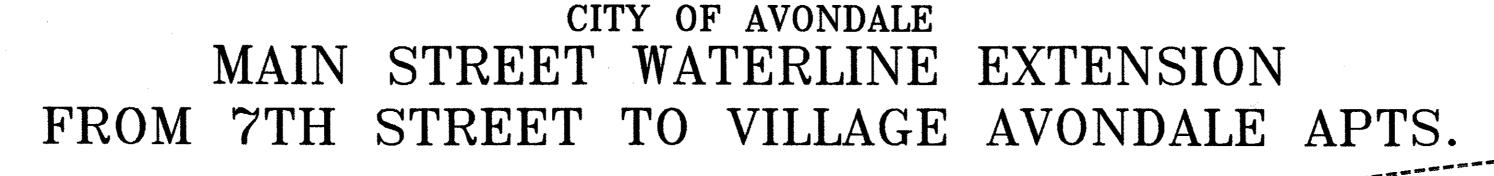
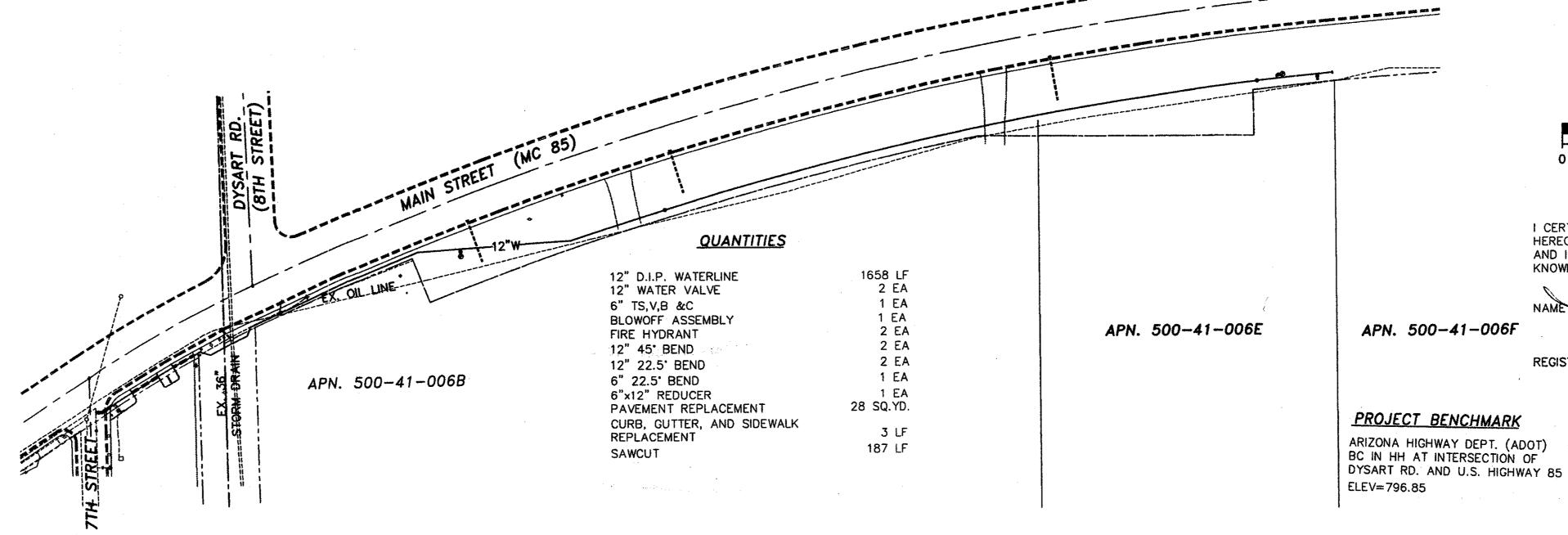
CITY OF AVONDALE GENERAL NOTES

