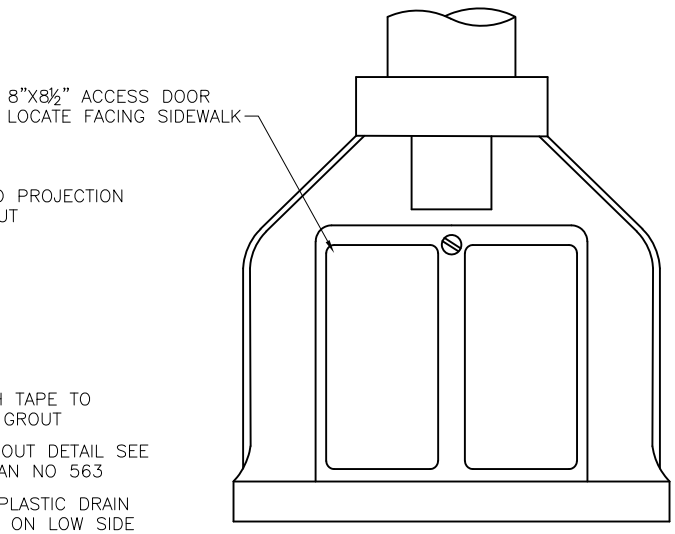
BOTTOM VIEW

notes added

NOTES:
1. 3'-0" MIN CLEARANCE IS REQUIRED IN FRONT OF ACCESS DOOR.
2. A POLE AND BASE COLLAR ASSEMBLY IS REQUIRED FOR ALUMINUM PEDESTAL SHAFTS TALLER THAN 10'.



PEDESTAL MOUNTING DETAIL



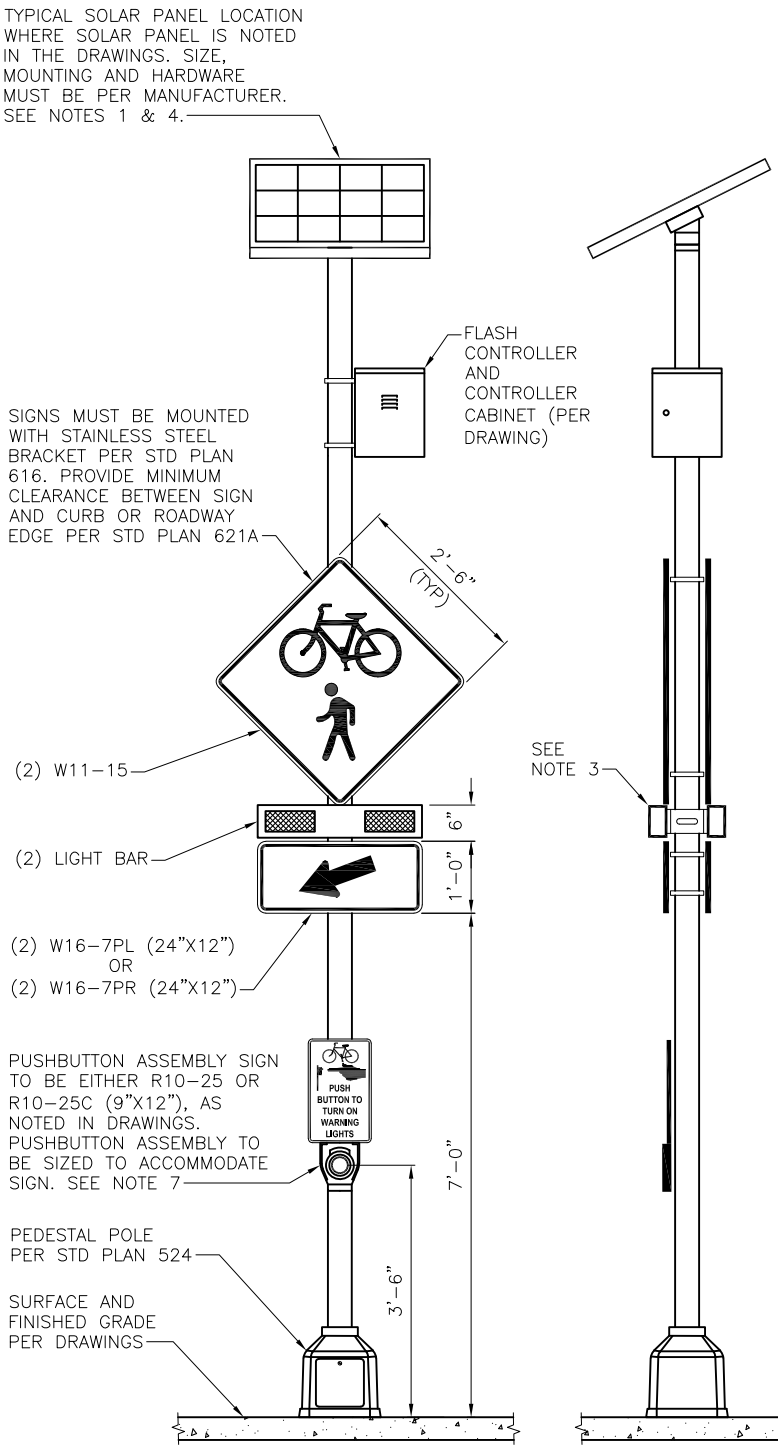
SQUARE BASE PEDESTAL

REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	PEDESTAL & FOUNDATION

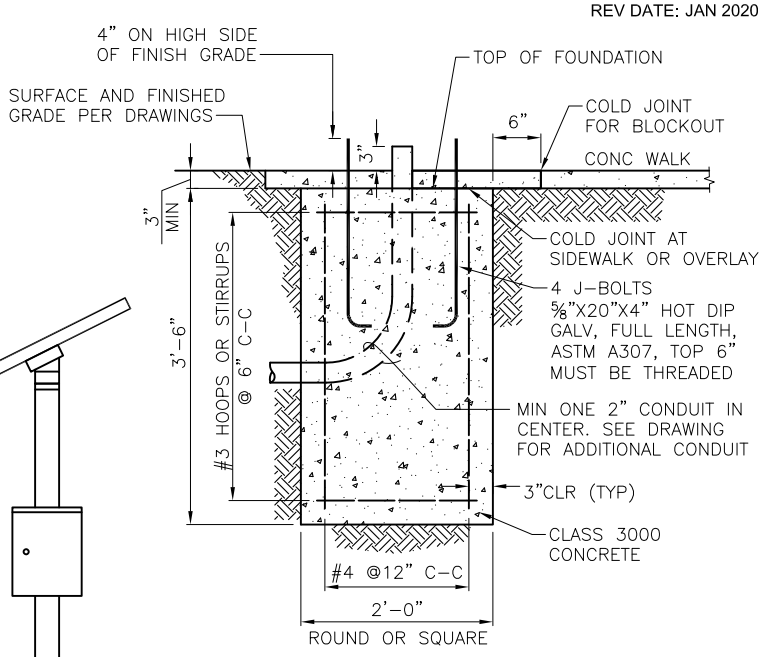
REV DATE: JAN 2020

new std plan



RECTANGULAR RAPID FLASHING BEACON

SIDE VIEW



RRFB FOUNDATION

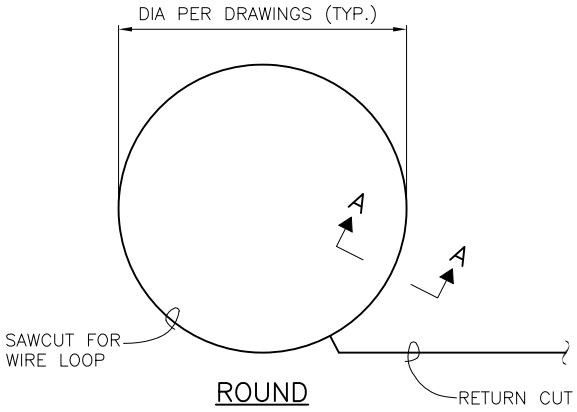
NOTES:

1. RECTANGULAR RAPID FLASHING BEACON MUST BE HARDWIRED TO A SERVICE CABINET UNLESS OTHERWISE NOTED IN THE DRAWINGS.
2. RECTANGULAR RAPID FLASHING BEACON MUST HAVE SIGNS AND LIGHT BAR ON BOTH SIDES OF PEDESTAL, AND BE ORIENTED TO FACE ONCOMING VEHICULAR TRAFFIC UNLESS NOTED OTHERWISE IN DRAWINGS.
3. (1) PEDESTRIAN LED INDICATION, 1/2" (MIN) WIDE X 1-3/4" (MIN) HIGH, MUST BE PROVIDED MOUNTED ON SIDE OF THE LIGHT BAR. PEDESTRIAN LED INDICATION MUST BE DIRECTED TOWARD CROSSWALK AND BE VISIBLE TO PEDESTRIANS IN THE CROSSWALK. WHERE RAPID FLASHING BEACON IS LOCATED IN A MEDIAN, OR SERVES MULTIPLE DIRECTIONS OF PEDESTRIAN TRAVEL, PEDESTRIAN LED INDICATION MUST BE PROVIDED ON BOTH SIDES OF LIGHT BAR.
4. IF A SOLAR PANEL IS INCLUDED ON THE POLE, USING THE STANDARD FOUNDATION SHOWN, THEN MOUNTING HEIGHT OF SOLAR PANEL MUST BE NO MORE THAN 17'-6".
5. FOUNDATION SOILS MUST BE FREE OF LANDFILL OR OTHER SETTLEMENT-PRONE MATERIAL AND GROUNDWATER.
6. ALL REINFORCING BARS MUST BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A706, GRADE 60.
7. PUSHBUTTON TO BE SUPPLIED WITH RECTANGULAR RAPID FLASHING BEACON.

REF STD SPEC SEC

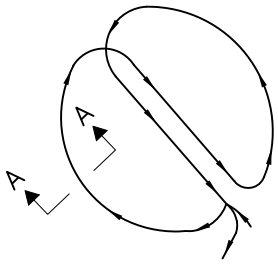
City of Seattle	NOT TO SCALE	RECTANGULAR RAPID FLASHING BEACON

REV DATE: DEC 2019

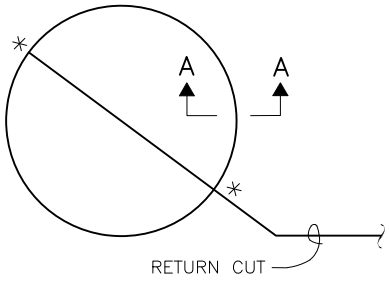


ROUND

DIPOLE LOOP DETECTOR

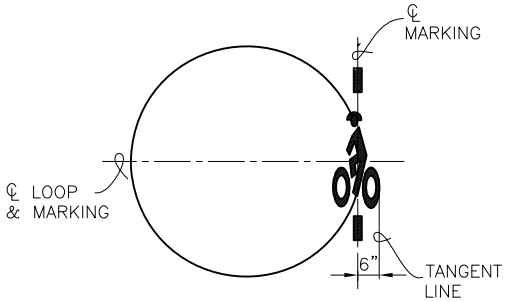


WINDING DETAIL

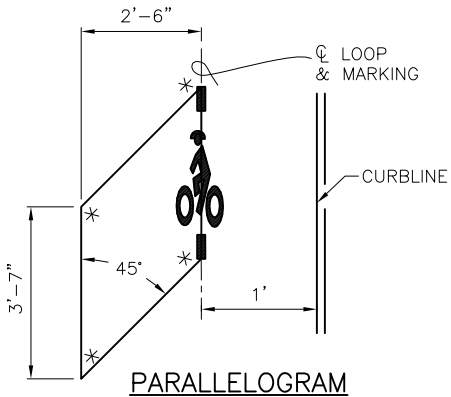


ROUND

QUADRIPOLE LOOP DETECTOR



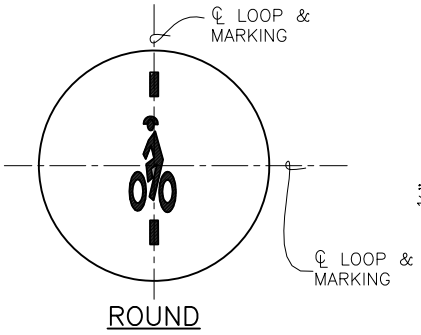
ROUND



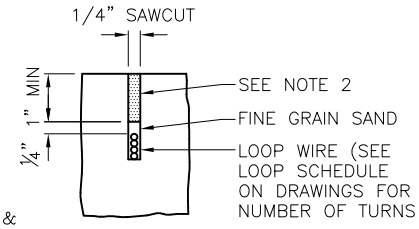
PARALLELOGRAM

BICYCLE DIPOLE

*NOTE:
OVERLAP CUT FOR FULL DEPTH AT CORNERS (TYP) CHIP 1" BACK THEN ROUND OFF CORNERS WHERE LOOP WIRE WILL BE BENT 90° OR LESS.

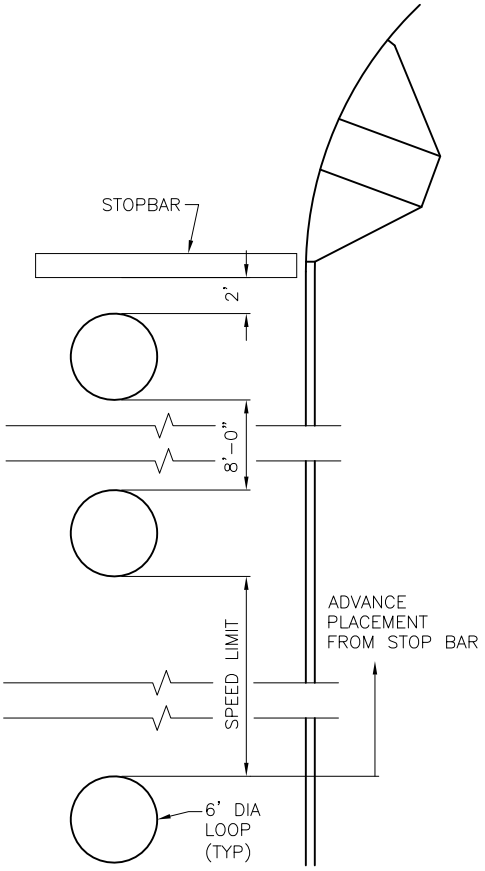


ROUND



SECTION A–A

BICYCLE QUADRIPOLE



STANDARD LOOP SPACING

note 1 revised

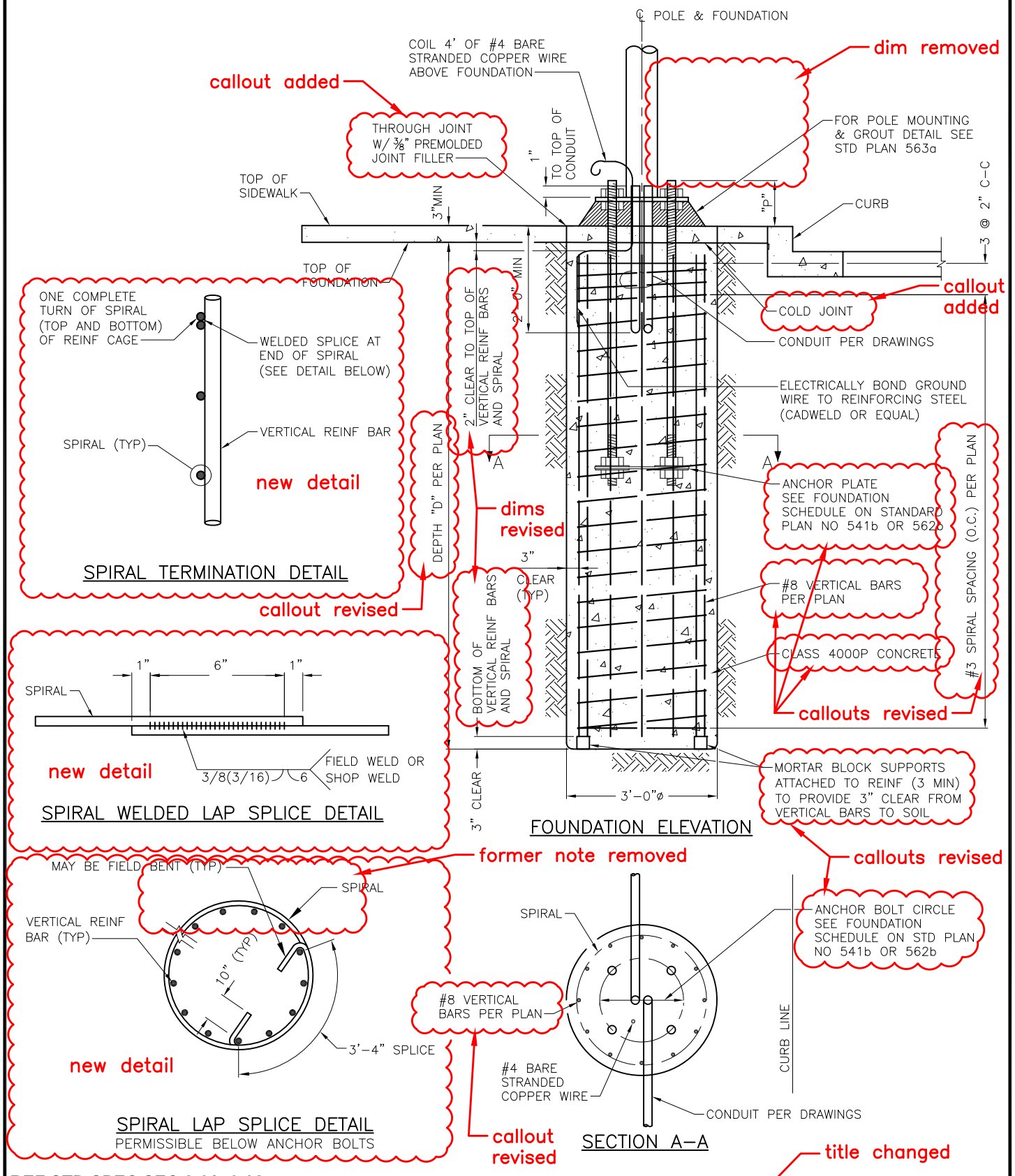
NOTES:

1. SEE STD PLAN NO 772 FOR BICYCLE DETECTOR PAVEMENT MARKER DETAIL.
2. FILL CUT AFTER VERTICAL PLACEMENT AND TESTING WITH HOT PAVING GRADE LIQUID ASPHALT ASTM D 312 TYPE III OR QUICK SETTING HIGH STRENGTH GROUT

REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	DETECTOR LOOP DETAILS

REV DATE: JAN 2020



REF STD SPEC SEC 8-32, 6-02

City of Seattle

NOT TO SCALE

TRAFFIC SIGNAL POLE FOUNDATION DETAIL

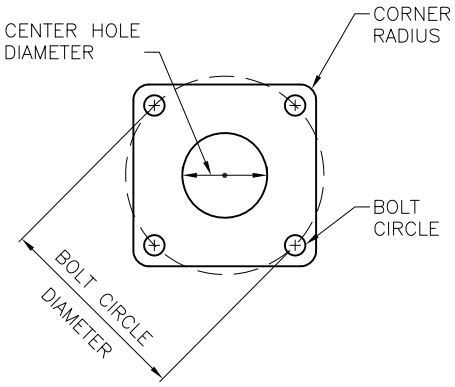
REV DATE: JAN 2020

schedule revised

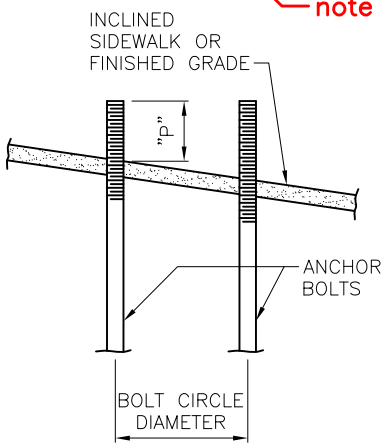
FOUNDATION SCHEDULE							
POLE TYPE	PROJECTION P	ANCHOR BOLTS (TOTAL 4 PER POLE)	ANCHOR PLATE DIMENSIONS				
			BOLT CIRCLE DIA	SIZE	BOLT HOLE	CENTER HOLE	CORNER RADIUS
T	7½"	1½" DIA X 60"	14½"	⅜" X 16" X 16"	1⅝"	10"	1⅝"
V	9"	1¾" DIA X 72"	18"	⅜" X 16" X 16"	1⅞"	12½"	1⅝"
X	10"	2" DIA X 72"	20"	⅜" X 18" X 18"	2⅛"	14"	2"
Z	11½"	2½" DIA X 72"	22"	½" X 20" X 20"	2⅝"	15"	2¼"

FOUNDATION PER PLAN. WHERE POLE TYPE OTHER THAN NOTED ABOVE IS REQUIRED, REFER TO PLANS FOR ANCHOR BOLTS AND ANCHOR PLATE DIMENSIONS.

note revised



ANCHOR PLATE



INCLINED CONDITION

notes 1, 2, 3, 5 & 7 revised

NOTES:

1. CONCRETE MUST BE CLASS 4000P.
2. ANCHOR BOLTS FOR TYPE T,V,X AND Z MUST CONFORM TO ASTM F1554 GRADE 105 CLASS 2A THREADS INCLUDING SUPPLEMENTARY REQUIREMENTS S2 THROUGH S4. PROVIDE NUTS ACCORDING TO ASTM A536 HEAVY HEX GRADE DH AND NUTS PER ASTM F436.
3. ANCHOR PLATE: ASTM A36. HOT DIP GALVANIZED PER ASTM A123.
4. ALL REINFORCING BARS MUST BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A706, GRADE 60.
5. ANCHOR BOLTS MUST BE HOT DIP GALVANIZED PER ASTM F2329 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH 18" OF THREADS ON TOP & 12" ON BOTTOM
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8-32.3(2)A PRIOR TO POURING CONCRETE.
7. FOUNDATION DEPTH, REINFORCEMENT AND ANCHOR BOLTS MUST BE IN CONFORMANCE WITH "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" (6TH EDITION, 2013). DESIGN BASIC WIND SPEED IS 85 MPH AND RECURRENCE INTERVAL/DESIGN LIFE IS 50 YEARS

REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	STRAIN POLE FOUNDATION SCHEDULE & NOTES (TYPE T, V, X & Z)

REV DATE: DEC 2019

NOTES:

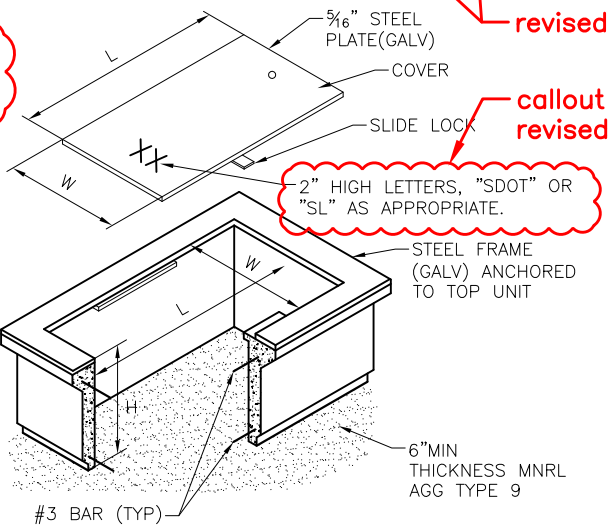
1. THE COVER MUST HAVE 1/16" TO 1/8" CLEARANCE ON EACH EDGE WITHIN THE FRAME AFTER GALVANIZING.
2. THE GROUND ROD MUST EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR MINERAL AGGREGATE.
3. TYPE 1, 2, 3, 5 & 6 HANDHOLE COVERS MUST HAVE "SDOT" OR "SL" ON THEM, AS APPROPRIATE.
4. TYPE 4 HANDHOLE MUST BE INSTALLED IN ROADWAYS, PARKING LOTS, ETC.
5. FOR PAVEMENT DEPTH GREATHER THAN 7" USE FRAME EXTENSIONS (SEE STD PLAN NO 231) TO BRING THE COVER UP THE THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING THE BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT.
6. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE MUST BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. BOND FROM FRAME LID, AND LID TO GROUND ROD.
7. ALL HANDHOLE COVERS AND FRAMES MUST HAVE A NON-SKID SURFACE (SEE STD SPEC SEC 9-34.6)
8. ALL HANDHOLES MUST HAVE A LOAD RATING OF H20.
9. GROUND ROD REQUIRED IN ALL STREETLIGHT HANDHOLES PER SCL CONSTR STD 1714.50
10. SEE SCL CONSTRUCTION STANDARD 1716.07 & SCL MATERIAL STD 7203.10 FOR STREETLIGHT HANDHOLE AND CONDUIT REQUIREMENTS.

notes 3, 9 & 10 revised

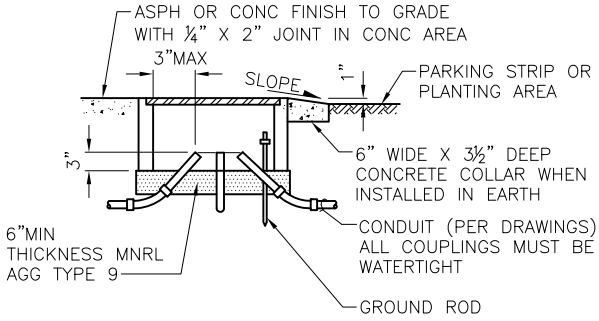
HANDHOLE SCHEDULE

HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H	H	L	W
1	10"	13"	12"	12"	17⅞"	12⅞"
2	28"	17"	12"	12"	27⅞"	16⅞"
3	36"	24"	12"	12"	35"	24"
4	24"ø		VAR	NA	NA	NA
5	36"	24"	32"	NA	35"	24"
6	42"	42"	38½"	NA	33½"	33¾"
GRHH	8"ø			NA		

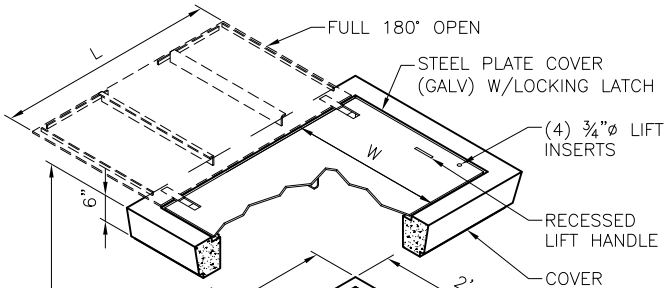
revised

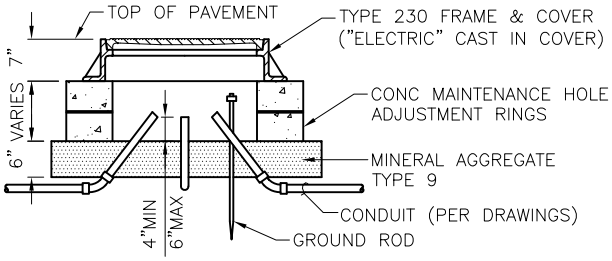


TYPE 1 & 2 HANDHOLE

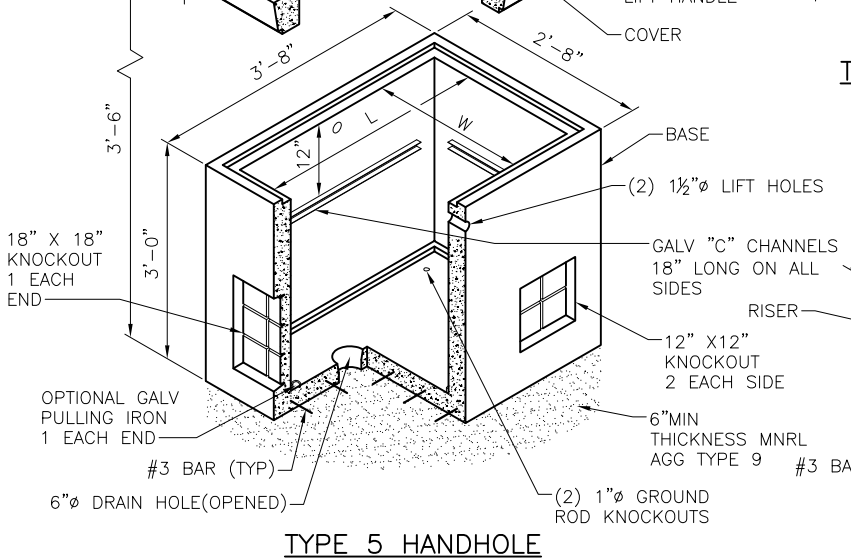


HANDHOLE INSTALLATION DETAIL

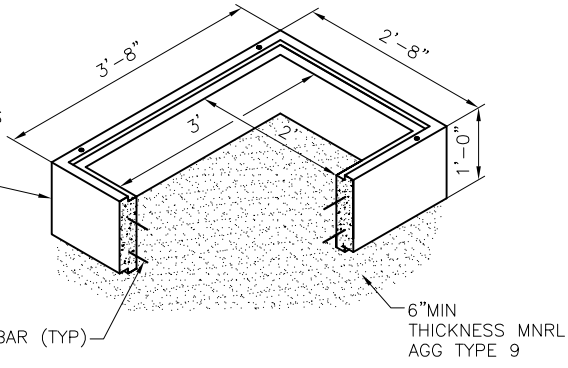




TYPE 4 HANDHOLE
TRAFFIC BEARING



TYPE 5 HANDHOLE



TYPE 3 HANDHOLE
(COVER SAME AS TYPE 5)

REF STD SPEC SEC 8-33

City of Seattle	NOT TO SCALE	HANDHOLES

REV DATE: APR 2017

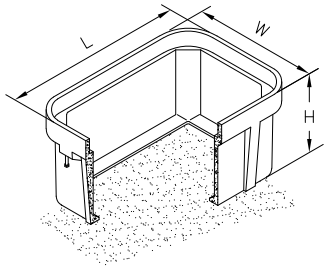
NOTES:

1. ALL NON-DELIBERATE TRAFFIC PULL BOX COVERS MUST COMPLY WITH ALL TEST PROVISIONS OF ANSI/SCTE 77 2010 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", & MUST MEET THE TIER 15 APPLICATION. MARKING SHOWING THE TIER 15 RATING MUST BE EMBOSSED IN THE TOP SURFACE OF THE COVER.
2. ALL NON-DELIBERATE TRAFFIC PULL BOXES MUST COMPLY WITH ALL TEST PROVISIONS OF ANSI/SCTE 77 2012 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", & MUST MEET THE TIER 22 APPLICATION. MARKINGS SHOWING THE TIER 22 RATING MUST BE LABELED OR STENCILED ON THE INSIDE & OUTSIDE OF THE BOX.
3. ALL NON-DELIBERATE TRAFFIC PULL BOXES & COVERS MUST BE MADE OF POLYMER CONCRETE WITH FIBERGLASS REINFORCEMENT. THE BOX MUST HAVE CONTINUOUS FIBERGLASS CLOTH REINFORCEMENT ON THE INSIDE & OUTSIDE PERIMETERS. THE COVER MUST HAVE A MINIMUM OF TWO LAYERS OF FIBERGLASS CLOTH REINFORCEMENT.
4. ALL NON-DELIBERATE TRAFFIC PULL BOXES & COVERS MUST BE TESTED & CERTIFIED, MEETING ALL TEST PROVISIONS ON THE ANSI/SCTE 77, TO THE 66WF, MEETING ALL TEST PROVISION OF THE LATEST REVISION OF ANSI/SCTE 77.
5. ~~PULL SLOTS MUST BE RATED FOR MINIMUM PULL OUT OF 3,000 POUNDS.~~
6. TYPE 4 HANDHOLE MUST BE INSTALLED IN ROADWAYS PARKING LOTS, ETC. ALL COVERS MUST BE COMPLETE WITH A MOLDED LOGO, MANUFACTURES NAME & TIER RATING LOGO (NO GLUE IN LOGO). LOGO MUST READ "SDOT" OR "SL" UNLESS STATED OTHERWISE BY THE CITY OF SEATTLE.
7. ~~THE GROUND ROD MUST EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR~~ MINERAL AGGREGATE.
8. FOR PAVEMENT DEPTH GREATHER THAN 7" USE FRAME EXTENSIONS (SEE STD PLAN NO 231) TO BRING THE COVER UP THE THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING THE BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT.
9. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE MUST BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. WITH A 4'-0" LENGTH FROM FRAME THAT CAN BE HOOKED UP TO A GROUND ROD.
10. ALL HANDHOLE COVERS AND FRAMES MUST HAVE A NON-SKID SURFACE (SCL MATERIAL STANDARD 7203.10)
11. SEE SCL CONSTRUCTION STANDARD 1716.07 FOR STREET HANDHOLE AND CONDUIT REQUIREMENTS.

