DANBURY WOODS OF MASSILLON

IMPROVEMENT PLANS
CITY OF MASSILLON
COUNTY OF STARK
STATE OF OHIO

SANITARY, STORM SEWERS, WATER & PAVING

STATE OF OHIO — DAVID M. KENDALL — E-61185 — PROFESSIONAL ENGINEER

SUBMITTED BY: D. M. Kendall — DATE 8-28-14
D. MICHAEL KENDALL REG. ENGINEER NO. 61185

APPROVED BY: THE MASSILLON CITY ENGINEER THIS 19th DAY OF NOVEMBER, 2014

K.A.D.
KEITH A. DYLEWSKI, P.E., P.S.

ONLY APPROVED SIGNED PLANS BY THE CITY ENGINEER ARE TO BE USED FOR CONSTRUCTION

DESIGN ENGINEER:

GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320
Phone 330-836-0228 Fax 330-836-5782

DEVELOPER:

MASSILLON SENIOR LIVING, LTD.
1201 SOUTH MAIN STREET
NORTH CANTON, OH 44720
PHONE: 330-497-8686
REP.: WILLIAM J. LEMMON

LEGEND

MONUMENTS

●	5/8" CAPPED REBAR TO BE SET, (GBC DESIGN, INC.)
○	IRON PIN FOUND (TYPE & SIZE AS INDICATED)
■	MONUMENT ASSEMBLY TO BE SET
□	MONUMENT FOUND
✱	1" REBAR TO BE SET
✲	1" REBAR FOUND
▣	DRILL HOLE SET
⊠	DRILL HOLE FOUND
	P.K. NAIL SET
	P.K. NAIL FOUND

ABBREVIATIONS

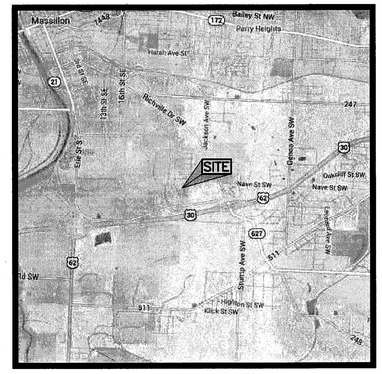
EX.	EXISTING	F.F.	FINISHED FLOOR	SHT.	SHEET
PROP.	PROPOSED	CONC.	CONCRETE	No.	NUMBER
FND.	FOUND	ASPH.	ASPHALT	R.D.	ROOF DRAIN
MEAS.	MEASURED	M.H.	MANHOLE	LAT.	LATERAL
REC.	RECORD	C.B.	CATCH BASIN		
STM.	STORM	H.W.	HEADWALL		
SAN.	SANITARY	R/W	RIGHT OF WAY		
W.M.	WATER MAIN	C.L.	CENTER LINE		
ELEC.	ELECTRIC	EASE.	EASEMENT		
O.H.W.	OVERHEAD WIRE	INV.	INVERT		
TELE.	TELEPHONE	WIN.	WINDOW		
CBL.	CABLE	STA.	STATION		
BLDG.	BUILDING	LT.	LEFT		
		RT.	RIGHT		

SYMBOLS

	PROPOSED FIRE HYDRANT	●	PROPOSED MANHOLE
	EXISTING FIRE HYDRANT	○	EXISTING MANHOLE
	FIRE DEPARTMENT CONNECTION	■	PROPOSED CATCH BASIN
	PROPOSED VALVE	□	EXISTING CATCH BASIN
	EXISTING VALVE	▬	PROPOSED CURB INLET
	PROPOSED LIGHT POLE	□	EXISTING CURB INLET
	EXISTING LIGHT POLE		PROPOSED SIGN
	PROPOSED POWER POLE		EXISTING SIGN
	EXISTING POWER POLE		

LINE TYPES

—C—	PROPOSED CABLE LINE	—SAN—	PROPOSED SANITARY SEWER
—C—	EXISTING CABLE LINE	—LAT—	PROPOSED SANITARY LATERAL
—E—	PROPOSED ELECTRIC LINE	—FM—	PROPOSED FORCE MAIN
—E—	EXISTING ELECTRIC LINE	—SAN—	EXISTING SANITARY SEWER
—T—	PROPOSED TELEPHONE LINE	—LAT—	EXISTING SANITARY LATERAL
—T—	EXISTING TELEPHONE LINE	—FM—	EXISTING FORCE MAIN
—G—	PROPOSED GAS LINE	—ST—	PROPOSED STORM SEWER
—G—	EXISTING GAS LINE	—RD—	PROPOSED ROOF DRAIN
—W—	PROPOSED WATER MAIN	—ST—	EXISTING STORM SEWER
—WS—	PROPOSED WATER SERVICE	—RD—	EXISTING ROOF DRAIN
—DW—	PROPOSED DOMESTIC SVC.	—X—	PROPOSED FENCE
—FW—	PROPOSED FIRE WATER SVC.	—X—	EXISTING FENCE
—W—	EXISTING WATER MAIN		
—WS—	EXISTING WATER SERVICE		



LOCATION MAP

0 1000 2000 3000 6000

SCALE: 1" = 3000'

ALL SITE PREPARATION, EARTHWORK, PAVEMENT AND CONSTRUCTION CONSIDERATIONS AS DETAILED IN THE FOLLOWING REPORT ARE TO BE FOLLOWED BY THE CONTRACTOR AND INCLUDED IN THE CONTRACT PRICE.

SUBSURFACE EXPLORATION REPORT

DANBURY WOODS SENIOR LIVING CENTER
2550 UNIVERSITY DRIVE, S.E.
MASSILLON, OHIO

ST&I PROJECT NO. G14-9866
DATED MAY 2, 2014

AS PREPARED BY:
SUMMIT TESTING & INSPECTION COMPANY
910 WHITE POND DRIVE
AKRON, OH 44320
PHONE: (330) 869-6606

JOB BENCH MARK 1
STARK COUNTY DISK PER098
ELEVATION = 1082.31'

JOB BENCH MARK 2
INV. 8" W. SAN. M.H. C
ELEVATION = 1044.90'

INDEX

REVISIONS

GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320-1123
Phone 330-836-0228 Fax 330-836-5782

MASSILLON SENIOR LIVING, LTD.
1201 S. MAIN ST.
NORTH CANTON, OH 44720

DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646

TITLE SHEET

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD1.00

UTILITY NOTES:

1. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITY TIE-INS AS SHOWN ON THE SITE PLANS (SANITARY, STORM, WATER, GAS, ELECTRIC, PHONE, ETC.) PRIOR TO THE START OF CONSTRUCTION. CONTACT MIKE KENDALL AT GBC DESIGN, INC. 330-836-0228, WITH ANY CONCERNS PRIOR TO THE START OF CONSTRUCTION.
2. THE LOCATION OF TIE IN POINTS FOR UTILITY SERVICES ARE SHOWN FOR REFERENCE ONLY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING THE APPROVAL OF ALL CONNECTION POINTS WITH THE UTILITY COMPANY IN QUESTION. THE COST FOR ALL TRENCHING, CONDUIT, AND EQUIPMENT NEEDED TO PROVIDE SERVICE, INCLUDING THE UPSIZING OF ANY EXISTING EQUIPMENT OR INSTALLATION OF NEW SERVICE (SEE MEP PLAN FOR EXACT LOCATION & SIZE), SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE CONTRACT PRICE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY CURB, PAVEMENT OR EXISTING UTILITIES OR OTHER ITEMS DISTURBED BY CONSTRUCTION.

STORM SEWERS:

1. STORM SEWERS MAY BE:
   A. PVC (S.D.R. 35) IN ACCORDANCE WITH ASTM D-3034.
   B. HIGH DENSITY POLYETHYLENE CORRUGATED PIPE WITH SMOOTH INTERIOR PER O.D.O.T. ITEM 707.33 UNLESS OTHERWISE NOTED. PIPE SHALL BE INSTALLED AND BACKFILLED AS PER THE CITY OF MASSILLON STANDARDS.
2. MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE CONSTRUCTED AS PER STANDARD DRAWINGS NOTED.
3. STORM RUNS 29 TO 15 AND 36 TO 37 SHALL BE PVC (S.D.R. 26)

WATER MAIN NOTES:

1. ALL WATER MAIN & WATER SERVICE SHALL BE IN ACCORDANCE WITH AQUA OHIO WATER RULES & REGULATIONS.
2. WATER MAIN MATERIALS SHALL CONFORM TO AWWA C151 FOR DUCTILE CAST IRON PIPE AND AWWA C900 FOR PVC PIPE.
3. WATER MAINS SHALL BE INSTALLED AND PRESSURE TESTED IN ACCORDANCE WITH AWWA C600.
4. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651.
5. THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
6. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. THE WATER SYSTEM MAY GRANT SPECIAL PERMISSION FOR BUILDINGS SIX STORIES AND HIGHER.
7. ALL DUCTILE PIPE AND FITTINGS TO BE ENCLOSED IN POLYWRAP.
8. WATER SERVICE SIZE & LOCATIONS SHALL BE PER THE ARCHITECTURAL PLANS.
9. A TEN FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND SANITARY SEWER.
10. AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND SANITARY SEWER AT ALL CROSSINGS.
11. A FOUR FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER.
12. AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER AT ALL CROSSINGS.
13. CONTRACTOR SHALL HAVE EACH HYDRANT SURVEYED AFTER INSTALLATION TO VERIFY THAT IT IS SET ACCURATELY AS PER THE PLAN WITH REGARD TO LOCATION AND ELEVATION. THE SURVEYOR SHALL FURNISH A LETTER TO AQUA OHIO DETAILING THEIR FINDINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ANY HYDRANTS THAT ARE NOT INSTALLED CORRECTLY.
14. CONTRACTOR SHALL INSTALL NEW DOMESTIC WATER SERVICE PER AQUA OHIO SPECIFICATION & REQUIREMENTS, SEE MEP PLAN FOR EXACT LOCATION & SIZE.
15. CONTRACTOR SHALL INSTALL NEW FIRE SERVICE PER AQUA OHIO SPECIFICATIONS & REQUIREMENTS. SEE MEP PLAN FOR EXACT LOCATION & SIZE.
16. CONTRACTOR SHALL INSTALL NEW FIRE DEPARTMENT CONNECTION PER AQUA OHIO & CITY OF MASSILLON SPECIFICATIONS & REQUIREMENTS. SEE MEP PLAN FOR EXACT LOCATION & SIZE.
17. CONTRACTOR SHALL INSTALL NEW PIV PER AQUA OHIO & CITY OF MASSILLON SPECIFICATIONS & REQUIREMENTS. SEE MEP PLAN FOR EXACT LOCATION & SIZE.
18. CONTRACT PRICE SHALL INCLUDE ANY NECESSARY FITTINGS FOR INSTALLATION OF WATER SERVICES.
19. CONTRACTOR SHALL DEFLECT OR INSTALL BENDS ON EXISTING OR PROPOSED WATER MAINS/SERVICES AS NECESSARY TO MAINTAIN 18" VERTICAL CLEARANCE W/ STORM & SANITARY SEWERS. COST OF ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE.

SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS ALONG THE ROUTE OF THE SANITARY SEWER AT LEAST THREE (3 DAYS PRIOR TO START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY MAINTAINING EXISTING SANITARY FLOW DURING THE CONSTRUCTION AND TESTING OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR'S METHODS FOR MAINTAINING FLOW MUST BE APPROVED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT AT THE PRE-CONSTRUCTION MEETING.
3. ALL SANITARY SEWER LATERALS SHALL BE LAID AT NO LESS THAN 1% GRADE.
4. ALL SANITARY SEWER LATERALS SHALL BE EXTENDED TO NOT LESS THAN FIVE FEET FROM BUILDING.
5. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING SEWERAGE SYSTEM RESULTING FROM NONCONFORMANCE WITH THE CITY OF MASSILLON STANDARDS OR GENERAL NEGLIGENCE.
6. 18" GRADE ADJUSTMENT OF MANHOLES PERMITTED WITH GRADE RINGS. A MAXIMUM OF 2 COURSES OF BRICK IS PERMITTED IF NECESSARY. MAXIMUM ADJUSTMENT NOT TO EXCEED 18".
7. WHERE INLET AND OUTLET PIPES CONNECT TO MANHOLES, A FLEXIBLE WATERTIGHT JOINT AS APPROVED BY THE CITY OF MASSILLON IS REQUIRED.
8. SANITARY SEWER MATERIALS SHALL CONSIST OF PVC MEETING <u>ASTM D-3034</u> WITH JOINTS CONFORMING TO <u>ASTM D-3212</u>. ALL SANITARY LATERALS SHALL BE SDR35 SANITARY SEWER PIPE.
9. THE OWNER (CONTRACTOR) MUST ALERT THE UTILITIES PROTECTION SERVICES AT 1-800-362-2764 AT LEAST 48 HOURS BEFORE ANY EXCAVATING HAS BEGUN.
10. ALL SEWER RUN DISTANCES GIVEN ARE FROM CENTERLINE TO CENTERLINE OF MANHOLES. ALL PIPE INVERT ELEVATIONS GIVEN AT MANHOLES ARE AT CENERLINE OF MANHOLE. SEWER GRADES ARE ESTABLISHED FROM CENTERLINE OF MANHOLE AND CARRIED THROUGH MANHOLE INVERT TO ASSURE FLOW THROUGH MANHOLE.
11. ALL UNDERGROUND LINES ENCOUNTERED BY CONSTRUCTION OF SANITARY SYSTEM ARE TO BE COMPLETELY RESTORED AT THE EXPENSE OF THE CONTRACTOR.
12. COST OF WYES AND STUBS TO BE INCLUDED IN PRICE BID PER LINEAR FOOT OF SANITARY SEWER.
13. COST OF ANY SHEETING OR DEWATERING NECESSARY FOR INSTALLATION OF SANITARY SEWER SHALL BE INCLUDED IN PRICE BID PER LINEAR FOOT OF RESPECTIVE ITEMS. ALSO ANY FOUNDATION SLAG REQUIRED.
14. PRIOR TO CONNECTING TO THE EXISTING SANITARY LATERAL, LATERAL SHALL BE CLEANED AND FILMED. LATERAL FILM SHALL BE SUBMITTED TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT TO BE REVIEWED AND FOUND FREE OF DEFECTS.
15. COST OF REPLICATING OR REPAIRING DEFECTS TO EXISTING SANITARY LATERAL SHALL BE AR THE COST OF THE CONTRACTOR.
16. MINIMUM COVER OVER SANITARY SEWER SHALL BE 4 FT.
17. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED, WITH BENCHES AND CHANNELS FORMED AND REPAIRED AS NECESSARY.
18. MANHOLE TOP OF CASTING ELEVATIONS MAY REQUIRE ADJUSTMENT DURING SITE GRADING. MANHOLE COVERS MAY NOT BE BURIED. UPON COMPLETION OF CONSTRUCTION AND RESTORATION, ALL MANHOLES, PROPOSED AND EXISTING, SHALL BE IN CONFORMANCE IN ALL RESPECTS WITH CITY OF MASSILLON ENGINEERING DEPARTMENT SPECIFICATIONS AND DETAILS.
19. CONTRACTOR SHALL INSTALL NEW MANHOLE AND SANITARY LATERAL/LATERALS AND GREASE TRAP. SEE MEP PLANS FOR EXACT LOCATION, SIZE, AND ELEVATION. COST OF ABOVE WORK SHALL BE INCLUDED IN CONTRACT PRICE.

GENERAL NOTES

1. ALL CATCH BASINS AND MANHOLES TO BE ADJUSTED TO GRADE WHERE NECESSARY
2. CONTRACTOR TO BACKFILL CURB IMMEDIATELY AFTER CURB HAS BEEN IN PLACE FOR 48 HOURS.
3. ALL MATERIALS USED WILL BE NEW – NO SALVAGED MATERIAL WILL BE ACCEPTED.
4. IF SUBGRADE IS UNSUITABLE, CONTRACTOR WILL EXCAVATE AND REPLACE SUCH MATERIAL WITH CRUSHER RUN GRAVEL, AT THE DISCRETION OF THE INSPECTOR OR CITY ENGINEER. THIS FILL TO BE PLACED IN 6" LAYERS OR LESS. SAID FILL TO BE COMPACTED TO 98% LABORATORY DRY WEIGHT BEFORE ADDITIONAL LAYERS ARE ADDED. THIS COMPACTION TO BE DONE BEFORE FORMS ARE PLACED.
5. ALL STORM SEWER SHALL BE SMOOTH LINED CORRUGATED POLYETHYLENE (O.D.O.T. 707.33 OR REINFORCED CONCRETE PIPE (O.D.O.T. 706.02 AND SHALL BE TYPE "C" CONDUIT IN ACCORDANCE WITH O.D.O.T. 603 WITH CLASS "C" BEDDING AND SUITABLE BACKFILL.
6. ALL ROOF DRAIN COLLECTORS SHALL BE 8" DIA. PVC SDR-35 AND HAVE A MINIMUM SLOPE OF 0.50%. THE CONTRACTOR SHALL CONNECT DOWNSPOUTS AND ANY ROOF DRAINS FROM THE BUILDING WITH A 6" DIAMETER PVC SDR-35 AT 1.00% MIN SLOPE. A SCREW TYPE CLEANOUT SHALL BE PROVIDED AT ALL BENDS AND END OF PIPES. DOWNSPOUTS TO BE CONNECTED TO A 6" PVC PIPE WITH RECTANGULAR TO CIRCULAR TRANSITION FITTING INSTALLED AT GRADE.
7. MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH PLAN DETAILS OR APPLICABLE O.D.O.T. STANDARD DRAWINGS.
8. CONTRACTOR SHALL CONTACT THE CITY OF MASSILLON ENGINEERING DEPARTMENT (GREG MCCUE AT (330/830-1722 AT LEAST 2 DAYS PRIOR TO THE INITIATION OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING.
9. WHEREVER UNSTABLE SOIL SUBGRADE CONDITIONS ARE ENCOUNTERED THAT ARE UNSUITABLE PER O.D.O.T. 203 SPECIFICATIONS AND/OR DETERMINED BY THE GEOTECHNICAL ENGINEER, ADDITIONAL EXCAVATION AND SUBSEQUENT BACKFILLING SHALL BE DONE BY THE CONTRACTOR UNTIL SUCH CONDITIONS ARE CORRECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER. COST SHALL BE INCLUDED IN THE CONTRACT PRICE.
10. SUBGRADE TESTING OR PROOF ROLLING MUST BE WITNESSED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF THE PAVEMENT SUBBASE MATERIAL.
11. AS-BUILT DRAWINGS ARE REQUIRED AND SHALL BE SUBMITTED TO THE CITY ENGINEER UPON COMPLETION OF THE PROJECT.
12. ALL ROAD SURFACES, EASEMENT OR RIGHT-OF-WAY DISTURBED BY CONSTRUCTION OF ANY PART OF THIS IMPROVEMENT ARE TO BE RESTORED COMPLETELY TO THE BEFORE CONSTRUCTION CONDITION OR BETTER WHEN ORDERED BY THE CITY ENGINEER.
13. CONTRACT PRICE FOR ALL CONSTRUCTION IS COMPLETE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITIONS.
14. THE LOCATIONS OF ALL GAS LINES TO BE DETERMINED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES AND VALVE BOXES ETC. ARE TO BE HELD BY THE CONTRACTOR DURING CONSTRUCTION.
15. THE CONSTRUCTION OF THIS PROJECT SHALL BE GOVERNED BY THE CITY OF MASSILLON DIVISION OF ENGINEERING STANDARDS AND SUPPLEMENTED BY THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T.) CONSTRUCTION AND MATERIAL SPECIFICATIONS (CURRENT EDITION).
16. ALL PROPOSED TRENCHES SHALL BE BACKFILLED WITH SELECT MATERIALS IN ACCORDANCE WITH THE PLANS AND GEOTECHNICAL REPORT.
17. FERTILIZING, SEEDING AND MULCHING FOR RESTORATION OF DISTURBED AREAS BETWEEN THE PAVEMENT EDGES AND THE RIGHT OF WAY LINE SHALL CONFORM TO SECTIONS 659.08 AND 659.09 AS SPECIFIED IN THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (CURRENT ADDITION).
18. ALL DISTURBED SIGNS, GUARD RAILS, MAIL AND/OR PAPER BOXES, DRIVES AND DRIVE CULVERTS SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE CITY OF MASSILLON ENGINEER.
19. ALL DISTURBED AND/OR DAMAGED STORM SEWER PIPES, STORM SEWER APPURTENANCES, PAVEMENTS, BERMS AND DITCHES SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE CITY OF MASSILLON ENGINEER.
20. CALL OHIO UTILITIES PROTECTION SERVICE BEFORE DIGGING (1-800-362-2764).
21. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL MEET RAINWATER RAINWATER AND LAND DEVELOPMENT, OHIO'S STANDARDS FOR STORMWATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION, THIRD EDITION 2006.
22. THE CONTRACTOR IS REQUIRED TO HAVE ALL UTILITY CROSSING CONDUITS (ELECTRIC, TELEPHONE, CABLE TV INSTALLED PRIOR TO THE INSTALLATION OF PAVEMENT).
23. ALL POINTS OF CONNECTION OF PROPOSED IMPROVEMENTS TO EXISTING IMPROVEMENTS SHALL BE UNCOVERED AND ELEVATIONS VERIFIED BY FIELD CHECK BEFORE ANY CONSTRUCTION BEGINS.
24. WHERE THE PLANS PROVIDE FOR THE PROPOSED SEWER TO BE CONNECTED TO OR CROSS EITHER OVER OR UNDER AN EXISTING UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING UTILITY, BOTH LINE AND GRADE, BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT. THERE WILL BE NO EXTRA PAYMENT FOR THE ABOVE WORK.
25. EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LASTS EDITION ITEM 203).
26. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR ENCOUNTERS UTILITIES OTHER THAN THOSE LOCATIONS SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE THE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
27. PRICES BID SHALL INCLUDE ANY SHEETING OR DEWATERING THAT MAY BE REQUIRED.

Kathy Catazaro-Perry, Mayor

Massillon
City of Champions

CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

SANITARY NOTES

SANITARY SEWER SPECIFICATIONS

SANITARY SEWER CONSTRUCTION PROPOSED FOR THIS PROJECT SHALL CONFORM TO THE LATEST CITY OF MASSILLON STANDARDS AND CONSTRUCTION AND MATERIALS SPECIFICATIONS, TEN STATE STANDARDS, AND THE LATEST EDITION OF THE ODOT CMS, OR MODIFIED BY THE CONTRACT DRAWINGS. IF A CONFLICT ARISES BETWEEN SAID STANDARDS IT SHALL BE AT THE DISCRETION OF THE CITY OF MASSILLON ENGINEER AS TO WHICH STANDARD SHALL GOVERN. THE PROJECT CONTRACT DRAWINGS SHALL GOVERN UNLESS NOTED OTHERWISE.

SANITARY GRAVITY SEWER PIPE AND FITTINGS SHALL BE PVC SDR 35 CONFORMING TO ASTM D-3034 UNLESS OTHERWISE NOTED. PVC COMPOUNDS SHALL CONFORM TO ASTM D-1784 PVC PIPE AND FITTINGS SHALL HAVE BELL AND SPIGOT TYPE JOINTS CONFORMING TO ASTM D-3212 AND GASKETS CONFORMING TO ASTM F-477

BACKFILL IN SEWER TRENCHES SHALL CONFORM TO ODOT ITEM 603.10 AND BE PLACED IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENT OF 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D-698 AND THOROUGHLY COMPACTED WITH MACHINE MOUNDED COMPACTION EQUIPMENT. THE PLACING OF BACKFILL MATERIAL SHALL BE CONTINUED UNTIL THE TRENCH IS ENTIRELY FILLED AND COMPACTED WITH THE APPROVED GRANULAR MATERIAL TO THE GRADE CALLED FOR ON THE CONTRACT DRAWINGS. EXCAVATED MATERIAL CONFORMING TO ODOT ITEM 203 SHALL BE USED FOR BACKFILLING EXISTING STRUCTURES (AFTER REMOVAL) ONLY. CRUSHED GRAVEL CONFORMING TO GRADATION REQUIREMENTS OF ODOT ITEM 304 OR APPROVED EQUAL AS SHOWN IN ODOT TABLE 703-1 SHALL BE USED FOR BACKFILLING ALL SEWER TRENCH AREAS SHOWN ON THE PLANS AND AS DIRECTED BY THE CITY OF MASSILLON ENGINEER. FLOODING, JETTING, OR PUDDLING OF BACKFILL MATERIAL WILL NOT BE PERMITTED UNLESS APPROVED BY THE CITY OF MASSILLON ENGINEER. COMPACTION TESTING OF THE BACKFILL BY A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE OWNER AT THE EXPENSE OF THE CONTRACTOR.

SANITARY SEWERS SHALL BE AIR TESTED FOR LEAKAGE AND MANDREL TESTED FOR DEFLECTION. THE MAXIMUM ALLOWABLE PIPE DEFLECTION SHALL BE 5%.

SANITARY SEWER MANHOLE FRAMES SHALL CONFORM TO EAST JORDON TYPE MASSILLON 1048 OR APPROVED EQUAL.
SANITARY SEWER MANHOLE LIDS SHALL CONFORM TO EAST JORDON TYPE MASSILLON 1040AGS OR APPROVED EQUAL.

