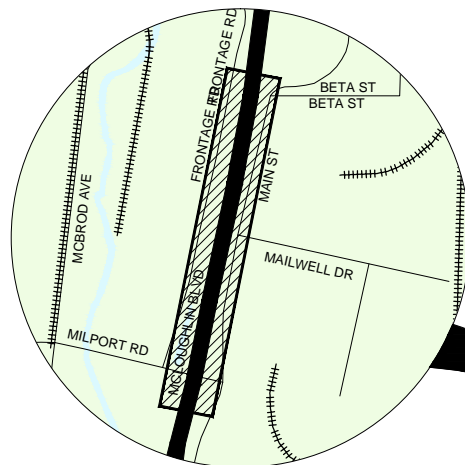


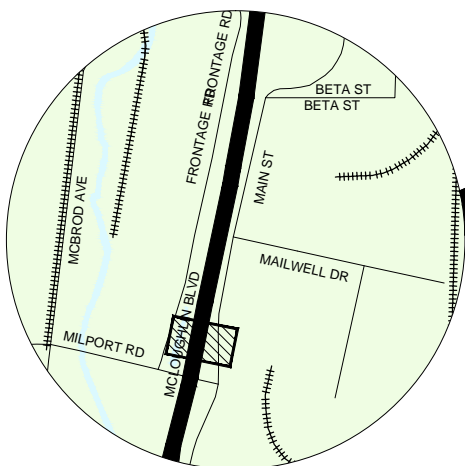
CITY OF MILWAUKIE, OREGON

99E HIGHWAY / SE MCLOUGHLIN BLVD UTILITY RELOCATION

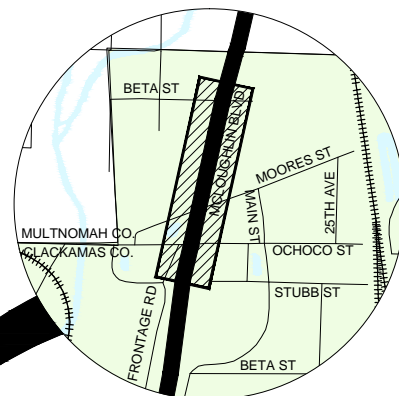
CIP2016-Y13



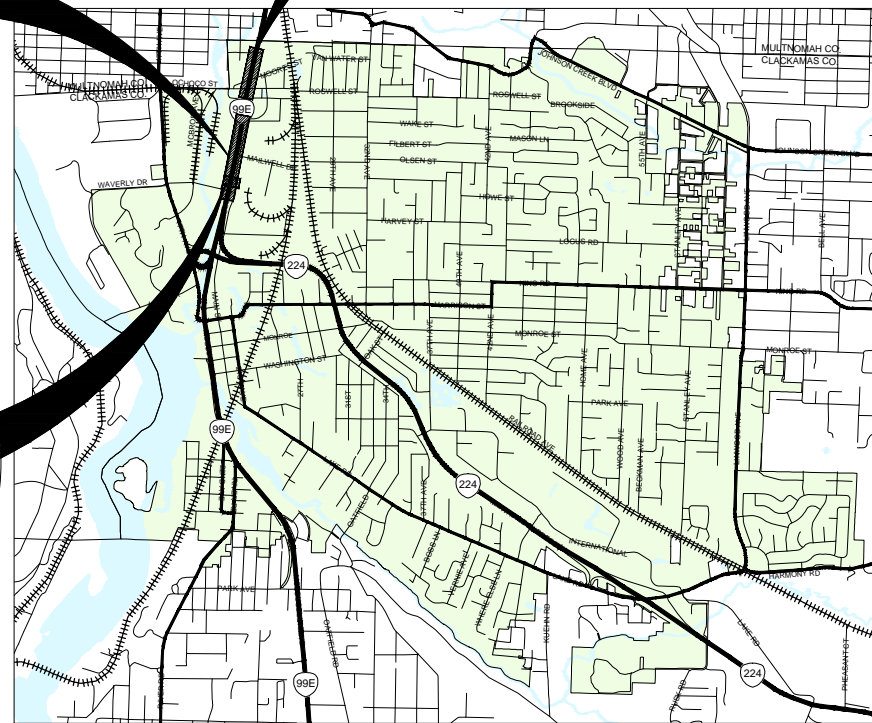
PROJECT VICINITY (WATER LINE)
Scale: N.T.S.



PROJECT VICINITY (STORM SEWER LINE)
Scale: N.T.S.



PROJECT VICINITY (SANITARY SEWER LINE)
Scale: N.T.S.



PROJECT MAP
Scale: N.T.S.

PROJECT DESCRIPTION

The project generally consists of relocating water and sanitary sewer out of 99E Hwy / SE McLoughlin Blvd and upsizing storm sewer pipe to improve drainage on SE Main Street and SE Millport Road.

PROJECT MANAGER

Name: Rick Buen
Title: Civil Engineer
Phone Number: (503) 786-7602
Email Address: buenr@milwaukieoregon.gov

PROJECT INSPECTOR

Name: Alex Roller
Title: Engineering Technician II
Phone Number: (503) 786-7695
Cell Number: (503) 502-6570
Email Address: rollera@milwaukieoregon.gov

MILWAUKIE OPERATIONS

Name: Emergency On-Call
Phone Number: (503) 348-8833

PORTLAND GENERAL ELECTRIC

Name: Toby Anderson
Phone Number (Emergency): (503) 464-7777
Phone Number (Service): (503) 736-8280

NORTHWEST NATURAL

Name: Raymond Stauss
Phone Number: (503) 226-4211 ext. 6746

CENTURY LINK

Name: Kenneth Sculli
Phone Number: (503) 242-0304

COMCAST

Name: Kenneth Wills
Phone Number: (503) 596-3767



CITY OF MILWAUKIE
ENGINEERING DEPARTMENT
6101 SE JOHNSON CREEK BLVD
MILWAUKIE, OR 97206
PHONE (503) 786-7600
FAX (503) 774-8236

Oregon law requires Contractors to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through 952-001-0090. Contractors may obtain copies of the rules by calling the Oregon Utility Notification Center at 503-232-1987.



NO.	DATE	BY	REVISIONS

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MILWAUKIE
Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
COVER SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: CV1
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GENERAL REQUIREMENTS NOTES

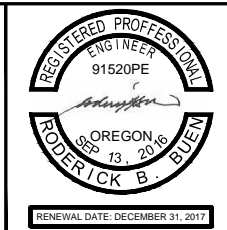
1. THE LOCATION AND DESCRIPTION OF UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND FIELD SURVEYS. THE CITY AND UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS.
2. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THESE REQUIREMENTS ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0100.
3. UTILITY LOCATIONS SHALL BE VERIFIED BY OREGON UTILITIES NOTIFICATION CENTER IMMEDIATELY PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING UTILITY LOCATE MARKINGS FOR THE DURATION OF THE PROJECT.
4. CONTRACTOR SHALL COMPLY WITH THE CURRENT EDITION OF THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS DATED FEBRUARY 4, 2015 IN ITS ENTIRETY.
5. PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. THE UTILITY OWNER SHALL BE NOTIFIED IN THE EVENT OF DAMAGE. REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.
6. FOR ANY EXISTING UNDERGROUND UTILITY CONFLICTING WITH THE PROPOSED WORK DESCRIBED HEREIN, CONTRACTOR SHALL NOTIFY WITH PROJECT MANAGER OF THE CONFLICTS.
7. UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. ABANDONED UTILITIES SHALL BE VERIFIED BY CITY STAFF PRIOR TO REMOVAL. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES WITH CONCRETE A MINIMUM OF 2 FEET INTO THE PIPE.
8. ALL UTILITY CROSSINGS SHALL BE POTHOLED PRIOR TO EXCAVATION TO ALLOW FOR GRADE ADJUSTMENTS DUE TO ALIGNMENT CONFLICTS. THE USE OF BENDS TO AVOID ALIGNMENT CONFLICTS WILL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.
9. ALL UTILITY POINTS OF CONNECTION TO THE EXISTING SYSTEM SHALL BE POTHOLED PRIOR TO THE START OF NEW UTILITY INSTALLATION TO VERIFY ALIGNMENT, DEPTH, PIPE SIZE, AND PIPE MATERIAL. THE CONTRACTOR SHALL ARRANGE A PRE CONNECTION MEETING WITH THE CITY PRIOR TO THE START OF CONNECTION WORK.
10. CONTRACTOR SHALL INSTALL, UTILIZE, AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE EROSION PREVENTION & SEDIMENT CONTROL NOTES AND DETAILS ON SHEETS ER1 AND ER2.
11. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE REQUIREMENTS ON SHEET TR1 THROUGH TR3 PRIOR TO START OF WORK. CONTRACTOR TO INSTALL, MAINTAIN, AND REMOVE TRAFFIC CONTROL DEVICES AS NEEDED OR DIRECTED. ADDITIONS AND/OR DEVIATIONS FROM THE TCP SHALL BE APPROVED BY THE PROJECT MANAGER.
12. ALL SALVAGED TRAFFIC SIGNS SHALL BE STORED SAFELY TO PREVENT DAMAGES. DAMAGED STREET SIGNAGE SHALL BE REPLACED AT CONTRACTORS EXPENSE.

GENERAL REQUIREMENTS NOTES (CONT.)

13. ALL EXCAVATIONS WITHIN THE PAVED STREET SHALL BE TEMPORARILY RESURFACED AT THE END OF EACH WORK DAY AND PRIOR TO ALLOWING VEHICULAR TRAFFIC ONTO EXCAVATED AREAS. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING, MAINTAINING, AND REMOVING TEMPORARY SURFACING MATERIALS. NO MEASUREMENT WILL BE MADE FOR TEMPORARY SURFACING MATERIALS AND IS CONSIDERED INCIDENTAL TO THE WORK. THE USE OF STEEL PLATES WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL.
14. CONTRACTOR SHALL NOT REMOVE ANY STREET SIGNAGE WITHOUT PRIOR CITY APPROVAL.
15. CONTRACTOR SHALL REPLACE DAMAGED OR REMOVED PAVEMENT MARKINGS UPON COMPLETION OF FINAL PAVING.
16. PRIOR TO FINAL PAYMENT, CONTRACTOR SHALL SUBMIT COMPLETE "AS BUILT" PLANS TO THE CITY SHOWING ANY CHANGES FROM THE ORIGINAL PLAN. THE CONTRACTOR SHALL KEEP A COMPLETE SET OF "AS BUILTS" ON SITE THAT MUST BE KEPT UP TO DATE AT ALL TIMES AND AVAILABLE FOR CITY INSPECTION.
17. IT IS THE OBLIGATION OF THE CONTRACTOR TO OBTAIN WRITTEN APPROVAL FROM PRIVATE PROPERTY OWNERS FOR USE OF PRIVATE PROPERTY FOR CONSTRUCTION STAGING AND TO RESTORE PRIVATE PROPERTY TO A CONDITION SATISFACTORY TO PROPERTY OWNER UPON COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A COPY OF ALL AGREEMENTS SIGNED WITH PRIVATE PROPERTY OWNERS.
18. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY. THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY MATERIALS OR WORKMANSHIP THAT DOES NOT CONFORM TO THE CITY STANDARDS AND SPECIFICATIONS.
19. CONTRACT SHALL CONTACT CITY PROJECT MANAGER AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE AN INSPECTION.
20. NEITHER THE AGENCY NOR THE OWNER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, SHALL SOLELY BE RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS.

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DRAFTED	DATE
CLE	07/07/2016
CHECKED	DATE
RB	07/07/2016
APPROVED	DATE



MILWAUKIE

Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

99E HWY / MCLOUGHLIN BOULEVARD

UTILITY RELOCATION
NOTES SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: CV2
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GENERAL UTILITY NOTES

1. ENGINEERING DEPARTMENT'S CIVIL/SITE INSPECTION STAFF SHALL BE NOTIFIED 48 HOURS BEFORE ANY CONSTRUCTION BEGINS, TELEPHONE (503) 786-7606.
2. ALL CONSTRUCTION IN CITY OF MILWAUKIE RIGHT-OF-WAY, OR EASEMENT, IS TO CONFORM TO THE CURRENT EDITION OF THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS DATED FEBRUARY 4, 2015 IN ITS ENTIRETY.
3. TRAFFIC REGULATIONS: ALL WORK MUST COMPLY WITH REQUIREMENTS OF THE CURRENT CITY OF MILWAUKIE TEMPORARY TRAFFIC CONTROL MEASURES AS STATED IN DIVISION 2 OF THE CITY OF MILWAUKIE PUBLIC WORKS STANDARD DATED FEBRUARY 4, 2015 AND/OR OREGON TEMPORARY TRAFFIC CONTROL HANDBOOK DATED DECEMBER 2011.
4. ALL LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE ESTIMATE. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL EXISTING UTILITIES.

SANITARY SEWER NOTES

1. ALL SEWER MAINS MUST PASS ALL TEST AS REQUIRED IN THE CITY OF MILWAUKIE PUBLIC WORKS STANDARD DIVISION 2 BEFORE ACCEPTED AS COMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING.
2. A TEN (10) FOOT MINIMUM HORIZONTAL SEPARATION FROM SEWER MAINS TO WATER MAINS. THE MINIMUM HORIZONTAL SEPARATION IS MEASURED FROM OUTSIDE OF SEWER MAIN TO OUTSIDE OF WATER MAIN.
3. A ONE (1) FOOT MINIMUM VERTICAL SEPARATION FROM ANY DRY UNDERGROUND UTILITY CROSSING SHALL BE PROVIDED
4. A EIGHTEEN (18) INCH MINIMUM VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN ANY SEWER MAIN OR STORM DRAIN MAIN CROSSING A WATER MAIN. THE MINIMUM VERTICAL SEPARATION IS MEASURED FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER MAIN OR STORM DRAIN MAIN.
5. SANITARY SEWER PIPE SHALL BE ASTM D-3034 SDR 35. TEES AND FITTINGS TO BE SAME CLASS AND TYPE OF MATERIAL AS MAIN. SEWER PIPE TO BE C-900 PVC, DR-18, DR-25 OR DUCTILE IRON PIPE AS APPROVED BY THE CITY ENGINEER.
6. ALL SANITARY MANHOLE LID COVERS TO MATCH FINAL GRADE.
7. ALL MANHOLES TO BE ABANDONED SHALL CONFORM TO THE CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 303.03.05.
8. ALL SANITARY SEWER PIPES TO BE ABANDONED SHALL CONFORM TO THE CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 303.03.07.
9. SANITARY SEWER CONSTRUCTION SHALL COMMENCE ONLY UPON ODOT PERMIT TO OCCUPY OR PERFORM OPERATIONS UPON A STATE HIGHWAY IS APPROVED.

WATER NOTES

1. WATER MAINS TO BE DUCTILE IRON PIPE UNLESS OTHERWISE INDICATED. ALL FITTINGS TO CONFORM TO AWWA STANDARDS AND SPECIFICATIONS.
2. ALL TEES, BENDS, AND BLOW-OFF LOCATIONS TO HAVE A Poured-IN-PLACE CONCRETE THRUST BLOCK CONFORMING TO CITY OF MILWAUKIE PUBLIC WORKS STANDARD DATED FEBRUARY 4, 2015.
3. BALANCE FULL LENGTH OF PIECE OF WATER PIPE WITH FULL LENGTH PIECE OF SANITARY SEWER PIPE WHEN WATERLINE CROSSES UNDER OR LESS THAN 18" OVER SANITARY SEWER PIPE (SERVICE OR MAIN).
4. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" FROM THE FINISHED GRADE.
5. CONTRACTOR IS RESPONSIBLE TO FLUSH, CLEAN, DISINFECT, AND PRESSURE TEST WATERLINES PER PROVIDER'S REQUIREMENTS. TESTING IS TO BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY CITY ENGINEER OR INSPECTOR.
6. ALL WATER MAINS AND SERVICES TO BE ABANDONED SHALL CONFORM TO CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.11.
7. ALL WATER WORKS MATERIALS INCLUDING PIPE, GATE VALVES UNITS, FITTINGS, FIRE HYDRANTS AND OTHER APPURTENANCES SHALL BE PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.10.
8. GATE VALVES 4" THROUGH 12" SHALL BE RESILIENT WEDGE, NON-RISING STEM WITH "O" RING PACKING, COMPLYING WITH THE AWWA CLASS C SPECIFICATIONS.
9. RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINT CONNECTIONS. MEGALUG RETAINER GLANDS SHALL BE USED FOR DUCTILE IRON PIPE CONNECTIONS.
10. PIPE BEDDING AND TRENCH BACKFILL SHALL BE CLASS B AND COMPACTED PER DIVISION 204 OF MILWAUKIE PUBLIC WORKS STANDARDS IN ALL PUBLIC RIGHT-OF-WAYS OR PAVED AREAS IN THE PROJECT.
11. ALL BOLTED TOGETHER JOINTS AND VALVES SHALL HAVE CORROSION RESISTANT 8 MIL WRAP IN ACCORDANCE WITH DIVISION 402.06 OF THE MILWAUKIE PUBLIC WORKS STANDARDS.
12. CITY WATER CREWS HAVE THE RIGHT TO REMOVE OR KEEP ANY OR ALL OLD WATER INFRASTRUCTURE THAT IS EXPOSED BY THE CONTRACTOR.
13. THE MAXIMUM ALLOWABLE JOIN DEFLECTION SHALL NOT EXCEED 3°.
14. WATER LINE FLUSHING SHALL BE PERFORMED IN ACCORDANCE WITH DIVISION 403.13 OF THE MILWAUKIE PUBLIC WORKS STANDARDS. CONTRACTOR SHALL PROVIDE ALL HOOK-UPS, PIPING, HOSES, AND ALL OTHER EQUIPMENT FOR FLUSHING.
15. HYDROSTATIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH DIVISION 403.14 OF THE MILWAUKIE PUBLIC WORKS STANDARDS. THE TEST SHALL CONFORM WITH AWWA C600, SECTION 4.

WATER NOTES (CONT.)

16. DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH DIVISION 403.14 OF THE MILWAUKIE PUBLIC WORKS STANDARDS AND CONFORM TO AWWA C651. PIPELINES SHALL BE FLUSHED AND DISINFECTED BEFORE PLACING INTO SERVICE. DISCHARGING OF THE CHLORINATED WATER USED FOR DISINFECTION INTO SURFACE WATERS IS PROHIBITED. APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS CONCERNING DISCHARGE SHALL BE FOLLOWED. OREGON STATE HEALTH DIVISION BACTERIOLOGICAL TESTS SHALL BE TAKEN BY THE CITY OF MILWAUKIE.
17. ALL NEW MATERIALS SHALL PASS HYDROSTATIC TESTING AND DISINFECTION PRIOR TO CONNECTION TO THE EXISTING SYSTEM. CONTRACTOR TO INSTALL TEMPORARY BLOW-OFFS AT THE END OF THE WATER MAINS TO PERFORM TESTING AND DISINFECTION.

