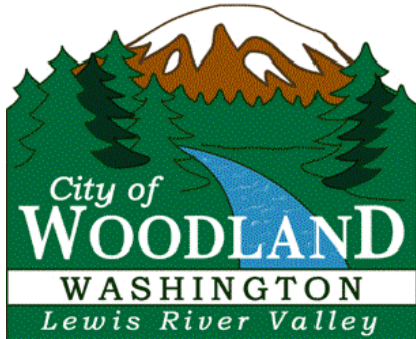


# CITY OF WOODLAND

CLARK/COWLITZ COUNTY

WASHINGTON



## WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSINGS

### CITY OFFICIALS

WILL FINN

Mayor

KARL CHAPMAN

BENJAMIN FREDRICKS

City Council

JANICE GRAHAM

DEEANNA HOLLAND

City Council

DAVE PLAZA

CAROL ROUNDS

MONTE SMITH

City Council

PETER BOYCE

CITY ADMINISTRATOR

DENNIS RIPP

PUBLIC WORKS SUPERINTENDENT

TRACY COLEMAN

PUBLIC WORKS DIRECTOR



AUGUST 2021  
G&O JOB #21256 & 19624.02

## GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT AND COORDINATE WITH ALL UTILITY COMPANIES IN ORDER TO ASSURE THAT ALL LINES, PIPES, POLES AND OTHER APPURTENANCES ARE PROPERLY LOCATED, SECURED, AND/OR PROTECTED. BURIED UTILITIES (WHERE KNOWN) ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL HAVE UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. NOTIFY THE UNDERGROUND UTILITIES LOCATE CENTER: CALL #811.
2. THE CONTRACTOR SHALL HAVE A COPY OF THESE PLANS, ANY ADDENDA, CHANGE ORDERS AND THE CONTRACT PROVISIONS ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
3. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN THE EVENT OR DISCOVERY OF UNSUITABLE SOILS OR HIGH GROUND WATER CONDITIONS OR DISCREPANCIES FROM THE PLANS.
4. WHEREVER PLANS REFER TO "SAWCUT" OF ASPHALT CONCRETE PAVEMENT OR OIL MAT, OR CONCRETE SURFACE, THE CONTRACTOR SHALL PERFORM A "NEAT LINE CUT" PER SPECIFICATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL IN ACCORDANCE WITH THE MUTCD. PRIOR TO DISRUPTION OF ANY TRAFFIC, TRAFFIC CONTROL PLANS SHALL BE PREPARED AND SUBMITTED TO THE CONTRACTING AGENCY FOR APPROVAL. NO WORK SHALL COMMENCE UNTIL ALL APPROVED TRAFFIC CONTROL IS IN PLACE.
6. PROTECTION OF THE ENVIRONMENT: NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

## ORDER OF WORK

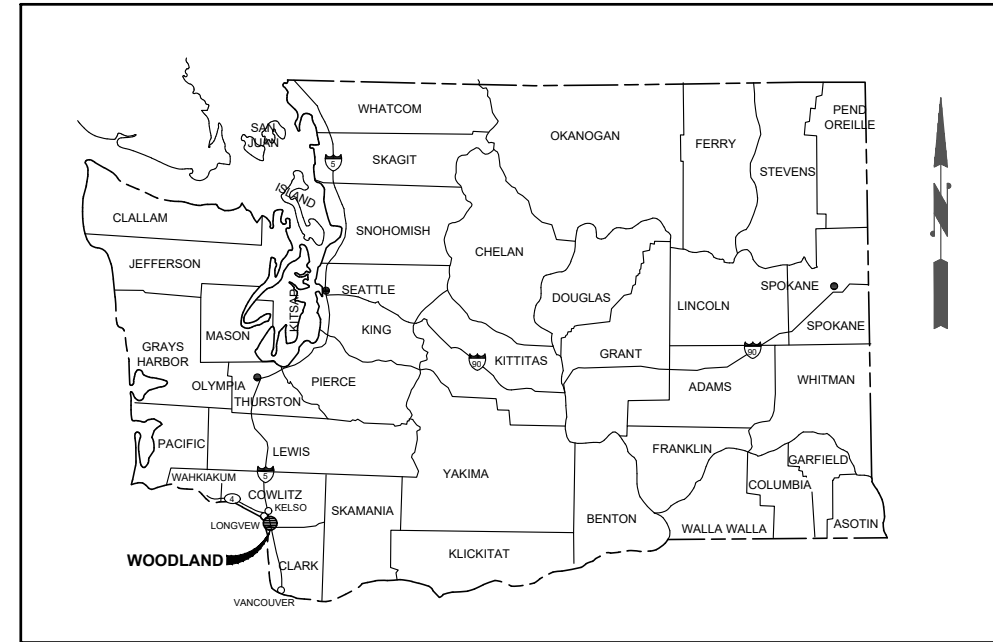
1. ATTEND PRECONSTRUCTION MEETING.
2. PROVIDE SUBMITTALS.
3. CALL FOR LOCATES.
4. TAKE PRECONSTRUCTION PHOTOS.
5. PROVIDE PUBLIC NOTICE TO ABUTTING PROPERTY OWNERS.
6. INSTALL TEMPORARY EROSION CONTROL AND TEMPORARY TRAFFIC CONTROL.
7. POT HOLE EXISTING UTILITIES. POT HOLE SHALL BE COMPLETED PRIOR TO INITIATING ANY UTILITY INSTALLATION.
8. INSTALL BURIED UTILITIES. PRESERVE AS MUCH PAVEMENT AS POSSIBLE.
9. COMPLETE REMAINDER OF THE WORK.
10. PROVIDE RECORD DRAWINGS AND POSTCONSTRUCTION PHOTOS.

## CONTACT PERSONNEL

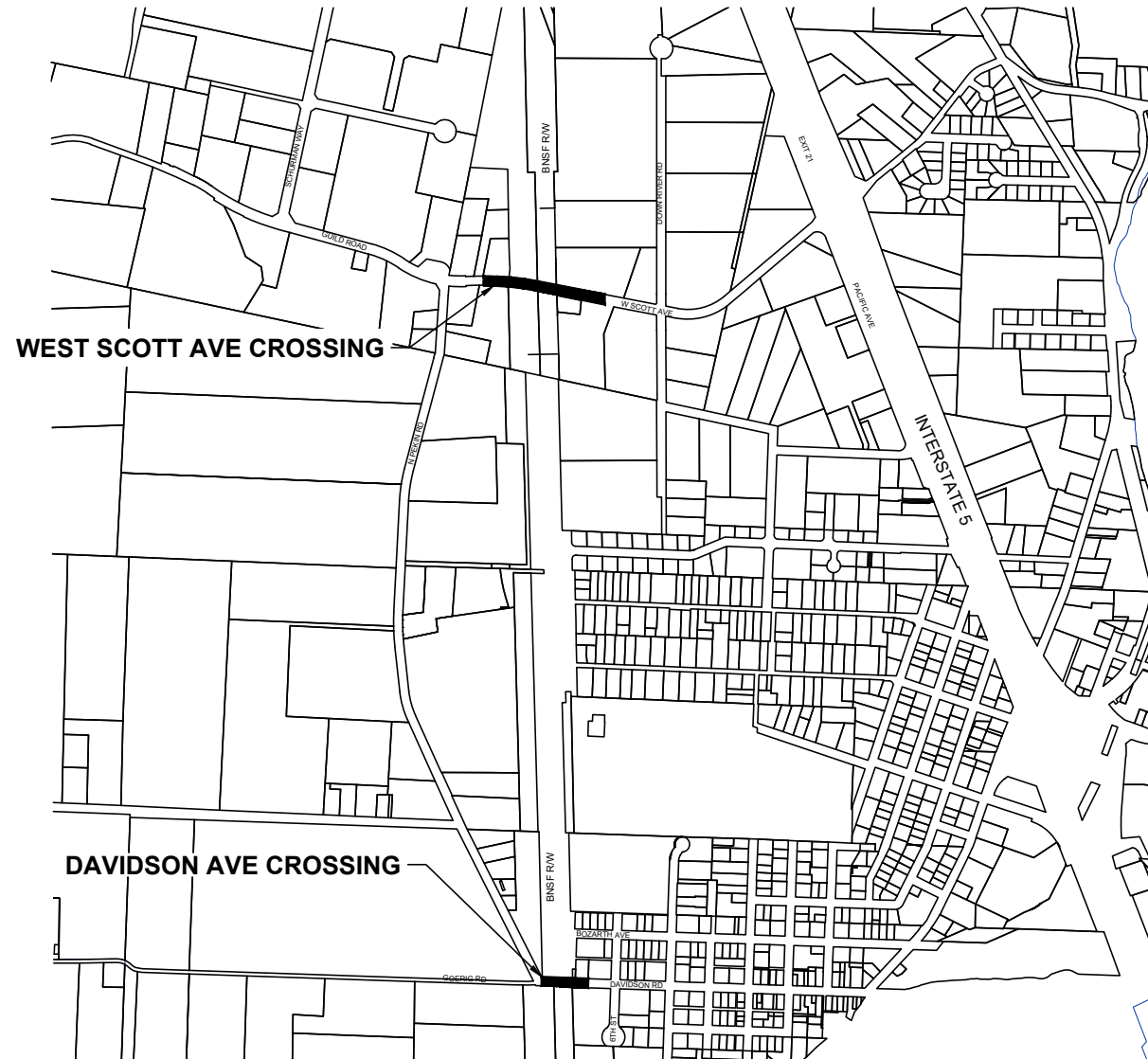
NAME	AGENCY	PHONE NUMBER
TRACY COLEMAN	PUBLIC WORKS DIRECTOR	360-225-7999
DENNIS RIPP	PUBLIC WORKS SUPERINTENDENT	360-225-7800
ERIC DELFEL	GRAY & OSBORNE	206-284-0860
JOE BENSON	CASCADE NATURAL GAS	360-423-1598
PATRICK HARBISON	COWLITZ COUNTY PUD	360-501-9546
JARRELL WILLIAMS	BNSF ROAD MASTER	360-989-6906

## SHEET INDEX

Sheet	Description
-	COVER
G-1	INDEX & VICINITY MAP
G-2	SYMBOL LEGEND AND ABBREVIATIONS
G-3	WEST SCOTT AVENUE SURVEY CONTROL AND ALIGNMENT TABLE
G-4	DAVIDSON AVENUE SURVEY CONTROL AND ALIGNMENT TABLE
C-1	WEST SCOTT AVENUE PLAN & PROFILE
C-2	DAVIDSON AVENUE PLAN & PROFILE
CD-1	TEMPORARY EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS
CD-2	WATER LINE DETAILS
CD-3	WATER LINE DETAILS
CD-4	WATER DETAILS
CD-5	WATER DETAILS
CD-6	MISCELLANEOUS DETAILS
CH-1	CHANNELIZATION AND SIGNING PLAN
CH-2	CHANNELIZATION AND SIGNING DETAILS
CH-3	CHANNELIZATION AND SIGNING DETAILS
CH-4	CHANNELIZATION AND SIGNING DETAILS



VICINITY MAP  
NOT TO SCALE



PROJECT LOCATION  
SCALE: 1"=600'

0 1" 2"  
TWO INCHES AT FULL SCALE.  
IF NOT, SCALE ACCORDINGLY



DATE: AUG 2021  
DRAWN: JS  
CHECKED: EBD  
APPROVED: EBD

PRELIMINARY  
NOT FOR  
CONSTRUCTION



CITY OF WOODLAND  
COWLITZ COUNTY WASHINGTON  
WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING  
INDEX & VICINITY MAP

SHEET: G-1  
OF: 4

JOB NO.: 21256  
DWG INDEX

**ABBREVIATIONS**

AC	ASBESTOS CEMENT PIPE
ADJ	ADJUST
ALT	ALTERNATE
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ANGLE POINT
ASPH	ASPHALT
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AVE	AVENUE
BLDG	BUILDING
BLK	BLOCK
BO	BLOW OFF
BOP	BEGINNING OF PROJECT
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
C	CONDUIT
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CICL	CAST IRON CLASS
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUED/CONTINUOUS
CPEP	CORRUGATED POLYETHYLENE PIPE
CPLG	COUPLING
CTR	CENTER
CY	CUBIC YARD
CL	CENTER LINE
D	DRAIN
DC	DEGREE OF CURVATURE
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DOT	DEPARTMENT OF TRANSPORTATION
DWGS	DRAWING(S)
E	EAST
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
EOA	EDGE OF ASPHALT
EOP	END OF PROJECT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
FIG	FIGURE
FIN	FINISHED
FL	FLANGE
FT	FEET
GA	GAUGE
GALV	GALVANIZED
GI	GALVANIZED IRON
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
L	LENGTH
LB	POUND
LF	LINEAR FEET
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	POINT OF CURVATURE
PE	PLAIN END
PERF	PERFORATED
PI	POINT OF INTERSECTION
PP	POWER POLE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENT
QTY	QUANTITY
R	RADIUS
R/W	RIGHT-OF-WAY
RED	REDUCER
REINF	REINFORCE
REQD	REQUIRED
RET	RETAINING
RR	RAILROAD
S	SOUTH
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SI	SLOPE
SPECS	SPECIFICATIONS
SQ	SQUARE
STA	STATION
STD	STANDARD
TB	THRUST BLOCK
TC	TOP OF CURB
TEL	TELEPHONE
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
THRD	THREADED
THRU	THROUGH
TYP	TYPICAL
VERT	VERTICAL
W	WEST
W/	WITH
W/O	WITHOUT
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

**LINETYPES**

EXISTING	PROPOSED	DESCRIPTION
<b>SURFACE FEATURES</b>		
		CURB (TYPE AS NOTED)
		CURB & GUTTER
		ASPHALT PAVEMENT
		GRAVEL SURFACING
		CONCRETE SURFACING
		CEMENT CONC. SIDEWALK
		GUARD RAIL
		FENCE/RAILING (TYPE AS NOTED)
		FENCE WITH ROLLING GATE
		SHRUB/TREE/VEGETATION LINE
		EDGE OF LANDSCAPING
		SILT FENCE
<b>SURVEY</b>		
		RIGHT-OF-WAY LINE
		CENTERLINE OF RIGHT-OF-WAY
		CENTERLINE OF CONSTRUCTION
		PROPERTY LINE
		PERMANENT EASEMENT LINE
		TEMPORARY CONSTRUCTION EASEMENT
		CONTOUR LINE
		APPROXIMATE TOP OF CUT
		APPROXIMATE TOE OF FILL
		SAWCUT LINE (APPROXIMATE LOCATION)
<b>UTILITIES</b>		
		OVERHEAD UTILITIES
		BURIED ELECTRICAL
		BURIED TELEPHONE/COMMUNICATIONS
		BURIED COMMUNICATIONS
		BURIED FIBER-OPTIC LINE
		GAS MAIN (SIZE AS NOTED)
		WATER MAIN (SIZE AS NOTED)
		SANITARY SEWER MAIN (SIZE AS NOTED)
		STORM DRAIN (SIZE AS NOTED)
		CULVERT (SIZE & TYPE AS NOTED)
		DITCH CENTERLINE/THALWEG

