GOWER PARK
RETAINING WALL IMPROVEMENTS
CITY OF SHARONVILLE
HAMILTON COUNTY, OHIO
180690

CITY OF SHARONVILLE OFFICIALS

MAYOR
KEVIN M. HARDMAN

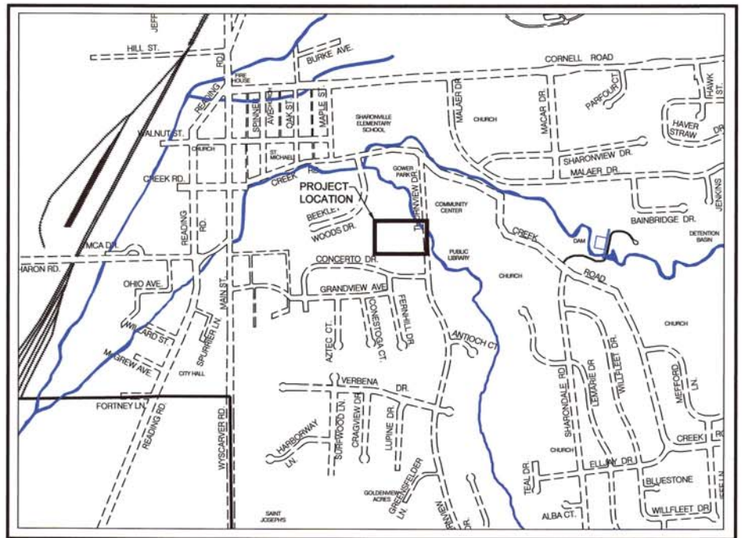
SAFETY SERVICE DIRECTOR
JIM LUKAS

TREASURER
KURT IREY

AUDITOR
ED CUNNINGHAM

LAW DIRECTOR
MARK PIEPMEIER

VILLAGE COUNCIL
VICKI HOPE, PRESIDENT
SHAYOK DAVIS
DAVID KOCHI
ROB TANKERSLY
MIKE WILSON
CHARLES LIPPERT
SUE KNIGHT



VICINITY MAP

INDEX OF SHEETS

ODOT STANDARD DRAWINGS

THE CURRENT EDITION OF THE ODOT STANDARD DRAWINGS ARE HEREBY MADE PART OF THESE PLANS.

PROJECT SPECIFICATIONS

IN GENERAL, THE PROJECT SPECIFICATIONS CONFORM TO THE JANUARY 1, 2016 STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS THERETO. THE PROJECT SPECIFICATIONS, UNDER SEPERATE COVER, PREPARED BY CT CONSULTANTS SHALL GOVERN ALL WORK AND MATERIALS FOR THIS PROJECT.

UNDERGROUND UTILITIES

2 WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
NON-MEMBERS MUST BE CALLED DIRECTLY

STATE OF OHIO
ROBERT F. DREYER
E-44711
REGISTERED PROFESSIONAL ENGINEER

APPROVED FOR CONSTRUCTION BY:

JIM LUKAS, SAFETY SERVICE DIRECTOR — DATE

your trusted advisor consultants engineers architects planners

ROBERT F. DREYER, P.E. #E-44711 — 6/10/19 DATE

your trusted advisor consultants engineers architects planners

NO	REVISION	DATE

ISSUED FOR:	BID SET
ISSUE DATE:	5/23/19
SCALE:	AS SHOWN
DESIGNED BY:	BSUG
DRAWN BY:	BSUG
CHECKED BY:	RDRE

GOWER PARK RETAINING WALL
CITY OF SHARONVILLE
HAMILTON COUNTY, OH

TITLE SHEET

PROJECT NO.	180690
DISCIPLINE	CIVIL
SHEET NAME	TITLE
SHEET	1
OF	6

H:\2018\180690\DWG\SHEETS\C_180690 TITLE SHEET.DWG - TITLE SHEET - 6/10/2019 8:45:09 AM - PATRICK MACIL

GENERAL NOTES

UTILITIES

UTILITIES DATA IS BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANIES AND HAS NOT BEEN VERIFIED BY THE ENGINEER. THE ENGINEER OR THE OWNER IS NOT RESPONSIBLE OR LIABLE FOR DATA SUPPLIED BY OTHERS.

UTILITIES NOT UNDERGROUND, AND PRIVATE SEPTIC SYSTEMS IN SINGLE OR DOUBLE FAMILY DWELLINGS UTILIZED FOR ONLY THAT DWELLING AND NOT CONNECTED TO ANY OTHER SYSTEM ARE NOT INCLUDED ON THE PLAN.

WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT, THE OWNER SHALL NOTIFY ALL UTILITIES OF THE NAME, ADDRESS AND PHONE NUMBER OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE REGISTERED UNDERGROUND UTILITY PROTECTION SERVICE AND NON-MEMBER OWNERS OF THE STARTING DATE AT LEAST TWO WORKING DAYS PRIOR TO STARTING WORK. THE UTILITY SHALL MARK, STAKE OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND FACILITIES WITHIN 48 HOURS OF RECEIVING THE CONTRACTORS NOTICE OF A STARTING DATE. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

DURING CONSTRUCTION, THE CONTRACTOR SHALL REPORT IMMEDIATELY TO THE OWNERS OF THE UNDERGROUND FACILITIES ANY BREAK OR LEAK IN THE FACILITIES, OR ANY DENT, GOUGE, GROOVE OR OTHER DAMAGE. THE CONTRACTOR SHALL NOTIFY NEARBY OCCUPANTS OF ANY EMERGENCY SITUATION THAT MAY ARISE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL UTILITY ACTIVITIES AND SCHEDULES.

UTILITY OWNERSHIP

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ELECTRIC (DISTRIBUTION)	DUKE ELECTRIC (AARON WRIGHT) 2010 DANA AVENUE CINCINNATI, OH 45207 (513) 458-3856
ELECTRIC (TRANSMISSION)	DUKE ELECTRIC (TIM MEYER) 139 E. FOURTH STREET, ROOM 552A INCINNATI, OH 45202 (513) 287-2517
GAS	DUKE ENERGY 39 E. FOURTH STEET ROOM 460-A CINCINNATI, OH 45202 (DENISE GROSS) - (513) 287-1593 (MARK BRANSCUM) - (513) 287-2517
WATER	GREATER CINCINNATI WATER WORKS (JON HUNSEDER) 4747 SPRING GROVE AVENUE CINCINNATI, OH 45232 (513) 591-5056
TELEPHONE (UNDERGROUND)	CINCINNATI BELL TELEPHONE (MARK CONNER) 221 EAST FOURTH STREET, BUILDING 121-900 CINCINNATI, OH 45201 (513) 565-7043
TELEPHONE (AERIAL)	CINCINNATI BELL TELEPHONE (DORIAN JOHNSON) 209 W. 7TH STREET, BUILDING 121-900 CINCINNATI, OH 45202 (513) 566-5120
COMMUNICATION	CENTURYLINK (BRUCE MILLER) 9490 MERIDIAN WAY WEST CHESTER, OHIO 45069 (513) 644-8943
SEWER	METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI (ROB FRANKLIN) 1600 GEST STREET CINCINNATI, OH 45204 (513) 557-7188
CABLE	CHARTER COMMUNICATIONS/SPECTRUM (KENT RIEGER) 10920 KENWOOD ROAD CINCINNATI, OH 45242 (513) 386-5499
STORM	CITY OF SHARONVILLE (JOE KEMPE) 10900 READING ROAD SHARONVILLE, OH 45241 (513) 563-1177

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE CITY OF SHARONVILLE, AND WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

ITEM 201 CLEARING AND GRUBBING, AS PER PLAN

THIS WORK SHALL CONSIST OF CLEARING, GRUBBING, REMOVAL OF ALL TREES AND STUMPS (AS SHOWN ON THE PLANS) AND ALL VEGETATION AND DEBRIS NECESSARY TO CONSTRUCT THE PROPOSED WALL AND ANY REQUIRED GEOGRID. THE WORK SHALL ALSO INCLUDE ANY EXISTING CONCRETE CURB TO BE REMOVED, REMOVAL OF POSTS, ROCKS, LANDSCAPING AND ANY OTHER OBJECTS WHICH THE REMOVAL AND DISPOSAL OF IS DEEMED NECESSARY TO ALLOW FOR THE PROPOSED IMPROVEMENTS TO TAKE PLACE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE BID ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN. A SEPARATE PAY ITEM IS PROVIDED FOR REMOVAL OF THE EXISTING WALL.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCIDENTAL TO THE CONTRACT.

CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS OR YARD DRAINS DISTURBED BY THE PROPOSED WORK SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING TO A STORM SEWER, MANHOLE, CATCH BASIN, AS DIRECTED BY THE ENGINEER.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS WILL BE DETERMINED BY THE FIELD INSPECTOR DURING CONSTRUCTION. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.

CONNECTIONS OF EXISTING CONDUITS

WHERE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

COORDINATION WITH OTHER CONTRACTORS

IN THE EVENT THAT OTHER CONTRACTORS AND/OR UTILITY COMPANIES ARE IN THIS AREA CONCURRENT WITH THIS CONTRACT, THE CONTRACTOR SHALL COORDINATE WORK ACTIVITIES WITH ALL OTHER CONTRACTORS IN THE AREA.

MANHOLES, CATCH BASINS AND INLETS

ALL CASTINGS FOR MANHOLES, CATCH BASINS AND INLETS SHALL CONFORM TO THOSE SPECIFIED IN THE STANDARD CONSTRUCTION DRAWINGS. ALL CASTINGS WHICH MIGHT BE SUBJECT TO VEHICLE TRAFFIC SHALL BE OF THE HEAVY DUTY GRADE. GRATED INLET TOPS SHALL BE PLACED AS SPECIFIED ON THE PLANS.

TOP OF CASTING ELEVATIONS ARE SUBJECT TO FINAL ADJUSTMENTS AS APPROVED BY THE ENGINEER. ALL MANHOLES WITHIN WALK AREA SHALL HAVE A FLAT FLUSH COVER. ALL CASTINGS USED SHALL BE SUBJECT TO THE FINAL APPROVAL OF THE ENGINEER.

ITEM 605, UNDERDRAIN, MISC.: 4" UNDERDRAIN

SEE DETAIL SHEET, AND SPECIFICATIONS PROVIDED IN BID BOOK.

SAW CUTTING EXISTING PAVEMENT

ALL EXISTING PAVEMENT SHALL BE SAW CUT WITH A DIAMOND TIPPED BLADE BEFORE REMOVAL TO OBTAIN A UNIFORM EDGE. THE COST OF SAW CUTTING AND PAVEMENT REMOVAL SHALL BE INCIDENTAL TO ITEM 203, EXCAVATION, UNLESS OTHERWISE NOTED.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER OPERATED CONSTRUCTION TYPE DEVICE SHALL NOT BE OPERATED BETEWEEN THE HOURS OF 10:00 PM AND 7:00 AM MONDAY THRU FRIDAY, & 10:00 PM TO 9:00 AM SATURDAY, SUNDAY, AND LEGAL HOLIDAYS. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ITEM 659, SEEDING AND MULCHING

APPLY SEEDING AND MULCHING TO ALL AREAS OF EXPOSED SOIL WITHIN THE CONSTRUCTION LIMITS AND AREAS COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 441, ASPHALT PARKING LOT REMOVAL AND REPLACEMENT, AS PER PLAN

(CONTINGENCY ITEM) IN ADDITION TO THE SPECIFICATIONS PROVIDED IN THE BID BOOK, THE FOLLOWING SHALL APPLY:

1. THE ABOVE-NOTED BID ITEMS ARE ALL-INCLUSIVE COSTS FOR THE COMPLETE REMOVAL AND CONSTRUCTION OF THE ASPHALT PARKING LOT AS DETERMINED BY THE ENGINEER IN THE FIELD. THIS SHALL INCLUDE THE COST OF REMOVAL AND HAULING OF ALL MATERIALS OFF SITE.
2. SHOULD THE PROVIDED TYPICAL SECTION NOT MATCH THE EXISTING PAVEMENT SECTION, ADDITIONAL AGGREGATE BASE AS REQUIRED TO MATCH THE EXISTING PAVEMENT SECTION SHOULD BE PROVIDED WITH THE COST INCIDENTAL TO THIS PAY ITEM.

ITEM SPC, REMOVE AND RESET EXISTING BUMPER BLOCK

(CONTINGENCY ITEM) THIS EACH (EA) ITEM IS PROVIDED IF THE WALL CONSTRUCTION IMPACTS EXISTING BUMPER BLOCKS. BUMPER BLOCKS SHALL BE MOVED PRIOR TO THE REMOVAL OF THE EXISTING WALL, AND RESET IN THE SAME LOCATION AFTER THE MODULAR WALL IS CONSTRUCTED.

ITEM SPC, REMOVE EXISTING RETAINING WALL & WALL TIES

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TIMBER WALL, WALL TIES, METAL RODS AND ALL OTHER MATERIALS ASSOCIATED WITH THE EXISTING TIMBER WALL.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE FIELD INSPECTOR'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

IN CASE OF IMPACT TO EXISTING LIGHTING CONDUIT AND WIRING, THE FOLLOWING QUANTITIES ARE INCLUDED TO BE USED AT THE DISCRETION OF THE CITY:

625E00450 EA	CONNECTION, FUSED PULL APART
625E00460 EA	CONNECTION, UNFUSED PULL APART
625E23302 FT	NO. 6 AWG 2400 VOLT DISTRIBUTION CABLE
625E25408 FT	CONDUIT, 2", 725.051
625E29000 FT	TRENCH

your trusted advisor consultants
engineers
architects
planners

NO	REVISION	DATE

ISSUED FOR: BID SET
ISSUE DATE: 5/23/19
SCALE: AS SHOWN
DESIGNED BY: BSUG
DRAWN BY: BSUG
CHECKED BY: RDRE

GOWER PARK RETAINING WALL
CITY OF SHARONVILLE
HAMILTON COUNTY, OH

GENERAL NOTES

PROJECT NO. 180690
DISCIPLINE: CIVIL
SHEET NAME: S2
SHEET 2 OF 6

WALL NOTES:

ITEM SPECIAL - STRUCTURE, MISC.: MODULAR RETAINING WALL, EXTENSION 530E00600.

1.0 DESCRIPTION

THIS WORK SHALL CONSISTS OF FURNISHING INTERNAL STABILITIY DESIGN COMPUTATIONS, SHOP DRAWINGS, MATERIALS, EQUIPMENT AND LABOR TO CONSTRUCT A SEGMENTAL BLOCK RETAINING WALL TO THE LIMITS SHOWN IN THE PLANS.

THE WALL SYSTEM SHALL CONSIST OF A LEVELING PAD, PRECAST CONCRETE BLOCKS (DRY-CAST UNITS), SELECT GRANULAR BACKFILL AND IF REQUIRED BY DESIGN, GEOGRID SOIL REINFORCEMENT.

WALLS SHALL BE GEOGRID REINFORCED DESIGNS. THE WALL MANUFACTURER SHALL BE RESPONSIBLE FOR INTERNAL STABILITY OF EACH WALL DESIGN IN ACCORDANCE WITH THESE SPECIFICATIONS. IF USED, GEOGRID REINFORCEMENT MUST STAY WITHIN PROJECT RIGHT-OF-WAY AND BE COORDINATED WITH OTHER DESIGN ELEMENTS OF THE PROJECT TO AVOID CONFLICTS. ADDITIONAL COMPENSATION WILL NOT BE CONSIDERED IN THE EVENT THE WALL DESIGN CONFLICTS WITH OTHER PLAN ELEMENTS.

WALL BLOCK UNITS SHALL HAVE A MINIMUM BATTER AND BLOCK SPACING, TO PROHIBIT GROWTH OF VEGETATION THROUGH THE FACE OF THE WALL. THE MAXIMUM BATTER SHALL BE 8 DEGREES.