TECHNICAL CONDITIONS

WATER CONSTRUCTION REQUIREMENTS

- ALL WORK AND MATERIAL MUST CONFORM WITH THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS AS PUBLISHED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF
- 2. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED UNLESS OTHERWISE NOTED AND IS ALSO RESPONSIBLE FOR ARRANGING AND COORDINATING CONSTRUCTION OF ALL APPLICABLE WORK TO BE DONE "BY OTHERS".
- 3. A PRE-CONSTRUCTION MEETING IS REQUIRED BEFORE ANY WORK IS SCHEDULED TO START. THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT A MINIMUM OF 24 HOURS IN ADVANCE OF ANY CONSTRUCTION OR INSPECTIONS
- (932-1909). A. THE FOLLOWING INSPECTIONS SHALL BE REQUIRED:
- 1) ALL PIPE MATERIAL
-) INSTALLATION
- BEDDING THRUST BLOCKS
- SHADING BACKFILL OF PIPE (ABC UP TO SPRINGLINE OR 12" OVER TOP OF PIPE.)
- 6) TAPPING SLEEVE AND VALVE (NOTE: CITY DOES NOT PROVIDE A TAPPING SERVICE.
- WATERLINE TAP IS CONTRACTOR'S RESPONSIBILITY.) 7) BACKFILL
- COMPACTION (GEOTECHNICAL TESTING PROVIDED BY OTHERS.)
- PRESSURE TEST AND DISINFECTION TEST PER MAG SPEC. 10) PAVEMENT REPLACEMENT. IF REQUIRED
- 11) VALVE BOX ALIGNMENT AFTER ADJUSTMENTS 12) RANDOM WATER/IRR. SERVICE CHECKS
- (MAY INCLUDE VERIFICATION OF PRESSURE, LOCATION AND/OR ALIGNMENT.)
- 4. CALL THE BLUE STAKE CENTER (263-1100) TWO WORKING DAYS BEFORE YOU DIG FOR LOCATION OF ALL UNDERGROUND UTILITIES. THIS INCLUDES ALL GRADING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BLUE STAKE AND LOCATING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE THAT MAY BE INCURRED TO THE UTILITIES AND BE LIABLE FOR ANY REPAIR COSTS INCLUDING ACCIDENTAL COSTS. THE CONTRACTOR AND/OR DEVELOPER WILL BE RESPONSIBLE FOR CONTACTING THE OWNER OF EACH VARIOUS UTILITY AND FACILITY WITH WHICH THERE ARE CONFLICTS WITH THE NEW CONSTRUCTION AND MAKING ALL NECESSARY ARRANGEMENTS WITH THE OWNER FOR RELOCATION OR ABANDONING THE UTILITY OR FACILITY AS REQUIRED BY ITS OWNER.
- 5. THE ENGINEER CERTIFIES THAT HE HAS CONTACTED ALL UTILITY COMPANIES AND HAS TRANSFERRED. ACCORDING TO INFORMATION FURNISHED BY SAID UTILITY COMPANIES. PRIOR TO PLAN APPROVAL, ALL EXISTING AND/OR ALL PROPOSED UTILITY LINES AND RELATED INFORMATION ONTO THESE PLANS AND THAT HE HAS ALSO CORRECTLY PLOTTED ALL EXISTING AND REQUIRED RIGHT-OF-WAY AND EASEMENT LINES. HOWEVER, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES IN THE IMMEDIATE AREA PRIOR TO THE BEGINNING OF CONSTRUCTION.
- 6. ALL WATER SERVICES SHALL BE INSTALLED PER CITY OF AVONDALE STANDARDS AT ALL LOCATIONS SHOWN AND NOTED ON THE PLANS. RESIDENTIAL SERVICE SIZES SHALL BE 3/4" UNLESS OTHERWISE NOTED. ALL WATER SERVICES TO BE COPPER PIPE LINES WITH BRASS/STAINLESS STEEL SERVICE SADDLE/FITTING WITH STAINLESS STEEL WIDE BAND. 4-BOLT OR HEAVY DUTY 2-BOLT USED FOR THE TAP AND CORP. ONLY COPPER PIPE AND BRASS FITTINGS TO BE USED ENTIRELY UNLESS OTHERWISE DIRECTED. ALL COPPER TO BE TYPE "K" SOFT. NO JOINTS ARE ALLOWED UNDERGROUND BETWEEN CORPS.
- '. WATER LINE TESTS SHALL BE PERFORMED SO AS TO ASSURE THAT NO PREVIOUSLY EXISTING LINES WILL BE INCLUDED IN THE TEST. NIGHT TIE-INS (BETWEEN 10:00 P.M. AND 6:00 A.M.) MAY BE REQUIRED BY THE CITY INSPECTOR.
- 8. THE CONTRACTOR SHALL FLUSH AND DISINFECT ALL WATER LINES PER M.A.G. STANDARD SPEC. SEC. 611.
- 9. ALL WATER MAIN PIPE SHALL BE PVC, CLASS/SCH C-900. PVC GREATER THAN 12" SHALL BE C-905.
- 10. ALL VALVES UP TO AND INCLUDING SIZE 16" BE RESILIENT SEAT GATE VALVES. EPOXY-COATED INSIDE. MUELLER, WATEROUS, AND THE VALVES ARE TO BE LOCATED IN THE STREET.





