

# IMPROVEMENT PLANS for the **BOYER STREET** STORM SEWER PROJECT

## TRACTS OF LAND BEING PART OF ST. CHARLES COUNTY, MISSOURI TOWNSHIP 47N, RANGE 3E

CITY OF O'FALLON PUBLIC WORKS DEPARTMENT 100 NORTH MAIN STREFT 636.379.5566

THOUVENOT WADE & MOERCHEN, INC 400 N. FIFTH STREET, SUITE 101 ST. CHARLES, MO 63301

DIRECTOR OF PUBLIC WORKS APPROVAL

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### LIST OF UTILITIES

TELEPHONE - CENTURY TEL 1151 CENTURY TEL DR WENTZVILLE, MO 63385 636.332.7261

WATER - CITY OF O'FALLON O'FALLON, MO 63366 636.379.5488

FL FCTRIC AMEREN LIF 200 CALLAHAN RD. WENTZVILLE, MO 63385 636.639.8312

DUCKETT CREEK SANITARY DIST. 3550 HIGHWAY K O'FALLON, MO 63368 636.441.1244

CABLE T.V. - CHARTER COMMUNICATIONS 866.207.3663 STORM - CITY OF O'FALLON

LACLEDE GAS 6400 GRAHAM RD ST. LOUIS, MO 63134 314.522.2297

100 N. MAIN ST. O'FALLON, MO 63366 636.281.2858

636 272 3493

MO ONE CALL - 1.800.DIG.RITE

O'FALLON FIRE PROTECTION DISTRICT 119 E ELM ST O'FALLON, MO 63366

03/06/2018 MO DISTRICT SHEET NO. ST. CHARLES JOB NO. M29160608 CONTRACT ID. PROJECT NAME COVER

PO #17-00040 BOYER ST. STORM

## **CIVIL SITE ENGINEERING NOTES**

PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL REVIEW ALL PLANS, SPECIFICATIONS, AND THE PROJECT SITE(S). THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER WHO PREPARED THE PLANS OF ANY DISCREPANCIES THAT MAY REQUIRE MODIFICATION TO THESE PLANS OR OF ANY FIELD CONFLICTS.

SHOULD IT APPEAR THAT THE WORK TO BE PERFORMED OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.

THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO MODIFICATIONS DURING CONSTRUCTION WHEN CONDITIONS DEVELOP THAT WERE NOT APPARENT DURING THE DESIGN AND PREPARATION OF THE PLANS AND SPECIFICATIONS. ALL MODIFICATIONS WINTED THAT HE PROPERTY THAT H

IN THE EVENT OF ANY DISCREPANCY BETWEEN ANY DRAWING AND THE FIGURES WRITTEN THEREON, THE FIGURES SHALL BE TAKEN AS CORRECT.

THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PROJECT SITE(S) CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEDMINEY, AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

TWM, INC. SHALL NOT BE RESPONSIBLE FOR OR HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES IN CONNECTION WITH THE WORK.

ALL WORKMANSHIP, EQUIPMENT, MATERIALS, AND TESTING SHALL CONFORM TO THE PERTINENT MUNICIPAL, COUNTY, STATE, AND FEDERAL JURISDICTIONS AND AGENCIES HAVING AUTHORITY OVER THIS PROJECT. IN ADDITION, ALL WORKMANSHIP, EQUIPMENT, MATERIALS, AND TESTING SHALL CONFORM TO THE RESPECTIVE UTILITY COMPANY REQUIREMENTS. ALL EQUIPMENT, MATERIALS, AND PRODUCTS SHALL BE OF THE LATEST MANUFACTURE AND COMPLY WITH THE MOST UP TO DATE SPECIFICATIONS AT THE TIME OF BIDDING OF THE PROJECT.

ALL UTILITIES INCLUDING BUT NOT LIMITED TO FIRE HYDRANTS, VALVE PIT COVERS, VALVE BOXES, CURB STOP BOXES, FIRE OR POLICE CALL BOXES, TRAFFIC CONTROL SIGNALS, OR OTHER UTILITY CONTROLS SHALL BE UNOBSTRUCTED AND ACCESSIBLE DURING THE CONSTRUCTION PERIOD.