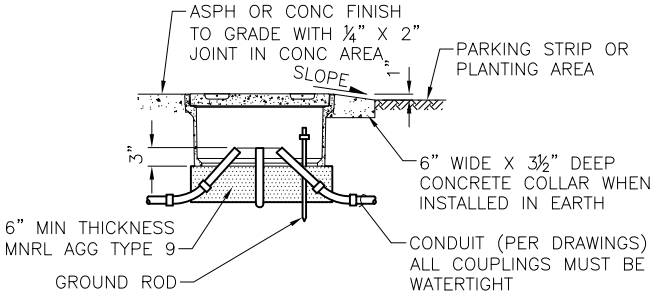
note 6 revised

HANDHOLE SCHEDULE

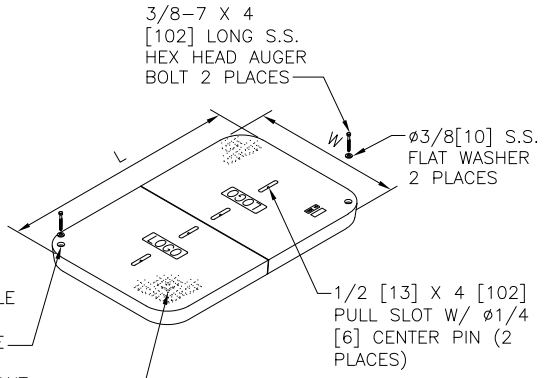
HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H	H	L	W
1	24"	13"	12"	12"	24"	13"
2	30"	17"	12"	12"	30"	17"
3	36"	24"	18"	12"	36"	24"
4	24"ø		VAR	NA	NA	NA
5	30"	48"	36"	NA	30"	48"
6	48"	48"	48"	NA	48"	48"
GRHH	8"ø			NA		

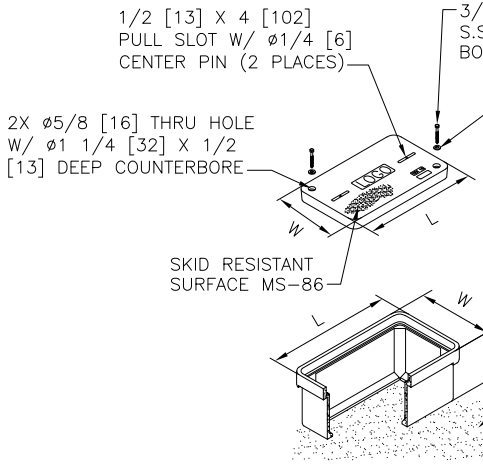


TYPE 3 HANDHOLE
(COVER SAME AS TYPE 5)

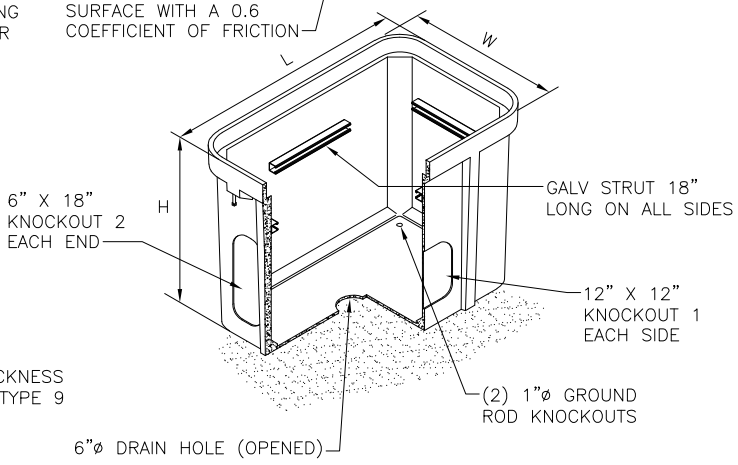


HANDHOLE INSTALLATION DETAIL





TYPE 1 & 2 HANDHOLE

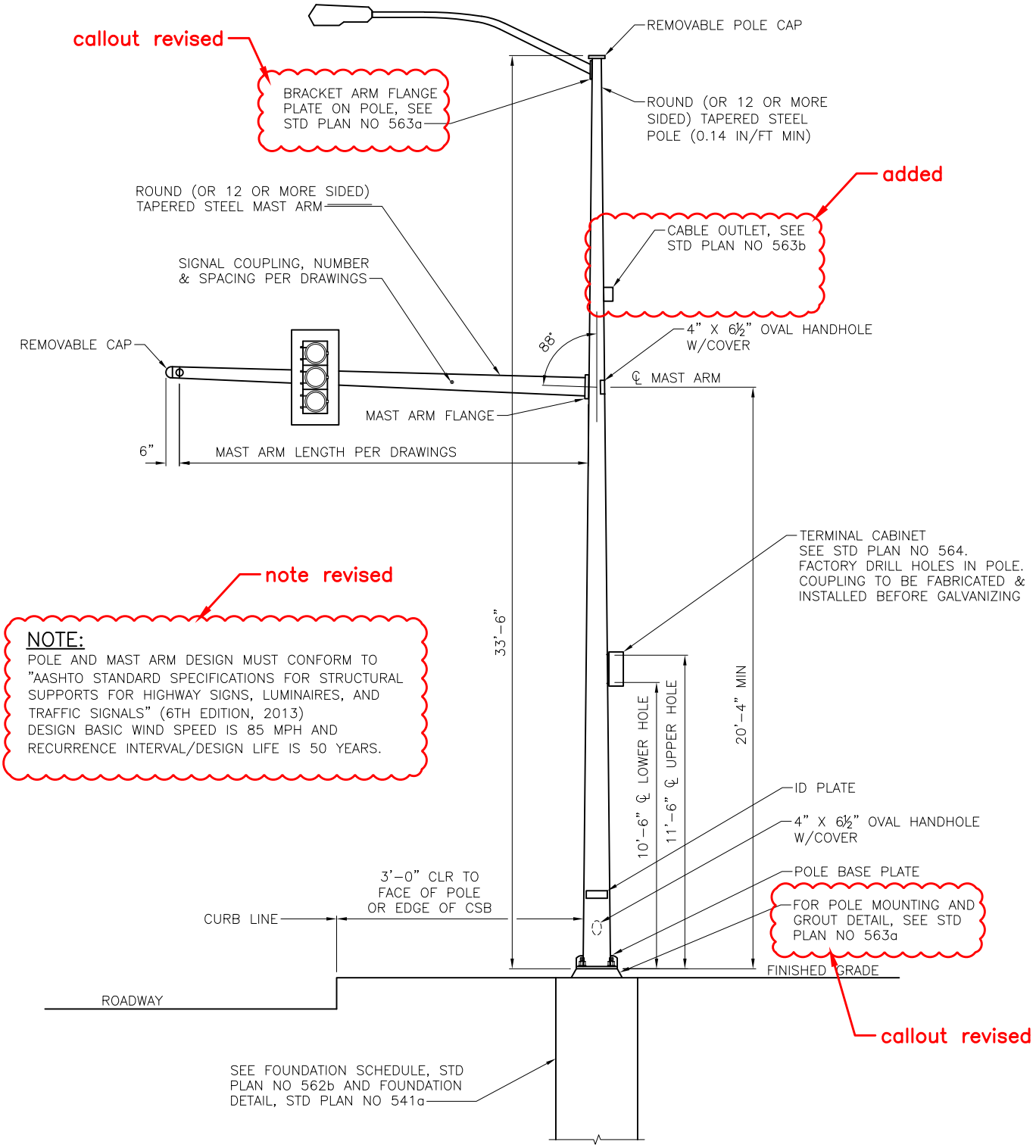


TYPE 5 HANDHOLE

REF STD SPEC SEC 8-33

City of Seattle	NOT TO SCALE	POLYMER CONCRETE HANDHOLES

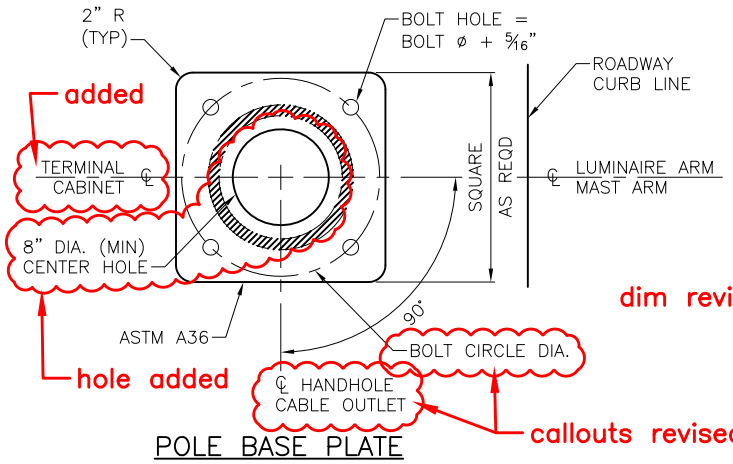
REV DATE: JAN 2020



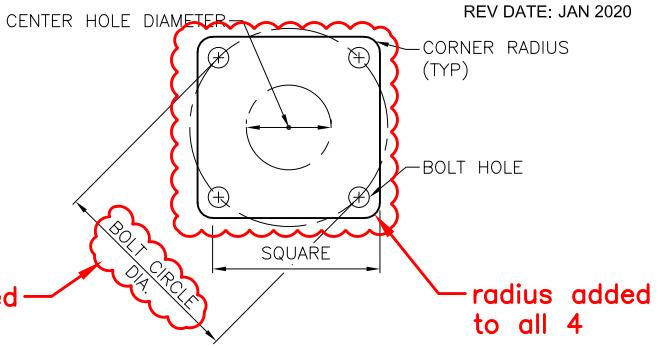
REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	STEEL MAST ARM POLE

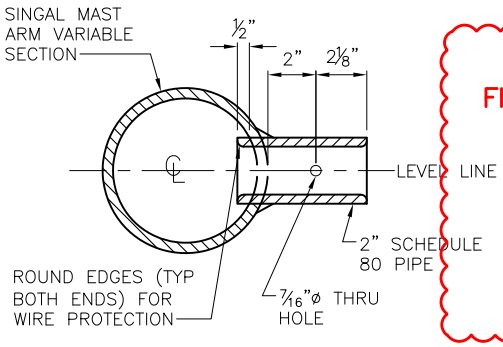
REV DATE: JAN 2020



POLE BASE PLATE

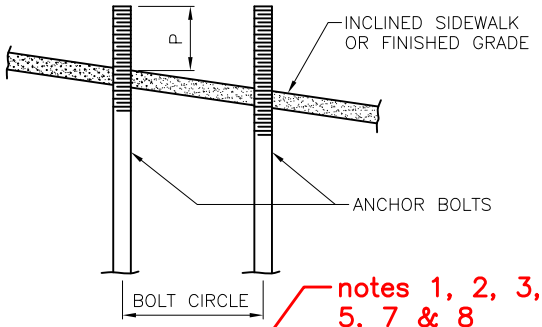


ANCHOR PLATE
PER FOUNDATION SCHEDULE



SIGNAL COUPLING
COUPLING TO BE FABRICATED & INSTALLED BEFORE GALVANIZING

Flange detail removed



INCLINED CONDITION revised

notes 1, 2, 3, 5, 7 & 8 revised

POLE FOUNDATION NOTES

1. CONCRETE MUST BE CLASS 4000P.
2. ANCHOR BOLTS MUST BE ASTM F1554 GRADE 105 CLASS 2A THREADS INCLUDING SUPPLEMENTARY REQUIREMENTS S2 THROUGH S4. NUTS: ASTM A563 HEAVY HEX GRADE DH. HARDENED STEEL WASHERS: ASTM F436.
3. BOTTOM ANCHOR PLATE: ASTM A36. HOT DIP GALVANIZED PER ASTM A123.
4. ALL REINFORCING BARS MUST BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A706, GRADE 60.
5. ANCHOR BOLTS MUST BE HOT DIP GALVANIZED PER ASTM F2329 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH A MINIMUM OF 18" OF THREADS ON TOP & 12" ON BOTTOM.
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8-32.3(2)A PRIOR TO POURING CONCRETE.
7. SEE STD PLAN NO 541a FOR FOUNDATION DETAILS.
8. FOUNDATION DEPTH, REINFORCEMENT AND ANCHOR BOLTS MUST BE IN CONFORMANCE WITH "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" (6TH EDITION, 2013). DESIGN BASIC WIND SPEED IS 85 MPH AND RECURRENCE INTERVAL/DESIGN LIFE IS 50 YEARS

POLE SCHEDULE

MAST ARM LENGTH	POLE BASE PLATE		
	SQUARE	BOLT CIRCLE "A"	BOLT HOLE
15'-0" TO 30'-0"	16" X 16"	14½"	1 13/16"
31'-0" TO 40'-0"	18" X 18"	16½"	2 1/16"
41'-0" TO 45'-0"	18" X 18"	18"	2 1/16"
46'-0" TO 60'-0"	20" X 20"	20"	2 5/16"

schedules revised

FOUNDATION SCHEDULE

MAST ARM LENGTH	ANCHOR BOLTS			ANCHOR PLATE DIMENSIONS			
	PROJECTION "P"	BOLT CIRCLE DIA	SIZE	SIZE	BOLT HOLE	CENTER HOLE	CORNER RADIUS
15'-0" TO 30'-0"	7½"	14½"	1½" X 60"	⅜" X 16" X 16"	1⅝"	10"	1⅝"
31'-0" TO 40'-0"	9"	16½"	1¾" X 72"	⅜" X 16" X 16"	1⅞"	12½"	1⅝"
41'-0" TO 45'-0"	9"	18"	1¾" X 72"	⅜" X 16" X 16"	1⅞"	12½"	1⅝"
46'-0" TO 60'-0"	10"	20"	2" X 72"	⅜" X 18" X 18"	2⅛"	14"	2"

FOUNDATION DEPTH MUST BE PER PLANS.

note revised

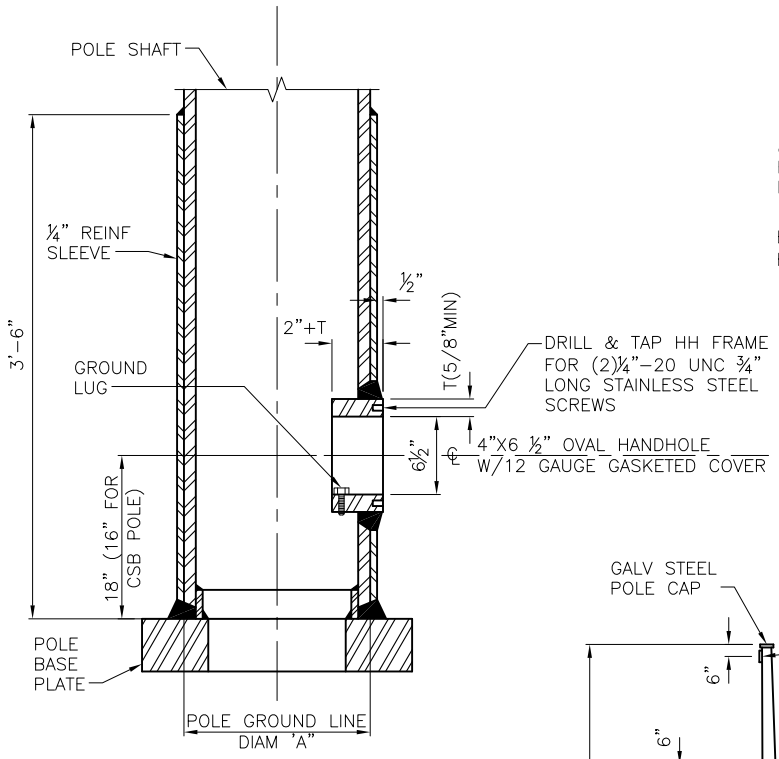
REF STD SPEC SEC 8-32

City of Seattle

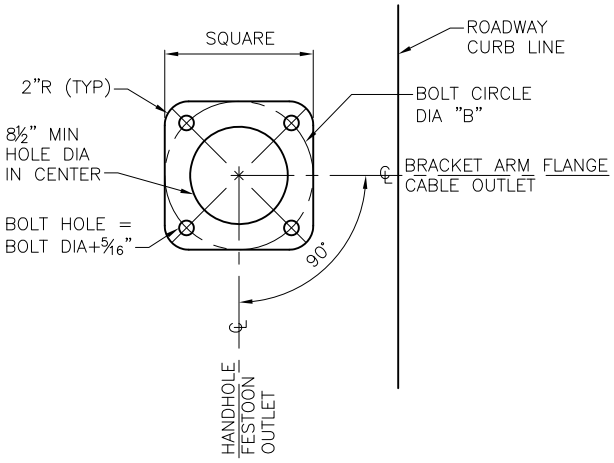
NOT TO SCALE

STEEL MAST ARM POLE FOUNDATION SCHEDULE & DETAIL W/O METRO TROLLEY LOADS)

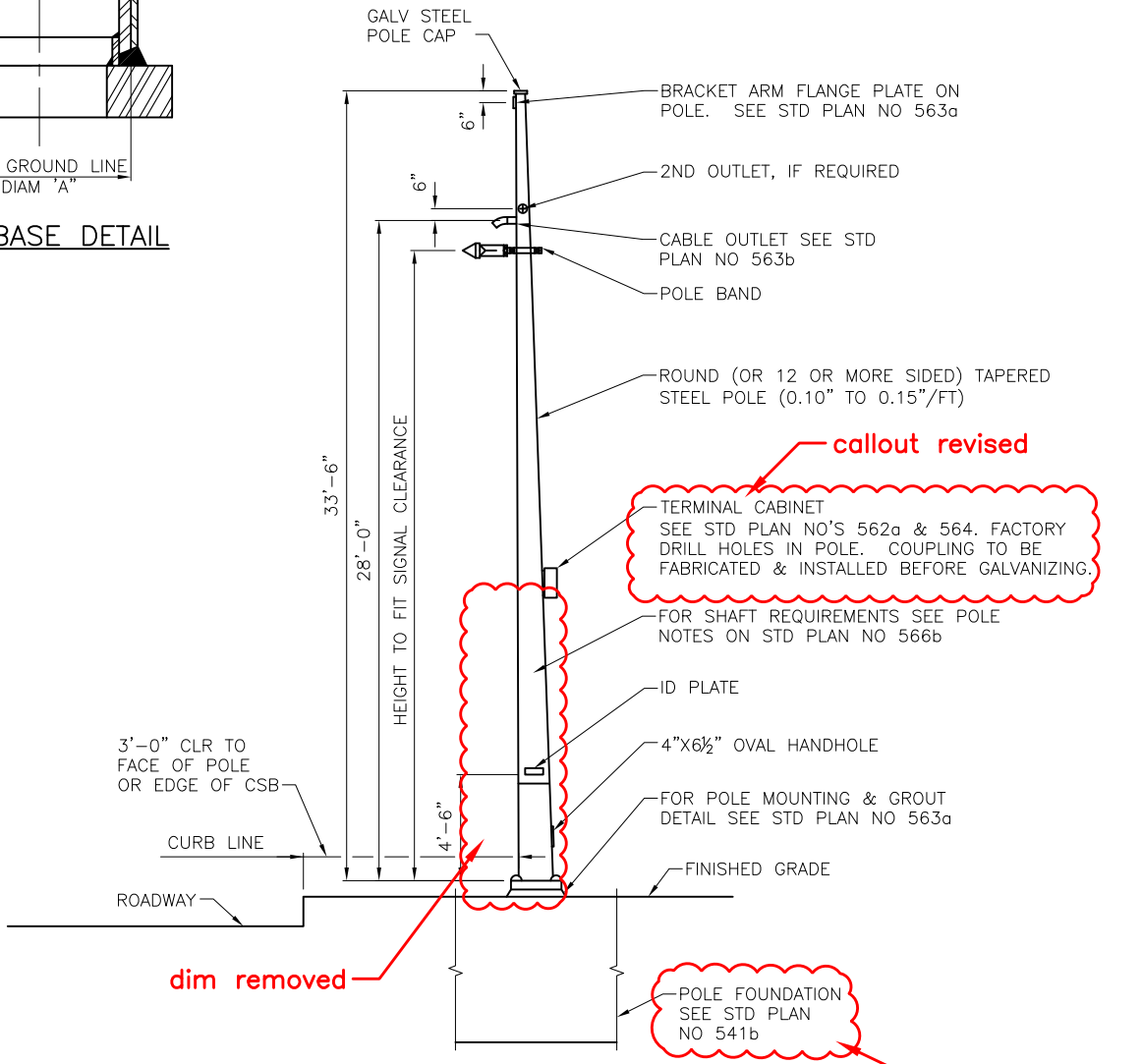
REV DATE: JAN 2020



POLE BASE DETAIL



POLE BASE PLATE



STRAIN POLE

REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	STRAIN POLE DETAILS (TYPE V, X & Z POLES)

schedule revised

POLE SCHEDULE

POLE TYPE	GROUND LINE DIA "A"		POLE BASE PLATE SIZE		BOLT CIRCLE DIA "B"	BOLT HOLE	ANCHOR BOLTS
	STD	CSB	STD	CSB			
V	12"	12"	1¾"X18"X18"	1¾"X23"X23"	18"	2 1/16"	1¾"DIA X 72"
X	14"	12½"	2"X20"X20"	2"X23"X23"	20"	2 5/16"	2"DIA X 72"
Z	15"	--	2½"X23"X23"	--	22"	2 13/16"	2½"DIA X 72"

NOTES:

1. POLE SHAFT AND REINFORCING SLEEVE: ASTM A572 GRADE 50, 60 OR 65 (Fy=50, 60 OR 65 KSI RESPECTIVELY) OR ASTM A595 GRADE A OR B (Fy=55 OR 60 KSI RESPECTIVELY).
2. ~~BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM~~ A572 GRADE 42. BASE PLATE Fy≥0.65 POLE SHAFT Fy THE BASE PLATE THICKNESS MAY BE REDUCED BY ¼" IF ASTM A572 GRADE 42 STEEL IS USED.
3. REINFORCING SLEEVE MUST BE FABRICATED FROM THE SAME MATERIAL AND YIELD STRENGTH AS THE POLE SHAFT.
4. POLE SHAFTS MUST HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
5. MINIMUM SHAFT WALL THICKNESS OF EACH PLY MUST BE 0.239" (3 GAUGE). POLE MUST HAVE A MAXIMUM OF TWO PLYS NOT INCLUDING THE ¼" REINFORCING SLEEVE.
6. MAXIMUM SILICON CONTENT IN STEEL MUST BE 0.04%. SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
7. POLE DIAMETER FOR 12 OR MORE SIDED POLES MUST BE MEASURED FROM THE POINT TO POINT DIMENSION.
8. POLES MUST MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT 25' ABOVE GROUND LINE.
9. POLE STRENGTH MUST MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (6TH EDITION, 2013). DESIGN WIND SPEED IS 85 MPH AND RECURRENCE INTERVAL/DESIGN LIFE IS 50 YEARS.

