

ADDENDUM No. 10
 TO THE
 CITY OF FRESNO
 PUBLIC WORKS STANDARD DRAWINGS AND SPECIFICATIONS
 ADOPTED MARCH 4, 1970, BY RESOLUTION NO. 70-36

THIS UPDATED VERSION IS APPROVED: JANUARY 13, 2025

This addendum is attached to, and made a part of, the above-entitled standard drawings.

The following City Standard Drawings have been amended as indicated below:

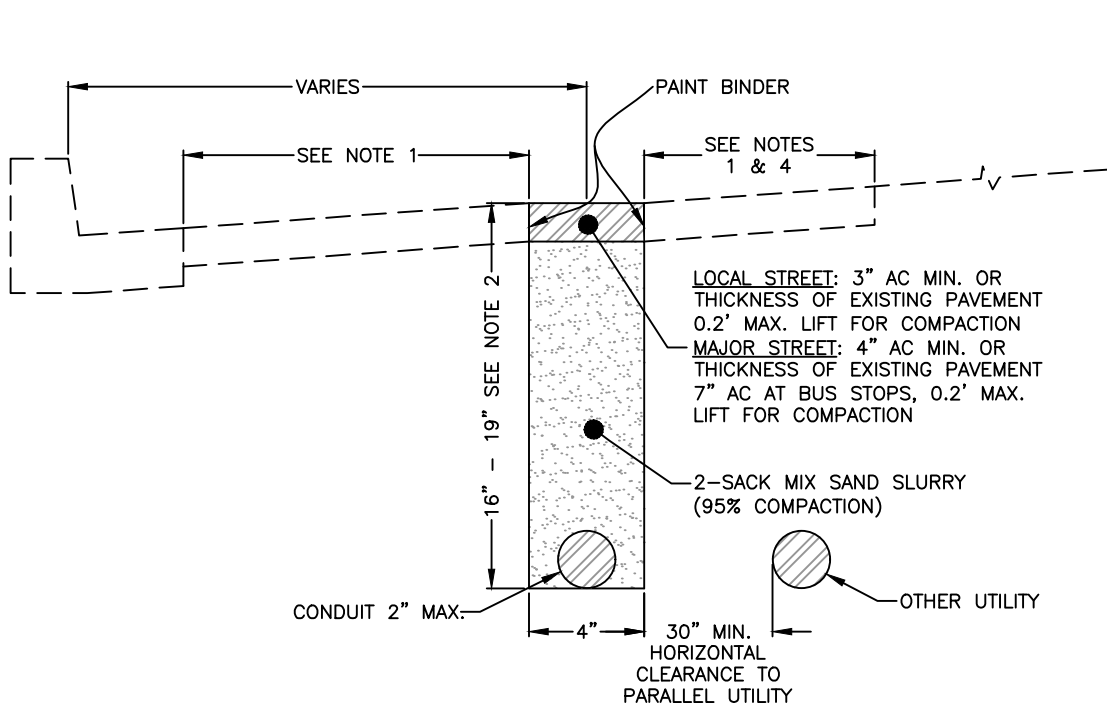
PUBLIC WORKS (P Series)	
P-43	1. Added Note 9 , TRENCH DETAIL CATV, LOCAL & MAJOR STREETS SHALL INCORPORATE APPLICABLE CITY STD. DWG. P-44 & P-44A GENERAL MICROTRENCH NOTES AS DIRECTED BY THE ENGINEER. 2. Drawing exhibit added hatching for trench cross section.
P-44	1. PREVIOUSLY NOT USED STANDARD. Adds microtrenching notes 1 to 14.
P-44A	1. NEW P DRAWING ADDED. Adds microtrenching notes 15 to 21.
P-46	1. PREVIOUSLY NOT USED STANDARD. Adds microtrenching drawing and notes for microtrenching in asphalt pavement.
P-49	1. PREVIOUSLY NOT USED STANDARD. Adds microtrenching drawing and notes for microtrenching in concrete (curbs, gutters, sidewalk & pavement).

