

# STATE RD. SANITARY SEWER IMPROVEMENTS

PROJECT NO: 09-005

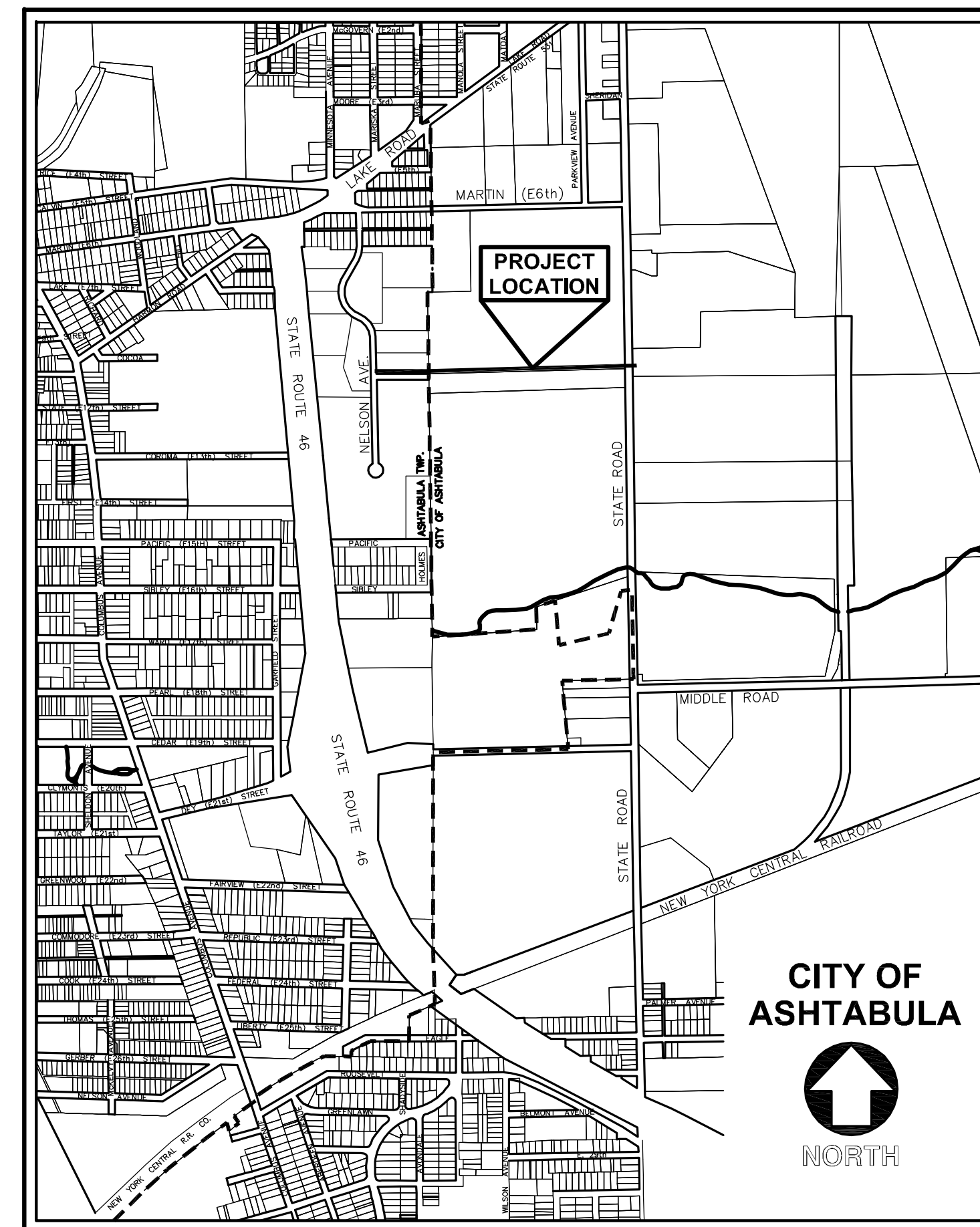
## CITY OF ASHTABULA PORT AUTHORITY

ASHTABULA COUNTY, STATE OF OHIO

FEBRUARY 2011

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### LOCATION MAP

NOT TO SCALE

### APPROVALS

CITY OF ASHTABULA PORT AUTHORITY

CHAIRMAN: \_\_\_\_\_ DATE \_\_\_\_\_  
RON KISTER

VICE CHAIR: \_\_\_\_\_ DATE \_\_\_\_\_  
MARTIN KUULA

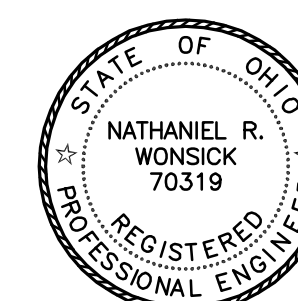
SECRETARY: \_\_\_\_\_ DATE \_\_\_\_\_  
CARMEN CORBISSERO

BOARD MEMBERS:  
FRED LEITER  
RON PHELPS  
JANET VETTEL  
BRIAN WELLS

UNDERGROUND UTILITIES  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
Call... 800-362-2764 (Toll Free)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY  
OUPS REF NO.: A-923-900-313



CONSULTING ENGINEERS  
35585 CURTIS BLVD., UNIT C EASTLAKE, OHIO 44095  
Phone: (440) 953-1567 Fax: (440) 953-0550



NATHANIEL R. WONSICK, PE#70319 \_\_\_\_\_ DATE \_\_\_\_\_

GENERAL NOTES

GENERAL

A PRECONSTRUCTION CONFERENCE SCHEDULED BY THE ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE ENGINEER, CITY OF ASHTABULA AND ASHTABULA COUNTY AND TO THE APPLICABLE UTILITIES PRIOR TO BEGINNING ANY WORK TO ARRANGE FOR INSPECTION.

UNLESS OTHERWISE SPECIFIED, THE LATEST STANDARD SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS, SHALL GOVERN ALL EARTHWORK, DRAINAGE, CONCRETE AND PAVING WORK FOR THIS PROJECT.

ALL WORK SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE CITY OF ASHTABULA AND ASHTABULA COUNTY, AND THE AFFECTED UTILITIES. AT ALL TIMES THE WORK SHALL BE SUBJECT TO THEIR DIRECT SUPERVISION AND INSPECTION.

ALL WORK UNDER THIS CONTRACT SHALL COMPLY TO THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

