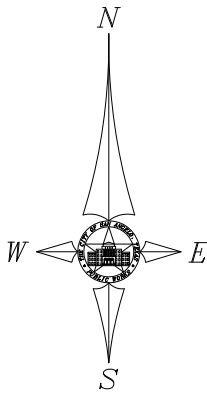


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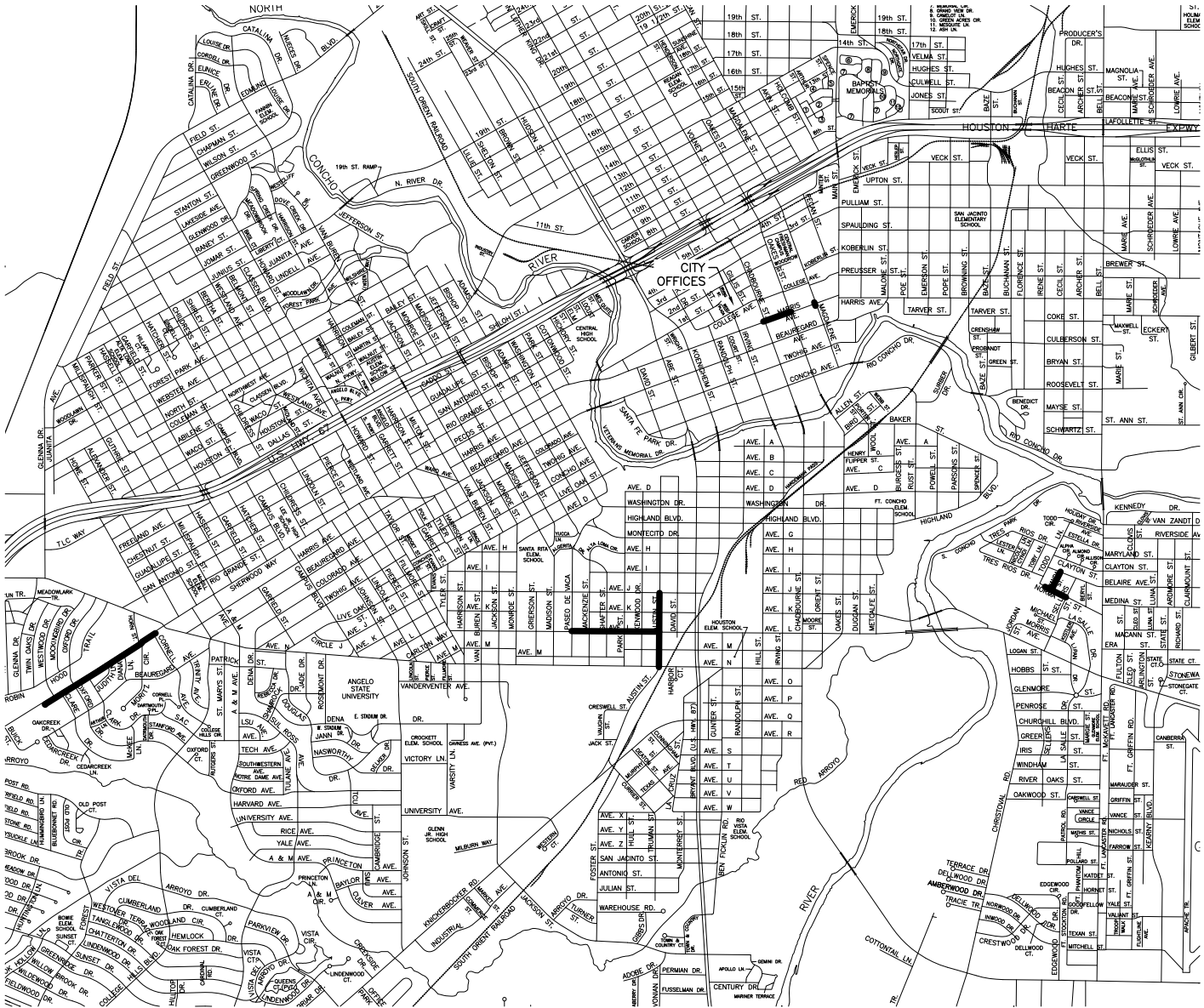
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PREPARED BY