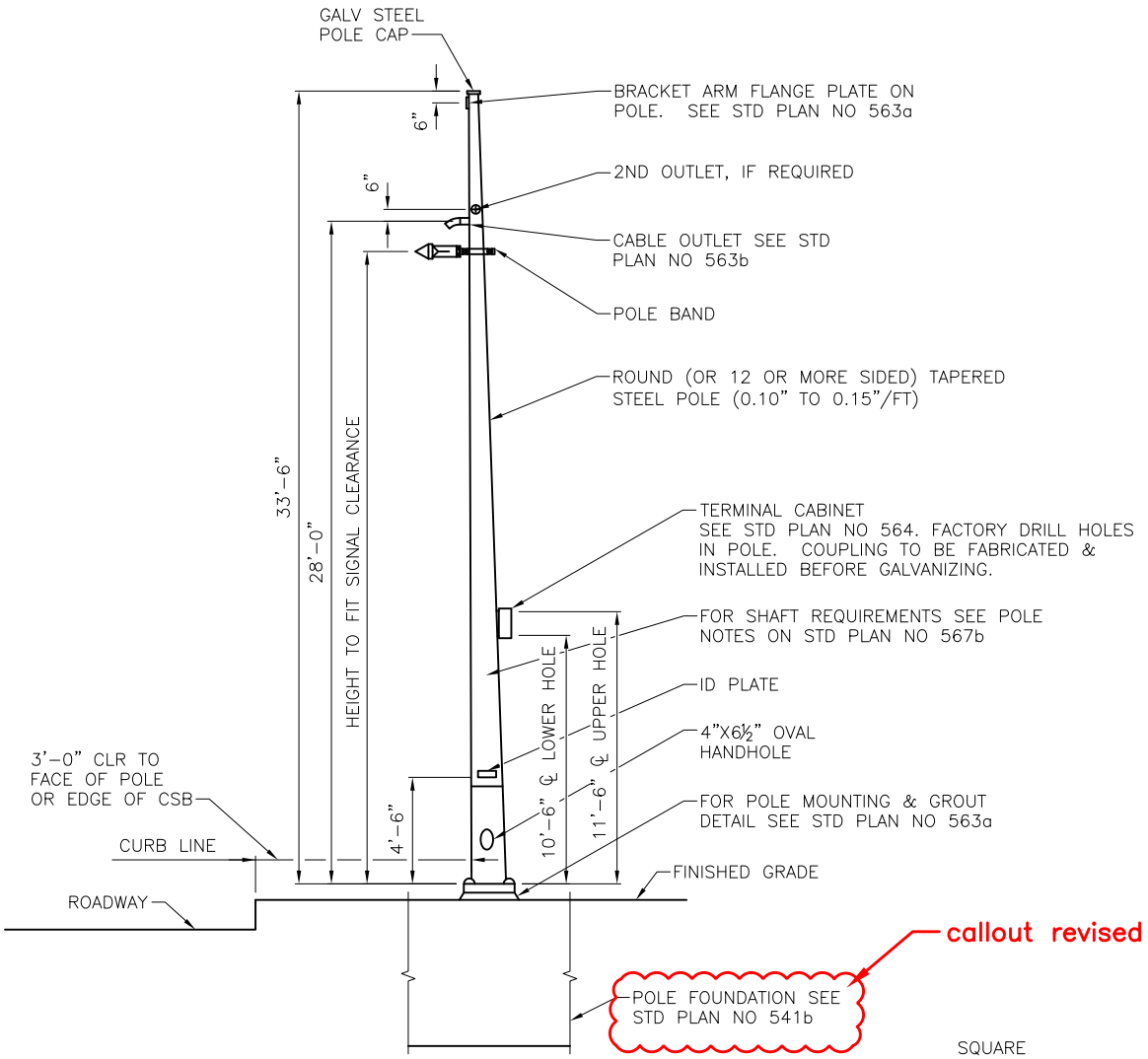
note 1 added

note 9 revised

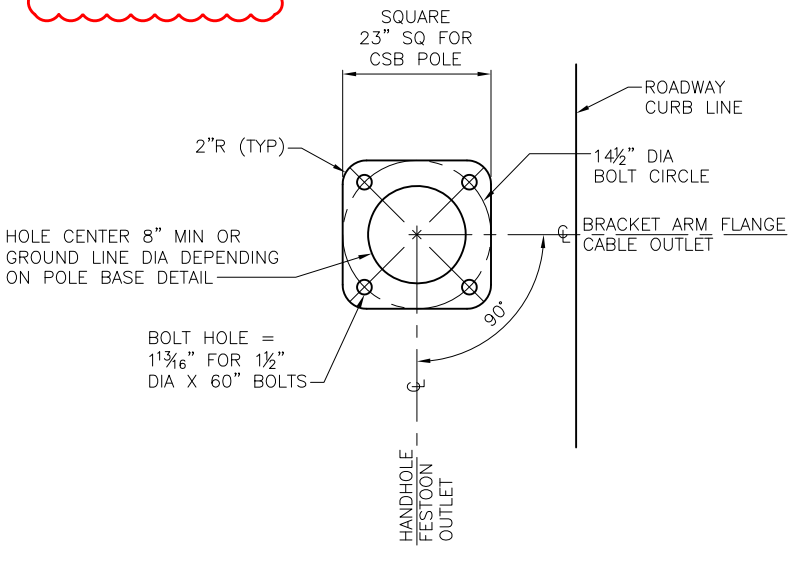
REF STD SPEC SEC 8-32, 9-33

City of Seattle | NOT TO SCALE | STRAIN POLE DETAILS (TYPE V, X, & Z POLES)

REV DATE: JAN 2020



STRAIN POLE



POLE BASE PLATE

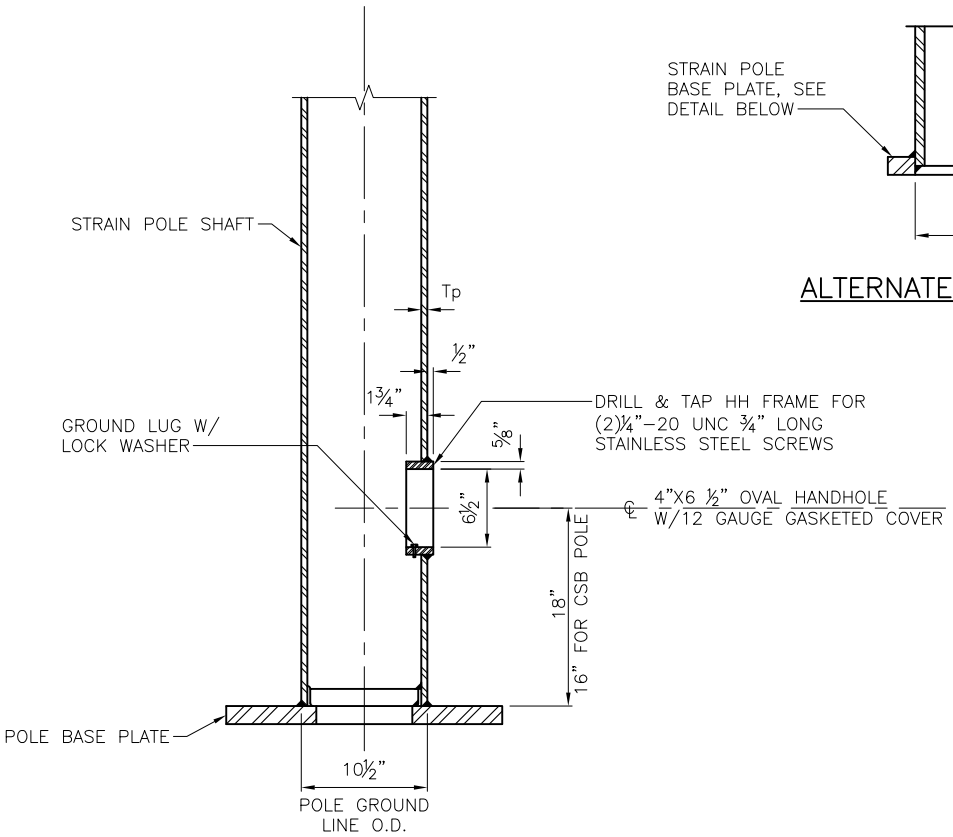
REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	TYPE T STRAIN POLE DETAILS TRAFFIC SIGNAL ONLY

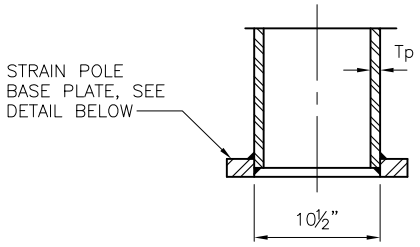
previous note 1 removed. other notes remain the same, new note 1 revised

NOTES:

1. POLE STRENGTH MUST MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (6TH EDITION, 2013). DESIGN WIND SPEED IS 85 MPH AND RECURRENCE INTERVAL/DESIGN LIFE IS 50 YEARS.
2. POLE SHAFT: ASTM A572 GRADE 50, 60 OR 65 (Fy=50, 60 OR 65 KSI RESPECTIVELY), OR ASTM A595 GRADE A OR B (Fy=55 OR 60 KSI RESPECTIVELY)
3. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE Fy≥0.65 POLE SHAFT Fy THE BASE PLATE THICKNESS MAY BE REDUCED BY ¼" IF ASTM A572 GRADE 42 STEEL IS USED.
4. POLE SHAFTS MUST HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
5. MINIMUM SHAFT WALL THICKNESS OF EACH PLY MUST BE 0.239" (3 GAUGE). POLE MUST HAVE A MAXIMUM OF TWO PLYS.
6. MAXIMUM SILICON CONTENT IN STEEL MUST BE 0.04%. SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
7. POLE DIAMETER FOR 12 OR MORE SIDED POLES MUST BE MEASURED FROM THE POINT TO POINT DIMENSION.
8. POLES MUST MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT 27' ABOVE GROUND LINE.
9. THE POLES MUST BE COMPACT AND MUST MEET THE REQUIREMENTS IN AASHTO SECTION 4, TABLE 1.4 1B(1).



POLE BASE DETAIL

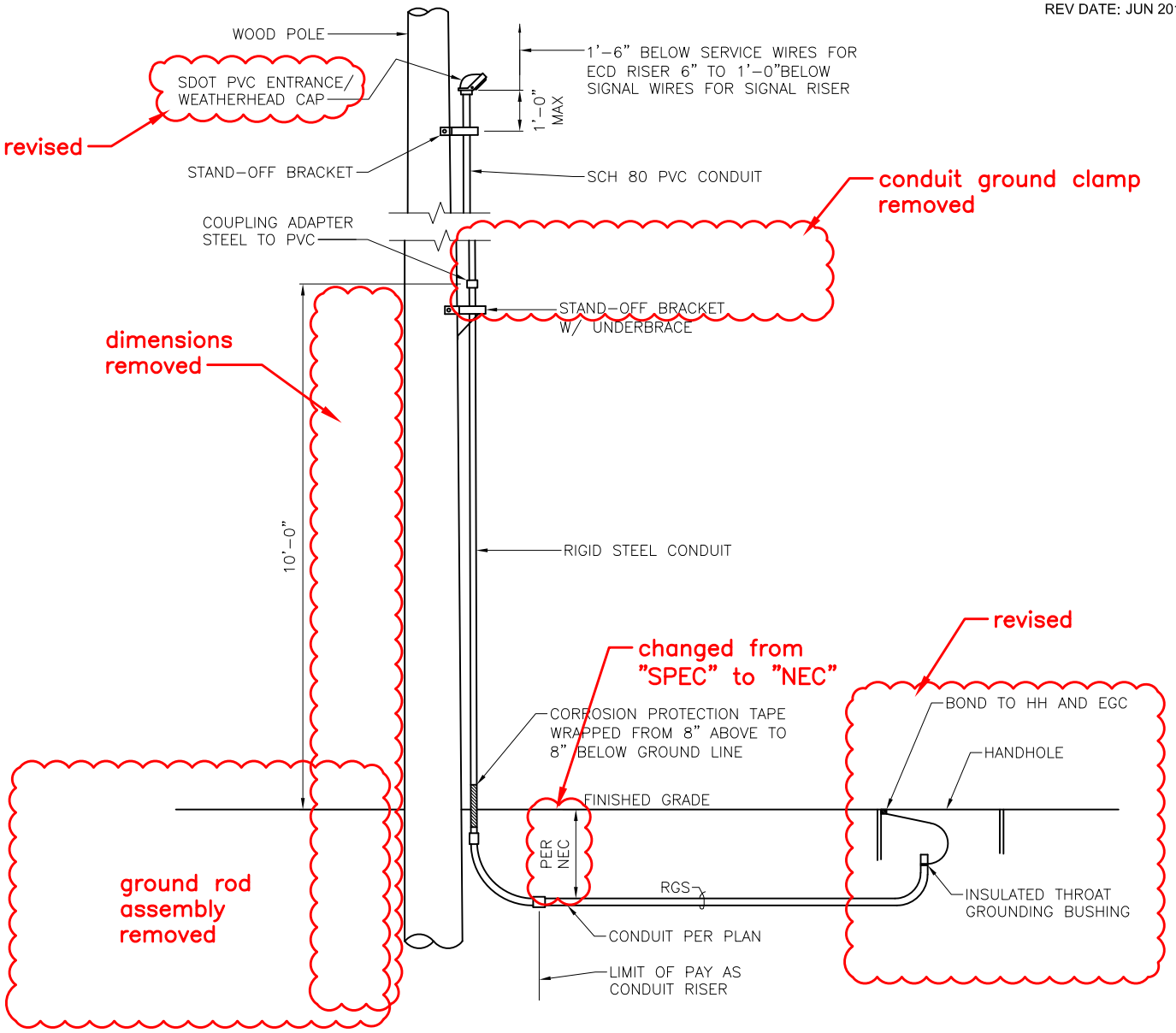


ALTERNATE POLE BASE DETAIL

REF STD SPEC SEC 8-32, 9-33

City of Seattle	NOT TO SCALE	TYPE T STRAIN POLE DETAILS TRAFFIC SIGNAL ONLY

REV DATE: JUN 2018



CONDUIT RISER (WITH STAND-OFF BRACKET*)

revised

*WHEN THERE WILL BE ONLY ONE CONDUIT (1½" OR SMALLER) ON THE POLE, TWO HOLE MALLEABLE IRON CLAMPS WITH DOUBLE HEADED NAILS MUST BE USED TO SECURE THE CONDUIT TO THE POLE IN LIEU OF THE STAND-OFF BRACKETS

NOTES:

1. ON POLES WITH EXISTING CONDUITS, NEW CONDUITS MUST BE INSTALLED IN ACCORDANCE WITH THIS STANDARD PLAN.
2. RIGID STEEL CONDUIT MUST BE GROUNDED JUST BELOW COUPLING, APPROXIMATELY 8'-0" TO 10'-0" ABOVE GROUND, AS SHOWN
3. ALL RISERS BONDED IN HH
4. THE GROUND WIRE MUST BE ONE CONTINUOUS LENGTH. INSERT THE GROUND WIRE FORM THE BOTTOM OF THE GROUND CLAMP & BEND OVER THE CLAMP BEFORE TIGHTENING
5. ALL STEEL HARDWARE MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123
6. CONDUIT CLAMP SPACING MUST BE PER THE NEC WITH A MINIMUM OF TWO HOLE CLAMP PER 10'-0" LENGTH OF CONDUIT
7. SERVICE AND SIGNAL CONDUCTORS MUST NOT BE PLACED IN THE SAME CONDUIT.
8. WHEN POSSIBLE, RISER MUST BE INSTALLED ON DOWNSTREAM SIDE OF TRAFFIC
9. SEE SCL CONSTRUCTION STANDARD 1714.50 FOR STREETLIGHT HANDHOLE AND CONDUIT REQUIREMENTS & 0224.34 FOR STREETLIGHT CONDUIT RISERS.

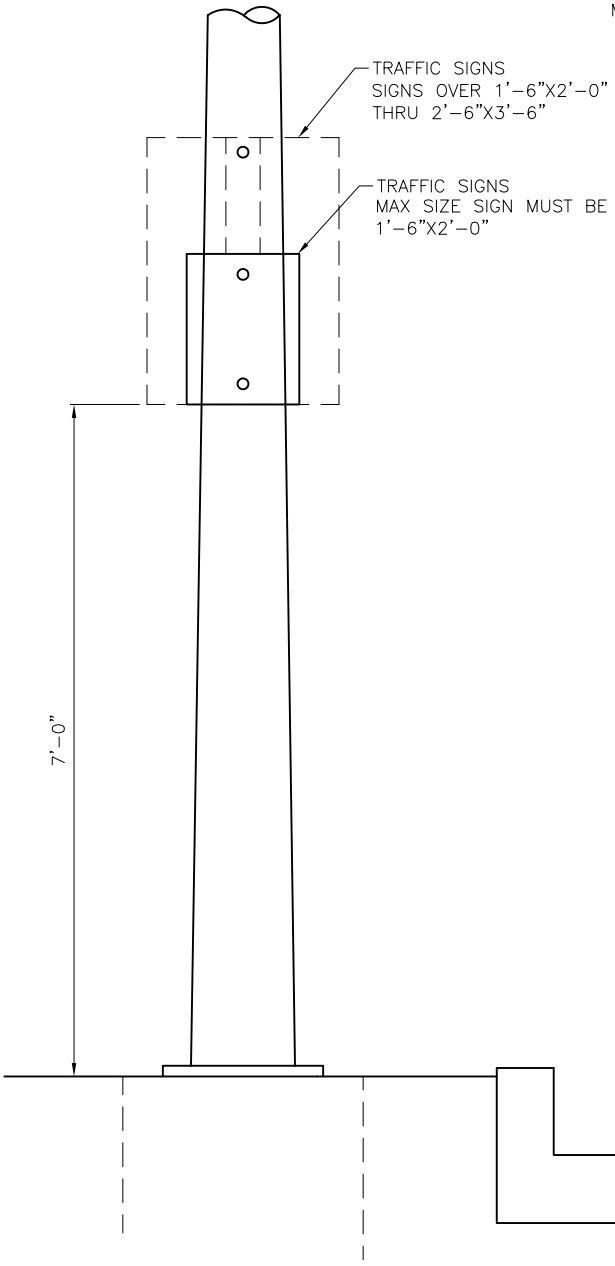
note 3 revised. previous note 5 removed and notes renumbered. notes 7 & 9 revised.

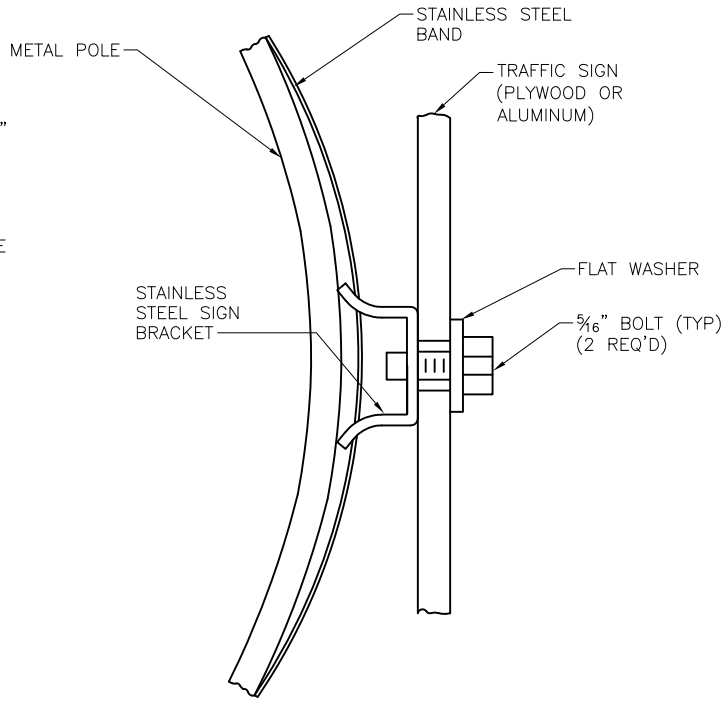
revised

REF STD SPEC SEC 8-33

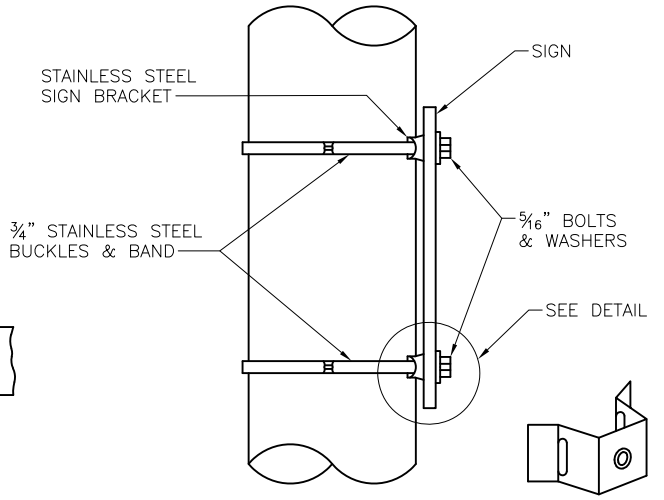
City of Seattle	NOT TO SCALE	TRAFFIC CONDUIT RISER

REV DATE: AUG 2019





TOP VIEW



SIDE VIEW

DETAIL
STAINLESS STEEL
SIGN BRACKET

NOTES:

1. ON POLES FILLED WITH OR MADE FROM CONCRETE USE 5/16"X2½"MIN STUD BOLT ANCHORS WITH HEX NUT.
2. FOR SIGNS OVER 2'-6"X3'-6" MOUNT SIGNS USING SIGN BRACKETS AS SPECIFIED IN SECTION 8-21.3(1)B3 FOR STREET DESIGNATION SIGNS.
3. FOR DARK COLORED POLES PAINT BAND TO MATCH POLE.
4. ALL HARDWARE TO BE STAINLESS STEEL.

note 2 revised

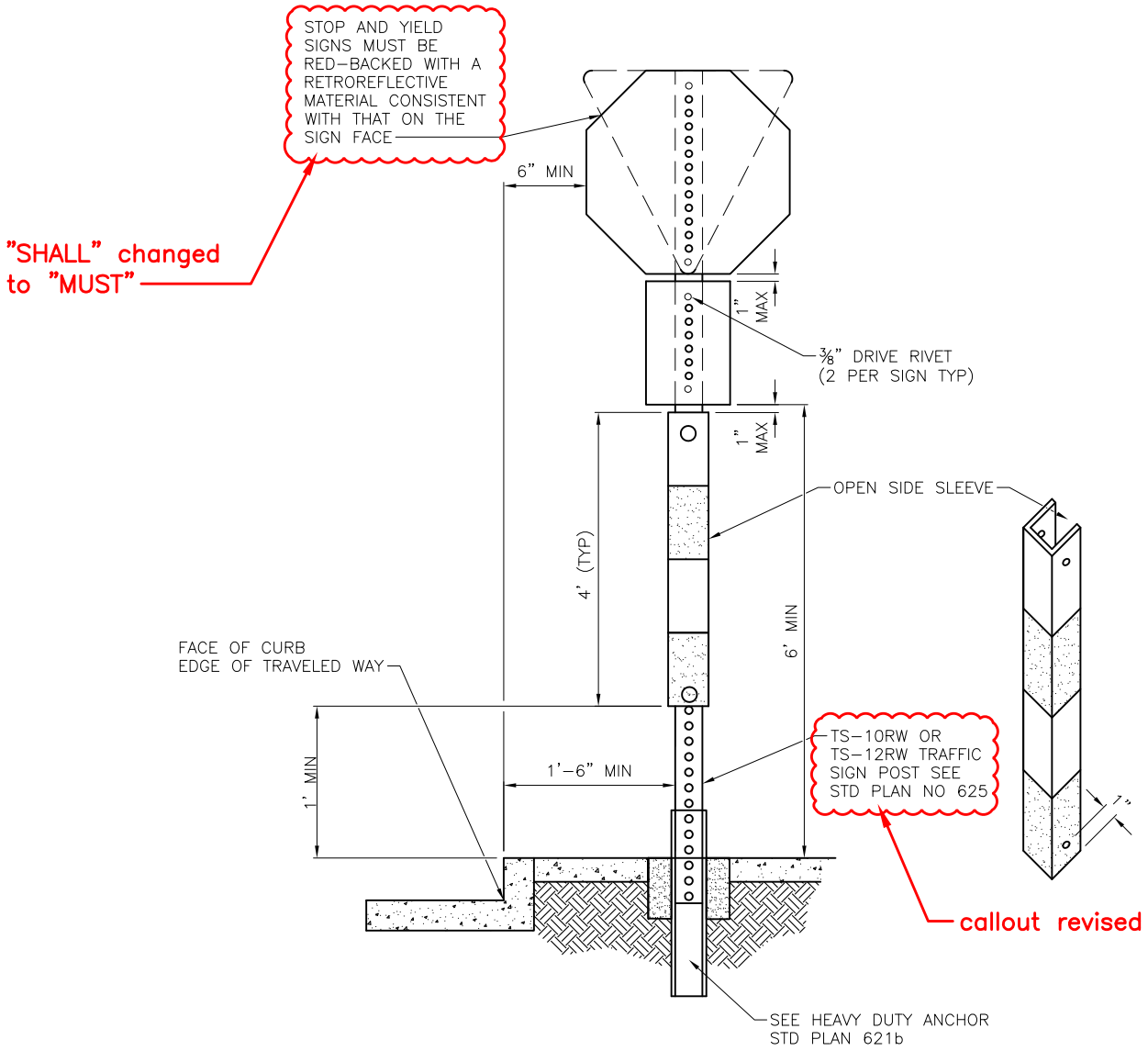
REF STD SPEC SEC 8-21

City of Seattle

NOT TO SCALE

TRAFFIC SIGN MOUNTING ON METAL POLES

REV DATE: AUG 2019



POST ANCHOR INSTALLATIONS

NOTE:

1. CONTACT SEATTLE DEPARTMENT OF TRANSPORTATION (684–5087) FOR DETAILS REGARDING SIGN MESSAGE AND FOUNDATION.
2. STEEL SELF–TAPPING #10 X ½" WITH HEX WASHER HEAD ZINC PLATED
3. RED AND WHITE SLEEVE
4. SEE STANDARD 621a FOR OTHER WARNING & REGULATORY SIGN POST

REF STD SPEC SEC 8-21

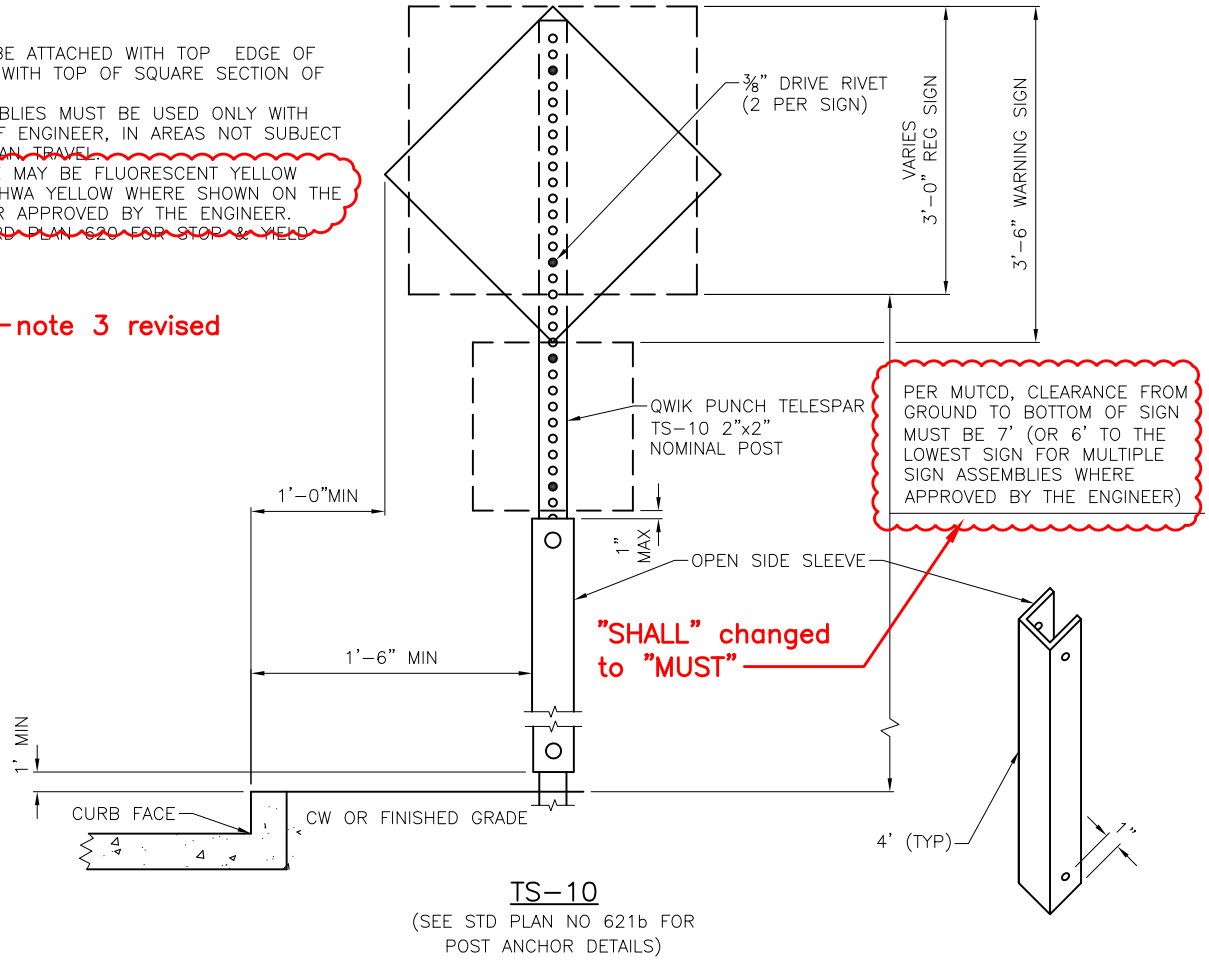
City of Seattle	NOT TO SCALE	STOP AND YIELD SIGN POST AND ANCHOR INSTALLATION

REV DATE: AUG 2019

NOTES:

1. SIGN MUST BE ATTACHED WITH TOP EDGE OF SIGN FLUSH WITH TOP OF SQUARE SECTION OF POST.
2. TS–5 ASSEMBLIES MUST BE USED ONLY WITH APPROVAL OF ENGINEER, IN AREAS NOT SUBJECT TO PEDESTRIAN TRAVEL.
3. POST SLEEVE MAY BE FLUORESCENT YELLOW GREEN OR FHWA YELLOW WHERE SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
4. SEE STANDARD PLAN 620 FOR STOP & YIELD SIGN POST.