FACING UNITS SHALL HAVE THE TEXTURE AND COLOR AS OUTLINED IN SECT. 4.0 MATERIALS OF THE PROJECT PLANS.

THE SEGMENTAL WALL DESIGN SHALL BE ACCORDING TO THE MOST CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, GEOTECHNICAL ENGINEERING CIRCULAR NO. 11 - DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SLOPES (FHWA-NHI-10-024) AND THE MOST CURRENT ODOT BRIDGE DESIGN MANUAL. THE WALL SUPPLIER SHALL BE RESPONSIBLE FOR ALL INTERNAL STABILITY ASPECTS OF THE WALL DESIGN.

INTERNAL STABILITY DESIGN SHALL INSURE THAT ADEQUATE CAPACITY-DEMAND RATIOS AGAINST OVERTURNING AND SLIDING ARE PRESENT AT EACH LEVEL OF BLOCK. IF REQUIRED BY DESIGN, GEOGRID REINFORCEMENT SHALL BE UTILIZED AND THE LOADING AT THE BLOCK/GEOGRID REINFORCEMENT CONNECTION AS WELL AS THE FAILURE SURFACE MUST BE INDICATED. THE CALCULATIONS TO DETERMINE THE ALLOWABLE LOAD OF THE GEOGRID REINFORCEMENT AND THE FACTOR OF SAFETY AGAINST PULLOUT SHALL ALSO BE INCLUDED. EXTERNAL LOADS SUCH AS THOSE APPLIED FROM TRAFFIC, SLOPING SURCHARGE, ETC., SHALL BE ACCOUNTED FOR IN THE INTERNAL STABILITY DESIGN. THE PRESENCE OF ALL APPURTENANCES BEHIND, IN FRONT OF, MOUNTED UPON, OR PASSING THROUGH THE WALL VOLUME SUCH AS DRAINAGE STRUCTURES, UTILITIES, STRUCTURE FOUNDATION ELEMENTS, OR OTHER ITEMS SHALL BE ACCOUNTED FOR IN THE INTERNAL STABILITY DESIGN OF THE WALL.

A. THE DESIGN SHALL MEET ALL PLAN REQUIREMENTS. THE RECOMMENDATIONS OF THE WALL SYSTEM SUPPLIERS SHALL NOT OVERRIDE THE MINIMUM PERFORMANCE REQUIREMENTS SHOWN HEREIN.
B. ONE HUNDRED PERCENT OF THE GEOGRID REINFORCEMENT DESIGNED AND PLACED IN THE REINFORCED SOIL ZONE SHALL EXTEND TO AND BE CONNECTED TO THE CONCRETE BLOCKS BY AN ACCEPTABLE METHOD.
C. THE CONTRACTOR SHALL INCORPORATE MEANS OF PLACING GEOGRID AROUND OBSTRUCTIONS IN THE REINFORCED SOIL ZONE. THE PROPOSED METHOD OF GEOGRID INSTALLATION AROUND OBSTRUCTIONS SHALL BE OUTLINED CLEARLY IN THE SHOP DRAWINGS.
D. THE COEFFICIENT OF LATERAL EARTH PRESSURE, KA, AND THE APPLICATION OF THE LATERAL FORCES TO THE REINFORCED SOIL ZONE FOR EXTERNAL STABILITY ANALYSIS SHALL BE COMPUTED USING THE RANKINE METHOD.
E. FOR SELECT GRANULAR BACKFILL, THE VALUE FOR THE ANGLE OF INTERNAL FRICTION FOR DESIGN PURPOSES SHALL BE AT LEAST 34 DEGREES. THE ANGLE OF INTERNAL FRICTION OF THE BACKFILL BEHIND MECHANICALLY STABILIZED EARTH MASS AND THE FOUNDATION SOILS, UNLESS OTHERWISE NOTED, SHALL ASSUME TO BE 30 DEGREES.
F. THE ALLOWABLE REINFORCEMENT TENSION FOR POLYMERIC (EXTENSIBLE) GEOGRID REINFORCEMENT SHALL BE BASED ON AASHTO SECTION 11.10 OR 11.11.
G. THE DESIGN LIFE OF THE WALL SHALL BE 75 YEARS.
H. THE MINIMUM DEPTH OF EMBEDMENT, MEASURED FROM THE FINISHED GROUND LINE TO THE TOP OF LEVELING PAD SHALL BE AT LEAST 1.0 FEET.
I. THE MINIMUM THICKNESS OF THE LEVELING PAD SHALL BE AT LEAST 6 INCHES.
J. GEOGRID REINFORCEMENT, SHALL BE A MINIMUM OF 8 FT. IN LENGTH AS MEASURED FROM THE FACE OF THE SEGMENTAL BLOCK WALL FOR ALL WALLS GREATER THAN 5 FT IN HEIGHT. WALLS UNDER 5 FT. IN HEIGHT MAY UTILIZE A GEOGRID LENGTH OF 70% OF THE WALL HEIGHT IF SUPPORTED BY DESIGN CALCULATIONS.
K. THE WALL HEIGHT FOR DESIGN PURPOSES SHALL BE MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF THE WALL. WHEN THE WALL IS RETAINING A SLOPING SURCHARGE THEN THE WALL HEIGHT SHALL BE DEFINED AS THE EQUIVALENT DESIGN HEIGHT (H) AS SHOWN IN AASHTO 11.10.
L. THE WALL SYSTEM SHALL ACCOMMODATE UP TO ONE PERCENT DIFFERENTIAL SETTLEMENT IN THE LONGITUDINAL DIRECTION.

3.0 SUBMITTALS

THE WALL SUPPLIER SHALL SUBMIT DOUBLE STAMPED DESIGN COMPUTATIONS AND DOUBLE STAMPED SCALED SHOP DRAWINGS TO THE ENGINEER AT LEAST 45 DAYS PRIOR TO COMMENCEMENT OF WORK. NO WORK OR ORDERING OF MATERIALS FOR THE STRUCTURE SHALL BE DONE BY THE CONTRACTOR UNTIL THE SUBMITTAL HAS BEEN ACCEPTED IN WRITING BY THE ENGINEER. THE SUBMITTAL TO THE ENGINEER SHALL INCLUDE TWO HARD COPIES AND ONE ELECTRONIC COPY IN PDF FORMAT. THE SHOP DRAWINGS SHALL BE DOUBLE STAMPED BY OHIO PROFESSIONAL ENGINEERS AND SHALL INCLUDE ALL DETAILS, DIMENSIONS, QUANTITIES, AND CROSS SECTIONS NECESSARY TO CONSTRUCT THE WALL AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS.

A. PLAN, ELEVATION, AND CROSS SECTION SHEET(S) FOR EACH WALL SHOWING THE FOLLOWING:

1. A PLAN VIEW OF THE WALL INDICATING THE OFFSETS FROM THE CONSTRUCTION CENTERLINE TO THE FIRST COURSE OF BLOCKS AT ALL CHANGES IN HORIZONTAL ALIGNMENT. THESE SHALL BE CALCULATED USING THE OFFSETS TO THE FRONT FACE OF THE BLOCK SHOWN ON THE CONTRACT PLANS AND THE SUPPLIERS PROPOSED WALL BATTER. THE PLAN VIEW SHALL INDICATE BOTTOM (AND TOP COURSE OF BLOCK WHEN BATTERED), THE EXCAVATION AND SELECT GRANULAR BACKFILL LIMITS AS WELL AS ANY GEOGRID REINFORCEMENT REQUIRED BY THE DESIGN. THE CENTERLINE OF ANY DRAINAGE STRUCTURE OR PIPE BEHIND OR PASSING THROUGH/UNDER THE WALL SHALL ALSO BE SHOWN.
2. AN ELEVATION VIEW OF THE WALL, INDICATING THE ELEVATION AND ALL STEPS IN THE TOP COURSE OF BLOCKS ALONG THE LENGTH OF THE WALL. THE TOP OF THESE BLOCKS SHALL BE AT OR ABOVE THE THEORETICAL TOP OF BLOCK LINE SHOWN ON THE CONTRACT PLANS. THIS VIEW SHALL ALSO SHOW THE STEPS AND PROPOSED TOP OF LEVELING PAD ELEVATIONS AS WELL AS THE FINISHED GRADE LINE AT THE WALL FACE SPECIFIED ON THE CONTRACT PLANS. THESE LEVELING PAD ELEVATIONS SHALL BE LOCATED AT OR BELOW THE THEORETICAL TOP OF LEVELING LINE SHOWN ON THE CONTRACT PLANS. THE LOCATION, SIZE, AND LENGTH OF ANY SOIL REINFORCING CONNECTED TO THE BLOCKS SHALL BE INDICATED.
3. TYPICAL CROSS SECTION(S) SHOWING THE LIMITS OF THE SELECT GRANULAR BACKFILL, GEOGRID REINFORCEMENT IF USED IN THE DESIGN, THE PROPOSED EXCAVATION, TEMPORARY CUT SLOPES, AND THE ELEVATION RELATIONSHIP BETWEEN EXISTING GROUND CONDITIONS AND PROPOSED GRADES SHALL BE INDICATED.
4. ALL GENERAL NOTES REQUIRED FOR CONSTRUCTING THE WALL.