THE CITY OF SAN ANGELO
DEPARTMENT OF ENGINEERING SERVICES

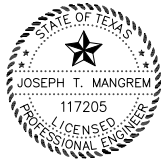


CITY OF SAN ANGELO
2015 WATER LINE IMPROVEMENTS
CONTRACT 1
WU-01-15



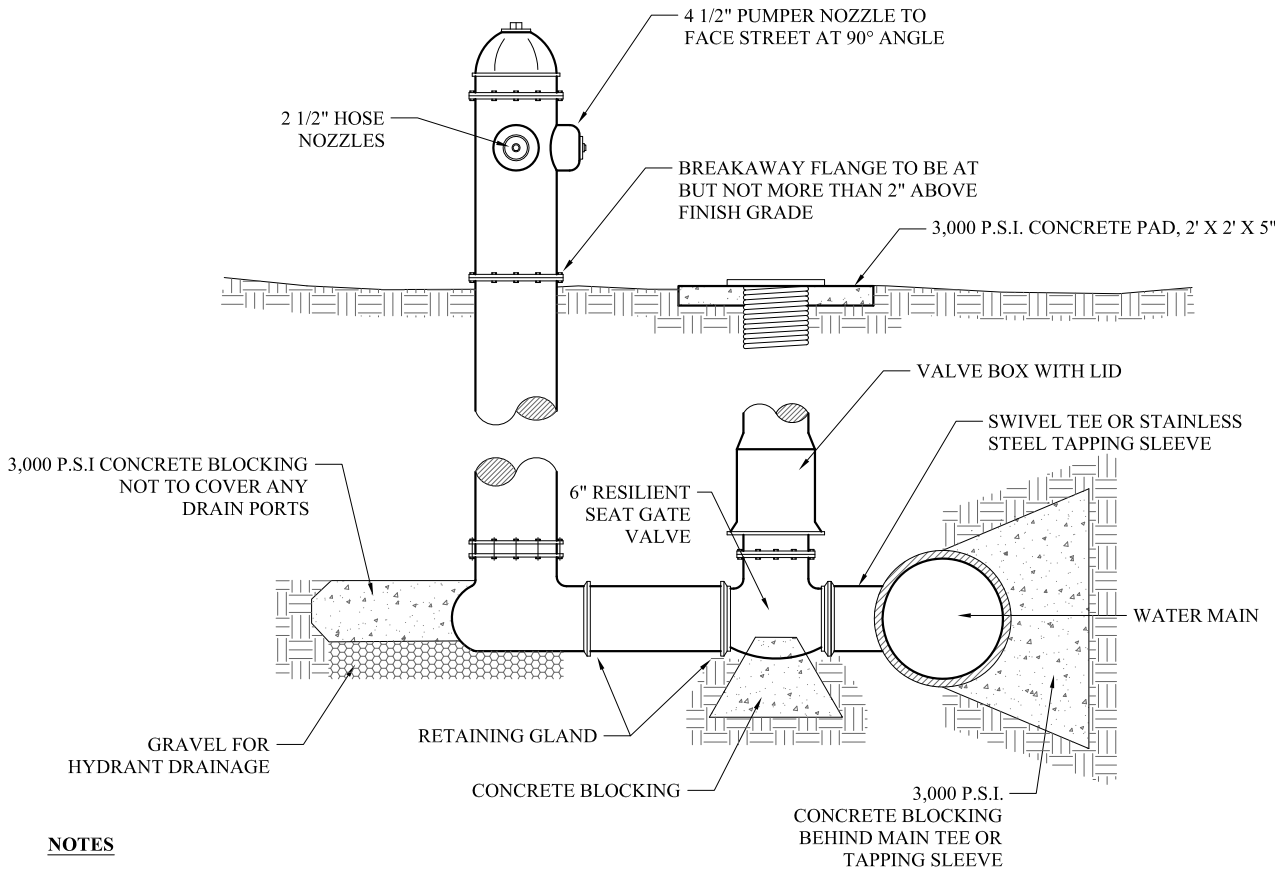
LEGEND

— PROJECT LOCATIONS



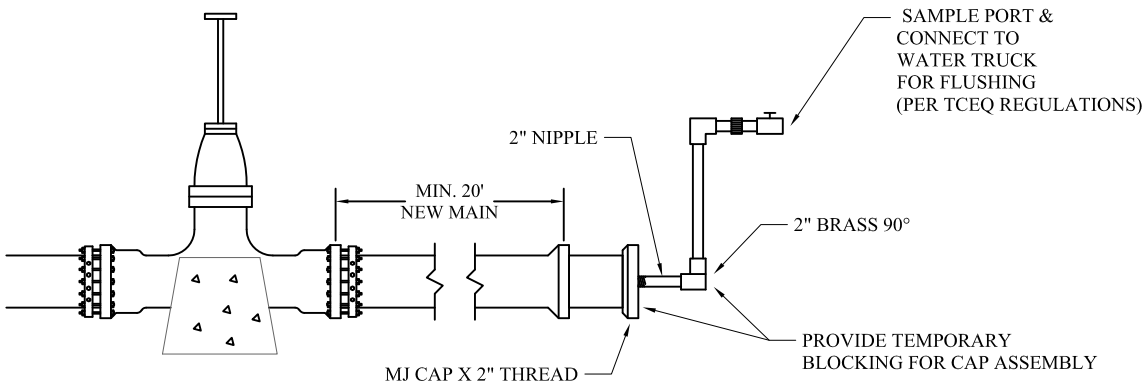
Joseph T. Mangrem
THE SEAL APPEARING ON THIS
DRAWING WAS AUTHORIZED BY
JOSEPH T. MANGREM, P.E. NO.
