

**BENCH MARKS**

**SOURCE BENCHMARK** THE STATION IS A BRASS TABLET SET IN CONCRETE AND STAMPED "XX-XXX". THE STATION IS LOCATED ON XXXX ROAD, XXX' NORTH OF ROAD, 16'+/- WEST OF THE EDGE OF PAVEMENT. ELEV.=XXX.XX' (NAVD XXXX)

**MASTER BENCHMARKS**

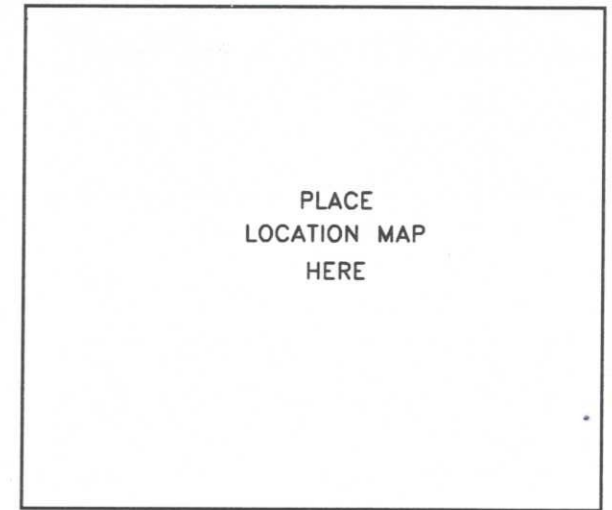
**BENCHMARK #1**  
LOCATION: XXXXX (MUST BE LOCATED IN A RESERVE LOT)  
ELEV.=XXX.XX'

**BENCHMARK #2**  
LOCATION: XXXXX  
ELEV.=XXX.XX'

**BENCHMARK #3**  
LOCATION: XXXXX  
ELEV.=XXX.XX'

STREET, STORM & WATER PLANS FOR  
**PROJECT NAME**

FARM LOT XX, SECTION X, PHASE Y, PART Z  
(OR VMS NAME AND NUMBER)  
TOWNSHIP X, RANGE X, USML  
TOWNSHIP NAME, DELAWARE COUNTY, OHIO  
MONTH, YEAR



**LOCATION MAP**  
NO SCALE

**GENERAL SUMMARY**

ZONING	XX
MINIMUM LOT SIZE	X.X AC
MINIMUM FRONTAGE	XXX
FRONT YARD SETBACK	XX' FROM C/L
SIDE YARD SETBACK	XX'
REAR YARD SETBACK	XX'
TOTAL ACRES	XX.XX AC.
NUMBER OF LOTS	XX
GROSS DENSITY	X,XXX DWELLING UNIT/ACRE
RIGHT-OF-WAY	X.XX AC.
RESERVE "A"	X.XX AC
LOTS	X.XX AC
NET DENSITY	X,XXX DWELLING UNIT/ACRE
% IMPERVIOUS	XX%

**AVERAGE DAILY TRAFFIC**

STREET NAME, ADT = XXX, DESIGN SPEED = XX MPH  
STREET NAME, ADT = XXX, DESIGN SPEED = XX MPH

**FLOODPLAIN**

THE SUBDIVISION IS LOCATED IN ZONE \_\_\_\_\_  
A ZONE DESCRIBED AS \_\_\_\_\_ ON FLOOD INSURANCE RATE  
MAP, DELAWARE COUNTY, OHIO, PANEL XX MAP XYZ and XYZ.  
EFFECTIVE DATE (MONTH DAY, YEAR).

**VARIANCES**

1) A VARIANCE IS BEING REQUESTED FOR APPROVAL OF .....  
APPROVAL DATE: XX/XX/XXXX

**UTILITY COMPANIES**

(NOTE TO CONSULTANTS:  
VARIOUS UTILITIES THAT DO WORK WITHIN VARIOUS PARTS OF  
THE COUNTY ARE LISTED BELOW THIS COVERSHEET FRAME AS  
AN INITIAL AID TO THE ENGINEER. PLEASE VERIFY LOCAL  
UTILITIES IN THE VICINITY OF THE SITE AND INCLUDE THE THEIR  
CONTACT INFORMATION ON THE PLANS ACCORDING TO THE  
FOLLOWING FORMAT.)

