

PROJECT SPECIFICATIONS

ALL WORK REQUIRED TO COMPLETE THIS IMPROVEMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, EXCEPT AS HEREIN AMENDED, AND PER THE CITY OF MASSILLON SPECIFICATIONS/REQUIREMENTS/STANDARDS. IN THE CASE OF A CONFLICT BETWEEN THE CITY OF MASSILLON AND THE OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS/REQUIREMENTS, THE MORE STRICT OF THE TWO SPECIFICATIONS WILL GOVERN, AS DETERMINED BY THE DESIGN ENGINEER. STATE OF OHIO, DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS SHALL APPLY TO THIS IMPROVEMENT.

PROJECT SAFETY

THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL PROPERLY SUPPORT AND/OR MAINTAIN ALL EXCAVATIONS PER APPLICABLE SAFETY REQUIREMENTS AND COMPLY WITH ALL O.S.H.A. REGULATIONS. THIS SHALL INCLUDE STRICT COMPLIANCE WITH ALL APPLICABLE REGULATIONS/REQUIREMENTS REGARDING TRENCH SAFETY. ADEQUATE BARRICADES, WARNING LIGHTS, SIGNS, FENCING, ETC. SHALL BE ERECTED AROUND THE CONSTRUCTION AREA DURING ALL NON-WORKING HOURS TO ALERT PERSONS OF THE POTENTIAL DANGER ASSOCIATED WITH THE AREA UNDER CONSTRUCTION AS WELL AS TO PREVENT ACCESS BY UNAUTHORIZED PERSONNEL TO THE CONSTRUCTION SITE/AREA. TRENCHES SHALL BE BACKFILLED AT THE END OF EACH WORK DAY OR PROPERLY SECURED AS APPROVED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE SAFETY OF THE GENERAL PUBLIC AS WELL AS ALL CONSTRUCTION PERSONNEL. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE OF DEBRIS (MUD, STONE, ETC.) AT ALL TIMES. THE CONTRACTOR SHALL ALERT ALL LOCAL EMERGENCY AGENCIES (FIRE, POLICE, AMBULANCE, ETC.) OF THE NATURE OF THE PROPOSED PROJECT PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

UNDERGROUND UTILITIES

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED BY FIELD OBSERVATIONS, FROM EXISTING RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE INFORMATION AS SHOWN IS BELIEVED TO BE CORRECT, HOWEVER, THE COMPLETENESS AND ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL THE VARIOUS UTILITY COMPANIES (PUBLIC AND PRIVATE) TO VERIFY THE EXISTENCE, LIMITS AND/OR LOCATION OF ANY UTILITIES WHICH MAY BE ALONG THE ROUTE OR WITHIN THE VICINITY OF THIS IMPROVEMENT.

UTILITY NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT THE CONTRACTOR(S) SHALL NOTIFY THE ENGINEER, THE REGISTERED UTILITY PROTECTION AGENCY/SERVICE, AND THE OWNERS OF ANY OTHER UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY HAVE UTILITY LINES OR FACILITIES WITHIN THE VICINITY OF THIS PROJECT BUT WHO ARE NOT MEMBERS OF THE REGISTERED UTILITY PROTECTION SERVICE OF HIS/HER INTENTION TO BEGIN CONSTRUCTION ACTIVITY ON THIS PROJECT. THE OWNERS OF ANY UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS AFTER NOTICE IS RECEIVED, EXCLUDING SATURDAYS, SUNDAYS, AND OTHER LEGAL HOLIDAYS; STAKE, MARK OR OTHERWISE DESIGNATE THE EXISTENCE AND/OR LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING AND/OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO WORKING DAYS AHEAD OF THE PLANNED CONSTRUCTION. OHIO UTILITIES PROTECTION SERVICE: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY).

VERIFICATION OF UNDERGROUND UTILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS INCLUDING WATERLINES, SANITARY AND STORM SEWERS, GAS LINES, COMMUNICATION LINES/BANKS, ELECTRIC LINES, ETC. PRIOR TO ORDERING MATERIALS OR BEGINNING WORK. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES WHICH COULD EFFECT COMPLETION OF THIS IMPROVEMENT HAVE BEEN FIELD CHECKED AND VERIFIED. THIS WILL LIKELY REQUIRE EXPLORATORY EXCAVATIONS TO BE PERFORMED BY THE CONTRACTOR FOR WHICH HE WILL NOT BE DIRECTLY REIMBURSED. THE CONTRACTOR SHALL NOT ASSUME THAT EXISTING UTILITIES/CONDUITS WERE INSTALLED AT TYPICAL/STANDARD DEPTHS OR AT UNIFORM SLOPES/GRADES/DEPTHS BETWEEN ACCESS POINTS (CATCH BASINS, MANHOLES, JUNCTION CHAMBERS, ETC.). ANY DISCREPANCIES FROM THE PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER SO THAT THE APPROPRIATE ADJUSTMENTS IN ALIGNMENT AND/OR GRADE MAY BE MADE PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE EXISTING INFORMATION AS INDICATED WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK SPECIFIED WITHOUT ADDITIONAL COMPENSATION.