THE CONTRACTOR SHALL INCLUDE THE COST OF COMPACTED BACKFILL MATERIAL INCLUDING COMPACTION TESTS UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN THE PRICE FOR THE PIPE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL AND CONSTRUCTION SIGNS AS REQUIRED, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL SIGNS AND MATERIALS USED SHALL CONFORM TO THE SPECIFICATIONS SET FORTH IN THE CURRENT EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS, OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

IT IS THE OBLIGATION AND THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF THE SURFACE AND SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL.

AS BUILT DRAWINGS OF THE WORK CONSTRUCTED SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE RELEASE OF THE RETAINER. AS-BUILT DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

THE OWNER RESERVES THE RIGHT TO KEEP POSSESSION OF ANY ITEM BEING DEMOLISHED OR REMOVED AS PART OF THIS CONTRACT.

THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL OTHER MATERIALS OR ITEMS THAT ARE REMOVED OR DEMOLISHED AS PART OF THIS CONTRACT.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON ALL DRAWINGS PRIOR TO PROCEEDING WITH CONSTRUCTION. (FIGURED DIMENSIONS ONLY SHALL BE USED). ANY DISCREPANCY BETWEEN ACTUAL AND GRAPHIC CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH ANY CONSTRUCTION.

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS BEFORE INSTALLING ANY PROPOSED PIPE, MANHOLES OR CATCH BASINS. ANY ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER.

ANY EXISTING PROPERTY, STRUCTURES OR UTILITY LINES DAMAGED DURING THE CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL IMPLEMENT SOIL EROSION AND SEDEMENTATION CONTROL MEASURES AT HIS OWN EXPENSE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY AND AS STATED IN THE PROJECT SPECIFICATIONS.