WHERE SECTION OR SUBSECTION SURVEY MONUMENTS ARE ENCOUNTERED, THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT, HAVE WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ITEMS NOTED FOR REMOVAL SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE FROM THE SITE ANY AND ALL MATERIALS AND DEBRIS WHICH RESULT FROM HIS CONSTRUCTION OPERATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.

THIS PROJECT WILL REQUIRE COORDINATION WITH OTHER PARTIES INCLUDING BUT NOT LIMITED TO PUBLIC AND PRIVATE UTILITIES AND CITY OF O'FALLON. ANY COST ASSOCIATED WITH PROJECT COORDINATION SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "MOBILIZATION"

THE TYPE. SIZE AND LOCATION OF UTILITIES AS DELINEATED ON THE PLANS AND SPECIFICATIONS HAVE BEEN DETERMINED BY REVIEW OF AVAILABLE EXISTING THE THE SIZE AND LOCATION OF INITIALES AS DETENDED ON THE POWS AND SPECIFICATIONS HAVE BEEN DETENDED OF REVIEW OF AVOIDED EACH THE STATE OF THE DESCRIPTION OF THE STATE OF TH

THE ENGINEER AND OWNER FURTHER DO NOT WARRANT THAT ALL UTILITIES HAVE BEEN ILLUSTRATED ON THE PLANS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTACTING MISSOURI ONE CALL AND/OR THE PERTINENT UTILITY FOR FIELD VERIFICATION OF ALL UTILITIES ON THE SITE PRIOR TO THE COMMENCEWENT OF ANY CONSTRUCTION OPERATIONS. IF THE CONTRACTOR DETERMINES THAT SUBSTANTIAL DISCREPANCY EXISTS BETWEEN FIELD VERIFIED UTILITIES AND THESE PLANS WHICH WOULD SIGNIFICANTLY MEFECT THE FUNCTION, COST, OR PERFORMANCE OF THE PROJECT, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION AND PROJECT DESIGN COORDINATION.

ANY RELOCATION OF PUBLIC OR PRIVATE UTILITIES SHALL BE UNDERTAKEN IN ACCORDANCE WITH ALL REQUIREMENTS OF THE UTILITY COMPANY AND WITH REGARD TO THE REQUIRED FEES, BONDS, PERMITS, AGREEMENTS, WORKING CONDITIONS, ETC. OF SAID COMPANY OR JURISDICTION. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND JURISDICTIONS A MINIMUM OF FORTR-EIGHT (48) HOURS PRIOR TO GONDER OWNER TO ALLOW THE UTILITIES TO MARK THEIR LINES OR TO ALLOW THE PERTINENT JURISDICTIONS IN THE TO COORDINATE THEIR STAFF, MATERIALS, AND EQUIPMENT TO CONDUCT INSPECTION.

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING STRUCTURES, AND/OR UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY OR JURISDICTION TO PROPERLY REPAIR ANY FACILITIES DAMAGED IN THE COURSE OF THE WORK.

ALL ABANDONED UNDERGROUND STRUCTURES ENCOUNTERED SHALL BE REMOVED TO SUFFICIENT DEPTH TO ALLOW LINDERGROUND LITHLITIES TO CROSS

UTILITIES AND APPURTENANCES TO REMAIN IN THEIR PRESENT LOCATION SHALL BE ADJUSTED TO GRADE. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PROTECT EXISTING UTILITIES.