PROTECTION OF UTILITIES

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT AND SUPPORT ANY EXISTING UTILITIES ENCOUNTERED DURING THE COMPLETION OF THE PROPOSED IMPROVEMENTS AS DIRECTED BY THE OWNERS OF THE RESPECTIVE UTILITIES AND APPROVED BY THE ENGINEER. UTILITIES MUST BE KEPT IN SERVICE AT ALL TIMES.

MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC ADJACENT TO THE PROJECT AS DESCRIBED BELOW AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION MANUAL OF CONSTRUCTION AND MATERIALS SPECIFICATIONS ITEM 614 MAINTAINING TRAFFIC. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND REMOVE ALL SIGNS, FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS, CONES, BARRELS, AND INCIDENTALS IN CONFORMANCE WITH THE MOST RECENT REVISIONS OF THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES. ALL OPEN TRENCHES AND EXCAVATIONS SHALL BE PROTECTED WITH DRUMS, BARRICADES, OR BARRIERS. ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR EMERGENCY AND FIRE DEPARTMENT VEHICLES. ANY TEMPORARY ROADWAY CLOSING MUST BE APPROVED BY THE ENGINEER AND THE PUBLIC AGENCY HAVING JURISDICTION OF THE ROADWAY IN WRITING WITH PRIOR NOTIFICATION GIVEN TO FIRE, POLICE AND OTHER EMERGENCY AGENCIES. TRAFFIC MUST BE MAINTAINED AT ALL TIMES IN A SAFE MANNER.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE CONTRACTOR SHALL PREVENT AND/OR REDUCE AND CONTROL SOIL EROSION RESULTING FROM THE PROPOSED IMPROVEMENTS. THE USE OF SILT FENCING, JUTE MATING, TEMPORARY SEEDING, SOD, SILT CHECKS, INLET PROTECTION AROUND ALL CATCH BASINS, STABILIZED CONSTRUCTION ENTRANCE(S), ETC. WILL BE REQUIRED. SEDIMENT CONTROL STRUCTURES/DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL RAINWATER AND LAND DEVELOPMENT — OHIO'S STANDARDS FOR STORMWATER MANAGEMENT LAND DEVELOPMENT AND URBAN STREAM PROTECTION, SECOND EDITION DATED 1996. SEDIMENT CONTROL DEVICES MUST BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUED INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS SET FORTH ON THE APPROVED STORM WATER POLLUTION PREVENTION PLAN IF APPLICABLE, OR ON THE DETAILED CONSTRUCTION PLANS.

RESTORATION OF DISTURBED AREAS

EXISTING DRIVES, BERMS, LAWNS, PAVEMENTS, CURBS, SIDEWALKS, SIGNS, MAILBOXES OR OTHER APPURTENANCES DISTURBED DURING CONSTRUCTION BUT NOT SPECIFICALLY DESIGNATED FOR REMOVAL/REPLACEMENT SHALL BE RESTORED TO A CONDITION EQUAL TO THAT WHICH EXISTED PRIOR TO CONSTRUCTION AND TO THE COMPLETE SATISFACTION OF THE ENGINEER. RESTORATION OF EXISTING ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, COUNTY, AND/OR OTHER AGENCIES HAVING AUTHORITY. COST FOR THE RESTORATION OF THESE ITEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO PUBLIC ROADWAY SHALL BE DISTURBED WITHOUT PRIOR WRITTEN APPROVAL AND ACQUISITION OF ANY AND ALL NECESSARY PERMITS.

EASEMENTS AND RIGHTS-OF-WAY

THE CONTRACTOR SHALL STAY WITHIN THE PROPERTIES, EASEMENTS, AND RIGHTS—OF-WAY PROVIDED AT ALL TIMES. NO MATERIAL SHALL BE STORED NOR ANY WORK PERFORMED ON PRIVATE PROPERTY. DISTURBANCE OF EXISTING FEATURES AND/OR IMPROVEMENTS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND AS APPROVED BY THE ENGINEER/OWNER.