- 11. SIXTEEN INCH (16") WATER LINE FITTINGS AND 16" VALVES SHALL BE MECHANICAL JOINT. SIZE 16" VALVES SHALL BE DOUBLE DISC GATE VALVES IN ACCORDANCE WITH AWWA C-500.
- 12. CONTRACTOR SHALL SUBMIT TECHNICAL INFORMATION DATA ON ALL WATER LINE MATERIALS TO BE USED IN CONSTRUCTION INCLUDING VALVES AND FIRE HYDRANTS FOR CITY APPROVAL PRIOR TO INSTALLATION.
- 13. ALL CURB STOPS TO BE LOCKING.
- 14. ALL WATER METER BOXES SHALL BE CONCRETE WITH STEEL LIDS AND SHALL BE SET 1'-2' FROM BACK EDGE OF S/W OR D/W. (NO METER BOXES TO BE SET IN S/W OR D/W.) ALL WATER SERVICE METER BOXES SHALL BE SET TO HAVE THE TOP OF BOX ELEVATION MATCH THE TOP OF SIDEWALK ELEVATION.
- 15. ALL METAL WATER METER BOX LIDS SHALL BE PROVIDED WITH A 1 3/4" DIA. HOLE AT THE LOCATION DESIGNATED ON THE TYPICAL DETAIL. THIS IS TO PROVIDE ACCESS AND ATTACHMENT OF A TOUCHREAD DATA TRANSMITTING DEVICE. THE CITY WILL PROVIDE INSTALLATION OF THE WATER METER AND TOUCHREAD DEVICE.
- 16. 3/4" WATER METER CURB STOPS TO BE SET AT 8" BELOW BOTTOM OF METER BOX LID.
- 17. CONTRACTOR SHALL MARK ALL METER LOCATIONS WITH A 2" X 4" WOOD MARKER, PAINTED BLUE. PLACED 3' BELOW GRADE AND 2' OVER GRADE. ALL METER LOCATIONS ALSO TO BE REFERENCE MARKED WITH BLUE PAINT ON ADJACENT CONCRETE AS DIRECTED BY THE CITY INSPECTOR.
- 18. ALL WATER LINES FOR FIRE HYDRANT SERVICE SHALL BE 6" IN SIZE. PIPE MATERIAL BETWEEN VALVE AND FIRE HYDRANT SHALL BE DUCTILE IRON PIPE. ALL FIRE HYDRANTS SHALL HAVE SHUT-OFF VALVES LOCATED IN THE STREET.
- 19. ALL WATER MAINLINES AND LATERALS SHALL BE BEDDED WITH FOUR INCHES OF APPROVED, COMPACTED A.B.C. MATERIAL. FOR NEW DEVELOPMENT PRIOR TO PAVEMENT INSTALLATION. INCLUDING LOCAL ROADWAY SECTIONS, INSTALLED WATER MAINLINES AND LATERALS SHALL BE SHADED AND COMPACTED WITH APPROVED A.B.C. MATERIAL UP TO THE PIPE SPRINGLINE. FOR ALL OTHER WATER MAINLINE AND LATERAL INSTALLATION, INCLUDING INSTALLATION OF WATERLINES IN COLLECTOR OR ARTERIAL ROADWAY SECTIONS. PIPE SHALL BE SHADED AND COMPACTED WITH APPROVED A.B.C. MATERIAL UP TO 1 FOOT ABOVE TOP OF PIPE. ALL CONNECTIONS OF COPPER PIPE WATER SERVICES TO WATER MAINLINES OR LATERALS SHALL BE SHADED WITH APPROVED SAND FILL MATERIAL AT THE TAP, SADDLE AND CORP AREA. WATER SERVICE PIPE LINES SHALL BE BEDDED AND SHADED WITH APPROVED NATIVE MATERIAL UNLESS OTHERWISE DIRECTED.
