

DEVILLE 21 LINCOLN WAY OUT LOT 17416

IMPROVEMENT PLANS

CITY OF MASSILLON
COUNTY OF STARK
STATE OF OHIO

SANITARY, STORM SEWERS, WATER & PAVING

SEPTEMBER, 2015

DESIGN ENGINEER:

GBC DESIGN, INC.

565 White Pond Drive Akron, OH 44320
Phone 330-836-0228 Fax 330-836-5782

DEVELOPER:

21 LINCOLN WAY PROJECT, LLC
SUITE 301
3951 CONVENIENCE CIRCLE N.W.
CANTON, OH 44718
PHONE: 330-493-9131
REP.: PATRICK SIRPILLA



SUBMITTED BY:

D. Michael Kendall
D. MICHAEL KENDALL

Reg. Engineer No. 61185

DATE: 9/9/2015

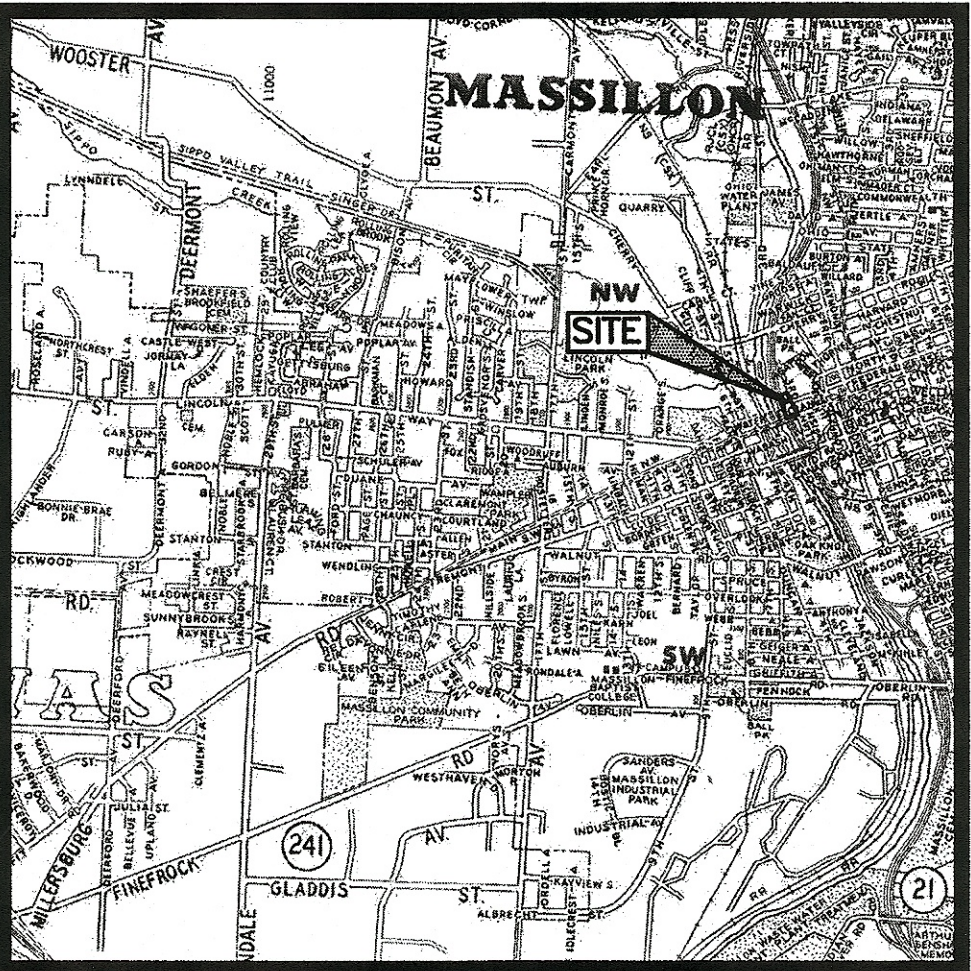
ENGINEERING APPROVALS

APPROVED BY THE MASSILLON CITY ENGINEER THIS 3RD DAY OF DECEMBER, 2015.

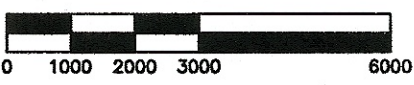
K.A. T.
KEITH A. TRZASKA, P.E., P.S.
CITY ENGINEER

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

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	TELE.	TELEPHONE
PROP.	PROPOSED	CB.	CABLE
FND.	FOUND	BLDG.	BUILDING
MEAS.	MEASURED	F.F.	FINISHED FLOOR
REC.	RECORD	CONC.	CONCRETE
STM.	STORM	ASPH.	ASPHALT
SAN.	SANITARY	M.H.	MANHOLE
W.M.	WATER MAIN	C.B.	CATCH BASIN
F.W.	FIRE WATER	H.W.	HEADWALL
D.W.	DOMESTIC WATER	INV.	INVERT
D.W.	DOMESTIC WATER	WIN.	WINDOW
F.D.C.	FIRE DEPT. CONN.	R.D.	ROOF DRAIN
ELEC.	ELECTRIC	C.O.	CLEAN OUT
O.H.W.	OVERHEAD WIRE		
P/L	PROPERTY LINE	R/W	RIGHT OF WAY
C.L.	CENTER LINE	EASE.	EASEMENT
STA.	STATION	LT.	LEFT
RT.	RIGHT	SHT.	SHEET
No.	NUMBER	T/W	TOP OF WALL
B/W	BOTTOM OF WALL		
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		
LINETYPES			
—C—	PROPOSED CABLE LINE	—SAN—	PROPOSED SANITARY SEWER
—E—	EXISTING CABLE LINE	—LAT—	PROPOSED SANITARY LATERAL
—T—	PROPOSED TELEPHONE LINE	—FM—	EXISTING FORCE MAIN
—G—	EXISTING TELEPHONE LINE	—ST—	PROPOSED STORM SEWER
—W—	PROPOSED WATER MAIN	—RD—	PROPOSED ROOF DRAIN
—WS—	PROPOSED WATER SERVICE	—ST—	EXISTING STORM SEWER
—DW—	PROPOSED DOMESTIC SVC.	—RD—	EXISTING ROOF DRAIN
—FW—	PROPOSED FIRE WATER SVC.	—X—	PROPOSED FENCE
—W—	EXISTING WATER MAIN	—X—	EXISTING FENCE
—WS—	EXISTING WATER SERVICE		



LOCATION MAP



SCALE: 1" = 3000'



Know what's below.
Call before you dig.

TITLE
TITLE SHEET
GENERAL NOTES
DEMOLITION PLAN
SITE PLAN
UTILITY PLAN
GRADING PLAN
SITE DETAILS
SWPPP
SWPPP DETAILS

INDEX

SHEET No.
SD1.00
SD1.01
SD2.00
SD3.00
SD4.00
SD5.00
SD6.00 - SD6.02
SD7.00 & SD7.01
SD7.02 - SD7.03

REVISIONS

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DEVILLE 21 LINCOLN WAY
OUTLOT 17416
MASSILLON, OHIO
TITLE SHEET

DRAWN BY:
T.G.W.

DATE:
9/8/2015

PROJECT NO.
47190B

DRAWING NO.

SD1.00

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 CODIT CODE OR MONIED 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 CDDT 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 MOUNTED 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 CDDT ITEM 203 SHALL BE USED FOR BACKFILLING EXISTING STRUCTURES (AFTER REMOVAL ONLY). CRUSHED GRAVEL CONFORMING TO GRADATION REQUIREMENTS OF CDDT ITEM 304 OR APPROVED EQUAL AS SHOWN IN CDDT 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, SETTING, OR FLOODING 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 MANHOLE TESTED FOR DEFLECTION. THE MAXIMUM ALLOWABLE PIPE DEFLECTION SHALL BE .02%.

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 104048S 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 .02% 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-60) MANHOLE 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 MANHOLE
6"	35	6.275	5.742	5.54
8"	35	8.400	7.865	7.28
10"	35	10.500	9.963	9.08
12"	35	12.500	11.961	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 DND TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE RECORDING PROCDURE 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 DEFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY (BL/AM) OF PIPE DIAMETER XIN 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. SEWER WILL NOT BE COVERED 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 PLOGS SHALL HAVE A SEALING LENGTH EQUAL TO OR A GREATER THAN THE DIAMETER OF THE PIPE BEING INSPECTED.

2. PNEUMATIC PLOGS 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 PLOGS 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 PLOGS SHALL BE SEAL TESTED BEFORE BEING USED IN THE ACTUAL TEST INSTALLATION. ONE LENGTH OF PIPE SHALL BE LAID ON THE GROUND AND SEALED AT BOTH ENDS WITH THE PNEUMATIC PLOGS TO BE CHECKED. THE SEALED PIPE SHALL BE PRESSURED TO 5 PSIG. THE PLOGS MUST HOLD AGAINST THIS PRESSURE WITHOUT HAVING TO BE BRACED.

AFTER A MANHOLE TO MANHOLE REACH OF PIPE HAS BEEN BACKFILLED AND CLEARED, AND THE PNEUMATIC PLOGS ARE CHECKED BY THE ABOVE PROCEDURE, THE PLOGS 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

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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 TERNED "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 LONGER LENGTH, TIME, FT.	SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES									
			100 FT.	150 FT.	200 FT.	300 FT.	350 FT.	400 FT.	450 FT.	400 FT.	450 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	3:46
6	5:40	398	0:854 L	5:40	5:40	5:40	5:40	5:40	5:42	5:42	6:24	6:24
8	7:34	298	1:500 L	7:34	7:34	7:34	7:36	7:36	8:52	10:08	11:24	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	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	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	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	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 TIME 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 PLOGS 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 VALUE 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 REDUCTION 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				
12	17	18	21	25	30	35	39	43	49				
14	20	24	29	34	40	46	51	57	64				
16	22	24	30	34	40	46	52	58	67				
18	25	27	32	38	45	52	59	65	75				
20	28	30	36	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 COMPLETION. AFTER THE FINAL INVOICE IS SUBMITTED THE SITE SHALL BE VIDEOTED 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 LEGIBLE MANNER PRIOR TO FINAL INVOICE.

COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

UTILITY NOTES:

- 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.
- THE LOCATION OF TIE IN POINTS FOR UTILITY SERVICES ARE SHOWN FOR REFERENCE ONLY.
- 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.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY CURB, PAVEMENT OR EXISTING UTILITIES OR OTHER ITEMS DISTURBED BY CONSTRUCTION.

STORM SEWERS:

- 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.
- MANHOLES, INLETS AND OTHER APPURTENANCES SHALL BE CONSTRUCTED AS PER STANDARD DRAWINGS NOTED.
- ALL DOWNSPOUTS SHALL BE CONNECTED TO STORM SEWER

WATER MAIN NOTES:

- ALL WATER MAIN & WATER SERVICE SHALL BE IN ACCORDANCE WITH AQUA OHIO WATER RULES & REGULATIONS.
- WATER MAIN MATERIALS SHALL CONFORM TO AWWA C151 FOR DUCTILE CAST IRON PIPE AND AWWA C900 FOR PVC PIPE.
- WATER MAINS SHALL BE INSTALLED AND PRESSURE TESTED IN ACCORDANCE WITH AWWA C600.
- WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651.
- THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
- BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. THE WATER SYSTEM MAY GRANT SPECIAL PERMISSION FOR BUILDINGS SIX STORIES AND HIGHER.
- ALL DUCTILE PIPE AND FITTINGS TO BE ENCLOSED IN POLYWRAP.
- WATER SERVICE SIZE & LOCATIONS SHALL BE PER THE ARCHITECTURAL PLANS.
- A TEN FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND SANITARY SEWER.
- AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND SANITARY SEWER AT ALL CROSSINGS.
- A FOUR FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER.
- AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER AT ALL CROSSINGS.
- 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 RESETING ANY HYDRANTS THAT ARE NOT INSTALLED CORRECTLY.
- CONTRACTOR SHALL INSTALL NEW DOMESTIC WATER SERVICE PER AQUA OHIO SPECIFICATION & REQUIREMENTS, SEE MEP PLAN FOR EXACT LOCATION & SIZE.
- CONTRACTOR SHALL INSTALL NEW FIRE SERVICE PER AQUA OHIO SPECIFICATIONS & REQUIREMENTS. SEE MEP PLAN FOR EXACT LOCATION & SIZE.
- CONTRACTOR SHALL INSTALL NEW FIRE DEPARTMENT CONNECTION PER AQUA OHIO & CITY OF MASSILLON SPECIFICATIONS & REQUIREMENTS. SEE MEP PLAN FOR EXACT LOCATION & SIZE.
- CONTRACTOR SHALL INSTALL NEW PIV PER AQUA OHIO & CITY OF MASSILLON SPECIFICATIONS & REQUIREMENTS. SEE MEP PLAN FOR EXACT LOCATION & SIZE.
- CONTRACT PRICE SHALL INCLUDE ANY NECESSARY FITTINGS FOR INSTALLATION OF WATER SERVICES.
- 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:

- THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS ALONG THE ROUTE OF THE SANITARY SEWER AT LEAST THREE (3) DAYS PRIOR TO START OF CONSTRUCTION.
- 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.
- ALL SANITARY SEWER LATERALS SHALL BE LAID AT NO LESS THAN 1% GRADE.
- ALL SANITARY SEWER LATERALS SHALL BE EXTENDED TO NOT LESS THAN FIVE FEET FROM BUILDING.
- 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.
- 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".
- WHERE INLET AND OUTLET PIPES CONNECT TO MANHOLES, A FLEXIBLE WATERTIGHT JOINT AS APPROVED BY THE CITY OF MASSILLON IS REQUIRED.
- SANITARY SEWER MATERIALS SHALL CONSIST OF PVC MEETING ASTM D-3034 WITH JOINTS CONFORMING TO ASTM D-3212. ALL SANITARY LATERALS SHALL BE SDR35 SANITARY SEWER PIPE.
- THE OWNER (CONTRACTOR) MUST ALERT THE UTILITIES PROTECTION SERVICES AT 1-800-362-2764 AT LEAST 48 HOURS BEFORE ANY EXCAVATING HAS BEGUN.
- ALL SEWER RUN DISTANCES GIVEN ARE FROM CENTERLINE TO CENTERLINE OF MANHOLES. ALL PIPE INVERT ELEVATIONS GIVEN AT MANHOLES ARE AT CENTERLINE OF MANHOLE. SEWER GRADES ARE ESTABLISHED FROM CENTERLINE OF MANHOLE AND CARRIED THROUGH MANHOLE INVERT TO ASSURE FLOW THROUGH MANHOLE.
- ALL UNDERGROUND LINES ENCOUNTERED BY CONSTRUCTION OF SANITARY SYSTEM ARE TO BE COMPLETELY RESTORED AT THE EXPENSE OF THE CONTRACTOR.
- COST OF WYES AND STUBS TO BE INCLUDED IN PRICE BID PER LINEAR FOOT OF SANITARY SEWER.
- COST OF ANY SHEETING OR DEWATERING NECESSARY FOR SANITARY SYSTEM ARE TO BE COMPLETELY INCLUDED IN PRICE BID PER LINEAR FOOT OF RESPECTIVE ITEMS. ALSO ANY FOUNDATION SLAB REQUIRED.
- 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.
- COST OF REPLICATING OR REPAIRING DEFECTS TO EXISTING SANITARY LATERAL SHALL BE AR THE COST OF THE CONTRACTOR.
- MINIMUM COVER OVER SANITARY SEWER SHALL BE 4 FT.
- CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED, WITH BENCHES AND CHANNELS FORMED AND REPAIRED AS NECESSARY.
- 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.
- 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

- ALL CATCH BASINS AND MANHOLES TO BE ADJUSTED TO GRADE WHERE NECESSARY
- CONTRACTOR TO BACKFILL CURB IMMEDIATELY AFTER CURB HAS BEEN IN PLACE FOR 48 HOURS.
- ALL MATERIALS USED WILL BE NEW – NO SALVAGED MATERIAL WILL BE ACCEPTED.
- 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.
- 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.
- 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.
- MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH PLAN DETAILS OR APPLICABLE O.D.O.T. STANDARD DRAWINGS.
- 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.
- 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.
- SUBGRADE TESTING OR PROOF ROLLING MUST BE WITNESSED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF THE PAVEMENT SUBBASE MATERIAL.
- AS-BUILT DRAWINGS ARE REQUIRED AND SHALL BE SUBMITTED TO THE CITY ENGINEER UPON COMPLETION OF THE PROJECT.
- 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.
- CONTRACT PRICE FOR ALL CONSTRUCTION IS COMPLETE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITIONS.
- 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.
- 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).
- ALL PROPOSED TRENCHES SHALL BE BACKFILLED WITH SELECT MATERIALS IN ACCORDANCE WITH THE PLANS AND GEOTECHNICAL REPORT.
- 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).
- 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.
- ALL DISTURBED AND/OR DAMAGED STORM SEWER PIPES, STORM SEWER APPURTENANCES, PAVEMENTS, BERMES AND DITCHES SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE CITY OF MASSILLON ENGINEER.
- CALL OHIO UTILITIES PROTECTION SERVICE BEFORE DIGGING (1-800-362-2764).
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL MEET RAINWATER AND LAND DEVELOPMENT, OHIO'S STANDARDS FOR STORMWATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION, THIRD EDITION 2006.
- THE CONTRACTOR IS REQUIRED TO HAVE ALL UTILITY CROSSING CONDUITS (ELECTRIC, TELEPHONE, CABLE TV INSTALLED PRIOR TO THE INSTALLATION OF PAVEMENT).
- ALL POINTS OF CONNECTION OF PROPOSED IMPROVEMENTS TO EXISTING IMPROVEMENTS SHALL BE UNCOVERED AND ELEVATIONS VERIFIED BY FIELD CHECK BEFORE ANY CONSTRUCTION BEGINS.
- 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.
- EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LASTS EDITION ITEM 203).
- 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.
- PRICES BID SHALL INCLUDE ANY SHEETING OR DEWATERING THAT MAY BE REQUIRED.