PRIOR TO FINAL PAYMENT FOR AND ACCEPTANCE OF SANITARY SEWER INSTALLATION THE RESULTS OF THE AIR PRESSURE TESTS, TELEVISION TESTS AND MADREL TESTS SHALL BE FORWARDED TO THE CITY OF MASSILLON ENGINEER.

DEFLECTION TESTING

MAXIMUM ALLOWABLE PIPE DEFLECTION (REDUCTION IN VERTICAL INSIDE DIAMETER) SHALL BE 5%. DEFLECTION TESTS OF PIPE SHALL BE PERFORMED NOT SOONER THAN 30 DAYS AFTER THE BACKFILL HAS BEEN PROPERLY PLACED AND BEFORE FINAL ACCEPTANCE. LOCATIONS WITH EXCESS DEFLECTION SHALL BE EXCAVATED AND REPAIRED BY RE-BEDDING OR REPLACEMENT OF THE PIPE AT THE CONTRACTOR'S EXPENSE. DEVICES FOR TESTING INCLUDE A DEFLECTOMETER METER, OR PROPERLY SIZED (60, NO-GO) MANDREL OR SEWER BALL. THE DEFLECTION TESTING MUST BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES. FOR THE PURPOSE OF DEFLECTION MEASUREMENTS, THE BASE INSIDE PIPE DIAMETERS WITHOUT DEFLECTION ARE PROVIDED IN TABLE A. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE APPLIED TO THE BASE INSIDE DIAMETER IN DETERMINING THE MINIMUM PERMISSIBLE DIAMETER. IT MUST BE EMPHASIZED THAT TO INSURE ACCURATE TESTING, THE LINES MUST BE THOROUGHLY CLEANED.

TABLE A
INSIDE DIAMETERS FOR DEFLECTION MEASUREMENTS
OF ASTM D 3034 SDR 35 / SDR 21 PVC SEWER PIPE

SIZE	SDR	AVG. O.D.	BASE I.D.	DEFLECTION MANDREL
6"	35	6.275	5.742	5.54
8"	35	8.400	7.665	7.28
10"	35	10.500	9.563	9.08
12"	35	12.500	11.361	10.79

TELEVISION TESTING

ALL SANITARY SEWERS, 8-INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE A COMPLETE INTERNAL INSPECTION DVD TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE RECORDING PROCEDURE SHALL BE IN ACCORDANCE WITH CITY OF MASSILLON ENGINEERING DEPARTMENT STANDARDS.

LEAKAGE TESTS

LEAKAGE TESTS SHALL BE PERFORMED WHICH MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER COMPLETED AND ACCEPTED.

WATER (HYDROSTATIC) TEST

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY [9L/(MM OF PIPE DIAMETER KM D)] FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET (0.6 M).

AIR TESTING AS PER ASTM F1417

AIR TESTING WILL BE CONDUCTED AS THE PROJECT IS BEING CONSTRUCTED. AT NO TIME WILL MORE THAN 900 FEET OF PIPE BE INSTALLED BEFORE AIR TESTING IS PERFORMED. SEWAGE WILL NOT BE DIVERTED TO ANY SECTION OF PIPE, REGARDLESS OF LENGTH, UNTIL ALL TESTING IS COMPLETED AND ACCEPTED.

AFTER BACKFILLING A MANHOLE TO MANHOLE REACH OF SANITARY SEWER LINE, THE CONTRACTOR SHALL, AT HIS EXPENSE, CONDUCT THE LINE ACCEPTANCE TESTS. THE TESTS SHALL BE PERFORMED ACCORDING TO THE STATED PROCEDURES AND UNDER THE SUPERVISION OF THE CITY OF MASSILLON ENGINEER OR HIS REPRESENTATIVE.

EQUIPMENT USED SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS AND BE APPROVED BY THE CITY OF MASSILLON ENGINEER:

1. PNEUMATIC PLUGS SHALL HAVE A SEALING LENGTH EQUAL TO OR A GREATER THAN THE DIAMETER OF THE PIPE BEING INSPECTED.
2. PNEUMATIC PLUGS SHALL RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRED EXTERNAL BRACING OR BLOCKING.
3. ALL AIR USED SHALL PASS THROUGH A SINGLE CONTROL PANEL.
4. THREE INDIVIDUAL HOSES SHALL BE USED FOR THE FOLLOWING CONNECTIONS:
   a. FROM CONTROL PANEL TO PNEUMATIC PLUGS FOR INFLATION.
   b. FROM CONTROL PANEL TO SEALED LINE FOR INTRODUCING THE LOW PRESSURE AIR.
   c. FROM SEALED LINE TO CONTROL PANEL FOR CONTINUALLY MONITORING AIR PRESSURE RISE IN THE SEALED LINE.

TEST EQUIPMENT TESTING PROCEDURES SHALL BE AS FOLLOWS:

ALL PNEUMATIC PLUGS SHALL BE SEAL TESTED BEFORE BEING USED IN THE ACTUAL TEST INSTALLATION. ONE LENGTH OF PIPE SHALL BE LAID ON THE GROUND AN SEALED AT BOTH ENDS WITH THE PNEUMATIC PLUGS TO BE CHECKED. THE SEALED PIPE SHALL BE PRESSURED TO 5 PSIG. THE PLUGS MUST HOLD AGAINST THIS PRESSURE WITHOUT HAVING TO BE BRACED.
AFTER A MANHOLE TO MANHOLE REACH OF PIPE HAS BEEN BACKFILLED AND CLEANED, AND THE PNEUMATIC PLUGS ARE CHECKED BY THE ABOVE PROCEDURE, THE PLUGS SHALL BE PLACED IN THE LINE AT EACH MANHOLE. LOW PRESSURE AIR SHALL BE SLOWLY INTRODUCED INTO THIS SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES APPROXIMATELY 4 PSI.

Kathy Catazaro-Perry, Mayor

Massillon
City of Champions

CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

SANITARY NOTES

CONTINUED: AIR TESTING AS PER ASTM F1417

AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSIG, THE AIR HOSE FROM THE CONTROL PANEL TO THE AIR SUPPLY SHALL BE DISCONNECTED. THE PORTION OF THE LINE BEING TESTED SHALL BE TERMED "ACCEPTABLE" IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSIG (GREATER THEN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE) SHALL NOT BE LESS THAN THE TIME SHOWN FOR THE GIVEN DIAMETERS IN THE FOLLOWING TABLE:

PIPE DIAMETER IN.	MINIMUM TIME MINUTES	LENGTH FOR MINUTES TIME, FT.	TIME FOR LONGER LENGTH, S	SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES							
				100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.	450 FT.
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:36	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	198	3.416 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	6.342 L	14:10	14:10	17:46	22:15	26:42	31:09	35:36	40:04
18	17:0	133	7.692 L	17:00	19:13	25:38	32:09	38:27	44:52	51:16	57:41

IN AREAS WHERE GROUND WATER IS KNOWN TO EXIST, THE CONTRACTOR SHALL INSTALL A 1/2 INCH DIAMETER CAPPED PIPE NIPPLE APPROXIMATELY 10 INCHES LONG, THROUGH THE MANHOLE WALL ON TOP OF ONE OF THE SANITARY SEWER LINES ENTERING THE MANHOLE. THIS SHALL BE DONE AT THE TIME THE SANITARY SEWER LINE IS INSTALLED. IMMEDIATELY PRIOR TO THE PERFORMANCE OF THE LINE ACCEPTABILITY TEST, THE GROUND WATER SHALL BE DETERMINED BY REMOVING THE PIPE CAP, BLOWING AIR THROUGH THE PIPE NIPPLE IN THE GROUND SO AS TO CLEAR IT, AND THEN CONNECTING A CLEAR PLASTIC TUBE TO THE NIPPLE. THE PLASTIC TUBE SHALL BE VERTICAL AND A MEASUREMENT OF THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. AIR TEST PRESSURE IS TO BE INCREASED BY 0.433 PSI FOR EACH FOOT THE GROUND WATER IS ABOVE THE INVERT OF THE SEWER LINE BEING TESTED. THE ALLOWABLE DROP OF ONE POUND AND THE TIMING OF THE TEST REMAIN THE SAME.

IF A LINE ACCEPTABILITY TEST IS BEING CONDUCTED ON MORE THAN ONE MANHOLE REACH OF PIPE, THE ENTIRE SECTION BEING TESTED SHALL MEET THE LINE ACCEPTABILITY REQUIREMENTS AS IF ONLY ONE (1) OF THE MANHOLE REACHES IN THE SECTION WERE BEING TESTED.

NEGATIVE AIR PRESSURE (VACUUM) TESTING OF MANHOLES AS PER ASTM C-1244

PREPARATION OF THE MANHOLE:

A. ALL LIFT HOLES SHALL BE PLUGGED.
B. ALL PIPES ENTERING THE MANHOLE SHALL BE TEMPORARILY PLUGGED, TAKING CARE TO SECURELY BRACE THE PIPES AND PLUGS TO PREVENT THEM FROM BEING DRAWN INTO THE MANHOLE.

PROCEDURE:

A. THE TEST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
B. A VACUUM OF 10 IN. OF MERCURY SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED, AND THE VACUUM PUMP SHUT OFF. THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 IN OF MERCURY.
C. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10 IN. OF MERCURY TO 9 IN. OF MERCURY MEETS OR EXCEEDS THE VALUES INDICATED IN TABLE BELOW.

MINIMUM TEST TIMES FOR MANHOLES

DEPTH (FT)	DIAMETER, IN.								
	30	33	36	42	48	54	60	66	72
	TIME, IN SECONDS								
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	39	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81

CLEAN WATER STATEMENT

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

RELATION TO WATER MAINS

SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.

WORKING AREA

NO EXCAVATION WITH SIDE SLOPES STEEPER THAN 2:1 AND/OR DEEPER THAN 2', OPEN CASTINGS AND PIPES SHALL BE LEFT EXPOSED WHEN THE SITE IS UNATTENDED BY THE CONTRACTOR. THE CONTRACTOR SHALL SECURE ALL SUCH EXCAVATIONS, OPEN CASTINGS AND PIPES AGAINST UNAUTHORIZED ENTRY COVERING WITH STEEL PLATES, TEMPORARY BACKFILLING, FENCING AND SECURITY SERVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK.

FINAL APPROVAL

A VIDEO IN THE FORM OF DVD WILL BE MADE BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF MASSILLON ENGINEER PRIOR TO THE PROJECT COMMENCING. AFTER THE FINAL INVOICE IS SUBMITTED THE SITE SHALL BE VIDEOED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT. AS BUILT DRAWINGS SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF MASSILLON ENGINEER IN A CLEAR AND LEGENDABLE MANNER PRIOR TO FINAL INVOICE.
COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

REVISIONS

GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320-1123
Phone 330-836-0228 Fax 330-836-5782

MASSILLON SENIOR LIVING, LTD.
1201 S. MAIN ST.
NORTH CANTON, OH 44720

DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
UTILITY NOTES

DRAWN BY:
J.D.D.

DATE:
6/20/2014

PROJECT NO.
46178

DRAWING NO.
SD1.01

UNIVERSITY VILLAGE
PHASE 1
P.B. VOL. 65, PG. 22

UNIVERSITY VILLAGE
PHASE 5
P.B. VOL. 67, PG. 120

(1) 15679 | (2) 15680 | (3) 15681 | (4) 15682 | (5) 15683 | 159 | 158 | 157 | 156 | 155

N 88°07'57" W 813.35'

SITE BENCH MARK #1

N

0 20' 40' 80'

SCALE: 1" = 40'

EX. TELE. BOX
EX. UTIL. BOX
EX. ELEC. BOX
EX. ELEC. BOX
OBT ESMT. INST. #99017287
40' BLDG. SETBACK
EX. EDGE OF ASPHALT
EX. FENCE
EX. CONC. CURB
R/W
C.L.
N 02°47'08" E 232.25'
50'
N 02°47'20" E 232.01'
EX. ELEC. BOX

EX. LIGHT (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
EX. STM. STRUCTURE (TO BE REMOVED)
EX. STM. STRUCTURE (TO BE REMOVED)
EX. PARKING STRIPES (TO BE REMOVED)
EX. 7' CONC. WALK (TO BE REMOVED)
EX. 12" STM. SEWER (TO BE REMOVED)
EX. 12" STM. SEWER (TO BE REMOVED)
EX. CONC. PAD (TO BE REMOVED)
EX. CONC. PAD (TO BE REMOVED)
EX. LANDSCAPE (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
PROP. FULL DEPTH SAW CUT
EX. PAINT STRIPE (TO BE BLACKED OUT)
EX. 12" STM. SEWER (TO BE ABANDONED)
MASSILLON SENIOR LIVING, LTD.
INST. #201403210009859
PPN 780056
EX. CONC. PAD (TO BE REMOVED)
EX. CONC. PAD (TO BE REMOVED)
EX. 1 STRY. BLDG. F/F = 1070.37
EX. SAN STRUCTURE (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
EX. CONC. PAD (TO BE REMOVED)
EX. 6" CONC. CURB (TO BE REMOVED)
PROP. FULL DEPTH SAW CUT
EX. LIGHT
EX. LANDSCAPE (TO BE REMOVED)
EX. HYDRANT (TO BE RELOCATED)
EX. LIGHT (TO BE REMOVED)
EX. CONC. WALK (TO BE REMOVED)
EX. 12" STM. SEWER (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
PROP. FULL DEPTH SAW CUT
EX. ASPH. PAV.
EX. 6" CONC. CURB (TO BE REMOVED)
EX. MAIL BOX
EX. LIGHT
EX. 7' CONC. WALK (TO BE REMOVED)
EX. STM. STRUCTURE (TO BE REMOVED)
PROP. FULL DEPTH SAW CUT
EX. PAINT STRIPE (TO BE BLACKED OUT)
EX. LIGHT (TO BE REMOVED)
EX. 12" STM. SEWER (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)
EX. PARKING STRIPES (TO BE REMOVED)
EX. 15" STM. SEWER (TO BE ABANDONED)
EX. 18" STM. SEWER (TO BE REMOVED)
EX. STM. STRUCTURE (TO BE REMOVED)
EX. 24" STM. SEWER (TO BE ABANDONED)
EX. LIGHT (TO BE REMOVED)
EX. LIGHT (TO BE REMOVED)

S 01°16'35" W 865.89'

GREGORY L. & PATRICIA A. DAWSON
INST. #201403110008320
PPN 4312995

DELTA = 37°32'33"
CHORD BEARING = S 15°59'08" E
RADIUS = 364.85'
LENGTH = 239.06'
TANGENT = 124.00'
CHORD LENGTH = 234.81'

CITY OF MASSILLON STORM SEW. ESMT. INST. #200309100088088

SITE BENCH MARK #2

N 34°45'25" W 368.62'

EX. TELE. BOX
EX. SAN. SEWER
EX. CONC. CURB
EX. LAND SCAPE
EX. UTIL. BOX
EX. TELE. BOX
EX. ELEC. BOX
EX. LIGHT
EX. LAND SCAPE
EX. CONC. CURB
R/W

UNIVERSITY DRIVE S.E. - 50' R/W (PUBLIC)

LEGEND

AREA OF DEMOLITION INCLUDING PAVEMENT REMOVAL, CONCRETE WALK, CURB, LIGHT POLES, UTILITY SERVICES, ETC.

* ALL ABANDONED STORM SEWER SHALL BE GROUT SHUT WITH NON SHRINK GROUT

* ALL UTILITIES REMOVED SHALL BE BACKFILLED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT

JOB BENCH MARK 1
STARK COUNTY DISK PER098
ELEVATION = 1082.31'

JOB BENCH MARK 2
INV. 8" W. SAN. M.H. C (AS SHOWN)
ELEVATION = 1044.90'

EX. STORM SEWER STRUCTURE SCHEDULE

1. EX. STM. M.H.
TOP 1068.34
INV. 1060.41, 18" N
INV. 1060.41, 18" S

2. EX. STM. M.H.
TOP 1063.11
INV. 1055.76, 18" N
INV. 1055.76, 18" SE

3. EX. CATCH BASIN
TOP 1055.24
INV. 1053.09, 18" N
INV. 1053.09, 15" SE

4. EX. CATCH BASIN
TOP 1054.96 PROP. TOP 1055.29
INV 1053.12, 12" SW

5. EX. CATCH BASIN
TOP 1055.40
INV. 1052.15, 18" SW
INV. 1052.15, 24" SE
INV. 1052.75, 15" NW

6. EX. CURB INLET
TOP 1055.28
INV. 1052.58, 18" NE
INV. 1052.68, 18" SW

EX. STORM SEWER STRUCTURE SCHEDULE

7. EX. CURB INLET
TOP 1055.26
INV. 1052.99, 18" NE

11. EX. CATCH BASIN
TOP 1066.34
INV. 1058.84, 18" E
INV. 1059.01, 15" NW

12. EX. CATCH BASIN
TOP 1065.61
INV. 1059.54, 15" SE
INV. 1059.68, 12" E
INV. 1059.55, 12" N

14. EX. CATCH BASIN
TOP 1067.37
INV. 1064.92, 12" SE

15. EX. CATCH BASIN
TOP 1067.86
INV. 1063.91, 12" W
INV. 1064.48, 12" NW

16. EX. CATCH BASIN
TOP 1067.92
INV. 1065.37, 12" SE

EX. STORM SEWER STRUCTURE SCHEDULE

17. EX. CATCH BASIN
TOP 1067.26
INV. 1064.56, 12" S
INV. 1064.57, 12" NW

18. EX. STM. M.H.
TOP 1057.95
INV. 1053.48, 18" NW
INV. 1053.48, 18" S

19. EX. STM. M.H.
TOP 1069.22
INV. 1062.22, 18" S
INV. 1062.22, 18" W

20. EX. CATCH BASIN
TOP 1070.07
INV. 1062.95, 18" E
INV. 1062.95, 10" W

EX. SAN. SEW. STRUCTURE SCHEDULE

A. EX. SAN. M.H.
TOP 1071.04
INV. 1048.24, 10" S
INV. 1048.53, 10" N

B. EX. SAN. M.H.
TOP 1068.59
INV. 1046.67, 10" S
INV. 1046.67, 10" N

C. EX. SAN. M.H.
TOP 1060.58
INV. 1044.90, 8" SW
INV. 1044.90, 8" E

D. EX. SAN. M.H.
TOP 1069.08
INV. 1059.56, 8" W
INV. 1059.56, 8" N
INV. 1059.67, 6" E

H. EX. SAN. M.H.
TOP 1059.57
INV. 1043.93, 10" N
INV. 1044.08, 8" NE
INV. 1043.93, 10" SW

REVISIONS

GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320-1123
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MASSILLON SENIOR LIVING, LTD.
1201 S. MAIN ST.
NORTH CANTON, OH 44720

DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646

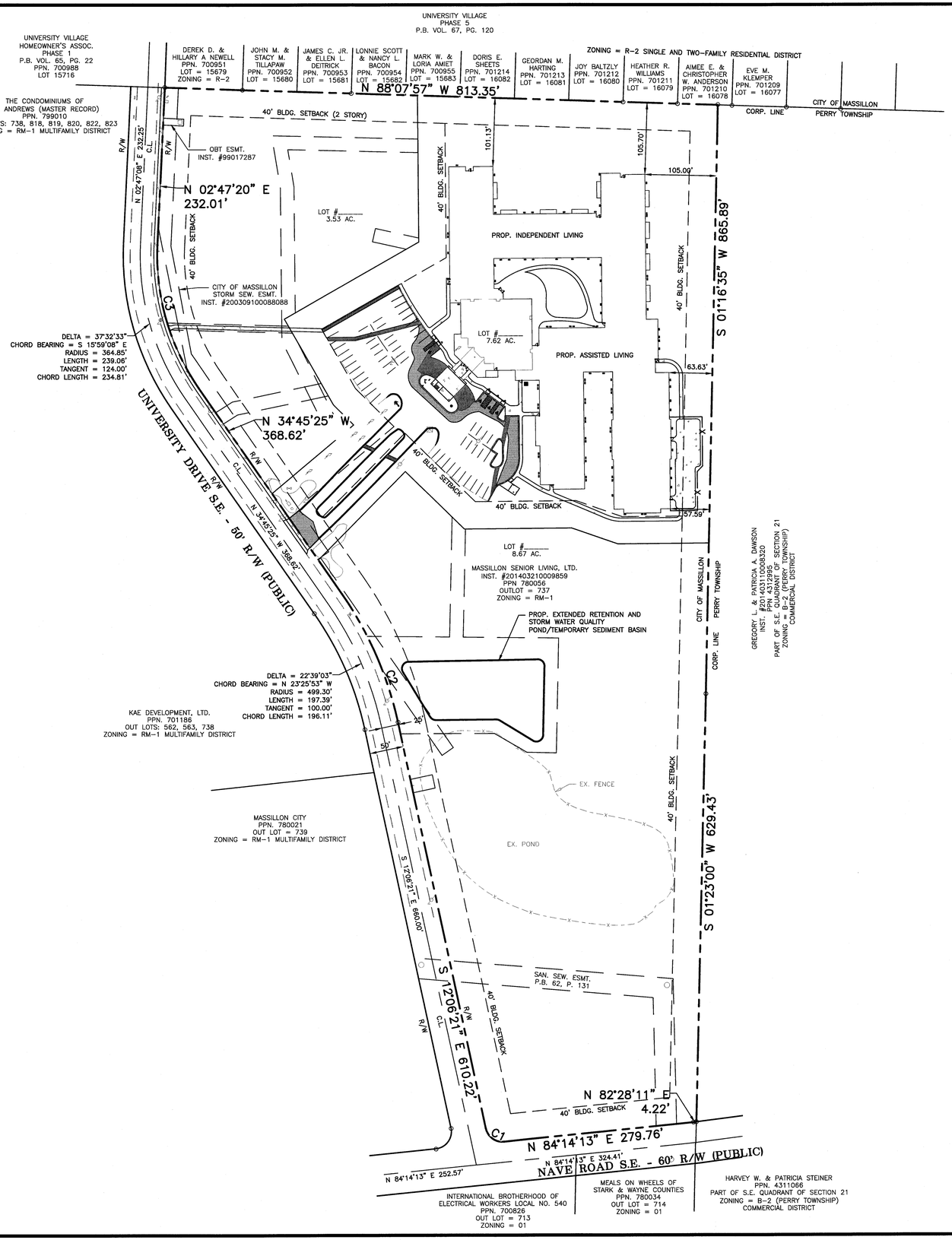
DEMOLITION PLAN

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD2.00



N

0 40' 80' 160'

SCALE: 1" = 80'

BASIS OF BEARING:
OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD 83–1986).

THE SCGRS POINTS USED AS REFERENCE STATIONS TO ESTABLISH THE DATUM ARE DESIGNATED AS PER098 & PER112.

ALL BEARINGS SHOWN ARE BASED ON GRID NORTH.

ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. TO OBTAIN A GRID DISTANCE, MULTIPLY THE GROUND DISTANCE BY THE PROJECT COMBINED FACRO (PCF) OF 0.99990194.