117205 ON 02/13/2015

FIRE HYDRANT INSTALLATION

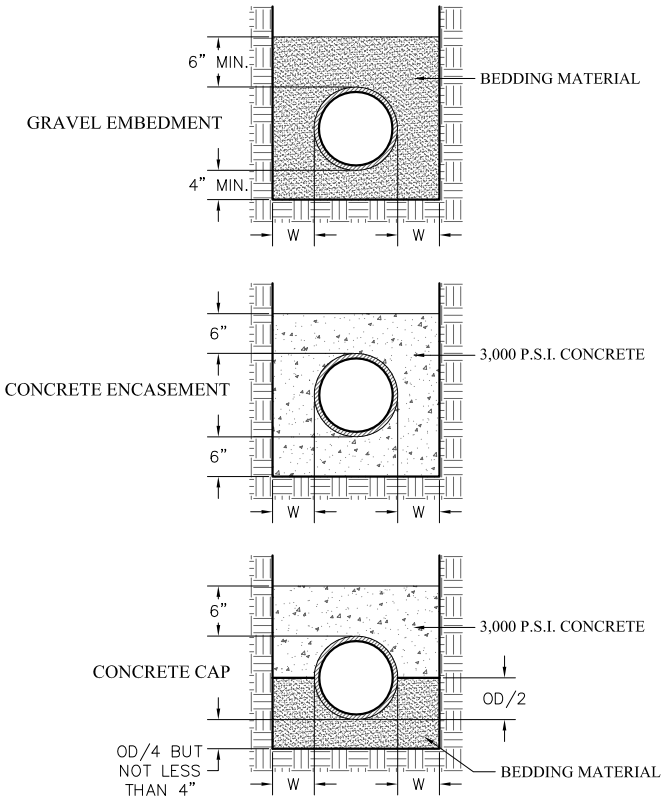


- NOTES**
- 1. CONCRETE BLOCKING TO BE POURED TO UNDISTURBED SOIL.
 - 2. PUMPER NOZZLE CAP TO BE NOT LESS THAN 12" NOR MORE THAN 48" BEHIND CURB.
 - 3. WRAP ALL VALVES & FITTINGS WITH 3 MIL. POLYETHYLENE SHEET PLASTIC.
 - 4. FIRE HYDRANT SHALL BE PAINTED YELLOW, SHERWIN WILLIAMS B-54Y17 OR 617087 OR EQUAL.