**WATER SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
		CAP/PLUG
		COUPLING/ADAPTER
		GUARD POST
		REDUCER
		THRUST BLOCK
		WATER METER
		WELL
		WATER VAULT (SIZE VARIES)
<b>FIRE HYDRANT</b>		
		FIRE HYDRANT (3-NOZZLE)
<b>JOINTS</b>		
		FLANGE/BLIND FLANGE
		MECHANICAL JOINT
<b>VALVES</b>		
		AIR RELIEF VALVE
		BUTTERFLY VALVE
		CHECK VALVE
		GATE VALVE
		PLUG VALVE

**SANITARY/STORM SEWER SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
		STORM DRAIN MANHOLE/TYPE 2 CATCH BASIN (ACTUAL DIMENSION SHOWN FOR PROPOSED)
		STORM DRAIN CATCH BASIN, CONCRETE INLET, OR YARD/AREA DRAIN (ACTUAL DIMENSION SHOWN FOR PROPOSED)
		SANITARY SEWER MANHOLE (ACTUAL DIMENSION SHOWN FOR PROPOSED)
		CLEAN OUT (SAN. SEWER OR STORM)

**CHANNELIZATION SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
		RAILROAD CROSSING

**SURFACE FEATURES/LANDSCAPING**

EXISTING	PROPOSED	DESCRIPTION
		BUILDING
		BUILDING EAVES
		MAIL BOX (NOTED)
		SIGN
		TREE STUMP
		RIP RAP
		ROCK WALL
		SHRUB
		TREE (CONIFER)
		TREE (DECIDUOUS)

**GAS/POWER/TELEPHONE SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
		GAS METER
		GAS VALVE
		PAD MOUNT TRANSFORMER
		POWER VAULT (SIZE VARIES)
		TRANSMISSION TOWER
		UTILITY POLE
		UTILITY POLE ANCHOR
		UTILITY PEDESTAL
		TELEPHONE VAULT (SIZE VARIES)

**SURVEY SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
		CONTROL POINT
		MONUMENT (IN CASE)
		MONUMENT (SURFACE)
		BENCH MARK
		BOUNDARY/PROPERTY CORNER
		IRON PIPE
		OWNERSHIP TIE
		SECTION CENTER CORNER
		SECTION CORNER
		QUARTER CORNER
		SIXTEENTH CORNER
		CLOSING CORNER
		MEANDER CORNER
		WITNESS CORNER
		TAX LOT/PARCEL NUMBER

**Gray & Osborne, Inc.**  
 CONSULTING ENGINEERS  
 1130 RAINIER AVENUE SOUTH, SUITE 900  
 SEATTLE, WASHINGTON 98144 • (206) 284-0860

DATE: AUG 2021	DRAWN: JS	CHECKED: EBD	APPROVED: EBD
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REVISION

DATE APPD

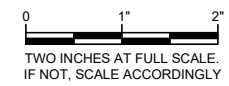
No.

**PROFESSIONAL ENGINEER**  
 STATE OF WASHINGTON  
 40187  
 8/13/2021

**PROFESSIONAL ENGINEER**  
 STATE OF WASHINGTON  
 57857  
 8/13/2021

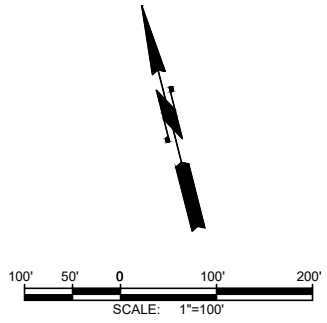
**CITY OF WOODLAND**  
 COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
 SYMBOL LEGEND AND ABBREVIATIONS

SHEET: <b>G-2</b>
OF: <b>4</b>
JOB NO.: 21256
DWG/LEGEND

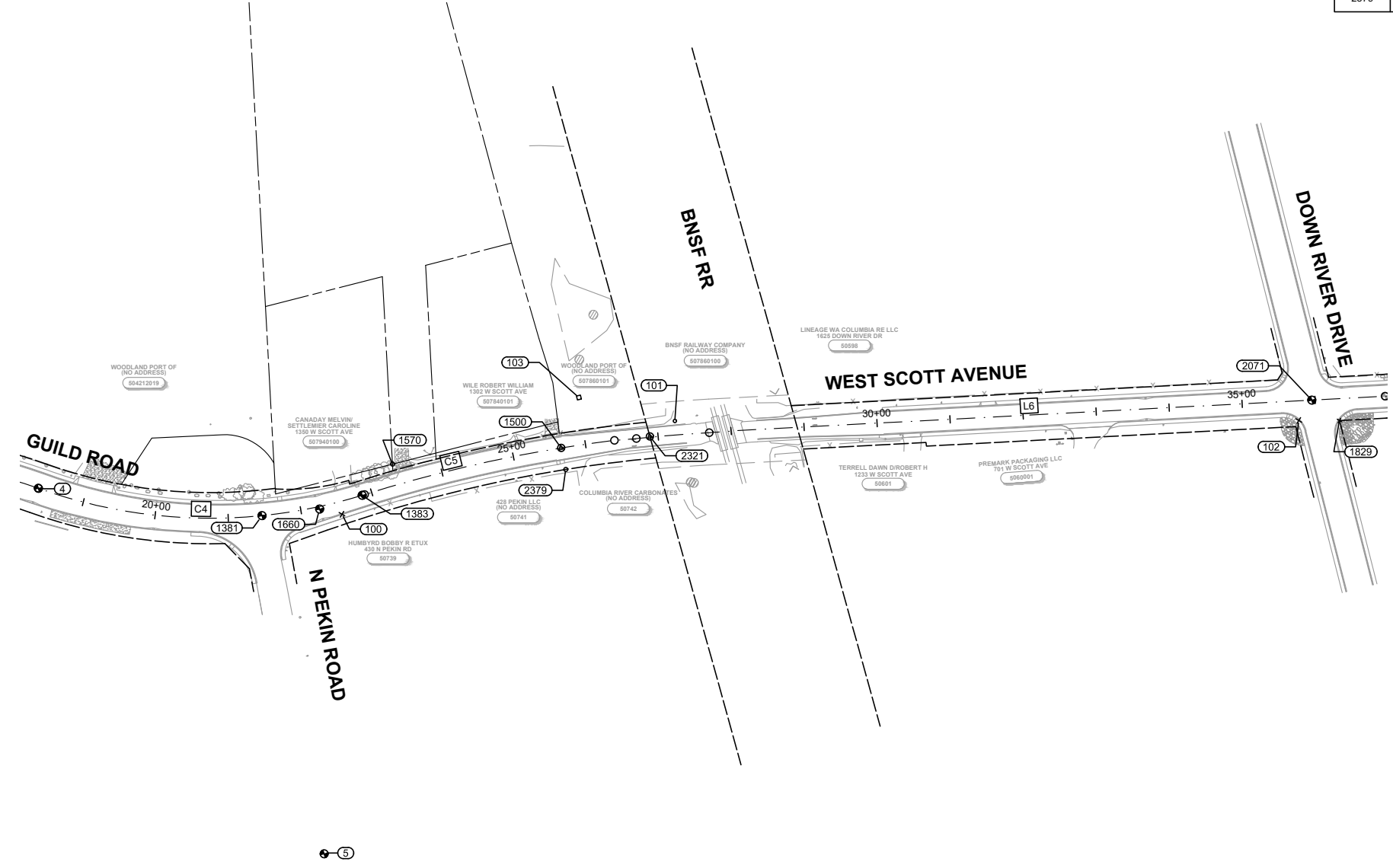


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GUILD ROAD AND WEST SCOTT AVENUE - CONSTRUCTION CENTERLINE ALIGNMENT												
SEGMENT	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	END STATION	END NORTHING	END EASTING	DISTANCE	BEARING	RADIUS	TANGENT	CURVE LENGTH	DELTA
C4	18+35.64	219,946.95	1,065,348.50	22+89.84	219,828.97	1,065,778.89			700.00	235.41	454.19	37°10'35"
C5	22+89.84	219,828.97	1,065,778.89	26+40.00	219,816.82	1,066,128.36			1,911.90	175.57	350.16	10°29'37"
L6	28+10.00	219,788.27	1,066,295.93	35+95.29	219,635.75	1,067,066.26	785.29	S78°48'02"E				



Vertical Datum	NAD83/20	11		
WSPCS SOUTH ZONE, GRID NORTH				
MODIFIED GROUND COORDINATES, AVG CGF=0.99998486194, SCALED TO GROUND AT G+0 1, WSDOT/NGS "X 533"				
POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
1	218625.57	1069053.35	30.07	SFMC=FOUND MONUMENT IN CASE, WSDOT MON "NGS X533" 1/2" DIA ROD W/PUNCH, DOWN 2.25'
4	219946.93	1065348.50	24.71	SFMC, 2" DISC W/PUNCH IN 3" PIPE, 0.35' MD, CL GUILD RD/TURN LANE, IN LARGE CASE, 18' N-NE OF DCB, ~30' E OF SWMH, 66' W OF CL DWAY "NORTHERN ENERGY PROPANE"
5	219366.14	1065604.40	24.51	SFMC, 5/8" REBAR W/YPC AND TACK, "COWLITZ COUNTY", N. PERKIN RD, 4' E OF DBL YEL CL, ~15' W-NW OF WV, ~24' W-NW OF PP
100	219810.47	1065742.35	26.69	SSN=SURVEY SET NAIL, IN SEAM BETWEEN TBC/RWE, S SIDE W.SCOTT AVE, ~12' W OF CL DWAY(N, SIDE) #1350, ~24' E OF DCB
101	219822.16	1066214.85	35.21	SSRC, NORTH SIDE RD, 6' N OF RCE, W SIDE GRAVEL RD ON W SIDE RR TRACKS.
102	219613.04	1067042.29	28.33	SSN, SW CORNER W SCOTT AND DOWN RIVER, IN TOP OF CURB SEAM, SE OF ADA RAMP.
103	219885.56	1066095.66	25.21	SSHT=SET HUB W/ TACK, W/ MAG NAIL AND TAG, ~12.5' W OF EDGE VEG ON W SIDE RR TRACKS, ~27' E OF E EDGE GRAVEL DWAY #1302, ~34' N44E OF POWER POLE.
1381	219835.47	1065635.82	25.71	SFMC, 2" DISC W/PUNCH, IN MON CASE, DOWN 0.4'
1383	219828.72	1065775.42	26.18	SFMC, 2" DISC W/PUNCH, IN MON CASE, DOWN 0.4'
1500	219824.65	1066055.11	28.44	SFM, 2" DISC W/PUNCH, AT SURFACE
1570	219860.00	1065826.06	26.57	SFRC=FOUND REBAR & CAP, 5/8" WITH YELLOW PLASTIC CAP STAMPED "HAMPSTUR CORP LS 37529"
1660	219824.81	1065714.30	26.02	SFMC, 2" DISC, NO PUNCH?, STAMPED "USCE 1987?", IN MON CASE, DOWN 0.3'
1829	219599.29	1067096.18	28.36	SFNT=FOUND NAIL & TAG, STAMPED "PLS 37525"
2071	219635.71	1067066.26	27.85	SFMC, 2" DOMED DISC W/PUNCH STAMPED "24743", IN MON CASE, DOWN 0.3'
2321	219810.00	1066176.65	33.25	SFM, 2" ALUM. DISC, W/PUNCH (ILLEGIBLE) AT SURFACE.
2379	219794.54	1066053.98	27.28	SFRC, 1/2" REBAR WITH YELLOW PLASTIC CAP STAMPED "K BLUHM LS 29269"



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 1130 RAINIER AVENUE SOUTH, SUITE 900  
 SEATTLE, WASHINGTON 98144 • (206) 284-0860

DATE:	AUG 2021	JS	EBD	RAB
DRAWN:				
CHECKED:				
APPROVED:				

REVISION	DATE	APPD
PRELIMINARY NOT FOR CONSTRUCTION		

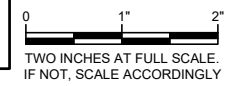
**RICHARD A. BOND**  
 PROFESSIONAL ENGINEER  
 STATE OF WASHINGTON  
 4007  
 1921 1ST AVE, SEATTLE, WA 98101

**ERIC B. DELPPE**  
 PROFESSIONAL ENGINEER  
 STATE OF WASHINGTON  
 40795  
 1921 1ST AVE, SEATTLE, WA 98101

**CITY OF WOODLAND**  
 COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
 WEST SCOTT AVENUE  
 SURVEY CONTROL AND ALIGNMENT TABLE

SHEET:	<b>G-3</b>
OF:	<b>4</b>
JOB NO.:	21256
DWG CONTROL	

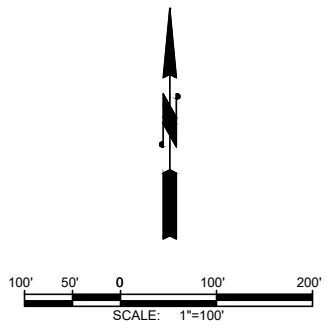
**RIGHT-OF-WAY DISCLAIMER**  
 THE RIGHT-OF-WAY AND/OR PROPERTY LINES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION, NOT ON A SURVEYED LOCATION AND ARE ONLY APPROXIMATE.



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DAVIDSON AVENUE - CONSTRUCTION CENTERLINE ALIGNMENT												
SEGMENT	BEGIN STATION	BEGIN NORTHING	BEGIN EASTING	END STATION	END NORTHING	END EASTING	DISTANCE	BEARING	RADIUS	TANGENT	CURVE LENGTH	DELTA
L10	1+00.00	215,311.56	1,066,198.81	1+60.00	215,260.44	1,066,230.23	60.00	S31°34'56"E				
C10	1+60.00	215,260.44	1,066,230.23	2+34.22	215,212.39	1,066,285.31			122.79	38.28	74.22	34°37'45"
C11	2+34.22	215,212.39	1,066,285.31	2+71.63	215,204.43	1,066,321.62			93.89	18.96	37.42	22°49'58"
L11	2+71.63	215,204.43	1,066,321.62	4+58.04	215,201.32	1,066,508.00	186.41	S89°02'39"E				
L12	4+58.04	215,201.32	1,066,508.00	5+60.00	215,197.84	1,066,609.90	101.96	S88°02'39"E				

Vertical Datum	NAD83/20	11	WSPCS SOUTH ZONE, GRID NORTH
MODIFIED GROUND COORDINATES, AVG CGF=0.99998486194, SCALED TO GROUND AT G+O 1, WSDOT/NGS "X 533"			
Vertical Datum	NAD83	ELEV.	DESCRIPTION
104	215192.08	1066760.70	25.46 SFMC, INTX 6TH ST & DAVIDSON AVE. RAILROAD BAR W/ "X" DOWN 0.7' IN CASE.
HOLDING	WSDOT/NGS PUBLISHED ELEV FOR "X 533"	24.14	
105	216247.12	1066734.38	24.14 SFMC, 5/8" REBAR W/ CAP MARKED "COWLITZ CO." AT THE INTX OF CAPLES RD & N PEKIN RD.
106	217028.21	1065380.69	25.89 SFMC, THE PI MON IN N PEKIN RD, N OF CAPLES RD. REBAR W/ CAP MARKED "COWLITZ CO."
107	215800.32	1065937.61	23.31 SSNT, 4' SW OF THE W FOG LINE OF N PEKIN RD ADJACENT TO HOUSE # 130 AND 6' NE OF POWER POLE #VZ55517.
108	215454.76	1066112.81	23.53 SSNT, 3' SW OF W FOG LINE. 6' NE OF POWER POLE #VZ55515. PERPENDICULAR TO DIRECTION OF TRAVEL.
109	215186.51	1066302.66	34.57 SSRC, 13' N OF POWER POLE AND 3' S OF THE EDGE OF PAVEMENT WHERE GOERIG RD MEETS N PEKIN RD BECOMING DAVIDSON AVE.
110	215210.42	1066258.48	30.86 SFMC, 5/8" REBAR W/ CAP "COWLITZ CO" IN A WATER VALVE CASE. DOWN 0.7'.
111	215178.11	1066281.00	30.98 SFRC, 5/8" REBAR W/ CAP "WHITTEN LS 12412."
112	215175.69	1066265.73	28.10 SFRC, 5/8" REBAR W/ MELTED CAP, ACCEPTED AS "WHITTEN LS 12412."
113	215174.63	1066250.70	25.41 SFRC, 5/8" REBAR W/ MELTED CAP LEANING SOUTH. SHOT AT BASE.
114	215178.12	1066154.92	21.89 SFRC, 5/8" REBAR W/ CAP "WHITTEN LS 12412."
115	215215.58	1066733.97	25.48 SSA=SET AERIAL TARGET, IN THE NW QUADRANT OF 6TH ST & DAVIDSON AVE.
116	215207.78	1066127.75	23.25 SSA, NEAR THE N EDGE OF GOERIG RD.



