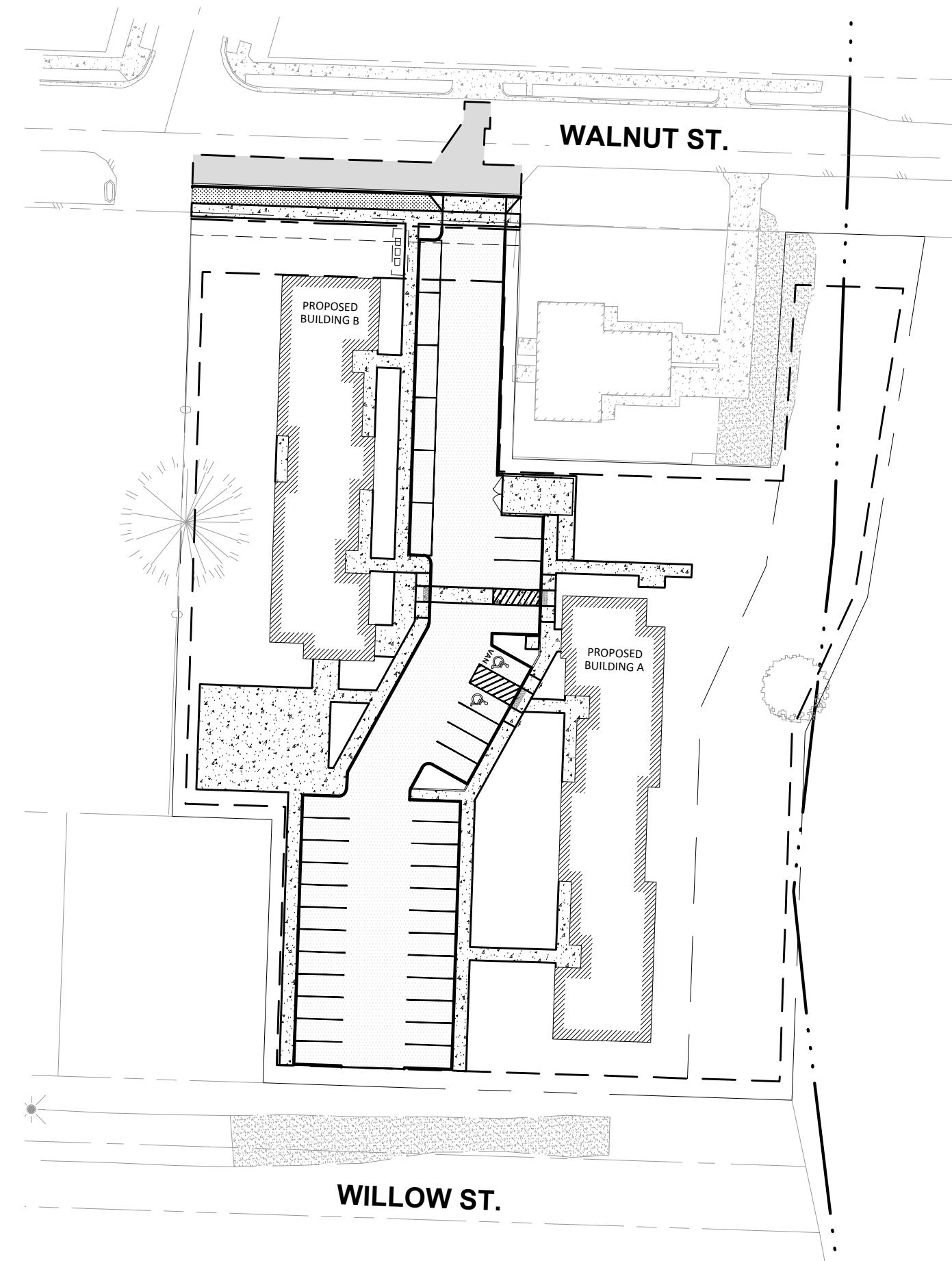


WILLOW GROVE AFFORDABLE HOUSING

KELSO, WASHINGTON

PARCEL #23655

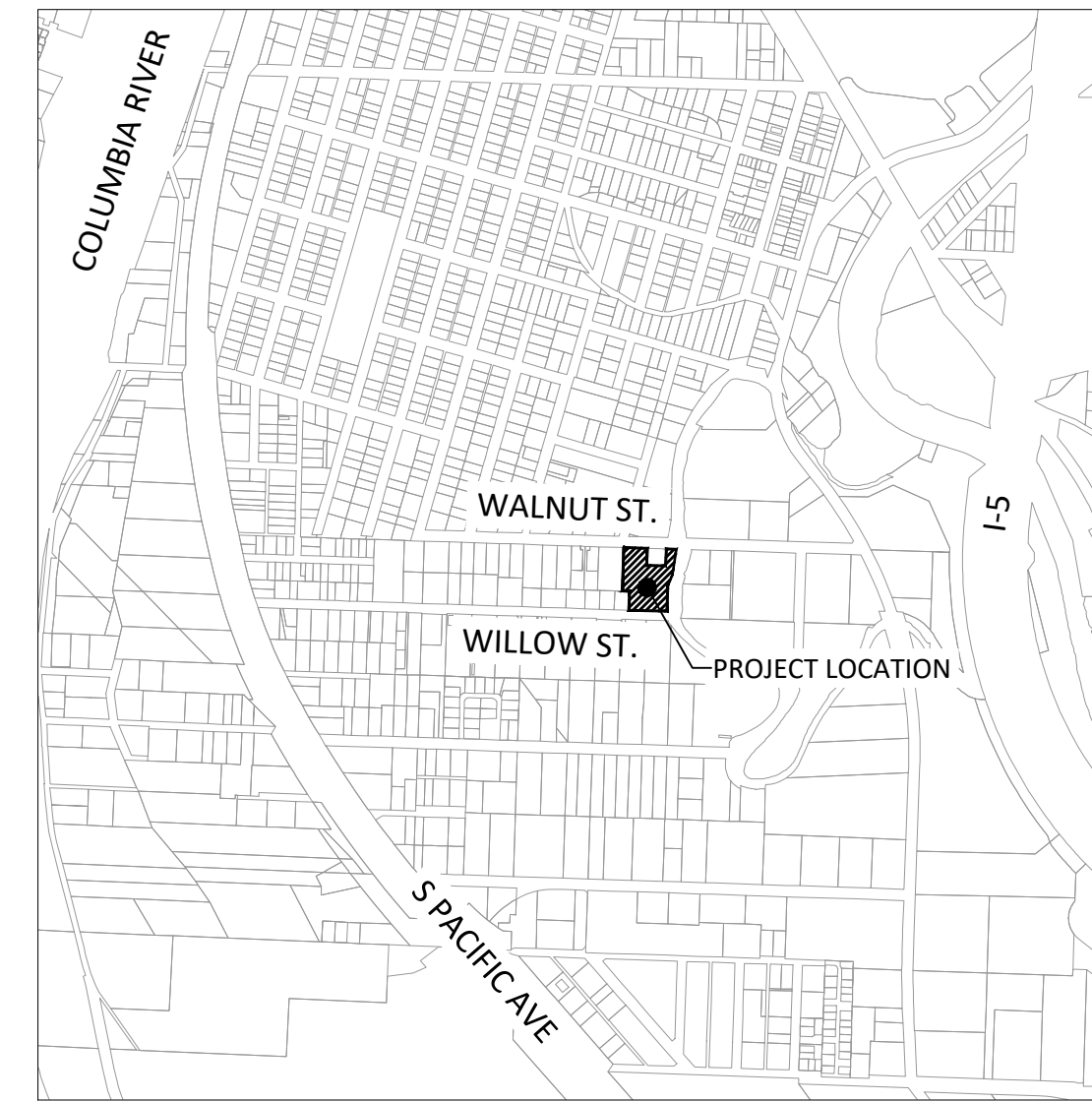
NO SITE ADDRESS



SITE MAP

SHEET INDEX

- C1.0 COVER SHEET
- C1.1 GENERAL NOTES
- C2.0 EXISTING CONDITIONS
- C3.0 SITE PLAN
- C3.1 WALNUT ST. PLAN AND PROFILE
- C4.0 GRADING & ESC PLAN
- C4.1 GRADING DETAILS
- C5.0 STORM DRAINAGE PLAN
- C5.1 SANITARY & WATER PAN
- C6.0 DETAILS
- C6.1 DETAILS
- C6.2 DETAILS
- C6.3 DETAILS



VICINITY MAP

N.T.S.

PROJECT OWNER

KELSO HOUSING AUTHORITY
1415 S 10TH AVE
KELSO, WA 98626
TEL: 360-423-3490

ARCHITECT

ACCESS ARCHITECTURE
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500 W 8TH STREET, SUITE 115B
VANCOUVER, WA 98660
TEL: 360-326-1220
EMAIL: BRENDAN@ACCESS-ARCH.COM

CIVIL ENGINEER

HARPER HOUF PETERSON RIGHELLIS INC.
CONTACT: KELLY BACHOLDER, P.E.
1220 MAIN STREET, SUITE 150
VANCOUVER, WA 98660
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EMAIL: KELLYB@HHPR.COM

LANDSCAPE ARCHITECT

NAME: ECOTONE ENVIRONMENTAL
CONTACT: BRYAN BAILEY, RLA, LECP AP
ADDRESS: 522 N THOMPSON ST #4
PORTLAND, OR 97227
TEL: 503-927-4180
EMAIL: BRYAN@ECOTONE-ENV.COM

TOPOGRAPHIC SURVEY BY S&F LAND SERVICES

HORIZONTAL DATUM:

THIS SURVEY UTILIZES THE WASHINGTON STATE PLANE COORDINATE SYSTEM - SOUTH ZONE. THE PROJECT WAS SCALED TO GROUND AROUND CONTROL POINT #1 WITH A SCALE FACTOR OF 1.0000515101. DISTANCES SHOWN ARE GROUND DISTANCES. TO OBTAIN GRID DISTANCES, DIVIDE BY THE SCALE FACTOR. CONTROL POINT #1 WAS OBSERVED WITH STATIC GPS PROCESSED THROUGH TRIMBLE RTX. NORTH AMERICAN DATUM OF NAD83/2011 (EPOCH 2010.0000). UNITS IN US SURVEY FEET.

VERTICAL DATUM:

NAVD88 BASED ON STATIC GPS OBSERVATIONS ON POINT 1, PROCESSED THROUGH TRIMBLE RTX.

BENCH MARK:

CONTROL POINT #1 WAS OBSERVED WITH STATIC GPS PROCESSED THROUGH THE TRIMBLE RTX.



HHPR Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
1220 Main Street, Suite 150, Vancouver, WA 98660
phone: 360.750.1131 www.hhpr.com fax: 360.750.1141

AA Access Architecture
ACCESS ARCHITECTURE
KELLY BACHOLDER
REGISTERED PROFESSIONAL ENGINEER

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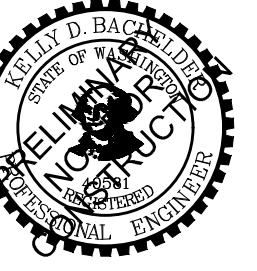
WILLOW GROVE
1106 WALNUT STREET
KELSO, WA 98626

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JOB: 22012
DATE: 12/01/2022

C1.0
COVER SHEET



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GENERAL NOTES

1. ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER, SEWER, STORM WATER FACILITIES, AND EROSION CONTROL MEASURES, SHALL CONFORM TO CITY OF KELSEO "ENGINEERING DESIGN MANUAL". CONSTRUCTION SHALL BE AS PER THE MOST CURRENT STANDARD DETAILS CONTAINED THEREIN.
2. TRANSPORTATION ELEMENTS OF THESE PLANS SHALL CONFORM TO THE STANDARDS AND DETAILS SPECIFIED IN THE CITY OF KELSEO ENGINEERING DESIGN MANUAL.
3. STREET SIGNING AND STRIPING SHALL BE INSTALLED BY THE DEVELOPER. ALL STREET SIGNS AND STRIPING SHALL BE INSTALLED PER THE MUTCD.
4. STREET LIGHTING WILL BE INSTALLED BY THE DEVELOPER PER P.U.D. APPROVED STREET LIGHTING PLANS.
5. PRE-PAVING AS-BUILTS SHALL BE SUBMITTED TO THE CITY OF KELSEO CONSTRUCTION OFFICE AND CITY INSPECTOR FOR BOTH SANITARY SEWER AND STORM SEWER, PRIOR TO PAVING.
6. PAVING WILL NOT BE ALLOWED DURING WET OR COLD WEATHER, PER WSDOT SPECIFICATIONS.
7. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS WILL REQUIRE A REQUEST FROM THE APPLICANT'S ENGINEER AND APPROVAL FROM THE CITY'S ENGINEER AND CITY INSPECTOR.
8. ALL PAVEMENT SHALL BE STRAIGHT CUT PRIOR TO PAVING. EXISTING PAVEMENT SHALL BE REMOVED AS NECESSARY TO PROVIDE A SMOOTH TRANSITION FOR BOTH RIDE AND DRAINAGE.
9. SUBGRADE PREPARATION DURING WET OR WINTER TIME CONSTRUCTION IS USUALLY/OFTEN NOT FEASIBLE. A WET OR WINTER TIME PLAN SHALL BE SUBMITTED TO CITY OF KELSEO, DEVELOPMENT ENGINEERING STAFF FOR REVIEW AND APPROVAL IF THE CONTRACTOR PLANS TO COMMENCE WITH CONSTRUCTION DURING WET WEATHER CONDITIONS. IF PAVING FROM OCTOBER 15TH TO MARCH 30TH, A WET WEATHER SUBGRADE PREPARATION PLAN IS REQUIRED. THE SUBGRADE MUST BE OVER EXCAVATED AND A GEOTEXTILE LINER USED. THE INSPECTOR SHALL APPROVE A COMPLETE PROOF ROLL TEST ON BOTH SIDES OF THE STREET.

GRADING NOTES

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF TREES, STUMPS, BRUSH, ROOTS, AND OTHER UNACCEPTABLE MATERIAL OFF-SITE. MATERIAL SHALL BE DISPOSED OF IN SUCH A MANNER AS TO MEET LOCAL REGULATIONS.
2. ALL CONSTRUCTION WITHIN CITY OF KELSEO RIGHT-OF-WAY SHALL HAVE AN APPROVED TRAFFIC CONTROL PLAN AND RIGHT-OF-WAY PERMIT PRIOR TO ANY ON-SITE CONSTRUCTION.
3. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON THE ADJACENT PUBLIC STREETS.
4. THE APPLICANT MAY BE REQUIRED TO PROVIDE FLAGGING, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES FOR SAFE TRUCK ACCESS ONTO PUBLIC STREETS. ALL SUCH DEVICES SHALL CONFORM TO THE STANDARDS ESTABLISHED IN THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION AND THE MODIFICATIONS TO THE MUTCD FOR STREETS AND HIGHWAYS FOR THE STATE OF WASHINGTON.
5. PRIOR TO BEGINNING CONSTRUCTION, ALL AREAS OF THE SITE THAT WILL RECEIVE FOUNDATIONS, STRUCTURAL FILL, FLOOR SLABS, OR PAVEMENT SHALL BE STRIPPED OF TOP SOIL, ROOTS, AND UNSUITABLE FILLS, I.E., EXCAVATED TO NON-ORGANIC, NATIVE UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. REFER TO THE GEOTECH REPORT FOR OVER EXCAVATION REQUIREMENTS.
6. SEE GEOTECH REPORT FOR GENERAL SITE CONDITIONS AND INFORMATION.

EROSION CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL DURING AND AFTER INSTALLATION OF ALL UTILITY WORK ASSOCIATED WITH UTILITY TRENCHES.
2. SEDIMENT CONTROL SHALL BE ESTABLISHED PRIOR TO THE COMMENCEMENT OF WORK AND MAINTAINED THROUGH THE LIFE OF THE PROJECT, AS CALLED OUT ON THE PLANS.
3. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY A SUITABLE APPLICATION OF AN APPROPRIATE BEST MANAGEMENT PRACTICE (BMP). 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.
4. PAVEMENT SWEEPING AND SHOVELING IS REQUIRED. WASHING THE PAVEMENT INTO THE EXISTING STORM SYSTEM WILL NOT BE PERMITTED.
5. THE CONTRACTOR SHALL MAINTAIN ON-SITE A WRITTEN DAILY LOG OF EROSION CONTROL PRACTICE MAINTENANCE.
6. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, CITATIONS AND/OR A STOP WORK ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY CITY OF VANCOUVER. IF THE BMP'S APPLIED TO A SITE ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHT-OF-WAY, THEN THE DIRECTOR SHALL REQUIRE ADDITIONAL BMP'S.
7. EROSION CONTROL AS SHOWN ON THE PLANS ARE THE BASE RECOMMENDATIONS, AND ARE IN NO WAY INTENDED TO REPRESENT ALL OF THE POTENTIAL EROSION CONTROL MEASURES THAT MAY BE REQUIRED DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING OF TEMPORARY CUT-OFF DITCHES, SEDIMENTATION PONDS, SUMPS, BAKER TANKS™, BYPASS PUMPING, AND/OR OTHER MEANS AS REQUIRED AND NECESSARY TO CONTROL STORM WATER RUNOFF DURING CONSTRUCTION SO THAT NO SILT-LADEN WATER LEAVES THE PROJECT SITE. ALL SUCH MEASURES SHALL BE AT CONTRACTOR'S EXPENSE.

STORM NOTES

1. TRACER WIRE SHALL BE INSTALLED ALONG THE TOP OF ALL PIPE. EXTEND THE TRACER WIRE INTO MANHOLES AND ALL OTHER STRUCTURES, THEN UP THE INSIDE WALL OF STRUCTURES AND ATTACH THE WIRE TO THE TOP INSIDE OF THE STRUCTURE. PROVIDE 3 FEET OF COILED TRACER WIRE SLACK ATTACHED TO THE TOP INSIDE OF THE STRUCTURE.
2. MANHOLES AND TYPE 2 CATCH BASINS SHALL BE ADJUSTED TO GRADE FOLLOWING PAVING. ADJUST TO GRADE USING AN APPROVED FOUR-POINT ADJUSTMENT SYSTEM SUCH AS THE RIMRISER SHIMLESS ADJUSTMENT SYSTEM, OR APPROVED EQUAL.
3. STORM SEWERS AND APPURTENANCES SHALL BE CLEANED, AIR TESTED AND DEFLECTION TESTED AFTER BACKFILLING. THE LOW PRESSURE AIR TEST METHOD SHALL BE USED. TV INSPECTION SHALL BE PERFORMED AFTER CLEANING, TESTING AND CORRECTIONS ARE COMPLETE. CLEANING, AIR TESTING, INFILTRATION TESTING, DEFLECTION TESTING, AND TV INSPECTION SHALL BE COMPLETED PRIOR TO PAVEMENT RESTORATION OF THE TRENCH. AN ELECTRONIC COPY OF THE TV INSPECTION VIDEO AND THE TV INSPECTION REPORT SHALL BE PROVIDED TO THE INSPECTOR. TOP LIFT OF PAVING SHALL NOT BE PLACED UNTIL THE INSPECTOR HAS APPROVED THE TV INSPECTION.
4. ALL MANHOLES SHALL BE WATERTIGHT. FOLLOWING BACKFILL AND PRIOR TO FINAL PAVING, PERFORM VACUUM TESTING ON MANHOLES PER THE REQUIREMENTS OF THE SUPPLEMENT TO STANDARD PLAN B-15.20-01.
5. AS-BUILT DRAWINGS AND TV REPORTS SHALL BE PROVIDED PRIOR TO FINAL ACCEPTANCE.

SANITARY SEWER NOTES

1. TRACER WIRE SHALL BE INSTALLED ALONG THE TOP OF ALL PIPE. EXTEND THE TRACER WIRE INTO MANHOLES AND ALL OTHER STRUCTURES, THEN UP THE INSIDE WALL OF STRUCTURES AND ATTACH THE WIRE TO THE TOP INSIDE OF THE STRUCTURE. PROVIDE 3 FEET OF COILED TRACER WIRE SLACK ATTACHED TO THE TOP INSIDE OF THE STRUCTURE.
2. MANHOLES SHALL BE ADJUSTED TO GRADE FOLLOWING PAVING. ADJUST USING AN APPROVED FOUR-POINT ADJUSTMENT SYSTEM SUCH AS THE RIMRISER SHIMLESS ADJUSTMENT SYSTEM, OR APPROVED EQUAL.
3. SANITARY SEWERS AND APPURTENANCES SHALL BE CLEANED, AIR TESTED AND DEFLECTION TESTED AFTER BACKFILLING. THE LOW PRESSURE AIR TEST METHOD SHALL BE USED. TV INSPECTION SHALL BE PERFORMED AFTER CLEANING, TESTING AND CORRECTIONS ARE COMPLETE. CLEANING, AIR TESTING, INFILTRATION TESTING, DEFLECTION TESTING, AND TV INSPECTION SHALL BE COMPLETED PRIOR TO PAVEMENT RESTORATION OF THE TRENCH. AN ELECTRONIC COPY OF THE TV INSPECTION VIDEO AND THE TV INSPECTION REPORT SHALL BE PROVIDED TO THE INSPECTOR. TOP LIFT OF PAVING SHALL NOT BE PLACED UNTIL THE INSPECTOR HAS APPROVED THE TV INSPECTION.
4. ALL MANHOLES SHALL BE WATERTIGHT. FOLLOWING BACKFILL AND PRIOR TO FINAL PAVING, PERFORM VACUUM TESTING ON MANHOLES PER THE REQUIREMENTS OF THE SUPPLEMENT TO STANDARD PLAN B-15.20-01.
5. AS-BUILT DRAWINGS AND TV REPORTS SHALL BE PROVIDED PRIOR TO FINAL ACCEPTANCE.

WATER NOTES

1. ALL WATERMAIN INSTALLATION, DISINFECTION AND TESTING SHALL COMPLY WITH WSDOT STANDARD SPECIFICATIONS. UNIFORM PLUMBING CODE, AND CITY OF KELSEO WATER DESIGN AND CONSTRUCTION STANDARDS.

