

WOOD COUNTY ENGINEER

PAVEMENT, DRAINAGE GENERAL NOTES & SPECIFICATIONS

SPECIFICATIONS

EXCEPT AS MODIFIED BY THESE PLANS AND BY THE DETAILED SPECIFICATIONS PERTAINING THERETO, ALL WORK SHALL BE GOVERNED BY THE WOOD COUNTY CONSTRUCTION STANDARDS AND/OR BY THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, "CONSTRUCTION AND MATERIAL SPECIFICATIONS" DATED JANUARY 1, 2013, AND SUPPLEMENTS THERETO IN EFFECT FOURTEEN (14) CALENDAR DAYS PRIOR TO RECEIVING BIDS.

UNDERGROUND UTILITIES AND ADJUSTMENTS

THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE. THE EXACT LOCATION SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY EACH RESPECTIVE UTILITY COMPANY AT LEAST SEVEN (7) DAYS PRIOR TO THE TIME OF CONSTRUCTION. ANY AND ALL ADJUSTMENTS OR EXTENSIONS REQUIRED FOR PUBLIC OR PRIVATE UTILITIES WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS, UNLESS OTHERWISE NOTED ON THE PLANS.

UTILITY OWNERSHIP

THE FOLLOWING IS A LIST OF THE OWNERS OF UTILITIES KNOWN TO BE WITHIN THE LIMITS OF CONSTRUCTION.

WOOD COUNTY ENGINEER 3RD FLOOR, COUNTY OFFICE BLDG. COURTHOUSE SQUARE BOWLING GREEN, OHIO 43402 PHONE: (419) 354-9060	BUCKEYE CABLESYSTEM 4818 ANGOLA ROAD TOLEDO, OHIO 43615 PHONE: (419) 724-9802	TOLEDO EDISON COMPANY 6099 ANGOLA ROAD HOLLAND, OHIO 43528 PHONE: (419) 249-5900
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NORTHWESTERN WSD 12560 MIDDLETON PIKE P.O. BOX 348 BOWLING GREEN, OHIO 43402 PHONE: (419) 354-9090	AT & T 130 N. ERIE ST., ROOM 714 TOLEDO, OHIO 43624 PHONE: (419) 245-7491	PERRYSBURG TOWNSHIP 26609 LIME CITY ROAD PERRYSBURG, OHIO 43551 PHONE: (419) 872-8861
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WATERVILLE GAS CO. 700 FARNSWORTH ROAD WATERVILLE, OHIO 43566 PHONE: (419) 878-4972	COLUMBIA GAS CO. 333 S. ERIE ST. TOLEDO, OHIO 43602 PHONE: (419) 252-8110	OHIO EPA 347 NORTH DUNBRIDGE ROAD BOWLING GREEN, OHIO 43402 PHONE: (419) 352-8461
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EXISTING BENCHMARKS, MONUMENTS AND CONTROL POINTS

EXISTING SURVEY MONUMENTS, BENCHMARKS, PROPERTY CORNER POINTS AND CONTROL POINTS DAMAGED OR DISTURBED BY CONSTRUCTION WILL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR. SHOULD THE CONTRACTOR FAIL TO PROPERLY REPLACE THESE POINTS, THE WOOD COUNTY ENGINEER SHALL REPLACE THESE POINTS AT THE CONTRACTORS EXPENSE, AFTER THREE (3) WEEKS NOTICE. THE CONTRACTOR IS TO NOTIFY THE WOOD COUNTY ENGINEER OF ANY ANTICIPATED CONFLICTS.

STAKING RESPONSIBILITY

THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR PRESERVATION OF INITIAL STAKEOUT WORK ORDERED AND ESA ENGINEERS, SURVEYORS & ASSOCIATES, LLC IS NOT RESPONSIBLE FOR DISTURBED STAKING OR RESTAKING OF INITIAL STAKEOUT WORK ORDERED. ESA ENGINEERS, SURVEYORS & ASSOCIATES, LLC WILL BE GIVEN SEVEN (7) DAYS NOTICE FOR ALL STAKEOUT WORK ORDERED.

EXISTING STORM DRAINAGE

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN EXISTING SEWER FLOWS AT ALL TIMES AND SHALL PROMPTLY REPLACE IN KIND ANY STORM SEWER DISTURBED BY CONSTRUCTION TO THE SATISFACTION OF THE WOOD COUNTY ENGINEER. THE COST OF MAKING INSPECTIONS AND ANY REPAIRING OR CORRECTION OF SEWERS AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT BID ITEM.