XXX ADDRESS CITY, OHIO ZIP CODE ATTN: XXX PHONE NUMBER	XXX ADDRESS CITY, OHIO ZIP CODE ATTN: XXX PHONE NUMBER	XXX ADDRESS CITY, OHIO ZIP CODE ATTN: XXX PHONE NUMBER
---	---	---

XXX ADDRESS CITY, OHIO ZIP CODE ATTN: XXX PHONE NUMBER	XXX ADDRESS CITY, OHIO ZIP CODE ATTN: XXX PHONE NUMBER	XXX ADDRESS CITY, OHIO ZIP CODE ATTN: XXX PHONE NUMBER
---	---	---

XXX  
ADDRESS  
CITY, OHIO ZIP  
CODE  
ATTN: XXX  
PHONE NUMBER



BM1 BENCHMARK  
LOCATIONS TO  
BE SHOWN ON  
THE INDEX MAP

(NOTE TO CONSULTANT:  
PLACE INDEX MAP HERE SHOWING  
ADJACENT PUBLIC & PRIVATE  
STREETS, ADJACENT LOTS WITH  
LOT NUMBERS, ETC.)



THE STANDARD DRAWINGS AND SUPPLEMENTAL  
SPECIFICATIONS LISTED BELOW SHALL BE  
CONSIDERED A PART OF THIS PLAN.

**STANDARD DRAWINGS**

DELAWARE COUNTY	DATE
DCED-R100	1/22/2008
DCED-S133	1/22/2008
DCED-S149	1/22/2008
DCED-S151	1/22/2008
DCED-S169	1/22/2008

**SUPPLEMENTAL SPECIFICATIONS**

DELAWARE COUNTY	DATE
XXX	1/22/2008

**DRAWING SET STATUS**

- PRELIMINARY ENGINEERING SET
- COUNTY REVIEW SET
- CONSTRUCTION DOCUMENT SET
- AS-CONSTRUCTED DOCUMENT SET

**OWNER/DEVELOPER:**

OWNER/DEVELOPER NAME  
ATTN: POINT OF CONTACT NAME  
9999 STREET NAME  
YOUR CITY, OHIO 40000  
PHONE: XXX.XXX.XXXX  
FAX: XXX.XXX.XXXX

**CHANGE ORDER SCHEDULE**

CHANGE	PREPARED	DATE OF CHANGE	DESCRIPTION OF CHANGE	SHT NO.	APPROVED	DATE OF APPROVAL

**SHEET INDEX**

- 1 TITLE SHEET
- 2 TYPICAL SECTIONS
- 3 GENERAL NOTES
- 4 ESTIMATED QUANTITIES
- 5 HORIZONTAL & VERTICAL SIGHT DISTANCE
- 6-X EXHIBIT STREET PLANS & PROFILES
- X-X STORM SEWER PLANS & PROFILES
- X-X GRADING PLANS
- X-X BASIN PLANS, CROSS SECTIONS, & DETAILS
- X-X SWP3 PLANS

**APPROVALS**

THE DELAWARE COUNTY ENGINEER'S DESIGN, CONSTRUCTION AND SURVEYING STANDARDS, THE STANDARD SPECIFICATIONS OF THE CITY OF COLUMBUS, CURRENT EDITION, INCLUDING STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS LISTED SHALL GOVERN THIS IMPROVEMENT.

THE DELAWARE COUNTY ENGINEER'S SIGNATURE ON THIS PLAN SIGNIFIES ONLY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED IMPROVEMENTS WITH RESPECT TO IMPROVEMENTS WITHIN THE RIGHT-OF-WAY, STORM WATER MANAGEMENT, EROSION AND SEDIMENT CONTROL. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHO PREPARED AND CERTIFIED THESE PLANS.