ZONING:
RM-1: MULTI FAMILY DISTRICT

BUILDING SETBACKS: (1157.04)

FRONT	40'
SIDE	40'
REAR	40'
HEIGHT	25'

CURVE TABLE

CURVE	DELTA	CHORD BEARING	RADIUS	LENGTH	TANGENT	CHORD LENGTH
C1	83°39'26"	S 53°56'04" E	25.00'	36.50'	22.38'	33.35'
C2	22°39'03"	N 23°25'53" W	524.30'	207.27'	105.01'	205.93'
C3	37°32'33"	S 15°59'08" E	339.85'	222.68'	115.50'	218.72'

REVISIONS

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MASSILLON, OHIO 44646

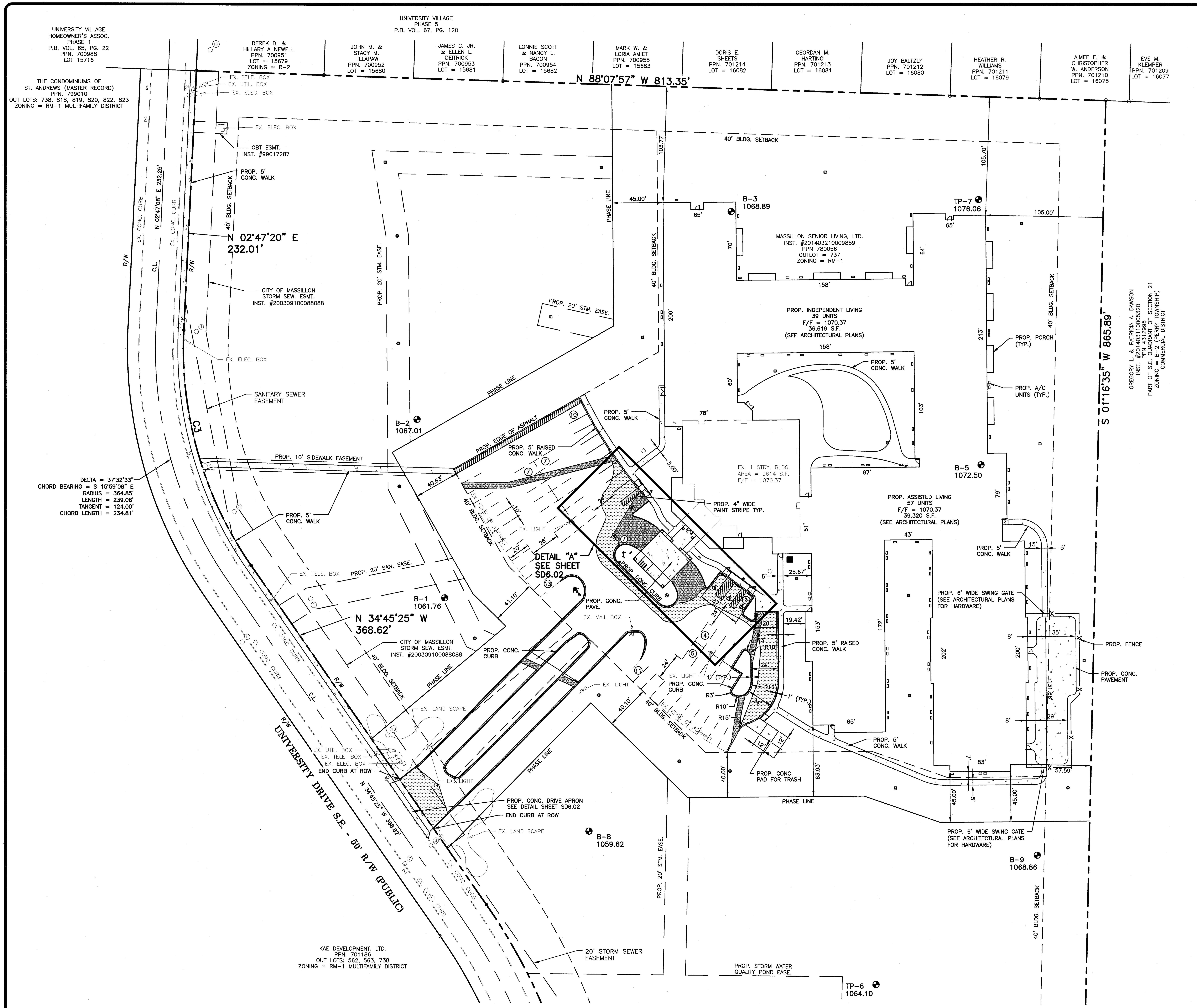
GENERAL PLAN

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD3.00



UNIVERSITY VILLAGE PHASE 5 P.B. VOL. 67, PG. 120
UNIVERSITY VILLAGE HOMEOWNER'S ASSOC. PHASE 1 P.B. VOL. 65, PG. 22 PPN. 700988 LOT 15716
THE CONDOMINIUMS OF ST. ANDREWS (MASTER RECORD) PPN. 799010 OUT LOTS: 738, 818, 819, 820, 822, 823 ZONING = RM-1 MULTIFAMILY DISTRICT
DEREK D. & HILLARY A NEWELL PPN. 700951 LOT = 15679 ZONING = R-2
JOHN M. & STACY M. TILLAPAW PPN. 700952 LOT = 15680
JAMES C. JR. & ELLEN L. DEITRICK PPN. 700953 LOT = 15681
LONNIE SCOTT & NANCY L. BACON PPN. 700954 LOT = 15682
MARK W. & LORIA AMIET PPN. 700955 LOT = 15683
DORIS E. SHEETS PPN. 701214 LOT = 16082
GEORDAN M. HARTING PPN. 701213 LOT = 16081
JOY BALTZLY PPN. 701212 LOT = 16080
HEATHER R. WILLIAMS PPN. 701211 LOT = 16079
AIMEE E. & CHRISTOPHER W. ANDERSON PPN. 701210 LOT = 16078
EVE M. KLEMPER PPN. 701209 LOT = 16077
N 88°07'57" W 813.35'
N 02°47'20" E 232.01'
S 01°16'35" W 865.89'
N 34°45'25" W 368.62'
40' BLDG. SETBACK
B-3 1068.89
TP-7 1076.06
MASSILLON SENIOR LIVING, LTD. INST. #201403210009859 PPN 780056 OUTLOT = 737 ZONING = RM-1
PROP. INDEPENDENT LIVING 39 UNITS F/F = 1070.37 36,619 S.F. (SEE ARCHITECTURAL PLANS)
PROP. ASSISTED LIVING 57 UNITS F/F = 1070.37 39,320 S.F. (SEE ARCHITECTURAL PLANS)
EX. 1 STRY. BLDG. AREA = 9614 S.F. F/F = 1070.37
GREGORY L. & PATRICIA A. DAWSON INST. #201403110008320 PPN 4312955 PART OF S.E. QUADRANT OF SECTION 21 ZONING = B-2 (PERRY TOWNSHIP) COMMERCIAL DISTRICT
DELTA = 37°32'33" CHORD BEARING = S 15°59'08" E RADIUS = 364.85' LENGTH = 239.06' TANGENT = 124.00' CHORD LENGTH = 234.81'
B-2 1067.01
B-1 1061.76
B-5 1072.50
B-8 1059.62
B-9 1068.86
TP-6 1064.10
DETAIL "A" SEE SHEET SD6.02
UNIVERSITY DRIVE S.E. - 50' R/W (PUBLIC)
KAE DEVELOPMENT, LTD. PPN. 701186 OUT LOTS: 562, 563, 738 ZONING = RM-1 MULTIFAMILY DISTRICT
PROP. STORM WATER QUALITY POND EASE.
20' STORM SEWER EASEMENT
PROP. CONC. DRIVE APRON SEE DETAIL SHEET SD6.02
PROP. 6' WIDE SWING GATE (SEE ARCHITECTURAL PLANS FOR HARDWARE)
PROP. FENCE
PROP. CONC. PAVEMENT
PHASE LINE
SCALE: 1" = 40'

INDEPENDENT & ASSISTED LIVING PARKING DATA

INDEPENDENT LIVING PARKING REQUIREMENT
(1 FOR EACH 2 UNITS, AND 1 FOR EACH EMPLOYEE)

NUMBER OF UNITS = 39

(39/2)=20 SPACES REQUIRED

ASSISTED LIVING PARKING REQUIREMENT
(1 FOR EACH 3 BEDS, AND 1 FOR EACH EMPLOYEE ON THE LARGEST WORKING SHIFT)

NUMBER OF UNITS = 57

(57/3)=19 SPACES REQUIRED

NUMBER OF EMPLOYEE SPACES = 20
REQUIRED SPACES = 59

PROVIDED PARKING SPACES

PARKING SPACES = 56
ACCESSIBLE SPACES = 4
TOTAL PARKING SPACES = 60

MINIMUM PARCEL AREA

PER PLANNING AND ZONING CODE 1177.01 (d)

PHASE 1

60 ROOMS X 1,200 S.F. = 192,000 S.F. = 4.41 AC.

LEGEND

FULL DEPTH PAVEMENT REPLACEMENT

PAVEMENT OVERLAY DEPTH VARIES

SOIL BORINGS – TEST PITS

FLOOD ZONE DESIGNATION

SUBJECT PARCEL LIES IN FLOOD ZONE X (AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER FLOOD INSURANCE RATE MAP PANEL 39151C0213E (PANEL NOT PRINTED).

BASIS OF BEARING:
OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD 83-1986).

THE SCGRS POINTS USED AS REFERENCE STATIONS TO ESTABLISH THE DATUM ARE DESIGNATED AS PER098 & PER112.

ALL BEARINGS SHOWN ARE BASED ON GRID NORTH.

ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. TO OBTAIN A GRID DISTANCE, MULTIPLY THE GROUND DISTANCE BY THE PROJECT COMBINED FACRO (PCF) OF 0.99990194.

ZONING:
RM-1: MULTI FAMILY DISTRICT

BUILDING SETBACKS:

FRONT 40'
SIDE 40'
REAR 40'
HEIGHT 25'

NOTE:
SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF CANOPIES, PORCHES, BUILDING UTILITY ENTRANCE LOCATIONS AND PRECISE BUILDING DIMENSIONS.

FENCE NOTE
6' HIGH ECHELON PLUS ORNAMENTAL ALUMINUM FENCE MANUFACTURED BY AMERISTAR FENCE PRODUCTS. FENCE SHALL BE 3-RAIL MAJESTIC STYLE WITH 3/4" PICKETS. COLOR SHALL BE BLACK; OR APPROVED SIMILAR FENCE. FENCE POST SHALL BE INSTALLED IN CONCRETE PER MANUFACTURERS RECOMMENDATIONS.

REVISIONS

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Phone 330-836-0228 Fax 330-836-5782

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1201 S. MAIN ST.
NORTH CANTON, OH 44720

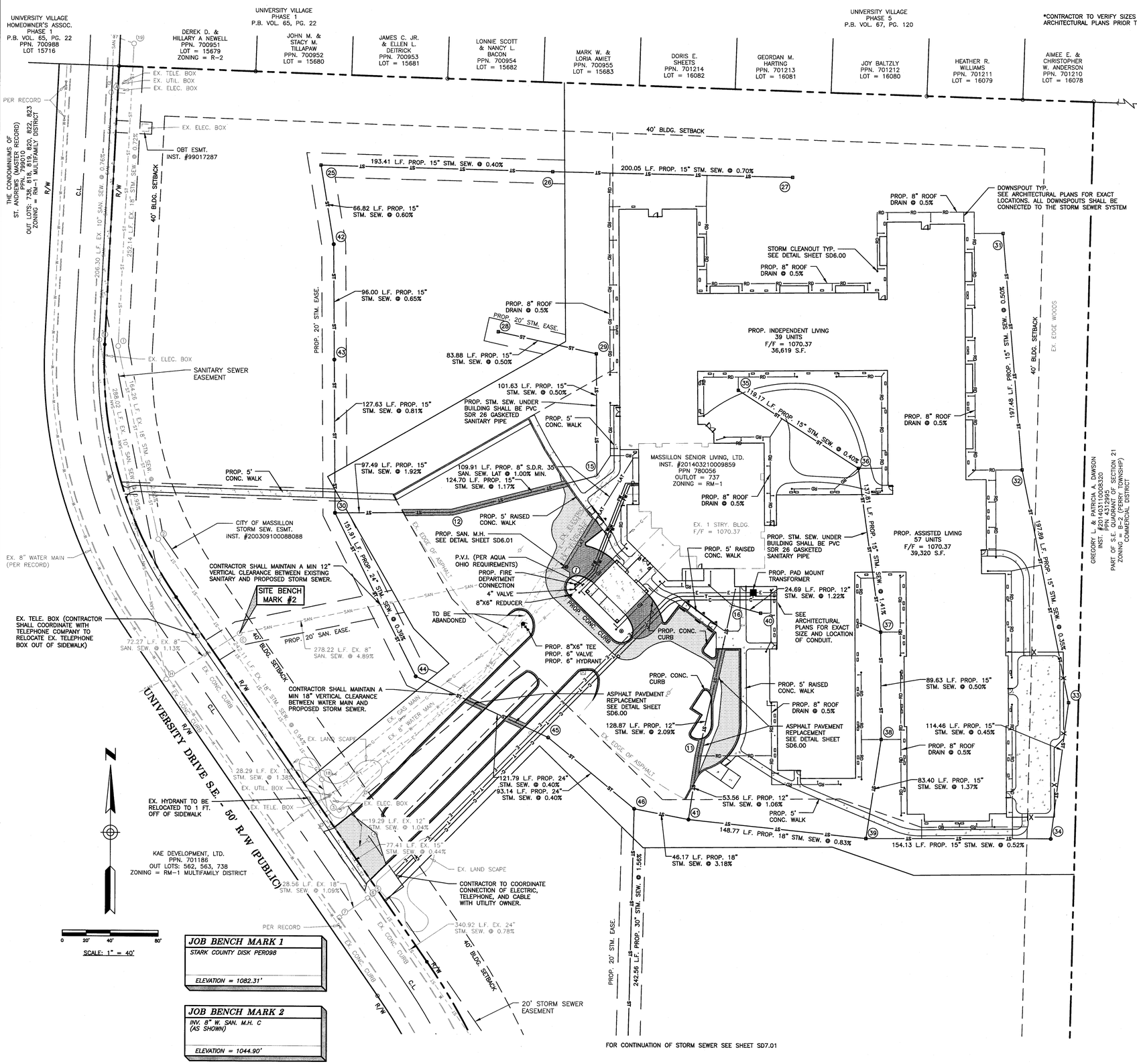
DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
SITE PLAN

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD3.01



EX. STORM SEWER STRUCTURE SCHEDULE

1. EX. STM. M.H.
   TOP 1068.34
   INV. 1060.41, 18" N
   INV. 1060.41, 18" S
2. EX. STM. M.H.
   TOP 1063.11
   INV. 1055.76, 18" N
   INV. 1055.76, 18" SE
3. EX. CATCH BASIN
   TOP 1055.24
   INV. 1053.09, 18" N
   INV. 1053.09, 15" SE
4. EX. CATCH BASIN
   TOP 1054.96 **PROP. TOP 1055.29**
   INV. 1053.12, 12" SW
5. EX. CATCH BASIN
   TOP 1055.40
   INV. 1052.15, 18" SW
   INV. 1052.15, 24" SE
   INV. 1052.75, 15" NW
6. EX. CURB INLET
   TOP 1055.28
   INV. 1052.58, 18" NE
   INV. 1052.68, 18" SW

EX. STORM SEWER STRUCTURE SCHEDULE

7. EX. CURB INLET
   TOP 1055.26
   INV. 1052.99, 18" NE
11. EX. CATCH BASIN
    TOP 1066.34
    INV. 1058.84, 18" E
    INV. 1059.01, 15" NW
12. EX. CATCH BASIN
    TOP 1065.61
    INV. 1059.54, 15" SE
    INV. 1059.68, 12" E
    INV. 1059.55, 12" N
14. EX. CATCH BASIN
    TOP 1067.37
    INV. 1064.92, 12" SE
15. EX. CATCH BASIN
    TOP 1067.86
    INV. 1063.91, 12" W
    INV. 1064.48, 12" NW
16. EX. CATCH BASIN
    TOP 1067.92
    INV. 1065.37, 12" SE

EX. STORM SEWER STRUCTURE SCHEDULE

17. EX. CATCH BASIN
    TOP 1067.26
    INV. 1064.56, 12" S
    INV. 1064.57, 12" NW
18. EX. STM. M.H.
    TOP 1057.95
    INV. 1053.48, 18" NW
    INV. 1053.48, 18" S
19. EX. STM. M.H.
    TOP 1069.22
    INV. 1062.22, 18" S
    INV. 1062.22, 18" W
20. EX. CATCH BASIN
    TOP 1070.07
    INV. 1062.95, 18" E
    INV. 1062.95, 10" W

EX. SAN. SEW. STRUCTURE SCHEDULE

A. EX. SAN. M.H.
   TOP 1071.04
   INV. 1048.24, 10" S
   INV. 1048.53, 10" N
B. EX. SAN. M.H.
   TOP 1068.59
   INV. 1046.67, 10" S
   INV. 1046.67, 10" N
C. EX. SAN. M.H.
   TOP 1060.58
   INV. 1044.90, 8" SW
   INV. 1044.90, 8" E
D. EX. SAN. M.H.
   TOP 1069.08
   INV. 1059.56, 8" W
   INV. 1059.56, 8" N
   INV. 1059.67, 6" E
H. EX. SAN. M.H.
   TOP 1059.57
   INV. 1043.93, 10" N
   INV. 1044.08, 8" NE
   INV. 1043.93, 10" SW

PROP. SAN. SEW. STRUCTURE SCHEDULE

I. PROP. SAN. M.H.
   TOP 1068.33
   INV. 1058.50, 8" NE
   INV. 1058.50, 8" W

PROP. STORM SEWER STRUCTURE SCHEDULE

11. EX. CATCH BASIN
    TOP 1066.34
    INV. 1063.51, 12" S
    INV. 1063.51, 12" N
12. EX. CATCH BASIN
    TOP 1065.61
    INV. 1062.36, 15" W
    INV. 1062.36, 15" E
15. EX. CATCH BASIN
    TOP 1069.00
    INV. 1063.82, 15" W
    INV. 1063.82, 15" N
16. EX. CATCH BASIN
    TOP 1069.20
    INV. 1066.20, 12" S
    INV. 1066.20, 12" E
25. PROP. YARD INLET
    TOP 1067.68
    INV. 1062.54, 15" S
    INV. 1062.54, 15" E
26. PROP. YARD INLET
    TOP 1067.98
    INV. 1063.31, 15" W
    INV. 1063.31, 15" E
27. PROP. YARD INLET
    TOP 1067.97
    INV. 1064.72, 15" W
28. PROP. YARD INLET
    TOP 1068.00
    INV. 1064.75, 15" E
29. PROP. CATCH BASIN
    TOP 1070.37
    INV. 1064.33, 15" W
    INV. 1064.33, 15" S
30. PROP. O.D.O.T. CB 2-3
    TOP 1066.22
    INV. 1059.74, 24" SE
    INV. 1060.49, 15" E
    INV. 1060.49, 15" N
31. PROP. YARD INLET
    TOP 1067.97
    INV. 1064.72, 15" S
32. PROP. YARD INLET
    TOP 1067.97
    INV. 1063.74, 15" S
    INV. 1063.74, 15" N
33. PROP. YARD INLET
    TOP 1067.96
    INV. 1063.05, 15" S
    INV. 1063.05, 15" N

PROP. STORM SEWER STRUCTURE SCHEDULE

34. PROP. STM. M.H.
    TOP 1070.20
    INV. 1062.54, 15" W
    INV. 1062.54, 15" N
35. PROP. CATCH BASIN
    TOP 1069.00
    INV. 1065.75, 15" SE
36. PROP. CATCH BASIN
    TOP 1069.00
    INV. 1065.27, 15" S
    INV. 1065.27, 15" NW
37. PROP. YARD INLET
    TOP 1068.53
    INV. 1063.33, 15" S
    INV. 1063.33, 15" N
38. PROP. YARD INLET
    TOP 1068.53
    INV. 1062.88, 15" S
    INV. 1062.88, 15" N
39. PROP. YARD INLET
    TOP 1066.50
    INV. 1061.49, 18" W
    INV. 1061.74, 15" N
    INV. 1061.74, 15" E
40. PROP. YARD INLET
    TOP 1069.50
    INV. 1066.50, 12" W
41. PROP. STM. M.H.
    TOP 1066.75
    INV. 1060.25, 18" W
    INV. 1062.94, 12" N
    INV. 1060.25, 18" E
42. PROP. STM. M.H.
    TOP 1088.62
    INV. 1062.14, 15" N
    INV. 1062.14, 15" S
43. PROP. STM. M.H.
    TOP 1068.62
    INV. 1061.52, 15" N
    INV. 1061.52, 15" S
44. PROP. STM. M.H.
    TOP 1063.50
    INV. 1059.14, 24" NW
    INV. 1059.14, 24" SE
45. PROP. STM. M.H.
    TOP 1065.03
    INV. 1058.65, 24" NW
    INV. 1058.65, 24" SE
46. PROP. STM. M.H.
    TOP 1065.86
    INV. 1057.78, 30" S
    INV. 1058.78, 18" E
    INV. 1058.28, 24" NW

REVISIONS

GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320-1123
Phone 330-836-0228 Fax 330-836-9762

MASSILLON SENIOR LIVING, LTD.
1201 S. MAIN ST.
NORTH CANTON, OH 44720

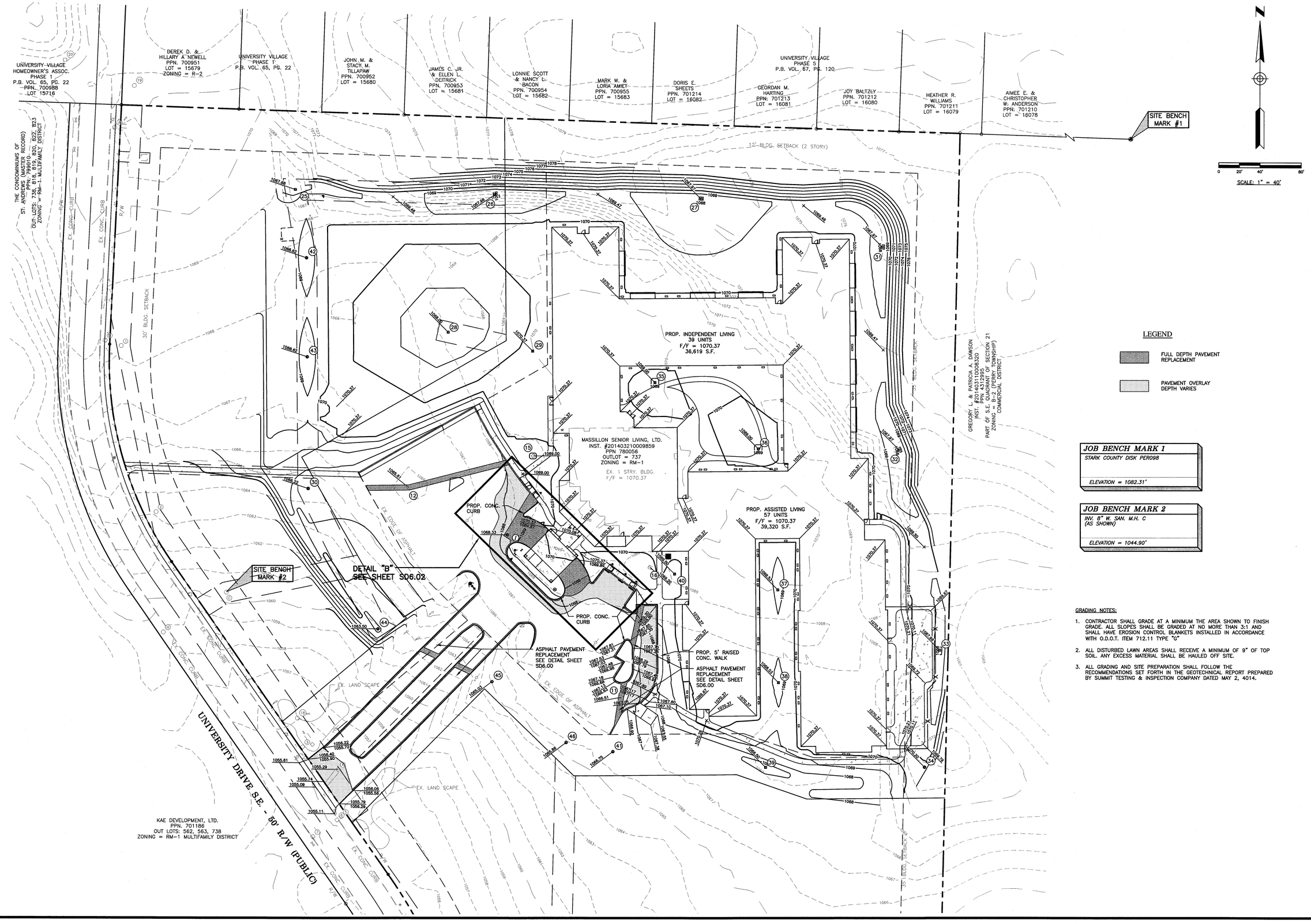
DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
UTILITY PLAN

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD4.00



LEGEND

- FULL DEPTH PAVEMENT REPLACEMENT
- PAVEMENT OVERLAY DEPTH VARIES

JOB BENCH MARK 1

STARK COUNTY DISK PER098

ELEVATION = 1082.31'

JOB BENCH MARK 2

INV. 8" W. SAN. M.H. C (AS SHOWN)

ELEVATION = 1044.90'

GRADING NOTES:

1. CONTRACTOR SHALL GRADE AT A MINIMUM THE AREA SHOWN TO FINISH GRADE. ALL SLOPES SHALL BE GRADED AT NO MORE THAN 3:1 AND SHALL HAVE EROSION CONTROL BLANKETS INSTALLED IN ACCORDANCE WITH O.D.O.T. ITEM 712.11 TYPE "G"
2. ALL DISTURBED LAWN AREAS SHALL RECEIVE A MINIMUM OF 9" OF TOP SOIL. ANY EXCESS MATERIAL SHALL BE HAULED OFF SITE.
3. ALL GRADING AND SITE PREPARATION SHALL FOLLOW THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT PREPARED BY SUMMIT TESTING & INSPECTION COMPANY DATED MAY 2, 4014.