SUBSURFACE INVESTIGATIONS

SUBSURFACE INVESTIGATIONS HAVE BEEN PERFORMED FOR THIS PROJECT BY THE OWNER. THE CONTRACTOR MAY CONTACT THE OWNER TO OBTAIN A COPY OF THE GEOTECHNICAL INVESTIGATIONS AND REPORT. THE CONTRACTOR MAY PERFORM ADDITIONAL SUBSURFACE INVESTIGATIONS AT HIS OWN EXPENSE AND RESPONSIBILITY. THE CONTRACTOR MUST CONTACT THE OWNER, ENGINEER AND ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, WHICH MAY HAVE FACILITIES WITHIN THE PROJECT LIMITS, 48 HOURS PRIOR TO PERFORMING ANY SUBSURFACE INVESTIGATIONS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE RESTORATION OF AREAS DISTURBED BY TEST HOLES OR BORINGS, TO THE SATISFACTION OF THE ENGINEER.

SUITABILITY OF SITE

THE ENGINEER/DEVELOPER/OWNER WILL NOT BE RESPONSIBLE FOR THE TYPE AND/OR SUITABILITY OF THE MATERIAL UNDERLYING THE PROJECT SITE. THE CONTRACTOR MUST APPRAISE HIMSELF OF ANY EXISTING SITE CONDITIONS WHICH MAY EFFECT HIS/HER BID OR PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL PERFORM WHATEVER INVESTIGATIONS AND/OR TESTING WHICH MAY BE NECESSARY TO ADEQUATELY DETERMINE/ESTIMATE TO THE SATISFACTION OF THE CONTRACTOR HIMSELF ANY AND ALL SITE CONDITIONS WHICH COULD EFFECT THE PERFORMANCE OF THE PROPOSED IMPROVEMENTS. THIS COULD INCLUDE BUT NOT BE LIMITED TO UNSUITABLE AND/OR UNSTABLE SOIL/SUBSURFACE CONDITIONS, ROCK, WATER (PERCHED OR FREE), SPRINGS, ETC. IF THE CONTRACTOR IS UNSURE OR UNABLE TO DETERMINE THE NATURE OF THE SUBSURFACE CONDITIONS, HE SHALL ASSUME THE WORST CASE. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR UNANTICIPATED AND/OR UNFORESEEN CONDITIONS.

WORK IN THE RIGHT-OF-WAY

A PERMIT MUST BE OBTAINED FROM THE CITY PRIOR TO ANY WORK BEING PERFORMED INSIDE THE CITY'S RIGHT-OF-WAY. THE CONTRACTOR MUST NOTIFY THE CITY ENGINEER'S OFFICE 48 HOURS PRIOR TO ANY CONSTRUCTION INSIDE THE CITY'S RIGHT-OF-WAY IN ORDER TO COORDINATE INSPECTION.

PROHIBITED CONNECTIONS TO SANITARY SEWERS

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

STORM SEWERS

ALL PROPOSED STORM SEWERS SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 603 FOR TYPE B OR TYPE C CONDUITS. STORM SEWERS LOCATED WITHIN THE LIMITS OF OR WITHIN A 1/2 TO 1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL BE INSTALLED AS TYPE B CONDUITS. ALL OTHER STORM SEWERS MAY BE INSTALLED AS TYPE C CONDUITS. STORM SEWER PIPE MATERIALS SHALL MEET THE REQUIREMENTS OF O.D.O.T. 706.02 (REINFORCED CONCRETE CIRCULAR PIPE), OR 707.33 (SMOOTH LINED CORRUGATED POLYETHYLENE). PIPE MEETING 707.33 SHALL BE HI—Q, SUR—LOK OR APPROVED EQUAL. ALL DOWNSPOUT LINES, HEADERS, AND EXTENSIONS OF INTERIOR ROOF DRAINS (6" — 10") SHALL BE POLYVINYL CHLORIDE PIPE, (PVC) SDR—35 MEETING THE REQUIREMENTS OF O.D.O.T. 707.45. STANDARD BENDS AND FITTINGS SHALL BE USED FOR CONNECTION OF DOWNSPOUT LINES TO THE HEADER LINE, CONNECTION OF THE HEADER LINE TO ADJACENT STORM SEWERS, AND FOR NECESSARY CHANGES IN DIRECTION AND/OR ELEVATION OF DOWNSPOUT LINES OR HEADERS. BEDDING SHALL BE AS SPECIFIED.