DELAWARE COUNTY ENGINEER

CHRIS BAUSERMAN \_\_\_\_\_ DATE \_\_\_\_\_

WATER SYSTEM APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_

MANAGER, DEL-CO WATER \_\_\_\_\_ DATE \_\_\_\_\_

ENGINEER: \_\_\_\_\_

THIS IS TO CERTIFY THAT GOOD ENGINEERING PRACTICES HAVE BEEN UTILIZED IN THE DESIGN OF THIS PROJECT AND THAT ALL OF THE MINIMUM STANDARDS AS DELINEATED IN THE DELAWARE COUNTY DESIGN, CONSTRUCTION AND SURVEYING STANDARDS MANUAL HAVE BEEN MET, INCLUDING THOSE STANDARDS GREATER THAN MINIMUM WHERE, IN MY OPINION, THEY ARE NEEDED TO PROTECT THE SAFETY OF THE PUBLIC. ANY VARIANCES TO THE ABOVE STANDARDS ARE CONSISTENT WITH SOUND ENGINEERING PRACTICE AND ARE NOT DETRIMENTAL TO THE PUBLIC SAFETY AND CONVENIENCE. THESE VARIANCES HAVE BEEN LISTED HEREIN AND HAVE BEEN APPROVED BY THE DELAWARE COUNTY ENGINEER.