**RIGHT-OF-WAY DISCLAIMER**

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DATE: AUG 2021	DRAWN: JS	CHECKED: EBD	APPROVED: RAB
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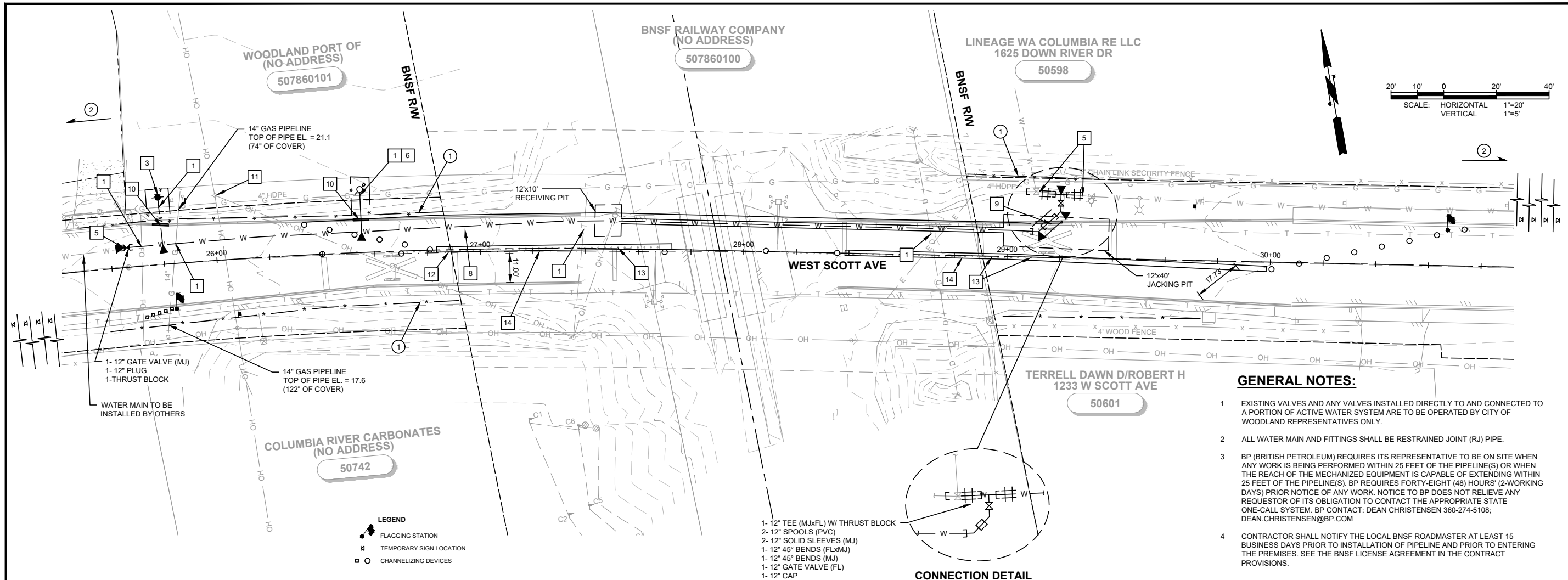
	DATE APPD.
	REVISION
	No.

**CITY OF WOODLAND**  
 COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
 DAVIDSON AVENUE  
 SURVEY CONTROL AND ALIGNMENT TABLE

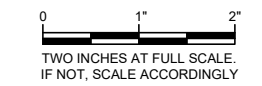
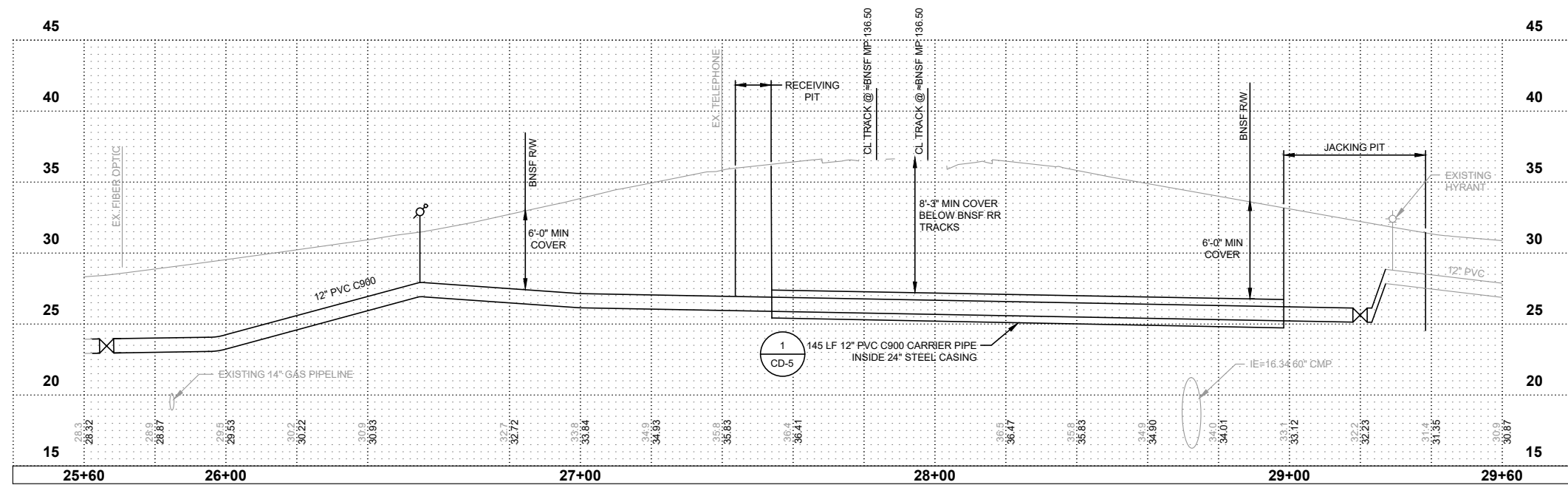
SHEET: <b>G-4</b>	OF: <b>4</b>
JOB NO.: 21256	
DWG CONTROL	

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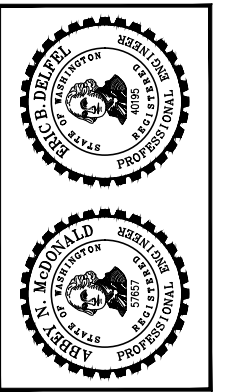
- GENERAL NOTES:**
- EXISTING VALVES AND ANY VALVES INSTALLED DIRECTLY TO AND CONNECTED TO A PORTION OF ACTIVE WATER SYSTEM ARE TO BE OPERATED BY CITY OF WOODLAND REPRESENTATIVES ONLY.
  - ALL WATER MAIN AND FITTINGS SHALL BE RESTRAINED JOINT (RJ) PIPE.
  - BP (BRITISH PETROLEUM) REQUIRES ITS REPRESENTATIVE TO BE ON SITE WHEN ANY WORK IS BEING PERFORMED WITHIN 25 FEET OF THE PIPELINE(S) OR WHEN THE REACH OF THE MECHANIZED EQUIPMENT IS CAPABLE OF EXTENDING WITHIN 25 FEET OF THE PIPELINE(S). BP REQUIRES FORTY-EIGHT (48) HOURS' (2-WORKING DAYS) PRIOR NOTICE OF ANY WORK. NOTICE TO BP DOES NOT RELIEVE ANY REQUESTOR OF ITS OBLIGATION TO CONTACT THE APPROPRIATE STATE ONE-CALL SYSTEM. BP CONTACT: DEAN CHRISTENSEN 360-274-5108; DEAN.CHRISTENSEN@BP.COM
  - CONTRACTOR SHALL NOTIFY THE LOCAL BNSF ROADMASTER AT LEAST 15 BUSINESS DAYS PRIOR TO INSTALLATION OF PIPELINE AND PRIOR TO ENTERING THE PREMISES. SEE THE BNSF LICENSE AGREEMENT IN THE CONTRACT PROVISIONS.
- TESC CONSTRUCTION NOTES:**
- INSTALL SILT FENCE PER DETAIL E-20 ON SHT CD-1.
  - INSTALL INLET PROTECTION IN DOWNSTREAM STORM STRUCTURES. SEE DETAIL ON SHT CD-1. INLET PROTECTION IS REQUIRED FOR 2 EXISTING STRUCTURES LOCATED EAST AND WEST OF BNSF ROW ON W. SCOTT AVE. INLET PROTECTION IS REQUIRED IN 2 STRUCTURES EAST OF THE BNSF ROW ON DAVIDSON AVE.
- WATER CONSTRUCTION NOTES:**
- CAUTION: POTENTIAL UTILITY CONFLICT. CONTRACTOR TO POTHOLE AND FIELD VERIFY EXACT LOCATION AND DEPTH OF EXISTING UTILITY. POTHOLING SHALL BE COMPLETED PRIOR TO ANY TRENCH EXCAVATION.
  - THE EX. WATER LINE SHALL BE DEACTIVATED AND ABANDONED IN PLACE. CLOSE VALVE AND REMOVE AND DISPOSE OF VALVE BOXES.
  - INSTALL NEW FIRE HYDRANT ASSEMBLY. SEE DETAIL W-14 ON SHT CD-2.
  - REMOVE AND SALVAGE EX. FIRE HYDRANT AND DELIVER TO PUBLIC WORKS YARD. CLOSE EX. FIRE HYDRANT VALVE AND REMOVE VALVE BOX.
  - AFTER PRESSURE AND PURITY TEST, AND ACCEPTANCE, CONNECT TO EXISTING SYSTEM.
  - COMBINATION RELEASE AIR VALVE. SEE W-21 ON SHT CD-4.
  - PROTECT EXISTING CURB/SIDEWALK/FENCE/WALL/TREE/ LANDSCAPING DURING CONSTRUCTION.
  - SAWCUT EXISTING PAVEMENT AND REPAIR TRENCH PER DETAIL 1 ON SHT CD-2.
  - SAWCUT EXISTING CURB AND/OR SIDEWALK TO NEAREST FULL JOINT AND PROVIDE CLEAN EDGE. INSTALL CURB AND GUTTER PER DETAIL T-01 AND SIDEWALK PER DETAIL T-01 ON SHT CD-6.
  - SAWCUT EXISTING EXTRUDED CURB AND PROVIDE CLEAN EDGE. INSTALL ASPHALT EXTRUDED CURB PER DETAIL ON SHT CD-6
  - PROTECT EXISTING UTILITY POLE.
  - PROTECT EXISTING MONUMENT.
  - REMOVE AND REINSTALL EXISTING CURB AND PYLONS. ANY DISTURBED OR DAMAGED CURB AND DELINEATORS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
  - INSTALL TEMPORARY BARRIER.



**Gray & Osborne, Inc.**  
CONSULTING ENGINEERS  
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VAN COUVER, WA 98665 • (360) 571-3350

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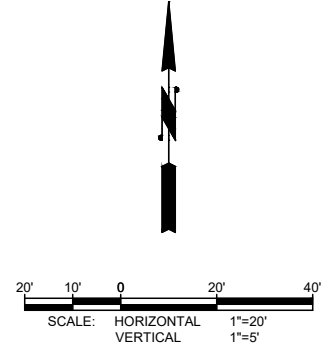
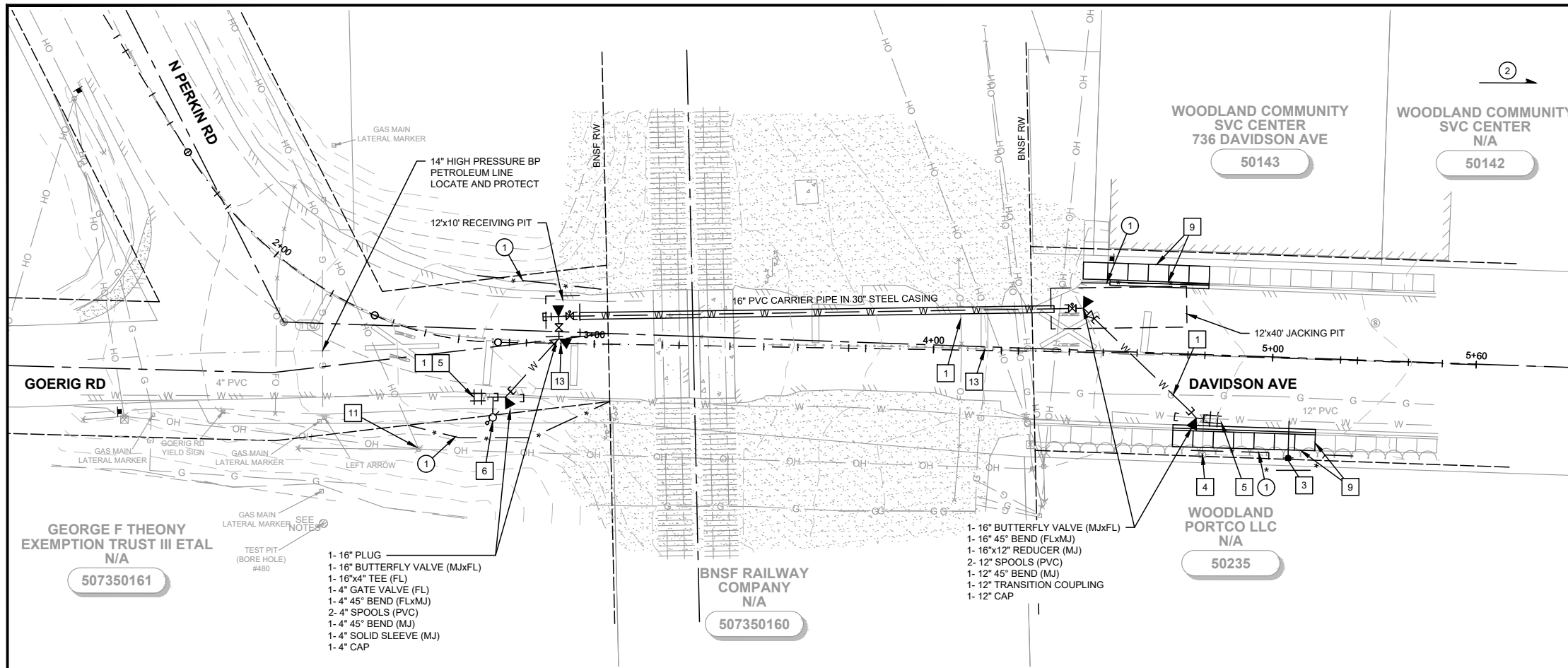
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**CITY OF WOODLAND**  
COMWILTZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
WEST SCOTT AVENUE PLAN & PROFILE