THE PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS: THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS, OR ANY OTHER TYPE OF LAND MONUMENT. THE CONTRACTOR SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. THE CONTRACTOR SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

PAVEMENT CUTTING: ALL ASPHALT AND CONCRETE ITEMS, AND PAVEMENT SHALL BE NEATLY SAW CUT.

UPON COMPLETION OF CONSTRUCTION, THE WORK AREA SHALL BE RETURNED AS NEAR AS POSSIBLE TO ITS ORIGINAL CONDITION.

BENCHMARKS:

BENCHMARKS WHICH ARE GIVEN HEREON ARE BASED AS NOTED ON PLANS AND ARE THE BASIS OF THE PROPOSED CONSTRUCTION ELEVATIONS.

ACCESSIBILITY TO PRIVATE PROPERTY:

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT WORK LIMITS SHALL BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR SHALL NOTIFY ALL EMERGENCY AND PUBLIC SERVICES (FIRE DEPT., POLICE DEPT., SHERIFF DEPT., AMBULATORY, SCHOOLS AND THE POST OFFICE) ONE WEEK PRIOR TO ANY ROAD CLOSING OR DETOURS IN CONSIDERATION WITH THE CONSTRUCTION OF THIS CONTRACT. NOTIFICATION SHALL BE BY CERTIFIED LETTER WITH A COPY AND RETURN RECEIPT SUBMITTED TO THE ENGINEER.

MAIL SERVICE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING MAIL SERVICE IN THE CONSTRUCTION AREA. PRIOR TO DISTURBING ANY MAIL BOXES, THE CONTRACTOR SHALL CONTACT THE POSTAL AUTHORITIES AND SHALL TEMPORARILY RELOCATE MAIL BOXES IN ACCORDANCE WITH THE REQUIREMENTS THEREOF THE CONTRACTOR SHALL RESTORE MAIL BOXES TO THEIR ORIGINAL CONDITION AND LOCATION. COST OF SAME SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.

PROTECTION OF TREES

IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXERCISE SPECIAL CARE TO TREES AND THEIR ROOT SYSTEM. MACHINE EXCAVATION SHALL NOT BE USED WHEN, IN THE OPINION OF THE ENGINEER, IT WOULD ENDANGER TREE ROOTS. IN GENERAL, WHERE THE LINE OF TRENCH FALLS WITHIN THE LIMITS OF THE LIMB SPREAD, THE LEAVING OF HEADERS ACROSS THE PROTECT ROOTS WILL BE REQUIRED. THE OPERATION OF ALL EQUIPMENT, PARTICULARLY WHEN EMPLOYING BOOMS, THE STORAGE OF MATERIALS, AND THE DEPOSITION OF EXCAVATION, SHALL BE CONDUCTED IN A MANNER WHICH WILL NOT INJURE TREES, TRUNKS, BRANCHES, OR THEIR TREE ROOTS UNLESS SUCH TREES ARE DESIGNATED BY THE ENGINEER FOR REMOVAL.

SOIL EROSION:

THE CONTRACTOR SHALL IMPLEMENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AT HIS OWN EXPENSE IN ACCORDANCE WITH THE SOIL EROSION AND SEDIMENTATION REGULATIONS OF THE OHIO DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES.

PIPE MATERIAL AND BACKFILL:

ALL SEWERS, WATER MAINS, FORCE MAINS, SERVICE LATERALS, UTILITY CONDUITS AND DUCTS INSTALLED UNDER EXISTING OR FUTURE PAVEMENT SHALL BE BACKFILLED WITH APPROVED GRANULAR MATERIAL OR SUITABLE EXCAVATED MATERIAL AND COMPACTED WITH A VIBRATORY PLATE COMPACTOR OR OTHER MACHINE MOUNTED COMPACTION EQUIPMENT APPROVED BY THE CITY ENGINEER. THE COMPACTION REQUIREMENT SHALL MEET 100% DRY WEIGHT DENSITY FOR ALL BACKFILL. THE CONTRACTOR SHALL INCLUDE ALL COST FOR THE COMPACTION TEST AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THE PROJECT ENGINEER IN THE PRICE BID

ALL SANITARY SEWERS AND LATERALS RUNNING UNDERNEATH PAVEMENT SHALL BE BACKFILLED WITH GRANULAR MATERIAL IN 6" LIFTS AND COMPACTED WITH A VIBRATORY-PLATE COMPACTOR.