XXX ENGINEERING FIRM  
ADDRESS  
XXX, OHIO XXXXX  
V: XXX.XXX.XXXX  
F: XXX.XXX.XXXX

REGISTERED ENGINEER'S  
SIGNATURE AND SEAL \_\_\_\_\_ DATE \_\_\_\_\_



GENERAL NOTES  
COMMERCIAL AND CONDOMINIUM DEVELOPMENTS

1. THE DELAWARE COUNTY DESIGN, CONSTRUCTION AND SURVEYING STANDARDS, LATEST EDITION, TOGETHER WITH THE CITY OF COLUMBUS (C.O.C.) CONSTRUCTION AND MATERIALS SPECIFICATIONS, LATEST EDITION, ALONG WITH THE DELAWARE COUNTY ENGINEER (DCEO) SUPPLEMENTAL SPECIFICATIONS, SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, UNLESS OTHERWISE NOTED.
2. A PRECONSTRUCTION CONFERENCE SHALL BE HELD AT THE COUNTY ENGINEER'S OFFICE BEFORE ANY WORK IS BEGUN. REPRESENTATIVES OF THE OWNER, DESIGN ENGINEER, AND CONTRACTOR SHALL BE IN ATTENDANCE. A SCHEDULE OF SEQUENCE OF EVENTS DURING CONSTRUCTION MUST BE SUBMITTED FOR REVIEW PRIOR TO THIS MEETING.
3. PROOF SURVEYS ARE REQUIRED TO BE PERFORMED BY THE OWNER IN ORDER TO DEMONSTRATE CONCLUSIVELY THAT THE FACILITIES ARE CONSTRUCTED TO THE CAPACITY, ELEVATIONS, SLOPES, GRADES AND SIZES SHOWN ON THE APPROVED PLANS. SUCH SURVEYS SHALL BE CONDUCTED BY A REGISTERED PROFESSIONAL SURVEYOR, SHALL EMPLOY STANDARD TECHNIQUES, AND SHALL PRODUCE AND FURNISH FIELD NOTES TO THE COUNTY ENGINEER FOR REVIEW AND RECORD PURPOSES. REDUCTION OF NOTES AND ANY PLOTTING NECESSARY TO MAKE NOTES INTERPRETABLE SHALL BE COMPLETED BY THE SURVEYOR PERFORMING THE PROOF SURVEY. PROOF SURVEYS SHALL BE IN ADDITION TO, AND SEPARATE FROM, OTHER INSPECTIONS BY THE COUNTY ENGINEER. ALL DISCREPANCIES REVEALED IN THE AS-CONSTRUCTED FACILITIES BY THE PROOF SURVEY SHALL BE RECERTIFIED BY THE OWNER AND THE PROOF SURVEY RE-PERFORMED IN ORDER TO DEMONSTRATE CONFORMANCE. THE PROOF SURVEY SHALL BE APPROVED BY THE COUNTY ENGINEER, IN WRITING, PRIOR TO THE RELEASE OF THE BUILDING PERMITS.
4. BE ADVISED: A SUBSURFACE DRAINAGE SYSTEM MAY EXIST ON THIS SITE. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAIN PIPES OR TILES ENCOUNTERED IN THE FIELD AND, IF DAMAGED, REPAIR OR REPLACE THEM IMMEDIATELY WITH THE SAME SIZE AND QUALITY OF MATERIALS AS FOUND. ALL DRAINAGE TILES ENCOUNTERED IN THE FIELD SHALL BE CONNECTED TO THE STORM SEWER SYSTEM AT A STRUCTURE.
5. THE CONTRACTOR SHALL NOTIFY THE COUNTY ENGINEER'S OFFICE FORTY EIGHT (48) HOURS PRIOR TO ANY CONSTRUCTION.
6. THE CONTRACTOR'S BID SHALL BE COMPREHENSIVE AND INCLUDE ALL LABOR AND MATERIALS NECESSARY TO COMPLETE ALL IMPROVEMENTS ACCORDING TO THE ENGINEERING PLANS AND SPECIFICATIONS.
7. THE CONTRACTOR SHALL LOCATE ALL UTILITIES OR UNDERGROUND STRUCTURES PRIOR TO CONSTRUCTION AND NOTIFY EACH RESPECTIVE UTILITY OWNER FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTACT O.U.P.S. AT 1-800-362-2764.
8. IF A DISCREPANCY EXISTS BETWEEN THE PLANS AND SPECIFICATIONS, THE COUNTY ENGINEER AND THE OWNER'S ENGINEER SHALL BE NOTIFIED BEFORE WORK IS COMMENCED.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXERCISE SAFETY PRECAUTIONS AND TO PROVIDE ALL SAFETY EQUIPMENT TO SAFEGUARD WORKMEN AND ALL PERSONS ON OR NEAR THE WORK SITE.
10. THE CONTRACTOR SHALL EXAMINE THE WORK SITE AND SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUALITY AND QUANTITIES OF WORK TO BE PERFORMED.
11. HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING FEATURES WITHIN THIS SITE IS APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF EXISTING FEATURES SHOWN ON PLANS, SUCH AS GAS LINES, WATER LINES AND FIELD TILE, TO PROPERLY EXECUTE THE WORK OF HIS CONTRACT. IT SHALL FURTHER BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXERCISE DUE CAUTION AROUND EXISTING COMPLETED WORK ON THE SITE.
12. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL EXISTING WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS CONTRACT AT HIS OWN EXPENSE. ALL SAID WORK IS TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AND THE COUNTY ENGINEER.
13. SITE CLEARING SHALL COMPLY WITH C.O.C. ITEM 201. REMOVAL OF EXISTING PIPE, PAVEMENT, STRUCTURES AND OTHER OBSTRUCTIONS SHALL COMPLY WITH C.O.C. ITEM 202.
14. ALL MATERIAL DEEMED BY THE COUNTY ENGINEER SHALL BE REMOVED FROM THE PROPOSED RIGHT-OF-WAY, CONSTRUCTION LIMITS OR FOR ANY EXCAVATION FOR THE PUBLIC STORM SEWER SYSTEM. THE MATERIAL REMOVED INCLUDES, BUT IS NOT LIMITED TO, ORGANIC SOIL, TOPSOIL, VEGETATION, TREES, STUMPS, ROOTS OR EXCESSIVELY WET INORGANIC MATERIALS. THE MATERIAL SHALL BE REMOVED REGARDLESS OF THE AMOUNT OF EMBANKMENT TO BE CONSTRUCTED AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, EXCAVATION.
15. THE DELAWARE COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL OBSERVE AND APPROVE ALL SUB-BASE MATERIALS AND COMPACTION IN PUBLIC FILL AREAS.
16. NON-ORGANIC SITE SOILS ARE ACCEPTABLE AS USE FOR STRUCTURAL FILL PROVIDED THEY MEET ALL REQUIREMENTS OF C.O.C. ITEM 203. MOISTURE ADJUSTMENT MAY BE REQUIRED AND SHALL BE PERFORMED BY THE CONTRACTOR.
17. ANY LANDSCAPE FEATURES, SUCH AS TREES, FENCES, RETAINING WALLS, ETC. IN DRAINAGE EASEMENTS SHALL BE REVIEWED BY THE DELAWARE COUNTY SOIL AND WATER CONSERVATION DISTRICT (DCSWCD) AND THE DELAWARE COUNTY ENGINEER (DCEO) PRIOR TO INSTALLATION. THE DCSWCD AND DCEO WILL REVIEW THE PROPOSED IMPROVEMENTS TO ASSURE THAT THE IMPROVEMENTS WILL NOT INTERFERE WITH THE STORM WATER CONTROL FACILITIES.
18. THE CONTRACTOR SHALL REFERENCE ALL IRON PINS AND MONUMENTS BEFORE EXCAVATING AT OR NEAR SAID IRON PINS OR MONUMENTS. IF ANY PINS OR MONUMENTS ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, THEY SHALL BE REPLACED BY A PROFESSIONAL LICENSED SURVEYOR OF OHIO AT THE COMPLETION OF THE PROJECT OR AT THE DIRECTION OF THE COUNTY ENGINEER AT NO EXPENSE TO THE OWNER. THE COST FOR THIS SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS ITEMS.
19. ALL QUESTIONS SHALL BE DIRECTED TO THE DELAWARE COUNTY ENGINEER AT (740) 833-2400.