PROPOSED LEGEND

	309	CONTOUR - 1'
	310	CONTOUR - 5'
		SAWCUT
		FENCE
		SANITARY CLEANOUT/MANHOLE
		SANITARY LINE
		STORM CATCH BASIN/MANHOLE
		STORM LINE
		STORMFILTER MANHOLE
		FDC/FIRE HYDRANT
		WATER VALVE/AIR RELEASE VALVE
		WATER METER
		WATER LINE
		TREE PROTECTION FENCING
		SEDIMENT FENCE
		CONSTRUCTION ENTRANCE
		INLET PROTECTION

SURFACE LEGEND

	HMA PAVEMENT
	HMA PAVEMENT FOR DRIVE AISLE
	CONCRETE SIDEWALK/PATH
	LANDSCAPING AREA

WILLOW GROVE
 1106 WALNUT STREET
 KELSEO, WA 98626

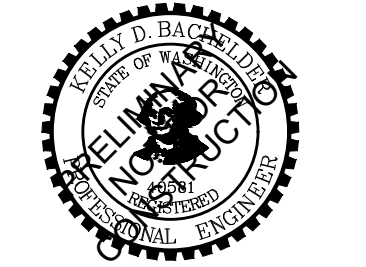
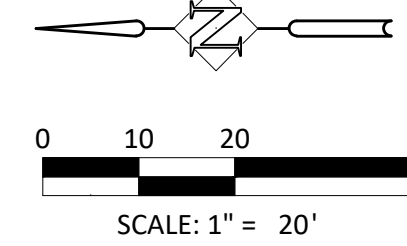
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 DATE: 12/01/2022

C1.1

GENERAL NOTES



S&F Land Services

PORTLAND, VANCOUVER, BEND, SEASIDE
4858 SW SCHOLLS FERRY RD.
STE A, PORTLAND, OR 97225
(503) 345-0328

WWW.SFLANDS.COM

EMAIL: INFO@SFLANDS.COM

LOCATED IN THE SW QUARTER OF SECTION 35,
TOWNSHIP 8 NORTH, RANGE 2 WEST, WILLAMETTE MERIDIAN,
IN THE CITY OF KELSO, COWLITZ COUNTY, WASHINGTON

**HORIZONTAL DATUM
(BASIS OF BEARINGS):**

THIS SURVEY UTILIZES THE WASHINGTON STATE PLANE COORDINATE SYSTEM - SOUTH ZONE. THE PROJECT WAS SCALED TO GROUND ANCHOR CONTROL POINT #1 WITH A SCALE FACTOR OF 1.0000515101. DISTANCES SHOWN ARE GROUND DISTANCES, TO OBTAIN GRID DISTANCES, DIVIDE BY THE SCALE FACTOR. CONTROL POINT #1 WAS OBSERVED WITH STATIC GPS PROCESSED THROUGH TRIMBLE RTX, NORTH AMERICAN DATUM OF NAD83/2011 (EPOCH 2010.0000). UNITS IN US SURVEY FEET.

VERTICAL DATUM:

NAVD88 BASED ON STATIC GPS OBSERVATIONS ON POINT 1, PROCESSED THROUGH TRIMBLE RTX.

6. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: PUBLIC UTILITY DISTRICT NO. 1 OF COWLITZ COUNTY, WASHINGTON, A MUNICIPAL CORPORATION
PURPOSE: UNDERGROUND TRANSMISSION OF ELECTRIC ENERGY, INCLUDING ALL ASSOCIATED FACILITIES AND APPURTENANCES
RECORDING DATE: DECEMBER 29, 2000
RECORDING NO.: 3104207

AFFECTS:

-DESCRIBES A LINE RUNNING FROM A POINT 15 FEET WEST OF THE NORTHEAST PROPERTY CORNER, THENCE SOUTHWESTERLY APPROXIMATELY 110 FEET TO A TRANSFORMER.

-SAID APPROXIMATE LINE IS SHOWN.

-ALSO INCLUDES "RIGHT TO MAKE FUTURE UNDERGROUND ELECTRIC LINE EXTENSIONS ROM SAID UNDERGROUND ELECTRIC LINE SYSTEM TO ACCOMMODATE FUTURE DEVELOPMENT WITHIN THE GRANTORS PROPERTY."

-UNDERGROUND ELECTRIC LINE LOCATED BY UTILITY DIFFERS FROM APPROXIMATE DESCRIBED LOCATION AS SHOWN.

NOTES:

1) THE SUBJECT PROPERTY LIES WITHIN ZONE A, 1% ANNUAL CHANCE (100-YEAR FLOOD) FLOODPLAIN, NO BASE FLOOD ELEVATIONS DETERMINED, AND SHADED ZONE X, AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD, AS SHOWN PER FEMA FLOOD INSURANCE MAP NUMBERS 53015C0519G AND 53015C0519G, EFFECTIVE DATE DECEMBER 16, 2015. - SHADED ZONE X HAS THE FOLLOWING NOTE ON SAID MAPS: "NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM THAT HAS BEEN PROVISIONALLY ACCREDITED. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE. FOR ADDITIONAL INFORMATION, SEE THE "PROVISIONALLY ACCREDITED LEVEE NOTE" IN NOTES TO USERS."

2) THE LOCATION OF EXISTING ABOVEGROUND UTILITY FACILITIES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS. A UTILITY LOCATE TICKET WAS SUBMITTED WITH NUMBER 2228988. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE EXISTING UNDERGROUND UTILITIES BY THE RESPECTIVE UTILITY OWNERS, NOR FOR THE EXISTENCE OF BURIED OBJECTS WHICH ARE NOT SHOWN ON THE PLAN. ALL UTILITY LOCATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION, AND A UTILITY LOCATE TICKET SHOULD BE SUBMITTED.

3) SEWER AND WATER LINES CROSS THE PROPERTY AS SHOWN. IT IS NOT KNOWN IF EASEMENTS FOR THESE UTILITIES EXIST. THE CHICAGO TITLE COMPANY OF WASHINGTON WAS CONTACTED REGARDING THIS MATTER, AND NO EASEMENT WAS FOUND. WE SEARCHED THE ONLINE DEED RECORDS BACK TO 1991, AND FOUND NO EASEMENTS. WE ALSO PLACED MULTIPLE VOICEMAILS AND EMAILS TO THE CITY OF KELSO ENGINEERING DEPARTMENT REGARDING THESE LINES, AND HAVE YET TO RECEIVE A RESPONSE. THE CITY UTILITY LOCATOR, NATHAN VORSE, AT 360-957-8083, KNEW ABOUT THE LINES, BUT DIRECTED US BACK TO THE ENGINEERING DEPARTMENT FOR ANY QUESTIONS ABOUT EASEMENTS.

4) ONLY THE 2 TREES SHOWN WERE SURVEYED. OTHER SMALLER TREES MAY EXIST ON THE PROPERTY, MAINLY ALONG THE EASTERN BOUNDARY.

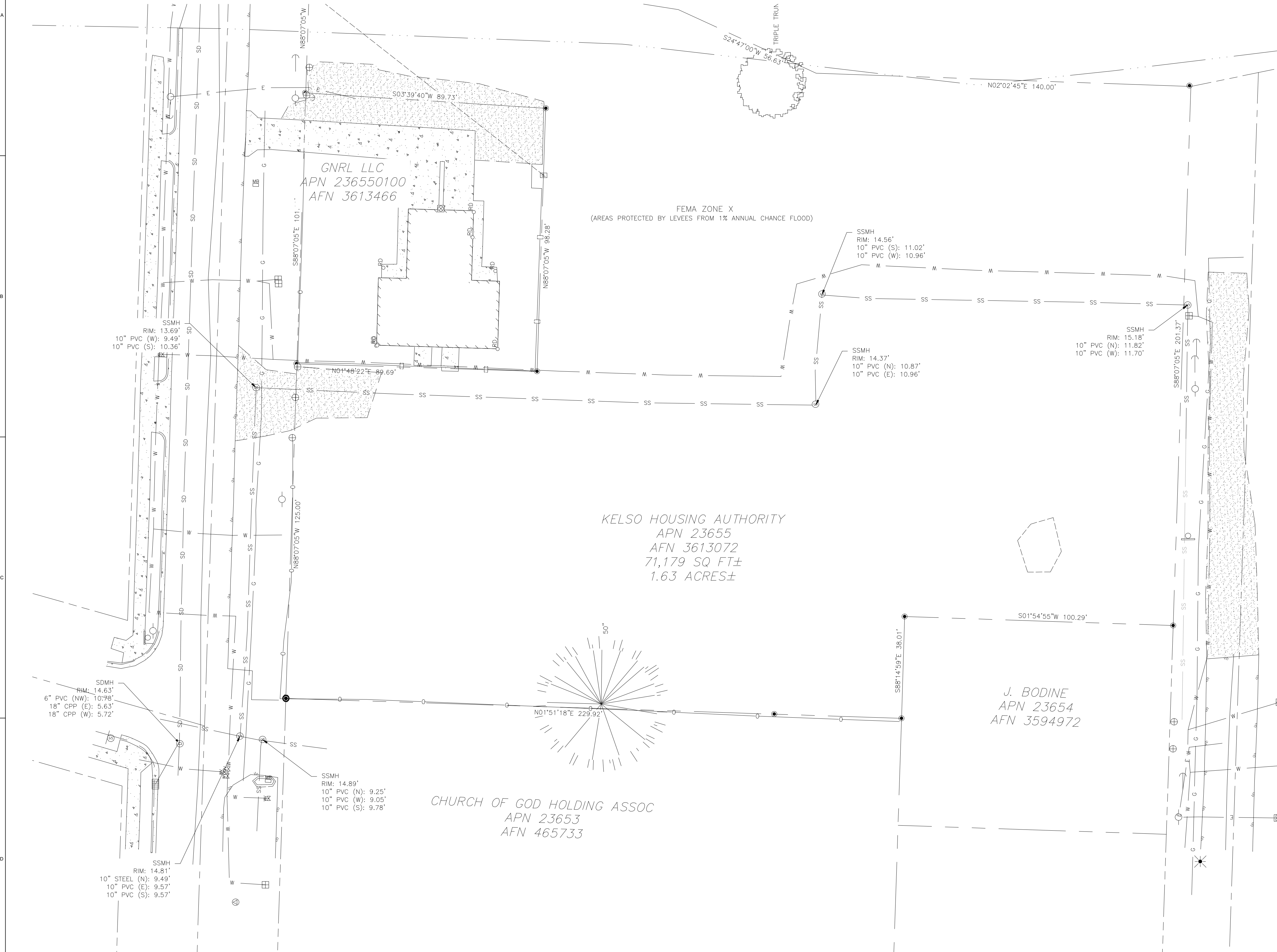
WILLOW GROVE
1106 WALNUT STREET
KELSO, WA 98626

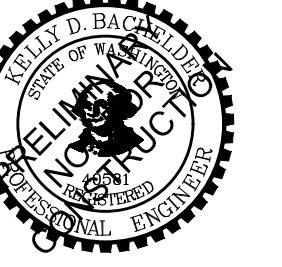
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C2.0
EXISTING
CONDITIONS PLAN

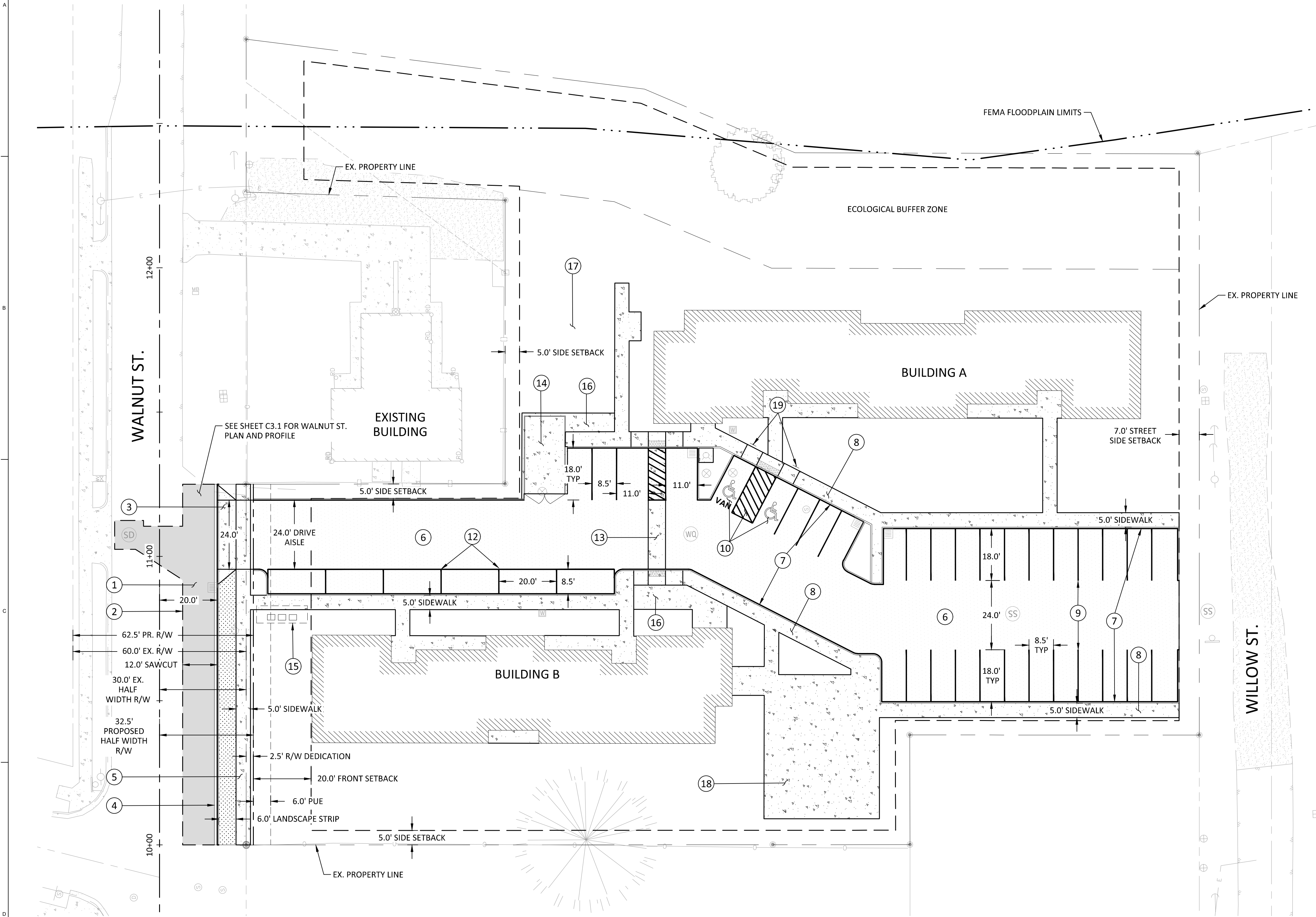




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CONSTRUCTION NOTES:

- ① PROPOSED PUBLIC HALF-STREET IMPROVEMENT. SEE SHEET C3.1 FOR DETAILS.
- ② SAWCUT EXISTING PAVEMENT AND REMOVE AS NECESSARY.
- ③ CONSTRUCT CONCRETE DRIVEWAY APPROACH PER DETAIL ON SHEET C6.0.
- ④ CONSTRUCT CURB & GUTTER PER DETAIL ON SHEET C6.0.
- ⑤ CONSTRUCT CONCRETE SIDEWALK PER DETAIL ON SHEET C6.0.
- ⑥ CONSTRUCT AC PAVEMENT DRIVE AISLE PER SECTION ON SHEET C6.0.
- ⑦ CONSTRUCT PRIVATE STANDARD CURB PER DETAIL ON SHEET C6.0.
- ⑧ CONSTRUCT PRIVATE SIDEWALK PER SECTION ON SHEET C6.0.
- ⑨ INSTALL STANDARD PARKING STALL STRIPING PER DETAIL ON SHEET C6.0.
- ⑩ INSTALL ADA PARKING STALL AND VAN ACCESSIBLE LOADING STALL STRIPING PER DETAIL ON SHEET C6.0.
- ⑪ INSTALL PARALLEL PARKING STALL STRIPING PER DETAIL ON SHEET C6.0.
- ⑬ CONSTRUCT CONCRETE PEDESTRIAN CROSSWALK. SEE GRADING DETAILS ON SHEET C4.1 FOR ELEVATIONS.
- ⑭ TRASH & RECYCLING ENCLOSURE. REFER TO ARCHITECTURAL PLANS FOR DETAIL.
- ⑮ COVERED MAILBOX AREA. REFER TO ARCHITECTURAL PLANS FOR DETAIL.
- ⑯ COVERED BIKE PARKING AREA. REFER TO ARCHITECTURAL PLANS FOR DETAIL.
- ⑰ PLAYGROUND AREA. REFER TO LANDSCAPING PLANS FOR DETAIL.
- ⑱ COMMUNITY GARDEN AREA. REFER TO LANDSCAPING PLANS FOR DETAIL.
- ⑲ INSTALL ADA PARKING STALL SIGNAGE PER DETAIL ON SHEET C6.1.



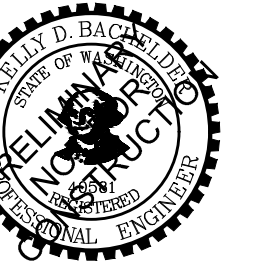
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 KELSO, WA 98626

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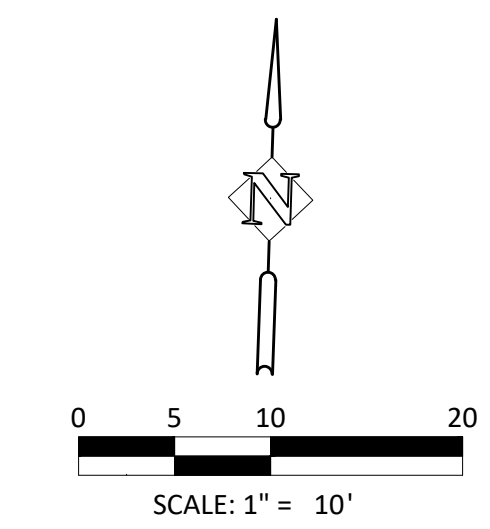
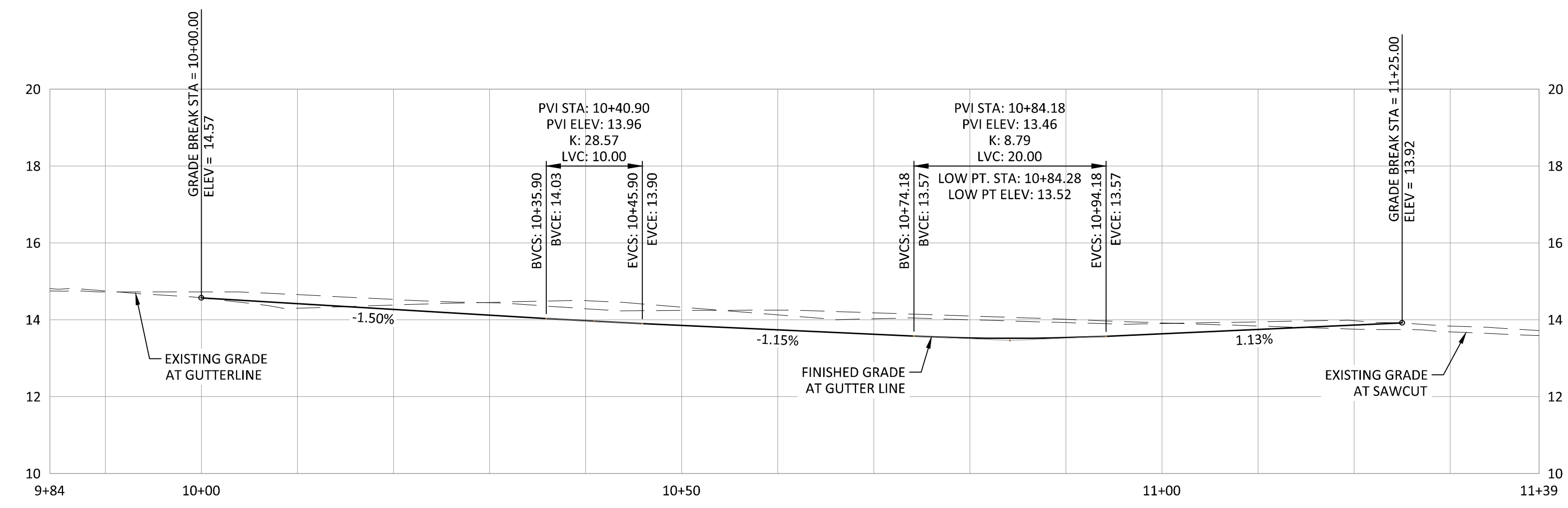
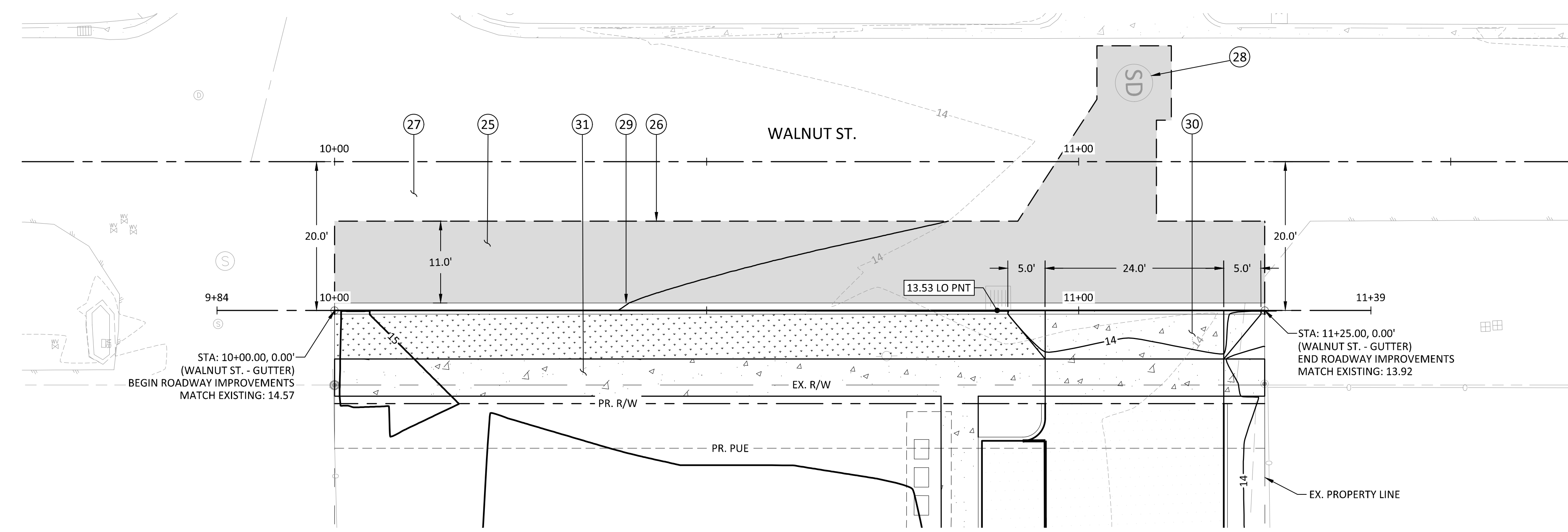
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C3.0
SITE PLAN

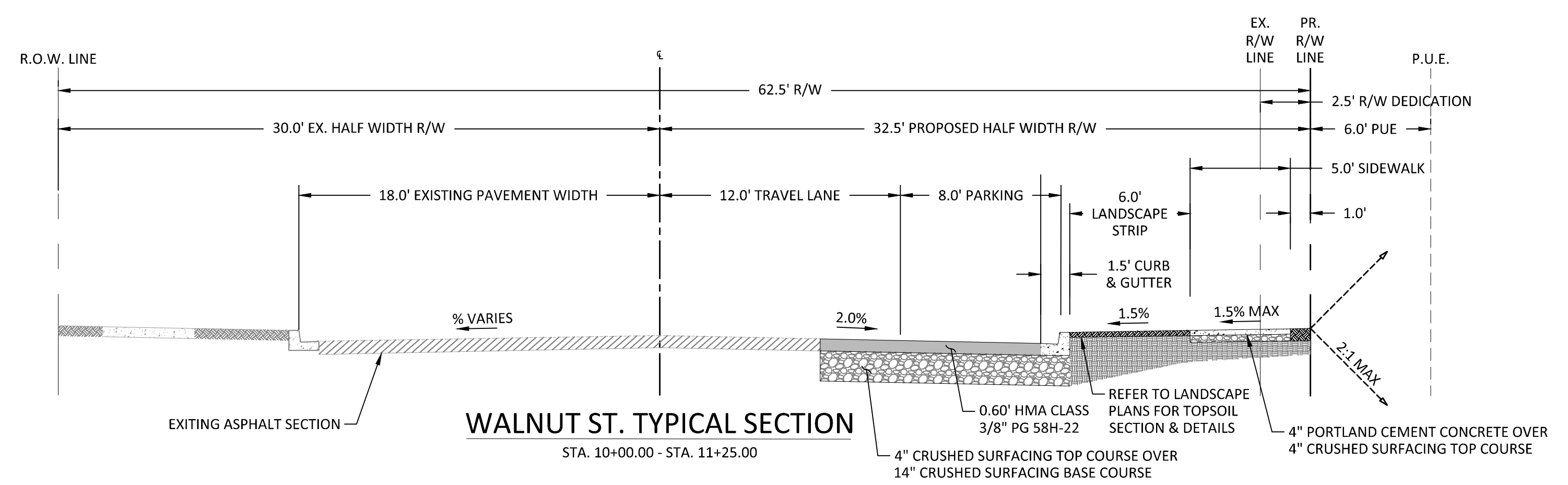


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- 25 CONSTRUCT HALF STREET IMPROVEMENT PER SECTION THIS SHEET.
- 26 SAWUCT AND REMOVE EXISTING PAVEMENT AS NECESSARY.
- 27 PROTECT EXISTING PAVEMENT.
- 28 PROTECT EXISTING MANHOLE. ADJUST TO FINISH GRADE AS NECESSARY.
- 29 CONSTRUCT CURB AND GUTTER PER DETAIL ON SHEET C6.0.
- 30 CONSTRUCT CONCRETE DRIVEWAY PER DETAIL ON SHEET C6.0.
- 31 CONSTRUCT SIDEWALK PER DETAIL ON SHEET C6.0.