NO COMPACTION OF BACKFILL MATERIALS BY WATER JETTING WILL BE PERMITTED.

MATERIAL TESTING, PERMITS AND TELEVISIONING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL TESTING AND TELEVISIONING AS DIRECTED BY THE ENGINEER AND ALL PERMITS REQUIRED FOR THIS PROJECT.

UTILITIES

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES TO LOCATE, MAINTAIN AND REPLACE AS NECESSARY TO ENSURE CONTINUAL SAFE SERVICE TO EACH BUILDING.

THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES FOR THE RELOCATION OF EXISTING GAS LINES, WATER LINES, BURIED ELECTRIC LINES, PHONE LINES, AND CABLE LINES. ANY COST TO RELOCATED THESE UTILITY LINES SHALL BE IN THE PRICE BID PER LINEAL FOOT OF SEWER PIPE.

THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE ENGINEER, THE OWNER, AND ALL RESPECTIVE UTILITY COMPANIES PRIOR TO BEGINNING ANY WORK IN THE AREAS WHERE THE CONSTRUCTION MAY BE IN CONFLICT WITH ANY UTILITY LINES, AS NOTED ON THE PLAN SHEETS.

EPA NOTE

ROOF DRAINS, FOUNDATIONS DRAINS, AND OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

POWER POLE RELOCATION

THE COST OF RELOCATION AND/OR SECURING ANY POWER POLES AS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.

UTILITY CROSSINGS

AT ALL UTILITY CROSSINGS, THE BACKFILL SHALL CONSIST OF COMPACTED GRANULAR MATERIAL BETWEEN THE DEEPER AND SHALLOWER PIPE. WHERE PROPOSED UTILITIES OR SERVICES CROSS PROPOSED OR EXISTING PAVEMENT AREAS, BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS.

INTERRUPTION OF WATER SERVICE

THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO ALL AFFECTED PROPERTY OWNERS AT LEAST 24 HOURS, BUT NOT MORE THAN 72 HOURS PRIOR TO ANY TEMPORARY INTERRUPTION OF WATER SERVICE. INTERRUPTION OF WATER SERVICE SHALL BE HELD TO A MINIMUM, AND APPROVED BY THE ENGINEER.

DRIVEWAY CULVERTS AND PIPING

ALL CULVERTS AND ASSOCIATED STORM PIPING THAT IS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.

UTILITIES AND PUBLIC SERVICE CORPORATIONS:

THE CONTRACTOR SHALL NOTIFY AT LEAST TWO WORKING DAYS BEFORE BREAKING GROUND ALL PUBLIC SERVICE CORPORATION, REGISTERED UNDERGROUND UTILITY PROTECTION SERVICE MEMBERS AND/OR NON-MEMBER OWNERS HAVING WIRE, POLES, PIPES, CONDUITS, OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION. THE CONTRACTOR SHALL CALL OHIO UTILITIES PROTECTION SERVICE 1-800-362-2764 BEFORE DIGGING.

THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

- 1.) STORM SEWER/ SANITARY SEWER  
CITY OF ASHTABULA – CITY HALL OFFICE  
4717 MAIN AVENUE  
ASHTABULA, OHIO 44004  
(440) 992-7142

4.) GAS  
DOMINION EAST OHIO GAS COMPANY  
7001 CENTER ROAD  
ASHTABULA, OHIO 44004  
(800) 362-7557
- 2.) ELECTRICAL  
ILLUMINATING COMPANY – FIRST ENERGY  
2210 SOUTH RIDGE ROAD WEST  
ASHTABULA, OHIO 44004  
(440) 994-8243, 994-8249, or 994-8256

5.) TELEPHONE/ CABLE  
ALLTELL  
4616 PARK AVENUE  
ASHTABULA, OHIO 44857  
(800) 362-2764
- 3.) WATER  
OHIO AMERICAN WATER COMPANY  
2905 NORTH BEND ROAD  
ASHTABULA, OHIO 44004  
(440) 997-7566