BACKFILLING FOR PUBLIC STORM SEWERS, CULVERTS AND UTILITIES

1. UTILITY TRENCHES OUTSIDE THE RIGHT-OF-WAY SHALL BE BACKFILLED WITH SOILS MEETING THE REQUIREMENTS OF ITEM 203 (100 PCF OR GREATER). THESE TRENCHES ARE TO BE COMPACTED TO 95% OF MAXIMUM DRY LABORATORY WEIGHT AT +/- 2% OF OPTIMUM MOISTURE AND IN ACCORDANCE TO STANDARD DRAWING DCED R-100.
2. ALL UTILITY TRENCHES IN THE RIGHT-OF-WAY RUNNING PARALLEL TO THE EDGE PAVEMENT AND NOT OVER FIVE FEET (5') IN DEPTH SHALL BE BACKFILLED ACCORDING TO STANDARD DRAWING DCED R-100.
3. ALL UTILITY TRENCHES UNDER ROAD PAVEMENT WITHIN THE R-O-W, STARTING AT A DISTANCE OF FIVE FEET (5') FROM THE EDGE OF THE PAVEMENT AND EXTENDING ONE FOOT (1') IN DISTANCE FOR EACH ONE FOOT (1') IN DEPTH SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIALS PER STANDARD DRAWING DCED R-100 OR LOW STRENGTH MORTAR BACKFILL. ALSO, THE TOP OF ALL UTILITY CONDUITS SHALL BE LOCATED AT LEAST ONE FOOT BELOW THE UNDERDRAINS.
4. ALL UTILITY TRENCHES OVER FIVE FEET (5') IN DEPTH, WITHIN THE R-O-W, WHICH RUN PARALLEL TO THE EDGE OF PAVEMENT OR THAT ARE IN THE ZONE OF INFLUENCE SHALL BE BACKFILLED AS PER STANDARD DRAWING DCED R-100.
5. THE CONTRACTOR SHALL INCLUDE IN THE UNIT PRICE BID FOR UNDERGROUND UTILITY PIPE, ALL TRENCHING, BACKFILLING AS PER PLAN, AND THE REMOVAL AND DISPOSAL OF BRUSH, TREES, STUMPS, ETC. WITHIN THE AREA OF EXCAVATION OF THE TRENCH.
6. THE CONTRACTOR SHALL REFER TO THE UTILITY PLAN AND PROFILE SHEETS TO DETERMINE CRITICAL UTILITY CROSSINGS.
7. IN PAVEMENT, SIDEWALK, AND UTILITY CROSSING AREAS THE BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL PER C.O.C. ITEM 304, AND ALL OTHER REMAINING AREAS SHALL BE BACKFILLED PER C.O.C. ITEM 603.08.
8. CASING PIPE REQUIRED WITHIN THE RIGHT-OF-WAY SHALL BE SDR 21 OR SCHEDULE 40 FOR NON-PRESSURIZED LINES AND C-900 (LESS THAN 12-INCHES) OR C-905 (GREATER THAN 12-INCHES) FOR PRESSURIZED LINES.

