GRAY RIDGE ESTATES

SANITARY, STORM SEWERS, WATER & PAVING

IMPROVEMENT PLANS

KNOWN AS BEING ALL OF OUT LOT 889
CITY OF MASSILLON
COUNTY OF STARK
STATE OF OHIO

OCTOBER, 2005
86 LOTS
30.4298 ACRES

CITY OF MASSILLON GENERAL NOTES

1. CONTRACTOR SHALL CHECK DETAIL DRAWINGS FOR MINIMUM GRADE AND BACKFILL REQUIREMENTS.
2. ALL COMBINATION CONCRETE CURB AND GUTTER TO BE MASSILLON STANDARD EXCEPT WHERE VARIATIONS ARE SHOWN ON THE PLANS.
3. EXCAVATION FOR CONCRETE CURB AND GUTTER SHALL BE INCLUDED IN THE COST PER LIsICKELS FOOT OF SAID CURB AND GUTTER.
4. ALL CATCH BASINS AND MANHOLES TO BE ADJUSTED TO GRADE WHERE NECESSARY
5. ALL CONCRETE TO BE 1 : 2: 4 - 6 BAG MIX. 28 DAY - 3000 PSI COMPRESSIVE STRENGTH: MAX. SLUMP TO BE 4".
6. ALL MATERIALS USED WILL BE NEW - NO SALVAGED MATERIAL WILL BE ACCEPTED.
7. IF CONTRACTOR EXCAVATES DEEPER THAN NECESSARY FOR CURB AND GUTTER, CONTRACTOR WILL FURNISH O.D.O.T. 304 AGGREGATE AND TAMP BEFORE CURB AND GUTTER IS CONSTRUCTED.
8. 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 95% LABORATORY DRY WEIGHT BEFORE ADDITIONAL LAYERS ARE ADDED. THIS COMPACTION TO BE DONE BEFORE FORMS ARE PLACED.
9. CONTRACTOR TO BACKFILL CURB IMMEDIATELY AFTER CURB HAS BEEN IN PLACE FOR 48 HOURS.
10. ALL STORM SEWER SHALL BE SMOOTH LINED CORRUGATED POLYETHYLENE (O.D.O.T. 707.33 OR REINFORCED CONCRETE PIPE (O.D.O.T. 705.02 AND SHALL BE TYPE "C" CONDUIT IN ACCORDANCE WITH O.D.O.T. 603 WITH CLASS "C" BEDDING AND SUITABLE BACKFILL.
11. DOWNSPOUT HEADERS SHALL BE 6" PVC (SDR 21 PIPE (UNLESS OTHERWISE NOTED ON THE PLANS AND SHALL BE DIRECTLY CONNECTED TO THE STORM SEWER WITH APPROVED TEE OR SADDLE CONNECTIONS. HEADERS SHALL EXTEND 15' INTO THE LOTS OR BEYOND FURTHEST UTILITY, WHICHEVER IS GREATER.
12. MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH MASSILLON CITY STANDARDS.
13. 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.
14. STREET LIGHTING IS REQUIRED. DEVELOPER SHALL COORDINATE WITH ELECTRIC UTILITY COMPANY FOR POLE LOCATION AND TYPE. THE DEVELOPER SHALL INSTALL, AT HIS COST, STREET SIGNS REPRESENTING THE NAMES OF ALL STREETS AT ALL INTERSECTIONS. DEVELOPER ALSO RESPONSIBLE FOR STOP SIGNS AND DIRECTIONAL SIGNS AS NECESSARY. A;1 SIGNS SHALL CONFORM WITH CITY OF MASSILLON REGULATIONS. ,
15. 15A. BEFORE ACCEPTANCE OF THE ROAD PAVEMENT SUBGRADES BY THE CITY OF MASSILLON ENGINEER, SUBGRADES SHALL BE TESTED IN ACCORDANCE WITH O.D.O.T. ITEM 203.13. IN LIEU OF SUBGRADE TESTING PER ITEM 203.13, PROOF ROLLING IN ACCORDANCE WITH O.D.O.T. ITEM 203.14 MAY BE SUBSTITUTED.

15B. WHEREVER UNSTABLE SOIL SUBGRADE CONDITIONS ARE ENCOUNTERED THAT ARE UNSUITABLE PER O.D.O.T. 203 SPECIFICATIONS AND/OR DETERMINED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT, ADDITIONAL EXCAVATION AND SUBSEQUENT BACKFILLING SHALL BE DONE BY THE CONTRACTOR UNTIL SUCH CONDITIONS ARE CORRECTED AND APPROVED BY THE CITY OF MASSILLON ENGINEER. COST SHALL BE INCLUDED IN THE CONTRACT PRICE.

15C. SUBGRADE TESTING OR PROOF ROLLING MUST BE WITNESSED AND APPROVED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT PRIOR TO THE PLACEMENT OF THE PAVEMENT SUBBASE MATERIAL. CONTRACTOR SHALL CONTACT THE CITY ENGINEERING DEPARTMENT AT 330 830-1722 TO SCHEDULE.

16. AS-BUILT DRAWINGS ARE REQUIRED AND SHALL BE SUBMITTED TO THE CITY ENGINEER UPON COMPLETION OF THE PROJECT.
17. 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.
18. PRICES BID PER FOOT FOR ALL PIPE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITION.
19. THE LOCATIONS OF ALL GAS LINE, TELEPHONE LINES, ETC. TO BE DETERMINED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES, VALVE BOXES, ETC. ARE TO BE HELD BY THE CONTRACTOR DURING CONSTRUCTION.
20. THE CONSTRUCTION OF THIS PROJECT SHALL BE GOVERNED BY THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION SUPPLEMENTED WHERE APPLICABLE BY THE CITY OF MASSILLON ENGINEER.)
21. FERTILIZING, SEEDING AND MULCHING FOR RESTORATION OF DISTURBED AREAS BETWEEN THE PAVEMENT EDGE AND THE RIGHT-OF-WAY LINE SHALL CONFORM TO SECTIONS 659.04, 659.12, AND 659.13 AS SPECIFIED IN THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION.)
22. 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 ENGINEER.
23. CALL THE OHIO UTILITIES PROTECTION SERVICE AT LEAST 48 HOURS BEFORE DIGGING (1-800-362-2764).
24. TEMPORARY WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL SHALL BE REQUIRED IN ACCORDANCE WITH ITEM 207 OF THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION AS DIRECTED BY THE CITY ENGINEER AND THE STARK S.W.C.D.)
25. THE OWNER/DEVELOPER IS REQUIRED TO HAVE ALL UTILITY CROSSING CONDUITS (ELECTRIC, TELEPHONE, CABLE TV INSTALLED PRIOR TO THE INSTALLATION OF PAVEMENT).
26. ALL POINTS OF CONNECTION OF PROPOSED IMPROVEMENTS TO EXISTING IMPROVEMENTS SHALL BE UNCOVERED AND ELEVATIONS VERIFIED BY FIELD CHECK BEFORE ANY CONSTRUCTION BEGINS.
27. 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.
28. EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LASTS EDITION ITEM 203).
29. 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.
30. PRICES BID SHALL INCLUDE ANY SHEETING OR DEWATERING THAT MAY BE REQUIRED.

WATER LINE NOTES

1. WATERLINE SHALL BE CONSTRUCTED OF PRESSURE CLASS 350, AWWA C150 AND C151 DUCTILE IRON PIPE WITH POLYETHYLENE ENCASEMENT.
2. THE WATER LINE SHALL BE INSTALLED SO THAT 4' - 0" OF COVER, FROM GRADE TO THE TOP OF THE WATER LINE, IS MAINTAINED AS A MINIMUM.
3. WATER LINE MATERIALS AND INSTALLATION PROCEDURES SHALL MEET OR EXCEED ALL APPLICABLE AWWA STANDARDS INCLUDING, BUT NOT LIMITED TO, C600 AND C651.
4. THE CONTRACTOR SHALL CAREFULLY LAY OUT THE WATER LINE AND ALL RELATED FACILITIES TO ENSURE THAT THEY ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR DESIGNATED UTILITY EASEMENTS AS INDICATED ON THE DRAWINGS.
5. MEGALUG RETAINERS REQUIRED AT ALL FITTINGS.
6. THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM PRESSURE OF 35 P.S.I. DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
7. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. AQUA OHIO MAY GRANT SPECIAL PERMISSION FOR BUILDINGS SIX STORIES AND HIGHER.
8. A TYPE 1 TRENCH SHALL BE USED AND BACKFILLED WITH EXCAVATED MATERIAL PROVIDED THAT SAID MATERIAL CONSISTS OF LOAM, CLAY, SAND, GRAVEL, OR OTHER SUITABLE MATERIAL. BACKFILLING FOR ROAD AND DRIVEWAY CUTS SHALL BE, AS A MINIMUM, ODOT 304 AGGREGATE (PROPERLY COMPACTED), AS SPECIFIED BY THE LOCAL JURISDICTION.

SANITARY SEWER NOTES

1. SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO CITY OF MASSILLON ENGINEERING DEPARTMENT SPECIFICATIONS AND DETAILS IN EFFECT AT TIME OF CONSTRUCTION.
2. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
3. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS ALONG THE ROUTE OF THE SANITARY SEWER AT LEAST THREE (3 DAYS PRIOR TO START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL ALERT THE UTILITIES PROTECTION SERVICE AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. 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.
6. ALL ROUGH GRADING TO WITHIN SIX (6 INCHES OF FINISHED GRADE SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY AND EASEMENTS PRIOR TO SANITARY SEWER CONSTRUCTION.
7. BULKHEADS SHALL BE ERECTED IN EXISTING MANHOLES WHERE TAPS FOR NEW MAINLINE SEWERS ARE MADE AND SHALL REMAIN IN PLACE UNTIL THE NEW SEWERS ARE COMPLETE, TESTED AND APPROVED. IN CASES WHERE A BULKHEAD WOULD INTERRUPT THE FLOW FROM EXISTING SERVICE CONNECTIONS, THE BULKHEAD SHALL BE PLACED IN THE FIRST NEW MANHOLE UPSTREAM OF THE EXISTING MANHOLE.
8. MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATERLINE SHALL BE 18 INCHES MINIMUM HORIZONTAL SEPARATION SHALL BE 10 FT.
9. SANITARY SEWER SERVICE LATERALS SHALL BE 6-INCH DIAMETER AND BE LAID AT NO LESS THAN 1.0 % GRADE.
10. FOR NEW SUBDIVISION CONSTRUCTION, SEWER SERVICE LATERALS SHALL EXTEND 15' INTO THE LOTS OR BEYOND FURTHEST UTILITY, WHICHEVER IS GREATER, WHEN THE MAIN SEWER IS IN A STREET RIGHT-OF-WAY, AND SHALL TERMINATE AT THE EASEMENT LINE WHEN THE MAIN SEWER IS IN AN EASEMENT. FOR OTHER SEWER EXTENSIONS, SEWER SERVICE LATERALS SHALL TERMINATE AT THE RIGHT-OF-WAY LINE OR THE EASEMENT LINE, WHICHEVER IS APPLICABLE.
11. SERVICE STACKS SHALL BE DUCTILE IRON PIPE REGARDLESS OF MAIN SEWER MATERIAL. A CAST IRON TEE SHALL BE INSTALLED IN THE MAIN SEWER. CONCRETE ENCASEMENT WILL NOT BE REQUIRED.
12. MINIMUM COVER OVER SANITARY SEWER SHALL BE 4 FT.
13. ACCEPTABLE SANITARY SEWER PIPE MATERIALS ARE AS FOLLOWS:

MATERIAL DESCRIPTION	PIPE	JOINT	INSTALLATION
PVC SMOOTH EXTERIOR	ASTM D-3034	ASTM D-3212	ASTM D-2321
PVC: CLOSED PROFILE (DUAL WALL) CORRUGATED (DUAL WALL) RIBBED (OPEN PROFILE)	ASTM F-794	ASTM D-3212	ASTM D-2321
PVC CORRUGATED EXTERIOR	ASTM F-949	ASTM D-3212	ASTM D-2321
VCP EXTRA STRENGTH	ASTM C-700	ASTM C-425	ASTM C-12
DCIP CLASS 52	ASTM C-151	ASTM C-110 ASTM C-111	ASTM C-151
ABS COMPOSITE	ASTM D-2680	ASTM D-2235	ASTM D-2680
PVC COMPOSITE	ASTM D-2680	ASTM D-2564	ASTM D-2680

14. ALL SANITARY SEWERS, 8-INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE COMPLETE INTERNAL INSPECTION VIDEOTAPE TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE VIDEOTAPING PROCEDURE SHALL BE IN ACCORDANCE WITH CITY OF MASSILLON ENGINEERING DEPARTMENTSPECIFICATIONS.
15. A DEFLECTION TEST SHALL BE REQUIRED FOR ALL FLEXIBLE PIPE OF 8-INCH DIAMETER AND LARGER. THE TEST SHALL BE CONDUCTED AT LEAST 30 DAYS AFTER COMPLETION OF BACKFILL AND SHALL BE IN ACCORDANCE WITH CITY OF MASSILLON ENGINEERING DEPARTMENTSPECIFICATIONS. THE ALLOWABLE DEFLECTION RATE SHALL NOT EXCEED FIVE (5 % PERCENT. TESTING SHALL BE IN ACCORDANCE WITH ASTM D-3034.
16. ALL SANITARY SEWERS MUST PASS A LOW PRESSURE AIR TEST, WHICH SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM F-1417 (PLASTIC PIPE OR ASTM C-828 (CLAY PIPE. THE MAXIMUM ALLOWABLE TEST LEAKAGE SHALL BE 100 GAL/INCH OF DIAMETER/MILE/DAY.
17. MANHOLE CONSTRUCTION SHALL MEET THE REQUIREMENTS OF ASTM C-478 AND C-443. ALL MANHOLES SHALL BE AIR/VACUUM TESTED IN ACCORDANCE WITH AND MEET ALL THE REQUIREMENTS OF ASTM C-1244.
18. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED, WITH BENCHES AND CHANNELS FORMED AND REPAIRED AS NECESSARY.
19. ANY MANHOLE DROP ATTACHMENTS SHALL BE "OUTSIDE" TYPE.
20. 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.
21. ALL SANITARY SEWER TRENCHES BENEATH PROPOSED OR EXISTING PAVEMENT SHALL BE COMPACTED IN LIFTS, IN A MANNER, AND WITH MATERIAL AS SPECIFIED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT AND ALL APPLICABLE O.D.O.T. SPECIFICATIONS.
22. ALL SEWER RUN DISTANCE 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.
23. COST OF WYES AND STUBS TO BE INCLUDED IN PRICE BID PER LINEAR FOOT OF SANITARY SEWER.
24. 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.

WATER LINE NOTES CONTINUED

9. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SANITARY SEWER OR SEWER MANHOLE, AND AT LEAST 5 FEET HORIZONTALLY FROM ANY STORM SEWERS OR STRUCTURES. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
10. AN 18 INCH VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN SANITARY SEWERS AND WATER MAINS, MEASURED BETWEEN THE OUTSIDE PIPE WALLS, A 12 INCH VERTICAL CLEARANCE IS REQUIRED BETWEEN WATER MAINS AND STORM SEWERS, MEASURED BETWEEN THE OUTSIDE PIPE WALLS. THE STORM SEWER MAY CROSS EITHER ABOVE OR BELOW THE WATER MAIN.
11. ALL PIPE JOINTS WITHIN 36 FT. OF ANY DEAD END SHALL BE RESTRAINED BY USING FIELD LOCK GASKETS IN PUSH-ON JOINTS OR RETAINER GLANDS (MEGALUGS) ON MECHANICAL JOINTS. IN ADDITION, POURED-IN-PLACE CONCRETE THRUST BLOCKS SHALL BE PROVIDED PER AQUA OHIO SPECIFICATIONS TO PREVENT MOVEMENT OF THE WATERLINE.
12. ALL DUCTILE PIPE, FITTINGS AND VALVES SHALL BE ENCASED IN POLYETHYLENE ENCASEMENT (POLYWRAP) IN A WORKMANLIKE MANNER WITH JOINTS TAPED PER AQUA OHIO SPECIFICATIONS.
13. WATER SERVICES SHALL EXTEND 15' INTO THE LOTS OR BEYOND FURTHEST UTILITY, WHICHEVER IS GREATER, WITH THE CURB BOX INSTALLED 4' BEHIND BACK OF CURB. THE AQUA OHIO POINT OF DELIVERY IS THE OUTLET SIDE OF THE CURB STOP.
14. WATER MAINS SHALL BE INSTALLED AND PRESSURE TESTED IN ACCORDANCE WITH AWWA C600.
15. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651.

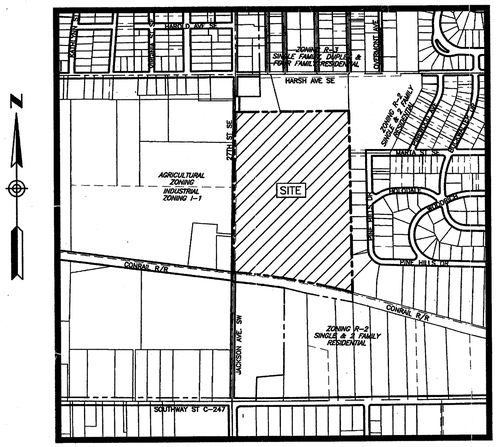
DESIGN ENGINEER:

GBC DESIGN, INC.

3378 W. Market St. Akron, OH 44333-3386
Phone 330-836-0228 Fax 330-836-5782

DEVELOPER:

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721
PHONE: (330)-806-3717
REP.: RON DUPLAIN



LOCATION MAP

0 200 400 600 1200

SCALE: 1" = 600'

NPDES PERMIT #3GC02075* AG

2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 1-800-362-2764
OHIO UTILITIES PROTECTION SERVICE

UTILITY CONTACTS

GAS:
DOMINION EAST OHIO
4725 SOUTHWAY STREET S.W.
CANTON, OHIO 44706
CONTACT: KATIE QUILLEN
PHONE: 330-478-3135

GAS
EVERFLOW EASTERN, INC.
P.O. BOX 629
CANFIELD, OHIO 44406
CONTACT: GEORGE STRAWN
330-727-1814 CELL
CONTACT: KATHY FURGIUELE
330-533-2693 OFFICE

GREAT LAKES ENERGY PARTNER
P.O. BOX 550
HARTVILLE, OHIO 44632
CONTACT: DAVE ROGERS
PHONE: 330-877-6747 ext. 205

WATER:
AQUA OHIO INC.
P.O. BOX 584
MASSILLON, OHIO 44647
CONTACT: DON SNYDER
PHONE: 330-832-7600 ext. 205

ELECTRIC:
OHIO EDISON
1910 W. MARKET STREET BUILDING #1
AKRON, OHIO 44313
CONTACT: KEN DOWNS
PHONE: 330-384-4839

CABLE TELEVISION:
MASSILLON CABLE
814 CABLE COURT N.W.
MASSILLON, OHIO 44648
PHONE: 330-833-4134

TELEPHONE:
SBC
50 W. BOWERY ST., ROOM 601
AKRON, OHIO 44308
CONTACT: CHRIS CLEMENTS
PHONE: 330-384-3475

RECEIVED
BY DATE
4/10/06
Final Set

ENGINEER'S ESTIMATE	
TOTAL SANITARY SEWER 8" AND LARGER	3,935 L.F.
TOTAL STORM SEWER 8" AND LARGER	4,870 L.F.
TOTAL PUBLIC STREET	3,480 L.F.

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

SUBMITTED BY: D.M. Kendall DATE: 4-7-06
D. MICHAEL KENDALL Reg. Engineer No. 61185

APPROVALS

APPROVED BY: THE MASSILLON CITY ENGINEER this _____ day of _____ , 20____

MASSILLON CITY ENGINEER

APPROVED BY: AQUA OHIO INC. this ____ day of _____ , 20____
SUBJECT TO AGREEMENT WITH AQUA OHIO, INC.

AQUA OHIO INC.

WATER APPROVED BY OHIO EPA LETTER this 15 day of DECEMBER, 2005

SANITARY APPROVED BY OHIO EPA LETTER this ____ day of _____ , 20____

INDEX

1 1/24/2006 PER CITY OF MASSILLON & AQUA OHIO
2 2/24/2006 PER CITY OF MASSILLON & AQUA OHIO
3 4/3/2006 PER CITY OF MASSILLON

C1 Delta = 7°46'16"
Chord Bearing = N 76°09'41" W
Radius = 5778.65'
Length = 783.78'
Tangent = 392.49'
Chord Length = 783.18'

DRAINAGE EASEMENT/VEGETATIVE BUFFER STRIP
A 40' NATURAL BUFFER STRIP SHALL BE MAINTAINED ALONG THE EXISTING STREAM. THE EXISTING VEGETATION SHOULD NOT BE REMOVED FROM THE BUFFER STRIP AREA. ALL VEGETATION INCLUDING DEAD TREES AND STABLE OVER HANGING TREES SHOULD BE LEFT ON THE STREAM BANKS.