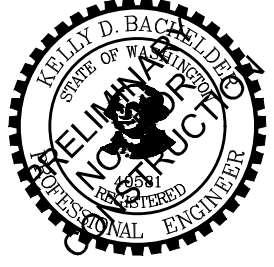
WALNUT ST. - GUTTER LINE
 SCALE: 1" = 10' (HORIZ.)
 1" = 2' (VERT.)



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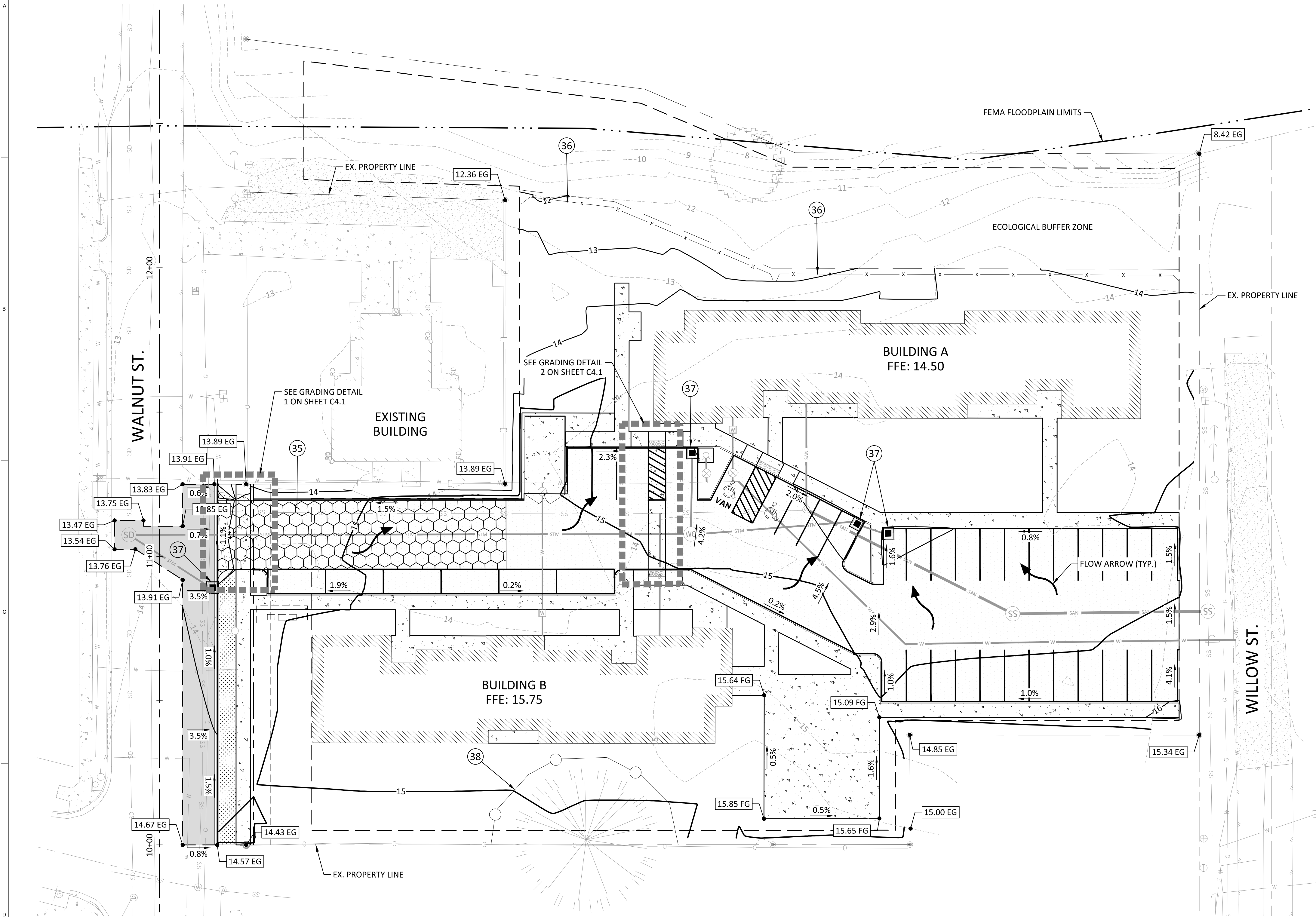
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CONSTRUCTION NOTES:

- 35 INSTALL CONSTRUCTION ENTRANCE PER DETAIL ON SHEET C6.3.
- 36 INSTALL SEDIMENT FENCE PER DETAIL ON SHEET C6.3.
- 37 INSTALL INLET PROTECTION PER DETAIL ON SHEET C6.3.
- 38 INSTALL TREE PROTECTION FENCING PER DETAIL ON SHEET C6.3.



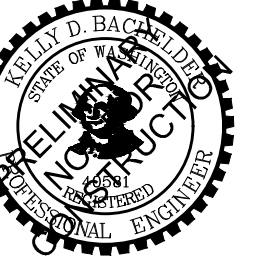
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 JOB: 22012
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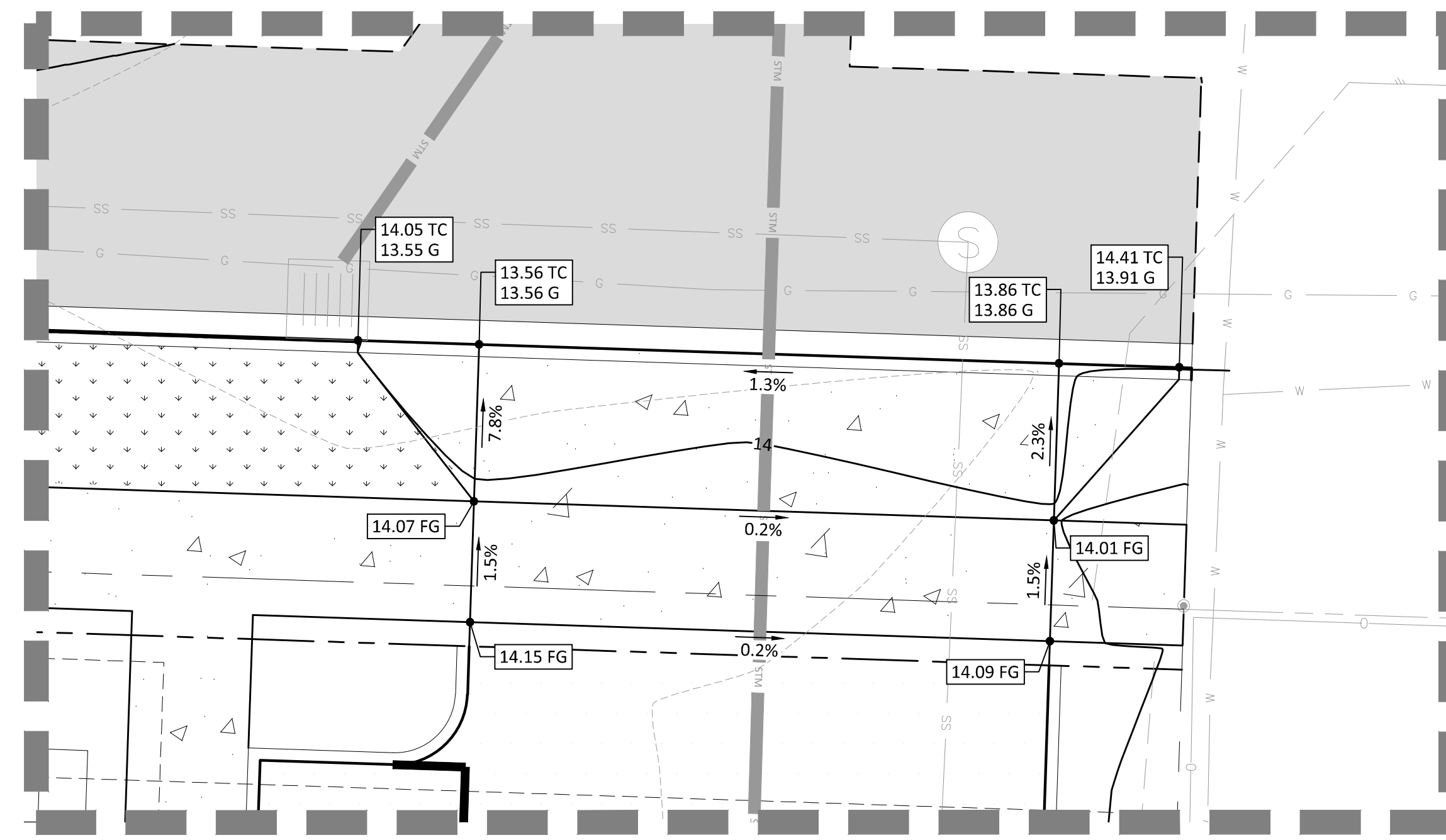
C4.0
 GRADING &
 ESC PLAN



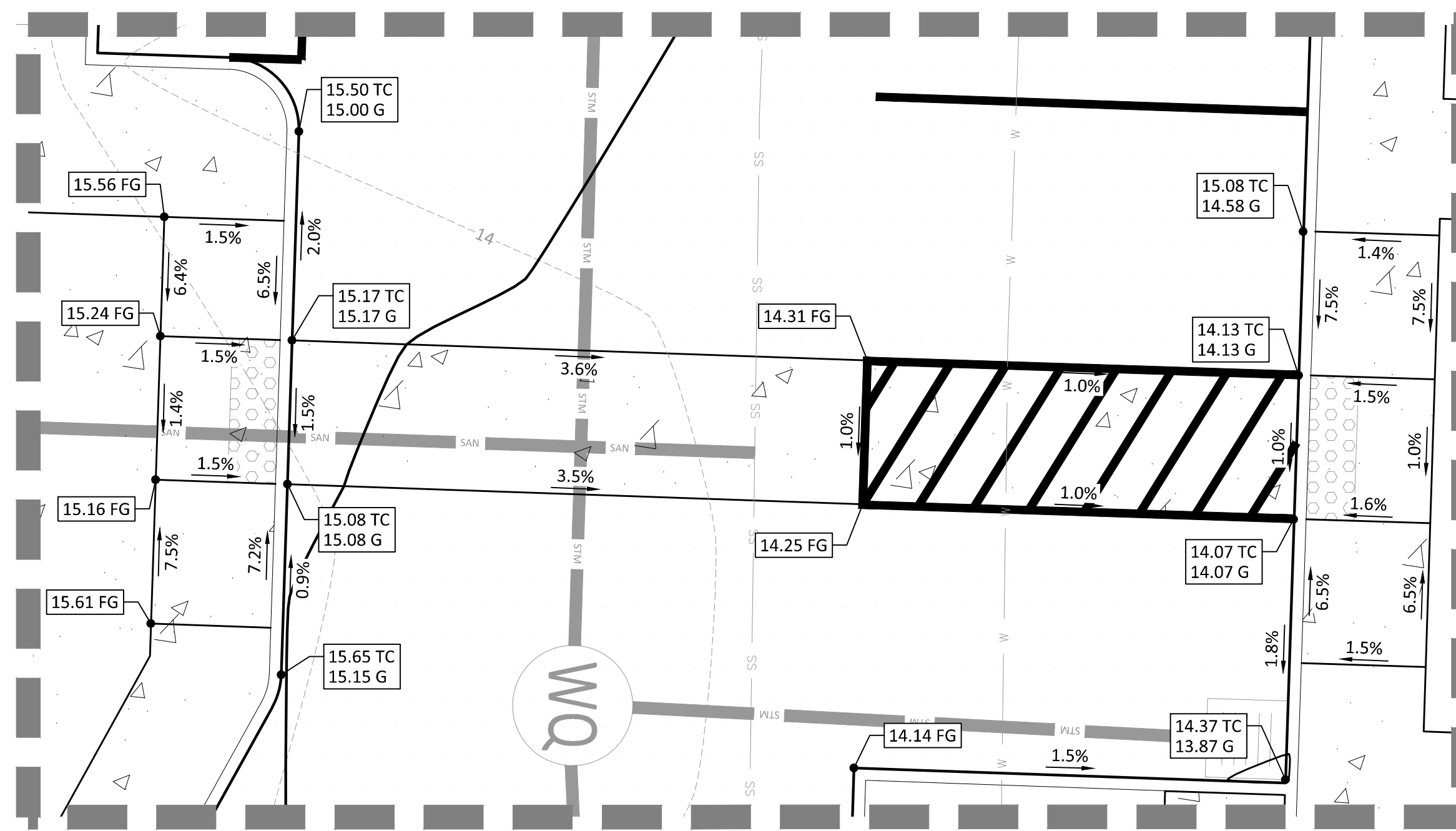
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WILLOW GROVE
 1106 WALNUT STREET
 KELSO, WA 98626

LAND USE PERMIT



GRADING DETAIL 1
 SCALE: 1" = 5'

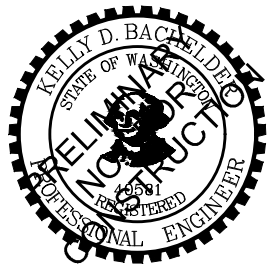


GRADING DETAIL 2
 SCALE: 1" = 5'

REV	DATE	FILE

PM:
 JOB: 22012
 DATE: 12/01/2022

C4.1
 GRADING DETAILS

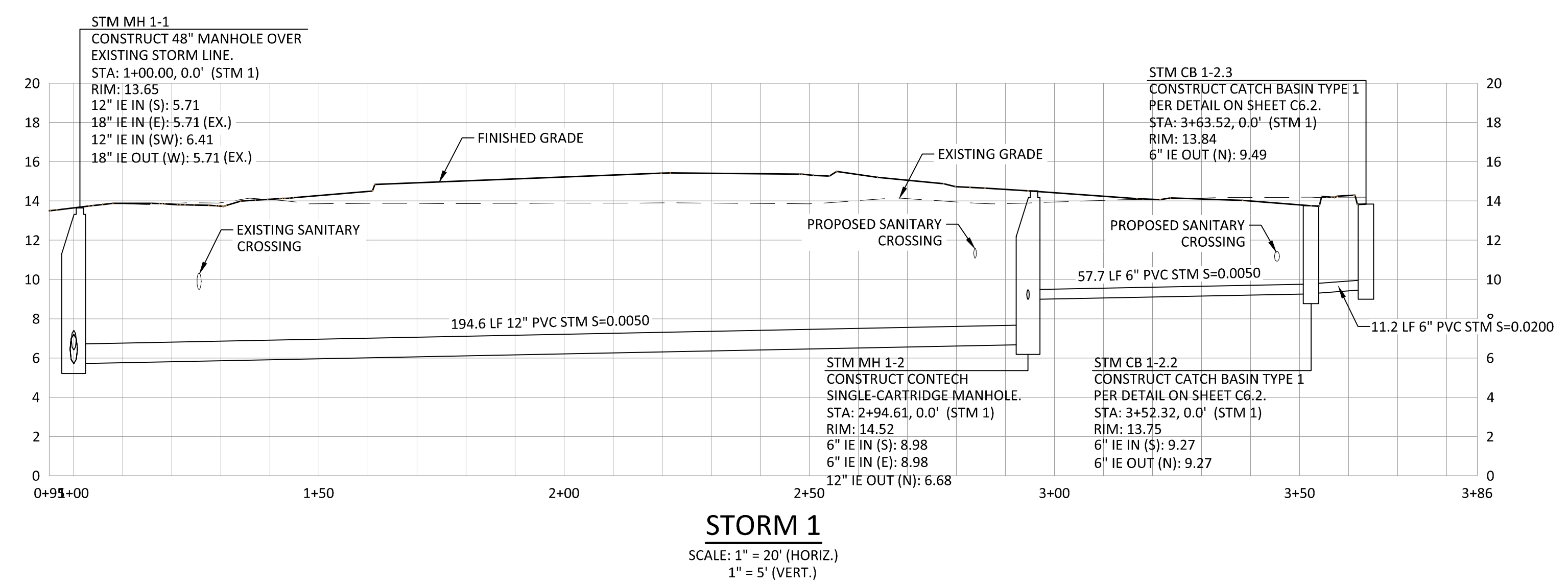
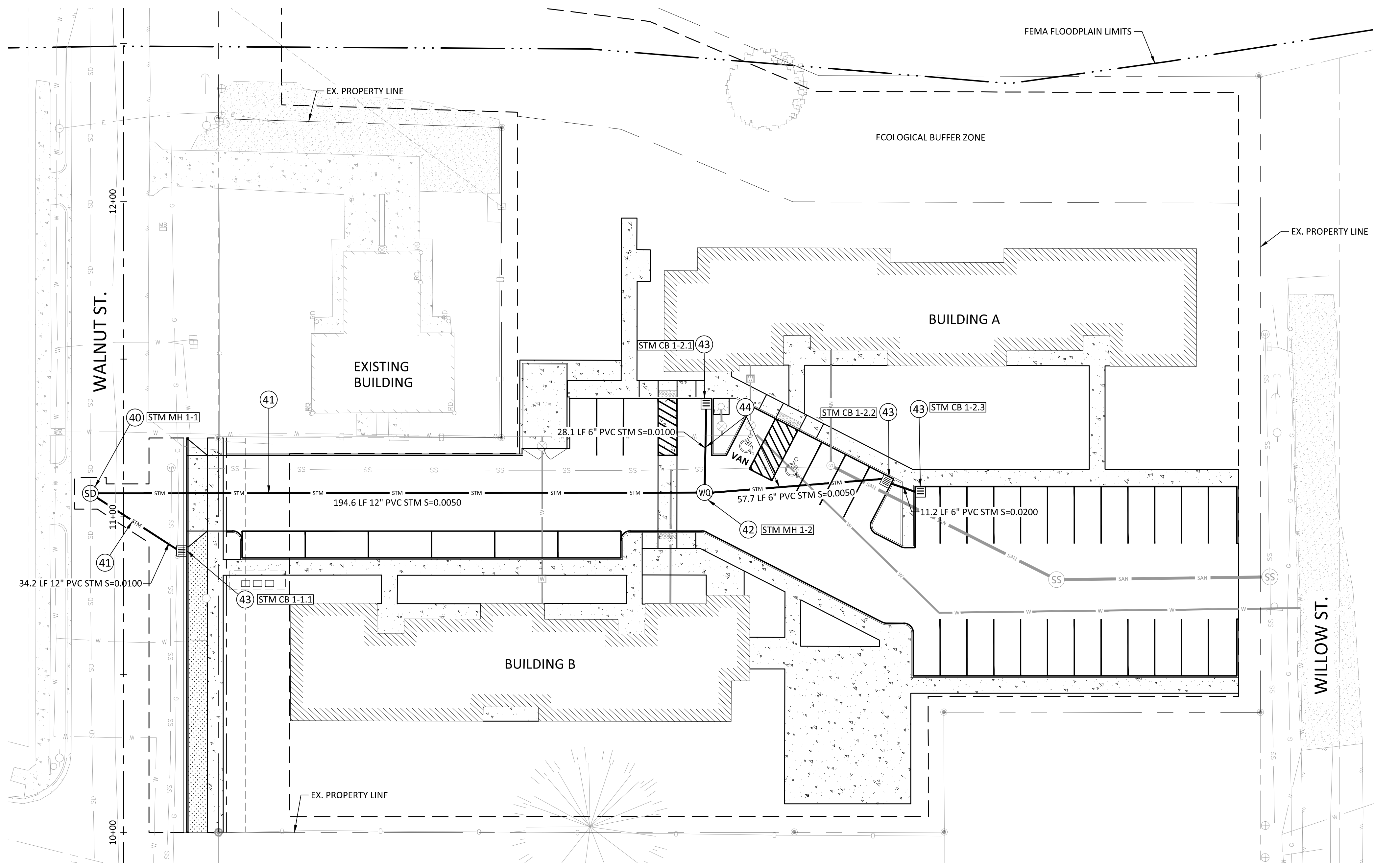
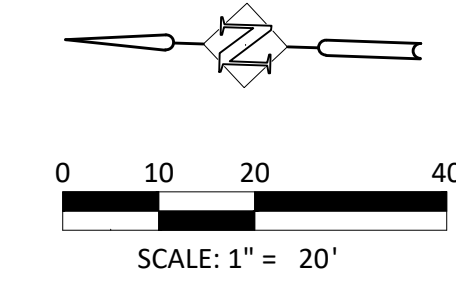


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CONSTRUCTION NOTES:

- 40 CONSTRUCT NEW 48" STORM MANHOLE OVER EXISTING STORM LINE.
- 41 CONSTRUCT 12" PVC STORM MAIN. BACKFILL PER DETAIL ON SHEET C6.0.
- 42 CONSTRUCT CONTECH SINGLE-CARTRIDGE STORM FILTER MANHOLE PER DETAIL ON SHEET C6.1.
- 43 CONSTRUCT STANDARD CATCH BASIN TYPE 1 PER DETAIL ON SHEET C6.2.
- 44 CONSTRUCT 6" PVC STORM MAIN. BACKFILL PER DETAIL ON SHEET C6.0.