B. ALL DETAILS FOR THE LEVELING PADS, INCLUDING THE STEPS, SHALL BE SHOWN. THE BOTTOM OF THE LEVELING PAD SHALL BE AT LEAST 1.0 FT. BELOW THE FINISHED GRADE IN FRONT OF THE WALL OR THE MINIMUM DEPTH REQUIRED BY THE BLOCK MANUFACTURER, WHICHEVER IS GREATER. THE MINIMUM LEVELING PAD THICKNESS SHALL BE 6 IN.
C. CAP BLOCKS SHALL BE USED TO COVER THE TOP OF THE STANDARD BLOCK UNITS. THE TOP COURSE OF BLOCKS AND CAP BLOCKS SHALL BE STEPPED TO SATISFY THE TOP OF BLOCK LINE SHOWN ON THE CONTRACT PLANS.
D. ALL DETAILS OF THE BLOCK AND GEOGRID REINFORCEMENT PLACEMENT AROUND ALL APPURTENANCES LOCATED BEHIND, ON TOP OF, OR PASSING THROUGH THE WALL SHALL BE CLEARLY INDICATED. ANY MODIFICATIONS TO THE DESIGN OF THESE APPURTENANCES TO ACCOMMODATE A PARTICULAR DESIGN ARRANGEMENT SHALL ALSO BE SUBMITTED.
E. ALL BLOCK TYPES (STANDARD, CAP, CORNER, AND RADIUS TURNING BLOCKS) SHALL BE DETAILED SHOWING ALL DIMENSIONS.
F. ALL BLOCKS SHALL HAVE ALIGNMENT/CONNECTION DEVICES SUCH AS SHEAR KEYS, LEADING/TRAILING LIPS, OR PINS. THE DETAILS FOR THE CONNECTION DEVICES BETWEEN ADJACENT BLOCKS AND THE BLOCK TO SOIL REINFORCEMENT SHALL BE SHOWN. THE BLOCK SET BACK OR FACE BATTER SHALL BE LIMITED TO 20 DEGREES FROM VERTICAL, UNLESS OTHERWISE SHOWN BY THE PLANS.

4.0 MATERIALS

THE PROPOSED SEGMENTAL BLOCK WALL SHALL BE COMPRISED OF PAVERSTONE RETANI ROCKFACE LARGE R812 OR EQUAL. COLOR SHALL BE EARTH BLEND OR EQUAL.

WALL SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW TO THE ENGINEER.

REGARDING COLOR, THE CITY OF SHARONVILLE HAS EXHIBITS DEPICTING THE COLOR OF THE SEGMENTAL CONCRETE BLOCK RETAINING WALL WHICH ARE LOCATED ON FIELDS ERTEL ROAD BETWEEN ROUTE 42 & REED HARTMAN HIGHWAY.

FOLLOWING SHOP DRAWING ACCEPTANCE, PROVIDE A 5 FT. X 5 FT. MOCK-UP OF THE PROPOSED WALL BLOCK SYSTEM 30 DAYS PRIOR TO CONSTRUCTION FOR ENGINEER REVIEW AND ACCEPTANCE. THE BLOCKS IN THE MOCK-UP CAN BE RE-USED AS PRODUCTION BLOCKS PROVIDED THE BLOCKS ARE NOT DAMAGED.

THE MATERIALS SHALL MEET THE FOLLOWING REQUIREMENTS:

A. DRY-CAST CONCRETE BLOCK:
DRY-CAST CONCRETE BLOCK PROPOSED FOR USE SHALL BE PRECAST AND PRODUCED ACCORDING THE REQUIREMENTS OF ASTM C1372 EXCEPT AS FOLLOWS:
1. FLY ASH SHALL BE ACCORDING TO 711.13.
2. GROUND GRANULATED BLAST-FURNACE SLAG SHALL BE ACCORDING TO 711.11.
3. AGGREGATE SHALL BE ACCORDING TO 703.02 AND 703.13, WITH THE EXCEPTION OF GRADATION.
4. TESTING FOR FREEZE-THAW DURABILITY WILL NOT BE REQUIRED. HOWEVER, UNSATISFACTORY FIELD PERFORMANCE AS DETERMINED BY THE DEPARTMENT WILL BE CAUSE TO PROHIBIT THE USE OF THE BLOCK ON DEPARTMENT PROJECTS.

B. SELECT GRANULAR BACKFILL:
THE SELECT GRANULAR BACKFILL (SGB), DEFINED AS THE MATERIAL PLACED IN THE REINFORCED ZONE BEHIND THE WALL. FOR GRAVITY SEGMENTAL BLOCK WALLS, SGB SHALL BE UTILIZED TO BACKFILL TO GRADE WITHIN THE ZONE DEFINED BY THE EXCAVATION LIMITS ILLUSTRATED IN THE PROJECT PLANS. FURNISH SGB CONFORMING TO 703.17, AGGREGATE MATERIALS FOR ITEM 304, OR 703.11, STRUCTURAL BACKFILL, TYPE 2 AND THE REQUIREMENTS LISTED BELOW:
1. DO NOT USE SLAG MATERIALS OR RECYCLED PORTLAND CEMENT CONCRETE.
2. ENSURE THAT THE SGB MATERIAL HAS AN INTERNAL FRICTION ANGLE EQUAL TO OR GREATER THAN 34 DEGREES WHEN TESTING ACCORDING TO AASHTO T 236 AND THE FOLLOWING REQUIREMENTS:
   i. OBTAIN A TEST SAMPLE FROM THE PORTION OF THE SGB MATERIAL WHICH PASSES THE NO.10 SIEVE.
   ii. DETERMINE THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT OF THE TEST SAMPLE ACCORDING TO AASHTO T99, METHOD A.
   iii. COMPACT THE SAMPLE FOR DIRECT SHEAR TESTING TO 98 PERCENT OF THE MAXIMUM DRY DENSITY AND WITHIN ONE PERCENT OF THE OPTIMUM MOISTURE CONTENT.
   iv. PERFORM THE DIRECT SHEAR TEST THREE TIMES AT NORMAL STRESSES OF 10, 20 AND 40 POUNDS PER SQUARE INCH (70, 140 AND 280 KPA).
   v. PLOT THE MAXIMUM SHEAR STRESS VERSUS THE NORMAL STRESS FOR EACH TEST. DRAW A STRAIGHT LINE THAT IS BEST FIT TO THE THREE POINTS USING THE LEAST-SQUARES METHOD. DETERMINE THE FRICTION ANGLE BY MEASURING THE ANGLE OF THE BEST FIT LINE FROM THE HORIZONTAL. IF THE INTERNAL FRICTION ANGLE IS LESS THAN 34 DEGREES AND THE SGB HAS A SIGNIFICANT AMOUNT OF MATERIAL RETAINED ON THE NO. 10 SIEVE, THE CONTRACTOR MAY SUBMIT AN ALTERNATE SHEAR TEST PROCEDURE THAT INCLUDES MATERIAL LARGER THAN THE NO. 10 SIEVE IN THE TEST SAMPLE.
   vi. THE AASHTO T 296 TEST WITH PORE PRESSURE MEASUREMENT MAY BE USED IN LIEU OF AASHTO T 236. IF THE VENDOR'S DESIGN USES A FRICTION ANGLE HIGHER THAN 34 DEGREES, AS INDICATED ON THE APPROVED SHOP DRAWINGS, THIS HIGHER VALUE SHALL BE TAKEN AS THE MINIMUM REQUIRED.
   vii. WHEN GEOSYNTHETIC REINFORCING IS USED, THE SGB PH SHALL BE 4.5 TO 9.0 ACCORDING TO AASHTO T 289.
   viii. AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE INTERNAL FRICTION ANGLE AND PH TO SHOW THE SELECT FILL MATERIAL MEETS THE SPECIFICATION REQUIREMENTS. HOWEVER, THE PH WILL BE REQUIRED ONLY WHEN GEOSYNTHETIC REINFORCING IS USED. ALL TEST RESULTS SHALL NOT BE OLDER THAN 6 MONTHS.
   ix. WHEN A FINE AGGREGATE IS SELECTED, THE REAR OF ALL SEGMENTAL BLOCK JOINTS SHALL BE COVERED BY A NON-WOVEN NEEDLE PUNCH GEOTEXTILE FILTER MATERIAL ACCORDING TO ARTICLE 1080.05 OF THE CMS AND SHALL HAVE A MINIMUM PERMEABILITY ACCORDING TO ASTM D4491 OF 0.008 CM/SEC. ALL FABRIC OVERLAPS SHALL BE 6 IN. (150 MM) AND NON-SEWN, AS AN ALTERNATIVE TO THE GEOTEXTILE, A COARSE AGGREGATE SHALL BE PLACED AGAINST THE BACK FACE OF THE BLOCKS TO CREATE A MINIMUM 12 IN. (300 MM) WIDE CONTINUOUS GRADATION FILTER TO PREVENT THE FINE SGB MATERIAL FROM PASSING THROUGH THE BLOCK JOINTS.