SHEET:	<b>C-1</b>
OF:	<b>2</b>
JOB NO.:	21256
DWG PLAN	

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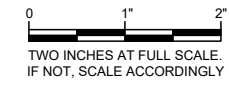
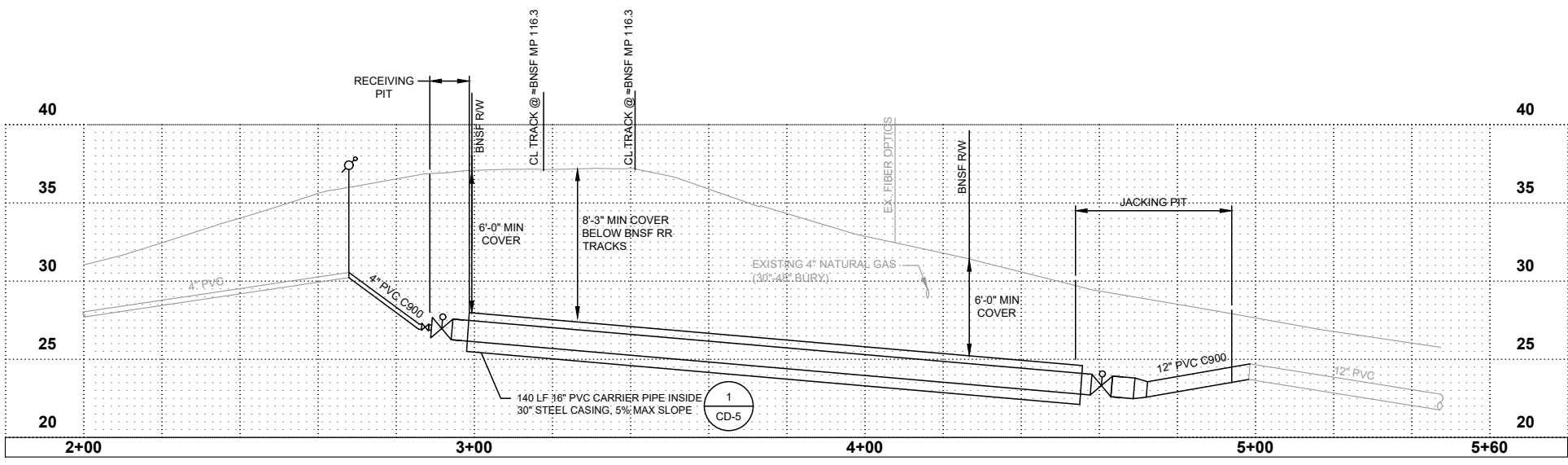
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**WATER CONSTRUCTION NOTES:**

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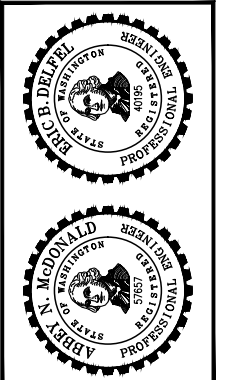


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**PRELIMINARY NOT FOR CONSTRUCTION**



**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
DAVIDSON AVENUE PLAN & PROFILE

SHEET:	<b>C-2</b>
OF:	<b>2</b>
JOB NO.:	21256
DWG PLAN	

**GENERAL EROSION PREVENTION & SEDIMENT CONTROL NOTES**

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO ANY LAND DISTURBING ACTIVITY CAUSED BY CLEARING OR GRADING. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED BY THE CITY EROSION CONTROL SPECIALIST PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL CALL FOR AN ON-SITE INSPECTION WHEN EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND PRIOR TO COMMENCEMENT OF WORK.
- THE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE SITED, DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS IN THE CITY OF WOODLAND'S LATEST STANDARD DETAILS AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANUAL FOR WESTERN WASHINGTON, WHERE THE CITY OF WOODLAND GENERAL REQUIREMENTS SHALL TAKE PRECEDENCE.
- THE DEVELOPER IS RESPONSIBLE FOR MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROL MEASURES DURING AND AFTER INSTALLATION OF ALL UTILITY WORK ASSOCIATED WITH UTILITY TRENCHES.
- PRIOR TO ANY SITE EXCAVATION, ALL STORM DRAINAGE INLETS SHALL BE PROTECTED DOWN SLOPE FROM ANY DISTURBED OR CONSTRUCTION AREAS PER THE STANDARD DETAILS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREAS. CLEAN THE FILTER FABRIC AS NECESSARY TO MAINTAIN DRAINAGE. REMOVE FILTER AND CLEAN CATCH BASINS FOLLOWING COMPLETION OF SITEWORK.
- THE CONTRACTOR SHALL NOT ALLOW SEDIMENT OR DEBRIS TO ENTER NEW OR EXISTING PIPES, CATCH BASINS OR INFILTRATION SYSTEMS.
- NEWLY CONSTRUCTED OR MODIFIED INLETS AND CATCH BASINS ARE TO BE PROTECTED IMMEDIATELY UPON INSTALLATION.
- TEMPORARY SEEDING AND MULCHING OF FILL SLOPES AND DIVERSION DIKES SHALL BE COMPLETED WITHIN ONE WEEK AFTER ROUGH GRADING.
- ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs). DURING THE PERIOD FROM OCTOBER 1 TO APRIL 30 NO SOIL SHALL BE EXPOSED FOR MORE THAN TWO (2) DAYS. FROM MAY 1 TO SEPTEMBER 30 NO SOIL SHALL BE EXPOSED FOR MORE THAN SEVEN (7) DAYS.
- MATERIAL STOCKPILES ARE TO BE PROTECTED BY THE FOLLOWING MEANS:  
 TEMPORARY: COVER PILES WITH TARPS OR PLASTIC SHEETING WEIGHTED WITH CONCRETE BLOCKS, LUMBER OR TIRES.  
 PERMANENT: COVER PILES WITH TARPS OR PLASTIC, OR RESEED. PERIMETER AREAS AROUND PILES ARE TO BE SURROUNDED WITH EROSION CONTROL FILTER FABRIC FENCES UNTIL SOIL SURFACE IS STABILIZED WITH RESEEDING.
- THE CONTRACTOR SHALL MAINTAIN ON SITE A WRITTEN DAILY LOG OF EROSION CONTROL BMP MAINTENANCE.
- IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR IMPROPER EROSION PREVENTION BMPs, CITATIONS AND/OR A STOP WORK ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY OF WOODLAND. IF THE BMPs APPLIED TO A SITE ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHT-OF-WAY, THEN THE PUBLIC WORKS DIRECTOR SHALL REQUIRE ADDITIONAL BMPs.

**PROTECTION OF ADJACENT PROPERTIES, ROADS AND STREETS**

- PROVIDE A 12-INCH DEEP PAD OF CRUSHED ROCK FOR A DISTANCE OF 100 FEET INTO THE SITE FOR ALL ACCESS POINTS UTILIZED BY CONSTRUCTION EQUIPMENT AND TRUCKS. WIDTH OF THE PAD SHALL BE A MINIMUM OF 20 FEET. ALL TRUCKS LEAVING THE SITE SHALL EGRESS ACROSS THE PAD. ACCUMULATED SOIL SHALL BE PERIODICALLY REMOVED, OR ADDITIONAL ROCK SHALL BE PLACED UPON THE PAD SURFACE. ROCK SHALL BE CLEAN 4 INCH TO 8 INCH QUARRY SPALLS. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- PAVEMENT SWEEPING AND SHOVELING IS REQUIRED. WASHING THE PAVEMENT INTO THE STORM SYSTEM IS NOT PERMITTED.
- AT SITES WITH LESS THAN 1 ACRE OF EXPOSED SOIL, PAD LENGTH MAY BE REDUCED TO 50 FEET. SINGLE FAMILY LOT ENTRANCES MAY HAVE THE PAD LENGTH REDUCED TO 20 FEET. IF CONSTRUCTION OCCURS SIMULTANEOUSLY ON ADJACENT LOTS WITH THE SAME OWNER DURING CONSTRUCTION, ONE LOT ENTRANCE MAY BE USED FOR THE ADJACENT LOTS.
- INSTALL SEDIMENT FENCE IN ACCORDANCE WITH THIS DETAIL SHEET PRIOR TO BUILDING CONSTRUCTION AND/OR EXCAVATION TO PREVENT SILT INTRUSION UPON ADJACENT LOTS. IF CONSTRUCTION OCCURS SIMULTANEOUSLY ON ADJACENT LOTS AND THE LOTS HAVE THE SAME OWNER DURING CONSTRUCTION, THE SILT FENCE ALONG THE COMMON LOT LINE MAY BE ELIMINATED.

- CONSTRUCTION ROADS AND PARKING AREAS SHALL BE STABILIZED WHEREVER THEY ARE CONSTRUCTED, WHETHER PERMANENT OR TEMPORARY, FOR THE USE OF CONSTRUCTION TRAFFIC.

**MAINTENANCE OF SEDIMENT CONTROL BMPs**

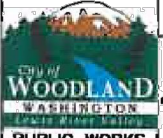

- MAINTAIN AND REMOVE ALL SEDIMENT CONTROLS AS SPECIFIED IN THE STANDARD DETAILS. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT FROM THE CATCH BASINS, DRYWELLS, UTILITY TRENCHES AND STORM PIPES PRIOR TO ACCEPTANCE BY THE CITY.
- SEDIMENT CONTROL BMPs SHALL BE INSPECTED WEEKLY AND AFTER ANY STORM EVENT PRODUCING RUNOFF. THE INSPECTION FREQUENCY FOR STABILIZED, INACTIVE SITES SHALL BE ONCE EVERY TWO WEEKS OR MORE FREQUENTLY AS DETERMINED BY THE LOCAL PERMITTING AUTHORITY BASED ON THE LEVEL OF SOIL STABILITY AND POTENTIAL FOR ADVERSE ENVIRONMENTAL IMPACTS.
- ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.

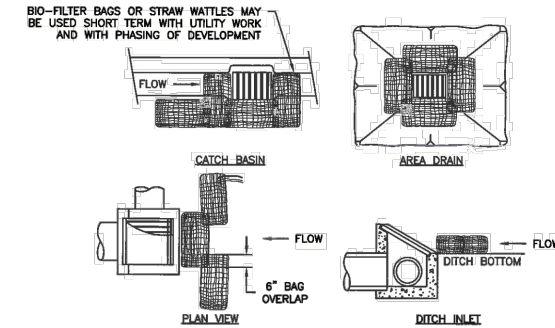
**DUST CONTROL**

- IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST ONE OR MORE OF THE FOLLOWING PREVENTATIVE MEASURES SHALL BE TAKEN FOR DUST CONTROL:  
 A. MINIMIZE THE PERIOD OF SOIL EXPOSURE THROUGH THE USE OF TEMPORARY GROUND COVER AND OTHER TEMPORARY STABILIZATION PRACTICES.  
 B. SPRINKLE THE SITE WITH WATER UNTIL THE SURFACE IS WET.  
 C. SPRAY EXPOSED SOIL AREAS WITH A DUST PALLIATIVE. NOTE: USE OF PETROLEUM PRODUCTS OR POTENTIALLY HAZARDOUS MATERIALS ARE PROHIBITED

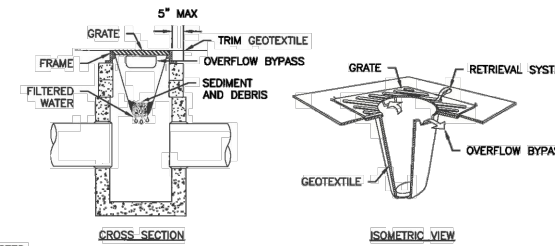
**TEMPORARY SEEDING**

- EXPOSED SURFACES THAT WILL NOT BE BROUGHT TO FINAL GRADE OR GIVEN A PERMANENT COVER TREATMENT WITHIN 30 DAYS OF THE EXPOSURE SHALL HAVE SEED MIX AND MULCH PLACED TO STABILIZE THE SOIL AND REDUCE EROSION SEDIMENTATION. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ASSURE A GOOD STAND OF GRASS IS BEING MAINTAINED. AREAS THAT FAIL TO ESTABLISH VEGETATION COVER ADEQUATE TO PREVENT EROSION WILL BE RESEED AS SOON AS SUCH AREAS ARE IDENTIFIED.
- APPLY AN APPROVED TEMPORARY SEEDING MIXTURE TO THE PREPARED SEED BED AT A RATE OF 120 LBS/ACRE. NOTE: "HYDROSEEDING" APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.

	<b>EROSION PREVENTION AND SEDIMENT CONTROL</b>					E-03
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 PUBLIC WORKS DIRECTOR						

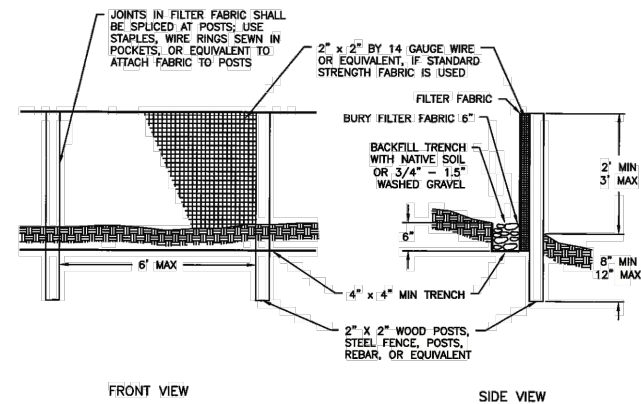


- NOTES:
- ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPE.
  - BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1" x 2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
  - STRAW WATTLES MUST BE STABILIZED BY ATTACHING WIRE CLIPS TO THE CATCH BASIN PER MANUFACTURER SPECIFICATIONS.
  - INLET PROTECTION MUST BE REGULARLY INSPECTED BY THE EROSION CONTROL INDIVIDUAL TO INSURE PROPER PLACEMENT/FUNCTION AND MAINTENANCE.



- NOTES:
- SIZE THE BELOW GRATE INLET DEVICE (BGID) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
  - THE REMOVAL SYSTEM MUST ALLOW REMOVAL OF THE BGID WITHOUT SPILLING THE COLLECTED MATERIAL.
  - THE BGID SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
  - THE CONTRACTOR SHALL INSPECT THE BAG AFTER EACH STORM EVENT AND AT REGULAR INTERVALS.
  - THE FILTER BAG SHALL BE CLEANED OR REPLACED WHEN THE BAG BECOMES HALF FULL.

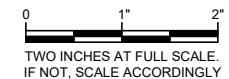
	<b>INLET PROTECTION (1 OF 2)</b>					E-16
	APPROVED	REVISIONS	DATE	DRAWN	DESIGNED	
 PUBLIC WORKS DIRECTOR						



- NOTES:
- FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.
  - POST SPACING MAY BE INCREASED TO 6' IF WIRE BACKING IS USED.