STORM SEWERS

1. THE CONTRACTOR SHALL INCLUDE IN THE UNIT PRICE BID FOR ITEM 603, ALL TRENCHING, EXCAVATION AND BACKFILLING PER STANDARD DRAWING DCED R-100, AND THE REMOVAL AND DISPOSAL OF BRUSH, TREES, STUMPS ETC. WITHIN THE AREA OF EXCAVATION OF THE TRENCH, UNLESS BID IN ITEM 203.
2. THE PROPOSED ELEVATIONS AND LOCATIONS OF INLETS, CATCH BASINS, AND PIPES, AND THE ESTIMATED LENGTHS OF PIPES, MAY BE ADJUSTED BY THE COUNTY ENGINEER DURING THE ENTIRE IMPROVEMENT OF THIS PROJECT. BASIS OF PAYMENT FOR POSSIBLE ADJUSTMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS STORM SEWERS TO BE ADJUSTED.
3. UNLESS OTHERWISE NOTED ON THE PLANS, ALL STORM SEWERS SHALL BE AS HEREAFTER SPECIFIED:
  - a. ALL SIZES OF STORM SEWER LOCATED WITHIN THE RIGHT-OF-WAY SHALL BE TYPES "A" OR "B" CONDUIT (C.O.C. 706.02 OR C.O.C. 706.04).
  - b. STORM SEWERS LOCATED OUTSIDE OF THE RIGHT-OF-WAY SHALL BE TYPE "C" CONDUIT (C.O.C. 706.02) OR HDPE COMPLYING WITH C.O.C. 720.12.
4. ALL TYPE "A", "B", AND "C" CONDUIT SHALL HAVE JOINTS, PER CITY OF COLUMBUS 901.15 AND SHALL USE TYPE C BITUMINOUS PIPE JOINT FILLER.
5. GRANULAR BEDDING SHALL BE PROVIDED FOR ALL TYPE "A", "B", AND "C" CONDUIT PER DELAWARE COUNTY STANDARD DRAWINGS DCED S-149, DCED S-151, DCED S-152, DCED S-153 AND DCED S-155.
6. ALL PIPES OUTSIDE THE RIGHT-OF-WAY SHALL HAVE A COVER OF 1.5 FEET MINIMUM. WHEREVER THIS IS NOT THE CASE, EMBANKMENT SHALL BE PLACED TO PROVIDE A MINIMUM COVER PRIOR TO THE INSTALLATION OF THE STORM SEWER.
7. OPENINGS SHALL BE PROVIDED IN THE DRAINAGE STRUCTURES TO ACCOMMODATE UNDERDRAIN OUTLETS. ANY CORING NECESSARY SHALL BE INCLUDED WITHIN THE COST OF THE UNDERDRAIN. UNDERDRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH THE PLAN SPECIFICATIONS.

GRADING NOTES

1. EXCAVATION AND EMBANKMENT SHALL COMPLY WITH C.O.C. ITEM 203 AND DELAWARE COUNTY SUPPLEMENTAL SPECIFICATIONS.
2. THE CONTRACTOR'S BID SHALL BE COMPREHENSIVE AND INCLUDE ALL LABOR AND EQUIPMENT TO COMPLETE ALL EXCAVATION, FILL AND GRADING IN ACCORDANCE WITH THE APPROVED ENGINEERING PLANS AND SPECIFICATIONS.
3. EXCAVATION AND EMBANKMENT QUANTITIES DO NOT INCLUDE ANY PROVISION FOR UNDERCUTTING, FOOTINGS, OR UNSUITABLE MATERIAL.
4. AFTER THE TOPSOIL IS REMOVED, PROOFROLL THE PUBLIC MAINTAINED PAVEMENT AND BUILDING AREA SUBGRADES TO BE FILLED. SOFT AREAS SHOULD BE UNDERCUT AND STABILIZED PRIOR TO FILLING OPERATIONS. RELATIVE DEPTH OF UNDERCUT WILL BE DETERMINED WHEN SOFT AREAS ARE DISCOVERED. THE DELAWARE COUNTY ENGINEER SHALL DETERMINE THE DEPTH AND EXTENT OF THE UNDERCUT.

