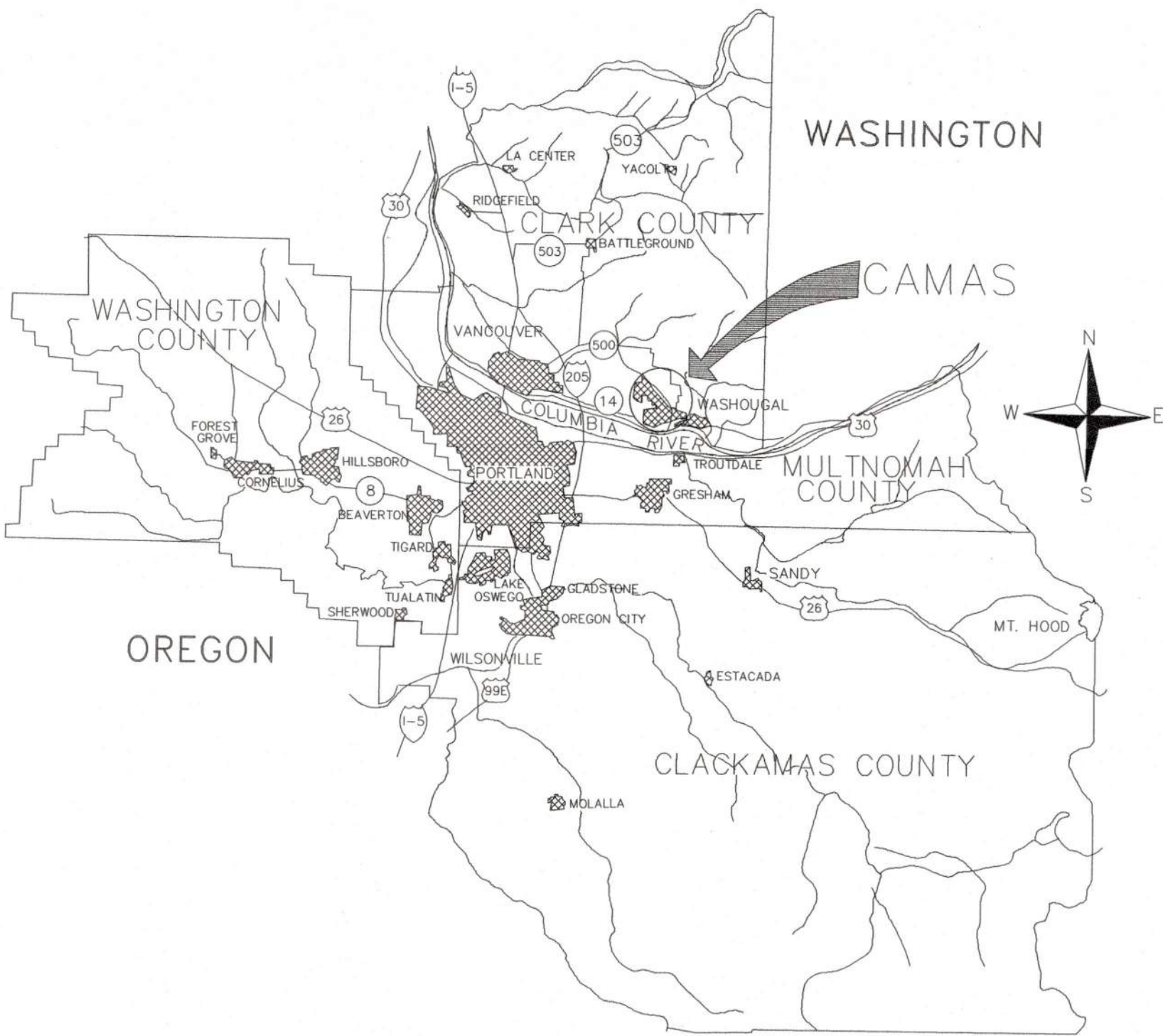


NE HATHAWAY RD WATERLINE REPLACEMENT

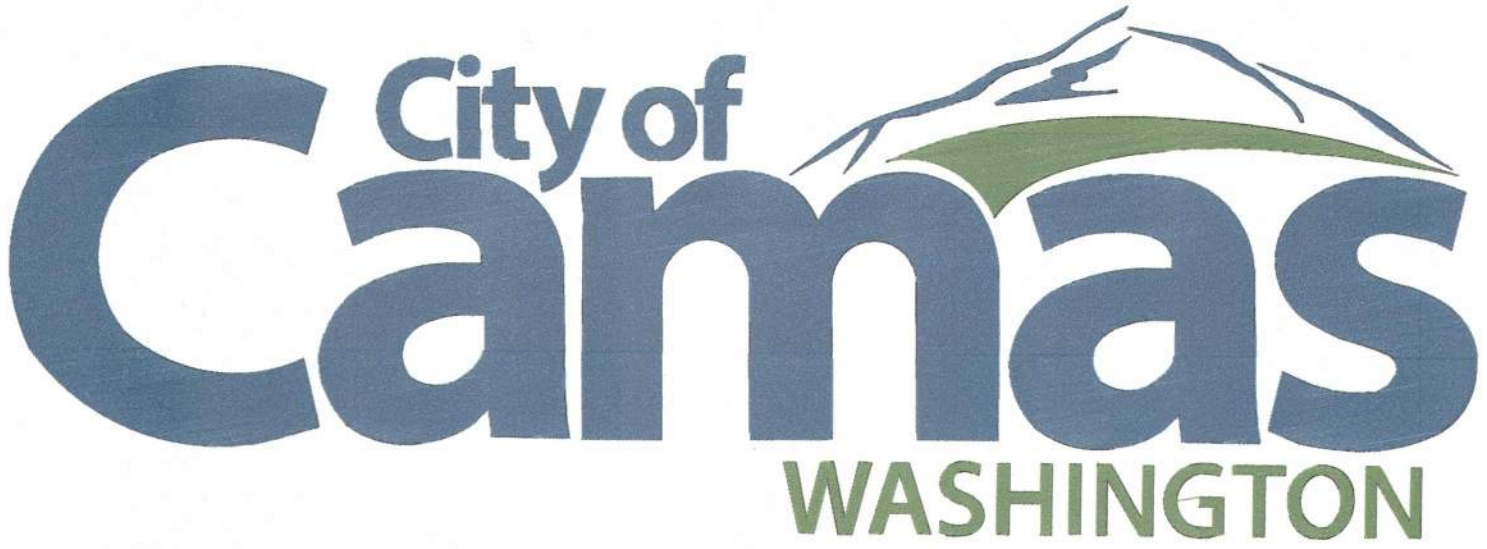
CITY OF CAMAS
PUBLIC WORKS DEPARTMENT
CITY PROJECT: WTR23012(W1042)



VICINITY MAP
NOT TO SCALE

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CITY OF CAMAS			
CITY ENGINEER		DATE	
[Signature]		11-20-25	
REVISION NO.	SHEETS AFFECTED	INITIAL APPROVAL	DATE



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DESIGN DATE:	11/19/2025
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SCALES:	
HORIZONTAL:	AS SHOWN
VERTICAL:	N/A
CONTACTS:	
DESIGNED BY:	WALAWADI
APPROVED BY:	J.HODGES
PROJ. ENGR:	WALAWADI



PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
COVER/VICINITY MAP

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1. MATERIALS AND WORKMANSHIP FOR CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE WSDOT/APWA "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION" AND CITY OF CAMAS STANDARD DETAILS ATTACHED HEREWITHIN.
2. EXISTING UTILITIES SHOWN ON THE PLANS ARE PER SURVEY UTILITY LOCATES AND/OR AS-BUILT DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES, INCLUDING THE INVERT AND TOP ELEVATIONS AT CROSSING LOCATIONS, PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL DIG TEST HOLES OVER ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 696-4848 FOR UTILITIES LOCATES A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE CITY OF CAMAS ENGINEERING DEPARTMENT PRIOR TO COMMENCING WITH ANY WORK.
4. THE LOCATIONS AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE COMPILED FROM AVAILABLE RECORDS. THE CITY DOES NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS. CONTRACTOR TO FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND COMPLETE LOCATION OF UTILITIES ON PRIVATE PROPERTY PER THE SPECIFICATIONS.
5. AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL CLEAN UP THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIALS.
6. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE EROSION/SEDIMENT CONTROL PLAN AND/OR CITY OF CAMAS EROSION/SEDIMENT CONTROL DETAILS PRIOR TO ANY CLEARING OR THE START OF ANY CONSTRUCTION AND SHALL COMPLY WITH CAMAS MUNICIPAL CODE 14.06.
7. THE LIMITS OF CLEARING SHALL BE FLAGGED PRIOR TO CLEARING AND GRUBBING OF THE SITE. NO DISTURBANCE SHALL OCCUR TO ANY EXISTING TREES OR VEGETATION OUTSIDE THE LIMITS OF CLEARING.
8. EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO CONSTRUCTION. NO ATTEMPT HAS BEEN MADE TO DELINEATE ALL REQUIRED MEASURES FOR THIS PROJECT. AT A MINIMUM, A FABRIC SEDIMENT BARRIER SHALL BE INSTALLED AROUND ANY MATERIAL STOCKPILES. INSTALL INLET PROTECTION ON ALL DOWN-SLOPE STORM INLETS.
9. CONTRACTOR SHALL TAKE CARE TO LIMIT DISTURBANCE TO LANDSCAPING AT ALL RESIDENCES IN AND AROUND THE CONSTRUCTION AREAS. CONTRACTOR SHALL COORDINATE WORK AREA LIMITS WITH PROPERTY OWNERS AND FLAG ALL TREES, PLANTS, AND OTHER BUSHES PROPOSED FOR TEMPORARY REMOVAL AND REPLACEMENT. VEGETATION WILL BE REMOVED ONLY AFTER CITY APPROVAL. ALL LANDSCAPING SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR SHALL SAW CUT AND REPLACE CONCRETE SIDEWALK AND CURBING DISTURBED BY CONSTRUCTION TO THE NEAREST JOINT.
10. CONTRACTOR IS TO MAINTAIN ACCESS TO ALL EXISTING RESIDENCES DURING CONSTRUCTION.
11. RELOCATE SIGNS AND MAILBOXES AS NECESSARY TO CONSTRUCT IMPROVEMENTS. COORDINATE RELOCATION WITH CITY INSPECTORS, HOMEOWNERS, AND U.S. POSTAL SERVICE (PHONE NUMBER 360-835-8581).
12. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OF CAMAS ENGINEERING DEPARTMENT. APPROVAL SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
13. THE CONTRACTOR WILL INSTALL AND MAINTAIN ALL TRAFFIC CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT IN ACCORDANCE WITH THE APPROVED TRAFFIC CONTROL PLAN. FUNDS MAY BE DEDUCTED FROM THE CONTRACTOR'S PAY FOR FAILURE TO IMPLEMENT AND MAINTAIN TRAFFIC CONTROL MEASURES. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
14. ALL EXISTING MONUMENTS, PROPERTY CORNERS AND SURVEY MARKERS SHALL BE PROTECTED. REPLACEMENT OF LOST, DESTROYED OR DAMAGED MARKERS SHALL BE DONE BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH R.C.W. 58.09 AT THE CONTRACTORS EXPENSE.
15. THE CONTRACTOR SHALL NOT EXCAVATE OVER FOUR FEET IN DEPTH WITHOUT USING ADEQUATE SAFETY MEASURES. THE CONTRACTOR IS REFERRED TO TITLE 296 W.A.C., PART N FOR EXCAVATION, TRENCHING AND SHORING REQUIREMENTS.
16. ALL UTILITY TRENCHES SHALL HAVE BEDDING, PRE-COVER AND BACKFILL MATERIAL AS REQUIRED IN TRENCH DETAILS G2 & G3. WATER SETTLEMENT OF UTILITY TRENCHES IS NOT ALLOWED. TRENCH LINES LOCATED WITHIN AN EXISTING ROADWAY SHALL BE PLATED OR TOPPED WITH COLD MIX. CRUSHED ROCK BACKFILL OVERNIGHT IS NOT ALLOWED. PLATES SHALL HAVE COLD MIX AROUND ALL EDGES.
17. IF THE CITY INSPECTOR OR ENGINEER HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, A "STOP WORK" ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY ENGINEERING STAFF.
18. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS WILL REQUIRE A SUBMITTAL FROM THE CONTRACTOR AND APPROVAL FROM THE CITY OF CAMAS ENGINEERING DEPARTMENT.

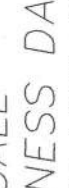
1. ALL TRENCH EXCAVATION AND PIPE INSTALLATION SHALL CONFORM TO THE MOST CURRENT A.W.W.A. STANDARDS, AND THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(1) AND SECTION 7-08.3(2). ALL EXCESS MATERIAL FROM THE TRENCH EXCAVATION SHALL BE LOADED DIRECTLY INTO A DUMP TRUCK AND DISPOSED OF AT AN APPROVED SITE.
2. PIPE BEDDING AND PRE-COVER (PIPE ZONE) MATERIAL SHALL BE 5/8 INCH MINUS CRUSHED ROCK.
3. TRENCH BACKFILL MATERIAL SHALL BE 1-1/4 INCH MINUS CRUSHED ROCK.
4. TRENCH COMPACTION SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS SECTION 7-08.3(3). CONTRACTOR TO DETERMINE THE TYPE OF EQUIPMENT AND METHOD USED TO ACHIEVE THE REQUIRED COMPACTION AND BE APPROVED BY THE CITY OF CAMAS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE A.A.S.H.T.O. T-180 TEST METHOD.
5. SETTLEMENT OF THE FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY.
6. ALL VALVES 10 INCHES OR LESS IN DIAMETER SHALL BE A.W.W.A. APPROVED RESILIENT WEDGE GATE VALVES, BUBBLE TIGHT AT 200PSI, HAVE NO RISING STEMS, AND OPEN BY TURNING TO THE LEFT. PROVIDE A 2 INCH SQUARE NUT TO CONFORM TO A.W.W.A. C-504. ALL VALVES 12 INCHES OR LARGER IN DIAMETER SHALL BE A.W.W.A. APPROVED BUTTERFLY VALVES.
7. ALL WATER PIPE 12 INCHES OR LESS IN DIAMETER SHALL BE DUCTILE IRON CLASS 52 PIPE. ALL WATER PIPE 14 INCHES IN DIAMETER AND LARGER SHALL BE DUCTILE IRON CLASS 51 PIPE. RUBBER GASKET TYPE SHALL BE U.S. PIPE, TYTON OR APPROVED EQUAL. ALL FITTINGS SHALL BE DUCTILE IRON AND SHALL CONFORM TO THE A.W.W.A. STANDARD C-110.
8. USE 100% RESTRAINED PIPE, VALVES AND FITTINGS BY ONE OF THE FOLLOWING METHODS: BOLTED FLANGES, MEGA-LUG OR EQUAL MECHANICAL JOINT RESTRAINT, FIELD-LOK GASKET OR EQUAL. CONCRETE THRUST BLOCKS WILL NOT BE ALLOWED.
9. ALL WATER MAINS SHALL BE TESTED AT 200PSI IN ACCORDANCE WITH SECTION 7-09.3(23) OF THE STANDARD SPECIFICATIONS. THE CITY SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ACCEPTANCE TESTING. MAXIMUM LENGTH OF PIPE TO BE TESTED AT ONE TIME IS 1000 FT.
10. CHLORINATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 7-09.3(24) OF THE STANDARD SPECIFICATIONS. CITY INSPECTOR WILL TAKE SAMPLES AND DELIVER TO LABORATORY FOR BACTERIA TESTING, NEGATIVE SAMPLE RESULTS SHALL BE CONFIRMED, PRIOR TO PRESSURE TESTING, DECHLORINATION OR DISPOSAL TO SANITARY MAIN MAY BE REQUIRED.
11. APPROPRIATE DISPOSAL AND/OR DECHLORINATION OF FLUSHED WATER DURING BLOWOFF IS THE RESPONSIBILITY OF THE CONTRACTOR. METHOD USED SHALL BE APPROVED BY CITY AND OTHER REGULATING AUTHORITIES.
12. WATER MAIN TO HAVE A MINIMUM COVER OF 36 INCHES UNLESS OTHERWISE NOTED. WATER SERVICES TO HAVE A MINIMUM 24 INCHES OF COVER.
13. ALL EXISTING VALVES TO BE OPERATED BY CITY OF CAMAS WATER/SEWER DEPARTMENT PERSONNEL ONLY.
14. NO CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE PRIOR TO SATISFACTORY PRESSURE TESTING, DISINFECTION, AND THE CONFIRMATION OF A NEGATIVE BACTERIA TEST.
15. ALL MODIFICATIONS, REPAIRS, AND ALTERATIONS TO PIPING ON THE CUSTOMER (RESIDENCE) SIDE OF THE WATER METER SHALL BE PERFORMED BY A LICENSED, BONDED, AND INSURED PLUMBER AS PER 18.27 RCW.

3. THE EROSION/SEDIMENT CONTROL PLAN (ESC PLAN) AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS TO BE UTILIZED AS A GUIDE TO CONTROL THE TRANSPORT OF LOOSE SOILS TO THE PROPERTY OUTSIDE OF THE CONSTRUCTION AREA AND AROUND THE CONSTRUCTION SITE. THE ESC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
2. THE IMPLEMENTATION OF THE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADE OF THE ESC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND PERMANENT VEGETATION/LANDSCAPING IS ESTABLISHED.
3. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, A "STOP WORK" ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY ENGINEERING STAFF.
4. THE CONTRACTORS SHALL BE RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE MOST RECENTLY ADOPTED EDITION OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOL. II AND THE CITY OF CAMAS MUNICIPAL CODE 14.06 (2011).
5. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO DISTURBING AND EXPOSING ANY SOIL SURFACES (I.E. CONSTRUCTION ENTRANCES, FILTER FABRIC SEDIMENT BARRIERS, AND SEDIMENTATION TRAPS) AND MAINTAINED FOR THE DURATION OF THE PROJECT. TRAPPED SEDIMENT IN EXCESS OF 1 FOOT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOIL AREAS RESULTING FROM VEGETATION REMOVAL SHALL BE PERMANENTLY STABILIZED. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
6. TO MINIMIZE EROSION AND SEDIMENTATION TRANSPORTATION, EARTHWORK SHALL NOT BE PERFORMED WHILE SOILS ARE IN AN UNSTABLE STATE DUE TO PRECIPITATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE CLEARING LIMITS AND/OR ANY EASEMENTS, SENSITIVE OR CRITICAL AREAS, AND THEIR BUFFERS, TREES, AND DRAINAGE COURSES FLAGGED PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. FLAGGING LIMITS ARE TO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
8. REMOVE ONLY THOSE TREES AND SHRUBS THAT NEED TO BE REMOVED FOR THE CONSTRUCTION OF ROADS, SIDEWALKS, UTILITIES, AND STORMWATER FACILITIES.
9. ALL EXISTING AND NEWLY CONSTRUCTED ROAD CATCH BASINS AND CURB INLETS AFFECTED BY CONSTRUCTION SHALL BE PROTECTED AGAINST SEDIMENT DEPOSITS. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
10. ALL POLLUTANTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER SYSTEM.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POLICING THE JOB SITE DAILY AND MAINTAINING THE EROSION/SEDIMENT CONTROL MEASURES THROUGHOUT ALL PHASES OF CONSTRUCTION. AN INSPECTION LOG SHALL BE KEPT AND MADE AVAILABLE TO THE CITY OF CAMAS. THE POLICING AND MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:
 - VERIFYING THAT ALL AREAS ARE GRADED SUCH THAT ALL RUNOFF IS DIRECTED TO A SEDIMENTATION DEVICE BEFORE DISCHARGE TO SURFACE.
 - REMOVAL OF TRAPPED SILT AT SILT BASTERS, SILT TRAPS, OR POINTS OF ACCUMULATION.
 - ADDITIONAL PROTECTIVE MEASURES DUE TO JOB SITE OR WEATHER CONDITIONS AS REQUIRED BY THE CITY OF CAMAS.
 - MONITORING OF VEHICLES LEAVING THE SITE TO MINIMIZE TRANSMISSION OF LOOSE SOILS TO THE PUBLIC ROADWAYS.
 - VERIFY THAT ALL PROPERTIES ADJACENT TO THE PROJECT SITE ARE PROTECTED FROM SEDIMENTATION DEPOSITION. THIS MAY BE ACCOMPLISHED BY INSTALLING PERIMETER CONTROLS SUCH AS SEDIMENTATION BARRIERS, FILTERS OR DIKES, SEDIMENTATION BASINS/TRAPS, OR BY A COMBINATION OF SUCH MEASURES.
12. THE ESC MEASURES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING ANY STORM EVENT.
13. ALL DISTURBED SOIL SURFACES ARE TO BE STABILIZED BY A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES" (BMP'S). DURING THE PERIOD OF OCTOBER 1 THROUGH JULY 5 DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO TWO DAYS WHEN NOT BEING WORKED. FROM JULY 5 THROUGH OCTOBER 1, DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO 7 DAYS WHEN NOT BEING WORKED. STABILIZATION OF DISTURBED SOIL AREAS MAY CONSIST OF HYDROSEEDING, HAND-SEEDING AND MULCHING, PLACEMENT OF EROSION CONTROL BLANKETS OR PLASTIC. ALL SEEDED AREAS ARE TO BE FERTILIZED, WATERED, AND MAINTAINED TO ENSURE THAT THE GROWTH OF VEGETATION OCCURS AS SOON AS POSSIBLE.
14. ALL TEMPORARY SEDIMENT AND EROSION CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED.
15. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES SHALL BE STABILIZED IN ACCORDANCE WITH EROSION/SEDIMENT CONTROL NOTE 11. SLOPES FOUND TO BE ERODING EXCESSIVELY WITHIN TWO YEARS OF CONSTRUCTION MUST BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION MEASURES. THESE MEASURES MAY CONSIST OF ROUGHENED SOIL SURFACES, INTERCEPTORS, DIVERSIONS OR TERRACES, TEMPORARY OR PERMANENT CHANNELS, ADDITIONAL VEGETATION, OR PIPE SLOPE DRAINS AS REQUIRED BY THE CITY OF CAMAS UNTIL THE PROBLEM IS CORRECTED.
16. THE ESC MEASURES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING ANY STORM EVENT.
17. TRENCH DE-WATER DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.
18. SUGGESTED TURF SEED MIXTURE FOR DRY SITUATIONS WHERE THERE IS NO NEED FOR MUCH WATER:

LOW-GROWING TURF SEED MIX*			
SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
DWARF TALL FESCUE (SEVERAL VARIETIES)		45	98 90
(FESTUCA ARUNDINACEA VAR.)			
DWARF PERENNIAL RYE	30	98	90
(LOLIUM PERENNE VAR. BARCLAY)			
RED FESCUE	20	98	90
(FESTUCA RUBRA)			
COLONIAL BENTGRASS	5	98	90
(AGROSTIS TENJIS)			
*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH			

AC	ASPHALT CONCRETE PAVEMENT
C/L	CENTERLINE
CB	CATCH BASIN
C.I.P.	CAST IRON PIPE
D.I.P.	DUCTILE IRON PIPE
EXTG	EXISTING
FLG	FLANGE
G.B.	GRADE BREAK
GV	GATE VALVE
MH	MANHOLE
MJ	MECHANICAL JOINT
PE	POLYETHYLENE
PROP	PROPOSED
RIM	RIM
SW	SIDEWALK
U.N.O.	UNLESS NOTED OTHERWISE
	PROPOSED WATER VALE
	PROPOSED FIRE HYDRANT
	AIR RELEASE VALVE