STORM SEWER NOTES

1. STORM WATER SHALL BE AS SPECIFIED IN THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS UNLESS OTHERWISE SHOWN ON THE PLANS OR APPROVED BY THE CITY ENGINEER.
2. ALL STORM SEWER PIPE TO BE INSTALLED WITH WATER TIGHT JOINTS AND PLUGS.
3. ALL STORM SEWER MAINS MUST PASS ALL TEST AS REQUIRED IN THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS DIVISION 6 BEFORE ACCEPTED AS COMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING.
4. ALL STORM SEWER MANHOLE LID COVERS AND CATCH BASINS GRATE TO MATCH FINISHED GRADE

NO.	DATE	BY	REVISIONS

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MILWAUKIE

Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

99E HWY / MCLOUGHLIN BOULEVARD

UTILITY RELOCATION
NOTES SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: CV3
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EROSION PREVENTION AND SEDIMENT CONTROL REQUIREMENTS NOTES

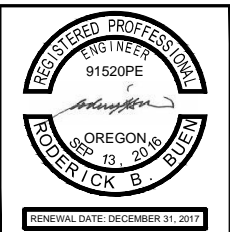
1. ALL EROSION PREVENTION MEASURES SHALL BE IN PLACE, FUNCTIONAL, AND APPROVED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MAINTAIN ALL SOIL EROSION AND SITE DRAINAGE FACILITIES IN PROPER FUNCTIONING ORDER THROUGHOUT CONSTRUCTION.
2. WHEN RAINFALL AND RUNOFF OCCURS DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS AND DISCHARGE OUTFALLS MUST BE PROVIDED BY SOMEONE KNOWLEDGEABLE AND EXPERIENCED IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS WHO WORKS FOR THE PERMITTEE.
3. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR.
4. DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
5. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
6. ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. UNLESS OTHERWISE APPROVED, A SURFACE MOUNTED AND ATTACHABLE, U-SHAPED FILTER BAG IS REQUIRED FOR ALL CURB INLET CATCH BASINS.
7. SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVES THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PREFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
8. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
9. SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF 1/3RD THE BARRIER HEIGHT, AND PRIOR TO THE CONTROL MEASURES REMOVAL.
10. CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
11. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
12. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
13. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
14. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE, AND FEDERAL REGULATIONS.
15. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. UNLESS OTHERWISE APPROVED, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.

EROSION PREVENTION AND SEDIMENT CONTROL REQUIREMENTS NOTES (CONT.)

16. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMPS THAT MUST BE INSTALLED ARE GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPS MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
17. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1ST; THE TYPE AND PERCENTAGES OF SEED IN THE MIX ARE AS IDENTIFIED ON THE PLANS OR AS SPECIFIED BY THE DESIGN ENGINEER.
18. WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPS; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
19. ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
20. THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
21. THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
22. WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
23. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPS MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
24. ALL EXPOSED SOILS MUST BE COVERED DURING WET WEATHER PERIOD.

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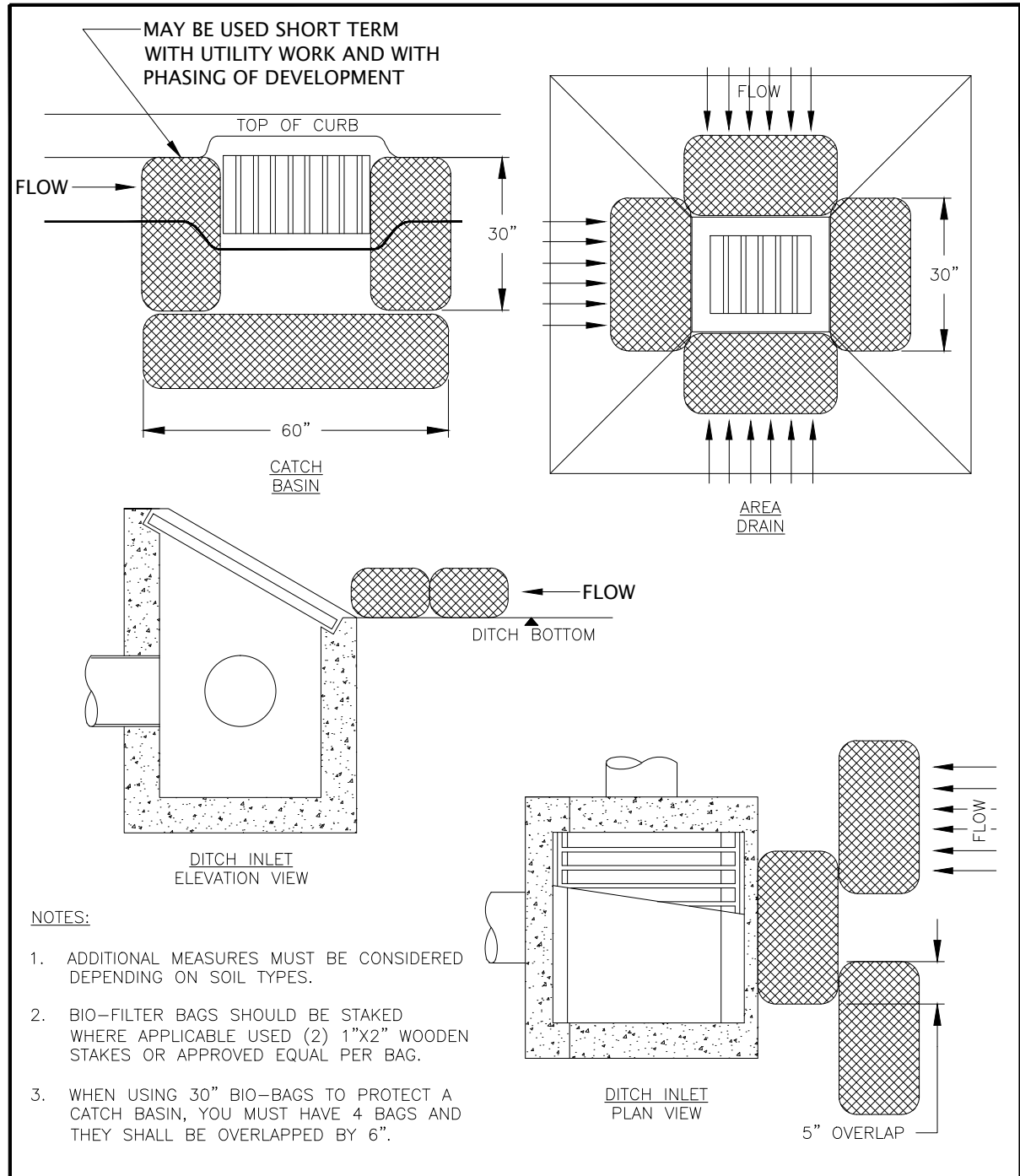

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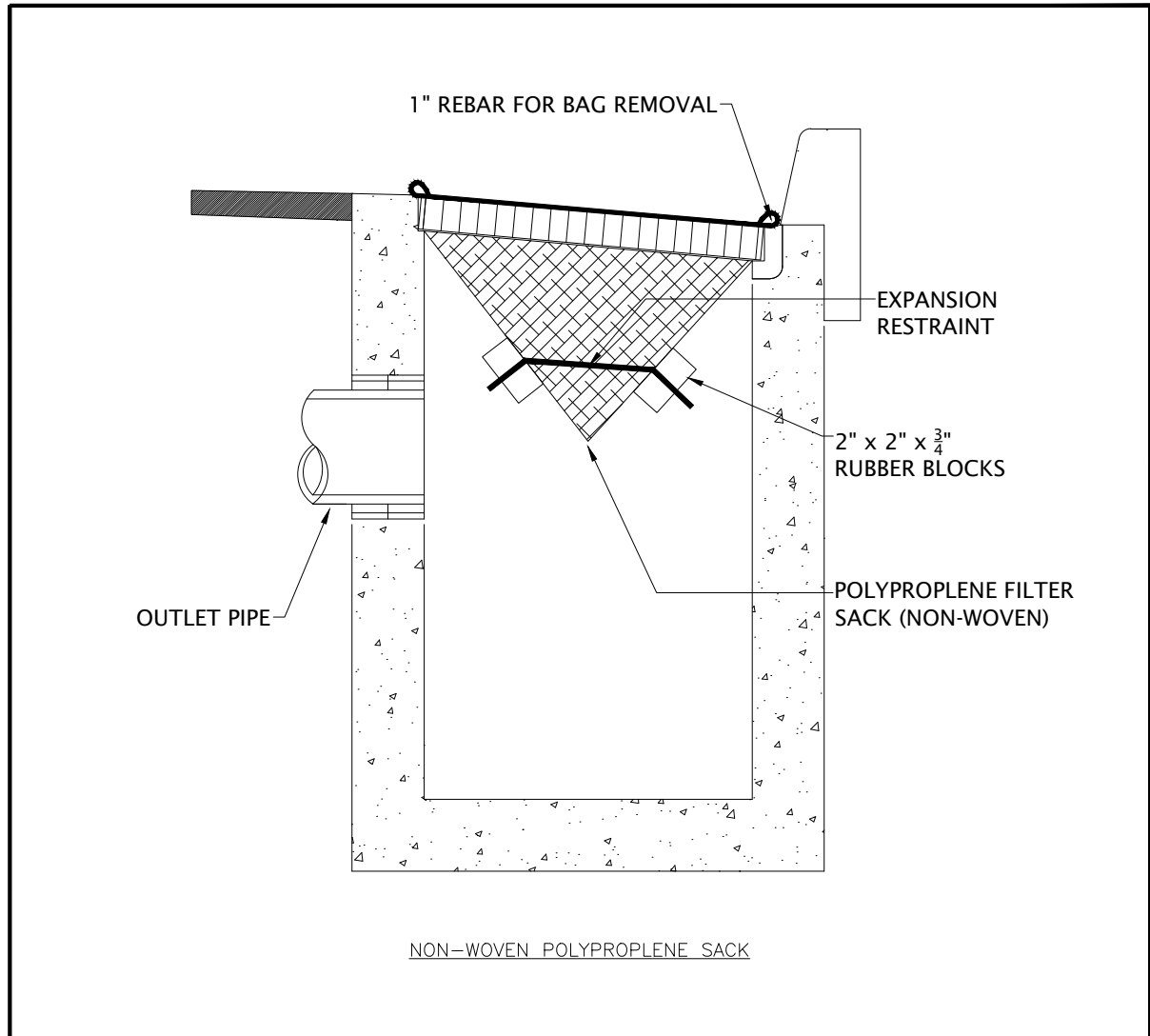
99E HWY / MCLOUGHLIN BOULEVARD
 UTILITY RELOCATION
 EROSION PREVENTION AND SEDIMENTATION CONTROL PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: ER1
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- NOTES:**
1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
 2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USED (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
 3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN, YOU MUST HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.			
Inlet Protection - Type 4			DRAWING NO. 4-18
APPROVED	NO.	REVISIONS	DATE BY
CITY ENGINEER			
DATE			
			DEC 2011

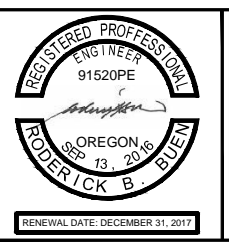


- NOTES:**
1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.

CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.			
Inlet Protection - Type 5			DRAWING NO. 4-19
APPROVED	NO.	REVISIONS	DATE BY
CITY ENGINEER			
DATE			
			DEC 2011

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99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
EROSION PREVENTION AND SEDIMENTATION CONTROL PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: ER2
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SEE SHEET T3, BOTTOM
FOR SE OCHOCO STREET
TRAFFIC CONTROL PLAN



99E HWY / MC LOUGHLIN BOULEVARD

MATCHLINE SEE BELOW

TRAFFIC CONTROL NOTES

1. ALL TRAFFIC CONTROL MEASURES SHALL CONFORM WITH THE 2009 EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND 2011 EDITION OF THE OREGON TEMPORARY TRAFFIC CONTROL HANDBOOK (OTTCH) FOR OPERATIONS OF THREE DAYS OR LESS.
2. THESE TRAFFIC CONTROL PLANS ARE SCHEMATIC IN NATURE.
3. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLANS TO BE APPROVED BY THE CITY ENGINEER. TRAFFIC CONTROL PLANS SHALL CONFORM TO LOCAL, STATE AND FEDERAL STANDARD SPECIFICATIONS AND REGULATIONS.
4. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THIS PLAN THROUGHOUT THE DURATION OF CONSTRUCTION.
5. ALL TRAVEL LANES, STREETS, DRIVEWAYS, AND POINTS OF ACCESS SHALL BE OPENED TO VEHICULAR TRAFFIC AT THE END OF EACH WORK DAY. ALL AREAS OF EXCAVATION WITHIN THE TRAVELED WAY SHALL BE TEMPORARILY COVERED WITH STEEL PLATES OR BACKFILLED AND TEMPORARILY SURFACED WITH ASPHALT CONCRETE PATCHING UNTIL FINAL PAVING.
6. CONTRACTOR SHALL PROVIDE VEHICULAR ACCESS TO SIDE STREETS AND DRIVEWAYS TO THE EXTENT PRACTICABLE. WHEN VEHICULAR ACCESS CANNOT BE PROVIDED, THE CONTRACTOR WILL NOTIFY THE AFFECTED BUSINESS / PROPERTY OWNER OF THE DATE AND DURATION OF THE INTERRUPTION, 24 HOURS IN ADVANCE OF THE CLOSURE.
7. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SANDBAGGED IN PLACE OR DOUBLE-BASED FOR PROTECTION AGAINST WIND.

TRAFFIC CONTROL NOTES (CONT.)

8. TRAFFIC CONTROL SIGNS SHALL BE SIZED IN ACCORDANCE WITH CONVENTIONAL ROADWAY STANDARDS OF THE MUTCD.
9. TRAFFIC CONTROL SIGNS SHALL BE SPACED IN ACCORDANCE WITH THE MUTCD AND OTTCH FOR POSTED VEHICULAR SPEEDS.
10. LANE SHIFTING AND MERGER TAPERS SHALL HAVE A LENGTH NECESSARY TO ACCOMMODATE POSTED VEHICULAR SPEEDS.
11. CONE LOCATIONS ARE SCHEMATIC AND DENOTE LANE LOCATIONS, LANE TAPERS, AND WORK AREAS AND DO NOT INDICATE THE NUMBER OF CONES TO BE PLACED. CONTRACTOR WILL PLACE CONES IN A NUMBER SUFFICIENT TO ADEQUATELY DELINEATE AND DIRECT TRAFFIC AROUND WORK AREAS.
12. THE MINIMUM VEHICLE TRAVEL LANE WIDTH SHALL BE A 12-FOOT CLEAR DISTANCE PERPENDICULAR TO THE DIRECTION OF TRAVEL.
13. IF TRAFFIC SIGNAL IS TO BE TURNED OFF, WORK AT SIGNALIZED INTERSECTIONS REQUIRES FLAGGERS TO BE STATIONED AT EACH LEG OF THE INTERSECTION. CONTACT ODOT SIGNAL MANAGER AT 503 731-8213 TO SCHEDULE SIGNAL SHUT DOWNS. DO NOT FLAG THROUGH SIGNALIZED INTERSECTIONS UNLESS THE SIGNAL IS TURNED OFF.
14. ALL TRAFFIC CONTROL SIGNS THAT ARE INSTALLED IN SIDEWALK AREAS SHALL EITHER BE SECURED TO AN EXISTING STREET POST OR WILL BE PLACED ON A SEPARATE POST WITH MINIMUM 7' CLEARANCE TO BOTTOM OF SIGN.
15. THE CITY RESERVES THE RIGHT TO OBSERVE THESE TRAFFIC CONTROL PLANS AND TO MAKE ANY NECESSARY CHANGES. ANY CHANGES SUPERSEDES THESE PLANS AND ARE DONE SOLELY AT THE CONTRACTOR'S EXPENSE.



MATCHLINE SEE ABOVE

LEGEND

- ROAD WORK AHEAD
- ONE LANE ROAD AHEAD
- BE PREPARED TO STOP
- LEFT LANE CLOSED AHEAD
- MERGE LANE
- FLAGGER
- DIRECTION OF SIGN FACE
- WORK ZONE

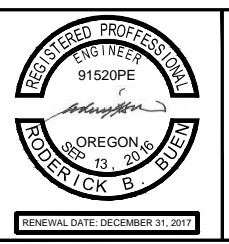


SCALE
0 50 100 FEET

99E HWY / MC LOUGHLIN BOULEVARD

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016	DATE
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CLE CHECKED	07/07/2016	DATE
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MILWAUKIE
Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

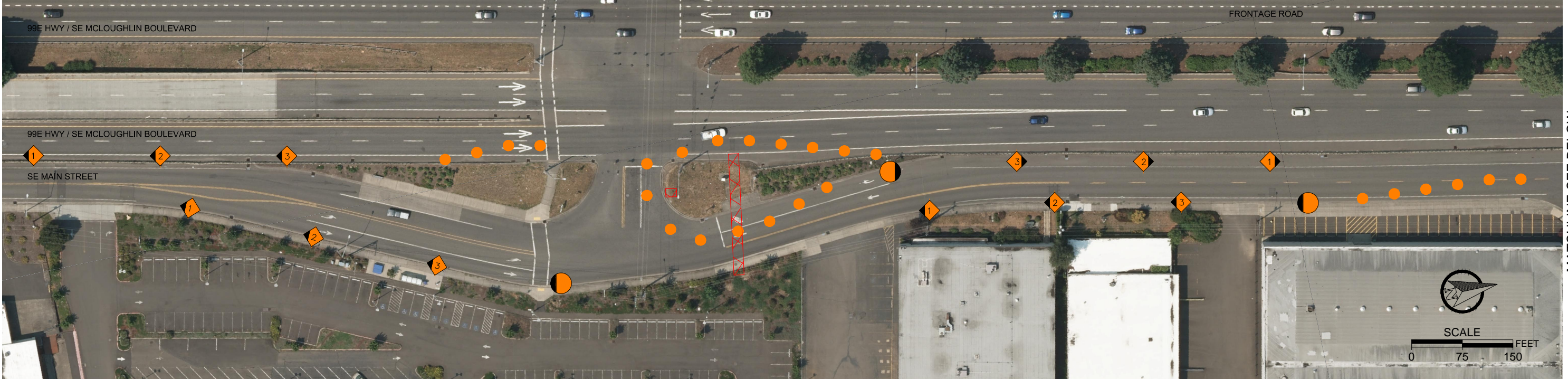
99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
TRAFFIC CONTROL PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: TR1
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D

C

C



MATCHLINE SEE BELOW

SE MAIN STREET AND 99E HWY / MCLOUGHLIN BOULEVARD

B

A

MATCHLINE SEE ABOVE



LEGEND

- ROAD WORK AHEAD
- ONE LANE ROAD AHEAD
- BE PREPARED TO STOP
- LEFT LANE CLOSED AHEAD
- MERGE LANE
- FLAGGER
- DIRECTION OF SIGN FACE
- WORK ZONE

SE MAIN STREET AND 99E HWY / MCLOUGHLIN BOULEVARD

MATCHLINE SEE SHEET T3, TOP RIGHT

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99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
TRAFFIC CONTROL PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: TR2
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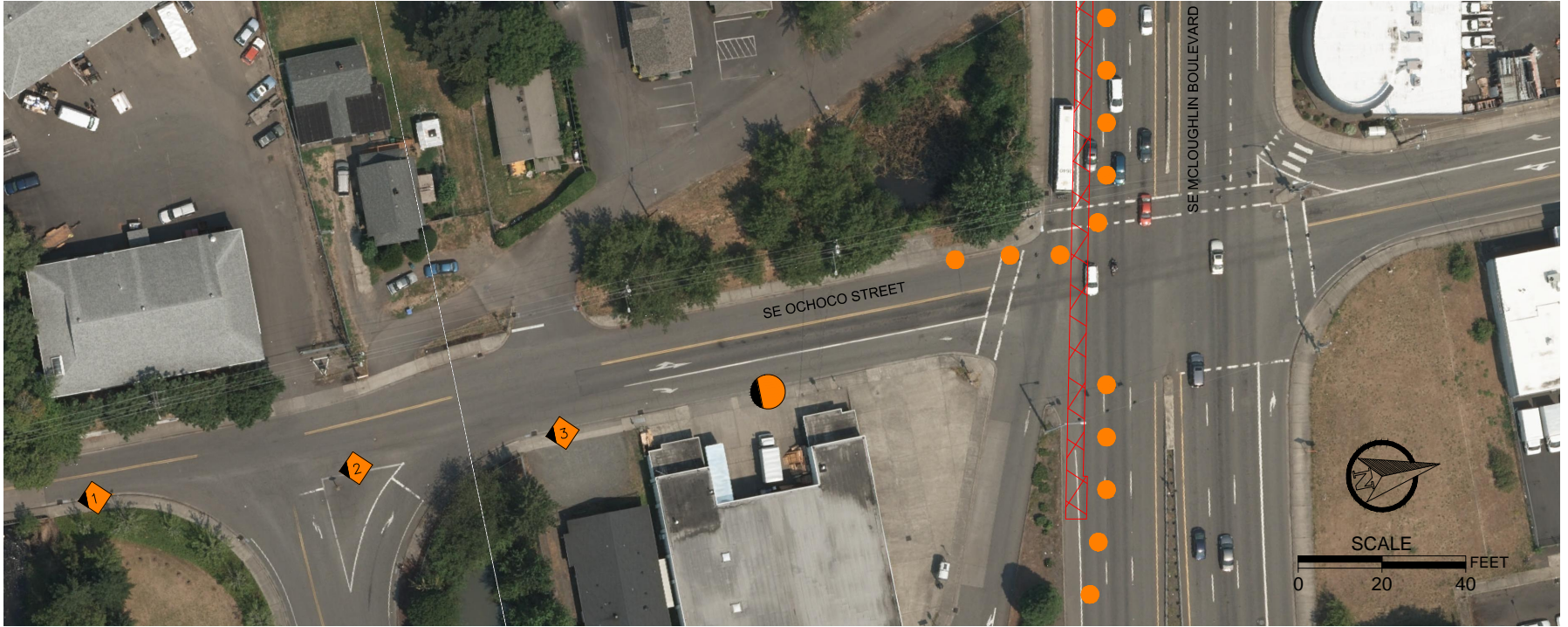
MATCHLINE SEE T2, TOP RIGHT