CATCH BASINS & STORM MANHOLES

ALL STORM SEWER CATCH BASINS AND MANHOLES SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 604. PIPE OPENINGS SHALL BE PRECAST INTO ALL CATCH BASINS AND MANHOLES. KNOCKOUT PANELS/SIDES ARE UNACCEPTABLE. CATCH BASINS SHALL BE TYPE CB-2-2-B OR CB-2-3. STORM MANHOLES SHALL BE TYPE MH-3.

CONSTRUCTION LAYOUT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, PLACING AND MAINTAINING CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION OF THE WORK ASSOCIATED WITH THE SITE PACKAGE. BENCH MARKS WILL BE PROVIDED WITHIN AND/OR ADJACENT TO THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE A BENCH CIRCUIT BETWEEN AT LEAST TWO (2) SEPARATE BENCH MARKS WHENEVER ELEVATIONS ARE BEING TRANSFERRED AN/OR SET. ANY DISCREPANCIES OUTSIDE NORMAL SURVEYING STANDARDS/LIMITS WITH THE BENCH MARK ELEVATIONS SHOWN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

EXAMINATION OF SITE

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY EXAMINE THE PROJECT SITE AND ALL ADJACENT AREA(S) AND APPRAISE HIMSELF OF ANY ITEMS AND/OR CONDITIONS THAT COULD AFFECT HIS/HER BID AND/OR ABILITY TO COMPLETE THE PROPOSED IMPROVEMENTS. THIS SITE INSPECTION/EVALUATION SHALL BE COMPLETED PRIOR TO SUBMITTING A PROPOSAL OR BID.

WATER MAINS/SERVICES

WATER MAINS SHALL BE PRESSURE CLASS 350, DUCTILE IRON MEETING AWWA C-151 WITH PUSH ON JOINTS. THE MINIMUM COVER OVER WATER MAINS SHALL BE 4'-0" FROM THE GROUND SURFACE TO THE BARREL OF THE PIPE. THE OUTSIDE SURFACE OF ALL DUCTILE IRON PIPE, FITTINGS, AND APPURTENANCES SHALL BE SHOP COATED WITH EITHER A COAL TAR OR ASPHALT BASE BITUMINOUS MATERIAL. IF THIS COATING MATERIAL IS FOUND TO BE DAMAGED PRIOR TO THE PIPE TRENCH BEING BACKFILLED, THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL APPROVED MATERIAL AS REQUIRED TO REPAIR THE DAMAGES. THE CONTRACTOR SHALL HAVE SUFFICIENT COATING MATERIAL AVAILABLE AT THE JOB SITE PRIOR TO LAYING THE PIPE. THE INTERIOR OF ALL PIPES AND FITTINGS SHALL BE LINED WITH CEMENT MORTAR AND SEAL COATED IN COMPLETE CONFORMANCE WITH AWWA C-104, OR THE LATEST REVISION. FITTINGS SHALL BE RATED FOR 350 PSI WORKING PRESSURE IN ACCORDANCE WITH AWWA C-110. PIPE LENGTHS MAY BE DEFLECTED AT THE JOINT IF REQUIRED, AT ONE-HALF THE DEGREE RECOMMENDED BY THE MANUFACTURER. DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C-651. ALL WATERLINE PRESSURE TESTING SHALL CONFORM TO AWWA C-600. POLYWRAP SHALL BE INSTALLED ON ALL PIPE AND FITTINGS.

WATER MAINS SHALL BE INSTALLED PER ODOT ITEM 603 AS TYPE B OR TYPE C CONDUITS. WATERLINES LOCATED WITHIN THE LIMITS OF OR WITHIN A 1/2 TO 1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL BE INSTALLED AS TYPE B CONDUITS. ALL OTHER WATER MAINS MAY BE INSTALLED AS TYPE C CONDUITS. BEDDING SHALL BE AS SPECIFIED.

ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. SHALL BE SECURED/RESTRAINED USING MECHANICAL JOINT RESTRAINT, MEGALUG OR APPROVED EQUAL. POURED—IN—PLACE CONCRETE THRUST BLOCKS SHALL ALSO BE PROVIDED AT/FOR EACH BEND, FITTING, TEE, DEAD END, ETC. THIS BLOCKING SHALL BE CAREFULLY PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOADING. IN ADDITION TO THE RESTRAINT OF ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC., THE CONTRACTOR SHALL ALSO SECURE/RESTRAIN ALL JOINTS WITHIN 50 LF MINIMUM OF EACH DEAD END, BEND, FITTING, VALVE, TEE, ETC. UTILIZING MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUAL.