CITY OF O'FALLON NOTES:

- DRIVEWAY LOCATIONS SHALL NOT INTERFERE WITH THE SIDEWALK HANDICAP RAMPS. OR CURB INLET SUMPS
- DEWALKS, CURB RAMPS, RAMPS AND ACCESSIBLE PARKING SPACES SHALE BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICAN
  WITH DISABILITIES ACT ACCESSIBILITY QUIDELINES" (ADAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE,
  IF ANY CONFLICT OCCURS BETWEEN THE ABOVE INFORMATION AND THE PLANS, THE ADAGG QUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR
  PRIOR TO ANY CONSTRUCTION SHALL NOTIFY THE PROJECT ENGINEER.
- TRUNCATED DOMES FOR CURB RAMPS LOCATED IN PUBLIC RIGHT OF WAY SHALL MEET ADA REQUIREMENTS AND SHALL BE CONSTRUCTED USING RED PRE
- ANY PROPOSED PAVILIONS OR PLAYGROUND AREAS WILL NEED A SEPARATE PERMIT FROM THE BUILDING DIMSION.
  THE CONTRACTOR IS RESPONSIBLE TO CALL MISSOURI ONE CALL AND THE CITY OF O'FALLON FOR THE LOCATION OF UTILITIES. CONTACT THE CITY OF O'FALLON (636) 379-3814 FOR THE LOCATION OF CITY MAINTAINED CABLE FOR STREET LIGHTS AND TRAFFIC SIGNALS, ALL OTHER UTILITIES CALL MISSOURI ONE CALL 1-800-DIG-RITE. 1-800-344-7483

- MISSOURI DRE CALL 1-800-716-4765 ALL PROPOSED FENCING REQUIRES A SEPARATE PERMIT THROUGH THE BUILDING DIVISION.

  GN #7 ALL PROPOSED FENCING REQUIRES A SEPARATE PERMIT THROUGH THE BUILDING DIVISION.

  GN #8 ALL CONSTRUCTION OPERATIONS AND WORK ZONE TRAFFIC CONTROL WITHIN THE RIGHT OF WAY WILL FOLLOW MODOT OR M.U.T.C.D. STANDARDS
- GN #9 ALL FREE STANDING SIGNS SHALL BE LOCATED A MINIMUM OF TEN (10) FEET AWAY FROM ANY RIGHT OF WAY LINE AND/OR PROPERTY LINE AND A MININUM OF THREE (3) FEET FROM THE BACK OF CURBING OR SIDEWALK ALL SIGNS SHALL ABIDE BY THE REGULATIONS FOR VISIBILITY AT CORNERS, INCLUDING CORNERS FROM DRIVEWAYS AND THE STREET IT INTERSECTS PER SECTION 400.260 OF THE O'FALLON ZONING CODE.
- GN #10 ALL SUBDIVISION DENTIFICATION OR DIRECTIONAL SIGN(S) MUST HAVE THE LOCATIONS AND SIZES APPROVED AND PERMITTED SEPARATELY THROUGH THE PLANNING AND DEVELOPMENT DIVISION.
- PLANNING AND DEVELOPMENT DIVISION.

  ON #11 MATERIALS SUCH AS TREES, ORGANIC DEBRIS, RUBBLE, FOUNDATIONS, AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN COMPUIANCE WITH ALL APPLICABLE LAWS AND REQULATIONS. IF THE MATERIAL LISTED PREVIOUSLY ARE REUSED, A LETTER FROM A SOIL ENGINEER MUST CLARIFY AMOUNT, LOCATION, DEPTH. ECT. AND BE APPROVED WITH THE CONSTRUCTION PLANS. LANDRILL TICKETS FOR SUCH DISPOSAL SHALL BE MAINTAINED ON FILE BY THE CONTRACTOR BURNING ON SITE SHALL BE ALLOWED ONLY BY PERMIT FROM THE LOCAL FIRE DISTRICT, IF A BURN PIT IS PROPOSED THE LOCATION AND MITIGATION SHALL BE SHOWN ON THE GRADING PLAN AND DOCUMENTED BY THE SOILS ENGINEER.

  ON #12 TWENTY—FOUR (24) HOURS PRIOR TO STARTING ANY OF THE WORK COVERED BY THE ABOVE PLANS AND AFTER APPROVAL THEREOF, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE CONSTRUCTION INSPECTION OF FICE TO PROVIDE FOR INSPECTION OF THE WORK, SUFFICIENT IN THE OPINION OF THE CITY ENGINEER, TO ASSURE COMPLIANCE WITH THE PLANS AND SPECIFICATIONS AS APPROVED.
- GN #13 THE CITY ENGINEER OR THEIR DULY AUTHORIZED REPRESENTATIVE SHALL MAKE ALL NECESSARY INSPECTIONS OF CITY INFRASTRUCTURE, ESCROW ITEMS OR INFRASTRUCTURE LOCATED ON THE APPROVED PLANS.