21 LINCOLN WAY PROJECT, LLC

SUITE 301

3951 CONVENIENCE CIRCLE N.W.

CANTON, OH 44718

GBC DESIGN, INC.

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Akron, OH 44320

Phone 330-586-0228

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DEVILLE 21 LINCOLN WAY
OUTLOT 17416
MASSILLON, OHIO
GENERAL NOTES

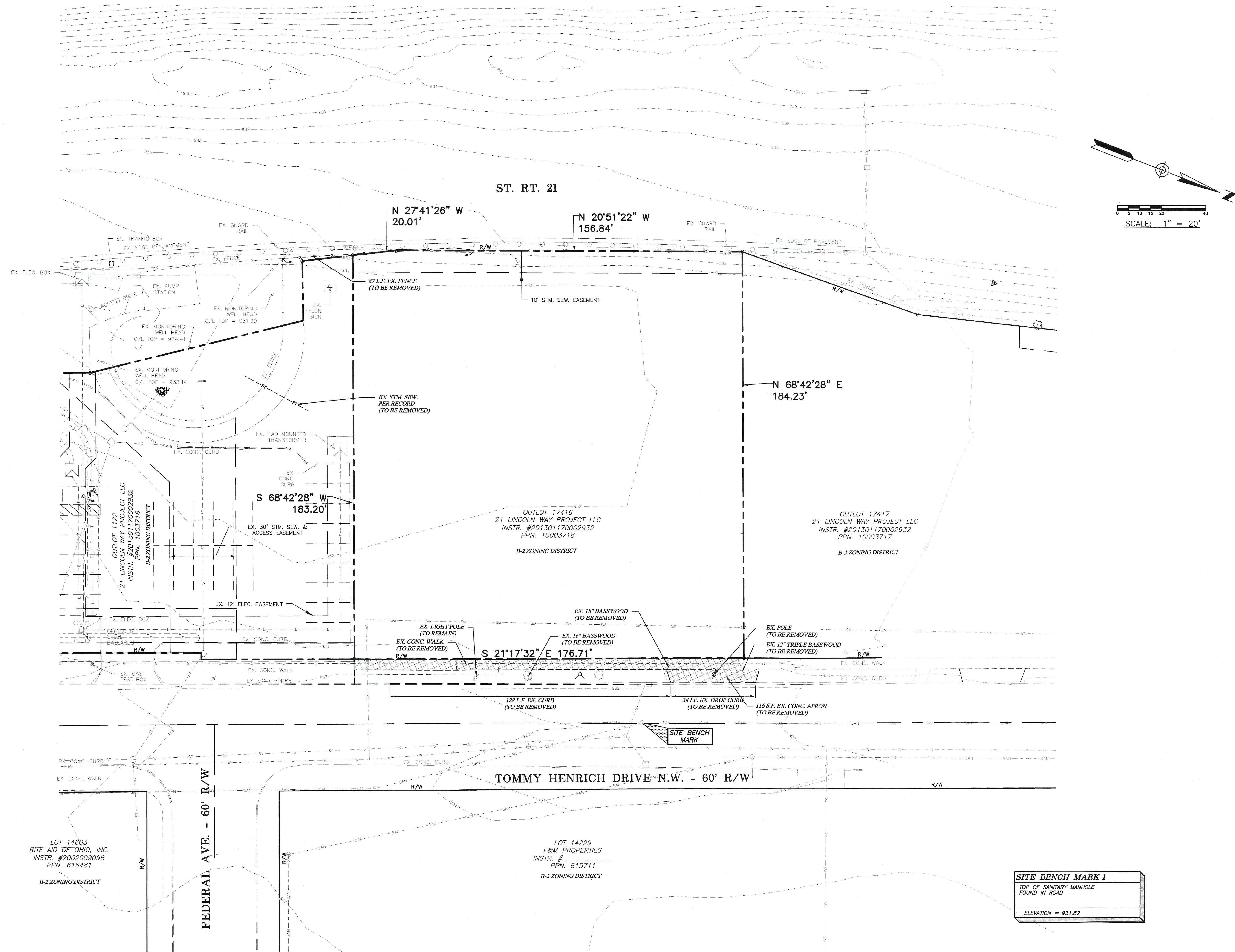
DRAWN BY:
T.G.W.

DATE:
9/8/2015

PROJECT NO.
47190B

DRAWING NO.

SD1.01



REVISIONS
10/23/15
PER CITY OF
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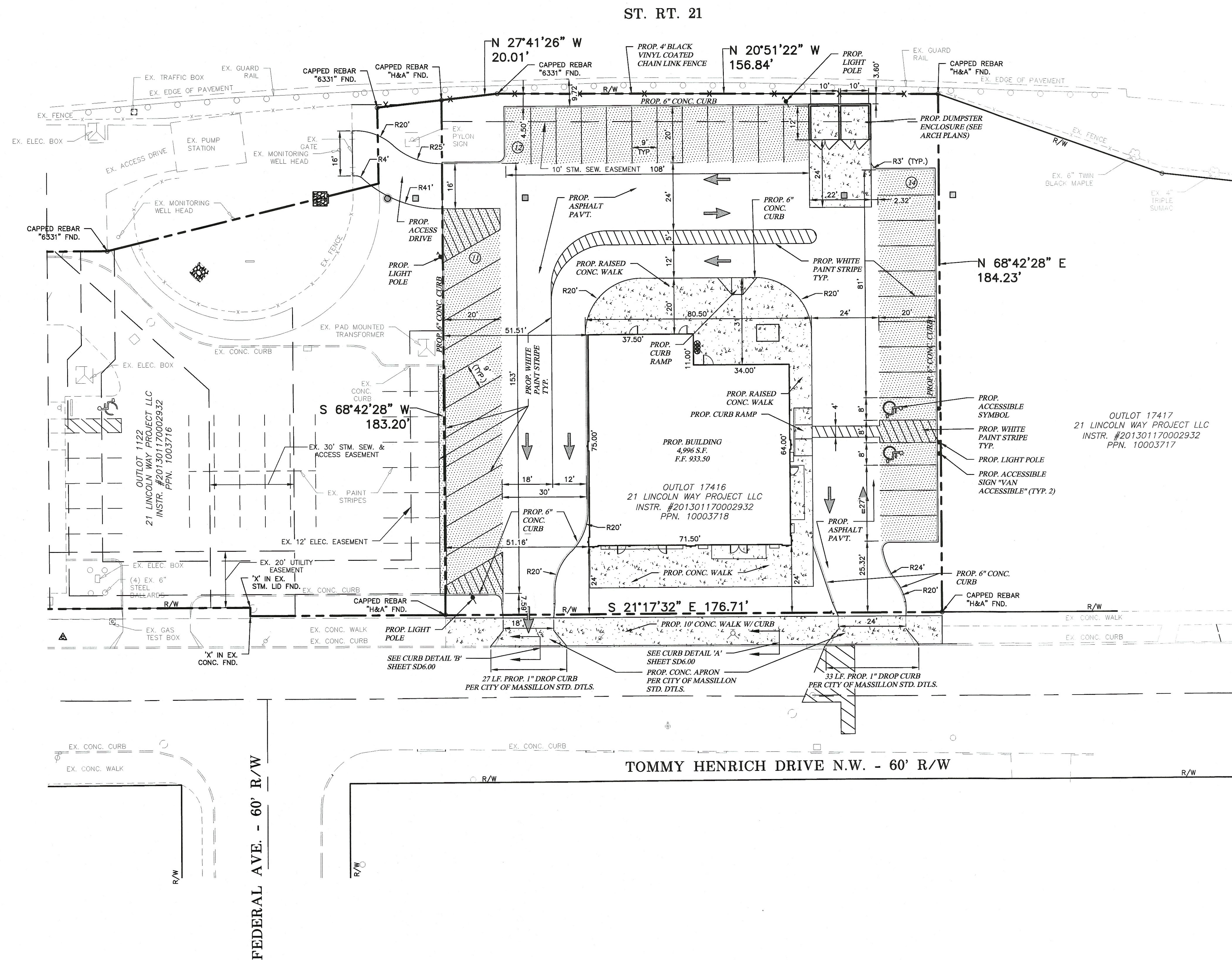
DEVILLE 21 LINCOLN WAY
OUTLOT 17416
MASSILLON, OHIO
DEMOLITION PLAN

DRAWN BY:
T.G.W.

DATE:
9/8/2015

PROJECT NO.
47190B

DRAWING NO.
SD2.00



LEGEND

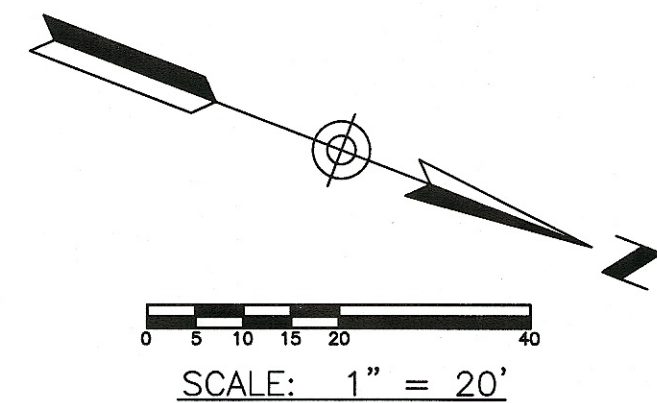
PROP. MEDIUM DUTY ASPHALT

PROP. HEAVY DUTY ASPHALT

TOTAL IMPERVIOUS AREA = 0.6679 AC.

GENERAL SITE NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE O.D.T. CONSTRUCTION & MATERIAL SPECIFICATIONS.
2. ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT, FACE OF CURBS, OR OUTSIDE FACE OF BRICK, BLOCK OR BUILDING FASCEA UNLESS OTHERWISE INDICATED.
3. THE BUILDING AND PARKING FACILITIES ARE PARALLEL WITH OR PERPENDICULAR TO THE BUILDING.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATIVE IMMEDIATELY.
5. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
6. ALL DISTURBED AREAS SHALL BE SEEDED OR SODDED AFTER FINISH GRADING IS COMPLETED UNLESS OTHERWISE NOTED. ALL NEW SEEDED OR SODDED AREAS SHALL HAVE A TOPSOIL LAYER OF 4" MINIMUM. CONTRACTOR SHALL SUPPLY AND PLACE STRAW MULCH WHEREVER GRASS SEED HAS BEEN PLACED.
7. CONTRACTOR SHALL REPAIR, RESURFACE, RECONSTRUCT OR REFURBISH ANY AREAS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, HIS SUBCONTRACTORS OR SUPPLIERS AT NO ADDITIONAL COST TO THE OWNER.
8. ALL PAINT STRIPING SHALL BE 4" TRAFFIC PAINT IN ACCORDANCE WITH O.D.O.T. ITEM 641 AND SHALL BE WHITE.
9. PROPOSED LIGHT POLES ARE SHOWN FOR REFERENCE ONLY. SEE ELECTRICAL SITE PLAN FOR EXACT LOCATION.



ST. RT. 21

N 27°41'26" W
20.01'

N 20°51'22" W
156.84'

PROP. DUMPSTER
ENCLOSURE (SEE
ARCH PLANS)

N 68°42'28" E
184.23'

S 68°42'28" W
183.20'

S 21°17'32" E 176.71'

TOMMY HENRICH DRIVE N.W. - 60' R/W

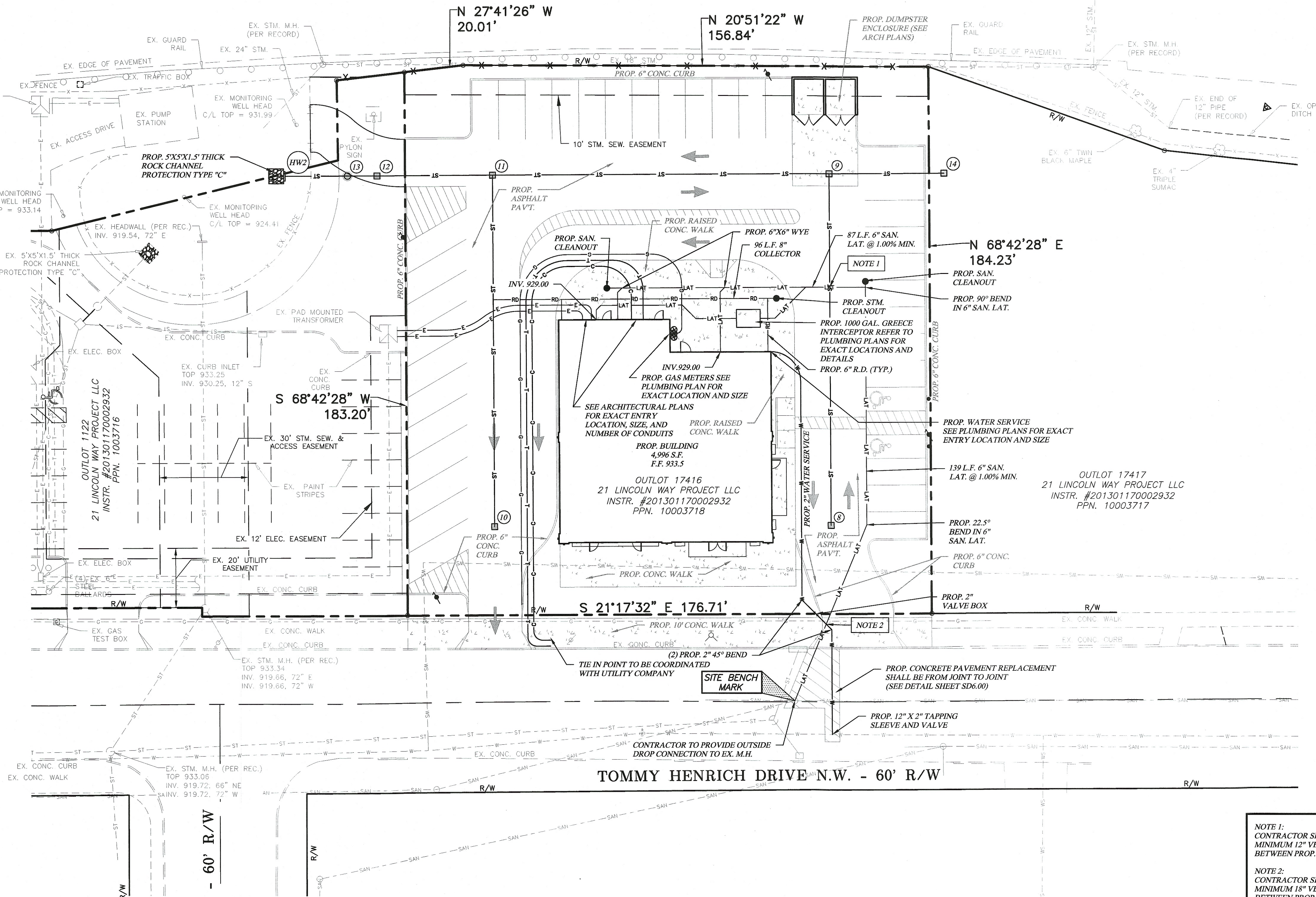
FEDERAL AVE. - 60' R/W

STORM SEWER STRUCTURE SCHEDULE

8. PROP. MODIFIED O.D.O.T. M.H. NO. 3
TOP 932.35
INV. 926.15, 48" W
9. PROP. MODIFIED O.D.O.T. M.H. NO. 3
TOP 931.88
INV. 925.56, 48" S
INV. 925.56, 48" E
INV. 925.56, 12" N
10. PROP. MODIFIED O.D.O.T. M.H. NO. 3
TOP 932.44
INV. 925.57, 48" W
11. PROP. MODIFIED O.D.O.T. M.H. NO. 3
TOP 931.85
INV. 924.98, 48" S
INV. 924.98, 48" N
INV. 924.98, 48" E
12. PROP. MODIFIED O.D.O.T. M.H. NO. 3
(SEE DETAIL SHEET SD6.01)
TOP 932.20
INV. 924.79, 12" S
INV. 924.79, 48" N
13. PROP. AQUA SWIRL AS-3
TOP 931.71
INV. 924.74, 12" S
INV. 924.74, 12" N
14. PROP. YARD INLET
TOP 931.00
INV. 925.76, 12" S
- HW2. PROP. HEADWALL
INV. 924.25, 12" N

STORM SEWER PIPE SCHEDULE

FROM	TO	SIZE	LENGTH	SLOPE	TYPE
8	9	48"	118.50'	0.50%	Corrugated HDPE Pipe
9	11	48"	113.52'	0.51%	Corrugated HDPE Pipe
10	11	48"	118.50'	0.50%	Corrugated HDPE Pipe
11	12	48"	39.01'	0.49%	Corrugated HDPE Pipe
12	13	12"	10.00'	0.50%	Corrugated HDPE Pipe
13	HW2	12"	21.26'	2.30%	Corrugated HDPE Pipe
14	9	12"	38.69'	0.52%	Corrugated HDPE Pipe



NOTE 1:
CONTRACTOR SHALL MAINTAIN A
MINIMUM 12" VERTICAL CLEARANCE
BETWEEN PROP. SAN. LAT. & PROP. STM.