REVISIONS

GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320-1123
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GRADING PLAN

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD5.00

4" THK. CONC. WALK
TOOLED CONTROL JOINT –TYP., 1" DEEP
6' RAMP
(MAX 6" RISE)
12 / 1
FLAT
PER PLAN
4" THK. CONC. WALK
RAMP 12:1
DETECTABLE WARNING STRIP (SEE DETAIL)
FLAT
5'-0"
ACCESSIBLE RAMP DETAIL
NOT TO SCALE
PARKING LOT
SECTION A–A
DETECTABLE WARNING STRIP
ACCESSIBLE RAMP DETAIL
NOT TO SCALE
ALL ACCESSIBLE RAMPS SHALL HAVE A CONTINUOS DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES THAT SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES AND COMPLY WITH A.D.A.A. PUBLICATION SECTION 4.29.
0.4"
0.2"
0.9"
2.35"
ACCESSIBLE RAMP DETECTABLE WARNING STRIP
NOT TO SCALE
12'-0"
6" ø PAINTED STEEL GUARD POST (SEE DETAIL THIS SHT.)
8 CUBIC YARD DUMPSTER TYP.
7' HT, 1" x 6" ROUGH SAWN CEDAR WOOD PRIVACY FENCE ON STEEL POSTS. 2 1/2" DIA. POST TYPICAL, 4" POST AT CORNERS AND 6" POSTS AT THE GATE
NOTE: ALL FENCE POST, RAILS AND BRACES SHALL HAVE A HOT DIPPED GALVANIZED COATING IN CONFORMANCE W/ ASTM A-123
7' HT WOOD PRIVACY FENCE GATE ON STEEL PIPE FRAMING WITH DIAGONAL CABLE SUPPORT (SEE DETAIL)
CONCRETE PAVEMENT AS SPECIFIED
TRASH DUMPSTER PLAN DETAIL
NO SCALE
OPENING FACE TO FACE
POST TOP
6" GATE POST
DROP BAR
GRADE
1.90" OD GATE FRAME (4) SIDES
7' HT WOOD PRIVACY FENCE GATE ON STEEL PIPE FRAMING WITH DIAGONAL CABLE SUPPORT
PLAIN CONCRETE FOOTING – TYPICAL
TYPICAL AT GATE POSTS
PLAIN CONCRETE FOOTING WITH PROPERLY SIZED SLEEVE FOR DROP BAR
ELEVATION
DOUBLE SWING GATE DETAILS
1/4" = 1'-0"
GATE DETAIL
NOT TO SCALE
ECHELON PLUS MAJESTIC 3R EXT 6H 68" SINGLE GATE
AMERISTAR
1 1/2" O.D.O.T. ITEM 448 SURFACE COURSE
3" O.D.O.T. ITEM 448 INTERMEDIATE COURSE
TACK COAT – O.D.O.T. ITEM 407 (0.1 GAL/S.Y.)
COMPACTED SUBGRADE
6" O.D.O.T. ITEM 304 AGGREGATE BASE
ASPHALT PAVEMENT DETAIL
NO SCALE
#4'S @ 18" O.C. EACH WAY MID-HT IN SLAB
8" REINFORCED CONCRETE PAVEMENT, ITEM 451
4" AGGREGATE BASE, ITEM 304
COMPACTED SUBGRADE
1. PAVEMENT SHALL CONSIST OF AIR ENTRAINED PORTLAND CEMENT CONCRETE WITH MINIMUM COMPRESSIVE STRENGTH OF 4,000 psi AND MINIMUM FLEXURAL STRENGTH OF 650 psi.
2. GRANULAR BASE COURSE SHALL BE COMPACTED TO AT LEAST 98% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-698 OR AASHTO T-99 STANDARD PROCTOR METHOD.
CONCRETE PAVEMENT DETAIL
DUMPSTER PAD
NO SCALE
1 EXISTING ASPHALTIC CONCRETE
2 ODOT ITEM 407 TACK COAT (0.10 GAL./S.Y.)
3 ODOT ITEM 254 PAVEMENT PLANING TO 1 1/2" DEPTH
4 ODOT ITEM 448 SURFACE COURSE (DEPTH VARIES SEE GRADING PLAN)
ALTERNATE ASPHALT PAVEMENT OVERLAY
NO SCALE
CONTRACTOR TO PROVIDE ALTERNATE AS ADDITION TO BASE BID TO PROVIDE 1 1/2" ASPHALT PAVEMENT OVERLAY ON ALL EXISTING PAVEMENT NOT OTHERWISE DISTURBED
STOP
ALUMINUM STOP SIGN. BOLT TO STEEL TUBE WITH 3/8" CADIUM PLATED BOLTS, NUTS & WASHERS
2" DIA. GALV. PIPE POST x 10'-0" LONG PROVED WELDED WATERTIGHT CAP PAINT P&L #6118 BLACK COFFEE
POLE TO BE DRIVEN INTO GROUND
FINISH GRADE
NOTE: STOP SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.
STOP SIGN INSTALLATION DETAIL
SCALE: 1/2" = 1'-0"
CEMENT WASH
6" DIA. STANDARD STEEL PIPE FILLED WITH CONCRETE & PAINTED YELLOW
ASPHALT PAVEMENT
18" DIA. CONCRETE BASE
#6 – 14" LONG REBAR EACH WAY THRU PIPE
TYPICAL GUARD POST DETAIL
SCALE: 3/8" = 1'-0"
FINISH GRADE
SCREW TYPE END CAP
6"–45' BEND
6"x6" WYE
SCREW TYPE END CAP
6" ROOF DRAIN
STORM CLEANOUT
NOT TO SCALE
PROP. CONC. WALK
EDGE OF PAVEMENT
6'-0" LONG
3–No. 4 RODS CONT.
PROP. ASPHALT
PROP. AGGREGATE BASE
COMPACTED SUBGRADE
2–No. 4 RODS THRU WHEELSTOP & PAVEMENT MIN. 18" LONG
BUMPER BLOCK DETAIL
SCALE: 1" = 1'-0"
FENCE DETAIL
NOT TO SCALE
ECHELON PLUS PANEL MAJESTIC 3R EXT 6'T 8'W
AMERISTAR
JOINT SEALER
SURFACE OF PAVEMENT
PAVEMENT AS SPECIFIED
STRAIGHT 18" CONCRETE CURB CONCRETE, CLASS C
1. ALL EXPOSED SURFACES OF CONCRETE CURB SHALL HAVE A BRUSHED FINISH
2. IF PAVEMENT SURFACE IS ASPHALT, THEN SEAL THE JOINT WITH A BEAD OF HOT APPLIED CRACK & JOINT SEALANT PER 705.04.
3. 1/2" EXPANSION MATERIAL TO BE INSTALLED BEHIND THE CURB WHEN A CONCRETE WALK, DRIVE, OR OTHER ITEM IS ADJOINING IT.
CONCRETE CURB DETAIL
NO SCALE
AGGREGATE BASE
CORE DRILL 2" WEEP HOLE AT BOTTOM OF AGGREGATE BASE ON ALL FOUR SIDES
ABANDONED PIPES TO BE SEALED SHUT WITH NON-SHRINK GROUT
FILL EX. STRUCTURE WITH 3000 P.S.I. CONCRETE WITH FORMED OR STEEL TROWEL FINISH TO DIRECT FLOW TO NEW INVERT
CORE DRILL HOLE(S) FOR NEW PIPE LOCATIONS
EXISTING STRUCTURE MODIFICATIONS
NOT TO SCALE
TOPSOIL (TYPICAL LANDSCAPE AREA) SLOPE TO 2" BELOW THE TOP OF SIDEWALK
SEE SITE PLAN FOR WALK WIDTH
1/4" TOOLED CONTROL JOINT
1" EASED EDGE
6" ADJACENT PAVEMENT
CROSS SLOPE 1% MIN., 2% MAX.
BROOM FINISH 4" CONCRETE WALK WITH 6X6 – W1.4 X W1.4 W.W.F.
SUBGRADE PER SOIL REPORT
4" COMPACTED GRAVEL (NO VAPOR BARRIER)
TYPICAL SECTION IN LAWN AREAS
TYPICAL SECTION ADJACENT TO DRIVES
FILL ½" DEPRESSION WITH SEALANT, SELF-LEVELING SILICONE, SONNEBORNE SONOMERIC 1, OR EQUAL
1/2" DEEP TOOLED JOINT TYPICAL
½" X 4" IMPREGNATED FELT EXPANSION JOINT AT 20' O.C. TOP OF JOINT MATERIAL ½" BELOW TOP OF WALK
NOTES
A. ¼" TOOLED CONTROL JOINTS AT 4' TO 7' O.C.
B. PLACE PRE-FORMED ½" EXPANSION JOINT 30' O.C. ALONG ENTIRE LENGTH
C. ½" PRE-FORMED EXPANSION JOINT SHALL BE INSTALLED AT ALL INTERSECTIONS OF BUILDING, WALKS, AND ANY OTHER FIXED STRUCTURE.
D. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI
E. ALL EDGES TO BE "PICTURE FRAMED" TOOLED FINISH.
CONCRETE WALK & PATIO DETAIL
NO SCALE
EXISTING ASPHALT
NEW PAVEMENT
SEAL JOINT WITH O.D.O.T. ITEM 401.17
SAWCUT AND MILL EXISTING PAVEMENT FOR A CLEAN, STRAIGHT EDGE TRANSITION.
FULL DEPTH SAW CUT
CONCRETE CURB, SEE CONCRETE CURB DETAIL FOR DIMENSIONS
EX. EDGE OF PAVEMENT
COMPACTED SUBGRADE
1 1/2" O.D.O.T. ITEM 448 SURFACE COURSE
TACK COAT ALL SURFACES
FULL DEPTH PAVEMENT REPLACEMENT SEE ASPHALT PAVEMENT DETAIL
NEW/EXISTING ASPHALT INTERFACE
NOT TO SCALE
EXISTING ASPHALT
SEAL JOINT WITH O.D.O.T. ITEM 401.17
SAWCUT AND MILL EXISTING PAVEMENT FOR A CLEAN, STRAIGHT EDGE TRANSITION.
EDGE OF PROPOSED ASPHALT OVERLAY
TACK COAT ALL SURFACES
COMPACTED SUBGRADE
1 1/2" O.D.O.T. ITEM 448 SURFACE COURSE
BUTT JOINT DETAIL
NOT TO SCALE
REVISIONS
GBC DESIGN, INC.
565 White Pond Drive Akron, OH 44320-1123
Phone 330-836-0228 Fax 330-836-5782
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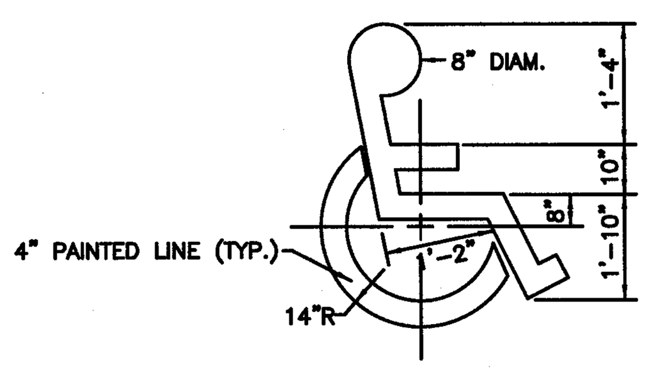
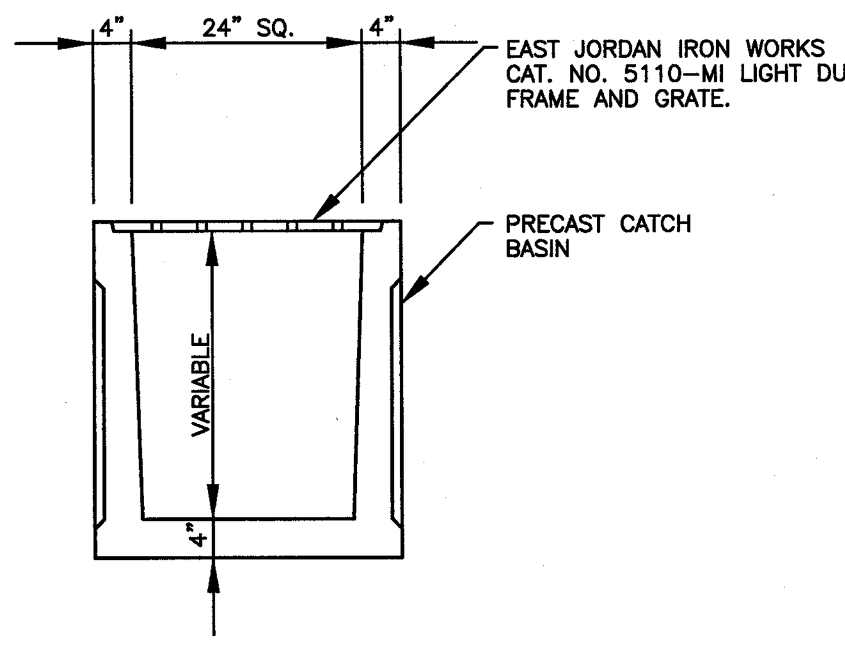
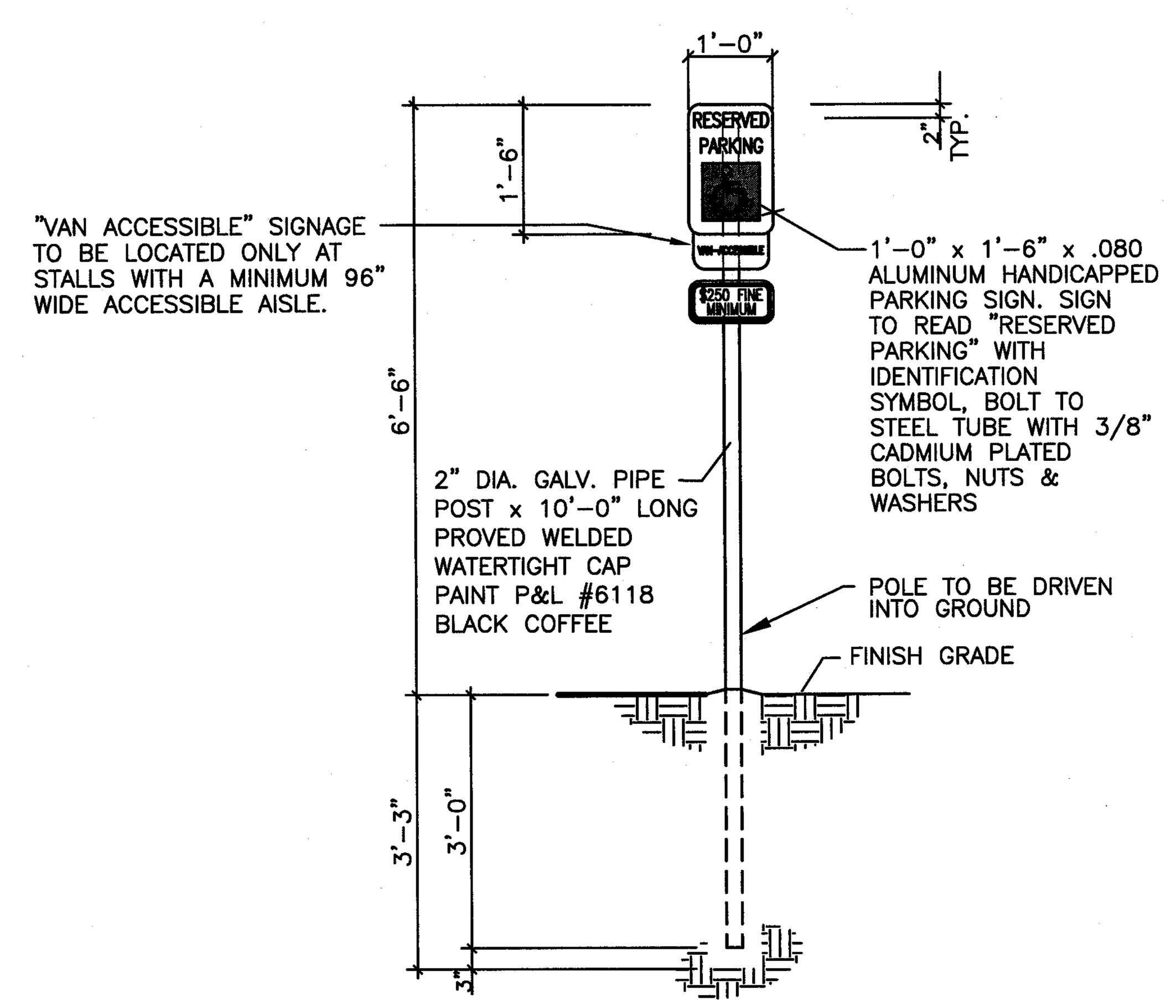


NOTES:
1. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE, UNLESS UPON VERIFICATION BY THE GENERAL CONTRACTOR IT IS DETERMINED THAT LOCAL, STATE, OR ADA CODES DIFFER, IN WHICH CASE THESE CODES SHALL GOVERN.

PAINTED ACCESSIBLE SYMBOL
NOT TO SCALE

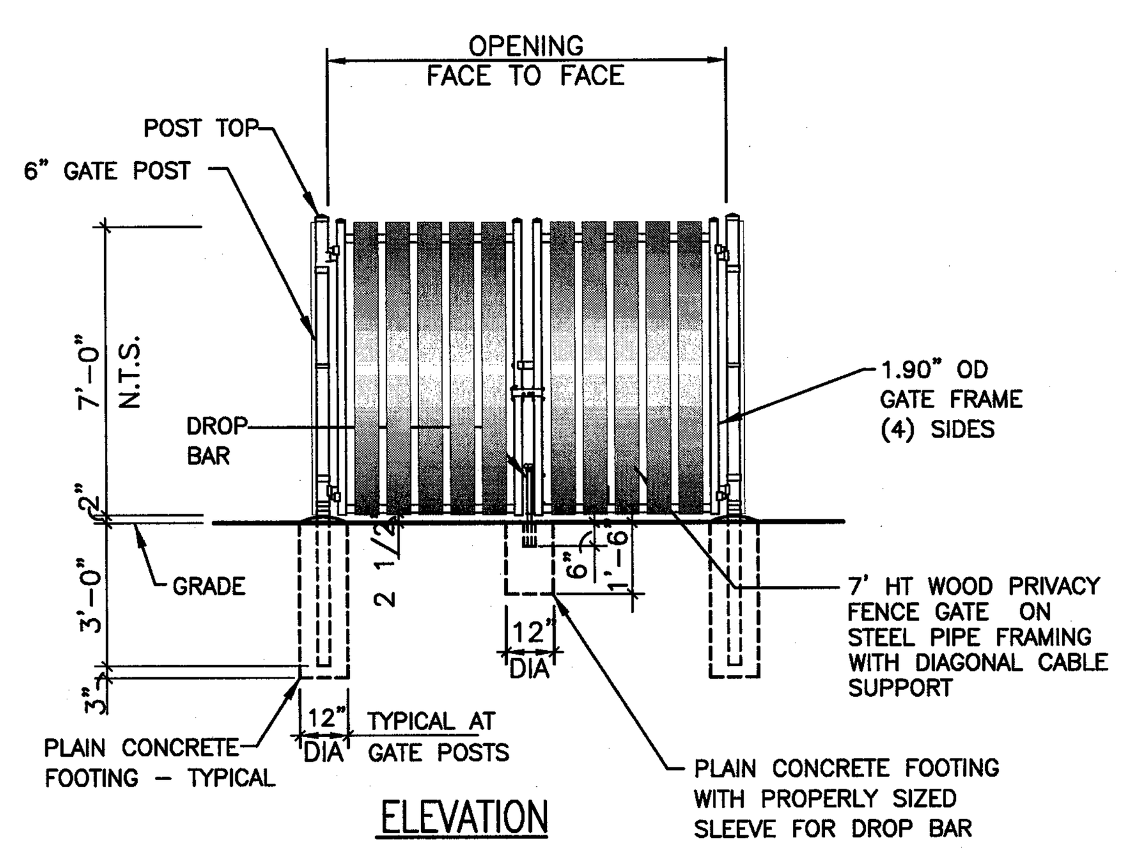


YARD INLET DETAIL
NO SCALE
NOTE: TO BE USED IN LAWN AREAS

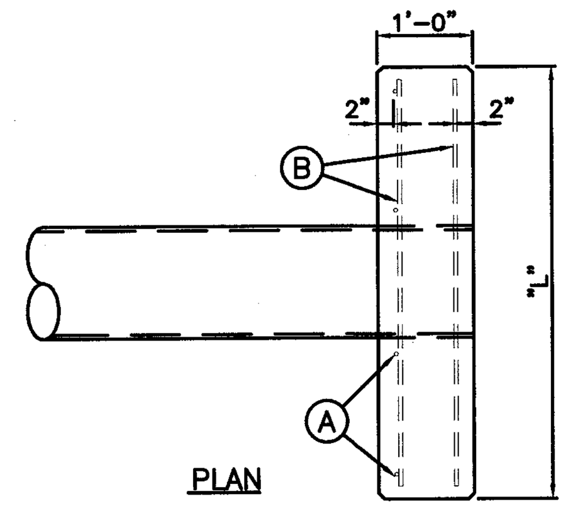


SIGN INSTALLATION DETAIL
SCALE: 1/2" = 1'-0"

NOTE: HANDICAPPED PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

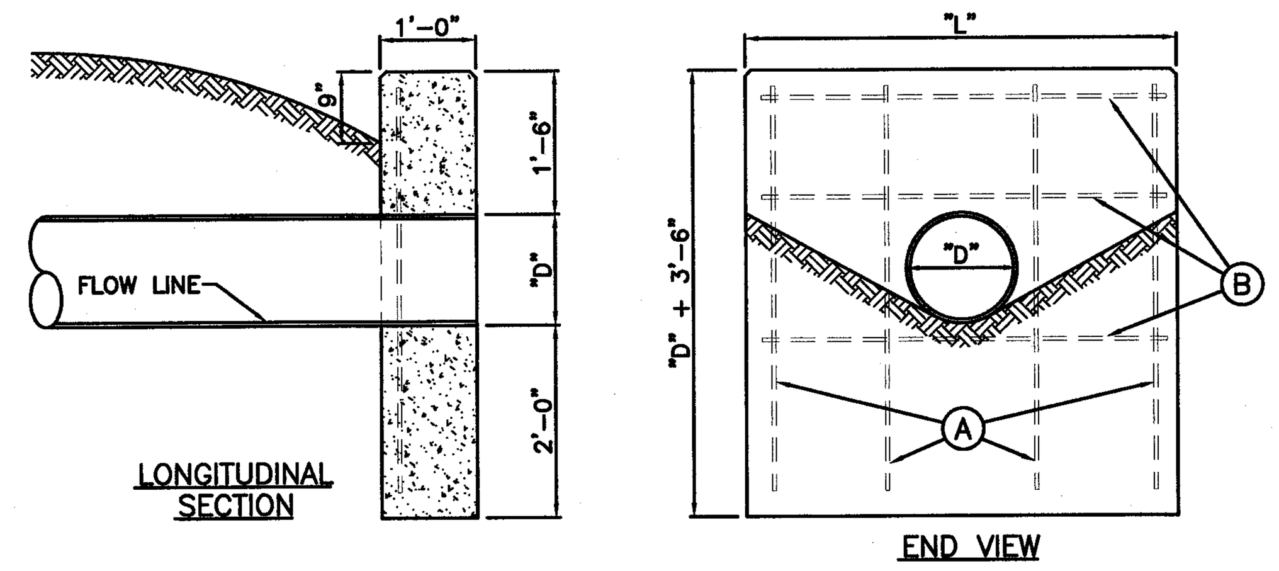


DOUBLE SWING GATE DETAILS
1/4" = 1'-0"

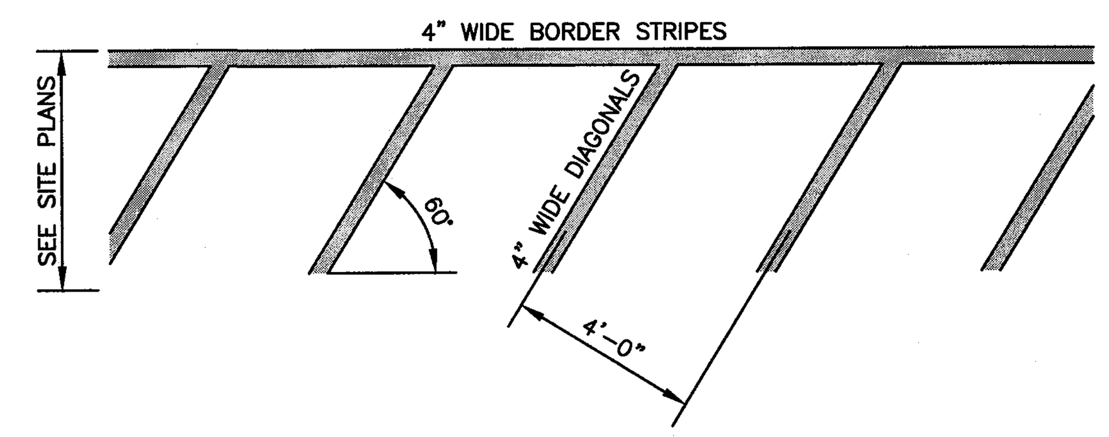


"D" DIAM. OF PIPE	"L" LENGTH HEAD WALL	QUANTITIES IN TWO HEADWALLS						
		A BARS		B BARS		STEEL	REINF.	PLAIN
		NO.	LENGTH	NO.	LENGTH	LBS.	C.Y.	C.Y.
12"	4'-0"	8	4'-0"	8	3'-6"	40	1.3	2.1
15"	5'-0"	8	4'-3"	8	4'-6"	47	1.7	2.7
18"	5'-9"	8	4'-6"	8	5'-3"	52	2.0	3.3
21"	6'-9"	8	4'-9"	8	6'-3"	59	2.4	4.0
24"	7'-6"	8	5'-0"	8	7'-0"	64	2.8	4.6
27"	8'-6"	8	5'-3"	8	8'-0"	71	3.3	5.5
30"	9'-3"	8	5'-6"	8	8'-9"	76	3.8	6.2
33"	10'-3"	8	5'-9"	8	9'-9"	83	4.3	7.2
36"	11'-0"	8	6'-0"	8	10'-6"	88	4.8	8.0

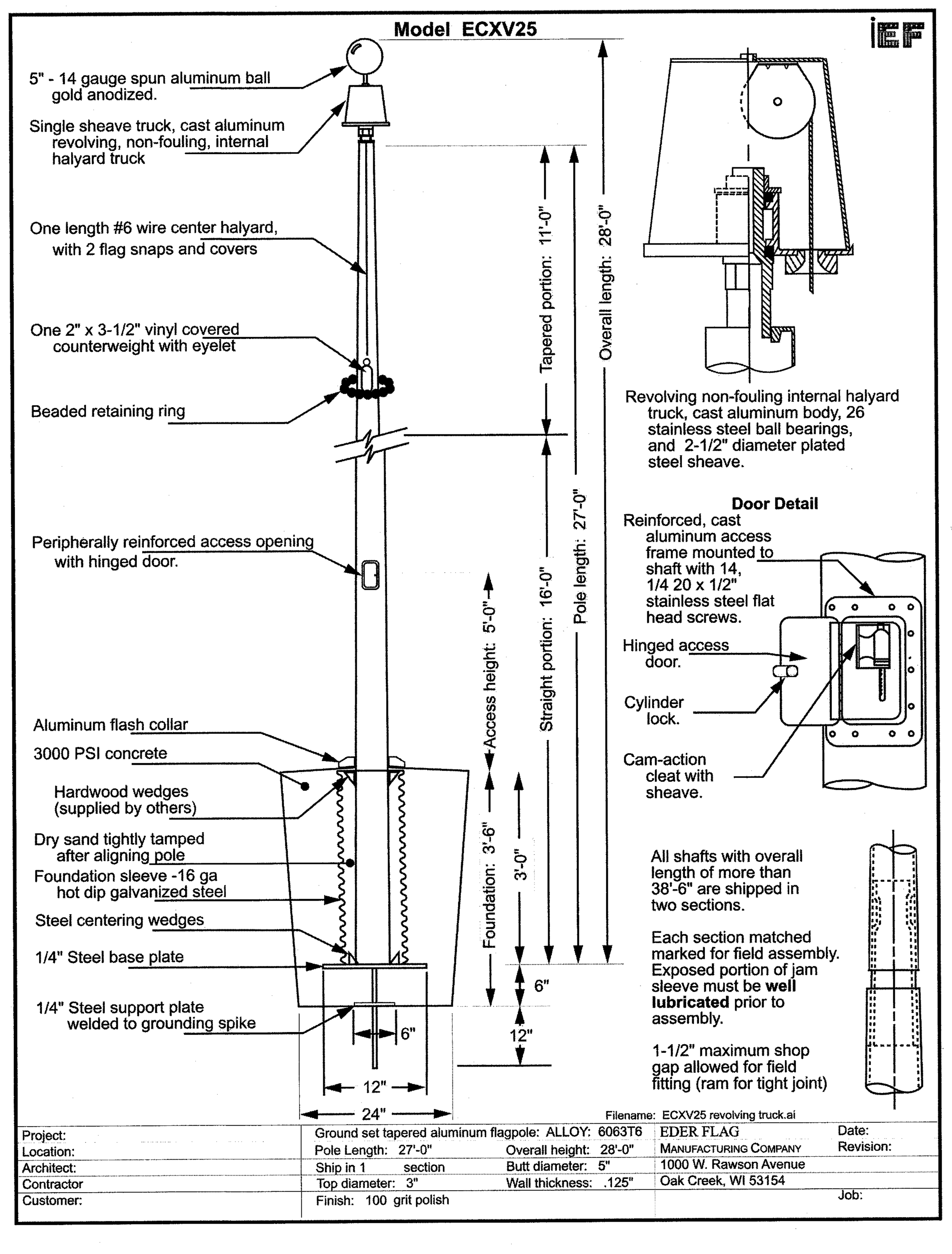
HEADWALLS FOR PIPES HAVING A DIAMETER GREATER THAN 36 INCHES SHALL BE DESIGNED AS A CANTILEVER OR GRAVITY WALL.