- THE PERMITTEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITTEE SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING. BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH THE CLEARING OPERATIONS AND BE MANTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY CITY OF OFALLON AND AS REDUED BY MODOT. THE PERMITTEE'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITION OF SILT. THE CITY OF OFALLON AND AS REQUIRED BY MODOT AND ATTEMPENT OF SILT OF AND AS REQUIRED BY MODOT THE PERMITTEE'S INCLUDE BY MODOT AND ATTEMPENT OF SILT OF SILT OF STALLON AND AS REQUIRED BY MODOT THE PERMITTEE'S INFINITE OF SILT OF ROTHER PROPERTY AND MAD AS REQUIRED BY MODOT THE PERMITTEE IN HIS METHODO AS DEEMED FOR PROTECT PROPERTY AND IMPROVEMENTS ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILTS OR MUD IN NEW OR EXISTING STORM SEWERS AND/OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF
- FACILITIES SHALL BE CLEANED UP WITHIN 24 HOURS AFTER THE END OF THE STORM. EN #3 EROSION CONTROL DEVICES (SILT FENCE, SEDIMENT BASIN, ETC.) SHALL BE IN ACCORDANCE WITH ST. CHARLES COUNTY SOIL AND WATER CONSERVATION
- DISTRICT EROSION AND SEDIMENT CONTROL GUIDELINES.
- DISTRICT EROSION AND SEDIMENT CONTROL GUIDELINES.
  THIS DEVELOPMENT IS REQUIRED TO PROVIDE LONG TERM POST CONSTRUCTION BMP'S SUCH AS; LOW IMPACT DESIGN, SOURCE CONTROL AND TREATMENT
  CONTROLS THAT PROTECTS WATER QUALITY AND CONTROLS RUN OFF TO MAXIMUM EXTENT PRACTICAL IN COMPLANCE WITH PHASE II ILLICIT STORM WATER
  DISCHARGE QUIDELINES, (ORD, 5082, SECTION 405.0245)
  GRADED AREAS SHALL BE SEEDED AND MULCHED (STRAWED) WITHIN 14 DAYS OF STOPPING LAND DISTURBANCE ACTIONTIES. UNLESS IT CAN BE SHOWN TO
  THE CITY ENGINEET THAT WEATHER CONDITIONS ARE NOT FAVORABLE, VECETATIVE GROWTH IS TO BE ESTABLISHED WITHIN 6 WEEKS OF STOPPING GRADING
  WORN ON THE PROJECT. THE VECETATIVE GROWTH ESTABLISHED SHALL BE SUFFICIENT TO PREVENT EROSION AND THE STANDARD SHALL BE AS REQUIRED BY EPA AND DNR. (70% COVERAGE PER SQUARE FOOT) ORD. 5242, SECTION 405.070

- GRN #1 CONTRACTOR MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH AN ENGINEER'S SOILS REPORT PRIOR TO AND DURING SITE GRADING. THE SOILS REPORT WILL BE REQUIRED TO CONTAIN THE FOLLOWING INFORMATION ON SOIL TEST CURVES (PROCTOR REPORTS) FOR PROJECTS WITHIN THE CITY:
  - OPTIMUM MOISTURE CONTENT
  - MAXIMUM AND MINIMUM ALLOWARIE MOISTURE CONTENT
  - COMPACTION TEST" (A.S.T.M.-D-1157) OR FROM A MINIMUM OF 95% COMPACTION AND ABOVE AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (A.S.T.M.-D-1157) OR FROM A MINIMUM OF 95% COMPACTION AND ABOVE AS DETERMINED BY THE "STANDARD PROCTOR TEST
  - AASHTO T-99, METHOD C" (A.S.T.M.-D-698). PROCTOR TYPE MUST BE DESIGNATED ON DOCUMENT.
    CURVE MUST HAVE AT LEAST 5 DENSITY POINTS WITH MOISTURE CONTENT AND SAMPLE LOCATIONS LISTED ON DOCUMENT
  - NATURAL MOISTURE CONTENT.
- 9. PLASTIC LIMIT.