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DESIGNED BY:	WALJAWADI
APPROVED BY:	J. HODGES
PROJ. ENGR:	WALJAWADI



616 NE 4TH AVENUE
CAMAS, WA 98607
PH: (360) 834-3451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
NOTES / LEGEND



11/20/2025

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W1042

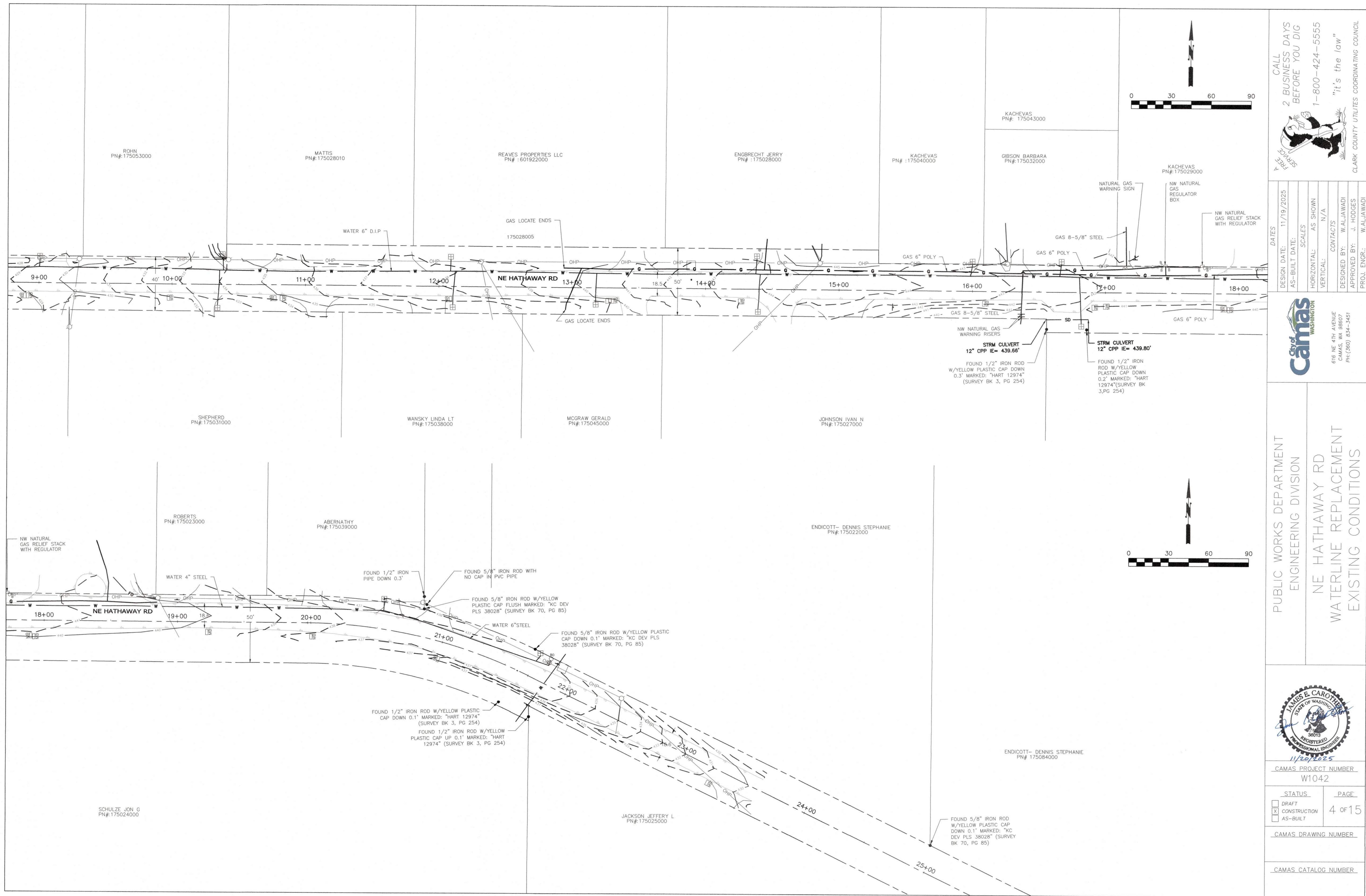
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APPROVED BY:	J. HODGES
PROJ. ENGR.:	WALAWADI

City of Camas
WASHINGTON

616 NE 4TH AVENUE
CAMAS, WA 98607
PH (509) 834-4451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

NE HATHAWAY RD
WATERLINE REPLACEMENT
EXISTING CONDITIONS

JAMES E. CAROTHER
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
36013
11/20/2025

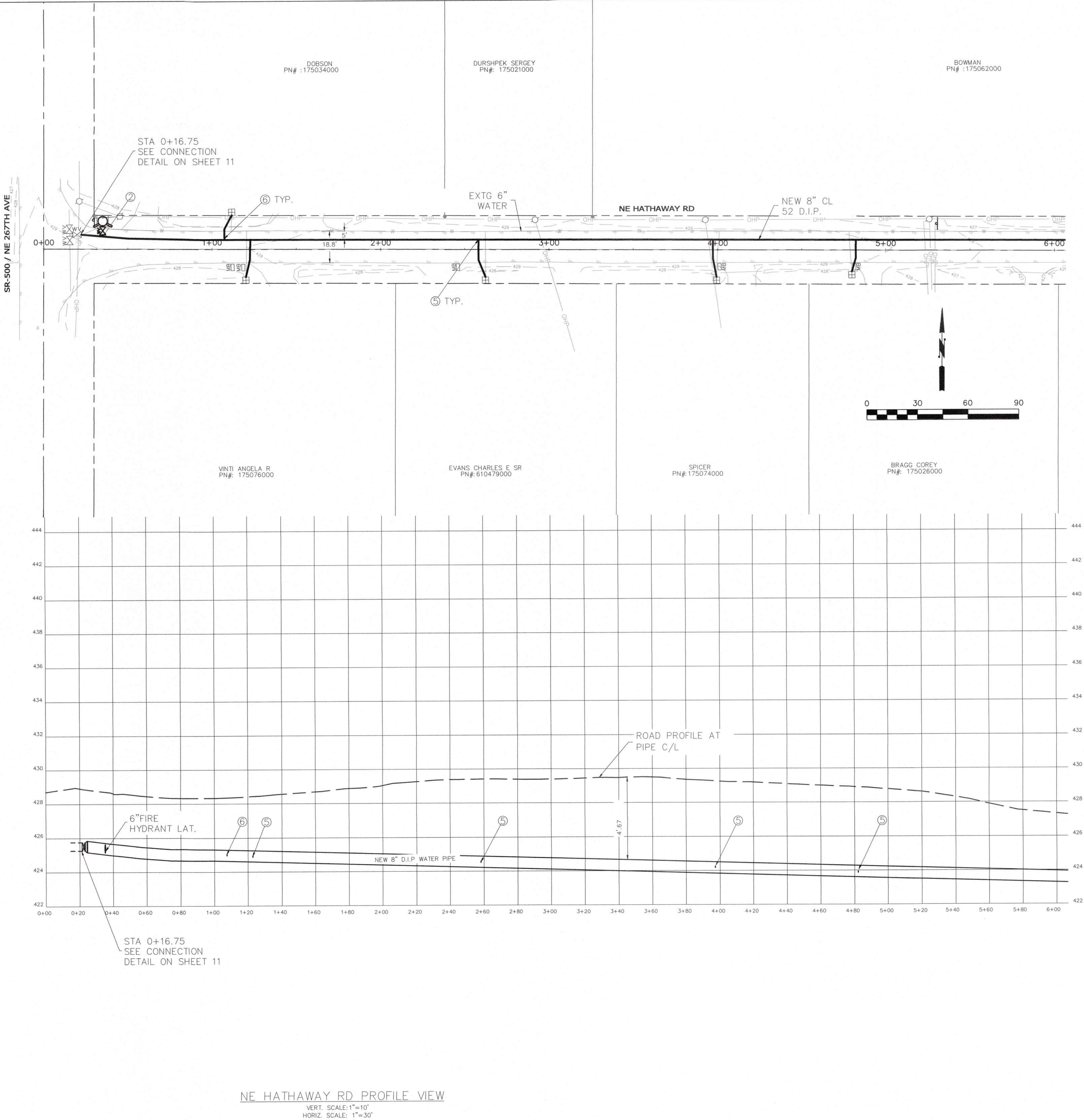
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CONSTRUCTION NOTES:

1. CONTRACTOR SHALL CALL FOR UTILITY LOCATES AS FIRST ORDER OF WORK. COORDINATE WITH UTILITY PROVIDERS WHEN RELOCATION OR FIELD OBSERVATION BY THE UTILITY PROVIDER IS REQUIRED.
2. POT HOLE OR EXCAVATE TO VERIFY DEPTHS AND LOCATIONS AT UTILITY SERVICES. UTILITY CROSSINGS AND POINTS OF CONNECTION IN ACCORDANCE WITH NOTES ON SHEET 2.
3. ADJUST ALL VALVE BOXES, MANHOLES, CLEAN OUTS AND ANY OTHER LIDS FLUSH WITH ASPHALT FINISH GRADE.
4. TRENCH COMPACTION, LINE PRESSURE, AND BACTERIOLOGICAL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH CITY STD DETAILS G4A AND G4B IN SHEET 14
5. PRESSURE TESTING AGAINST CLOSED VALVES THAT ARE IN SERVICE IS NOT ALLOWED.
6. LAY SHORT FROM CONNECTIONS TO EXISTING MAINS, DISINFECT, AND TEST AGAINST A CAPPED PIPE.
7. SHUTDOWN OF WATER SERVICE SHALL BE COORDINATED WITH THE CITY A MINIMUM OF 5 BUSINESS DAYS IN ADVANCE.
8. CONTRACTOR SHALL PRE-FABRICATE, EXCAVATE AND DISINFECT PRIOR TO WATER SYSTEM SHUTDOWN TO MINIMIZE SHUTDOWN DURATION, INTERRUPTION TO WATER SERVICE SHALL NOT EXCEED 4 CONSECUTIVE HOURS IN A SINGLE DAY.
9. DRAIN, DECHLORINATE, AND DISPOSE OF ALL WATER IN PIPES TO BE ABANDONED.
10. NEW WATER SERVICES SHALL BE INSTALLED PARALLEL TO EXISTING SERVICES. WATER SERVICE SHALL BE MAINTAINED DURING CONSTRUCTION OF NEW SERVICES AND INTERRUPTED ONLY WHILE CONNECTING THE EXISTING METER TO THE NEW SERVICE.
11. ALL PIPES AND FITTINGS SHALL BE MECHANICALLY RESTRAINED BY FL FITTINGS, MJ MEGA LUGS, OR FIELD-LOCK GASKET
12. MINIMUM WATER MAIN DEPTH OF COVER SHALL BE 3' OR DEEPER AS SHOWN ON THE PROFILE
13. MAINTAIN CONTINUE POSITIVE GRADE BETWEEN LOW POINT AND HIGH POINT AS SHOWN ON THE PLANS
14. LIMIT DEFLECTIONS OF PIPE TO MANUFACTURES STANDARD AND RECOMMENDATIONS
15. MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 18" FROM EXISTING UTILITIES

CONSTRUCTION NOTES

- ① ALL UTILITY CROSSINGS SHALL CONFORM WITH DETAIL G5 IN SHEET 14
- ② FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL W11, SHEET 15
- ③ FURNISH AND INSTALL AIR/VACUUM ASSEMBLY PER DETAIL W17A, SHEET 15
- ④ INSTALL LOCATE STATION PER DETAIL W26A, SHEET 15
- ⑤ INSTALL 1" LONG SIDE WATER SERVICE PER DETAIL IN SHEET 11
- ⑥ INSTALL 1" SHORT SIDE WATER SERVICE PER DETAIL IN SHEET 11
- ⑦ INSTALL MJ CAP SEE DETAIL IN SHEET 11
- ⑧ INSTALL 8"x6",TEE,(2)8" FLG X MJ GV, FIRE HYDRANT ASSEMBLY , SEE SHEET 11



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PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

NE HATHAWAY RD
WATERLINE REPLACEMENT
UTILITY PLAN AND PROFILE

JAMES E. CAROTHERS
STATE OF WASHINGTON
36013
REGISTERED
PROFESSIONAL ENGINEER
11/20/2025

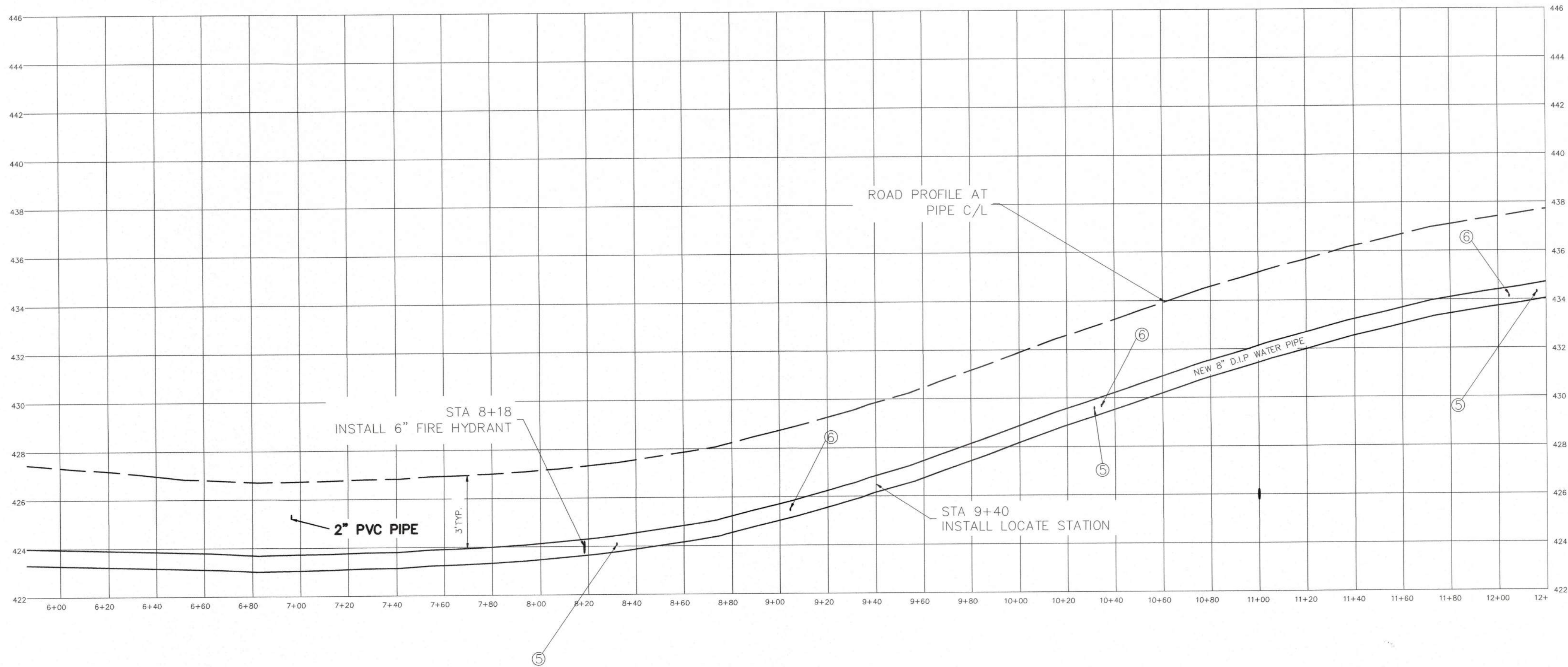
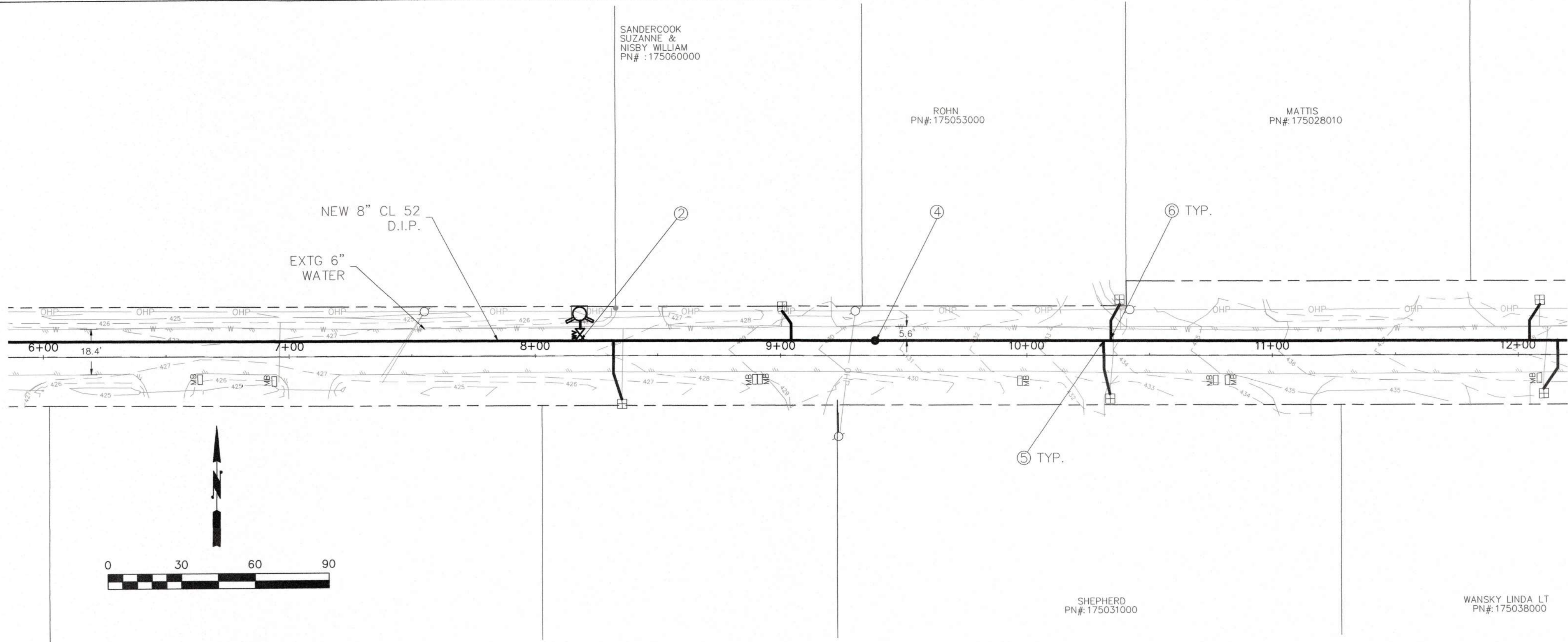
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CAMAS CATALOG NUMBER	

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL CALL FOR UTILITY LOCATES AS FIRST ORDER OF WORK. COORDINATE WITH UTILITY PROVIDERS WHEN RELOCATION OR FIELD OBSERVATION BY THE UTILITY PROVIDER IS REQUIRED.
2. POTHOLE OR EXCAVATE TO VERIFY DEPTHS AND LOCATIONS AT UTILITY SERVICES, UTILITY CROSSINGS AND POINTS OF CONNECTION IN ACCORDANCE WITH NOTES ON SHEET 2.
3. ADJUST ALL VALVE BOXES, MANHOLES, CLEAN OUTS AND ANY OTHER LIDS FLUSH WITH ASPHALT FINISH GRADE.
4. TRENCH COMPACTION, LINE PRESSURE, AND BACTERIOLOGICAL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH CITY STD DETAILS G4A AND G4B SEE SHEET 14
5. PRESSURE TESTING AGAINST CLOSED VALVES THAT ARE IN SERVICE IS NOT ALLOWED.
6. LAY SHORT FROM CONNECTIONS TO EXISTING MAINS, DISINFECT, AND TEST AGAINST A CAPPED PIPE.
7. SHUTDOWN OF WATER SERVICE SHALL BE COORDINATED WITH THE CITY A MINIMUM OF 5 BUSINESS DAYS IN ADVANCE.
8. CONTRACTOR SHALL PRE-FABRICATE, EXCAVATE AND DISINFECT PRIOR TO WATER SYSTEM SHUTDOWN TO MINIMIZE SHUTDOWN DURATION. INTERRUPTION TO WATER SERVICE SHALL NOT EXCEED 4 CONSECUTIVE HOURS IN A SINGLE DAY.
9. DRAIN, DECHLORINATE, AND DISPOSE OF ALL WATER IN PIPES TO BE ABANDONED.
10. NEW WATER SERVICES SHALL BE INSTALLED PARALLEL TO EXISTING SERVICES. WATER SERVICE SHALL BE MAINTAINED DURING CONSTRUCTION OF NEW SERVICES AND INTERRUPTED ONLY WHILE CONNECTING THE EXISTING METER TO THE NEW SERVICE.
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12. MINIMUM WATER MAIN DEPTH OF COVER SHALL BE 3' OR DEEPER AS SHOWN ON THE PROFILE
13. MAINTAIN CONTINUE POSITIVE GRADE BETWEEN LOW POINT AND HIGH POINT AS SHOWN ON THE PLANS
14. LIMIT DEFLECTIONS OF PIPE TO MANUFACTURES STANDARD AND RECOMMENDATIONS
15. MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 18" FROM EXISTING UTILITIES

CONSTRUCTION NOTES

- ① ALL UTILITY CROSSINGS SHALL CONFORM WITH DETAIL G5 IN SHEET 14
- ② FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL W11, SHEET 15
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- ⑤ INSTALL 1" LONG SIDE WATER SERVICE PER DETAIL IN SHEET 11
- ⑥ INSTALL 1" SHORT SIDE WATER SERVICE PER DETAIL IN SHEET 11
- ⑦ INSTALL MJ CAP SEE DETAIL IN SHEET 11
- ⑧ INSTALL 8"x6", (2)8" FLG X MJ GV, FIRE HYDRANT ASSEMBLY, SEE SHEET 11



VERT. SCALE: 1"=10'
HORIZ. SCALE: 1"=30'

NE HATHAWAY RD PROFILE VIEW

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CLARK COUNTY UTILITIES COORDINATING COUNCIL

DATES	DESIGN DATE: 11/19/2025
AS-BUILT DATE:	
SCALES	HORIZONTAL: AS SHOWN VERTICAL: N/A
CONTACTS	DESIGNED BY: WALAWADI APPROVED BY: J. HODGES
PROJ. ENGR.	WALAWADI

City of Camas
WASHINGTON

616 NE 4TH AVENUE
CAMAS, WA 98607
PH (360) 834-4451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

NE HATHAWAY RD
WATERLINE REPLACEMENT
UTILITY PLAN AND PROFILE

JAMES E. CAROTHERS
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
11/20/2025

CAMAS PROJECT NUMBER
W1042

STATUS	PAGE
☐ DRAFT ☒ CONSTRUCTION ☐ AS-BUILT	6 OF 15

CAMAS DRAWING NUMBER

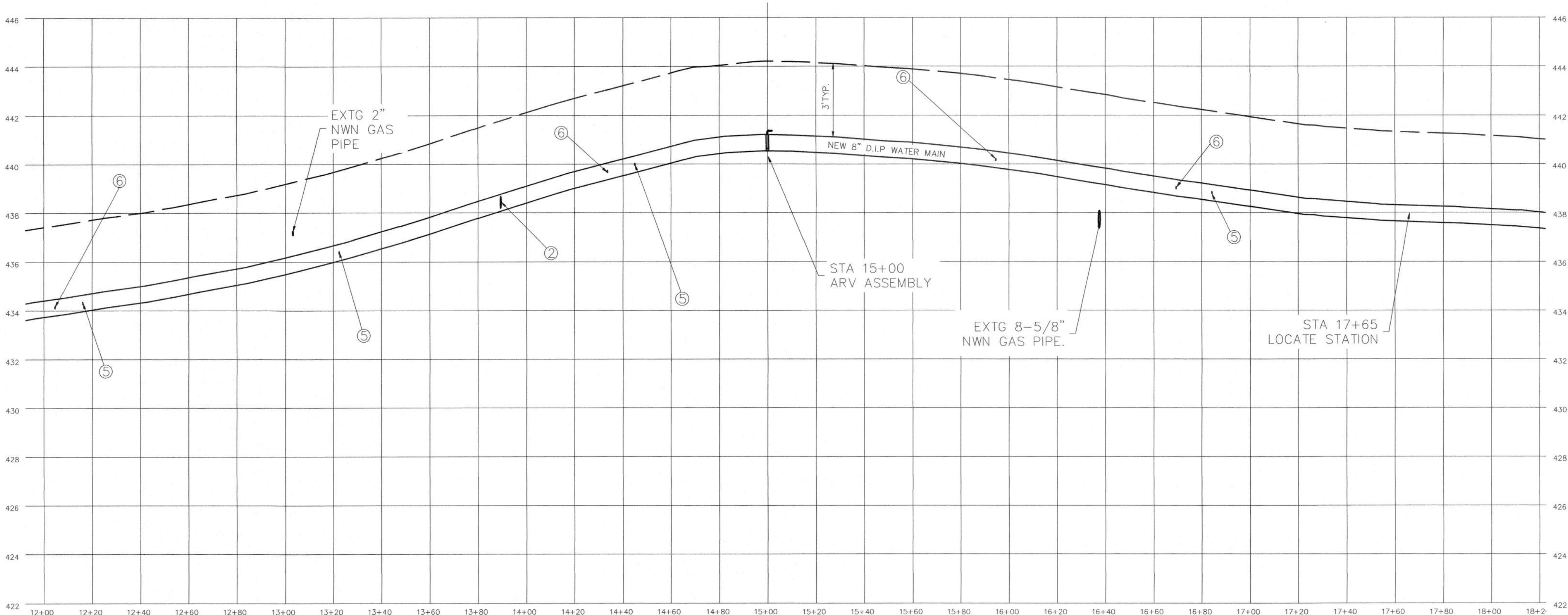
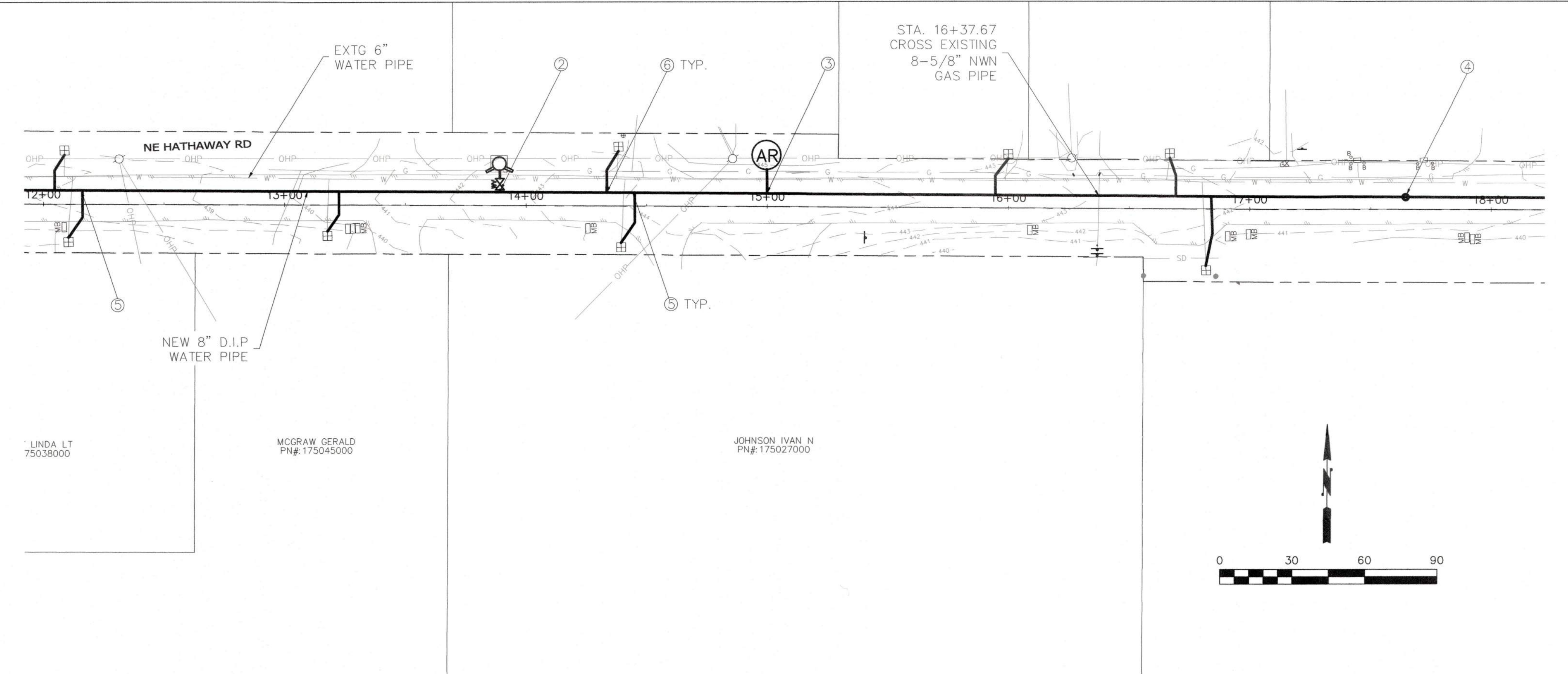
CAMAS CATALOG NUMBER