LEGEND
- MANHOLE
- EX. MANHOLE
- INLET
- CATCH BASIN
- WATER VALVE
- HYDRANT
- EX. POWER POLE

SCALE: 1" = 60'

SITUATED IN THE CITY OF MASSILLON
COUNTY OF STARK, STATE OF OHIO AND
KNOWN AS BEING PART OF THE
NORTHWEST QUARTER OF SECTION 15 OF
PERRY TOWNSHIP (T-10), RANGE 9
ALSO KNOWN AS BEING ALL OF OUT LOT 889
OF SAID CITY OF MASSILLON

BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER0059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.
ELEV. 1085.84

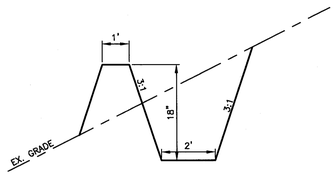
REVISIONS
1. 1/24/2006 PER CITY OF MASSILLON & AQUA OHIO
2. 2/24/2006 PER CITY OF MASSILLON & AQUA OHIO

GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333-3386
Phone 330-836-0226 Fax 330-836-5782

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

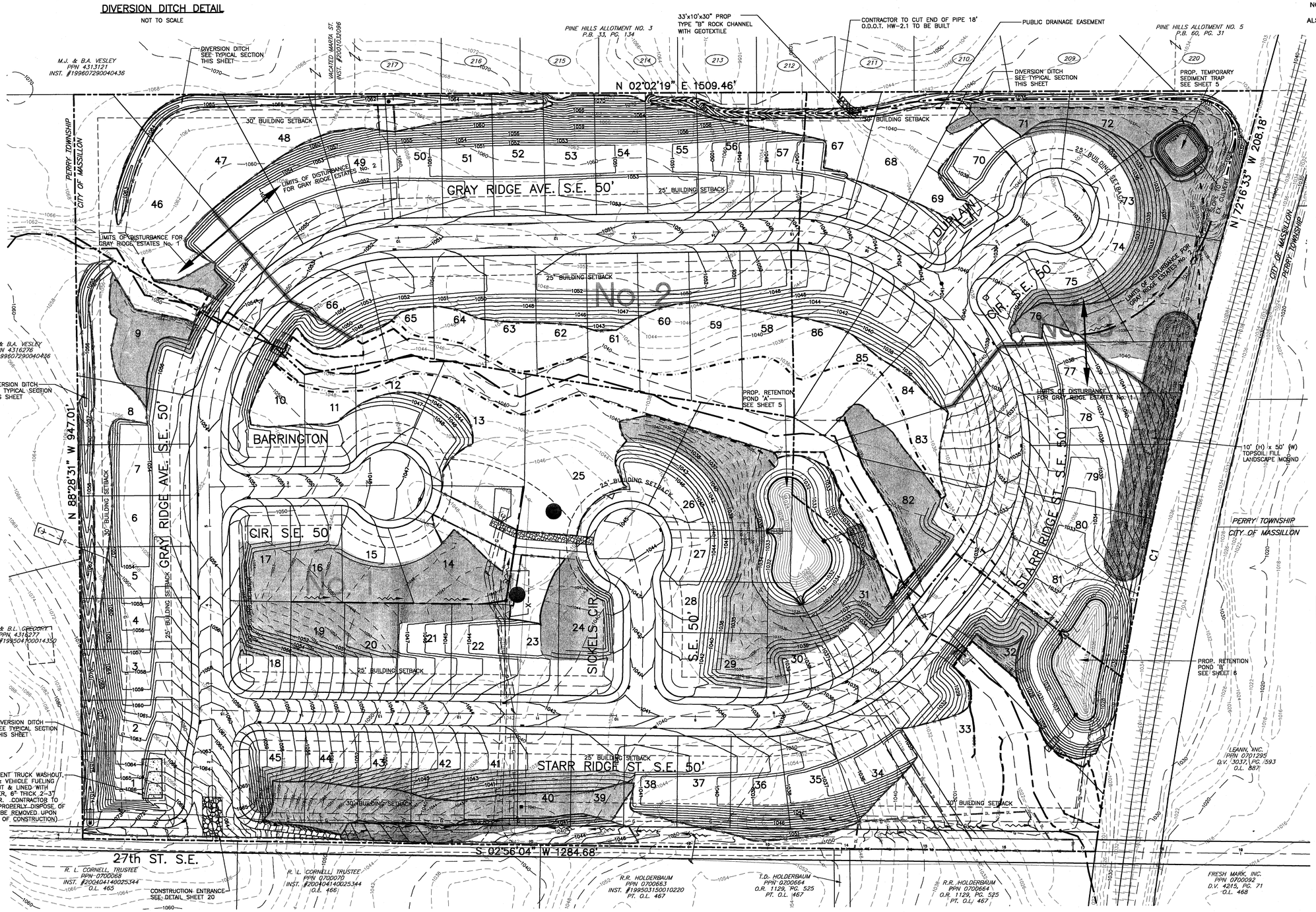
GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
SITE PLAN

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 2 OF 20



DIVERSION DITCH DETAIL

NOT TO SCALE



SCALE: 1" = 60'

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LEGEND

- AREA OF TOPSOIL FILL
- LIMITS OF TOPSOIL CUT
- LIMITS OF DISTURBANCE
- SILT FENCE SEE SHEET 20
- TEMPORARY DIVERSION CHANNEL SEE SHEET 20
- EXISTING CONTOURS
- 0000 EARTHWORK CONTOURS
- 0000 TOPSOIL FILL CONTOURS
- DIVERSION SWALE SEE SHEET 3
- LIMITS OF EXISTING TREES
- ×1092.08 EX. SPOT GRADE

SEE SHEET 4 FOR EARTHWORK NOTES AND TYPICAL SECTION.

EXISTING CONTOURS TAKEN FROM STARK COUNTY TOPO, SUPPLEMENTED BY FIELD SHOTS WHERE APPLICABLE.

BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

NOTE:
CONTRACTOR TO INSTALL AND MAINTAIN SILT FENCE AT ALL CURB INLET AND CATCH BASIN LOCATIONS CONSTRUCTED AS PART OF GRAY RIDGE ESTATES No. 1 AND No. 2 IMPROVEMENT PLANS. (SEE DETAIL SHEET 20)

NOTE:
LIMITS OF TOPSOIL CUT, UNLESS OTHERWISE SHOWN, SHALL BE THE LIMITS OF DISTURBANCE LINE.

DRAINAGE EASEMENT/VEGETATIVE BUFFER STRIP
A 40' NATURAL BUFFER STRIP SHALL BE MAINTAINED ALONG THE EXISTING STREAM. THE EXISTING VEGETATION SHOULD NOT BE REMOVED FROM THE BUFFER STRIP AREA. ALL VEGETATION INCLUDING DEAD TREES AND STABLE OVER HANGING TREES SHOULD BE LEFT ON THE STREAM BANKS.

REVISIONS

1. 1/24/2006 PER CITY OF MASSILLON
2. 2/24/2006 PER CITY OF MASSILLON

GBC DESIGN, INC.
3978 West Market St. Akron, OH 44333-3886
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BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO

EARTHWORK AND STORM WATER POLLUTION PREVENTION PLAN

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

DRAWING NO. 3 OF 20

GRAY RIDGE ESTATES No. 1 QUANTITIES

ON-SITE PAVING, EXCAVATION AND MISC.

ITEM	DESCRIPTION	QUANTITY	UNIT
201	CLEARING AND STUMPING	16.00	AC.
203	ROADWAY EXCAVATION AND EMBANKMENT	49,227	C.Y.
203	STRIP TOPSOIL AND PLACE PER EARTHWORK PLAN	12,178	C.Y.
203	STRIP AND STOCKPILE TOPSOIL	2,064	C.Y.
203.13	SUB-GRADE PROOF ROLL	1	L.S.
	ASPHALT PAVEMENT		
301	4" BITUMINOUS AGGREGATE BASE	876	C.Y.
304	6" AGGREGATE BASE	1,519	C.Y.
404	1-1/2" ASPHALT CONCRETE	329	C.Y.
407	TACK COAT (0.4 GAL/S.Y.)	3,152	GAL.
408	PRIME COAT (0.4 GAL/S.Y.)	3,152	GAL.
604	CENTERLINE MONUMENTS	14	EA.
605	4" SHALLOW PIPE UNDERDRAIN	4,419	L.F.
608	4" CONCRETE SIDEWALK (BY LOT OWNER)	16,223	S.F.
608	6" CONCRETE SIDEWALK (BY LOT OWNER)	2,880	S.F
608	CONCRETE CURB RAMP	8	EA.
609	MASSILLON STANDARD CONCRETE CURB AND GUTTER	4,419	L.F.
609	O.D.O.T. TYPE 6 CONCRETE CURB	81	L.F.
625	UTILITY TRENCHING	4,500	L.F.
659	TEMPORARY SEEDING AND MULCHING	61,024	S.Y.
659	PERMANENT SEEDING AND MULCHING	2,690	S.Y.

SANITARY SEWER

ITEM	DESCRIPTION	QUANTITY	UNIT
	6" HOUSE LATERALS	2,152	L.F.
	8" SANITARY SEWER	2,529	L.F.
	8" X 6" WYE	43	EA.
	SANITARY MANHOLE (148 VERTICAL FEET)	14	EA.
	SANITARY DROP MANHOLE (15 VERTICAL FEET)	1	EA.
	CONNECT TO EXISTING SANITARY SEWER	1	L.S.

STORM SEWER AND EROSION CONTROL

ITEM	DESCRIPTION	QUANTITY	UNIT
207	CONSTRUCTION ENTRANCE	1	EA.
207	SILT FENCE	1,701	L.F.
207	SILT FENCE AROUND INLETS	27	EA.
207	TEMPORARY DIVERSION DITCH	1,018	L.F.
207	DIVERSION SWALE	1,138	L.F.
601	ROCK CHANNEL PROTECTION TYPE 'C' W/GEOTEXTILE	74	C.Y.
603	12" HDPE STORM SEWER	1,383	L.F.
603	15" HDPE STORM SEWER	235	L.F.
603	18" HDPE STORM SEWER	792	L.F.
603	24" HDPE STORM SEWER	282	L.F.
603	30" HDPE STORM SEWER	33	L.F.
603	36" RCP STORM SEWER	400	L.F.
603	8" STORM LATERAL INCLUDING FITTINGS	1,396	L.F.
603	6" STORM COLLECTOR	261	L.F.
603	CURB INLET	21	EA.
603	MODIFIED CURB INLET	2	EA.
603	O.D.O.T. CB 2-2B	4	EA.
603	O.D.O.T. CB 2-3	2	EA.
603	TEMPORARY ROCK DAM FOR RETENTION POND SEDIMENT BASIN	2	EA.
604	O.D.O.T. HW-D HEADWALL (18")	1	EA.
604	O.D.O.T. HW-D HEADWALL (24")	3	EA.
604	O.D.O.T. HW-D HEADWALL (30")	1	EA.
604	MODIFIED O.D.O.T. HW-D HEADWALL (TWIN 36" PIPES)	4	EA.
	TEMP. SEEDING AND MAINTENANCE OF EROSION CONTROL DEVICES	1	L.S.

ON-SITE WATER MAIN

ITEM	DESCRIPTION	QUANTITY	UNIT
	2" BLOWOFF ASSEMBLY	1	EA.
	2" COPPER TUBING, TYPE 'K'	492	L.F.
	2" CURB STOP	2	EA.
	2" PLUG W/BLOWOFF ASSEMBLY	2	EA.
	8" 45 DEG. VERTICAL BEND	13	EA.
	8" PLUG W/2" TAP	2	EA.
	8" PLUG W/MARKER	2	EA.
	8" VALVE AND BOX	8	EA.
	8" WATER MAIN	2,149	L.F.
	8" X 6" TEE @ HYDRANT	4	EA.
	8" X 8" TEE	3	EA.
	TYPICAL HYDRANT ASSEMBLY	4	EA.
	WATER SERVICE	46	EA.

OFF-SITE PAVING, EXCAVATION AND MISC.

ITEM	DESCRIPTION	QUANTITY	UNIT
202	ASPHALT PAVEMENT REMOVAL	113	S.Y.
203	MISC. ROADWAY EXCAVATION AND EMBANKMENT	1,000	C.Y.
203.13	SUB-GRADE PROOF ROLL	1	L.S.
	ASPHALT PAVEMENT		
301	4" BITUMINOUS AGGREGATE BASE	25	C.Y.
304	6" AGGREGATE BASE	37	C.Y.
404	1-1/2" ASPHALT CONCRETE	10	C.Y.
407	TACK COAT (0.4 GAL/S.Y.)	89	GAL.
408	PRIME COAT (0.4 GAL/S.Y.)	89	GAL.
	ASPHALT PAVEMENT OVERLAY		
301	4" BITUMINOUS AGGREGATE BASE	30	C.Y.
402	1-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE	50	C.Y.
404	1-1/2" ASPHALT CONCRETE	50	C.Y.
407	TACK COAT (0.4 GAL/S.Y.)	476	GAL.
408	PRIME COAT (0.4 GAL/S.Y.)	476	GAL.
603	REMOVE AND REPLACE EXISTING CATCH BASIN CASTINGS	3	EA.
605	4" SHALLOW PIPE UNDERDRAIN	909	L.F.
609	O.D.O.T. TYPE 6 CONCRETE CURB	909	L.F.
659	PERMANENT SEEDING AND MULCHING	581	S.Y.
614	MAINTENANCE OF TRAFFIC	1	L.S.
	ITEM SPECIAL - PAVEMENT OVERLAY FABRIC COMPOSITE	467	S.Y.

OFF-SITE WATER MAIN

ITEM	DESCRIPTION	QUANTITY	UNIT
	CONNECT INTO EXISTING WATER MAIN	1	L.S.
	8" WATER MAIN	185	L.F.
	8" PLUG W/BLOWOFF ASSEMBLY	1	EA.
	8" VALVE AND BOX	2	EA.
	8" X 8" TEE	1	EA.

GRAY RIDGE ESTATES No. 2 QUANTITIES

PAVING, EXCAVATION AND MISC.

ITEM	DESCRIPTION	QUANTITY	UNIT
201	CLEARING AND STUMPING	8.00	AC.
203	ROADWAY EXCAVATION AND EMBANKMENT	20,676	C.Y.
203	STRIP TOPSOIL AND PLACE PER EARTHWORK PLAN	7,471	C.Y.
203	PLACE TOPSOIL PER EARTHWORK PLAN FROM STOCKPILE	2,064	C.Y.
203.13	SUB-GRADE PROOF ROLL	1	L.S.
	ASPHALT PAVEMENT		
301	4" BITUMINOUS AGGREGATE BASE	238	C.Y.
304	6" AGGREGATE BASE	426	C.Y.
404	1-1/2" ASPHALT CONCRETE	90	C.Y.
407	TACK COAT (0.4 GAL/S.Y.)	857	GAL.
408	PRIME COAT (0.4 GAL/S.Y.)	857	GAL.
605	CENTERLINE MONUMENTS	3	EA.
605	4" SHALLOW PIPE UNDERDRAIN	1,482	L.F.
608	4" CONCRETE SIDEWALK (BY LOT OWNER)	4,583	S.F.
608	6" CONCRETE SIDEWALK (BY LOT OWNER)	1,344	S.F
609	MASSILLON STANDARD CONCRETE CURB AND GUTTER	1,482	L.F.
625	UTILITY TRENCHING	1,500	L.F.
659	TEMPORARY SEEDING AND MULCHING	33,823	S.Y.
659	PERMANENT SEEDING AND MULCHING	906	S.Y.

SANITARY SEWER

ITEM	DESCRIPTION	QUANTITY	UNIT
	6" HOUSE LATERALS	1,350	L.F.
	8" SANITARY SEWER	1,160	L.F.
	8" X 6" WYE	30	EA.
	SANITARY MANHOLE (76 VERTICAL FEET)	7	EA.
	SANITARY DROP MANHOLE (16 VERTICAL FEET)	1	EA.

STORM SEWER AND EROSION CONTROL

ITEM	DESCRIPTION	QUANTITY	UNIT
207	CONSTRUCTION ENTRANCE	1	EA.
207	SILT FENCE AROUND INLETS	11	EA.
207	TEMPORARY DIVERSION DITCH	1,630	L.F.
207	DIVERSION SWALE	1,485	L.F.
603	12" HDPE STORM SEWER	316	L.F.
603	18" HDPE STORM SEWER	713	L.F.
603	24" HDPE STORM SEWER	405	L.F.
603	6" STORM LATERAL INCLUDING FITTINGS	948	L.F.
603	6" STORM COLLECTOR	61	L.F.
603	CURB INLET	9	EA.
603	MODIFIED CURB INLET	2	EA.
603	TEMPORARY RISER PIPE FOR TEMPORARY SEDIMENT BASIN	1	EA.
604	SLABTOP STORM MANHOLE	2	EA.
	TEMP. SEEDING AND MAINTENANCE OF EROSION CONTROL DEVICES	1	L.S.

ON-SITE WATER MAIN

ITEM	DESCRIPTION	QUANTITY	UNIT
	EXISTING PLUG TO BE RELOCATED	1	EA.
	8" WATER MAIN	763	L.F.
	8" X 6" TEE @ HYDRANT	2	EA.
	TYPICAL HYDRANT ASSEMBLY	2	EA.
	WATER SERVICE	21	EA.

AQUA OHIO, INC. WATER MAIN (SEPARATE CONTRACT)

ITEM	DESCRIPTION	QUANTITY	UNIT
	8" PLUG W/MARKER	1	EA.
	8" WATER MAIN	212	L.F.
	8" VALVE AND BOX	1	EA.
	8" X 8" TEE	1	EA.
	8" 90 DEG ELBOW	2	EA.

GRAY RIDGE ESTATES No. 3 QUANTITIES

PAVING, EXCAVATION AND MISC.

ITEM	DESCRIPTION	QUANTITY	UNIT
203.13	SUB-GRADE PROOF ROLL	1	L.S.
	ASPHALT PAVEMENT		
301	4" BITUMINOUS AGGREGATE BASE	306	C.Y.
304	6" AGGREGATE BASE	533	C.Y.
404	1-1/2" ASPHALT CONCRETE	115	C.Y.
407	TACK COAT (0.4 GAL/S.Y.)	1,100	GAL.
408	PRIME COAT (0.4 GAL/S.Y.)	1,100	GAL.
604	CENTERLINE MONUMENTS	5	EA.
605	4" SHALLOW PIPE UNDERDRAIN	1,603	L.F.
608	4" CONCRETE SIDEWALK (BY LOT OWNER)	5,132	S.F.
608	6" CONCRETE SIDEWALK (BY LOT OWNER)	1,280	S.F
608	CONCRETE CURB RAMP	2	EA.
609	MASSILLON STANDARD CONCRETE CURB AND GUTTER	1,603	L.F.
625	UTILITY TRENCHING	1,700	L.F.
659	PERMANENT SEEDING AND MULCHING	980	S.Y.

SANITARY SEWER

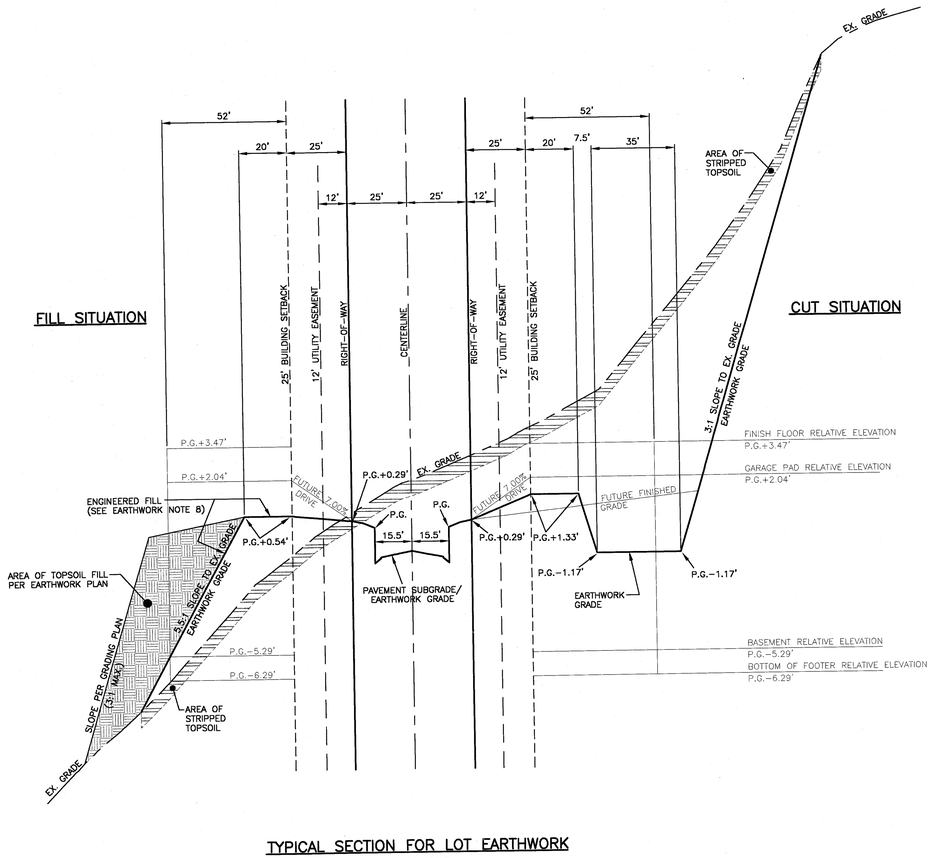
ITEM	DESCRIPTION	QUANTITY	UNIT
	6" HOUSE LATERALS	378	L.F.
	8" SANITARY SEWER ,	246	L.F.
	8" X 6" WYE	6	EA.
	SANITARY MANHOLE (10 VERTICAL FEET)	1	EA.

STORM SEWER AND EROSION CONTROL

ITEM	DESCRIPTION	QUANTITY	UNIT
207	CONSTRUCTION ENTRANCE	1	EA.
207	SILT FENCE AROUND INLETS	5	EA.
603	12" HDPE STORM SEWER	199	L.F.
603	15" HDPE STORM SEWER	112	L.F.
603	6" STORM LATERAL INCLUDING FITTINGS	381	L.F.
603	CURB INLET	5	EA.
603	O.D.O.T HW-2.1	1	EA.
	TYPE B ROCK CHANNEL PROTECTION W/GEOTEXTILE	31	C.Y.
	TEMP. SEEDING AND MAINTENANCE OF EROSION CONTROL DEVICES	1	L.S.