STORM STRUCTURE DATA			
NUMBER	DESCRIPTION	RIM ELEV.	INVERT ELEV.
STM CB 1-1.1	CONSTRUCT CATCH BASIN TYPE 1 PER DETAIL ON SHEET C6.2.	13.56	12" IE OUT (NE): 6.75
STM CB 1-2.1	CONSTRUCT CATCH BASIN TYPE 1 PER DETAIL ON SHEET C6.2.	13.78	6" IE OUT (W): 9.26
STM CB 1-2.2	CONSTRUCT CATCH BASIN TYPE 1 PER DETAIL ON SHEET C6.2.	13.75	6" IE IN (S): 9.27 6" IE OUT (N): 9.27
STM CB 1-2.3	CONSTRUCT CATCH BASIN TYPE 1 PER DETAIL ON SHEET C6.2.	13.84	6" IE OUT (N): 9.49
STM MH 1-1	CONSTRUCT 48" MANHOLE OVER EXISTING STORM LINE.	13.65	12" IE IN (S): 5.71 18" IE OUT (W): 5.71 18" IE IN (E): 5.71 12" IE IN (SW): 6.41
STM MH 1-2	CONSTRUCT CONTECH SINGLE-CARTRIDGE MANHOLE.	14.52	6" IE IN (S): 8.98 12" IE OUT (N): 6.68 6" IE IN (E): 8.98



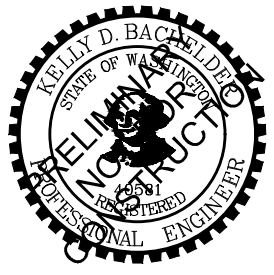
WILLOW GROVE
 1106 WALNUT STREET
 KELSO, WA 98626

LAND USE PERMIT

REV	DATE	FILE

PM:
 JOB: 22012
 DATE: 12/01/2022

C5.0
 STORM DRAINAGE PLAN

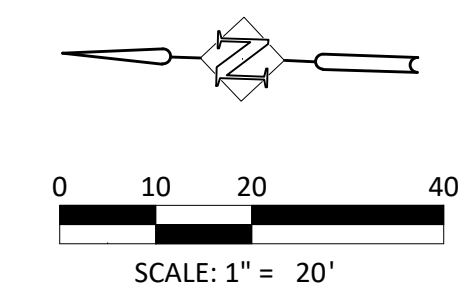
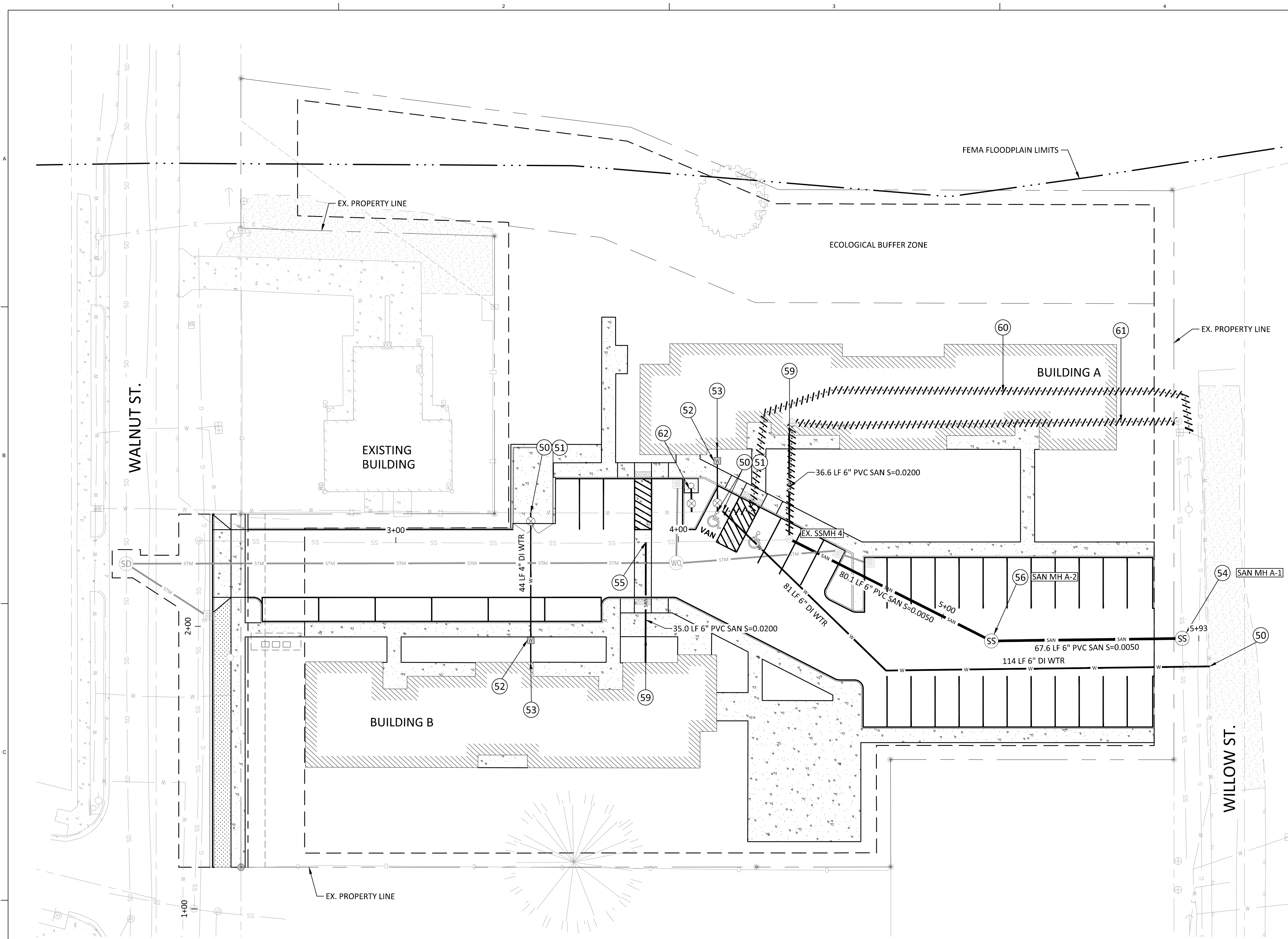


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CONSTRUCTION NOTES:

- 50 CONNECT TO EXISTING WATER LINE PER DETAIL ON SHEET C6.2.
- 51 INSTALL 4" GATE VALVE.
- 52 INSTALL 2" DOMESTIC WATER METER PER DETAIL ON SHEET C6.2.
- 53 WATER SERVICE BUILDING POINT OF CONNECTION.
- 54 INSTALL NEW 48" SANITARY MANHOLE AND CONNECT EXISTING SANITARY LINE.
- 55 CONNECT TO EXISTING SANITARY LINE.
- 56 CONSTRUCT NEW 48" SANITARY MANHOLE PER DETAIL ON SHEET C6.1.
- 59 SANITARY SEWER BUILDING POINT OF CONNECTION.
- 60 REMOVE EXISTING WATER LINE.
- 61 REMOVE EXISTING SANITARY LINE.
- 62 INSTALL FIRE HYDRANT PER DETAIL ON SHEET C6.2.

SANITARY STRUCTURE DATA			
NUMBER	LOCATION	RIM ELEV.	INVERT ELEV.
EX. SSMH 4	SAN A STA:4+39.20, 0.00	14.02	10" IE OUT (N): 10.87 (EX.) 6" IE IN (E): 11.37 (PLUG) 6" IE IN (SW): 10.87 10" IE IN (E): 10.96
SAN MH A-1	SAN A STA:5+86.92, 0.00	15.73	6" IE OUT (N): 11.61 (EX.) 10" IE IN (E): 11.61 10" IE OUT (W): 11.61 (PLUG)
SAN MH A-2	SAN A STA:5+19.34, 0.00	14.62	6" IE OUT (NE): 11.27 6" IE IN (S): 11.27



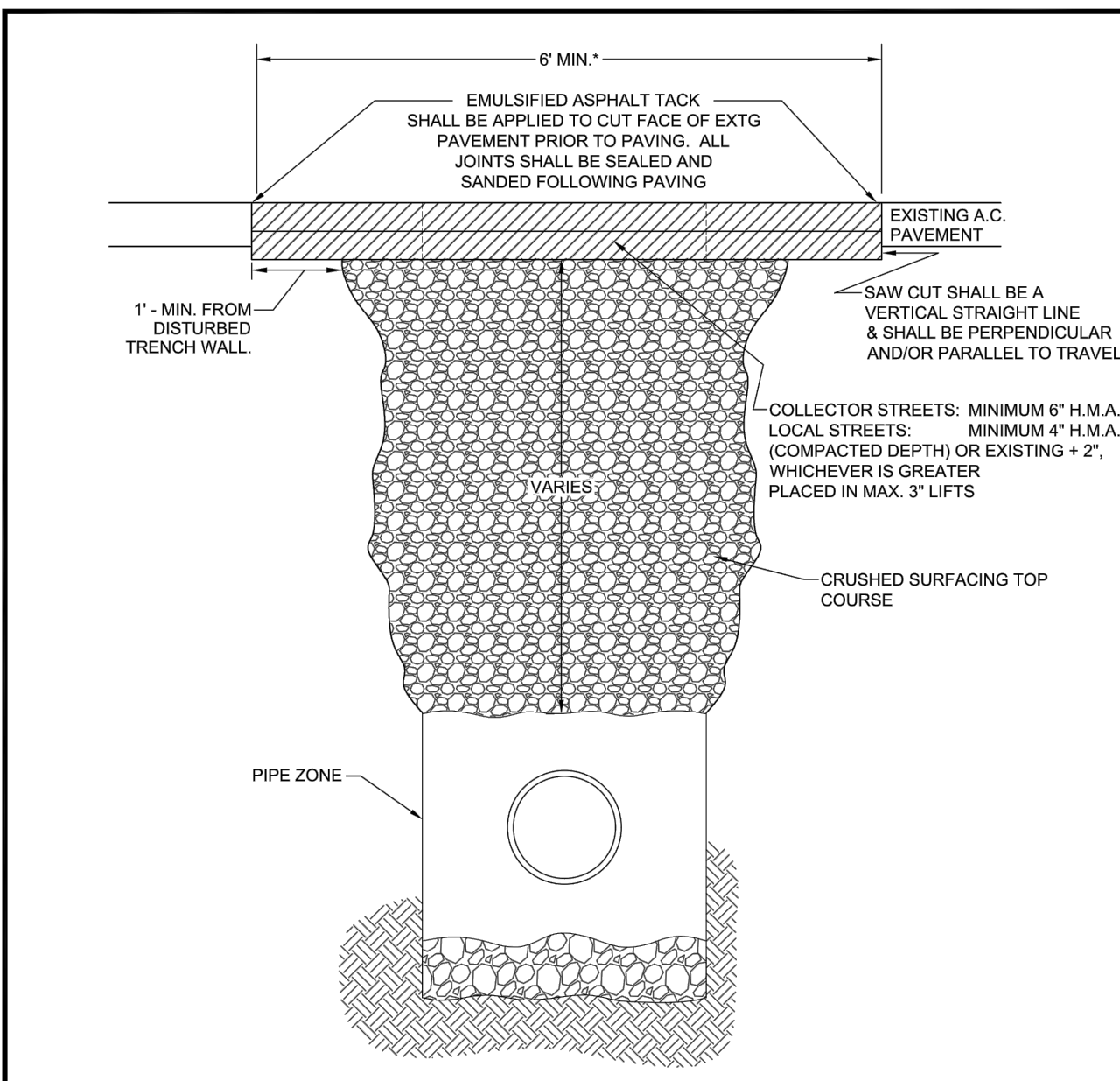
WILLOW GROVE
 1106 WALNUT STREET
 KELSO, WA 98626

LAND USE PERMIT

REV.	DATE	FILE

PM:
 JOB: 22012
 DATE: 12/01/2022

C5.1
 SANITARY & WATER PLAN



- NOTES:**
- BACKFILL SHALL BE COMPACTED IN 6-INCH MAXIMUM LIFTS TO 95% DENSITY PER WSDOT T606.
 - TRENCH SHALL BE PLATED OR TEMPORARILY PAVED WITH COLD MIX, 1 1/2 INCHES THICK, UNTIL PAVED.
 - PLATE SHALL BE SECURED BY METHOD APPROVED BY ENGINEER.
 - PLACE ADVANCE WARNING SIGNS UNTIL PERMANENT PATCH IS COMPLETED.
 - RESTORE PAVEMENT MARKINGS.
 - SEAL FOR PAVEMENT JOINTS SHALL BE HOT POURED SEALANT FOR BITUMINOUS PAVEMENT, TYPE 1, PER WSDOT 9-04 2(1)A2.
- * RESTORATION WIDTH SHALL BE DOUBLED FOR STREETS THAT HAVE BEEN REHABILITATED WITHIN 5 YEARS. RESTORATION FOR TRENCHING CONDUCTED LONGITUDINAL TO THE STREET SHALL BE HALF STREET WIDTH. INCREASED RESTORATION WIDTH MAY BE REQUIRED WHEN MULTIPLE UTILITIES ARE PROPOSED.

N.T.S.

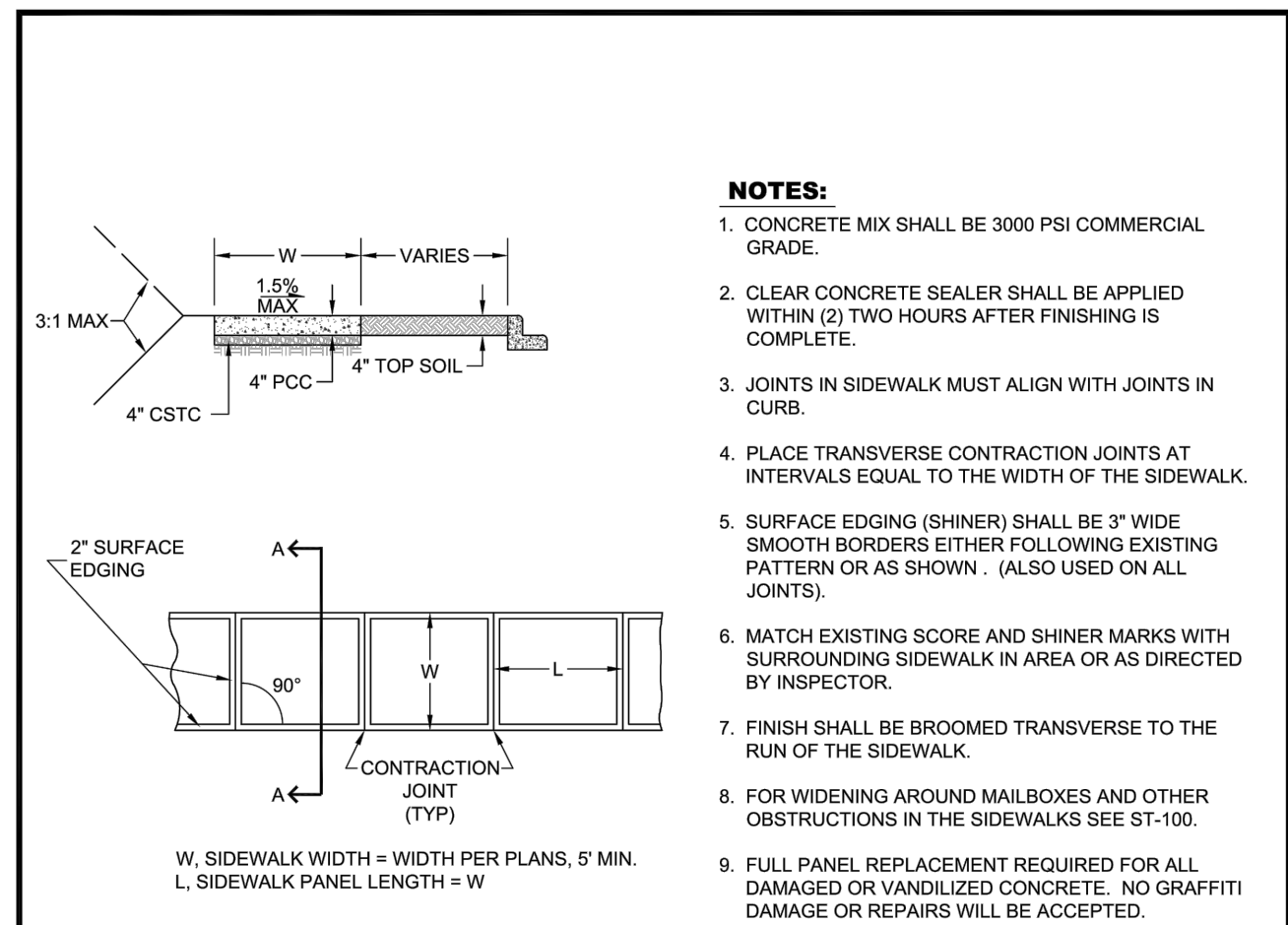
TRENCH BACKFILL AND RESTORATION
LOCAL AND COLLECTOR STREETS

STANDARD PLAN NO. **KST-020-21**

CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING

CITY ENGINEER APPROVAL: Michael Kardas, P.E.

DATE: **MAY 2021**



- NOTES:**
- CONCRETE MIX SHALL BE 3000 PSI COMMERCIAL GRADE.
 - CLEAR CONCRETE SEALER SHALL BE APPLIED WITHIN (2) TWO HOURS AFTER FINISHING IS COMPLETE.
 - JOINTS IN SIDEWALK MUST ALIGN WITH JOINTS IN CURB.
 - PLACE TRANSVERSE CONTRACTION JOINTS AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
 - SURFACE EDGING (SHINER) SHALL BE 3" WIDE SMOOTH BORDERS EITHER FOLLOWING EXISTING PATTERN OR AS SHOWN. (ALSO USED ON ALL JOINTS).
 - MATCH EXISTING SCORE AND SHINER MARKS WITH SURROUNDING SIDEWALK IN AREA OR AS DIRECTED BY INSPECTOR.
 - FINISH SHALL BE BROOMED TRANSVERSE TO THE RUN OF THE SIDEWALK.
 - FOR WIDENING AROUND MAILBOXES AND OTHER OBSTRUCTIONS IN THE SIDEWALKS SEE ST-100.
 - FULL PANEL REPLACEMENT REQUIRED FOR ALL DAMAGED OR VANDALIZED CONCRETE. NO GRAFFITI DAMAGE OR REPAIRS WILL BE ACCEPTED.
- W, SIDEWALK WIDTH = WIDTH PER PLANS, 5' MIN.
L, SIDEWALK PANEL LENGTH = W

N.T.S.

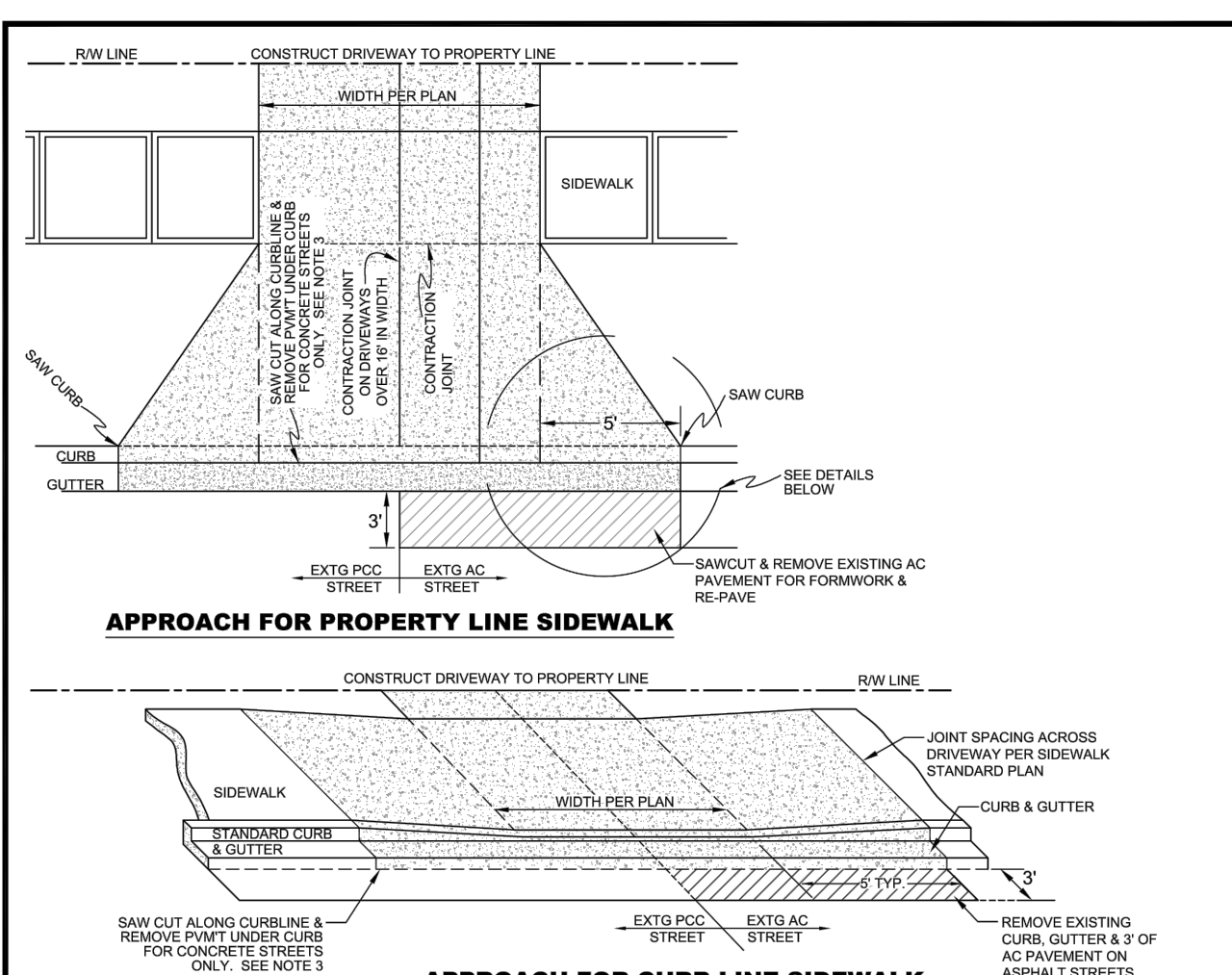
SIDEWALKS

STANDARD PLAN NO. **KST-070-21**

CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING

CITY ENGINEER APPROVAL: Michael Kardas, P.E.