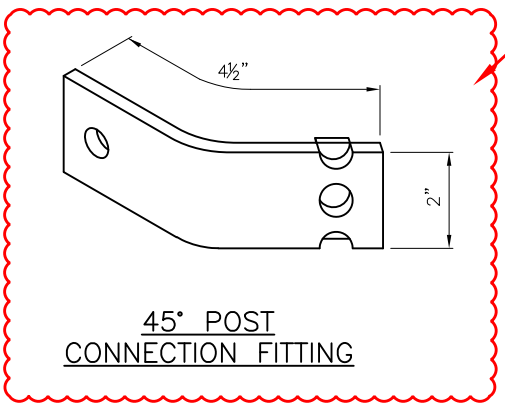
note 3 revised



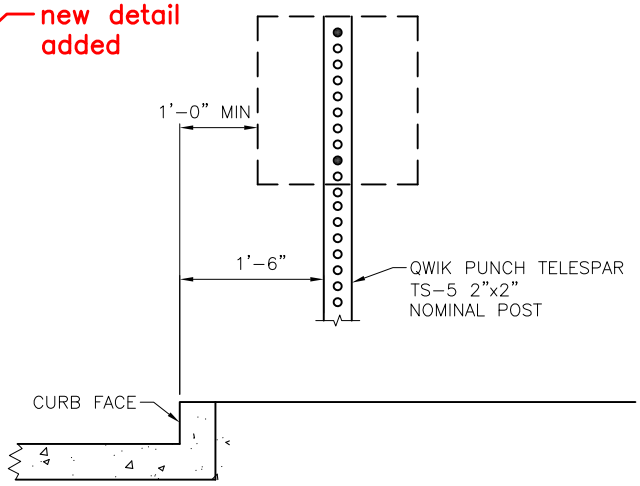
TS–10

(SEE STD PLAN NO 621b FOR POST ANCHOR DETAILS)

new detail added



45° POST CONNECTION FITTING



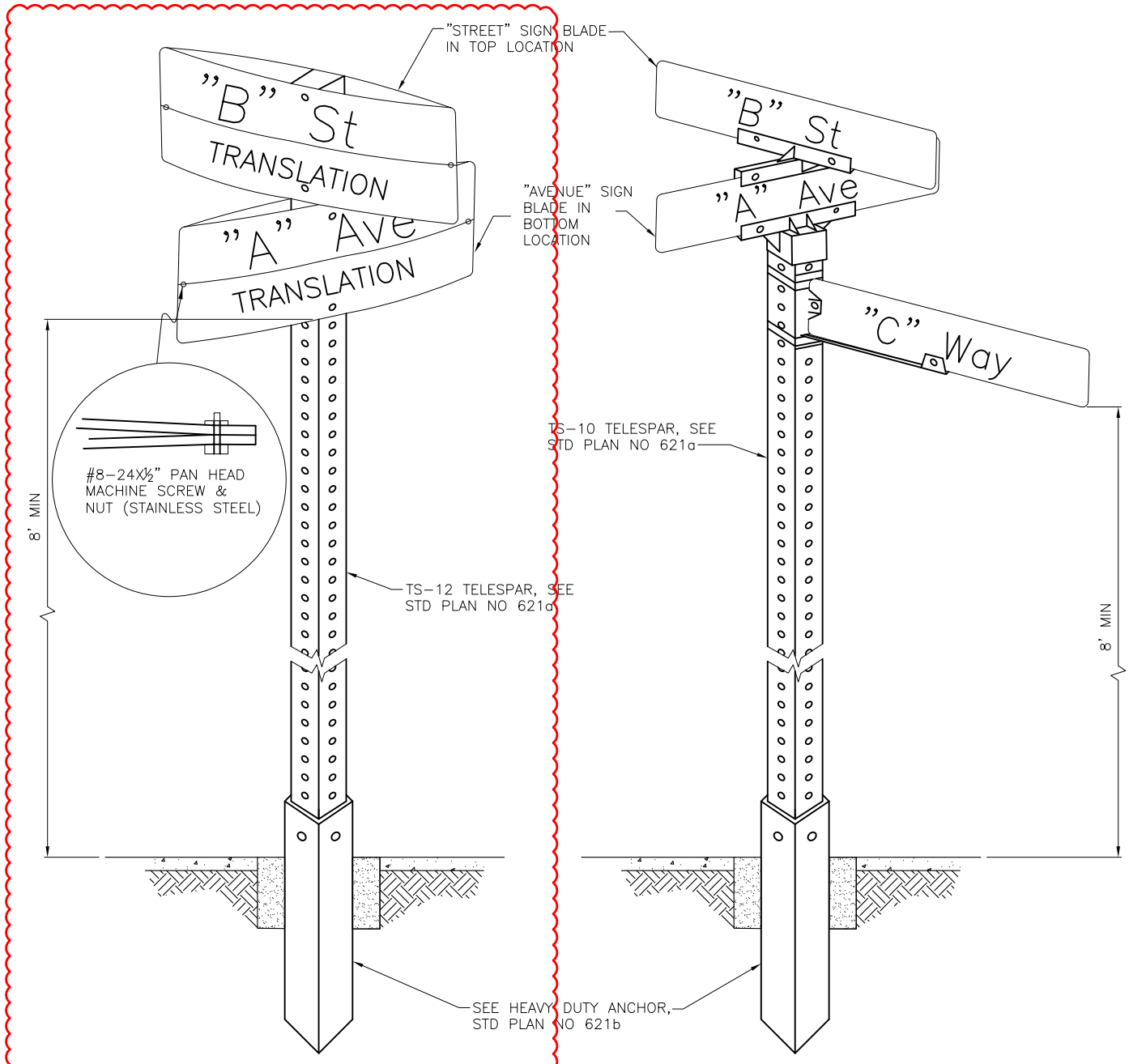
TS–5

(SEE STD PLAN NO 621b FOR POST ANCHOR DETAILS)

REF STD SPEC SEC 8-21

City of Seattle	NOT TO SCALE	WARNING AND REGULATORY SIGN POST

REV DATE: DEC 2019



bilingual installation added

note 4 revised

note 5 removed

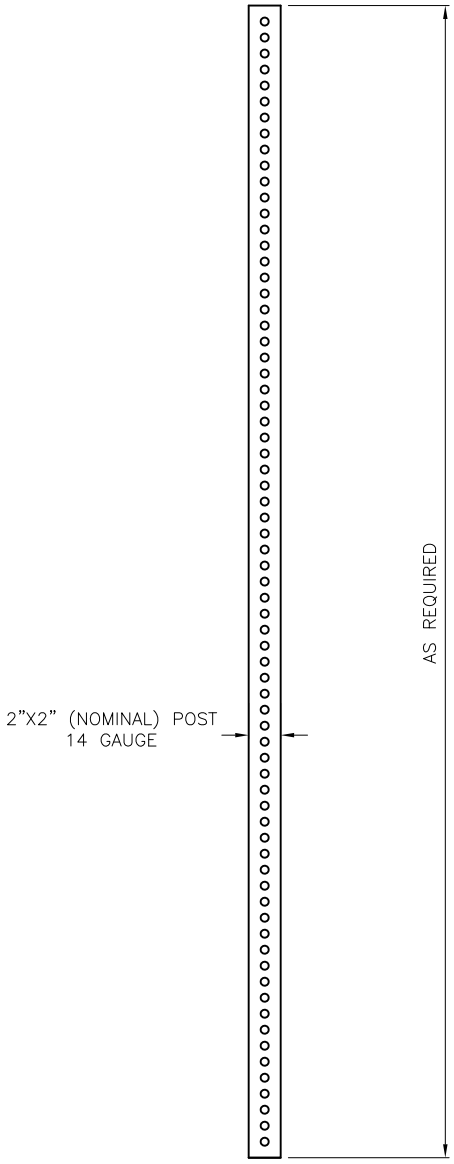
NOTES:

1. SNS BLADE MUST BE INSTALLED PARALLEL TO CORRESPONDING STREET
2. INSTALLATION OF SNS ON ANY OTHER METAL POLE MUST REQUIRE REVIEW AND APPROVAL BY THE ENGINEER
3. SNS/SP RELOCATION: OLD CONCRETE MUST BE REMOVED AND NEW CONCRETE BASE SHALL BE CONSTRUCTED
4. ALL STREET NAME SIGNS WILL BE FURNISHED BY THE CITY OF SEATTLE AT PROJECT OR PERMITEE'S EXPENSE

REF STD SPEC SEC 8-21

City of Seattle	NOT TO SCALE	STREET NAME SIGN INSTALLATION

REV DATE: DEC 2019



title revised →

PERFORATED TELESPAR STANDARD SIGN POST
(TS–5, TS–10, TS–12)(SEE NOTE 2)

NOTES:

~~1. SEE STD. PLANS NO. 620 & 621.~~

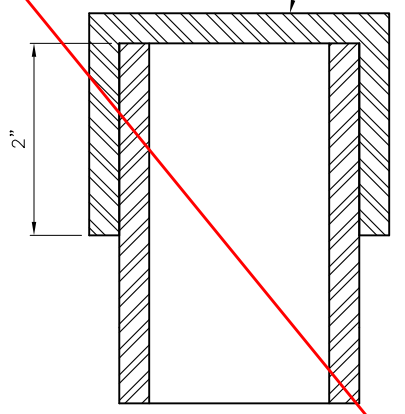
note 2 added →

2. SUFFIXES ATTACHED TO TELESPAR NAME DESIGNATIONS INDICATE SLEEVE TYPES: RW–RED/WHITE, FYG–FLOURESCENT YELLOW GREEN, Y–FHWA YELLOW.

REF STD SPEC SEC 8-21

City of Seattle	NOT TO SCALE	TRAFFIC SIGN POSTS

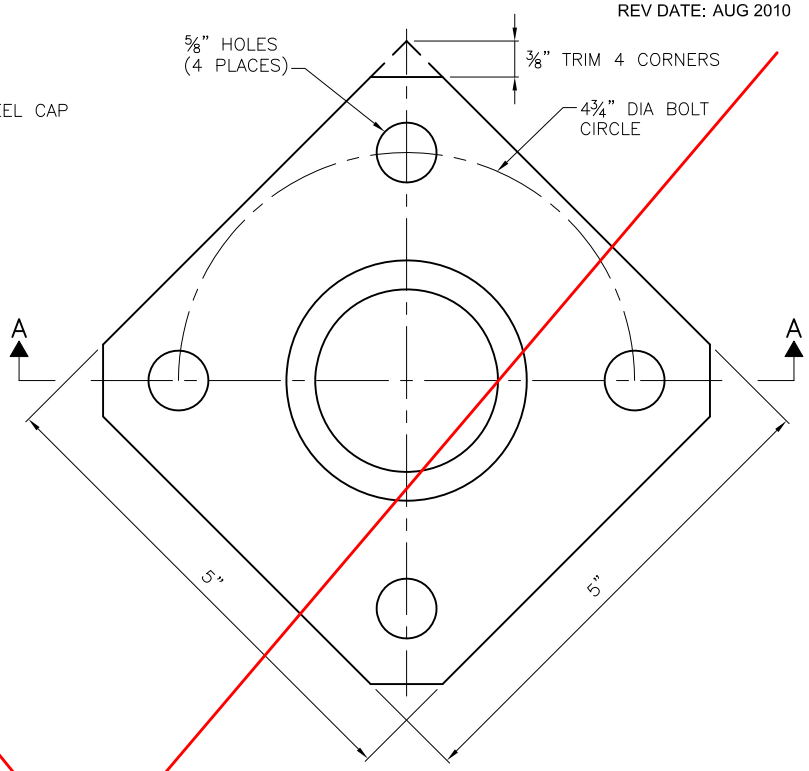
REV DATE: AUG 2010



METER POST CAP

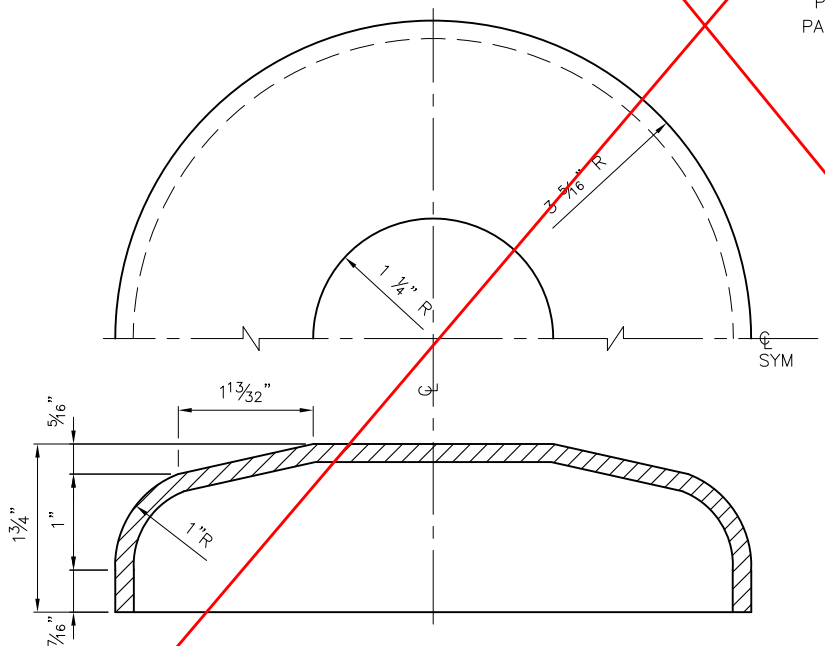
(TO BE USED W/ SIGN INSTALLATION)

std plan deleted



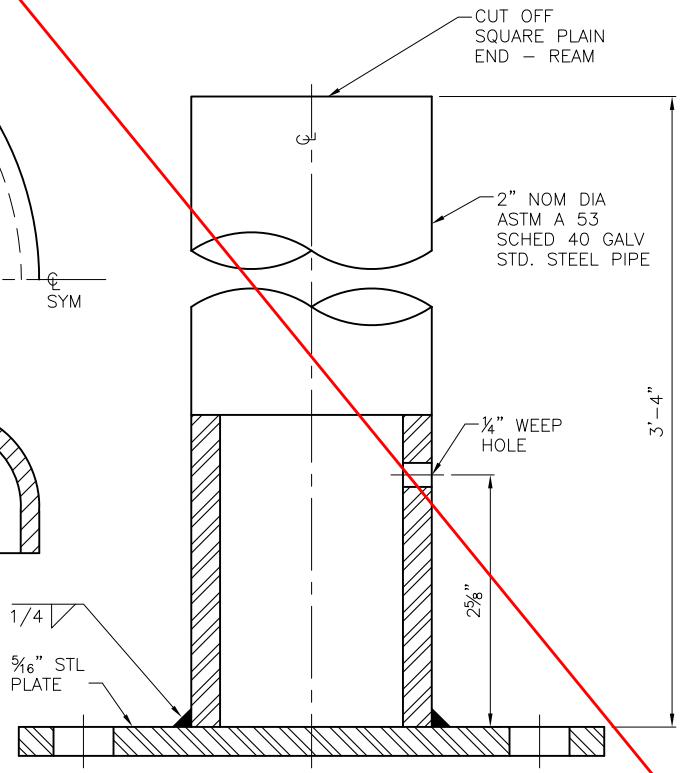
METER POST

PRIME WITH EPOXY ZINC PHOSPHATE PRIMER.
PAINT WITH TWO (2) COATS OF POLY URETHANE
PAINT, ALUMINUM COLOR



METER POST BASE CANOPY

MATERIAL: 0.062' 2–5–0 ALUM



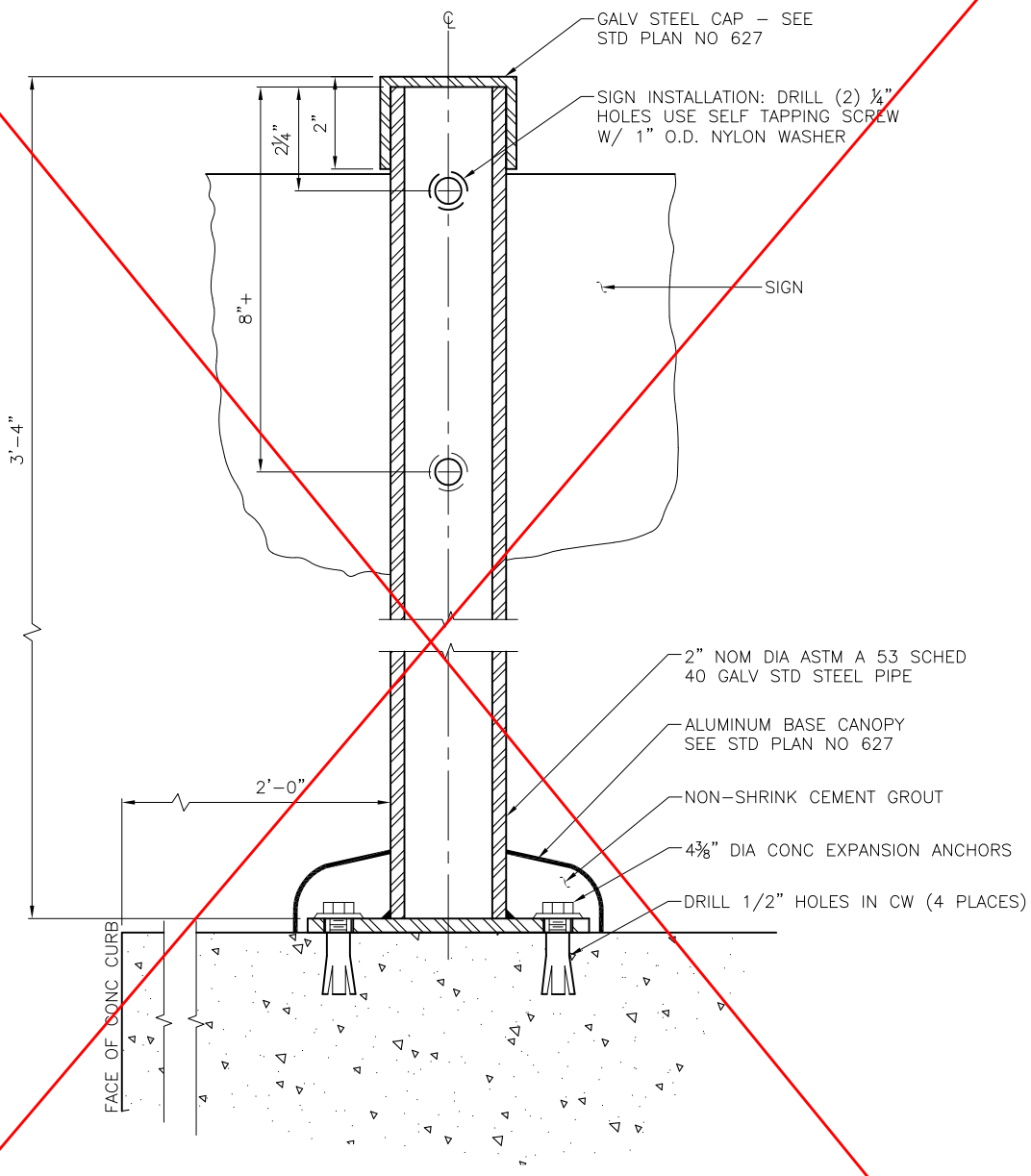
SECTION A–A

REF STD SPEC SEC 8-21

City of Seattle	NOT TO SCALE	PARKING METER POST & ACCESSORIES

REV DATE: AUG 2013

std plan deleted

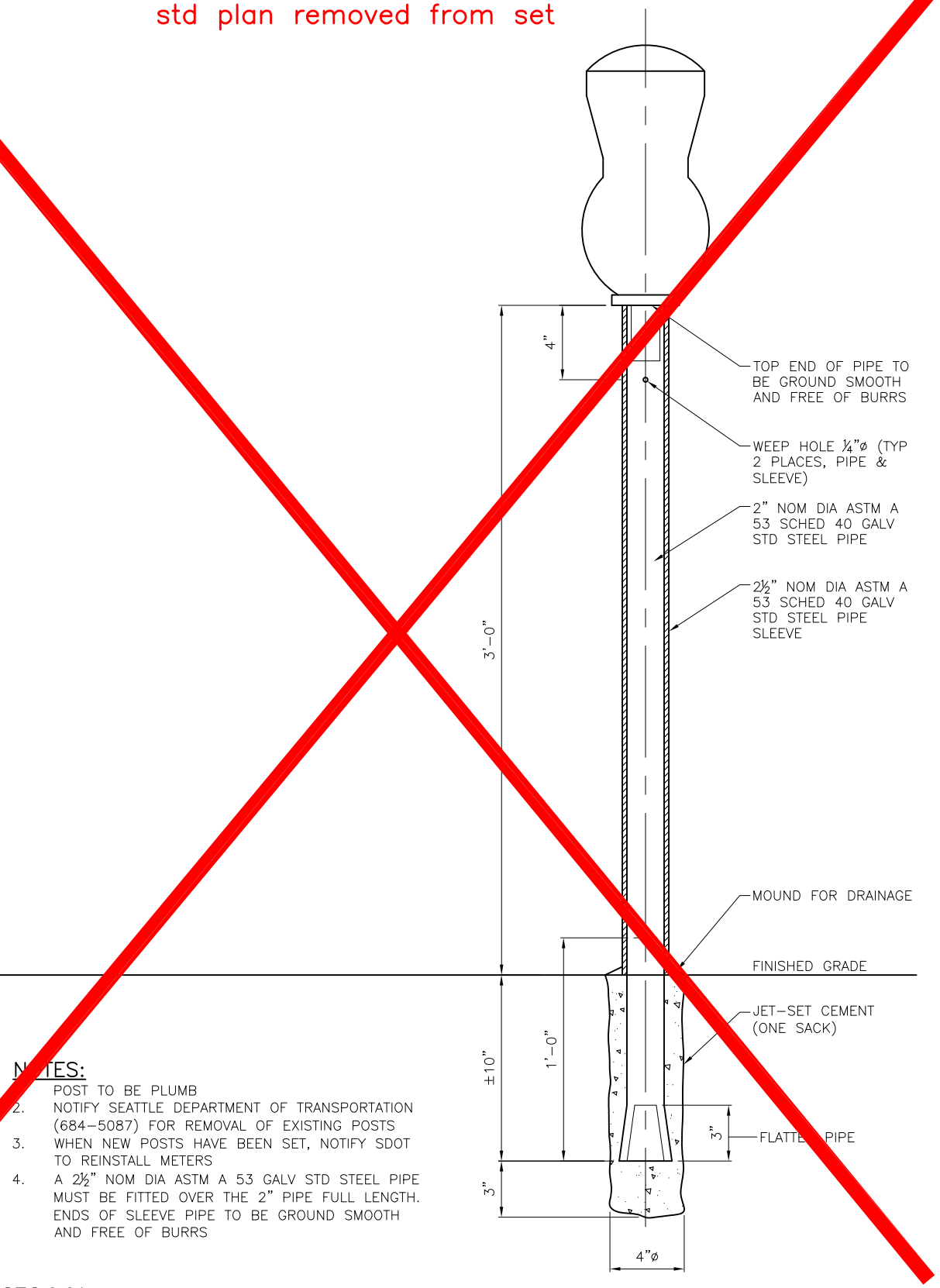


REF STD SPEC SEC 8-21

City of Seattle	NOT TO SCALE	SURFACE MOUNT METER POST INSTALLATION DETAIL

REV DATE: 2003

std plan removed from set



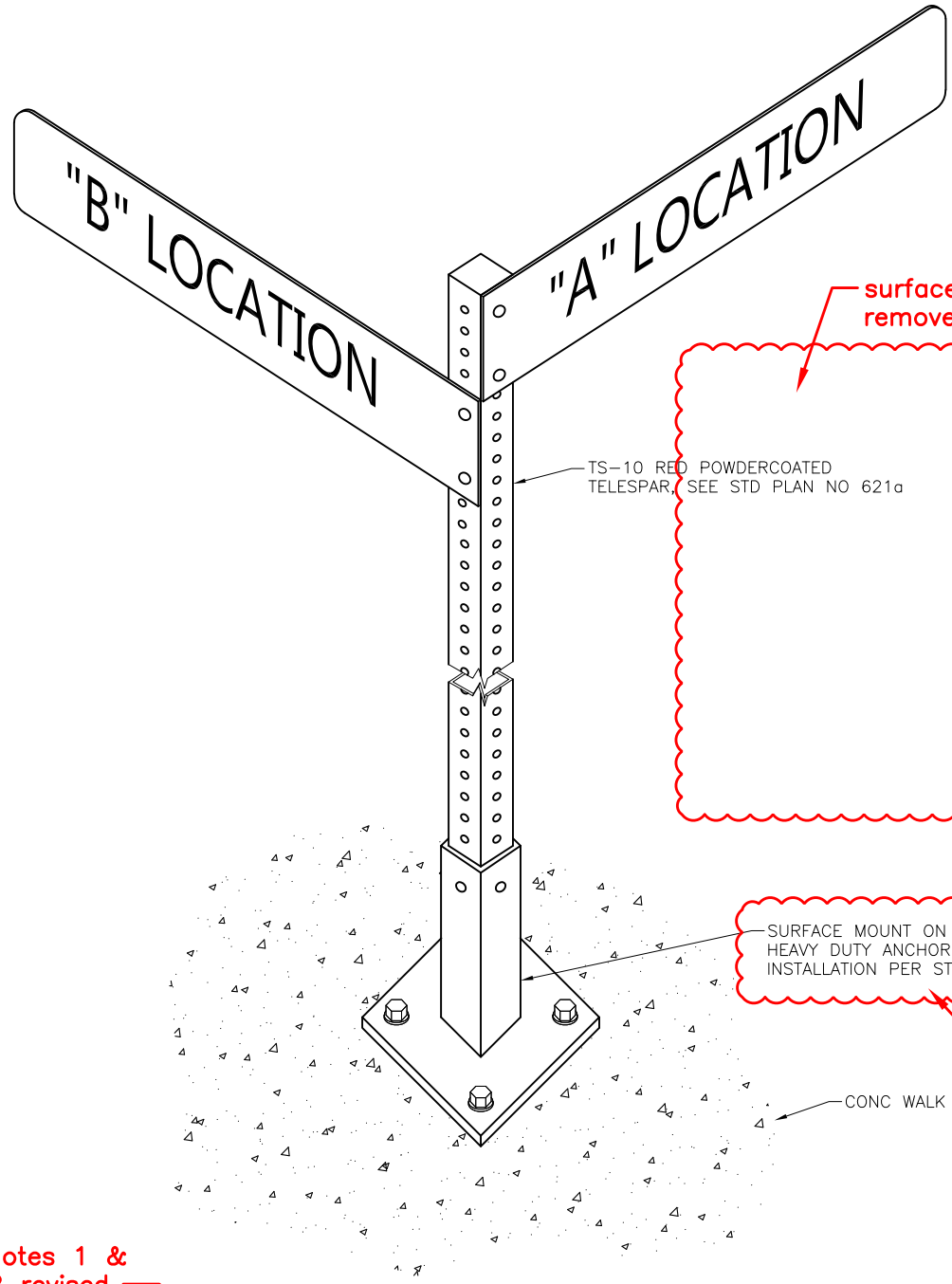
NOTES:

1. POST TO BE PLUMB
2. NOTIFY SEATTLE DEPARTMENT OF TRANSPORTATION (684-5087) FOR REMOVAL OF EXISTING POSTS
3. WHEN NEW POSTS HAVE BEEN SET, NOTIFY SDOT TO REINSTALL METERS
4. A 2½" NOM DIA ASTM A 53 GALV STD STEEL PIPE MUST BE FITTED OVER THE 2" PIPE FULL LENGTH. ENDS OF SLEEVE PIPE TO BE GROUND SMOOTH AND FREE OF BURRS

REF STD SPEC SEC 8-21

City of Seattle | NOT TO SCALE | DIRECT BURIAL METER POST INSTALLATION DETAIL

REV DATE: JUL 2019



surface mount detail removed

callout revised

notes 1 & 2 revised.

NOTES:

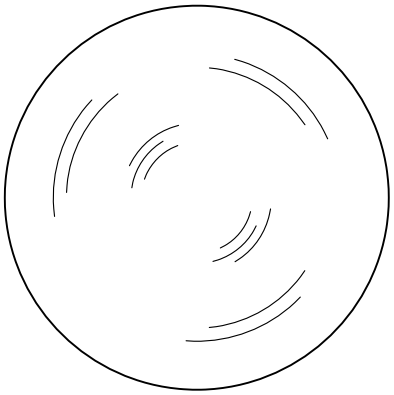
1. WAYFINDING BLADE MUST BE INSTALLED POINTING IN THE DIRECTION OF THE LOCATION ON BLADE.
2. CITY OF SEATTLE WILL FABRICATE WAYFINDING SIGNS. CONTRACTOR MUST SUPPLY MOUNTING HARDWARE AND INSTALL SIGNS.
3. MAINTAIN 8 FEET MINIMUM OF VERTICAL CLEARANCE FROM CONCRETE WALK TO THE BOTTOM OF PEDESTRIAN WAYFINDING BLADES.