WATER MAIN

ITEM	DESCRIPTION	QUANTITY	UNIT
	2" COPPER TUBING, TYPE 'K'	247	L.F.
	2" CURB STOP	1	EA.
	2" PLUG W/BLOWOFF ASSEMBLY	1	EA.
	8" PLUG W/2" TAP	1	EA.
	8" VALVE AND BOX	3	EA.
	8" WATER MAIN	714	L.F.
	8" X 6" TEE @ HYDRANT	1	EA.
	8" X 8" TEE	1	EA.
	EXISTING PLUG TO BE REMOVED	2	EA.
	TYPICAL HYDRANT ASSEMBLY	1	EA.
	WATER SERVICE	19	EA.



TYPICAL SECTION FOR LOT EARTHWORK

NOT TO SCALE

EARTHWORK NOTES

THE EARTHWORK PLAN DEPICTS "ROUGH" GRADING TO SUBGRADE.
THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING THESE ELEVATIONS SHOWN ON THE GRADING PLAN IN THE FOLLOWING AREAS:

1. ALL DISTURBED AREAS TO BE SEEDED.

2. CONTRACTOR TO CONSTRUCT SILT FENCE, RETENTION PONDS AND OTHER RELATED PRIMARY EROSION CONTROL DEVICES BEFORE EARTHWORK GRADING IS PERMITTED TO START.

3. EARTHWORK QUANTITIES SHOWN IN THE TABLE ARE APPROXIMATE AND SHOULD BE USED BY THE CONTRACTOR ONLY AS AN AID IN ESTABLISHING UNIT PRICE BID NUMBERS FOR THE VARIOUS ITEMS.

4. TOPSOIL STRIP CALCULATIONS ASSUME AN AVERAGE OF 8" IS STRIPPED. (SEE SOILS REPORT FOR MORE INFORMATION).

5. EXCESS MATERIAL GENERATED FROM TRENCH EXCAVATION OPERATIONS SHALL BE INCORPORATED IN THE UNIT PRICE BID FOR EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION. THIS EXCESS MATERIAL IS NOT INCLUDED IN QUANTITIES SHOWN ON IMPROVEMENT PLANS.

6. UPON THE COMPLETION OF EARTHWORK OPERATIONS, THE DEVELOPER SHALL AS-BUILT THE SITE EARTHWORK TO VERIFY ITS ACCURACY.

7. CONTRACTOR SHALL NOT BURY/FILL TOPSOIL BEYOND THE DEPTH THAT WILL YIELD VIRGIN MATERIAL/COMPACTED 'ENGINEERED' FILL FOR THE PROPOSED FOOTING ELEVATIONS PER TYPICAL SECTIONS ON SHEET 4. TOPSOIL CAN BE PLACED IN THE AREAS MARKED "AREA OF TOPSOIL FILL" TO THE ELEVATIONS SHOWN. ALL OTHER TOPSOIL SHALL BE PLACED IN A TOPSOIL STOCKPILE AT A MUTUALLY AGREED UPON LOCATION.

8. FOR LOTS REQUIRING FILL IN THE BUILDING PAD AREA, ALL TOPSOIL SHALL BE STRIPPED AND THE REMOVAL VERIFIED PRIOR TO FILLING. ALL FILL, PLACED IN THE BUILDING PAD AREAS OF ANY LOTS, SHALL BE PLACED IN LIFTS AND EACH LIFT SHALL BE COMPACTED. A QUALIFIED SOIL TESTING VENDOR (PROVIDED BY THE DEVELOPER) SHALL PERFORM THE TOPSOIL REMOVAL VERIFICATION AND TESTING OF THE COMPACTED FILL. THE VENDOR WILL PROVIDE WRITTEN DOCUMENTATION OF THE TEST RESULTS. THE COMPACTED FILL, PLACED IN THE BUILDING PAD AREA OF LOTS, SHALL HAVE A LOAD BEARING CAPACITY OF 2000 TO 3000 lbs./sq. ft. OR 98% IF THE MAXIMUM DRY DENSITY, ACCORDING TO THE STANDARD PROCTOR TEST.

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTING ALL AREAS OF FILL SHOWN ON EARTHWORK PLAN. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH O.D.O.T. 203.

SITE CONTRACTOR IS RESPONSIBLE FOR ALL GRADING AS SHOWN ON THE EARTHWORK PLAN AND ALL TOPSOIL/LANDSCAPE MOUNDS WITHIN THE LIMITS OF DISTURBANCE.

ALL EARTHWORK, CLEARING AND TOPSOIL FILLS LOCATED WITHIN THE LIMITS OF DISTURBANCE OF GRAY RIDGE ESTATES No. 1 SHALL BE COMPLETED AS PART OF GRAY RIDGE ESTATES No. 1 CONSTRUCTION. ALL EARTHWORK, CLEARING AND TOPSOIL FILLS LOCATED WITHIN THE LIMITS OF DISTURBANCE No. 2 SHALL BE COMPLETED AS PART OF GRAY RIDGE ESTATES No. 1 CONSTRUCTION. THE OWNER / DEVELOPER RESERVES THE RIGHT TO PERFORM ALL EARTHWORK, CLEARING AND TOPSOIL FILLS AS PART OF GRAY RIDGE ESTATES No. 1 CONSTRUCTION.

TOTAL ACRES DISTURBED WITHIN GRAY RIDGE ESTATES No. 1 = 15.71 AC.
TOTAL ACRES DISTURBED WITHIN GRAY RIDGE ESTATES No. 2 = 7.84 AC.

GRADING CONSTRUCTION SEQUENCE

1. STUMP AND CLEAR SITE AS NECESSARY.
2. CONSTRUCT SILT FENCE AND OTHER RELATED PRIMARY EROSION CONTROL DEVICES.
3. STRIP AND STOCKPILE TOPSOIL AS REQUIRED.
4. PERFORM ROADWAY EXCAVATION & EMBANKMENTS.
5. BUILD REQUIRED STORM SEWER AND RELATED SECONDARY EROSION CONTROL DEVICES.
6. SEED AND MULCH DISTURBED AREAS.

EARTHWORK QUANTITIES LEGEND
GRAY RIDGE ESTATES No. 1

ODOT ITEM	AREA (ACRES)	CUT (C.Y.)	FILL (C.Y.)	DESCRIPTION
201	15.71			CONSTRUCTION LIMITS
201	15.71			CLEARING & GRUBBING
203		47,888		LIMITS OF EXCAVATION (USEABLE CUT)
203			49,227	LIMITS OF EMBANKMENT CONSTRUCTION (REQUIRED FILL)
652		14,242		TOPSOIL (8") STRIPPED FROM SITE
652			12,178	STRIP, STOCKPILE & RESPREAD TOPSOIL

EARTHWORK QUANTITIES LEGEND
GRAY RIDGE ESTATES No. 2

ODOT ITEM	AREA (ACRES)	CUT (C.Y.)	FILL (C.Y.)	DESCRIPTION
201	7.84			CONSTRUCTION LIMITS
201	7.84			CLEARING & GRUBBING
203		18,437		LIMITS OF EXCAVATION (USEABLE CUT)
203			20,676	LIMITS OF EMBANKMENT CONSTRUCTION (REQUIRED FILL)
652		7,471		TOPSOIL (8") STRIPPED FROM SITE
652			7,270	STRIP & RESPREAD TOPSOIL

REVISIONS
1 1/24/2006 PER CITY OF MASSILLON & AQUA OHIO
2 2/24/2006 PER CITY OF MASSILLON & AQUA OHIO

GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333-3386
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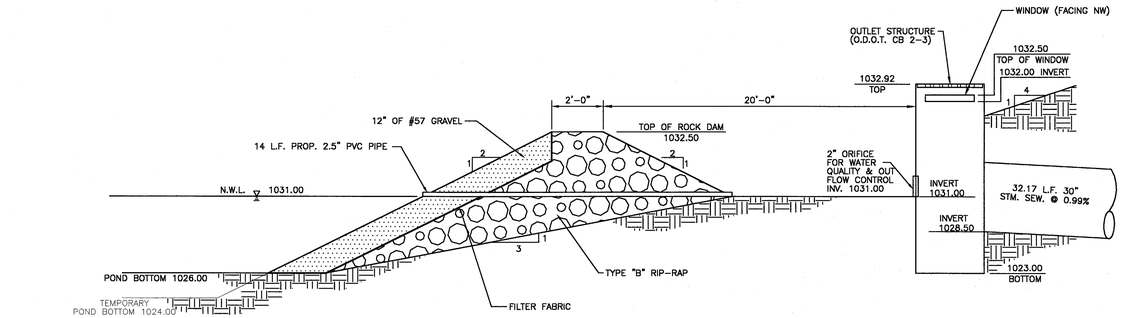
BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
EARTHWORK NOTES AND DETAILS

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 4 OF 20

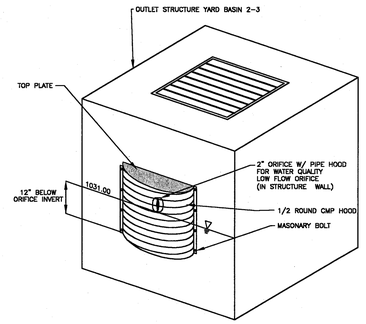


CONTRACTOR SHALL UNDERCUT POND 2' TO PROVIDE FOR SEDIMENT STORAGE. ONCE CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE SEDIMENT AND REESTABLISH THE BOTTOM OF POND AS SHOWN ON THIS SHEET.

TEMPORARY ROCK DAM & OUTLET STRUCTURE SECTION A–A

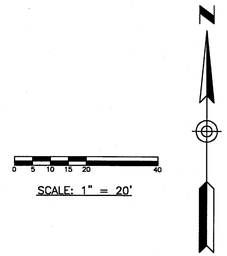
NO SCALE

NOTE: WATER QUALITY ORIFICE PROVIDED FOR POST–DEVELOPED WATER QUALITY FOR RETENTION POND.



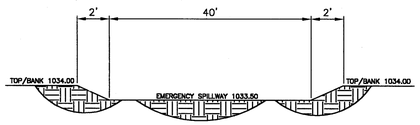
1/2 ROUND CMP PIPE–HOOD DETAIL AT RETENTION POND 'A'

(FOR PROTECTION OF LOW FLOW ORIFICE)
NO SCALE



LEGEND

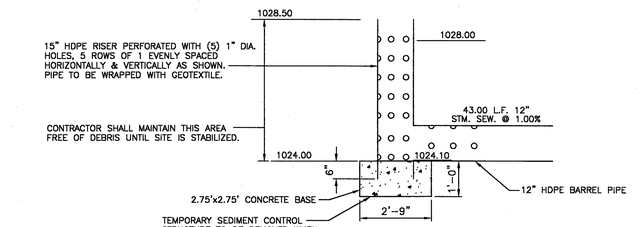
- AREA OF TREES TO BE CLEARED FOR EARTHWORK
- AREA OF TOPSOIL FILL
- LIMITS OF TOPSOIL CUT
- LIMITS OF DISTURBANCE
- SILT FENCE SEE SHEET 20
- TEMPORARY DIVERSION CHANNEL SEE SHEET 20
- EXISTING CONTOURS
- EARTHWORK CONTOURS
- TOPSOIL FILL CONTOURS
- DIVERSION SWALE SEE SHEET 3
- LIMITS OF EXISTING TREES
- EX. SPOT GRADE



EMERGENCY SPILLWAY SECTION 'B–B'

RETENTION POND 'A' & TEMP. SEDIMENT BASIN

DRAINAGE AREA WATER QUALITY	= 11.68 AC.
DRAINAGE AREA SEDIMENT POND	= 11.68 AC.
SEDIMENT STORAGE REQUIRED: 67 C.Y./AC.	= 21,129 C.F.
SEDIMENT STORAGE AVAILABLE BELOW CREST OF ROCK DAM	= 44,643 C.F.
REMOVAL OF SEDIMENT REQUIRED AT ELEVATION	= 1031.20
TOP OF BANK	= 1034.00
BOTTOM OF TEMPORARY SEDIMENT POND	= 1024.00
WATER QUALITY DRAW DOWN ELEV.	= 1032.00
REQUIRED WATER QUALITY VOLUME	= 9,538 C.F.
PROVIDED WATER QUALITY VOLUME	= 9,637 C.F.
DESIGN STORAGE VOLUME	= 32,808 C.F



TEMPORARY SEDIMENT BASIN EMERGENCY SPILLWAY DETAIL

NOT TO SCALE

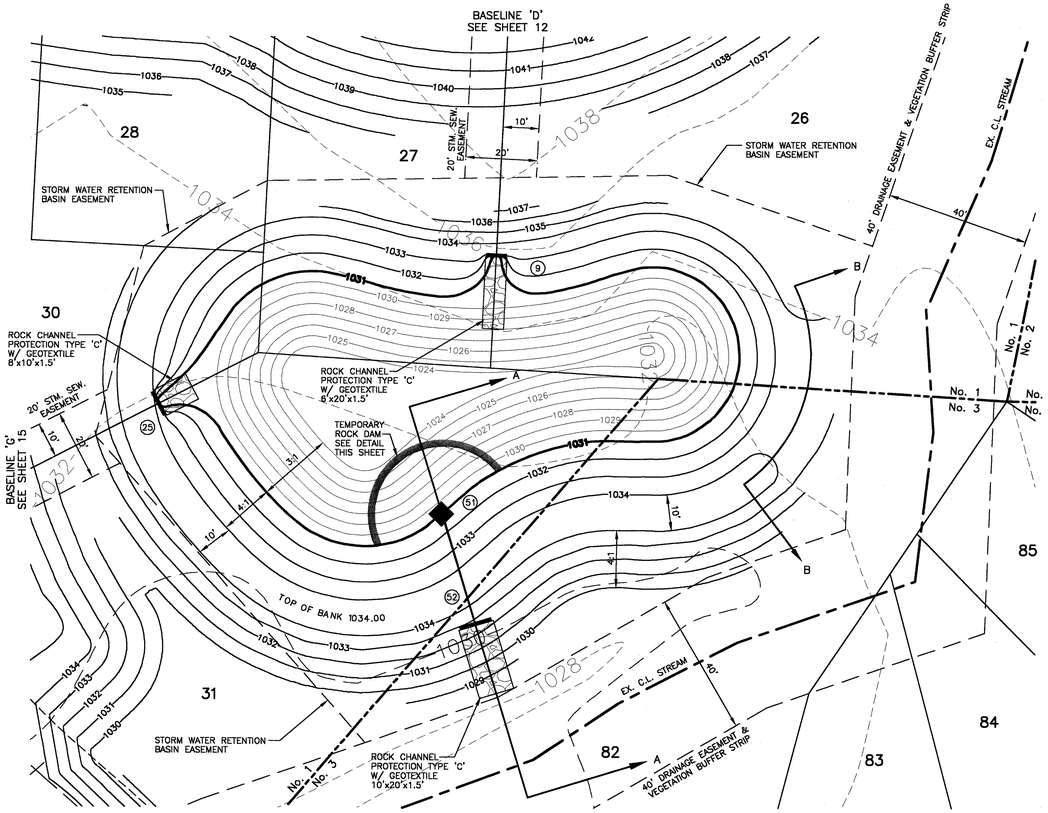
SEDIMENT BASIN RISER PIPE DETAIL

NOT TO SCALE

DRAINAGE EASEMENT/VEGETATIVE BUFFER STRIP
A 40' NATURAL BUFFER STRIP SHALL BE MAINTAINED ALONG THE EXISTING STREAM. THE EXISTING VEGETATION SHOULD NOT BE REMOVED FROM THE BUFFER STRIP AREA. ALL VEGETATION INCLUDING DEAD TREES AND STABLE OVER HANGING TREES SHOULD BE LEFT ON THE STREAM BANKS.

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTING ALL AREAS OF FILL WITHIN LIMITS OF POND GRADING. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH O.D.O.T. ITEM 203.

CONTRACTOR SHALL REMOVE SEDIMENT FROM THE SEDIMENT TRAP AS REQUIRED DURING CONSTRUCTION AND REMOVE THE SEDIMENT TRAP ONCE CONSTRUCTION IS COMPLETE AND STARK COUNTY WATER APPROVES THE UPSTREAM DRAINAGE HAS BEEN STABILIZED.



RETENTION POND 'A'/TEMP. SEDIMENT BASIN

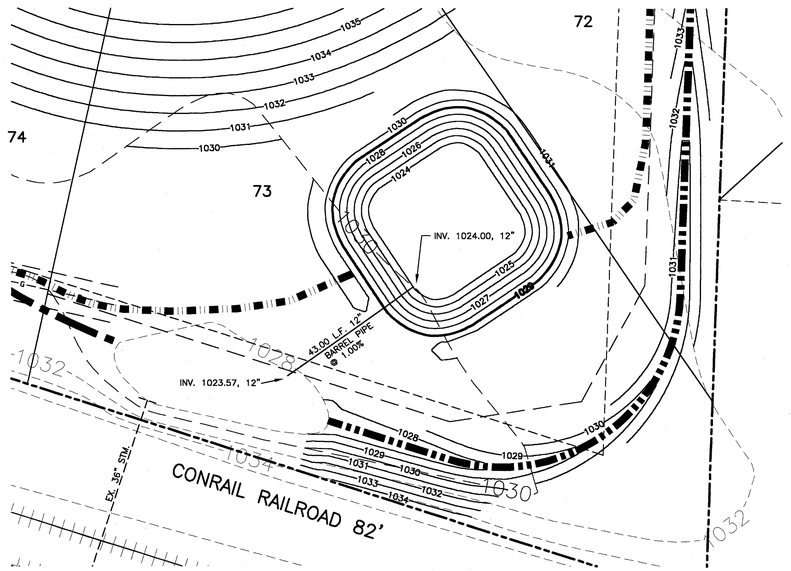
TOP OF BANK 1034.00
NORMAL WATER LEVEL 1031.00
POND BOTTOM 1026.00
TEMPORARY POND BOTTOM 1024.00

(52) OUTLET STRUCTURE
O.D.O.T. CB 2–3
TOP 1032.92
INV. 1032.00, WIN. NW
INV. 1031.00, 2" ORIFICE NW
INV. 1028.50, 30" SE
BOTTOM 1023.00

(51) O.D.O.T. HEADWALL
HW–D (30")
INV. 1028.18, 30" NW

TEMPORARY SEDIMENT BASIN

DRAINAGE AREA	= 4.04 AC.
REQUIRED SEDIMENT STORAGE	= 7,308 C.F.
SEDIMENT STORAGE BELOW OUTLET	= 8,613 C.F.
TOP OF BANK	= 1030.00
EMERGENCY SPILLWAY ELEVATION	= 1029.50
EMERGENCY SPILLWAY WIDTH	= 10.00 FT.
POND BOTTOM	= 1024.00
CLEANOUT ELEVATION	= 1026.70



TEMPORARY SEDIMENT TRAP

TOP OF BANK 1030.00
TEMPORARY POND BOTTOM 1024.00

REVISIONS

1. 1/24/2006 PER CITY OF MASSILLON
2. 2/24/2006 PER CITY OF MASSILLON

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1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO

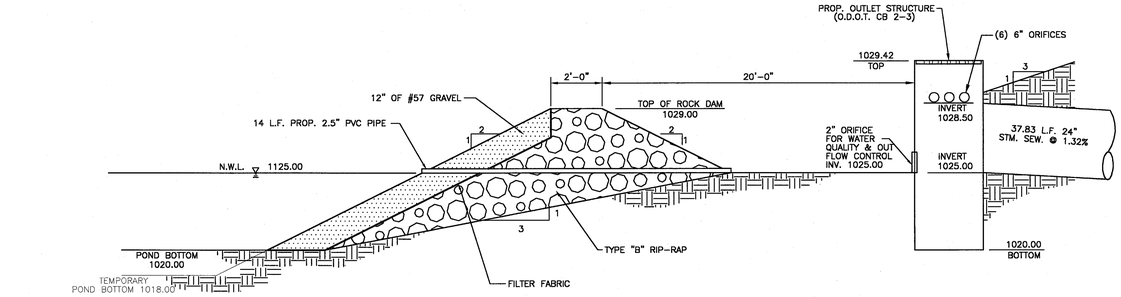
RETENTION POND 'A' DETAIL
TEMPORARY SEDIMENT TRAP

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

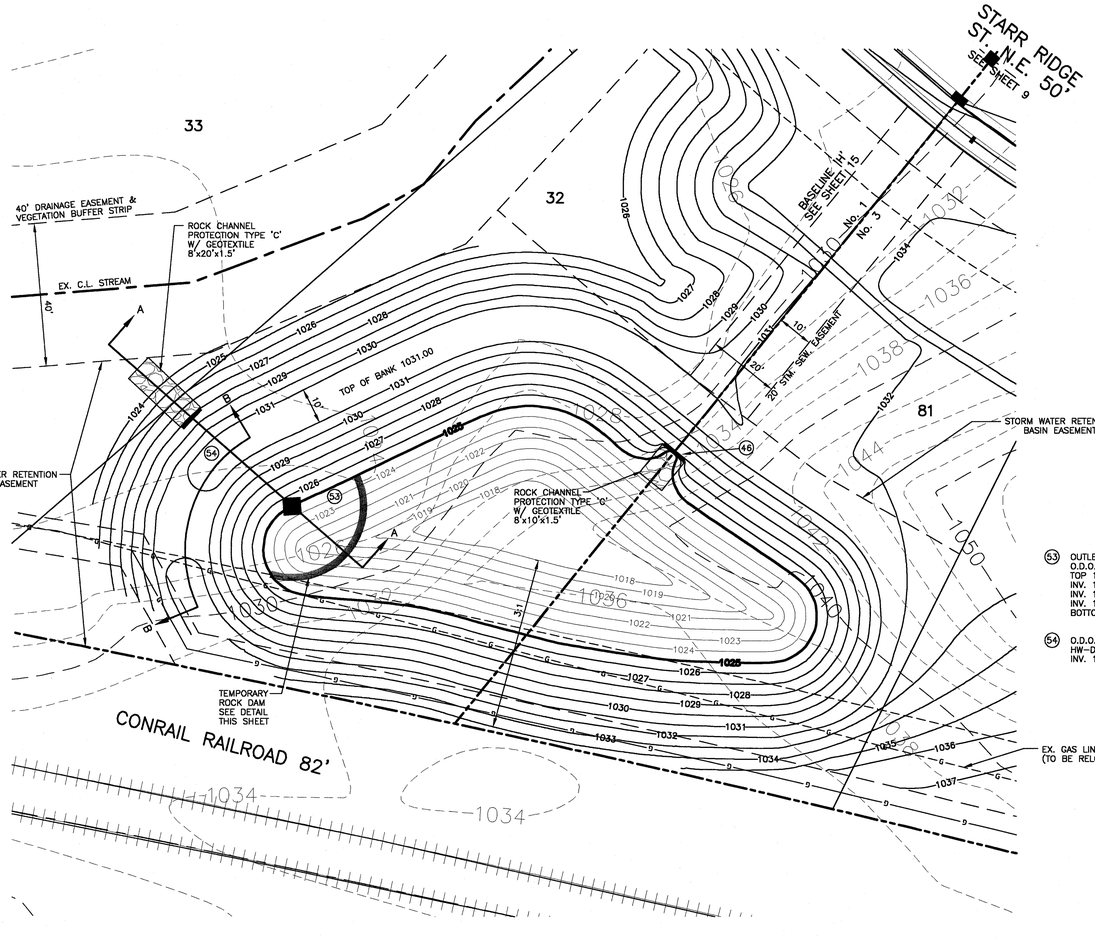
DRAWING NO. 5 OF 20



TEMPORARY ROCK DAM & OUTLET STRUCTURE
SECTION A–A
NO SCALE

CONTRACTOR SHALL UNDERCUT POND 2' TO PROVIDE FOR SEDIMENT STORAGE. ONCE CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE SEDIMENT AND REESTABLISH THE BOTTOM OF POND AS SHOWN ON THIS SHEET.