  BE ADVISED THAT IF THIS INFORMATION IS NOT PROVIDED TO THE CITY'S CONSTRUCTION INSPECTOR THE CITY WILL NOT ALLOW GRADING OR CONSTRUCTION ACTIVITIES TO PROCEED ON ANY PROJECT SITE.

  GRN #2 ALL FILL PLACED IN AREAS OTHER THAN PROPOSED STORM SEWERS, SANITARY SEWERS, PROPOSED ROADS, AND PAVED AREAS SHALL BE COMPACTED FROM
- THE BOTTOM OF THE FILL UP IN 8" LIFTS AND COMPACTED TO 90% MAXIMUM DENSITY AS DETERMINED BY MODIFIED ASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST ANSHTO T-99. ENSURE THE MOISTURE CONTENT OF THE SOIL IN FILL AREAS CORRESPONDS TO THE COMPACTIVE EFFORT AS DEFINED BY THE STANDARD OR MODIFIED PROCTOR TEST, OPTIMUM MOISTURE CONTENT SHALL BE
- CORRESPONDS TO THE COMPACTIVE EFFORT AS DETINED BY THE STANDARD OR MODIFIED PROCTOR TEST. OPINIUM MOSTRIEC CONTENT SHALL BE DETERMINED USING THE SAME TEST THAT WAS USED FOR COMPACTION. SOIL COMPACTION CURVES SHALL BE SUBMITTED TO THE OTF OF OFTALLON PRIOR TO THE PLACEMENT OF FILL.

  GRN #3 THE SURFACE OF THE FILL SHALL BE FINISHED SO IT WILL NOT IMPOUND WATER. IF AT THE FON OF A DAYS WORK IT WOULD APPEAR THAT THERE MAY BE RAIN PRIOR TO THE NEXT WORKING DAY. THE SURFACE SHALL BE FINISHED SWOOTH. FOR THE SURFACE HAS BEEN FINISHED SMOOTH FOR ANY REASON, IT SHALL BE SCARRIFED BEFORE PROCEDIONG WITH THE PLACEMENT OF SUCCEEDING LITTS, FILL SHOT BE PLACED ON FROZEN GROUND, NOR SHALL FILLING OPERATIONS CONTINUE WHEN THE TEMPERATURE IS SUCH AS TO PERMIT THE LAYER UNDER PLACEMENT TO FREEZE.
- ALL SEDIMENT AND DETENTION BASINS ARE TO BE CONSTRUCTED DURING THE INITIAL PHASE OF THE GRADING OPERATION OR IN ACCORDANCE WITH THE
- GRN #5 WHEN GRADING OPERATIONS ARE COMPLETE OR SUSPENDED FOR MORE THAN 14 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO ST. CHARLES SOIL AND WATER CONSERVATION DISTRICT MODEL SEDIMENT AND EROSION CONTROL REGULATIONS. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY IMPROVEMENTS) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1000 SQUARE FEE
- when sected.

  GRN #6 NO SLOPES SHALL EXCEED 3 (HORIZONTAL): 1 (VERTICAL) UNLESS OTHERWISE APPROVED BY THE SOILS REPORT AND SPECIFICALLY LOCATED ON THE PLANS AND APPROVED BY THE CITY ENGINEER.

  GRN #7 ALL LOW PLACES WHETHER ON SITE OR OFF SHALL BE GRADED TO PROVIDE DRAINAGE WITH TEMPORARY DITCHES.

- GRN # ALL LOW PLACES WHETHER ON SITE ON OTF SHALL BE GRANULD IN PROVIDE BRAINING WITH TEMPORART DITCHES.