THE CONTRACTOR SHALL PROVIDE 18" VERTICAL CLEARANCE BETWEEN PROPOSED WATERLINES AND ANY STORM/SANITARY SERVICES. WHEN 18" CLEARANCE BETWEEN A WATERLINE AND SANITARY SEWER OR STORM SEWER CANNOT BE OBTAINED, THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MAINTAIN TEN (10) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND SANITARY AND/OR STORM SEWERS.

FIRE HYDRANTS SHALL BE PER THE CITY OF MASSILLON STANDARDS/REQUIREMENTS AND CONSUMERS OHIO WATER COMPANY.

TESTING OF UTILITIES

ALL WATERLINES AND SANITARY SEWERS (INCLUDING LATERALS) MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH APPLICABLE STANDARDS (AWWA, ETC.), PER THE OHIO ENVIRONMENTAL PROTECTION AGENCY, AND PER THE REQUIREMENTS OF THE LOCAL AGENCY (TOWNSHIP, CITY, VILLAGE AND/OR COUNTY) HAVING AUTHORITY BEFORE THEY CAN BE ACCEPTED. THIS WILL INCLUDE DISINFECTION AND PRESSURE TESTING OF WATERLINES. SANITARY SEWERS SHALL BE SUBJECTED TO LEAKAGE TESTING WHICH WOULD INCLUDE APPROPRIATE WATER (EXFILTRATION/INFILTRATION) OR LOW PRESSURE AIR TESTING. DEFLECTION TESTING WILL BE REQUIRED OF ALL FLEXIBLE CONDUIT/PIPE (PVC) AND SHALL BE PERFORMED THIRTY (30) DAYS AFTER INSTALLATION OF THE PIPE. DEFLECTION TESTING AND LEAKAGE TESTING MUST BE PERFORMED PERIODICALLY AS WORK PROGRESSES AND AS SOON AS TIME RESTRAINTS ALLOW (DEFLECTION TESTING) AND AT THE DIRECTION OF THE ENGINEER.

ROCK CHANNEL PROTECTION

ROCK CHANNEL PROTECTION SHALL MEET THE REQUIREMENTS OF THE OHIO DEPAR MENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 601. FABRIC FILTER CLOTH SHALL BE PLACED UNDER ALL ROCK CHANNEL PROTECTION IN ACCORDANCE WITH O.D.O.T. ITEM 712.09 GEOTEXILE FABRICS, TYPE B (FILTER BLANKETS FOR ROCK CHANNEL PROTECTION).

STABILIZATION

ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING, AND MULCHING IN ACCORDANCE WITH O.D.O.T. ITEM 659, SEEDING AND MULCHING IMMEDIATELY FOLLOWING THE COMPLETION OF THE DETENTION BASIN CONSTRUCTION.

EARTHWORK

ALL SITE PREPARATION AND. EARTHWORK ACTIVITIES INCLUDING THOSE REQUIRED TO COMPLETE THE PROPER CONSTRUCTION OF THE DETENTION BASIN SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, INCLUDING DIVISION 200 EARTHWORK (WHICH INCLUDES ITEMS 201, 202, 203, 205, 206, AND 207) AND THE RECOMMENDATIONS AND REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER. THIS SHALL INCLUDE ALL REMOVALS, CLEARING AND GRUBBING, TOPSOIL REMOVAL/STRIP, PROOF ROLLING, SUBGRADE PREPARATION, SUITABILITY OF MATERIALS, PERFORMANCE OF ALL EXCAVATION(S), PLACEMENT OF EMBANKMENT AND BACKFILL. COMPACTION, SLOPE STABILITY, CORE TRENCH CONSTRUCTION, AND ALL OTHER RELATED AND/OR NECESSARY OPERATIONS/PROCEDURES. ALL EXCAVATION SHALL BE CONSIDERED AS UNCLASSIFIED EXCAVATION. ALL EARTHWORK ACTIVITY SHALL BE PERFORMED IN THE PRESENCE OF A QUALIFIED GEOTECHNICAL REPRESENTATIVE FURNISHED BY THE OWNER WHO WILL BE RESPONSIBLE TO DETERMINE COMPLIANCE WITH O.D.O.T. SPECIFICATIONS AND/OR THE GEOTECHNICAL RECOMMENDATIONS/REQUIREMENTS. IN CASE OF A CONFLICT BETWEEN THE O.D.O.T. SPECIFICATIONS AND THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS/REQUIREMENTS, THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS/REQUIREMENTS SHALL GOVERN.

COMPACTION REQUIREMENTS WILL VARY THROUGHOUT THE PROJECT SITE DEPENDENT UPON THE INTENDED USE/AREA (BUILDING AREA, ROADWAY, LAWN, ETC.).