NOTE: WATER QUALITY ORIFICE PROVIDED FOR POST-DEVELOPED WATER QUALITY FOR RETENTION POND.



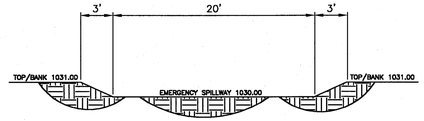
(53) OUTLET STRUCTURE
O.D.O.T. CB 2–3
TOP 1029.42
INV. 1028.50, 6" ORIFICE (6) S & SE
INV. 1025.00, 2" ORIFICE S
INV. 1025.00, 24" NW
BOTTOM 1020.00

(54) O.D.O.T. HEADWALL
HW–D (24")
INV. 1023.75, 24" SE

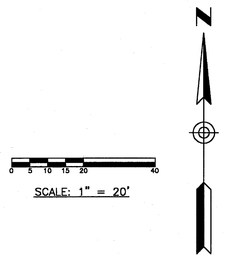
RETENTION POND 'B'/TEMPORARY SEDIMENT BASIN
TOP OF BANK 1031.00
NORMAL WATER LEVEL 1025.00
POND BOTTOM 1020.00
TEMPORARY POND BOTTOM 1018.00

RETENTION POND 'B' & TEMP. SEDIMENT POND

DRAINAGE AREA WATER QUALITY	= 13.16 AC.
DRAINAGE AREA SEDIMENT POND	= 13.16 AC.
SEDIMENT STORAGE REQUIRED: 67 C.Y./AC.	= 23,806 C.F.
SEDIMENT STORAGE AVAILABLE BELOW CREST OF ROCK DAM	= 60,836 C.F.
REMOVAL OF SEDIMENT REQUIRED AT ELEVATION	= 1027.70
TOP OF BANK	= 1031.00
BOTTOM OF TEMPORARY SEDIMENT POND	= 1018.00
WATER QUALITY DRAW DOWN ELEV.	= 1028.40
REQUIRED WATER QUALITY VOLUME	= 10,746 C.F.
PROVIDED WATER QUALITY VOLUME	= 11,257 C.F.
DESIGN STORAGE VOLUME	= 62,210 C.F



EMERGENCY SPILLWAY
SECTION 'B–B'



SCALE: 1" = 20'

EROSION CONTROL

EROSION CONTROL NOTES:

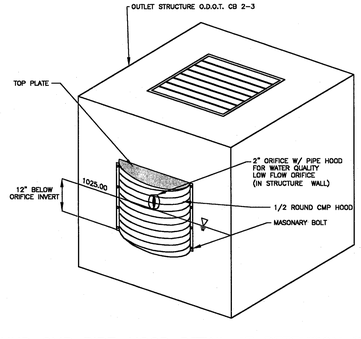
1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL MEET RAINWATER AND LAND DEVELOPMENT, OHIO'S STANDARDS FOR STORMWATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION, SECOND EDITION 1996.
2. ALL EROSION CONTROL ITEMS SHALL BE INSTALLED BEFORE ANY CLEARING OR CONSTRUCTION BEGINS.
3. SILT FENCES ARE TO BE CONSTRUCTED ON THE OUTSIDE OF ALL FILL AREAS AND AROUND TOPSOIL STOCKPILES WITHIN 7 DAYS OF DISTURBANCE.
4. SILT FENCES ARE TO BE CONSTRUCTED IN FRONT OR AROUND ALL STORM SEWER INLETS, HEADWALLS AND PIPE OUTLETS BEFORE PAVING. STRAW BALES OR INLET PROTECTION SHALL BE PLACED AROUND ALL INLETS AFTER PAVING UNTIL UPLAND AREAS ARE STABILIZED.
5. ALL AREAS AT FINAL GRADE OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR 21 DAYS OR LONGER SHALL BE STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY. THESE AREAS MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING AND MULCHING APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.
6. PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH ODOT ITEM 659.
7. THE HOME BUILDER IS RESPONSIBLE FOR EROSION CONTROL ON EACH LOT.
8. DITCH OR SWALES WITH GRADES GREATER THAN 1.5% AND SLOPES WITH GRADES GREATER THAN OR EQUAL TO 6% SHALL HAVE EROSION CONTROL BLANKETS INSTALLED.
9. OTHER EROSION CONTROL MEASURES MAY BE NECESSARY DUE TO SITE OR ENVIRONMENTAL CONDITIONS.
10. ALL EROSION CONTROL MEASURES MUST REMAIN FUNCTIONAL UNTIL UPLAND AREAS ARE STABILIZED.
11. AREAS LIKELY TO REMAIN DORMANT OVER WINTER MUST BE STABILIZ–ED BEFORE THE ONSET OF WINTER WEATHER.
12. DISTURBED AREAS ARE NOT CONSIDERED STABLE UNTIL THE VEGETA–TIVE GROWTH DENSITY OS AT LEAST 70%.
13. DISTURBED AREA WITHIN 50 FEET OF A STREAM MUST BE STABILIZED WITHIN 2 DAYS OF LAST DISTURBANCE.
14. AREAS AT FINAL GRADE MUST BE STABILIZED WITHIN 7 DAYS OF REACHING FINAL GRADE.
15. REGULAR INSPECTION AND MAINTENANCE MUST BE PROVIDED FOR ALL EROSION CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.50 INCHES IN A 24 HOUR PERIOD. INSPECTION RECORDS MUST CONTAIN NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION, CERTIFICATION OF COMPLIANCE AND CORRECTIVE ACTION TAKEN.
16. OFF–SITE VEHICLE TRACKING OF SEDIMENT SHALL BE MINIMIZED. A 24' X 50' GRAVEL DRIVE APPROACHES SHALL BE INSTALLED AND MAINTAINED AS A TEMPORARY CONSTRUCTION ENTRANCE.
17. NO SOLID, LIQUID OR TOXIC WASTE SHALL BE DISCHARGED IN THE STORM SEWER RUNOFF. WASTE SHALL BE DISPOSED BY THE CONTRACTOR, OFF SITE, IN AN APPROVED WASTE DISPOSAL AREA.
18. THE SEDIMENT BASINS SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE IF NECESSARY.
19. SEDIMENT BASINS SHALL BE SEEDED IMMEDIATELY UPON COMPLETION PER O.D.O.T. 659.
20. THE STORM WATER POND SHALL BE CONSTRUCTED AND ALL TEMPORARY SEDIMENT CONTROL MODIFICATIONS SHALL BE OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
21. THE POND SHALL BE STABILIZED IMMEDIATELY FOLLOWING ITS CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT OR EMERGENCY SPILLWAY REMAIN BARE FOR MORE THAN 7 DAYS.
22. DURING SITE CONSTRUCTION, SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS FILLED ONE–HALF THE POND'S ORIGINAL DEPTH OR AS INDICATED ON THE PLANS.
23. FINAL REMOVAL – TEMPORARY STRUCTURES OR MODIFICATIONS USED FOR SEDIMENT CONTROL DURING CONSTRUCTION SHALL BE REMOVED ONLY AFTER THE UPSTREAM DRAINAGE AREA IS STABILIZED OR AS INDICATED IN THE PLANS. DEWATERING AND REMOVAL SHALL NOT CAUSE SEDIMENT TO BE DISCHARGED.
24. SEDIMENT SHALL BE REMOVED AS NEEDED TO ACHIEVE THE DESIGN DEPTH AND DIMENSIONS OF THE PERMANENT POND.
25. A PRE–CONSTRUCTION MEETING IS REQUIRED BEFORE EARTHMOVING BEGINS. CONTACT THE STARK SOIL AND WATER CONSERVATION DISTRICT AT (330)–830–7700.
26. UPON REMOVAL OF TEMP. SEDIMENT TRAP STRUCTURES, SEDIMENT MUST BE REMOVED FROM THE PERMANENT POOL OF WATER WHEN IT HAS FILLED ONE–HALF POOL OF WATER'S ORIGINAL DEPTH.
27. WINTERIZATION – ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.

LEGEND

- AREA OF TREES TO BE CLEARED FOR EARTHWORK
- AREA OF TOPSOIL FILL
- LIMITS OF TOPSOIL CUT
- LIMITS OF DISTURBANCE
- SILT FENCE SEE SHEET 20
- TEMPORARY DIVERSION CHANNEL SEE SHEET 20
- EXISTING CONTOURS
- 0000 EARTHWORK CONTOURS
- 0000 TOPSOIL FILL CONTOURS
- DIVERSION SWALE SEE SHEET 3
- LIMITS OF EXISTING TREES
- *1092.08 EX. SPOT GRADE

DRAINAGE EASEMENT/VEGETATIVE BUFFER STRIP
A 40' NATURAL BUFFER STRIP SHALL BE MAINTAINED ALONG THE EXISTING STREAM. THE EXISTING VEGETATION SHOULD NOT BE REMOVED FROM THE BUFFER STRIP AREA. ALL VEGETATION INCLUDING DEAD TREES AND STABLE OVER HANGING TREES SHOULD BE LEFT ON THE STREAM BANKS.

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPACTING ALL AREAS OF FILL WITHIN LIMITS OF POND GRADING. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH O.D.O.T. ITEM 203.



1/2 ROUND CMP PIPE–HOOD DETAIL AT RETENTION POND 'B'
(FOR PROTECTION OF LOW FLOW ORIFICE)
NO SCALE

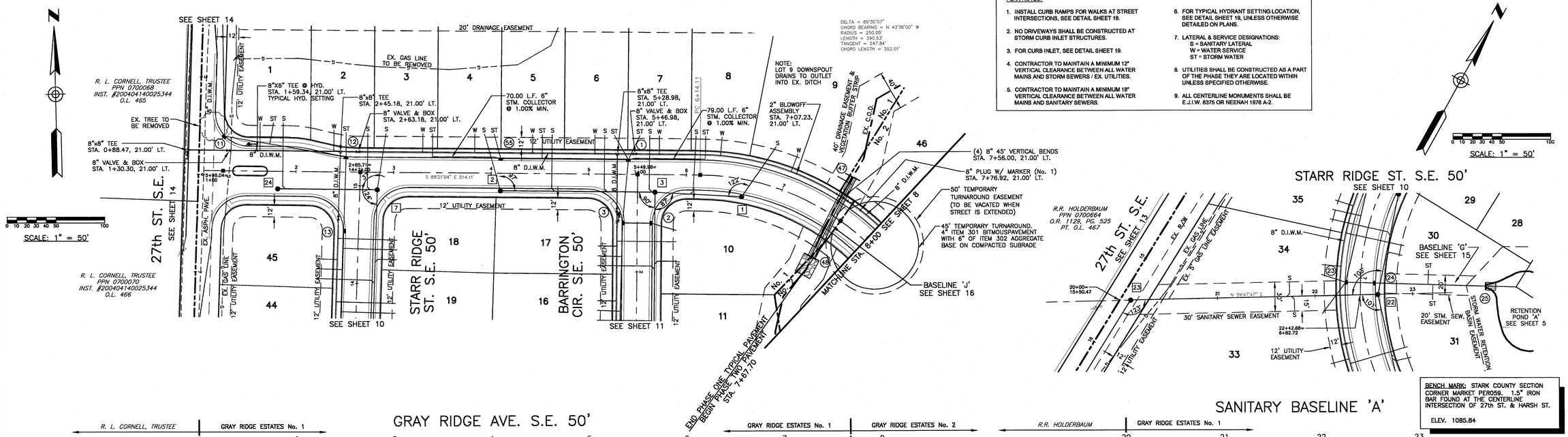
REVISIONS
⚠ 11/21/2005 PER STARK SWCD

GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333-3386
Phone 330-836-0226 Fax 330-836-5782

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
RETENTION POND 'B' DETAIL

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 6 OF 20

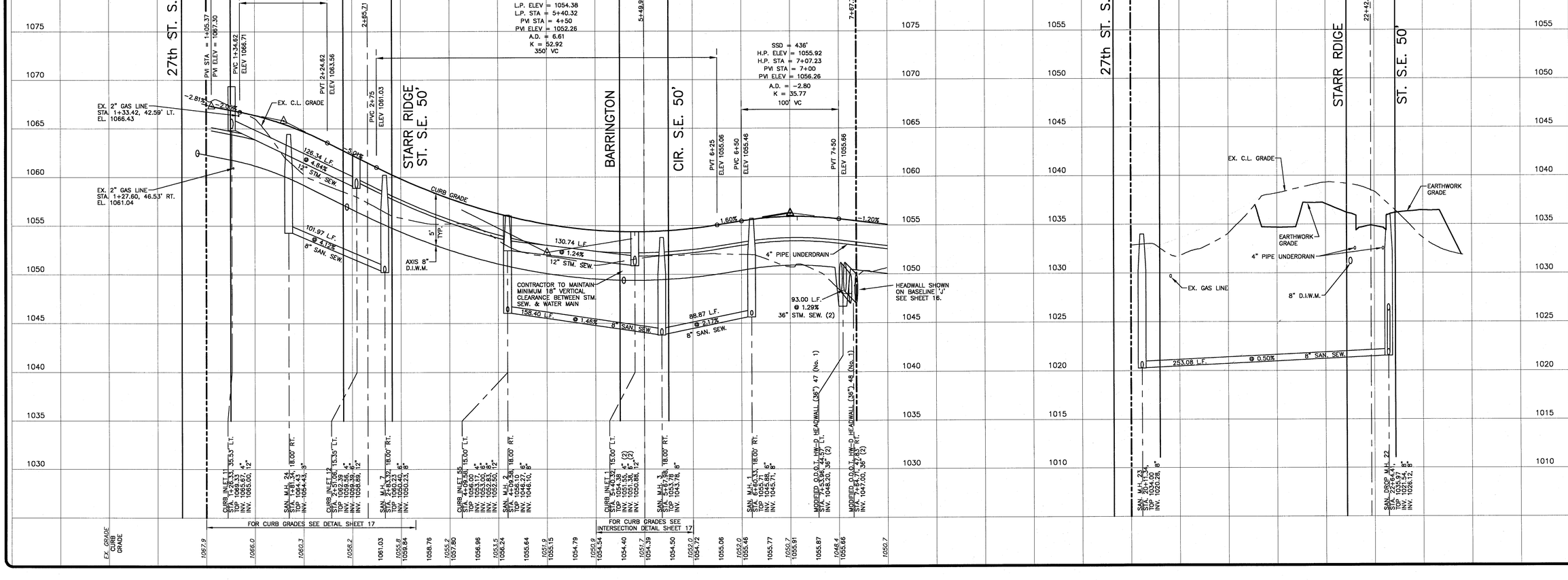


PLAN NOTES:

1. INSTALL CURB RAMPS FOR WALKS AT STREET INTERSECTIONS, SEE DETAIL SHEET 18.
2. NO DRIVEWAYS SHALL BE CONSTRUCTED AT STORM CURB INLET STRUCTURES.
3. FOR CURB INLET, SEE DETAIL SHEET 19.
4. CONTRACTOR TO MAINTAIN A MINIMUM 12" VERTICAL CLEARANCE BETWEEN ALL WATER MAINS AND STORM SEWERS / EX. UTILITIES.
5. CONTRACTOR TO MAINTAIN A MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL WATER MAINS AND SANITARY SEWERS.
6. FOR TYPICAL HYDRANT SETTING LOCATION, SEE DETAIL SHEET 19, UNLESS OTHERWISE DETAILED ON PLANS.
7. LATERAL & SERVICE DESIGNATIONS: S = SANITARY LATERAL W = WATER SERVICE ST = STORM WATER
8. UTILITIES SHALL BE CONSTRUCTED AS A PART OF THE PHASE THEY ARE LOCATED WITHIN UNLESS SPECIFIED OTHERWISE.
9. ALL CENTERLINE MONUMENTS SHALL BE E.J.I.W. 8375 OR NEENAH 1978 A-2.

BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84



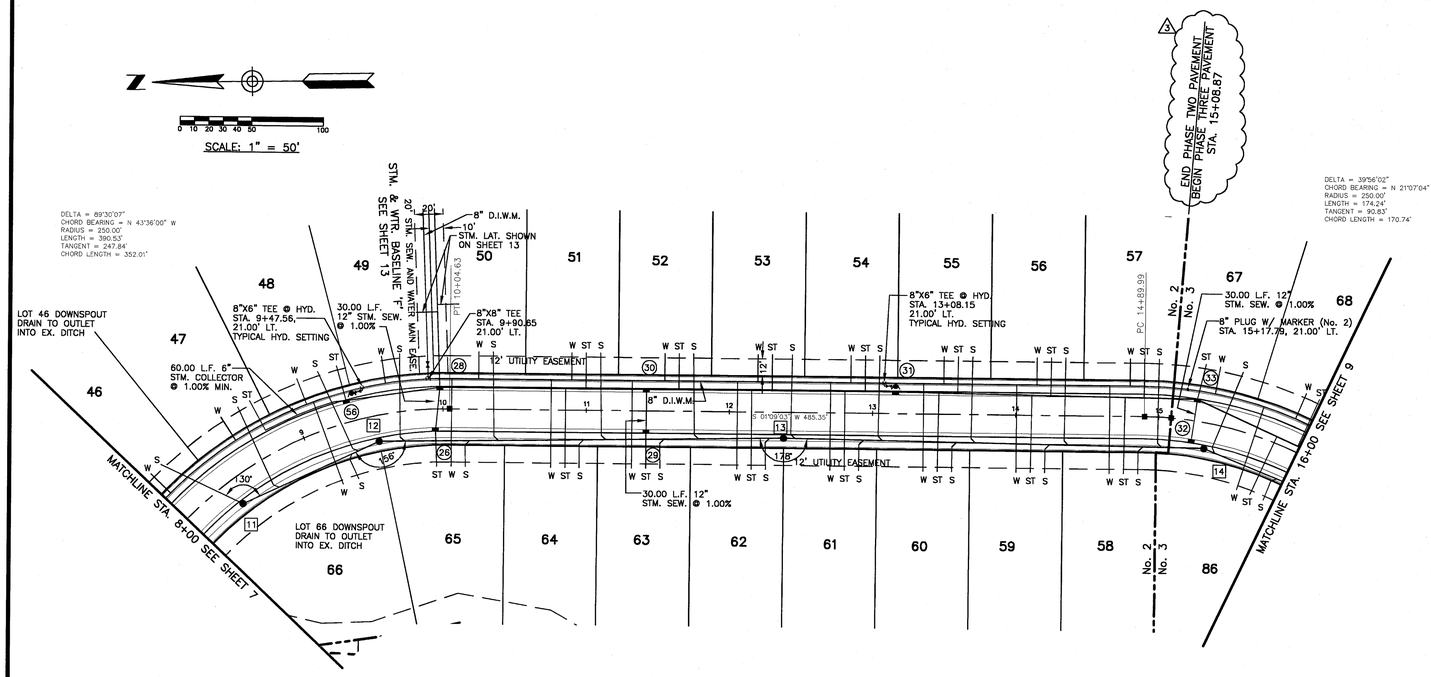
GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333-3386
Phone 330-836-0228 Fax 330-836-5762