ADELPHIA  
2904 STATE STREET  
ASHTABULA, OHIO 44004  
(440) 998-2148

SANITARY SEWERS:

PIPE MATERIAL FOR SANITARY SEWERS SHALL BE PVC SDR 26 GRAVITY SEWER PIPE, (ASTM D-3034, D-3212) (REFER TO PLAN)

ALL SANITARY SEWERS MUST HAVE PREMIUM JOINTS AND THE ENTIRE SYSTEM MUST PASS BOTH AN EXFILTRATION AND AN INFILTRATION TEST AFTER CONSTRUCTION HAS BEEN COMPLETED. THE MAXIMUM ALLOWABLE RATE OF INFILTRATION AND EXFILTRATION SHALL BE 100 GAL. PER INCH DIAMETER OF SEWER PIPE PER MILE PER DAY.

AIR TESTING IN ACCORDANCE WITH ASTM F-1417 WILL ALSO BE ACCEPTABLE. MANHOLES MUST BE AIR TESTED IN ACCORDANCE WITH ASTM C-1244.

NO SANITARY MANHOLES AND PREFERABLY NO SANITARY CONNECTIONS ARE TO BE CONSTRUCTED IN SIDEWALKS AND/OR DRIVEWAYS.

DEFLECTION TESTING OF THE PIPE SHALL BE REQUIRED. THE MAX. ALLOWABLE DEFLECTION IS 5%.

CLEAN WATER CONNECTIONS TO THE SANITARY SEWER WILL NOT BE PERMITTED.

OPEN TRENCHES

THE CONTRACTOR SHALL MAINTAIN TYPE 11 BARRICADES OR STANDARD TRAFFIC BARRELS AT 50-FOOT INTERVALS ALONG UNPROTECTED TRENCHES. ALL AREAS SHALL BE RETURNED TO NORMAL TRAFFIC CONDITIONS AT THE END OF EACH WORK DAY. FENCES MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER TO PROTECT PEDESTRIAN TRAFFIC.

DITCHES

IF A SANITARY M.H. IS PLACED IN A DITCH, THE DITCH SHALL BE RELOCATED AROUND THE MANHOLE TO MAINTAIN FLOW IN THE DITCH.

STORM SEWERS:

ALL FIELD TILE ENCOUNTERED SHALL BE TIED INTO STORM SEWER. ANY FIELD TILE INTERCEPTED BY OTHER EXCAVATIONS SHALL BE RECONNECTED.

LAMPING, DEFLECTION TESTING OR VIDEO TAPING SHALL BE REQUIRED.

PAVEMENT

ALL PAVEMENT DETAILS, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE LATEST STATE OF OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIALS SPECIFICATIONS", OR AS MODIFIED BY THE CONTRACT DRAWINGS OR THE SPECIFICATIONS. IN THE EVENT OF A DISCREPANCY THE CONTRACT DRAWINGS SHALL SUPERSEDE THE ODOT SPECIFICATIONS.

PAVEMENT WORK ZONE LENGTHS SHALL BE KEPT TO AN ABSOLUTE MINIMUM. TRAFFIC SHALL NOT BE EXPOSED TO LONGITUDINAL VERTICAL FACES DURING NON-WORKING HOURS. TRANSVERSE VERTICAL FACES SHALL BE TEMPORARILY RAMPED A MINIMUM OF 10 FOOT IN LENGTH. ALL CASTINGS SHALL BE ADJUSTED TO GRADE PRIOR TO THE 404 SURFACE COURSE BEING PUT DOWN. THE CASTING ELEVATION DIFFERENTIAL WITH THE SURROUNDING PAVEMENT SHALL NOT BE GREATER THAN 1 INCH WHEN EXPOSED TO TRAFFIC. ANY NECESSARY CLEANING ALONG THE CURB, INCLUDING DEBRIS REMOVAL, SHALL BE INCLUDED IN THE COST OF PAVEMENT PLANING.

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL HAVE A MINIMUM THICKNESS OF TWO (2) INCHES.