DATE: **MAY 2021**



- GENERAL INSTRUCTIONS:**
- SIDEWALK PORTION OF DRIVEWAY APPROACH SHALL COMPLY WITH SIDEWALK STANDARD DRAWING EXCEPT THICKNESS SHALL BE AS SPECIFIED BELOW.
 - REMOVE A 3" WIDE STRIP OF PAVEMENT AND BASE ROCK IN FRONT OF THE NEW GUTTER A MINIMUM OF 1' DEEP TO PROVIDE ROOM FOR FORMS. REPLACE BASE ROCK AND REPAVE AFTER THE CONCRETE HAS CURED SUFFICIENTLY TO ALLOW WORK BUT MITIGATE DAMAGE TO THE NEW CONCRETE. HMA PATCH SHALL MATCH EXISTING THICKNESS, BUT NOT LESS THAN 4" FOR LOCAL STREETS, AND NOT LESS THAN 6" FOR COLLECTORS AND ARTERIALS.
 - WHERE A DRIVEWAY APPROACH EXCEEDS 16' IN WIDTH, A CONTRACTION JOINT SHALL BE PLACED ALONG ITS CENTER LINE.
 - FOR ASPHALT STREETS, REMOVE EXISTING CURB & GUTTER SECTIONS, FOR CONCRETE STREETS, THE EXISTING STREET SHALL BE SAWED FULL DEPTH ALONG THE GUTTER LINE, & THE CURB & ALL PAVEMENT UNDER THE CURB REMOVED.
 - A 1/2" MAXIMUM LIP SHALL BE PROVIDED AT THE GUTTER LINE OF THE APPROACH.
 - DRIVEWAY APPROACH WIDTHS:
RESIDENTIAL: 10' MIN TO 24' MAX.
MULTI-FAMILY:
TWO WAY: 18' MIN TO 24' MAX.
ONE WAY: 10' MIN TO 12' MAX.
COMMERCIAL/INDUSTRIAL:
TWO WAY: 24' MIN TO 32' MAX.
ONE WAY: 12' MIN TO 16' MAX.
ALLEY: WIDTH AS DIRECTED.
 - DRIVEWAY APPROACH SHALL BE CEMENT CONCRETE WHERE CURB AND GUTTER EXISTS. CONCRETE STRENGTH SHALL BE 4000 PSI FOR ALLEYS, COMMERCIAL, INDUSTRIAL AND MULTI-FAMILY UNITS, AND 3000 PSI FOR ALL OTHERS.
 - DRIVEWAY THICKNESS SHALL BE 8" FOR ALLEYS, COMMERCIAL, INDUSTRIAL AND MULTI-FAMILY 4 UNITS AND GREATER, AND 6" FOR ALL OTHERS.
 - BASE ROCK FOR DRIVEWAYS SHALL BE CSTC, 4" THICK, EXCEPT BASE ROCK FOR ALLEYS SHALL BE 6" THICK.
- A PERMIT MUST BE OBTAINED FROM THE OFFICE OF THE CITY ENGINEER PRIOR TO CONSTRUCTION IN THE CITY RIGHT-OF-WAY. THE ENGINEERING OFFICE MUST BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION.

N.T.S.

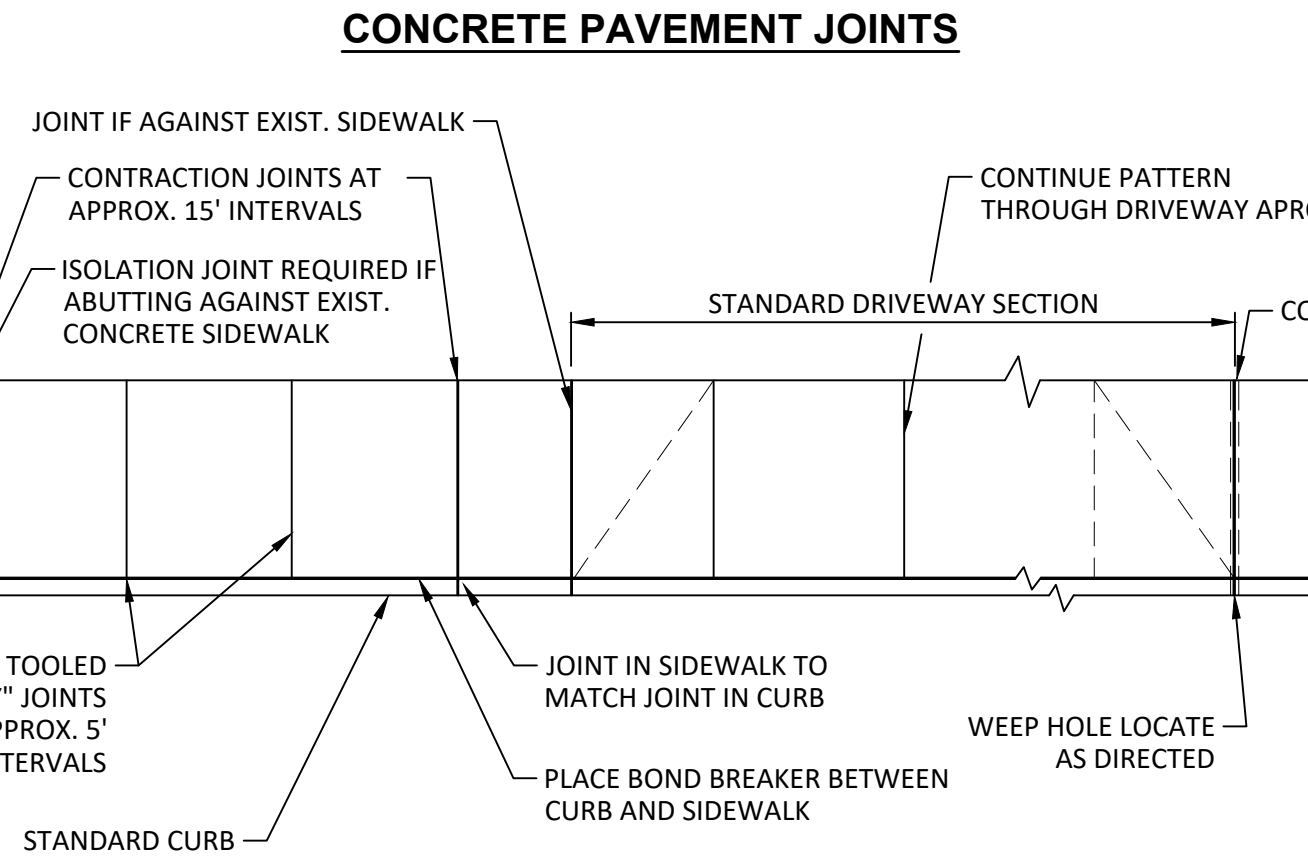
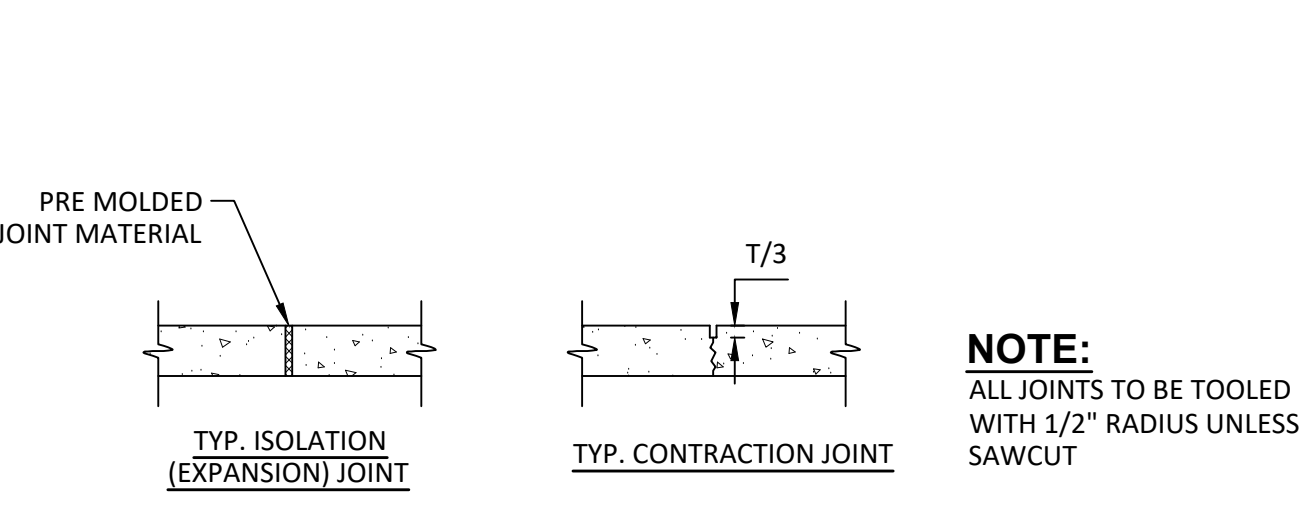
CEMENT CONCRETE DRIVEWAY APPROACH

STANDARD PLAN NO. **KST-080-21**

CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING

CITY ENGINEER APPROVAL: Michael Kardas, P.E.

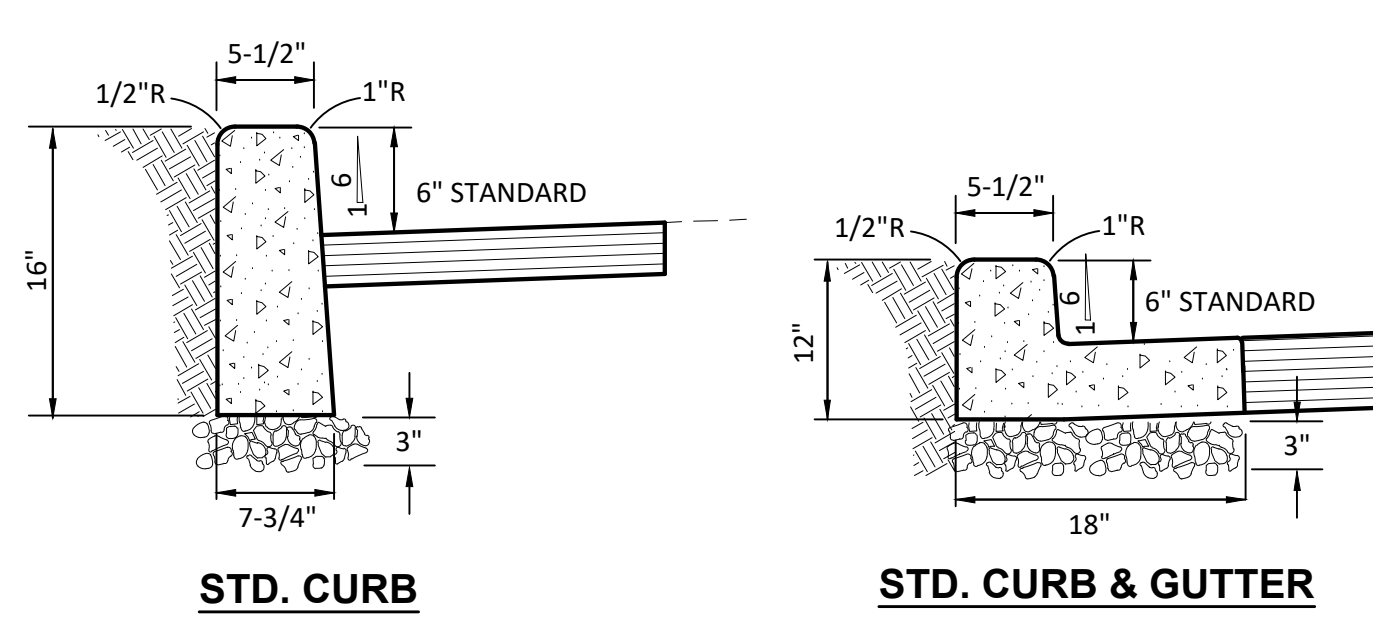
DATE: **MAY 2021**



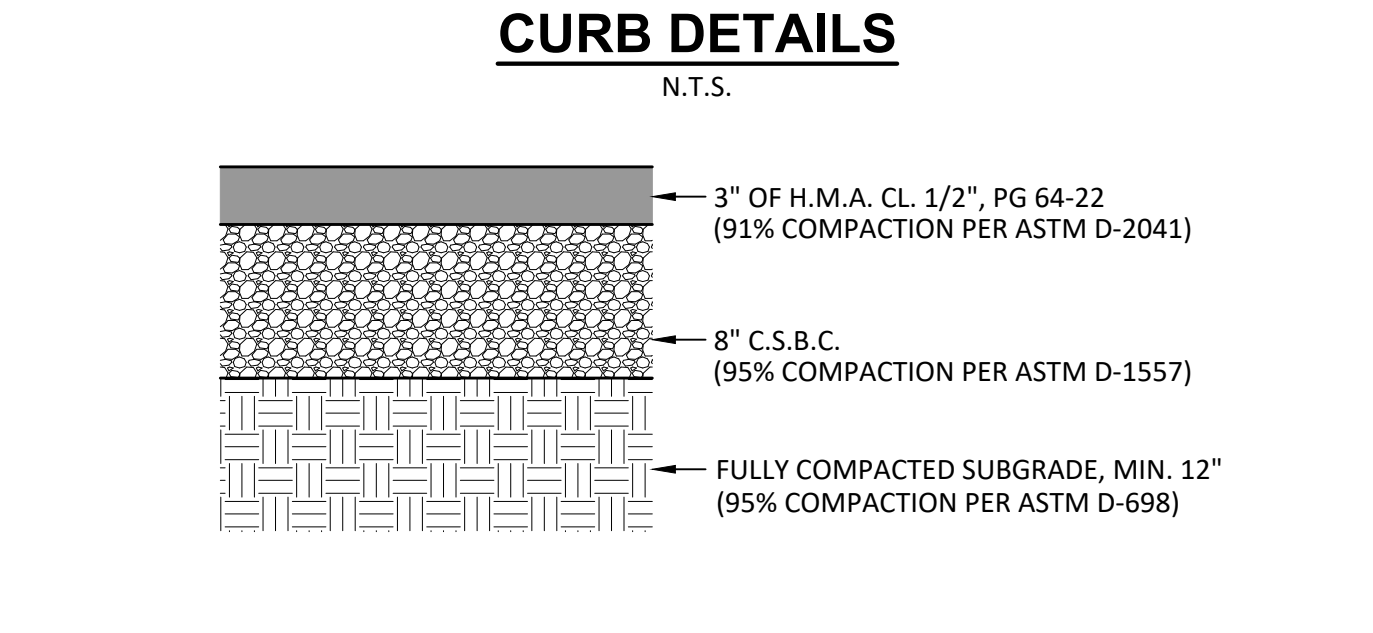
- NOTE:**
SIDEWALKS 8 FEET AND WIDER SHALL HAVE A LONGITUDINAL CONTRACTION JOINT AT THE MIDPOINT.

N.T.S.

CONCRETE SIDEWALK



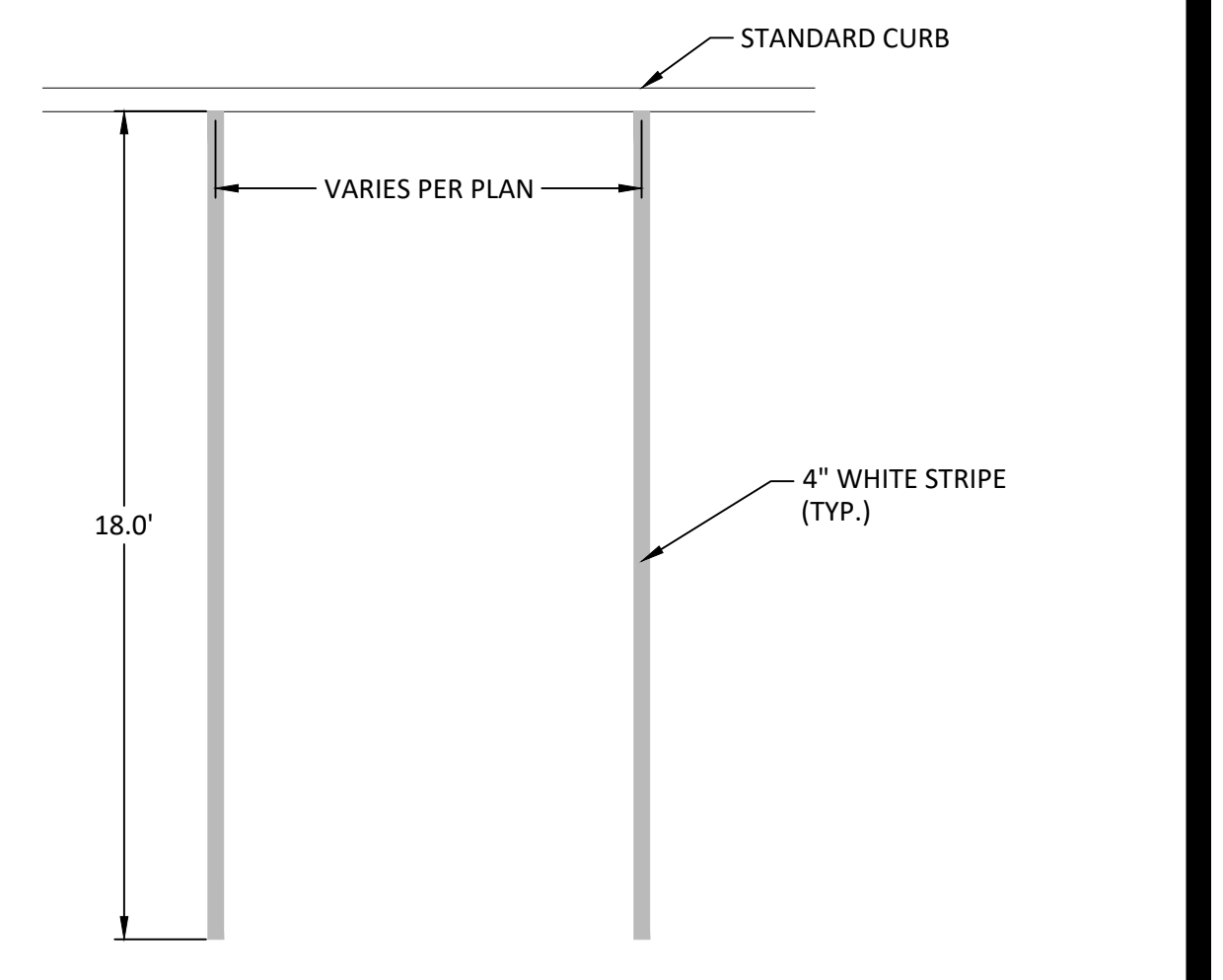
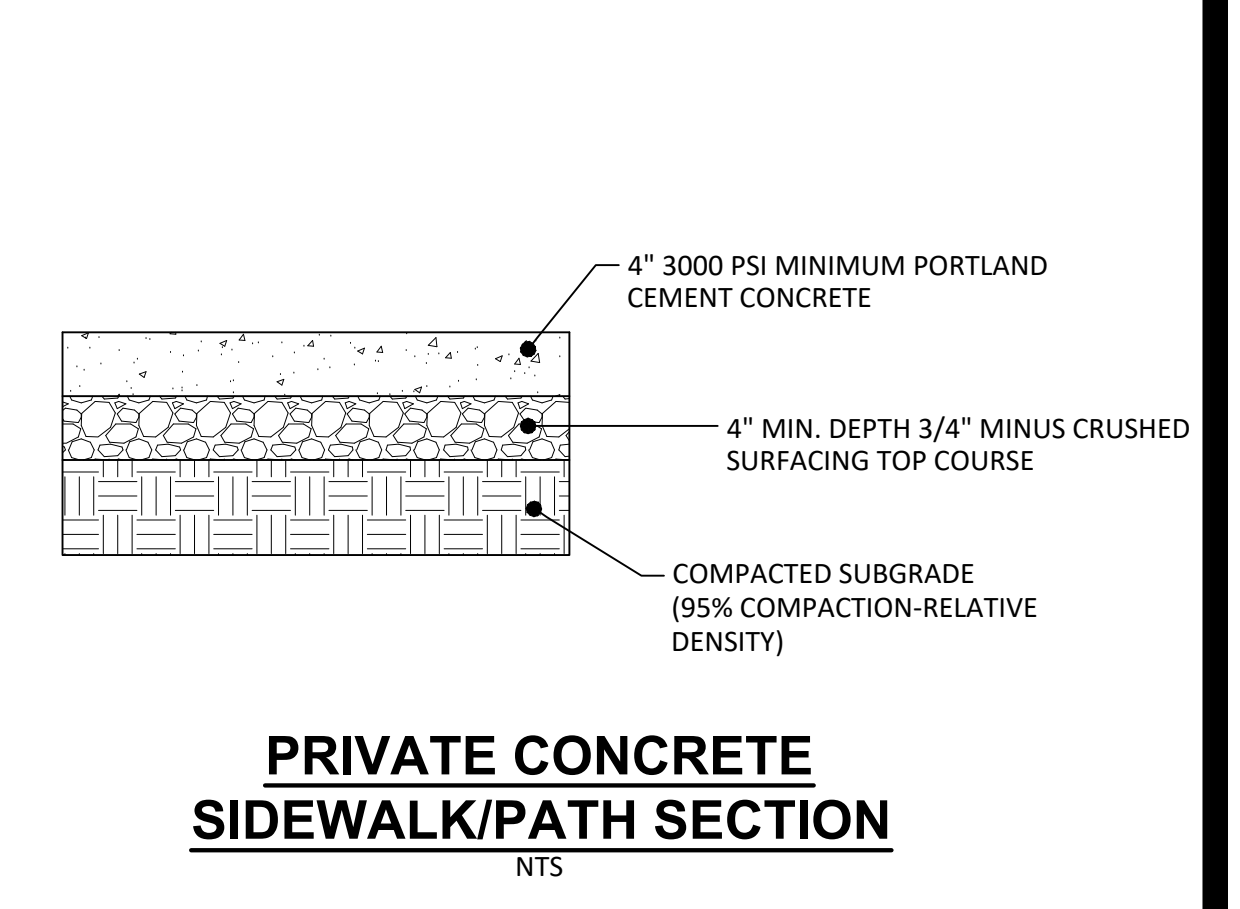
- NOTES:**
- CONCRETE SHALL BE 4000 PSI MIN., 3-1/2" SLUMP (MAX.).
 - CURBS ADJACENT TO PAVEMENT OR SIDEWALK TO HAVE EXPANSION AND/OR CONTRACTION JOINTS TO MATCH EXISTING PATTERNS.
 - 3/8" EXPANSION JOINTS SHALL BE PLACED AT 45' MAXIMUM SPACING, ON BOTH SIDES OF CATCH BASINS, AT TOPS OF DRIVEWAYS, AND ALL CHANGES IN DIRECTION. 1 1/2" CUT JOINTS TO BE PLACED AT 15' MAXIMUM SPACING.
 - CURB SHALL BE PLACED ON 3" MIN. DEPTH 5/8"-0 CRUSHED AGGREGATE.
 - COMPACT SUBGRADE AND AGGREGATE TO 95% MAXIMUM DRY DENSITY.
 - CURB TO BE MEDIUM BROOM FINISHED.
 - WHERE MATCHING EXISTING CURBS, ALL EXISTING EDGES SHALL BE SAWCUT.