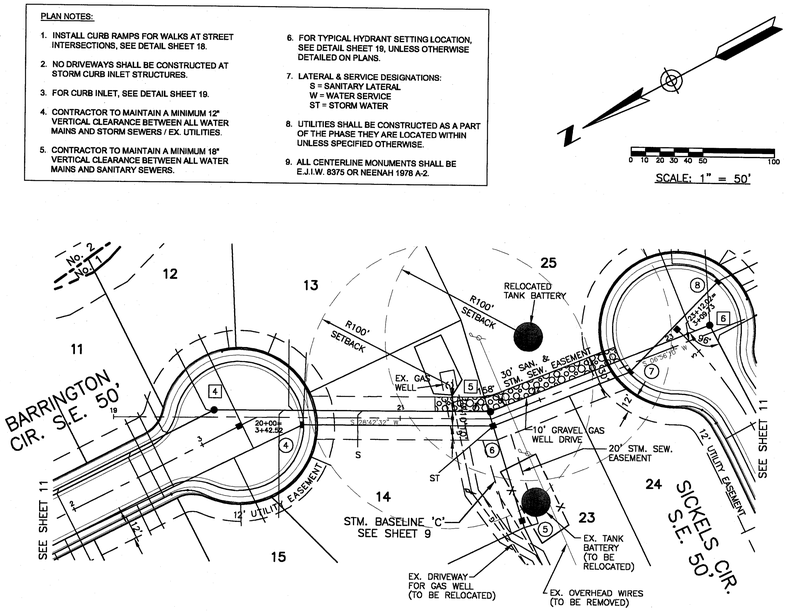
REVISIONS
1. 1/24/2006 PER CITY OF MASSILLON & AQUA OHIO
2. 2/24/2006 PER CITY OF MASSILLON & AQUA OHIO

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
GRAY RIDGE AVE. (STA. 1+00 TO 8+00)
SANITARY BASELINE 'A'

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 7 OF 20

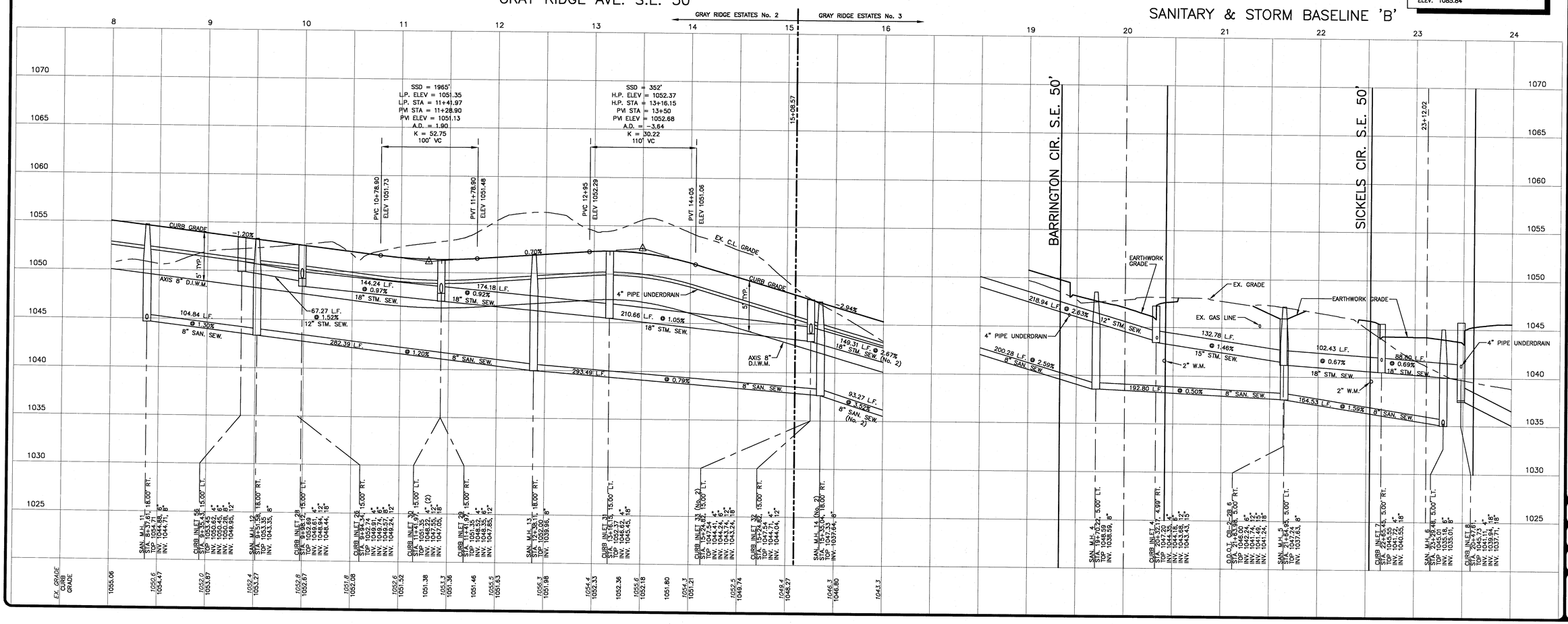




BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059, 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

SANITARY & STORM BASELINE 'B'



REVISIONS
1. 1/24/2006 PER CITY OF MASSILLON & AQUA OHIO
2. 2/24/2006 PER CITY OF MASSILLON & AQUA OHIO
3. 4/3/2006 PER CITY OF MASSILLON

GBC DESIGN, INC.
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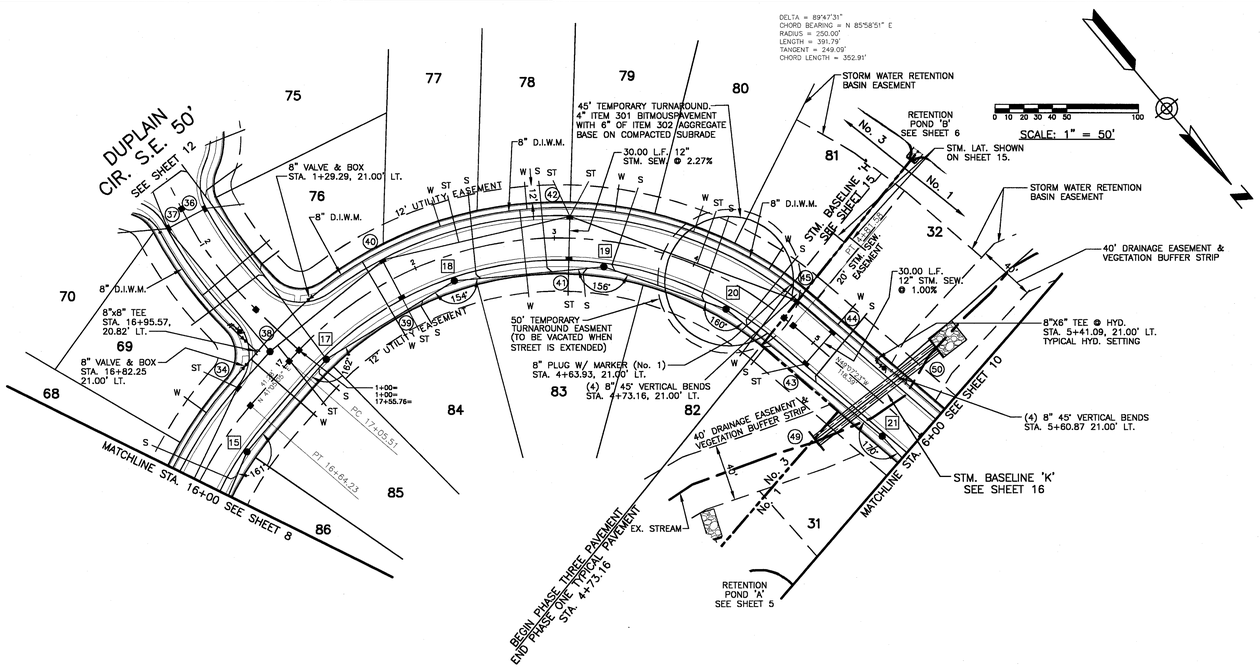
Phone 330-836-0228 Fax 330-836-5782

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
GRAY RIDGE AVE. (STA. 8+00 TO 16+00)
SANITARY & STORM BASELINE 'B'

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 8 OF 20



GRAY RIDGE AVE. S.E. 50' & STARR RIDGE ST. S.E. 50'

PLAN NOTES:

1. INSTALL CURB RAMPS FOR WALKS AT STREET INTERSECTIONS, SEE DETAIL SHEET 18.
2. NO DRIVEWAYS SHALL BE CONSTRUCTED AT STORM CURB INLET STRUCTURES.
3. FOR CURB INLET, SEE DETAIL SHEET 19.
4. CONTRACTOR TO MAINTAIN A MINIMUM 12" VERTICAL CLEARANCE BETWEEN ALL WATER MAINS AND STORM SEWERS / EX. UTILITIES.
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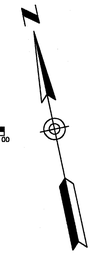
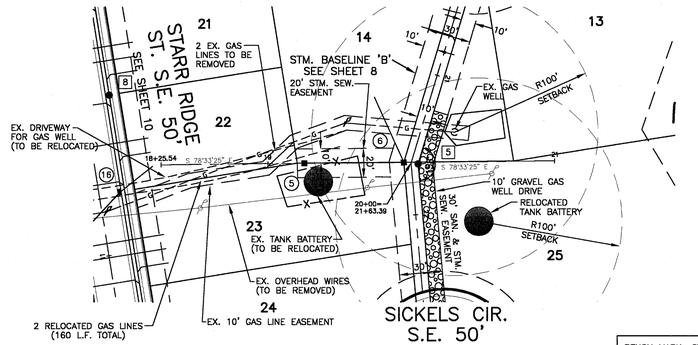
9. ALL CENTERLINE MONUMENTS SHALL BE E.J.I.W. 8375 OR NEENAH 1978 A-2.

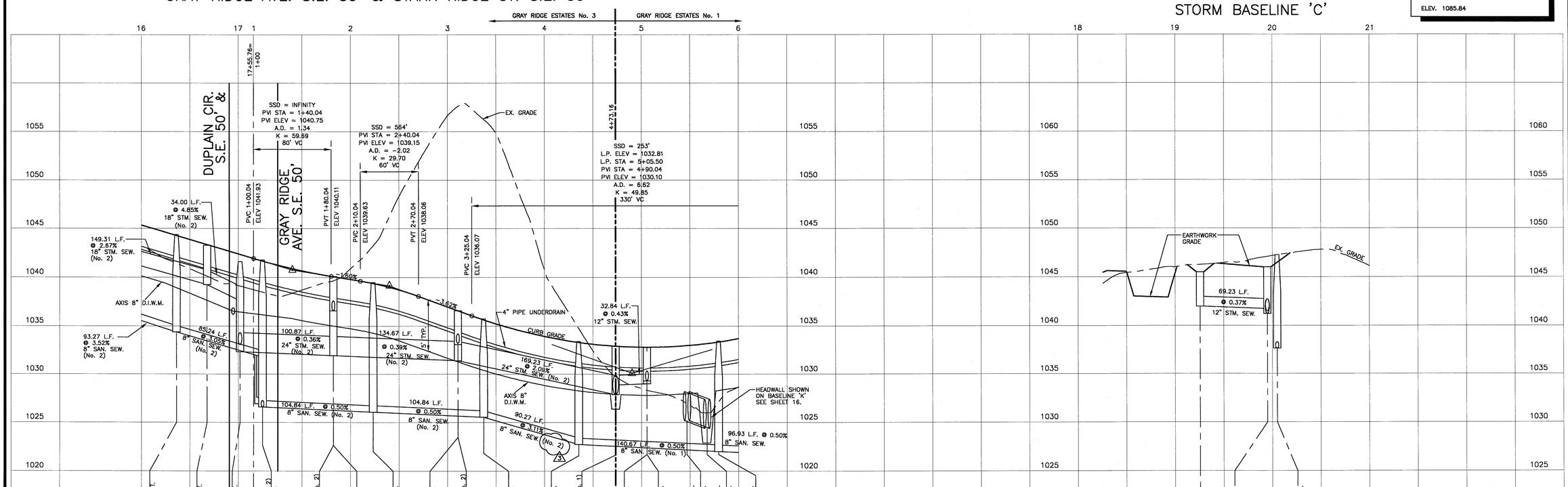




STORM BASELINE 'C'

BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84



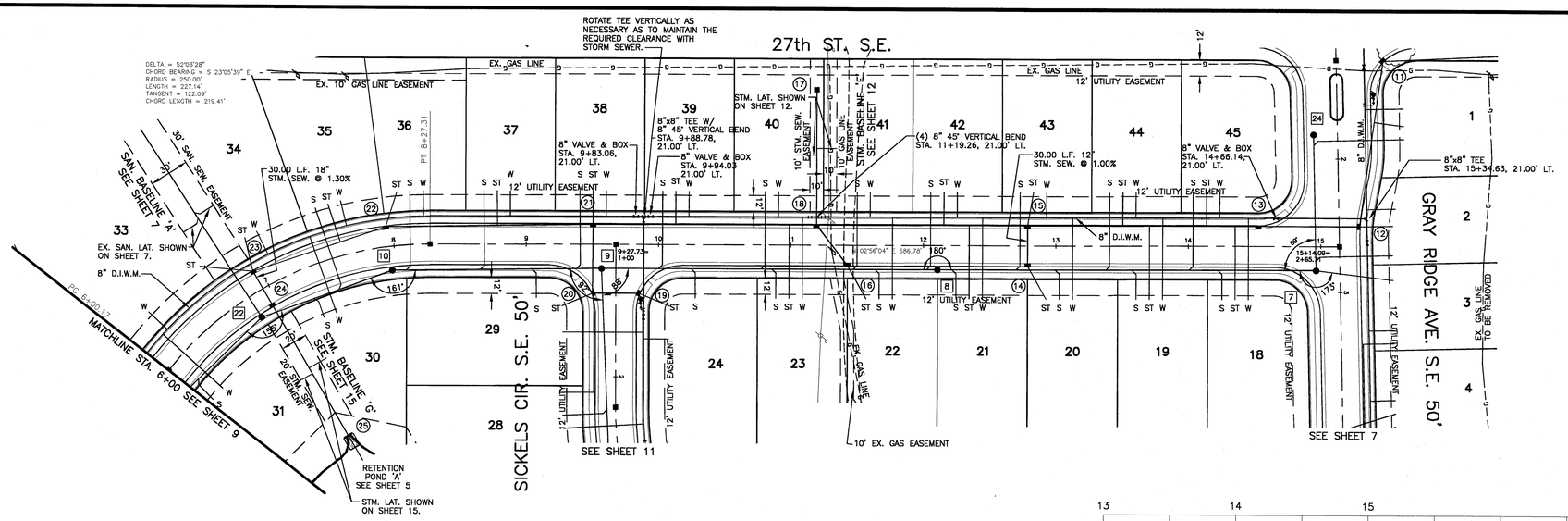
GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333-3886
Phone 330-836-0228 Fax 330-836-5782

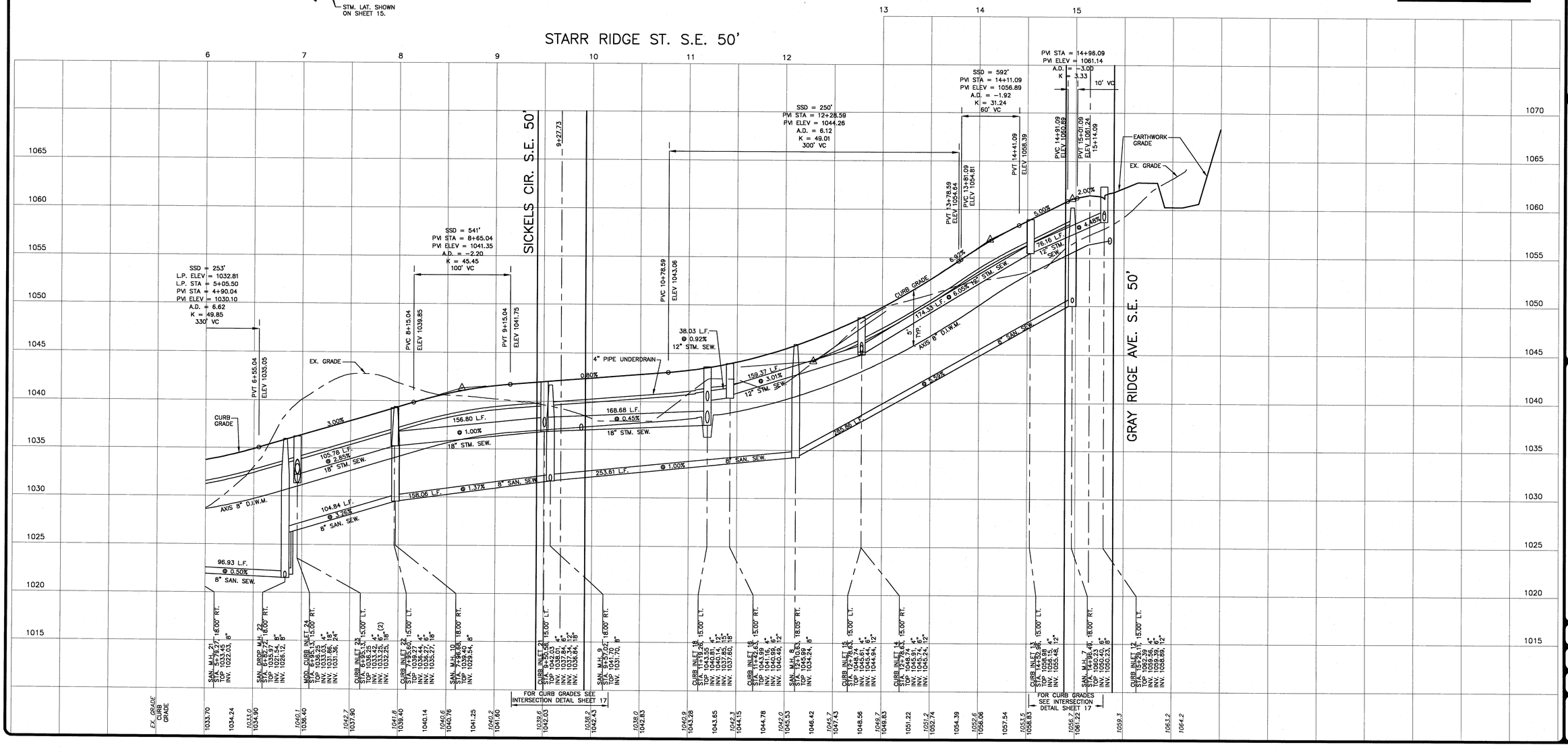
REVISIONS
1. 1/24/2006 PER CITY OF MASSILLON
2. 2/24/2006 PER CITY OF MASSILLON
3. 4/3/2006 PER CITY OF MASSILLON

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
GRAY RIDGE (STA. 16+00 TO 17+55.76)
STARR RIDGE (STA. 1+00 TO 6+00) / STORM BASELINE 'C'

DRAWN BY: M.E.J.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 9 OF 20





REVISIONS
1 1/24/2006 PER CITY OF MASSILLON
2 2/24/2006 PER CITY OF MASSILLON

GBC DESIGN, INC.
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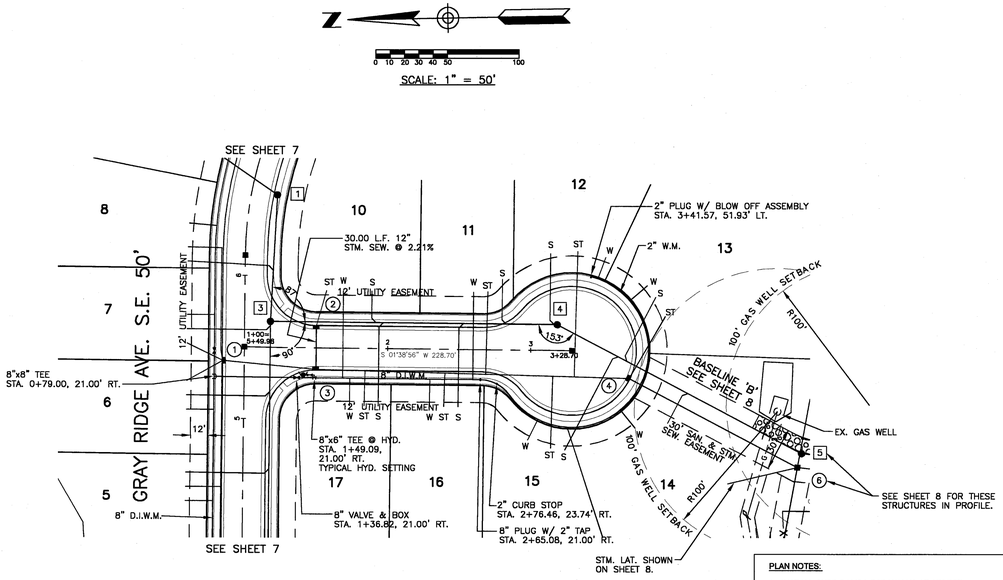
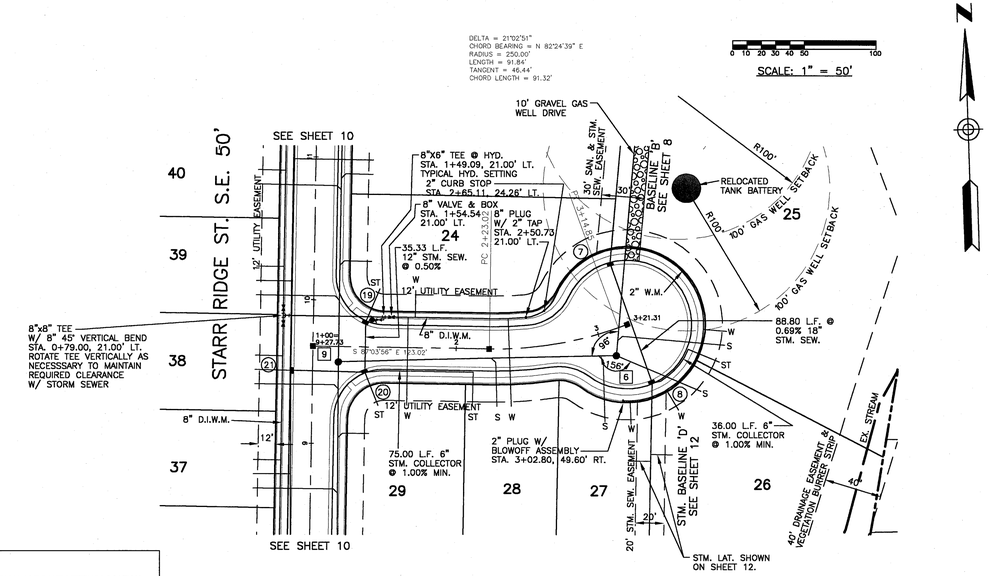
Phone 330-836-0228 Fax 330-836-5782