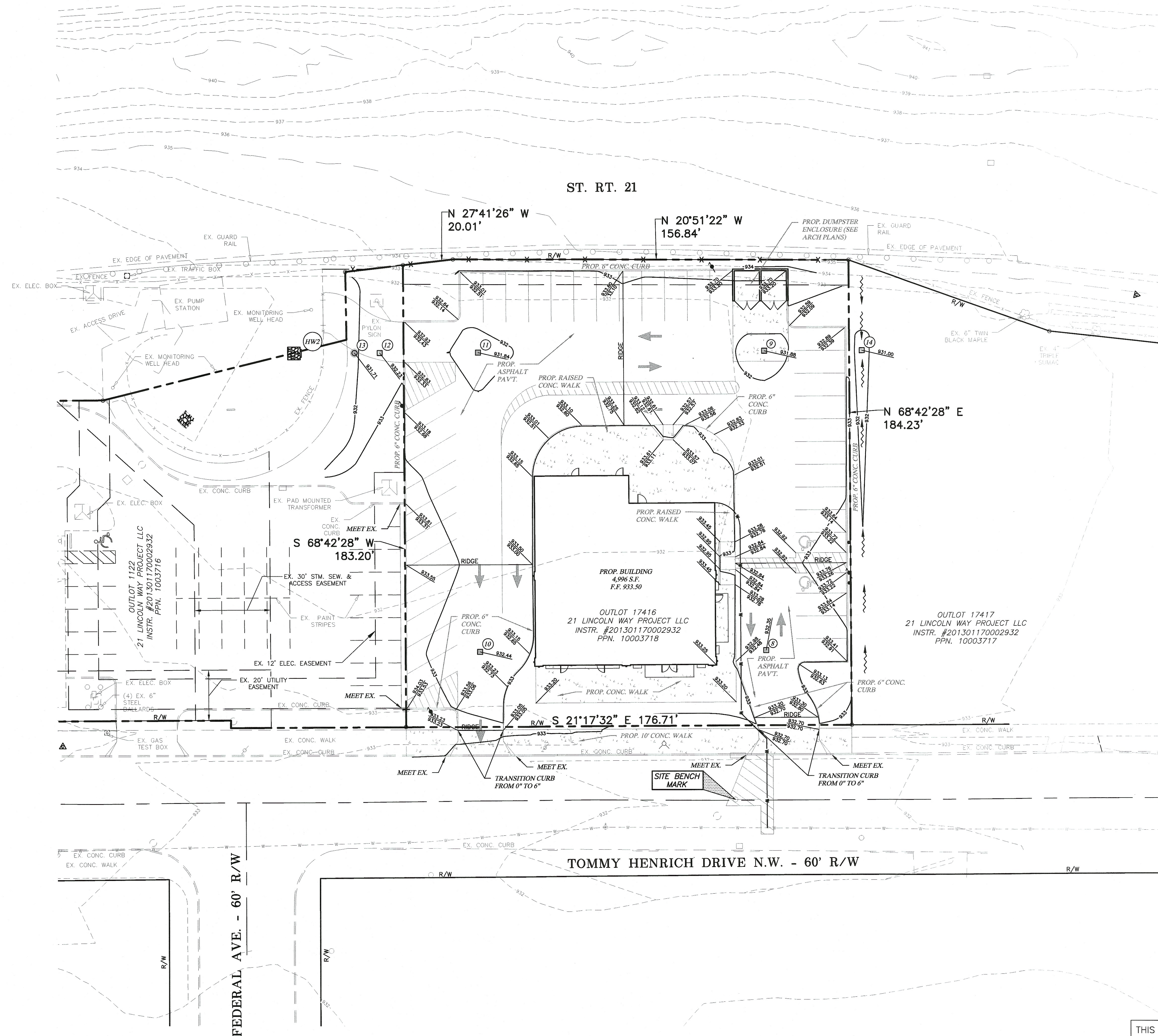
NOTE 2:
CONTRACTOR SHALL MAINTAIN A
MINIMUM 18" VERTICAL CLEARANCE
BETWEEN PROP. SAN. LAT. & PROP. W.M.

SITE BENCH MARK 1

TOP OF SANITARY MANHOLE
FOUND IN ROAD

ELEVATION = 931.82

CONTRACTOR SHALL VERIFY SIZES OF ALL
PROPOSED SERVICE UTILITIES WITH
ARCHITECTURAL PLANS PRIOR TO BID AND
PRIOR TO CONSTRUCTION.



- 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 ALL RECEIVE A MINIMUM OF 4" OF TOPSOIL. ANY EXCESS SOIL SHALL BE HAULED OFFSITE.
 3. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH O.D.O.T. ITEM 203.
 4. ALL GRADING AND SITE PREPARATION SHALL FOLLOW THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT.

SITE BENCH MARK 1
TOP OF SANITARY MANHOLE
FOUND IN ROAD
ELEVATION = 931.82

THIS ENTIRE SITE FALLS WITHIN ZONE "X" FLOOD ZONE ACCORDING TO FEMA MAP #39151C0192E
NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM THE ONE PERCENT ANNUAL CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM THAT HAS BEEN PREVIOUSLY ACCREDITED. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE.