Addendum 10 to the Public Works Standard Drawings and Specifications, dated January 13, 2025

Reviewed and Approved:


 Scott Mozier, P.E.
 Public Works Director/City Engineer

1-13-2025
 Date



NOTES:

1. WHEN THE PAVEMENT IS FRACTURED OR SEPARATED, THE CITY ENGINEER MAY DIRECT ITS REPLACEMENT. ADJUST TO ELIMINATE ANY FLOATING SECTIONS OF AC PAVING.
2. WHERE PERMANENT STREET IMPROVEMENTS ARE NOT COMPLETE, CATV FACILITIES ARE SUBJECT TO RELOCATION DEPENDENT UPON THE DETERMINATION OF FINAL STREET GRADES. INSTALLATION AT A DEPTH GREATER THAN 18" MAY AVOID RELOCATION OF CATV FACILITIES WHEN THE FUTURE STREET GRADE MAY BE LOWER THAN THE EXISTING STREET.
3. STREET CLEANING IS A CONTINUOUS REQUIREMENT OF THE PROJECT.
4. TO PROVIDE A STRAIGHT AND NEAT TRENCH, IN OIL DIRT STREETS, THE ENGINEER MAY REQUIRE ADDITIONAL PAVEMENT REMOVAL AND REPLACEMENT BEYOND THE LIMITS SHOWN IN THIS STANDARD.
5. WHEN STREET PAVING IS LESS THAN ONE YEAR OLD, FOG SEAL IS REQUIRED.
6. STONE GUARDS ARE REQUIRED. GUARDS TO PREVENT FLYING, OR SCATTERING OF DEBRIS BEYOND THE TRENCH SPOIL ARE REQUIRED.
7. CONSTRUCTION MACHINERY IS SUBJECT TO INSPECTION PRIOR TO APPROVAL OF STREET WORK PERMIT.
8. IF FOR ANY REASON THE TRENCH WIDTH EXCEEDS 6 INCHES (E.G. BELL HOLES, BORE PITS, ETC.) THE PAVING SHALL BE REPLACED PER CITY STD. DWG. P-48.
9. TRENCH DETAIL CATV, LOCAL & MAJOR STREETS SHALL INCORPORATE APPLICABLE CITY STD. DWG. P-44 & P-44A GENERAL MICROTRENCH NOTES AS DIRECTED BY THE ENGINEER.