DETENTION BASIN SPECIFICATIONS/REQUIREMENTS

SITE PREPARATION

SITE PREPARATION AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 2:1.

AREAS COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE OR REMOVED AS DIRECTED BY THE FINGINFER

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

FARTH FI

MATERIAL — THE FILL MATERIALS SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN, OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND SLOT CUT TRENCH SHALL CONFORM TO THE UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

PLACEMENT — AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN A MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE EMERGENCY SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE FMRANKMENT.

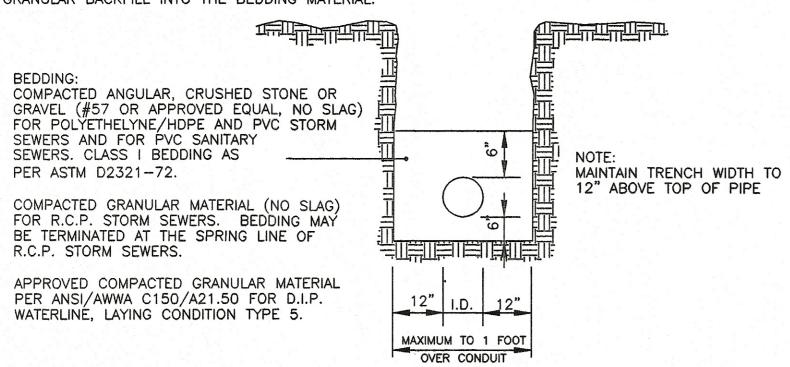
COMPACTION — THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 98% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +/- 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T- 99.

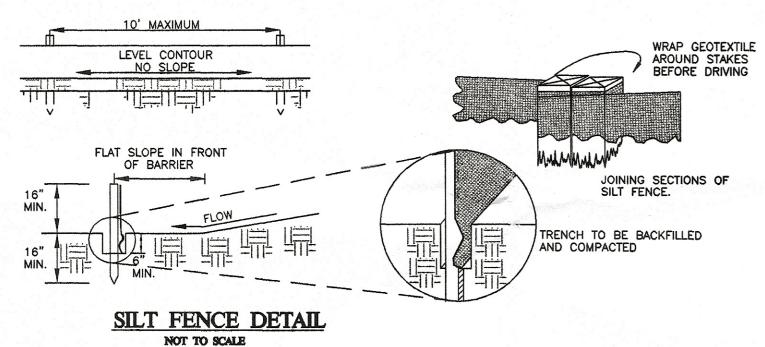
LINCOLN CENTRE III
THE ARENA
MASSILLON, OHIO
NOTES

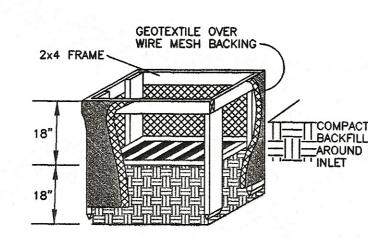
HETTLER ENGINEERING SERVICES
Civil and Construction Consultants
1225 NORTH MAIN STREET, SUITE A
NORTH CANTON, OHIO 44720
(330) 966-1776

IF MATERIAL MEETING THE REQUIREMENTS FOR ODOT TYPE 2 GRANULAR MATERIAL (ODOT 703.11) IS USED FOR BACKFILL OF TYPE B CONDUITS (ABOVE THE REQUIRED BEDDING MATERIAL) THEN THE CONTRACTOR MUST PROVIDE AND INSTALL AN APPROVED GEOTECHNICAL FABRIC BETWEEN THE BEDDING AND THE BACKFILL TO PREVENT MIGRATION OF THE GRANULAR BACKFILL INTO THE BEDDING MATERIAL.