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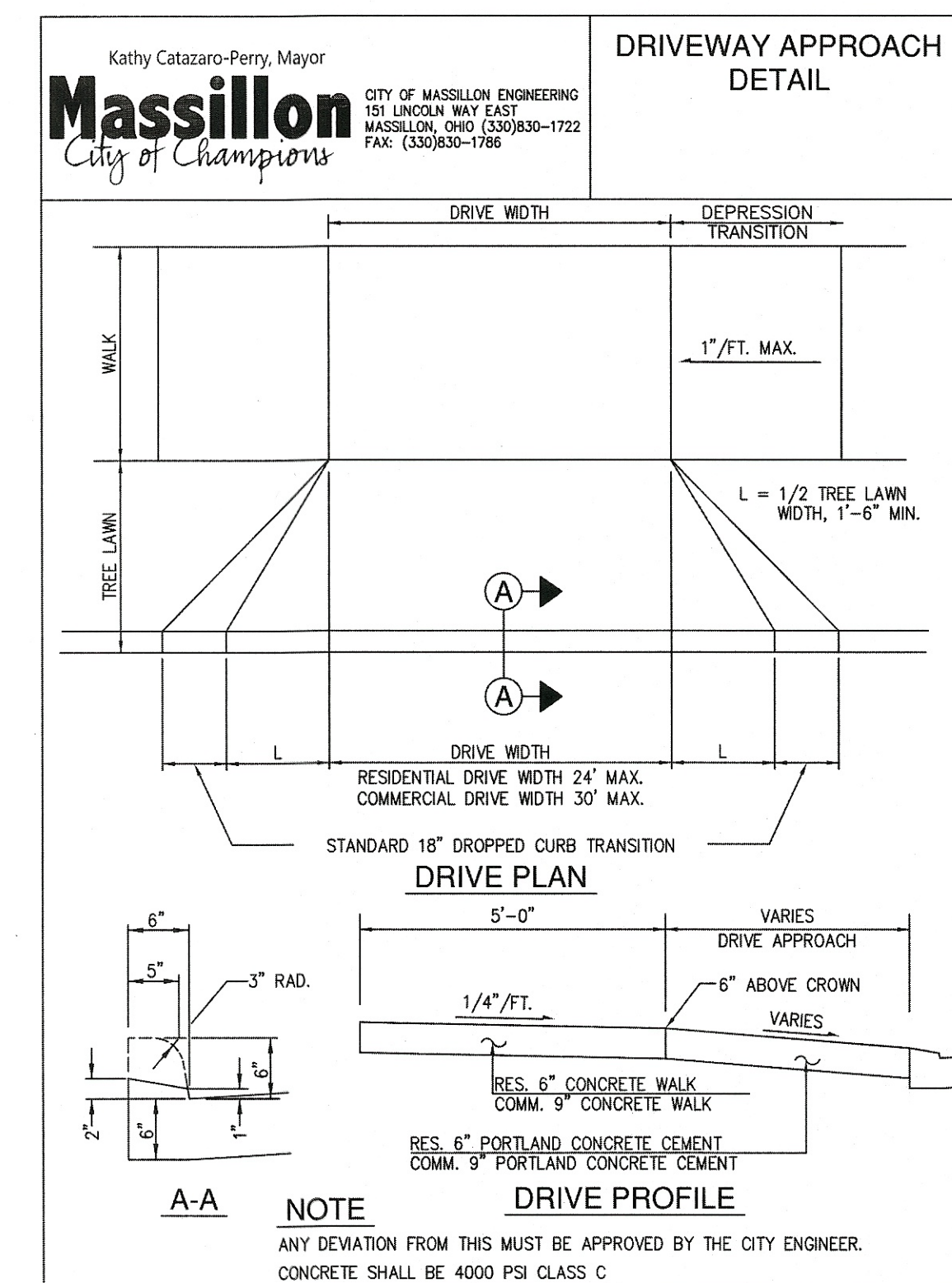
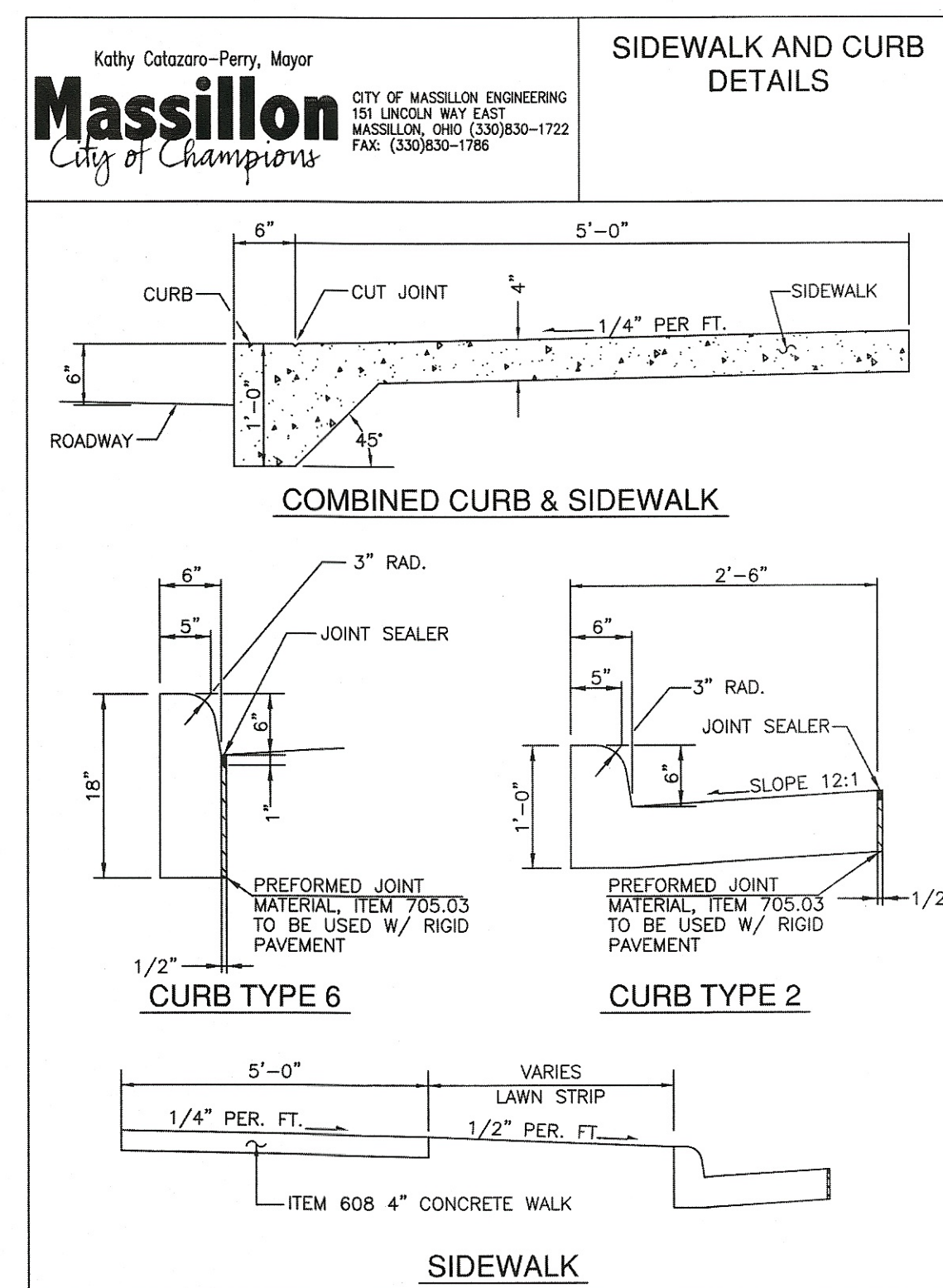
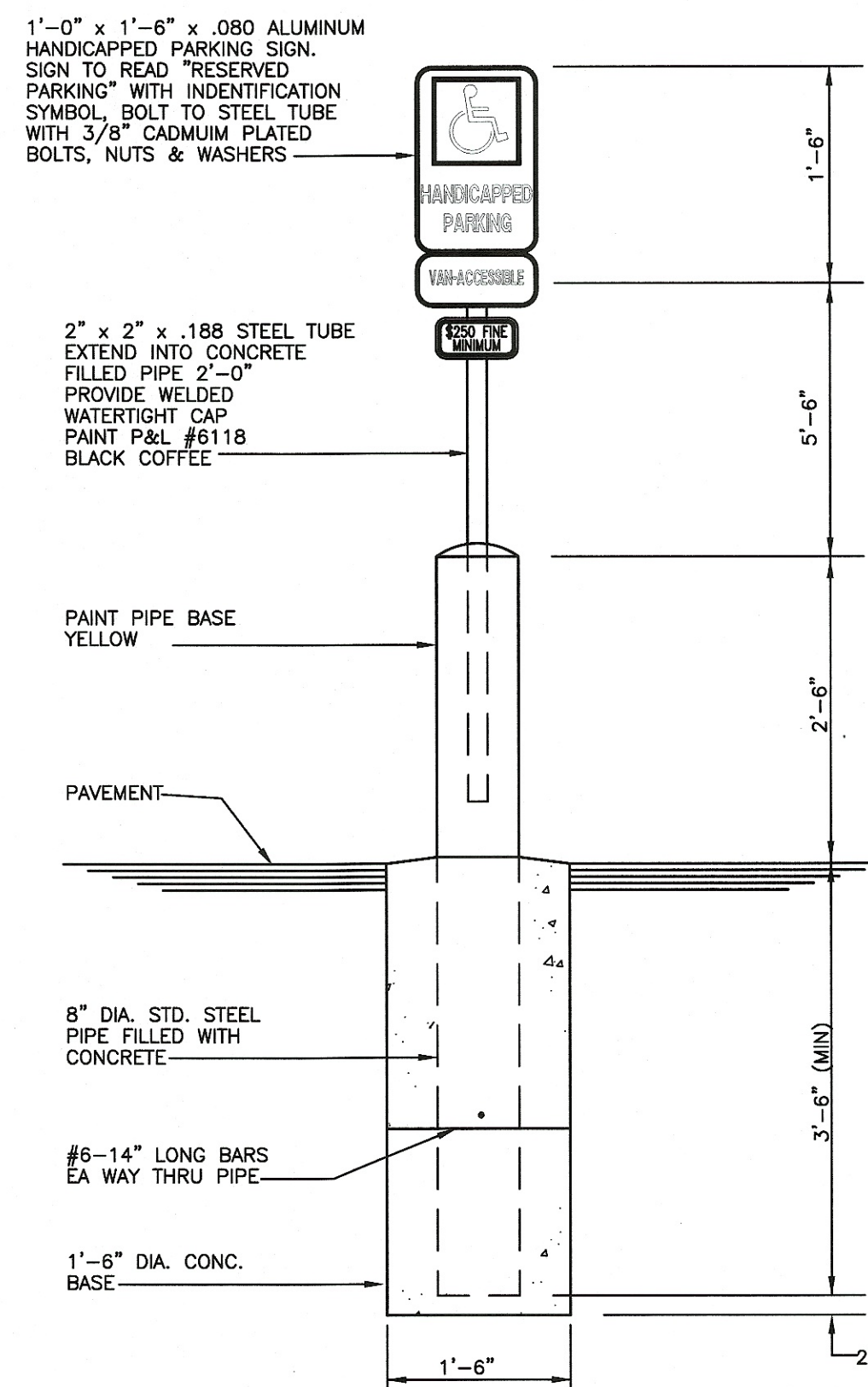
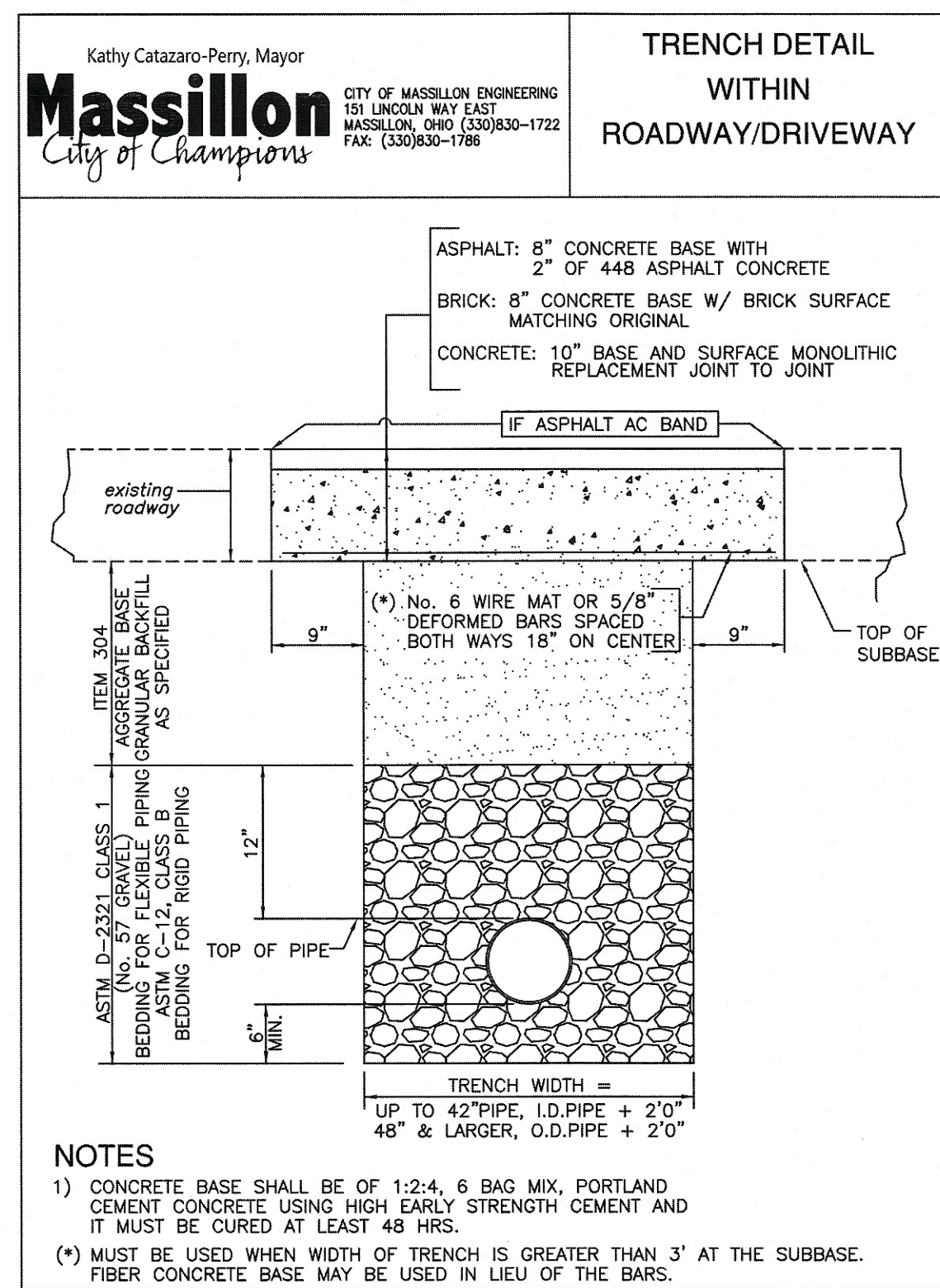
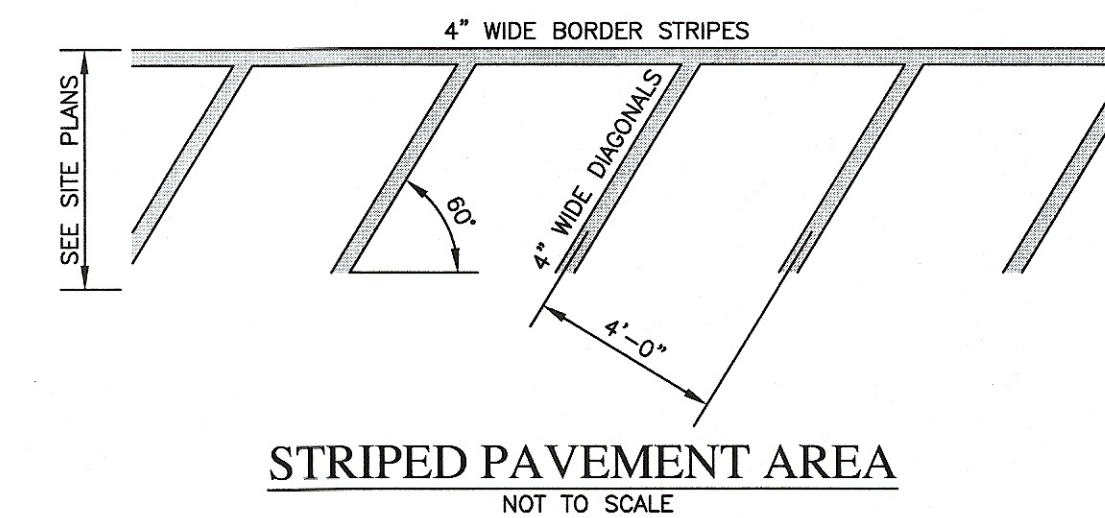
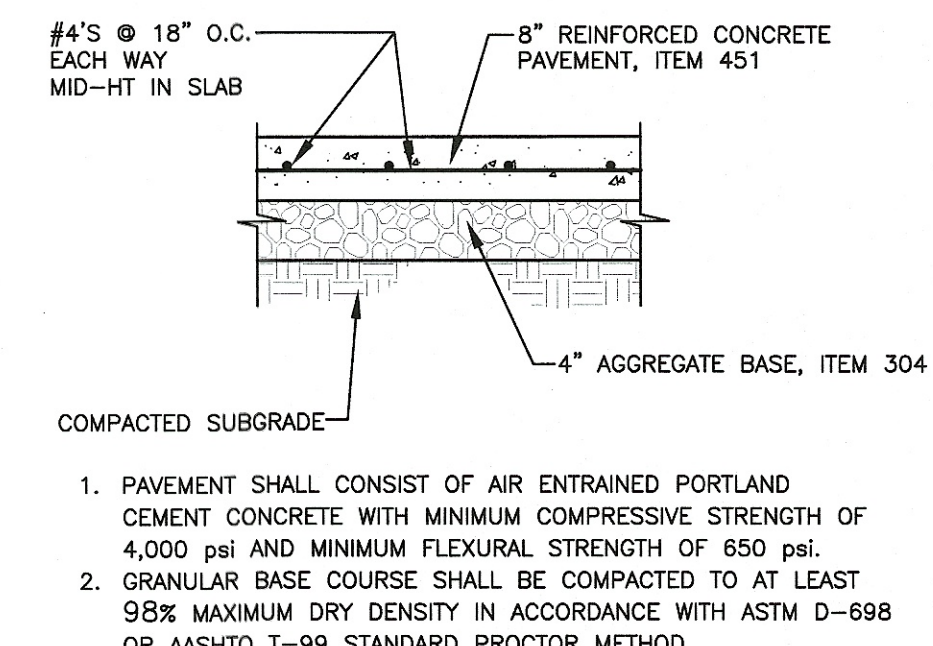
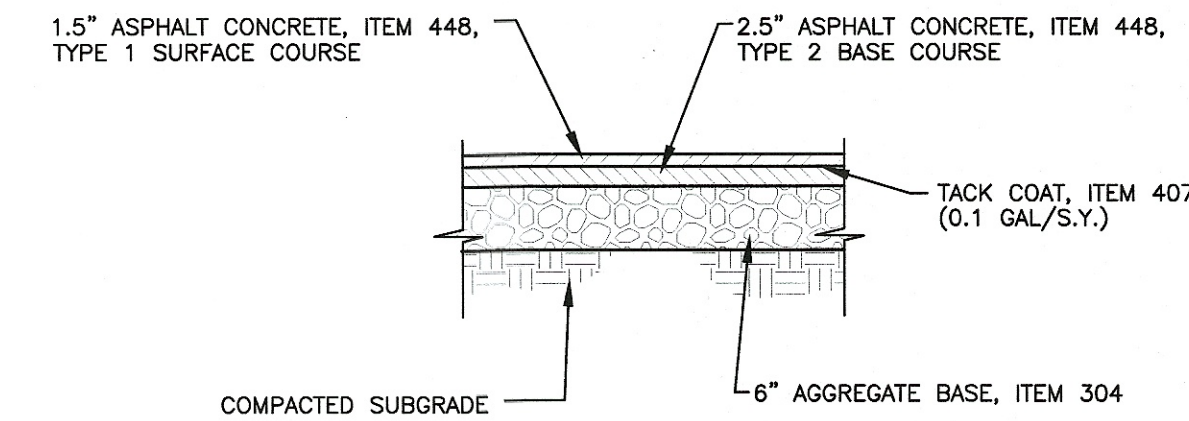