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NE HATHAWAY RD PROFILE VIEW

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DESIGNED BY:	WALJAWADI
APPROVED BY:	J. HODGES
PROJ. ENGR.:	WALJAWADI

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CAMAS, WA 98607
PH: (360) 834-3451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
UTILITY PLAN AND PROFILE

11/20/2025

CAMAS PROJECT NUMBER
W1042

STATUS	PAGE
☒ DRAFT ☒ CONSTRUCTION ☐ AS-BUILT	7 of 15

CAMAS DRAWING NUMBER

CAMAS CATALOG NUMBER

CONSTRUCTION NOTES:

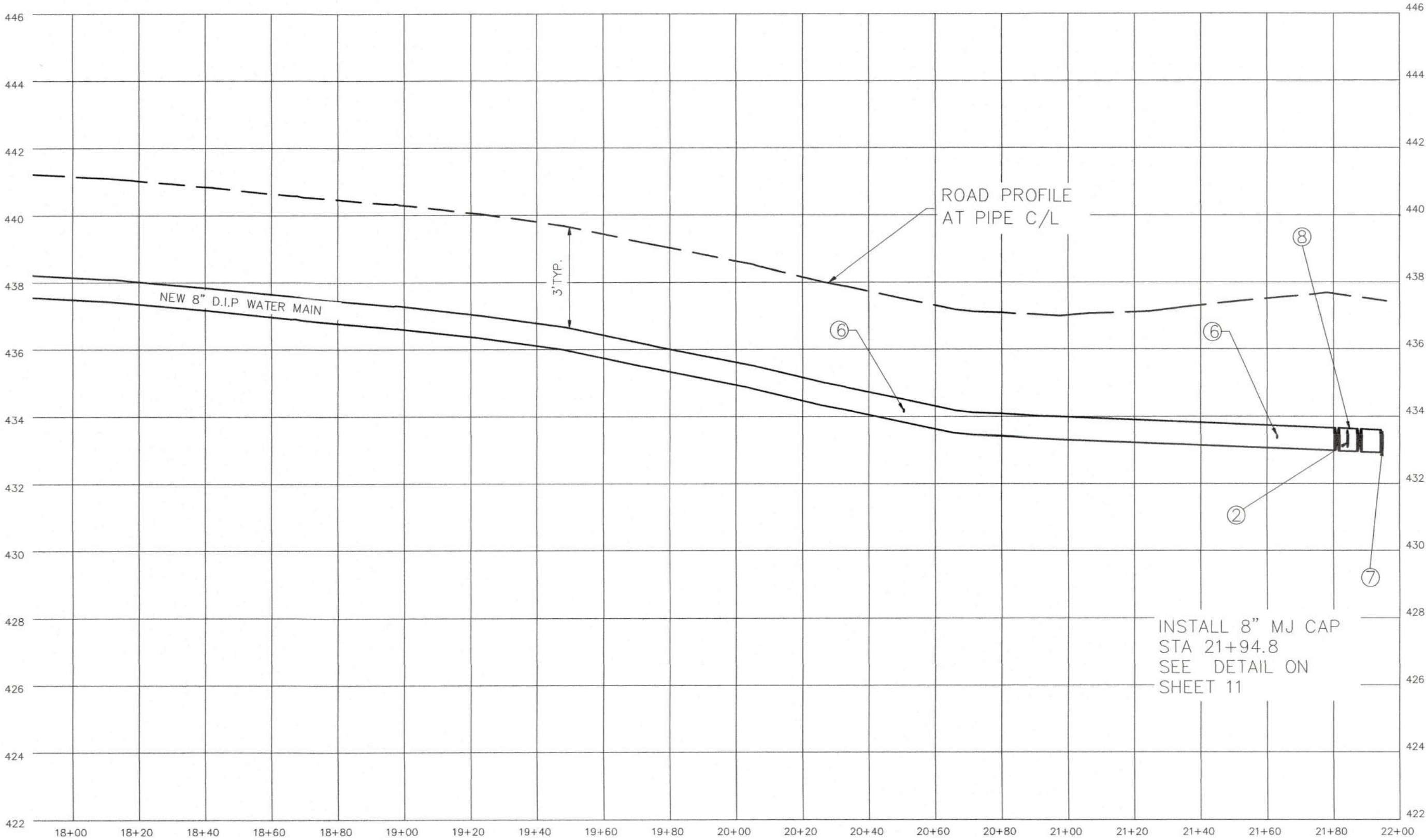
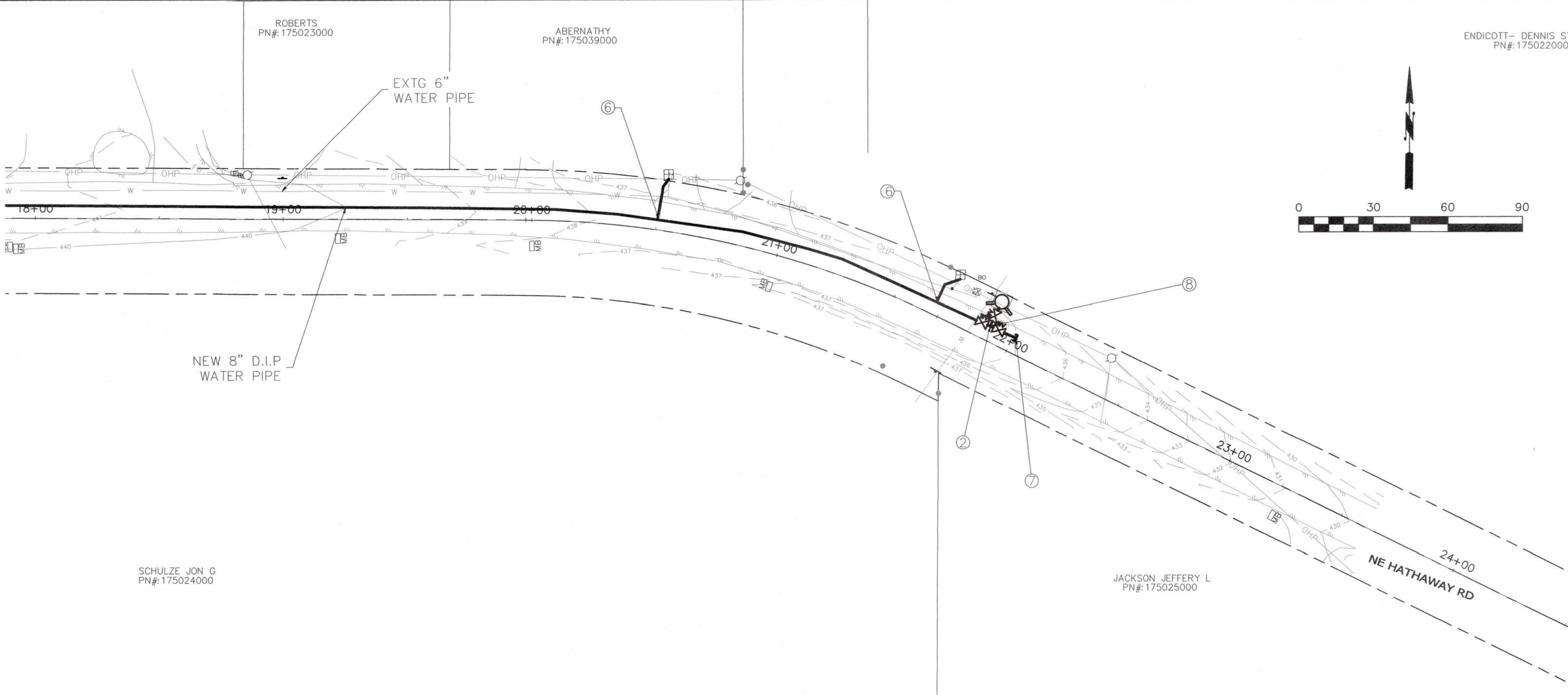
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WATER SERVICE REPLACEMENT INFORMATION

WATER SERVICE LENGTH (FT)	APPROXIMATE STATION	LATERAL/SERVICE HOUSE ADDRESS	PROPERTY I.D.
14	1+07.31	26704 NE HATHAWAY RD	175034000
14	9+04.33	27004 NE HATHAWAY RD.	175060000
16	10+14.36	27014 NE HATHAWAY RD	175053000
16	12+04.62	27120 NE HATHAWAY RD	601922000
19	14+33.53	27204 NE HATHAWAY RD	175028000
16	15+94.5	27218 NE HATHAWAY RD	175040000
18	16+69.35	27304 NE HATHAWAY RD	175032000
14	20+50.7	27414 NE HATHAWAY RD	175039000
12	21+66.43	27502 NE HATHAWAY RD	175022000
31	16+84.1	27409 NE HATHAWAY RD	175024000
25	14+45.02	27205 NE HATHAWAY RD	175027000
20	13+22.45	27119 NE HATHAWAY RD	175045000
23	12+16.1	27111 NE HATHAWAY RD	175038000
24	10+31.41	27015 NE HATHAWAY RD	175031000
27	8+31.92	2700 NE HATHAWAY RD	175073000
22	4+82.15	26817 NE HATHAWAY RD	175026000
23	3+97.25	26813 NE HATHAWAY RD	175074000
24	2+58.13	26719 NE HATHAWAY RD	610479000
24	1+16.71	26711 NE HATHAWAY RD	175076000



NE HATHAWAY RD PROFILE VIEW

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CONTACTS	DESIGNED BY: W. ALJAWADI APPROVED BY: J. HODGES PROJ. ENGR.: W. ALJAWADI

City of Camas
WASHINGTON
616 NE 4TH AVENUE
CAMAS, WA 98607
PH: (360) 834-3451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
UTILITY PLAN AND PROFILE

JAMES E. CAROTHERS
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
98013
11/20/2025

CAMAS PROJECT NUMBER W1042	
STATUS ☐ DRAFT ☒ CONSTRUCTION ☐ AS-BUILT	PAGE 8 OF 15
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CAMAS CATALOG NUMBER	

GENERAL RESTORATION NOTES

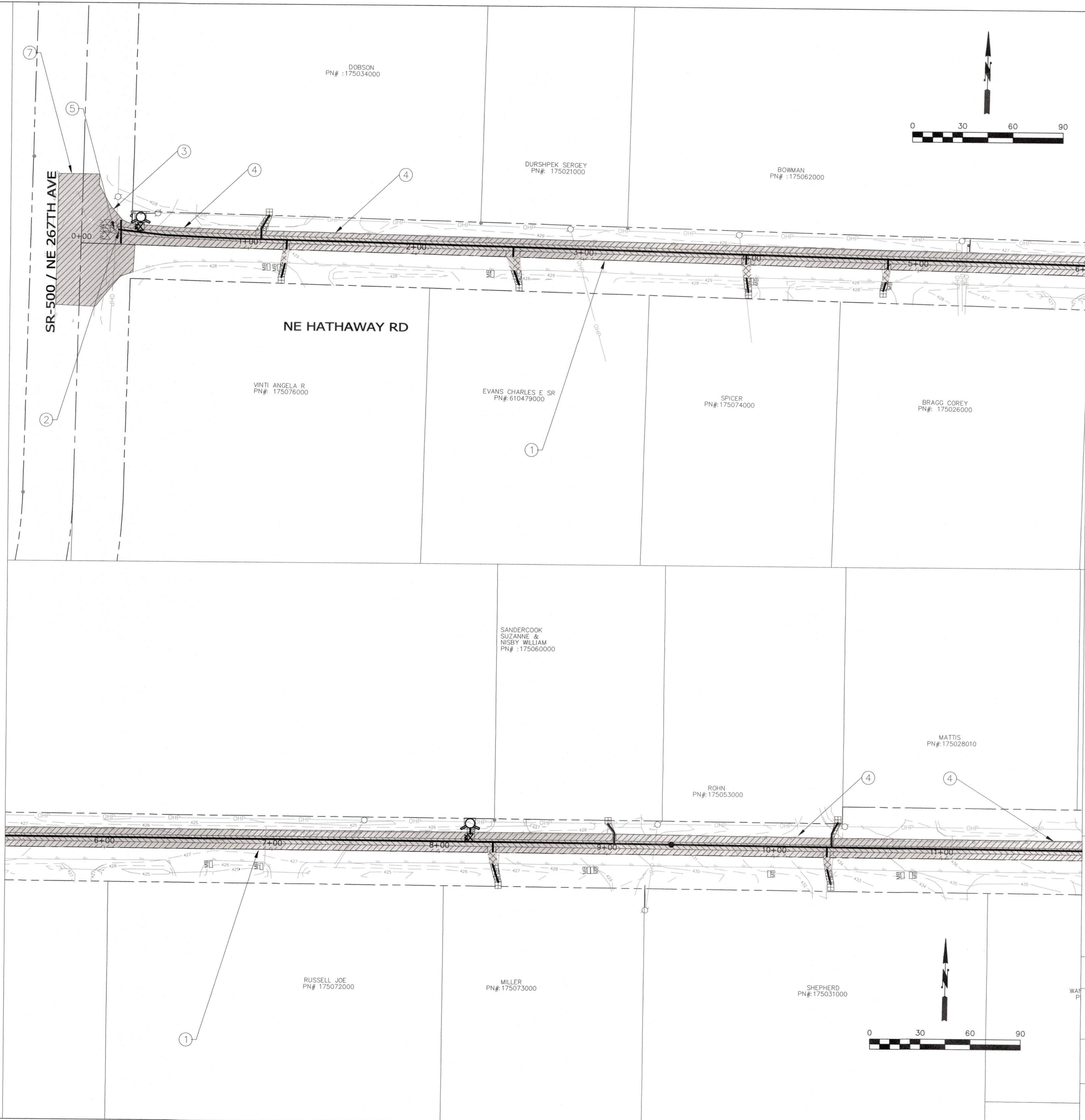
1. PROVIDE SMOOTH TRANSITIONS AT ALL PAVEMENT JOINTS.
2. ALL PAVEMENT MARKINGS SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. PROTECT ALL EXISTING FLARED ASPHALT EDGES, WEDGE CURB, BERMS, FENCE, CEMENT CONCRETE CURB, LANDSCAPING, TREES, SHRUBS, SIGNS, MAILBOXES, ETC, UNLESS OTHERWISE INDICATED ON THE PLANS.
4. CONTRACTOR SHALL PRUNE VEGETATION AS REQUIRED FOR THE WORK, PRIOR TO PRUNING, COORDINATE WITH DISTRICT AND ADJACENT PROPERTY OWNER.
5. ALL PLASTIC PAVEMENT MARKINGS SHALL BE TYPE A LIQUID HOT APPLIED THERMOPLASTIC.
6. CONTRACTORS SHALL COORDINATE AND CONFIRM WITH CONTRACTING AGENCY FOR ALL PLANING, PAVEMENT REPAIR, OVERLAY AND PAVEMENT MARKINGS LIMIT PRIOR TO BEGINNING WORKS.
7. THE CONTRACTOR, AT THEIR OWN EXPENSE, SHALL MILL AND REPAVE THE AREAS OF EXISTING HMA THAT ARE DAMAGED OUTSIDE OF THE RESTORATION LIMITS.

CONSTRUCTION NOTES

- ① FURNISH AND INSTALL PAINTED DOUBLE YELLOW CENTERLINE PER DETAIL T3.0, SHEET 13
- ② FURNISH AND INSTALL PLASTIC STOP LINE PER DETAIL T3.1, SHEET 13
- ③ GRIND AND OVERLAY TYPICAL RESTORATION SECTION, SHEET 11
- ④ BUTT JOINT RESTORATION DETAIL U7, SHEET 13
- ⑤ ADJUST EXISTING VALVE BOX DETAIL W12, SHEET 15
- ⑥ ADJUST EXISTING RIM
- ⑦ PROTECT EXISTING MONUMENT(LEVEL MONUMENT IN THE ROADWAY AGAIN)

LEGENDS:

-  HMA GRIND, U6 SHEET 14
-  HMA TRENCH PATCH, U7 SHEET 14
-  CSTC SURFACE RESTORATION
-  HMA OVERLAY U6, SHEET 14



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PROJ. ENGR.:	WALJAWADI



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PH: (360) 834-3451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
RESTORATION PLAN



11/20/2025

CAMAS PROJECT NUMBER
W1042

STATUS	PAGE
☐ DRAFT	
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CAMAS DRAWING NUMBER

CAMAS CATALOG NUMBER

GENERAL RESTORATION NOTES

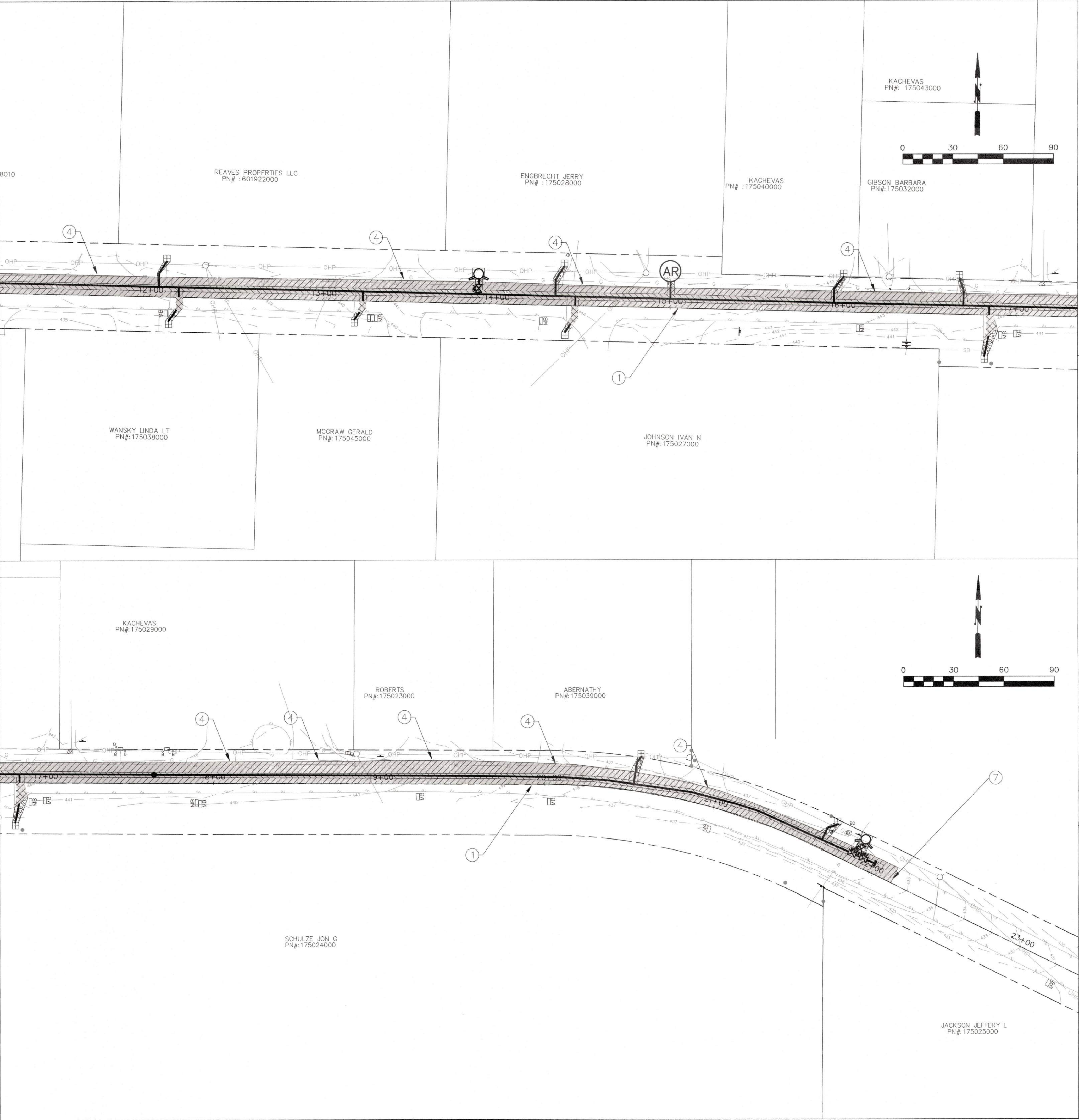
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City of Camas
WASHINGTON

616 NE 4TH AVENUE
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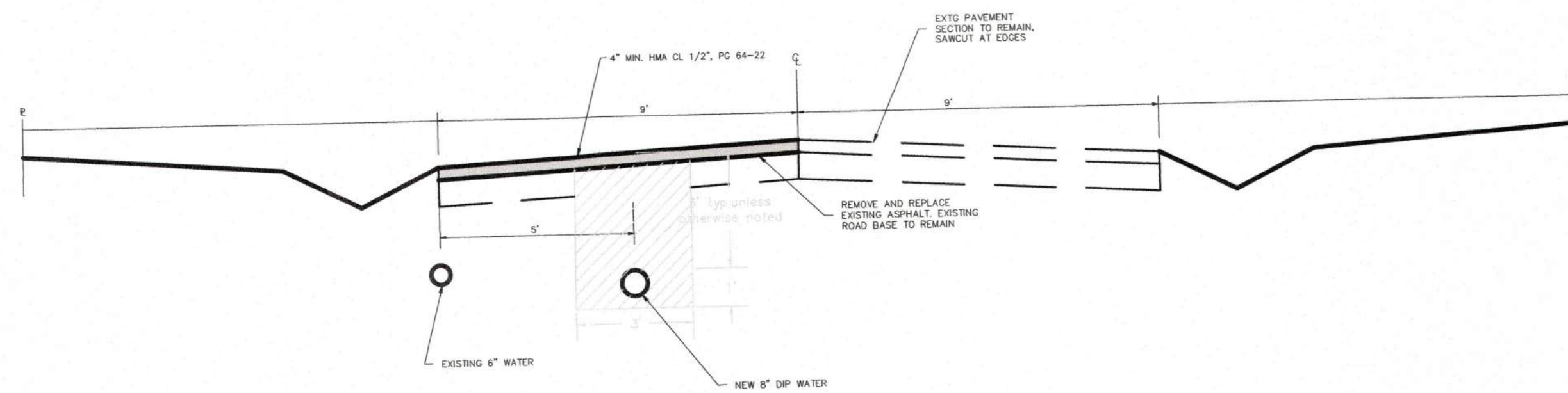
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ENGINEERING DIVISION