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
STARR RIDGE ST.
(STA. 6+00 TO 15+14.09)

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 10 OF 20





PLAN NOTES:

1. INSTALL CURB RAMPS FOR WALKS AT STREET INTERSECTIONS, SEE DETAIL SHEET 18.
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3. FOR CURB INLET, SEE DETAIL SHEET 19.
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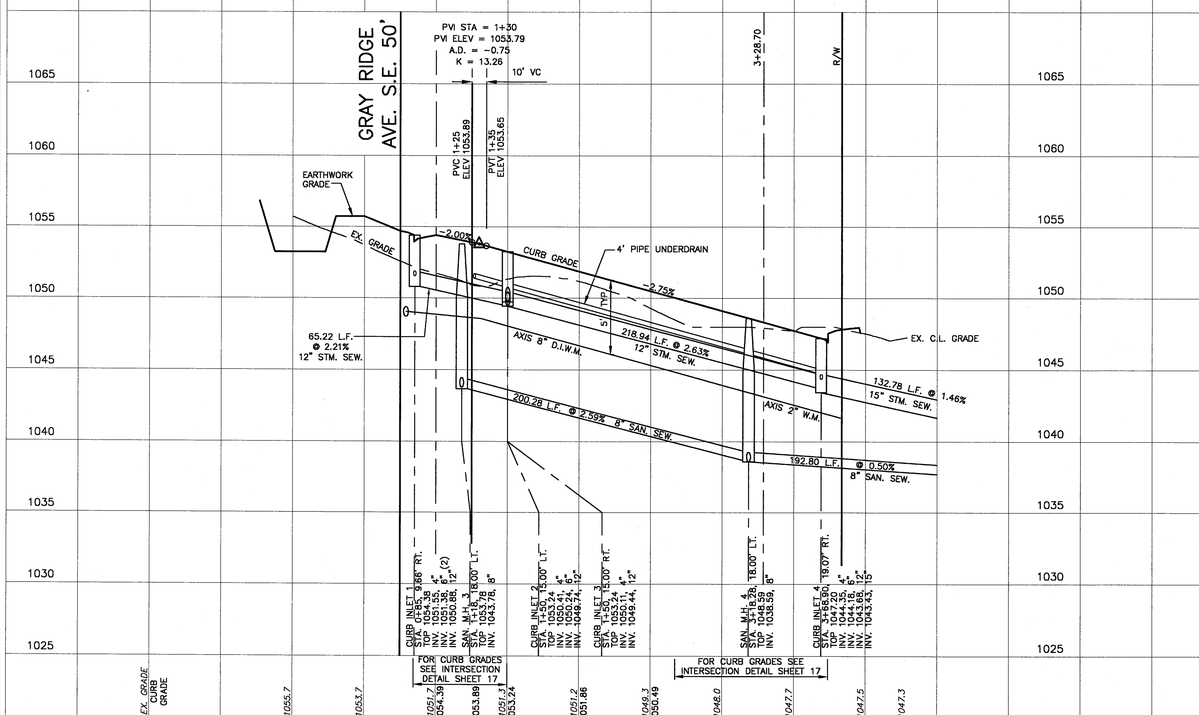
7. LATERAL & SERVICE DESIGNATIONS:
   S = SANITARY LATERAL
   W = WATER SERVICE
   ST = STORM WATER
8. UTILITIES SHALL BE CONSTRUCTED AS A PART OF THE PHASE THEY ARE LOCATED WITHIN UNLESS SPECIFIED OTHERWISE.
9. ALL CENTERLINE MONUMENTS SHALL BE E.J.I.W. 8375 OR NEENAH 1978 A-2.

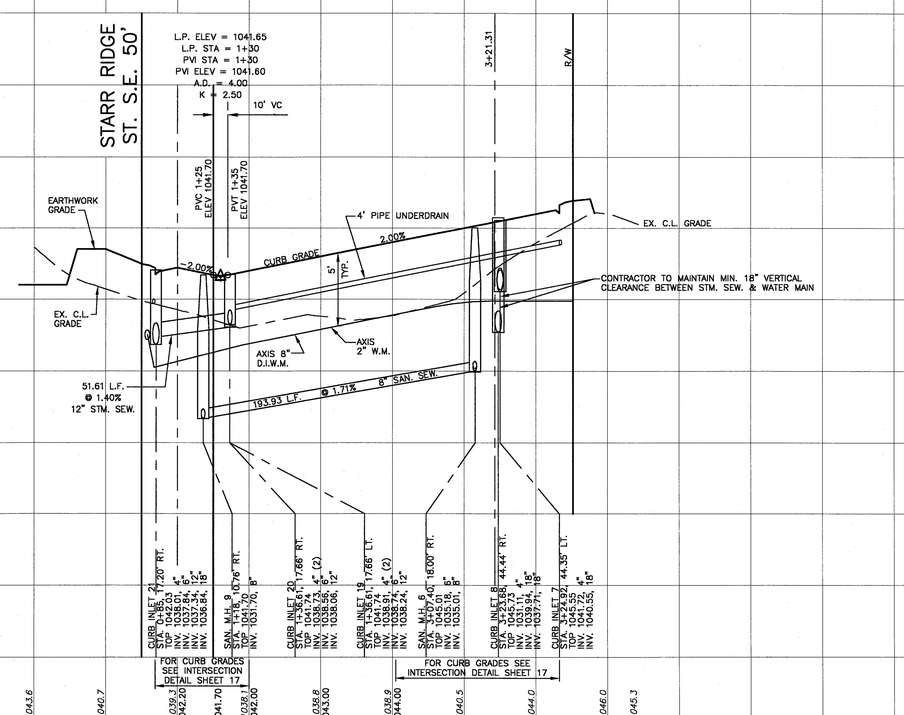
BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

BARRINGTON CIRCLE S.E. 50'



SICKELS CIRCLE S.E. 50'



GBC DESIGN, INC.
3978 West Market St. Akron, OH 44333-3886
Phone 330-836-0228 Fax 330-836-0782

REVISIONS
1 1/24/2006 PER CITY OF MASSILLON
2 2/24/2006 PER CITY OF MASSILLON

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
BARRINGTON CIRCLE S.E.
SICKELS CIRCLE S.E.

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 11 OF 20

PLAN NOTES:

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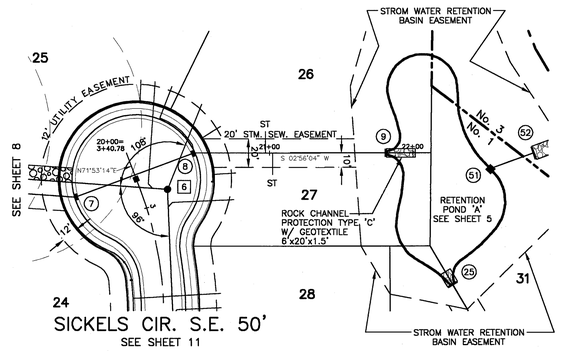
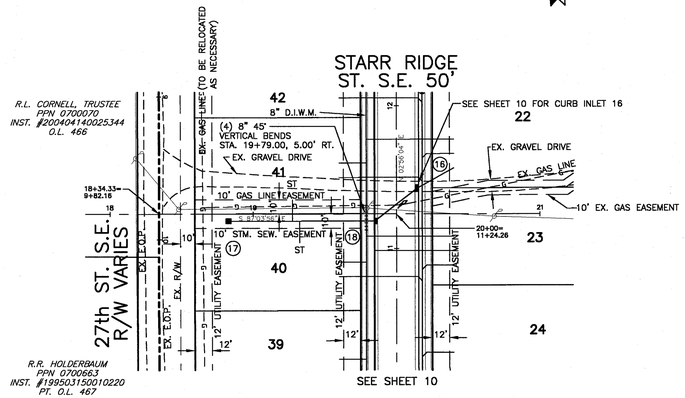
9. ALL CENTERLINE MONUMENTS SHALL BE E.J.I.W. 8375 OR NEENAH 1978 A-2.

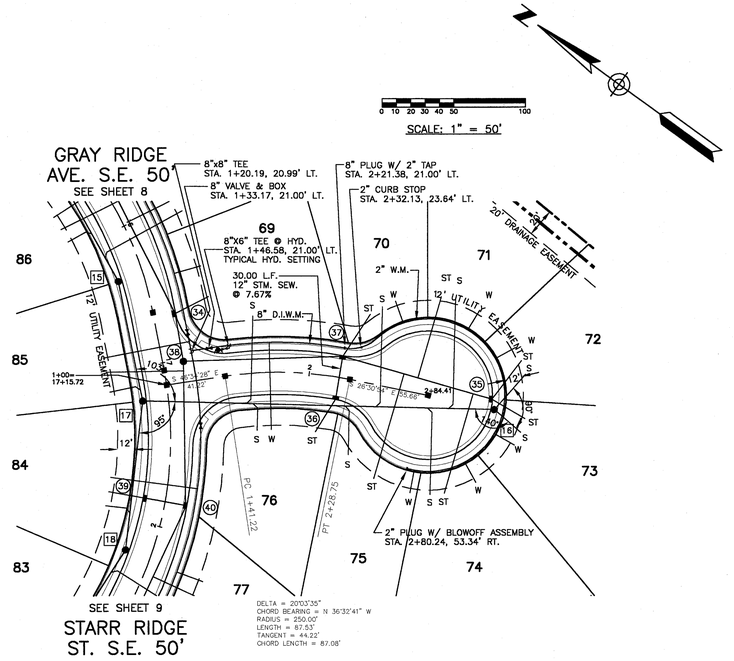
N

0 10 20 30 40 50 100

SCALE: 1" = 50'



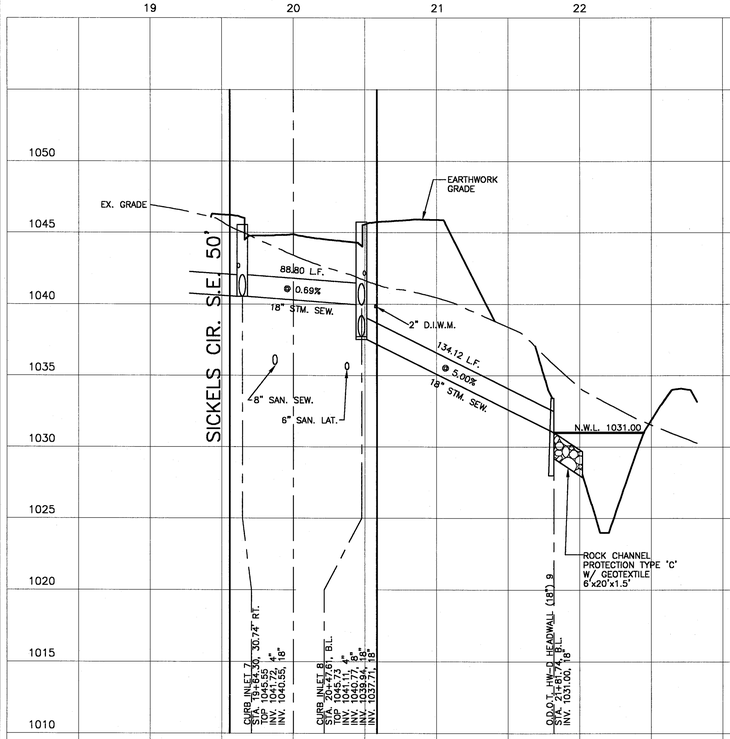




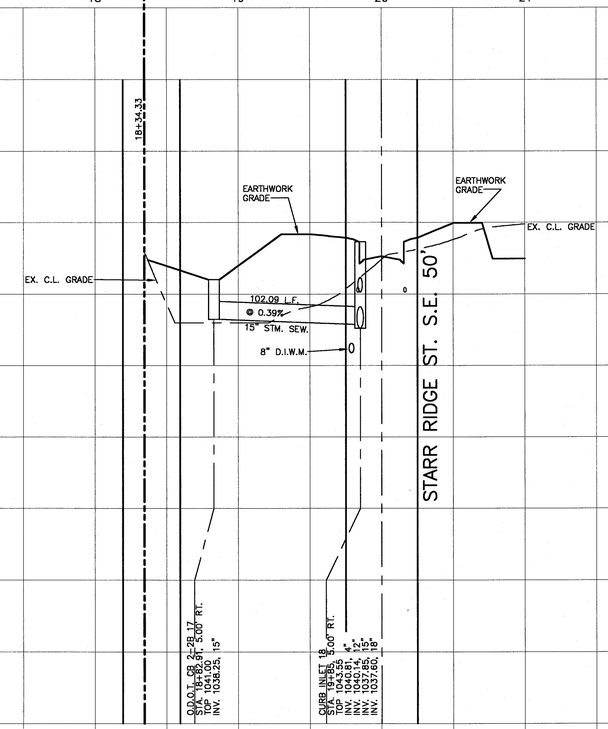
BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

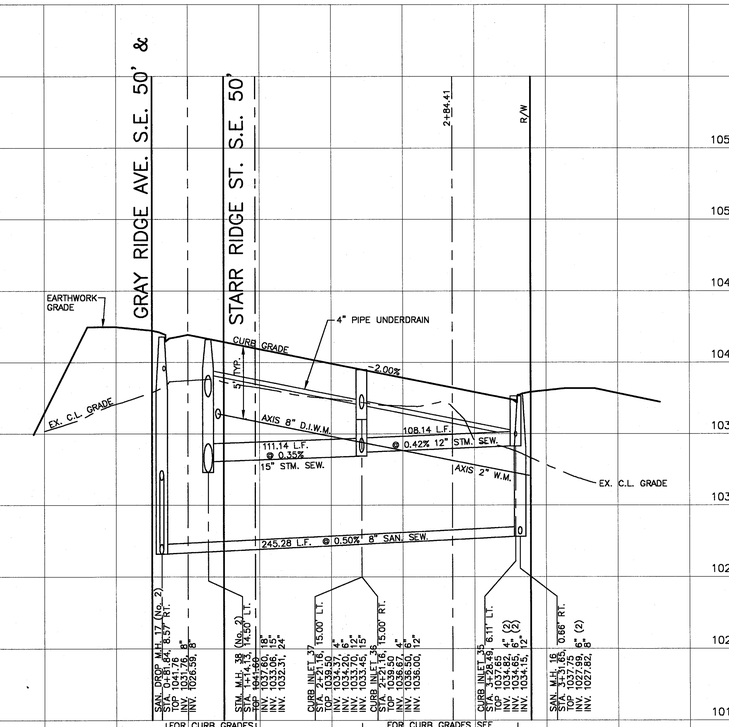
STORM BASELINE 'D'



STORM BASELINE 'E'



DUPLAIN CIRCLE S.E. 50'



EX. GRADE 1039 GRADE

1035.1 1037.1 1038.4 1041.93 1037.2 1040.93 1035.1 1038.93 1035.0 1034.8 1031.9 1031.1 1031.0

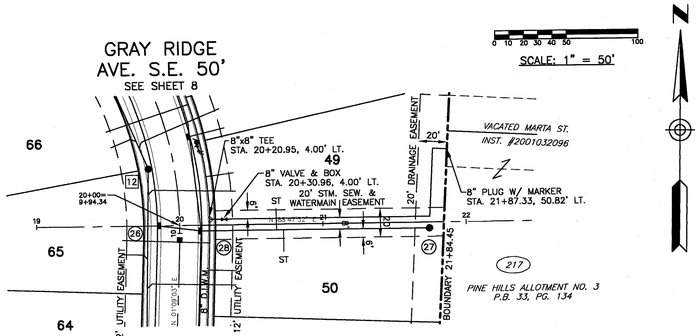
GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333-3386
Phone 330-836-0228 Fax 330-836-5782

REVISIONS
1. 1/24/2006 PER CITY OF MASSILLON
2. 2/24/2006 PER CITY OF MASSILLON

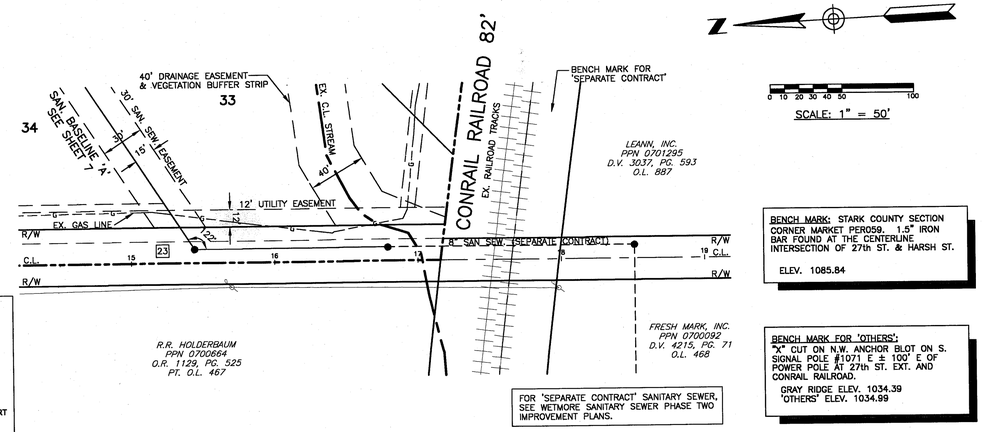
BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
DUPLAIN CIRCLE S.E.
STORM BASELINES 'D' & 'E'

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 12 OF 20



8" WATER MAIN WITHIN BASELINE 'F', INCLUDING 8"x8" TEE AT GRAY RIDGE AVE. S.E., SHALL BE CONSTRUCTED BY AQUA OHIO, INC. UNDER A SEPARATE CONTRACT WITH CONTRACTOR. SEE SEPARATE CONTRACT QUANTITIES ON SHEET 4.



BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

BENCH MARK FOR 'OTHERS':
"X" CUT ON N.W. ANCHOR BLOT ON S. SIGNAL POLE #1071 E ± 100' E OF POWER POLE AT 27th ST. EXT. AND CONRAIL RAILROAD.

GRAY RIDGE ELEV. 1034.39
'OTHERS' ELEV. 1034.99

FOR 'SEPARATE CONTRACT' SANITARY SEWER, SEE WETMORE SANITARY SEWER PHASE TWO IMPROVEMENT PLANS.

PLAN NOTES:

1. INSTALL CURB RAMPS FOR WALKS AT STREET INTERSECTIONS, SEE DETAIL SHEET 18.
2. NO DRIVEWAYS SHALL BE CONSTRUCTED AT STORM CURB INLET STRUCTURES.
3. FOR CURB INLET, SEE DETAIL SHEET 19.
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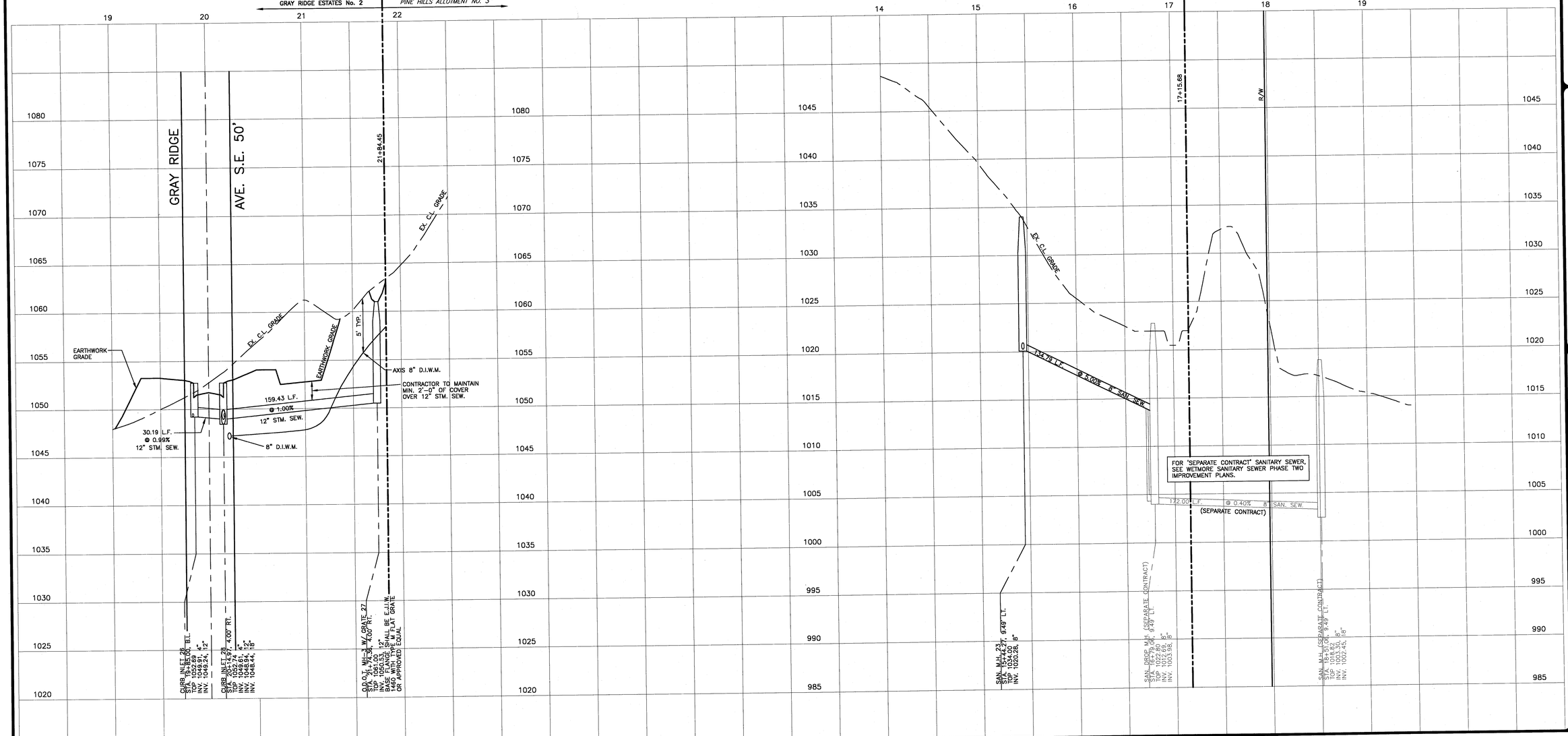
5. CONTRACTOR TO MAINTAIN A MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL WATER MAINS AND SANITARY SEWERS.
6. FOR TYPICAL HYDRANT SETTING LOCATION, SEE DETAIL SHEET 19, UNLESS OTHERWISE DETAILED ON PLANS.
7. LATERAL & SERVICE DESIGNATIONS:
   S = SANITARY LATERAL
   W = WATER SERVICE
   ST = STORM WATER
8. UTILITIES SHALL BE CONSTRUCTED AS A PART OF THE PHASE THEY ARE LOCATED WITHIN UNLESS SPECIFIED OTHERWISE.
9. ALL CENTERLINE MONUMENTS SHALL BE E.J.I.W. 8375 OR NEENAH 1978 A-2.