- MAINTENANCE STANDARDS:
- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
  - IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
  - IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
  - SEDIMENT DEPOSITS SHALL EITHER BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-THIRD THE HEIGHT OF THE SILT FENCE, OR A SECOND SILT FENCE SHALL BE INSTALLED.
  - IF THE FILTER FABRIC (GEOTEXTILE) HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.


	<b>SILT FENCE</b>					E-20
	APPROVED	REVISIONS	DATE	DRAWN	DESIGNED	
 PUBLIC WORKS DIRECTOR						




  
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	DATE	APPD
	REVISION	
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 BART STUPP  
 PROFESSIONAL ENGINEER  
 STATE OF WASHINGTON  
 LICENSE NO. 35017

  
 ALBERT N. McDONALD  
 PROFESSIONAL ENGINEER  
 STATE OF WASHINGTON  
 LICENSE NO. 57857

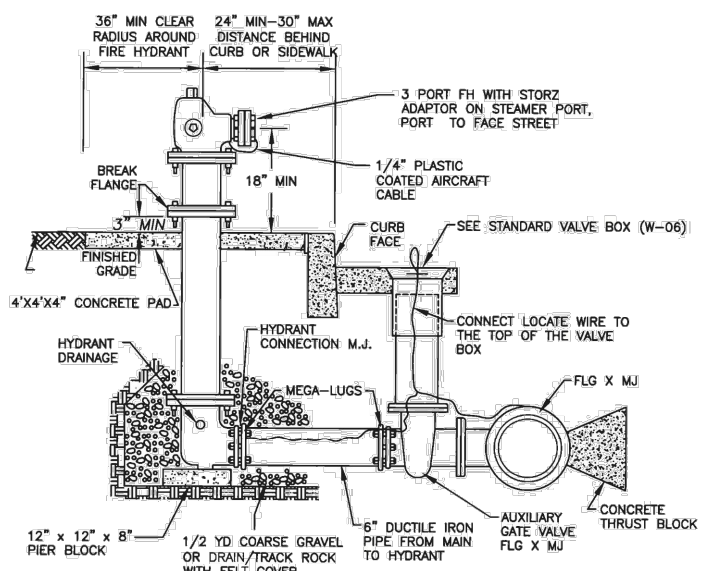
**CITY OF WOODLAND**  
 WASHINGTON  
 COWLITZ COUNTY  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
 TEMPORARY EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS

SHEET: **CD-1**  
 OF: **6**

JOB NO.: 21256  
 TESC NOTES & DWG DETAILS

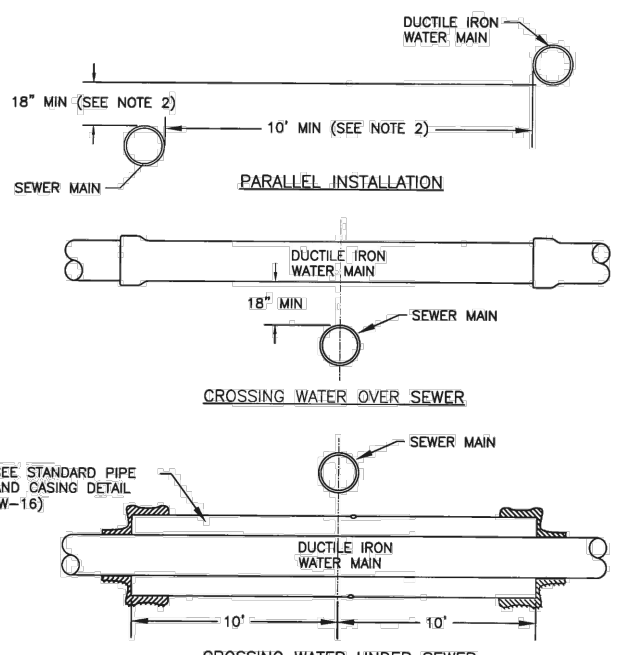
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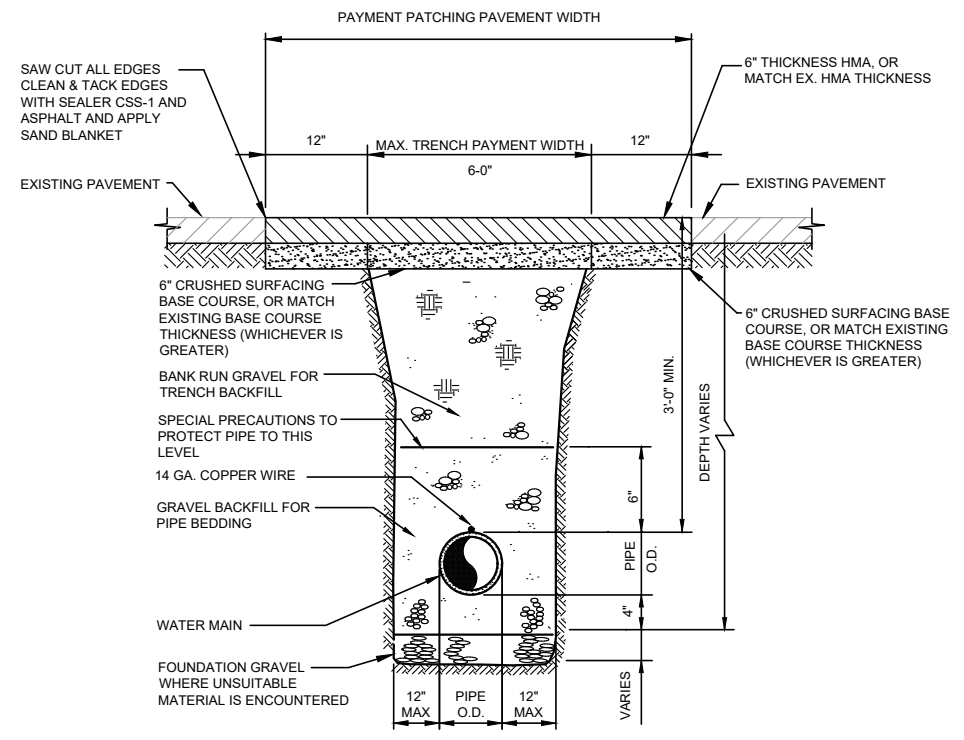
- NOTES:
- HYDRANT TO BE WATEROUS WB67 CLASS 250.
  - HYDRANT TO BE 5-1/4" COMMERCIAL W/ (2) 2-1/2" NST, (1) 4-1/2" NST THREADED PORT(S) WITH (1) 5" TWO LUG QUARTER TURN STORZ OR APPROVED EQUAL PUMPER PORT CONNECTION.
  - STORZ ADAPTORS ARE REQUIRED.
  - FOUR (4) GUARD POSTS TO BE INSTALLED IN UNPROTECTED AREAS (4' RADIUS).
  - FIRE HYDRANT INSTALLATION SHALL BE APPROVED BY THE CITY OF WOODLAND PUBLIC WORKS DEPARTMENT PRIOR TO BACKFILLING.
  - HYDRANTS SHALL NOT BE SET UNTIL LOCATION AND DEPTH ARE APPROVED BY THE CITY OF WOODLAND.
  - FIRE HYDRANTS SHALL BE SHOP PAINTED PRIOR TO INSTALLATION W/ SAFETY YELLOW (RODDA NO. QDB1) HIGH GLOSS EQUIPMENT ENAMEL.
  - HYDRANT STANDARD BURY IS 4' UNLESS OTHERWISE NOTED ON THE PLANS, OR WHEN BREAKAWAY JOINT IS STALLED 7" ABOVE FINISHED GRADE.
  - HYDRANT LOCATIONS SHALL BE AS SHOWN ON THE PLANS.
  - JOINT RESTRAINT SYSTEM MAY BE USED FOR INSTALLATIONS OF NOT MORE THAN 18' (ONE PIPE LENGTH).
  - INSTALL LOCATING WIRE AND CONNECT TO EXISTING WIRE IF PRESENT.

FIRE HYDRANT						W-14
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED		
<i>Barry Stipp</i>		11/21/12				
PUBLIC WORKS DIRECTOR		DATE				

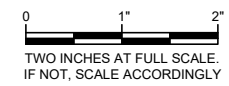


- NOTES:
- EXCEPTIONS SHALL BE APPROVED BY THE CITY OF WOODLAND IN WRITING.
  - WHERE MINIMUM CLEARANCES CANNOT BE MET, THE SEWER MAIN SHALL BE PLACED IN SEPARATE TRENCHES AND CONSTRUCTED OF MATERIALS EQUIVALENT TO THE CITY OF WOODLAND WATER MAIN STANDARDS, INCLUDING PRESSURE TESTING. ADEQUATE RESTRAINT SHALL BE PROVIDED TO ALLOW TESTING TO OCCUR.
  - ALL SEWER CROSSINGS OVER OR UNDER WATER MAINS SHALL MAXIMIZE THE JOINT SEPARATION BY USING THE LONGEST STANDARD LENGTH PIPE AVAILABLE FROM THE MANUFACTURER FOR BOTH THE WATER AND SEWER MAINS. BOTH PIPES SHALL BE CENTERED AT THE POINT OF CROSSING.
  - ALL SEWER CROSSING OVER WATER MAINS SHALL BE CONSTRUCTED OF MATERIALS EQUIVALENT TO THE CITY OF WOODLAND WATER MAIN STANDARDS, INCLUDING PRESSURE TESTING.

WATER AND SEWER SPACING						W-20
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED		
<i>Barry Stipp</i>		11/21/12				
PUBLIC WORKS DIRECTOR		DATE				



**WATER MAIN TYPICAL TRENCH SECTION**  
1 TYP NOT TO SCALE

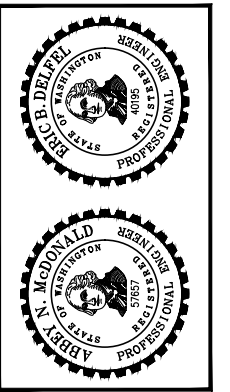


**Gray & Osborne, Inc.**  
CONSULTING ENGINEERS  
8513 NE HAZEL DELL AVENUE, SUITE 202  
VAN COUVER, WA 98665 • (360) 571-5350

DATE:	AUG 2021	JS	EBD	EBD
DRAWN:				
CHECKED:				
APPROVED:				

DATE	APPD.

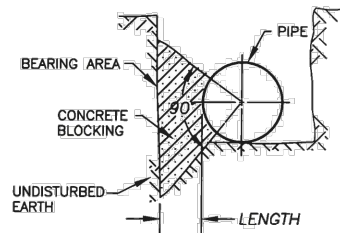
**PRELIMINARY NOT FOR CONSTRUCTION**



**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
WATER DETAILS

SHEET:	<b>CD-2</b>
OF:	<b>6</b>
JOB NO.:	21256
DWG/WATER DET	

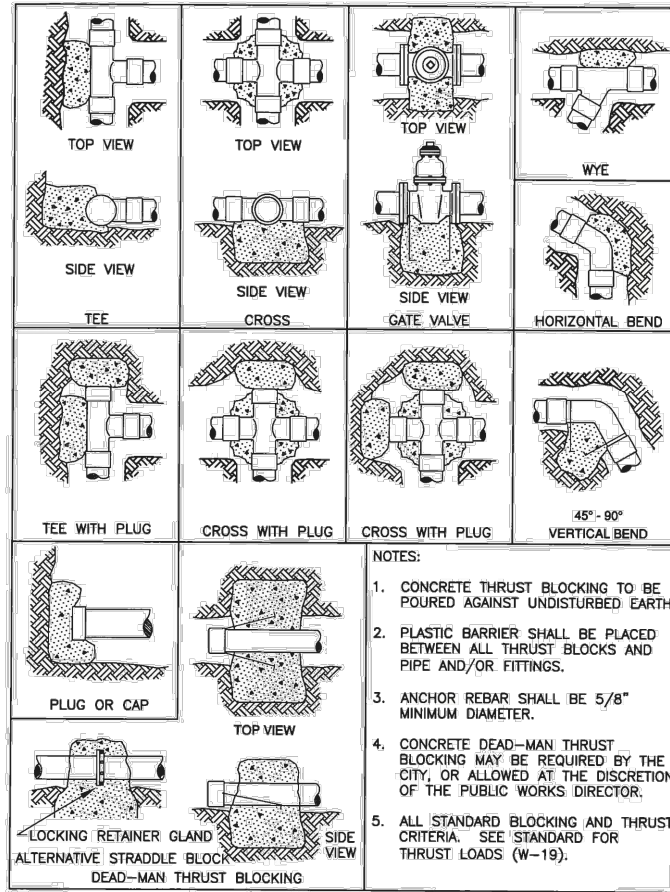
SOIL BEARING = 2000 LB/S.F.				
PIPE SIZE	HORZ. BENDS	MIN. BEARING AREA S.F.	MIN. VOL. OF BLOCKING C.F.	MIN. LENGTH OF BLOCKING
4"	TEE	2.3	0.8	0.86
	90°	3.2	1.4	1.08
	45°	1.7	0.5	0.73
	22-1/2°	0.9	0.2	0.46
6"	TEE	4.7	2.4	1.24
	90°	6.6	4.0	1.53
	45°	3.6	1.8	1.05
	22-1/2°	1.8	0.6	0.66
8"	TEE	8.0	5.4	1.63
	90°	11.4	8.0	2.00
	45°	6.2	3.6	1.37
	22-1/2°	3.1	1.3	0.87
10"	TEE	12.1	9.9	2.00
	90°	17.1	16.7	2.46
	45°	9.3	6.6	1.69
	22-1/2°	4.7	2.4	1.08
12"	TEE	17.1	16.7	2.37
	90°	24.2	28.0	2.93
	45°	13.1	11.2	2.01
	22-1/2°	6.7	4.1	1.28
16"	TEE	23.8	27.3	2.73
	90°	33.8	48.0	3.37
	45°	18.2	18.3	2.29
	22-1/2°	9.3	6.7	1.42
18"	TEE	29.9	36.5	3.05
	90°	42.2	64.7	3.79
	45°	22.9	25.8	2.57
	22-1/2°	11.7	9.4	1.60
24"	TEE	52.3	88.1	4.03
	90°	74.0	148.8	5.00
	45°	40.0	59.7	3.55
	22-1/2°	20.4	21.7	2.11
11-1/4"	TEE	10.3	7.7	1.18



- NOTES:
1. ALL BLOCKING SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL.
  2. ALL CONCRETE BLOCKING SHALL BE POURED IN PLACE WITHOUT DIRECT CONTACT TO PIPE, FITTINGS OR FLANGES. 15 LB. ASPHALT- IMPREGNATED FELT, OR EQUIVALENT AS APPROVED BY THE INSPECTOR, SHALL BE PLACED BETWEEN THE CONCRETE AND PIPE, FITTINGS OR FLANGES.
  3. LAYOUT TO BE APPROVED BY THE INSPECTOR PRIOR TO AND AFTER CONCRETE POUR.
  4. CONCRETE FOR ALL BLOCKING SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 2,300 P.S.I.
  5. THIS CHART IS NOT APPLICABLE TO VERTICAL BENDS. LOCATION SPECIFIC DESIGN IS REQUIRED FOR SUCH INSTALLATIONS.
  6. WHERE THE TRENCH SOIL HAS A BEARING PRESSURE LESS THAN 2000 POUNDS PER SQUARE FOOT, LOCATION SPECIFIC DESIGN IS REQUIRED.