NE HATHAWAY RD
WATERLINE REPLACEMENT
RESTORATION PLAN

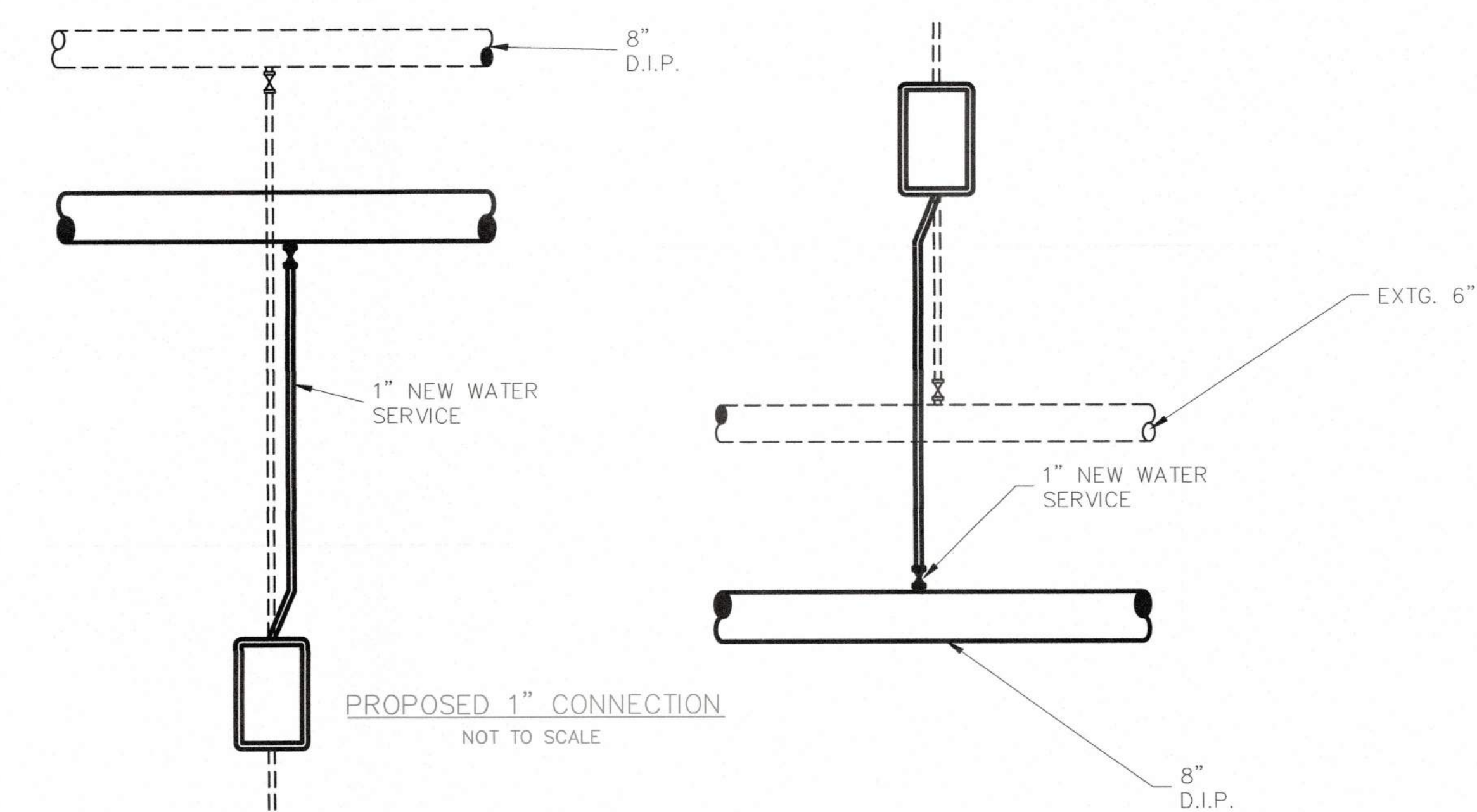
JAMES E. CAROTHERS
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11/20/2025

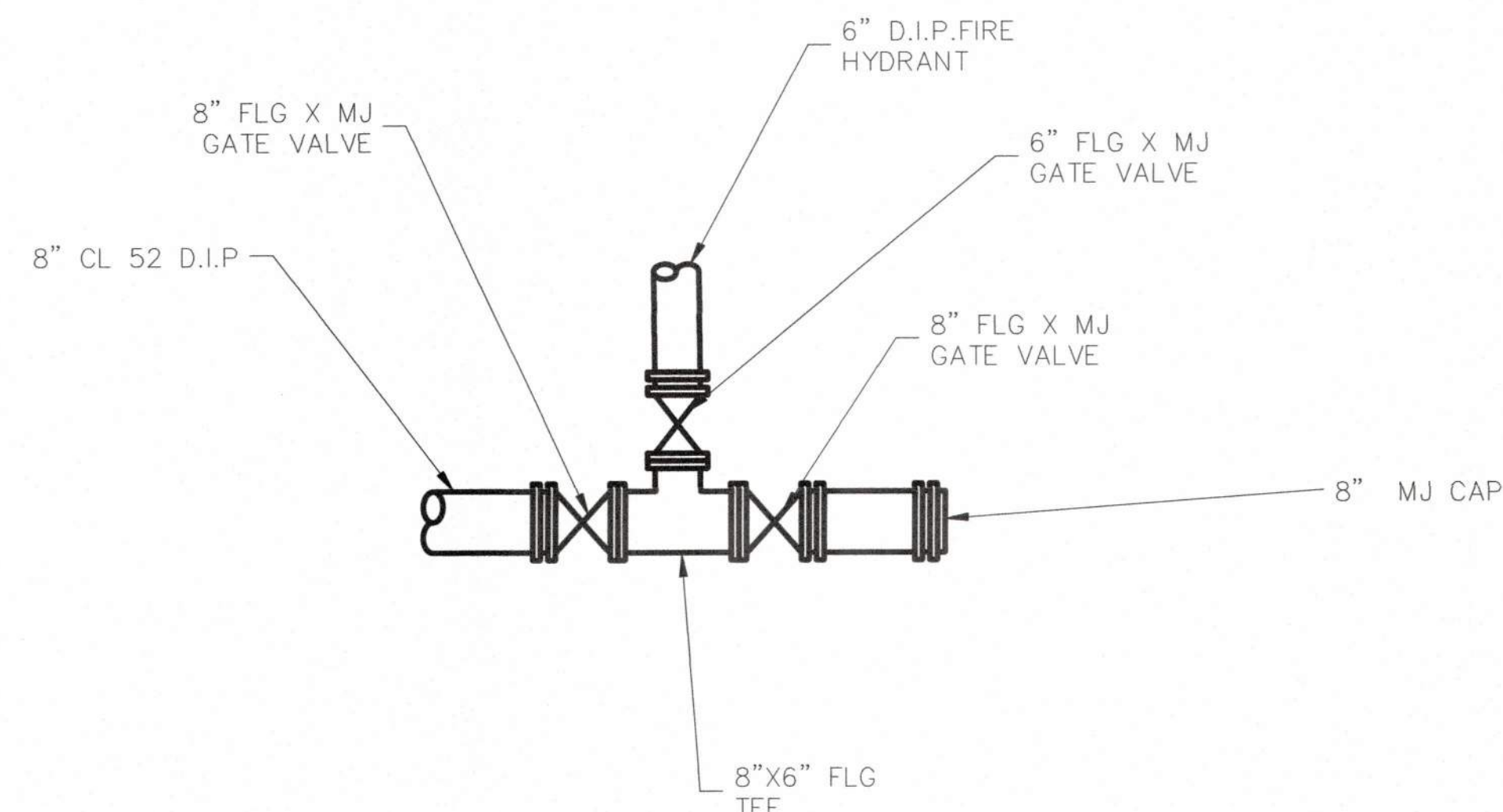
CAMAS PROJECT NUMBER	W1042
STATUS	PAGE
☐ DRAFT	10 OF 15
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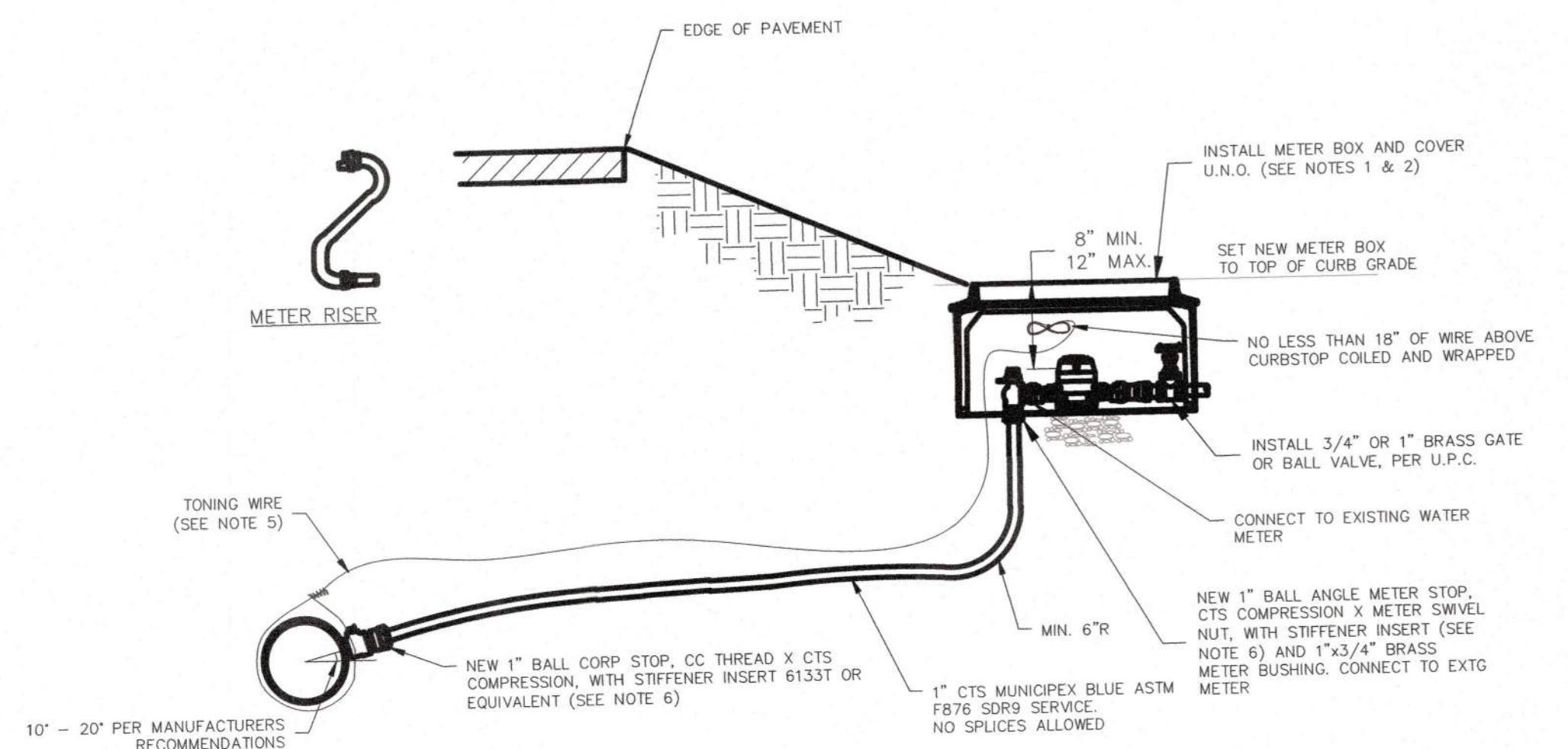
TYPICAL RESTORATION SECTION
NOT TO SCALE



PROPOSED 1" CONNECTION
NOT TO SCALE



PROPOSED 8" EAST CONNECTION
NOT TO SCALE

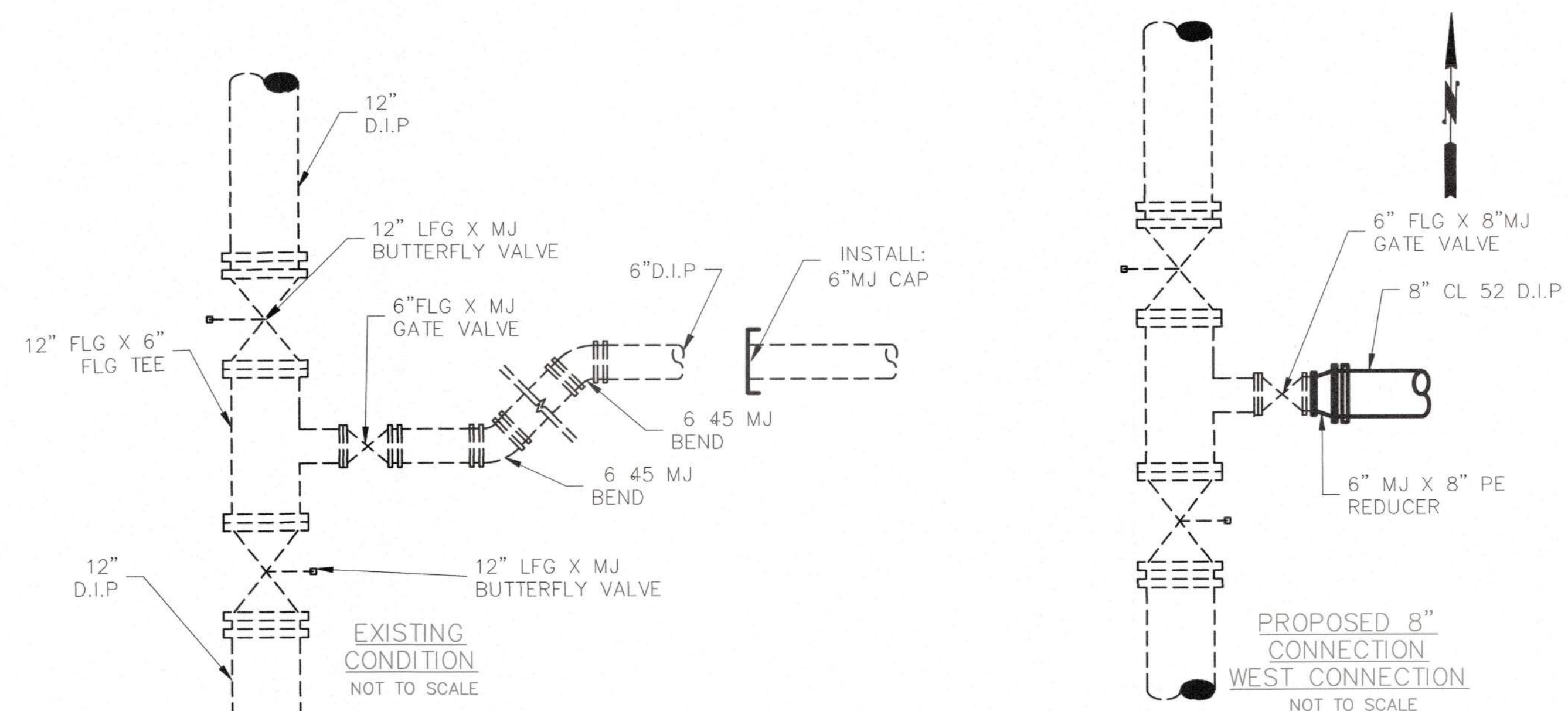


- NOTES:
- METER BOX SHALL BE OLDCASTLE FIBRELYTE FL12BOX WITH NO MOUSE HOLES UNLESS NOTED OTHERWISE.
 - COVER SHALL BE OLDCASTLE FIBRELYTE FL120 "WATER" WITH OFFSET AMR RADIO READ ANTENNA HOLE FOR NEPTUNE METER.
 - IF SERVICE LINE TO HOUSE IS DEEP, HALF OF A METER RISER MAY BE REQUIRED.
 - SEE TRENCH SECTION DETAIL FOR BACKFILL REQUIREMENTS.
 - TONING WIRE SHALL BE COPPERHEAD SUPERFLEX 12 AWG WITH 45MIL BLUE HDPE INSULATION. NO SPLICES ALLOWED.
 - PREFERRED BRASS FITTINGS TO BE USED, IN ORDER:
1. FORD
2. A.Y. McDONALD
3. MUELLER

DUCTILE IRON MAIN
6" OR LARGER REQUIRES DIRECT TAP.
4" MAIN - DOUBLE STRAP SADDLE REQUIRED
FOR SERVICE CONNECTION

STEEL OR CAST IRON MAIN
DOUBLE STRAP SADDLE REQUIRED

1" WATER SERVICE
NOT TO SCALE



PROPOSED 8" CONNECTION
WEST CONNECTION
NOT TO SCALE

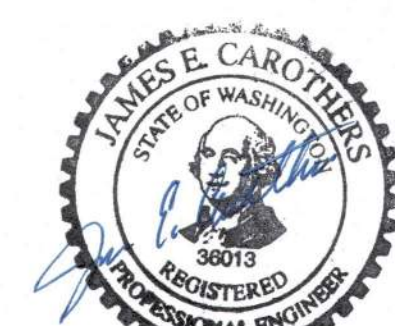
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PUBLIC WORKS DEPARTMENT
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NE HATHAWAY RD
WATERLINE REPLACEMENT
WATER CONNECTION DETAILS



11/20/2025

CAMAS PROJECT NUMBER
W1042

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CAMAS DRAWING NUMBER

CAMAS CATALOG NUMBER

EROSION/SEDIMENT CONTROL NOTES:

1. THE EROSION/SEDIMENT CONTROL (ESC) PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS TO BE UTILIZED AS A GUIDE TO CONTROL THE TRANSPORT OF LOOSE SOILS TO THE PROPERTY OUTSIDE OF THE CONSTRUCTION AREA AND AROUND THE CONSTRUCTION SITE. THE ESC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
2. THE IMPLEMENTATION OF THE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADE OF THE ESC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND PERMANENT VEGETATION/LANDSCAPING IS ESTABLISHED.
3. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, A "STOP WORK" ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY ENGINEERING STAFF.
4. THE CONTRACTORS SHALL BE RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE MOST RECENTLY ADOPTED EDITION OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOL. II AND THE CITY OF CAMAS MUNICIPAL CODE 14.06 (2011).
5. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO DISTURBING AND EXPOSING ANY SOIL SURFACES (I.E. CONSTRUCTION ENTRANCES, FILTER FABRIC SEDIMENT BARRIERS, AND SEDIMENTATION TRAPS) AND MAINTAINED FOR THE DURATION OF THE PROJECT. TRAPPED SEDIMENT IN EXCESS OF 1 FOOT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOIL AREAS RESULTING FROM VEGETATION REMOVAL SHALL BE PERMANENTLY STABILIZED. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
6. TO MINIMIZE EROSION AND SEDIMENTATION TRANSPORTATION, EARTHWORK SHALL NOT BE PERFORMED WHILE SOILS ARE IN AN UNSTABLE STATE DUE TO PRECIPITATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE CLEARING LIMITS AND/OR ANY EASEMENTS, SENSITIVE OR CRITICAL AREAS, AND THEIR BUFFERS, TREES, AND DRAINAGE COURSES FLAGGED PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. FLAGGING LIMITS ARE TO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
8. REMOVE ONLY THOSE TREES AND SHRUBS THAT NEED TO BE REMOVED FOR THE CONSTRUCTION OF ROADS, SIDEWALKS, UTILITIES, AND STORMWATER FACILITIES.
9. ALL EXISTING AND NEWLY CONSTRUCTED ROAD CATCH BASINS AND CURB INLETS AFFECTED BY CONSTRUCTION SHALL BE PROTECTED AGAINST SEDIMENT DEPOSITS. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
10. ALL POLLUTANTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER SYSTEM.
11. ALL DISTURBED SOIL SURFACES ARE TO BE STABILIZED BY A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES" (BMP'S). DURING THE PERIOD OF OCTOBER 1 THROUGH JULY 5 DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO TWO DAYS WHEN NOT BEING WORKED. FROM JULY 5 THROUGH OCTOBER 1, DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO 7 DAYS WHEN NOT BEING WORKED. STABILIZATION OF DISTURBED SOIL AREAS MAY CONSIST OF HYDROSEEDING, HAND-SEEDING AND MULCHING, PLACEMENT OF EROSION CONTROL BLANKETS OR PLASTIC. ALL SEEDING AREAS ARE TO BE FERTILIZED, WATERED, AND MAINTAINED TO ENSURE THAT THE GROWTH OF VEGETATION OCCURS AS SOON AS POSSIBLE.
12. ALL TEMPORARY SEDIMENT AND EROSION CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED.

EROSION/SEDIMENT CONTROL NOTES (CONTINUED):

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POLICING THE JOB SITE DAILY AND MAINTAINING THE EROSION/SEDIMENT CONTROL MEASURES THROUGHOUT ALL PHASES OF CONSTRUCTION. AN INSPECTION LOG SHALL BE KEPT AND MADE AVAILABLE TO THE CITY OF CAMAS. THE POLICING AND MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:
 - VERIFY THAT ALL AREAS ARE GRADED SUCH THAT ALL RUNOFF IS DIRECTED TO A SEDIMENTATION DEVICE BEFORE DISCHARGE TO SURFACE.
 - REMOVAL OF TRAPPED SILT AT SILT BARRIERS, SILT TRAPS, OR POINTS OF ACCUMULATION.
 - ADDITIONAL PROTECTIVE MEASURES DUE TO JOB SITE OR WEATHER CONDITIONS AS REQUIRED BY THE CITY OF CAMAS.
 - MONITORING OF VEHICLES LEAVING THE SITE TO MINIMIZE TRANSMISSION OF LOOSE SOILS TO THE PUBLIC ROADWAYS.
 - VERIFY THAT ALL PROPERTIES ADJACENT TO THE PROJECT SITE ARE PROTECTED FROM SEDIMENTATION DEPOSITION. THIS MAY BE ACCOMPLISHED BY INSTALLING PERIMETER CONTROLS SUCH AS SEDIMENTATION BARRIERS, FILTERS OR DIKES, SEDIMENTATION BASINS/TRAPS, OR BY A COMBINATION OF SUCH MEASURES.
14. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES SHALL BE STABILIZED IN ACCORDANCE WITH EROSION/SEDIMENT CONTROL NOTE 11. SLOPES FOUND TO BE ERODING EXCESSIVELY WITHIN TWO YEARS OF CONSTRUCTION MUST BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES. THESE MEASURES MAY CONSIST OF ROUGHENED SOIL SURFACES, INTERCEPTORS, DIVERSIONS OR TERRACES, TEMPORARY OR PERMANENT CHANNELS, ADDITIONAL VEGETATION, OR PIPE SLOPE DRAINS AS REQUIRED BY THE CITY OF CAMAS UNTIL THE PROBLEM IS CORRECTED.
15. THE ESC MEASURES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING ANY STORM EVENT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING UNDERGROUND UTILITIES AS SPECIFIED BELOW:
 - WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPEN AT ONE TIME.
 - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - TRENCH DE-WATER DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.
17. PRIOR TO CONSTRUCTION, THE CITY OF CAMAS REQUIRES AN APPROVED FORM OF SECURITY IN THE AMOUNT OF 200% OF THE ENGINEER'S ESTIMATED COST OF THE ESC MEASURES, INCLUDING ASSOCIATED LABOR, AS SHOWN IN THE APPROVED ESC PLAN AND SWPPP.
18. SUGGESTED STANDARD SEED MIXTURE FOR THOSE AREAS WHERE A TEMPORARY VEGETATIVE COVER IS REQUIRED:

SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
CHEWINGS OR ANNUAL BLUE GRASS (FESTUCA RUBRA VAR. COMMUTATA OR POA ANNUA)	40	98	90
PERENNIAL RYE (LOLIUM PERENNE)	50	98	90
REDTOP OR COLONIAL BENTGRASS (AGROSTIS ALBA OR AGROSTIS TENUIS)	5	92	85
WHITE DUTCH CLOVER (TRIFOLIUM REPENS)	5	98	90

*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH
19. SUGGESTED TURF SEED MIXTURE FOR DRY SITUATIONS WHERE THERE IS NO NEED FOR MUCH WATER:

SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
DWARF TALL FESCUE (SEVERAL VARIETIES) (FESTUCA ARUNDINACEA VAR.)	45	98	90
DWARF PERENNIAL RYE (LOLIUM PERENNE VAR. BARCLAY)	30	98	90
RED FESCUE (FESTUCA RUBRA)	20	98	90
COLONIAL BENTGRASS (AGROSTIS TENUIS)	5	98	90

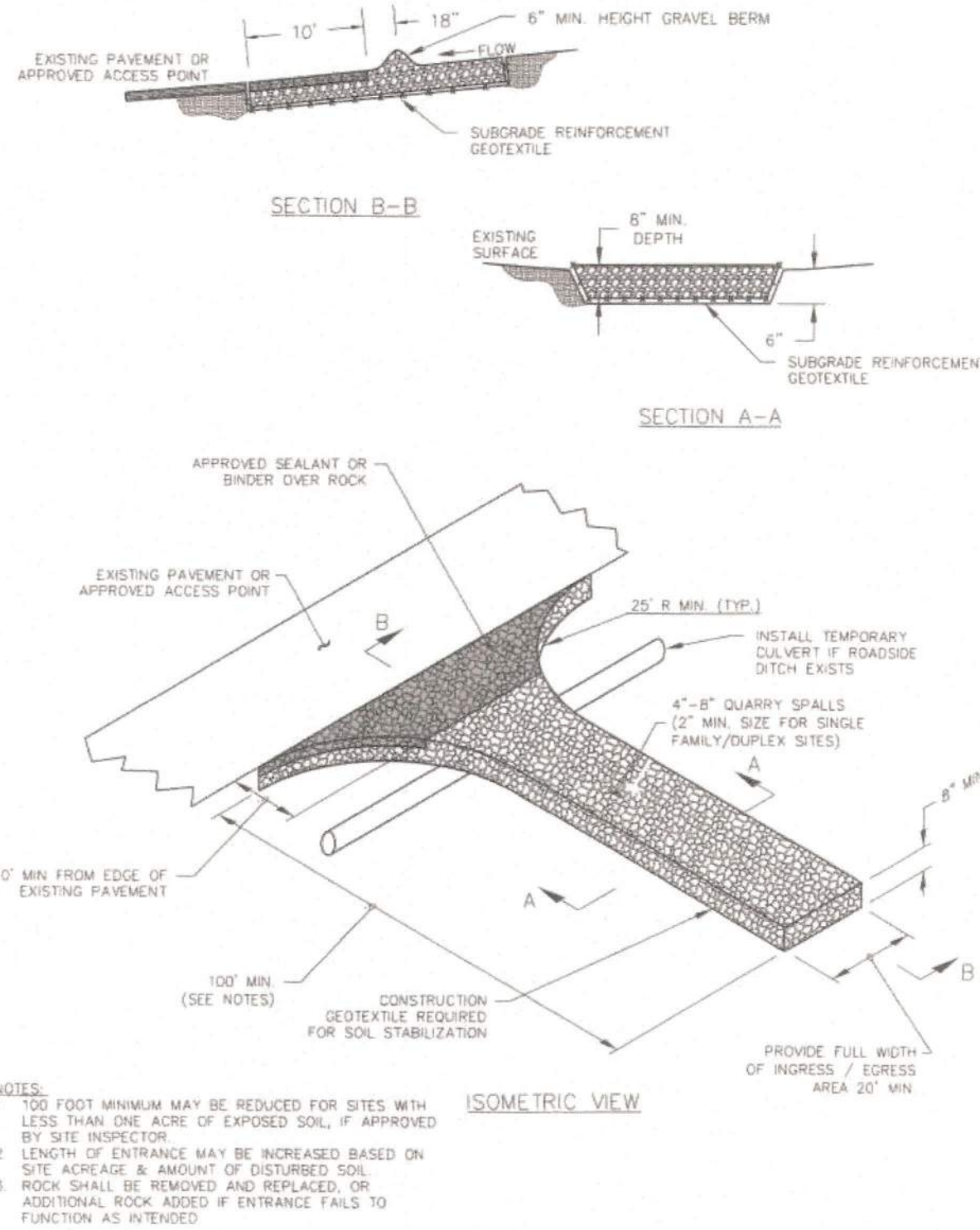
*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH

WATER QUALITY NOTES:

1. GRADE BIOFILTRATION SWALE CAREFULLY TO ATTAIN UNIFORM LONGITUDINAL AND LATERAL SLOPES IN ORDER TO ELIMINATE HIGH AND LOW SPOTS.
2. VEGETATION IN BIOFILTRATION SYSTEMS SHALL BECOME FULLY ESTABLISHED PRIOR TO INSTALLATION OF AC PAVEMENT FOR ALL AREAS DRAINING INTO THE WATER QUALITY SYSTEM. IF SOD IS PLACED IN BIOFILTRATION SYSTEM PRIOR TO PAVING, THE CONTRACTOR SHALL OVERSEED THE SOD WITH THE SPECIFIED SEED MIX PRIOR TO COMPLETION OF THE PROJECT.
3. BIOFILTRATION SYSTEMS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE PROJECT BY THE CITY. THIS SHALL INCLUDE IRRIGATING, MOWING, AND ALL OTHER MAINTENANCE AS REQUIRED TO MAINTAIN A HEALTHY STAND OF GRASS.
4. SUGGESTED STANDARD SEED MIXTURE FOR BIOFILTRATION SWALE APPLICATIONS:

BIO-SWALE SEED MIX*	% WEIGHT	% PURITY	% GERMINATION
TALL OR MEADOW FESCUE (FESTUCA ARUNDINACEA OR FESTUCA ELATIOR)	75-80	98	90
SEASIDE/CREeping BENTGRASS (AGROSTIS PALUSTRIS)	10-15	92	85
REDTOP BENTGRASS (AGROSTIS ALBA OR AGROSTIS GIGANTEA)	5-10	90	80

*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH



CITY OF CAMAS - EROSION CONTROL DETAIL
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE
REVISION: 4 DATE: 8/17/2022
EC6

CALL
2 BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
"it's the law"
CLARK COUNTY UTILITIES COORDINATING COUNCIL

DESIGN DATE: 11/19/2025
AS-BUILT DATE:
SCALES:
HORIZONTAL: AS SHOWN
VERTICAL: N/A
CONTACTS:
DESIGNED BY: W. ALJAWADI
APPROVED BY: J. HODGES
PROJ. ENGR.: W. ALJAWADI

CITY OF CAMAS
WASHINGTON
616 NE 4TH AVENUE
CAMAS, WA 98607
PH: (360) 834-3451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
EROSION CONTROL DETAILS

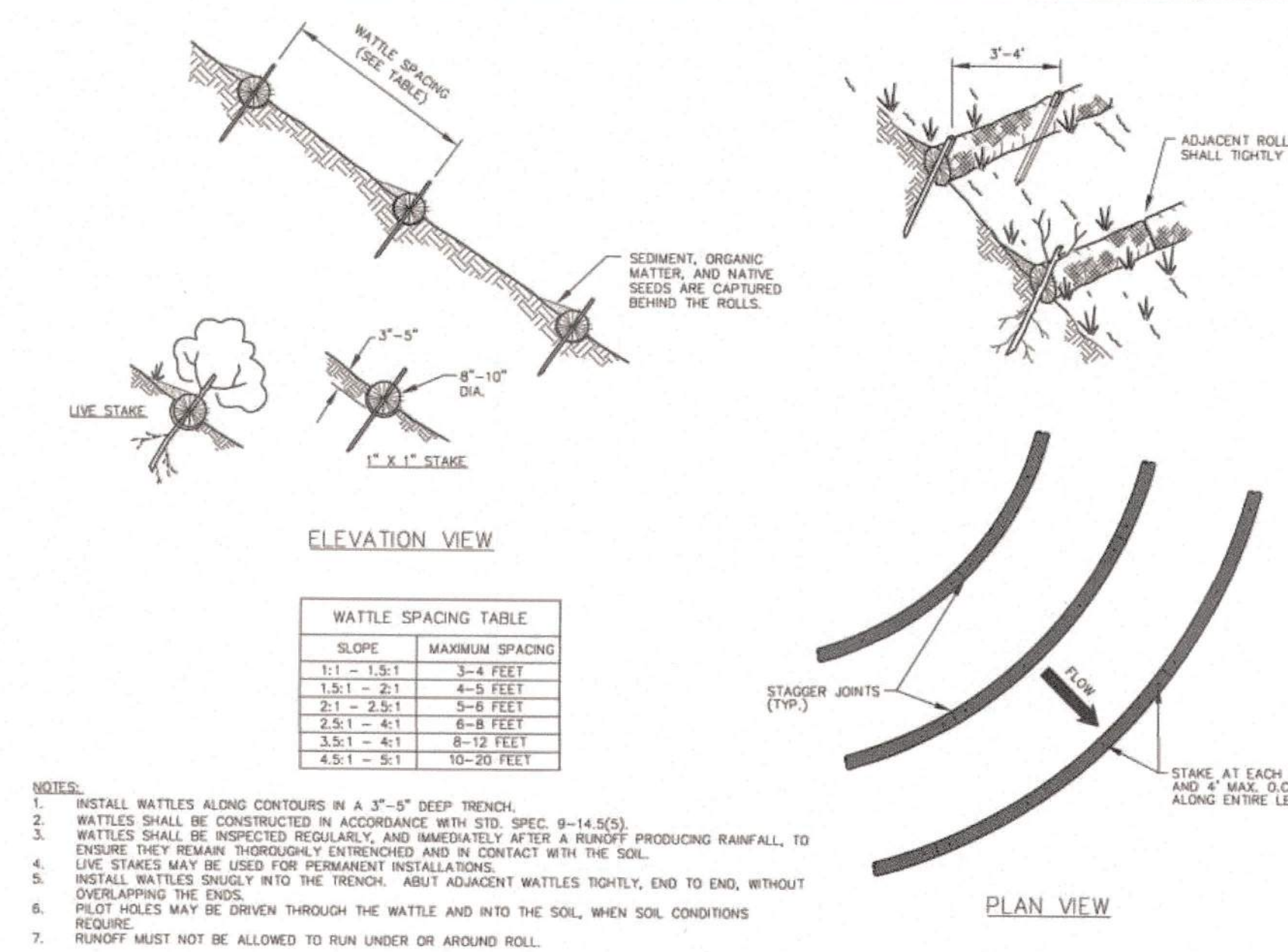
JAMES E. CAROTHERS
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
11/20/2025

CAMAS PROJECT NUMBER
W1042
STATUS: ☒ DRAFT ☐ CONSTRUCTION ☐ AS-BUILT
PAGE: 12 of 15
CAMAS DRAWING NUMBER
CAMAS CATALOG NUMBER

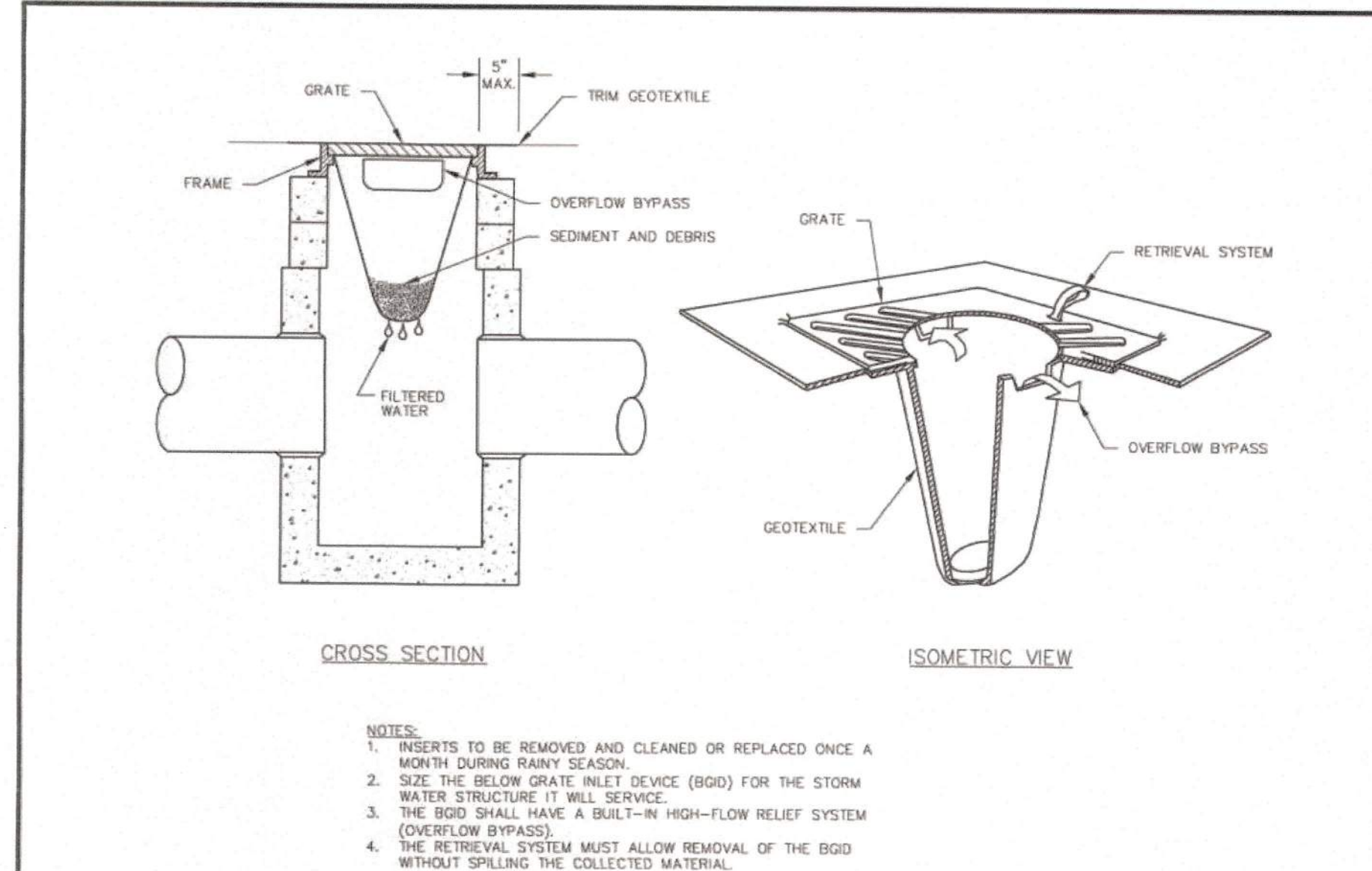
REV. NO. DATE BY APPR. CITY OF CAMAS - EROSION CONTROL DETAIL
1 9/18/07 SD JC EROSION/SEDIMENT CONTROL NOTES
2 1/1/11 SCD JC
DETAIL APPROVED BY: DATE: NOT TO SCALE
EC2

REV. NO. DATE BY APPR. CITY OF CAMAS - EROSION CONTROL DETAIL
1 9/18/07 SD JC EROSION/SEDIMENT CONTROL NOTES
2 1/1/11 SCD JC
DETAIL APPROVED BY: DATE: NOT TO SCALE
EC3

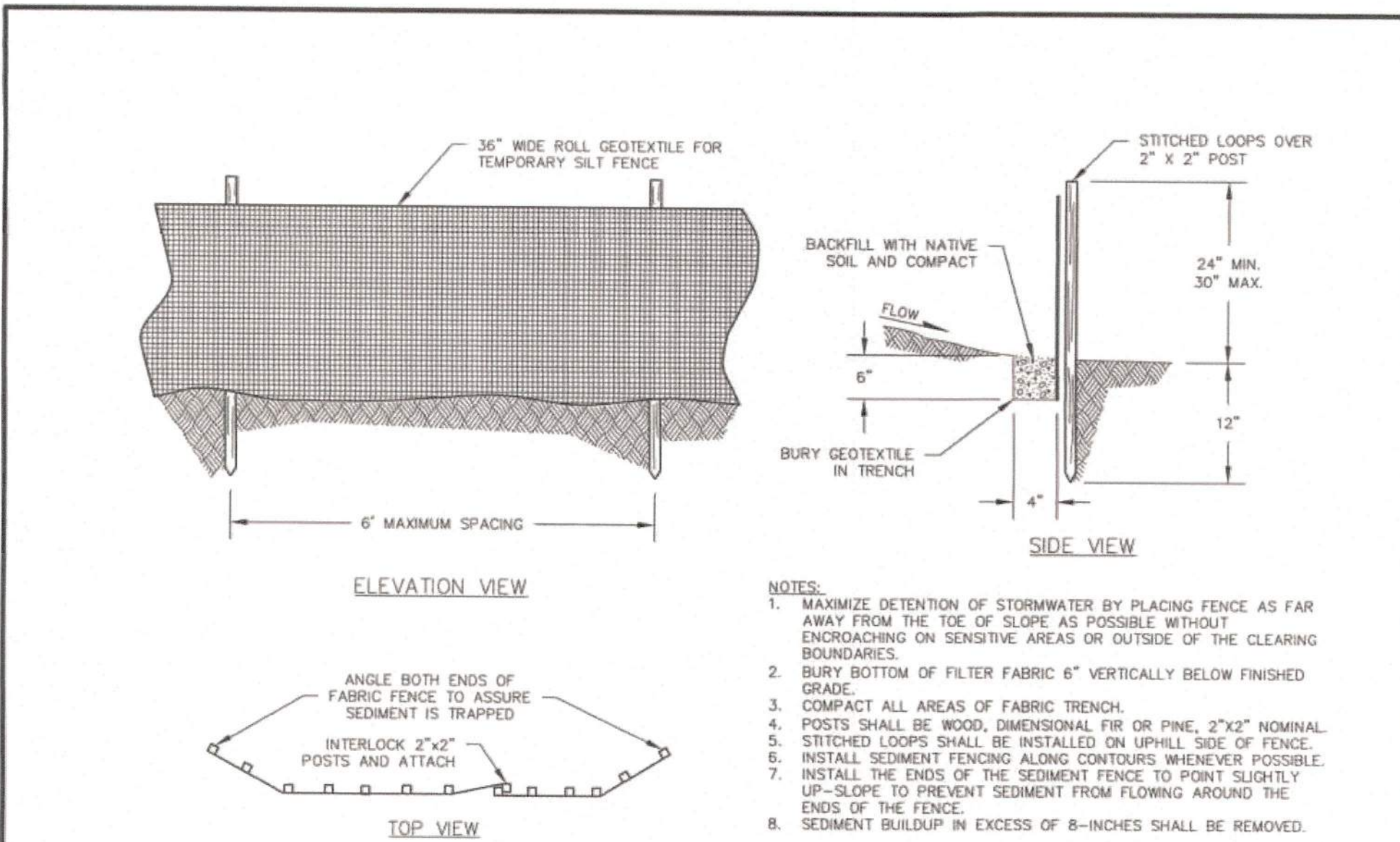
REV. NO. DATE BY APPR. CITY OF CAMAS - EROSION CONTROL DETAIL
1 9/18/07 SD JC WATER QUALITY NOTES
2 1/1/11 SCD JC
DETAIL APPROVED BY: DATE: NOT TO SCALE
EC4



REV. NO. DATE BY APPR. CITY OF CAMAS - EROSION CONTROL DETAIL
1 9/18/07 SCD JC STRAW WATTLES ON SLOPE
2 1/1/11 SCD JC
DETAIL APPROVED BY: DATE: NOT TO SCALE
EC14



REV. NO. DATE BY APPR. CITY OF CAMAS - EROSION CONTROL DETAIL
1 9/18/07 SCD JC INLET PROTECTION - CATCH BASIN INSERT
2 1/1/11 SCD JC
DETAIL APPROVED BY: DATE: NOT TO SCALE
EC9



REV. NO. DATE BY APPR. CITY OF CAMAS - EROSION CONTROL DETAIL
1 9/18/07 SCD JC SILT FENCE
2 1/1/11 SCD JC
3 3/1/12 SCD JC
DETAIL APPROVED BY: DATE: NOT TO SCALE
EC12

STANDARD TRENCH RESTORATION NOTES:

- UNLESS OTHERWISE EXEMPTED IN CCC 12.20A.070.F, A WRITTEN UTILITY PERMIT SHALL BE REQUIRED FOR EACH CONSTRUCTION ACTIVITY WITHIN EXISTING COUNTY ROAD RIGHT-OF-WAY TO INSTALL, MOVE OR REPAIR A UTILITY INCLUDING PRIVATE LINES. NO WORK MAY COMMENCE PRIOR TO PERMIT APPROVAL BY THE COUNTY. OFF-SITE UTILITY CONSTRUCTION WORK THAT IS BEING DONE UNDER A GENERAL DEVELOPMENT PERMIT WILL REQUIRE A SEPARATE UTILITY PERMIT. SEE CCC 13.12A AND 12.20A FOR UTILITY PERMIT REQUIREMENTS.
- BEFORE ANY CONSTRUCTION WORK WITHIN THE RIGHT-OF-WAY MAY COMMENCE, A SURETY BOND (OR OTHER INSTRUMENT ACCEPTABLE TO THE COUNTY) IN AN AMOUNT REQUIRED BY THE COUNTY, BUT NOT LESS THAN \$1,000, WRITTEN BY A SURETY COMPANY AUTHORIZED TO DO BUSINESS IN WASHINGTON, MAY BE REQUIRED BY THE COUNTY TO INSURE COMPLETION OF CONSTRUCTION, INCLUDING RESTORATION OF SURFACING, SLOPES, SLOPE TREATMENT, TOPSOIL, LANDSCAPE TREATMENT, DRAINAGE FACILITIES AND CLEANUP OF RIGHT-OF-WAY FOR A PERIOD ENDING NOT MORE THAN 2 YEARS AFTER DATE OF COMPLETION. SEE CCC 12.20A.070.C(2).
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION PREPARED BY THE WASHINGTON STATE CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) AND SHALL COMPLY WITH THE CURRENT EDITION, EXCEPT WHERE OTHERWISE NOTED IN CCC 12.20A, AND THESE STANDARD PLANS.
- THE RIGHT-OF-WAY RESTORATION SHALL CONFORM TO COUNTY STANDARDS AND POLICIES AND APPLICABLE STATE AND FEDERAL LAWS, OR THE WORK SHALL BE REJECTED. THE COST ASSOCIATED WITH ALL WORK AND MATERIALS NECESSARY TO OBTAIN COMPLIANCE SHALL BE THE RESPONSIBILITY OF THE PERMIT APPLICANT.
- UNDERGROUND UTILITY INSTALLATION SHALL CONFORM TO CCC 12.20A.080.F, AND SHALL PROVIDE FOR RESTORATION OF THE PAVEMENT, PAVED SHOULDERS, CURBS AND GUTTERS, AND SIDEWALKS IN ACCORDANCE WITH CCC 12.20A.120, UNLESS OTHERWISE MODIFIED BY THE UTILITY PERMIT.
- TRENCH BACKFILL AND RESURFACING SHALL BE AS SHOWN IN THE STANDARD DETAILS, UNLESS MODIFIED BY THE UTILITY PERMIT. SURFACING DEPTHS AND PAWING LIMITS SHOWN IN THE STANDARD PLANS ARE MINIMUMS AND MAY BE INCREASED BY THE COUNTY ENGINEER TO MEET TRAFFIC LOADINGS OR SITE CONDITIONS.
- THE FINAL PAVEMENT PATCH SHALL BE COMPLETED AT THE FIRST POSSIBLE OPPORTUNITY, AND NOT TO EXCEED THIRTY (30) DAYS AFTER FIRST OPENING THE TRENCH. THIS TIME FRAME MAY BE ADJUSTED IF DELAYS ARE DUE TO INCLEMENT WEATHER, OR OTHER ADVERSE CONDITIONS. HOWEVER, DELAYING OF FINAL PATCH OR OVERLAY WORK IS ALLOWABLE ONLY WHEN APPROVED BY THE COUNTY ENGINEER. THE COUNTY ENGINEER MAY DEEM IT NECESSARY TO COMPLETE THE WORK WITHIN THIRTY (30) DAYS TIME FRAME AND NOT ALLOW ANY TIME EXTENSION. IF THIS OCCURS, THE CONTRACTOR SHALL PERFORM THE NECESSARY WORK AS DIRECTED BY THE ENGINEER.
- WHEN TRENCHING WITHIN THE ROADWAY SHOULDERS, THE SHOULDER SHALL BE RESTORED AS SHOWN IN STANDARD DETAIL U5.
- IT IS THE COUNTY'S BASIC POLICY THAT NO PAVEMENTS SHALL BE CUT FOR A PERIOD OF FIVE (5) YEARS AFTER THE PAVEMENT HAS BEEN CONSTRUCTED, OVERLAD OR SEAL-COATED AND THAT CUTTING OF ANY PAVED ROAD IS DISCOURAGED. UNTRENCHED CONSTRUCTION METHODS MUST BE EXPLORED ON ALL PAVED ROAD CROSSINGS REGARDLESS OF CONDITION OF THE ROAD PAVEMENT. A CURRENT LIST OF ROAD SEGMENTS AFFECTED BY THIS PROHIBITION CAN BE SUPPLIED UPON REQUEST.
- WHEN ROADWAY SURFACES ARE WINDOWED AND POTHOLED, AND WHERE URBAN ARTERIALS OR RURAL COLLECTORS MUST BE TRANSVERSELY TRENCHED, CONTROL DENSITY FILL (CDF) SHALL BE USED FOR THE TOP 3 FEET OF THE BACKFILL (SEE CCC 12.20A.080.K.L). WHEN EMPLOYING CDF, CARE MUST BE TAKEN TO ASSURE PIPE LOADING CAPACITY IS NOT EXCEEDED.
- AS A CONDITION OF CCC 12.20A, IT IS THE RESPONSIBILITY OF THE PERMIT APPLICANT TO PROVIDE 24 HOUR NOTIFICATION PRIOR TO COMMENCING PROPOSED CONSTRUCTION ACTIVITIES WITHIN THE LIMITS OF THE COUNTY RIGHT-OF-WAY. FAILURE TO COMPLY SHALL RESULT IN THE DISCONTINUING OF THE PERMITTED CONSTRUCTION ACTIVITY FOR A PERIOD OF AT LEAST 24 HOURS.
- FINAL RESTORATION SHALL BE COMPLETED IN A MANNER THAT PROVIDES THE AREA OF CONSTRUCTION TO BE RESTORED IN AN EQUALLY AS GOOD OR BETTER CONDITION THAN THE EXISTING CONDITION OF THE COUNTY RIGHT-OF-WAY.

Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	PAGE 1 OF 2		NO.	REVISIONS	DATE	BY
	STANDARD TRENCH RESTORATION AND GRADING NOTES					
	APPROVED <i>Peter Capen</i> DATE 05/23/08					
	STANDARD DETAIL DESIGNED DATE 05/23/08					

STANDARD TRENCH RESTORATION NOTES (CONT.):

- CONTROL DENSITY FILL (CDF) SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT, FLY ASH, AGGREGATE, WATER AND ADMIXTURES PROPORTIONED TO PROVIDE A NON-SEGREGATING, NON-SETTLING FILL PRODUCING UNCOMFINED COMPRESSIVE 28 DAY STRENGTHS FROM 50 PSI TO A MAXIMUM OF 150 PSI.
 - THE CONTROL DENSITY FILL (CDF) MIX DESIGN SHALL BE FROM AN APPROVED SOURCE.
 - THE CONTRACTOR SHALL SUBMIT THE MIX DESIGN ONE WEEK MINIMUM PRIOR TO INTENDED USE FOR REVIEW AND APPROVAL. ALTERNATIVELY THE CONTRACTOR MAY PROVIDE THE SUPPLIER AND MIX NUMBER IF THE CDF MIX HAS BEEN APPROVED WITHIN THE PREVIOUS 12 MONTHS.
 - THE CONTRACTOR WILL PROVIDE BATCH WEIGHTS SHOWING THE AMOUNTS OF ALL INGREDIENTS IN THE MIX, BATCH TIME, AND THE TOTAL AMOUNT OF THE BATCH.
 - CONTROL DENSITY FILL SHALL BE PERFORMANCE BASED AND MEET THE FOLLOWING CRITERIA:
 - THE CDF MIXTURE SHALL BE FLOWABLE NON-SEGREGATING AND SELF LEVELING
 - CAN NOT BE PAVED ON UNTIL APPROVED BY CLARK COUNTY
 - TYPE F FLYASH: 200 LBS MINIMUM PER CUBIC YARD
 - TYPE I OR II CEMENT: 50 LBS MINIMUM PER CUBIC YARD
 - SETTLING SHALL BE LESS THAN 1/8" PER FOOT DEPTH
 - SHALL BE MACHINE DIGIBLE UNLESS NOTED OTHERWISE
 - FINE AGGREGATE (LESS THAN 3/8") SHALL BE USED UNLESS OTHERWISE APPROVED
 - CONCRETE UNIT WEIGHT SHALL BE 100 PCF MINIMUM
 - CDF SHALL NOT BE PLACED ON FROZEN GROUND. CDF PATCHING, MIXING AND PLACING MAY BE STARTED IF WEATHER CONDITIONS ARE FAVORABLE, WHEN THE TEMPERATURE IS AT 34-DEGREES F AND RISING. AT THE TIME OF PLACEMENT, CDF MUST HAVE A TEMPERATURE OF AT LEAST 40-DEGREES F. MIXING AND PLACING SHALL STOP WHEN THE TEMPERATURE IS 38-DEGREES F OR LESS AND FALLING. EACH FILLING STAGE SHALL BE AS CONTINUOUS AN OPERATION AS POSSIBLE.
 - TRENCH SECTION TO BE FILLED WITH CDF SHALL BE CONTAINED AT EITHER END OF THE TRENCH SECTION BY BULKHEADS OR EARTH FILL.
 - DURING CDF CURE TIME CONTRACTOR SHALL INSTALL STEEL PLATES OR OTHER PROTECTIVE DEVICES WHICH WILL ALLOW FOR THE PASSAGE AND SAFETY OF TRAFFIC WITH NO LOAD TRANSFERRED TO THE CDF.
 - CONTRACTOR SHALL ALLOW FOR A MINIMUM 48 HOUR CURE TIME FOR CDF PRIOR TO PLACING ASPHALT.
 - 36-INCH DEPTH OF CDF MAY BE REDUCED IF CONFLICTING WITH PIPE ZONE BACKFILL.