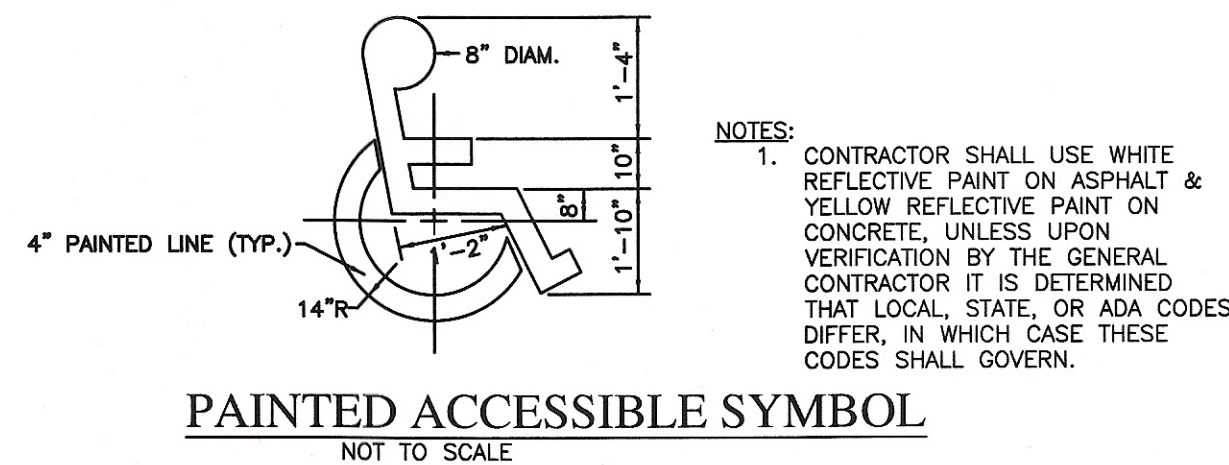
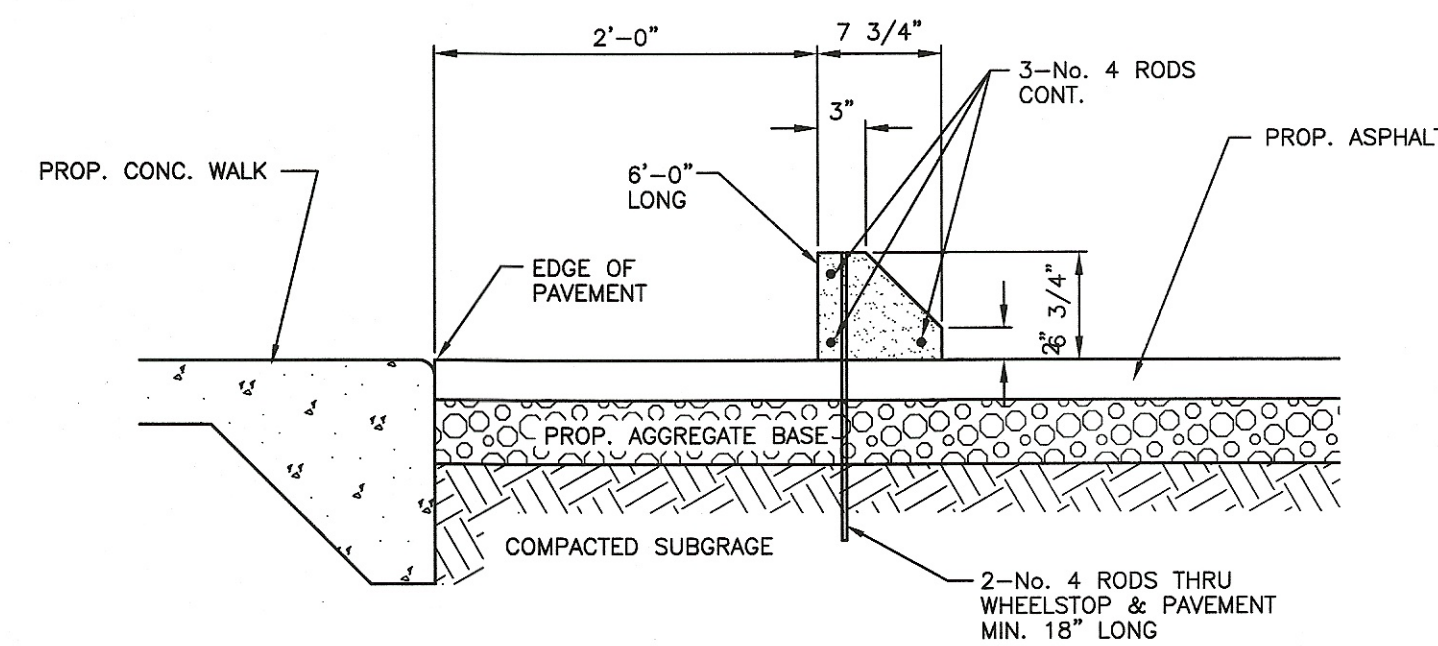
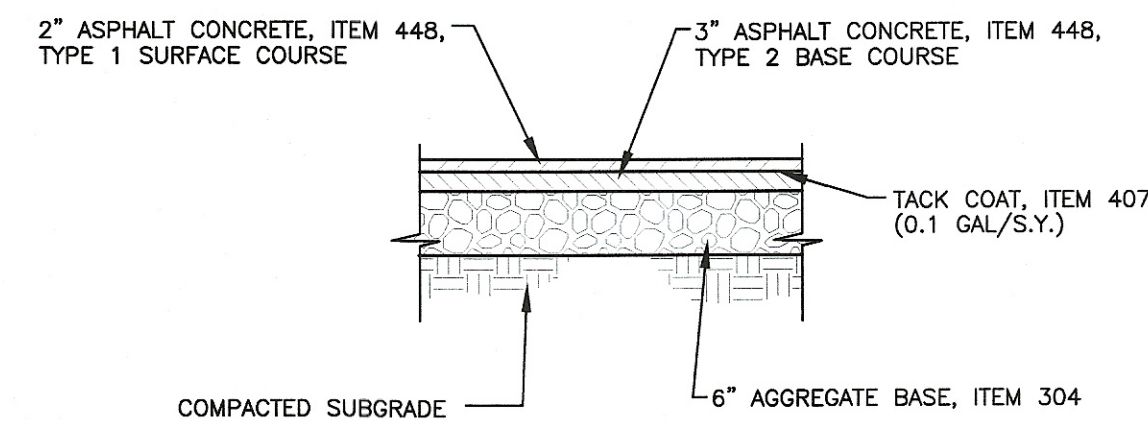
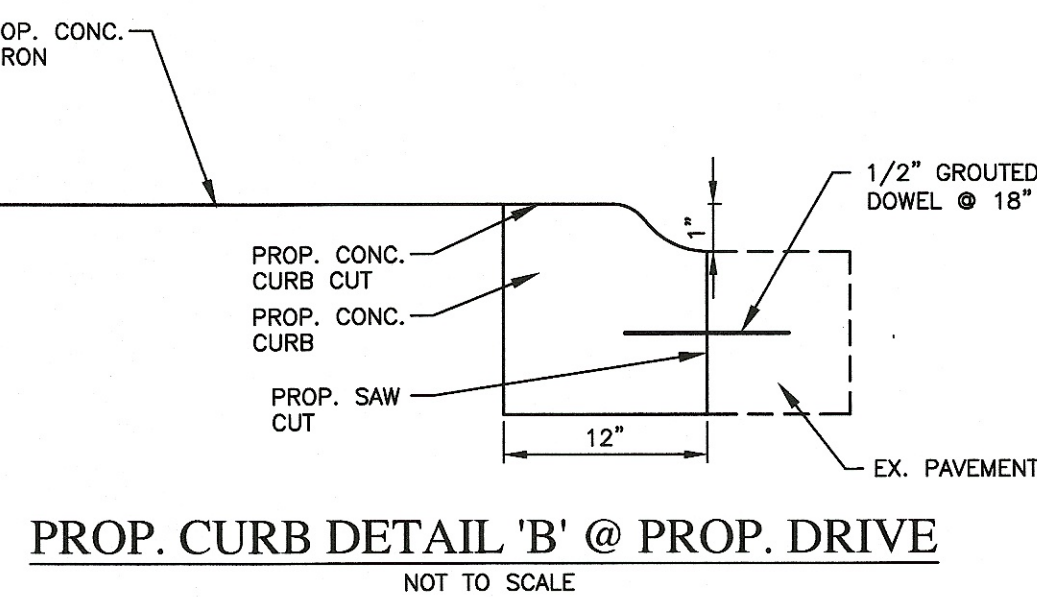
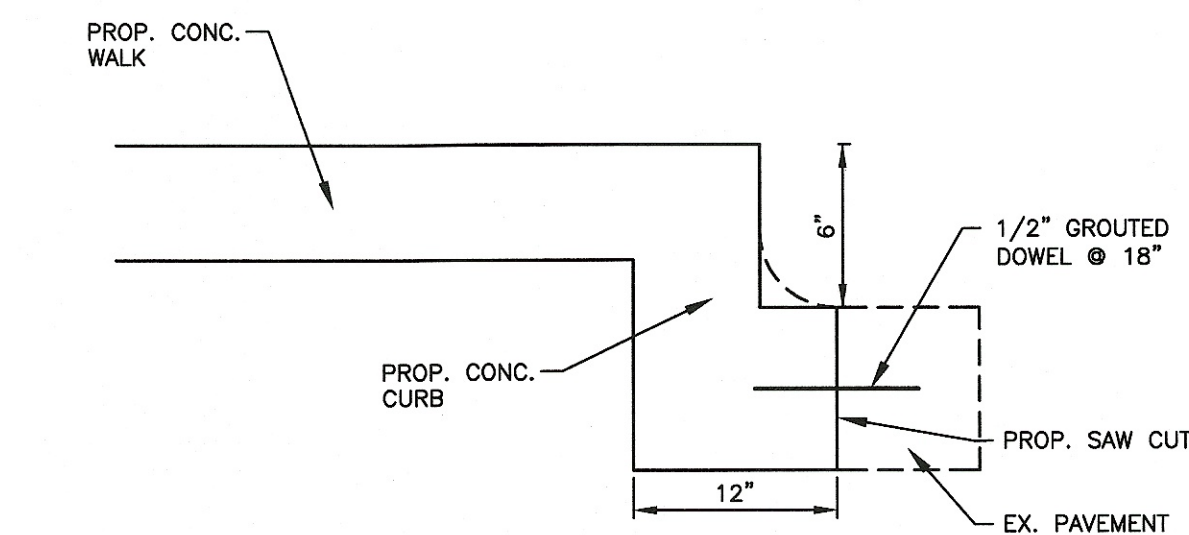
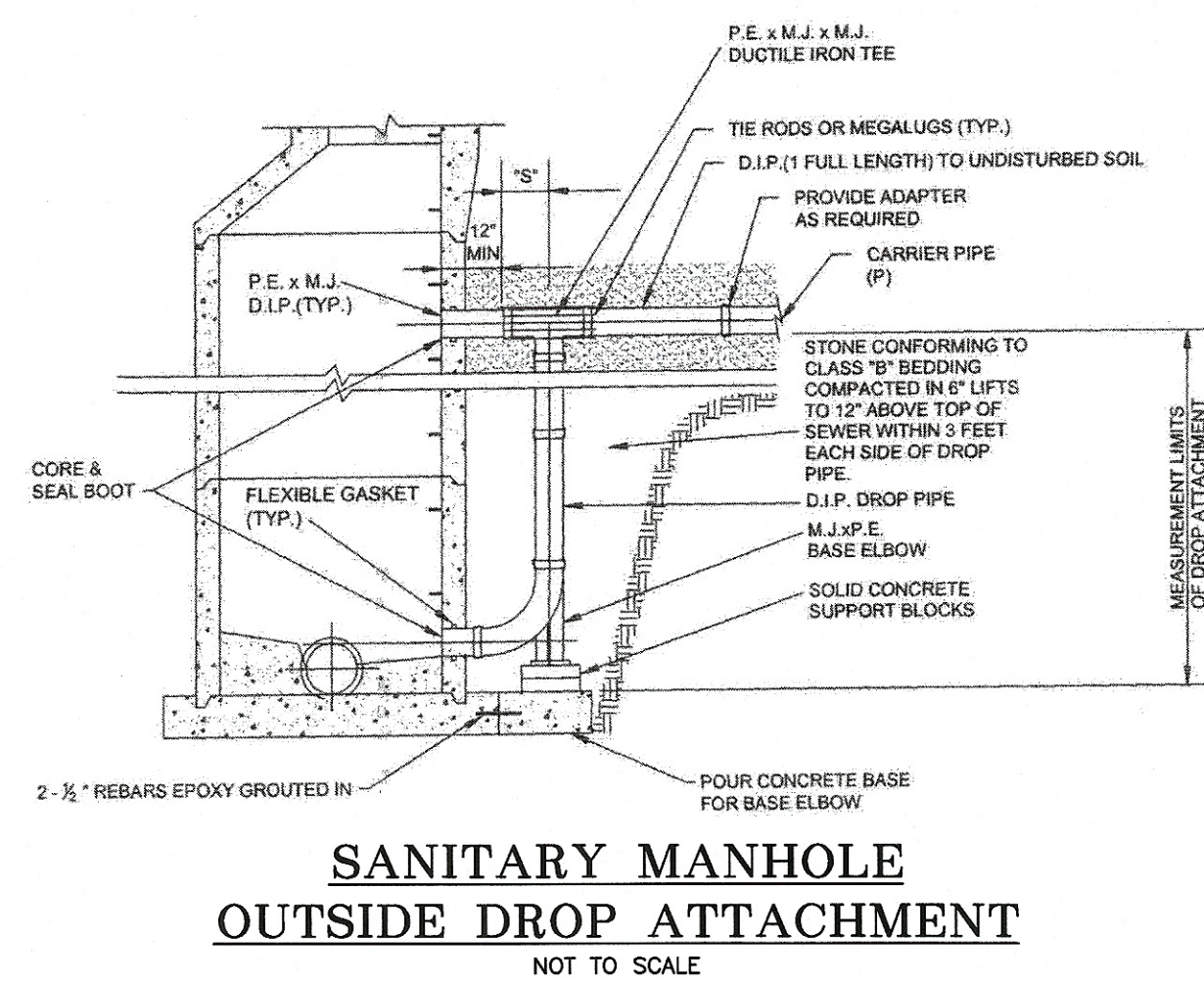
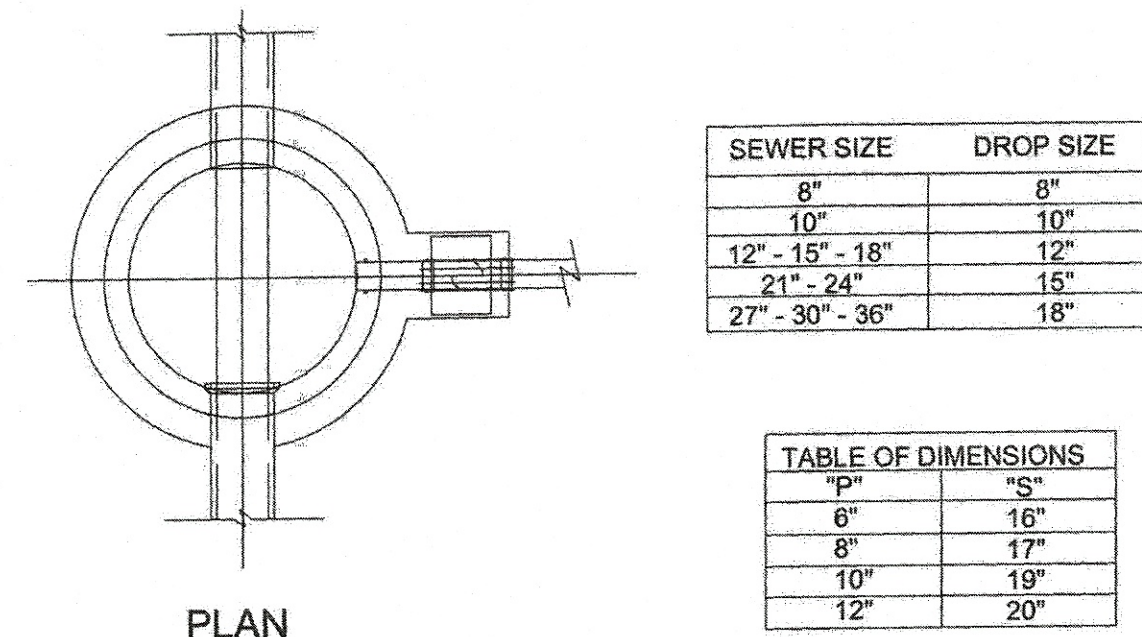
DEVILLE 21 LINCOLN WAY
OUTLOT 17416
MASSILLON, OHIO
GRADING PLAN