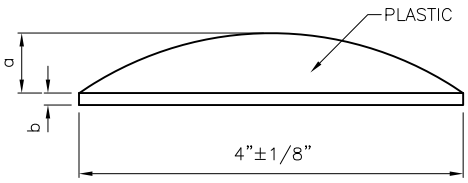
spec sec added

REF STD SPEC SEC 8-21

City of Seattle	NOT TO SCALE	PEDESTRIAN WAYFINDING SIGN

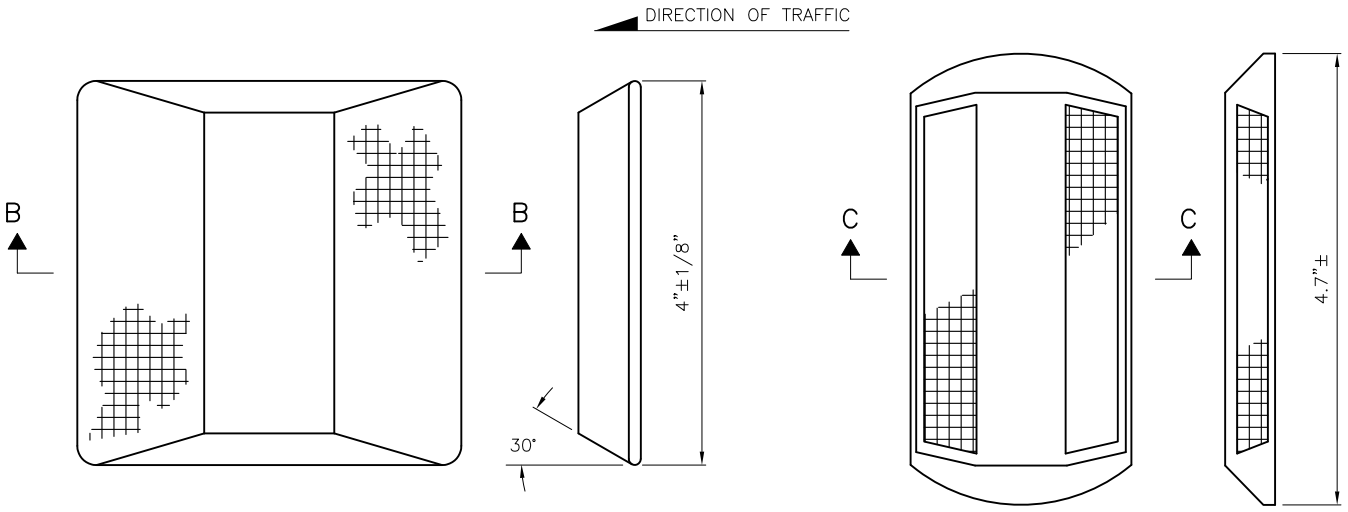
REV DATE: JUL 2019

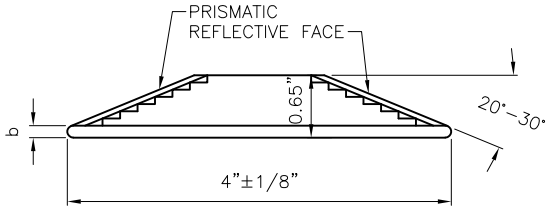




LANE MARKER–TYPE 1

a=5/8"±1/8"
b=1/8"±1/16"

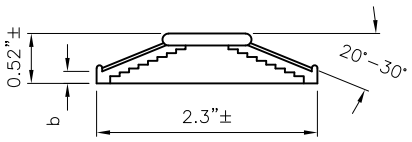




SECTION B–B

LANE MARKER–TYPE 2A

4"PRISMATIC REFLECTIVE MARKER



SECTION C–C

LANE MARKER–TYPE 2B

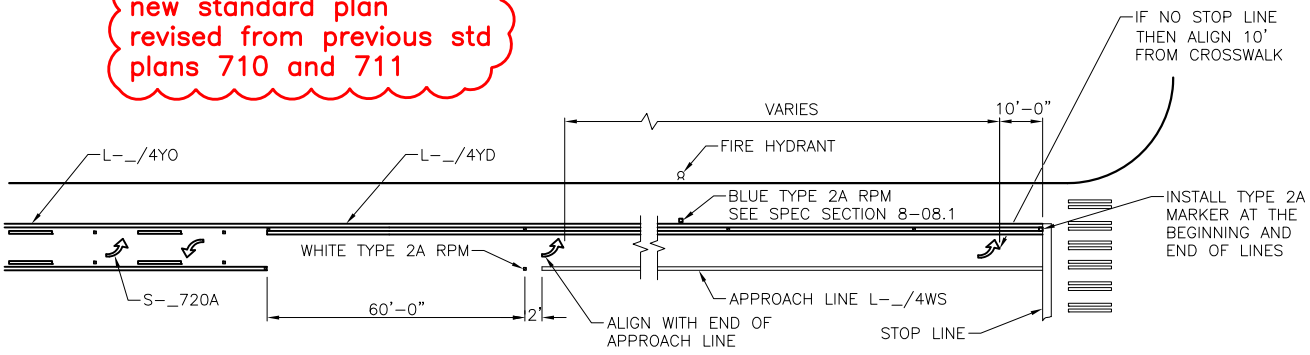
9–21 removed

REF STD SPEC SEC 8-08

City of Seattle | NOT TO SCALE | TRAFFIC BUTTONS & LANE MARKERS

REV DATE: DEC 2019

new standard plan revised from previous std plans 710 and 711



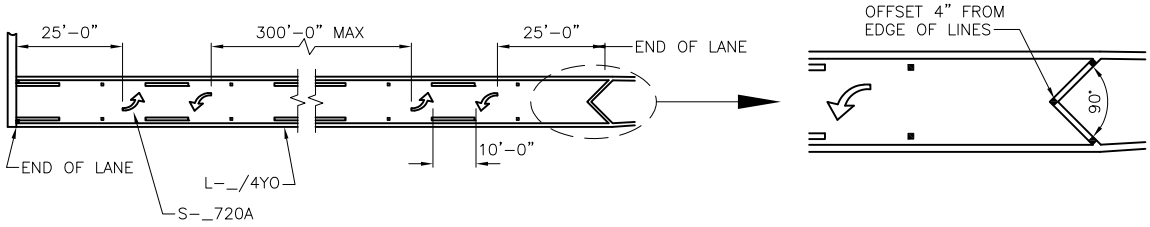
TYPICAL TURN LANE CHANNELIZATION

NUMBER OF LEGEND SETS REQUIRED BASED ON THE LENGTH OF APPROACH LINES

APPROACH LENGTH	LEGEND SETS
LESS THAN 50 FEET	1 SET AT X-WALK END OF POCKET
50 FEET TO 120 FEET	2 SETS
125 FEET TO 300 FEET	3 SETS (SECOND LEGEND LOCATED MIDWAY BETWEEN FIRST AND LAST LEGENDS)
OVER 300 FEET	ADDITIONAL SETS SPACED AT APPROX 100 FT INTERVALS BETWEEN FIRST AND LAST SETS

NOTES:

LEFT TURN LANE LAYOUT SHOWN ABOVE. SAME LAYOUT APPLIES FOR OTHER TURN LANES.



TYPICAL TWO WAY LEFT TURN LANE CHANNELIZATION

NUMBER OF LEGEND SETS REQUIRED BASED ON THE LENGTH OF TYPICAL TWO WAY LEFT TURN LANES

APPROACH LENGTH	LEGEND SETS
LESS THAN 50 FEET	1 SET AT X-WALK END OF POCKET
50 FEET TO 300 FEET	2 SETS
OVER 300 FEET	3 SETS (SECOND LEGEND LOCATED MIDWAY BETWEEN FIRST AND LAST LEGENDS) ADDITIONAL SETS SPACED AT APPROX 300 FT INTERVALS

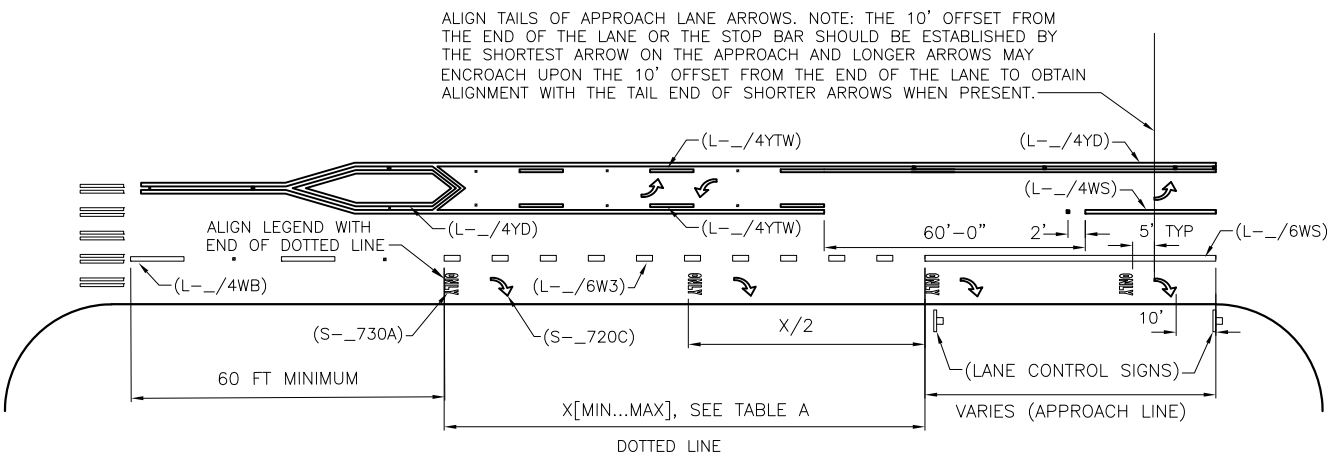
NOTE:

LINE CALLOUTS ARE IDENTIFIED & DESCRIBED IN STD SPEC SEC 8-22.

REF STD SPEC SEC 8-22

City of Seattle | NOT TO SCALE | TYPICAL TURN LANE CHANNELIZATION AND LEGEND PLACEMENT

REV DATE: DEC 2019



NOTE:
LEGENDS, SYMBOLS & ARROWS MUST BE CENTERED WITHIN THE LANE TO WHICH THEY APPLY, AS SHOWN.

new standard plan revised from previous std plan 710

TABLE A

POSTED OR 85TH-PERCENTILE SPEED	X MAX	X MIN
	MUTCD TABLE 2C-4 CONDITION A	MERGING TAPER
20 MPH	225 FT	75 FT
25 MPH	325 FT	115 FT
30 MPH	460 FT	165 FT
35 MPH	565 FT	225 FT
40 MPH	670 FT	295 FT
45 MPH	775 FT	375 FT

TYPICAL LEGEND AND SYMBOL INSTALLATION DETAILS

LINE LENGTH	LEGEND SETS	
	WITHIN APPROACH LINE	WITHIN DOTTED LINE
LESS THAN 50 FEET	APPROACH LINE (1 TOTAL)	NA
50 FEET TO 120 FEET	ADD 1 SET AT BEGINNING OF APPROACH LINE (2 TOTAL)	ADD 1 SET MIDWAY BETWEEN FIRST SET AND APPROACH LINE (2 TOTAL)
125 FEET TO 300 FEET	ADD 1 SET LOCATED MIDWAY BETWEEN FIRST AND LAST SETS (3 TOTAL)	ADD 1 SET, WITH EQUAL INTERVALS, BETWEEN FIRST SET AND APPROACH LINE (3 TOTAL)
OVER 300 FEET	ADD SETS SPACED AT APPROX. 100 FEET INTERVALS BETWEEN FIRST AND LAST SETS	

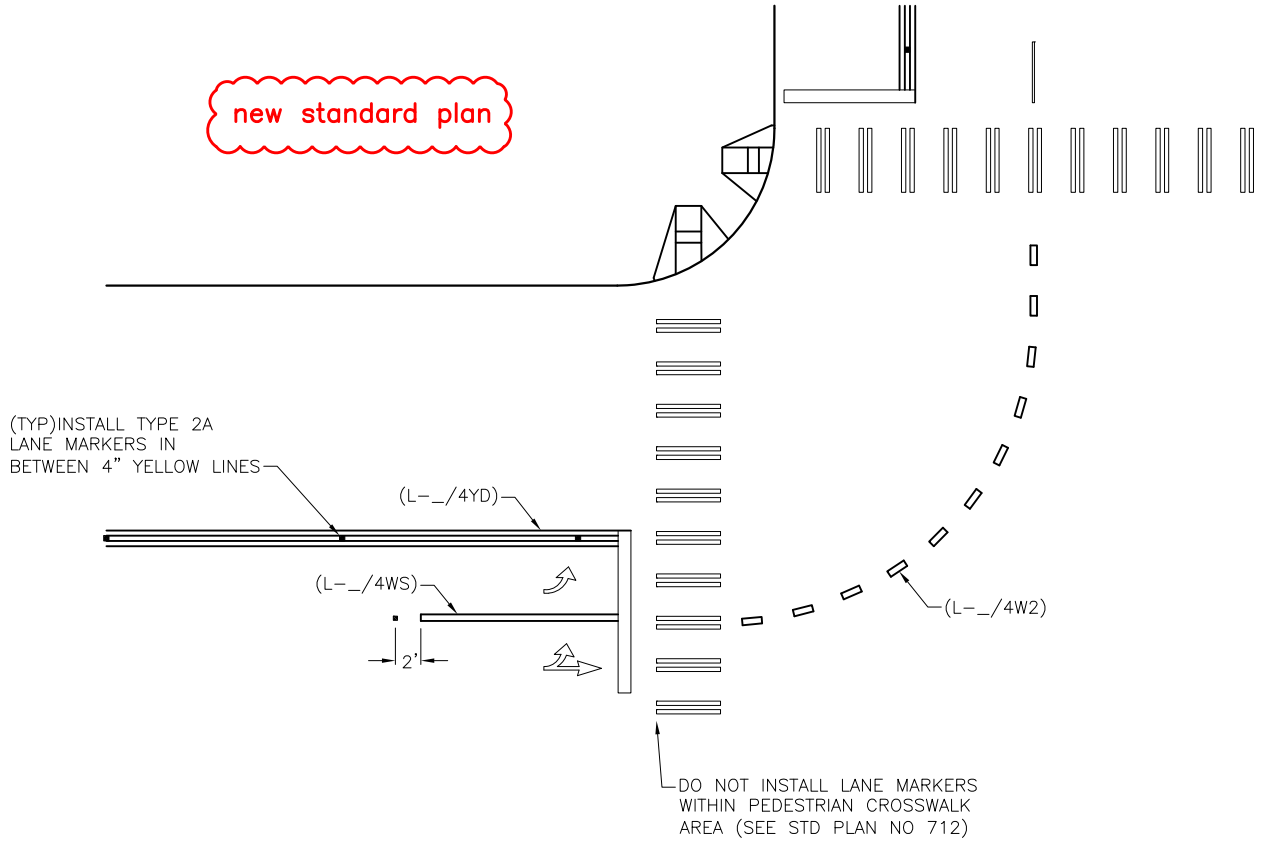
NOTE:
1. SEE MUTCD SECTION 2B.20 FOR GUIDANCE ON SIGNS.
2. MANDATORY MOVEMENT LANE CONTROL SIGNS MUST BE PAIRED WITH LEGENDS PLACED WITHIN THE APPROACH LINE

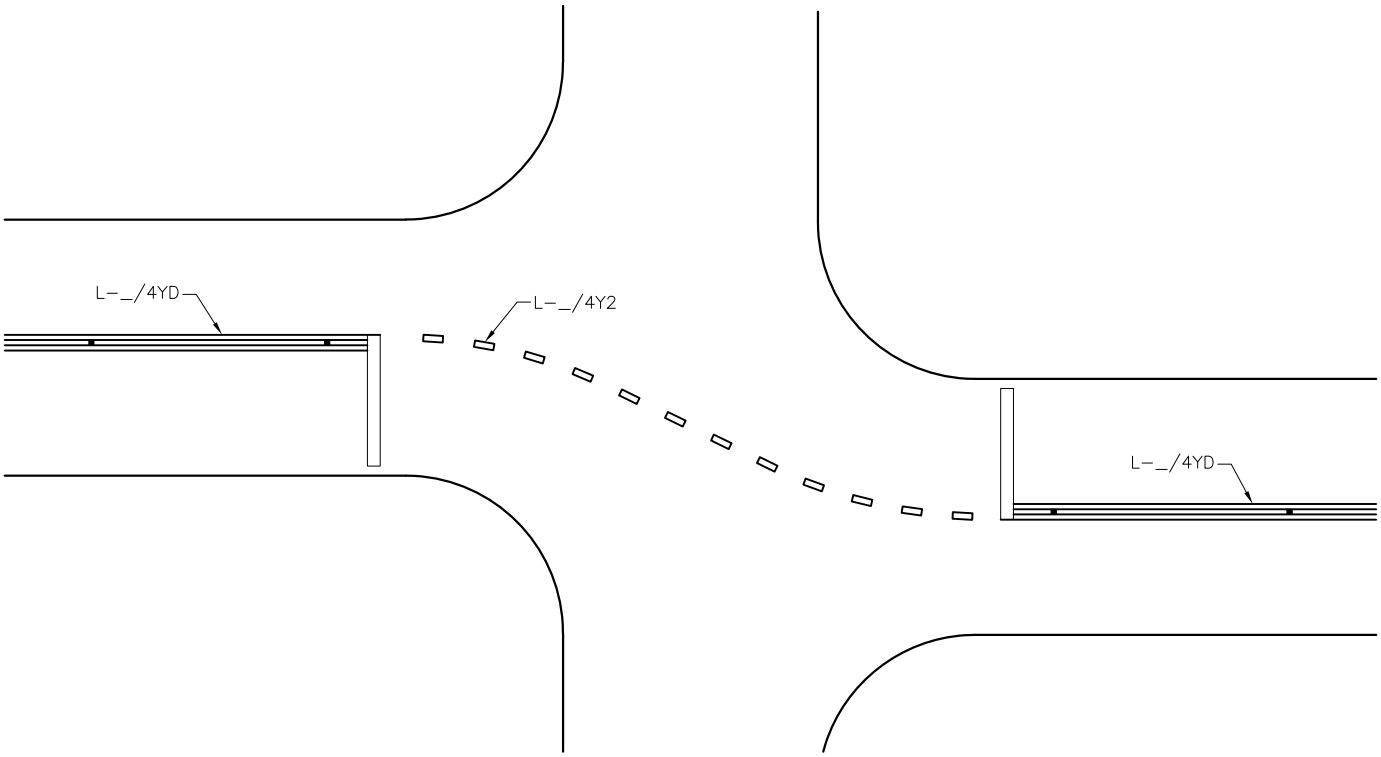
REF STD SPEC SEC 8-22

City of Seattle | NOT TO SCALE | TYPICAL LANE DROP CHANNELIZATION AND LEGEND PLACEMENT

REV DATE: DEC 2019

new standard plan



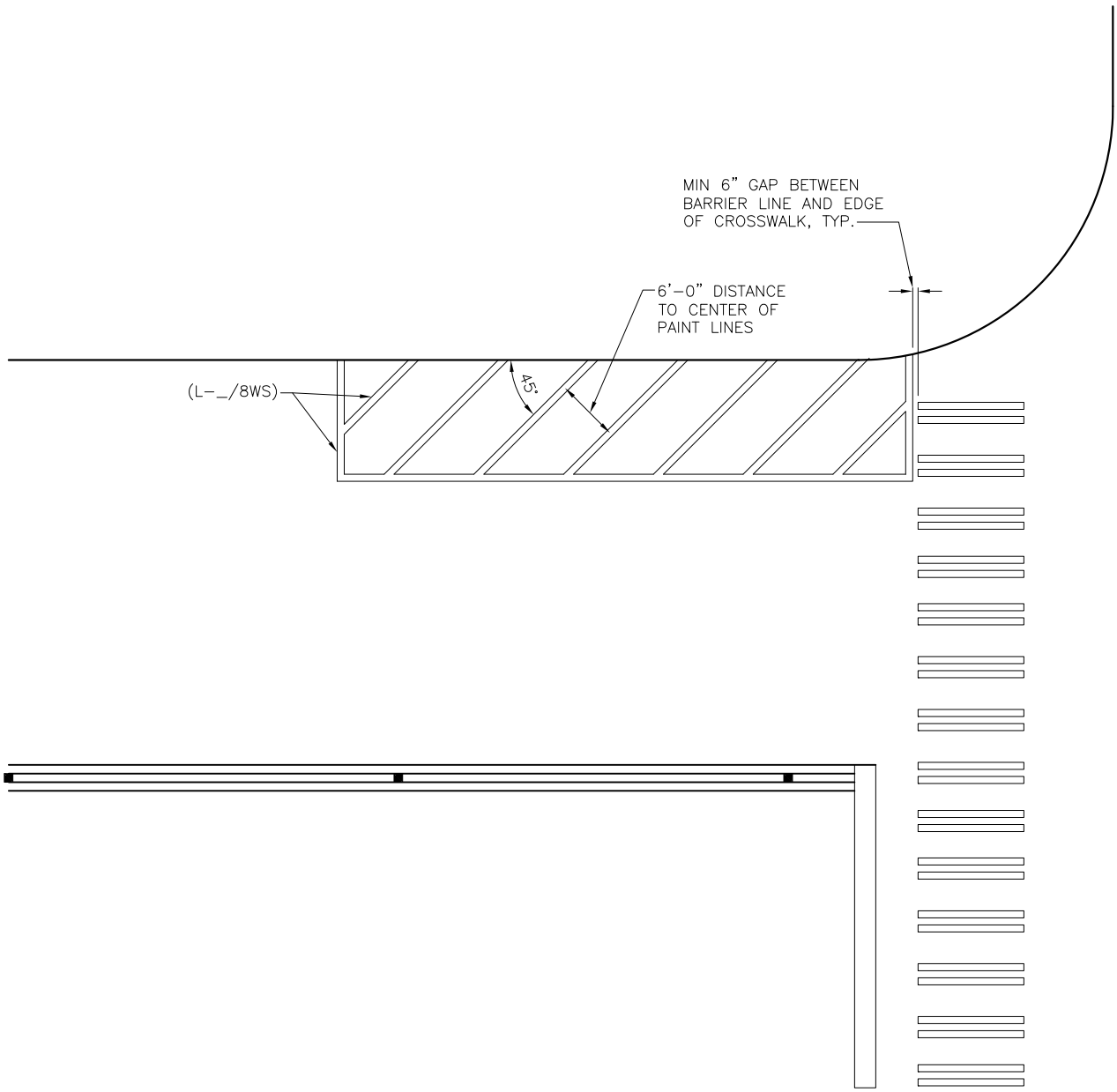


REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	TYPICAL INTERSECTION GUIDELINE CHANNELIZATION

REV DATE: JUL 2019

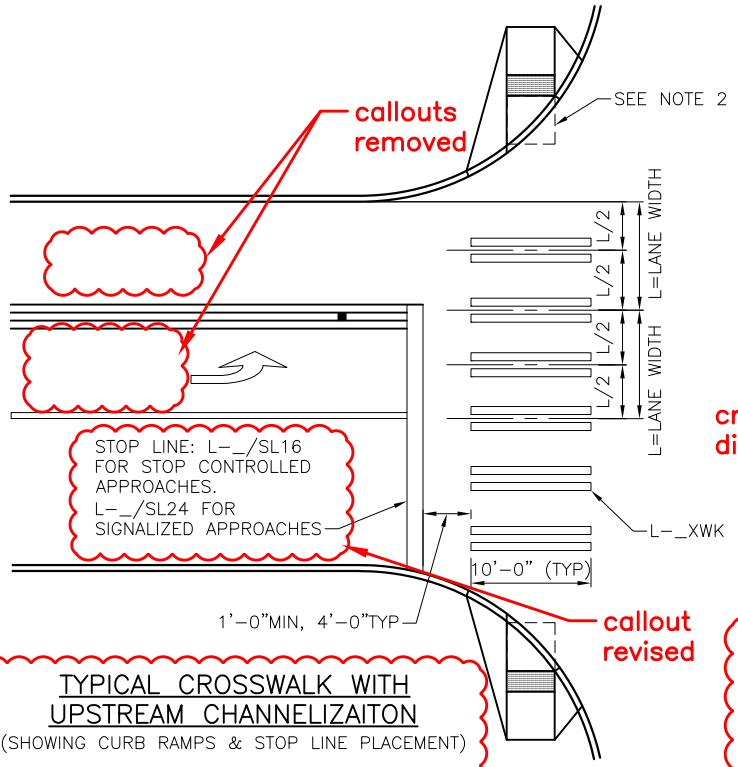
new standard plan



REF STD SPEC SEC 8-22

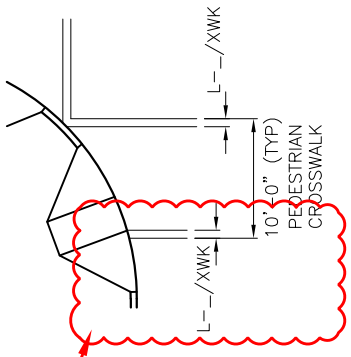
City of Seattle	NOT TO SCALE	TYPICAL WHITE BARRIER AREA CHANNELIZATION

REV DATE: DEC 2019



TYPICAL CROSSWALK WITH UPSTREAM CHANNELIZAITON
(SHOWING CURB RAMPS & STOP LINE PLACEMENT)

title revised

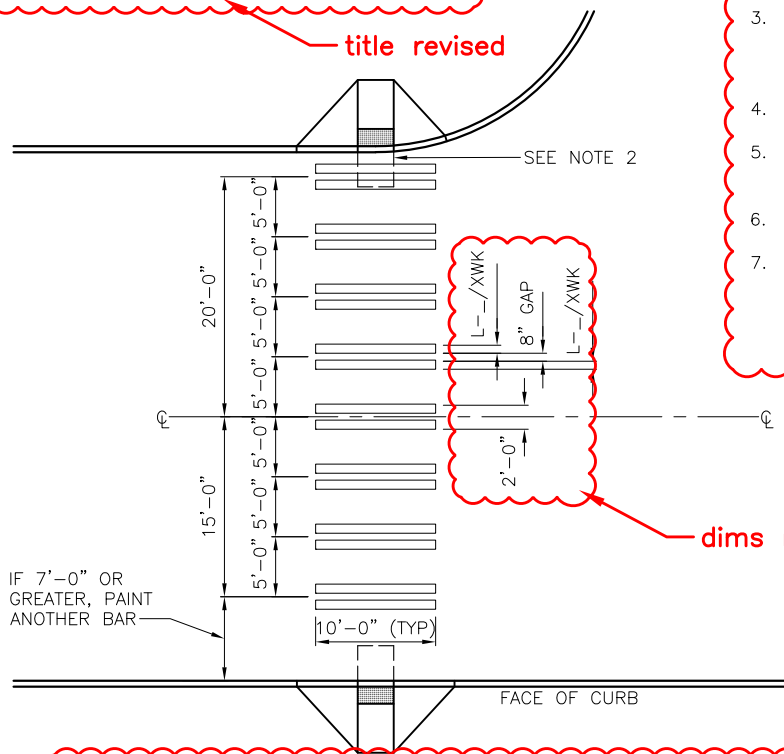


TYPICAL TRANSVERSE LINE CROSSWALK

NOTES:

1. "LADDER STYLE" CROSSWALK MUST BE USED IN MOST APPLICATIONS. "TRANSVERSE LINE" CROSSWALK (L–_/XWK2, L–_/XWK) MAY ONLY BE USED WITH APPROVAL OF ENGINEER.
2. LOWER LANDING OF CURB RAMP MUST FALL WHOLLY WITHIN CROSSWALK LINES. SEE STANDARD PLAN NO 422k.
3. WHERE EXISTING TRAFFIC LOOP LOCATIONS ARE BETWEEN 1' AND 4' FROM THE EDGE OF CROSSWALK, STOP LINE MAY BE PLACED UP TO 2' FROM THE CROSSWALK WITH THE APPROVAL OF ENGINEER.
4. EXACT LOCATION OF CROSSWALK AND STOP LINES MUST BE APPROVED BY SDOT.
5. COLORED OR TEXTURED PAVEMENT CROSSWALKS MUST BE SUPPLEMENTED WITH "TRANSVERSE LINE" CROSSWALK MARKINGS.
6. EXISTING CROSSWALK MARKINGS THAT CONFLICT WITH NEW CROSSWALK MARKINGS MUST BE REMOVED.
7. WHEN MARKED CROSSWALK ARE NOT PRESENT, STOP BAR MUST BE PLACED AT A MINIMUM DISTANCE OF 4'–0" UPSTREAM FROM THE EDGE OF THE DETECTABLE WARNING SURFACE OR ANTICIPATED PEDESTRIAN TRAVEL PATH, WHICHEVER IS GREATER.

notes 1, 2, 3, 5 & 6 revised. note 7 added



TYPICAL CROSSWALK WITHOUT UPSTREAM CHANNELIZATION
(SHOWING CURB RAMPS & STOP LINE PLACEMENT)