TEMPORARY TESTING, SAMPLING & FLUSH
DETAIL CONNECTION TO EXISTING MAIN



EMBEDMENT ZONE



PIPE SIZE	W
16" OR LESS	6"
GREATER THAN 16"	AS SPECIFIED BY PIPE MFG. & APPROVED BY OWNER

BEDDING MATERIAL:

BEDDING MATERIAL FOR THE INSTALLATION OF WATER AND SEWER MAINS SHALL BE CRUSHED STONE OR PEA GRAVEL THAT WILL REMAIN FIRM AND NOT PERMIT DISPLACEMENT OF THE PIPE EITHER DURING PIPE LAYING OR BACKFILLING OR FOLLOWING COMPLETION OF CONSTRUCTION. BEDDING MATERIAL SHALL BE FROM AN APPROVED BEDDING MATERIAL SOURCE PER THE LIST OF APPROVED BEDDING MATERIAL SUPPLIERS OR MEET THE GRADATION TEST AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS WHEN TESTED IN ACCORDANCE WITH TXDOT DESIGNATION: TEX-200-F, PART 1, AND BE APPROVED BY THE CITY ENGINEER.

* TRENCH SPOILS ARE NOT ACCEPTABLE FOR "EMBEDMENT ZONE MATERIAL"

LEGEND

- = EXISTING FIRE HYDRANT
- = PROPOSED FIRE HYDRANT
- = EXISTING WATER VALVE
- = PROPOSED WATER VALVE
- 8" - - W - = EXISTING 8" WATER MAIN
- 8" - - W - = PROPOSED 8" WATER MAIN
- 8" - - SA - = EXISTING 8" SEWER MAIN
- = EXISTING SEWER MANHOLE
- = EXISTING SEWER CLEANOUT
- = EXISTING WATER METER
- = EXISTING GAS LINE
- = EXISTING GAS METER
- = EXISTING TELEPHONE LINE
- = EXISTING TELEPHONE MANHOLE
- = EXISTING TELEPHONE PEDESTAL