C. UNIT FILL:
UNIT FILL WITHIN HOLLOW SEGMENTAL RETAINING WALL BLOCKS SHALL BE COMPRISED OF NO. 57 STONE. THE NO. 57 STONE SHALL BE NATURAL CRUSHED CARBONATE STONE. SLAG, RECYCLED ASPHALT PAVEMENT AND RECYCLED CONCRETE ARE PROHIBITED FOR USE AS UNIT FILL.

D. DRAINAGE MATERIAL:
FURNISH BEDDING AND BACKFILL FOR NON-PERFORATED PIPE CONSISTING OF NATURAL SAND, GRAVEL, OR SAND MANUFACTURED FROM STONE CONFORMING TO 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A 3/4 INCH (19.0 MM) SIEVE.

FOR PERFORATED PIPE INSTALLED WITHIN THE SGB, THE CONTRACTOR MAY FURNISH FABRIC-WRAPPED PERFORATED PIPE INSTEAD OF WRAPPING FILTER FABRIC AROUND THE PERFORATED PIPE IN THE FIELD. THE FABRIC WRAPPED PERFORATED PIPE MUST COME FROM THE SUPPLIER WITH THE FILTER FABRIC COMPLETELY SURROUNDING THE PIPE AND SECURELY ATTACHED TO THE PIPE. ENSURE THAT THE PIPE AND FILTER FABRIC MEET THE ABOVE REQUIREMENTS. THE DEPARTMENT WILL ACCEPT CERTIFIED TEST DATA FOR THE FILTER FABRIC ON FABRIC-WRAPPED PERFORATED PIPE IN PLACE OF NTPEP TEST DATA.

E. LEVELING PAD
THE LEVELING PAD SHALL BE CONSTRUCTED TO THE LINES AND GRADES ILLUSTRATED IN THE PLANS. THE LEVEL PAD SHALL CONSIST OF ODOT 304 MATERIAL AND SHALL CONSIST OF CRUSHED CARBONATE STONE. SLAG, RECYCLED ASPHALT PAVEMENT AND RECYCLED CONCRETE ARE PROHIBITED FOR USE IN THE LEVELING PAD.

F. NATURAL SOIL
FURNISH A-4A, A-6A, A-6B OR A-7-6 NATURAL SOIL CONFORMING TO THE REQUIREMENTS OF 203.02I. PLACE A MINIMUM OF 12 INCHES OF NATURAL SOIL OVER THE SGB ONCE THE CAP BLOCKS HAVE BEEN INSTALLED. PLACE THE NATURAL SOIL IN A MAXIMUM 6 INCH LOOSE LIFT AND COMPACT TO 98% OF STANDARD PROCTOR MAXIMUM DRY DENSITY.

your trusted advisor — consultants
engineers
architects
planners

NO	REVISION	DATE

ISSUED FOR: BID SET
ISSUE DATE: 5/23/19
SCALE: AS SHOWN
DESIGNED BY: BSUG
DRAWN BY: BSUG
CHECKED BY: RDRE

GOWER PARK RETAINING WALL
CITY OF SHARONVILLE
HAMILTON COUNTY, OH

RETAINING WALL NOTES

PROJECT NO.
180690
DISCIPLINE
CIVIL
SHEET NAME
S3
SHEET 3 OF 6

ITEM SPECIAL - STRUCTURE, MISC.: MODULAR RETAINING WALL, EXTENSION 530E00600 (CONT'D.)

G. GEOGRID REINFORCEMENT

IF GEOGRID REINFORCEMENT IS REQUIRED BY THE ACCEPTED DESIGN, THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S CERTIFICATION FOR THE GEOGRID REINFORCEMENT PROPERTIES TO DEMONSTRATE THE REINFORCEMENT PROPERTIES MEET OR EXCEED THE VALUES UTILIZED IN THE DESIGN CALCULATIONS. THE GEOGRID REINFORCEMENT SHALL BE MANUFACTURED FROM HIGH DENSITY POLYETHYLENE (HDPE) UNIAXIAL OR POLYPROPYLENE BIAXIAL RESIGNS OR HIGH TENACITY POLYESTER FIBERS WITH A PVC COATING. THE GEOGRID SHALL BE STORED BETWEEN -20 AND 140 DEGREES FAHRENHEIT. THE FOLLOWING STANDARDS SHALL BE USED IN DETERMINING AND DEMONSTRATING THE GEOGRID REINFORCEMENT CAPACITIES.

1. ASTM D638 TEST METHOD FOR TENSILE PROPERTIES OF PLASTIC
2. ASTM D1248 SPECIFICATION FOR POLYETHYLENE PLASTICS MOLDING AND EXTRUSION MATERIALS
3. ASTM D4218 TEST METHOD FOR CARBON BLACK CONTENT IN POLYETHYLENE COMPOUNDS
4. ASTM D5262 TEST METHOD FOR EVALUATING THE UNCONFINED TENSION CREEP BEHAVIOR OF GEOSYNTHETICS
5. GG1-STANDARD TEST METHOD FOR GEOGRID RIB TENSILE STRENGTH
6. GG2-STANDARD TEST METHOD FOR GEOGRID JUNCTION STRENGTH
7. GG4-STANDARD PRACTICE FOR DETERMINATION OF THE LONG TERM DESIGN STRENGTH OF GEOGRID
8. GG5-STANDARD PRACTICE FOR EVALUATING GEOGRID PULLOUT BEHAVIOR

5.0 CONSTRUCTION

5.1 BLOCK DAMAGE

BLOCKS MAY BE REJECTED FOR FAILURE TO MEET ANY OF THE REQUIREMENTS SPECIFIED ABOVE. IN ADDITION, ANY OR ALL OF THE FOLLOWING DEFECTS MAY BE SUFFICIENT CAUSE FOR REJECTIONS:

1. DEFECTS THAT INDICATE IMPERFECT MOLDING.
2. DEFECTS IN THE SPLITTING OPERATION, WHICH RESULTS IN INCOMPLETE FRACTURE OF THE UNIT'S FACE.
3. CRACKS OF DEFECTS THAT WILL IMPAIR THE PLACEMENT OF THE UNIT.
4. DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, SUCH AS BROKEN OR CHIPPED CONCRETE.
5. STAINED FORM FACE, DUE TO EXCESS FORM OIL OR OTHER CONTAMINATIONS.
6. SIGNS OF AGGREGATE SEGREGATION.
7. BROKEN OR CRACKED CORNERS.
8. INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

THE ENGINEER WILL DETERMINE IF AN ATTEMPT CAN BE MADE TO REPAIR THE DEFECTIVE BLOCK. THE CONTRACTOR OR THE SUPPLIER SHALL MAKE THE REPAIR TO THE SATISFACTION OF THE ENGINEER.