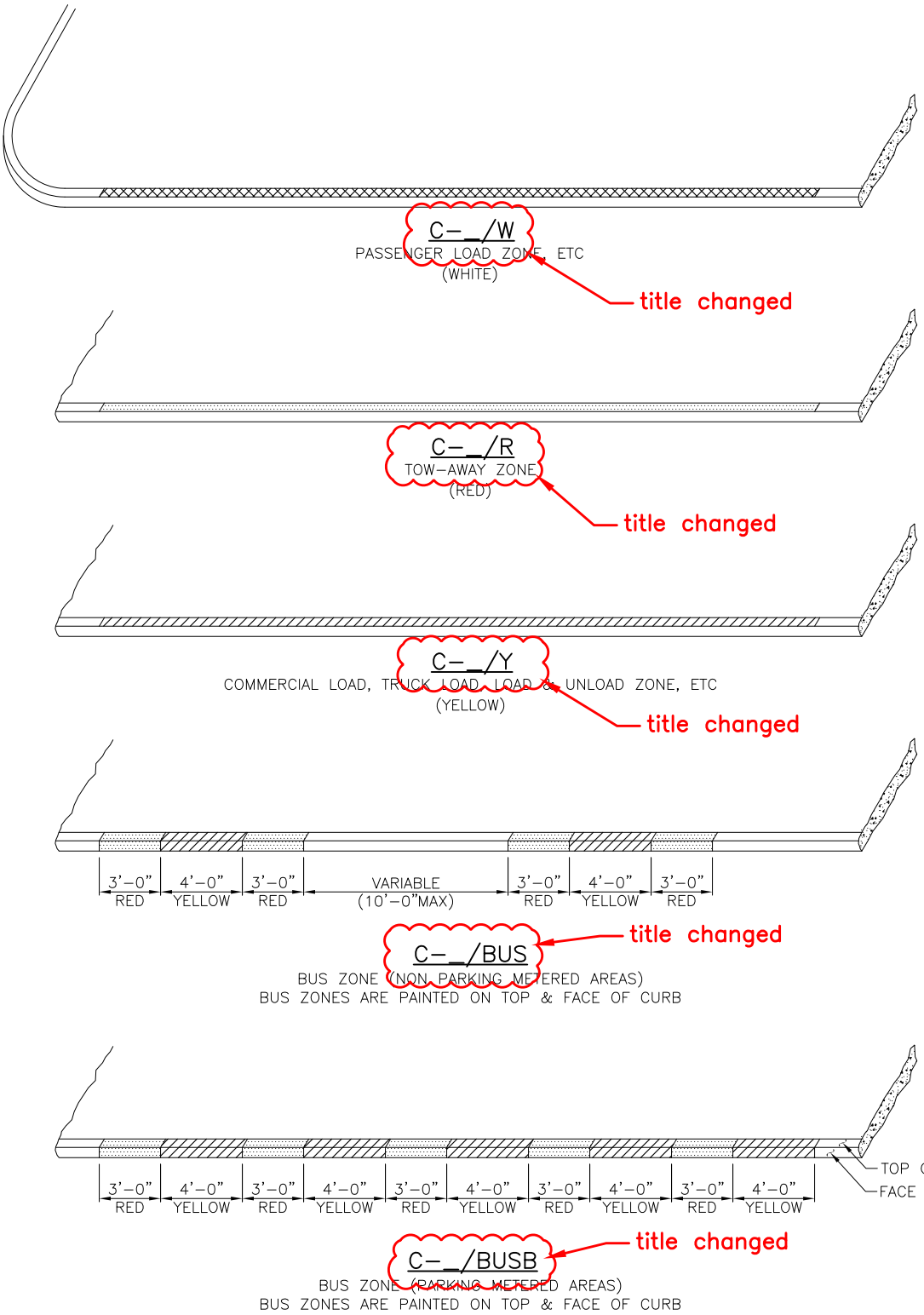
WHERE TRAFFIC LANE LINES ARE NOT USED, LADDER BARS MUST BE 5'–0" CENTER TO CENTER, BEGINNING AT THE MARKED CENTERLINE OF THE ROADWAY

title revised

REF STD SPEC SEC 8-22

City of Seattle | NOT TO SCALE | TYPICAL CROSSWALK & STOP LINE INSTALLATION DETAILS

REV DATE: JUL 2019



NOTES:

1. TOTAL LENGTH OF CURB MARKINGS MUST BE AS SHOWN ON DRAWINGS
2. PAINT MUST BE APPLIED NEATLY ON THE CURB AND ALL PAINT SMEARS ON ADJACENT SURFACES MUST BE REMOVED

REF STD SPEC SEC 8-22

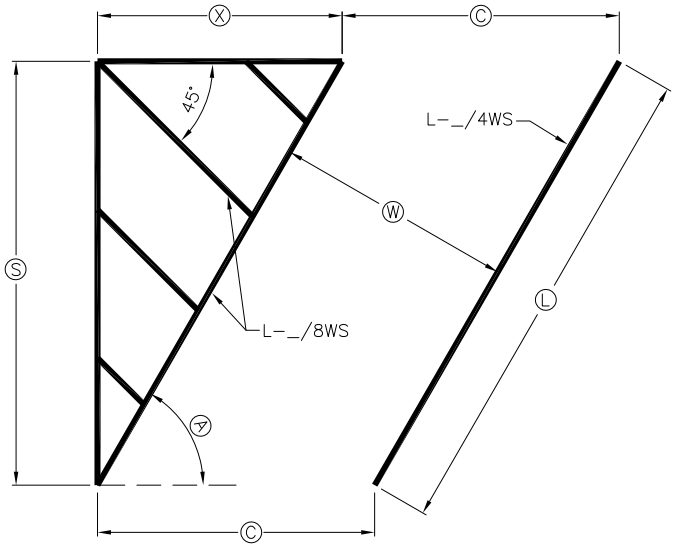
City of Seattle	NOT TO SCALE	CURB MARKING DETAILS

REV DATE: JUL 2019

new standard plan

A	S	X	L	W	C
45°	15'	15'	21.21'	8.5'	12.02'
	15'	15'	21.30'	9.0'	12.75'
	16'	16'	22.63'	9.0'	12.73'
	17'	17'	24.04'	9.5'	13.44'
	18'	18'	25.46'	10.0'	14.14'

A	S	X	L	W	C
60°	15'	8.66'	17.32'	8.5'	9.81'
	15'	8.5'	17.2'	9.0'	10.5'
	16'	9.24'	18.48'	9.0'	10.39'
	17'	9.81'	19.63'	9.5'	10.97'
	18'	10.39'	20.78'	10.0'	11.55'



Ⓐ – ANGLE OF STALL IN RELATION TO CURB
Ⓢ – STALL DEPTH
Ⓧ – PERPENDICULAR OFFSET
Ⓛ – LENGTH OF STALL LINE
Ⓦ – STALL WIDTH
Ⓒ – CURB LENGTH

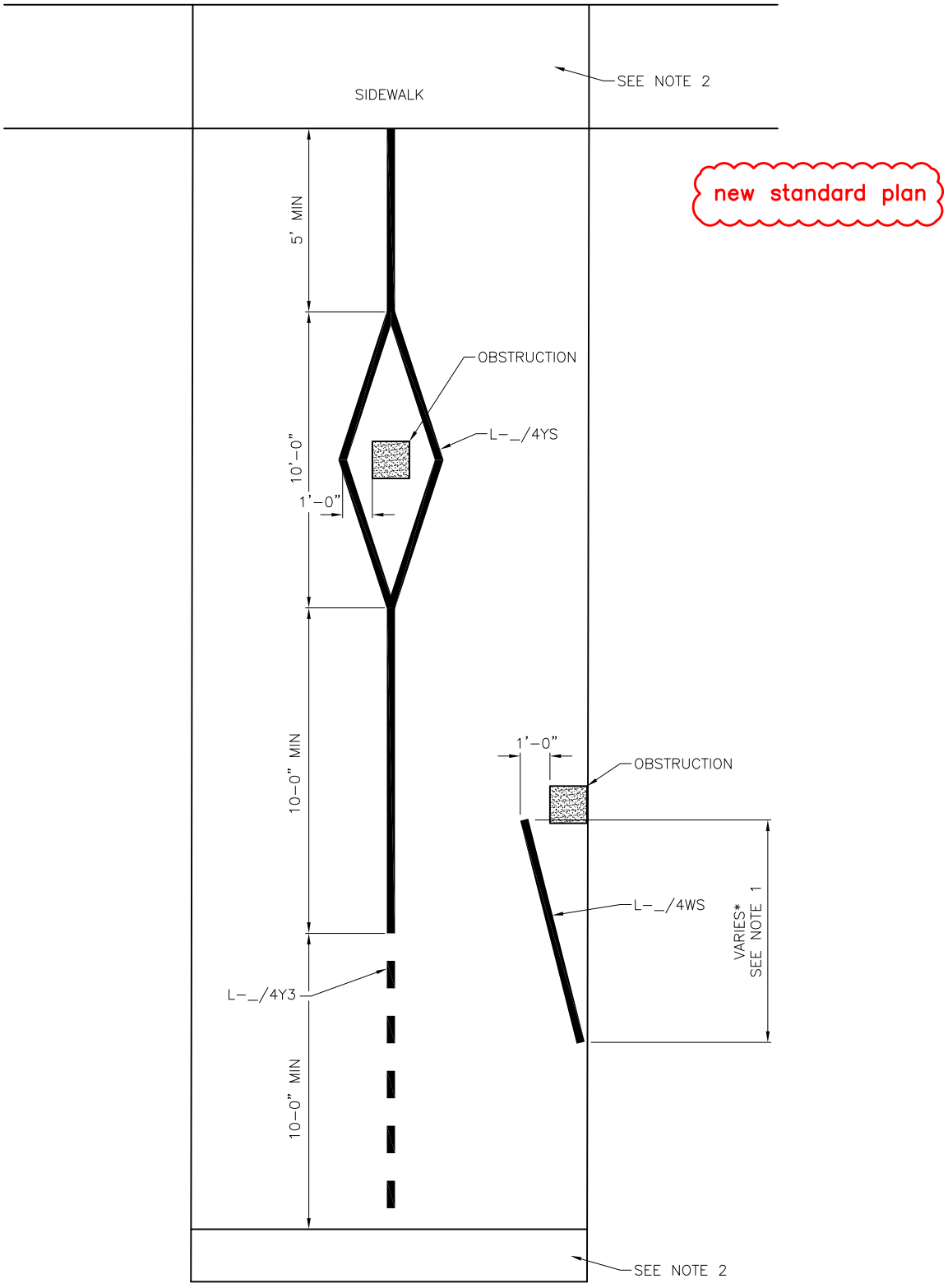
NOTES:

1. THE WIDTH OF THE TRAVEL LANE NEXT TO ANGLED PARKING SPACES MUST BE A MINIMUM OF 12'–6" FOR 45–DEGREE STALLS AND 17'–0" FOR 60–DEGREE STALLS.
2. BARRIER CROSSHATCH LINES MUST BE ALIGNED AS SHOWN, INTERSECTING THE EDGE OF THE PARKING LANE AT 45–DEGREES AND ANGLED AGAINST THE ANGLING OF THE PARKING SPACES

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	TYPICAL ANGLED PARKING STALL CHANNELIZATION

REV DATE: DEC 2019



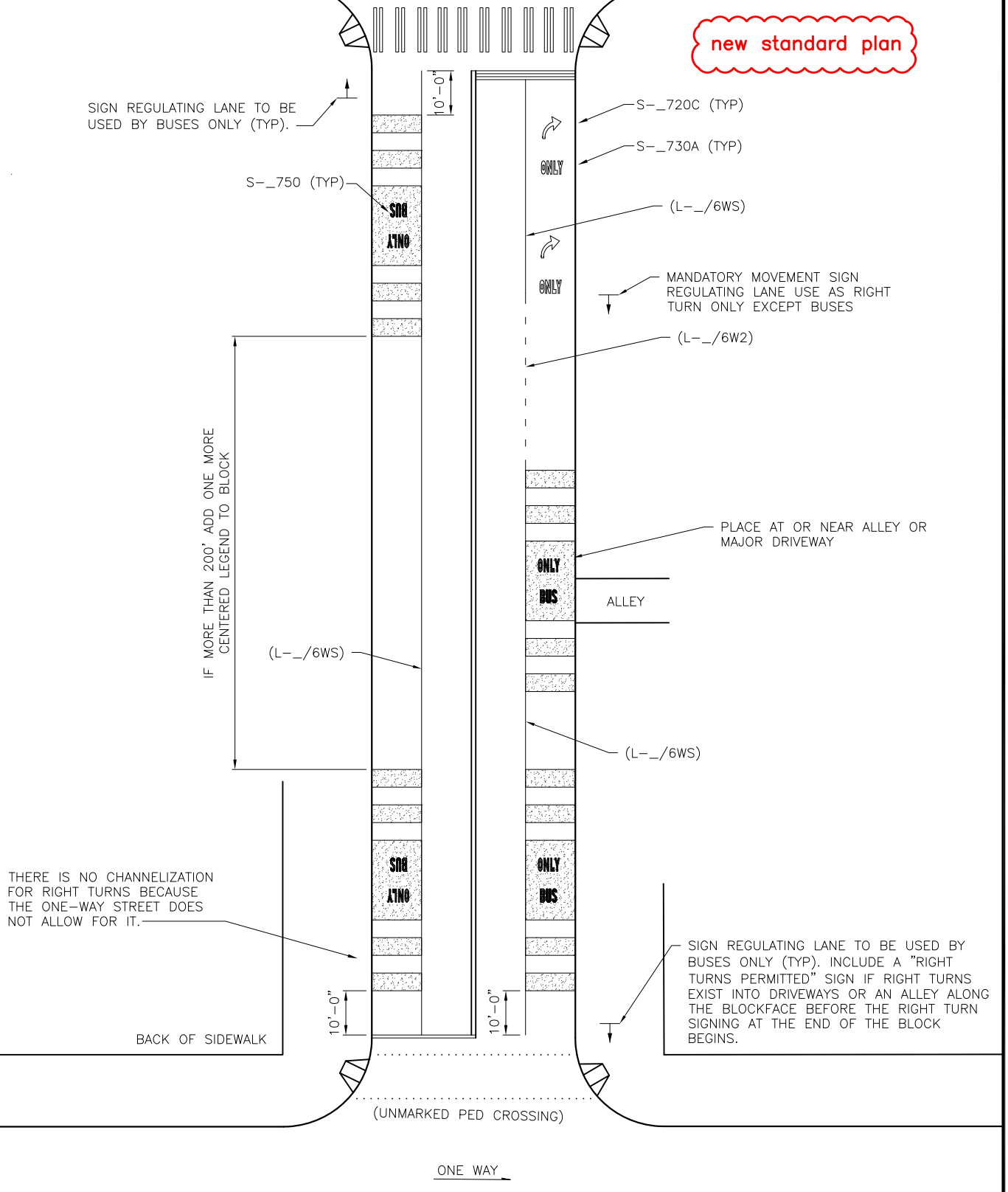
NOTE:
1. SEE 2009 MUTCD FIGURE 91-8 FOR TAPER FORMULA.
2. SEE STD PLAN NO'S 432a & 432b FOR MULTI-PURPOSE TRAIL DESIGN PLANS.

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	TRAIL OBSTRUCTION CHANNELIZATION

REV DATE: DEC 2019

new standard plan



REF STD SPEC SEC 8-22

City of Seattle

NOT TO SCALE

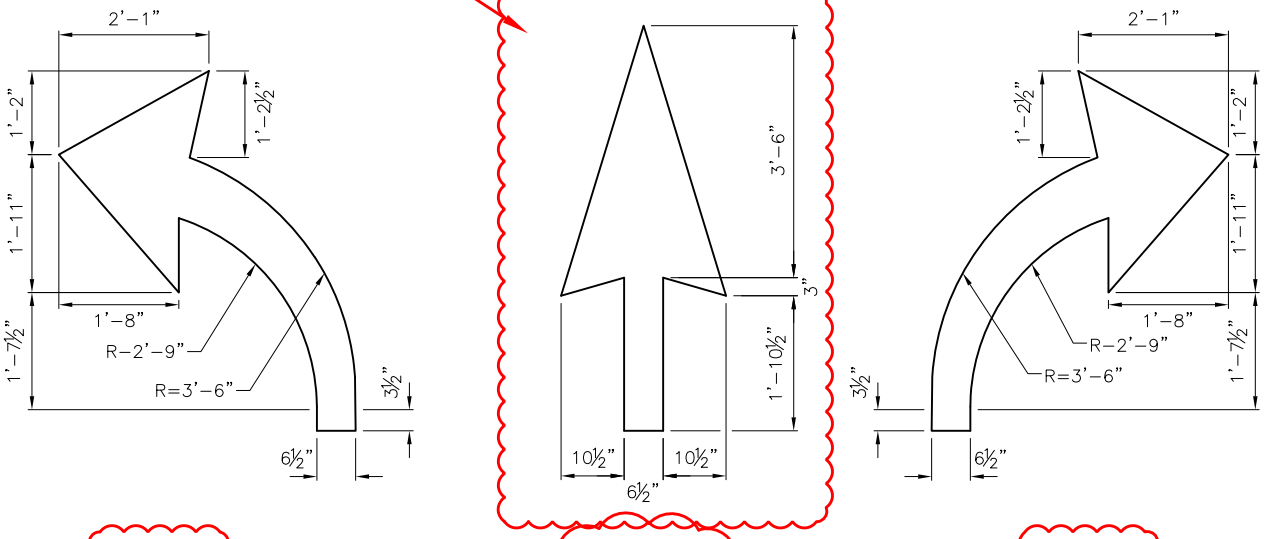
TYPICAL CURBSIDE RED BUS LANE LAYOUT

STANDARD PLAN NO 720

REV DATE: JUL 2019

added from former std plan 720b

renumbered

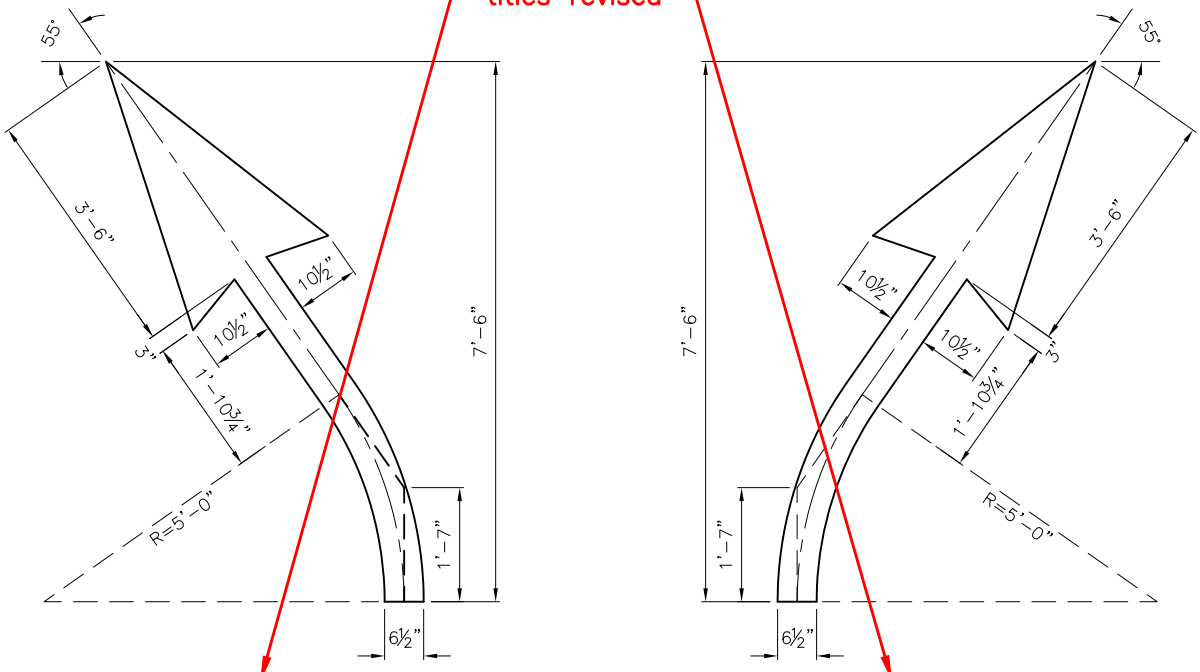


720A
LEFT ARROW

720B
THROUGH ARROW

720C
RIGHT ARROW

titles revised



720D
OBLIQUE LEFT ARROW

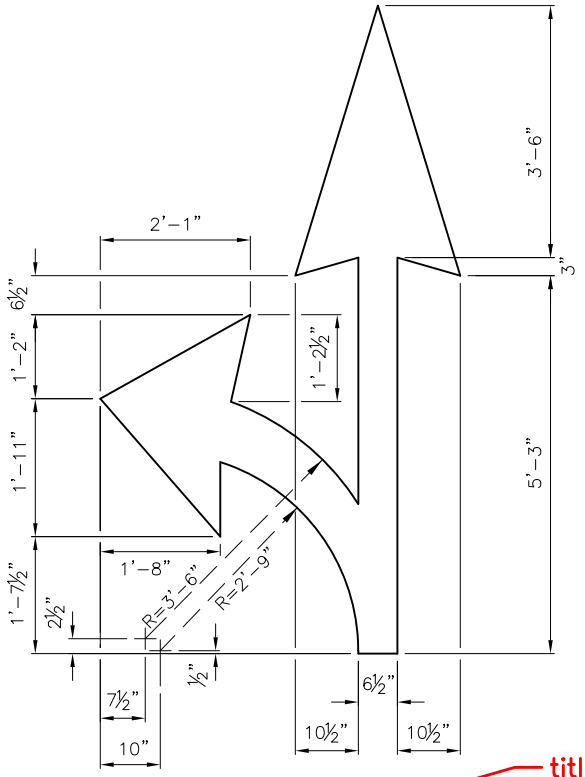
720E
OBLIQUE RIGHT ARROW

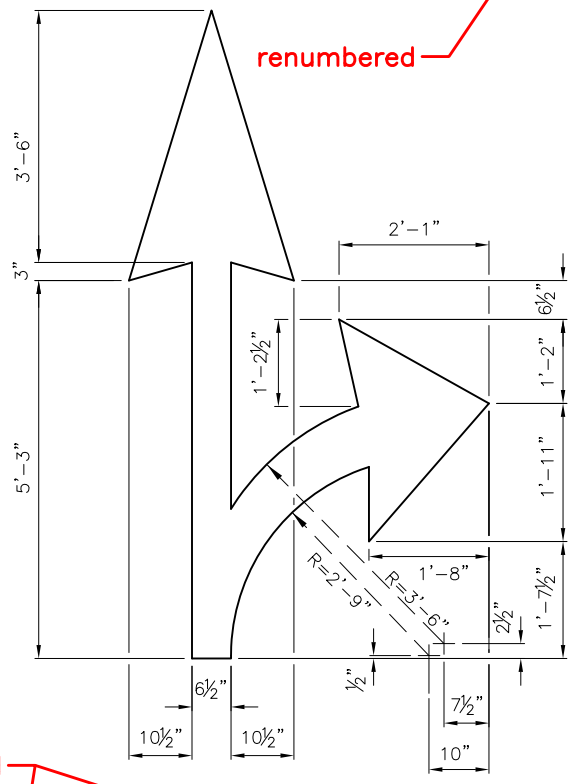
REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	MANDATORY MOVEMENT ARROWS

REV DATE: JUL 2019

renumbered

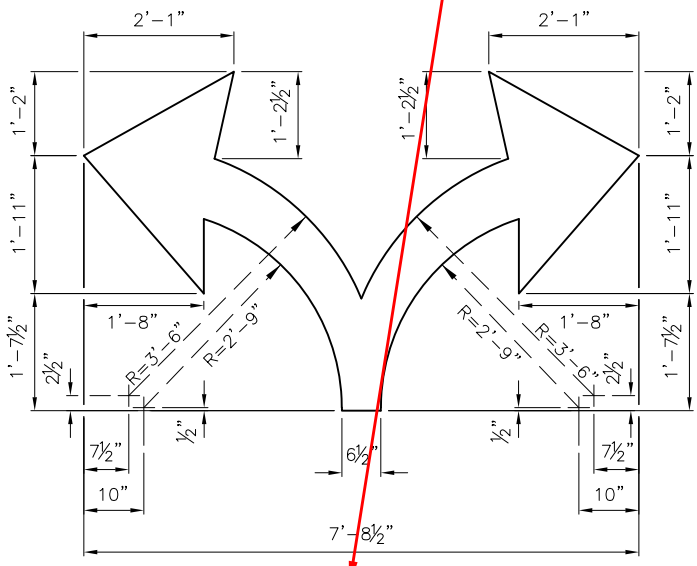




titles revised

721A
LEFT & THROUGH ARROWS

721B
RIGHT & THROUGH ARROWS



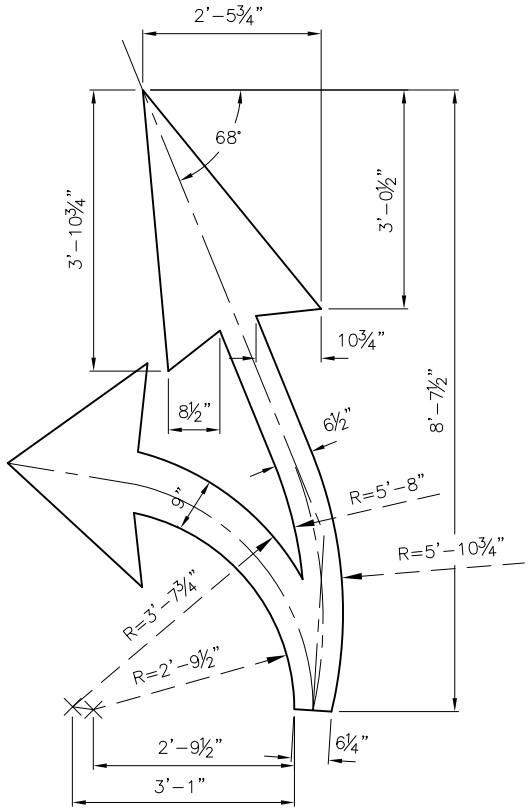
721C
LEFT & RIGHT ARROWS

REF STD SPEC SEC 8-22

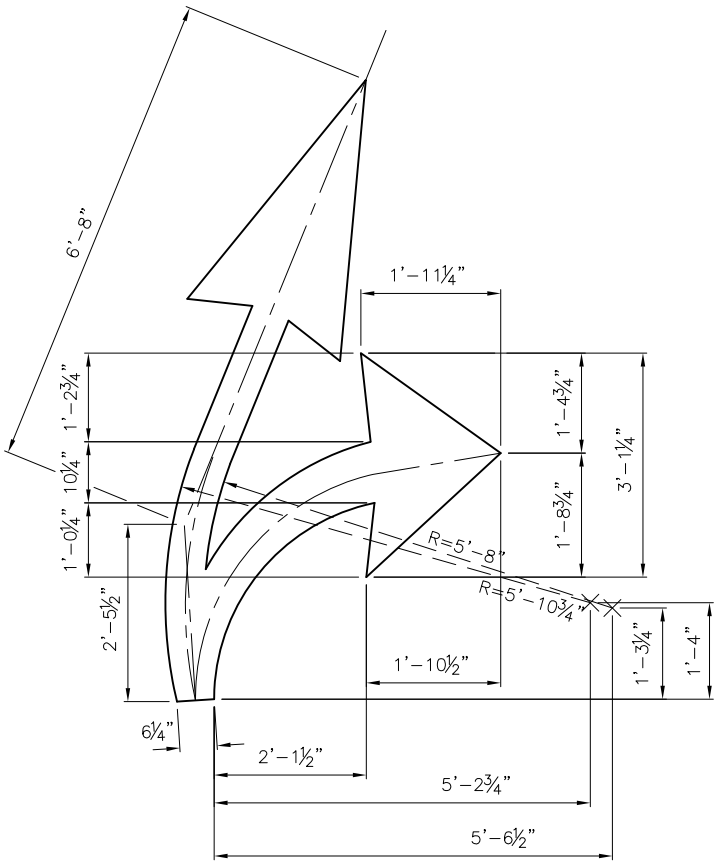
City of Seattle	NOT TO SCALE	OPTIONAL MOVEMENT ARROWS