NOTES

1. LOCATION OF EXISTING AND PROPOSED UTILITIES SHOWN ARE MERELY SCHEMATIC. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION OF ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
2. KILL OUT AND ABANDON EXISTING LINE AT THE MAIN. THIS WORK INCLUDES REMOVAL OF ALL OLD VALVE STANDS AND FIRE HYDRANTS THAT ARE NO LONGER NEEDED AND THE REPAIR OF ALL PAVEMENT AND CONCRETE DAMAGED BY THE WORK. (LOCATION AS SHOWN ON PLANS.)
3. PIPE EMBEDMENT SHALL BE AS SHOWN UNLESS NOTED OTHERWISE.
4. PAVEMENT CUTS SHALL BE REPAIRED ACCORDING TO CITY OF SAN ANGELO UTILITY TRENCH REPAIR SPECIFICATIONS.
5. WHEN WATER LINES ARE INSTALLED WITH LESS THAN 9 FEET SEPARATION FROM ANY PART OF THE WASTE WATER COLLECTION SYSTEM, THE INSTALLATION SHALL BE IN ACCORDANCE WITH 30 TAC 290. 44(E)
6. CONNECT TO EXISTING MAIN WITH A WET TAP. CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT, LABOR AND MAKE TAP. THE CONTRACTOR SHALL PRESSURE TEST THE SADDLE AGAINST THE VALVE PRIOR TO TAPPING THE LINE. (LOCATION AS SHOWN ON PLANS.)
7. ALL SERVICE LINES & FIRE HYDRANTS TO BE FIELD LOCATED.
8. CONNECT NEW SERVICE LINE TO EXISTING METER. REMOVE OLD SERVICE LINE FROM THE METER BOX. THE CONTRACTOR SHALL PROVIDE & INSTALL NEW METER BOXES. WHERE THE EXISTING METER LOCATION IS MORE THAN 5 FEET BEHIND THE CURB LINE, AT THE DIRECTION OF THE OWNER, THE CONTRACTOR SHALL RELOCATE THE METER TO WITHIN 5 FEET OF THE CURB; INCLUDING RE-PLUMBING OF THE CUSTOMER SERVICE LINE. RELOCATION OF METERS REQUIRING RELOCATION OF CUSTOMER SERVICES WILL BE PAID AS PARTIAL PLUMBER RELOCATED SERVICES AT THE RATE INDICATED ON THE BID SHEET. ALL SERVICE LINE RELOCATES SHALL BE A MINIMUM OF 1 1/2" SCHEDULE 40 PVC ON CUSTOMER SIDE OF METER.
9. INSTALL A NEW FIRE HYDRANT AT THIS LOCATION WITH SWIVEL TEE AT THE MAIN ON ALL FIRE HYDRANTS.
10. INSTALL TEMPORARY 2" FLUSH LINE WHERE NEEDED FOR TESTING & SAMPLING. CONNECT TO EXISTING MAIN. WATER SAMPLES TO BE TAKEN AT NEW MAIN TIE-IN. (LOCATION AS SHOWN ON PLANS)
11. NEW WATER LINES SHALL BE LOCATED ADJACENT TO THE SOUTH OR WEST CURB OR EDGE OF PAVEMENT OR AS DETERMINED BY OWNER.
12. ALL NEW WATER LINES SHALL COMPLY FULLY WITH THE SPECIFICATIONS.
13. THE CONTRACTOR SHALL RELOCATE EXISTING SERVICES SERVED IN THE ALLEYS TO STREET SERVICES. THE CONTRACTOR SHALL RUN NEW SERVICE LINES (MINIMUM OF 1-1/2") UNDER THE DIRECTION OF A LICENSED PLUMBER. TYPICAL, BUT NOT LIMITED TO, REPLACEMENT OF THE CUSTOMER SERVICE LINE SHALL BE FROM THE CURB TO THE BACK OF THE RESIDENCE. (LOCATION AS SHOWN ON PLANS.)
14. REMOVE EXISTING FIRE HYDRANT AND REPLACE WITH NEW FIRE HYDRANT. CONNECT NEW HYDRANT TO NEW MAIN AT THIS LOCATION. (LOCATION AS SHOWN ON PLANS.)
15. ALL WORK ON THE CUSTOMER SERVICE LINE SHALL BE DONE BY A LICENSED PLUMBER IN FULL COMPLIANCE WITH THE C.O.S.A. PERMIT REQUIREMENTS.
16. ALL MECHANICAL JOINTS SHALL BE INSTALLED WITH EBBA IRON "MEGA LUG" PIPE RESTRAINERS OR EQUAL AS APPROVED BY THE OWNER. ALL TRANSITION COUPLINGS OR SOLID SLEEVES SHALL BE LONG BARREL (MIN. 12").
17. PAVEMENT CUTS SHALL BE BACKFILLED AND A TEMPORARY ASPHALT PATCH PLACED TO STABILIZE THE CUT WITHIN 48 HOURS OF CONSTRUCTION. (LOCATION AS SHOWN ON PLANS.)
18. ALL VALVES SHALL BE MARKED ON NEAREST CURB WITH MEASUREMENT AND SYMBOL (⚓).
19. CONTRACTOR TO REPLACE ALL TRAFFIC BUTTONS, REFLECTORS, STRIPING & PAINTING.

AKS

JTM

1"=100'

N/A

WU-01-15

FEBRUARY, 2015

DRAWN BY:

CHECKED BY:

HORIZONTAL SCALE:

VERTICAL SCALE:

JOB NUMBER:

DATE:

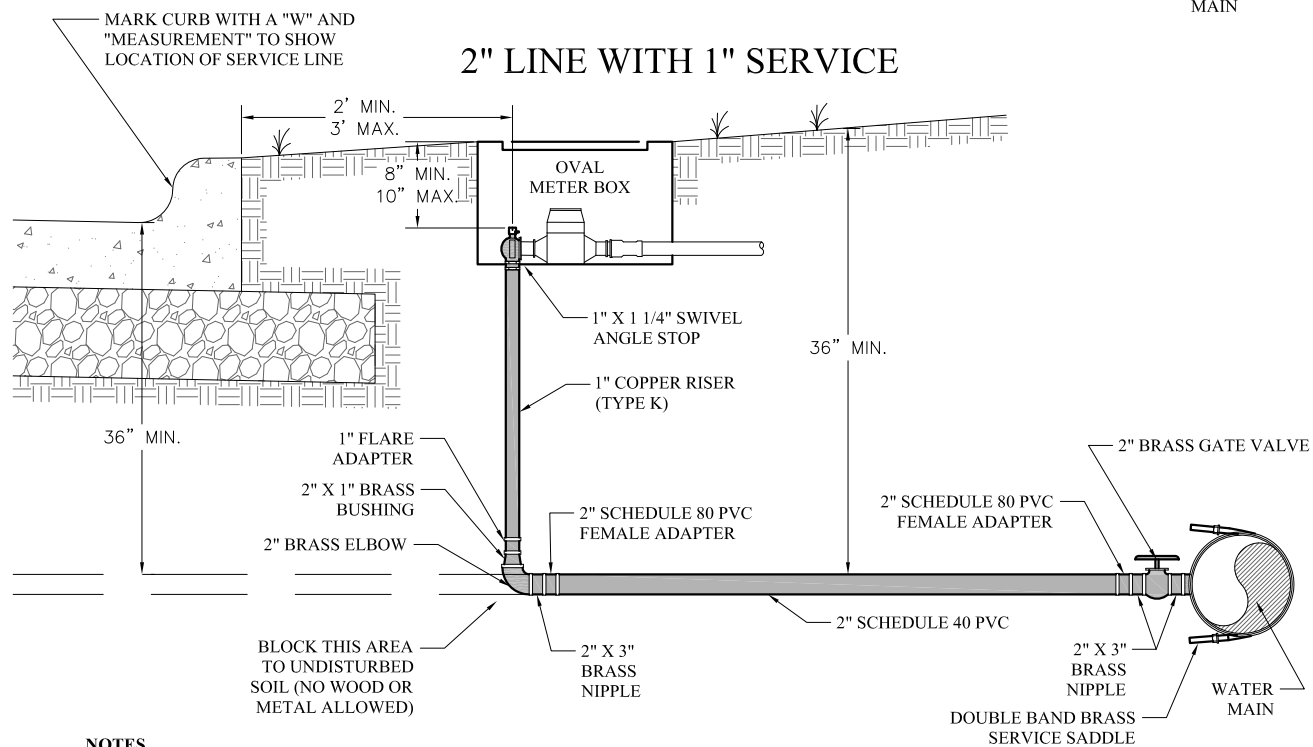
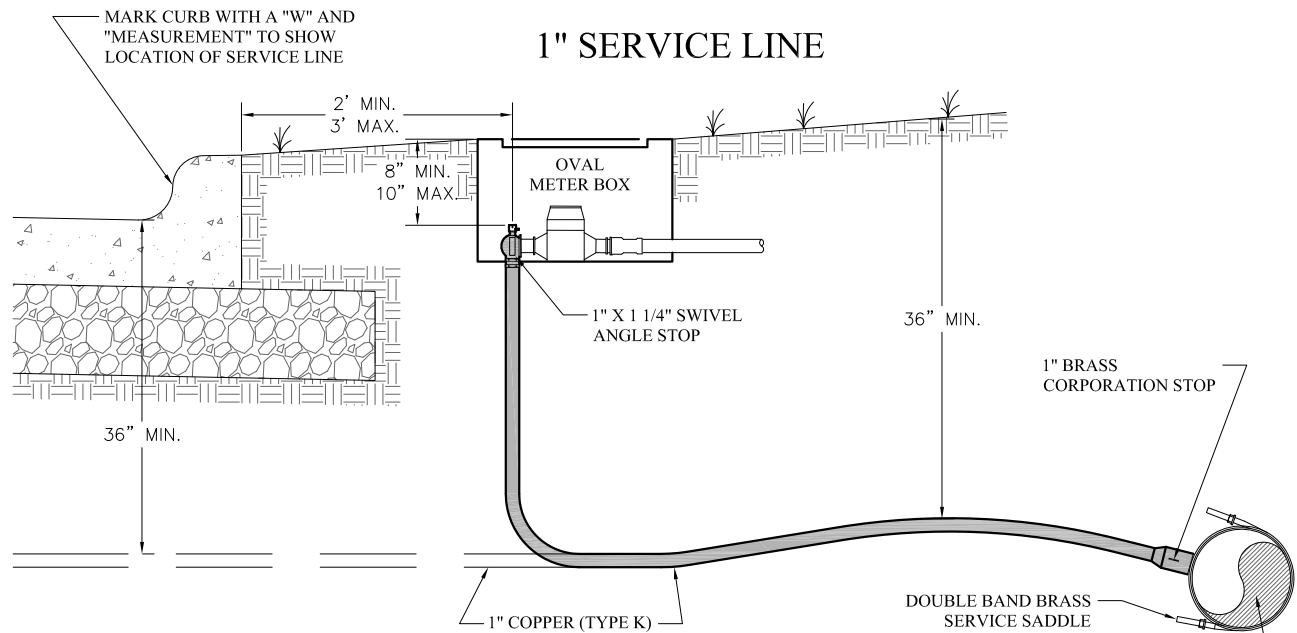
ENGINEERING SERVICES DEPARTMENT