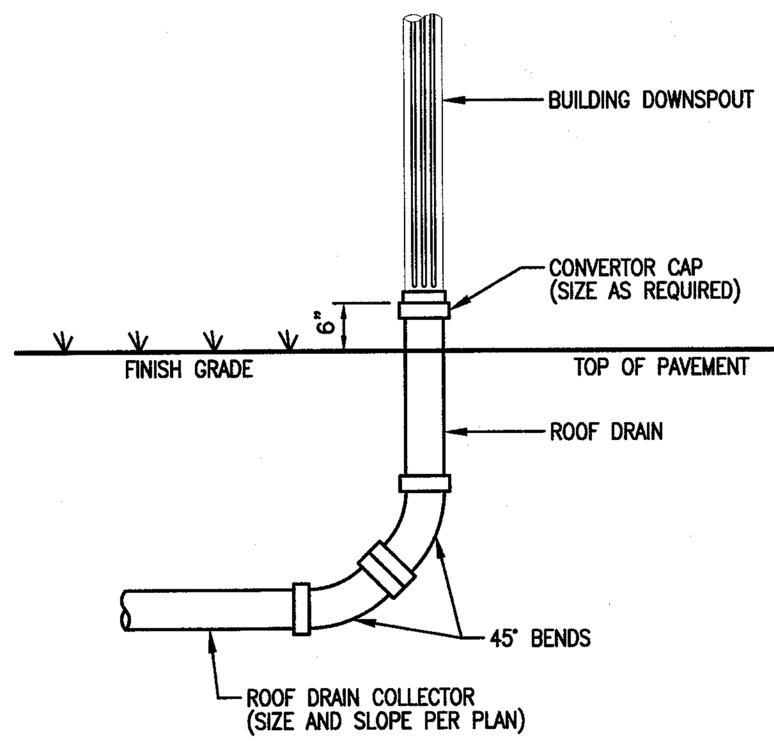


REINFORCED CONCRETE HEADWALL
STANDARD HEADWALL DETAILS
NOT TO SCALE



STRIPED PAVEMENT AREA
NOT TO SCALE





ROOF DRAIN / DOWNSPOUT CONNECTION
NOT TO SCALE

AQUA OHIO, INC.
MATERIAL SPECIFICATIONS

DUCTILE IRON PIPE. Type required: push-on joints, cement lined, pressure class 350 for 4 inch through 12 inch, thickness class 52 for 16 inch, manufacturing standards AWWA C150 and C151. Polyethylene encasement shall be installed on all ductile pipe and fittings.

DUCTILE IRON FITTINGS. (tees, crosses, bends, reducers, sleeves, couplings and plugs.) Type required: mechanical joint, tees, crosses, bends and reducers are to be cement lined; working pressure rating 250 psi, manufacturing standards ANSI A21.53, ANSI A21.4 and ANSI A21.10. Compact style is acceptable. Retainer glands shall be installed wherever there is a possibility of joint separation.

FIRE HYDRANTS. Type required: post type, breakable flange design for traffic collisions, 5 1/4" diameter main valve, one 4 ½" pumper and two 2 ½" hose nozzles, 6" MJ inlet, main valve to open left, direction of opening to be indicated with arrow cast on hydrant, to be designed for 5 foot trench, National Standard threads on nozzles, O-ring packing preferred, type 304 stainless steel bolts and nuts, operating nut and nut on caps: 1 ½" pentagon, color yellow paint on body trimmed with red paint on bonnet and caps, AWWA standard C502, Mueller Centurion A423, US Pipe M-94, Clow Medallion or American Darling B-84-B.

TAPPING VALVES. Type required: Resilient seat, iron body, stainless steel bonnet bolts and nuts, mechanical joint accessories, non-rising stem, for underground service, O-ring packing preferred, OPEN RIGHT (clockwise) 2 inch square operating nut, manufacturing standards and pressure ratings AWWA specification C500.

4" THROUGH 12" GATE VALVES. Type required: resilient seat, iron body, stainless steel bonnet bolts and nuts, mechanical joint accessories, non-rising stem, for underground service, O-ring packing preferred, OPEN RIGHT (clockwise), 2 inch square operating nut, manufacturing standards and pressure ratings AWWA C509, Mueller A-2360 or equal.

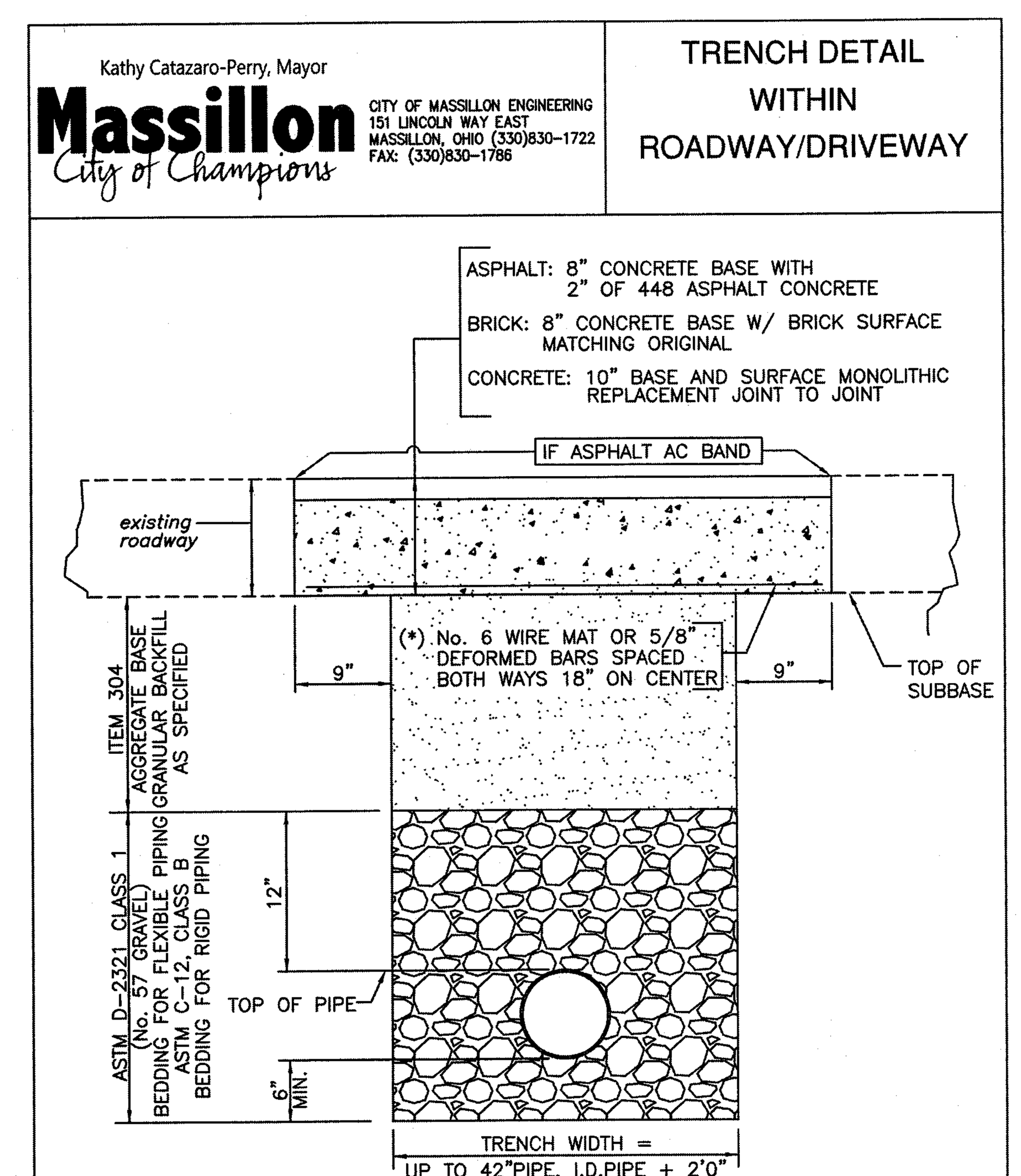
VALVE BOXES. Type required: two piece, cast iron, screw type for adjustable height, height range to be approximately 36 to 60 inches. They are to include a well fitting cast iron lid, the word "WATER" to be cast on lid.

2" WATER MAIN. 2" water main shall be soft drawn type "K" copper tubing or high density polyethylene plastic (HDPE), copper tube size, as called out on the plan. If HDPE is used, it shall be 200 psi, SDR 9 with marking tape and a 12 gage copper tracer wire laid in the trench. Brass compression fittings shall be used. Stainless steel stiffeners are necessary at each joint.

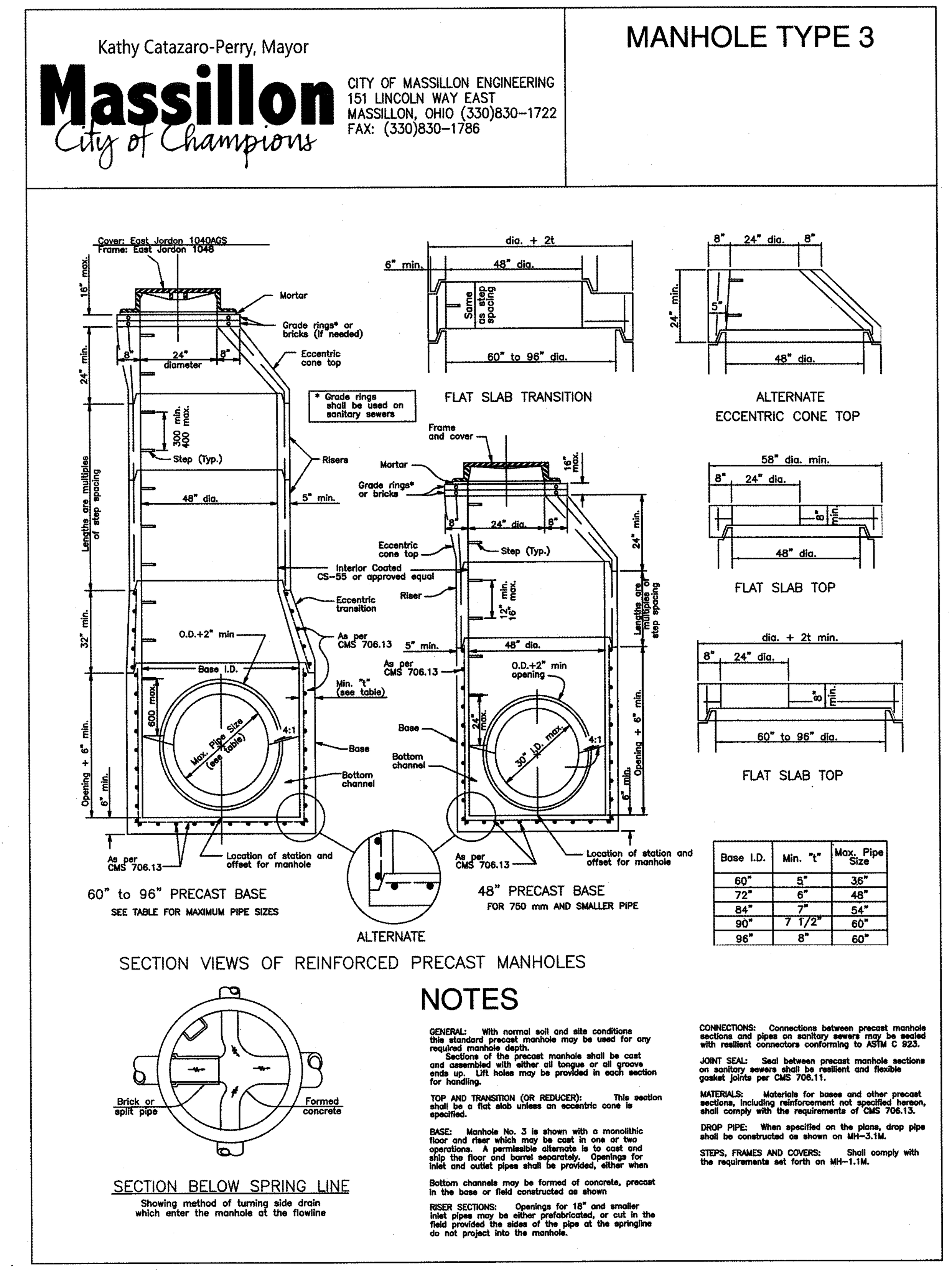
POLYETHYLENE ENCASEMENT. Type required: Eight mil thick polyethylene tube manufactured in accordance with ANSI/AWWA C105/A21.5. Polyethylene adhesive tape, 1 ½" wide, is to seal joints.

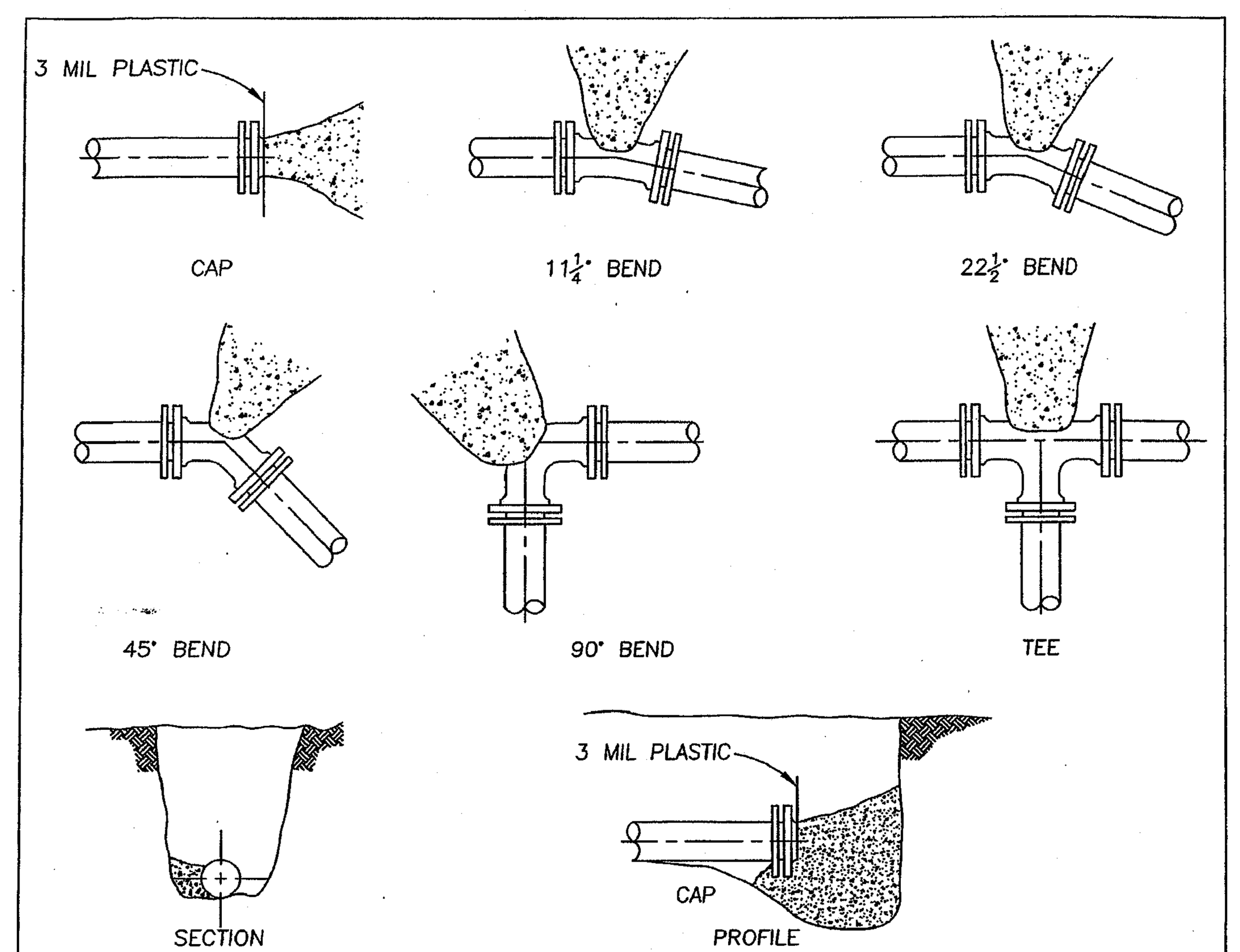
BLOW OFF ASSEMBLIES. Type required: Kupferle Foundry TF500 or approved equal. Install in valve box. Install 2" curb stop with curb box ahead of each blow off.

Revised 5/31/2007



NOTES
1) CONCRETE BASE SHALL BE OF 1:2:4, 6 BAG MIX, PORTLAND CEMENT CONCRETE USING HIGH EARLY STRENGTH CEMENT AND IT MUST BE CURED AT LEAST 48 HRS.
(*) MUST BE USED WHEN WIDTH OF TRENCH IS GREATER THAN 3' AT THE SUBBASE. FIBER CONCRETE BASE MAY BE USED IN LIEU OF THE BARS.





FITTINGS SIZES	BEARING AREA OF BLOCK IN SQUARE FEET FOR HORIZONTAL BENDS *				
	TEES & ENDS	90° BEND	45° BEND	22½° BEND	11¼° BEND
4	1.5	2	1.5	1.5	1.5
6	3	4	2	1.5	1.5
8	4.5	7	3.5	2	1.5
10	7.5	10.5	5	3	1.5
12	10.5	15	8	4	2.5

* AND VERTICAL BENDS UP

NOTES:
1). ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED SOIL.
2). BEARING AREA AT FITTINGS NOT GIVEN IN BEARING TABLE SHALL BE AS DIRECTED BY THE ENGINEER.
3). WHEN POURING AGAINST PLUGS AND BLIND FLANGES SET A PIECE OF 3 MIL PLASTIC AGAINST FITTING, TO KEEP CONCRETE OFF BOLTS.
4). LAYOUT TO BE APPROVED BY ENGINEER PRIOR TO CONCRETE POUR.
5). THRUST BLOCKS AND DEADMEN FOR VERTICAL BENDS DOWN SHALL BE AS SHOWN ON SPECIFIC DETAIL DRAWINGS OR APPROVED BY ENGINEER PRIOR TO CONCRETE PLACEMENT.
6). THE CONTRACTOR MAY SUBSTITUTE A RESTRAINT SYSTEM SUCH AS FIELD-LOK GASKETS IN LIEU OF THRUST BLOCKS WITH APPROVAL FROM AQUA OHIO.