REV DATE: JUL 2019

new standard plan



722A
LEFT & OBLIQUE LEFT ARROW



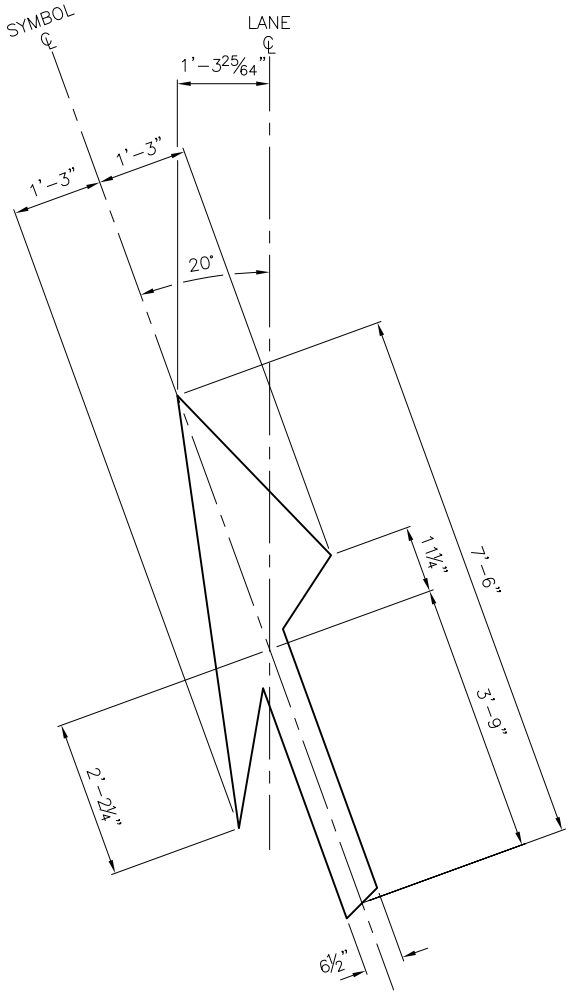
722B
RIGHT & OBLIQUE RIGHT ARROW

REF STD SPEC SEC 8-22

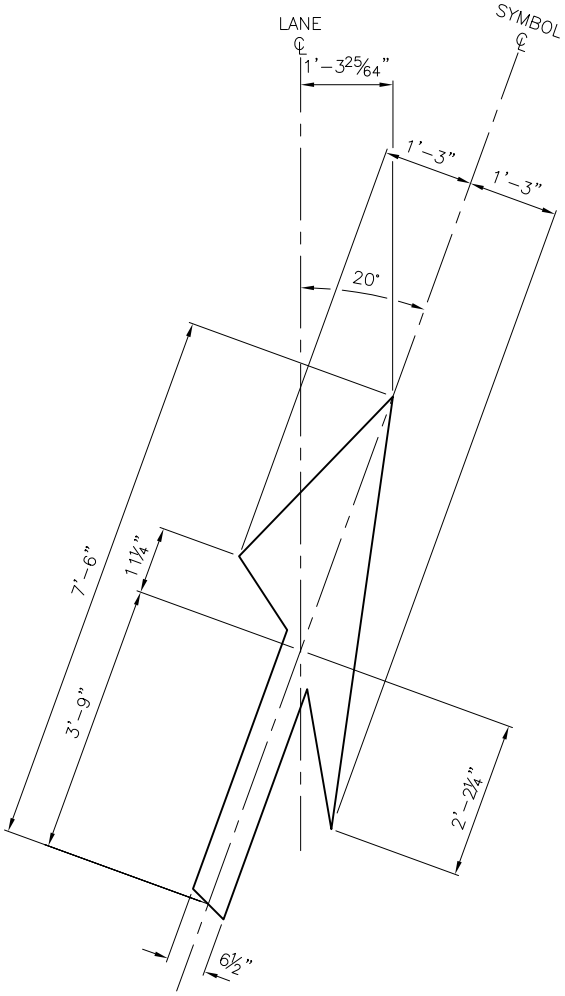
City of Seattle	NOT TO SCALE	OPTIONAL MOVMENT ARROWS WITH OBLIQUE ARROWS

REV DATE: JUL 2019

new standard plan



723A
LEFT MERGE/LANE REDUCTION ARROWS



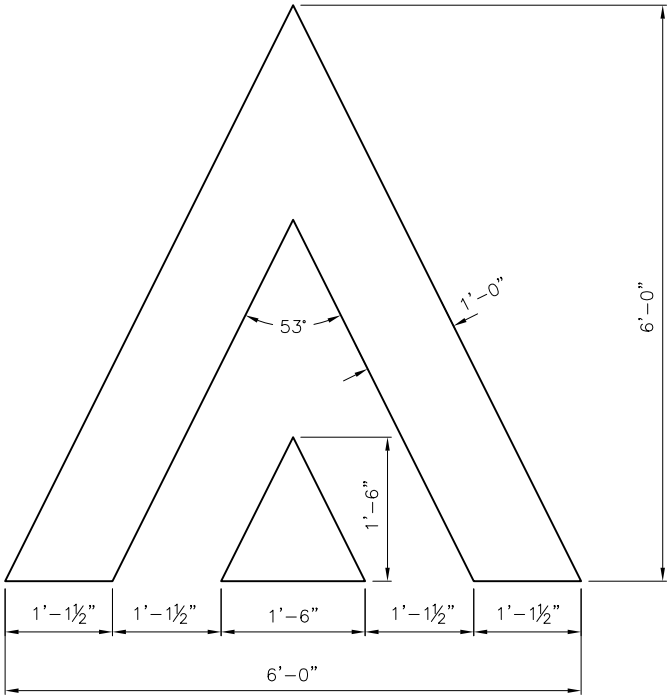
723B
RIGHT MERGE/LANE REDUCTION ARROWS

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	MERGE ARROWS

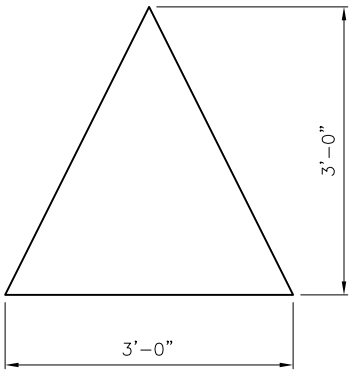
REV DATE: DEC 2019

new standard plan



728A
CHEVRON WITH TRIANGLE

NOTE:
THIS SYMBOL MAY BE RESIZED FOR BIKE FACILITIES. DIMENSIONS IN THOSE INSTANCES MUST BE SHOWN ON DESIGN DRAWINGS.



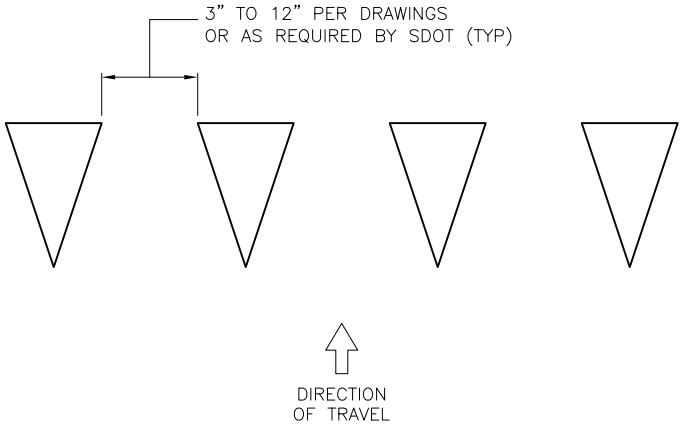
728B
CENTER CUSHION TRIANGLE

REF STD SPEC SEC 8-22

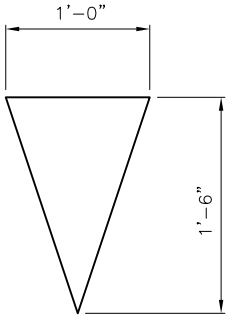
City of Seattle	NOT TO SCALE	SPEED HUMP & SPEED CUSHION SYMBOL

REV DATE: JUL 2019

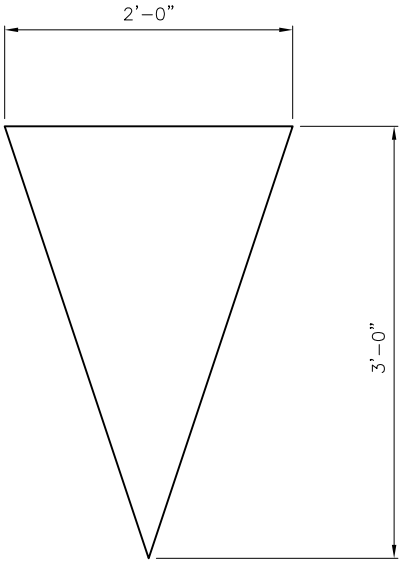
new standard plan



YIELD LINE LAYOUT



729A
YIELD LINE WITH 18" TALL TRIANGLES

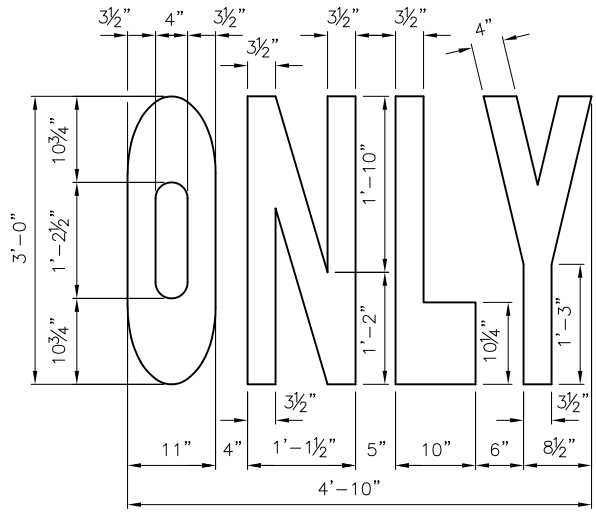


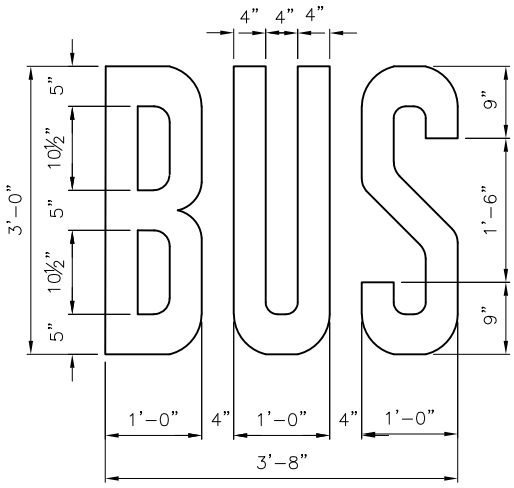
729B
YIELD LINE WITH 36" TALL TRIANGLES

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	YIELD LINE LAYOUT & YIELD LINE TRIANGLE SYMBOLS

renumbered

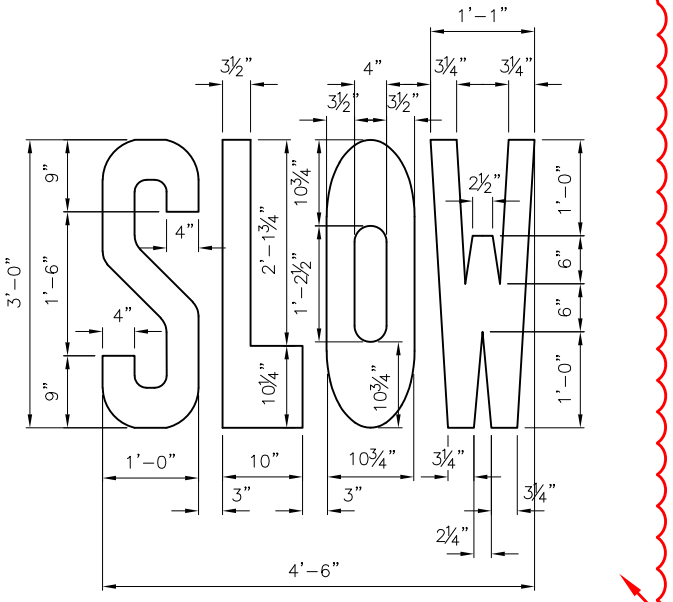




730A
"ONLY" LEGEND

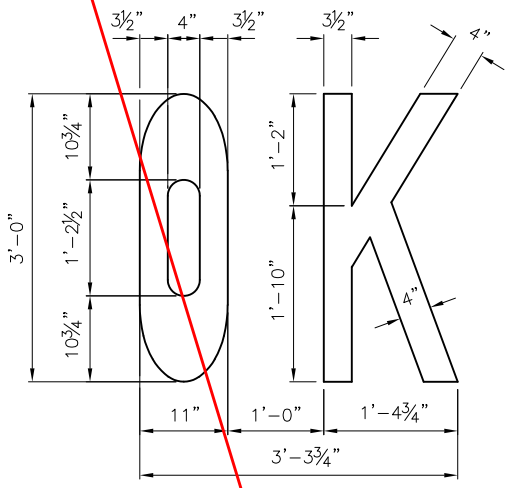
730B
"BUS" LEGEND

titles revised



730C
"SLOW" LEGEND

NOTE:
THIS SYMBOL MAY BE RESIZED FOR BIKE FACILITIES



730D
"OK" LEGEND

new legend

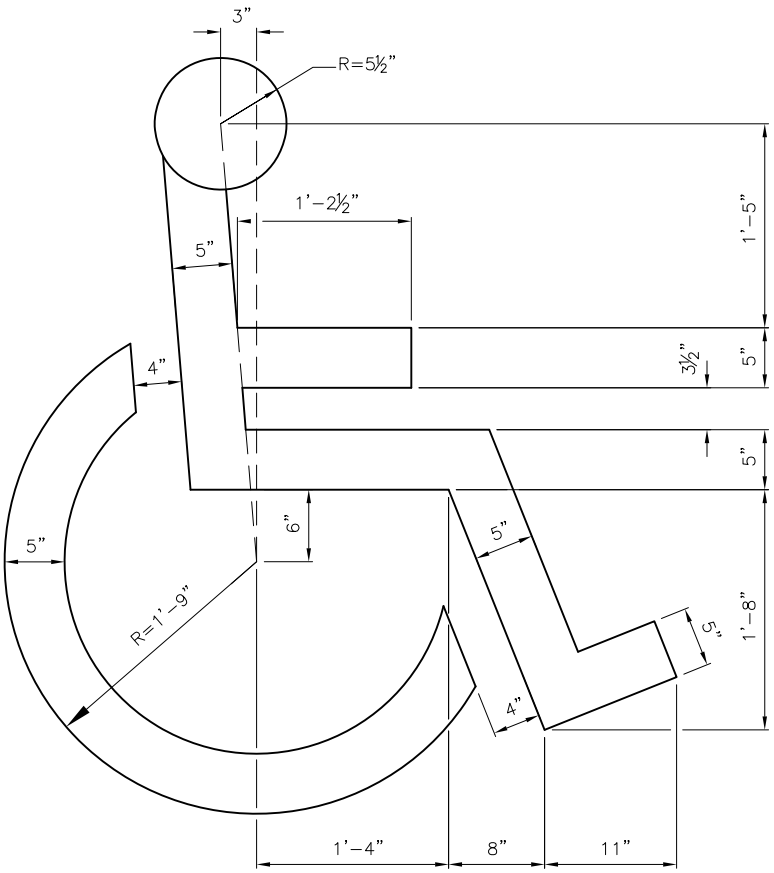
accessibility symbol moved to new std plan 740

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	PAVEMENT MARKINGS LEGENDS

REV DATE: JUL 2019

new standard plan symbol moved from previous std plan 721a



title revised

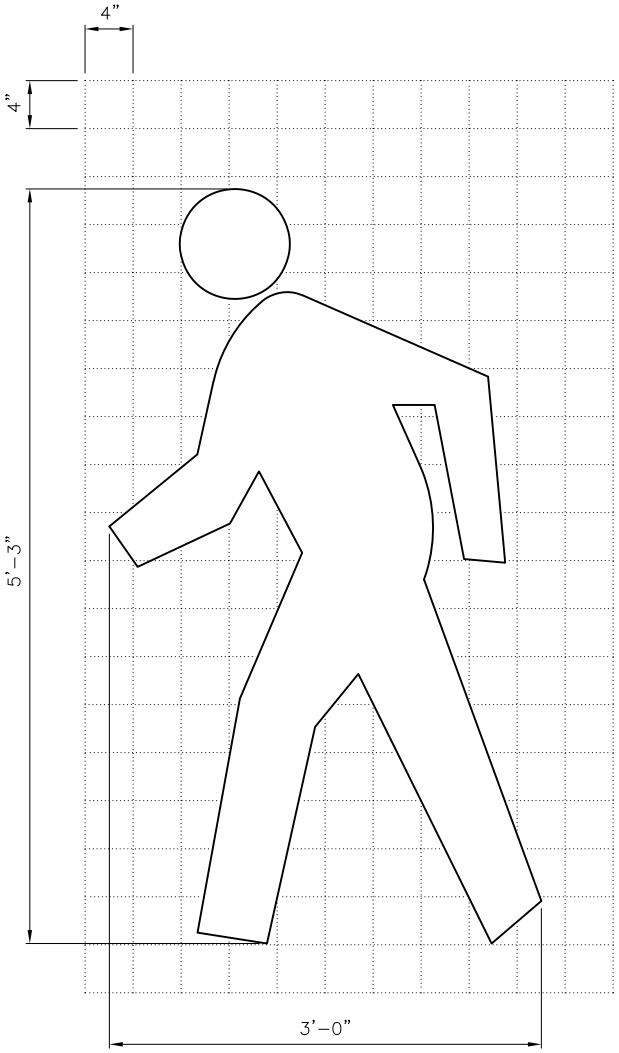
740A
INTERNATIONAL SYMBOL OF ACCESSIBILITY

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	INTERNATIONAL SYMBOL OF ACCESSIBILITY

REV DATE: JUL 2019

new standard plan symbol moved from previous std plan 722



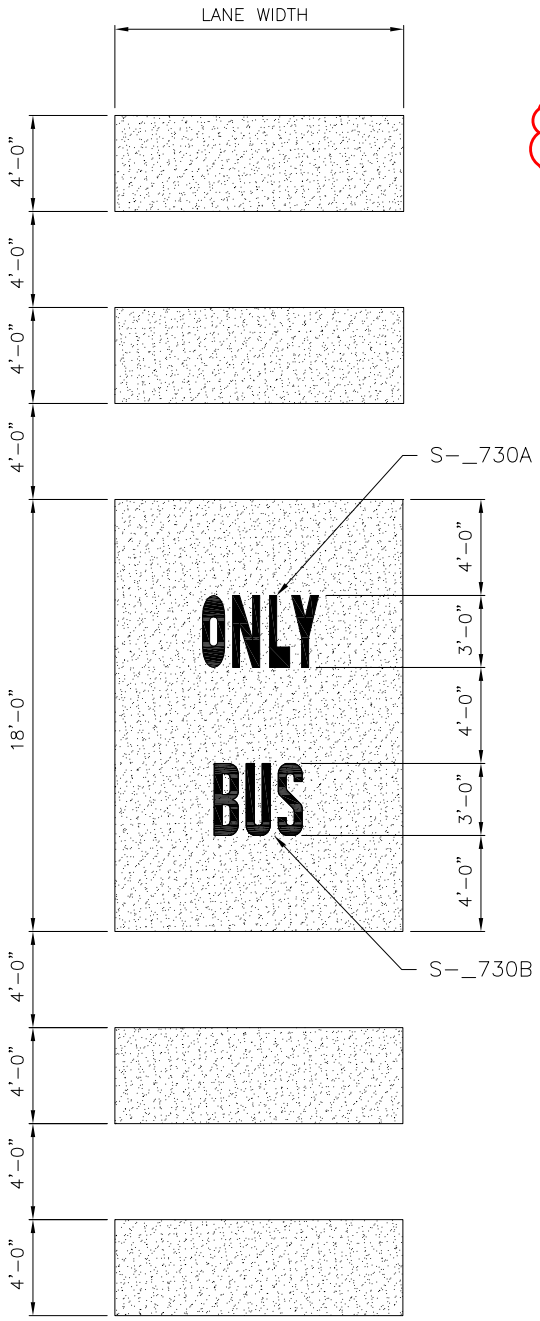
title revised

741A
PEDESTRIAN SYMBOL

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	PEDESTRIAN SYMBOL

REV DATE: DEC 2019



new standard plan

NOTES:

FHWA APPROVED RED COLOR FOR BUS LANES MUST BE USED WITH THERMOPLASTIC OR MMA.

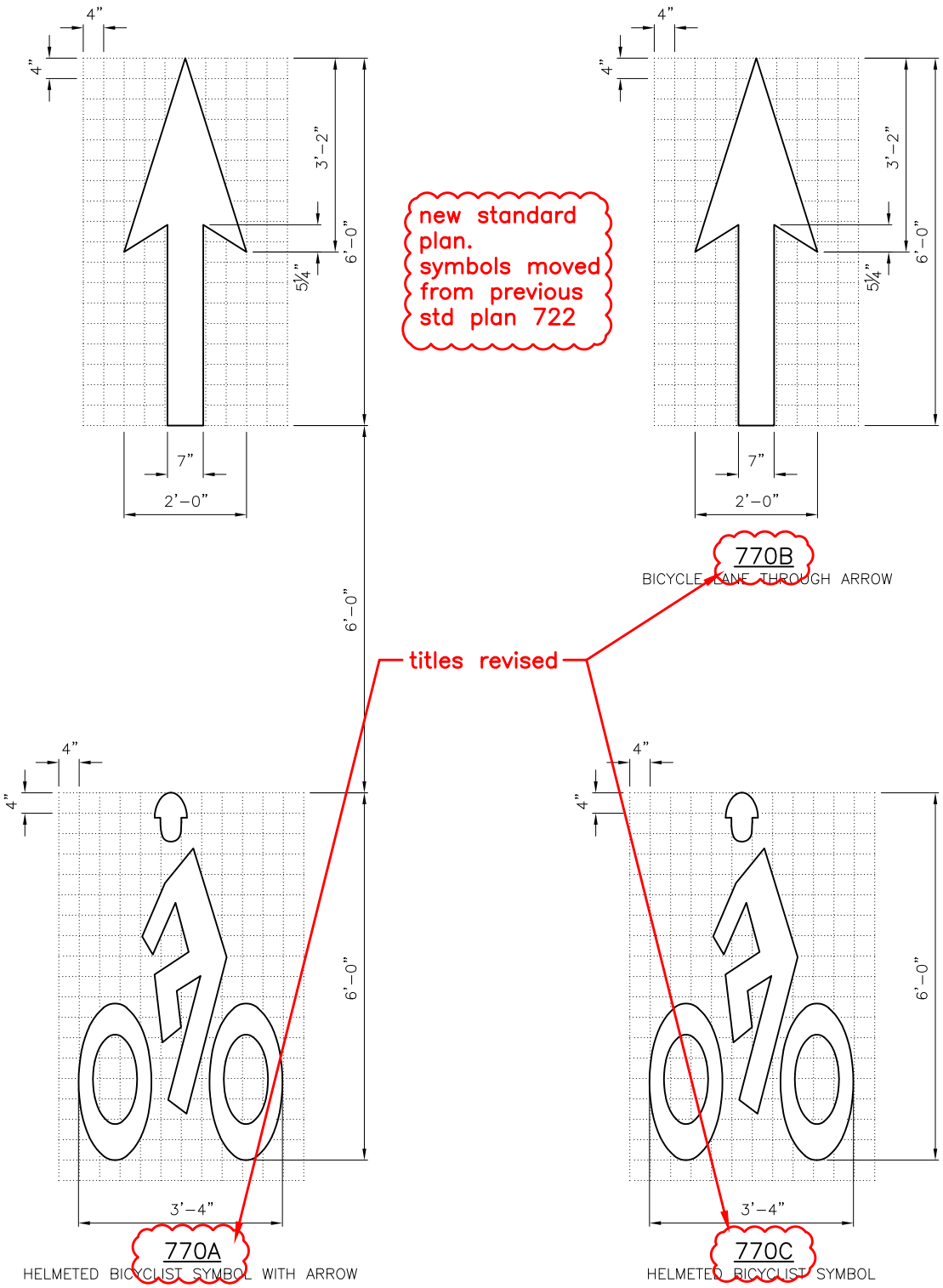
750

RED BUS LANE MARKINGS

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	RED BUS LANE MARKINGS

REV DATE: JUL 2019



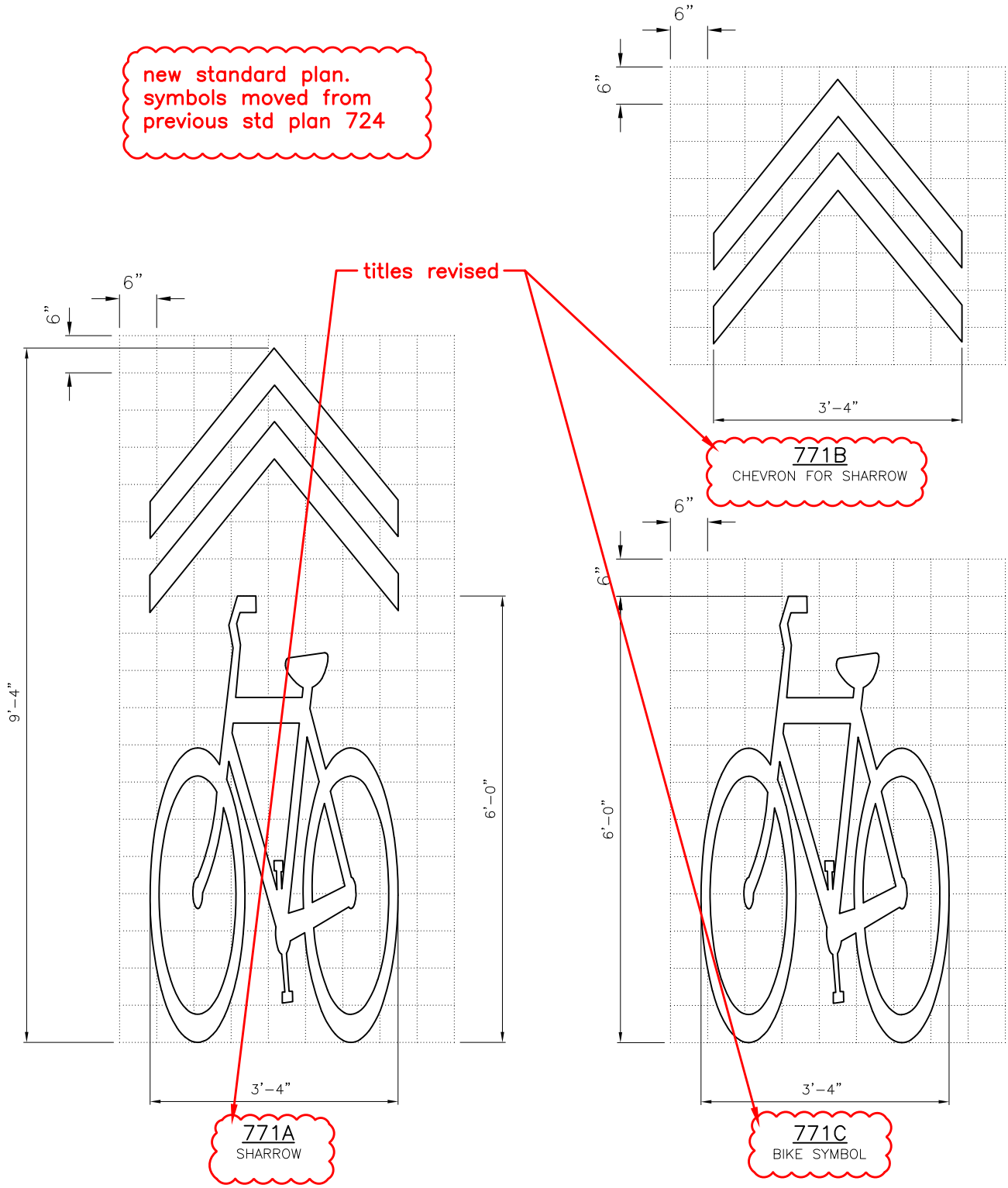
REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	HELMETED BICYCLIST SYMBOL WITH ARROW

REV DATE: JUL 2019

new standard plan. symbols moved from previous std plan 724

titles revised



771B
CHEVRON FOR SHARROW

771A
SHARROW

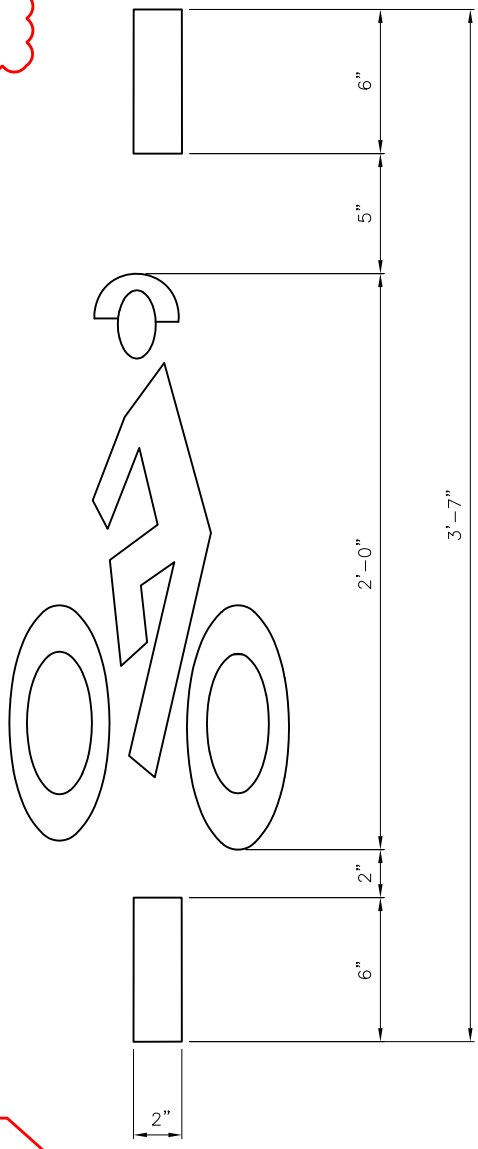
771C
BIKE SYMBOL

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	SHARROW & BIKE SYMBOLS

REV DATE: JUL 2019

new standard plan.
symbol moved from
previous std plan 725



title revised

772
BICYCLE DETECTOR SYMBOL

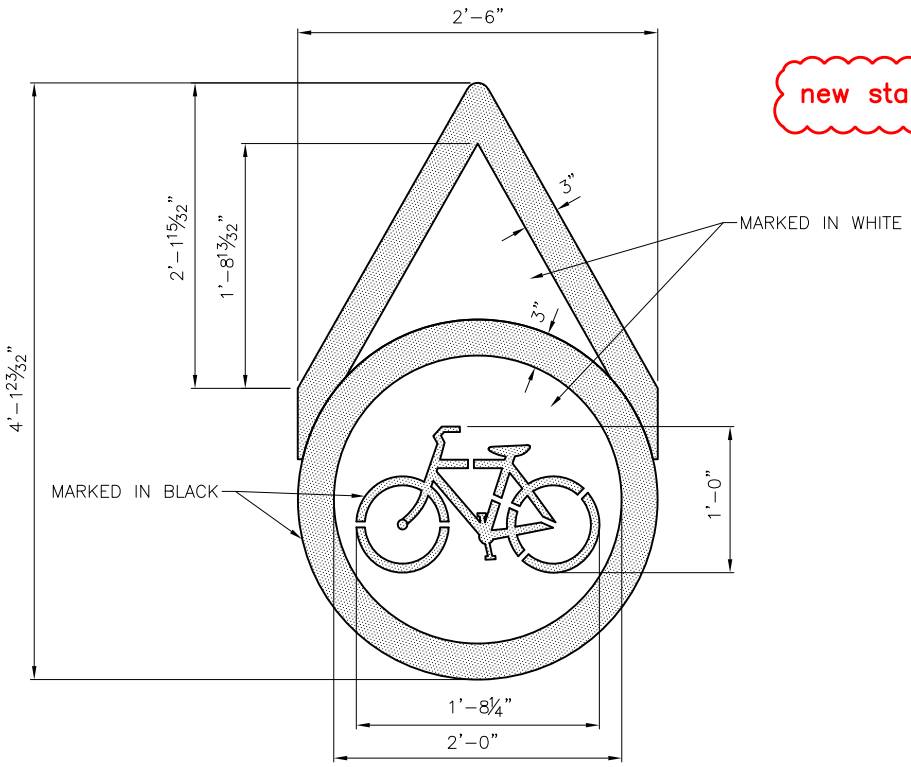
NOTE:
SEE STD PLAN NO 530b FOR PLACEMENT