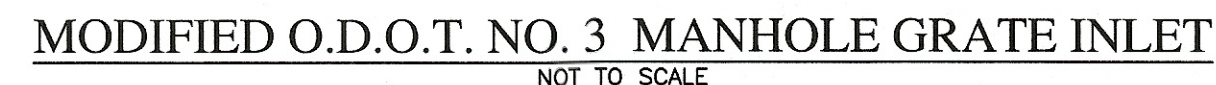
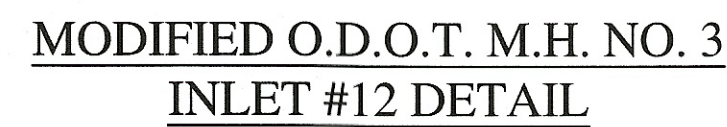
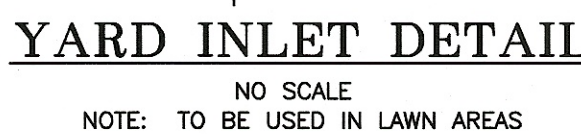
DRAWN BY:
T.G.W.

DATE:
9/8/2015

PROJECT NO.
471908

DRAWING NO.
SD5.00





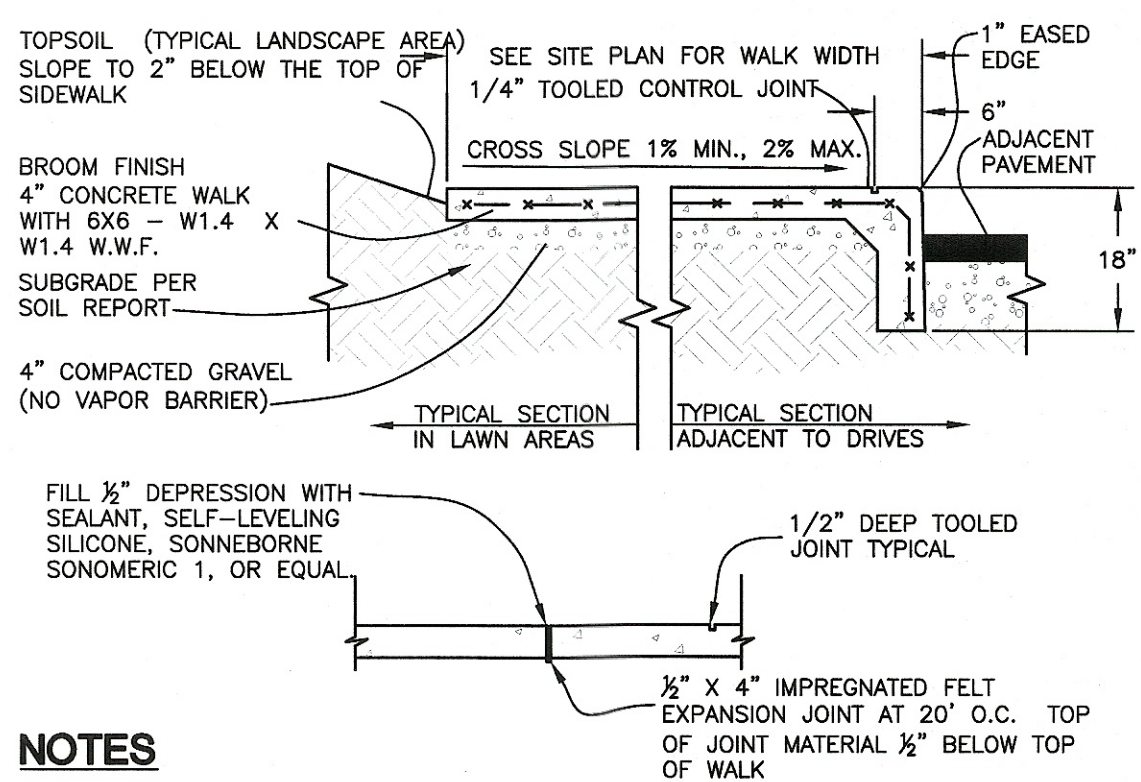
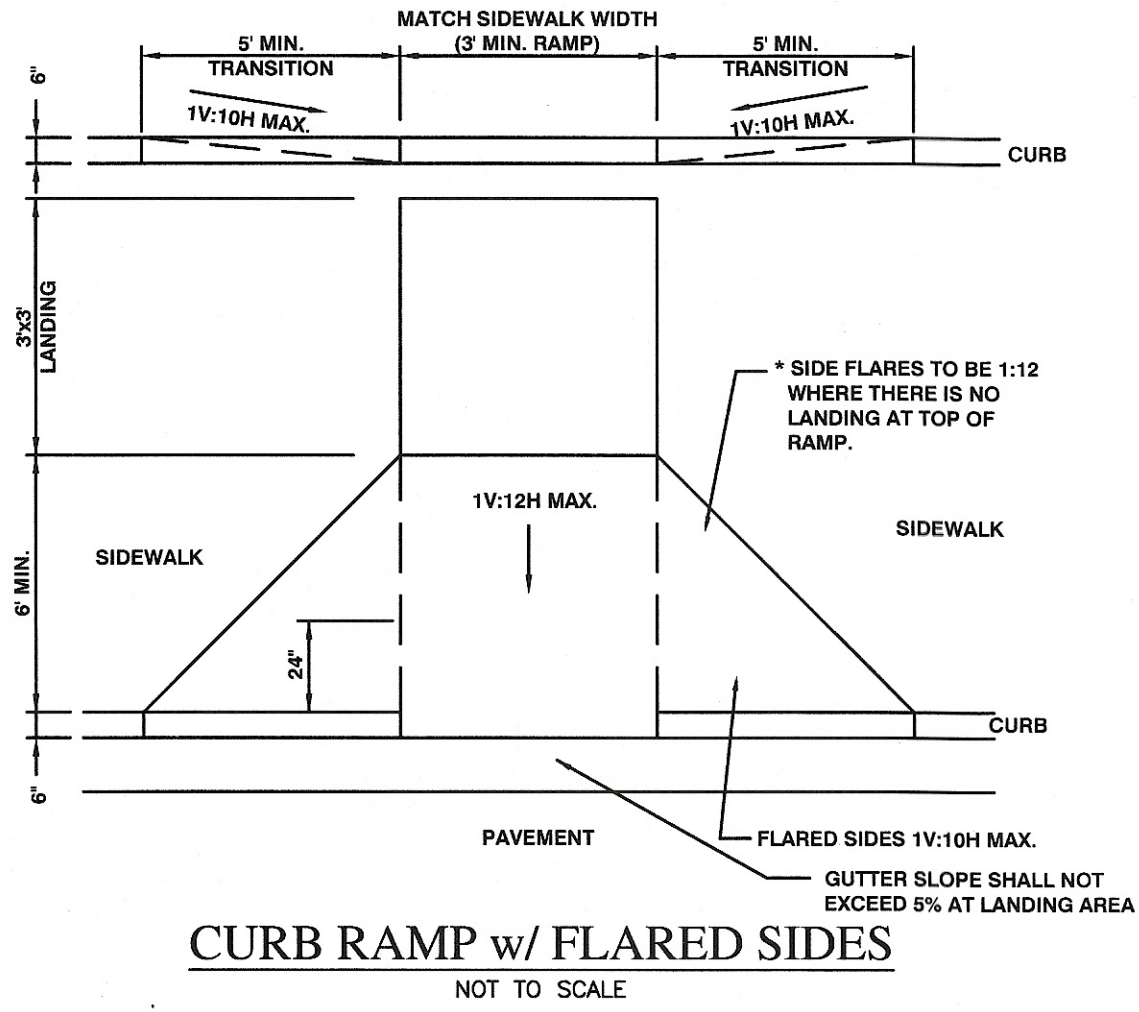
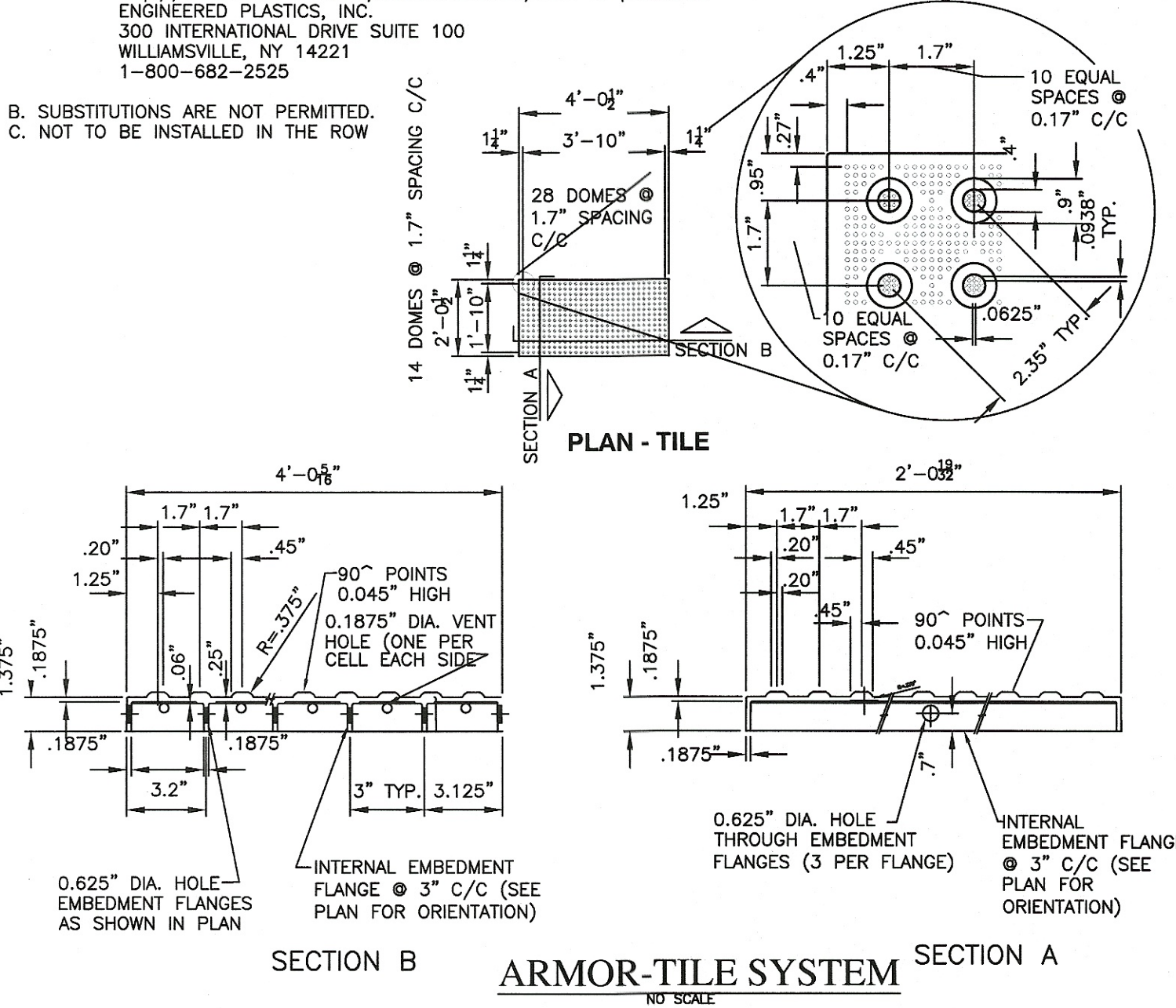
1. MANUFACTURER SHALL BE RESPONSIBLE FOR COMPLETE ASSEMBLY OF SWIRL CONCENTRATOR.
2. POLYMER COATED STEEL (PCS) SWIRL CONCENTRATOR SHALL BE FABRICATED FROM POLYMER PEEK-COATED STEEL SHEET FOR CORRUGATED STEEL PIPE, AND SHALL COMPLY WITH ASTM A 760 AND ASTM A 742.
3. STUB OUTS AND INTERNAL COMPONENTS SHALL BE SUPPLIED BY MANUFACTURER AND MIG WELDED USING ACCEPTED WELDING PRACTICES.
4. MANUFACTURER SHALL SUPPLY DIRECT ACCESS TO SWIRL CONCENTRATOR VIA 30-INCH ID RISER(S). RISER SHOULD NOT BE FIELD CUT BY CONTRACTOR. RISER SHOULD MAINTAIN ITS FINISH CUT LENGTH AS SUPPLIED BY MANUFACTURER TO MATCH FINAL GRADE PER APPROVED SITE ELEVATIONS (AS INDICATED ON APPROVED SHOP DRAWING). IF NECESSARY TO EXCEED RISER CONCENTRATOR SHOULD USE ADJUSTING RINGS TO BRING TOP OF STRUCTURE TO GRADE.
5. CONTRACTOR SHALL SUPPLY PIPE COUPLINGS TO AND FROM SWIRL CONCENTRATOR, WHICH SHALL BE MAR-MAC, FERNCO, OR MISSION STYLE FLEXIBLE BOOT WITH STAINLESS STEEL TENSION BANDS AND SHEAR GUARD. MAR-MAC COUPLINGS SHOULD BE USED FOR COUPLINGS TO 30-INCH DIA. POLYESTER PLASTIC PIPE AND ARE RECOMMENDED FOR USE WITH LARGER DIAMETER PIPE (E.G. 24" COND LARGER). A CONCRETE CRACKIE IS REQUIRED TO BE RECOMMENDED BENEATH MAR-MAC'S TO PREVENT JOINT MOVEMENT.
6. CONTRACTOR SHALL PREPARE EXCAVATION AND OFF-LOAD SWIRL CONCENTRATOR. CONTRACTOR IS RESPONSIBLE FOR BEDDING AND BACKFILL AROUND SWIRL CONCENTRATOR AS DETAILED ON SITE PLAN. (SEE NOTES 11 AND 12)
7. MANUFACTURER SHALL SUPPLY STANDARD MANHOLE FRAME(S) AND COVER(S). (TRAFFIC RATED H20)
8. WHERE TRAFFIC LOADING (H-20) IS REQUIRED OR ANTICIPATED, A 4-FOOT DIAMETER, 14-INCH THICK REINFORCED CONCRETE PAD MUST BE PLACED OVER THE SWIRL CONCENTRATOR TO SUPPORT AND LEVEL THE MANHOLE FRAME. THE TOP OF RISER PIPE MUST BE WRAPPED WITH COMPRESSIBLE EXPANSION JOINT MATERIAL TO A MINIMUM OF 1/2" THICKNESS TO ALLOW TRANSFER OF WHEEL LOADS FROM MANHOLE COVER TO CONCRETE SLAB. MANHOLE COVER SHALL BEAR ON CONCRETE SLAB AND NOT ON RISER PIPE. THE CONCRETE SLAB SHALL HAVE A MINIMUM STRENGTH OF 3,000 PSI AND BE REINFORCED WITH #4 REINFORCING STEEL (PER DRAWING). MINIMUM COVER OVER REINFORCED CONCRETE SHALL BE 12 INCH. TOP OF MANHOLE COVER AND CONCRETE SLAB SHALL BE LEVEL WITH FINISH GRADE.
9. UNLESS OTHER TRAFFIC BARRIERS ARE PRESENT, BOLLARDS SHALL BE PLACED AROUND ACCESS RISERS IN NON-TRAFFIC AREAS TO PREVENT INADVERTENT LOADING BY MAINTENANCE VEHICLES. SAMPLE OF TYPICAL BOLLARD INSTALLATION DETAIL AND STANDARD LOCATIONS OF BOLLARDS AROUND THE SWIRL CONCENTRATOR CAN BE PROVIDED UPON REQUEST.
10. WHERE HIGH GROUNDWATER ELEVATIONS ARE PRESENT OR ANTICIPATED, CONTRACTOR SHALL SUPPLY CONCRETE ANTI-FLOATATION PAD UNDERNEATH AND POURED OVER THE OCTAGONAL BASE PLATE OF THE SWIRL (SEE ANTI-FLOATATION BASE DETAIL) TO PREVENT BUOYANCY AND BASE PLATE DEFLECTION (DETAILS, IF NECESSARY, AVAILABLE UPON REQUEST).
11. EXCAVATION AND BEDDING -- THE TRENCH AND TRENCH BOTTOM SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM A 798 SECTION 5, TRENCH EXCAVATION, SECTION 6, TRENCH MAN, AND SECTION 7, BACKFILL. THE PCS SWIRL CONCENTRATOR SHALL BE INSTALLED ON A STABLE BASE CONSISTING OF AT LEAST 6-INCHES OF FINE, HARDLY COMPACTED SOIL OR GRANULAR FILL MATERIAL, AND COMPACTED TO 95% PROCTOR DENSITY. BEDDING MATERIAL STONES RETAINED ON A 3-INCH RIFER, FROZEN LUMPS, HIGHLY PLASTIC CLAY, ORGANIC MATERIAL, CORROSIVE MATERIAL, OR OTHER DELETERIOUS FILL MATERIALS. ALL REQUIRED SAFETY PRECAUTIONS FOR SWIRL CONCENTRATOR INSTALLATION ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PER OSHA APPROVED METHODS.
12. BACKFILL REQUIREMENTS -- BACKFILL SHALL BE FINE, HARDLY COMPACTED SOIL OR GRANULAR FILL MATERIAL WITH A MINIMUM OF 95% PROCTOR DENSITY. PROCESSED GRANULAR MATERIALS WITH EXCELLENT STRUCTURAL CHARACTERISTICS ARE PREFERRED. COARSE GRAINED SOILS OF USGS GROUPS GW, GP, GM, CG, SW, AND SP ARE NOT PERMITTED IN BACKFILL. ALL CORROSIVE MATERIALS, OR OTHER DELETERIOUS MATERIALS, OR OTHER DELETERIOUS FILL MATERIALS. BACKFILLING SHALL BE LIMITED TO ASTM 709, SECTION 10, STRUCTURAL BACKFILL PLACEMENT. BACKFILL SHALL BE PLACED IN 6 TO 12 INCH LAYERS OR "LIFTS" AND COMPACTED BEFORE ADDING THE NEXT LIFT. BACKFILL SHALL EXTEND AT LEAST 18 INCHES OUTWARD FROM THE SWIRL CONCENTRATOR AND 12 INCHES OUTWARD FROM THE SWIRL CONCENTRATOR (INCLUDING RISER(S)) EXTENDING Laterally TO UNDISTURBED SOILS.



DETECTABLE WARNING NOTES

A. DETECTABLE WARNINGS SHALL BE ARMOR-TILE "CAST IN PLACE DETECTABLE WARNING SYSTEMS". COLOR SHALL BE BRICK RED. TILES ARE AVAILABLE IN VARIOUS SIZES. CONTRACTOR SHALL USE THE LONGEST STANDARD LENGTH AVAILABLE TO LIMIT THE NUMBER OF TILES NECESSARY. TILES SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. REFER TO WEB SITE OR CONTACT MANUFACTURER FOR INSTALLATION INSTRUCTIONS AND SPECIFICATIONS:
ARMOR-TILE
http://www.armor-tile.com/truncateddome/cast-in-place.htm
ENGINEERED PLASTICS, INC.
300 INTERNATIONAL DRIVE SUITE 100
WILLIAMSVILLE, NY 14221
1-800-682-2525

B. SUBSTITUTIONS ARE NOT PERMITTED.
C. NOT TO BE INSTALLED IN THE ROW

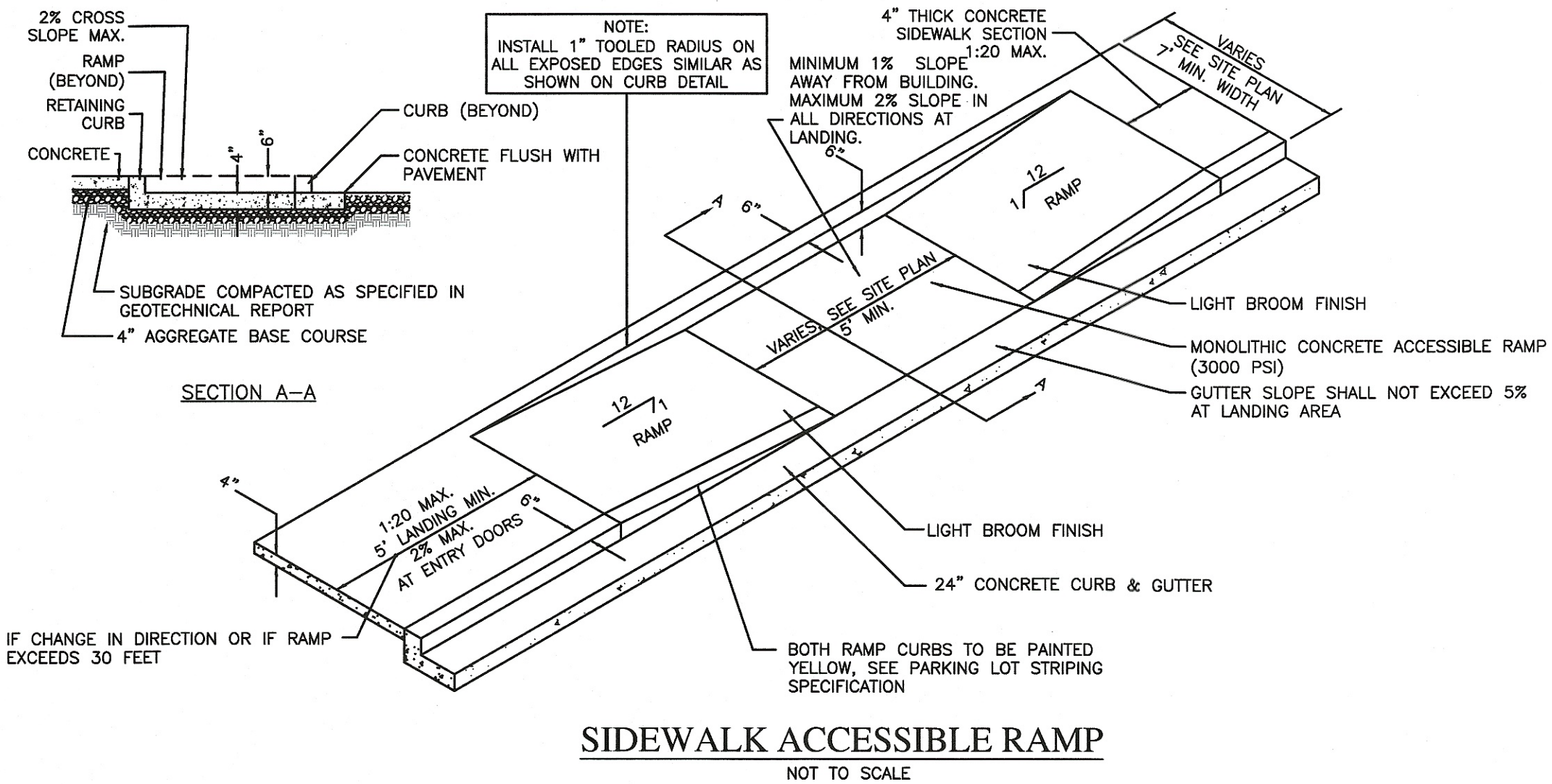
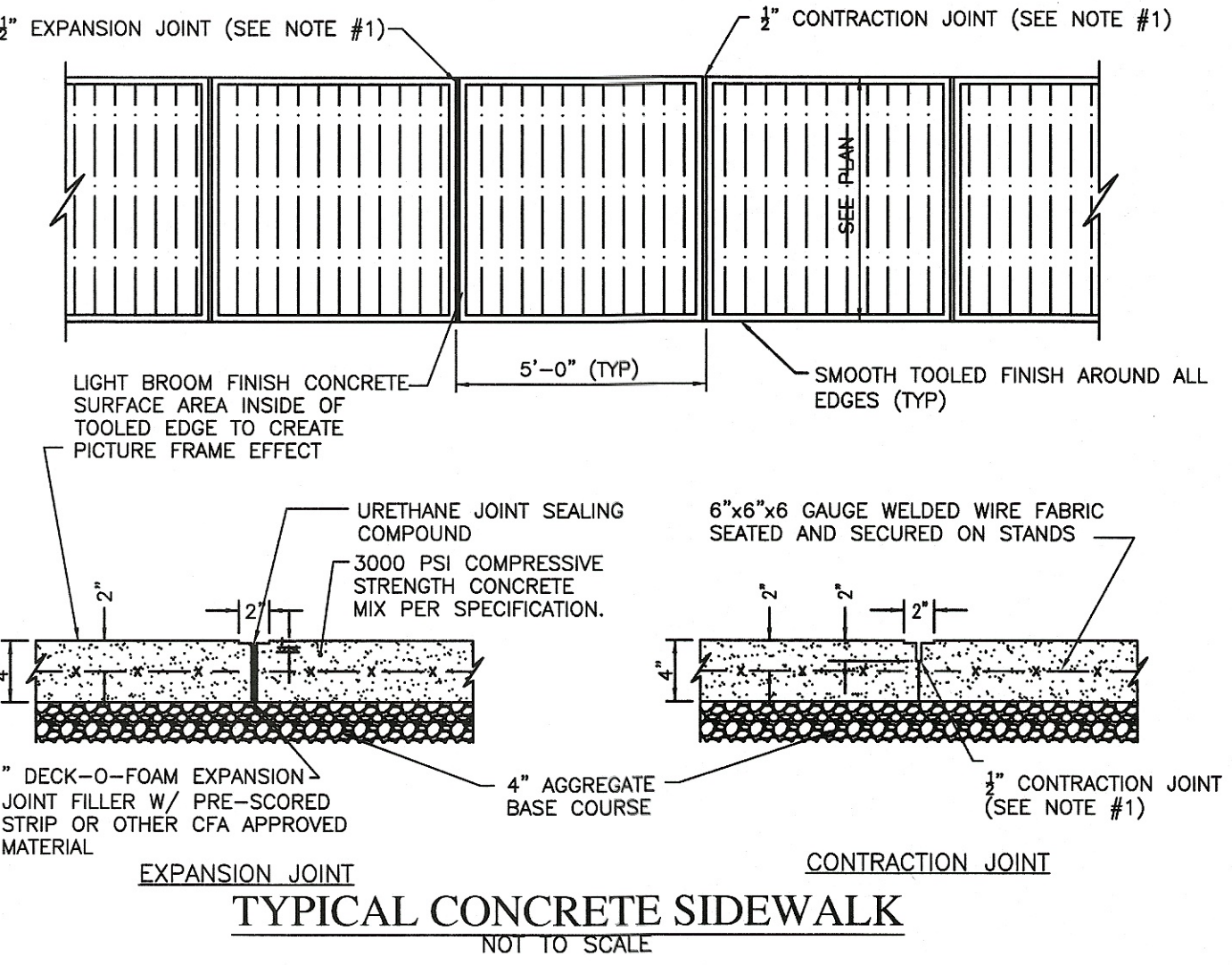