N.T.S.

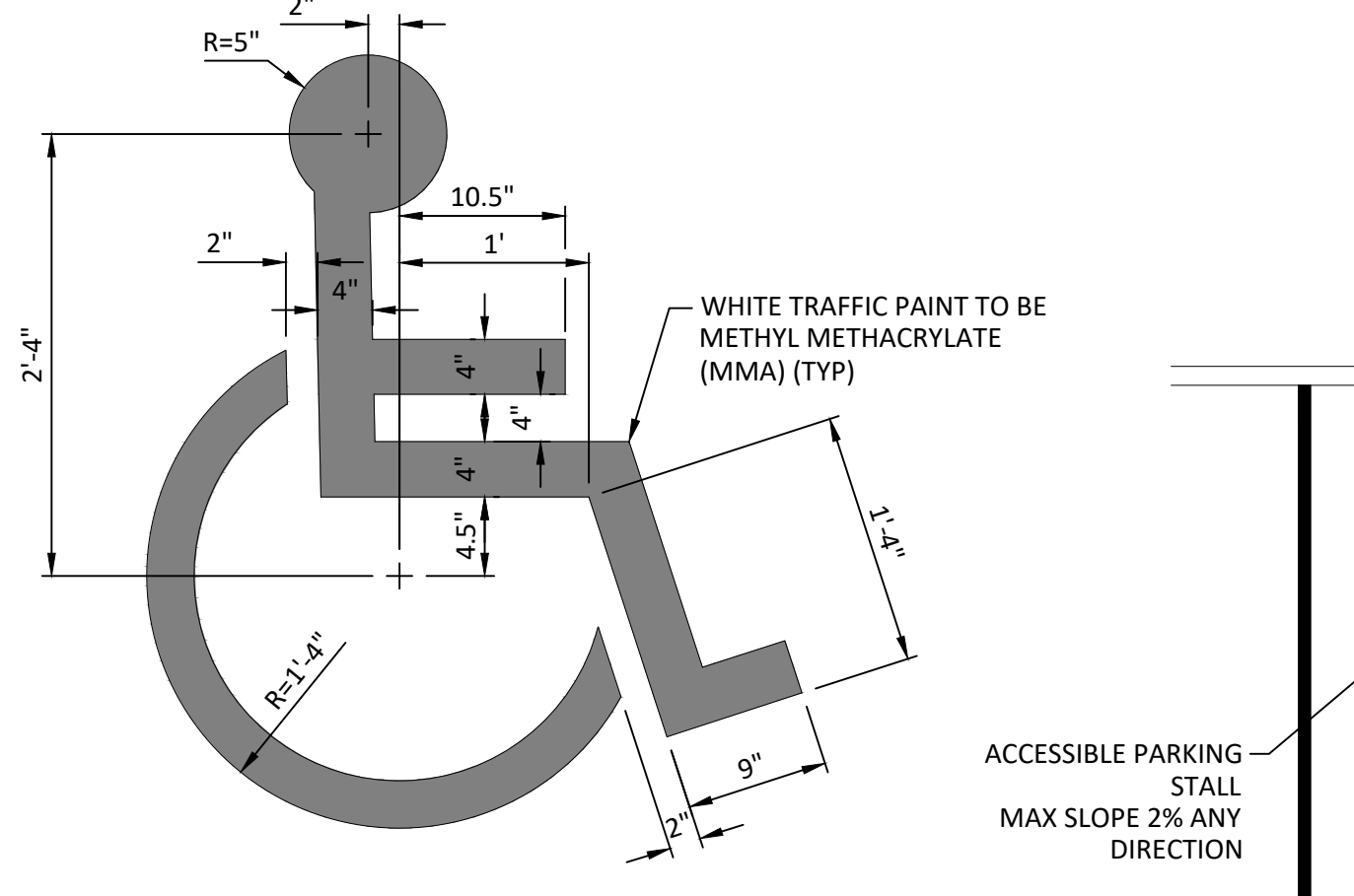
HMA DRIVE AISLE SECTION

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS
LANDSCAPE ARCHITECTS • SURVEYORS
1220 Main Street, Suite 150, Vancouver, WA 98660
phone: 360.750.1131 www.hhpr.com fax: 360.750.1141



N.T.S.

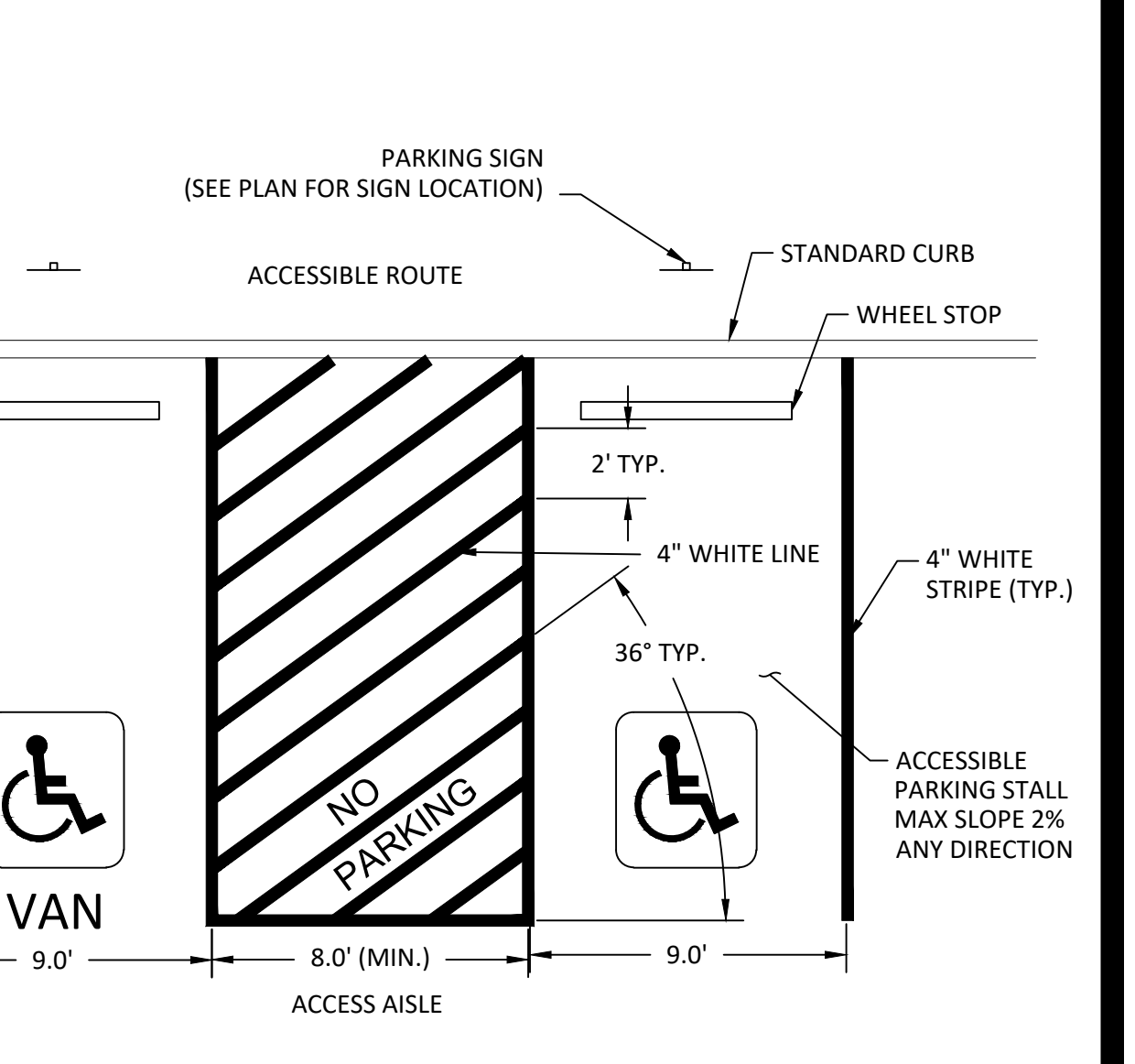
PARKING STALL STRIPING



- NOTES:**
- SYMBOL AND PAINT SHALL MEET CURRENT A.D.A. ACCESSIBILITY GUIDELINE AND OREGON TRANSPORTATION COMMISSION REQUIREMENTS.
 - SYMBOL SHALL HAVE A BACKGROUND MEETING CURRENT A.D.A. ACCESSIBILITY GUIDELINE AND OREGON TRANSPORTATION COMMISSION REQUIREMENTS.

N.T.S.

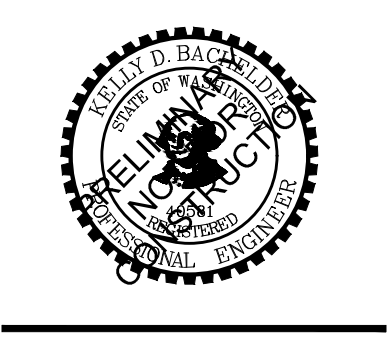
ACCESSIBLE PARKING SYMBOL



N.T.S.

VAN/STANDARD ACCESSIBLE PARKING STALL & AISLE STRIPING DETAIL

AA
Access Architecture



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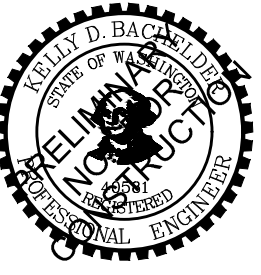
WILLOW GROVE
1106 WALNUT STREET
KELSO, WA 98626

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DATE: 12/01/2022

C6.0
DETAILS



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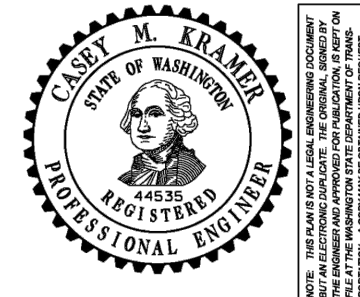
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PM: JOB: 22012
 DATE: 12/01/2022

C6.1
 DETAILS

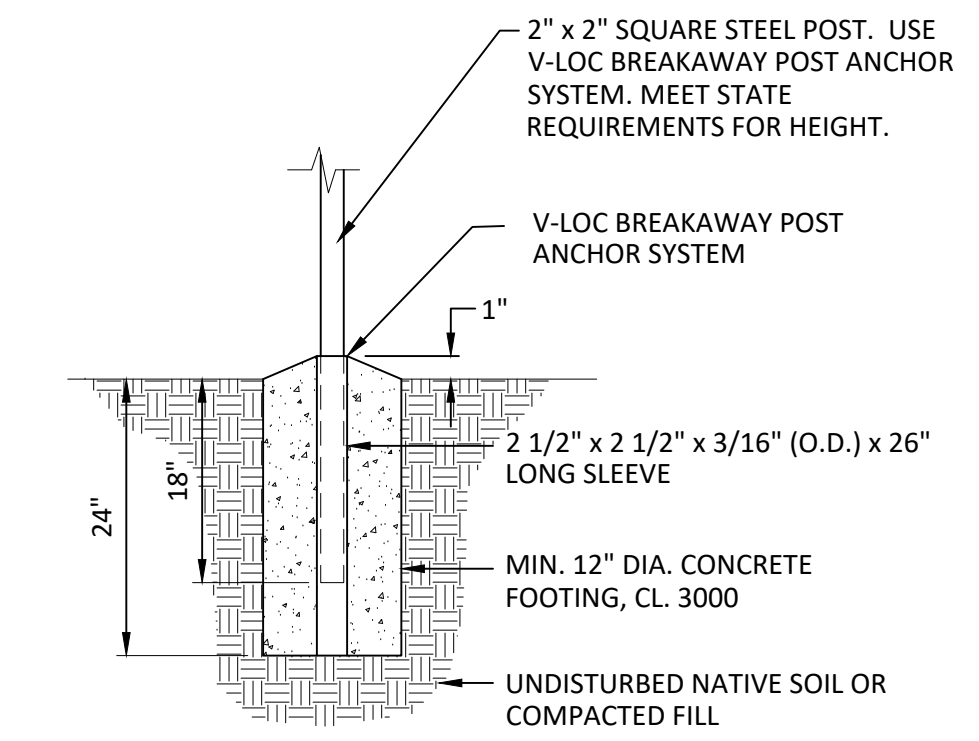
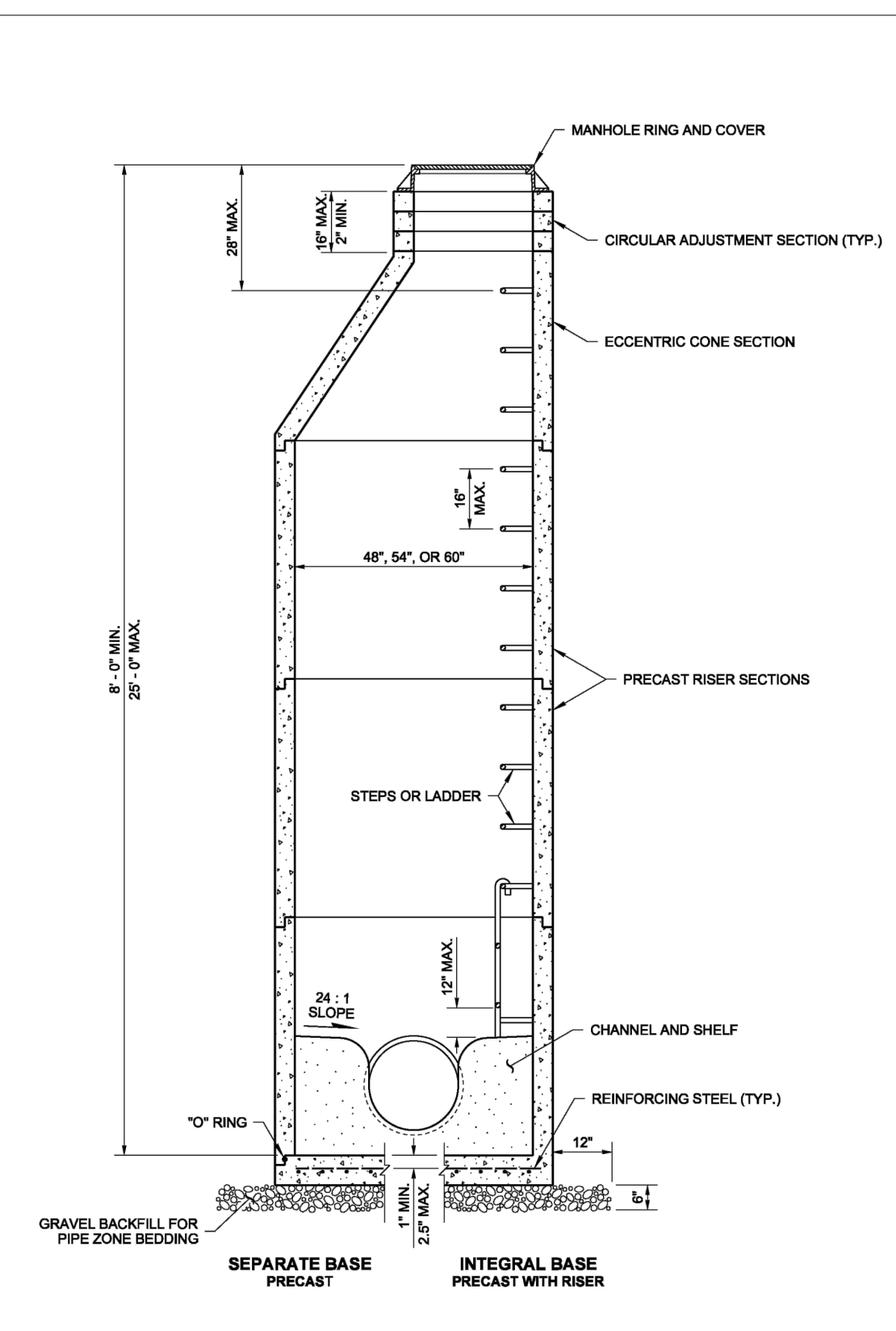
- NOTES**
- Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.
 - For pipe allowances, see Standard Plan B-10.20.

MANHOLE DIMENSION TABLE				
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"



MANHOLE TYPE 1
STANDARD PLAN B-15.20-01

SHEET 1 OF 1 SHEET
 APPROVED FOR PUBLICATION
Pasco Bakotch III 02-07-12
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

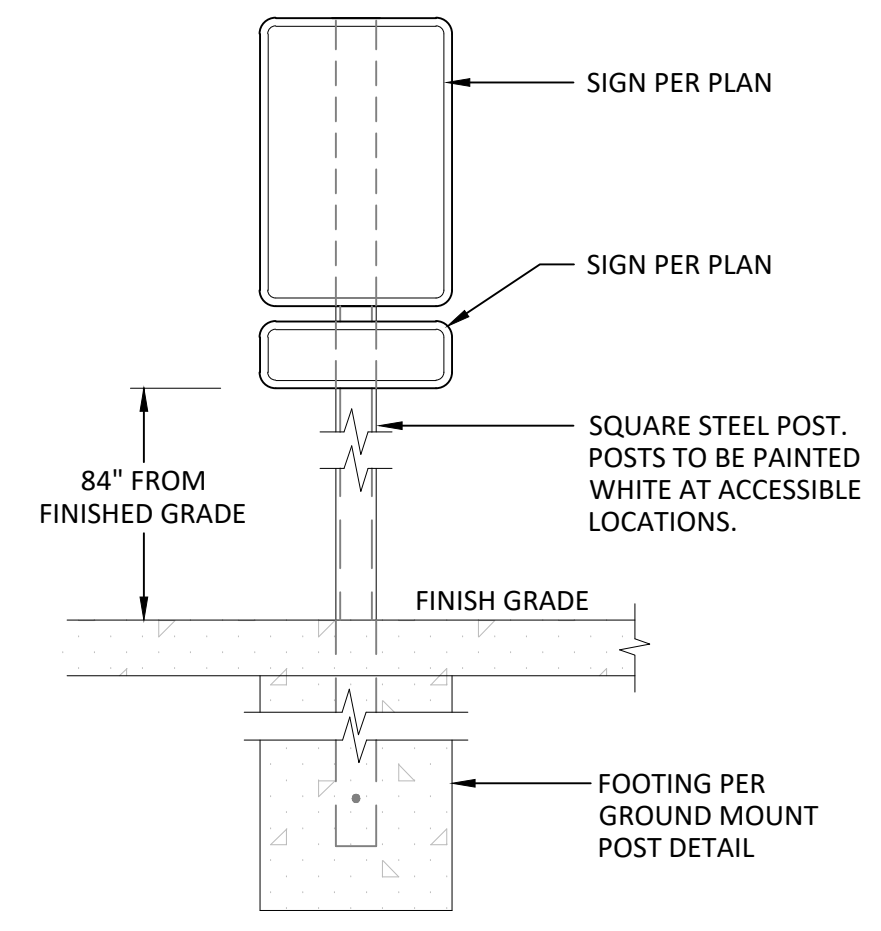


GROUND MOUNT POST DETAIL
 NTS

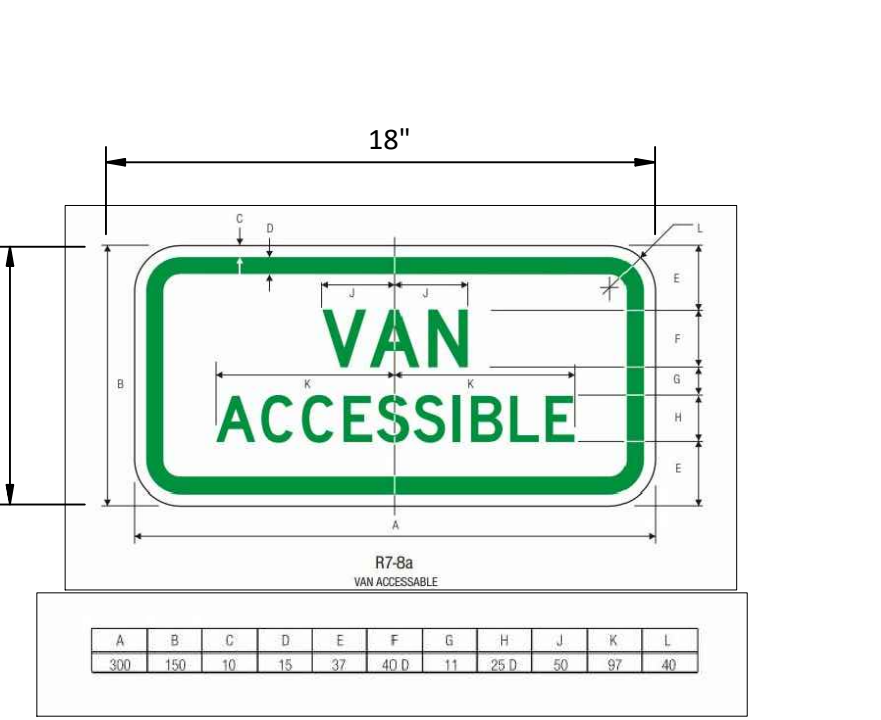


RESERVED PARKING SIGN DETAIL
 NTS

NOTES:
 SIGN BACKGROUND: WHITE, RETRO-REFLECTIVE SHEETING
 SIGN LEGEND: GREEN, RETRO-REFLECTIVE
 SYMBOL: WHITE ON BLUE BACKGROUND, RETRO-REFLECTIVE