TRENCH DETAIL CATV
LOCAL & MAJOR STREETS

REF. & REV.
 AUG. 2010
 JAN. 2025 A.10

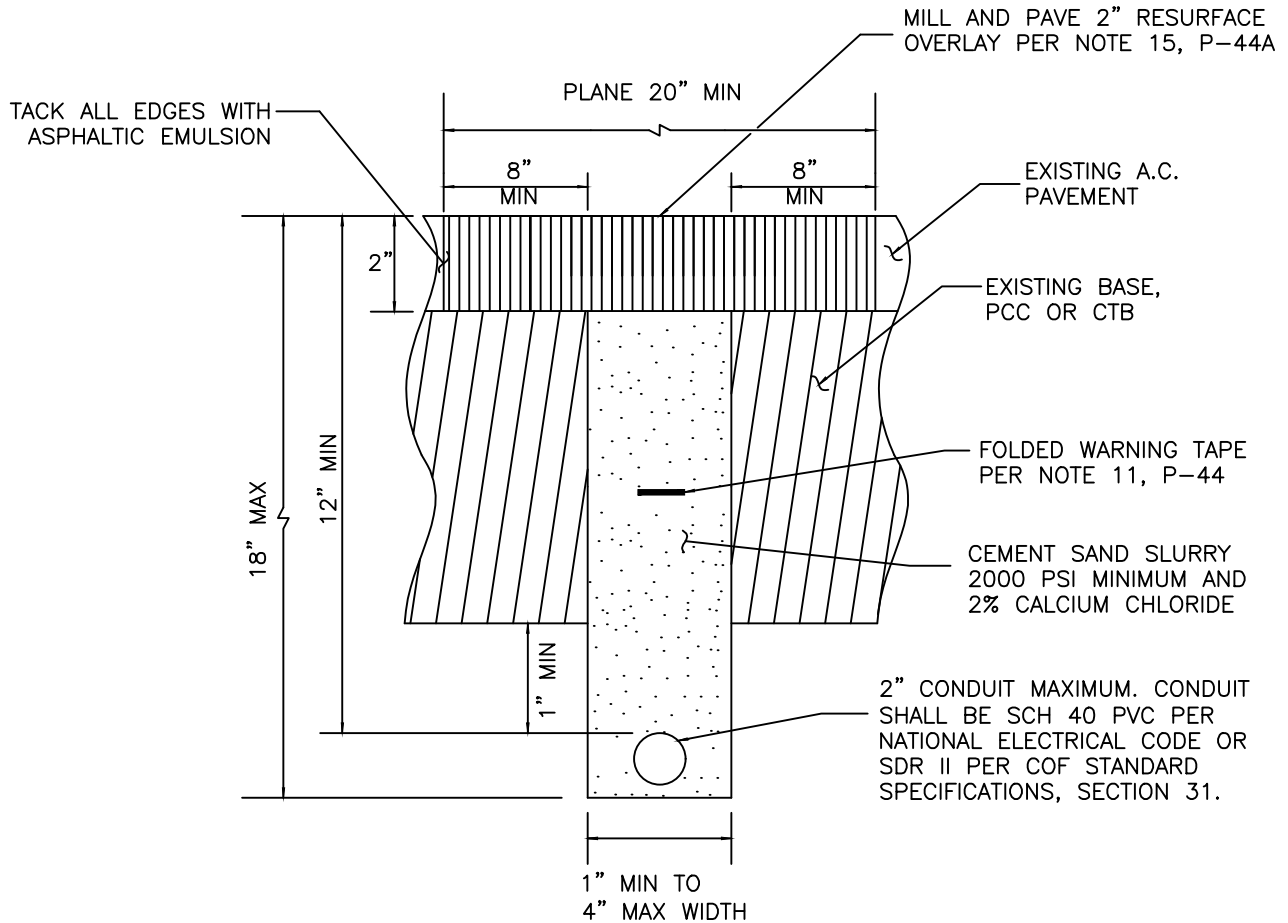
CITY OF FRESNO
P-43

NOTES:

1. CLEARANCE SEPARATIONS BETWEEN DRY AND WET UTILITIES SHALL BE MAINTAINED PER CALIFORNIA PUBLIC UTILITY CODE GENERAL ORDER 128, CITY OF FRESNO (CITY) STANDARDS P-41 & P-42, AND CITY STANDARD SPECIFICATIONS SECTION 21-10.1.
2. **PERMITTING REQUIREMENTS:** REFER TO CITY OF FRESNO MUNICIPAL CODE SECTION 13-202. ADDITIONALLY, THE CONTRACTOR SHALL IDENTIFY ALL EXISTING UTILITIES, INCLUDING SERVICE CONNECTIONS IN THE FIELD. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT LEAST 48 HOURS PRIOR TO START OF WORK AT 8-1-1, OR TOLL-FREE AT 1-800-422-4133. THE CONTRACTOR SHALL FURTHER SUPPLEMENT THE FINDING OF U.S.A. TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES BY USING A MOBILE GROUND PENETRATING RADAR SYSTEM. THE CONTRACTOR SHALL POTHOLE ALL CROSSING UTILITIES AND PARALLEL UTILITIES WITHIN 18 INCHES OF THE PROPOSED ALIGNMENT TO A DEPTH OF 6 INCHES BELOW THE BOTTOM OF THE MICROTRENCH, TO DETERMINE THE EXISTING UTILITY ALIGNMENT AND ELEVATION. POTHOLES SHALL BE IMMEDIATELY BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE CITY STANDARD SPECIFICATIONS OR RESTORED AS DIRECTED BY THE ENGINEER.
3. **CONDUIT ANCHORING:** CONTRACTOR MUST PROVIDE THEIR METHOD OF WEIGHING / ANCHORING DOWN CONDUITS IN THEIR PERMIT TO PREVENT CONDUITS FROM FLOATING, AND TO MAINTAIN REQUIRED DEPTH FOR TOP OF CONDUIT.
4. **MICROTRENCHING USAGE:** MICROTRENCHING PER P-46 SHALL BE ON ASPHALT STREETS ONLY. MICROTRENCHING SHALL NOT BE PERMITTED IN OR THROUGH EXISTING CONCRETE PAVED STREETS, PARKWAYS, CURB, GUTTER, CROSS GUTTER, BUS PAD, SIDEWALK, FLOATING CURB EXTENSION, BUS BULB, TRUCK PILLOW, RAISED CROSSWALK, ISLAND, MINI-ROUNDAABOUT, OR SIMILAR ELEMENTS. MICROTRENCHING MAY BE PERMITTED, AT THE CITY'S DISCRETION, IN OR THROUGH EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS (SUCH AS DECORATIVE ASPHALT PAVING, AND PERPENDICULAR TO SPEED BUMPS). EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS SHALL BE RESTORED IN KIND AS APPROVED BY THE CITY.
5. **DAMAGE TO EXISTING IMPROVEMENTS:** CONNECTION TO SERVICE LATERALS, JUNCTION BOXES, ETC. SHALL BE DONE SUCH THAT EXISTING IMPROVEMENTS ARE NOT DISTURBED, SETTLED, OR DAMAGED. ANY DAMAGE TO EXISTING IMPROVEMENTS BY PARALLEL OR PERPENDICULAR MICROTRENCHING ACTIVITIES SHALL BE RESTORED IN KIND AS APPROVED BY THE CITY. DAMAGE TO CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT SHALL BE REMOVED AND RESTORED IN ACCORDANCE WITH P-49.
6. **TRENCH CUTS:** CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO ACHIEVE STRAIGHT AND UNIFORM CUTS WITH NEAT EDGES. SELECTION OF CUTTING WHEEL SHALL BE SUCH THAT IT MINIMIZES DAMAGE TO THE ADJACENT AC SURFACE. RADII TRENCH CUTS SHALL HAVE NO MORE THAN 3 CUTS.