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.1 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ALL CASTINGS, EXCEPT THOSE OWNED BY PRIVATE COMPANIES, SHALL BE ADJUSTED BY THE CONTRACTOR. THE TIME BETWEEN ADJUSTING THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM.

ALL WATER METER MANHOLES AND VALVES SHALL BE ADJUSTED TO GRADE BY THE USE OF ADJUSTING RINGS

MAINTENANCE OF TRAFFIC

PLACEMENT OF ASPHALTIC CONCRETE: TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT TWO-WAY ONE LANE TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALTIC CONCRETE COURSES.

THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, SATISFACTORY BARRIERS, LIGHTING, FLAGMEN, TEMPORARY GUARDRAIL, AND SUCH OTHER TRAFFIC CONTROL DEVICES AS PROVIDED IN THE OHIO DEPARTMENT OF TRANSPORTATION GUIDELINES SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION.

PAYMENT FOR LABOR AND EQUIPMENT REQUIRED FOR THE CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL OF APPROACHES, CROSSTOVERS, DRIVEWAYS, BARRICADES, LIGHTS, SIGNS, AND SIGN SUPPORTS, SHALL BE INCLUDED IN THE PRICE (PRICES) BID FOR THIS CONTRACT.

SEEDING AND MULCHING/EROSION AND SEDIMENTATION CONTROL

SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISHED GRADING, CONSTRUCTION AND MATERIALS SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

THE FOLLOWING MIXTURE SHALL BE USED:

- SEED – 5 LBS. PER 1000 S.F.  
KENTUCKY BLUEGRASS – 40%  
CREEPING RED FESCUE – 40%  
PERENNIAL RYEGRASS – 20%

FERTILIZER – 20 LBS. PER 1000 S.F. (12-12-12)

MULCH – 3 TONS PER ACRE

RESTORATION OF ALL DISTURBED AREAS SHALL IMMEDIATELY FOLLOW EXCAVATION AND GRADING OPERATIONS. DELAY IN RESTORATION SHALL NECESSITATE TEMPORARY EROSION CONTROL MEASURES APPROVED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND OTHER AREAS AS SHOWN ON PLANS SHALL BE PROPERLY RESTORED WITH 6" OF TOPSOIL, SEEDING AND MULCHING PER THE SPECIFICATIONS.

CONTOURS IN ALL DISTURBED AREAS SHALL BE RESTORED IN A MANNER THAT MAINTAINS EXISTING DRAINAGE PATTERNS, FOLLOWED BY SEEDING AND MULCHING. IF, DUE TO WEATHER, FINAL GRADING CANNOT BE ACCOMPLISHED IMMEDIATELY, TEMPORARY SEEDING, WITHIN THIRTY DAYS, SHALL BE USED UNTIL FINAL RESTORATION CAN OCCUR.

ALL DISTURBED DRAINAGE CHANNELS, SWALES, DITCHES AND BERMS SHALL BE RESTORED TO THEIR ORIGINAL SHAPE AND GRADE OR AS SHOWN ON THE CONTRACT DRAWINGS. ALL DISTURBED DRIVE CULVERTS SHALL BE REPLACED IN THEIR ORIGINAL LOCATION AND GRADE.

ALL WORK SHALL BE COMPLETED PRIOR TO THE RELEASE OF FUNDS FOR GRADING.

DATE: SEPTEMBER 2009		DRAWN BY: SM		CHECKED BY: WBB		APPROVED BY: WBB		F.B. No. PG.		FILE:		PLOT 1 = 1	
<div>STATE OF OHIO NATHANIEL R. WONSICK 70319 REGISTERED PROFESSIONAL ENGINEER</div>													
CHY'D													
BY													
DATE													
DESCRIPTION													
REV.													
<div>CITY OF ASHTABULA PORT AUTHORITY STATE RD. SANITARY SEWER IMPROVEMENTS CITY OF ASHTABULA, ASHTABULA COUNTY, OHIO GENERAL NOTES</div>													
SCALES													
HOR. AS NOTED													
VER. AS NOTED													
CONTRACT NO.													
09-005													
SHEET NO. OF													
2		5											