5.2 HANDLING, STORAGE, AND SHIPPING

ALL BLOCKS SHALL BE HANDLED, STORED, AND SHIPPED IN SUCH A MANNER AS TO AVOID CRACKING AND CHIPPING. DO NOT PLACED CHIPPED OR CRACKED BLOCKS WITH THE RETAINING STRUCTURE. DAMAGED BLOCKS WILL BE REJECTED BY THE DEPARTMENT.

5.3 WALL EXCAVATION

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH CMS 503 EXCEPT THAT THE LIMITS OF EXCAVATION SHALL BE AS SHOWN IN THE PLANS. EXCAVATION FOR THE RETAINING WALL IS UNCLASSIFIED AND MAY INCLUDE ROCK AND/OR SHALE.

5.4 FOUNDATION PREPARATION

THE FOUNDATION FOR THE STRUCTURE SHALL BE GRADED LEVEL FOR A WIDTH EQUAL TO OR EXCEEDING THE LENGTH OF REINFORCING GEOGRID OR AS SHOWN ON THE PLANS. PRIOR TO WALL CONSTRUCTION, THE FOUNDATION, IF NOT IN ROCK, SHALL BE LEVELED AND FINISHED WITH A VIBRATORY COMPACTOR. ANY FOUNDATION SOILS FOUND TO BE UNSUITABLE SHALL BE REMOVED AND REPLACED, AS DIRECTED BY THE ENGINEER. REMOVAL OF THE UNSUITABLE SOILS SHALL BE PAID AS ADDITIONAL WORK PER CMS 109, UNLESS SPECIFIED IN THE PLANS. PERFORM SUBGRADE COMPACTION PER 204.03 ON THE ACROSS THE ENTIRE WALL BASE, INCLUDING THE LEVELING PAD AREA AND THE ENTIRE REINFORCED ZONE.

5.5 LEVELING PAD CONSTRUCTION

THE LEVELING PAD SHALL BE PLACED TO ACHIEVE A 6" COMPACTED THICKNESS. THE LEVELING PAD SHALL BE COMPACTED USING A VIBRATORY PLATE COMPACTOR WITH A MINIMUM OF 4 PASSES. ADJUST THE PASSES OF THE COMPACTOR AS NEEDED TO PROVIDE A STABLE, NON-YIELDING SURFACE. THE LEVELING PAD MATERIAL SHALL BE PLACED WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT. DENSITY TESTING WILL NOT BE PERFORMED IN THE LEVELING PAD AREA.

5.5 WALL ERECTION

WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS PROCEDURES AND SPECIFICATIONS. A COPY OF THE MANUFACTURERS INSTALLATION PROCEDURES SHALL BE SUPPLIED TO THE DEPARTMENT WITH THE SHOP DRAWINGS.

5.6 SELECT GRANULAR BACKFILL MATERIAL PLACEMENT

SELECT GRANULAR BACKFILL (SGB) MATERIAL PLACEMENT SHALL CLOSELY FOLLOW THE PLACEMENT OF THE SEGMENTAL CONCRETE BLOCKS. AT NO TIME SHALL THERE BE MORE THAN TWO COURSES OF SEGMENTAL BLOCKS ABOVE THE LEVEL OF THE SGB MATERIAL. AT EACH GEOGRID LEVEL, THE SGB MATERIAL SHALL BE ROUGHLY LEVELED AND COMPACTED BEFORE PLACING THE GEOGRID. THE MAXIMUM SGB LIFT THICKNESS SHALL NOT EXCEED 8 INCHES (LOOSE). THE CONTRACTOR SHALL DECREASE THE SGB LIFT THICKNESS IF NECESSARY TO OBTAIN THE SPECIFIED DENSITY.

AT THE END OF EACH DAYS OPERATIONS, THE CONTRACTOR SHALL SHAPE THE LAST LEVEL OF SGB TO RAPIDLY DIRECT RAINWATER RUNOFF AWAY FROM THE FACE OF THE WALL. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

COMPACT THE SGB TO A MINIMUM OF 98 % OF THE TEST SECTION MAXIMUM DRY DENSITY. THE MOISTURE CONTENT OF THE SGB MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL NOT BE LESS THAN 3.0 PERCENT DRY OF THE OPTIMUM MOISTURE CONTENT OR NOT GREATER THAN 2.0 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT, AS ESTABLISHED BY THE LABORATORY STANDARD PROCTOR TEST. SGB COMPACTION SHALL BE ACCOMPLISHED WITHOUT DISTURBANCE OR DISTORTION OF THE GEOGRID OR FACING BLOCKS. EACH LIFT OF THE SGB SHALL BE TESTED TO VERIFY DENSITY PRIOR TO PROCEEDING WITH ADDITIONAL WALL CONSTRUCTION.

COMPACTION WITHIN 2 FEET OF THE BACK OF THE BLOCKS SHALL BE ACCOMPLISHED BY REQUIRING AT LEAST 3 PASSES OF A LIGHT MECHANICAL TAMPER. THE MATERIAL PLACED WITHIN 2 FEET OF THE BACK OF THE BLOCK WILL NOT BE TESTED FOR DENSITY. COMPACT THE SGB FROM THE BACK OF THE WALL TO THE BACK OF THE EXCAVATION AS OUTLINED IN SS 840.

5.7 REINFORCEMENT PLACEMENT

PLACE THE GEOGRID REINFORCEMENT LAYERS AT THE LOCATIONS AND ELEVATIONS INDICATED IN THE SHOP DRAWINGS. ATTACH THE GEOGRID TO THE SEGMENTAL BLOCK FACING AS INDICATED IN THE SHOP DRAWINGS. FOR GEOGRID REINFORCEMENT, THE ORIENTATION OF THE REINFORCING LAYER SHALL BE SUCH THAT THE MACHINE DIRECTION IS INSTALLED PERPENDICULAR TO THE WALL FACE. THE GEOGRID SHALL BE PULLED TAUT, WITH NO SLACK PRIOR TO THE PLACEMENT OF SELECT GRANULAR BACKFILL. THE GEOGRID SHALL BE KEPT TAUT BY THE USE OF PINS OR STAPLES.

THE GEOGRID ELEMENTS SHALL BE A SINGLE STRIP FROM THE BACK OF THE WALL TO THE DESIGN LENGTH. SPLICING OF THE GEOGRIDS TO OBTAIN THE DESIGN LENGTH IS PROHIBITED.

DAMAGED OR TORN GEOGRIDS ARE PROHIBITED FROM USE WITHIN THE SEGMENTAL RETAINING WALL. IF THE GEOGRID IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK AND REPLACE THE ENTIRE DAMAGED STRIP.

6.0 INSPECTION

WALL MANUFACTURER SHALL PROVIDE SUFFICIENT ON-SITE TECHNICAL ASSISTANCE BY A COMPANY REPRESENTATIVE TO ASSURE THAT THE CONTRACTOR AND THE ENGINEER FULLY UNDERSTAND THE CONSTRUCTION PROCEDURES.

THE CONTRACTOR SHALL PROVIDE A SOILS CONSULTANT WHO SHALL BE RESPONSIBLE FOR ENSURING THAT THE SELECT GRANULAR BACKFILL MATERIAL, PLACEMENT AND COMPACTION ARE IN COMPLIANCE WITH THIS NOTE. THE SOILS CONSULTANT MUST THOROUGHLY DOCUMENT PLACEMENT OF ANY REINFORCEMENT UTILIZED TO CONSTRUCT THE SEGMENTAL RETAINING WALL SYSTEM.