SE MAILWELL DRIVE



SE MAIN STREET



SE OCHOCO STREET

NOTE:
INTERSECTION OF OCHOCO STREET AND SE MCLOUGHLIN BOULEVARD SHOULD BE OPEN AT ALL TIMES DURING CONSTRUCTION

LEGEND

- ROAD WORK AHEAD
- ONE LANE ROAD AHEAD
- BE PREPARED TO STOP
- LEFT LANE CLOSED AHEAD
- MERGE LANE
- FLAGGER
- DIRECTION OF SIGN FACE
- WORK ZONE

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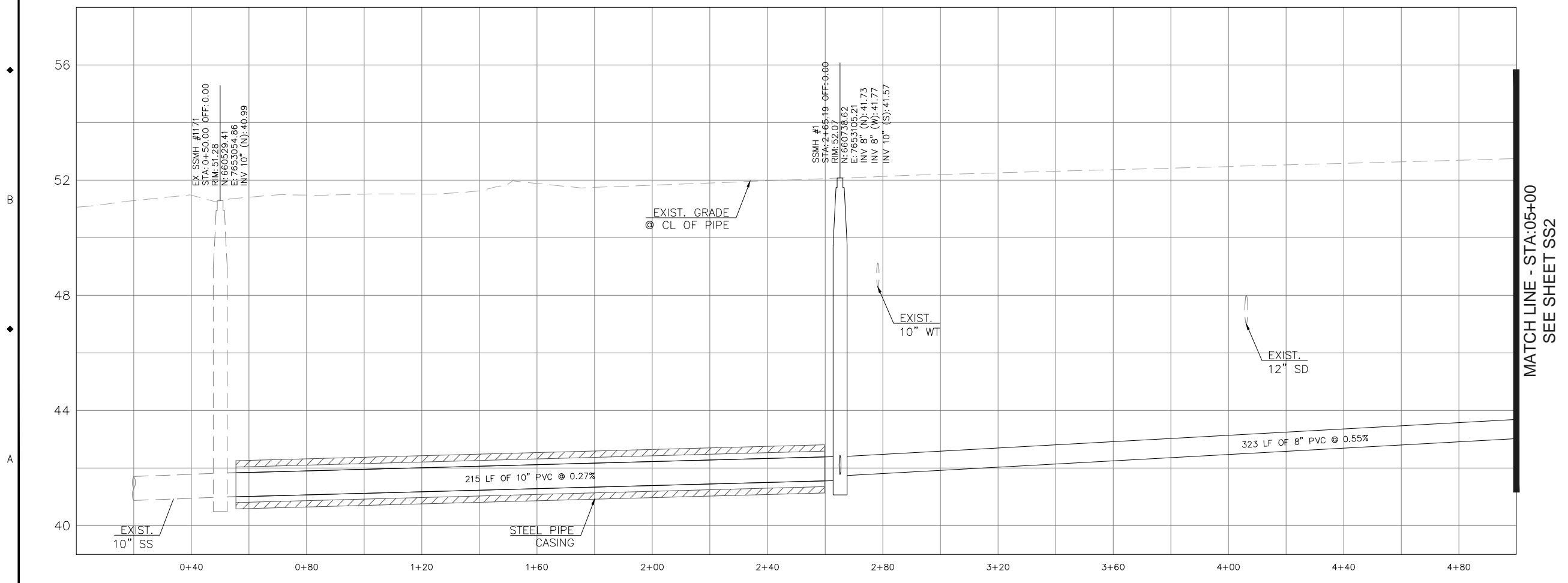
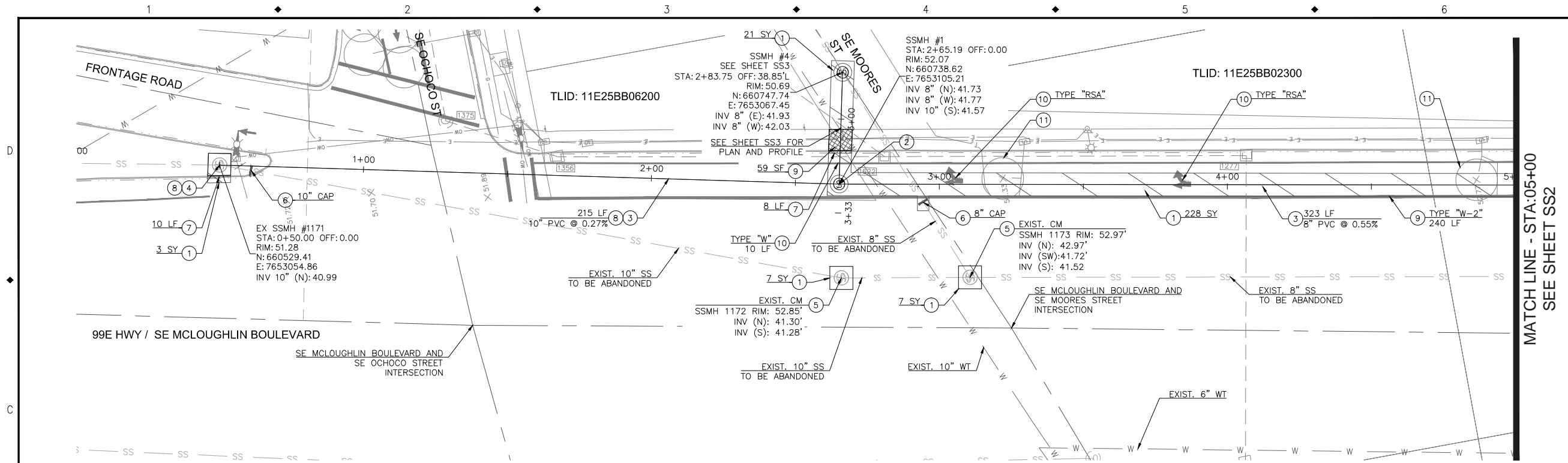
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UTILITY RELOCATION
TRAFFIC CONTROL PLAN

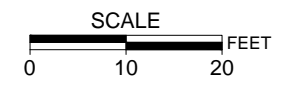
PROJECT NO.: C2016-Y13 CONTRACT NO.: DATE: SHEET NO.: TR3



- SANITARY SEWER CONSTRUCTION NOTES:**
- 1 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE OR ASPHALT PAVEMENT PER OREGON STANDARD DRAWING RD302.
 - 2 STANDARD SANITARY SEWER MANHOLE PER CITY OF MILWAUKIE STANDARD DETAIL 300 AND SANITARY SEWER MANHOLE FRAME AND COVER PER THE CITY OF MILWAUKIE STANDARD DETAIL 304.
 - 3 INSTALL PVC PIPE (ASTM D 3034 SDR 35). SIZE AND LENGTH PER PLAN.
 - 4 CONNECT TO MANHOLE PER THE CITY OF MILWAUKIE STANDARD DETAIL 619.
 - 5 EXISTING MH TO BE ABANDONED PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD DIVISION 3, SECTION 303.
 - 6 ABANDON AND CAP EXISTING PIPE. SIZE PER PLAN.
 - 7 SAWCUT, REMOVE, AND REPLACE EXISTING STANDARD TYPE C CURB PER OREGON STANDARD DRAWING RD700.
 - 8 JACK AND BORE PER OREGON STANDARD DRAWING RD308.
 - 9 SAWCUT, REMOVE, AND REPLACE EXISTING SIDEWALK PER PUBLIC WORKS STANDARD DETAIL 504.
 - 10 PAVEMENT MARKING PER OREGON STANDARD DRAWINGS TM500, TM501, AND TM502. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.
 - 11 REMOVE AND REPLACE INDUCTIVE LOOP DETECTOR PER OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 00990.43

MATCH LINE - STA:05+00
SEE SHEET SS2

MATCH LINE - STA:05+00
SEE SHEET SS2



NO.	DATE	BY	REVISIONS

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APPROVED	DATE



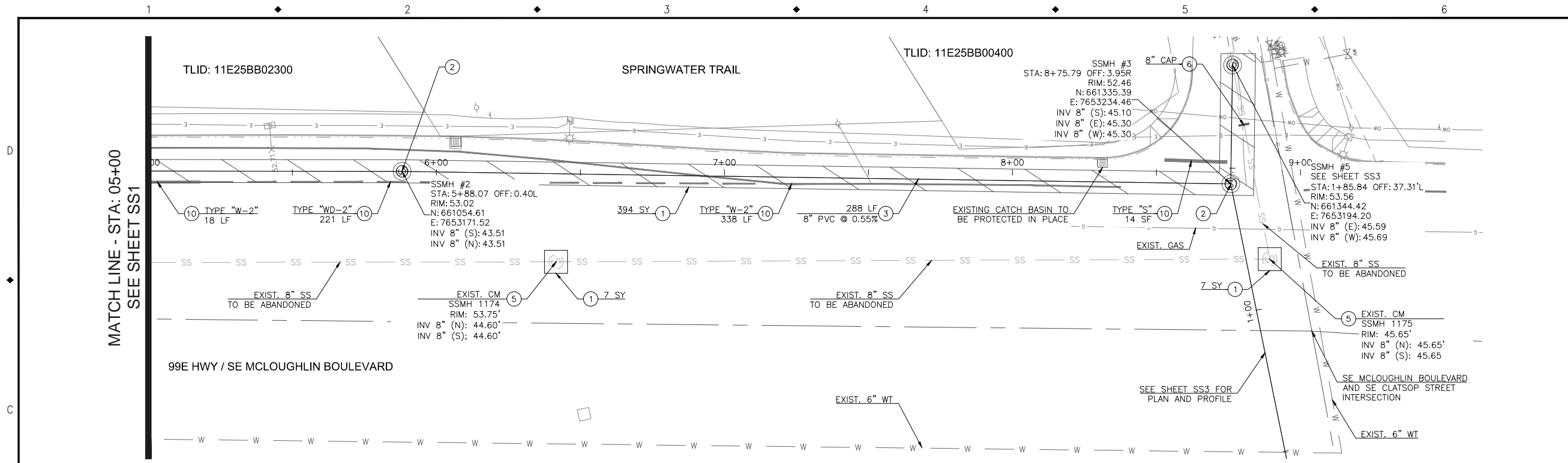
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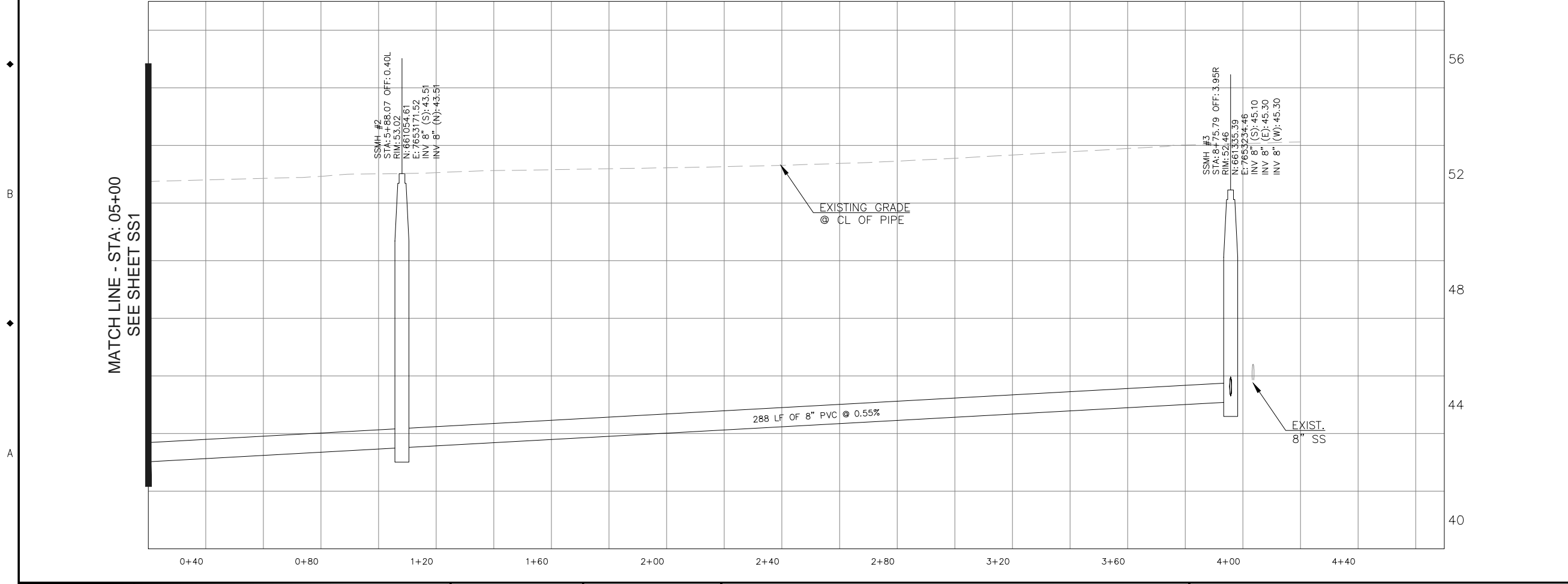
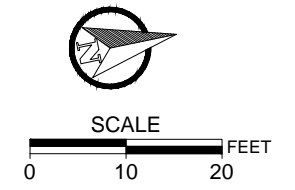
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99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
SANITARY SEWER PLAN AND PROFILE

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: SS1
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- SANITARY SEWER CONSTRUCTION NOTES:**
- 1 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE OR ASPHALT PAVEMENT PER OREGON STANDARD DRAWING RD302.
 - 2 STANDARD SANITARY SEWER MANHOLE PER CITY OF MILWAUKIE STANDARD DETAIL 300 AND SANITARY SEWER MANHOLE FRAME AND COVER PER THE CITY OF MILWAUKIE STANDARD DETAIL 304.
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 - 4 CONNECT TO MANHOLE PER THE CITY OF MILWAUKIE STANDARD DETAIL 619.
 - 5 EXISTING MH TO BE ABANDONED PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD DIVISION 3, SECTION 303.
 - 6 ABANDON AND CAP EXISTING PIPE. SIZE PER PLAN.
 - 7 SAWCUT, REMOVE, AND REPLACE EXISTING STANDARD TYPE C CURB PER OREGON STANDARD DRAWING RD700.
 - 8 JACK AND BORE PER OREGON STANDARD DRAWING RD308.
 - 9 SAWCUT, REMOVE, AND REPLACE EXISTING SIDEWALK PER PUBLIC WORKS STANDARD DETAIL 504.
 - 10 PAVEMENT MARKING PER OREGON STANDARD DRAWINGS TM500, TM501, AND TM502. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.
 - 11 REMOVE AND REPLACE INDUCTIVE LOOP DETECTOR PER OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 00990.43