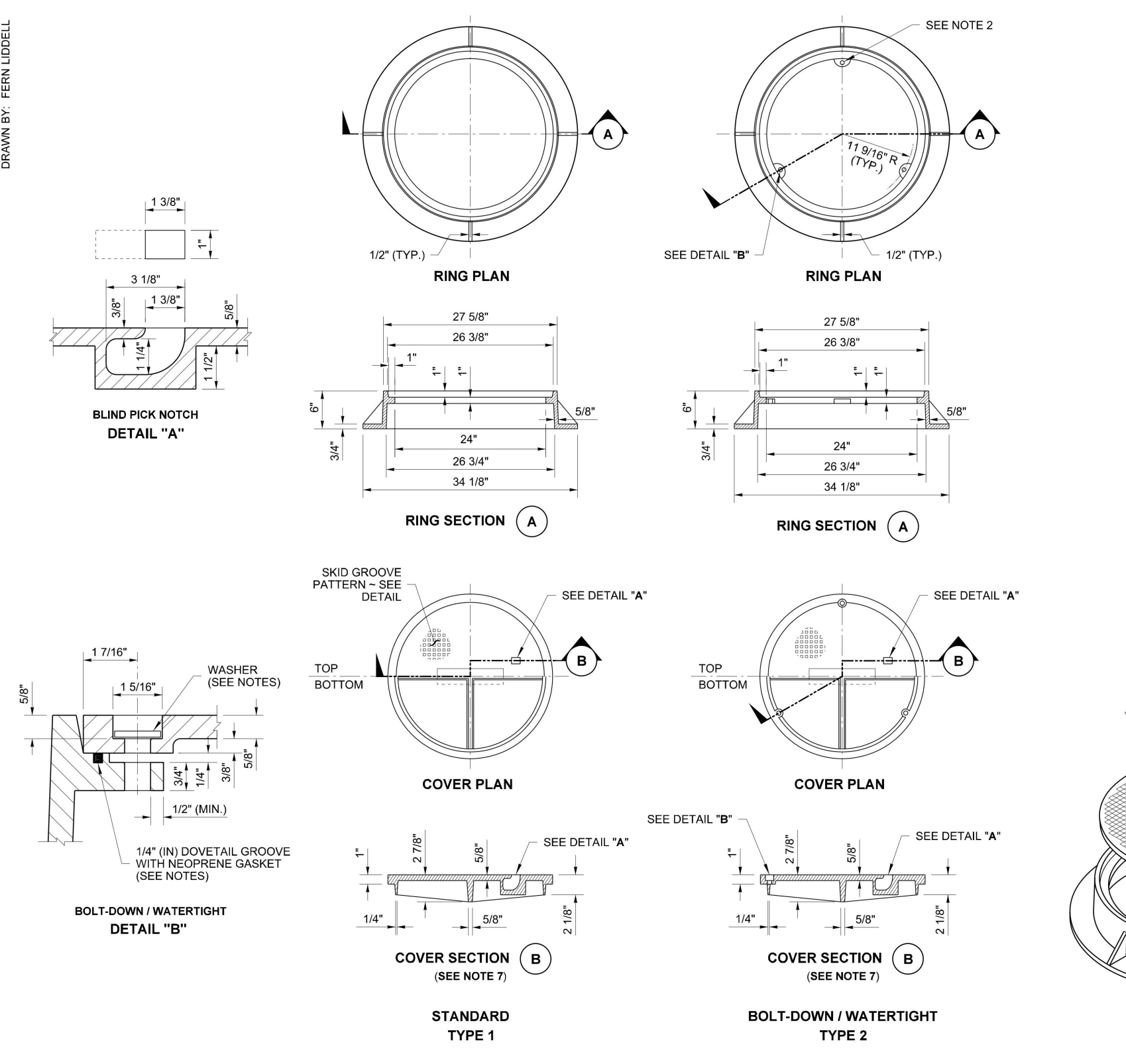
SIGN INSTALL DETAIL
 NTS



VAN ACCESSIBLE PARKING SIGN DETAIL
 NTS

NOTES:
 SIGN BACKGROUND: WHITE, RETRO-REFLECTIVE SHEETING
 SIGN LEGEND: GREEN, RETRO-REFLECTIVE

- NOTES**
- The gasket and groove may be in the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
 - Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" - 11 NC x 2" (m) allen head cap screw by being tapped, or other approved mechanism. Location of bolt down holes varies by manufacturer.
 - For bolt-down manhole ring and covers that are not designated "Watertight" the neoprene gasket, groove, and washer are not required.
 - Washer shall be neoprene (Detail "B").
 - In lieu of blind pick notch for manhole covers, a single 1" (m) pick hole is acceptable. Hole location and number of holes may vary by manufacturer.
 - Alternative reinforcing designs are acceptable in lieu of the rib design.
 - For clarity, the vertical scale of the Cover Section has been exaggerated, it is 1.5 times the horizontal scale (1H:1.5V).



CIRCULAR FRAME (RING) AND COVER
STANDARD PLAN B-30.70-04

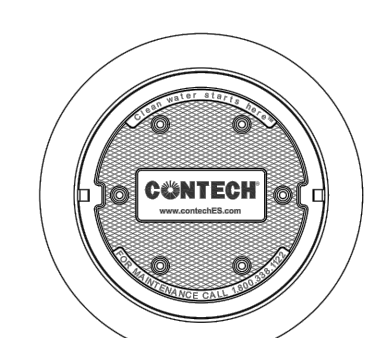
SHEET 1 OF 1 SHEET
 APPROVED FOR PUBLICATION
Julie Heilman
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. (24" INLET) MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS (28.3 L/s). IF THE SITE CONDITIONS EXCEED 1.0 CFS (28.3 L/s) AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION	27" (688 mm)	18" (458 mm)	LOW DISCP
CARTRIDGE HEIGHT	3.00' (930 mm)	2.3' (700 mm)	1.8' (550 mm)
RECOMMENDED HYDRAULIC DROP (h)	2.1' (630 mm)	1.67' (508 mm)	1.3' (396 mm)
SPECIFIC FLOW RATE (gpm)/(L/s)	22.1 (820)	15.7 (561)	10.0 (360)
CARTRIDGE FLOW RATE (gpm)/(L/s)	13.0 (473)	9.3 (333)	6.3 (227)
CARTRIDGE FLOW RATE (gpm)/(L/s)	1.67 (60)	1.67 (60)	1.67 (60)

* 1.67 gpm/(1.08 L/s) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHORUS (PSORB) MEDIA ONLY



SITE SPECIFIC DATA REQUIREMENTS

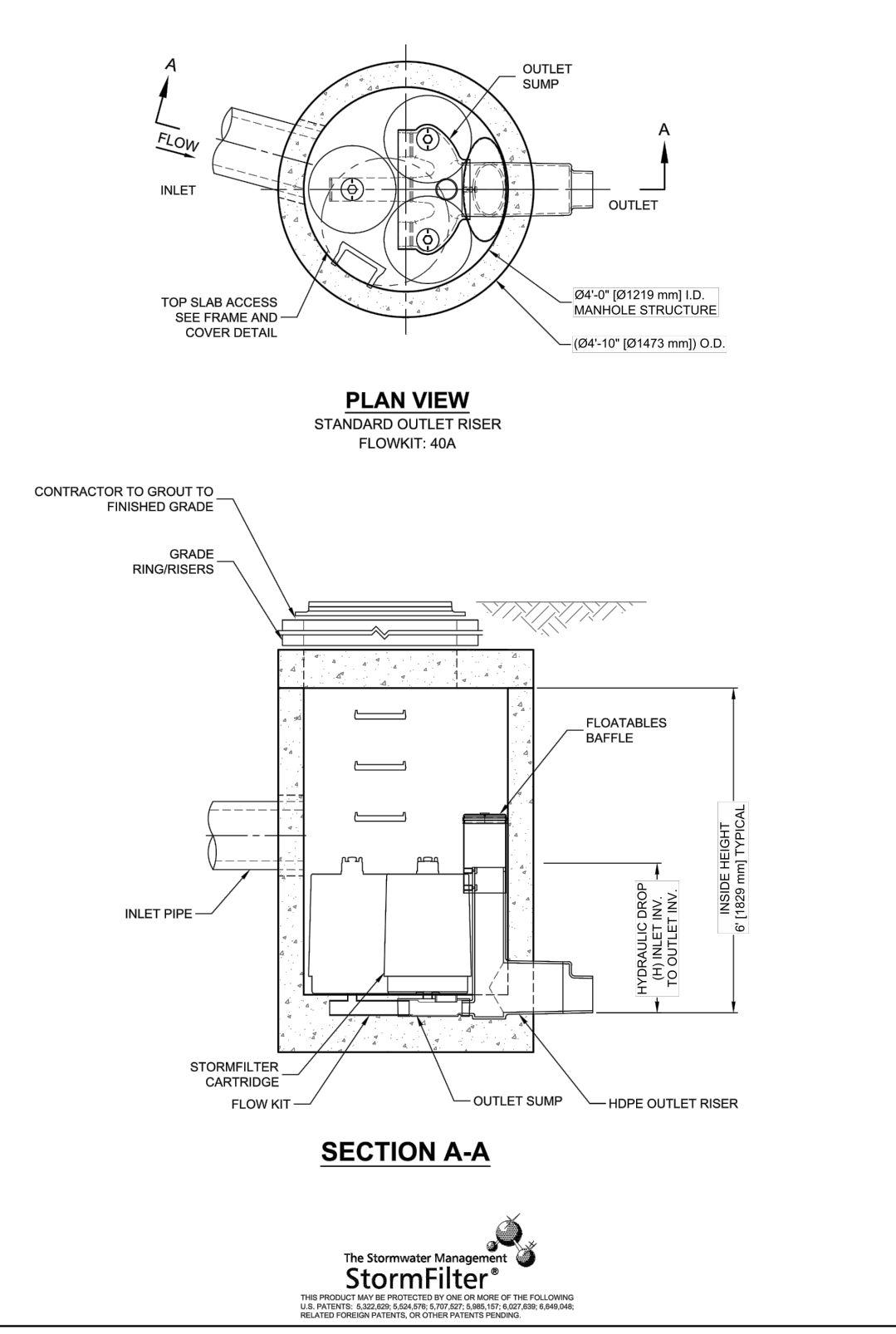
STRUCTURE ID	WATER QUALITY FLOW RATE (cfs) [L/s]	PEAK FLOW RATE (cfs) [L/s]	RETURN PERIOD OF PEAK FLOW (hrs)	CARTRIDGE HEIGHT (SEE TABLE ABOVE)	NUMBER OF CARTRIDGES REQUIRED	CARTRIDGE FLOW RATE	MEDIA TYPE (PERLITE, ZPS, PSORB)

PIPE DATA: I.E. MATERIAL DIAMETER
 INLET PIPE #1: 8.00 PVC 6"
 INLET PIPE #2: 8.00 PVC 6"
 OUTLET PIPE: 5.75 PVC 6"

ANTIFLOTATION BALLAST WIDTH HEIGHT

NOTES/SPECIAL REQUIREMENTS:

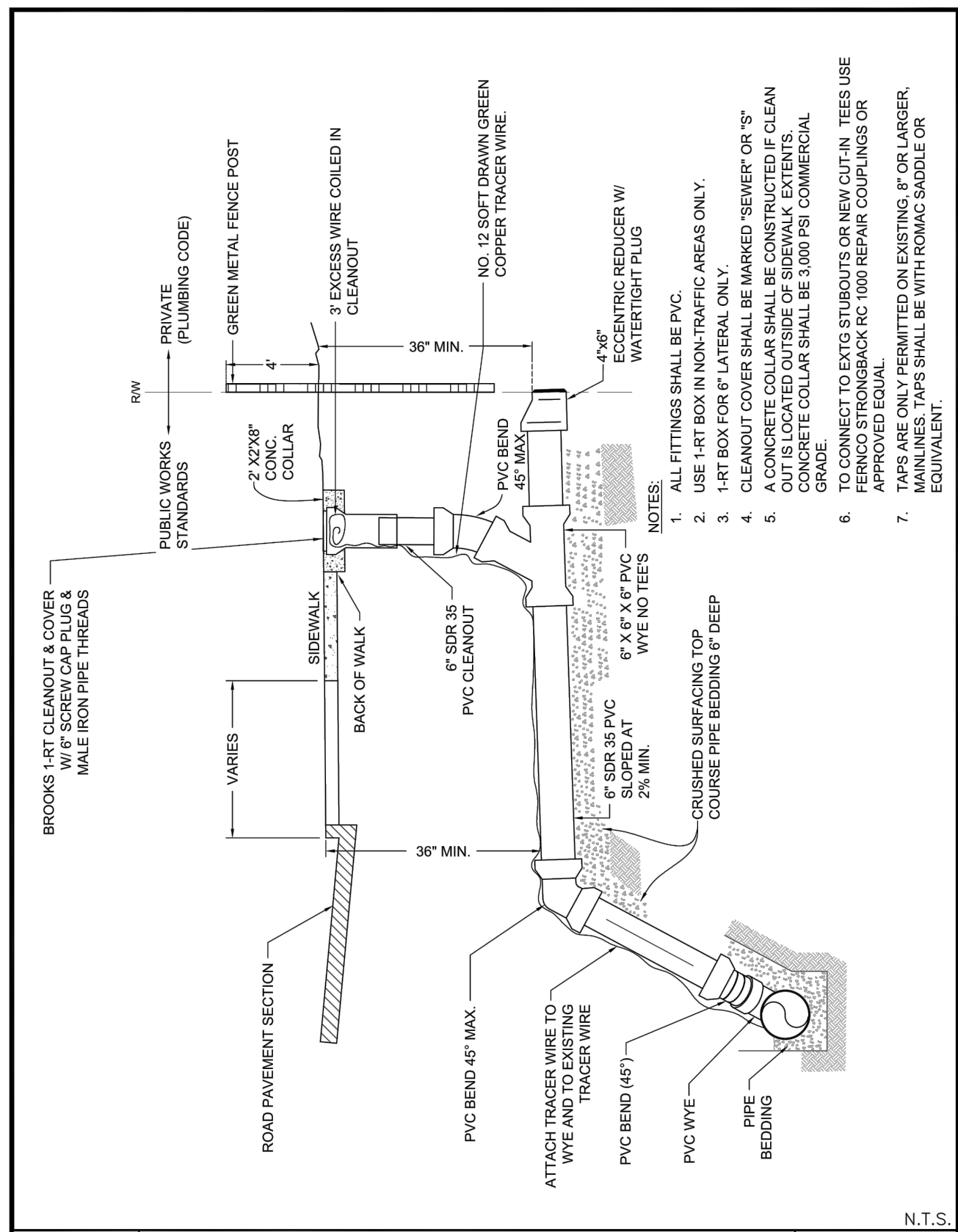
* PER ENGINEER OF RECORD



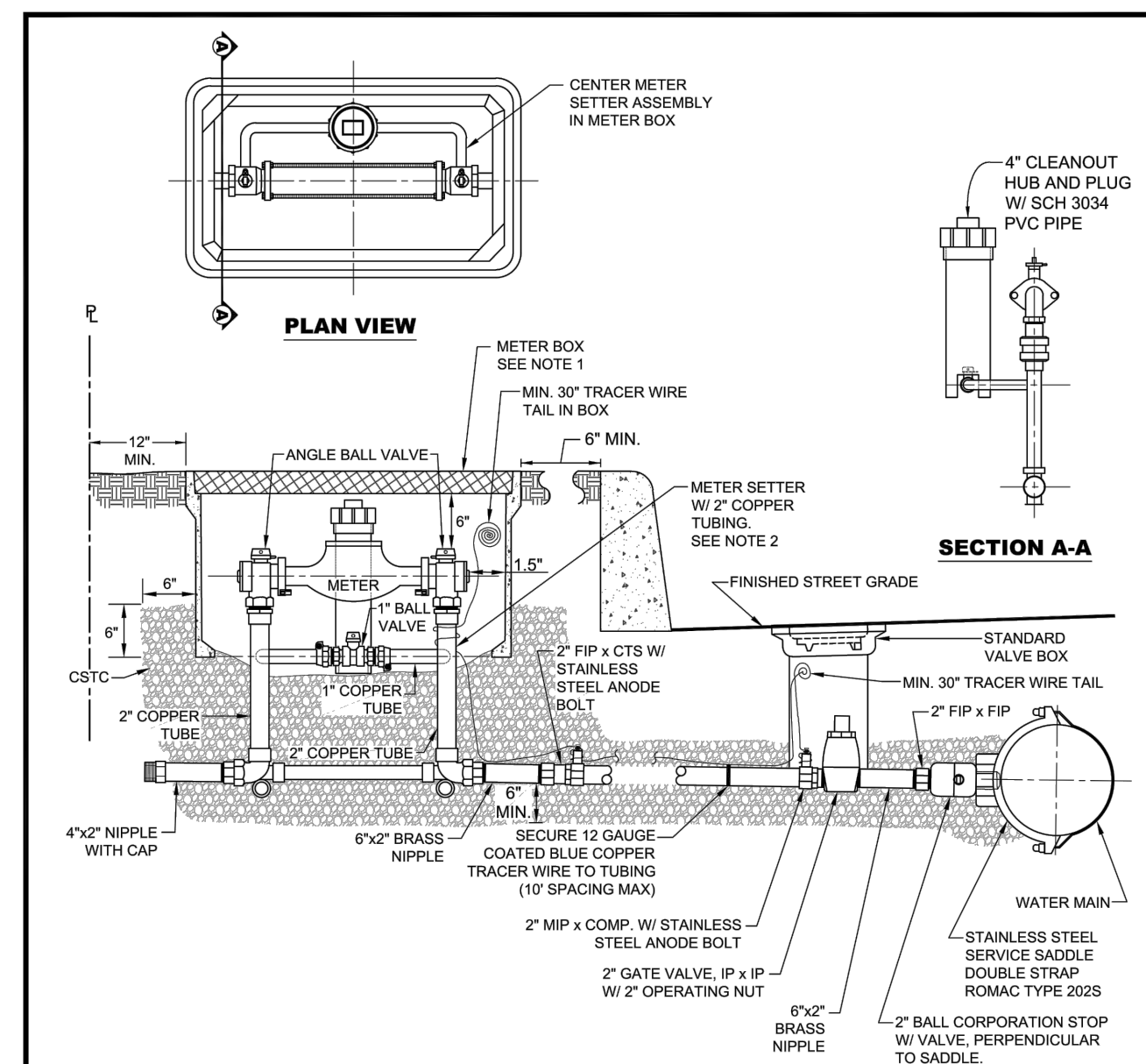
- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 - FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
 - STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - STRUCTURE SHALL MEET AASHTO H20-20 LOAD RATING, ASSUMING EARTH COVER OF 7' - 9" (1030 mm) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M250 AND BE CAST WITH THE CONTECH LOGO.
 - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES (178 mm). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
 - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm)/(L/s) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft/m²).
 - STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
- INSTALLATION NOTES**
- ANY SUBGRADE BACKFILL DEPTH AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO DETAIL AND SET THE STORMFILTER STRUCTURE.
 - CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPES.
 - CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HOPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES (200 mm), CONTRACTOR TO REMOVE THE 6 INCH (200 mm) OUTLET STUB AT MOULDED-IN CUT LINE. COLLARS BY FERRODO OR EQUAL AND PROVIDED BY CONTRACTOR.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

CONTECH ENGINEERED SOLUTIONS LLC
 8033 Centre Pointe Dr., Suite 400, West Chester, OH 45380
 800-338-1122 513-845-7000 513-845-7953 FAX

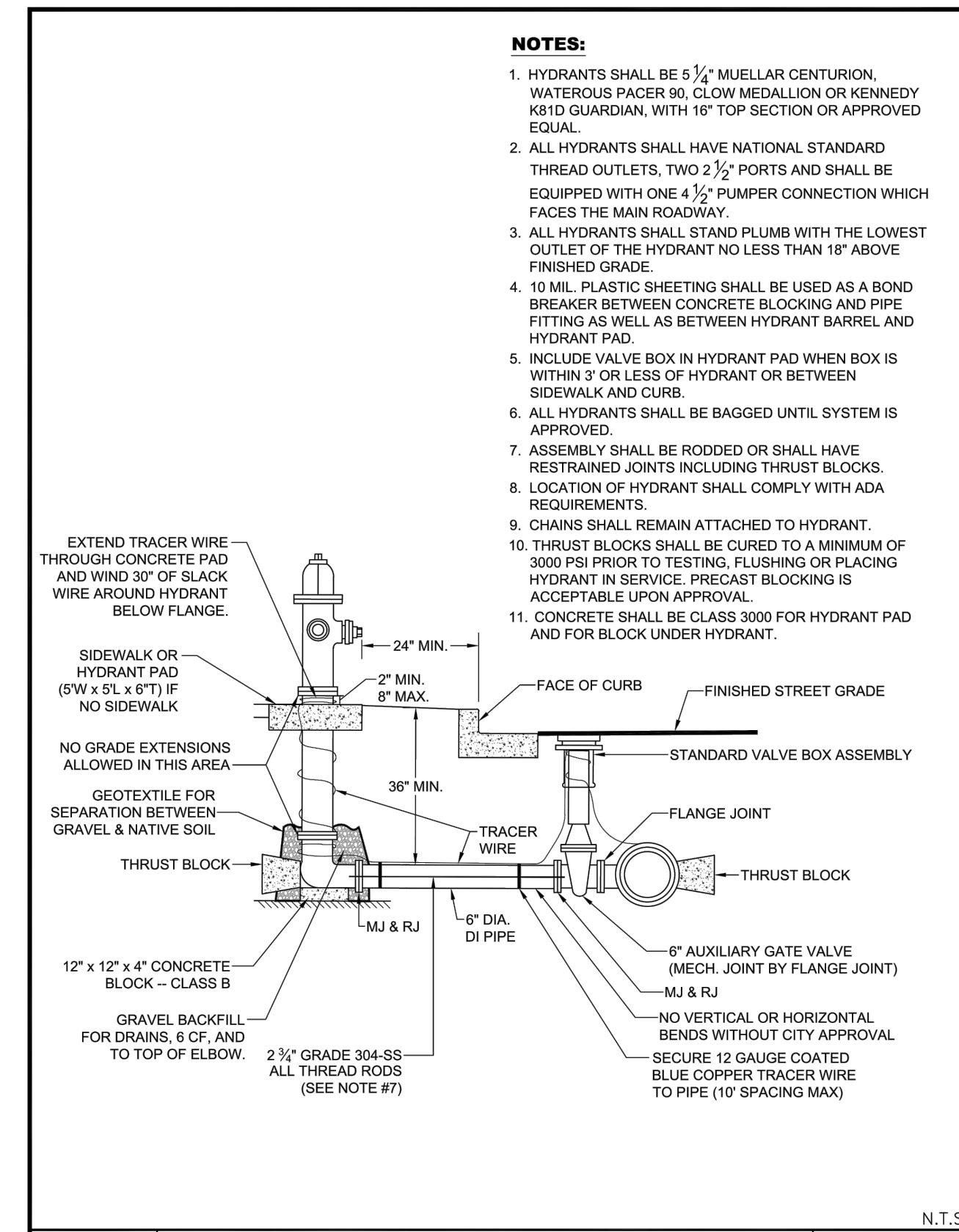
SFMH48
 STORMFILTER
 STANDARD DETAIL



6" SANITARY SIDE SEWER
 STANDARD PLAN NO. **KSS-020-21**
 CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING
 CITY ENGINEER APPROVAL: Michael Kardas, P.E.
 DATE: MAY 2021