2015 WATER LINE IMPROVEMENTS

TYPICAL SECTIONS & DETAILS 1

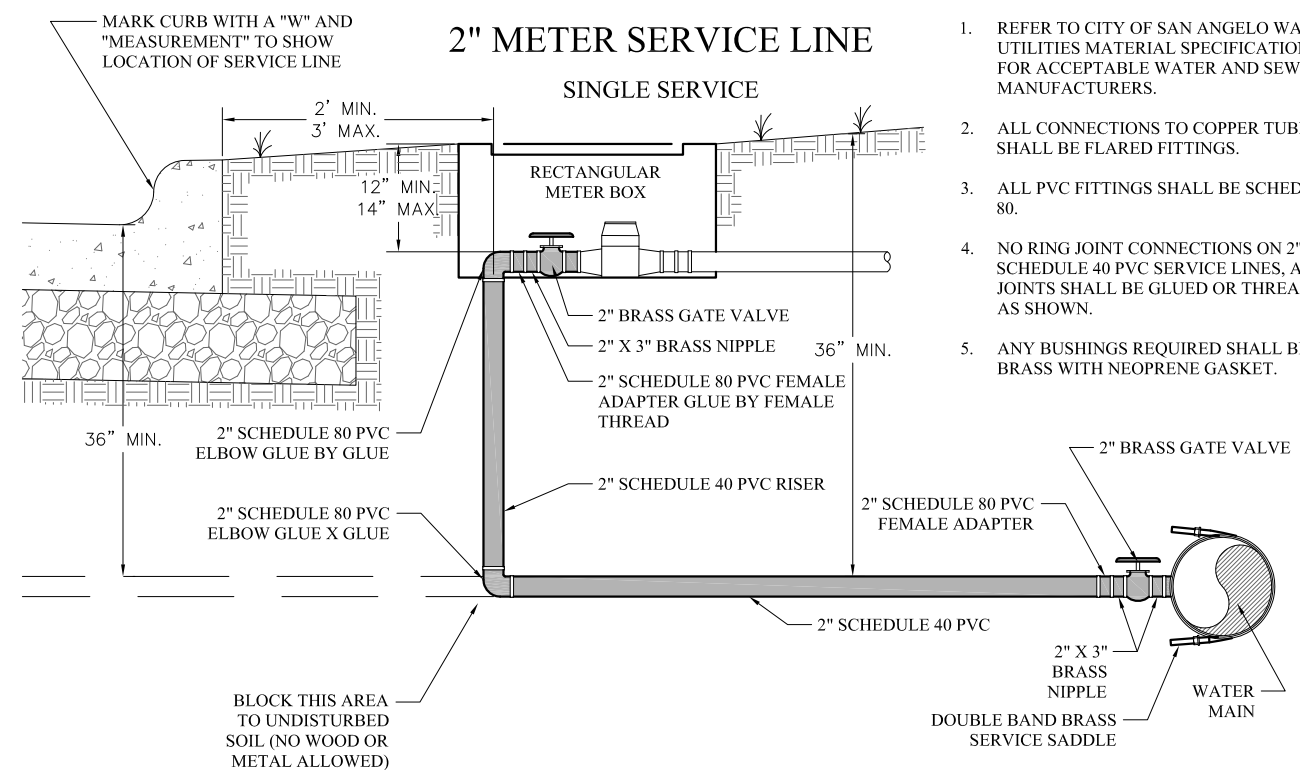
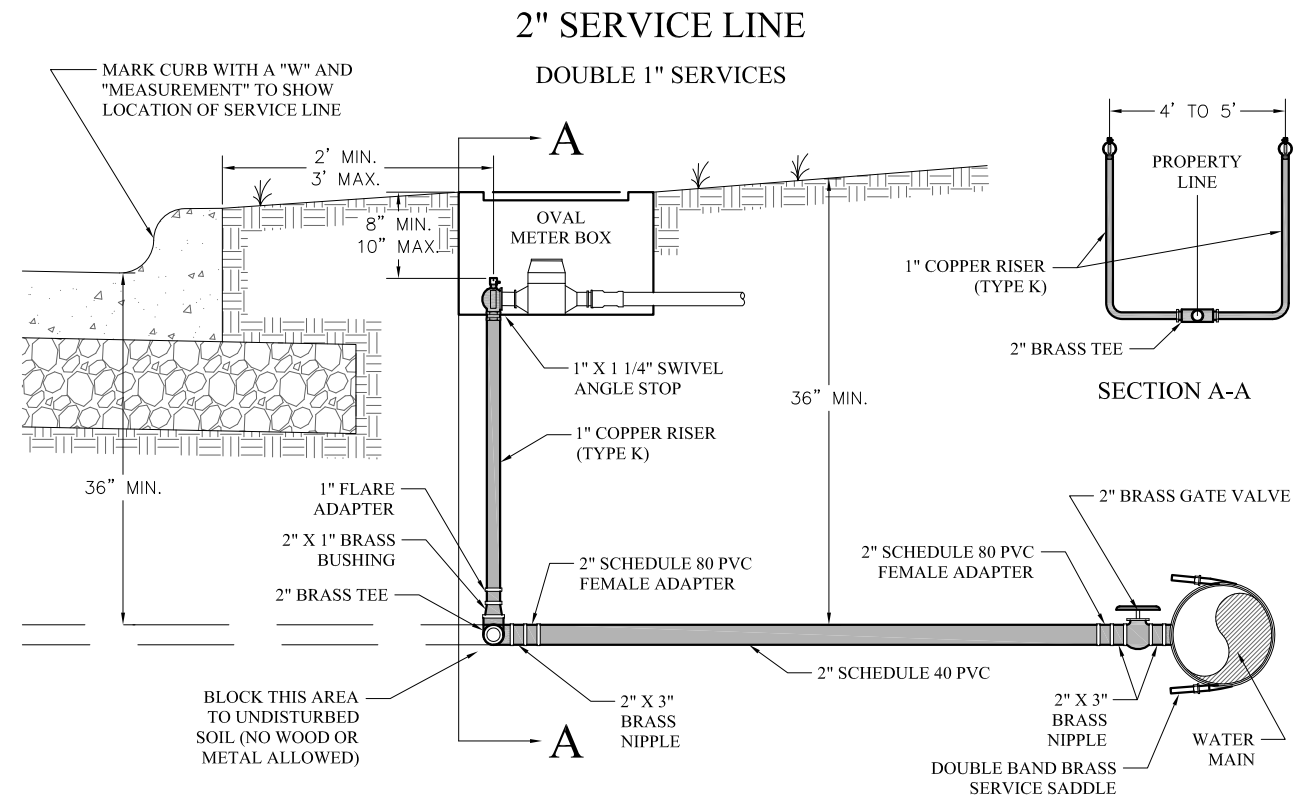
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M-884



NOTES

1. REFER TO CITY OF SAN ANGELO WATER UTILITIES MATERIAL SPECIFICATIONS FOR ACCEPTABLE WATER AND SEWER MANUFACTURERS.
2. ALL CONNECTIONS TO COPPER TUBING SHALL BE FLARED FITTINGS.
3. ALL PVC FITTINGS SHALL BE SCHEDULE 80.
4. NO RING JOINT CONNECTIONS ON 2" SCHEDULE 40 PVC SERVICE LINES, ALL JOINTS SHALL BE GLUED OR THREADED AS SHOWN.
5. ANY BUSHINGS REQUIRED SHALL BE BRASS WITH NEOPRENE GASKET.



NOTES

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ENGINEERING
SERVICES
DEPARTMENT



2015 WATER LINE IMPROVEMENTS

TYPICAL SECTIONS & DETAILS 2



THE SEAL APPEARING ON THIS
DRAWING WAS AUTHORIZED BY
JOSEPH T. MANGREM, P.E. NO.
117205 ON 02/13/2015

M-885

DRAWN BY: AKS
CHECKED BY: JTM
HORIZONTAL SCALE: 1"=100'
VERTICAL SCALE: N/A
JOB NUMBER: WU-01-15
DATE: FEBRUARY, 2015