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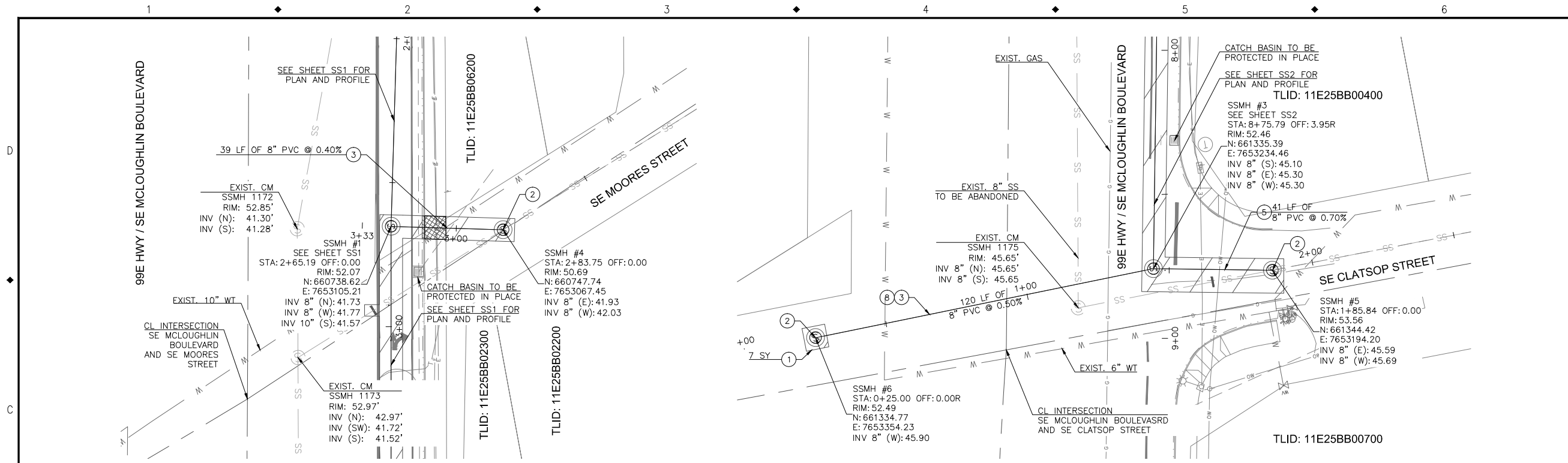
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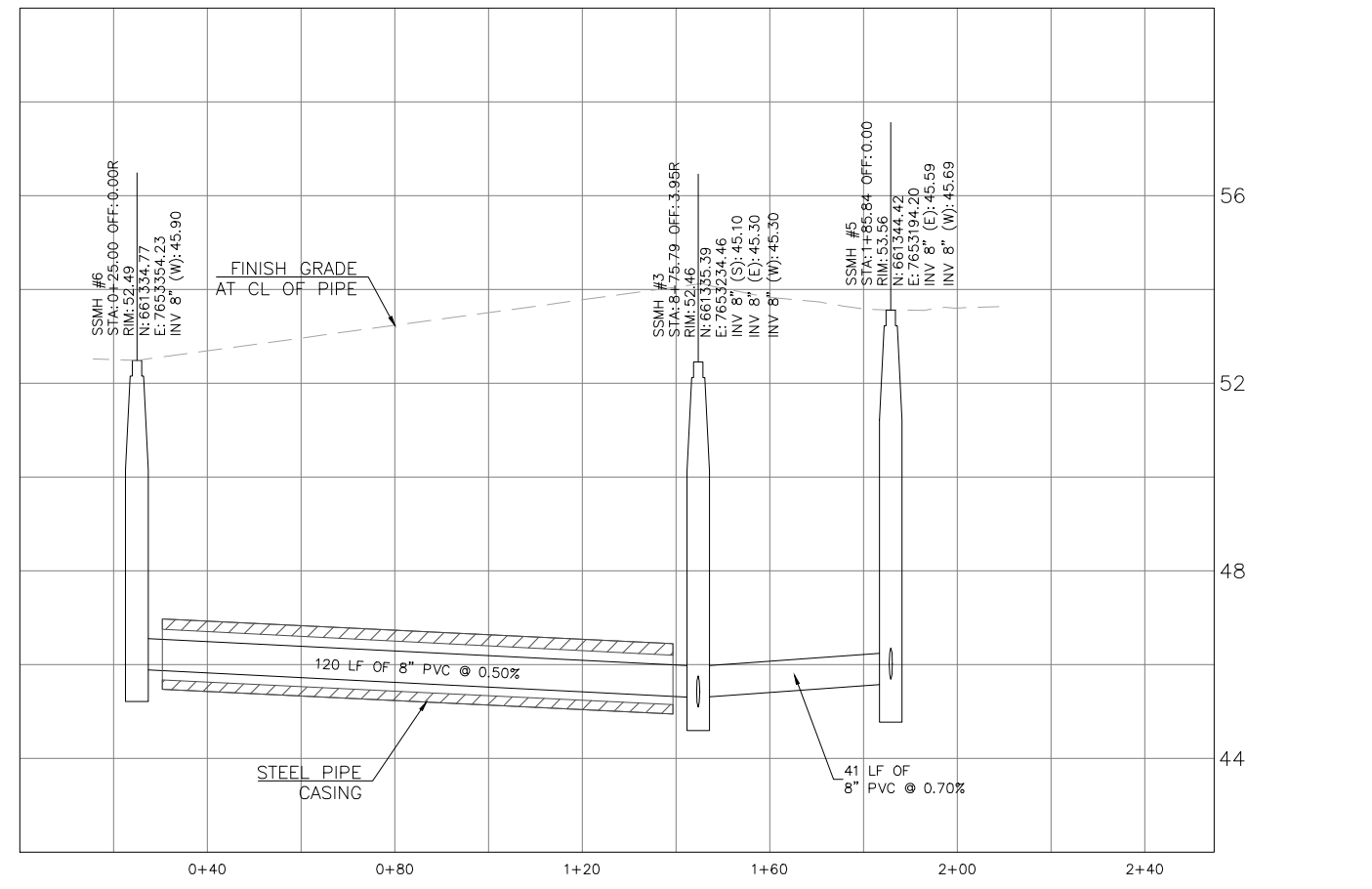
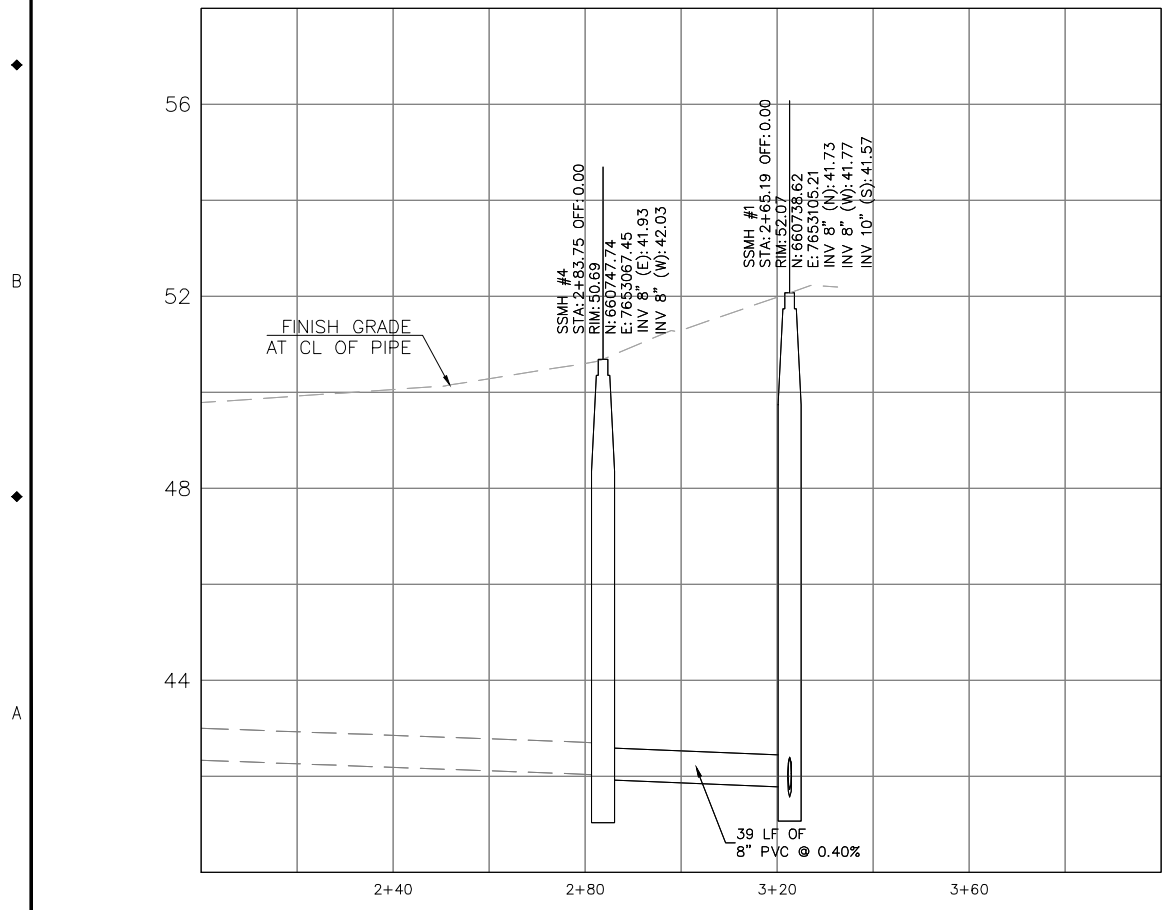
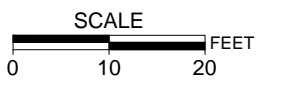
99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
SANITARY SEWER PLAN AND PROFILE

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: SS2
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SANITARY SEWER CONSTRUCTION NOTES:

- 1 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE OR ASPHALT PAVEMENT PER OREGON STANDARD DRAWING RD302.
- 2 STANDARD SANITARY SEWER MANHOLE PER CITY OF MILWAUKIE STANDARD DETAIL 300 AND SANITARY SEWER MANHOLE FRAME AND COVER PER THE CITY OF MILWAUKIE STANDARD DETAIL 304.
- 3 INSTALL PVC PIPE (ASTM D 3034 SDR 35). SIZE AND LENGTH PER PLAN.
- 4 CONNECT TO MANHOLE PER THE CITY OF MILWAUKIE STANDARD DETAIL 619.
- 5 EXISTING MH TO BE ABANDONED PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD DIVISION 3, SECTION 303.
- 6 ABANDON AND CAP EXISTING PIPE. SIZE PER PLAN.
- 7 SAWCUT, REMOVE, AND REPLACE EXISTING STANDARD TYPE C CURB PER OREGON STANDARD DRAWING RD700.
- 8 JACK AND BORE PER OREGON STANDARD DRAWING RD308.
- 9 SAWCUT, REMOVE, AND REPLACE EXISTING SIDEWALK PER PUBLIC WORKS STANDARD DETAIL 504.
- 10 PAVEMENT MARKING PER OREGON STANDARD DRAWINGS TM500, TM501, AND TM502. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.
- 11 REMOVE AND REPLACE INDUCTIVE LOOP DETECTOR PER OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 00990.43



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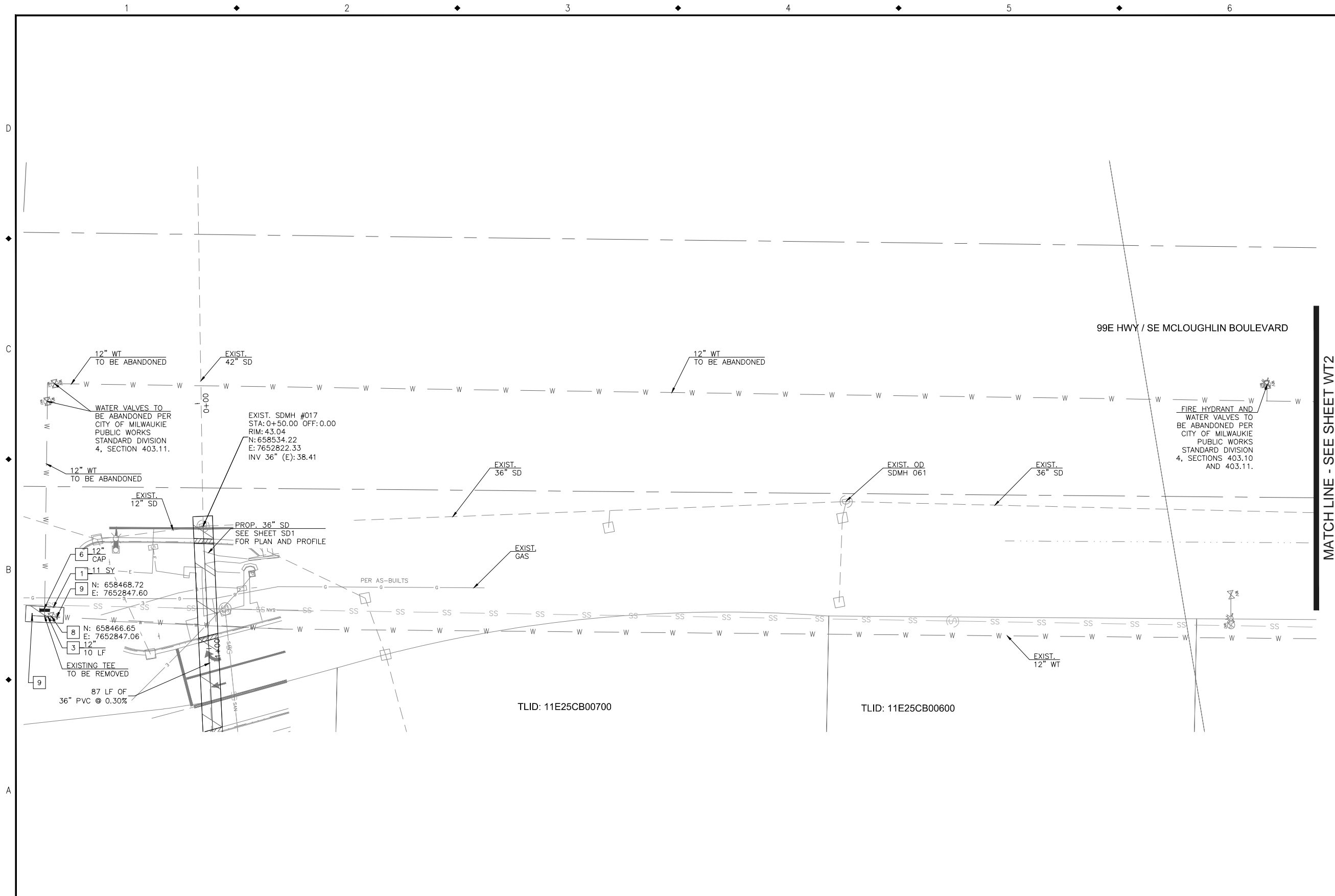


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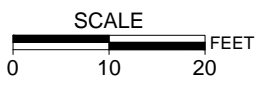
99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
SANITARY SEWER PLAN AND PROFILE

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: SS3
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- WATER CONSTRUCTION NOTES:**
- 1 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE OR ASPHALT PAVEMENT PER THE CITY OF MILWAUKIE STANDARD DETAIL 515.
 - 2 INSTALL LONG PATTERN TYLER SLEEVES AND VALVE OR SIMILAR PER THE CITY OF MILWAUKIE STANDARD DETAIL 409.
 - 3 INSTALL DIP PIPE CLASS 52. SIZE AND LENGTH PER PLAN.
 - 4 INSTALL PIPE FITTING. SIZE AND TYPE PER PLAN.
 - 5 INSTALL FIRE HYDRANT ASSEMBLY PER THE CITY OF MILWAUKIE STANDARD DETAIL 400.
 - 6 INSTALL CAP PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.11. SIZE PER PLAN.
 - 7 SAWCUT, REMOVE, AND REPLACE EXISTING CURB AND GUTTER PER THE CITY OF MILWAUKIE STANDARD DETAIL 500.
 - 8 INSTALL VALVE WITH VALVE BOX PER CITY OF MILWAUKIE STANDARD DETAIL 410.
 - 9 CONNECT TO EXISTING WATER MAIN PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.15.
 - 10 INSTALL 12"x10" REDUCER.
 - 11 SAWCUT, REMOVE, AND REPLACE EXISTING SIDEWALK PER PUBLIC WORKS STANDARD DETAIL 504.
 - 12 PAVEMENT MARKING PER CITY OF MILWAUKIE STANDARD DETAILS 517, 518, AND 519. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.


MATCHLINE - SEE SHEET WT2



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MILWAUKIE

Dogwood City of the West

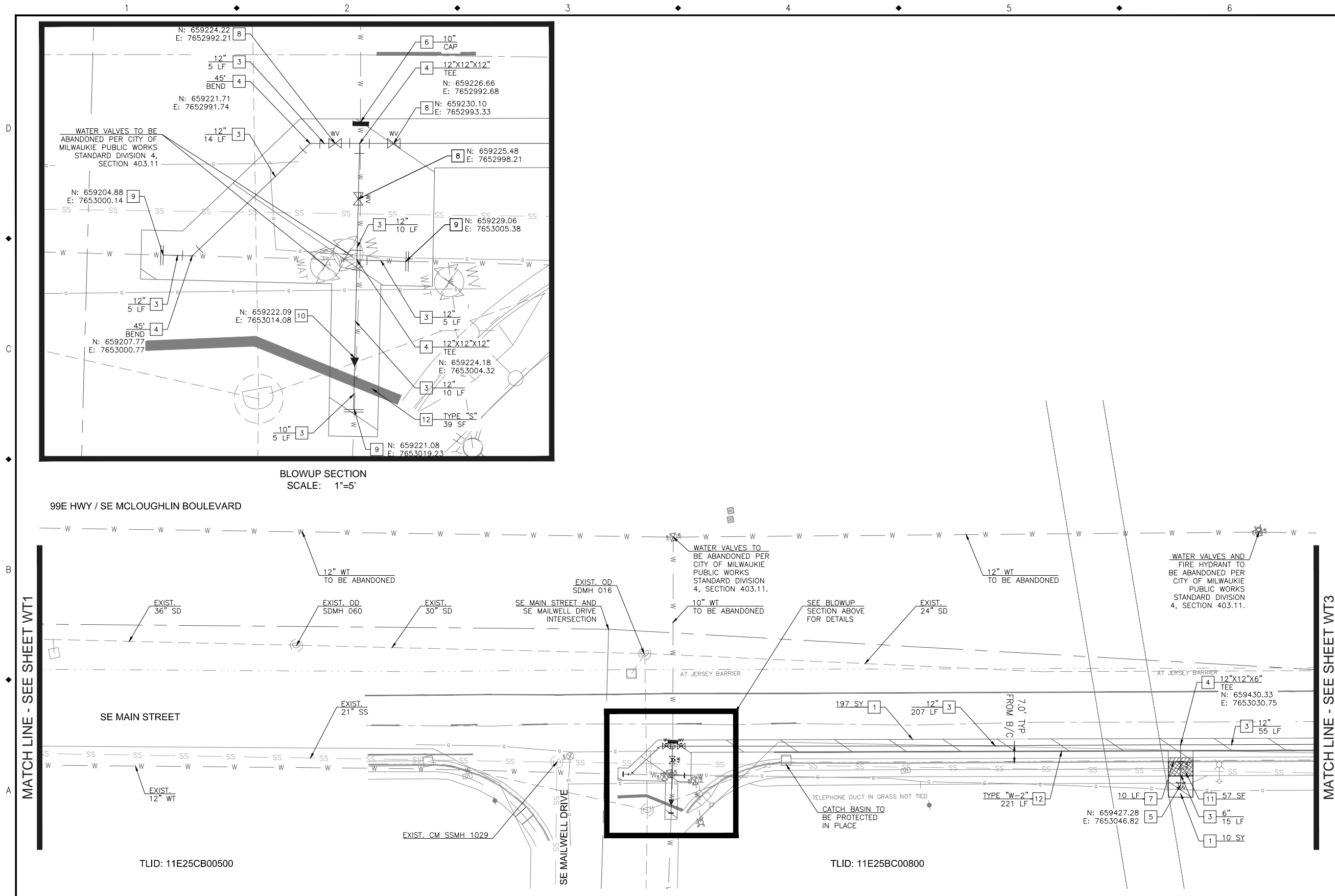
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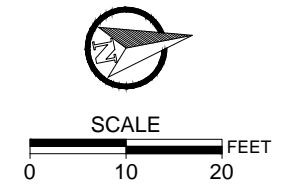
99E HWY / MCLOUGHLIN BOULEVARD

UTILITY RELOCATION WATER PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: WT1
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- WATER CONSTRUCTION NOTES:**
- 1 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE OR ASPHALT PAVEMENT PER THE CITY OF MILWAUKIE STANDARD DETAIL 515.
 - 2 INSTALL LONG PATTERN TYLER SLEEVES AND VALVE OR SIMILAR PER THE CITY OF MILWAUKIE STANDARD DETAIL 409.
 - 3 INSTALL DIP PIPE CLASS 52. SIZE AND LENGTH PER PLAN.
 - 4 INSTALL PIPE FITTING. SIZE AND TYPE PER PLAN.
 - 5 INSTALL FIRE HYDRANT ASSEMBLY PER THE CITY OF MILWAUKIE STANDARD DETAIL 400.
 - 6 INSTALL CAP PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.11. SIZE PER PLAN.
 - 7 SAWCUT, REMOVE, AND REPLACE EXISTING CURB AND GUTTER PER THE CITY OF MILWAUKIE STANDARD DETAIL 500.
 - 8 INSTALL VALVE WITH VALVE BOX PER CITY OF MILWAUKIE STANDARD DETAIL 410.
 - 9 CONNECT TO EXISTING WATER MAIN PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.15.
 - 10 INSTALL 12"x10" REDUCER.
 - 11 SAWCUT, REMOVE, AND REPLACE EXISTING SIDEWALK PER PUBLIC WORKS STANDARD DETAIL 504.
 - 12 PAVEMENT MARKING PER CITY OF MILWAUKIE STANDARD DETAILS 517, 518, AND 519. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.