7. **MICROTRENCH WIDTH:** MICROTRENCH WIDTH SHALL BE A MINIMUM OF 1 INCH AND A MAXIMUM OF 4 INCHES.
8. **MICROTRENCH ALIGNMENT OFFSET TO AN ADJACENT MICROTRENCH:** NO MICROTRENCHING SHALL BE LESS THAN 2 FEET FROM ADJACENT MICROTRENCHES (EDGE TO EDGE). THIS MAY REQUIRE THE CONTRACTOR TO POTHOLE TO VERIFY PARALLEL UTILITIES SIZE AND WIDTH TO ENSURE PROPER SEPARATION.
9. **CONDUIT PLACEMENT IN TRENCH:** THE TOP OF CONDUIT SHALL BE 12 INCHES MINIMUM FROM TOP OF PAVEMENT OR 1 INCH FROM BOTTOM OF PAVEMENT SECTION TO INCLUDE ASPHALT, BASE AND CEMENT TREATED BASE, WHICHEVER IS GREATER. THE BOTTOM OF THE CONDUIT SHALL BE 18 INCHES MAXIMUM FROM THE TOP OF PAVEMENT OR 1 INCH FROM BOTTOM OF PAVEMENT SECTION TO INCLUDE ASPHALT, BASE AND CEMENT TREATED BASE, WHICHEVER IS GREATER.
10. **CONDUIT SIZE:** 2 INCH MAXIMUM CONDUIT SIZE SCH 40 PVC OR EQUIVALENT HDPE SDR 11 PER NATIONAL ELECTRICAL CODE AND CITY STANDARD SPECIFICATIONS SECTION 23-3.9.
11. **TRENCH IDENTIFICATION:** INSTALL FOLDED WARNING / IDENTIFICATION TAPE WARNING TAPE. TRENCH MARKER TAPE SHALL BE 2 INCHES WIDE AND CONSIST OF A MINIMUM 5.0 MIL, FIVE-PLY 100% VIRGIN POLYETHYLENE WHICH IS ACID, ALKALINE, AND CORROSION RESISTANT. ELONGATION PROPERTIES AND TENSILE STRENGTH OF NOT LESS THAN 15,000 PSI SHALL BE IN ACCORDANCE WITH ASTM D882-80A AND APWA COLOR CODE. EACH TRENCH SHALL BE IDENTIFIED WITH A CALLOUT ON THE PULLBOX / VAULT / JUNCTION BOX LID WITH THE NAME OF THE OWNER OF THE MICROTRENCH.
12. **MICROTRENCH BACKFILL AND REQUIREMENTS TO OPEN THE STREET TO TRAFFIC:** ALL MICROTRENCHES SHALL BE COMPLETELY BACKFILLED WITH A CEMENT SAND SLURRY 2000 PSI MINIMUM AND 2% CALCIUM CHLORIDE TO FINISH GRADE. THIS IS AN INTERIM CONDITION AND CONTRACTOR SHALL FOLLOW CURING TIME REQUIREMENTS (PER NOTE 14) TO OPEN THE STREET TO TRAFFIC PRIOR TO COMPLETING PAVING REQUIREMENTS FOR FINAL RESTORATION.
13. **SLURRY VOID REDUCTION:** CONTRACTOR SHALL USE A VIBRATOR TO ENSURE SLURRY FILL WITHOUT VOIDS.
14. **SLURRY CURE TIME:** SLURRY TRENCH BACKFILL SHALL BE CURED BEFORE OPENING TO TRAFFIC. ALLOW A MINIMUM OF THREE HOURS FOR SLURRY TRENCH BACKFILL CURE TIME FOR 1 INCH TO 2.5 INCH WIDE TRENCHES PARALLEL TO THE STREET BEFORE OPENING THE ROAD TO TRAFFIC AS ALLOWED BY INSPECTOR. ALLOW A MINIMUM OF FOUR HOURS FOR SLURRY TRENCH BACKFILL CURE TIME FOR 2.6 INCH TO 4 INCH WIDE TRENCHES PARALLEL TO THE STREET BEFORE OPENING THE ROAD TO TRAFFIC AS ALLOWED BY INSPECTOR.