STANDARD THRUST BLOCK				
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED
<i>Bart Stapp</i>				
PUBLIC WORKS DIRECTOR				
DATE				

W-17



- NOTES:
1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
  2. PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL THRUST BLOCKS AND PIPE AND/OR FITTINGS.
  3. ANCHOR REBAR SHALL BE 5/8" MINIMUM DIAMETER.
  4. CONCRETE DEAD-MAN THRUST BLOCKING MAY BE REQUIRED BY THE CITY, OR ALLOWED AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR.
  5. ALL STANDARD BLOCKING AND THRUST CRITERIA. SEE STANDARD FOR THRUST LOADS (W-19).

THRUST BLOCKING				
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED
<i>Bart Stapp</i>				
PUBLIC WORKS DIRECTOR				
DATE				

W-18

**THRUST LOADS**

THRUST AT FITTINGS IN POUNDS AT 200 POUNDS PER SQUARE INCH OF WATER PRESSURE

PIPE DIAMETER	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND	DEAD END OR TEE
4"	3,600	2,000	1,000	500	2,600
6"	8,000	4,400	2,300	1,200	5,700
8"	14,300	7,700	4,000	2,000	10,100
10"	22,300	12,100	6,200	3,100	15,800
12"	32,000	17,400	8,900	4,500	22,700
14"	43,600	23,600	12,100	6,100	30,800
16"	57,000	30,800	15,700	7,900	40,300

- NOTES:
1. BLOCKING SHALL BE COMMERCIAL CONCRETE POURED IN PLACE AGAINST UNDISTURBED EARTH. FITTING SHALL BE ISOLATED FROM CONCRETE THRUST BLOCK WITH PLASTIC OR SIMILAR MATERIAL.
  2. TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (S.F.):  
EXAMPLE : 12" - 90° BEND IN SAND AND GRAVEL 32,000 LBS 3000 LB/S.F. = 10.7 S.F. OF AREA
  3. AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.
  4. BLOCKING SHALL BE ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

**SAFE SOIL BEARING LOADS**

FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE EXCEEDS 2 FEET

SOIL	POUNDS PER SQUARE FOOT
MUCK, PEAT	0
SOFT CLAY	1,000
SAND	2,000
SAND & GRAVEL	3,000
SAND & GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

THRUST LOADS				
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED
<i>Bart Stapp</i>				
PUBLIC WORKS DIRECTOR				
DATE				

W-19

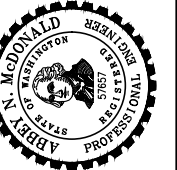
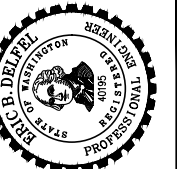


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DATE: AUG 2021  
DRAWN: JS  
CHECKED: EBD  
APPROVED: EBD

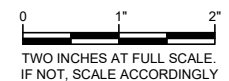
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

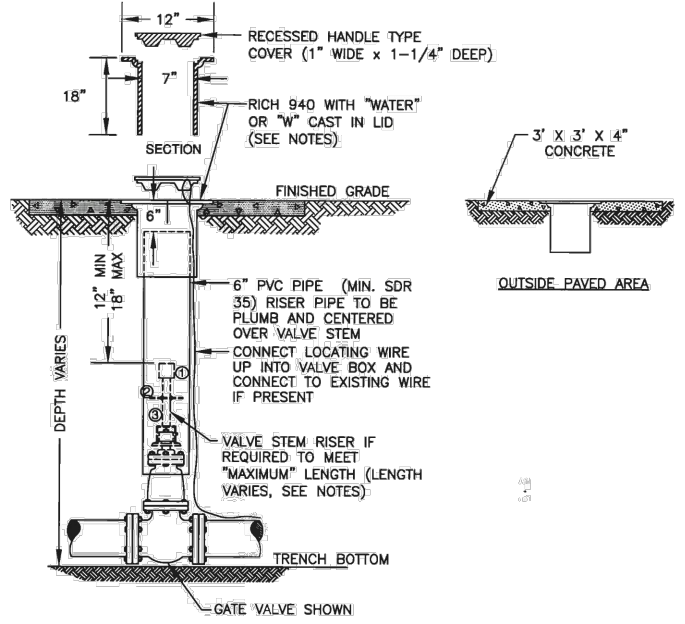
DATE APPD. REVISION



**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
WATER DETAILS

SHEET: **CD-3**  
OF: **6**  
JOB NO.: 21256  
DWG: WATER DET

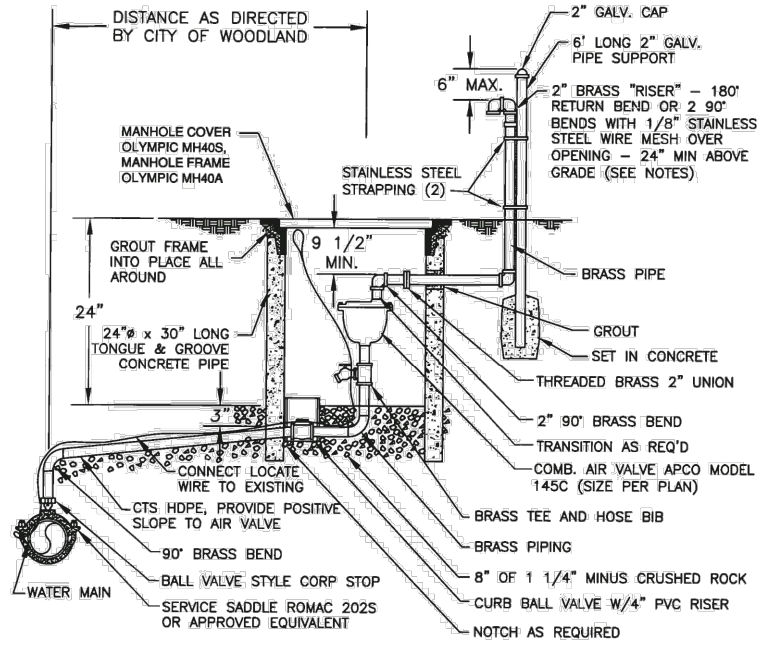




NOTES:

1. VALVE STEM EXTENSION TO INCLUDE THE FOLLOWING WELDS TO BE 1/4" FILLET WELD ALL AROUND.
2. VALVE OPERATING NUT OR 1-7/8" X 1-7/8" X 2" HIGH GRADE STEEL.
3. 3/16" THICK X 5-1/5" DIA STEEL GUIDE PLATE SHAFT.
4. 2" X 2" X 3/16" SQUARE STRUCTURAL STEEL TUBING TO FIT OPERATING NUT.
5. FOR NEW VALVES IN EXISTING STREET, RESTORE PAVEMENT PER CITY OF WOODLAND STANDARDS.

STANDARD VALVE BOX AND COVER					W-06
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED	
<i>[Signature]</i>					
PUBLIC WORKS DIRECTOR					

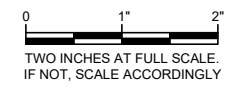


NOTES:

1. VALVE ASSEMBLY SHALL BE SET AT THE HIGH POINT OF THE LINE.
2. A MINIMUM OF ONE 4" ADJUSTMENT RING MUST BE PROVIDED IN TRAFFIC AREA SETTINGS. SADDLE TAP, PIPING & VALVE TO MATCH COMBINATION AIR VALVE INLET SIZE (SEE PLAN). ADJUSTMENT RINGS AND MANHOLE RING TO BE GROUTED, WATER TIGHT.
3. TERMINATE EXHAUST INSIDE VAULT WITH 90° BEND (DOWN) AND WIRE MESH IF VAULT IS DRAINED TO DAYLIGHT.
4. LOCATE WIRE SHALL INCLUDE A LOOP THAT CAN BE REACHED FROM OPEN COVER.

COMBINATION RELEASE AIR VALVE					W-21
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED	
<i>[Signature]</i>					
PUBLIC WORKS DIRECTOR					

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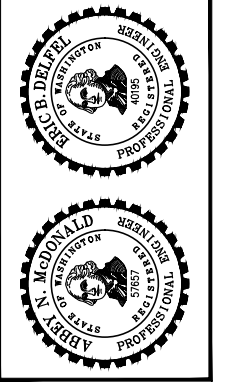


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DATE:	AUG 2021	JS	EBD	EBD
DRAWN:				
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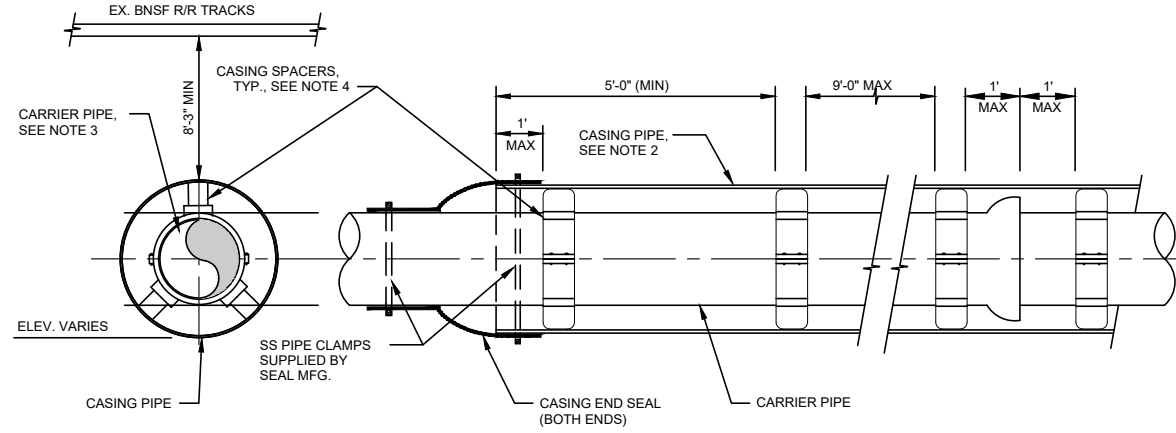
REVISION	DATE	APPD

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**



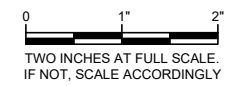
**CITY OF WOODLAND**  
 COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
 WATER DETAILS

SHEET:	<b>CD-4</b>
OF:	<b>6</b>
JOB NO.:	21256
DWG:	WATER DET



- NOTES:**
1. CONTRACTOR IS RESPONSIBLE FOR SUPPORTING ANY UTILITIES WITHIN THE JACKING OR RECEIVING PITS. PITS MAY REQUIRE SHORING.
  2. STEEL CASING PIPE SHALL HAVE A MIN. YIELD STRENGTH OF 35,000 PSI AND BE A MIN. THICKNESS OF .375" FOR E-80 LOADINGS.
  3. POTABLE WATER CARRIER PIPE SHALL BE PVC C900 (DR18) PER WSDOT STD. SPECIFICATION 9-30.1C50A.
  4. CASING SPACERS SHALL BE STAINLESS STEEL WITH PE SKIDS.

**1 CASING/CARRIER PIPE INSTALLATION DETAIL**  
TYP NOT TO SCALE



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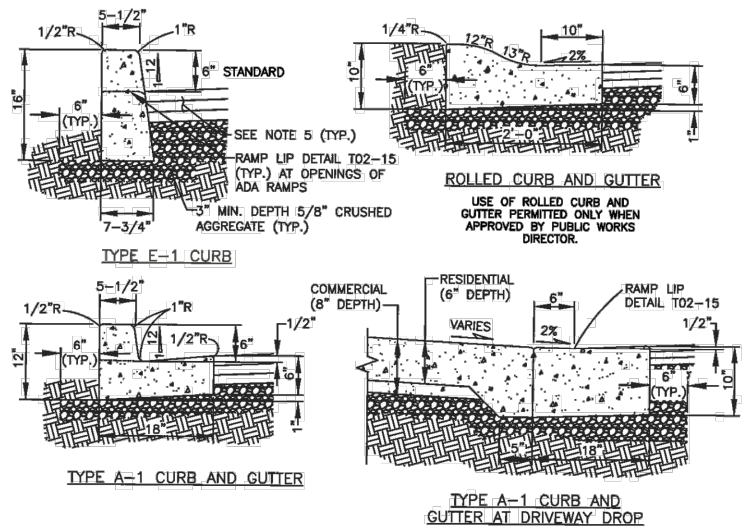
DATE:	AUG 2021
DRAWN:	JS
CHECKED:	EBD
APPROVED:	EBD

<b>PRELIMINARY NOT FOR CONSTRUCTION</b>	DATE	APPD
	REVISION	
No.		

**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
WATER DETAILS

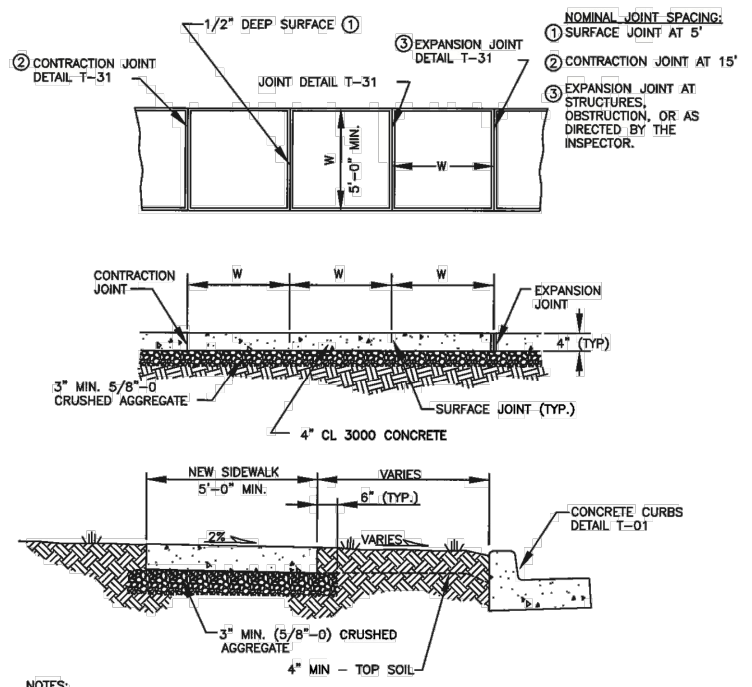
SHEET:	<b>CD-5</b>
OF:	<b>6</b>
JOB NO.:	21256
DWG:	WATER DET

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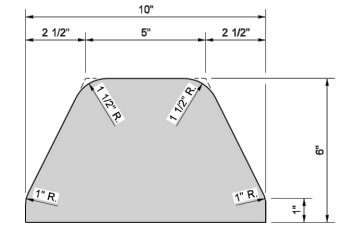
- NOTES:**
1. CONCRETE SHALL BE 3000 PSI MIN. (CL 3000), 3-1/2" SLUMP (MAX.).
  2. CURBS ADJACENT TO PAVEMENT OR SIDEWALK SHALL HAVE CONSTRUCTION JOINTS TO MATCH EXISTING PATTERNS. 3/8" EXPANSION JOINTS SHALL BE PLACED ON BOTH SIDES OF CATCH BASINS. AT TOPS OF DRIVEWAYS, ALL CHANGES IN DIRECTION, AND AS DIRECTED BY THE INSPECTOR. CONTRACTION JOINTS TO BE PLACED AT 15' MAXIMUM SPACING.
  3. FOR CURB DROPS AT ADA RAMP, SEE RAMP LIP DETAIL T-21.
  4. COMPACT SUBGRADE AND AGGREGATE TO 95% MAXIMUM DRY DENSITY (3" MIN. DEPTH).
  5. SEE PAVEMENT RESTORATION/WIDENING AT CURBS DETAIL T-30.
  6. CURB TO BE MEDIUM BROOM FINISHED, PARALLEL TO GUTTER LINE.
  7. WHERE MATCHING EXISTING CURBS, ALL EXISTING EDGES SHALL BE SAWCUT.
  8. WHEN ATTACHED SIDEWALKS ARE USED WITH ROLLED CURB AND GUTTER, THICKENED SIDEWALKS (6" MIN.) SHALL BE CONSTRUCTED UNDER THE SAME CONSTRUCTION CONTRACT.