EROSION AND SEDIMENTATION CONTROL NOTES

1. SILTATION AND EROSION SHALL BE CONTROLLED BY MINIMIZING THE TIME THE SITE IS DENUDE BY TEMPORARY SEEDING, PERMANENT SEEDING, AND THE USE OF VARIOUS EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S). THESE DEVICES ARE TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT. ONCE THE SITE AREA HAS BEEN STABILIZED, BEST MANAGEMENT PRACTICES SHALL BE REMOVED WITH THE APPROVAL OF THE COUNTY ENGINEER.
2. ALL MEASURES SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION UNDER THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED BY THE COUNTY ENGINEER. MAINTENANCE SHALL INCLUDE ALL REPAIRS TO THOSE AREAS AND MEASURES DAMAGED BY EROSION, CONSTRUCTION EQUIPMENT, WEATHER, FIRE, AND/OR OTHER CAUSES INCLUDING "ACTS OF GOD."
3. THE TEMPORARY CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A STATE THAT SHALL PREVENT TRACKING OR FLOW OF MUD ONTO THE PUBLIC RIGHT-OF-WAY. THIS WILL BE ACCOMPLISHED BY USE OF A GRAVEL CONSTRUCTION ENTRANCE AND THE REPAIR AND/OR CLEANOUT OF ANY DEVICES USED TO TRAP THE SEDIMENT. ANY MATERIALS SPILLED, DROPPED, OR TRACKED FROM THE CONSTRUCTION SITE ONTO THE ROADWAYS OR INTO THE STORM SYSTEM MUST BE REMOVED IMMEDIATELY.
4. SEDIMENT DEPOSITS IN SEDIMENT TRAPS SHALL BE REMOVED AND THE MEASURES RESTORED TO THEIR ORIGINAL DESIGN PRIOR TO THE SEDIMENT OBTAINING THE ONE-HALF DESIGN HEIGHT OF THE DEVICE. ALL SEDIMENT MATERIAL SHALL BE DISPOSED OF BY AN ACCEPTABLE MEANS. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE MEASURES ARE NO LONGER REQUIRED SHALL BE PREPARED TO CONFORM TO THE FINAL GRADING PLANS, SEEDED AND MULCHED.
5. THE CONTRACTOR SHALL PLACE INLET PROTECTION FOR SEDIMENT CONTROL AT CATCH BASINS IMMEDIATELY AFTER THEIR CONSTRUCTION. COST FOR THIS WORK SHALL BE INCLUDED UNDER EROSION CONTROL. THE CONTRACTOR SHALL REMOVE INLET PROTECTION WHEN GRASS ESTABLISHMENT REACHES A MINIMUM OF 70% GROWTH DENSITY OVER THE ENTIRE DRAINAGE AREA FLOWING TO CATCH BASINS. THE COUNTY ENGINEER SHALL DIRECT SEDIMENT CONTROL AT ALL CATCH BASINS IF REQUIRED.
6. TOPSOIL SHALL BE REMOVED FROM PROPOSED RIGHT-OF-WAY, MOUNDING AND EMBANKMENT AREAS PRIOR TO CONSTRUCTION OF PAVEMENT, MOUNDING, AND EMBANKMENT AREA. TOPSOIL SHALL BE STOCKPILED FOR RESPREADING.
7. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE CONSTRUCTION LIMITS UNLESS AUTHORIZED BY THE PROPERTY OWNER.
8. THE CONTRACTOR SHALL DISPOSE OF STREET, STOCKPILE, AND OVERLOT EXCAVATION.
9. THE SITE SHALL BE INSPECTED ON A WEEKLY BASIS FOR COMPLIANCE WITH THE SWPPP. FURTHERMORE, SEDIMENT CONTROL BMP'S SHALL BE INSPECTED IMMEDIATELY FOLLOWING EACH RAINFALL EVENT GREATER THAN 1/8 INCH AND AT LEAST DAILY DURING PERIODS OF PROLONGED RAINFALL. INSPECTION LOGS SHALL BE FURNISHED TO DELAWARE COUNTY FOR EACH INSPECTION.
10. CLOSE ATTENTION SHALL BE PAID TO THE PROPER INSTALLATION AND REPAIR OF PERIMETER CONTROLS TO PREVENT FAILURE.
11. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF PERIMETER CONTROLS SHALL BE ACCOMPLISHED PROMPTLY.
12. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE PERIMETER CONTROLS IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
13. ADDITIONAL EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AS DIRECTED BY DELAWARE COUNTY.
14. THE CONSTRUCTION ENTRANCE, SEDIMENT BASINS (TEMPORARY AND/OR PERMANENT), AND PERIMETER CONTROLS SHALL BE INSTALLED AS THE FIRST STEP OF THE CONSTRUCTION SEQUENCE.
15. NO SITE WORK SHALL COMMENCE UNTIL THE EROSION AND SEDIMENT CONTROLS ARE APPROVED BY DELAWARE COUNTY.