NOTES (CONTINUED):

15. **FINAL MICROTRENCH RESTORATION:** WITHIN 7 CALENDAR DAYS OF PLACING THE SLURRY BACKFILL TO GRADE, MILL THE SLURRY AND EXISTING PAVEMENT A MINIMUM DISTANCE OF 8 INCHES ON EACH SIDE TO A DEPTH OF 2 INCHES AND RESURFACE WITH TYPE A HOT-MIX ASPHALT. ALL ASPHALT SHALL BE TYPE A HMA. TACK ALL EDGES OF THE MILLED AREA WITH ASPHALTIC EMULSION. ALL HMA SHALL BE PROVIDED FOR AND PLACED IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS, SECTION 13. PAINT BINDER/TACK COAT SHALL BE USED. HMA SHALL BE PLACED AND COMPACTED WITH AN 8-TON 2 AXLE ROLLER BEFORE THE MATERIAL REACHES 250 DEGREES FAHRENHEIT.
16. **FINAL MICROTRENCH RESTORATION WHEN ADJACENT TO ANOTHER TRENCH:** WHEN RESTORING A MICROTRENCH SEPARATED BY 2 FEET (EDGE TO EDGE) FROM ANY ADJACENT TRENCH, THE MICROTRENCH RESTORATION SHALL FOLLOW NOTE 15 FOR TRENCH RESTORATION AND P-48 FOR FULL LIMITS OF THE PERMITTED ALIGNMENT TO MAINTAIN INFLUENCE AREA INTEGRITY.
17. **MICROTRENCHING IN BIKE LANES:** FOR THE WORK IN THE BIKE LANE, CONTRACTOR SHALL PROVIDE A POTHOLING PLAN FOR REVIEW WITH THE ENGINEER FOLLOWING PRE-CONSTRUCTION MEETING. THE BIKE LANE SHALL BE FULLY CLOSED AND APPROPRIATE TRAFFIC CONTROL PLAN AND SIGNAGE USED. MICROTRENCHING IN THE BIKE LANE REQUIRES THAT SLURRY BACKFILL BE COMPLETED BEFORE END OF APPROVED WORKDAY WITH CURING TIME PER NOTE 14. RESTORATION TO THE TRENCH SHALL BE PER NOTE 15.
18. **FINAL MICROTRENCH RESTORATION IN BIKE LANES:** THE CONTRACTOR SHALL RESTORE FULL WIDTH OF BIKE LANE TO THE FACE OF CURB AND PLACE 2 INCH THICKNESS OF ASPHALT PER P-48.
19. **TRAFFIC SIGNALS:** DAMAGED TRAFFIC SIGNAL LOOP, DLC, OR CONDUIT SHALL BE RESTORED IN KIND WITHIN 21 CALENDAR DAYS.
20. **HYDRO-JET:** HYDRO-JETTING IS NOT PERMITTED. TRENCHLESS METHODS SHALL NOT CREATE A VOID TWO TIMES GREATER THAN THE CONDUIT. VOIDS SHALL BE COMPACTED AND BACKFILLED PER STANDARD SPECIFICATIONS.
21. **SUBMITTAL REQUIREMENTS:** THE FOLLOWING ITEMS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL:
 - A. PROVIDE A DETAILED SITE PLAN WHICH SHALL INCLUDE THE DISTANCES OF MICROTRENCHES AND EDGES OF GRIND AND CAP TO FACE OF GUTTER, LIP OF GUTTER, CURB, CONCRETE PAVEMENT OR STRUCTURE AS APPLICABLE. PLAN VIEW MINIMUM SCALE OF 1:50.
 - B. A TYPICAL MICRO-TRENCH DETAIL THAT INCLUDES THE FOLLOWING INFORMATION:
 - C. THE MAXIMUM ASPHALT CONCRETE (AC) ROADWAY THICKNESS, BASE, DEPTH, AND WIDTH OF MICRO-TRENCH, AND DEPTH OF TOPMOST CONDUIT.
 - (1) AC REINSTATEMENT INCLUDING WIDTH AND DEPTH OF GRIND AND CAP.
 - (2) DETAIL SHOWING CONDUIT FROM MAIN MICRO-TRENCH ALIGNMENT TO LATERAL SURFACE CONNECTIONS INCLUDING TO ANY JUNCTION/PULL BOX. INCLUDE SPECIFIC INFORMATION OF DEPTH, SIZE, AND METHOD OF EXCAVATION BELOW EXISTING CURB AND GUTTER.
 - D. CUT SHEETS OF THE PROPOSED EQUIPMENT PARTICULARLY SUITABLE FOR MICRO-TRENCHING, INCLUDING:
 - (1) MICRO-TRENCHER CAPABLE OF MEETING TARGET DEPTH AND WIDTH IN A SINGLE PASS WITH AN INTEGRAL HOOD AND ASSOCIATED VACUUM SYSTEM. SELECTION OF CUTTING WHEEL SHALL BE SUCH THAT IT MINIMIZES DAMAGE TO THE ADJACENT AC SURFACE.
 - (2) MOBILE CONCRETE/SLURRY PLACEMENT WITH AN ON-BOARD VIBRATOR AND NARROW TROUGH TO MATCH MICRO-TRENCH WIDTH.
 - (3) MOBILE GROUND PENETRATING RADAR SYSTEM THAT IS CAPABLE OF LOCATING BOTH METALLIC AND NON-METALLIC PIPES AND CABLES TO A DEPTH OF 24 INCHES.
 - E. OTHER SITE-SPECIFIC ITEMS AS REQUIRED BY THE ENGINEER.
 - F. PROJECT-SPECIFIC ITEMS AS REQUIRED BY THE ENGINEER, INCLUDING BUT NOT LIMITED TO, PROJECT MANAGEMENT PLANS; COORDINATION PLANS WITH CITY DEPARTMENTS AND UTILITIES; COMMUNICATION PLANS; AND ENGINEERED PLANS ON A SCALE COMMENSURATE WITH THE PROJECT SIZE, LOCATION AND SCOPE.