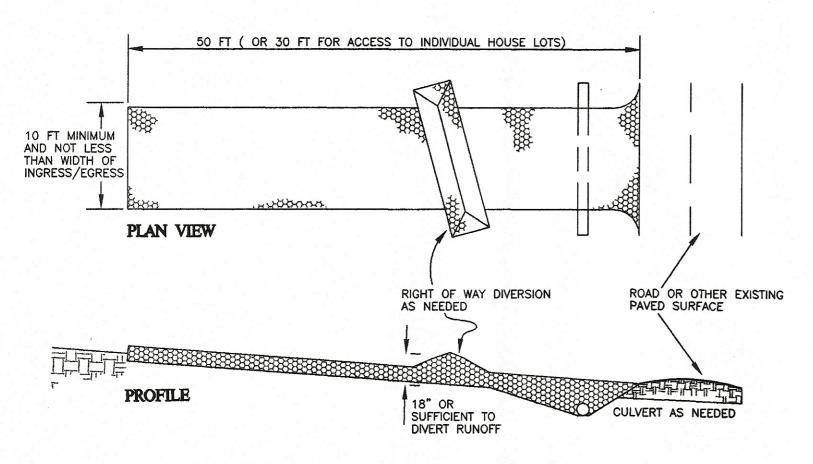


PIPE BEDDING DETAIL NOT TO SCALE

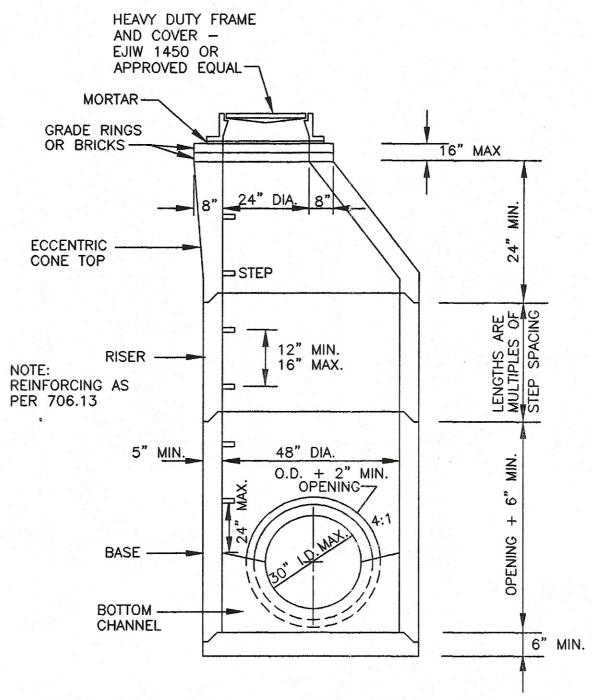




INLET PROTECTION DETAIL NOT TO SCALE

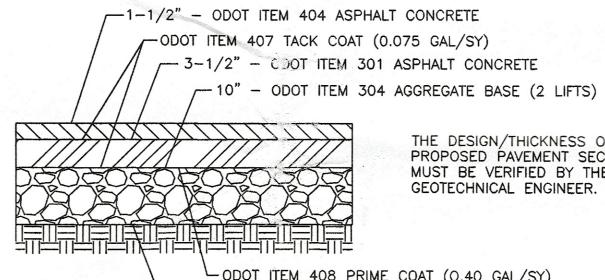


STABILIZED CONSTRUCTION ENTRANCE DETAIL NOT TO SCALE



REINFORCED PRECAST STORM MANHOLE

NOT TO SCALE



THE DESIGN/THICKNESS OF ALL PROPOSED PAVEMENT SECTIONS MUST BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.

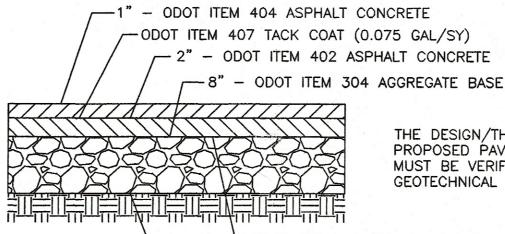
ODOT ITEM 408 PRIME COAT (0.40 GAL/SY) - ODOT ITEM 203.13 COMPACTED SUBGRADE

HEAVY DUTY PAVEMENT SECTION

NOT TO SCALE

UNDERCUT OF UNSUITABLE AREAS (BELOW SUBGRADE) MAY BE NEEDED AS DIRECTED BY THE SITE GEOTECHNICAL ENGINEER. A GEOFABRIC/FILTER FABRIC SHOULD BE UTILIZED IN ALL UNDER CUT AREAS AS DIRECTED BY THE SITE GEOTECHNICAL ENGINEER.

ODOT ITEM 304 — ASPHALT BASE MATERIAL MUST BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

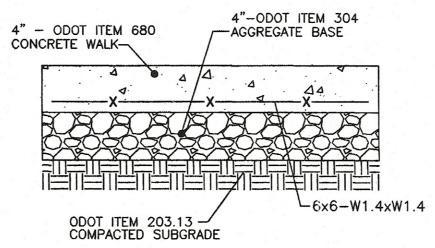


THE DESIGN/THICKNESS OF ALL PROPOSED PAVEMENT SECTIONS MUST BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.