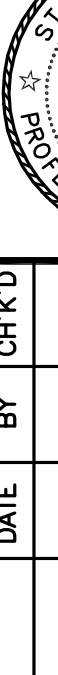
NOTE:

- 1. ROOF DRAINS, FOUNDATIONS DRAINS, AND OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- 2. ALL EXISTING UTILITY INFORMATION SHOWN ARE TAKEN FROM EXISTING RECORDS AND FIELD VERIFIED WHERE ACCESSIBLE ONLY. INFORMATION OBTAINED FROM RECORDS MAY NOT BE COMPLETE OR ACCURATE, CONTRACTOR TO FIELD VERIFY FOR ACCURACY, LOCATIONS, AND CONDITIONS.
- 3. NO BOUNDARY SURVEY WAS PERFORMED AT THIS TIME, ALL BOUNDARY AND PROPERTY INFORMATION SHOWN IS FOR REFERENCE AND INFORMATIONAL PURPOSES ONLY.



SCALE: 1"=40'




CITY OF ASHTABULA PORT AUTHORITY STATE RD. SANITARY SEWER IMPROVEMENTS CITY OF ASHTABULA, ASHTABULA COUNTY, OHIO PLAN & PROFILE				REV. NO. DESCRIPTION DATE BY CHK'D		DATE: SEPTEMBER 2009 DRAWN BY: SM CHECKED BY: WBB APPROVED BY: WBB F.B. No. PG. FILE: PLOT 1 = 1	
SCALES HOR. 1"=40' VER. 1"=5' CONTRACT NO. 09-005		SHEET NO. 3 OF 5					



NOTE:

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SCALES			<div>CITY OF ASHTABULA PORT AUTHORITY</div> <div>STATE RD. SANITARY SEWER IMPROVEMENTS</div> <div>CITY OF ASHTABULA, ASHTABULA COUNTY, OHIO</div> <div>PLAN &amp; PROFILE</div>	<div>STATE OF OHIO NATHANIEL R. WONSICK 70319 REGISTERED PROFESSIONAL ENGINEER</div>	REV. NO.	DESCRIPTION	DATE	BY	CHK'D	DATE: SEPTEMBER 2009
HOR. 1"=40'								DRAWN BY: SJM		
VER. 1"=5'								CHECKED BY: WBB		
CONTRACT NO.								APPROVED BY: WBB		
09-005								PG.		
SHEET NO. OF					FILE:	F.B. No.				
4	5									PLOT 1 = 1

BASE I.D.	MIN. "T"	MAX. PIPE SIZE
48"	5"	30"
60"	5"	36"
72"	6"	48"
84"	7"	54"
96"	7 1/2"	60"
96"	8"	60"

12" MAX.  
2'-0" MIN.  
LENGTHS ARE MULTIPLES OF STEP SPACING  
32" MIN.  
6" MIN.  
MAX. OPENING +  
6" MIN.

FRAME & COVER  
MORTAR  
GRADE RINGS (F REQ'D.) (ASTM C-478 OR C-32)  
ECCENTRIC CONE TOP  
16"  
8"  
24" DIA.  
8"  
48" DIA.  
STEP  
5" MIN.  
6"  
6"  
RISERS  
FLEXIBLE PIPE CONSTRUCTION NOT REQUIRED  
SAN. SEWER  
6"  
CONCRETE ENCASEMENT  
DROP PIPE  
DROPPING - REQUIRED WHEN SEWER INVERT IS GREATER THAN 2'-0" HIGHER THAN THE MANHOLE INVERT. PIPE MATERIAL TO BE THE SAME AS THE SANITARY SEWER.  
FLEXIBLE PIPE CONSTRUCTION NOT REQUIRED  
6" MIN.  
6" MIN.  
GRANULAR BEDDING  
6" MIN.  
FLEXIBLE PIPE CONNECTION

ECCENTRIC TRANSITION (IF NEEDED)  
24" MAX.  
BASE MIN. 1" (SEE TABLE)  
O.D. + 2" MIN.  
DIA.  
4:1  
MAX. I.D. (SEE TABLE)  
MIN.  
BOTTOM CHANNEL  
6" MIN.