LEGEND ON PLANS:

—MTC— MICROTRENCH CONDUIT (MTC)

NOTES:

1. MICROTRENCH GENERAL NOTES P-44 & P-44A SHALL APPLY TO ALL MICROTRENCHING AT ALL STREETS AND INTERSECTIONS.
2. TRENCH LOCATIONS SHALL BE AT LEAST 24 INCHES FROM LIP OF GUTTER.
3. TRENCH SHALL BE AT LEAST 12 INCHES FROM ANY EXISTING CONCRETE STRUCTURE.
4. TRENCH LOCATION SHALL AVOID WHEEL PATH OF TRAVEL.
5. WHERE PERMANENT STREET IMPROVEMENTS ARE NOT COMPLETE. CONDUIT AND FIBER FACILITIES ARE SUBJECT TO RELOCATION DEPENDENT UPON THE DETERMINATION OF FINAL GRADES.

CEMENT TREATED BASE (CTB)

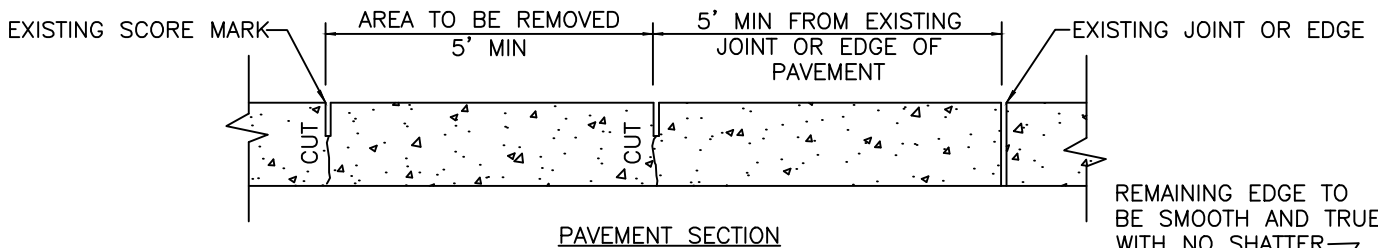
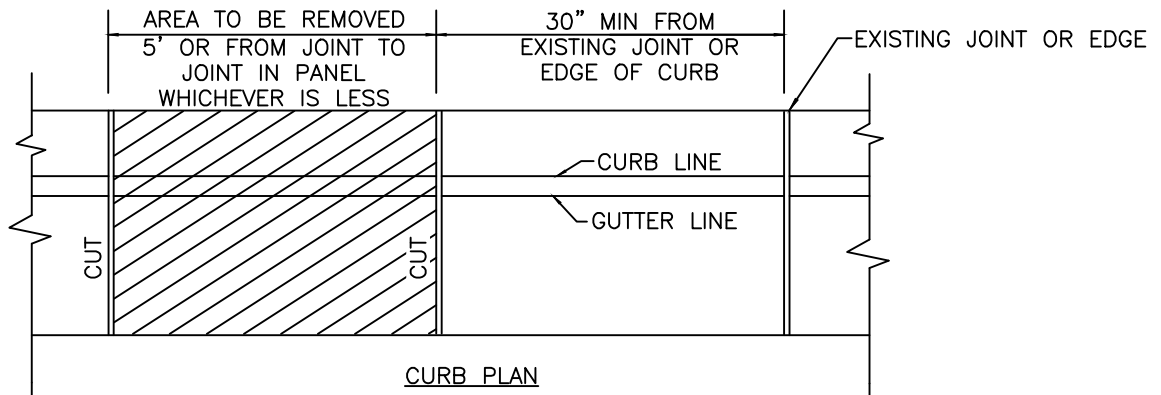
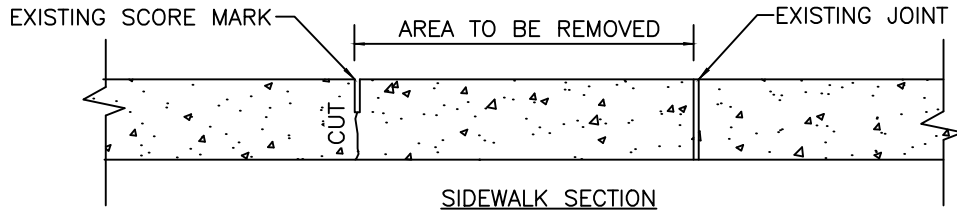