STANDARD GRADING NOTES:

- IF EARLY GRADING ACTIVITY IS APPROVED, IT IS TO BE PERFORMED AT APPLICANTS RISK.
- FILL/GRADING SHALL BE PERFORMED IN COMPLIANCE WITH APPENDIX J OF THE INTERNATIONAL BUILDING CODE (IBC).
- ALL SUBGRADE UNDER PAVED SURFACES, CURBS, BUILDINGS, FOOTINGS, SLABS AND CONCRETE WALKS SHALL BE COMPACTED TO 95% OF MAXIMUM RELATIVE DENSITY OR AS SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER. WHERE FILLING IS REQUIRED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS WITH EACH LIFT BEING COMPACTED TO 95% OF MAXIMUM RELATIVE DENSITY OF THE FILL MATERIAL BEFORE THE NEXT LIFT OR FINISHED SURFACE IS PLACED. WHERE FILLING IS REQUIRED OUTSIDE THE ABOVE-MENTIONED STRUCTURAL AREAS, COMPACTION REQUIREMENTS SHALL BE 90% OF MAXIMUM RELATIVE DENSITY. PROJECT GEOTECHNICAL ENGINEER SHALL SUBMIT COMPACTION TEST RESULTS TO COUNTY INSPECTOR FOR PROPER CERTIFICATION OF FILL PLACEMENT.
- UNDER WET WEATHER CONDITIONS (OCT - APR) SUBGRADE THAT CAN NOT MEET COMPACTION MAY REQUIRE ADDITIONAL TESTING TO DETERMINE THE DEPTH OF OVER EXCAVATION, ADDITIONAL AGGREGATE AND GEOTEXTILE TO BE INSTALLED. UPON INSPECTION OF THE SUBGRADE, THE COUNTY INSPECTOR MAY REQUEST A GEOTECHNICAL ENGINEER TO SUBMIT AN ALTERNATE WET WEATHER STREET SECTION FOR REVIEW AND APPROVAL BY ENGINEERING SERVICES.

Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	PAGE 2 OF 2		NO.	REVISIONS	DATE	BY
	STANDARD TRENCH RESTORATION, AND GRADING NOTES					
	APPROVED <i>Peter Capen</i> DATE 05/23/08					
	STANDARD DETAIL DESIGNED DATE 05/23/08					

OPEN CUT UTILITY TRENCH BACKFILL DETAIL (COLLECTOR OR ARTERIAL)

SURFACING:

- ALL A.C.P. SHALL BE SAW CUT TO PROVIDE A STRAIGHT, CLEAN EDGE PRIOR TO PAVING.
- THE CUT LINE SHALL BE ONE CONTINUOUS STRAIGHT LINE FROM THE OUTER EXCAVATION LIMITS OF MANHOLE, VALVE BOX, ETC. TO MANHOLE, VALVE BOX, ETC.
- PAVE WITH AN 0.5 FT. MINIMUM COMPACTED DEPTH HMA CLASS, OR MATCH EXISTING OR DESIGN SECTION, WHICHEVER IS GREATER.
- LIFTS FOR HMA CLASS SHALL BE 0.15 FT. MINIMUM AND 0.35 FT. MAXIMUM FOR NON-SURFACE LIFTS (0.25' MAXIMUM FOR SURFACE LIFT); THE TEMPERATURE SHALL BE 250 DEGREE MINIMUM, 350 DEGREE MAXIMUM, COMPACTED TO 92% OF THE THEORETICAL MAXIMUM LIFTS.
- ALL JOINTS SHALL BE TACKED, SEALED AND SANDED.
- TRENCH SHALL BE PLATED UNTIL PAVED.
- FOR LONGITUDINAL INSTALLATION, FULL LANE WIDTH INCLUDING TURN LANES RESTORATION SHALL BE REQUIRED OR AS DIRECTED BY CLARK COUNTY. FOR TRANSVERSE INSTALLATION REFER TO SURFACING RESTORATION OF STANDARD PLAN U6. SEE SECTION 12.20A.120.C.
- PAVEMENT MAY BE REJECTED IF IT DOES NOT MEET THESE STANDARDS.

BASE COURSE:

- 0.80 FT. MINIMUM DEPTH (1-1/4" MINUS) C.S.B.C. (WSDOT APPROVED MATERIAL).
- COMPACTED TO 95% OF MAXIMUM DENSITY PER T99. SEE TRENCH ZONE.
- EQUIVALENT DEPTH OF A.T.B. MAY BE SUBSTITUTED.
- FOR TRANSVERSE OR DIAGONAL TRENCHES IN EXISTING ROADWAY PAVEMENT, CDF WILL BE USED FROM THE BOTTOM OF FULL PAVEMENT SECTION TO A MAXIMUM CDF SECTION OF 3 FEET OR TO 6" ABOVE THE TOP OF THE PIPE, WHICHEVER IS LESS. SEE NOTE 13 OF STD. DETAIL UGN OF THIS MANUAL.

TRENCH ZONE:

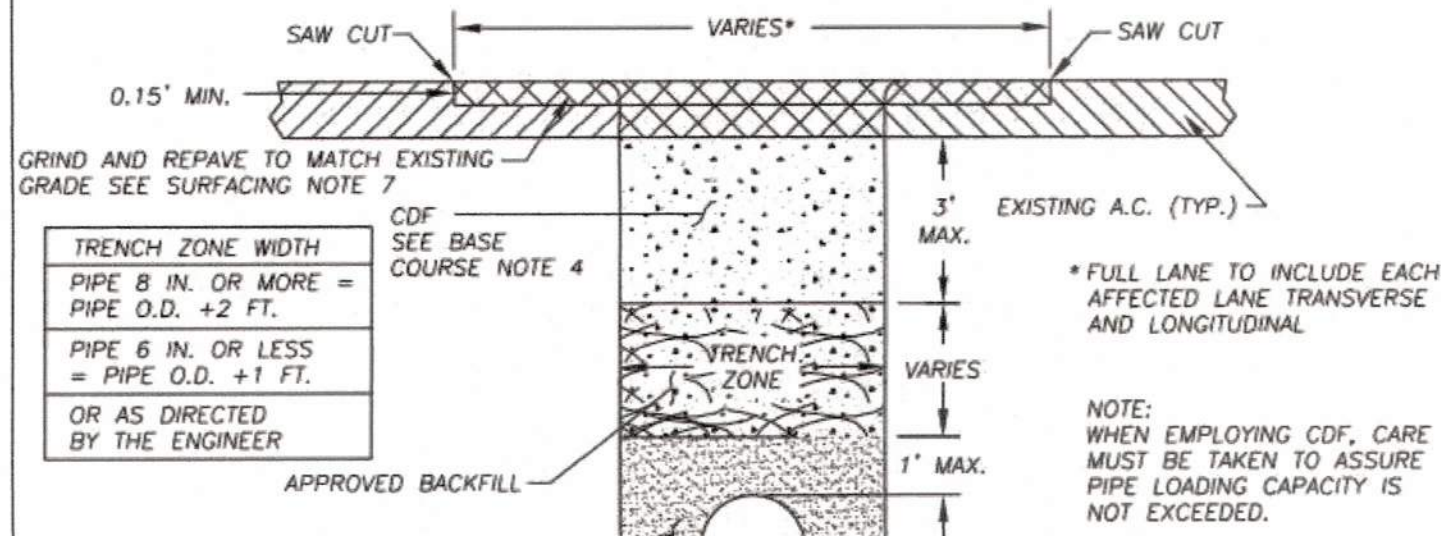
- GRANULAR BACKFILL AS APPROVED BY LOCAL AGENCY OR WSDOT SPECIFICATIONS FOR GRANULAR BACKFILL. COMPACTED TO 95% OF MAXIMUM DENSITY IN THE TRENCH ZONE USING METHOD C COMPACTION AS PER SECTION 2-03.3(14).C.
- NATIVE MATERIAL MAY BE USED IF APPROVED PRIOR TO CONSTRUCTION BY CLARK COUNTY.
- TRENCH ZONE WIDTH -- SEE BELOW.

PIPE ZONE:

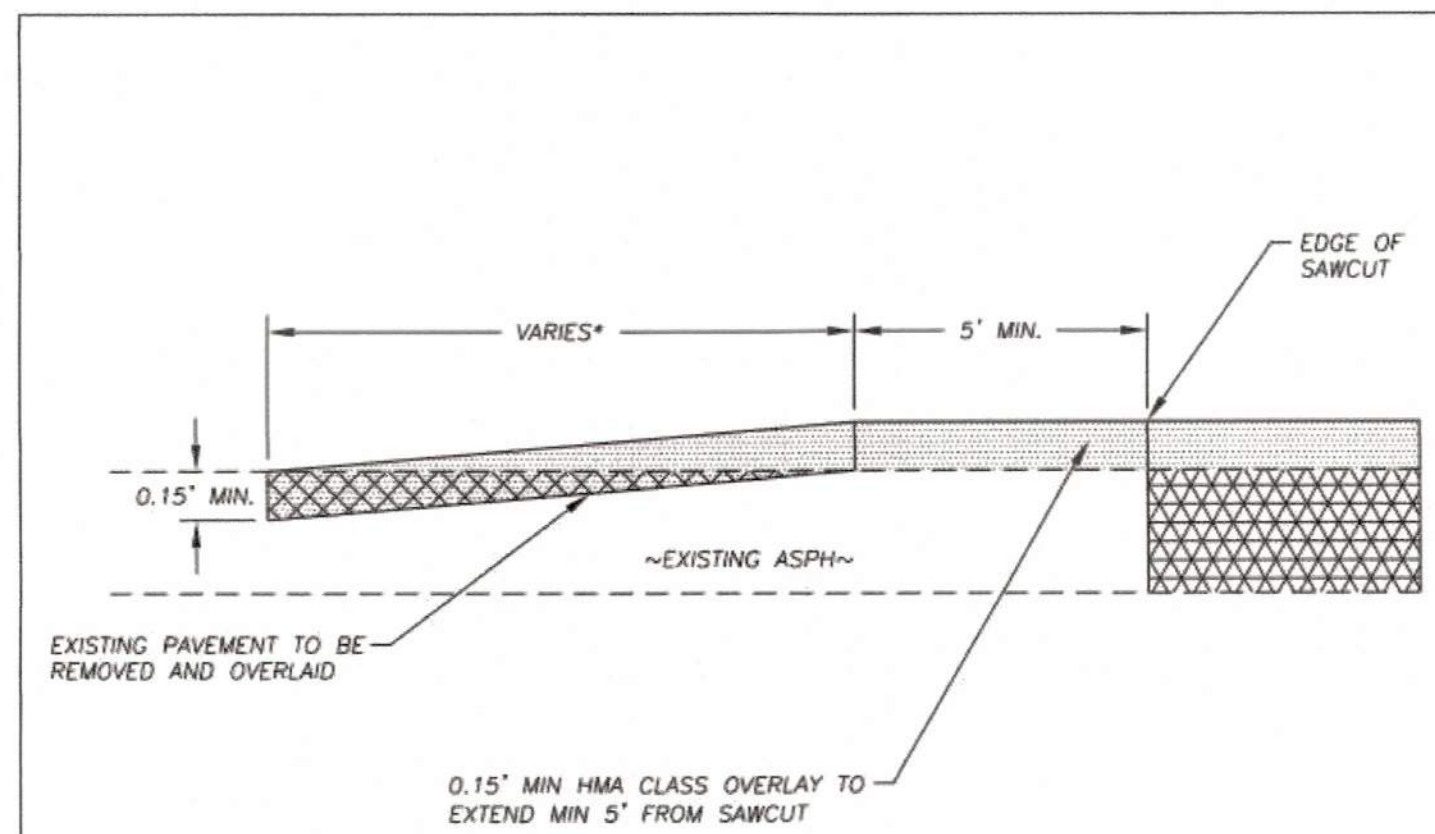
- PIPE ZONE MATERIAL AS SPECIFIED BY UTILITY OWNER, AND SHALL CONFORM TO SECTION 9-03.12(3) WSDOT SPEC.
- 1.0 FT. MAX. FROM TOP OF THE PIPE. 6" FROM TOP OF PIPE WHEN CDF BACKFILL USED.

CONDITIONS:

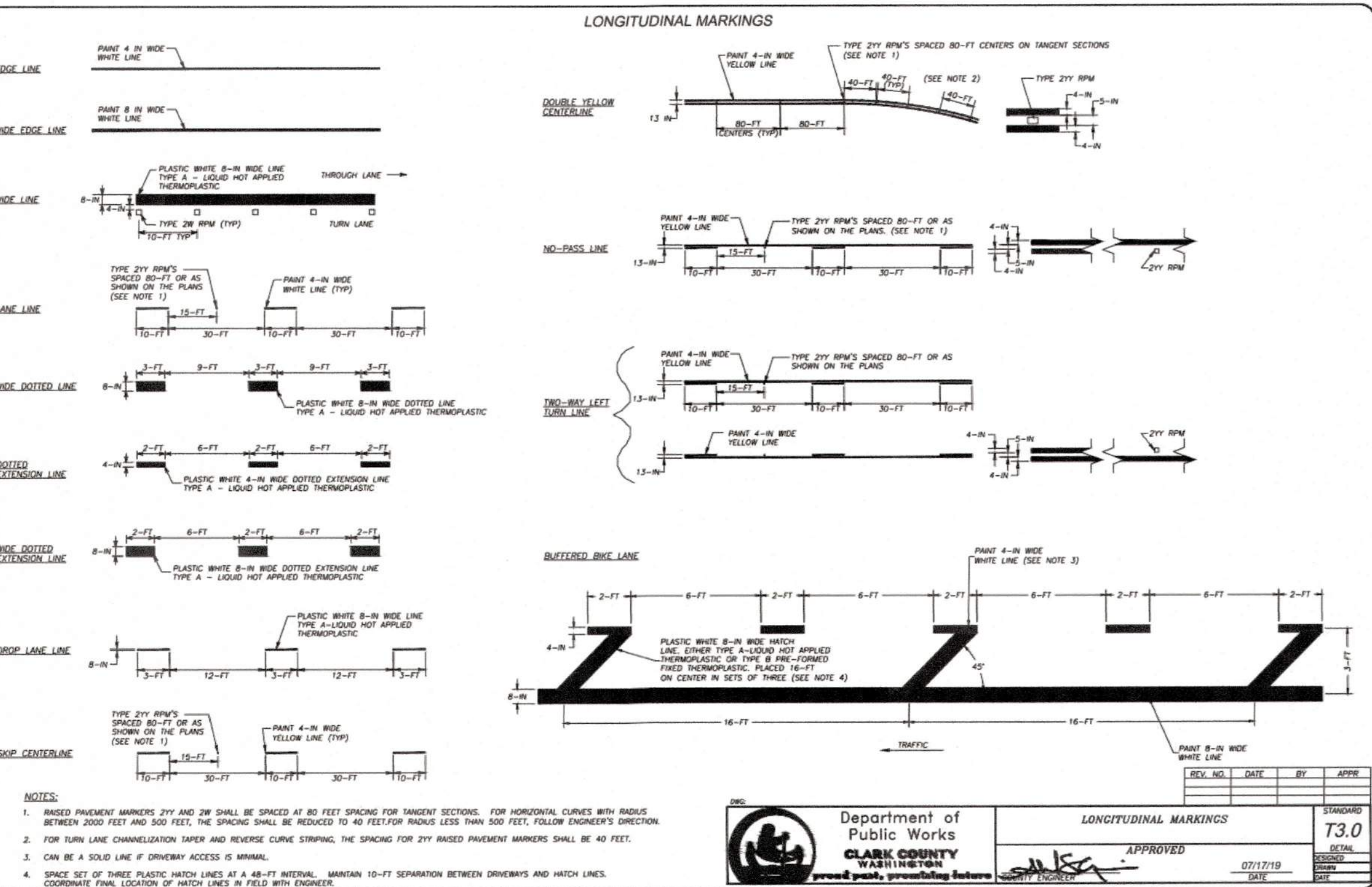
- A COPY OF THE PERMIT AND REQUIREMENTS SHALL BE ON THE JOB SITE AT ALL TIMES.
- THE PERMIT HOLDER SHALL BE RESPONSIBLE FOR ALL RESTORATION AND MAINTENANCE OF DITCHES, SHOULDERS, DRIVEWAYS, LANDSCAPING, ETC.
- CALL CLARK COUNTY AT 397-2446 TWENTY-FOUR HOURS PRIOR TO COMMENCING WORK.



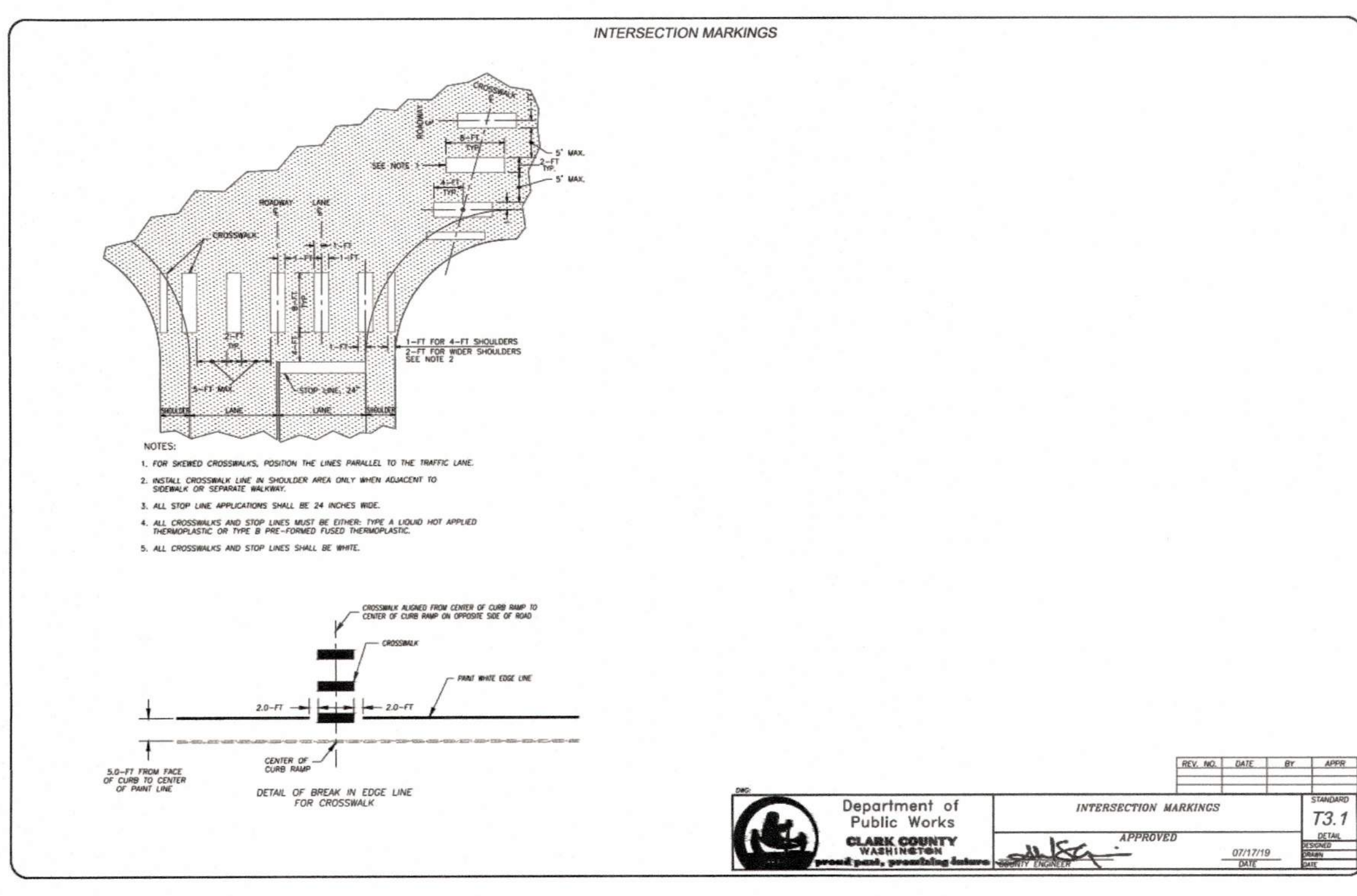
Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	STANDARD U1		NO.	REVISIONS	DATE	BY
	OPEN CUT UTILITY TRENCH BACKFILL COLLECTOR OR ARTERIAL ROADWAY					
	APPROVED <i>Peter Capen</i> DATE 05/23/08					
	STANDARD DETAIL DESIGNED DATE 05/23/08					



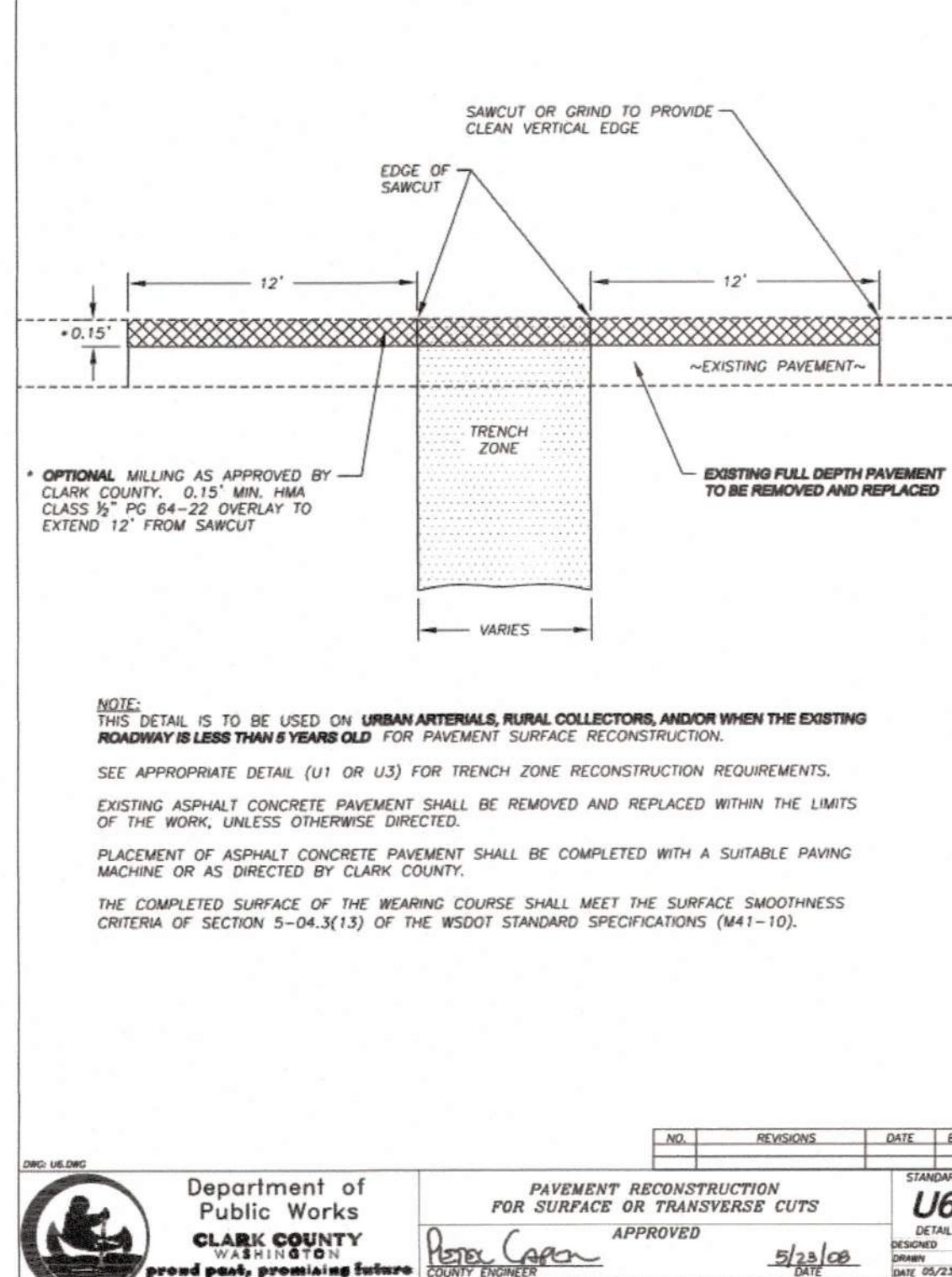
Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	STANDARD U7		NO.	REVISIONS	DATE	BY
	BUTT JOINT PLANING AND OVERLAY					
	APPROVED <i>Peter Capen</i> DATE 05/23/08					
	STANDARD DETAIL DESIGNED DATE 05/23/08					



Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	STANDARD T3.0		NO.	REVISIONS	DATE	BY
	LONGITUDINAL MARKINGS					
	APPROVED <i>Peter Capen</i> DATE 07/17/19					
	STANDARD DETAIL DESIGNED DATE 07/17/19					



Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	STANDARD T3.1		NO.	REVISIONS	DATE	BY
	INTERSECTION MARKINGS					
	APPROVED <i>Peter Capen</i> DATE 07/17/19					
	STANDARD DETAIL DESIGNED DATE 07/17/19					



Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	STANDARD U6		NO.	REVISIONS	DATE	BY
	PAVEMENT RECONSTRUCTION FOR SURFACE OR TRANSVERSE CUTS					
	APPROVED <i>Peter Capen</i> DATE 05/23/08					
	STANDARD DETAIL DESIGNED DATE 05/23/08					

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CLARK COUNTY UTILITIES COORDINATING COUNCIL

DESIGN DATE:	11/19/2025
AS-BUILT DATE:	
SCALES:	
HORIZONTAL:	AS SHOWN
VERTICAL:	N/A
CONTACTS:	
DESIGNED BY:	W.AJAWADI
APPROVED BY:	J. HODGES
PROJ. ENGR.:	W.AJAWADI

City of Camas WASHINGTON
616 NE 4TH AVENUE
CAMAS, WA 98607
PH: (360) 834-3451

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
NE HATHAWAY RD
WATERLINE REPLACEMENT
DETAILS

JAMES E. CAROTHERS
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
11/20/2025

CAMAS PROJECT NUMBER
W1042

STATUS: ☒ DRAFT ☐ CONSTRUCTION ☐ AS-BUILT
PAGE: 13 of 15

CAMAS DRAWING NUMBER

CAMAS CATALOG NUMBER

CATEGORY	TEST	STANDARD	FREQUENCY	TESTING AGENCY	TIMING	TEST REQUIREMENTS
LOT	LOT AREA COMPACTION	AASHTO T-99 OR AASHTO T-180	MIN. 1 PER EVERY 5' DEPTH, EACH LOT	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180
STREET/SUB	SUBGRADE CUT SECTION COMPACTION	CITY OF CAMAS	ALL	CITY OF CAMAS	PRIOR TO BASE ROCK	LOADED 10 CY TRUCK - PROOF ROLL
STREET/SUB	SUBGRADE FILL COMPACTION	AASHTO T-180	EVERY 2500 CY, MIN. 2, AND 1 PER 3 FT. OF DEPTH	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	95% MIN. COMPACTION
STREET/SUB	SUBGRADE FILL COMPACTION	CITY OF CAMAS	ALL	CITY OF CAMAS	PRIOR TO BASE ROCK	LOADED 10 CY TRUCK - PROOF ROLL
STREET/SUB	SUBGRADE GRADE CHECK ELEV.	CITY OF CAMAS	PER STATION (0+25)	CITY OF CAMAS	PRIOR TO BASE ROCK	+0.04' TOLERANCE
STREET/ROCK	BASE ROCK GRADATION	WSDOT 9-03.9	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT	COPY TO INSPECTOR
STREET/ROCK	BASE ROCK COMPACTION	AASHTO T-180	EVERY 1000 LF	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	95% MIN. COMPACTION
STREET/ROCK	BASE ROCK GRADE CHECK ELEV.	CITY OF CAMAS	PER STATION (0+25)	CITY OF CAMAS	PRIOR TO TOP ROCK	MINIMUM SECTION REQUIRED
STREET/ROCK	TOP ROCK GRADATION	WSDOT 9-03.9	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT	COPY TO INSPECTOR
STREET/ROCK	TOP ROCK COMPACTION	CITY OF CAMAS	ALL	CITY OF CAMAS	PRIOR TO PAVEMENT	LOADED 10 CY TRUCK - PROOF ROLL
STREET/ROCK	TOP ROCK GRADE CHECK ELEV.	CITY OF CAMAS	PER STATION (0+25)	CITY OF CAMAS	PRIOR TO PAVEMENT	+0.02' TOLERANCE
STREET/AC	STORM SYSTEM INSPECTION	CITY OF CAMAS	AS REQUIRED	CITY OF CAMAS	PRIOR TO PLACEMENT	SYSTEM TO BE 100% FUNCTIONAL
STREET/AC	AC GRADE & OIL CONTENT	WSDOT 9-03.8	ONE PER SOURCE	CERTIFIED LAB	PRIOR TO PLACEMENT	COPY TO INSPECTOR
STREET/AC	AC COMPACTION	AASHTO T-209	ONE EVERY 1000 TONS	CERTIFIED LAB	DURING PLACEMENT	91% MIN. COMPACTION
TRENCH	UTILITY BACKFILL COMPACTION (IN RIGHT OF WAY)	AASHTO T-180	EVERY 500 FT. MIN. 1/LINE, 2 AT 100 FT FOR FAILED TESTS	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	95% MIN. COMPACTION
TRENCH	UTILITY BACKFILL COMPACTION (OUT OF RIGHT OF WAY)	AASHTO T-99 OR AASHTO T-180	EVERY 500 FT. MIN. 1/LINE, 2 AT 100 FT FOR FAILED TESTS	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180
TRENCH	UTILITY BACKFILL COMPACTION (OVER 6 FT. IN DEPTH)	AASHTO T-99 OR AASHTO T-180	EVERY 5 FT. OF DEPTH & SAME AS ABOVE	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180

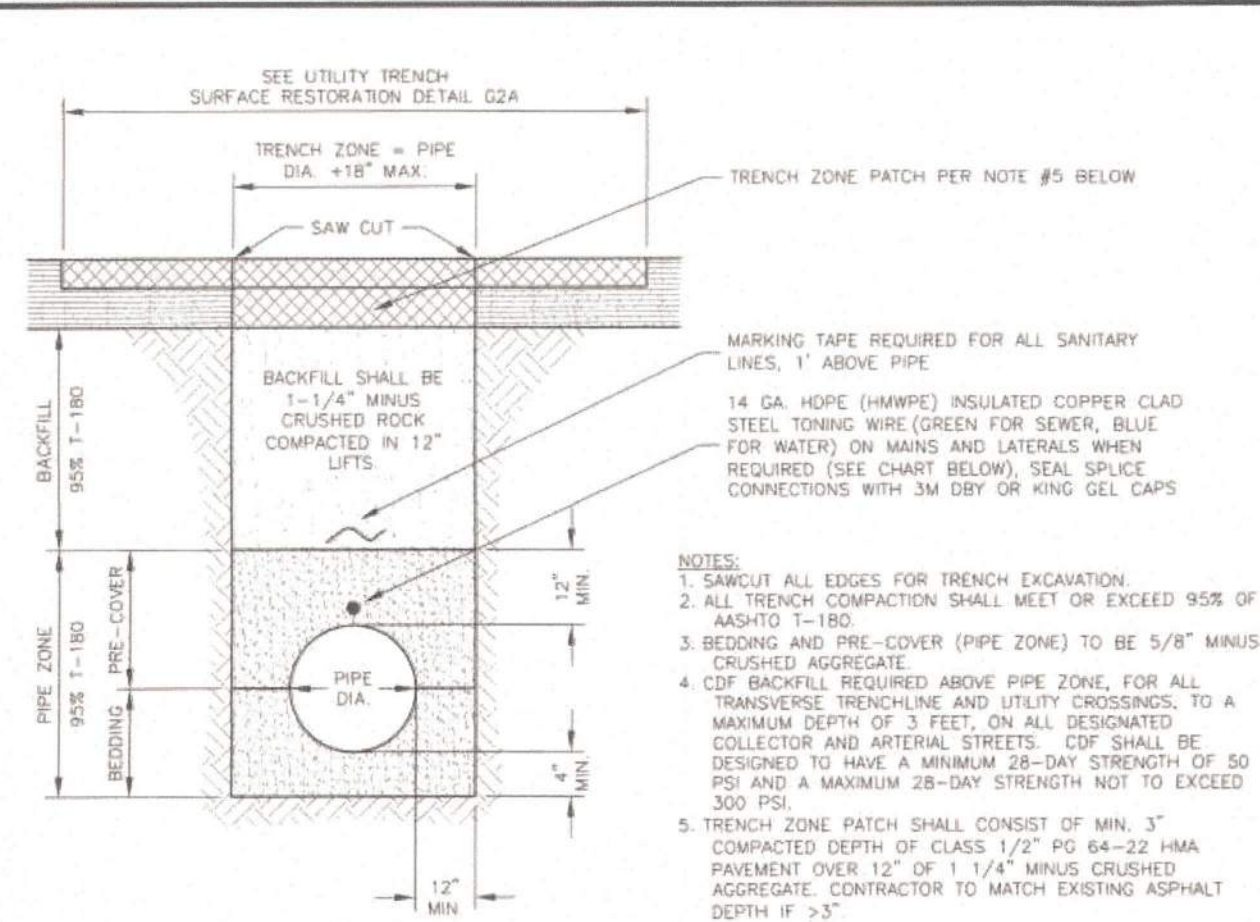
City of Camas
WASHINGTON
SANITARY SEWER DETAIL
STANDARD TESTING REQUIREMENTS
J. P. Austin 3-2-22
DETAIL APPROVED BY DATE

NOT TO SCALE
DETAIL NO. G4A
REVISION: 5 DATE: 03/02/2022
GEN--TESTING.DWG

CATEGORY	TEST	STANDARD	FREQUENCY	TESTING AGENCY	TIMING	TEST REQUIREMENTS
LOT	LOT AREA COMPACTION	AASHTO T-99 OR AASHTO T-180	MIN. 1 PER EVERY 5' DEPTH, EACH LOT	CERTIFIED LAB	DAILY, AS MAT'L IS PLACED	MINIMUM COMPACTION REQUIRED: 95% WITH T-99 OR 90% WITH T-180
STORM	STORM SEWER MANHOLE TEST	WSDOT 7-17.3	AT CITY REQUEST	CONTRACTOR	PRIOR TO BASE ROCK	EFFECTIVE LENGTH > 0, MANHOLE DIA > 0.950
STORM	STORM SEWER TV TEST	WSDOT 7-17.3	AT CITY REQUEST	CONTRACTOR	PRIOR TO BASE ROCK	INSPECTION REPORT AND VIDEO RECORDING ON DVD
SEWER	CONVENTIONAL SEWER - AIR TEST	WSDOT 7-17.3	MAINS, LATERALS	CONTRACTOR	PRIOR TO BASE ROCK	4 PSI FOR 1 MINUTE PER 100 LF OF MAIN
SEWER	STEP & CONVENTIONAL SEWER - MANHOLE TEST	WSDOT 7-17.3	AT CITY REQUEST	CONTRACTOR	PRIOR TO BASE ROCK	EFFECTIVE LENGTH > 0, MANHOLE DIA > 0.950
SEWER	STEP & CONVENTIONAL SEWER - TV TEST	WSDOT 7-17.3	REQUIRED ON MAINS	CONTRACTOR	PRIOR TO BASE ROCK	INSPECTION REPORT AND VIDEO RECORDING ON DVD
SEWER	CONVENTIONAL SEWER - TV TEST	WSDOT 7-17.3	REQUIRED ON MAINS AND LATERALS	CONTRACTOR	PRIOR TO FINAL ACCEPTANCE	INSPECTION REPORT AND VIDEO RECORDING ON DVD
SEWER	STEP & CONVENTIONAL SEWER - MANHOLE VACUUM TEST	CITY OF CAMAS	1:4 MH MINIMUM, ADD 1 MH PER FAILURE	CERTIFIED LAB	AFTER PAVEMENT INSTALLED, PRIOR TO MANHOLE COATING	-10 IN. Hg VACUUM FOR 60 SECONDS
SEWER	STEP SEWER - AIR TEST	WSDOT 7-17.3	MAINS, LATERALS	CONTRACTOR	PRIOR TO BASE ROCK	5 PSI FOR 1 MINUTE PER 100 FT.
SEWER	STEP SEWER - TONE TEST	CITY OF CAMAS	MAINS, SERVICES	CITY OF CAMAS	PRIOR TO BASE ROCK	CONTINUOUS TONE
SEWER	STEP SEWER - TONE TEST	CITY OF CAMAS	MAINS, SERVICES	CONTRACTOR	PRIOR TO BASE ROCK	CONTINUOUS TONE
SEWER	STEP SEWER - HYDROSTATIC TEST	CITY OF CAMAS	MAINS, AIR/VAC	CITY OF CAMAS	PRIOR TO BASE ROCK	15 MIN. AT 150 PSI (MIN.) OR WORKING PRESSURE (HIGHER OF 2), < 200 PSI
SEWER	STEP SEWER - SERVICE	CITY OF CAMAS	ALL SERVICES	CONTRACTOR	PRIOR TO BASE ROCK	PIPE MANUFACTURER RECOMMENDED HYDROSTATIC TEST PROCEDURE
SEWER	ALL SEWER - OPERATIONS INSPECTION	CITY OF CAMAS	MAINS, SERVICES	CITY OF CAMAS	PRIOR TO PAVING	OPERATIONS TO INSPECT PRIOR TO FINAL PAYE
WATER	CHLORINATE WATER MAINS	WSDOT 7-09.3 (24)	ALL	CONTRACTOR	PRIOR TO BACTERIA SAMPLE	50mg/L AT INSERTION, 25 mg/L AFTER 24 HRS. AVAILABLE CHLORINE, WATER DEPT. TO FILL LINES
WATER	BACTERIA WATER SAMPLE	AWWA	MIN. 1 PER BLOWOFF	CITY OF CAMAS	PRIOR TO PRESSURE TEST AND BASE ROCK	E. COLI & COLIFORM ABSENT
WATER	WATER LINE PRESSURE TEST	WSDOT 7-09.3(23)	MAIN, SERVICE, F.H., AIR/VAC DUCTILE/HQPE	CONTRACTOR	PRIOR TO BASE ROCK	15 MIN. AT 200 PSI (MIN.) AT HIGH POINT, NOT TO EXCEED 250 PSI AT LOW POINT.
WATER	ALL WATER - OPERATIONS INSPECTION	CITY OF CAMAS	MAINS, SERVICES	CITY OF CAMAS	PRIOR TO PAVING	OPERATIONS TO INSPECT PRIOR TO FINAL PAYE

City of Camas
WASHINGTON
SANITARY SEWER DETAIL
STANDARD TESTING REQUIREMENTS
J. P. Austin 3-2-22
DETAIL APPROVED BY DATE

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DETAIL NO. G4B
REVISION: 5 DATE: 03/02/2022
GEN--TESTING.DWG



UTILITY TRENCH WITHIN PAVED AREAS

MINIMUM PIPE COVER TABLE			
UTILITY TYPE	MAIN TYPE	MIN. PIPE (MAIN) COVER	MIN. LATERAL OR SERVICE COVER
WATER	DISTRIBUTION TRANSMISSION (A)	2.5'	2'
		3'	2' (B)
STORM	MAIN	5'	PER PLAN (MIN. 2')
SEWER:	STEP (C)	5'	1.5'
	STEP (C)	6'	4.5'
	GRAVITY	6'	4.5'

(NOTES)

A. TONING WIRE REQUIRED FOR MAINS 12" DIA. AND LARGER

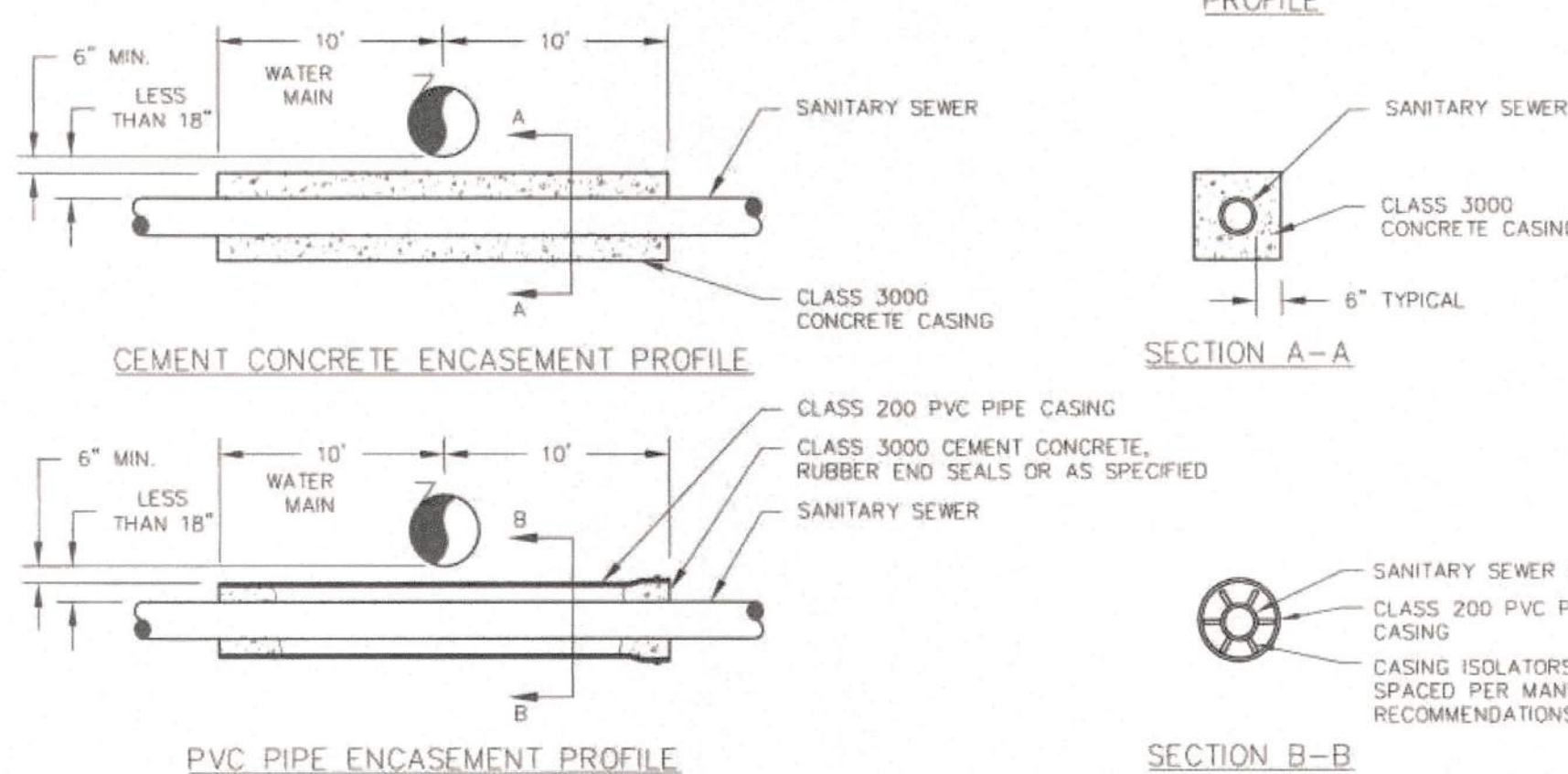
B. SERVICES ONLY ALLOWED WHERE APPROVED

C. TONING WIRE REQUIRED

City of Camas
WASHINGTON
GENERAL DETAIL
UTILITY TRENCH WITHIN PAVED AREAS
J. P. Austin 3-2-22
DETAIL APPROVED BY DATE

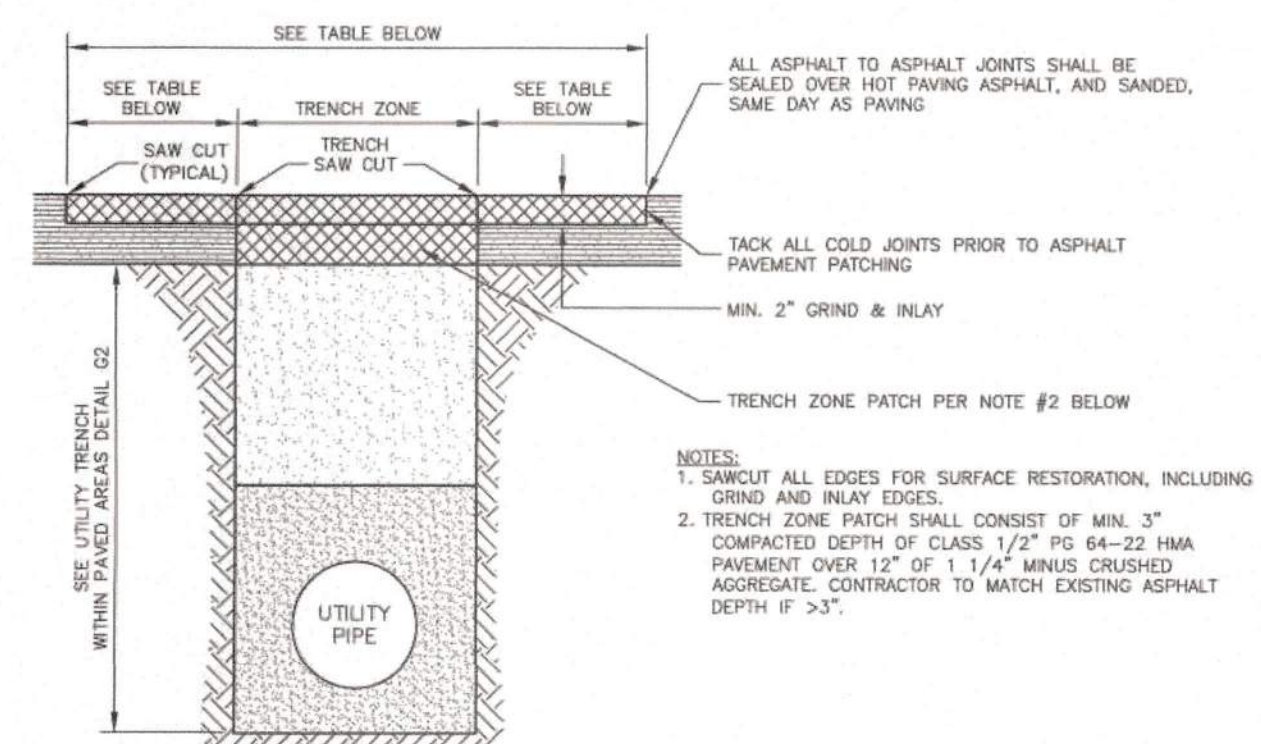
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REVISION: 7 DATE: 03/02/2022
GEN--TRENCH.DWG

- NOTES:
- MINIMUM HORIZONTAL CLEARANCE BETWEEN WATER AND SEWER MAINS SHALL BE 10 FEET.
 - MINIMUM HORIZONTAL CLEARANCE BETWEEN WATER OR SEWER MAINS AND FRANCHISE UTILITY MAINS SHALL BE 5 FEET.
 - IF VERTICAL CLEARANCE IS LESS THAN 18", THE SEWER PIPE SHALL BE ENCASED. MINIMUM CLEARANCE WITH CASING SHALL BE 6".
 - CASING SHALL BE A 20' LENGTH OF CLASS 3000 P.V.C. WITH BOTH ENDS PLUGGED, OR 6" CLASS 3000 CEMENT CONCRETE AS SHOWN BELOW.
 - MINIMUM VERTICAL CLEARANCE FOR WATER-ENCASEMENT, WATER-STORM OR SANITARY-STORM CROSSINGS SHALL BE 6".
 - SPACERS FOR PVC PIPE ENCASEMENT SHALL BE PSI RANGER I, OR EQUIVALENT, NON-METALLIC CASING ISOLATORS AS SHOWN IN SECTION B-B.
 - RUBBER END SEALS FOR PVC PIPE ENCASEMENT SHALL BE PSI MODEL "W", MODEL "S" OR EQUIVALENT.
 - PIPE JOINTS WITHIN ENCASEMENT SHALL BE RESTRAINED JOINTS.
 - NO PRIVATE UTILITIES SHALL BE ALLOWED IN CITY OF CAMAS CASINGS



City of Camas
WASHINGTON
GENERAL DETAIL
MINIMUM SEPARATION FOR UTILITY CROSSINGS
J. P. Austin 7-17-23
DETAIL APPROVED BY DATE

NOT TO SCALE
DETAIL NO. G5
REVISION: 4 DATE: 07/17/2023
GEN--CROSSING.DWG



UTILITY TRENCH SURFACE RESTORATION TABLE		
STREET CLASSIFICATION	TRANSVERSE TRENCH REQUIREMENTS	LONGITUDINAL TRENCH REQUIREMENTS
LOCAL INCLUDING CUL-DE-SACS & DEAD ENDS (A)	3' MINIMUM EACH SIDE OF TRENCH; 10 FT. MINIMUM TOTAL (B)(C)	FULL LANE WIDTH GRIND & INLAY (B)
LOCAL THROUGH STREETS (A)	12 FT GRIND & INLAY EACH SIDE OF TRENCH (C)	FULL LANE WIDTH GRIND & INLAY
COLLECTOR	12 FT GRIND & INLAY EACH SIDE OF TRENCH	FULL LANE WIDTH GRIND & INLAY
ARTERIAL	12 FT GRIND & INLAY EACH SIDE OF TRENCH	FULL LANE WIDTH GRIND & INLAY