CONCRETE CURBS					T-01
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED	
<i>Bart Stipp</i>					
PUBLIC WORKS DIRECTOR					

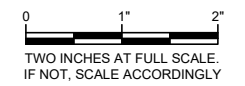


- NOTES:**
1. CONCRETE SHALL BE 3000 PSI MIN. (CL 3000), 3 1/2" SLUMP (MAX.).
  2. COMPACT SUBGRADE AND AGGREGATE TO 95% OF MAXIMUM DRY DENSITY (3" MIN.).
  3. FINISH SHALL BE MEDIUM BROOM PERPENDICULAR TO PEDESTRIAN TRAFFIC UNLESS OTHERWISE DIRECTED.
  4. MATCH EXISTING BORDER.
  5. SEE CONCRETE JOINTS DETAIL T-31 FOR SURFACE, CONTRACTION, AND EXPANSION JOINTS.
  6. ALL EXISTING EDGES SHALL BE SAWCUT.
  7. CROSS SLOPE OF PLANTER STRIP SHALL BE 2% (TYP.) AND 4:1 (MAX.).

SIDEWALK DETAIL					T-07
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED	
<i>Bart Stipp</i>					
PUBLIC WORKS DIRECTOR					



1  
TYP  
**EXTRUDED ASPHALT CURB DETAIL**  
NOT TO SCALE

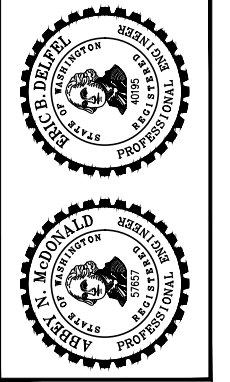


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DATE: AUG 2021	JS	EBD	EBD
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APPROVED:			EBD

REVISION	DATE	APPD.

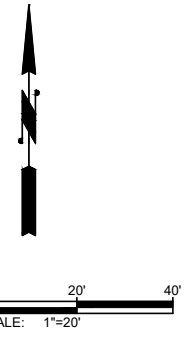
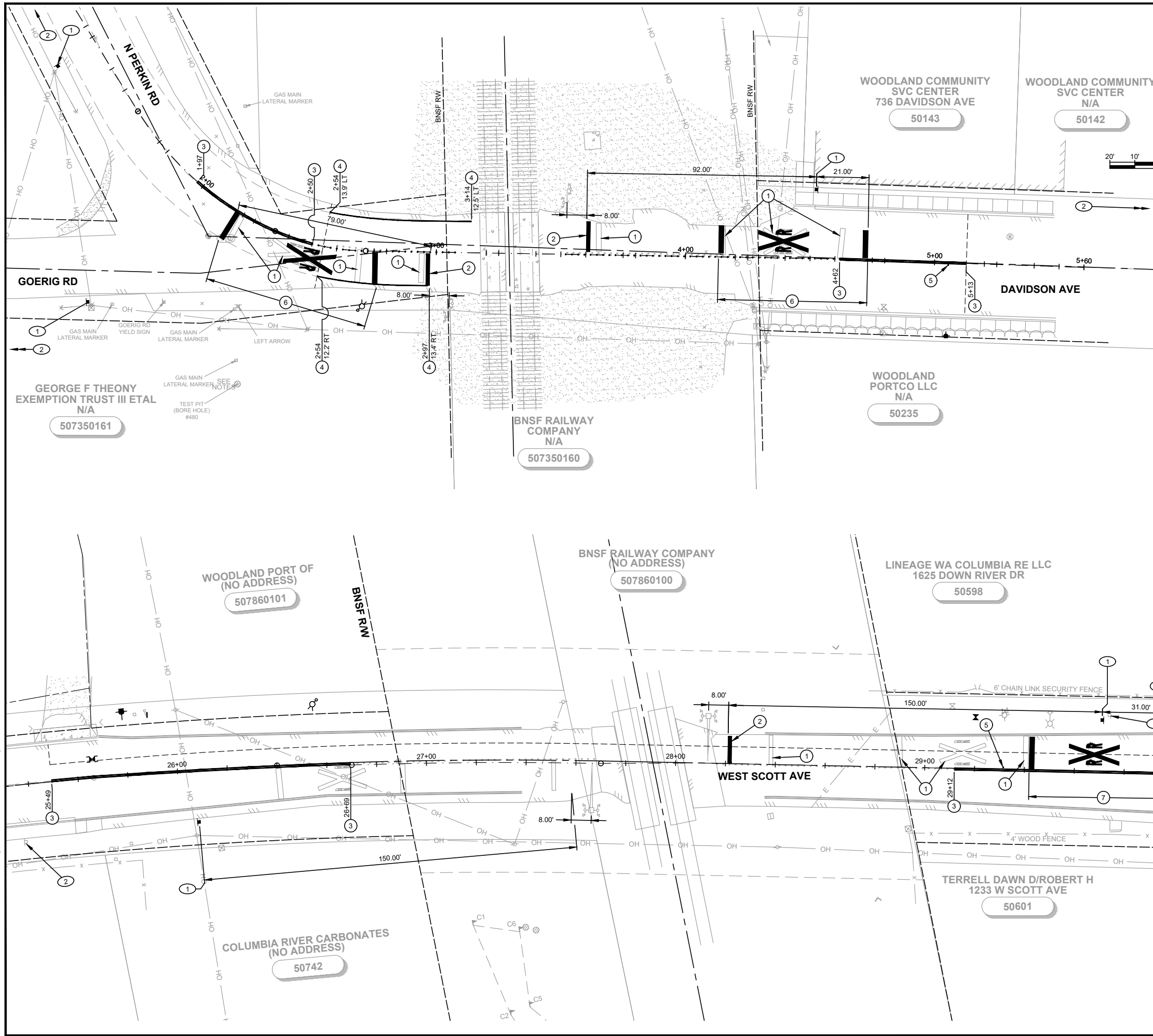
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**



**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
MISCELLANEOUS DETAILS

SHEET: <b>CD-6</b>
OF: <b>6</b>
JOB NO.: 21256
DWGDET1

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**GENERAL**

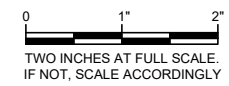
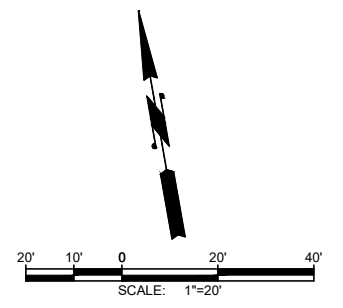
- 1 ALL SIGN TYPES, COLORS, AND DIMENSIONS ARE STANDARD PER THE MUTCD, UNLESS OTHERWISE INDICATED.
- 2 SIGNS SHALL BE CONSTRUCTED ENTIRELY OF TYPE III OR TYPE IV REFLECTIVE SHEETING PER WSDOT STANDARD SPECIFICATIONS SECTION 9-28.12.
- 3 ALL PLASTIC PAVEMENT MARKINGS SHALL BE TYPE D-1 MMA UNLESS INDICATED OTHERWISE.
- 4 CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PAVEMENT MARKINGS IMMEDIATELY FOLLOWING PAVING.

**CHANNELIZATION NOTES:**

- 1 REMOVE EXISTING PLASTIC TRAFFIC MARKING.
- 2 INSTALL WHITE PLASTIC STOP LINE PER DETAIL SHEET CH-2.
- 3 INSTALL PAINTED DOUBLE YELLOW CENTERLINE PER DETAIL SHEET CH-3.
- 4 INSTALL PAINTED WHITE EDGE LINE PER DETAIL SHEET CH-3.
- 5 INSTALL TYPE 2 RPM, BLUE, 12" FROM CENTERLINE STRIPE AT FIRE HYDRANT LOCATION.
- 6 INSTALL PLASTIC RAILROAD CROSSING SYMBOL PER DETAIL ON SHEET CH-2.
- 7 INSTALL PAINTED RAILROAD CROSSING SYMBOL PER DETAIL ON SHEET CH-2.

**SIGNING NOTES:**

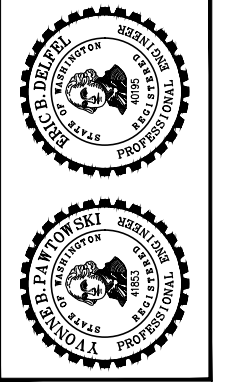
- 1 INSTALL GRADE CROSSING ADVANCE WARNING (W10-1) SIGN.
- 2 REMOVE EXISTING W10-1 SIGN AND DELIVER TO CONTRACTING AGENCY.
- 3 REMOVE EXISTING SPEED LIMIT SIGN AND RE-INSTALL 50' EAST.



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DRAWN:				
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APPROVED:				

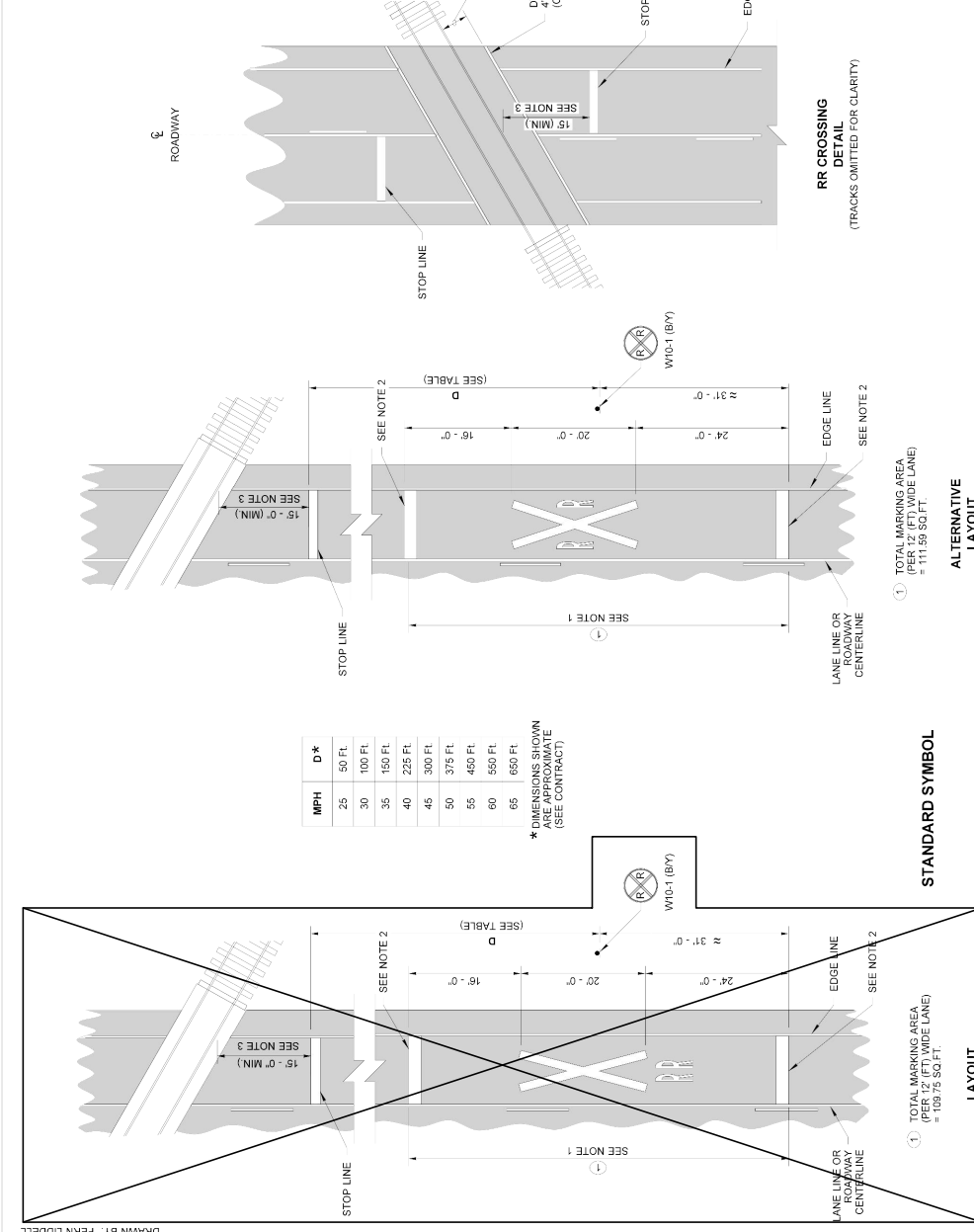
REVISION	DATE	APPD.
<b>PRELIMINARY NOT FOR CONSTRUCTION</b>		
No.		



**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
CHANNELIZATION AND SIGNING PLAN

SHEET:	<b>CH-1</b>
OF:	<b>4</b>
JOB NO.:	21256
DWG/CHAN PLAN	

- GENERAL NOTES**
1. Bid Item "Railroad Crossing Symbol" includes "X" symbol, letters, and two 24" (in) white transverse lines.
  2. 24" (in) white transverse line.
  3. Place Stop Line 15' (ft) minimum from nearest rail. If gate is present, place stop line approximately 8' (ft) from RR gate.
  4. See contract for location, material requirements, and W10-1 sign information.