STORM & WATER BASELINE 'F'

27th ST. S.E. (R/W VARIES)



REVISIONS

1. 1/24/2006 PER CITY OF MASSILLON & AQUA OHIO
2. 2/24/2006 PER CITY OF MASSILLON & AQUA OHIO

GBC DESIGN, INC.
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1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
27th ST. S.E. (STA. 14+00 TO 19+00)
STORM & WATER BASELINE 'F'

DRAWN BY: M.E.J.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

DRAWING NO. 13 OF 20

PLAN NOTES:

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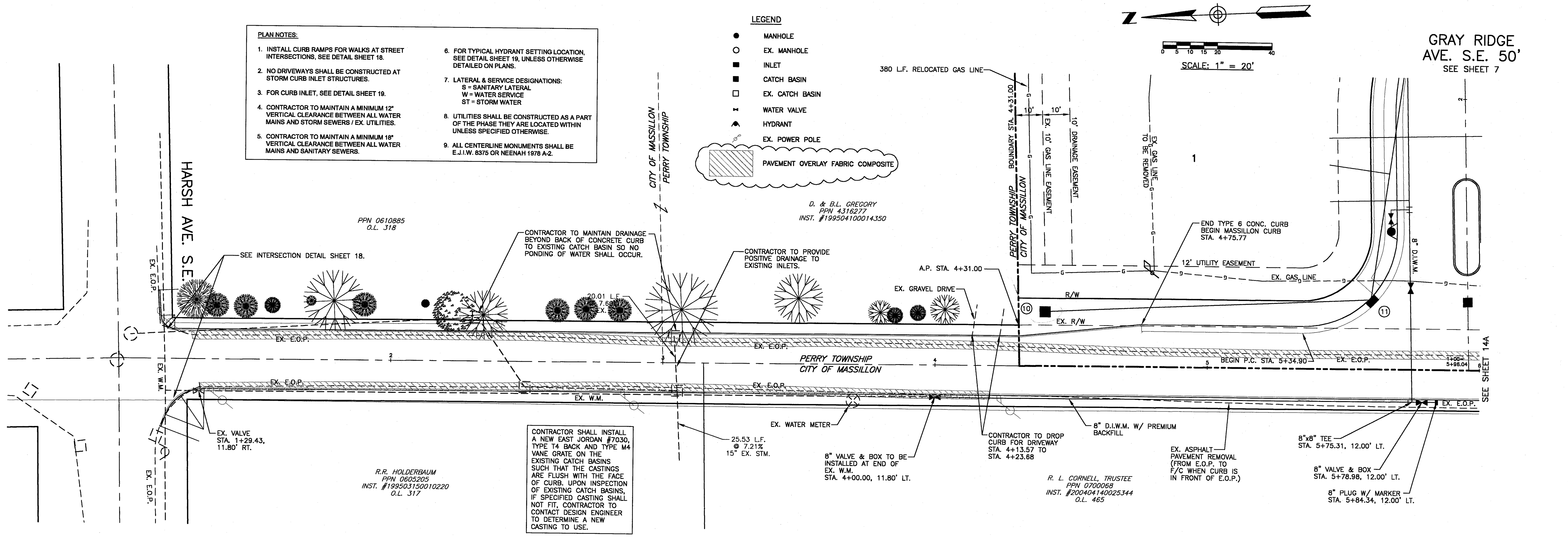
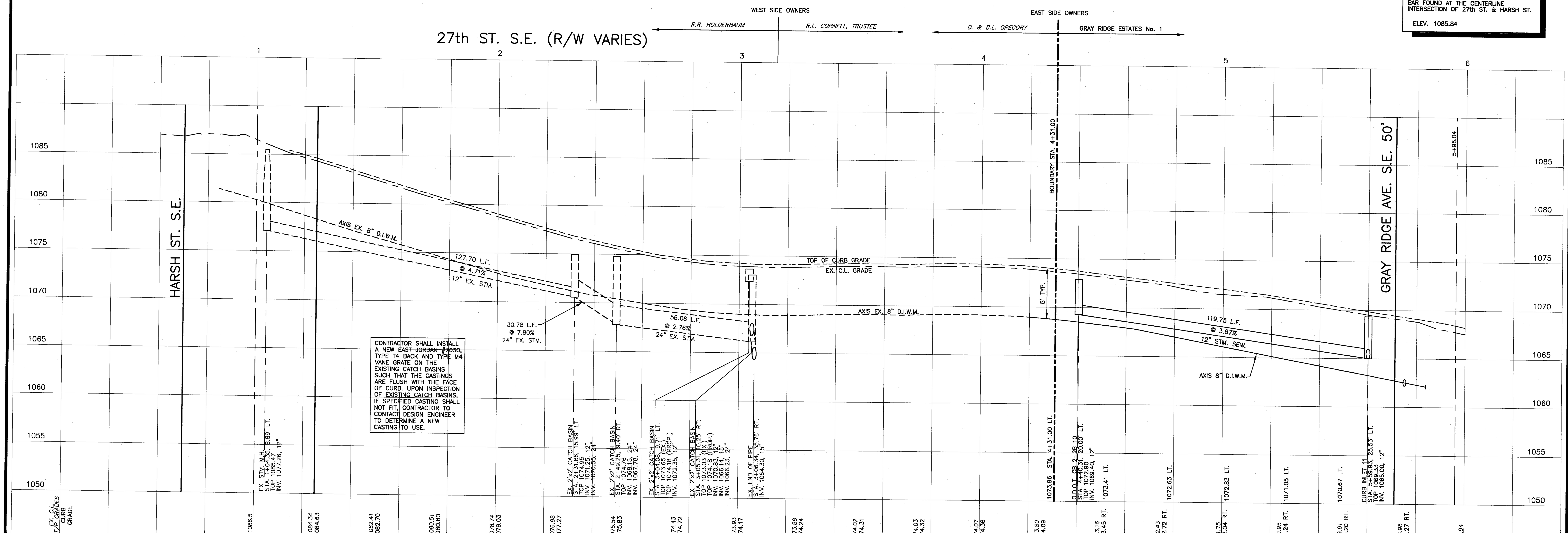


BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84



REVISIONS
1 — 1/24/2006 PER CITY OF MASSILLON
2 — 2/24/2006 PER CITY OF MASSILLON

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GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
27th ST. S.E.
(STA. 0+00 TO 6+00)

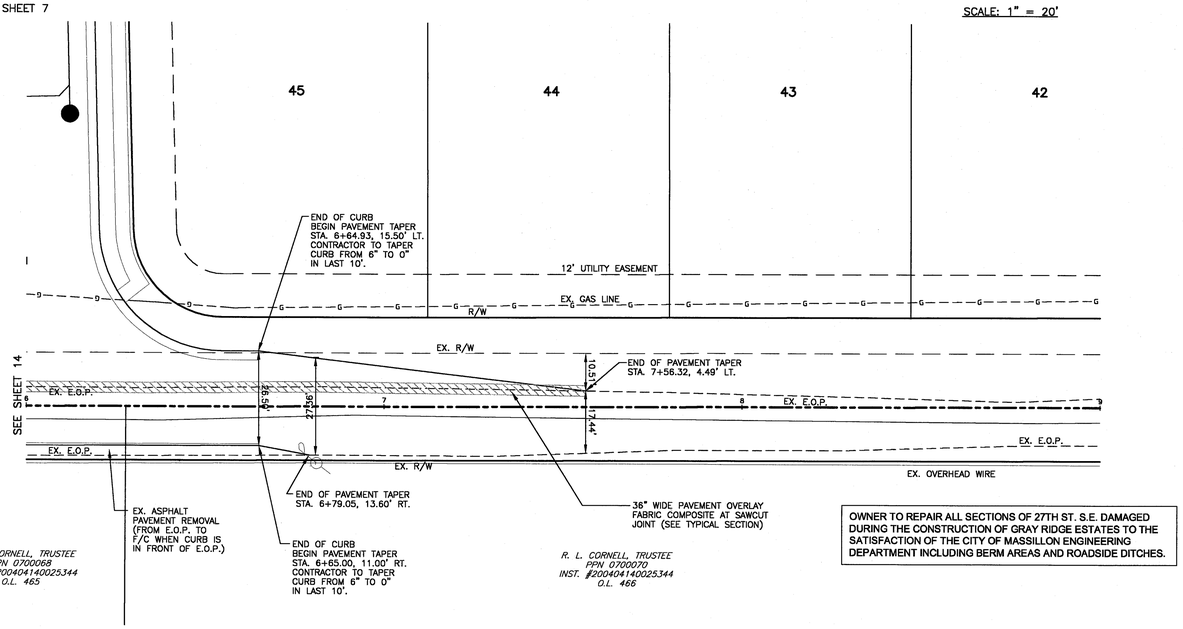
DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

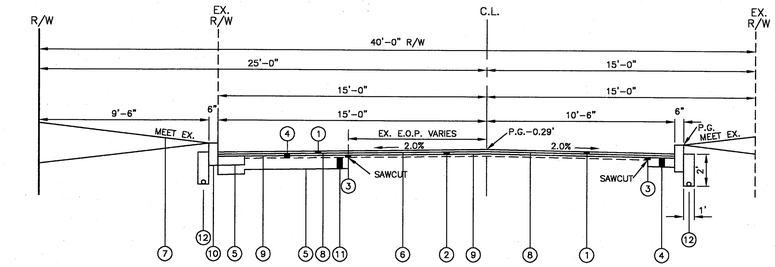
PROJECT NO. 37119D

GRAY RIDGE
AVE. S.E. 50'
SEE SHEET 7

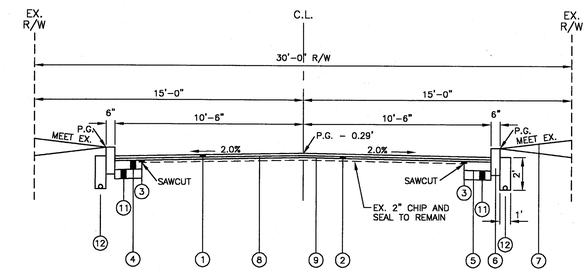
SCALE: 1" = 20'



OWNER TO REPAIR ALL SECTIONS OF 27TH ST. S.E. DAMAGED DURING THE CONSTRUCTION OF GRAY RIDGE ESTATES TO THE SATISFACTION OF THE CITY OF MASSILLON ENGINEERING DEPARTMENT INCLUDING BERM AREAS AND ROADSIDE DITCHES.



TYPICAL SECTION
STA. 4+75.77 TO 6+79.05

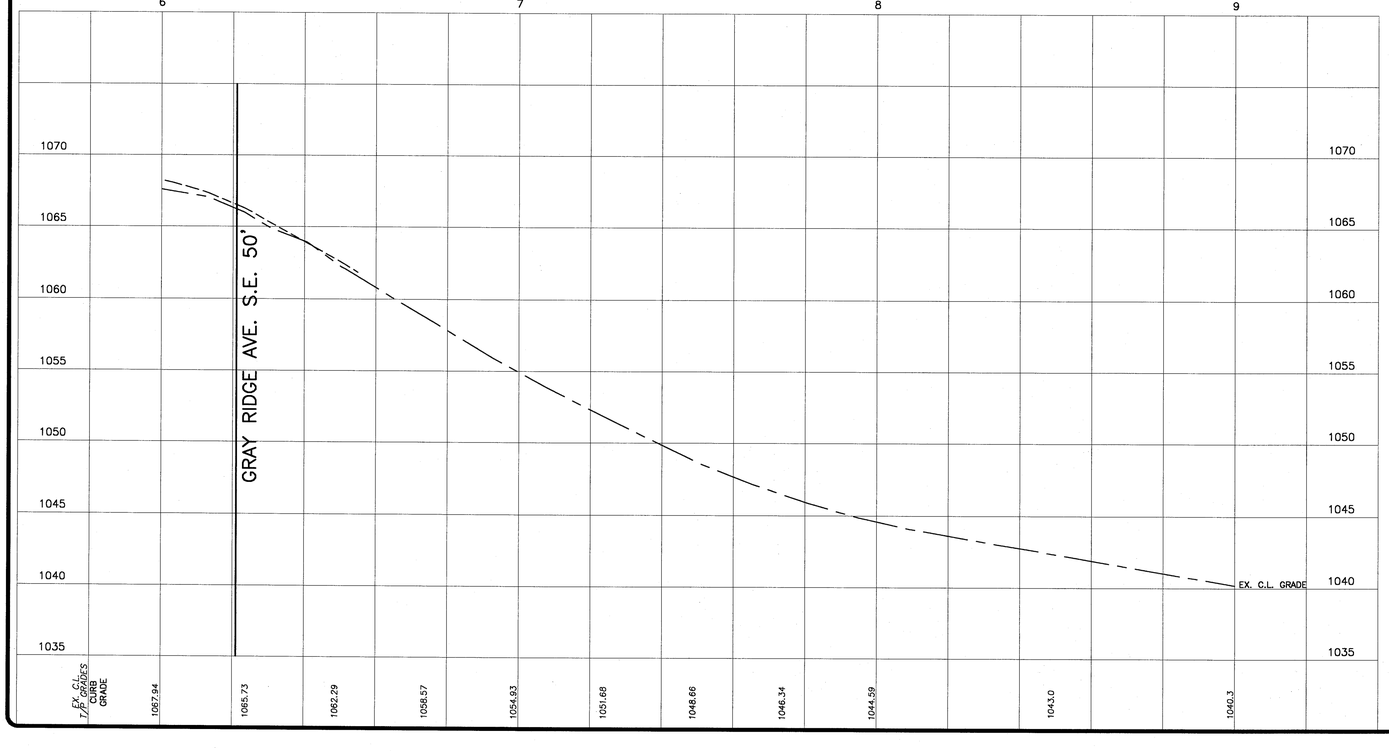


TYPICAL SECTION
STA. 1+29.83 TO 4+31.00

BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

27th ST. S.E. (R/W VARIES)



① ITEM 404 – 1.5" ASPHALT CONCRETE
② ITEM 402 – 1.5" ASPHALT CONCRETE (INTERMEDIATE)
③ ITEM SPECIAL PAVEMENT OVERLAY FABRIC COMPOSITE
④ ITEM 301 – 4" BITUMINOUS AGGREGATE BASE
⑤ ITEM 203.13 – COMPACTED SUBGRADE
⑥ ITEM 609 – O.D.O.T. TYPE 6 CONCRETE CURB
⑦ ITEM 659 – SEEDING AND MULCHING
⑧ ITEM 408 – PRIME COAT TO BE APPLIED AT THE RATE OF 0.4 GAL./SQ. YD.
⑨ ITEM 407 – TACK COAT TO BE APPLIED AT THE RATE OF 0.4 GAL./ SQ. YD. (AS REQUIRED)
⑩ ITEM 609 – MASSILLON STANDARD CURB AND GUTTER
⑪ ITEM 304 – 6" AGGREGATE BASE [(2) 3" LIFTS]
⑫ ITEM 605 – 4" PIPE UNDERDRAIN

OVERLAY COMPOSITE NOTE

PAVEMENT OVERLAY FABRIC COMPOSITE SHALL BE STARGrid G+PF AS MANUFACTURED BY LUCKENHAUS. WORK SHALL CONSIST OF FURNISHING AND INSTALLING THE FABRIC AT THE LOCATIONS SHOWN ON THE PLAN PER THE MANUFACTURERS RECOMMENDATION. THE WIDTH OF INSTALLATION SHALL BE 36".

PLAN NOTES:

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REVISIONS
1/24/2006 PER CITY OF MASSILLON
2/24/2006 PER CITY OF MASSILLON

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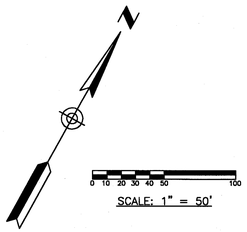
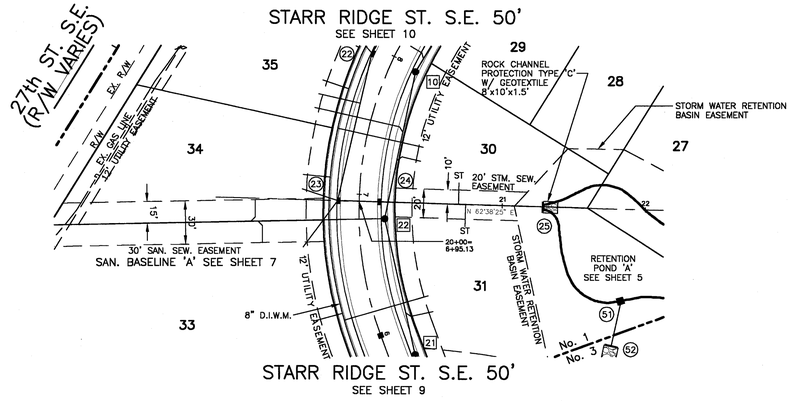
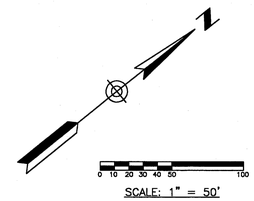
BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

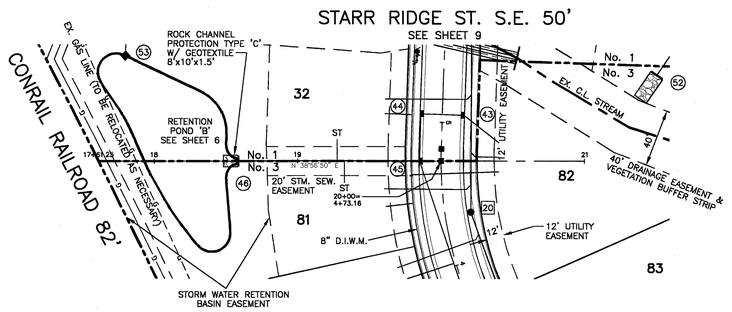
GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
27th ST. S.E.
(STA. 6+00 TO 9+00)

DRAWN BY: M.E.I.
DATE: OCTOBER, 2005
PROJECT NO. 37119D
DRAWING NO. 14A OF 20









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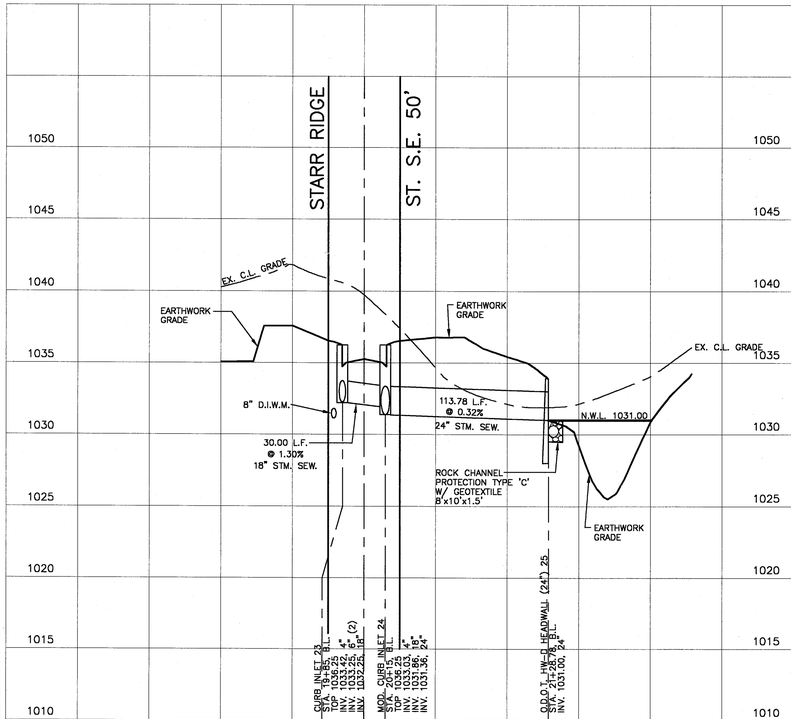
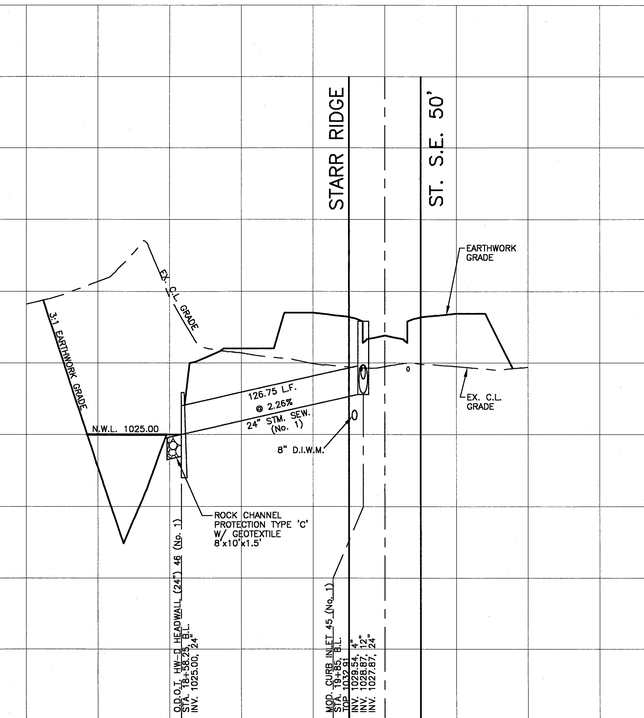
BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

STORM BASELINE 'G'



STORM BASELINE 'H'



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1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO

STORM BASELINES 'G' & 'H'

DRAWN BY: M.E.I.