THE SOILS CONSULTANT SHALL PROVIDE THE ENGINEER WITH TWO COPIES OF AN INSPECTION REPORT, WHICH CONTAINS THE TESTING RESULTS, DOCUMENTATION OF REINFORCEMENT PLACEMENT, ALL PERTINENT MEASUREMENTS AND THE SOILS CONSULTANTS CONCLUSION.

THE SOILS CONSULTANTS FIELD REPRESENTATIVE SHALL BE A REGISTERED PROFESSIONAL ENGINEER OR WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER. AN OHIO REGISTERED PROFESSIONAL ENGINEER SHALL SIGN THE FINAL INSPECTION REPORT.

7.0 COPING

A PRECAST COPING SHALL BE PROVIDED AT THE TOP OF THE WALL. THE COPING SHALL CONSIST OF SEGMENTAL CAP BLOCKS WITH AN APPROVED ADHESIVE TO FASTEN THE BLOCKS TO THE TOP WALL COURSE. APPLY ADHESIVE OVER 100% OF THE SOLID AREA OF THE WALL BLOCKS IMMEDIATELY BENEATH CAP BLOCKS. COST FOR THE PRECAST COPING, COMPLETE AND IN PLACE, SHALL BE INCLUDED WITH "ITEM SPECIAL -STRUCTURE, MISC.: SEGMENTAL CONCRETE BLOCK RETAINING WALL" FOR PAYMENT.

8.0 METHOD OF MEASUREMENT

WALL MEASUREMENT WILL BE MADE FROM THE TOP OF THE LEVELING PAD TO THE PROPOSED TOP OF WALL AS OUTLINED IN THE CONTRACT DOCUMENTS. ADDITIONAL PAYMENT WILL NOT BE PROVIDED IF THE WALL SUPPLIER MODIFIES THE WALL LIMITS TO FACILITATE AND ACCOMMODATE THE SELECTED BLOCK TYPE.

8.1 BASIS OF PAYMENT

ITEM SPECIAL STRUCTURES: SEGMENTAL CONCRETE BLOCK RETAINING WALL WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT. THIS WORK SHALL INCLUDE THE INTERNAL STABILITY DESIGN SUBMITTAL, SHOP DRAWING DEVELOPMENT, MANUFACTURING, FURNISHING, EXCAVATION (AND ANY NECESSARY EMBANKMENT MATERIAL), AND THE INSTALLATION OF THE SEGMENTAL BLOCK WALL, INCLUDING THE SEGMENTAL CONCRETE BLOCKS, 4" PERFORATED & NON-PERFORATED PIPE, GEOGRID REINFORCEMENT, CAPPING BLOCKS AND ADHESIVE, LEVELING PAD, SELECT GRANULAR BACKFILL, UNIT FILL, NATURAL SOIL, GRADING, AND ALL INCIDENTALS, LABOR, AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM.

your trusted advisor
consultants
engineers
architects
planners

NO	REVISION	DATE

ISSUED FOR:	BID SET
ISSUE DATE:	5/23/19
SCALE:	AS SHOWN
DESIGNED BY:	BSUG
DRAWN BY:	BSUG
CHECKED BY:	RDRE

GOWER PARK RETAINING WALL
CITY OF SHARONVILLE
HAMILTON COUNTY, OH

RETAINING WALL NOTES

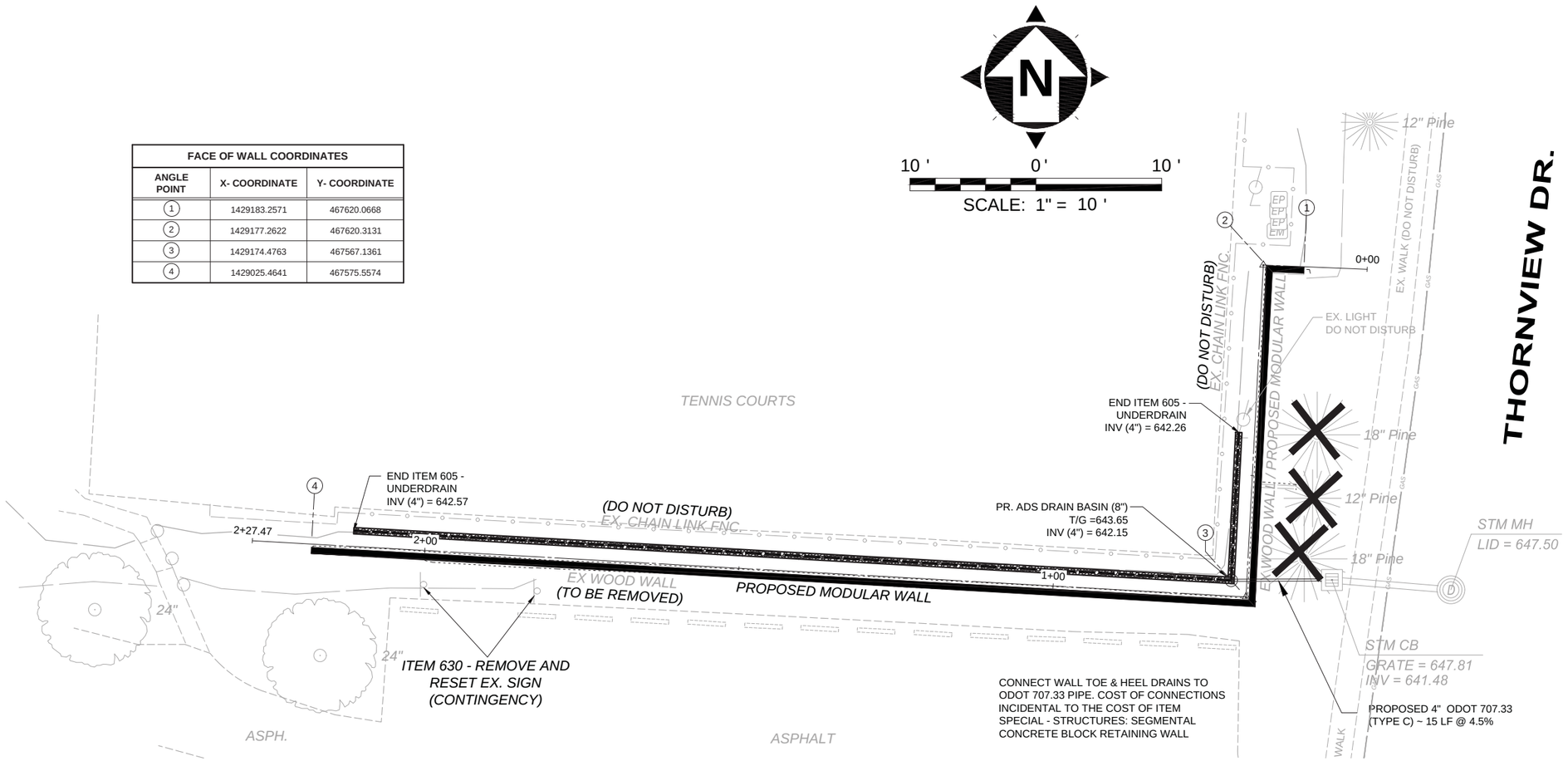
PROJECT NO.
180690

DISCIPLINE
CIVIL

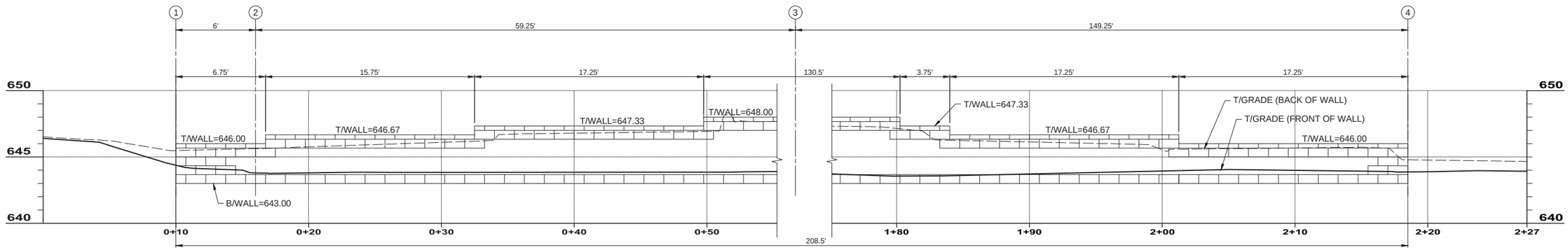
SHEET NAME
S4

SHEET 4 OF 6

FACE OF WALL COORDINATES		
ANGLE POINT	X- COORDINATE	Y- COORDINATE
1	1429183.2571	467620.0668
2	1429177.2622	467620.3131
3	1429174.4763	467567.1361
4	1429025.4641	467575.5574