BEGINNING CONSTRUCTION

THE WOOD COUNTY ENGINEER SHALL BE NOTIFIED SEVEN (7) DAYS PRIOR TO THE BEGINNING OF THE ACTUAL CONSTRUCTION.

BACKFILL

PIPE WITHIN FIVE (5) FEET OF THE EDGE OR BACK OF CURB OF EXISTING OR PROPOSED PAVEMENT AND UNDER THE EXISTING OR PROPOSED PAVEMENT SHALL BE BACKFILLED WITH APPROVED GRANULAR MATERIAL TO THE SUBGRADE. GRANULAR MATERIAL SHALL MEET THE GRADING REQUIREMENTS OF ITEM 411 OR 304 STONE, OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS OR 2013 OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AS MODIFIED BY THE WOOD COUNTY ENGINEER (MAXIMUM DRY DENSITY EXCEEDING 105 POUNDS/CUBIC FOOT AND 98% COMPACTION AS DETERMINED BY THE STANDARD PROCTOR TEST). THE WOOD COUNTY ENGINEER RESERVES THE RIGHT TO ORDER COMPACTION TESTS IF THE WOOD COUNTY ENGINEER DEEMS NECESSARY. PIPE OUTSIDE THE LIMITS OF FIVE (5) FEET FROM THE EDGE OR BACK OF CURB OF THE EXISTING OR PROPOSED PAVEMENT MAY BE BACKFILLED WITH SUITABLE EXCAVATED MATERIAL. ITEM 411 OR 304 STONE APPROVED GRANULAR MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE PER LINEAL FOOT OF PIPE.

STORM SEWER ACCEPTANCE

PRIOR TO FINAL ACCEPTANCE OF THE PROJECT BY THE WOOD COUNTY ENGINEER, ALL STORM SEWERS INSTALLED OR REPAIRED SHALL BE THOROUGHLY CLEANED AND FLUSHED WITH WATER. ALL NEW INLETS AND MANHOLES CONSTRUCTED AS PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE WOOD COUNTY ENGINEER ON BEHALF OF THE MIDDLETON TOWNSHIP TRUSTEES.

REINFORCED CONCRETE PIPE

REINFORCED CONCRETE PIPE AND SPECIALS SHALL CONFORM TO ASTM C-76 WALL B (MIN.) OF CLASS 3. JOINTS SHALL BE O-RING TYPE FOR ALL CONCRETE PIPE.

PVC PIPE

WHERE TYPE "B" OR "C" CONDUIT IS SPECIFIED, THE CONTRACTOR MAY USE POLYVINYL CHLORIDE SEWER PIPE AND FITTINGS, ASTM DESIGNATION D-3034 SDR 35.

BEDDING

ALL BEDDING SHALL BE CLASS "B" BEDDING AND MEET THE REQUIREMENTS OF ITEM 611.06 BEDDING, OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, DATED 2013.

PIPE JOINTS

PIPE JOINTS BENEATH THE PAVEMENT SHALL MEET THE REQUIREMENTS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, ITEM 706.11 (ASTM C-443).

PIPE SPECIALS

QUANTITIES FOR PIPE BENDS, TEES, WYES AND OTHER FITTINGS ARE LISTED ON THE PLANS FOR THE CONVENIENCE OF THE CONTRACTOR. THE UNIT PRICE BID FOR THE PIPE SHALL INCLUDE ALL NECESSARY FITTINGS. ALL PIPE SPECIALS SHALL BE FACTORY MADE.

ROOF DRAINS

ROOF DRAINS, FOUNDATION DRAINS AND ALL OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.

ITEM 204 - PROOF ROLLING, AS PER PLAN

IN LIEU OF THE REQUIREMENTS OF ITEM 204.06, THE PROOF ROLLING SHALL BE PERFORMED ON AREAS AS DIRECTED BY THE ENGINEER AS DESCRIBED BELOW:

(A) EQUIPMENT. TANDEM AXLE DUMP TRUCK LOADED IN SUCH A MANNER THAT THE REAR AXLES WEIGH IN EXCESS OF 32,000 POUNDS SHALL BE USED FOR THE PROOF ROLLING. THE CONTRACTOR SHALL FURNISH, UPON REQUEST, A WEIGHT SLIP SHOWING THE WEIGHT OF THE REAR AXLES.