  GRN # BA LL EXISTING WELLS ON SITE SHALL BE CAPPED PAIN STANDARDS.

  GRN # BA LL EXISTING WELLS ON SITE SHALL BE GRANULAR BACK FILL, AND COMPACTED MECHANICALLY, ALL OTHER TRENCH BACK FILLS MAY BE EARTH MATERIAL FREE OF LARGE CLOS, OR STONES, AND COMPACTED USING ETHER MECHANICAL OR WATER JETTING, GRANULAR MATERIAL AND EARTH MATERIAL ASSOCIATED WITH NEW CONSTRUCTION OUTSIDE OF PAVEMENTS MAY BE JETTED, TAKING CARE TO AVOID DAMAGE TO NEWLY LAID SEWERS. THE JETTING, SHALL BE PERFORMED WITH A PROBE ROUTE ON NOT GREATER THAN 7.5 FOOT CENTER PROBE CENTERED OVER AND PARALLEL WITH THE DIRECTION OF THE PIPE. TRENCH WIDTHS GREATER THAN 10 FEET WILL REQUIRE MULTIPLE PROBES EVERY 7.5 FOOT CENTERS.
  - a) DEPTH, TRENCH BACK FILLS LESS THAN 8 FEET DEEP SHALL BE PROBED TO A DEPTH EXTENDING HALF THE DEPTH OF THE TRENCH BACK FILL, BUT NOT LESS THAN 3 FEET. TRENCH BACK FILL GREATER THAN 8 FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACK FILL BUT NOT GREATER THAN 8 FEFT.
  - b) EQUIPMENT, THE JETTING PROBE SHALL BE A METAL PIPE WITH AN INTERIOR DUMETER OF 1.5 TO 2 INCHES.

    c) METHOD, JETTING SHALL BE PERFORMED FROM THE LOWEST SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGHEST POINT, AND FROM THE BOTTOM OF THE TRENCH BACK FILL TOWARD THE SURFACE. THE FLOODING OF EACH JETTING PROBE SHALL BE STARTED SLOWLY ALLOWING SLOW SATURATION OF THE SOLL WATER IS NOT ALLOWED TO FLOW AWAY FROM THE TRENCH WITHOUT FIRST SATURATING THE TRENCH.
  - A) SURFACE BRIDGING THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE SURFACE BRIDGING (THE TENDENCY FOR THE LIPPER SURFACE TO CRUST SURFACE BRIDGING, THE CONTRACTOR SHALL IDENTIFE THE LOCATIONS OF THE SURFACE BRIDGING (THE TENDENT FOR THE OPERAL SHAPE) AND ARCH OVER THE TERRICAL SHAPE AND ARCH OVER THE TERRICAL SHAPE AND ARCH OVER THE TERRICAL SHAPE AND CONSOLIDATE DEPIRING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAK DOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS WHEELS OR BUCKET OF A BACKHOE. WHEN SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACK FILLAD WITH THE SURFACE ARCH BACK FILLAD REPORTED. COMPACTION OF THE MATERIALS WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.
  - a. WITHIN CITY RICHT-OF-WAY. MATERIAL IS TO BE PLACED IN EIGHT (8) INCH TO TWELVE (12) INCH LOOSE LIFTS AND COMPACTED PER THE APPROVED COMPACTION REQUIREMENTS. ONE (1) COMPACTION TEST WILL BE PERFORMED EVERY TWO HUNDRED FIFTY (250) FEET ALONG THE CENTERLINE FOR EACH LIFT.
  - b. OUTSIDE OF CITY RIGHT-OF-WAY. MATERIAL IS TO BE PLACED IN EIGHT (8) INCH TO TWELVE (12) INCH LOOSE LIFTS AND COMPACTED PER THE APPROVED COMPACTION REQUIREMENTS. ONE (1) COMPACTION TEST WILL BE PERFORMED AT TWO (2) FOOT VERTICAL INTERVALS AND APPROXIMATELY EVERY ONE THOUSAND (1,000) CUBIC YARDS.

CITY FILE #17-00040