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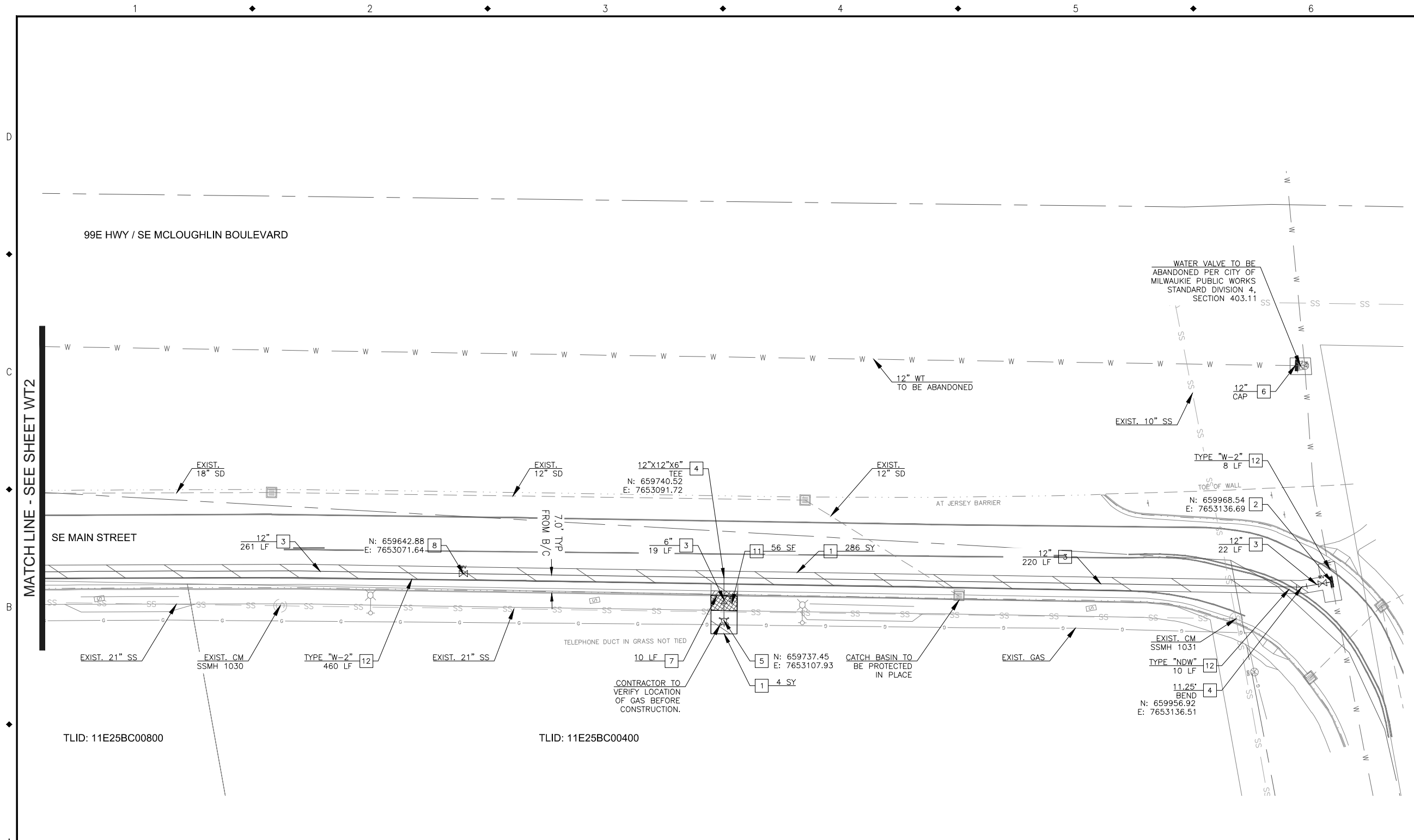
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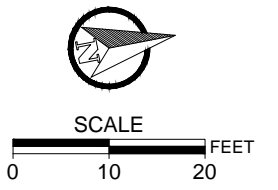
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99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
WATER PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: WT2
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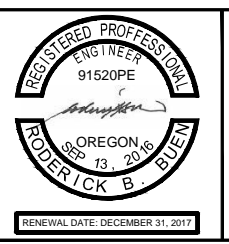


- WATER CONSTRUCTION NOTES:**
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 - 3 INSTALL DIP PIPE CLASS 52. SIZE AND LENGTH PER PLAN.
 - 4 INSTALL PIPE FITTING. SIZE AND TYPE PER PLAN.
 - 5 INSTALL FIRE HYDRANT ASSEMBLY PER THE CITY OF MILWAUKIE STANDARD DETAIL 400.
 - 6 INSTALL CAP PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.11. SIZE PER PLAN.
 - 7 SAWCUT, REMOVE, AND REPLACE EXISTING CURB AND GUTTER PER THE CITY OF MILWAUKIE STANDARD DETAIL 500.
 - 8 INSTALL VALVE WITH VALVE BOX PER CITY OF MILWAUKIE STANDARD DETAIL 410.
 - 9 CONNECT TO EXISTING WATER MAIN PER CITY OF MILWAUKIE PUBLIC WORKS STANDARD SECTION 403.15.
 - 10 INSTALL 12"x10" REDUCER.
 - 11 SAWCUT, REMOVE, AND REPLACE EXISTING SIDEWALK PER PUBLIC WORKS STANDARD DETAIL 504.
 - 12 PAVEMENT MARKING PER CITY OF MILWAUKIE STANDARD DETAILS 517, 518, AND 519. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.



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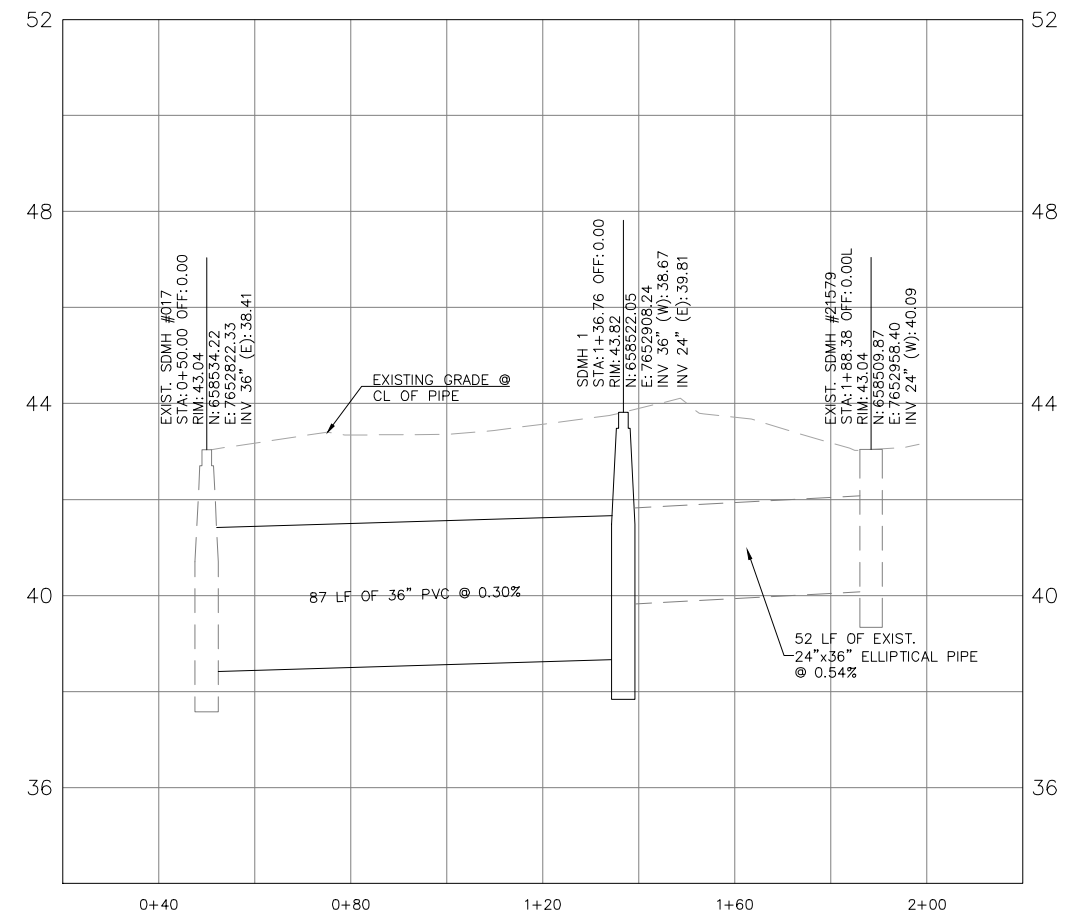
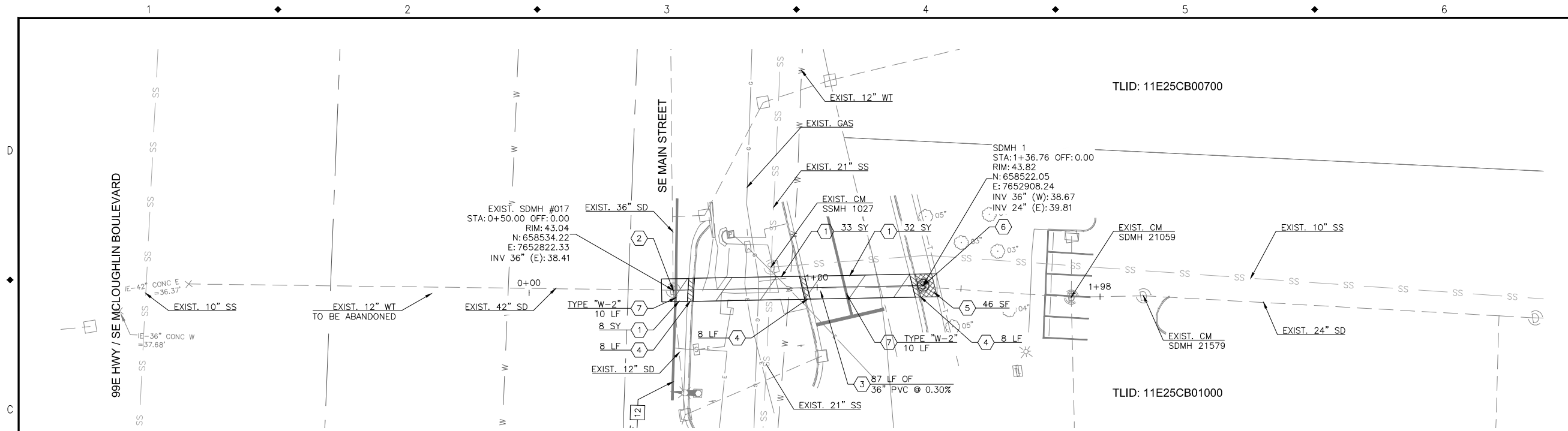
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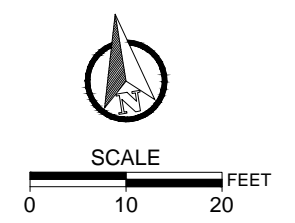
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FAX: 503-774-8236

99E HWY / MCLOUGHLIN BOULEVARD
UTILITY RELOCATION
WATER PLAN

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: WT3
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- STORM SEWER CONSTRUCTION NOTES:**
- 1 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE OR ASPHALT PAVEMENT PER THE CITY OF MILWAUKIE STANDARD DETAIL 515.
 - 2 CONNECT TO EXISTING MANHOLE PER THE CITY OF MILWAUKIE STANDARD DETAIL 619.
 - 3 REMOVE EXISTING 18" PIPE AND INSTALL 36" PVC PIPE (ASTM D 3034 SDR OR F 794). LENGTH PER PLAN.
 - 4 SAWCUT, REMOVE, AND REPLACE EXISTING CURB AND GUTTER PER THE CITY OF MILWAUKIE STANDARD DETAIL 500.
 - 5 SAWCUT, REMOVE, AND REPLACE EXISTING CONCRETE SIDEWALK PER THE CITY OF MILWAUKIE STANDARD DETAIL 504.
 - 6 INSTALL 48" DIAMETER SEDIMENTATION MANHOLE PER THE CITY OF MILWAUKIE STANDARD DETAIL 611.
 - 7 PAVEMENT MARKING PER CITY OF MILWAUKIE STANDARD DETAILS 517, 518, AND 519. TYPE, SIZE, AND LENGTH (IF APPLICABLE) PER PLAN.



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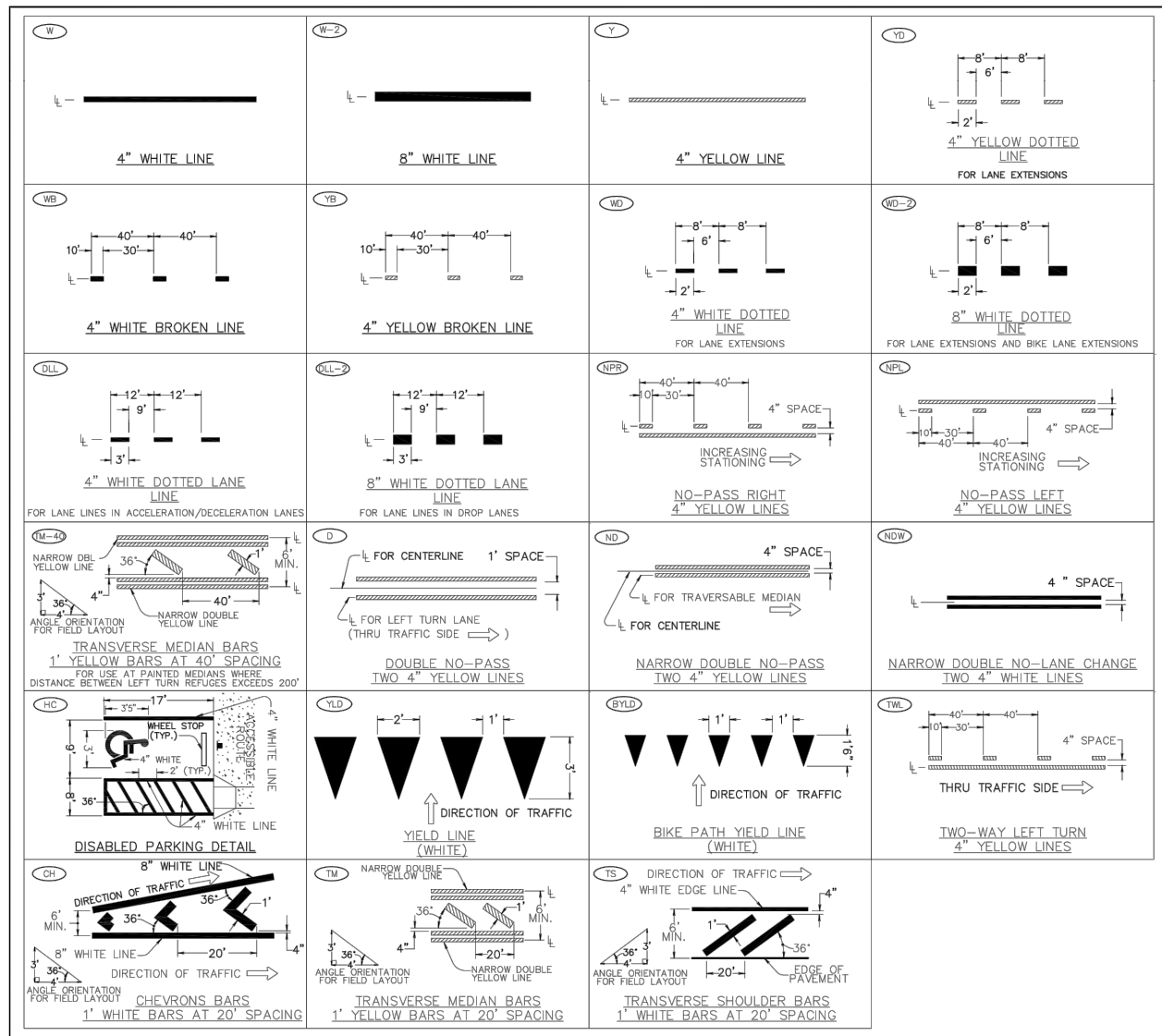


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UTILITY RELOCATION
STORM SEWER PLAN AND PROFILE

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: SD1
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LEGEND

← DIRECTION OF TRAFFIC, INCREASING STATIONING, OR THRU TRAFFIC SIDE

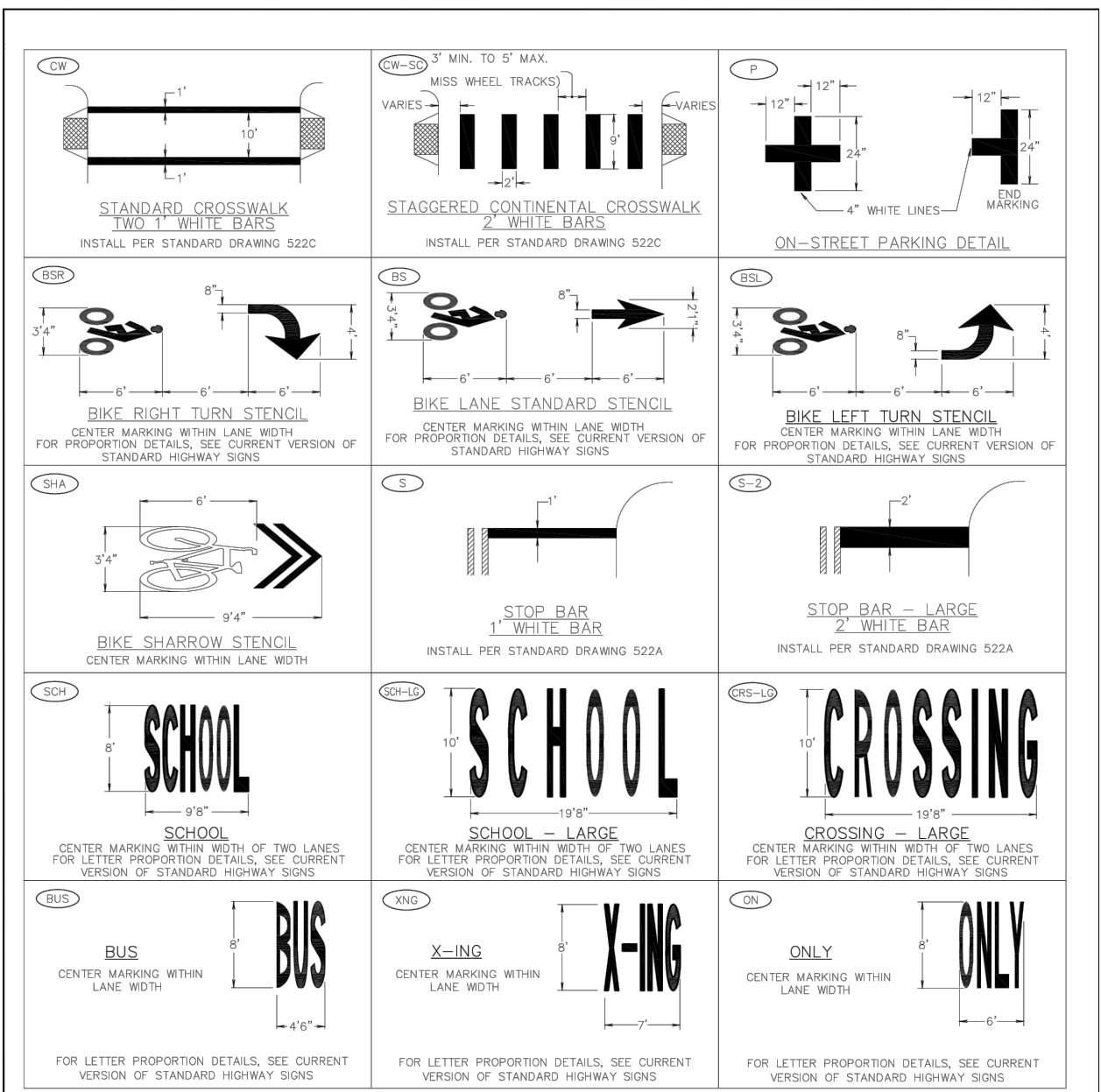
⊥ LANE LINE DIMENSIONS ARE SHOWN ON THE STRIPING PLANS

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Pavement Marking Standard Detail Blocks

DRAWING NO. **517**

APPROVED	<i>[Signature]</i>	12/14	NO.	REVISIONS	DATE	BY
CITY ENGINEER		DATE	1	DRAWING CREATED	10/12	MTC



NOTES:
1. ARROW, LETTER, AND BIKE SYMBOL DIMENSIONS NOMINAL.

CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Pavement Marking Standard Detail Blocks

DRAWING NO. **520**

APPROVED	<i>[Signature]</i>	12/13	NO.	REVISIONS	DATE	BY
CITY ENGINEER		DATE	1	DRAWING CREATED	10/12	MTC

DEC 2013

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016

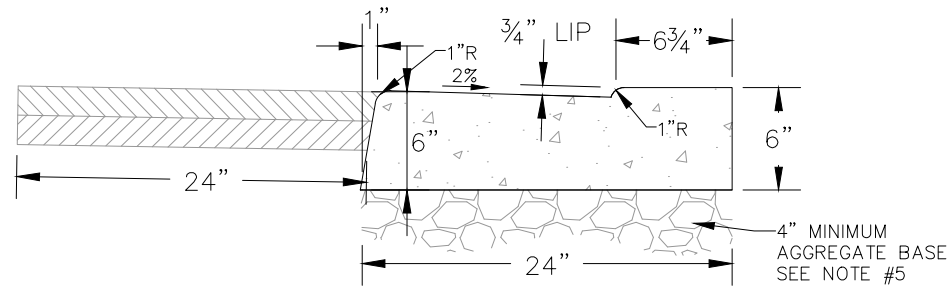
MILWAUKIE
Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

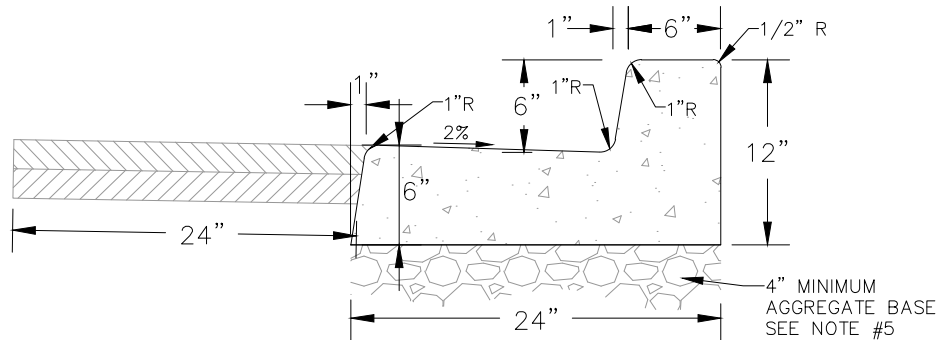
PHONE: 503-786-7600
FAX: 503-774-8236

99E HWY / M CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13 CONTRACT NO.: DATE: SHEET NO.: DT1



CURB AND GUTTER AT DRIVEWAY



CURB AND GUTTER

NOTES:

1. CONCRETE SHALL HAVE BREAKING STRENGTH OF 3300 PSI AFTER 28 DAYS.
2. NO EXPANSION MATERIAL SHALL BE USED.
3. TRANSVERSE CONTRACTION JOINTS REQUIRED AT EACH POINT OF TANGENCY AND EVERY 15 FEET. THE DEPTH OF JOINT SHALL BE MIN. OF 1/3 CONCRETE THICKNESS.
4. DRAINAGE BLOCK - 3" DIA. ABS PIPE. TROWEL JOINT OVER PIPE AREA IN DIRECTION OF PIPE.
5. BASE ROCK - 3/4" MINUS OR 1" MINUS COMPACTED TO 95%. MIN. DEPTH OF 4" OR TO STREET SUBGRADE, WHICHEVER IS GREATER.
6. EXISTING ASPHALT CONCRETE IN FRONT OF GUTTER INSTALLATION SHALL BE SAW CUT ALONG A LINE PARALLEL TO THE CURB AT A MINIMUM DISTANCE OF 24" AWAY FROM THE FACE OF THE CURB AND REPLACED WITH HOT MIX ASPHALT CONCRETE WITH MINIMUM THICKNESS OF 4" OR MATCH EXISTING, WHICHEVER IS GREATER.

ATTENTION: ALL CONCRETE WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY PERMIT IN ADDITION TO SUB-GRADE, BASE ROCK, AND CONCRETE FORM INSPECTION AND APPROVAL BY THE CITY INSPECTOR PRIOR TO POURING CONCRETE. CALL 503-786-7575, 24 HOURS IN ADVANCE OF WORK TO SCHEDULE AN INSPECTION.

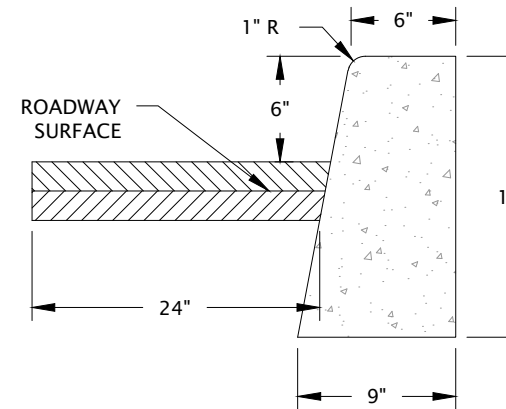
CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Standard Curb and Gutter

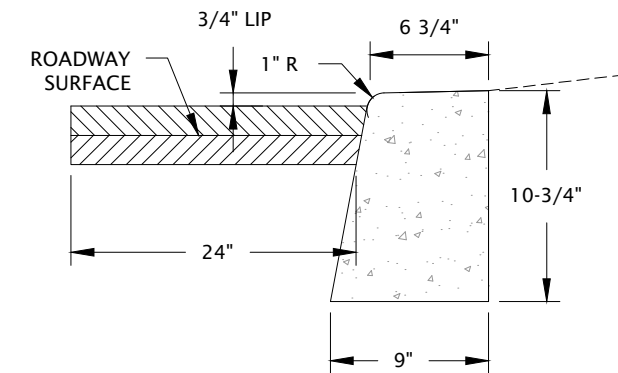
DRAWING NO.

500

APPROVED	NO.	REVISIONS	DATE	BY		
	3	ADDED CURB AND GUTTER AT DRIVEWAY	12/11	MCP		
	4	REVISED DIMENSIONS	12/12	MTC		
	5	ADDED ASPHALT NOTE	1/15	AJR		
CITY ENGINEER	DATE					



TYPE C CURB



CURB AT DRIVEWAY

NOTES:

1. CONCRETE SHALL HAVE BREAKING STRENGTH OF 3300 PSI AFTER 28 DAYS.
2. NO EXPANSION MATERIAL SHALL BE USED.
3. TRANSVERSE CONTRACTION JOINTS REQUIRED AT EACH POINT OF TANGENCY AND EVERY 15 FEET. THE DEPTH OF JOINT SHALL BE MIN. OF 1/3 CONCRETE THICKNESS.
4. DRAINAGE BLOCK - 3" DIA. ABS PIPE. TROWEL JOINT OVER PIPE AREA IN DIRECTION OF PIPE.
5. BASE ROCK - 3/4" MINUS OR 1" MINUS COMPACTED TO 95%. MIN. DEPTH OF 4" OR TO STREET SUBGRADE, WHICHEVER IS GREATER.
6. COMMERCIAL AND HEAVY RESIDENTIAL DRIVEWAY CURB MAY REQUIRE 2-#4 REBARS.
7. EXISTING ASPHALT CONCRETE IN FRONT OF CURB INSTALLATION SHALL BE SAW CUT ALONG A LINE PARALLEL TO THE CURB AT A MINIMUM DISTANCE OF 24" AWAY FROM THE FACE OF THE CURB AND REPLACED WITH HOT MIX ASPHALT CONCRETE WITH MINIMUM THICKNESS OF 4" OR MATCH EXISTING, WHICHEVER IS GREATER.

ATTENTION: ALL CONCRETE WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY PERMIT IN ADDITION TO SUB-GRADE, BASE ROCK, AND CONCRETE FORM INSPECTION AND APPROVAL BY THE CITY INSPECTOR PRIOR TO POURING CONCRETE. CALL 503-786-7575, 24 HOURS IN ADVANCE OF WORK TO SCHEDULE AN INSPECTION.

CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Standard Type C Curb

DRAWING NO.

501

APPROVED	NO.	REVISIONS	DATE	BY		
	1	SCALED DRAWING AND TEXT	12/10	MCP		
	2	CHANGED CURB HEIGHT AT DRIVEWAY	12/12	MTC		
	3	ADDED ASPHALT CUT NOTE	1/15	AJR		
CITY ENGINEER	DATE					

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016	DATE
LO DRAFTED	07/07/2016	DATE
CLE CHECKED	07/07/2016	DATE
RB APPROVED	07/07/2016	DATE



MILWAUKIE
Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
FAX: 503-774-8236

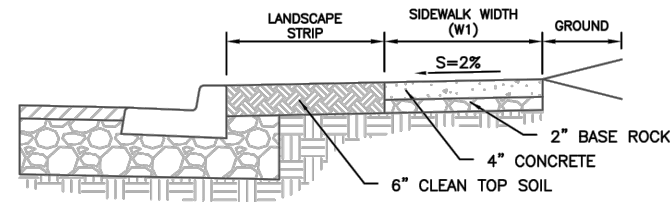
99E HWY / M'CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13

CONTRACT NO.:

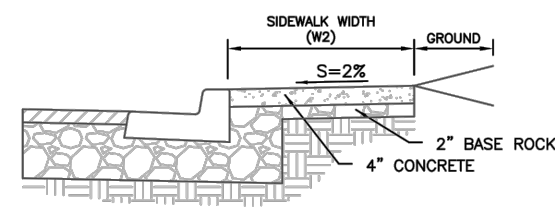
DATE:

SHEET NO.: DT2



SECTION A-A

SET BACK SIDEWALK

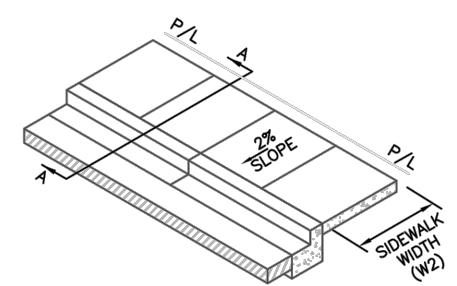
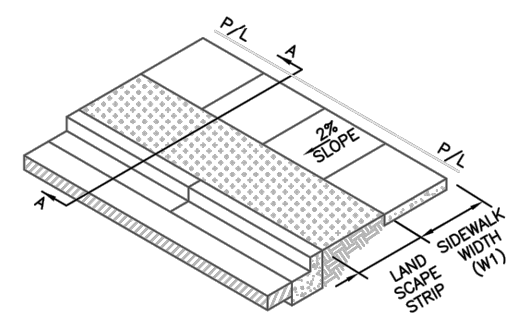


SECTION A-A

CURB TIGHT SIDEWALK

NOTES:

- CONTRACTION JOINTS SHALL BE 1/8" TO 1/4" WIDE WITH A MAXIMUM SPACING OF EVERY 15 FEET. DEPTH OF THE JOINT SHALL BE A MINIMUM OF 1/3 THE THICKNESS OF THE CONCRETE.
- ALL SURFACES SHALL BE LIGHTLY BROOMED. ALL EDGES SHALL BE TOOL ROUNDED AND SHINED 3" AFTER BROOMING.
- SAW CUT EXISTING SIDEWALK THAT IS TO BE REMOVED TO THE NEAREST JOINT.
- CONCRETE SHALL BE 3300 PSI AT 28 DAYS WITH A SLUMP RANGE OF 2" TO 4".
- PERVIOUS CONCRETE SIDEWALK MAY BE USED AS SPECIFIED IN SPECIAL PROVISIONS OR AS APPROVED BY THE CITY ENGINEER.
- SIDEWALK PANELS SHOULD BE SQUARE (4'X4', 5'X5', ETC.). IN NO CASE SHALL THE LENGTH OF A SIDEWALK PANEL BE GREATER THAN 1.5 TIMES THE WIDTH AND VICE VERSA.
- BASE ROCK SHALL BE 3/4"-0 OR 1"-0 CRUSHED AGGREGATE ROCK COMPACTED TO 95% MAXIMUM DENSITY OF AASHTO T-180.
- CURB JOINT FOR CURB TIGHT SIDEWALK SHALL BE A TROWLED JOINT WITH A 1/2" RADIUS ALONG THE BACK OF CURB.



CLASSIFICATION	W1	W2
LOCAL STREET	5.0'	6.0'
NEIGHBORHOOD ROUTE	5.0'	6.0'
COLLECTOR ROAD	6.0'	8.0'
ARTERIAL ROUTE	6.0'	10.0'



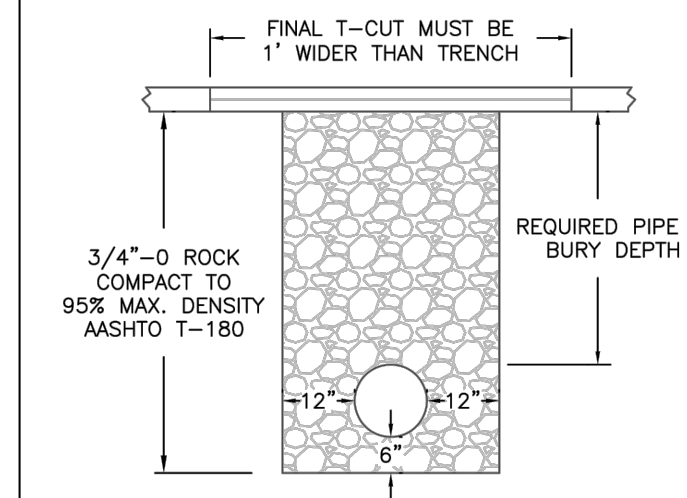
CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Sidewalk

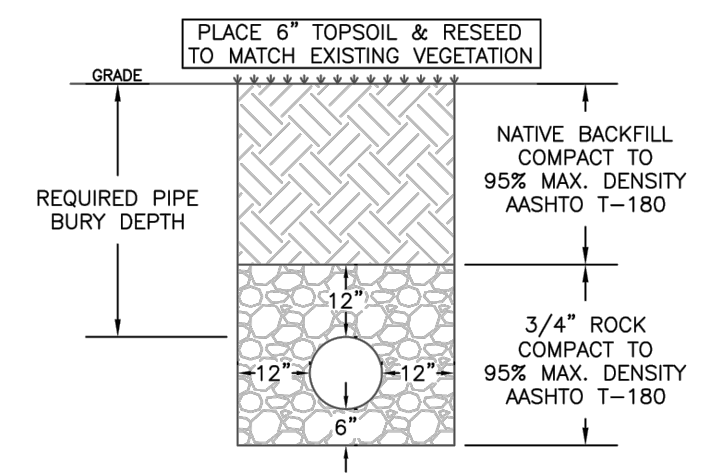
DRAWING NO.

504

APPROVED	NO.	REVISIONS	DATE	BY
<i>JASON RICE</i>	1	DRAWING REVISED	10/09	ZJW
	2	DRAWING NUMBER CHANGED	12/10	MCP
	3	ADDED PERVIOUS CONCRETE NOTE	12/11	MCP



TRENCHES WITHIN PAVED AREAS

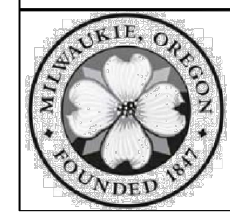


TRENCHES OUTSIDE OF PAVED AREAS

CLASSIFICATION	DEPTH (IN.)
ARTERIAL/INDUSTRIAL	8 OR EXISTING
COLLECTOR	6 OR EXISTING
LOCAL	4 OR EXISTING

NOTES:

- ADDITIONAL REPAIR IS REQUIRED FOR STREETS PAVED WITHIN THE LAST 5 YEARS. SEE STANDARD DETAIL NO. 516.
- FINAL SAWCUTS MUST BE 6" WIDER THAN THE WIDTH OF THE ROLLER USED FOR COMPACTION
- PAVING SHALL CONSIST OF CLASS "C" MODIFIED ASPHALT CONCRETE AND BE PLACED IN LIFTS. EACH LIFT OF PAVEMENT SHALL HAVE A MAXIMUM DEPTH OF 3" & MINIMUM DEPTH OF 2".
- INFRARED ASPHALT REPAIRS MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEERING DIRECTOR.
- UNDERMINED, BROKEN OR CRACKED PAVEMENT EDGES SHALL BE SAWCUT AND REMOVED AT THE DISCRETION OF THE ENGINEERING DIRECTOR.
- CONTROL DENSITY FILL (CDF) MAY BE REQUIRED AT ENGINEER'S DISCRETION.



CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Trench Patch

DRAWING NO.

515

APPROVED	NO.	REVISIONS	DATE	BY
<i>JASON RICE</i>	1	ADDED 8" ASPHALT FOR INDUSTRIAL AREAS	12/11	MCP
	2	REVISED NOTES	12/12	MTC
	3	ADDED T-CUT LANGUAGE	12/14	AJR

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016

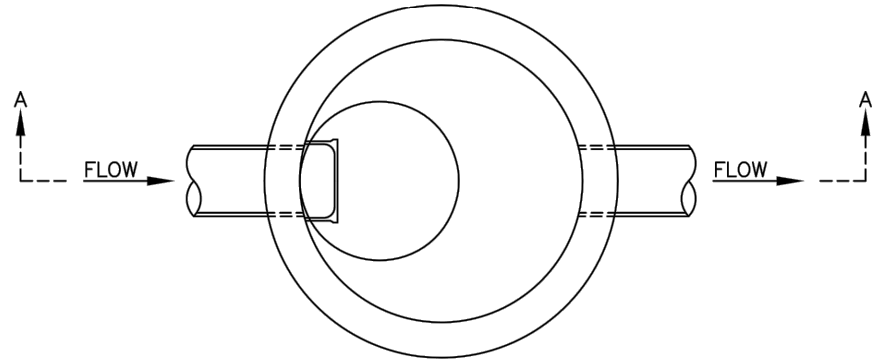


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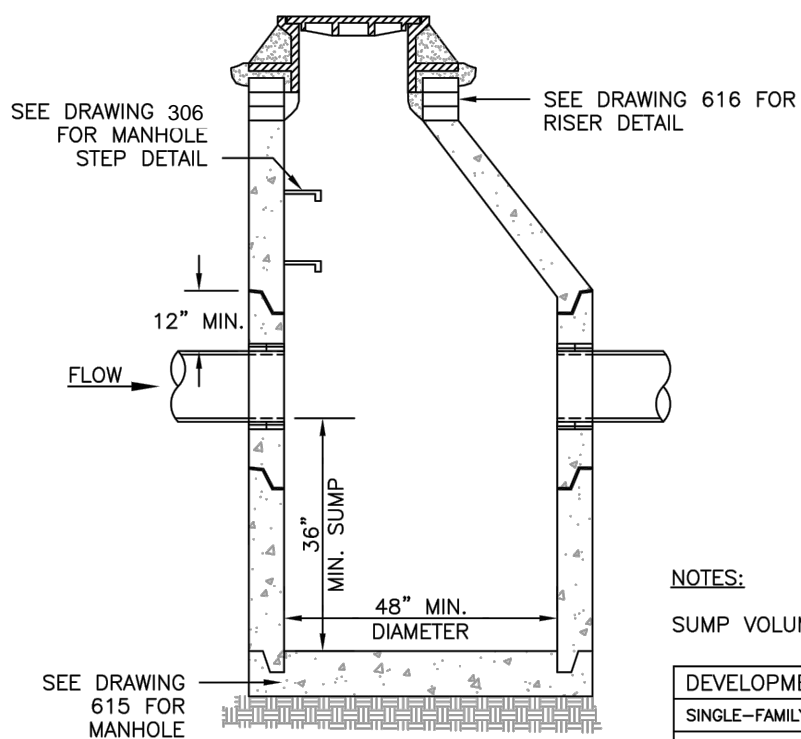
PHONE: 503-786-7600
FAX: 503-774-8236

99E HWY / M CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13 CONTRACT NO.: DATE: SHEET NO.: DT3