AQUA Ohio
AQUA OHIO, INC.
SERVICE CENTER, BOARDMAN, OH. 44512
AN AFFILIATE OF AQUA AMERICA, INC.
SUBJECT CONCRETE THRUST BLOCKING DETAILS
NOT TO SCALE
revised: June, 2006
division CORPORATE STANDARDS
drawn by: D. Warrick | date: March, 1994 | approved Brian T. Bisson, P.E. | sheet

REVISIONS

GBC DESIGN, INC.
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MASSILLON SENIOR LIVING, LTD.
1201 S. MAIN ST.
NORTH CANTON, OH 44720

DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
SITE DETAILS

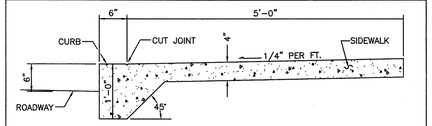
DRAWN BY: J.D.D.
DATE: 6/20/2014
PROJECT NO. 46178
DRAWING NO. SD6.01

Kathy Catazaro-Perry, Mayor

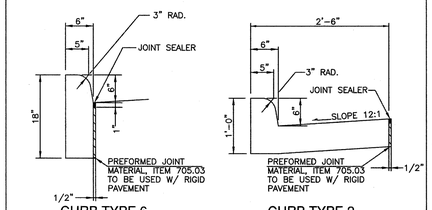
Massillon City of Champions

CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

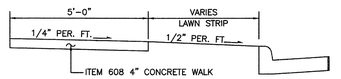
SIDEWALK AND CURB DETAILS



COMBINED CURB & SIDEWALK



CURB TYPE 6 CURB TYPE 2



SIDEWALK

Kathy Catazaro-Perry, Mayor

Massillon City of Champions

CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
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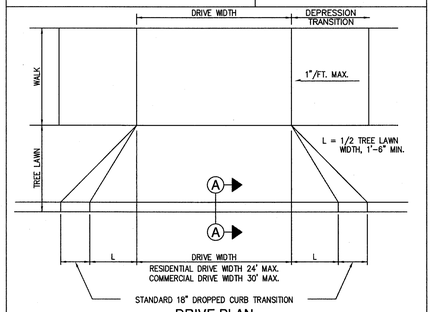
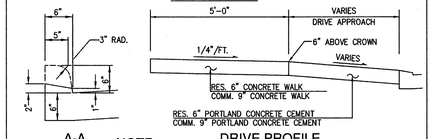
DRIVEWAY APPROACH DETAIL



DRIVE PLAN



A-A DRIVE PROFILE

NOTE

ANY DEVIATION FROM THIS MUST BE APPROVED BY THE CITY ENGINEER.
CONCRETE SHALL BE 4000 PSI CLASS C

REVISIONS

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1201 S. MAIN ST.
NORTH CANTON, OH 44720

DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646

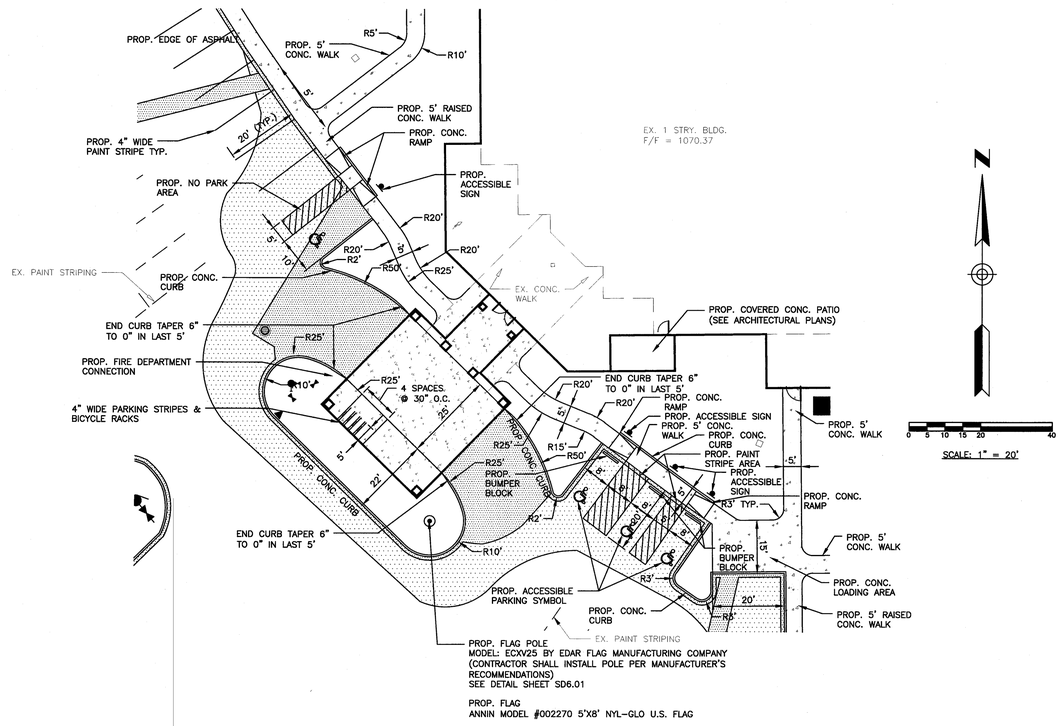
SITE DETAILS

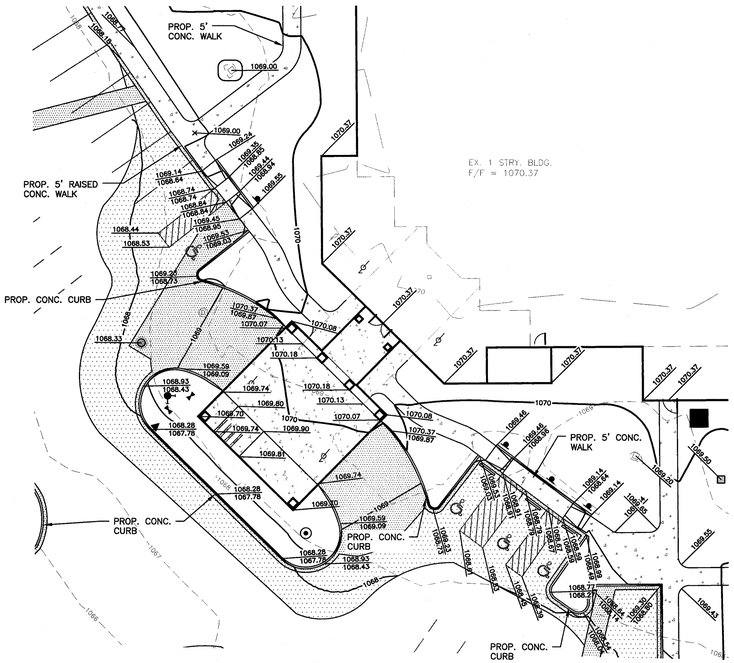
DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD6.02





REVISIONS

LEGEND

▨ FULL DEPTH PAVEMENT REPLACEMENT

░ PAVEMENT OVERLAY DEPTH VARIES

DETAIL "A"

DETAIL "B"

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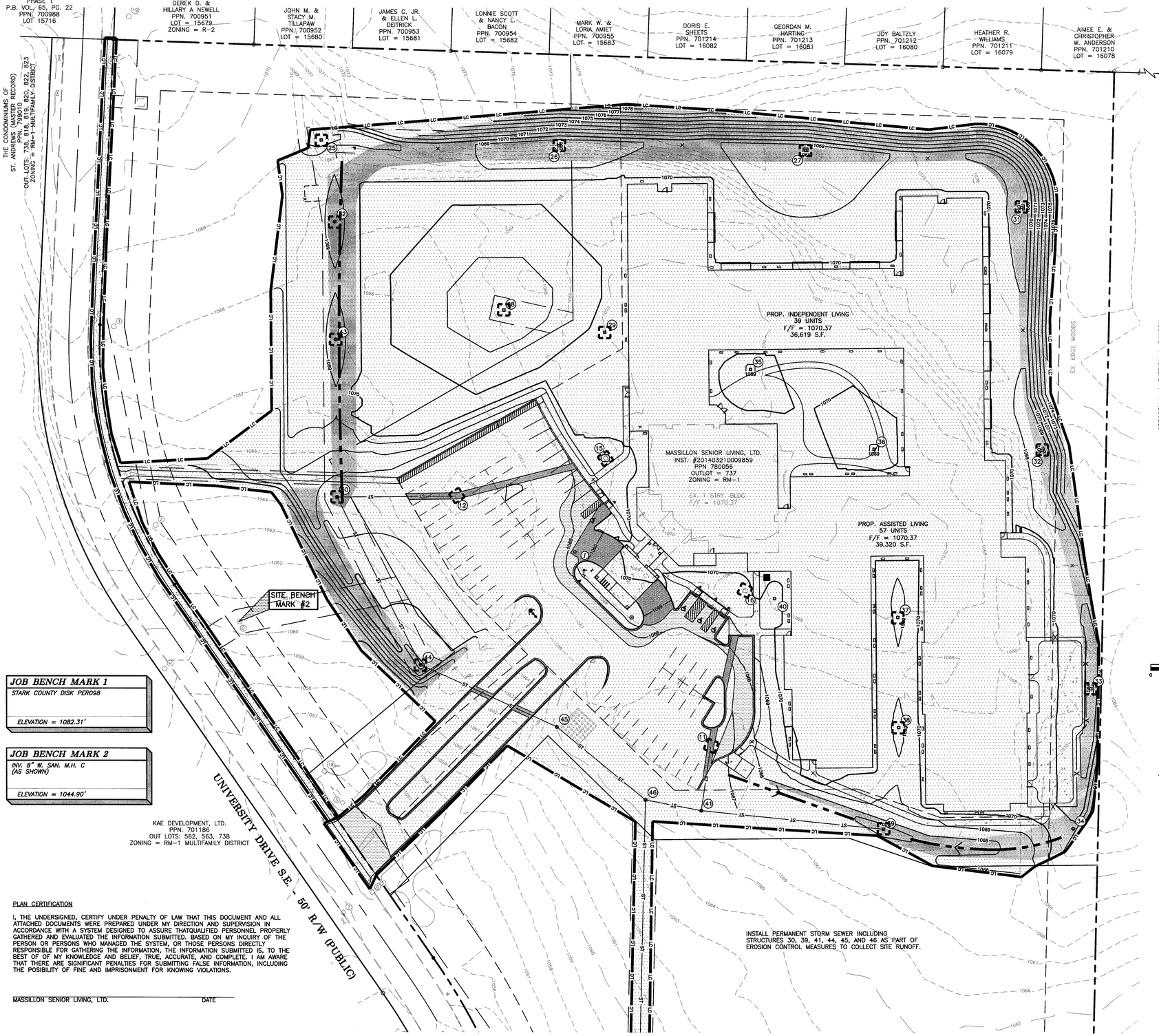
DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
DETAIL "A" & "B"

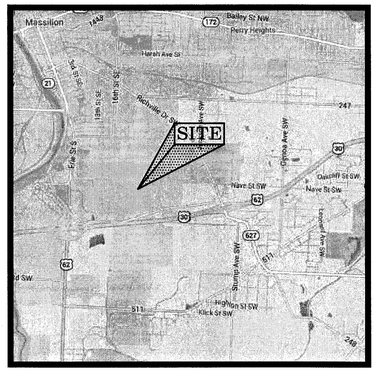
DRAWN BY:
J.D.D.

DATE:
6/20/2014

PROJECT NO.
46178

DRAWING NO.
SD6.03





LOCATION MAP
NO SCALE

SYMBOL	ITEM REFERENCE
	AREA OF CLEARING, GRUBBING
	TEMPORARY CONSTRUCTION ENTRANCE
	CEMENT TRUCK WASHOUT
	OUTLET PROTECTION
	EXCELSIOR MATTING, O.D.O.T. ITEM 712.11 TYPE "G" ON ALL SWALES, SLOPES UP TO 3:1 AND THE POND BANKS UNLESS OTHERWISE NOTED.
	INLET PROTECTION
LC LC	CONSTRUCTION LIMITS
	SILT FENCE
	TEMPORARY DIVERSION CHANNEL/BERM

JOB BENCH MARK 1
STARK COUNTY DISK PER098
ELEVATION = 1082.31'

JOB BENCH MARK 2
INV. 8" W. SAN. M.H. C (AS SHOWN)
ELEVATION = 1044.90'

PLAN CERTIFICATION

I, THE UNDERSIGNED, CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHED DOCUMENTS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THATQUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGED THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

MASSILLON SENIOR LIVING, LTD. DATE

GRADING, STABILIZATION, & SWP3 AMENDMENT ACTIVITIES

	DATE(S)
GRADING	
SITE STABILIZATION	
SWP3 AMENDMENTS	

CONSTRUCTION SITE & SWP3 RESPONSIBLE PARTY
MASSILLON SENIOR LIVING, LTD.
1201 SOUTH MAIN STREET
NORTH CANTON, OH 44720

SWP3 PREPARED 06/15/14

ESTIMATED CONSTRUCTION START DATE 8/15/14
ESTIMATED CONSTRUCTION COMPLETION DATE 2/15/15

*THE CONTRACTOR SHALL PREVENT AND/OR REDUCE AND CONTROL SOIL EROSION RESULTING FROM THE PROPOSED IMPROVEMENTS. THE USE OF SILT FENCING, JUTE MATTING, TEMPORARY SEEDING, 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 LATEST EDITION OF THE MANUAL RAINWATER AND LAND DEVELOPMENT – OHIO'S STANDARDS FOR STORM WATER MANAGEMENT, LAND DEVELOPMENT AND URBAN PROTECTION. 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 AS DETAILED ON THE CONSTRUCTION PLANS, AS SPECIFIED BY THE CITY OF MASSILLON.

REVISIONS

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1201 S. MAIN ST.
NORTH CANTON, OH 44720

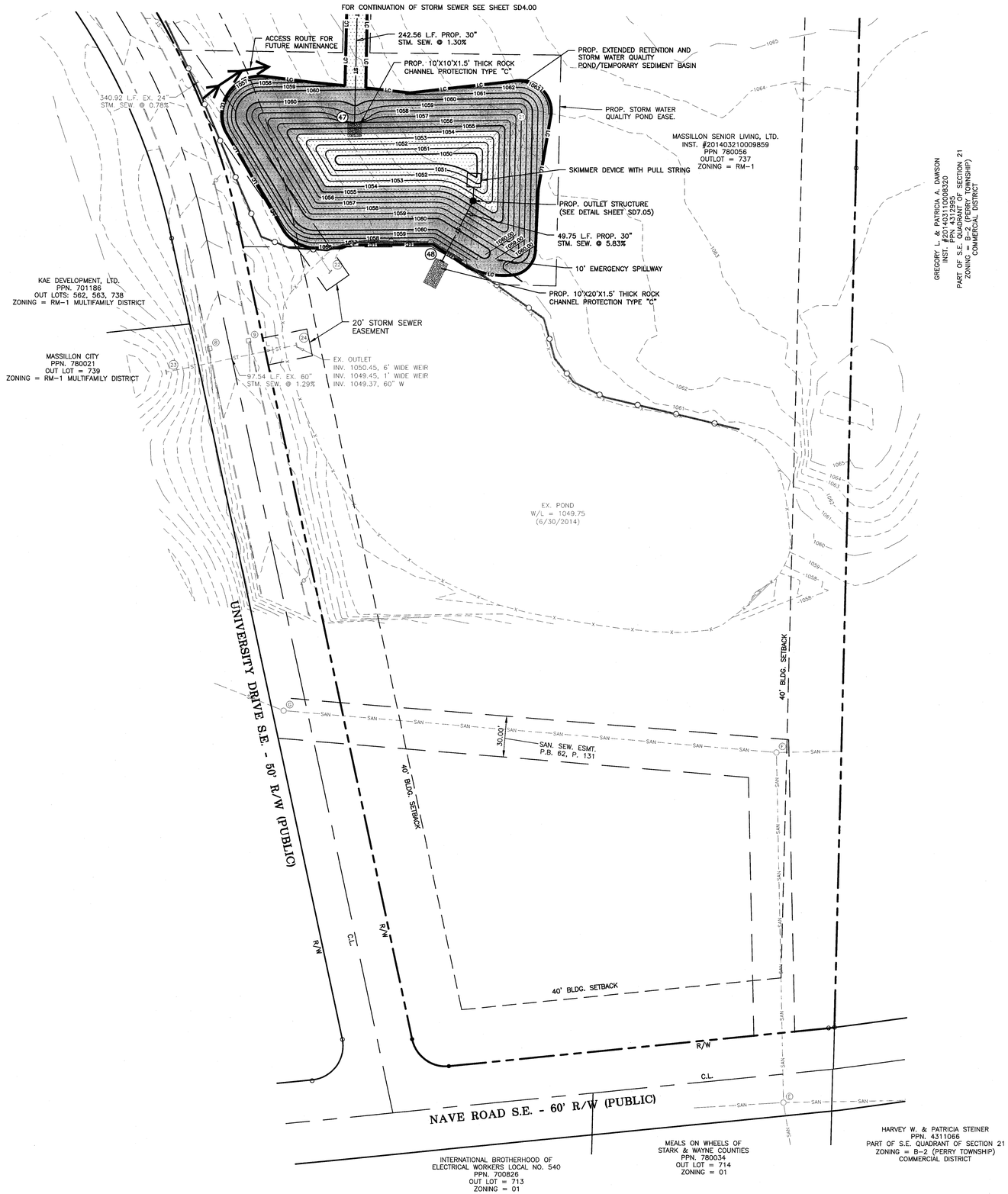
DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
SWPPP

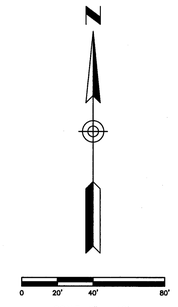
DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD7.00





SCALE: 1" = 40'

PROP. STORM SEWER HEADWALL SCHEDULE

47. PROP. HEADWALL
INV. 1054.00, 30" N

48. PROP. HEADWALL
INV. 1049.75, 30" NE

EX. STORM SEWER STRUCTURE SCHEDULE

8. EX. CURB INLET
TOP 1061.71
INV. 1053.29, 12" S

9. EX. CURB INLET
TOP 1061.82
INV. 1053.45, 12" S

EX. STORM SEWER HEADWALL SCHEDULE

21. EX. HEADWALL
INV. 1058.06, 24" NE

22. EX. HEADWALL
INV. 1049.48, 24" NW

23. EX. HEADWALL
INV. 1048.11, 60" E

24. EX. HEADWALL
INV. 1049.37, 60" W

EX. SAN. SEW. STRUCTURE SCHEDULE

E. EX. SAN. M.H.
TOP 1078.03
INV. 1068.31, 8" W
INV. 1068.31, 8" E
INV. 1068.31, 8" S
INV. 1068.31, 8" N

F. EX. SAN. M.H.
TOP 1058.16
INV. 1048.86, 8" S
INV. 1048.55, 12" W
INV. 1048.58, 12" E

G. EX. SAN. M.H.
TOP 1065.77
INV. 1045.90, 12" E
INV. 1045.83, 12" W

* CONTRACTOR IS TO REPLACE ANY EXISTING FENCE DISTURBED DURING CONSTRUCTION OF THE WATER QUALITY POND/TEMOPORARY SEDIMENT BASIN

INSTALL PERMANENT STORM SEWER INCLUDING STRUCTURE 44 AS PART OF EROSION CONTROL MEASURES TO COLLECT SITE RUNOFF.

SYMBOL	ITEM REFERENCE
	AREA OF CLEARING, GRUBBING
	OUTLET PROTECTION
	EXCELSIOR MATTING, O.D.O.T. ITEM 712.11 TYPE "G" ON ALL SWALES, SLOPES UP TO 3:1 AND THE POND BANKS UNLESS OTHERWISE NOTED.
LC LC	CONSTRUCTION LIMITS
	SILT FENCE

CONSTRUCTION SITE & SWP3 RESPONSIBLE PARTY

MASSILLON SENIOR LIVING, LTD.
1201 SOUTH MAIN STREET
NORTH CANTON, OH 44720

SWP3 PREPARED 06/15/14

ESTIMATED CONSTRUCTION START DATE 8/15/14
ESTIMATED CONSTRUCTION COMPLETION DATE 2/15/15

GRADING, STABILIZATION, & SWP3 AMENDMENT ACTIVITIES

	DATE(S)
GRADING	
SITE STABILIZATION	
SWP3 AMENDMENTS	

REVISIONS

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2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646

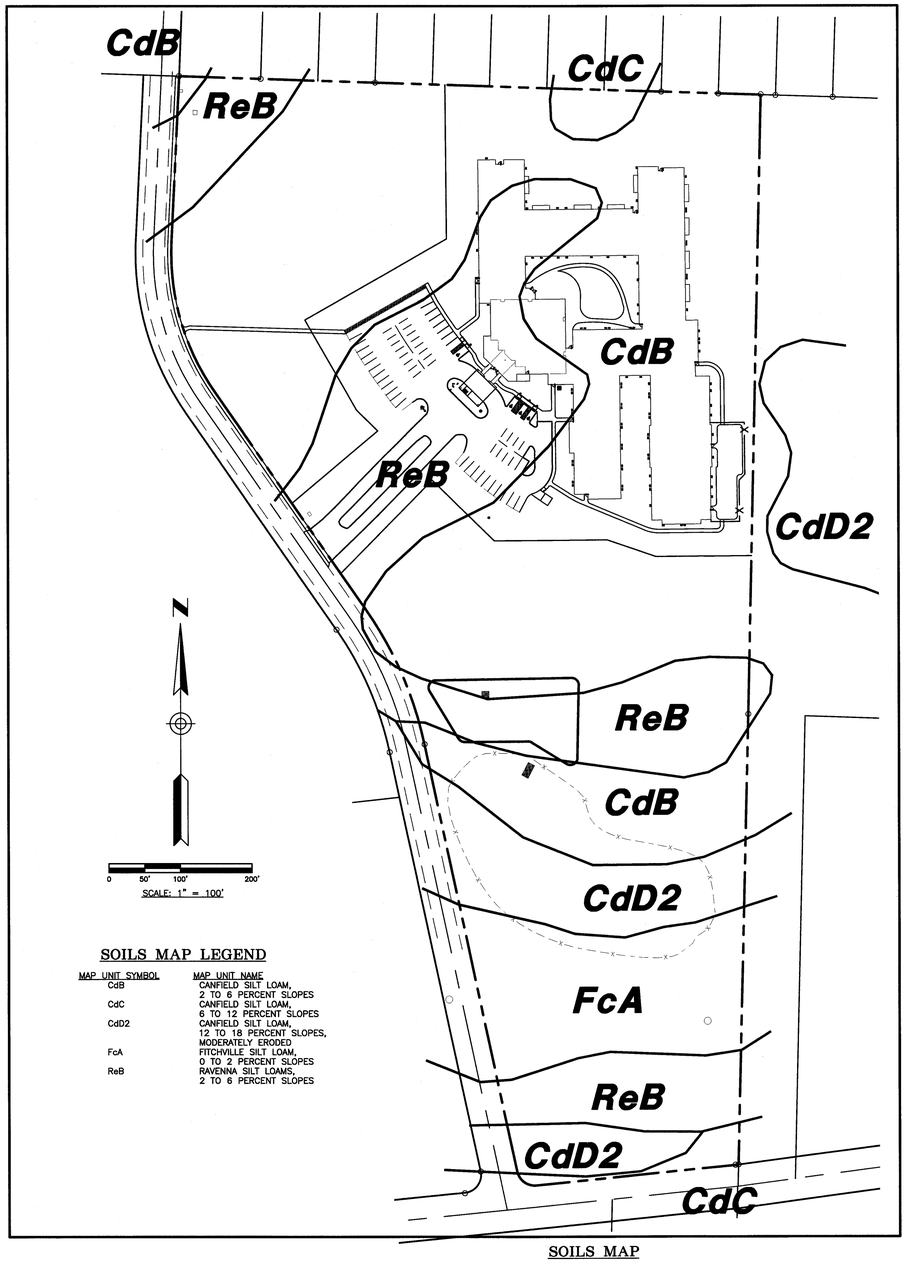
SWPPP

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

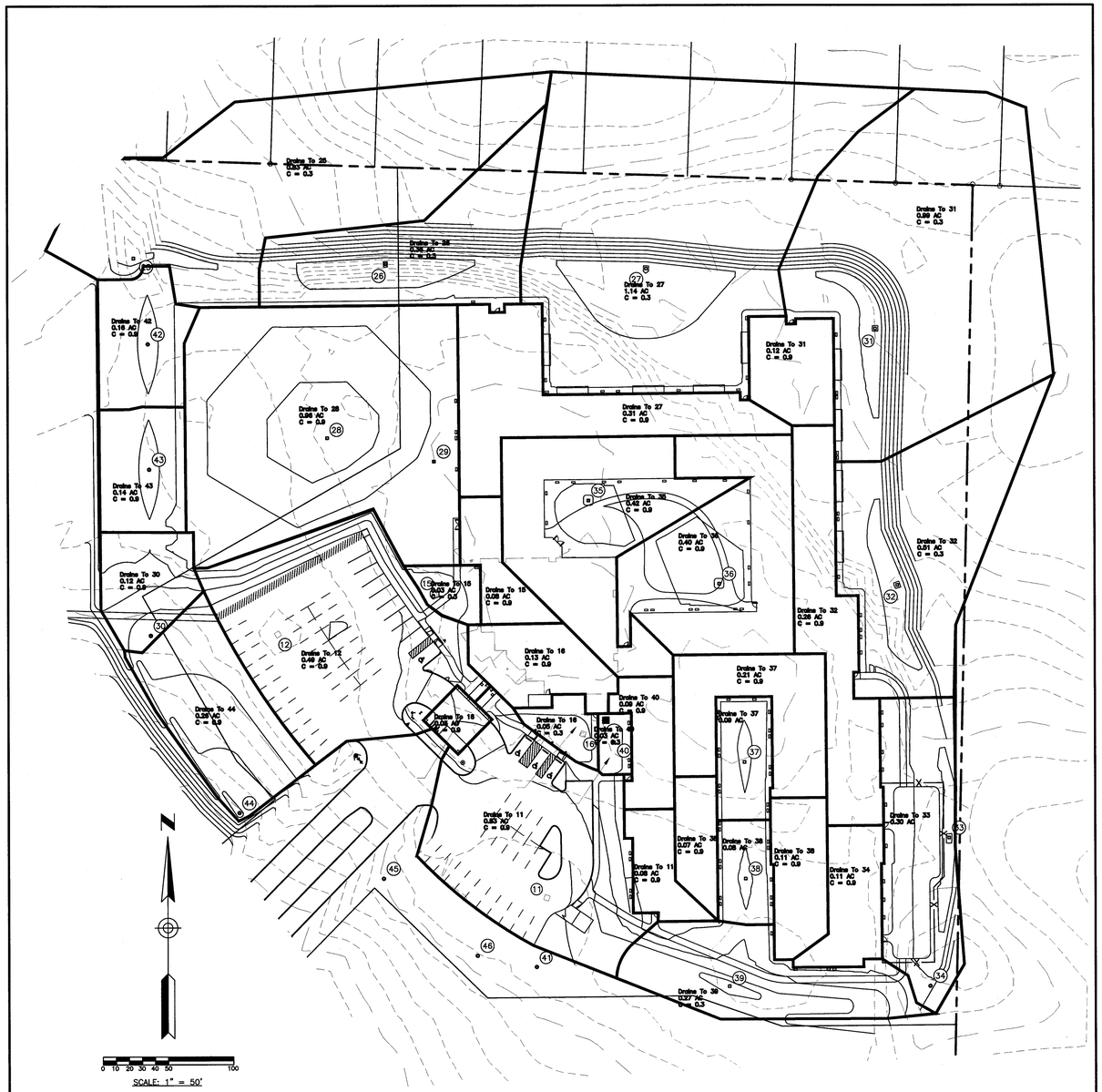
DRAWING NO. SD7.01



SOILS MAP LEGEND

MAP UNIT SYMBOL	MAP UNIT NAME
CdB	CANFIELD SILT LOAM, 2 TO 6 PERCENT SLOPES
CdC	CANFIELD SILT LOAM, 6 TO 12 PERCENT SLOPES
CdD2	CANFIELD SILT LOAM, 12 TO 18 PERCENT SLOPES, MODERATELY ERODED
FcA	FITCHVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES
ReB	RAVENNA SILT LOAMS, 2 TO 6 PERCENT SLOPES

SOILS MAP



DRAINAGE MAP

INSPECTION CHECKLIST

INSPECTIONS SHALL BE MADE ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD.