RETAINING WALL PLAN
SCALE: 1"=10'



RETAINING WALL PROFILE
SCALE: 1/4"=1'-0"

your trusted advisor
consultants
engineers
architects
planners

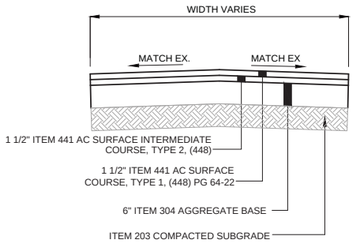
NO	REVISION	DATE

ISSUED FOR: BID SET
ISSUE DATE: 5/23/19
SCALE: AS SHOWN
DESIGNED BY: BSUG
DRAWN BY: BSUG
CHECKED BY: RDRE

GOWER PARK RETAINING WALL
CITY OF SHARONVILLE
HAMILTON COUNTY, OH

RETAINING WALL PLAN AND PROFILE

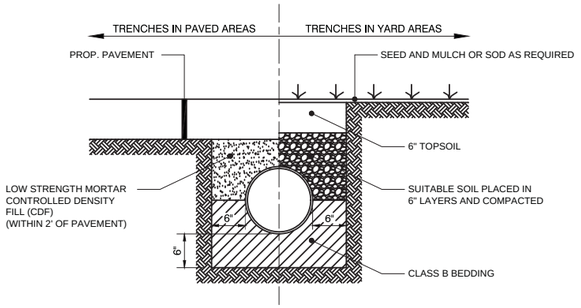
PROJECT NO. 180690
DISCIPLINE CIVIL
SHEET NAME S5
SHEET 5 OF 6



ITEM 441, ASPHALT PARKING LOT REMOVAL AND REPLACEMENT

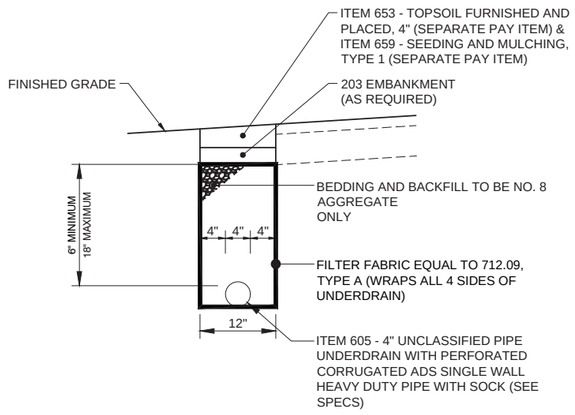
NTS

*NOTE - IF EXISTING PAVEMENT SECTION IS THICKER THAN THE ABOVE SECTION, MATCH EXISTING SECTION WITH COST INCIDENTAL TO THIS ITEM



TYPICAL TRENCH BACKFILL

NTS

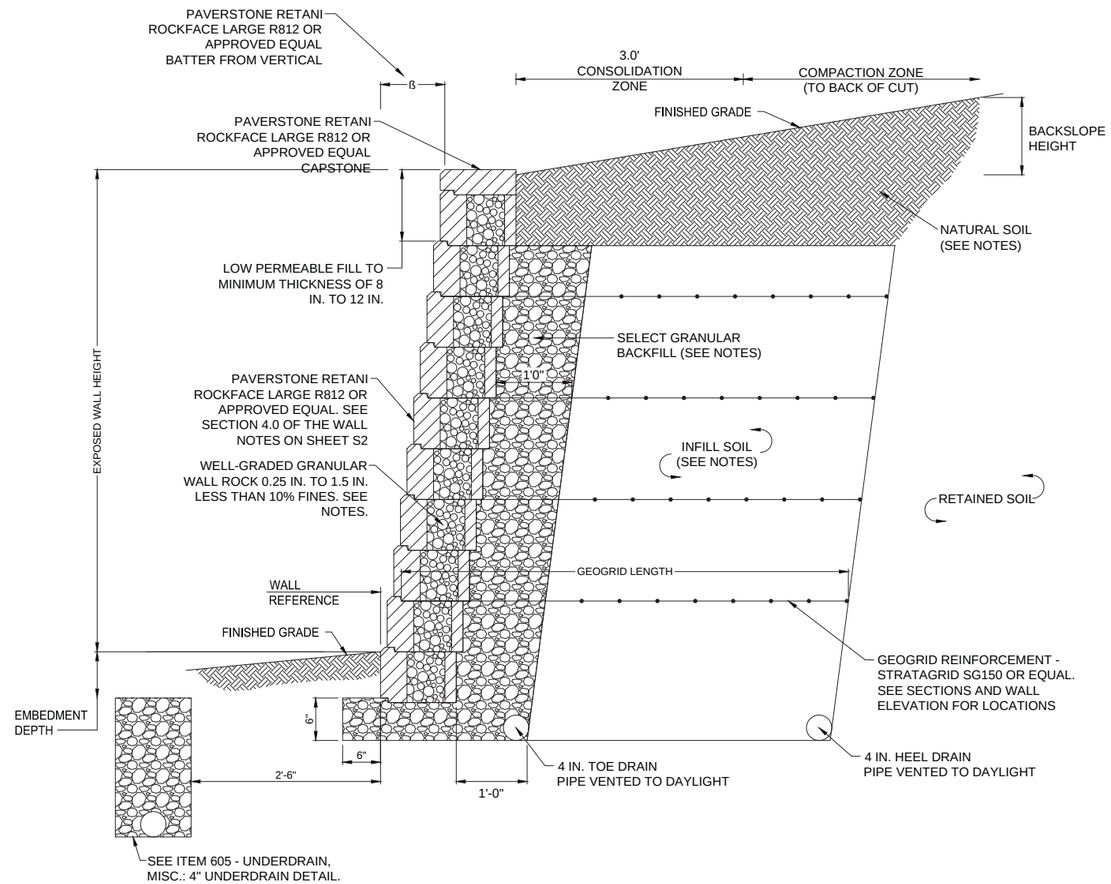


NOTES:

1.) THIS IS AN ALL INCLUSIVE PRICE (LF) FOR THE COMPLETE INSTALLATION OF THE UNDERDRAIN & FILTER FABRIC. THIS INCLUDES ALL FITTINGS, CONNECTIONS TO EX. OR PROPOSED STRUCTURES, AND ANY EXCAVATION OR NECESSARY EMBANKMENT MATERIAL NECESSARY TO CONSTRUCT, INCLUDING HAULING OFF COSTS.

ITEM 605 - UNDERDRAIN, MISC.: 4" UNDERDRAIN DETAIL

NTS



TYPICAL REINFORCED WALL

SCALE 1" = 1'

your trusted advisor consultants
engineers architects planners

NO	REVISION	DATE

ISSUED FOR:	BID SET
ISSUE DATE:	5/23/19
SCALE:	AS SHOWN
DESIGNED BY:	BSUG
DRAWN BY:	BSUG
CHECKED BY:	RDRE

GOWER PARK RETAINING WALL
CITY OF SHARONVILLE
HAMILTON COUNTY, OH

RETAINING WALL DETAILS

PROJECT NO.
180690
DISCIPLINE
CIVIL
SHEET NAME
S6
SHEET 6 OF 6