NOTES
A. 1/4\" TOOLED CONTROL JOINTS AT 4' TO 7' O.C.
B. PLACE PRE-FORMED 1/2\" EXPANSION JOINT 30' O.C. ALONG ENTIRE LENGTH
C. 1/2\" PRE-FORMED EXPANSION JOINT SHALL BE INSTALLED AT ALL INTERSECTIONS OF BUILDING, WALKS, AND ANY OTHER FIXED STRUCTURE.
D. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI
E. ALL EDGES TO BE \"PICTURE FRAMED\" TOOLED FINISH.

CONCRETE WALK W/ INTEGRAL CURB DETAIL

NOTES:

1. JOINTS AT 5'-0\" O.C. TOOLED 1/2\" WIDE, 1\" DEEP OR MAX. 3/4\" DEEP WHICHEVER IS GREATER. EXPANSION JOINTS AT 20' MAX. & ALL P.C.s. UNLESS APPROVED OR INDICATED OTHERWISE ON PLAN VIEW JOINT PATTERN.

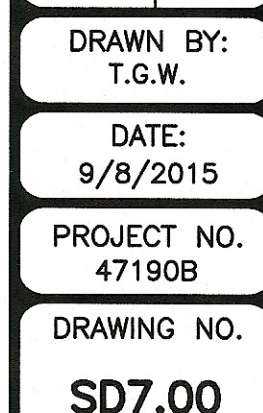


GBC DESIGN, INC.
Akron, OH 44320
565 White Pond Dr.
Phone 330-586-0228
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21 LINCOLN WAY PROJECT, LLC
SUITE 301
3951 CONVENIENCE CIRCLE N.W.
CANTON, OH 44718

DEVILLE 21 LINCOLN WAY
OUTLOT 17416
MASSILLON, OHIO
SITE DETAILS

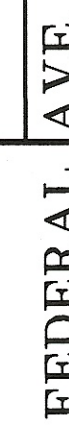
DRAWN BY:
T.G.W.
DATE:
9/8/2015
PROJECT NO.
47190B
DRAWING NO.
SD6.02





SCALE: 1" = 30'

<u>MAP UNIT SYMBOL</u>	<u>MAP UNIT NAME</u>
Ur	URBAN LAND



SCALE: 1" = 30'

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.

SD7.01

PART III G. SWP3 REQUIREMENTS

1. a. COMMERCIAL BUILDING AND SITE UTILITIES
b. TOTAL SITE AREA - 0.7498 AC. - DISTURBED AREA = 0.90 AC.
c. PRE-CONSTRUCTION RUNOFF COEFFICIENT - C=0.30; POST-CONSTRUCTION RUNOFF COEFFICIENT (WEIGHTED) C=0.90.
d. IMPERVIOUS AREA = 0.70 AC., PERCENT IMPERVIOUS = 93%.
e. SOIL TYPES:
• 1/2 URBAN LAND
• 1/2 PRIOR LAND USE, VACANT.
g. CONSTRUCTION SEQUENCE - SEE IMPROVEMENT PLANS
h. TUSCARAWAS RIVER
i. NOT SUBDIVIDED (MEASURES IDENTIFIED ON PLANS)
j. NOT APPLICABLE
k. PERMIT REQUIREMENTS ATTACHED. (FIELD COPY)
l. IDENTIFIED ON SHEET S07.00 & S07.01
m. IDENTIFIED ON SHEET S07.00 & S07.01
n.

2. A. NOT APPLICABLE.
B. TEMPORARY SEEDING AND PERMANENT SEEDING MEASURES ARE IDENTIFIED ON THE PLANS.
(i) TABLE 1 & TABLE 2 HAVE BEEN IDENTIFIED ON THE PLANS.
(ii) CHANNELS TO BE STABILIZED w/ MATTING & SEEDING & MULCHING.
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, AND INLET PROTECTION.
(i) NOTED THROUGHOUT THE PLANS.
(ii) SILT FENCE WILL BE UTILIZED TO CONTROL SEDIMENT DURING GRADING OF SITE.
(iii) SILT FENCE IS IDENTIFIED ON THE PLANS.
(iv) INLET PROTECTION IS IDENTIFIED ON THE PLANS.
(v) NOT APPLICABLE.
(vi) NOTED ON THE IMPROVEMENT PLANS.
E. POST-CONSTRUCTION MAINTENANCE AND INSPECTION IS IDENTIFIED ON THE PLANS.
LARGE CONSTRUCTION ACTIVITIES - NOT APPLICABLE
SMALL CONSTRUCTION ACTIVITIES - POST CONSTRUCTION W.Q. IS PROVIDED BY AN AQUASWIRL AS-2 HYDRODYNAMIC SEPARATOR. THIS BMP IS SUITABLE FOR A SMALL SITE AS STATED IN OHIO EPA STORM WATER POST CONSTRUCTION QUESTION AND ANSWERS ITEM #14.
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 & 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, ETC., 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 WATERWAY. CONCRETE WASH WATER MUST HAVE 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 SUBMITTAL 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 KITY LITTER AND DISPOSED OF 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 SHAL REPORTED TO OHIO EPA ((1-800-282-2)). 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). DUST 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 FOR LANDSCAPE OR 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 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR AND NOT WITHIN 50 FEET OF A STREAM	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOTS(S).
	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-PERMITTEE.

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 REQUIRED SILT FENCE PRIOR TO GRADING.
6. BEGIN SITE CLEARING.
7. REMOVE TOPSOIL FROM AREAS OF BUILDING AND PAVEMENT.
8. BEGIN EARTHWORK OPERATIONS.
9. 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.
10. THE DEVELOPER IS RESPONSIBLE TO MAINTAIN INLET PROTECTION ON CATCH BASINS UNTIL THE PROJECT IS BUILT OUT.

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.
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, MAJOR 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/ACRE	LB/1000 FT. ²	PER ACRE
MARCH 1 TO AUGUST 15	OATS	3	4	BUSHEL
	TALL FESCUE	2	40	LB.
AUGUST 16 TO NOVEMBER 1	PERENNIAL RYEGRASS	2	40	LB.
	TALL FESCUE	1	40	LB.
	WHEAT	3	2	BUSHEL
	TALL FESCUE	1	40	LB.
	PERENNIAL RYEGRASS	1	40	LB.
NOVEMBER 1 TO SPRING SEEDING	PERENNIAL RYEGRASS	1	40	LB.
	TALL FESCUE	2	40	LB.

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 14 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 SEEDED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDED 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.

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

POST CONSTRUCTION W.Q. IS PROVIDED BY AN AQUASWIRL AS-2 HYDRODYNAMIC SEPARATOR. THIS BMP IS SUITABLE FOR A SMALL SITE AS STATED IN OHIO EPA STORM WATER POST CONSTRUCTION QUESTIONS AND ANSWERS ITEM #14.

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	1/2 - 1	FOR CLOSE MOWING & FOR WATERWAYS WITH <2.0 FT/SEC. VELOCITY	
	10-20	1/4 - 1/2		
	20-40	1/2 - 1		
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	1/4 - 1/2	DO NOT SEED LATER THAN AUGUST.	
	20-30	1/2 - 3/4		
FLAT PEA	20-25	1/2 - 3/4	DO NOT SEED LATER THAN AUGUST.	
TALL FESCUE	20-30	1/2 - 3/4		
ROAD DITCHES AND SWALES				
TALL FESCUE	40-50	1 - 1 1/4		
TURF-TYPE (DWARF) FESCUE KENTUCKY BLUEGRASS	90	2 1/4		
	5	0.10		
LAWNS				
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100-200	2		
		2		
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100-200	2	FOR SHADED AREAS	
	20-30	1 1/2		

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

SITE PREPARATION

1. SUBSOLER, FLOW, 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 SEEDED 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.
SEEDED 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 ANALYSIS.
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 SEEDED 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 THROUGH NOVEMBER, PREPARE THE SEEDED, 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 SEEDED, 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, MOSTLY SEEDED.
-WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDED 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

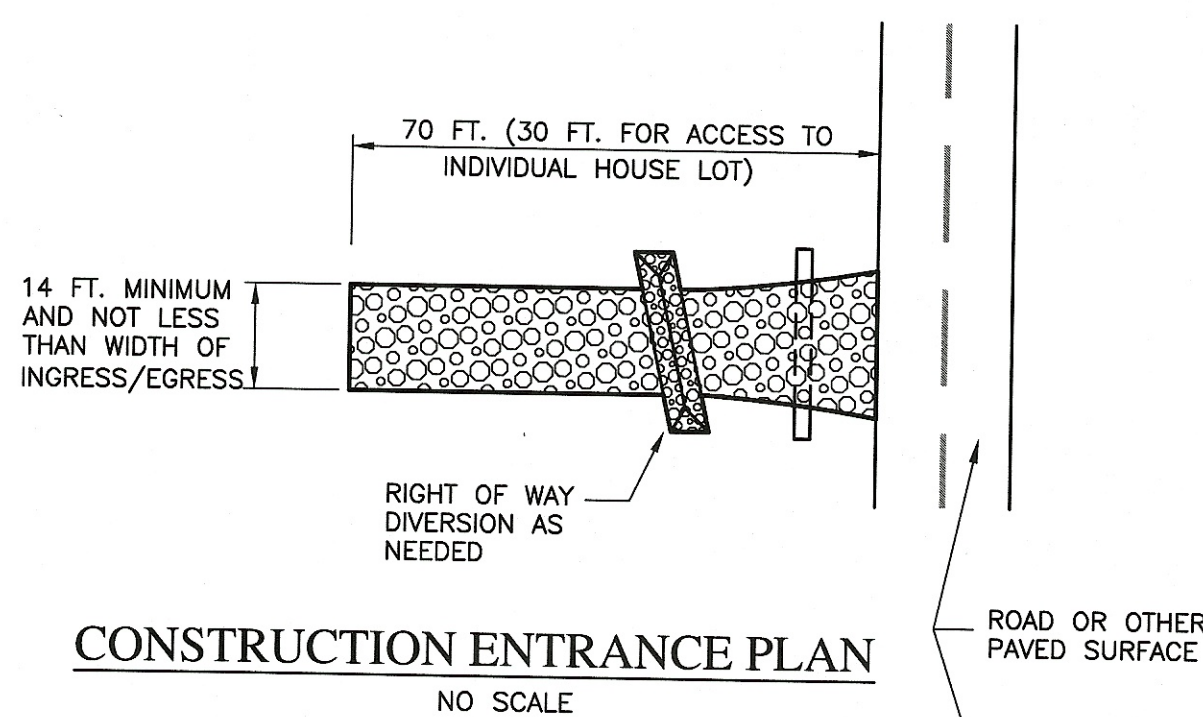
STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER
-MECHANICAL-DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LEFT LONGER THAN 6 INCHES.
-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 THE RATE OF 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.

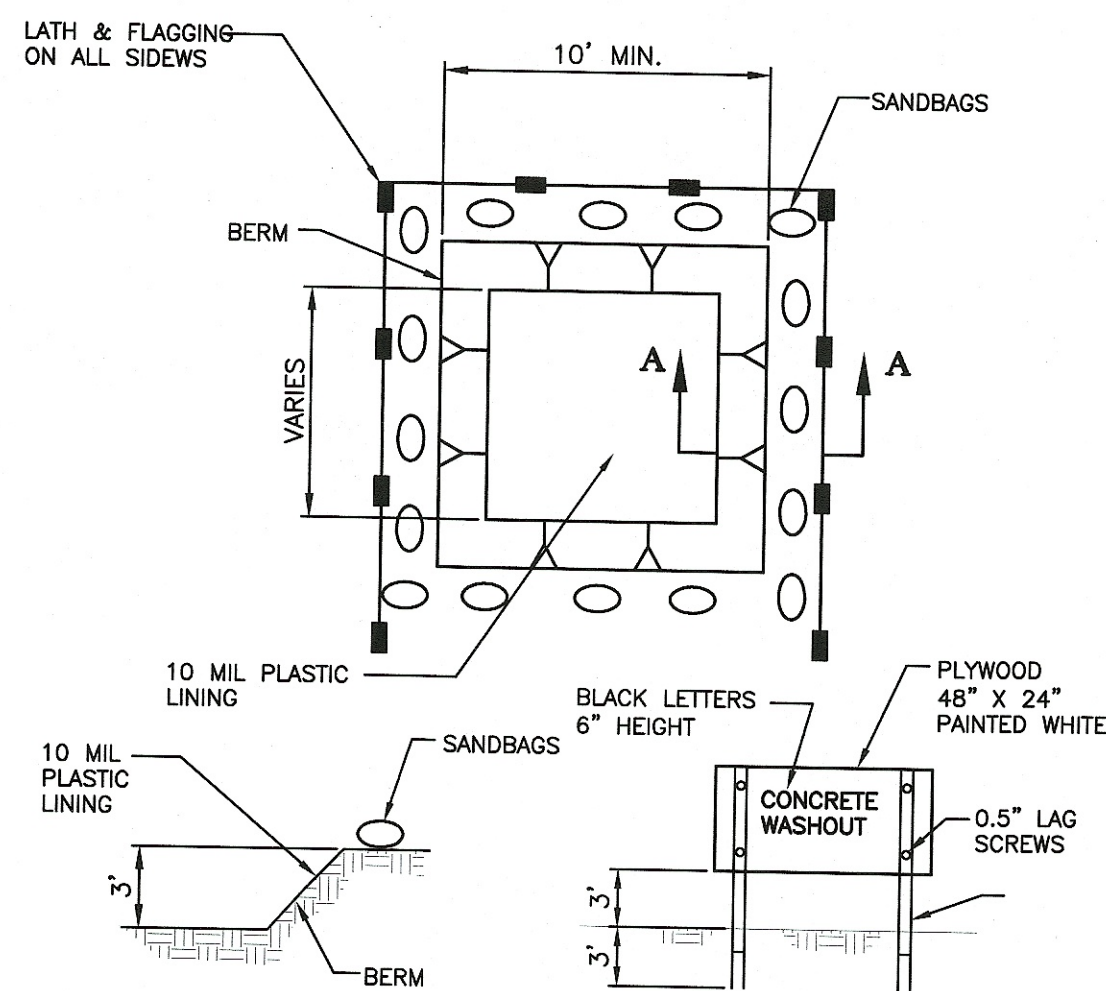
GBC DESIGN, INC.
Akron, OH 44320
565 White Pond Dr.
Phone 330-586-022



CONSTRUCTION ENTRANCE PROFILE
NO SCALE

- STONE SIZE--ODOT #2 (1.5 - 2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE PAVEMENT.
- 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).
- THICKNESS--THE STONE LAYER SHALL BE AT LEAST 6-IN. THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10-IN. FOR HEAVY DUTY USE.
- WIDTH--THE ENTRANCE SHALL BE AT LEAST 14-FT. WIDE, BUT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- 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:
- TIMING--THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
- 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.
- 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.
- 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.
- 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.
- REMOVAL--THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