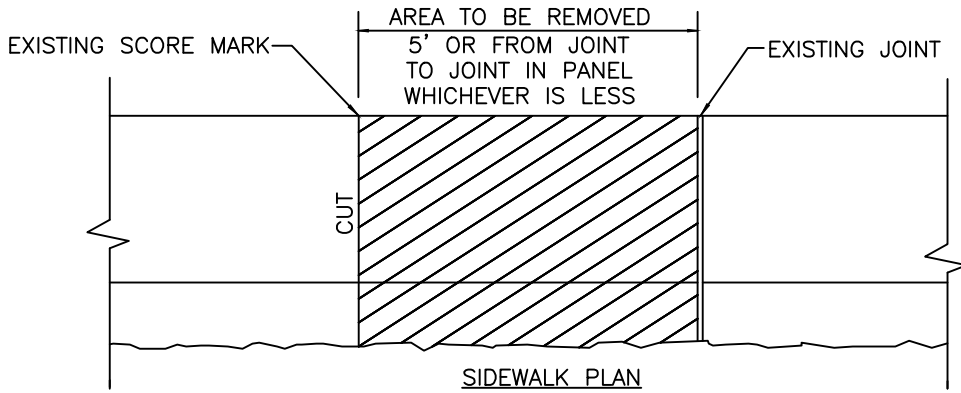
PORTLAND CEMENT CONCRETE (PCC)

MICROTRENCH FOR DRY UTILITIES

REF. & REV.
JAN. 2025 (A.10)

CITY OF FRESNO

P-46



NOTES:

1. SIDEWALK CROSS SLOPE SHALL BE 1.5%.
2. WHEN DISTANCE FROM "AREA TO BE REMOVED" TO EXISTING JOINT, EDGE OR SCORE MARK IS LESS THAN MINIMUM SHOWN. "AREA TO BE REMOVED" SHALL BE EXTENDED TO JOINT, EDGE OR SCORE MARK.
3. ALL HISTORICAL STAMPS/IMPRESSIONS (STREET NAME, CONTRACTOR NAME, AND DATE) SHALL BE PRESERVED.
4. FOR DESIGNATED URBANIZED COMMUNITIES, SIDEWALK DESIGN (SCORING PATTERN, COLOR, TEXTURE) SHALL BE IN CONFORMANCE WITH HISTORIC DESIGN ON ADJACENT PROPERTIES.