(B) PROCEDURE. THE DESIGNATED AREAS AT SUBGRADE PRIOR TO PLACING THE OVER- LYING PAVEMENT LAYER, SHALL BE COMPACTED TO 98% OF STANDARD PROCTOR. THE TRUCK SHALL THEN BE DRIVEN OVER THE SUBGRADE WHERE DIRECTED BY THE ENGINEER. THE EQUIPMENT SHALL OPERATE AT A CONSTANT SPEED BETWEEN 2-1/2 AND 5 MILES PER HOUR. WHERE THE OPERATION OF THE TRUCK SHOWS THE SUBGRADE TO BE UNSTABLE OR TO HAVE NON-UNIFORM STABILITY, THE CONTRACTOR SHALL CORRECT THE UNSTABLE AREA IN ACCORDANCE WITH THE PROVISIONS OF 204.04 SO THAT THE STABILITY OF THE SUBGRADE IS UNIFORM AND SATISFACTORY. THE REWORKED AREAS SHALL THEN BE RETESTED. IF THE RETESTING SHOWS THESE AREAS ARE UNSTABLE, AND IN THE OPINION OF THE CONSTRUCTION ENGINEER, ADDITIONAL COMPACTION WILL NOT STABILIZE THESE AREAS, A FIELD CBR TEST SHALL BE PERFORMED. THE RESULTS OF THE CBR TEST WILL BE COMPARED WITH THE DESIGN CBR VALUE AND THE NEED FOR A SUBBASE WILL BE EVALUATED. THE THICKNESS AND THE MATERIAL USED FOR THE SUBBASE SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF ANY MATERIAL.

(C) PAYMENT. THE QUANTITY FOR PROOF ROLLING SHALL BE DETERMINED AS DESCRIBED IN 204.08 (G). PAYMENT FOR THE ACCEPTED QUANTITIES SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 204, SUBGRADE COMPACTION.

(D) NOTE THAT PROOF ROLLING IS REQUIRED IN ADDITION TO NORMAL SUBGRADE COMPACTION OPERATIONS AND SUBGRADE COMPACTION TESTING.

STORM TAPS

ALL LOT DRAIN CONNECTIONS SHALL BE INSTALLED AT THE GRADE SHOWN. ALL TAPS SHALL BE PROPERLY PLUGGED WITH COST OF LABOR AND MATERIALS FOR INSTALLATION INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE PIPE ITEM.

CATCH BASINS AND MANHOLES

ALL CATCH BASINS AND MANHOLES ARE TO BE CONSTRUCTED WITHOUT SUMPS OR TRAPS. ALL CATCH BASINS SHALL HAVE NEENAH R-3501 SPECIAL ROLL TYPE FRAME AND TYPE "L" GRATE LEFT & RIGHT FLOW.

MANHOLE RIM ELEVATIONS

WHEN MANHOLES ARE LOCATED WITHIN THE PAVEMENT, THE UPPERMOST SURFACE OF THE FRAME OR COVER SHALL BE ONE QUARTER (1/4) INCH BELOW THE PAVEMENT SURFACE. WHEN MANHOLES ARE LOCATED OUTSIDE THE PAVEMENT, THE TOP SHOULD BE SET ONE (1) INCH ABOVE THE FINISHED GROUND GRADE.

EXISTING PAVEMENT REPLACEMENT

EXISTING PAVEMENT REPLACEMENT COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR APPROPRIATE PIPE ITEM.

RESTORATION OF RIGHT-OF-WAY

ALL EXISTING FEATURES IN EXISTING COUNTY OR TOWNSHIP RIGHTS-OF-WAY THAT ARE DISTURBED DUE TO CONSTRUCTION, SUCH AS: MAILBOXES, SHRUBS, BUSHES, GUARDRAIL, DRIVEWAYS, SWALES, SEWERS, CATCH BASINS, BERMS, SEEDED AREAS, ETC. SHALL BE REPLACED TO THEIR ORIGINAL CONDITION IN ACCORDANCE WITH CURRENT O.D.O.T. SPECIFICATIONS, ITEM 603.09 AND TO THE SATISFACTION OF THE WOOD COUNTY ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT ITEM.

SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE AS PER ODOT SPECIFICATIONS, ITEM 659, USING SEEDING MIXTURE: 35% KENTUCKY BLUEGRASS (POA PRATENSIS), 55% CREEPING RED FESCUE (FESTUCA RUBRA), 5% RED TOP (AGROSTIS ALBA) AND 5% WHITE DUTCH CLOVER (TRIFOLIUM REPENS). ALL REAR LOT SWALES AND/OR DRAINAGE SWALES SHALL BE RESTORED AFTER ALL UTILITIES HAVE BEEN CONSTRUCTED. THESE AREAS SHALL BE SEEDED AND MULCHED AS PER ABOVE SEEDING MIXTURE. SEEDING AND MULCHING SHALL NOT BE PLACED WITHOUT APPROVAL OF THE WOOD COUNTY ENGINEER.