DATE	NAME OF INSPECTOR & QUALIFICATIONS	WEATHER CONDITIONS (START/STOP)	AMOUNT OF RAINFALL	ANY SEDIMENT DISCHARGE	LOCATION OF DISCHARGE	BMPS THAT NEED MAINTAINED	BMPS THAT FAILED	LOCATION OF ADDITIONAL BMPS NEEDED	CORRECTIVE ACTION

REVISIONS

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565 White Pond Drive Akron, OH 44320-1123
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NORTH CANTON, OH 44720

DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
SWPPP

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD7.02

OHIO EPA PERMIT NO. OHC000003

PART III G. SWP3 REQUIREMENTS

1. a. COMMERCIAL BUILDING & SITE UTILITIES

a. TOTAL SITE AREA – 19.82 AC. – DISTURBED AREA = 9.70 AC.

b. PRE–CONSTRUCTION RUNOFF COEFFICIENT – C=0.37; POST–CONSTRUCTION RUNOFF COEFFICIENT (WEIGHTED) C=0.52.

c. IMPERVIOUS AREA = 7.3 AC., PERCENT IMPERVIOUS = 37%.

d. SOIL TYPES:

- CdB CANFIELD SILT LOAM
- CdC CANFIELD SILT LOAM
- CdD2 CANFIELD SILT LOAM
- FcA FITCHVILLE SILT LOAM
- ReB RAVENNA SILT LOAM

f. PRIOR LAND USE: UNIVERSITY SATELLITE CAMPUS.

g. CONSTRUCTION SEQUENCE – SEE IMPROVEMENT PLANS

h. PIGEON RUN

- NO WETLANDS

i. NOT SUBDIVIDED (MEASURES IDENTIFIED ON PLANS)

j. NOT APPLICABLE

k. PERMIT REQUIREMENTS ATTACHED. (FIELD COPY)

l. IDENTIFIED ON SHEET SD7.00 TO SD7.02

m. IDENTIFIED ON SHEET SD7.00 TO SD7.02

n. (I) LIMITS OF CONSTRUCTION IDENTIFIED ON THE PLANS (LC).

(ii) SOIL TYPES IDENTIFIED ON THE PLANS

(iii) DRAINAGE WATERSHEDS IDENTIFIED ON THE PLANS.

(iv) THERE ARE NO WETLANDS ON THE SITE. NO SPRINGS, LAKES OR WATER WELLS WITHIN 200 FEET OF THE SITE.

(v) EXISTING & PLANNED LOCATIONS OF BUILDINGS, ROADS, PARKING FACILITIES AND UTILITIES ARE IDENTIFIED ON THE PLANS.

(vi) EROSION AND SEDIMENT CONTROL PRACTICES ARE IDENTIFIED ON THE PLANS.

(vii) SEDIMENT & STORM WATER MANAGEMENT DATA IS IDENTIFIED ON THE PLANS.

(viii) PERMANENT STORM WATER MANAGEMENT PRACTICES ARE IDENTIFIED ON THE PLANS.

(ix) CEMENT TRUCK WASHOUT, DUMPSTER & VEHICLE FUELING AREA ARE IDENTIFIED ON THE PLANS.

(x) CONSTRUCTION ENTRANCE IS IDENTIFIED ON THE PLANS.

(xi) NOT APPLICABLE

2. A. NOT APPLICABLE.

B. N/A

(I) TABLE 1 & TABLE 2 HAVE BEEN IDENTIFIED ON THE PLANS.

(II) NOT APPLICABLE.

C. SHEET FLOW RUNOFF HAS BEEN CONTROLLED BY MEANS OF SILT FENCE AND DIRECTED TOWARDS UNDISTURBED SOILS. POINT DISCHARGES HAVE BEEN CONTAINED WITHIN STORM SEWERS.

D. SEDIMENT CONTROL HAS BEEN MANAGED BY MEANS OF SILT FENCE.

(I) NOTED THROUGHOUT THE PLANS.

(II) STORM WATER POND WILL BE USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.

(III) SILT FENCE IS IDENTIFIED ON THE PLANS.

(IV) INLET PROTECTION IS IDENTIFIED ON THE PLANS.

(V) TEMPORARY DIVERSION SWALE, SILT FENCE, AND TEMPORARY SEDIMENT BASIN WILL BE USED TO PROTECT THE STREAM.

(VI) NOTED ON THE IMPROVEMENT PLANS.

E. POST–CONSTRUCTION MAINTENANCE AND INSPECTION IS IDENTIFIED ON THE PLANS.

LARGE CONSTRUCTION ACTIVITIES – A WET EXTENDED DETENTION BASIN WILL BE USED FOR POST CONSTRUCTION STORM WATER QUALITY

SMALL CONSTRUCTION ACTIVITIES – NOT APPLICABLE

F. SURFACE WATER PROTECTION – NOT APPLICABLE

G. OTHER CONTROLS

(I) CEMENT TRUCK WASHOUT AREA IS IDENTIFIED ON THE PLANS.

(II) DUST CONTROL MEASURES AND VEHICLE TRACKING ARE IDENTIFIED ON THE PLANS.

(III) ADDITIONAL NOTES ARE IDENTIFIED ON THE PLANS.

(IV) NOTED ON THE PLANS.

(V) NOTED ON THE PLANS.

H. NOTED THROUGHOUT THE PLANS.

I. INSPECTION FREQUENCY AND INSPECTION CHECKLIST IS NOTED ON THE PLANS.

(I) NOTED ON THE PLANS.

(II) NOTED ON THE PLANS.

(III) STATEMENT NOTED.

3. APPROVED STATE OR LOCAL PLANS
STATEMENT NOTED.

4. EXCEPTIONS
STATEMENT NOTED.

ADDITIONAL CONSTRUCTION SITE POLLUTION CONTROLS

1. CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, SHALL BE MADE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDING OF HAZARDOUS AND CONSTRUCTION WASTES:
   - PREVENT SPILLS
   - USE PRODUCTS UP
   - FOLLOW LABEL DIRECTIONS FOR DISPOSAL
   - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH.
   - RECYCLE WASTES WHENEVER POSSIBLE
   - DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
   - DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
   - DON'T BURY CHEMICALS OR CONTAINERS
   - DON'T BURN CHEMICALS OR CONTAINERS
   - DON'T MIX CHEMICALS TOGETHER

2. CONTAINERS SHALL BE PROVIDED FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS USED ON–SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF AT AN OHIO EPA APPROVED CD&D LANDFILL.

3. NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED ON–SITE. BY EXCEPTION, CLEAN FILL (BRICKS, HARDENED CONCRETE, SOIL) MAY BE UTILIZED IN A WAY WHICH DOES NOT ENCROACH UPON NATURAL WETLANDS, STREAMS OR FLOODPLAINS OR RESULT IN THE CONTAMINATION OF WATERS OF THE STATE.

4. HANDLING CONSTRUCTION CHEMICALS. MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVE GROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVE GROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. CONTAMINATED SOILS MUST BE DISPOSED OF IN ACCORDANCE WITH ITEM 8.

6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL–BE CONSTRUCTED IF NEEDED TO CONTAIN CONCRETE WASH WATER. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.

7. SPILL REPORTING REQUIREMENTS: SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST OR KITTY LITTER AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES, SUCH AS MOST SOLVENTS, GASOLINE, OIL–BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO OHIO EPA (1–800–282–). SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MIN. OF THE DISCOVERY OF THE RELEASE. ALL SPILLS WHICH CONTACT WATERS OF THE STATE MUST BE REPORTED TO OHIO EPA.

8. CONTAMINATED SOILS. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY. (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). NOTE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT BE AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

9. OPEN BURNING. NO MATERIALS CONTAINING RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS, SUCH AS TIRES, AUTO PARTS, PLASTICS OR PLASTIC COATED WIRE MAY BE BURNED (OAC 3745–19). OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS, WHICH ARE DEFINED AS: 1) WITHIN CORPORATION LIMITS; 2) WITHIN 1000 FEET OUTSIDE A MUNICIPAL CORPORATION HAVING A POPULATION OF 1000 TO 10,000; AND 3) A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10, 000 OR MORE. OUTSIDE OF RESTRICTED AREAS, NO OPEN BURNING IS ALLOWED WITHIN A 1000 FEET OF AN INHABITED BUILDING ON ANOTHER PROPERTY. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR: HEATING TAR, WELDING, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE – FOR LANDSCAPE OR LAND–CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES, EXCLUDING BUILDINGS.

10. DUST CONTROL OR DUST SUPPRESSANTS SHALL BE USED TO PREVENT NUISANCE CONDITIONS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND IN A MANNER, WHICH PREVENT A DISCHARGE TO WATERS OF THE STATE. SUFFICIENT DISTANCE MUST BE PROVIDED BETWEEN APPLICATIONS AND NEARBY BRIDGES, CATCH BASINS, AND OTHER WATERWAYS. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN RAIN IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.

11. OTHER AIR PERMITTING REQUIREMENTS: CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS INCLUDING BUT NOT LIMITED TO: MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC. THESE ACTIVITIES WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. OPERATORS MUST SEEK AUTHORIZATION FROM THE CORRESPONDING DISTRICT OF OHIO EPA. FOR DEMOLITION OF ALL COMMERCIAL SITES, A NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.

12. PROCESS WASTE WATER/LEACHATE MANAGEMENT. OHIO EPA'S CONSTRUCTION GENERAL PERMIT ONLY ALLOWS THE DISCHARGE OF STORM WATER AND DOES NOT INCLUDE OTHER WASTE STREAMS/DISCHARGES SUCH AS VEHICLE AND/OR EQUIPMENT WASHING, ON–SITE SEPTIC LEACHATE CONCRETE WASH OUTS, WHICH ARE CONSIDERED PROCESS WASTEWATERS. ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT, LEACHATE OR SEPTAGE IS DISCHARGED; IT MUST BE ISOLATED FOR COLLECTION AND PROPER DISPOSAL AND CORRECTIVE ACTIONS TAKEN TO ELIMINATE THE SOURCE OF WASTE WATER.

13. A PERMIT TO INSTALL (PTI) IS REQUIRED PRIOR TO THE CONSTRUCTION OF ALL CENTRALIZED SANITARY SYSTEMS, INCLUDING SEWER EXTENSIONS, AND SEWERAGE SYSTEMS (EXCEPT THOSE SERVING ONE, TWO, AND THREE FAMILY DWELLINGS) AND POTABLE WATER LINES. PLANS MUST BE SUBMITTED AND APPROVED BY OHIO EPA. ISSUANCE OF AN OHIO EPA CONSTRUCTION GENERAL STORM WATER PERMIT DOES NOT AUTHORIZE THE INSTALLATION OF ANY SEWERAGE SYSTEM WHERE OHIO EPA HAS NOT APPROVED A PTI.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
AN AREAS WITHIN 50 FEET TO A STREAM AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 21 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 21 DAYS BUT LESS THAN ONE YEAR AND NOT WITHIN 50 FEET OF A STREAM	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOTS(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED.

CONSTRUCTION SEQUENCE

(ALL ITEMS ARE TO BE THE RESPONSIBILITY OF THE GENERAL SITE CONTRACTOR)

SITE PREPARATION

NOTE: PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL, AS SPECIFIED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. THE CONTRACTOR MUST REVIEW THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS AND NARRATIVE. THE CONTRACTOR MUST REVIEW THE APPROVED NPDES PERMIT AND SIGN THE PERMIT TO ACCEPT RESPONSIBILITIES AS THE CO–PERMITEE.

INITIAL PHASE (WITHIN 7 DAYS OF START OF GRUBBING)

1. INSTALL A TEMPORARY CONSTRUCTION ENTRANCE AND CEMENT TRUCK WASHOUT AREA FOR ACCESS TO CONSTRUCTION AREAS OF SITE.
2. SETUP CONSTRUCTION TRAILER ON SITE AND ESTABLISH TEMPORARY POWER AND TELEPHONE SERVICE.
3. ALL TEMPORARY UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. STAKEOUT LIMITS OF DISTURBANCE.
5. INSTALL TEMPORARY INLET PROTECTION ON ALL EXISTING CATCH BASINS WITHIN LIMITS OF CONSTRUCTION. REMOVE SILT PROTECTION FROM DESIGNATED INLETS ONLY WHEN INLET STRUCTURE IS TO BE REMOVED AS REQUIRED BY PROGRESSION OF CONSTRUCTION. REFER TO PLANS FOR IDENTIFICATION OF INLET STRUCTURES TO BE REMOVED.
6. INSTALL ALL FILTER FABRIC FENCE WHERE SHOWN ON PLANS.
7. INSTALL PERMANENT STORM SEWER AS SHOWN ON SHEET SD7.00 & SD7.01 TO DIVERT RUNOFF TO TEMPORARY SEDIMENT BASIN.
8. CONSTRUCT TEMPORARY SEDIMENT CONTROL BASIN AND DIVERSIONS PRIOR TO ANY GRADING.
9. BEGIN SITE CLEARING.
10. REMOVE TOPSOIL FROM AREAS OF BUILDING AND PAVEMENT.
11. BEGIN EARTHWORK OPERATIONS.
12. IN THE EVENT OF RAIN, ALLOW STANDING WATER TO SETTLE PRIOR TO PUMPING. UTILIZE THE PUMPING SYSTEMS TO PUMP POLLUTED WATER PER E.P.A. REQUIREMENTS. ALLOW ONLY CLEAN WATER TO BE DISCHARGED TO THE EXISTING DRAINAGE SYSTEM. REMOVE SILT FROM BASINS AS NECESSARY PRIOR TO CONTINUING EARTHWORK. MATERIAL SHOULD BE MECHANICALLY SPREAD AND DRIED PRIOR TO INCORPORATION INTO THE EARTHWORK PROCEDURES. ADEQUACY OF THE DRIED MATERIAL IS TO BE DETERMINED BY A GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AND ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDES, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC., THAT COULD ADVERSELY IMPACT WATER QUALITY. MEASURES SHALL BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL.

INTERIM PHASE
GENERAL CONSTRUCTION

1. MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK.
2. BEGIN EARTHMOVING OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE COUNTY CONSERVATION DISTRICT OF LOCATION AND EROSION AND SEDIMENTATION CONTROL MEASURES IMPLEMENTED AT BORROW OR SPOIL SITE OF IMPORT/EXPORT MATERIAL. THE CONTRACTOR IS TO COORDINATE WITH OWNER THE PLACEMENT OF SUCH MEASURES.
3. STORM SEWER, SANITARY SEWER, WATER LINE AND UTILITY LINE CONSTRUCTION MAY BEGIN IMMEDIATELY FOLLOWING ESTABLISHMENT OF GRADE AND WITH THE PERMISSION OF THE OWNER.
4. STABILIZE ALL UTILITY TRENCHES AT THE END OF EACH WORKDAY BY MEANS OF GRAVEL BACKFILL TO SURFACE, REPAVING OR MULCHING.
5. REPLACE TOPSOIL, FINE GRADE AND SEED AS REQUIRED.
6. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING OR CROWNVETCH SEEDING IMMEDIATELY UPON REACHING FINAL GRADE.
7. INSTALL PAVEMENT SUBBASE.
8. BEGIN BITUMINOUS PAVING, REMOVING TEMPORARY CONSTRUCTION ENTRANCE ONLY WHEN NECESSARY.
9. RESEED AND REDRESS ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A UNIFORM 80% COVERAGE IS ACHIEVED.
10. ALL EROSION MEASURES SHALL REMAIN IN PLACE UNTIL THE SITE IS STABILIZED. ALL AREAS OF VEGETATIVE SURFACE STABILIZATION, WHETHER TEMPORARY OR PERMANENT, SHALL BE CONSIDERED TO BE IN PLACE AND FUNCTIONAL WHEN THE REQUIRED UNIFORM RATE OF COVERAGE (70%) IS OBTAINED.

FINAL PHASE POST–PAVING
BASIN CONVERSION

1. IF, FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARED SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
2. THE FOLLOWING ITEMS MUST BE COMPLETED BY THE CONTRACTOR, IN ORDER, ONCE THE SITE HAS BEEN DEEMED STABLE:
   A. REMOVE SEDIMENT CONTROL DEVICES AND ESTABLISH WATER QUALITY CONTROL ORIFICE.
   B. REMOVE TEMPORARY CONSTRUCTION ENTRANCE PRIOR TO COMPLETION OF PAVING.
   C. SITE CLEAN UP.
   D. RESEED ANY AREAS THAT REQUIRE ADDITIONAL SEED
   E. FILTER FENCES ARE TO BE CLEANED, REMOVED, BACKFILLED AND SEEDED WITH PERMANENT SEEDING.
   F. VERIFY POSITIVE CONVEYANCE FLOW IN ALL DRAINAGE STRUCTURES.

INSPECTION SCHEDULE

PRACTICE ITEM	FREQUENCY	NOTES
GENERAL INSPECTION	EVERY 6 MONTHS	
SWALES	MONTHLY	
VEGETATION	MONTHLY	FOR THE FIRST 2 GROWING SEASONS, THEN 2 TIMES A YEAR.
SILT FENCE	MONTHLY	FOR THE FIRST GROWING SEASON

REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24 HOUR PERIOD. PROVIDED WILL BE NAME OF INSPECTOR, OBSERVATIONS, DATED OF INSPECTION AND CORRECTIVE MEASURES TAKEN. RECORDS SHALL L BE SUBMITTED TO THE STARK COUNTY SOIL & WATER CONSERVATION DISTRICT OFFICE AND THE CITY OF MASSILLON ENGINEERING DEPARTMENT FOR REVIEW BY MAY 1st OF EACH YEAR.

ALL CONTROL PRACTICES THAT REQUIRE REPAIR SHALL BE REPAIRED WITHIN 3 DAYS OF THE INSPECTION.

TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB/1000 FT.^{2}	PER ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE	3 2	4 BUSHEL 40 LB. 40 LB.
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 LB. 40 LB.
AUGUST 16 TO NOVEMBER 1	RYE TALL FESCUE PERENNIAL RYEGRASS	3 1 1	2 BUSHEL 40 LB. 40 LB.
	WHEAT TALL FESCUE PERENNIAL RYEGRASS	3 1 1	2 BUSHEL 40 LB. 40 LB.
	PERENNIAL RYEGRASS TALL FESCUE	1 2	40 LB. 40 LB.
NOVEMBER 1 TO SPRING SEEDING	USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING.		

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION–SITE.
2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 21 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
3. THE SEEDBED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS––APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISHED ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
5. SEEDING METHOD––SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON–SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES AND WITH FAVORABLE SOIL CONDITIONS AND ON VERY FLAT AREAS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
2. MATERIALS:

   STRAW––IF STRAW IS USED, IT SHALL BE UNROTTED SMALL–GRAIN APPLIED AT 2 TONS/AC. OR 90 LB. / 1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND–SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND SPREAD TWO 45 LB. BALES OF STRAW IN EACH SECTION.

   HYDROSEEDERS––IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. / AC. OR 46 LB. /1,000 SQ. FT.

   OTHER––OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS / AC.
3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.
   ANCHORING METHODS:

   MECHANICAL––A DISK, CRIMPER OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY BE LEFT LONGER THAN 6 IN.

   MULCH NETTINGS––NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.

   ASPHALT EMULSION––ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURER OR AT THE RATE OF 160 GAL. / AC.

   SYNTHETIC BINDERS––SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI–TAC), DCA–70, PETROSET, TERRA–TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.

   WOOD–CELLULOSE FIBRE––WOOD–CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB. /AC. THE WOOD–CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.

POST-CONSTRUCTION BMP RATIONALE

THE STORM WATER MANAGEMENT (QUALITY) IS HANDLED BY A WET EXTENDED DETENTION BASIN.

ADDITIONAL SWP3 CONSIDERATIONS

NO OPEN BURNING

DUST CONTROL SHALL BE ACHIEVED BY USE OF WATERING TRUCKS. USE OF OIL IS STRICTLY PROHIBITED. INLET PROTECTION MUST BE IMPLEMENTED PRIOR TO DUST CONTROL MEASURES.

IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF OIL SHEEN, THE CONTRACTOR SHALL CONTACT THE OHIO E.P.A. AT 800–282–9378, THE LOCAL FIRE DEPARTMENT.

SMALL SPILLS (<25 GALLONS) SHALL BE CLEANED UP USING AN ABSORBING AGENT, THE ABSORBING AGENT REMOVED AND DISPOSED OF ACCORDING TO FEDERAL REGULATIONS.

ALL TRENCH DEWATERING MEASURES SHALL BE DISCHARGED INTO SETTLING BASINS PRIOR TO DISCHARGE FROM SITE. BMP'S THAT REQUIRE REPAIR SHALL BE REPAIRED WITHIN 3 DAYS OF INSPECTION. SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF INSPECTION.

STREETS ADJACENT TO SITE SHALL BE CLEANED AT THE END OF EACH WORK DAY.

CONSTRUCTION ENTRANCE NOTE

MINIMIZE TRACKING OF SEDIMENTS BY VEHICLES BY UTILIZING THE CONSTRUCTION ENTRANCE AS THE ONLY ENTRANCE FOR VEHICLES. MAINTAIN THIS ENTRANCE WITH STONE AS NEEDED TO PREVENT DIRT AND MUD FROM TRACKING ONTO THE ROADWAY. REGULAR SWEEPING OF THE ROADWAY MAY BE NECESSARY TO ENSURE ROADWAY DOES NOT BUILD UP WITH SEDIMENTS.

PERMANENT SEEDING

SEED MIX	SEEDING RATE		NOTES
	LB/ACRE	LB/1000 FT.^{2}	
GENERAL USE			
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY RYEGRASS	20–40 10–20 20–40	1/2 –1 1/4 –1/2 1/2 –1	FOR CLOSE MOWING & FOR WATERWAYS WITH <2.0 FT/SEC. VELOCITY
TALL FESCUE	40–50	1– 1 1/4	
TURF–TYPE (DWARF) FESCUE	90	2 1/4	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40–50	1– 1 1/4	
CROWN VETCH TALL FESCUE	10–20 20–30	1/4 –1/2 1/2 –3/4	DO NOT SEED LATER THAN AUGUST.
FLAT PEA TALL FESCUE	20–25 20–30	1/2 –3/4 1/2 –3/4	DO NOT SEED LATER THAN AUGUST.
ROAD DITCHES AND SWALES			
TALL FESCUE	40–50	1– 1 1/4	
TURF–TYPE (DWARF) FESCUE KENTUCKY BLUEGRASS	90 5	2 1/4 0.10	
LAWNS			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100–200	2 2	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100–200 20–30	2 1 1/2	FOR SHADED AREAS

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

SITE PREPARATION

1. SUBSOILER, PLOW, OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY). SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
2. THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3. TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION LAND IS BEING DISTURBED TO CONSTRUCT A RESIDENTIAL SUBDIVISION ALONG WITH SITE UTILITIES.

SEEDBED PREPARATION

1. LIME– AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,222 SQ. FT. OR 2 TONS PER ACRE.
2. FERTILIZER– FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. IN PLACE OF A SOIL TEST, FERTILIZER SHALL BE APPLIED AT A RATE OF 25 POUNDS PER 1,000 SQ. FT. OR 1,000 POUNDS PER ACRE OF A 10–10–10 OR 12–12–12 ANALYSES.
3. THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING–TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

SEEDING DATES AND SOIL CONDITIONS

SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE BELOW FOR DORMANT SEEDING.

DORMANT SEEDINGS

1. SEEDINGS SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
2. THE FOLLOWING METHODS MAY BE USED FOR 'DORMANT SEEDING':
   –FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE MARCH 15, BROADCAST THE SELECTED SEED MIXTURE. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
   –FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZER, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
   –APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO–SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
   –WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATION WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE CONTOUR WHERE FEASIBLE.

MULCHING

1. MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100% OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
2. MATERIALS
   –STRAW–IF STRAW IS USED IT SHALL BE UNROTTED SMALL–GRAIN STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE OR 90 POUNDS (TWO TO THREE BALES) PER 1,000 SQ. FT. THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY APPLIED SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND SPREAD TWO 45–LB. BALES OF STRAW IN EACH SECTION.
   –HYDROSEEDERS–IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE APPLIED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
   –OTHER–OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTINGS OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS PER ACRE.
3. STRAW AND MULCH ANCHORING METHODS

   STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.

   –MECHANICAL–DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LEFT LONGER THAN 6 INCHES.
   –MULCH NETTING–NETTING SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
   –ASPHALT EMULSION–ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURER OR AT A RATE F 160 GALLONS PER ACRE.
   –SYNTHETIC BINDERS–SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI–TAC), DCA–70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.
   –WOOD CELLULOSE FIBER–WOOD CELLULOSE FIBER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 POUNDS CELLULOSE PER 100 GALLONS OF WATER.

IRRIGATION

PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.

IRRIGATION RATE SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF.

REVISIONS

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1201 S. MAIN ST.
NORTH CANTON, OH 44720

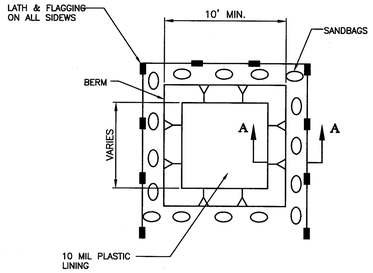
DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646
SWPPP DETAILS

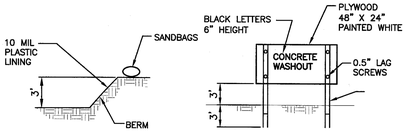
DRAWN BY:
J.D.D.

DATE:
6/20/2014

PROJECT NO.
46178

DRAWING NO.
SD7.03





SECTION A–A
N.T.S.

CONCRETE WASHOUT SIGN DETAIL
(OR EQUIVALENT)
N.T.S.

1. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. FACILITY SHALL BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.
2. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AS SHOWN ON THE DETAIL WITH A MINIMUM LENGTH AND MINIMUM WIDTH OF 10'.
3. LATH AND FLAGGING SHALL BE COMMERCIAL TYPE.
4. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. A SIGN SHALL BE INSTALLED ADJACWENT TO WASHOUT FACILITY TO INFORM CONCRETE EQUIPTMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
6. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETLEY CONTAIN ALL LIQUID AND CONCRETE WASTE GRENERATED BY WASHOUT PROCEDURES.
7. WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED IN DESIGNATED AREAS ONLY.
8. ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASHOUT.
9. CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.
10. CONCRETE WASTES SHALL BE ALLOWED TO HARDEN THEN BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATION ON A REGULAR BASIS.
11. WHEN TEMPORARY WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT THE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.

TEMP. CONCRETE WASHOUT FACILITY
(BELOW GRADE)
N.T.S.

SILT FENCE

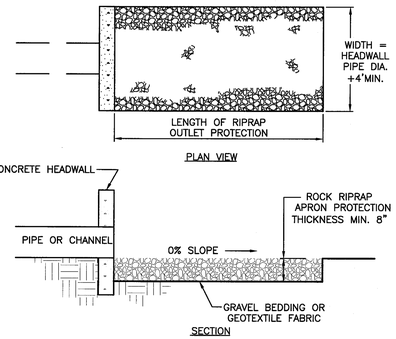
1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2–BY–4–IN. CONSTRUCTION–GRADE LUMBER. THE 2–BY–4–IN. POSTS SHALL BE DRIVEN 1 FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2–BY–4–IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20–40– SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ON SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6–IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MIN. OF 16 IN. ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MIN. OF 6 IN. DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWN SLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 IN. OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6 IN. DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
10. MAINTENANCE––SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE, IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS

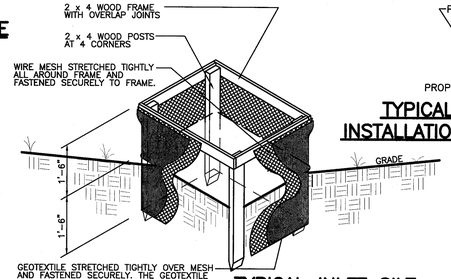
1. FENCE POSTS–– THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2–BY–2 IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):

FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 PSI MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./FT^2 MAXIMUM	ASTM D 3786
EQUIVALENT OPENING SIZE	40–80	US STD. SIEVE CW–02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM–G–26

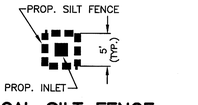


ROCK OUTLET PROTECTION
NOT TO SCALE

1. SUBGRADE FOR THE FILTER OR BEDDING AND RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES AS SHOWN ON THE PLAN. THE SUBGRADE SHALL BE CLEARED OF ALL TREES, STUMPS, ROOT, SOD, LOOSE ROCK OR OTHER MATERIAL.
2. RIPRAP SHALL CONFORM TO THE GRADING LIMITS SHOWN ON THE PLAN.
3. GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS.
4. GEOTEXTILE SHALL BE LAID WITH THE LONG DIMENSION PARALLEL TO THE DIRECTION OF FLOW AND SHALL BE LAID LOOSELY BUT WITHOUT WRINKLES OR CREASES. WHERE JOINTS ARE NECESSARY, STRIPS SHALL BE PLACED TO PROVIDE A 12 IN. MINIMUM OVERLAP, WITH THE UPSTREAM STRIP OVERLAPPING THE DOWNSTREAM STRIP.
5. GRAVEL BEDDING SHALL BE ODOT NO. 67's OR 57's UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
6. RIPRAP SHALL BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
7. RIPRAP SHALL BE PLACED BY A METHOD THAT DOES NOT CAUSE SEGREGATION OF SIZES. EXTENSIVE PUSHING WITH A DOZER CAUSES SEGREGATION AND SHALL BE AVOIDED BY DELIVERING RIPRAP NEAR ITS FINAL LOCATION WITHIN THE CHANNEL.
8. CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
9. ALL DISTURBED AREAS SHALL BECOME VEGETATED AS SOON AS PRACTICAL.



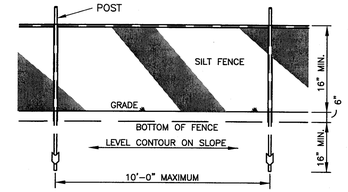
TYPICAL INLET SILT FENCE DETAIL
NO SCALE



TYPICAL SILT FENCE INSTALLATION AT ALL INLETS

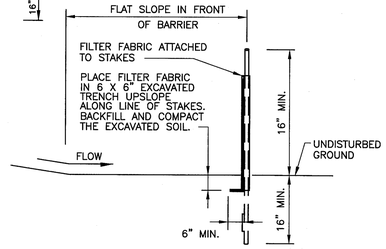
INLET PROTECTION NOTE

1. THE TYPICAL INLET SILT FENCE DETAIL SHALL REMAIN IN PLACE UNTIL PAVEMENT IS ESTABLISHED.
2. ONCE PAVEMENT HAS BEEN INSTALLED, THE INLETS WITHIN THE PAVING LIMITS MUST BE FITTED WITH THE "SILTSACK" SEDIMENT CONTROL DEVICE AS MANUFACTURED BY ACF ENVIROMENTAL CONTROL INC., OR APPROVED EQUAL.
3. SILT SACK MUST REMAIN IN PLACE UNTIL THE SITE HAS BEEN SEEDED & STABILIZED.

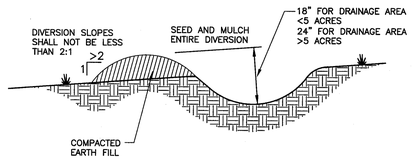


SILT FENCE DETAIL
NO SCALE

JOINING SECTIONS OF SILT FENCE DETAIL
NO SCALE



SILT FENCE SECTION
NO SCALE



TEMPORARY DIVERSION
NO SCALE

1. DRAINAGE AREA SHOULD NOT EXCEED 10 ACRES. LARGER AREAS REQUIRE A MORE EXTENSIVE DESIGN.
2. THE CHANNEL CROSS SECTION MAY BE PARABOLIC OR TRAPEZOIDAL. DISK THE BASE OF THE DIKE BEFORE PLACING FILL. BUILD THE DIKE 10% HIGHER THAN DESIGNED FOR SETTLEMENT. THE DIKE SHALL BE COMPACTED BY TRAVERSING WITH TRACKED EARTH–MOVING EQUIPMENT.
3. THE MINIMUM CROSS SECTION OF THE LEVEE OR DIKE WILL BE AS FOLLOWS: (MINIMUM DESIGN FREEBOARD SHALL BE 0.30 FOOT). WHERE CONSTRUCTION TRAFFIC WILL CROSS, THE TOP WIDTH MAY BE MADE WIDER AND THE SIDE SLOPES FLATTER THAN SPECIFIED.

DIKE TOP WIDTH (FT.)	HEIGHT (FT.)	SIDE SLOPES	SHAPE
0	1.5	4:1	TRAPEZOIDAL
4	1.5	2:1	PARABOLIC

4. THE GRADE MAY BE VARIABLE DEPENDING UPON THE TOPOGRAPHY, BUT MUST HAVE A POSITIVE DRAINAGE TO THE OUTLET AND BE STABILIZED TO BE NON–EROSIVE.
5. OUTLET RUNOFF ONTO A STABILIZED AREA, INTO A PROPERLY DESIGNED WATERWAY, GRADE STABILIZATION STRUCTURE, OR SEDIMENT TRAPPING FACILITY.
6. DIVERSIONS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH THE REQUIREMENTS IN PRACTICE STANDARDS 'TEMPORARY SEEDING' (OR PERMANENT SEEDING) AND MULCHING' AS SOON AS THEY ARE CONSTRUCTED OR OTHER SUITABLE STABILIZATION IN ORDER TO PRESERVE DIKE HEIGHT AND REDUCE MAINTENANCE.

TEMPORARY DIVERSION STABILIZATION TREATMENT			
DIVERSION SLOPE	< 2 AC.	2 – 5 AC.	5 – 10 AC.
0 – 3%	SEED & STRAW	SEED & STRAW	SEED & STRAW
3 – 5%	SEED & STRAW	SEED & STRAW	MATTING
5 – 8%	SEED & STRAW	MATTING	MATTING
8 – 20%	SEED & STRAW	MATTING	ENGINEERED

NOTE: DIVERSIONS WITH STEEPER SLOPES OR GREATER DRAINAGE AREAS ARE BEYOND THE SCOPE OF THIS STANDARD AND MUST BE DESIGNED FOR STABILITY. SEED, STRAW AND MATTING USED SHALL MEET THE SPECIFICATIONS FOR TEMPORARY SEEDING, MULCHING AND MATTING.

REVISIONS

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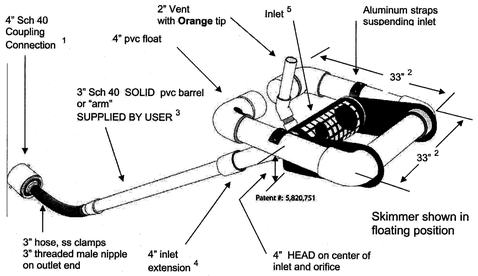
DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
MASSILLON, OHIO 44646

SWPPP DETAILS

DRAWN BY: J.D.D.
DATE: 6/20/2014
PROJECT NO. 46178
DRAWING NO. SD7.04

4" *Faircloth Skimmer®* Surface Drain Cut Sheet

J. W. Faircloth & Son, Inc.
www.FairclothSkimmer.com



1. Coupling can be removed and hose attached to outlet using the threaded 3" nipple. Typical methods used: on a metal structure a steel stubout welded on the side at the bottom with a 3" threaded coupling or reducers; on a concrete structure with a hole or orifice at the bottom, use a steel plate with a hole cut in it and coupling welded to it that will fit over the hole in the concrete and bolted to the structure with sealant. It is possible to grout a 4" pvc pipe in a hole in the concrete to connect the skimmer but this is less secure than other methods.
2. Dimensions are approximate, not intended as plans for construction.
3. Barrel (solid, not foam core pipe) should be 1.4 times the depth of water with a minimum length of 8' so the inlet can be pulled to the side for maintenance. If more than 10' long weight may have to be added to inlet to counter the increased buoyancy.
4. Inlet tapers down from 4" maximum inlet to a 3" barrel and hose. Barrel is smaller to reduce buoyancy and tendency to lift inlet but is sufficient for flow through inlet because of slope. The inlet orifice can be reduced using the plug and cutter provided to control the outflow rate.
5. Inlet is 8" pipe between the straps with slots cut in the inlet and aluminum screen door (smaller than shown in illustration) for access to the 4" inlet and orifice inside.
6. **Capacity** 20,109 cubic feet per day maximum with 4" inlet and 4" head. Inlet can be reduced by installing a smaller orifice using the plug and cutter provided to adjust flow rate for the particular basin volume and drawdown time required.
7. Shipped assembled. User glues inlet extension and barrel, installs vent, cuts orifice in plug and attaches to outlet pipe or structure. Includes flexible hose, rope, orifice cutter, etc.

4inchCut TM 11-07 November 14, 2007

* 3.2" DIA. ORIFICE TO BE PROVIDED FOR 48 HOUR DEWATERING TIME

Calculate Skimmer Size			
Basin Volume in Cubic Feet	24,966 Cu.Ft	Skimmer Size	4.0 Inch
Days to Drain*	2 Days	Orifice Radius	1.6 Inch[es]
		Orifice Diameter	3.2 Inch[es]

*In NC assume 3 days to drain

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT

1. CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2" 3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED RECP WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
2. CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.

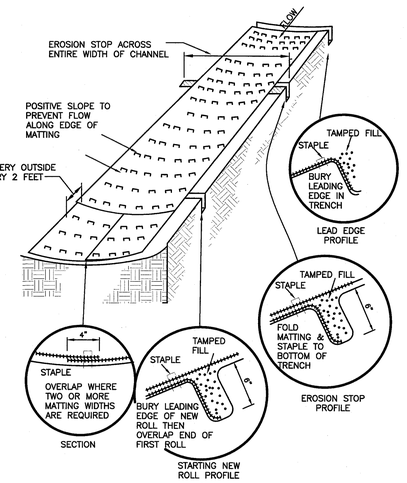
SLOPE INSTALLATION

3. EXCAVATE TOP AND BOTTOM TRENCHES (12" X6"). INTERMITTENT EROSION CHECK SLOTS (6" X6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2' X 3' OVER CREST OF THE SLOPE.
4. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED, INSTALL RECP IN 6"X6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. RECP SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.
5. INSTALL RECP IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL.
6. UNROLL RECP DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE RECP LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.
7. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE RECP ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED, DOUBLE ANCHOR ACROSS ROLL EVERY 12".
8. INSTALL RECP IN BOTTOM ANCHOR TRENCH (12"X6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURER'S ANCHOR GUIDE.

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT (continued)

CHANNEL INSTALLATION

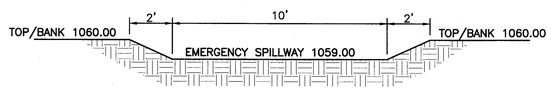
9. EXCAVATE INITIAL ANCHOR TRENCH (12"X6") ACROSS THE LOWER END OF THE PROJECT AREA.
10. EXCAVATE INTERMITTENT CHECK SLOTS (6"X6") ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.
11. EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4"X4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE RECP 2' 3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.
12. INSTALL RECP IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.
13. ROLL OUT RECP BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3" MINIMUM OVERLAP (ANCHOR EVERY 18") AND UP EACH CHANNEL SIDE SLOPE.
14. AT TOP OF CHANNEL SIDE SLOPES INSTALL RECP IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".
15. INSTALL RECP IN INTERMITTENT CHECK SLOTS LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.
16. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSTREAM RECP ON TOP FOR A SHINGLING EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHORED EVERY 12".
17. INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12"X6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.
18. COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SANDY OR GRAVELLY SOILS.



TEMPORARY ROLLED EROSION CONTROL PRODUCT

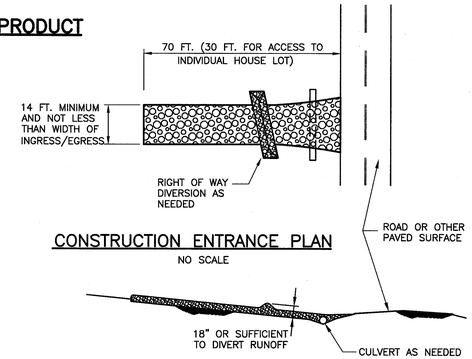
NOT TO SCALE

WATER QUALITY BASIN/TEMPORARY SEDIMENT BASIN	
TOTAL DRAINAGE AREA	13.87 AC.
TOTAL DISTURBED AREA	9.70 AC.
SEDIMENT STORAGE VOLUME REQUIRED (1,000 C.F./AC.)	9,700 C.F.
SEDIMENT STORAGE VOLUME PROVIDED BELOW SKIMMER DEVICE	14,901 C.F.
DEWATERING VOLUME REQUIRED (1,800 C.F./AC.)	24,966 C.F.
DEWATERING VOLUME REQUIRED BELOW SKIMMER DEVICE	36,655 C.F.
TOP OF BANK ELEVATION	1060.00
NORMAL WATER ELEVATION FOR TEMPORARY SEDIMENT POND	1054.00
BOTTOM OF TEMPORARY SEDIMENT BASIN ELEVATION	1050.00
NORMAL WATER LEVEL ELEVATION WQ PERMANENT POND	1054.00
WATER QUALITY VOLUME REQUIRED	11,157 C.F.
WATER QUALITY ELEVATION	1055.60
WATER QUALITY VOLUME PROVIDED @ WATER QUALITY ELEVATION	11,416 C.F



EMERGENCY SPILLWAY

NOT TO SCALE



CONSTRUCTION ENTRANCE PLAN

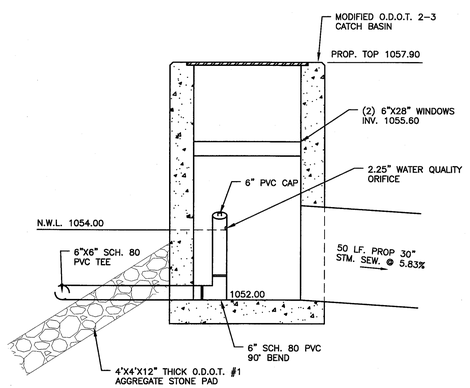
NO SCALE

CONSTRUCTION ENTRANCE PROFILE

NO SCALE

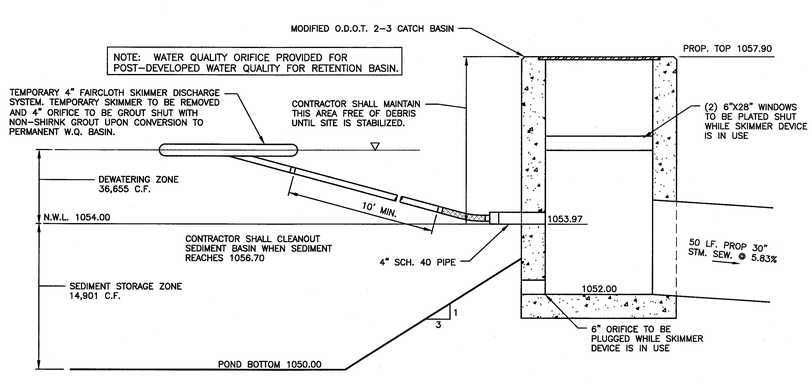
1. STONE SIZE--ODOT #2 (1.5 – 2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE PAVEMENT.
2. LENGTH--THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOT).
3. THICKNESS--THE STONE LAYER SHALL BE AT LEAST 6–IN. THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10–IN. FOR HEAVY DUTY USE.
4. WIDTH--THE ENTRANCE SHALL BE AT LEAST 14–FT. WIDE, BUT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE--A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT–PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:
6. TIMING--THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
7. CULVERT--A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
8. WATER BAR--A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
9. MAINTENANCE--TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECK BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF–SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION–SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
11. REMOVAL--THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

GEOTEXTILE SPEC. FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.60 mm
PERMITTIVITY	1x10–3 CM/SEC



PERMANENT OUTLET STRUCTURE DETAIL

NOT TO SCALE



TEMPORARY OUTLET STRUCTURE & SKIMMER DETAIL

NOT TO SCALE

REVISIONS

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DANBURY WOODS OF MASSILLON
2550 UNIVERSITY DRIVE S.E.
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SWPPP DETAILS

DRAWN BY: J.D.D.

DATE: 6/20/2014

PROJECT NO. 46178

DRAWING NO. SD7.05

LANDSCAPING LEGEND

QUANTITY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	SPACING	SIZE	TYPE	REMARKS
12	HL	IMPERIAL HONEY LOCUST	GLEDITSIA TRIACANTHOS INERMIS IMPERIAL		2 1/2"	B&B	WELL BRANCHED
19	WP	WHITE PINE	PINUS STROBUS		6'	B&B	STAKE
9	MP	AUTUMN BLAZE MAPLE	ACER AUTUMN BLAZE		2 1/2"	B&B	WELL BRANCHED
45	IX	GREEN LUSTER HOLLY	ILEX CRENATA GREEN LUSTER	3'	24"	#3 CONT.	
22	SP	LITTTLE PRINCESS SPIREA	SPIREA JAPONICA	3'	24"	B&B	
17	VIB	SUMMER SNOWFLAKE VIBURNUM	VIBURNUM PTOSUM SUMMER	3'	24"	B&B	
35	BJ	BUFFALO JUNIPER	JUNIPERUS SABINA BUFFALO	3'	24"	B&B	
8	KO	KNOCKOUT ROSES	ROSA RADRAZZ		20"		COLOR BY OWNER
17	EL	EVERLOW YEW	TAXUS MEDIA EVERLOW		24"	B&B	
9	CA	FLOWERING CRABAPPLE	MALUS CENTZAM		1 1/2"	B&B	WELL BRANCHED
30	BB	DWARF BURNING BUSH	EUONYMUS ALATA COMPACTA	36"	24"	B&B	
12	H	HOSTAS	HOSTA ANTIOCH	30"		#2 CONT.	
20	DL	DAY LILLY	HEMEROCALLIS STELLA D'ORO	24"		#1 CONT.	

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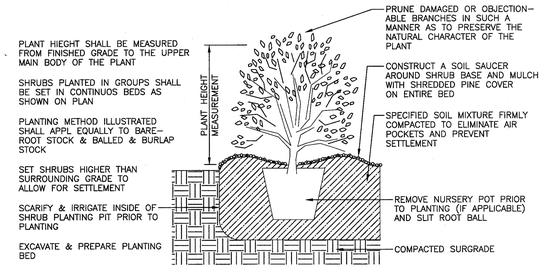
DANBURY WOODS OF MASSILLON
MASSILLON, OHIO 44646
LANDSCAPING PLAN

DRAWN BY: J.D.D.

DATE: 6/20/2014

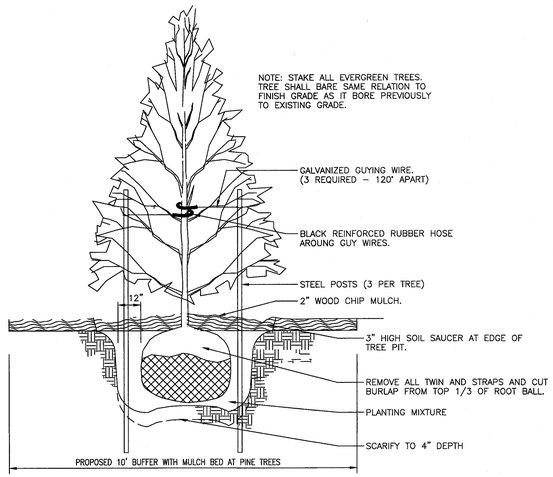
PROJECT NO. 46178

DRAWING NO. L-1.00



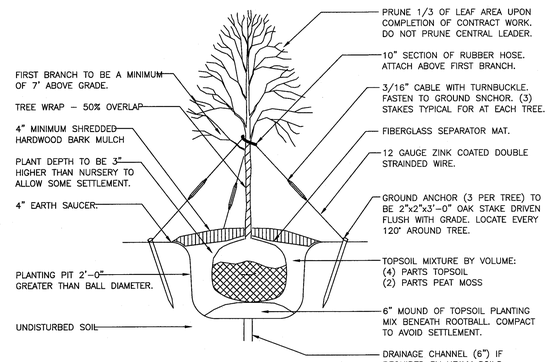
SHRUB PLANTING DETAIL

TYPICAL SECTION



EVERGREEN TREE PLANTING DETAIL

TYPICAL INSTALLATION



DECIDUOUS TREE PLANTING DETAIL

TYPICAL INSTALLATION

GENERAL LANDSCAPE NOTES:

A. LOCATE ALL UTILITIES AND SITE LIGHTING CONDUITS BEFORE LANDSCAPE CONSTRUCTION BEGINS.

B. NOTIFY LANDSCAPE ARCHITECT OR DESIGNATED REPRESENTATIVE OF ANY LAYOUT DISCREPANCIES PRIOR TO ANY PLANTING.

C. FERTILIZE ALL PLANTS AT THE TIME OF PLANTING WITH TIME RELEASE FERTILIZER.

D. SHREDDED HARDWOOD MULCH SHALL BE USED AS A FOUR INCH (4") TOP DRESSING IN ALL PLANT BEDS AND AROUND ALL TREES. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO THE OUTSIDE EDGE OF THE SAUCER OR LANDSCAPE ISLAND (SEE PLANTING DETAILS).

E. ALL LANDSCAPE MATERIALS SHALL BE IN COMPLIANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK. (ANSI-Z60J-1986)

F. LANDSCAPE CONTRACTOR HAS THE OPTION TO SUBSTITUTE PLANT MATERIAL IF SPECIFIED GENUS, SPECIES, AND/OR VARIETIES ARE NOT LOCALLY OR REGIONALLY AVAILABLE. LANDSCAPE CONTRACTOR SHALL REPLACE SAID PLANTS WITH THOSE OF LIKE HARDNESS ZONE, SIZE, FORM, MOISTURE AND SOLAR REQUIREMENTS, AND MEET GENERAL INTENT OF THE ORIGINAL DESIGN. ANY REPLACEMENT PLANTINGS SHALL BE APPROVED BY GBC DESIGN, INC. OR CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

G. CONTRACTOR SHALL BRING FINISH GRADE UP TO TOP OF CURB ELEVATION WITH A MINIMUM OF 4" OF TOPSOIL PRIOR TO PLACEMENT OF SOD.

H. ALL LANDSCAPE BEDS AND TREE WELLS SHALL BE INSTALLED WITH A WEED BARRIER. WEED BARRIER SHALL BE A WOVEN POLYPROPYLENE MATERIAL THAT IS 100% OPAQUE TO PREVENT PHOTOSYNTHESIS AND SEED GERMINATION. WEED BARRIER SHALL BE SECURED WITH "U" SHAPED STEEL PINS.

I. LANDSCAPE CONTRACTOR SHALL TILL SOIL DIRECTLY AROUND NEW TREE PLANTINGS TO A DEPTH OF 12"-18", AND A DISTANCE OF 3 X ROOT BALL DIAMETER FROM CENTER OF PLANTING HOLE. TILLING SHALL TAKE PLACE PRIOR TO THE TREE PLANTING AND SHALL NOT BE DEEPER THAN THE BOTTOM OF THE PLANTING HOLE.

REVISIONS

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LANDSCAPING DETAILS

DRAWN BY: J.D.D.

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PROJECT NO. 46178

DRAWING NO. L-1.01