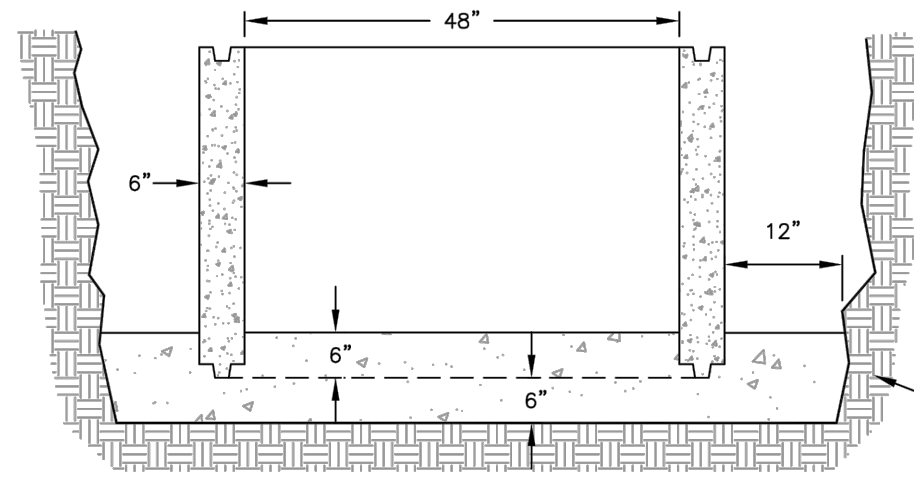
PLAN VIEW



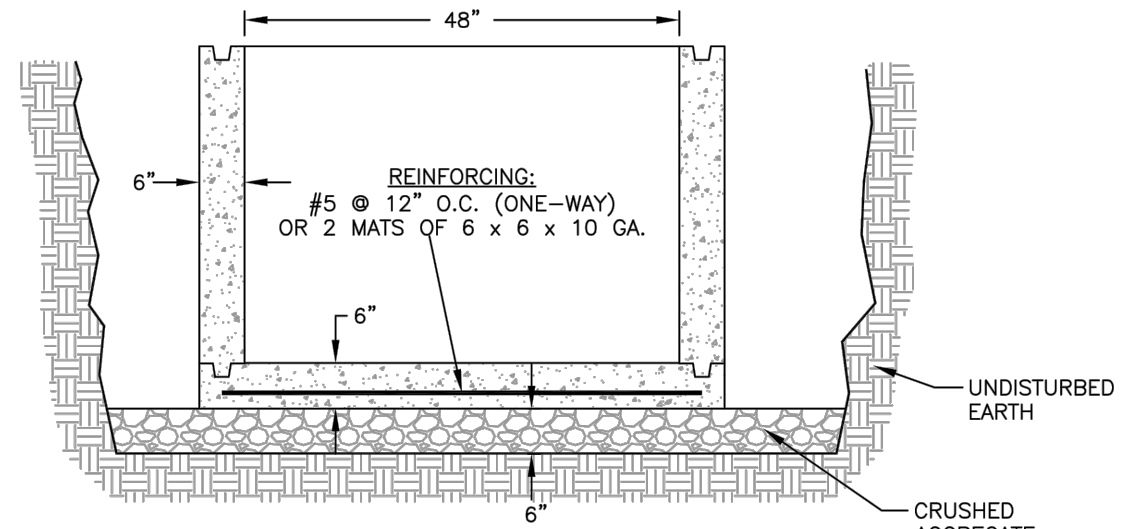
SECTION A-A

NOTES:
SUMP VOLUME REQUIREMENTS:

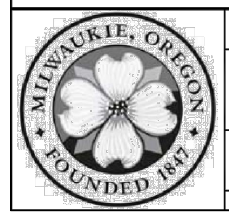
DEVELOPMENT TYPE	VOLUME REQ'D
SINGLE-FAMILY RESIDENTIAL	3.5 CF/AC
MULTI-FAMILY RESIDENTIAL	22.0 CF/AC
COMMERCIAL/INDUSTRIAL	94.0 CF/AC



CAST-IN-PLACE MANHOLE BASE



PRECAST MANHOLE BASE



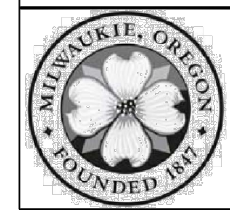
CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Sedimentation Manhole

DRAWING NO.

611

APPROVED	NO.	REVISIONS	DATE	BY
<i>J. BOWDICE</i>	1	MANHOLE ACCESS ORIENTATION	03/10	BSA
	2	RECREATED DRAWING FOR CLARITY	12/10	MCP
CITY ENGINEER			DATE	



CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Manhole Base

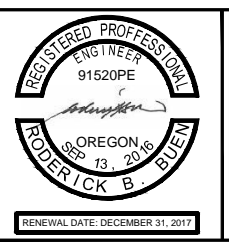
DRAWING NO.

615

APPROVED	NO.	REVISIONS	DATE	BY
<i>J. BOWDICE</i>	1	RECREATED DRAWING FOR CLARITY	12/10	MCP
CITY ENGINEER			DATE	

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016

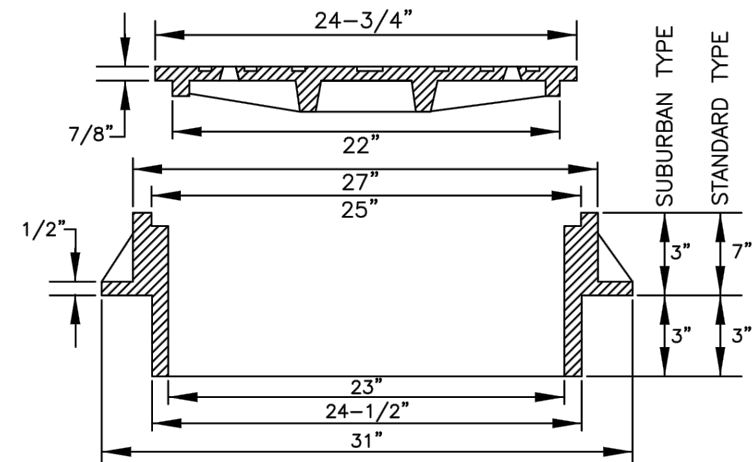
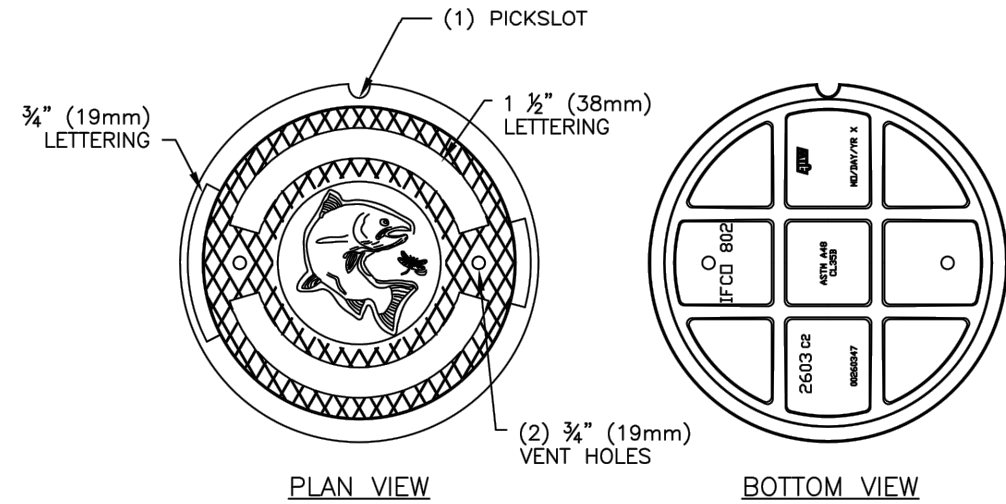
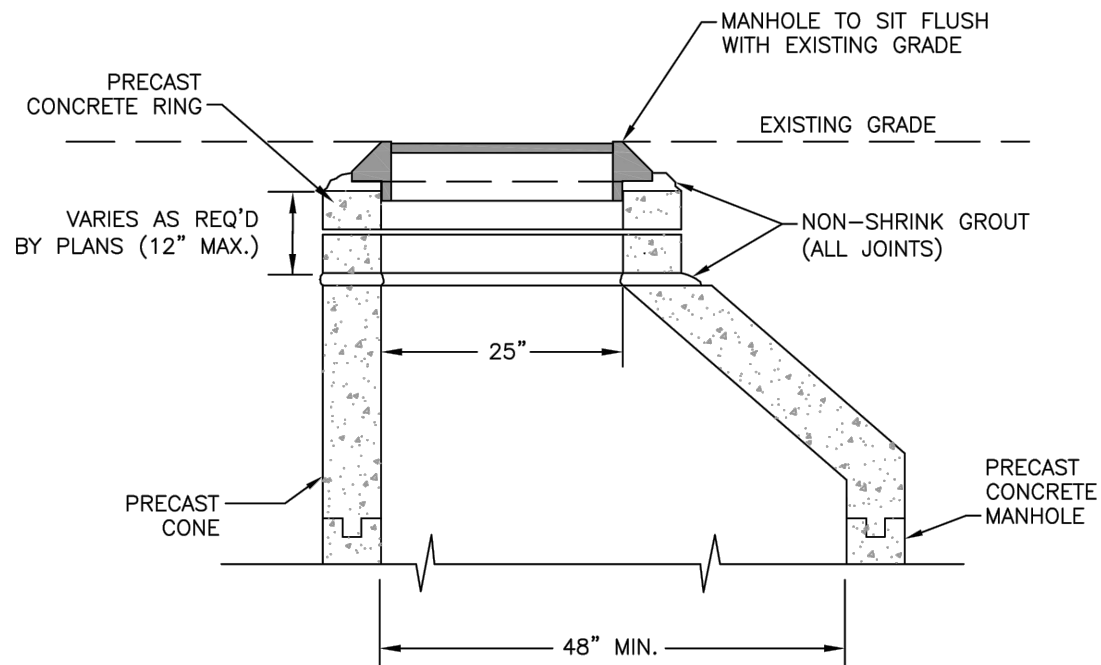


MILWAUKIE
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99E HWY / M CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: DT4
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NOTES:

1. USE SUBURBAN TYPE ONLY IN NON-TRAFFIC AREAS, AND ONLY WITH APPROVAL BY THE CITY.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48 CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
4. NOTCH LID FOR LIFTING HOOK.

LIDS MAY BE PURCHASED FROM THE CITY OR THE MANUFACTURER



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Manhole Riser Details

DRAWING NO.

616

APPROVED	NO.	REVISIONS	DATE	BY
<i>J. BOWDICE</i>	1	RESIZED DIMENSIONS AND TEXT	12/10	MCP
CITY ENGINEER				



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Storm Manhole Frame and Lid

DRAWING NO.

617

APPROVED	NO.	REVISIONS	DATE	BY
<i>J. BOWDICE</i>	1	REVISED DRYWELL LID TYPE	03/10	BSA
	2	REMOVED NOTE ALLOWING OPEN GRATES	12/10	MCP
	3	CHANGED LID DETAIL	12/12	MTC
CITY ENGINEER				

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016



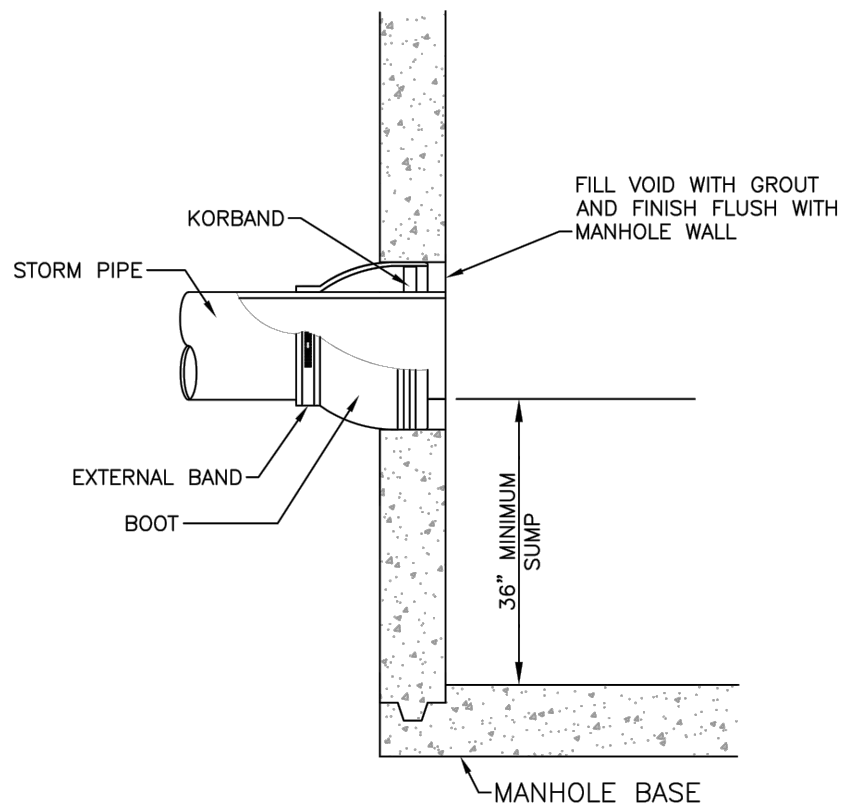
MILWAUKIE
Dogwood City of the West

6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206

PHONE: 503-786-7600
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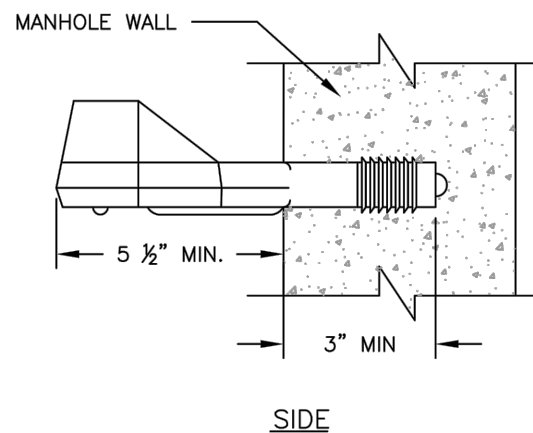
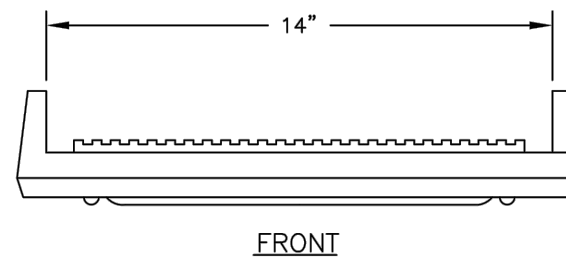
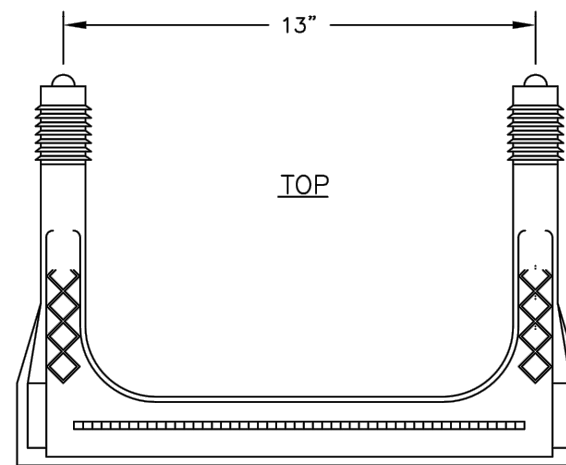
99E HWY / M'CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: DT5
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NOTES:

1. USE FLEXIBLE MANHOLE CONNECTION KOR-N-SEAL OR CITY ENGINEER APPROVED EQUIVALENT.
2. STRUCTURE OPENING(S) TO BE PRECAST OR CORE DRILLED ONLY.



NOTES:

1. STEPS SHALL BE DEFORMED STEEL REINFORCED POLYPROPYLENE PLASTIC CONFORMING WITH ASTM C478 AND ASTM A615.
2. ALL STEPS WITHIN A MANHOLE SHALL BE OF THE SAME DESIGN TYPE AND SIZE. (MIXING OF UNMATCHED STEPS WITHIN THE SAME MANHOLE IS NOT PERMITTED.)
3. LOOSE STEPS SHALL BE CAUSE FOR REJECTION OF THAT CONE OR SECTION.
4. STEPS ARE TO BE DRIVEN INTO PRE-FORMED HOLES IN PRECAST CONCRETE SECTIONS BY THE MANHOLE MANUFACTURER PRIOR TO DELIVERY TO THE JOB SITE.
5. MINIMUM HORIZONTAL PULLOUT LOAD SHALL BE 1500 LBS.
6. STEPS SHALL BE ALIGNED VERTICALLY.
7. STEPS SHALL BE SPACED 12\"/>



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Manhole Connection Detail

DRAWING NO.

619

APPROVED	NO.	REVISIONS	DATE	BY
<i>J. BOWDICE</i>	1	ADDED 36\"/>		



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Manhole Step

DRAWING NO.

306

APPROVED	NO.	REVISIONS	DATE	BY
<i>J. BOWDICE</i>	1		12/14	MCP
	2			MTC

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016



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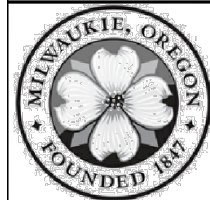
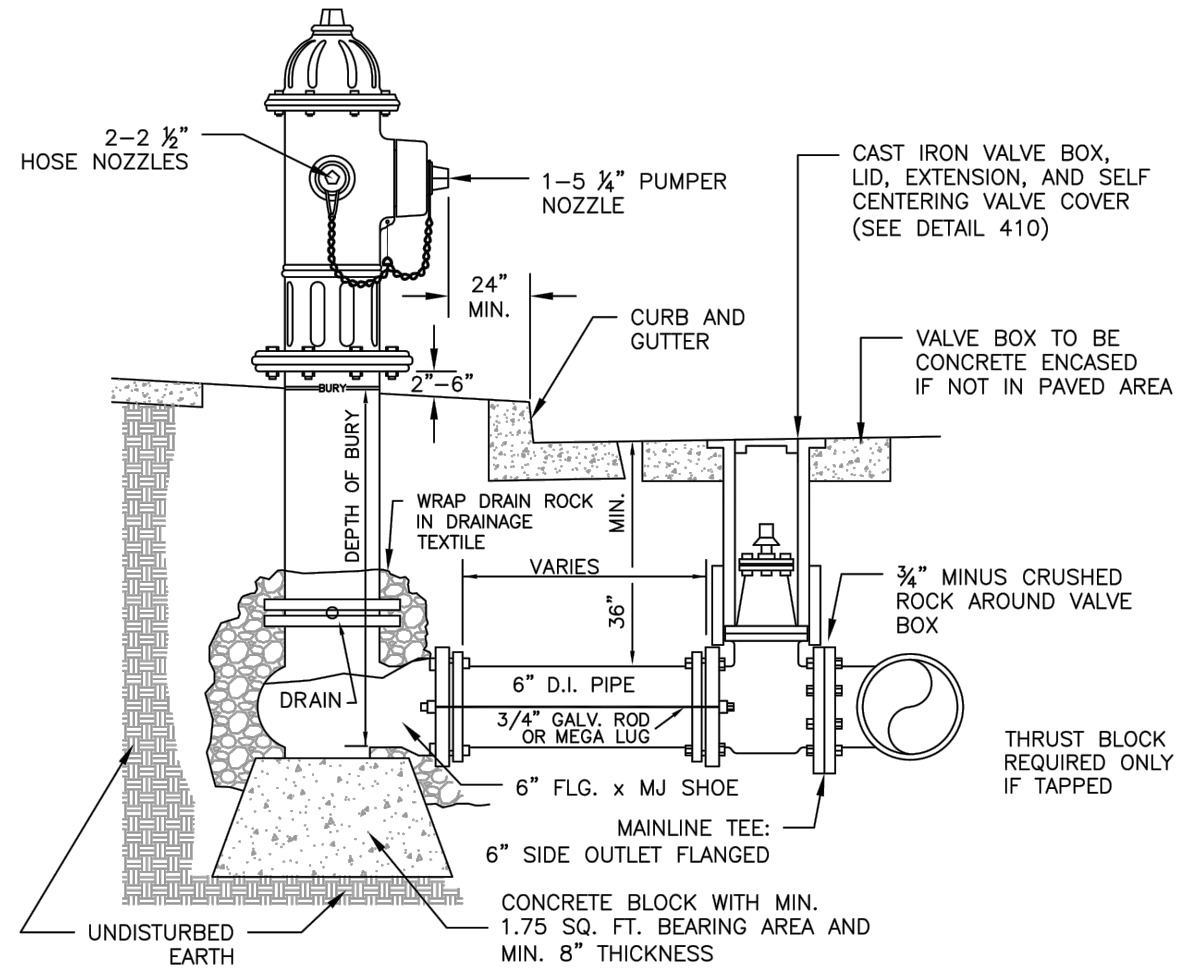
PHONE: 503-786-7600
FAX: 503-774-8236

99E HWY / M CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: DT6
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NOTES:

- HYDRANTS TO BE WATEROUS WB67, MUELLER CENTURION A423, M&H 929 RELIANT, OR CLOW MEDALLION F2545 WITH 1 1/2" OPERATING NUTS.
- HYDRANT COLOR TO BE MILLER EQUIP. ENAMEL OE 40 (SAFETY YELLOW).
- JOINTS TO BE RESTRAINED BY 3/4" DIA. GALVANIZED STEEL RODS OR MEGA LUGS.
- ALL FITTINGS IN CONTACT W/ CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
- MIN. 4 CU. FT. OF 2"-1" CLEAN DRAIN ROCK SHALL BE PLACED AROUND SHOE UP TO A MIN. OF 6" ABOVE DRAIN OUTLETS.
- WHERE PLASTIC STRIP EXISTS, HYDRANT SHALL BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
- WHERE INTEGRAL SIDEWALK AND CURB EXISTS, HYDRANT SHALL BE PLACED AT BACK OF SIDEWALK, OR AS DIRECTED BY ENGINEER.
- BURY OF HYDRANT SHALL BE MEASURED FROM FINISHED GRADE TO BOTTOM OF CONNECTING PIPE.
- HYDRANT VALVE SHALL BE AMERICAN FLOW CONTROL SERIES 2500 OR APPROVED EQUAL.
- WHERE NO SIDEWALK EXISTS, PLACE A 5'x5'x4" THICK CONCRETE APRON AROUND HYDRANT.
- NO VERTICAL EXTENSIONS ALLOWED WITHOUT APPROVAL.