BACK LOT DRAINAGE

ALL BACK LOT DRAINAGE SWALES SHALL BE CONSTRUCTED IN CONJUNCTION WITH PAVEMENT SUBGRADE PREPARATION. NO PUBLIC UTILITIES SHALL BE PLACED WITHIN THE DRAINAGE AND UTILITY EASEMENT UNTIL THE REAR LOT GRADING HAS BEEN APPROVED BY THE WOOD COUNTY ENGINEER.

SUBGRADE COMPACTION TEST

COMPACTION OF EMBANKMENT AND PAVEMENT SUBGRADE AREAS SHALL BE AT LEAST 98% AS DETERMINED BY THE STANDARD PROCTOR TEST. COMPACTION TESTS SHALL BE TAKEN EVERY FOUR HUNDRED (400) FEET MAXIMUM PER WOOD COUNTY ENGINEER.

BASE COMPACTION TEST

COMPACTION OF SUBBASE AND BASE MATERIALS SHALL BE AS PER OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. COMPACTION TESTS SHALL BE TAKEN EVERY FOUR HUNDRED (400) FEET MAXIMUM AS PER WOOD COUNTY ENGINEER. COMPACTION SHALL BE AT LEAST 98% AS DETERMINED BY THE STANDARD PROCTOR TEST.

CONCRETE TEST

THREE (3) CONCRETE CYLINDERS SHALL BE TESTED FROM EACH DAYS POUR PER WOOD COUNTY ENGINEER.

ASPHALT CONCRETE TESTING

A MINIMUM OF TWO (2) SAMPLES SHALL BE TAKEN PER DAY ON EACH TYPE OF ASPHALT CONCRETE. TESTING SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR THE ODOT ITEMS 448. MINIMUM BITUMEN CONTENT SHALL BE AS FOLLOWS:

1. 448 ASPHALT CONCRETE, SURFACE COURSE 6.2% AC 20
2. 448 ASPHALT CONCRETE, INTERMEDIATE COURSE 5.2% AC 20

TESTING COST

MATERIAL SAMPLING AND TESTING SHALL BE BY A TESTING FIRM APPROVED BY THE WOOD COUNTY ENGINEER. THE COST OF MATERIAL SAMPLING AND TESTING SHALL BE PAID BY THE DEVELOPER.

SUBGRADE IMPROVEMENT, UNDERCUT & BACKFILL WITH STONE

SUBGRADE AREAS SHALL BE UNDERCUT AND BACKFILLED WITH STONE MATERIALS PRIOR TO PLACEMENT OF THE AGGREGATE BASE COURSES IF DEEMED NECESSARY BY THE ENGINEER. A MINIMUM UNDERCUT OF 6" SHALL BE PROVIDED. ACCEPTABLE STONE MATERIALS WILL BE NO. 1 AND NO. 2 SIZE AGGREGATE AND ITEM 304, AGGREGATE BASE. COMPACTION SHALL BE EQUAL TO OR EXCEEDING 95% OF MAXIMUM MODIFIED PROCTOR DRY UNIT WEIGHT (ASTM D-1557). A CONTINGENCY QUANTITY OF 470 CY (PLAT 3), 479 CY (PLAT 4) & 267 CY (PLAT 5) (304) AND A CONTINGENCY QUANTITY OF 470 CY (PLAT 3), 479 CY (PLAT 4) & 267 CY (PLAT 5) OF NO. 1 OR NO. 2 AGGREGATE OR 2818 SY (PLAT 3), 2871 SY (PLAT 4) & 1599 SY (PLAT 5) OF SUBGRADE GEOGRID HAS BEEN CARRIED TO THE GENERAL SUMMARY TO COVER LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO EXCAVATE THE SUBGRADE AND INSTALL THE STONE BACKFILL AND/OR PLACE GEOGRID FOR SUBGRADE IMPROVEMENT. THE CONTINGENCY QUANTITY SHALL BE USED AS DIRECTED BY THE WOOD COUNTY ENGINEER BASED ON FIELD CONDITIONS.