- 20. SUITABLE, APPROVED NAITIVE MATERIAL MAY BE USED FOR THE REMAINING TRENCH BACKFILL OPERATION BEING THAT THE COMPACTION REQUIREMENTS ARE MET. LONGITUDINAL TRENCH BACKFILL IN EXISTING ROADWAYS MAY REQUIRE FULL DEPTH APPROVED A.B.C. MATERIAL OF 100% 1 SACK A.B.C. SLURRY AS DIRECTED BY THE CITY. TRANSVERSE TRENCH BACKFILL IN EXISTING ROADWAYS SHALL REQUIRE FULL DEP'TH APPROVED A.B.C. MATERIAL OR 100% 1 SACK A.B.C. SLURRY AS DIRECTED BY THE CITY. TRENCH COMPACTION IN EXISTING ROADWAYS SHALL BE AN APPROVED MECHANICAL METHOD WITH BACKFILL LIFTS NO GREATER THAN 12" LOOSE.
- 21. COMPACTION BY WATER JETTING OR TRENCH FLOODING PER MAG SPEC. 601.4.5 IS ONLY ALLOWED FOR WATERLINE TRENCH BACKFILL AND COMPACTION IN NEW LOCAL STREET ROADWAY WIDTHS AND IN NEW DEVELOPMENTS. BACKFILL MATERIAL LIFTS FOR WATER JETTING OR TRENCH FLOODING SHALL NOT EXCEED 4' (LOOSE) IN DEPTH. WATER CONSOLIDATION SHALL NOT BE ALLOWED FOR BACKFILL AND COMPACTION OF WATERLINE TRENCHES IN OR ADJACENT TO EXISTING ROADWAYS, NEW COLLECTOR STREET ROADWAYS AND NEW ARTERIAL STREET ROADWAYS. MECHANICAL COMPACTION OR APPROVED A.B.C. SLURRY MIXES IS ALLOWED.
- 22. ALL TRENCH COMPACTION DENSITIES SHALL MEET BACKFILL TYPE I, PER MAG STANDARD SPEC. TLE 601-2. TRENCH COMPACTION BY AN APPROVED MECHANICAL METHOD SHALL HAVE BACKFILL MATERIAL LIFTS NO GREATER THAN 12" LOOSE. BACKFILL MATERIAL LIFTS FOR WATER JETTING OR TRENCH FLOODING SHALL NOT EXCEED 4' (LOOSE) IN DEPTH. COMPACTION DENSITY TESTS ARE REQUIRED AND SHALL BE OVERSEEN BY THE CITY. A MINIMUM 24 HOUR NOTICE IS REQUIRED TO SCHEDULE INSPECTIONS AND TESTS. THE CITY DOES NOT PROVIDE A GEOTECHNICAL TESTING SERVICE. ALL TESTS SHALL BE CONDUCTED BY A CERTIFIED GEOTECHNICAL TESTING LAB. PROVIDED FOR BY THE OWNER/DEVELOPER OR ENGINEER. AT THEIR COST. SUFFICIENT TESTING SHALL BE DONE TO ADEQUATELY VERIFY THE REQUIRED DENSITIES AND TOLERANCES. THE LOCATION AND FREQUENCY OF TESTS SHALL BE AS DIRECTED BY THE CITY. THE OWNER/DEVELOPER OR ENGINEER SHALL HAVE THE GEOTECHNICAL TESTING LAB RETAINED ALONG WITH A WRITTEN CONFIRMATION, SUBMITTED TO THE CITY, PRIOR TO ISSUANCE OF THE R.O.W. ENGINEERING PERMIT. ALL REPORTS AND TEST RESULTS SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL. APPROVAL OF AND/OR MEETING THE REQUIRED MINIMUM TEST STANDARDS IS MANDATORY IN CONTINUING ON TO THE NEXT PHASE OF WORK.