REF STD SPEC SEC 8-22

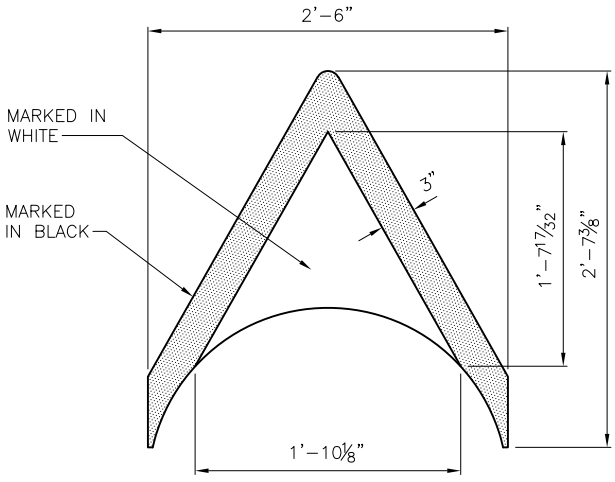
City of Seattle	NOT TO SCALE	BICYCLE DETECTOR SYMBOL

REV DATE: JUL 2019

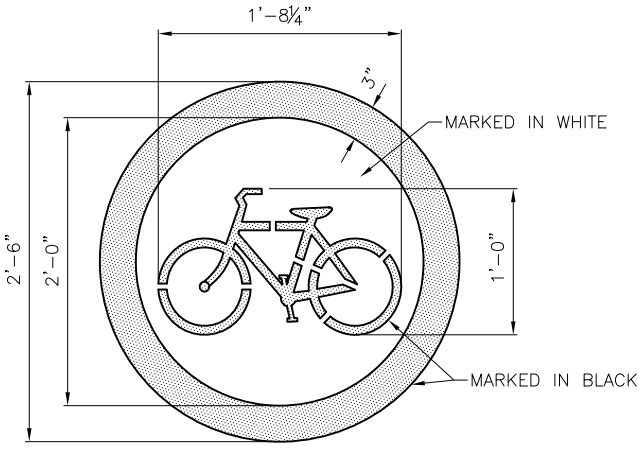
new standard plan



773A
BIKE DOT SYMBOL WITH ARROW



773B
BIKE DOT ARROW



773C
BIKE DOT SYMBOL

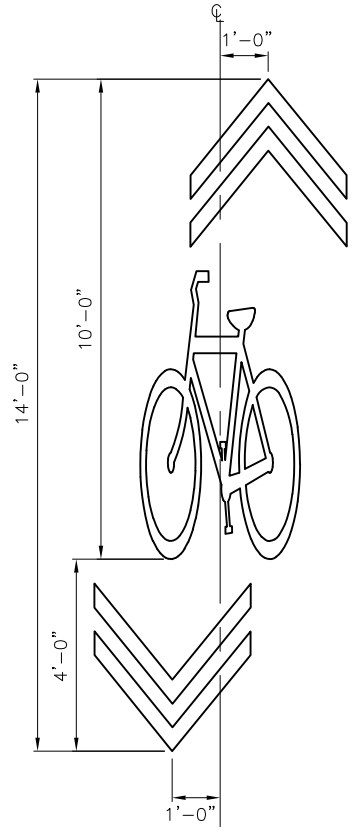
REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	BIKE DOT SYMBOL WITH ARROW

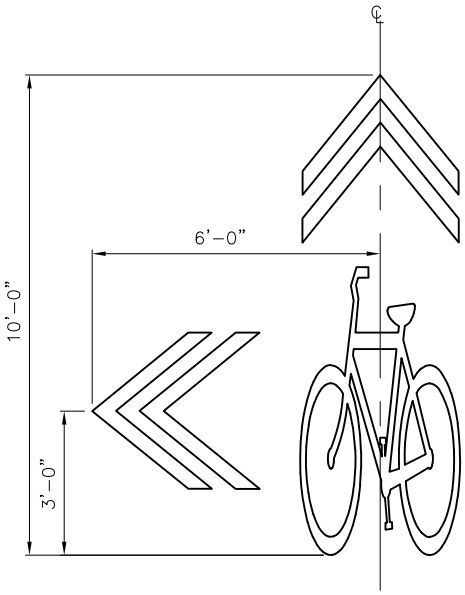
REV DATE: JUL 2019

new standard plan

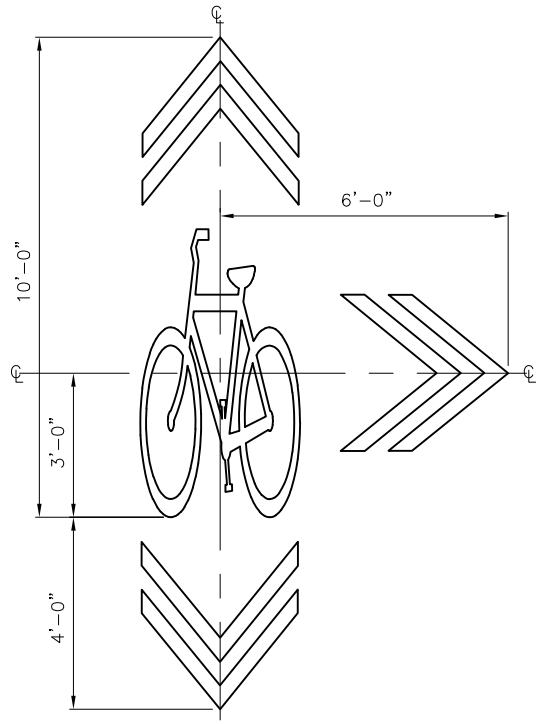
NOTE:
SEE STD PLAN NO 771 FOR SYMBOL DIMENSIONS.



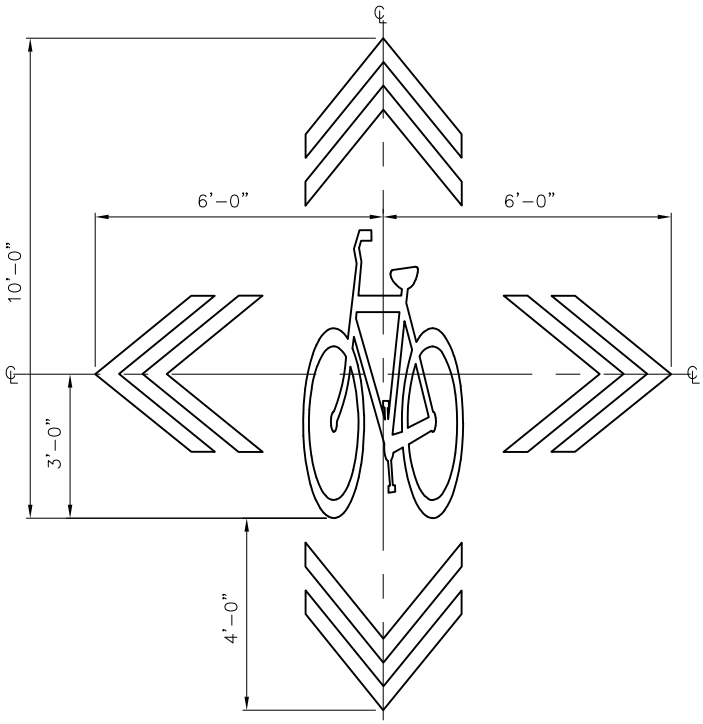
774A
GREENWAY THROUGH SYMBOL



774B
GREENWAY ROUTE TURNS SYMBOL



774C
GREENWAY THREE–ROUTE SYMBOL



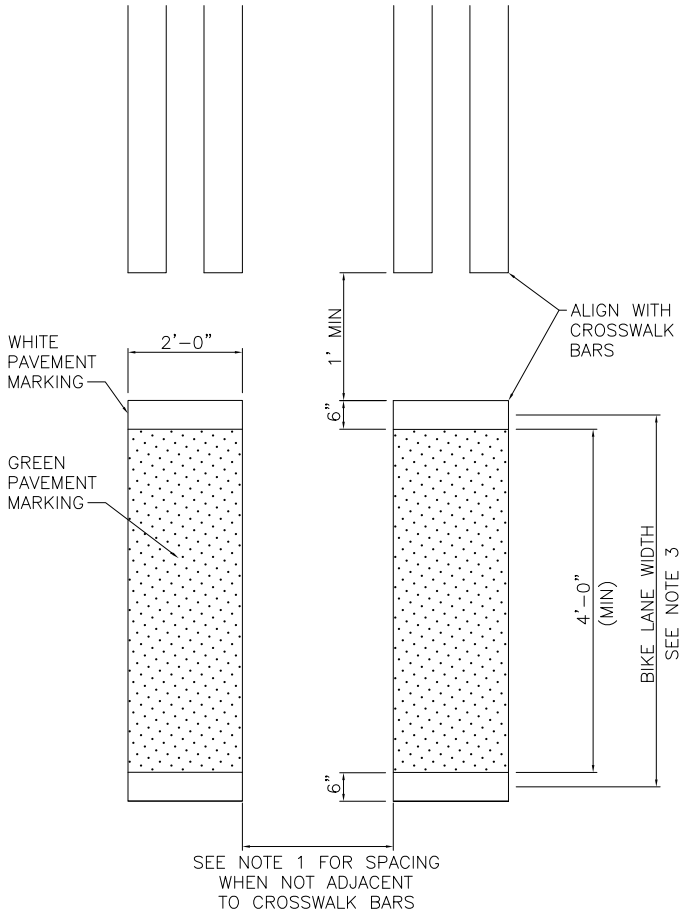
774D
GREENWAY FOUR–ROUTE SYMBOL

REF STD SPEC SEC 8-22

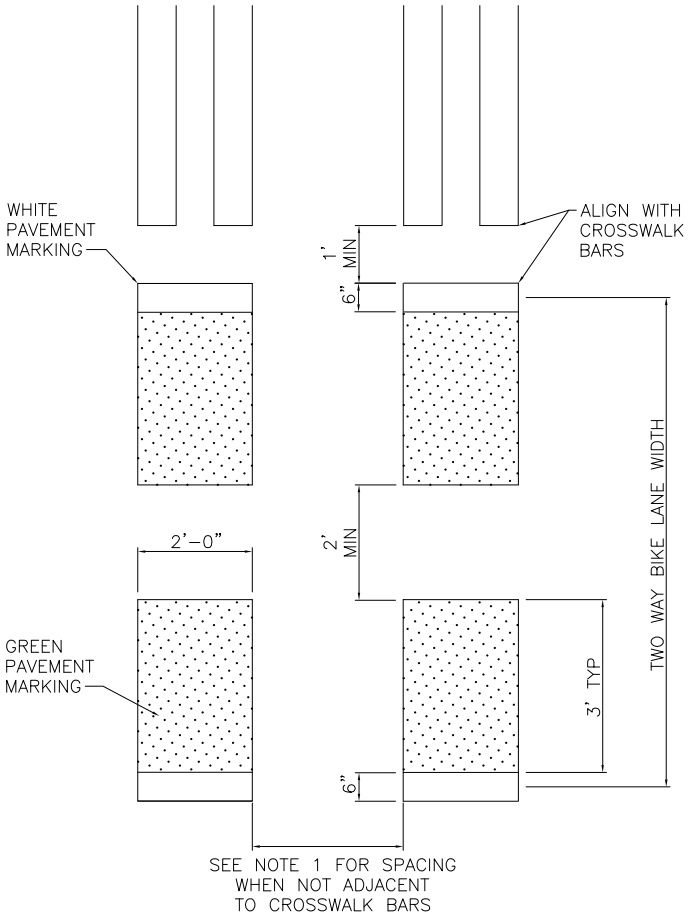
City of Seattle	NOT TO SCALE	GREENWAY MARKINGS

REV DATE: DEC 2019

new standard plan



780A
ONE-WAY CROSS BIKE LAYOUT



780B
TWO-WAY CROSS BIKE LAYOUT

NOTES:

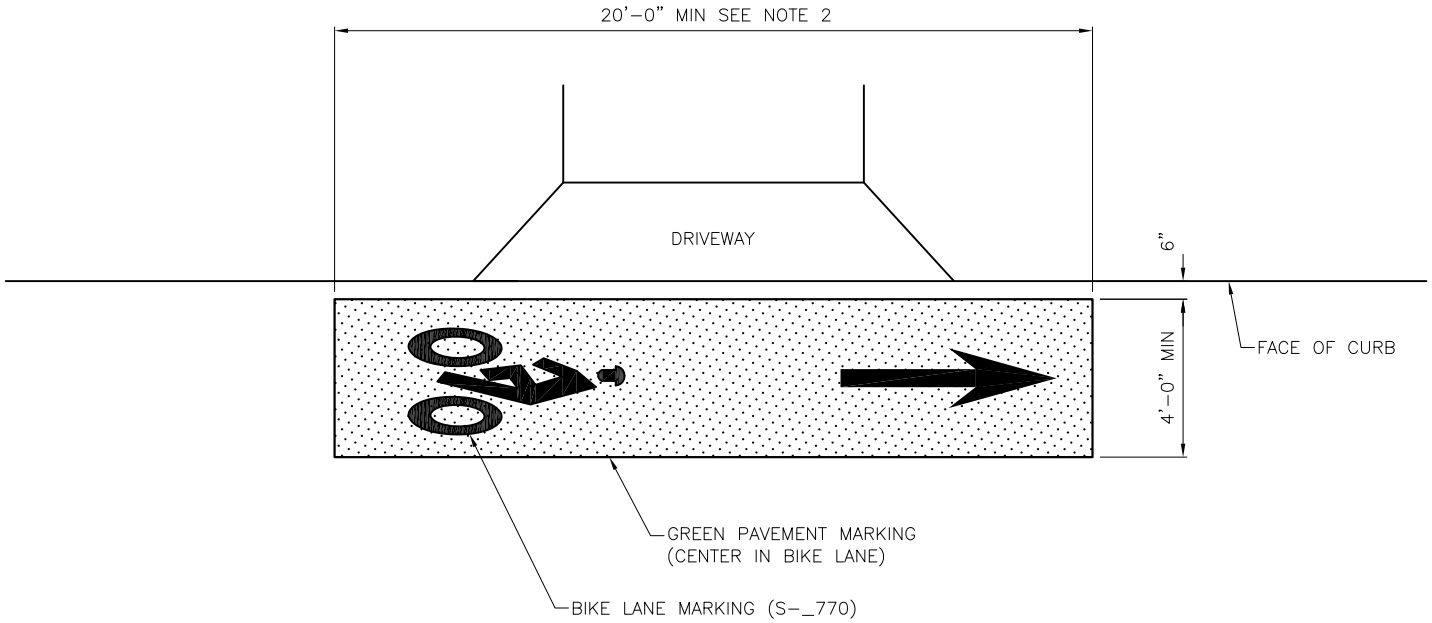
1. WHERE STRIPED CROSSWALK DOES NOT EXIST, CROSS BIKE MUST BE PLACED AT LANE LINE AND 1/2 LANE WIDTH CONSISTENT WITH STANDARD PLAN 712. IF NO CROSSWALK OR LANE LINE EXISTS, CROSSBIKE MUST BE PLACED AT 5' ON CENTERS.
2. CROSS BIKE MATERIAL MUST BE MMA OR PRE-FORMED THERMOPLASTIC.
3. WHEN CONNECTING BILE LANES OF VARYING WIDTH, THE CROSSBIKE WIDTH MUST BE SIZED TO THE NARROWER OF THE TWO FACILITIES.

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	CROSS BIKE PAVEMENT MARKING

REV DATE: DEC 2019

new std plan



DRIVEWAY CROSSING LAYOUT

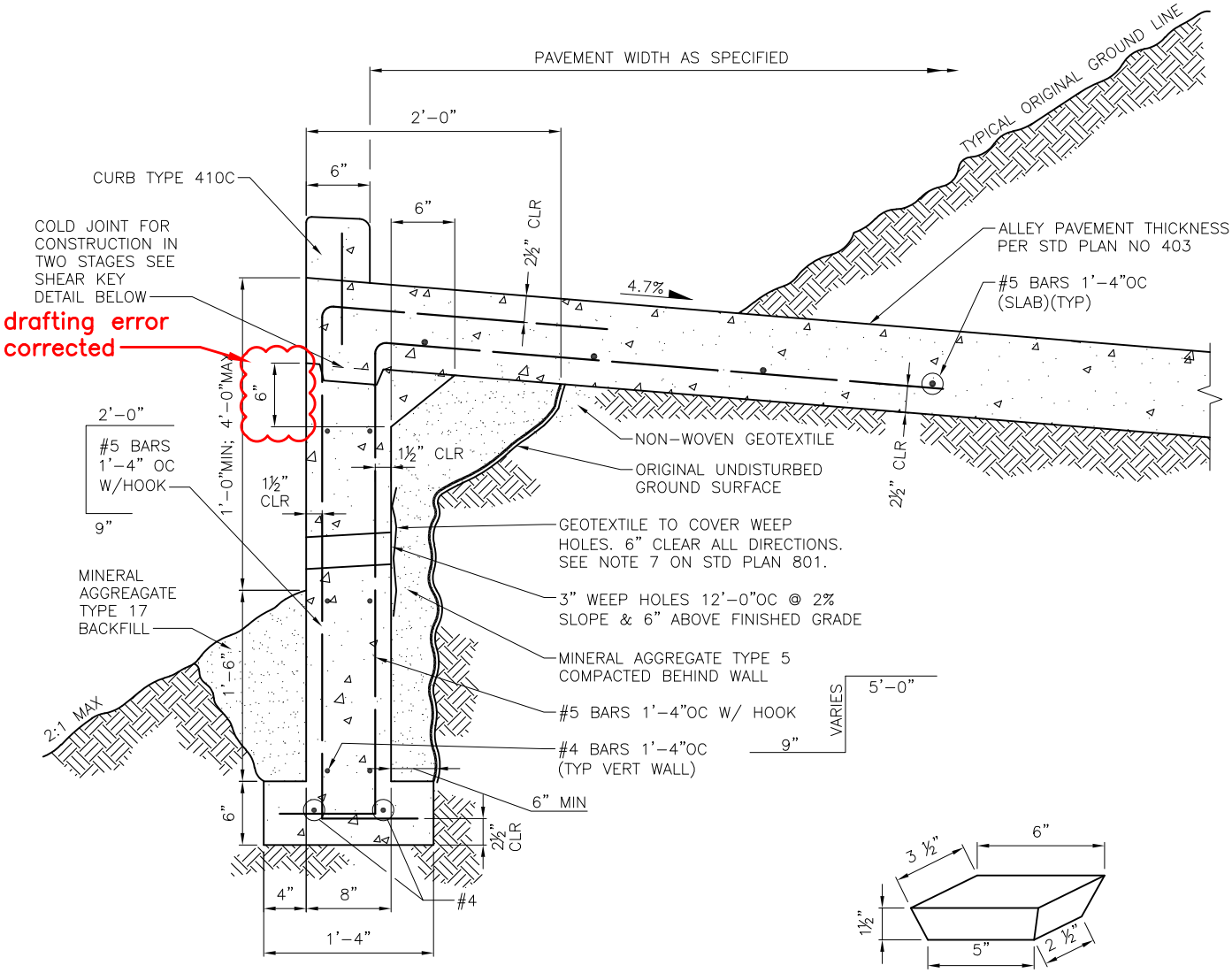
NOTES:

1. DRIVEWAY CROSSING MATERIAL MUST BE MMA OR PRE–FORMED THERMOPLASTIC
2. MATCH DRIVEWAY APRON IF WIDER THAN 20'

REF STD SPEC SEC 8-22

City of Seattle	NOT TO SCALE	BIKE LANE PAVEMENT MARKING AT DRIVEWAY

REV DATE: NOV 2019



BEVELED BLOCK FOR FORMING SHEAR KEY IN WALL SECTION TO BE MADE FROM STANDARD 2"X4"X6" WOOD OR OTHER SUITABLE MATERIAL (SEE NOTE 3)

SHEAR KEY

NOTES:

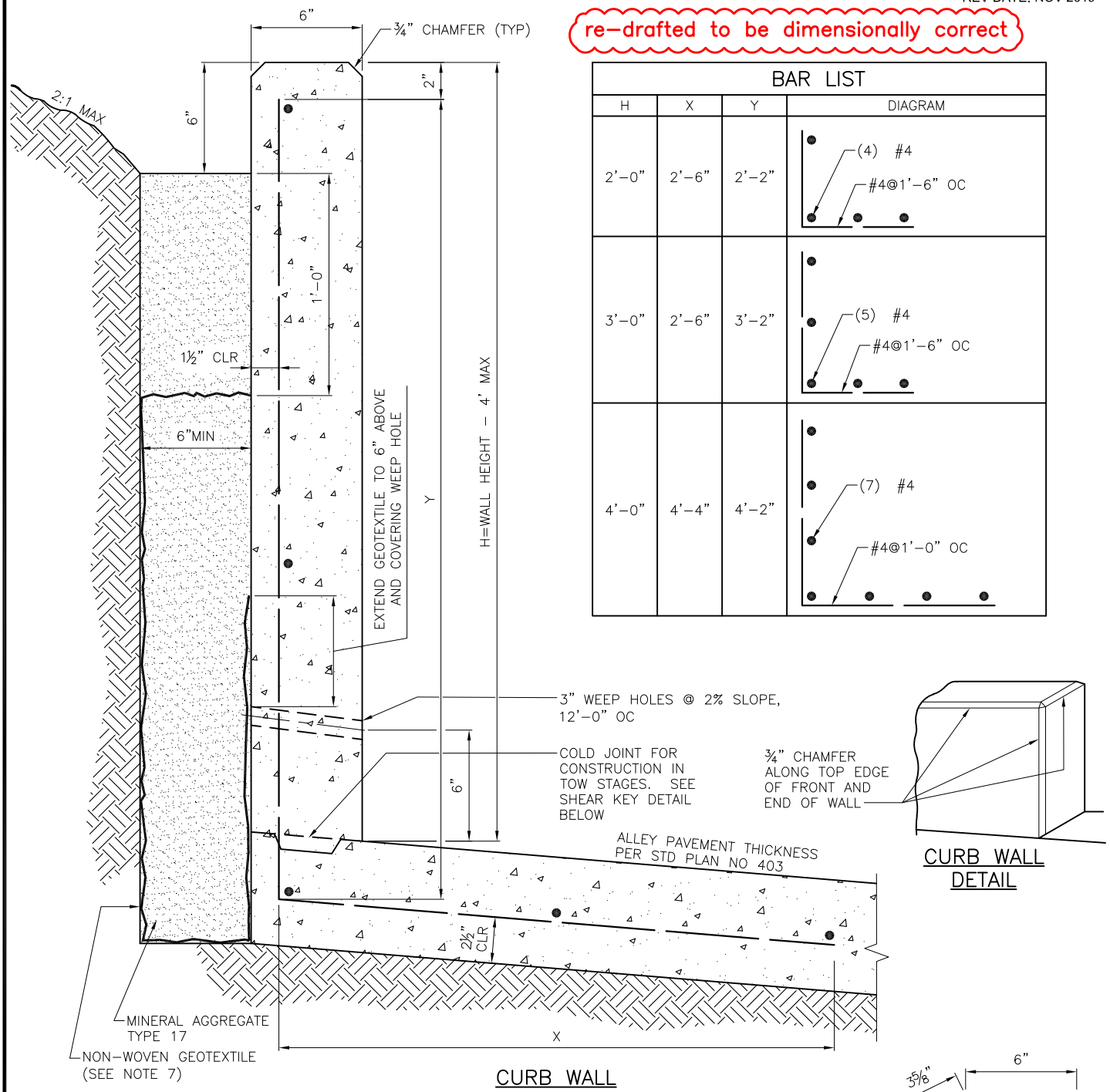
1. BASE OF SUPPORT WALL TO BE BEARING ON COMPACTED SUITABLE MATERIAL
2. BACK FORM FOR SUPPORT WALL MAY BE OMITTED AND CONCRETE PLACED AGAINST NATIVE EARTH WHEN GROUND CONDITIONS PERMIT. CLEARANCE TO REINF STEEL IN BACK FACE MUST BE 2½"
3. WHEN CONSTRUCTION OF ALLEY PAVEMENT IS NOT PLACED INTEGRAL WITH SUPPORT WALL, SHEAR KEYS MUST BE INSTALLED 1'-6"ON CENTERS
4. CONCRETE FOR SUPPORT WALL MUST BE CLASS 4000
5. REINFORCING STEEL ASTM A706 (AASHTO M 31 GRADE 60)
6. VEHICULAR & PEDESTRIAN RAILING PER RIGHT OF WAY IMPROVEMENT MANUAL

REF STD SPEC SEC ~~8-17~~, ~~8-19~~

City of Seattle	NOT TO SCALE	SUPPORT WALL

REV DATE: NOV 2019

re-drafted to be dimensionally correct



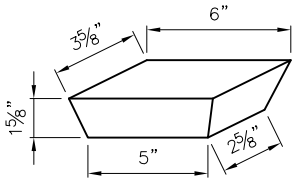
CURB WALL

BAR LIST			
H	X	Y	DIAGRAM
2'-0"	2'-6"	2'-2"	(4) #4, #4@1'-6" OC
3'-0"	2'-6"	3'-2"	(5) #4, #4@1'-6" OC
4'-0"	4'-4"	4'-2"	(7) #4, #4@1'-0" OC

CURB WALL DETAIL

NOTES:

1. MATCH WALL THROUGH JOINTS WITH PAVEMENT THROUGH JOINTS. DISCONTINUE HORIZONTAL REINFORCEMENT AT JOINTS AND MAINTAIN 1½' CLEAR TO ALL REINFORCING AT JOINTS
2. CONC CLASS 4000 FOR CURB WALL
3. MAX HEIGHT 4'-0"(MIN PAVEMENT WIDTH IS 12'-0" FOR WALLS HIGHER THAN 3'-0")
4. WHEN CONSTRUCTION OF WALL IS NOT PLACED INTEGRAL WITH ALLEY PAVEMENT, SHEAR KEY INDENTATIONS SPACED 1'-6"OC MUST BE INSTALLED IN THE PAVEMENT SLAB
5. REINF STEEL ASTM A706 (AASHTO M 31 GRADE 60)
6. ANY RAILING ON TOP OF WALL PER RIGHT OF WAY IMPROVEMENT MANUAL
7. NON-WOVEN GEOTEXTILE TO BE MODERATE SURVIVABILITY, ANY CLASS PER TABLES 1 AND 2 STD SPEC SEC 9-37
8. ALLEY THICKNESS PER STANDARD PLAN NO 403



SHEAR KEY

BEVELED BLOCK FOR FORMING SHEAR KEY IN WALL SECTION TO BE MADE FROM STANDARD 2"X4"X6" WOOD OR OTHER SUITABLE MATERIAL (SEE NOTE 4)

REF STD SPEC SEC 8-17

City of Seattle	NOT TO SCALE	CURB WALL