SITE CLEANUP

1. DURING CONSTRUCTION AND PRIOR TO ACCEPTANCE OF ANY PUBLIC IMPROVEMENTS, THE OWNER/DEVELOPER SHALL REMOVE OR CAUSE TO BE REMOVED ALL REFUSE, RUBBISH, UNUSED MATERIALS, EXCESS EARTH, FILL, ROCK, DEBRIS, AND FOREIGN MATTER FROM ALL PUBLIC RIGHTS OF WAY, AS WERE DEPOSITED, LEFT OR RESULTED FROM THE CONSTRUCTION OF IMPROVEMENTS OF ANY NATURE WITHIN THE DEVELOPMENT. SUCH REMOVAL SHALL TAKE PLACE WITHIN TWENTY-FOUR (24) HOURS AFTER BEING NOTIFIED BY THE COUNTY ENGINEER THAT SUCH WORK IS REQUIRED, AND SHALL BE COMPLETED TO THE SATISFACTION OF THE COUNTY ENGINEER.
2. THIS WORK SHALL BE PERFORMED IN A MANNER WHICH PREVENTS EROSION AS WELL AS PREVENTS STORM WATER FROM ACCUMULATING OR PONDING ON THE SITE. THE WORK SHALL ALSO BE PERFORMED IN A MANNER THAT PREVENTS DISRUPTING OR IMPEDING SURFACE DRAINAGE FROM ONSITE OR OFFSITE SOURCES AND PREVENTS ANY NEGATIVE EFFECTS ON ADJACENT PROPERTIES. A SIX-INCH OVERLAY OF TOPSOIL SHALL BE PROVIDED AND SHALL BE SEEDED PER DELAWARE COUNTY STANDARDS.

SEEDING

1. BASED ON CONSTRUCTION START-UP DATE AND CONTRACTOR'S SCHEDULE OF EVENTS, THE SEEDING MIXTURE AND SEDIMENT CONTROL MAY BE CHANGED TO COMPLY WITH DELAWARE COUNTY STANDARDS AND SUPPLEMENTAL SPECIFICATIONS, DUE TO A NON-GROWING SEASON AT THE TIME OF START-UP.
2. THE CONTRACTOR SHALL APPLY TEMPORARY AND PERMANENT SEEDING, FERTILIZER, AND MULCHING TO THE SATISFACTION OF THE COUNTY ENGINEER.
3. ALL SEEDING AND MULCHING SHALL BE BASED ON DELAWARE COUNTY STANDARDS AND SUPPLEMENTAL SPECIFICATIONS.

RETENTION/DETENTION BASINS

1. ANTI-SEEP COLLARS ARE REQUIRED FOR ALL RETENTION/DETENTION POND OUTLETS. A MINIMUM OF TWO COLLARS ARE REQUIRED. COLLARS MUST BE CONSTRUCTED (EXCAVATED) A MINIMUM OF 3.0' INTO UNDISTURBED SOIL ON ALL THREE SIDES. CLASS C CONCRETE PER CURRENT DELAWARE COUNTY SUPPLEMENTAL SPECIFICATIONS SHALL BE USED FOR REPLACEMENT OF THE EXCAVATED MATERIAL. THE COLLARS MUST BE A MINIMUM OF 8 INCHES THICK.
2. A CLAY CORE OF SUFFICIENT THICKNESS IS REQUIRED FOR ALL DETENTION AND RETENTION PONDS IN CUT AREAS. THE COUNTY ENGINEER SHALL FIELD APPROVE THE CORE THICKNESS OR THE CONDITION OF THE EXISTING SOILS AS A SUBSTITUTE FOR A CLAY CORE (E.G., EXISTING CLAY MATERIAL).
3. TREES AND LANDSCAPING SHALL NOT BE PERMITTED ON EMBANKMENT SURFACES