ODOT ITEM 408 PRIME COAT (0.40 GAL/SY) ODOT ITEM 203.13 COMPACTED SUBGRADE

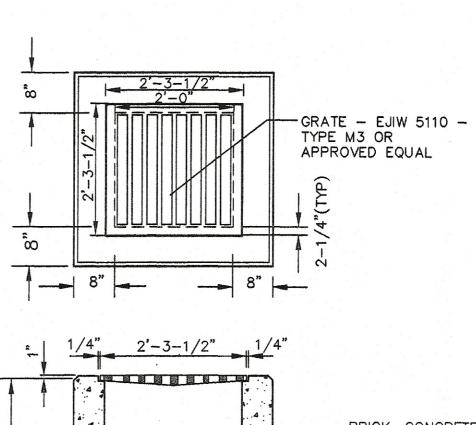
LIGHT DUTY PAVEMENT SECTION

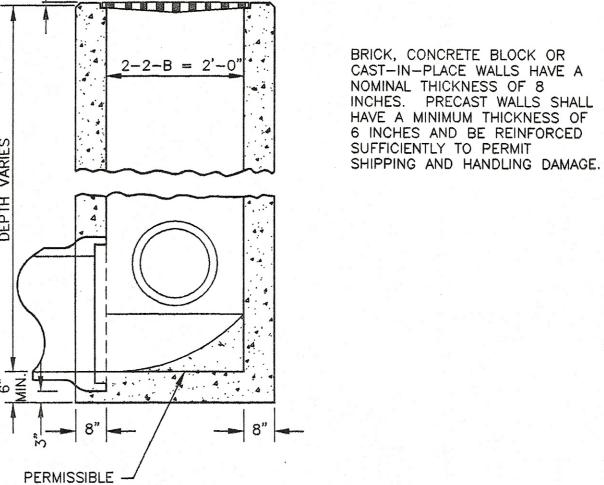
NOT TO SCALE



CONCRETE SIDEWALK SECTION

NOT TO SCALE

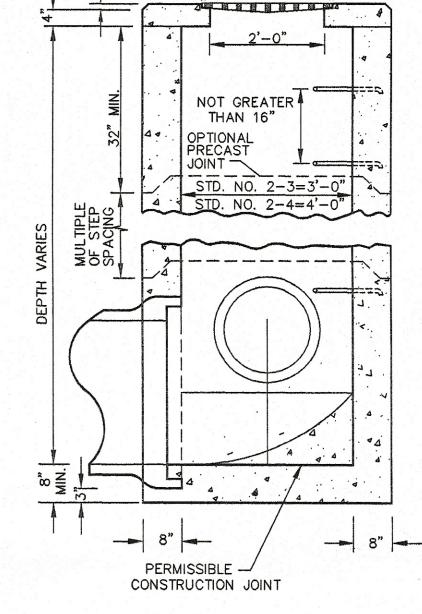




STANDARD NO. 2-2-B CATCH BASIN

CONSTRUCTION JOINT

NOT TO SCALE



PLAN VIEW

/4" 2'-3-1/2" 1/4

STEEL

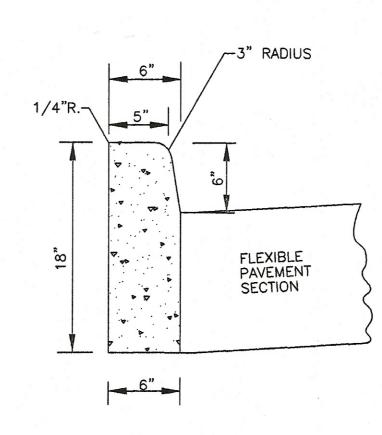
TYPE M3 OR

-GRATE - EJIW 5110

APPROVED EQUAL

STANDARD NO. 2-3 & 2-4 CATCH BASINS

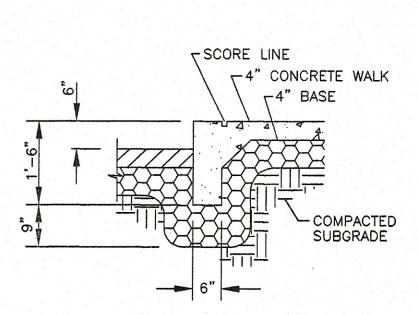
NOT TO SCALE



O.D.O.T. TYPE 6 CONCRETE CURB NOT TO SCALE

2 NO. 4 REBAR-

STANDARD PARKING BUMPER BLOCK



WALK/INTEGRAL CURB NOT TO SCALE

LINCOLN CENTRE III THE ARENA MASSILLON, OHIO **DETAILS**

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(330) 966-1776