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Fire Hydrant Installation

DRAWING NO.

400

APPROVED		NO.	REVISIONS	DATE	BY
<i>JASON RICE</i>	12/14	1	EDIT HYDRANT VALVE TYPE, GEOTEXTILE	12/10	MCP
		2	ADDED DIMENSIONS	12/12	MTC
		3	REMOVED THRUST BLOCKS	12/14	AJR
CITY ENGINEER	DATE				

DEC 2013

(HORIZONTAL)
BEARING AREA OF THRUST BLOCKS
IN SQUARE FEET

(VERTICAL)
VOLUME OF THRUST
BLOCK IN CUBIC YARDS

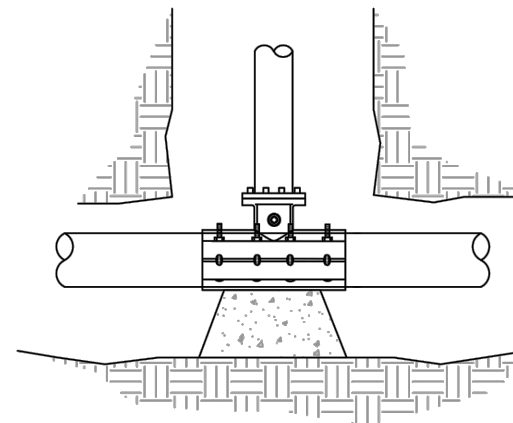
FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22-1/2' BEND	11-1/4' BEND	90° BEND	45° BEND	22-1/2' BEND	11-1/4' BEND
				A-1	A-2							
4	1.0	1.6	1.4	1.9	1.4	1.0	---	---	---	---	---	---
6	2.1	3.7	3.0	4.3	3.0	1.6	1.0	---	1.3	---	---	---
8	3.8	6.5	5.3	7.6	5.4	2.9	1.5	1.0	2.3	1.1	---	---
10	5.9	10.2	8.4	11.8	8.4	4.6	2.4	1.2	3.7	1.8	---	---
12	8.5	14.7	12.0	17.0	12.0	6.6	3.4	1.7	5.5	2.8	1.2	---
14	11.5	---	16.3	23.0	16.3	8.9	4.6	2.3	7.6	3.9	1.7	---
16	15.0	26.1	21.3	30.0	21.3	11.6	6.0	3.0	9.9	5.1	2.3	0.9
18	19.0	---	27.0	38.0	27.0	14.6	7.6	3.8	---	---	---	---
20	23.5	40.8	33.3	47.0	33.3	18.1	9.4	4.7	---	---	---	---
24	34.0	58.8	48.0	68.0	48.0	26.2	13.6	6.8	---	---	---	---

NOTES:

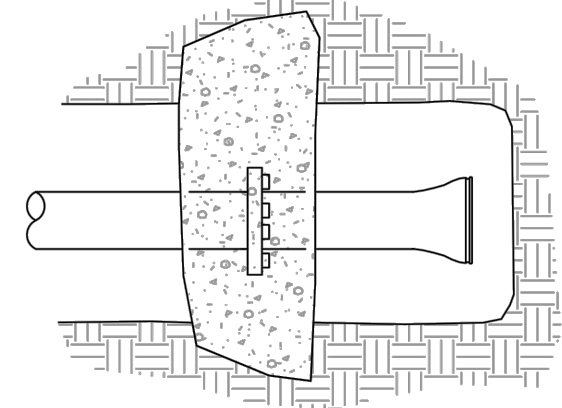
- ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:

$$\text{BEARING AREA} = (\text{TEST PRESSURE} / 150) \times (2000 / \text{SOIL BEARING STRESS}) \times (\text{TABLE VALUE})$$
- ABOVE VOLUMES BASED ON TEST PRESSURE OF 150 PSI AND THE WEIGHT OF CONCRETE = 4050 POUNDS PER CUBIC YARD. TO COMPUTE FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:

$$\text{VOLUME} = (\text{TEST PRESSURE} / 150) \times (\text{TABLE VALUE})$$



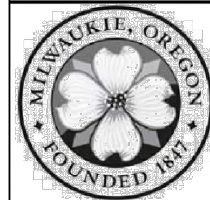
TAPPED



STRADDLE BLOCK

NOTES:

- CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- ALL CONCRETE TO BE CLASS 2400 MINIMUM.
- INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
- CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Thrust Blocking

DRAWING NO.

406

APPROVED		NO.	REVISIONS	DATE	BY
<i>JASON RICE</i>	12/14	1	DRAWING NUMBER CHANGED	12/13	AJR
		1	REMOVED THRUST BLOCK REQUIREMENTS	12/14	AJR
CITY ENGINEER	DATE				

DEC 2013

NO.	DATE	BY	REVISIONS

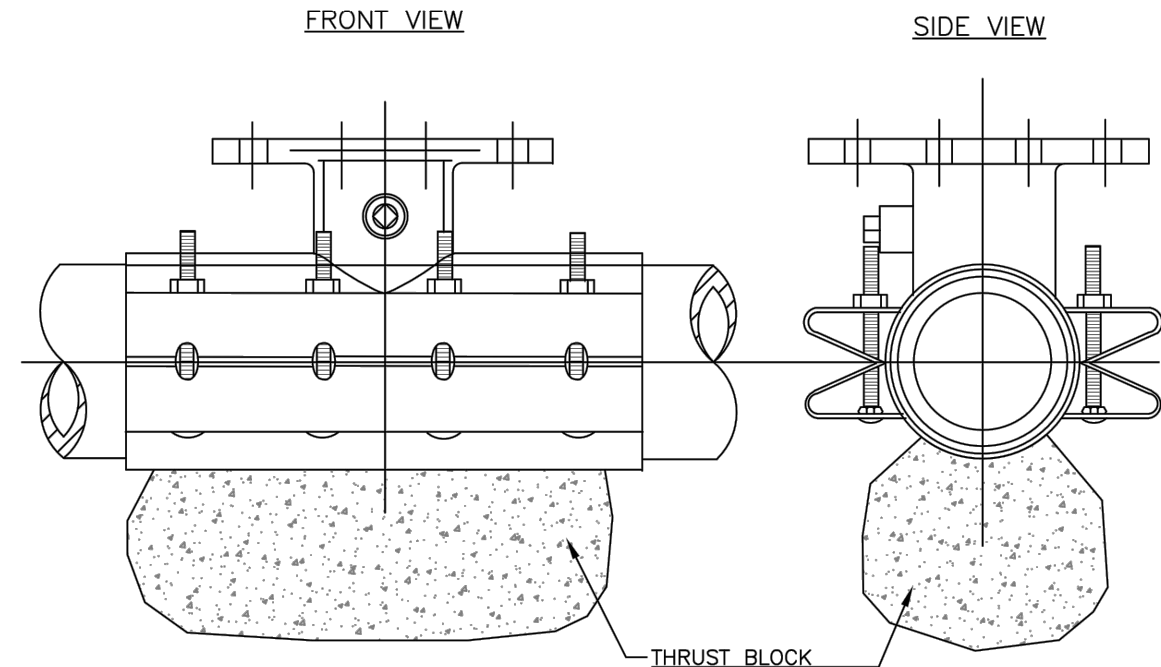
LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016



MILWAUKIE
Dogwood City of the West

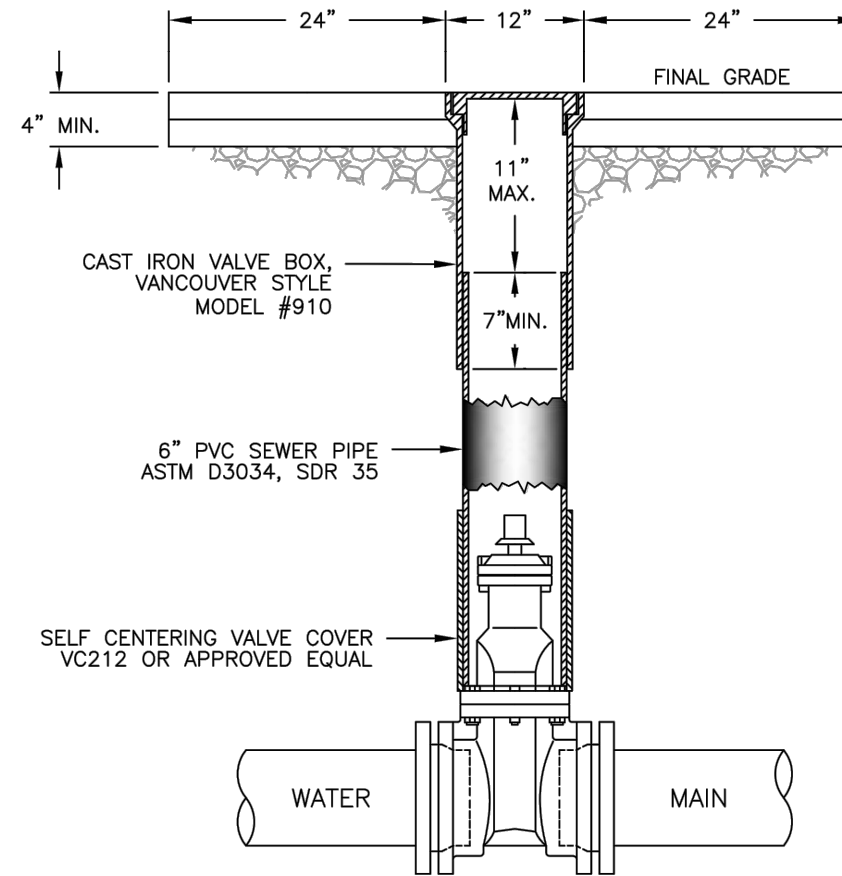
6101 SE JOHNSON CREEK BLVD. MILWAUKIE, OR 97206
PHONE: 503-786-7600 FAX: 503-774-8236

99E HWY / M CLOUGHLIN BOULEVARD			
UTILITY RELOCATION			
DETAILS SHEET			
PROJECT NO.:	C2016-Y13	CONTRACT NO.:	
DATE:		SHEET NO.:	DT7



NOTES:

1. WATER MAIN SHALL BE CLEANED BEFORE ATTACHING SLEEVE.
2. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP.
3. PRESSURE TEST AND TAP SHALL BE MADE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE.
4. PROPER TAPPING MACHINE SHALL BE USED TO MAKE TAP.
5. THRUST BLOCKING REQUIREMENTS SHALL BE DETERMINED BY DRAWING 406.
6. TAP SHALL BE MADE NO CLOSER THAN 18 INCHES FROM THE NEAREST JOINT.
7. SLEEVE AND VALVE SHALL BE WRAPPED IN 8 MIL PLASTIC.
8. SLEEVES TO BE USED ARE JCM OR MUELLER STAINLESS STEEL TAPPING SLEEVES. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
9. SLEEVE SHALL BE AS LEVEL AS POSSIBLE.
10. ALL BOLTS SHALL HAVE NEVER SEIZE ON THREADS.
11. FOR TAPS SMALLER THAN 2.5", SEE MILWAUKIE STANDARD DETAILS 401 AND 402.



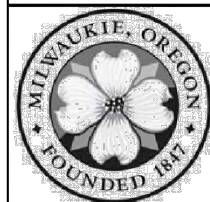
NOTES:

1. VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
2. VALVE BOX TOP SHALL BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC SHALL BE ONE CONTINUOUS PIECE – NO BELLS OR COUPLERS.
4. VALVE NUT EXTENSIONS SHALL BE USED TO BRING VALVE NUT WITHIN 4 FEET OF FINAL GRADE.
5. VALVE CAN SHALL BE ENCASED IN 2'x2' PAD IN UNIMPROVED AREAS. REPAIRS WITHIN PAVED STREET REQUIRE A MINIMUM 5'x5' ASPHALT PATCH.

"MILWAUKIE WATER" STANDARD LID BY EAST JORDAN FOUNDRY OR APPROVED EQUAL



18" TALL VALVE BOX



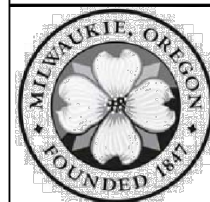
CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Standard Wet Tap 2.5 Inch and Larger

DRAWING NO.

409

APPROVED	NO.	REVISIONS	DATE	BY
	1	GENERAL FORMATTING	12/10	MCP
	2	DRAWING NUMBER CHANGED	12/13	AJR
	3	ADDED THRUST BLOCK	12/14	AJR



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Standard Valve Box Detail

DRAWING NO.

410

APPROVED	NO.	REVISIONS	DATE	BY
	1	GENERAL FORMATTING	12/10	MCP
	2	DRAWING REVISED; VALVE BOX REDRAWN	12/12	MTC
	3	DRAWING NUMBER CHANGED	12/13	AJR

NO.	DATE	BY	REVISIONS

LO DESIGNED	07/07/2016
LO DRAFTED	07/07/2016
CLE CHECKED	07/07/2016
RB APPROVED	07/07/2016

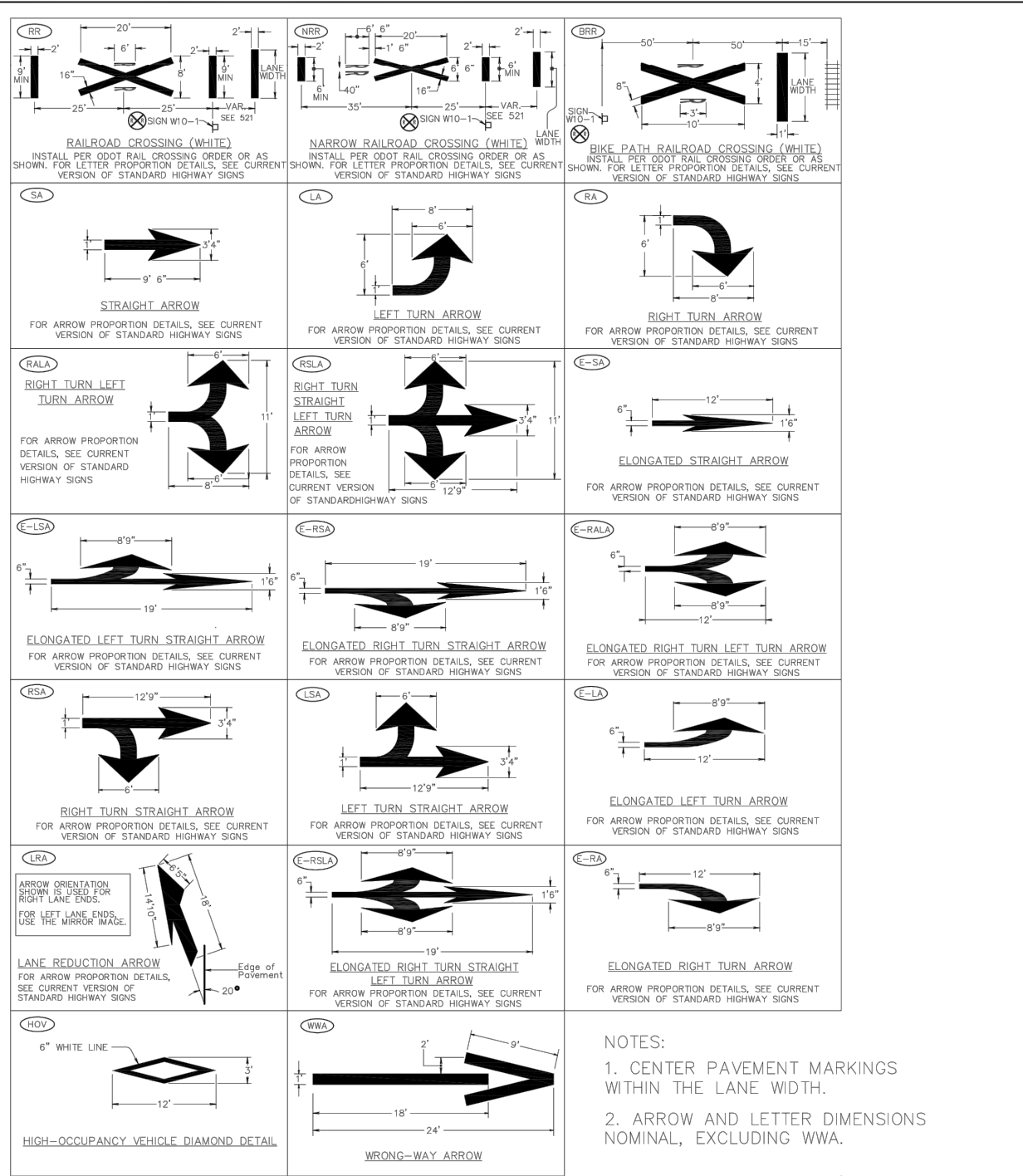


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99E HWY / M CLOUGHLIN BOULEVARD
UTILITY RELOCATION
DETAILS SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: DT8
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NOTES:
 1. CENTER PAVEMENT MARKINGS WITHIN THE LANE WIDTH.
 2. ARROW AND LETTER DIMENSIONS NOMINAL, EXCLUDING WWA.



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.
Pavement Marking Standard Detail Blocks

DRAWING NO.

518

APPROVED

 CITY ENGINEER 12/14 DATE

NO.	REVISIONS	DATE	BY
1	DRAWING CREATED	10/12	MTC

NO.	DATE	BY	REVISIONS

LO 07/07/2016
 DESIGNED DATE
 LO 07/07/2016
 DRAFTED DATE
 CLE 07/07/2016
 CHECKED DATE
 RB 07/07/2016
 APPROVED DATE



MILWAUKIE
Dogwood City of the West

6101 SE JOHNSON CREEK BLVD. MILWAUKIE, OR 97206
 PHONE: 503-786-7600
 FAX: 503-774-8236

99E HWY / MCLOUGHLIN BOULEVARD
 UTILITY RELOCATION
 DETAIL SHEET

PROJECT NO.: C2016-Y13	CONTRACT NO.:	DATE:	SHEET NO.: DT9
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