DRAWN BY: FERN LIDDELL

RR CROSSING DETAIL (TRACKS OMITTED FOR CLARITY)

**MODIFIED RAILROAD CROSSING LAYOUT**  
STANDARD PLAN M-11.10-03  
SHEET 1 OF 2 SHEETS

RR CROSSING DETAIL (TRACKS OMITTED FOR CLARITY)

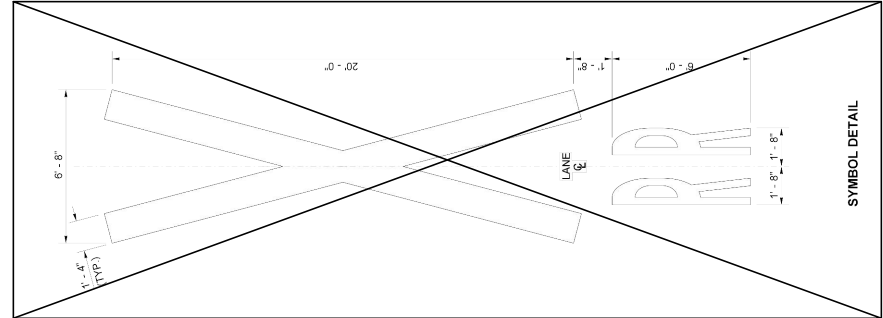
**STANDARD SYMBOL LAYOUT**

1. TOTAL MARKING AREA (PER 12' (FT) WIDE LANE) = 109.75 SQ.FT.

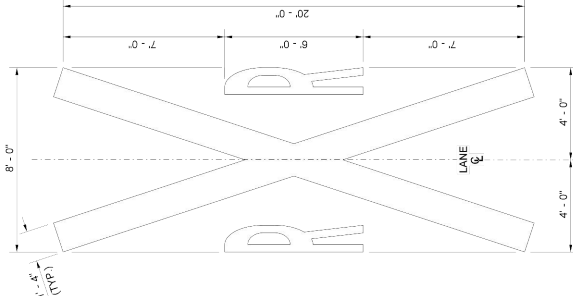
**ALTERNATIVE LAYOUT**

1. TOTAL MARKING AREA (PER 12' (FT) WIDE LANE) = 111.99 SQ.FT.

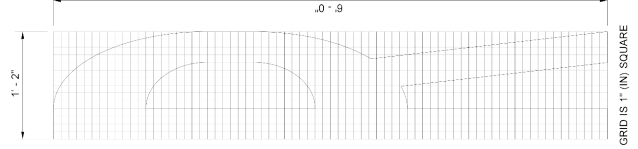
DRAWN BY: FERN LIDDELL



SYMBOL DETAIL



ALTERNATIVE SYMBOL DETAIL



"R" DETAIL

**MODIFIED RAILROAD CROSSING LAYOUT**  
STANDARD PLAN M-11.10-03  
SHEET 2 OF 2 SHEETS

**STANDARD SYMBOL DETAILS**

**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
CHANNELIZATION AND SIGNING DETAILS

SHEET: **CH-2**  
OF: **4**  
JOB NO.: 21256  
DWG: CHAN DET

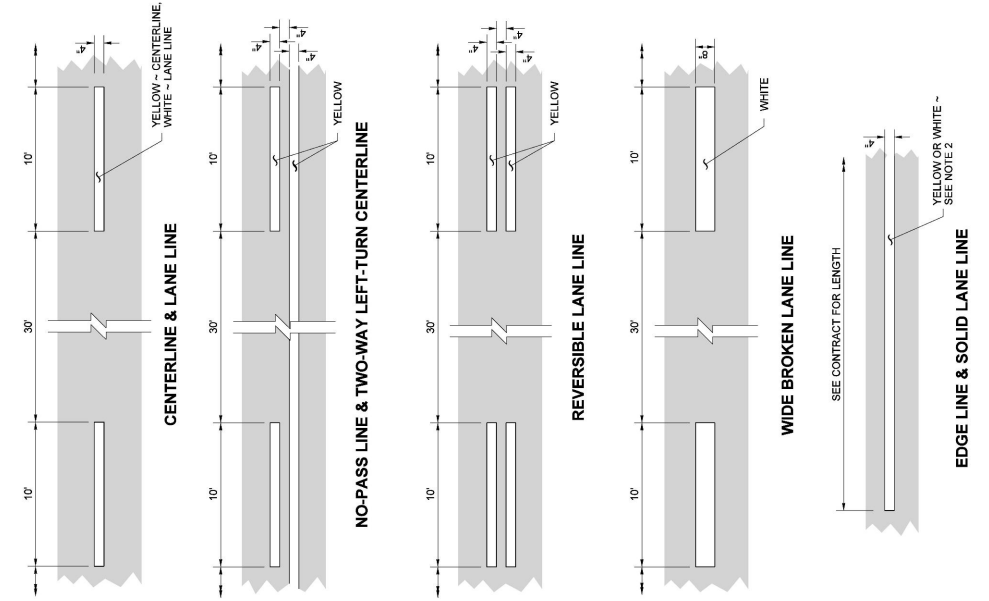


**PRELIMINARY NOT FOR CONSTRUCTION**

No.	REVISION	DATE	APPD.

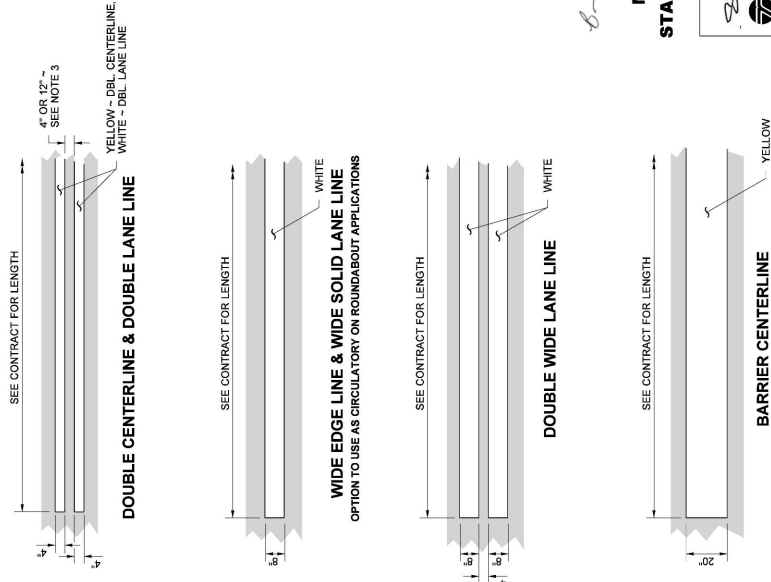
DATE: AUG 2021  
DRAWN: JS  
CHECKED: YBP  
APPROVED: EBD





**NOTES**

- Dotted Extension Line shall be the same color as the line it is extending.
- Edge Line shall be white on the right edge of traveled way, and yellow on the left edge of traveled way (on one-way roadways). Solid Lane Line shall be white.
- The distance between the lines of the Double Centerline shall be 12" everywhere, except 4" for left-turn channelization and narrow roadways with lane widths of 10 feet or less. Local Agencies (on non-state routes) may specify a 4" distance for all locations. The distance between the lines of the Double Lane Line shall be 4".



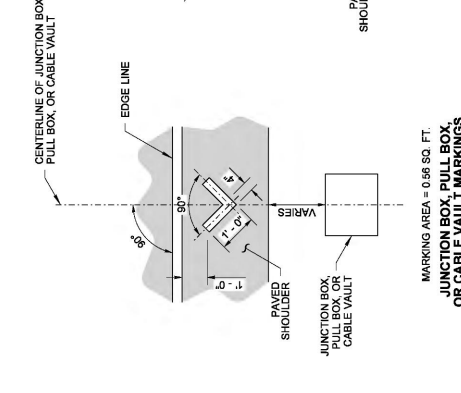
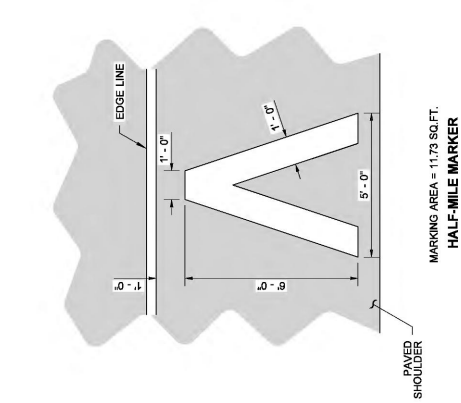
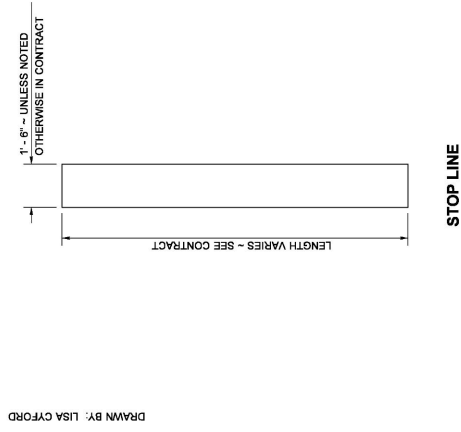
**LONGITUDINAL MARKING PATTERNS**  
**STANDARD PLAN M-20.10-03**  
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION  
Date: 2020.09.25 14:58:51  
07/00'

Washington State Department of Transportation

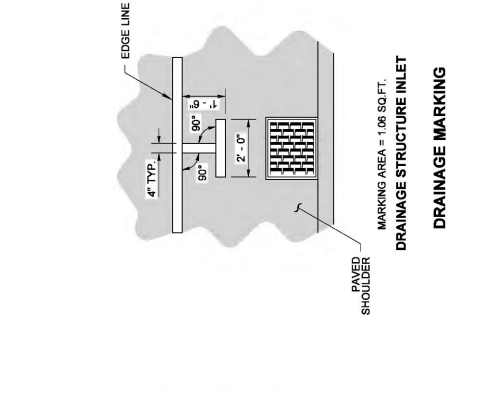
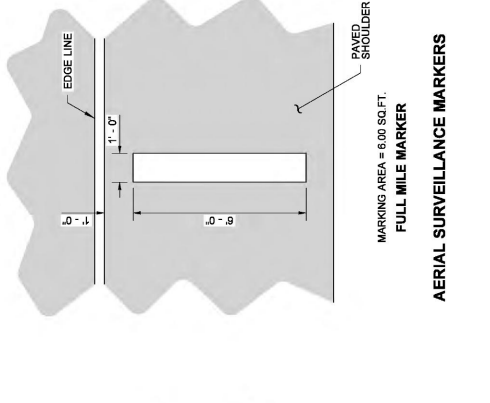
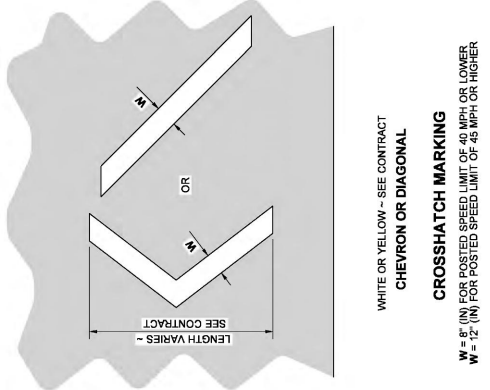
**BLAKE J. WALSH**  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WASHINGTON  
No. 41953  
Exp. 12/31/2024

Wahki, Brian  
Sep 23 2020 3:46 PM



**NOTE**

- If Rumble Strips are present, install marking outside of the Rumble Strip.



**MISCELLANEOUS SYMBOL MARKINGS**

STANDARD PLAN M-24.60-04  
SHEET 1 OF 2 SHEETS

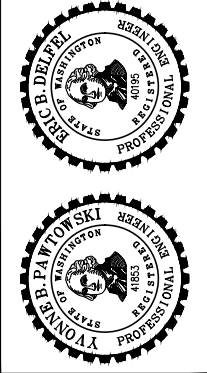
APPROVED FOR PUBLICATION  
Date: 2019.09.25 14:58:51  
07/00'

Washington State Department of Transportation

**BLAKE J. WALSH**  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF WASHINGTON  
No. 41953  
Exp. 12/31/2024

Wahki, Brian  
Jun 24 2019 2:35 PM

**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
CHANNELIZATION AND SIGNING DETAILS



No.	REVISION	DATE	APPD.

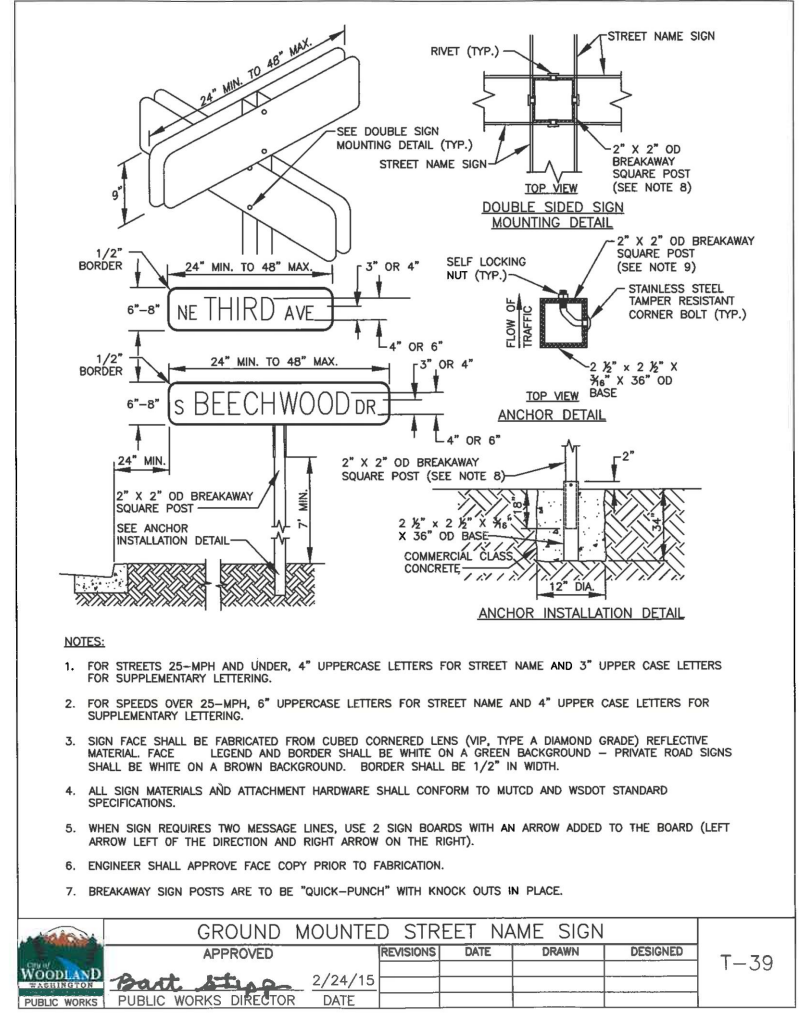
**PRELIMINARY NOT FOR CONSTRUCTION**


DATE:	AUG 2021
DRAWN:	JS
CHECKED:	YBP
APPROVED:	EBD

**Gray & Osborne, Inc.**  
CONSULTING ENGINEERS  
8513 NE HAZEL DELL AVENUE, SUITE 202  
VAN COUVER, WA 98665 • (360) 571-5350



M:\WOODLAND\21256- Davidson Ave Water Maint\02 Design\PlanSet\Civil\CHAN DET.dwg, 8/31/2021 4:21 PM, YVONNE PAWTOWSKI



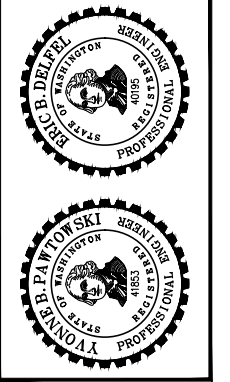
GROUND MOUNTED STREET NAME SIGN				
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED
		2/24/15		
PUBLIC WORKS	PUBLIC WORKS DIRECTOR	DATE		



**Gray & Osborne, Inc.**  
CONSULTING ENGINEERS  
8513 NE HAZEL DELL AVENUE, SUITE 202  
VAN COUVER, WA 98665 • (360) 571-5350

DATE:	AUG 2021	JS	YBP	EBD
DRAWN:				
CHECKED:				
APPROVED:				

<b>PRELIMINARY NOT FOR CONSTRUCTION</b>	DATE APPD.
	REVISION
No.	



**CITY OF WOODLAND**  
COWLITZ COUNTY WASHINGTON  
**WEST SCOTT AVENUE AND DAVIDSON AVENUE BNSF WATER MAIN CROSSING**  
CHANNELIZATION AND SIGNING DETAILS

SHEET:	<b>CH-4</b>
OF:	<b>4</b>
JOB NO.:	21256
DWG:CHAN DET	