(NOTES)

A. MINIMUM REQUIREMENTS FOR PUBLIC AND PRIVATE STREETS

B. OPTIONAL FULL DEPTH PATCH, OR GRIND AND INLAY

C. SURFACE RESTORATION LESS THAN MIN. SHOWN REQUIRES PRIOR APPROVAL

City of Camas
WASHINGTON
GENERAL DETAIL
UTILITY TRENCH SURFACE RESTORATION
J. P. Austin 4/19/19
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REVISION: 1 DATE: 4/18/2019
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VERTICAL: N/A
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APPROVED BY: J. HODGES
PROJ. ENGR.: W. ALJAWADI

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PUBLIC WORKS DEPARTMENT
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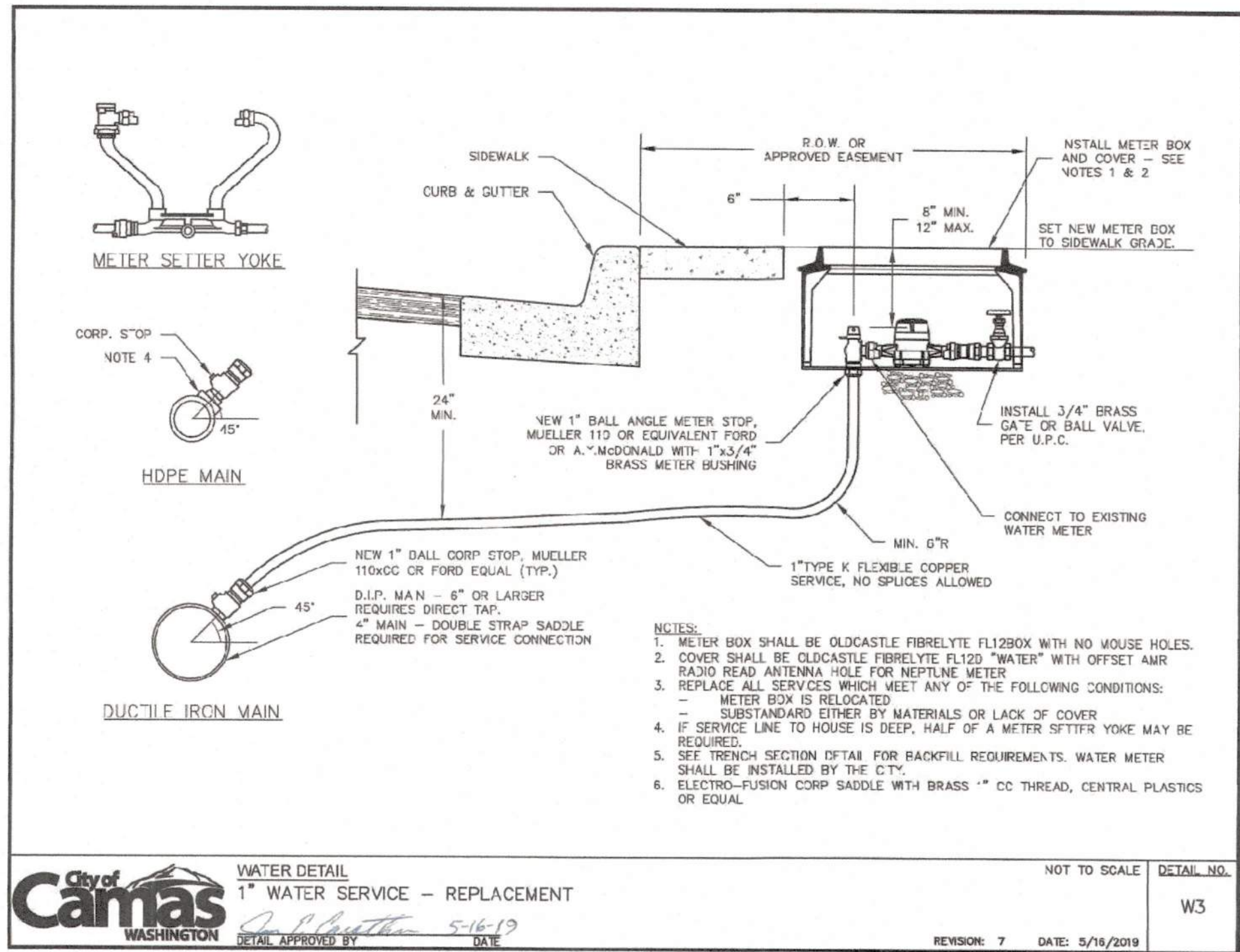
JAMES E. CAROTHERS
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
36013
11/20/2025

CAMAS PROJECT NUMBER
W1042

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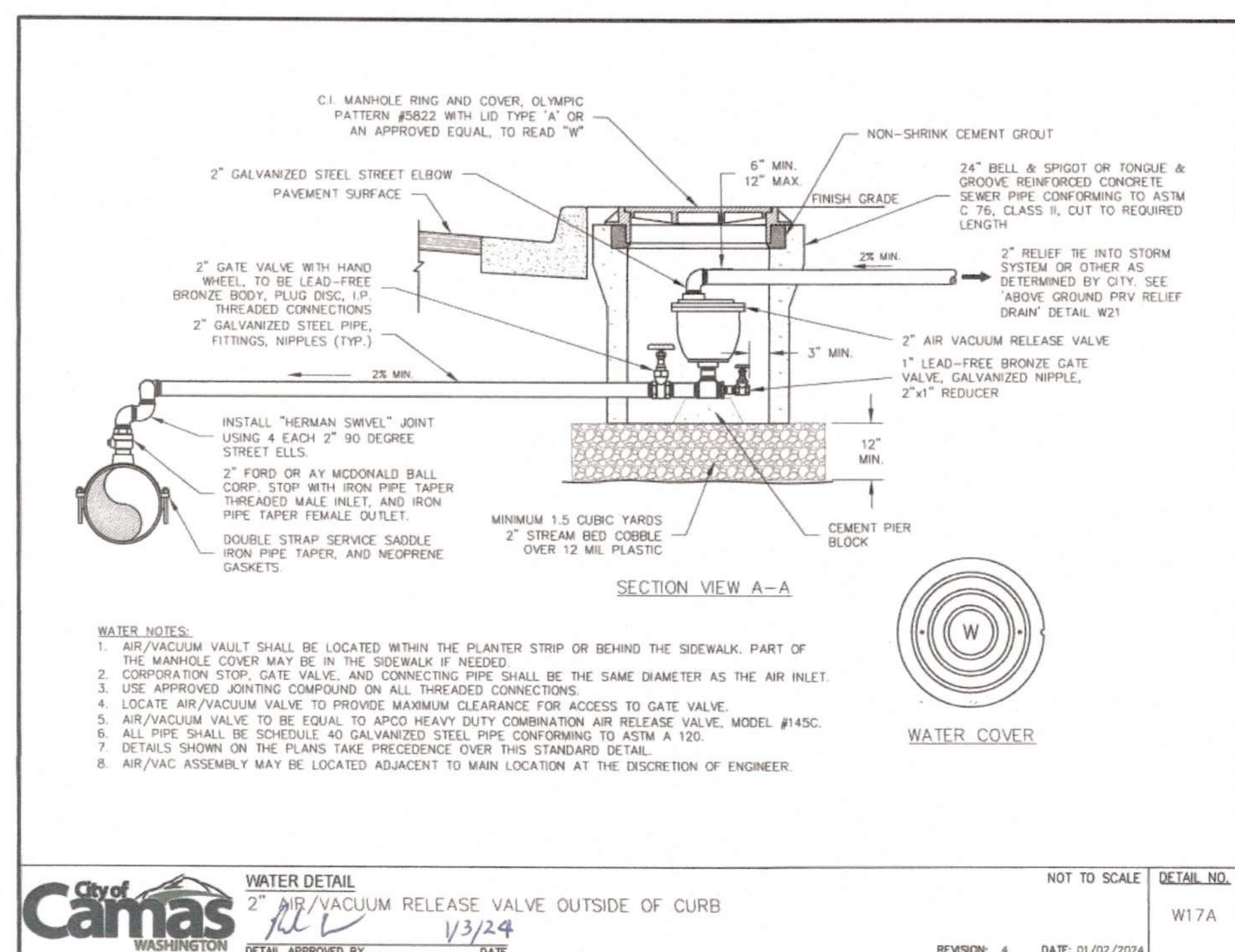
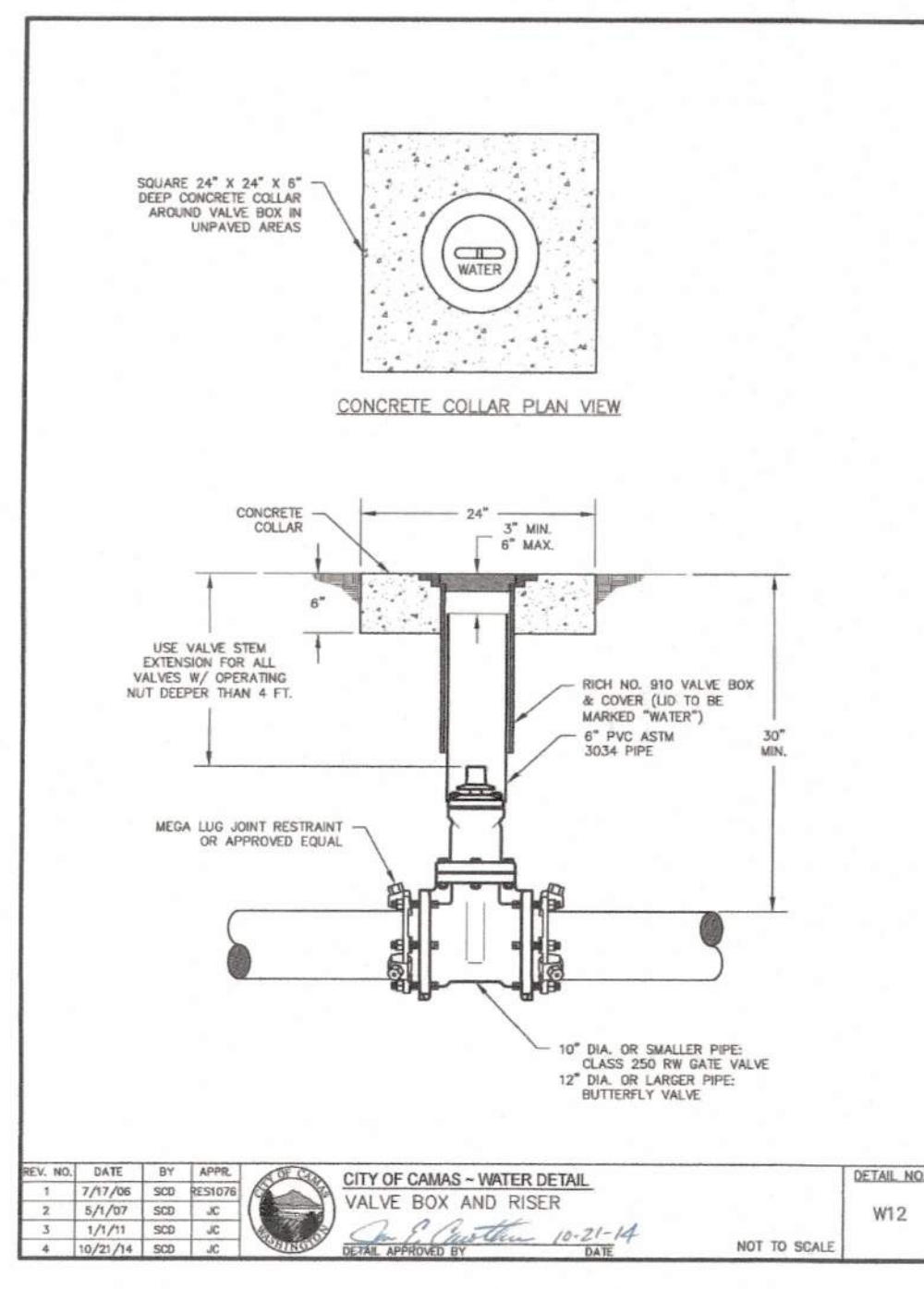
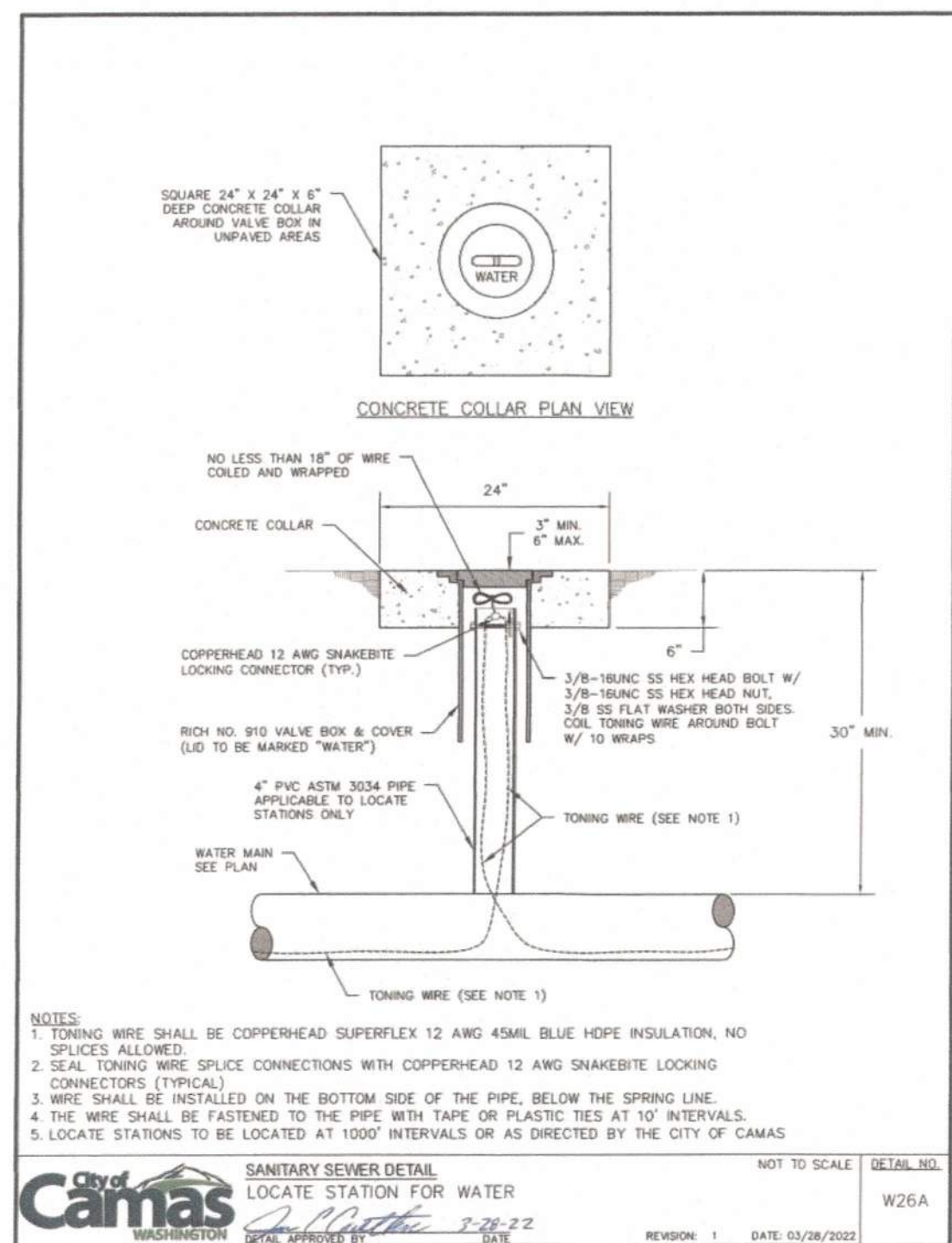
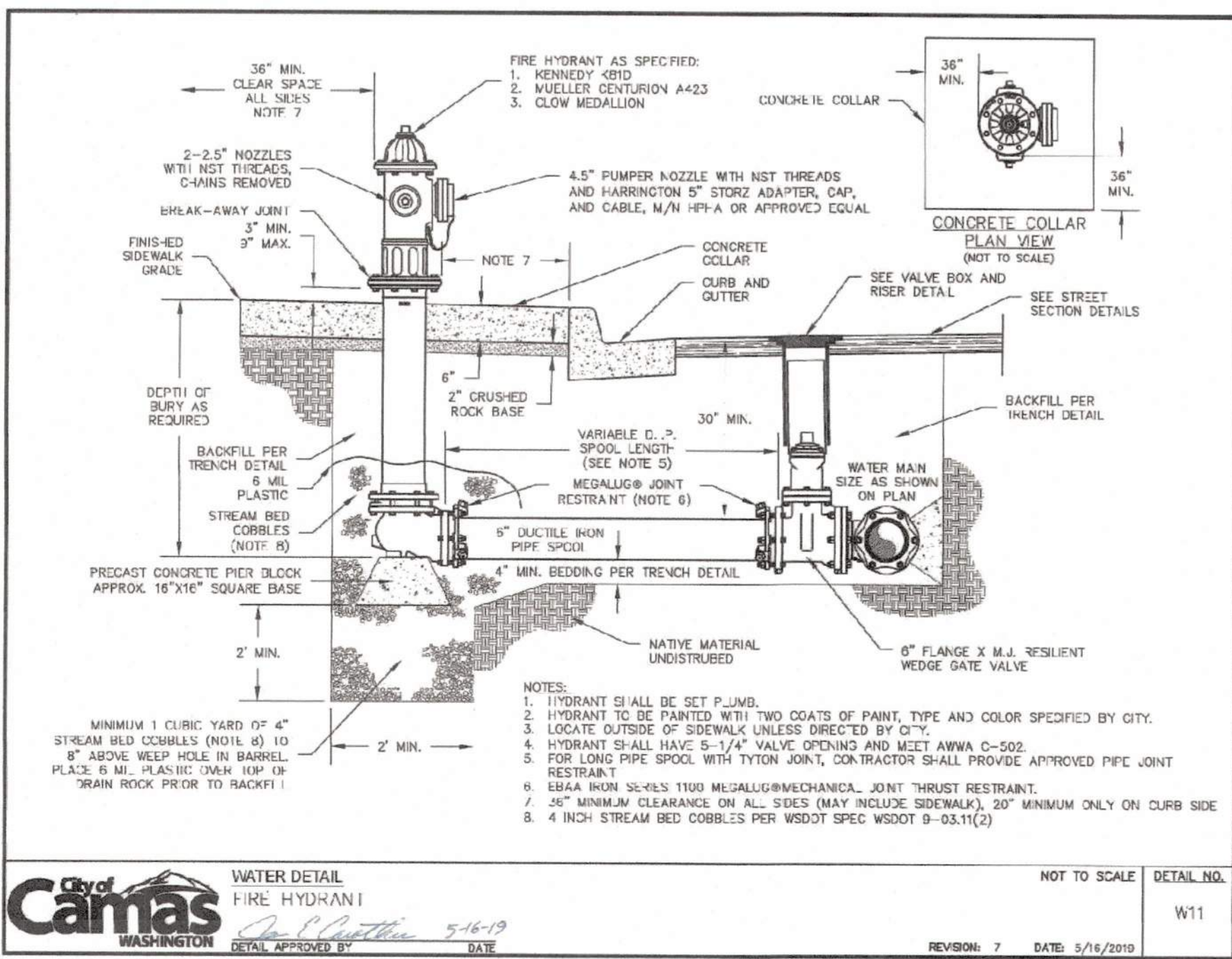
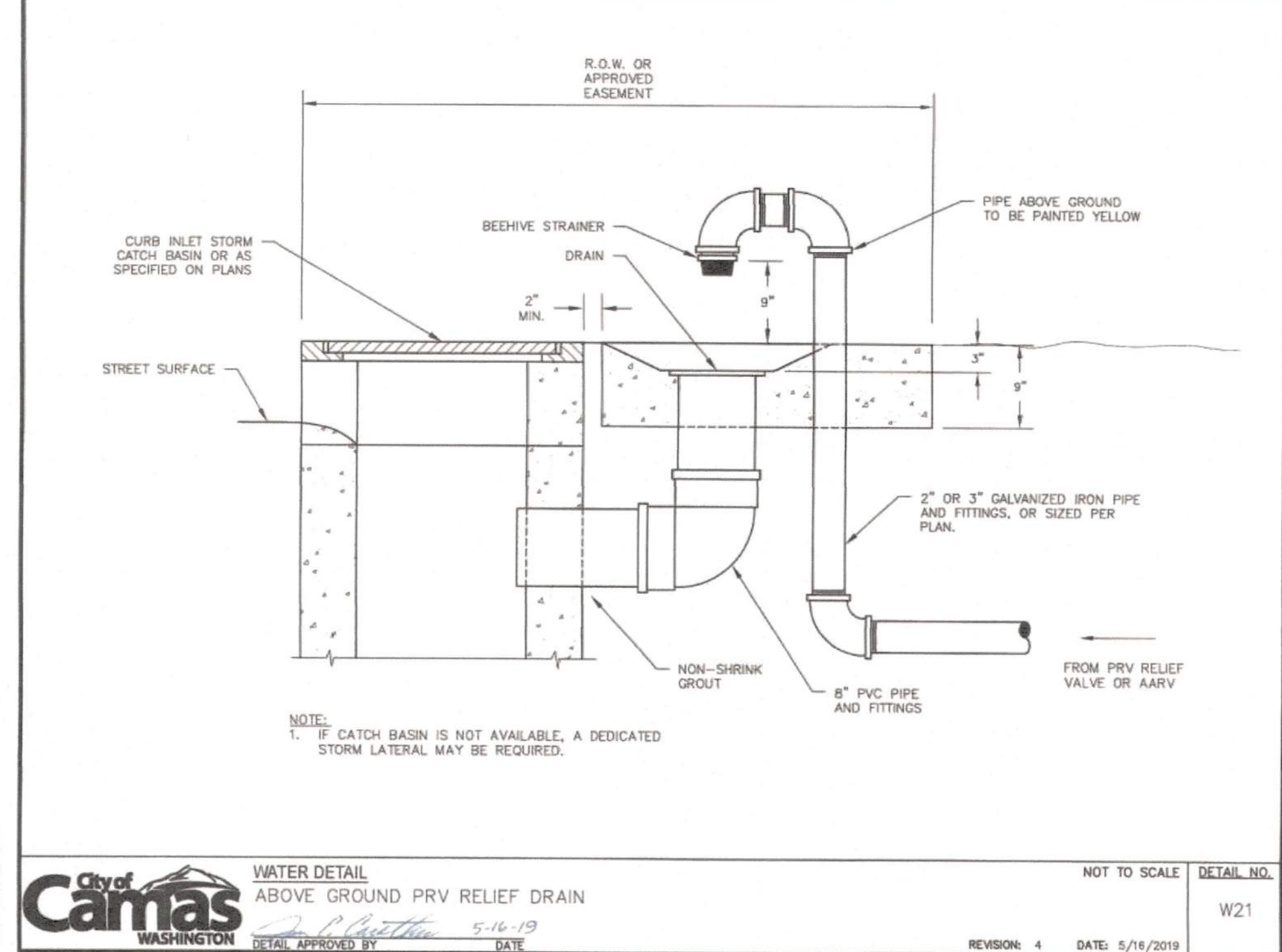
CAMAS DRAWING NUMBER

CAMAS CATALOG NUMBER



FITTING SIZE	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN	45° BEND	22 1/2° BEND	11 1/2° BEND
4	1.0	1.4	1.9	1.4	1.0	---
6	2.1	3.0	4.3	3.0	1.6	1.0
8	3.8	5.3	7.6	5.4	2.9	1.5
10	5.9	8.4	11.8	8.4	4.6	2.4
12	8.5	12.0	17.2	12.0	6.6	3.4
14	11.5	16.3	23.0	16.3	8.9	4.6
16	15.0	21.3	30.0	21.3	11.6	6.0
18	19.0	27.0	38.0	27.0	14.6	7.6
20	23.5	33.3	47.0	33.3	18.1	9.4
24	34.0	48.0	68.0	48.0	26.2	13.6

NOTES:
1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. KEEP CONCRETE CLEAR OF JOINTS AND ACCESSORIES.
3. THE REQUIRED THRUST BEARING AREAS FOR SPECIAL CONNECTIONS ARE SHOWN ENCLOSED ON THE PLANS. e.g. ⑬
4. IF NOT SHOWN ON PLANS THE REQUIRED BEARING AREAS AT FITTINGS SHALL BE AS INDICATED IN TABLE, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWED SOIL BEARING STRESS(ES) STATED IN THE SPECIAL SPECIFICATIONS.
5. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.
6. ALL FITTINGS SHALL BE WRAPPED IN 6 MIL PLASTIC PRIOR TO THRUST BLOCK PLACEMENT MAKING SURE THE BOLTS AND NUTS ARE PROTECTED.
7. THRUST BLOCKS SHALL BE GIVEN 72 HOURS TO SET UP PRIOR TO PRESSURIZING LINE OR AS DIRECTED BY CITY INSPECTOR.



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HORIZONTAL: AS SHOWN

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PUBLIC WORKS DEPARTMENT

ENGINEERING DIVISION

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