- 23. ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL HAVE THE PERMANENT PAVEMENT REPLACEMENT SECTION BE A MODIFIED MAG SPEC. "T"-TOP HAVING THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTENDED 1' BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. MINIMUM WIDTH SHALL ' WIDE. THE DEPTH OF THE PERMANENT PAVEMENT REPLACEMENT SHALL BE 1" THICKER THAN THE REMOVED EXISTING PAVEMENT SECTION. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED. ASPHALT MATERIAL SHALL BE A CITY APPROVED C-3/4" OR D-1/2" MIX DESIGN WITH 5% OIL AND 2% CEMENT CONTENT WITH COMPACTED LIFTS NO GREATER THAN 3". VIBRATORY STEEL DRUM ROLLER COMPACTION METHOD IS ONLY ALLOWED. SLURRY BACKFILLS OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR SOONER IF REQUIRED BY THE CITY.
- OTHER APPURTENANCES. ALL ADDITIONAL STAKING WILL BE CHARGED TO THE CONTRACTOR. 48 HOURS ADVANCE NOTICE IS REQUIRED FOR STAKING.
- CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY NORMAL CONDITIONS.
- WITHIN THE RIGHT-OF-WAY SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE CITY FINAL
- CONNECTING TO ANY EXISTING FACILITIES. THE CONTRACTOR IS REQUIRED TO SUBMITT A TRAFFIC PLACE. A HAUL PLAN IS ALSO REQUIRED FOR DIRT MATERIAL IMPORT OR EXPORT.
- 28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL, TRENCH PLATES AND DUST CONTROL.
- 29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT POWER BROOM AND WATER AS NEEDED.
- 30. TRACER WIRE SHALL BE USED ON ALL WATER LINE CONSTRUCTION. THE WIRE WHALL BE RUN DIRECTLY ON TOP OF THE WATER MAIN DURING CONSTRUCTION. TRACER WRE SHALL BE NO. 10 GAUGE(THNN)
 INSULATED COPPER WRE. THE WIRE SHALL BE RUN WITH ALL WATER MAINS, LOOPED UP ALL VALVE BOXES,
 AND RUN TO ALL TERMINATION POINTS OF THE WATERLINE. THERE SHOULD BE MINIMAL UNDERGROUND
 SPLICES. IF A SPLICE IS NECESSARY THE CONNECTION SHALL BE MADE WITH A WATER TIGHT CONNECTOR
 AS TO PROTECT ALL INSULATED WIRE. TRACER WIRE IS NOT REQUIRED ON COPPER SERVICE LINES.