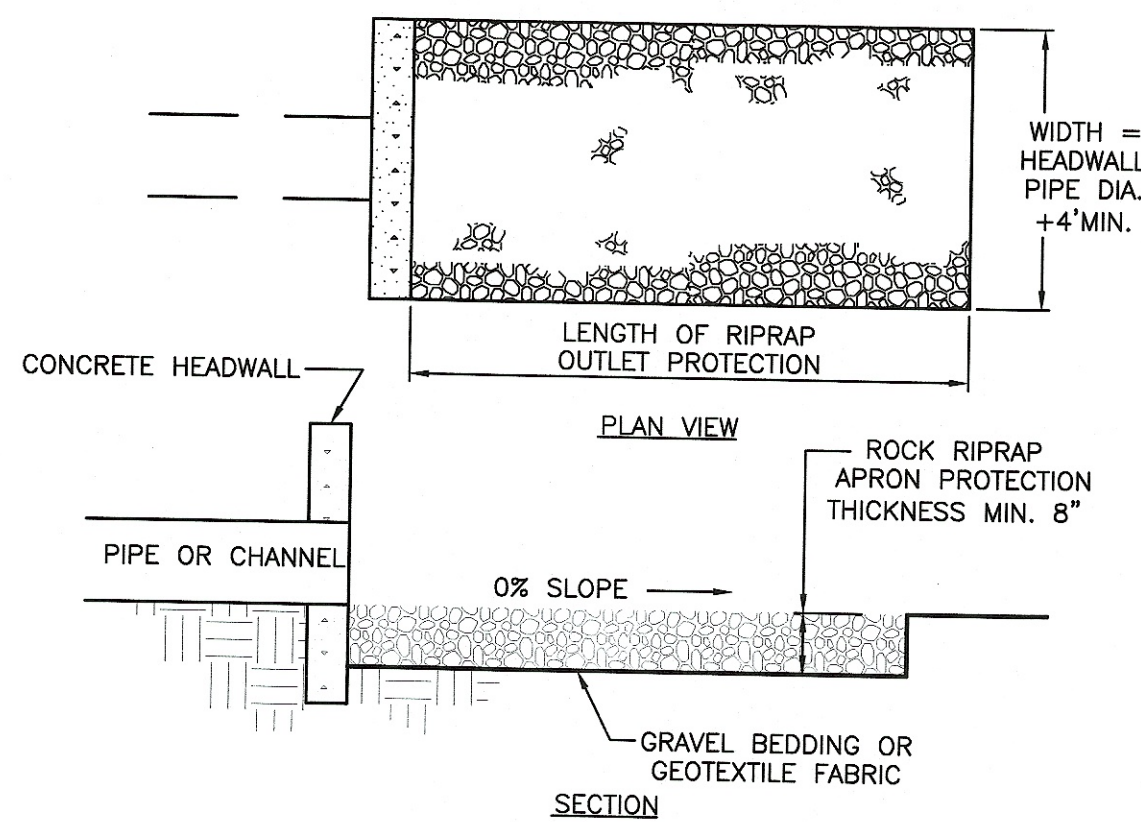
GEOTEXTILE SPEC. FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.60 mm
PERMITTIVITY	1x10 ⁻³ CM/SEC



SECTION A-A
N.T.S.

- 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 OF MATERIALS.
- TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AS SHOWN ON THE DETAIL WITH A MINIMUM LENGTH AND MINIMUM WIDTH OF 10'.
- LATH AND FLAGGING SHALL BE COMMERCIAL TYPE. 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.
- A SIGN SHALL BE INSTALLED ADJACENT TO WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
- TEMPORARY CONCRETE WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT PROCEDURES.
- WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED IN DESIGNATED AREAS ONLY.
- ONLY CONCRETE FROM MIXER TRUCK CHUTES SHOULD BE WASHED INTO CONCRETE WASHOUT.
- CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.
- CONCRETE WASTES SHALL BE ALLOWED TO HARDEN THEN BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATION ON A REGULAR BASIS.
- 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.



ROCK OUTLET PROTECTION
NOT TO SCALE

- 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.
- RIPRAP SHALL CONFORM TO THE GRADING LIMITS SHOWN ON THE PLAN.
- GEOTEXTILE SHALL BE SECURELY ANCHORED ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS.
- 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.
- GRAVEL BEDDING SHALL BE ODOT NO. 67's OR 57's UNLESS SHOWN DIFFERENTLY ON THE DRAWINGS.
- RIPRAP SHALL BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT SLIPPAGE OR DAMAGE TO THE GEOTEXTILE.
- 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.
- CONSTRUCTION SHALL BE SEQUENCED SO THAT OUTLET PROTECTION IS PLACED AND FUNCTIONAL WHEN THE STORM DRAIN, CULVERT, OR OPEN CHANNEL ABOVE IT BECOMES OPERATIONAL.
- ALL DISTURBED AREAS SHALL BECOME VEGETATED AS SOON AS PRACTICAL.

- INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
- THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH OF AT LEAST 18 INCHES.
- 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 THE 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.
- 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.

- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- 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.
- 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.
- WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- 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.
- THE HEIGHT OF THE SILT FENCE SHALL BE A MIN. OF 18 IN. ABOVE THE ORIGINAL GROUND SURFACE.
- THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.

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./F ² MAXIMUM	ASTM D 3786
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM-G-26

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT

- CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDED 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.
- CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.

SLOPE INSTALLATION

- EXCAVATE TOP AND BOTTOM TRENCHES (12" X 6"). INTERMITTENT EROSION CHECK SLOTS (6" X 6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2' X 3' OVER CREST OF THE SLOPE.
- IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED, INSTALL RECP IN 6" X 6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. RECP SHOULD BE STAPLED INTO TRENCH ON 12' CENTERS.
- INSTALL RECP IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL.
- 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.
- 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".
- INSTALL RECP IN BOTTOM ANCHOR TRENCH (12" X 6"), 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.

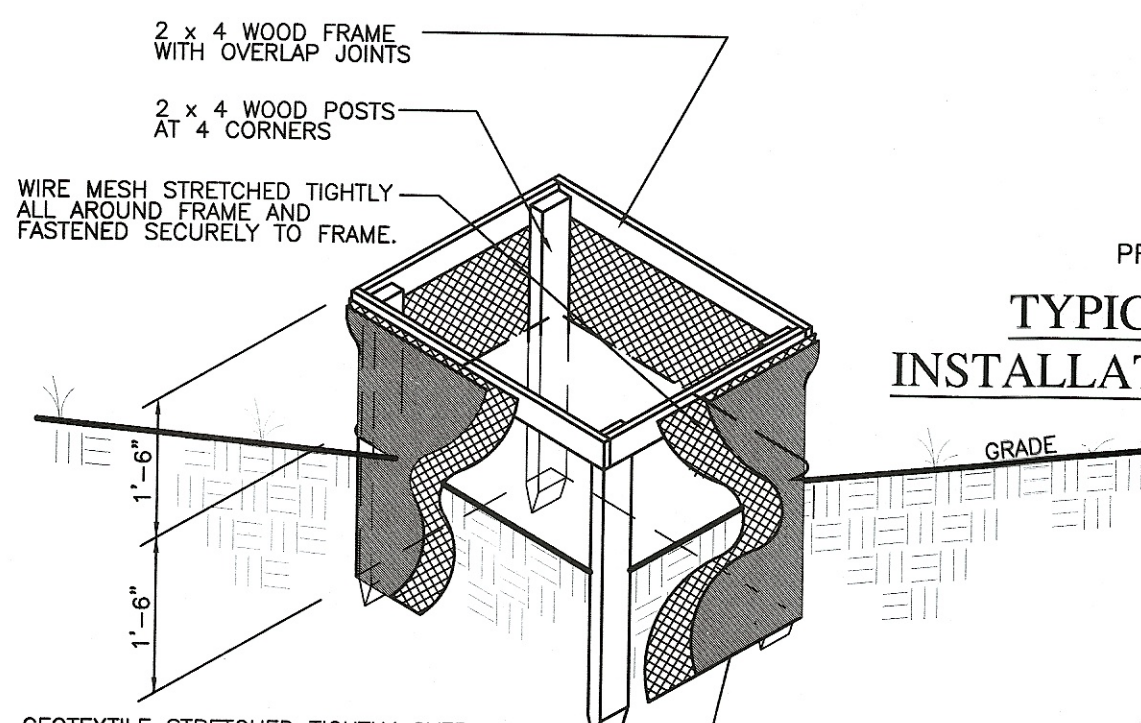
SILT FENCE

- 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.
- 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.
- 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.

- 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.
- SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- 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.

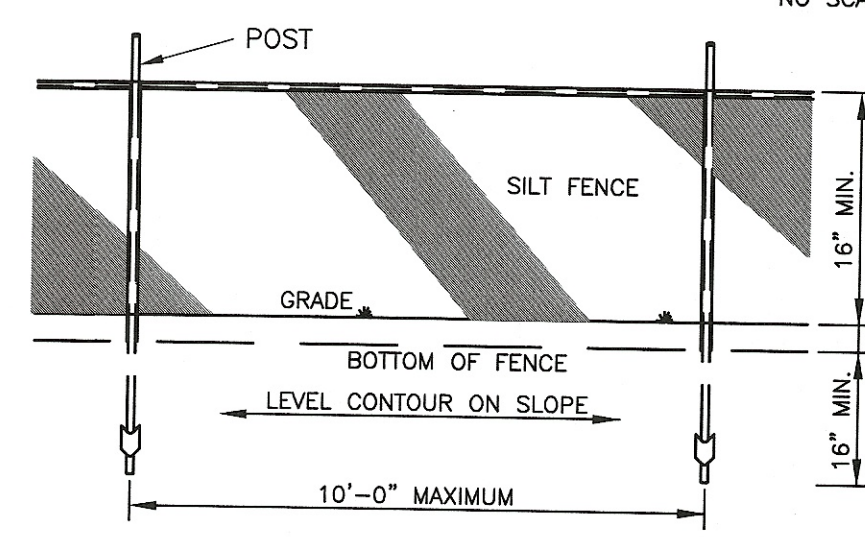
CRITERIA FOR SILT FENCE MATERIALS

- 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.
- SILT FENCE FABRIC (SEE CHART BELOW):



TYPICAL SILT FENCE
INSTALLATION AT ALL INLETS

TYPICAL INLET SILT
FENCE DETAIL
NO SCALE



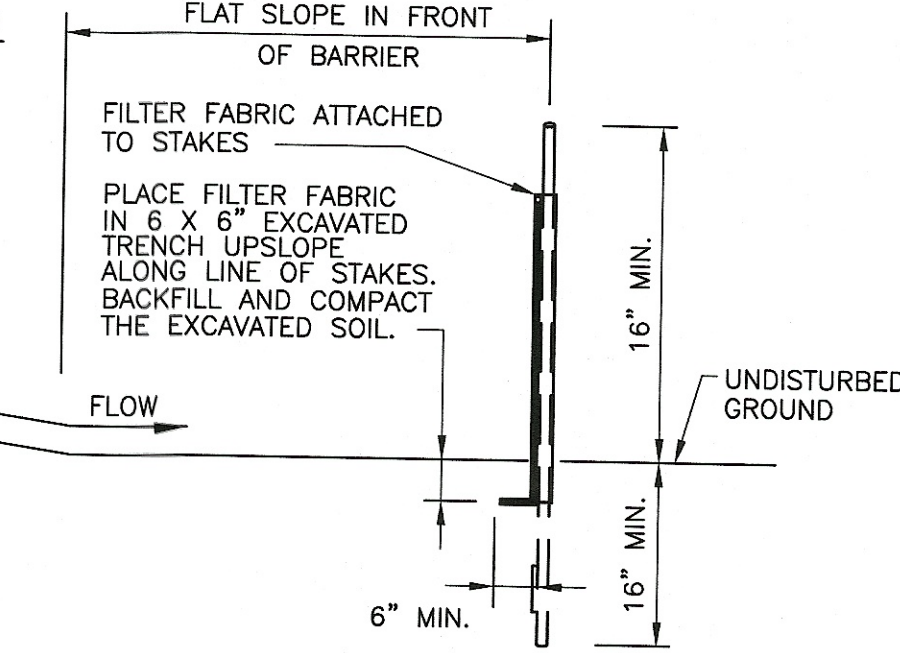
SILT FENCE DETAIL
NO SCALE



JOINING SECTIONS OF
SILT FENCE DETAIL
NO SCALE

INLET
PROTECTION
NOTE

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



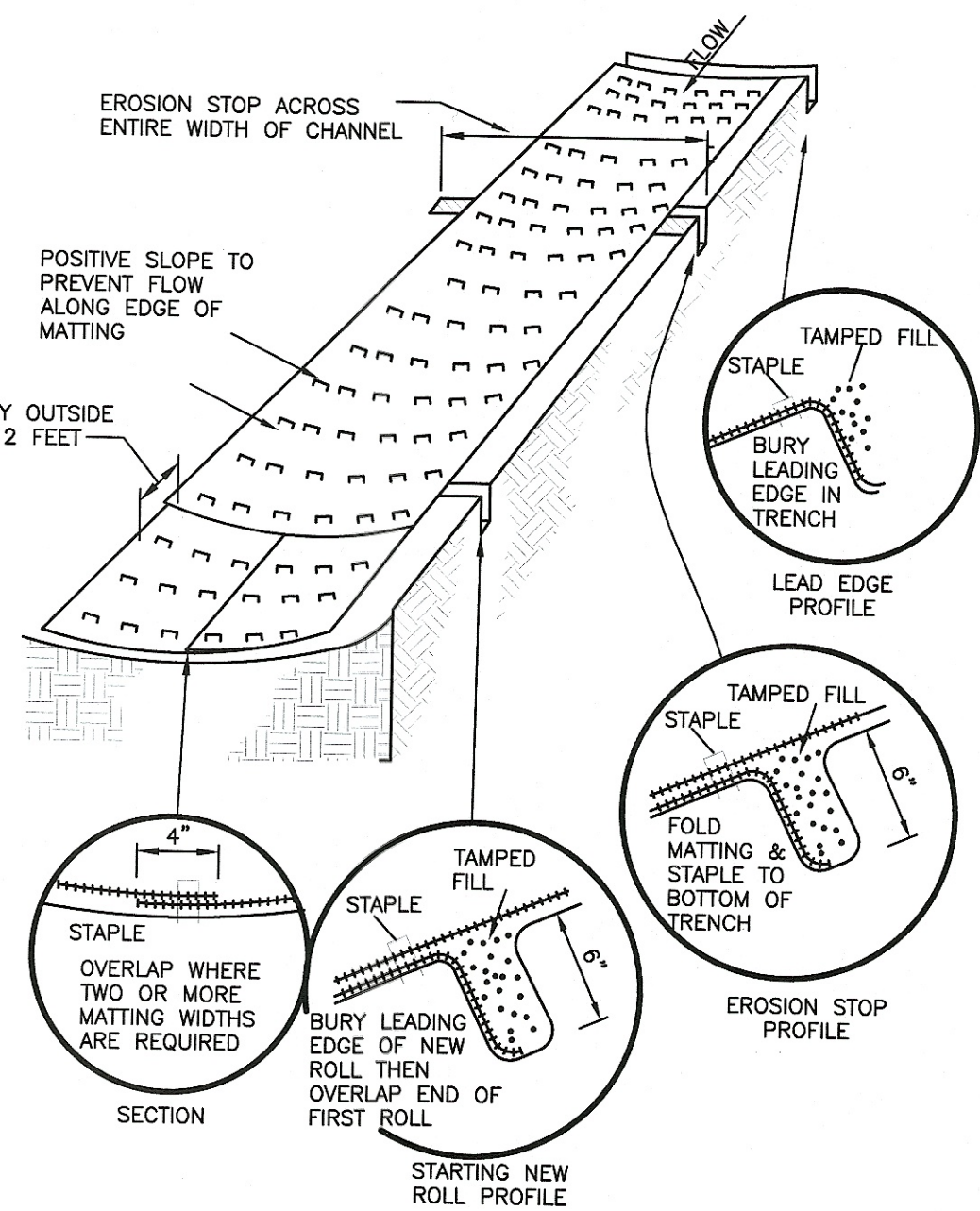
SILT FENCE SECTION
NO SCALE

SPECIFICATIONS FOR TEMPORARY ROLLED EROSION CONTROL PRODUCT

(continued)

CHANNEL INSTALLATION

- EXCAVATE INITIAL ANCHOR TRENCH (12" X 6") ACROSS THE LOWER END OF THE PROJECT AREA.
- EXCAVATE INTERMITTENT CHECK SLOTS (6" X 6") ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.
- EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4" X 4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE RECP 2' 3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.
- INSTALL RECP IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.
- 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.
- AT TOP OF CHANNEL SIDE SLOPES INSTALL RECP IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".
- INSTALL RECP IN INTERMITTENT CHECK SLOTS LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.
- OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE RECP ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHORED EVERY 12".
- INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12" X 6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.
- 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

REVISIONS

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MASSILLON, OHIO
SWPPP DETAILS

DRAWN BY:
T.G.W.
DATE:
9/8/2015
PROJECT NO.
47190B
DRAWING NO.
SD7.03