FLEXIBLE PIPE CONNECTION (ASTM C-923)  
DROPPING  
6" MINIMUM CONCRETE ENCASEMENT  
FLOW LINE  
4:1 WASH (3" PER 1')  
GROUT INTERIOR AND EXTERIOR W/ WATER TIGHT NON-SHRINK GROUT

NOTE:  
OPENINGS IN EXISTING MANHOLES, TO RECEIVE NEW SEWERS, SHALL BE CORED.

CHANNEL DETAIL

NOTE:  
DAMAGE TO CURB, SIDEWALK OR TREE LAWN  
OUTSIDE OF THE PAY LIMITS OF TRENCH SHALL  
BE AT THE CONTRACTORS EXPENSE.

LEGEND:

A—USE GRANULAR BEDDING MATERIAL TYP.  
(ASTM 2321, CLASS 1 OR ASHSTO 56.57/88)  
OR OTHER APPROVED GRANULAR MATERIAL IN  
COMPACTED 6" LIFTS.

B—USE APPROVED SELECT EXCAVATED MATERIAL  
IN COMPACTED 6" LIFTS.

C—USE GRANULAR BEDDING WITH FLEXIBLE PIPE.

D—USE APPROVED SELECT EXCAVATED MATERIAL  
WITH RIGID PIPE.

E—PREMIUM BACKFILL (ODOT 304 OR APPROVED EQUAL)

WITHIN 3' OF EXISTING  
POSED PAVEMENT, ROADS,  
WALKS AND STRUCTURES.

NOT UNDER OR WITHIN 3' OF EX.  
OR PROPOSED PAVEMENT, ROADS,  
DRIVES, WALKS AND STRUCTURES.

CONTINUOUS  
RACER TAPE  
FLEXIBLE PIPE.

12" MIN.

BED EARTH

EXPENSE,  
ALL OVER  
MATERIAL.

THE GREATER OF  
4" & 1/4 I.D.

10"

NOMINAL PIPE DIA.	MAX. TRENCH WIDTH AT TOP OF PIPE
THRU 24"	O.D. + 24"
OVER 24" THRU 66"	O.D. + 30"
72" & LARGER	O.D. + 48"

NOTES:

1. NO SLAG BEDDING SHALL BE USED WITH WATER  
LINES OR METAL CONDUIT OR WHERE NOTED.

Diagram illustrating the detail of a pipe skid. The skid consists of two cylindrical sections (pipes) connected by a central coupling. The coupling has a diameter of 10" MIN. The pipes are secured with stainless steel strapping (every 5 ft. of pipe length). The leading edges of each set of skids are to be rounded.

PIPE SKID DETAIL

NOTE: MINIMUM THICKNESS FOR NEW CASING PIPE IS 3/8" MIN. THICKNESS FOR USED CASING PIPE IS 1/2".

NOTE: CASING DIA. TO BE A MINIMUM OF 6" GREATER THAN THE LARGEST O.D. OF THE CARRIER PIPE.

A cross-sectional diagram of a carrier pipe assembly. The central component is a 'CARRIER PIPE (RESTRAINED JOINTS) TYPE'. It is surrounded by a 'STEEL CASING'. Between the carrier pipe and the steel casing, there are 'STAINLESS STEEL STRAPPING' bands. The assembly is further supported by 'MINIMUM OF (FOUR) 4 WOLMANIZED WOOD SKID OR MANUFACTURED SKIDS BANDO TO CARRIER PIPE EQUALLY SPACED'. The entire assembly is filled with 'SAND OR GROUT FILL AS REQUIRED'. A label 'STRAPPING (PIPE LENGTH)' points to the strapping bands.

Labels and descriptions:

- CARRIER PIPE (RESTRAINED JOINTS) TYPE
- STEEL CASING
- STAINLESS STEEL STRAPPING
- MINIMUM OF (FOUR) 4 WOLMANIZED WOOD SKID OR MANUFACTURED SKIDS BANDO TO CARRIER PIPE EQUALLY SPACED.
- SAND OR GROUT FILL AS REQUIRED
- STRAPPING (PIPE LENGTH)

SECTION A - A