HAUL ROUTES

THE CONTRACTOR SHALL MAINTAIN THESE ROUTES IN A CONDITION ACCEPTABLE TO THE WOOD COUNTY ENGINEER DURING THE LIFE OF THE PROJECT. THIS MAINTENANCE INCLUDES THE REMOVAL OF MUD, STONE AND OTHER MATERIAL HAULED.

MAINTENANCE OF TRAFFIC

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON DEDICATED ROADS. IF CONSTRUCTION ALONG DEDICATED ROADS INTERFERES WITH TRAFFIC, IN THE OPINION OF THE WOOD COUNTY ENGINEER, THEN TWO (2) FLAGMEN SHALL BE PROVIDED BY THE CONTRACTOR. ALL BARRICADES, SIGNS, FLAGMEN AND OTHER TRAFFIC CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, ITEM 614, MAINTAINING TRAFFIC AND THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".

SUBDIVISION IMPROVEMENT MAINTENANCE BOND

PRIOR TO THE DATE OF FINAL ACCEPTANCE OF THE STORM DRAINAGE, ROADWAY AND PAVEMENT IMPROVEMENTS BY WOOD COUNTY AND THE PLACEMENT OF SAID IMPROVEMENTS ON THE PUBLIC ROAD SYSTEM, THE CONTRACTOR SHALL FURNISH A SUBDIVISION IMPROVEMENT MAINTENANCE BOND TO WOOD COUNTY. THE BOND SHALL BE FOR A TWO (2) YEAR PERIOD IN THE AMOUNT OF FIFTY (50) PERCENT OF THE COST OF THE IMPROVEMENT. THE COST OF THE MAINTENANCE BOND SHALL BE INCLUDED IN THE CONTRACTOR'S BID UNDER ITEM SPECIAL SUBDIVISION IMPROVEMENT MAINTENANCE BOND.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING TO A STORM SEWER, MANHOLE, OR CATCH BASIN UNDER THE DIRECTION OF THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

ITEM 603 50 LIN. FT., 6" CONDUIT, TYPE E
ITEM 603 50 LIN. FT., 8" CONDUIT, TYPE B
ITEM 603 50 LIN. FT., 6" CONDUIT, TYPE C
ITEM 603 50 LIN. FT., 6" CONDUIT, TYPE B

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. NECESSARY BENDS AND BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM. NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

INSURANCE

NO CONTRACTOR OR SUBCONTRACTOR SHALL START ANY WORK UNTIL THE APPROVED CERTIFICATE OF LIABILITY INSURANCE IS FILED WITH WOOD COUNTY NAMING WOOD COUNTY AS AN INSURED.

INSPECTION

COST OF INSPECTION BY THE WOOD COUNTY ENGINEER SHALL BE PAID FOR BY THE DEVELOPER.

ROAD NAME SIGNS AND STOP SIGNS

ROAD NAME SIGNS AND STOP SIGNS SHALL BE PLACED BY THE WOOD COUNTY ENGINEER. THE COST SHALL BE PAID BY THE DEVELOPER.

CLEARING AND GRUBBING

THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, SHALL BE CONSIDERED FULL PAYMENT FOR THE REMOVAL AND DISPOSAL OF ALL BRUSH, TREES AND STUMPS NECESSARY TO CONSTRUCT ALL ITEMS AS SHOWN ON THE PAVING, SANITARY AND WATERLINE PLANS. REMOVAL OF TREES OUTSIDE THE ROADWAY OR WORK LIMITS WILL NOT BE REQUIRED FOR SITE GRADING. INDIVIDUAL TREES HAVE NOT BEEN SHOWN ON THE PLANS, ONLY GENERAL LIMITS OF WOODED AREAS, AND THE CONTRACTOR SHALL INSPECT THE SITE BEFORE BIDDING THIS ITEM. THE WOOD COUNTY ENGINEER'S OFFICE WILL NOT BE RESPONSIBLE FOR SPECIFYING WHICH BRUSH, TREES AND STUMPS ARE TO BE REMOVED.

INCIDENTALS

BID PRICE FOR THE PERTINENT CONDUIT ITEMS SHALL INCLUDE ALL WORK AND MATERIALS NOT INCLUDED IN THE QUANTITIES BUT NECESSARY TO COMPLETE THE PROJECT IN A WORKMANLIKE MANNER INCLUDING, BUT NOT LIMITED TO, BACKFILL AND BEDDING MATERIAL, PAVEMENT REPLACEMENT, PIPE SPECIALS, TRAFFIC CONTROL, ETC.