 COORDINATE WORK)

 8. PAVEMENT MARKING, SIGNING AND SIGNAL WORK WILL BE
 INSPECTED AND WILL HAVE TO MEET COUNTY STANDARDS BEFORE
 RELEASE OF BOND.

GENERAL ENGINEER NOTES

THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE ENGINEER REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES SET BY THE ENGINEER UNLESS ALL SURVEY STAKES SET BY THE ENGINEER ARE MAINTAINED INTACT AND CAN BE VERIFIED AS TO THEIR ORIGIN. IF, IN THE OPINION OF THE ENGINEER, THE STAKES ARE NOT MAINTAINED INTACT AND CANNOT BE VERIFIED AS TO THEIR ORIGIN, ANY REMEDIAL WORK REQUIRED TO CORRECT ANY ITEM OR IMPROPER CONSTRUCTION WORK IN THIS DEVELOPMENT SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.

NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL CREATE, NOR SHALL BE CONSTRUED TO CREATE, ANY CONTRACTUAL RELATIONSHIP BETWEEN THE ENGINEER AND THE CONTRACTOR OR ANY SUBCONTRACTOR.

THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK. AND HE WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED ACCORDING TO INFORMATION PROVIDED BY THE AGENCY OPERATING EACH UTILITY. LOCATIONS SHOWN ARE APPROXIMATE ONLY. AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CALL BLUE STAKE FOR FIELD LOCATION @ 263-1100.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ALL UTILITIES, POWER POLES, TELEPHONE LINES, ECT

24. CONTROL AND CONSTRUCTION STAKING SHALL BE PROVIDED ONE TIME ONLY BY THE OWNER. DEVELOPER OR ENGINEER FOR THE WATERLINE. VALVES, FIRE HYDRANTS. WATER SERVICES AND

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT

- 26. DAMAGED ASPHALT AND/OR DISPLACED CONCRETE, CURB, GUTTER, SIDEWALK OR DRIVEWAY THAT IS ACCEPTANCE OF THE WORK BY THE CITY.
- 27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE CITY, WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS IS ADJACENT TO OR CONTROL BARRICADE PLAN TO THE CITY, FOR APPROVAL, BEFORE THAT PARTICULAR WORK CAN TAKE
- EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING,

("APPLIES ONLY WHEN THERE IS NO CURB")

MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT 980430

ARIZONA DEPT. OF TRANSPORTATION

DATE

"AS BUILT CERTIFICATION

CERTIFY THAT THE "AS BUILT" INFORMATION SHOWN

HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION

AND IS CORRECT AND COMPLETE TO THE BEST OF MY

<u>ENGINEER</u>

AMERICAN ENGINEERING CO.

SCOTT M. LARSON, P.E.

MARICOPA COUNTY

ALL CONSTRUCTION IN COUNTY RIGHT-OF-WAY SHALL CONFORM

GENERAL NOTES

TO THE LATEST MARICOPA COUNTY DEPT. OF TRANSPORTATION

STANDARD DETAILS AND M.A.G. SPECIFICATIONS AND MARICOPA

COUNTY SPECIAL PROVISIONS FOR CONSTRUCTION OF STREET

2. CONTRACTOR TO OBTAIN NECESSARY MARICOPA COUNTY

3. CONTRACTOR SHALL NOTIFY THE MARICOPA COUNTY

4. CONTRACTOR PERFORMING EXCAVATING OPERATIONS IS

DEPARTMENT OF TRANSPORTATION PERMITS PRIOR TO CONSTRUCTION

DEPARTMENT OF TRANSPORTATION AT LEAST 24 HOURS IN ADVANCE

RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND

5. ALL COMPACTION AND BACKFILL WITHIN COUNTY RIGHT-OF-WAY

6. ALL STRUCTURES, SUCH AS MANHOLES, VALVE BOX & COVERS,

REFLECTORIZED YELLOW FLEX POST WHEN STRUCTURES ARE LOCATED

EQUIPMENT THAT NEED TO BE REMOVED, REPLACED, RELOCATED OR

REPAIRED BECAUSE OF CONTRACTOR'S WORK, WILL BE DONE BY THE

CONTRACTOR AT HIS EXPENSE. (CONTACT MCDOT ENGINEERING TO

INSPECTED AND WILL HAVE TO MEET COUNTY STANDARDS BEFORE

SHALL CONFORM TO THE SPECIAL PROVISIONS FOR CONSTRUCTION

OF STREET IMPROVEMENTS AND INSTALLATION OF UNDERGROUND

AND MONITORING WELLS, MUST BE MARKED WITH AT LEAST TWO

OUTSIDE THE TRAVELED WAY AND WITHIN THE RIGHT-OF-WAY.

7. ALL EXISTING PAVEMENT MARKING, SIGNS AND SIGNAL

IMPROVEMENTS, ADOPTED 11/03/93.

WITHIN COUNTY RIGHT-OF-WAY

UTILITIES, ADOPTED 11/03/93.

COORDINATE WORK)

OF ANY CONSTRUCTION

21442 N 20th AVENUE PHOENIX, ARIZONA 85027

(602) 582-0260 602) 582-0953 FAX

> io working days before you di; LL FOR THE BLUE STAKES 263-1100

6-23-98

DATE

en on





EXTENSION

WATERLINE

MAIN

LARSON &

APR/1998 LATEST REVISION DATE

6/18/98 PROJECT 97446