1-1/2" AND 2" WATER SERVICE
 STANDARD PLAN NO. **KW-030-21**
 CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING
 CITY ENGINEER APPROVAL: Michael Kardas, P.E.
 DATE: MAY 2021



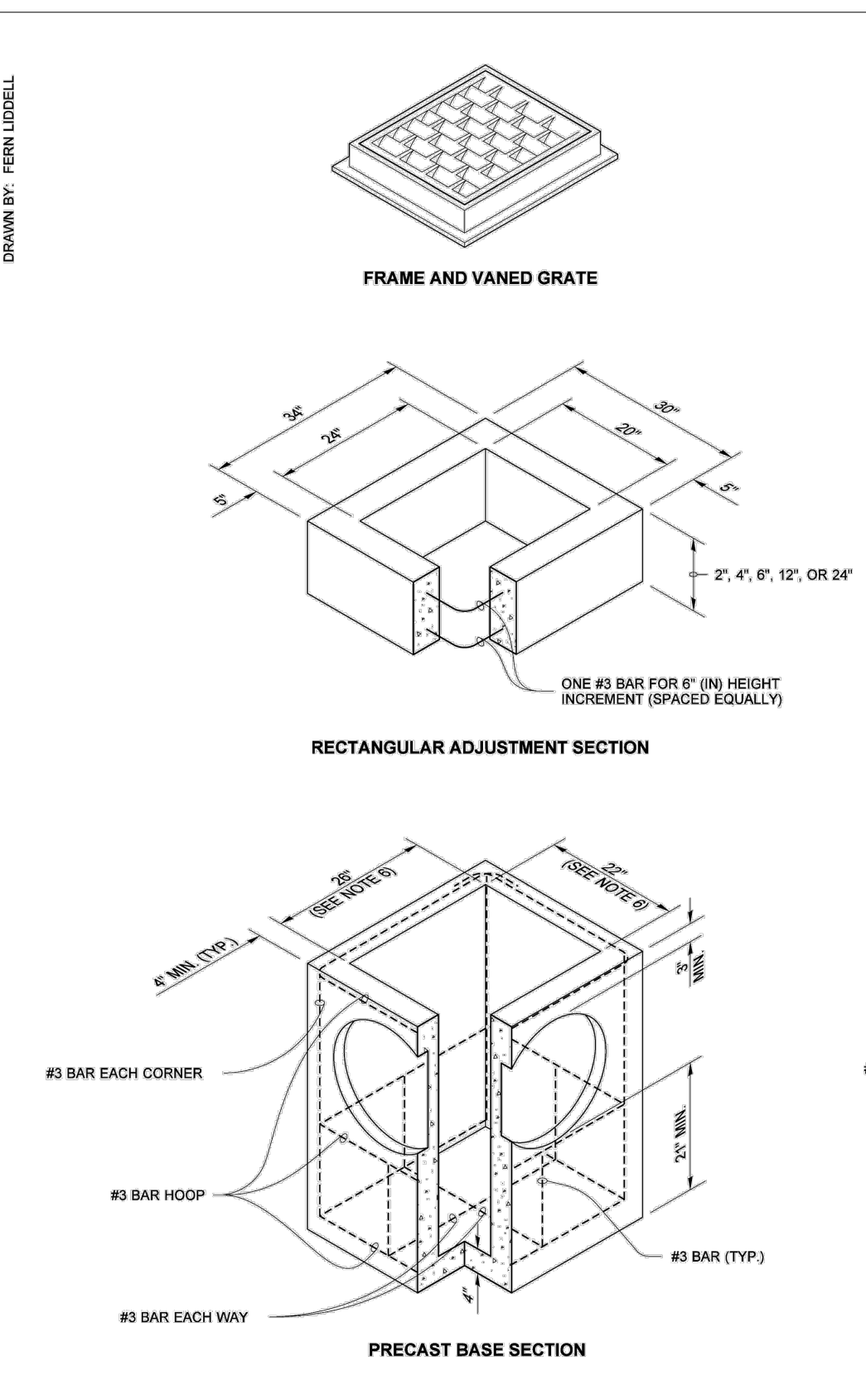
HYDRANT ASSEMBLY
 STANDARD PLAN NO. **KW-080-21**
 CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING
 CITY ENGINEER APPROVAL: Michael Kardas, P.E.
 DATE: MAY 2021

Harper Houf Peterson Righellis Inc.
 ENGINEERS • PLANNERS
 LANDSCAPE ARCHITECTS • SURVEYORS
 1220 Main Street, Suite 150, Vancouver, WA 98660
 phone: 360.750.1131 www.hhpr.com fax: 360.750.1141



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WILLOW GROVE
 1106 WALNUT STREET
 KELSO, WA 98626



PIPE ALLOWANCES

PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSPS * (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

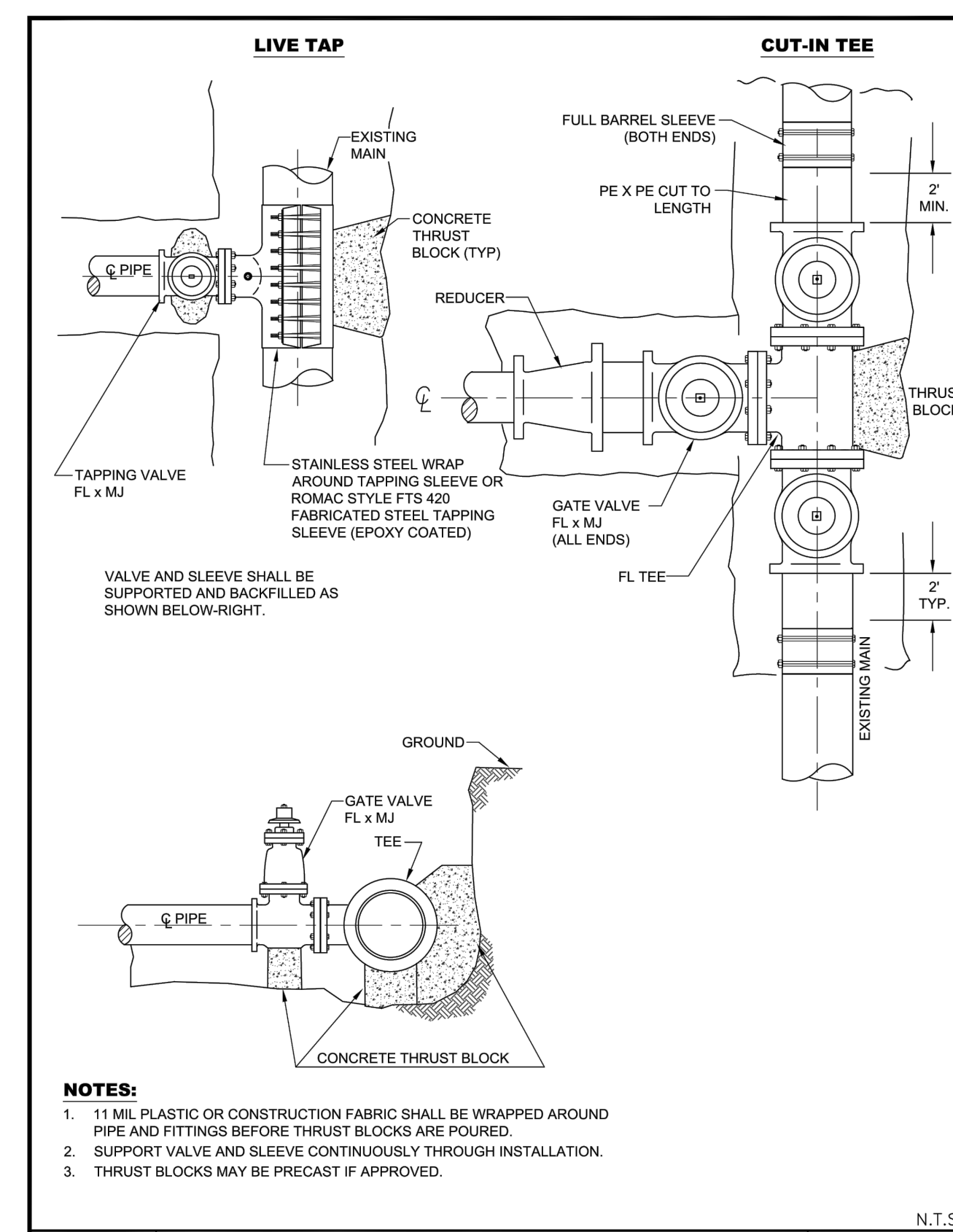
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

- As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.
- The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification Section 9-04.3.
- The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
- The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
- The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
- The opening shall be measured at the top of the Precast Base Section.
- All pickup holes shall be grouted full after the basin has been placed.

CATCH BASIN TYPE 1
 STANDARD PLAN B-5.20-03
 SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
 Digitally signed by Roark, Steve
 Date: 2022.09.09 09:43:23 -0700
 Washington State Department of Transportation



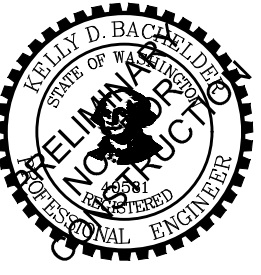
CONNECTION TO EXISTING WATER MAIN
 STANDARD PLAN NO. **KW-130-21**
 CITY OF KELSO DEPARTMENT OF COMMUNITY DEVELOPMENT & ENGINEERING
 CITY ENGINEER APPROVAL: Michael Kardas, P.E.
 DATE: MAY 2021

LAND USE PERMIT

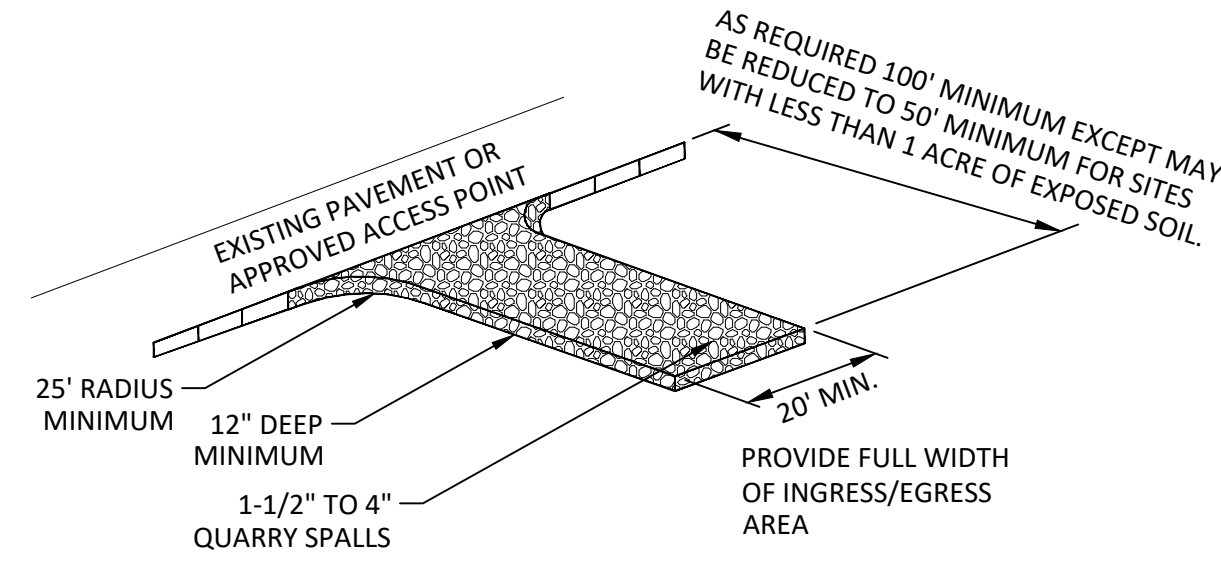
REV.	DATE	FILE

PM:
 JOB: 22012
 DATE: 12/01/2022

C6.2
 DETAILS



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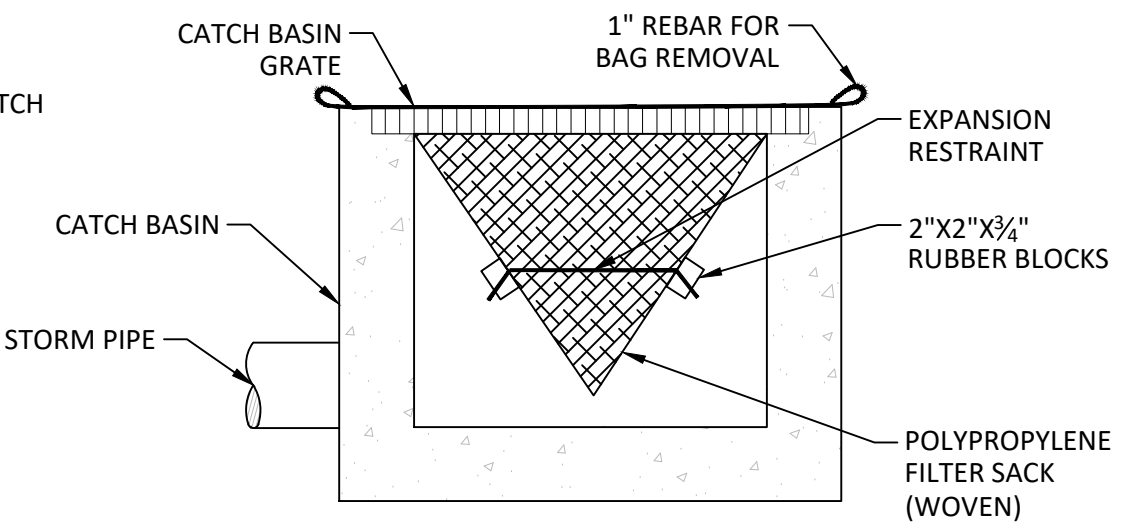
NOTES:

- IF THE ENTRANCE SITS ON A SLOPE, PLACE A FILTER FABRIC FENCE DOWN GRADIENT TO PREVENT SEDIMENT LADEN WATER FROM LEAVING THE SITE. WHEN THE CONSTRUCTION ENTRANCE BECOMES CLOGGED WITH SEDIMENTS, TOP DRESS THE PAD WITH CLEAN 3\"/>
- ANY SEDIMENT CARRIED FROM THE SITE ONTO THE STREET SHALL BE CLEANED UP IMMEDIATELY.
- IF EQUIPMENT TRAVELS EXTENSIVELY ON UNSTABILIZED ROADS ON THE SITE, A TIRE AND VEHICLE WHEEL WASH NEAR THE ENTRANCE WILL BE NEEDED. PERFORM WASHING ON CRUSHED ROCK. WASH WATER WILL REQUIRE TREATMENT IN A SEDIMENT POND OR TRAP.

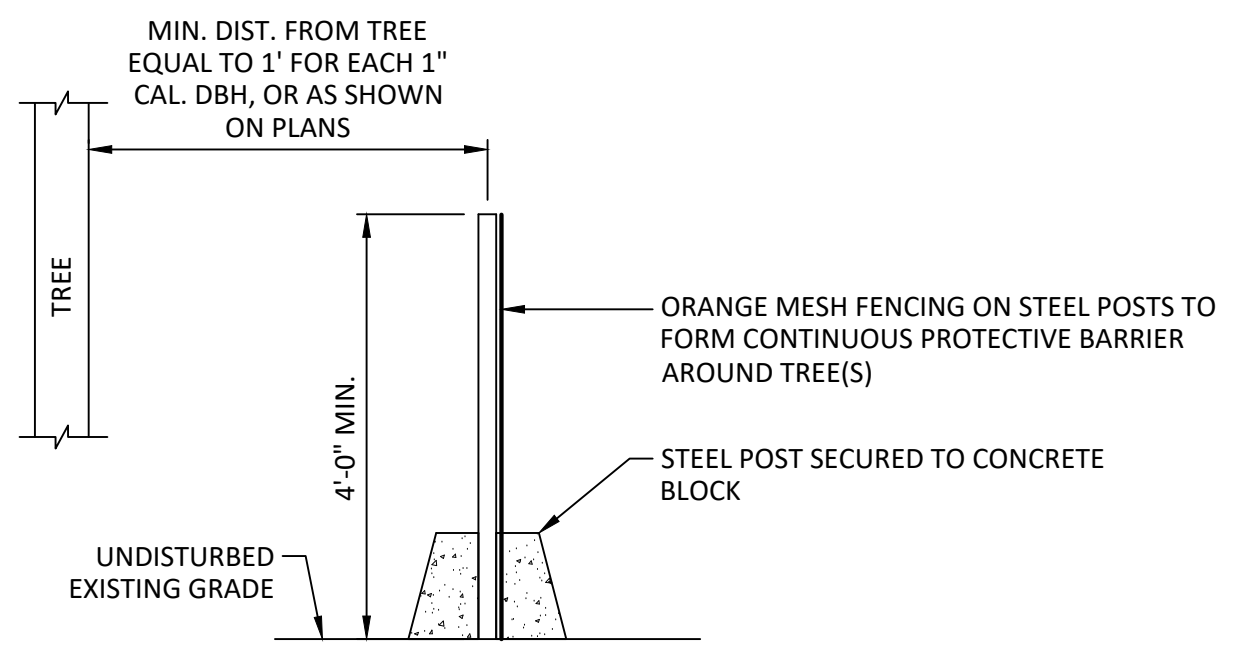
GRAVEL CONSTRUCTION ENTRANCE
 NTS

NOTE:

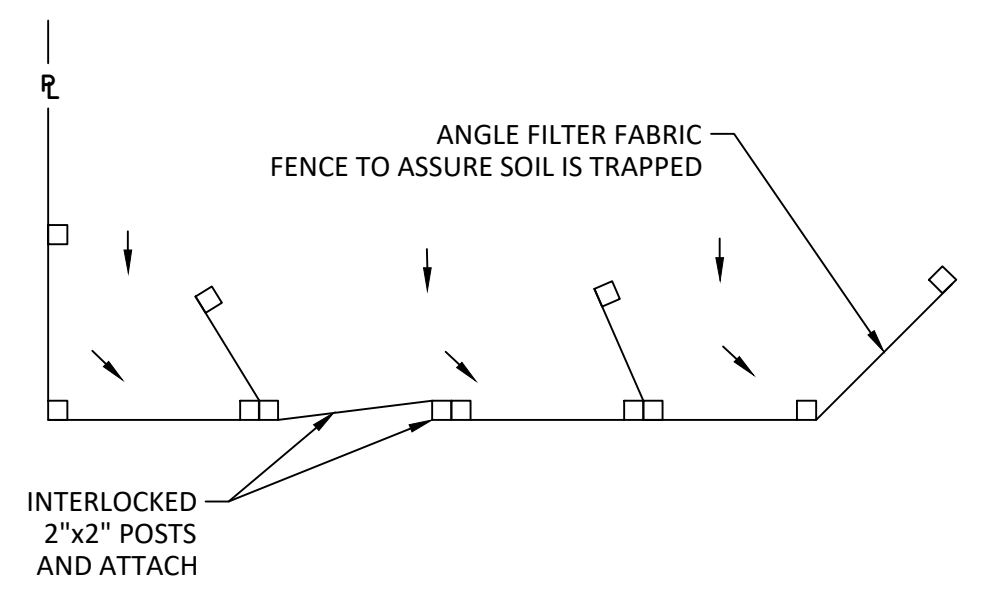
- RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.



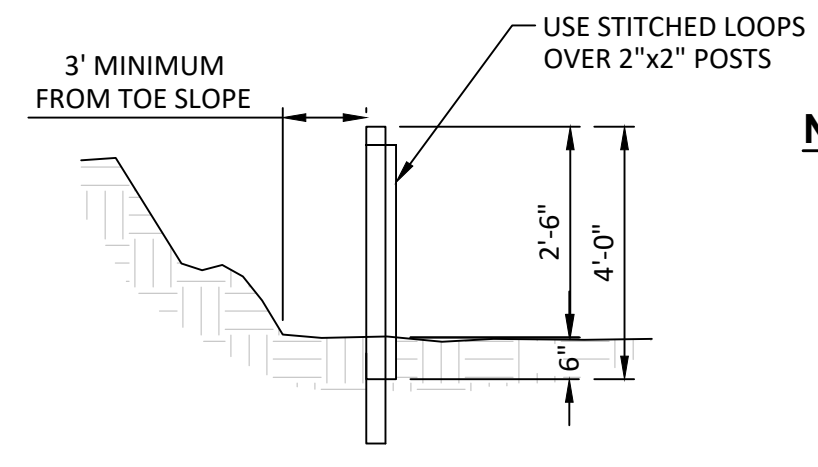
**INLET PROTECTION TYPE 5
 WOVEN POLYPROPYLENE SACK**
 NTS



TREE PROTECTION FENCING
 NTS



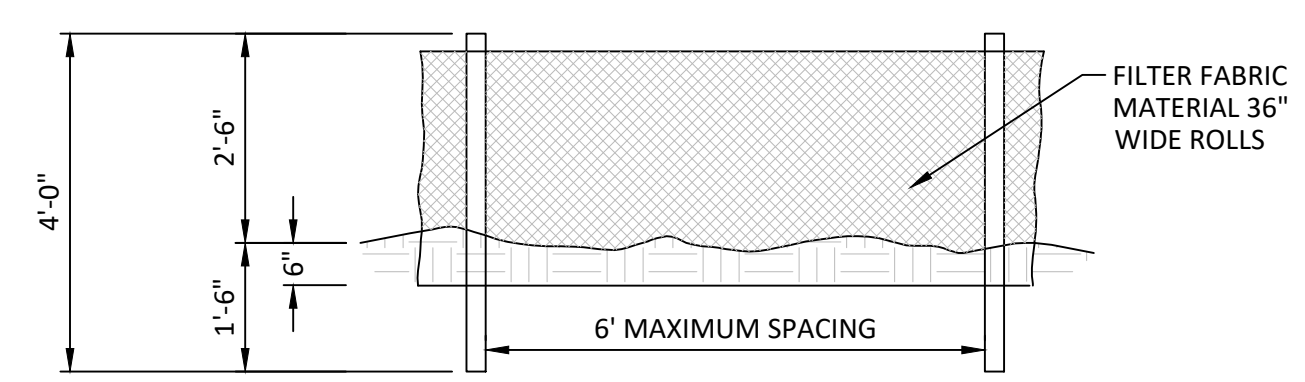
PLAN VIEW



NOTES:

- BURY BOTTOM OF FILTER FABRIC 6\"/>
- 2\"/>
- POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
- COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
- PANELS MUST BE PLACED ACCORDING TO SPACING ON DETAIL.

PROFILE



FRONT VIEW

SEDIMENT FENCE
 NTS

WILLOW GROVE
 1106 WALNUT STREET
 KELSO, WA 98626

LAND USE
 PERMIT

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PM:
 JOB: 22012
 DATE: 12/01/2022

C6.3
 DETAILS