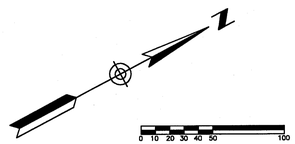
DATE: OCTOBER, 2005

PROJECT NO. 37119D

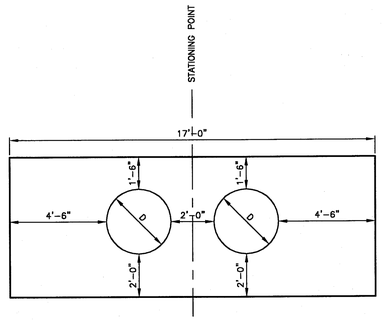
DRAWING NO. 15 OF 20

REVISIONS

1	1/24/2006 PER CITY OF MASSILLON



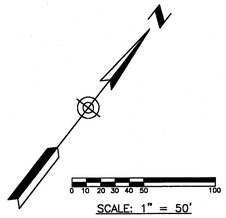
SCALE: 1" = 50'



MODIFIED O.D.O.T. HW-D DETAIL

NOT TO SCALE

DRAINAGE EASEMENT/VEGETATIVE BUFFER STRIP
A 40' NATURAL BUFFER STRIP SHALL BE MAINTAINED ALONG THE EXISTING STREAM. THE EXISTING VEGETATION SHOULD NOT BE REMOVED FROM THE BUFFER STRIP AREA. ALL VEGETATION INCLUDING DEAD TREES AND STABLE OVER HANGING TREES SHOULD BE LEFT ON THE STREAM BANKS.



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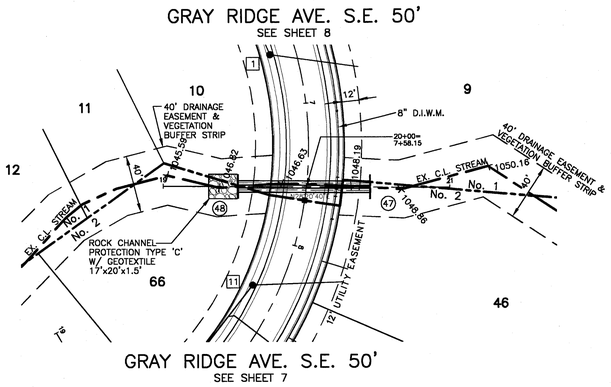

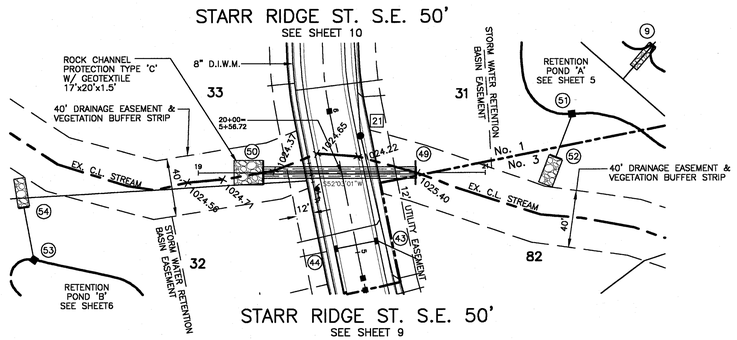

PLAN NOTES:

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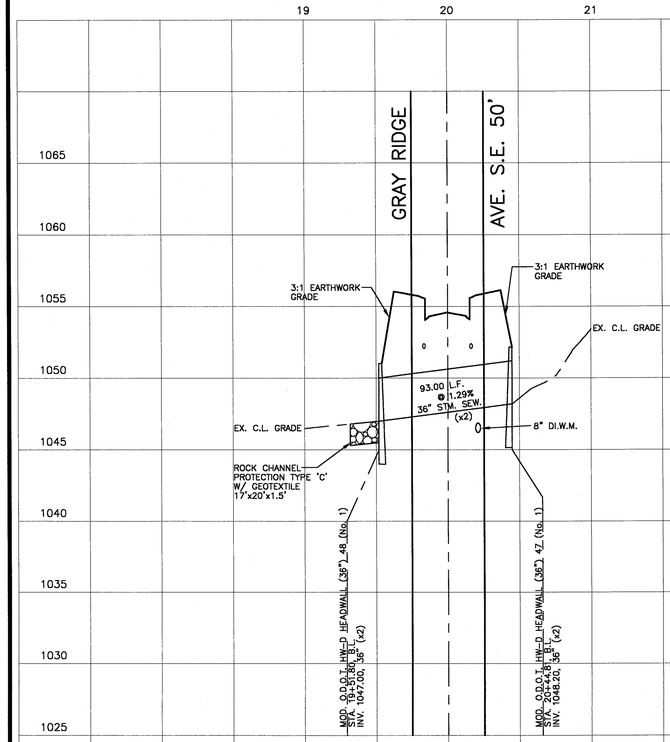
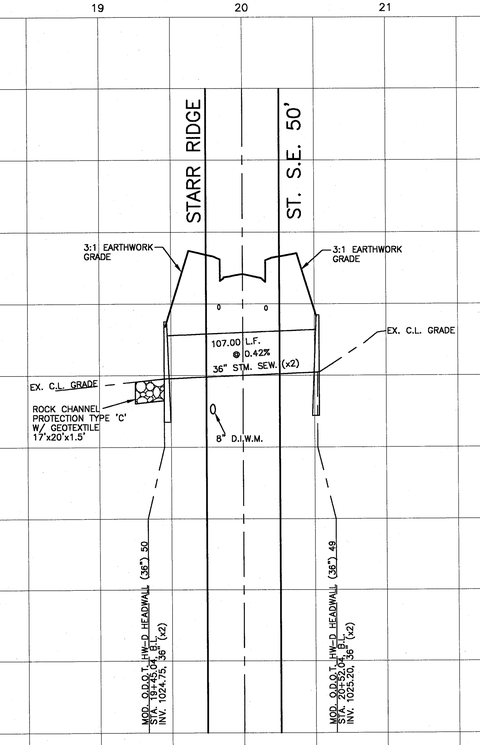
BENCH MARK: STARK COUNTY SECTION CORNER MARKET PER059. 1.5" IRON BAR FOUND AT THE CENTERLINE INTERSECTION OF 27th ST. & HARSH ST.

ELEV. 1085.84

STORM BASELINE 'J'



STORM BASELINE 'K'



REVISIONS

1/24/2006 PER CITY OF MASSILLON

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CANTON, OHIO 44721

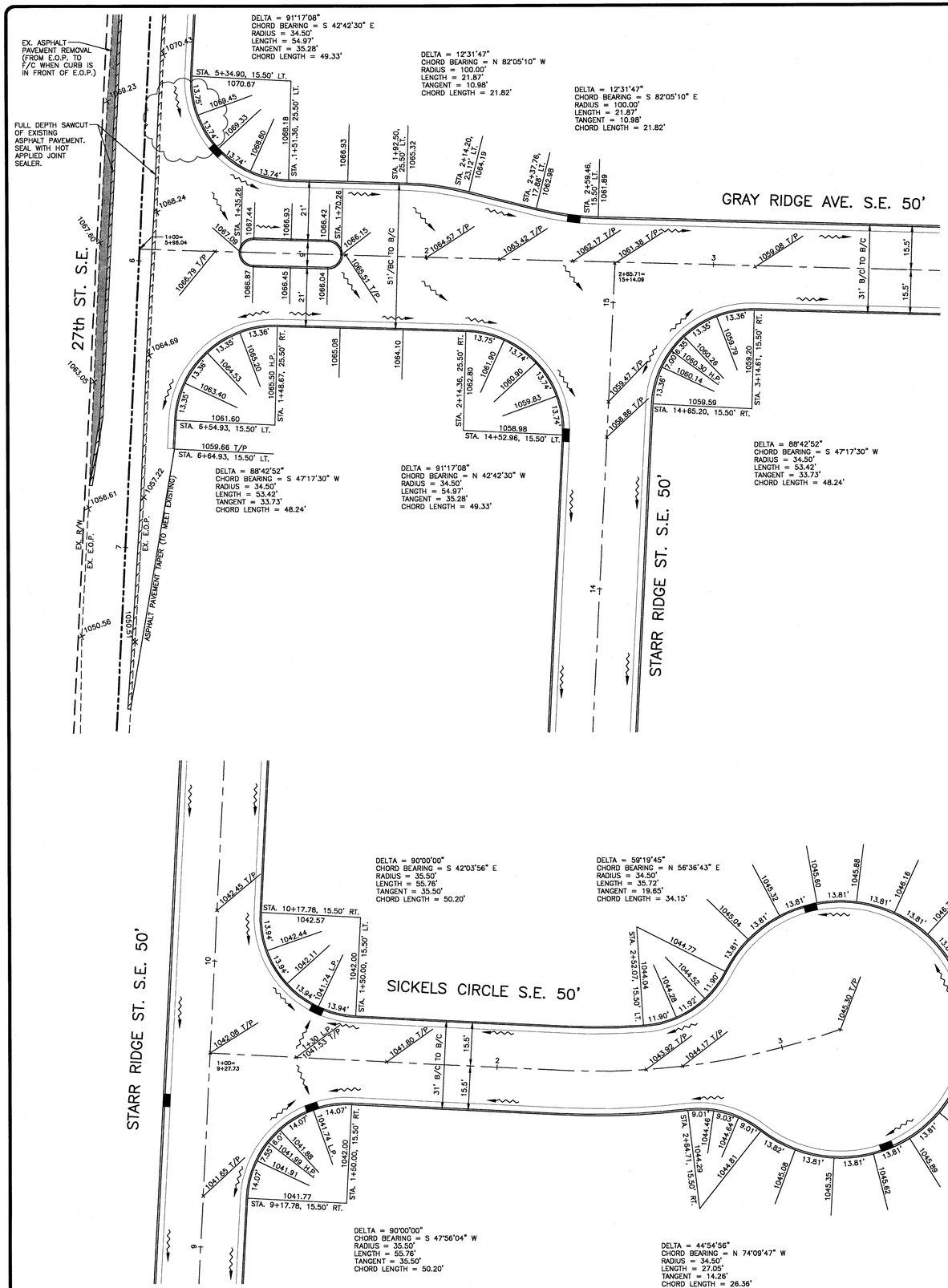
GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
STORM BASELINES 'J' & 'K'

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

DRAWING NO. 16 OF 20



REVISIONS

1 1/24/2006 PER CITY OF MASSILLON

2 2/24/2006 PER CITY OF MASSILLON

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CANTON, OHIO 44721

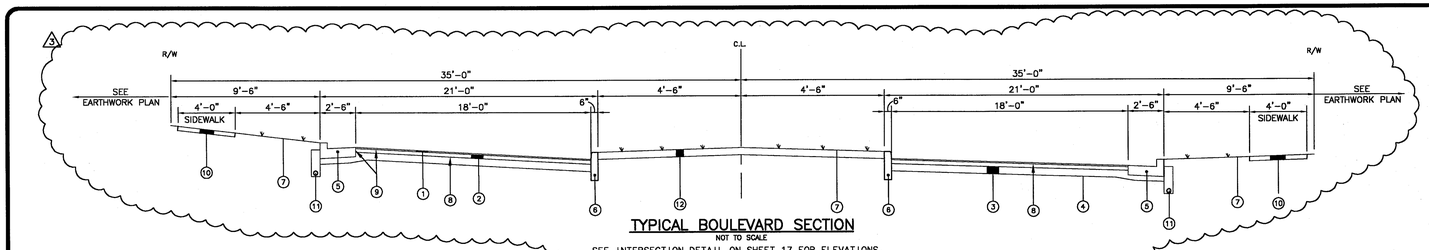
GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
INTERSECTION DETAILS

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

DRAWING NO. 17 OF 20

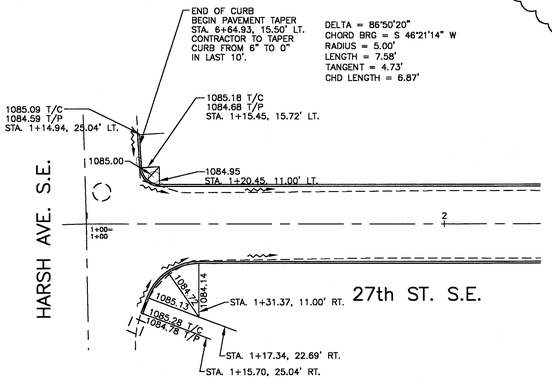


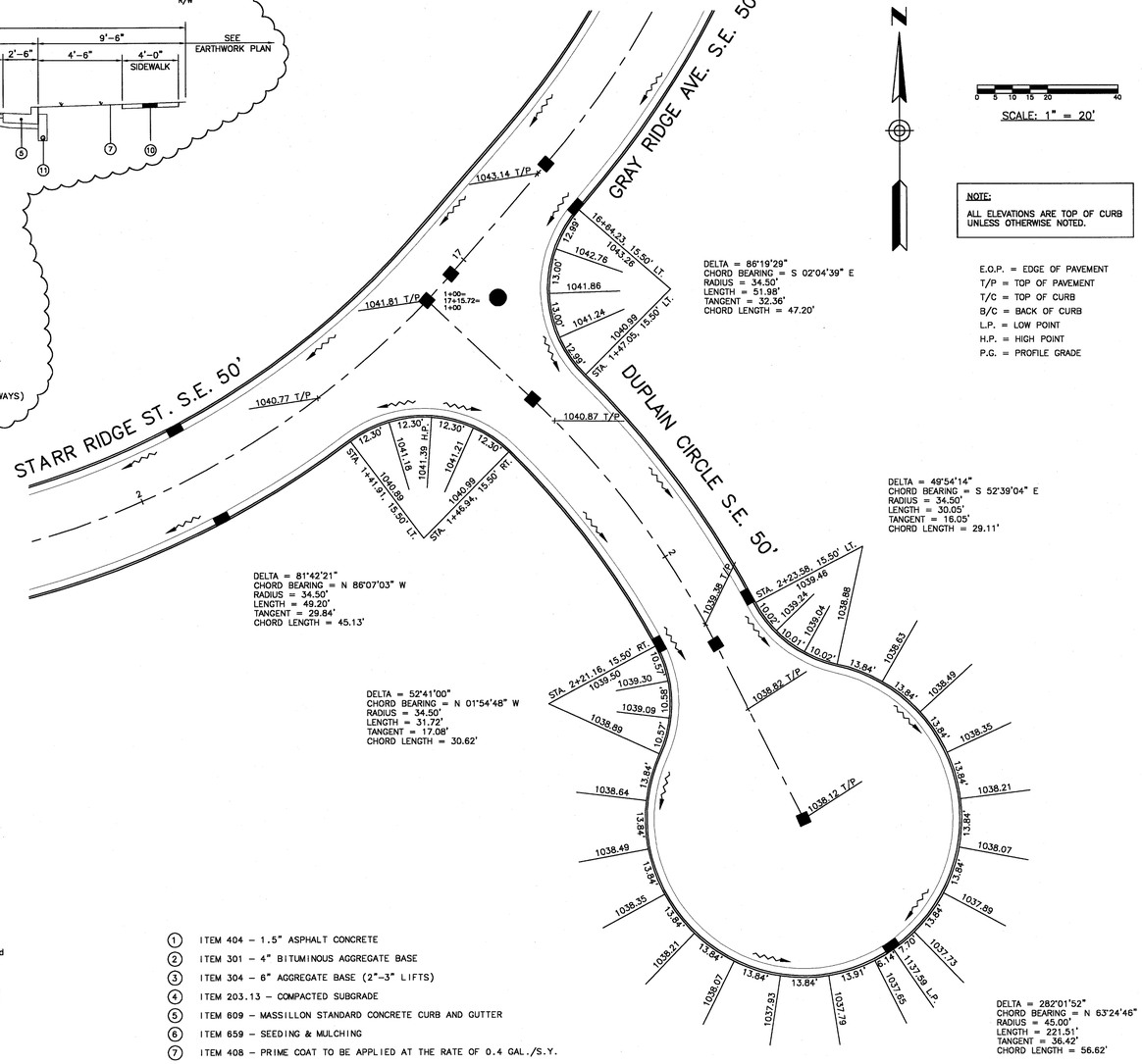
TYPICAL BOULEVARD SECTION

NOT TO SCALE

SEE INTERSECTION DETAIL ON SHEET 17 FOR ELEVATIONS.

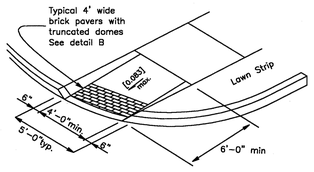
1. ITEM 404 – 1.5" ASPHALT CONCRETE
2. ITEM 301 – 4" BITUMINOUS AGGREGATE BASE
3. ITEM 304 – 6" AGGREGATE BASE (2"–3" LIFTS)
4. ITEM 203.13 – COMPACTED SUBGRADE
5. ITEM 609 – MASSILLON STANDARD CONCRETE CURB AND GUTTER
6. ITEM 609 – O.D.O.T. TYPE 6 CONCRETE CURB
7. ITEM 659 – SEEDING & MULCHING
8. ITEM 408 – PRIME COAT TO BE APPLIED AT THE RATE OF 0.4 GAL./S.Y.
9. ITEM 407 – TACK COAT TO BE APPLIED AT THE RATE OF 0.4 GAL./S.Y.
10. ITEM 608 – CONCRETE WALK (4" THICKNESS, INCREASE TO 6" AT DRIVEWAYS)
11. ITEM 605 – 4" PIPE UNDERDRAIN
12. ITEM 653 – TOPSOIL (4" THICK)



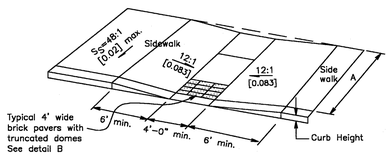


DELTA = 89°16'32"
CHORD BRG = N 31°42'11" W
RADIUS = 15.00'
LENGTH = 18.14'
TANGENT = 10.36'
CHD LENGTH = 17.05'

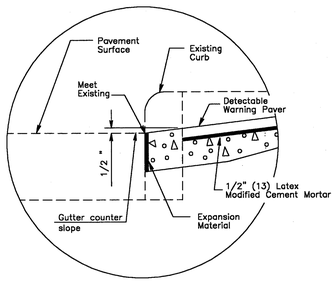
CURB RAMP TYPE A



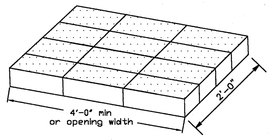
CURB RAMP TYPE B



CURB RAMP TYPE C



DETAIL A



PAVERS TO MEET ASTM C 902 CLASS SX OR APPROVED EQUAL

DETAIL B

NOTES

SURFACE TEXTURE: Texture of concrete surfaces shall be obtained by coarse brooming transverse to the ramp slopes and shall be rougher than the adjacent walk

TRUNCATED DOMES: install detectable warnings (truncated domes) for a distance of 24" from the back of curb for the entire width of the ramp opening.

Pavers will meet ASTM C 902 Class SX, Type 1, or C 936, or C 1272 Type R.

ACCEPTABLE MANUFACTURERS AND PRODUCTS ARE AS FOLLOWS:

1.) Whitacre–Greer Fireproofing Company
1400 South Mahoning Ave.
Alliance, OH 44601
1–800–WG PAVER
ADA Paver, 4"x8"x2–1/4" Clear Red, Rustic, #30

2.) Hanover Architectural Products
240 Bender Road
Hanover, PA 17331
(717) 637–0500
Detectable Warning Paver, 12"x12"x2" or 24"x24"x2", Red or Quarry Red

3.) Endicott Clay Products
P.O. Box 17
Fairbury, NE 68352
(402) 729–5804
Handicap Detectable Warning Paver, 4"x8"x2–1/4", Red Blend

Pavers will be laid on top of a 4" unreinforced concrete base. Setting bed and joints to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" thick bed of latex modified cement mortar. Mortar joints to a width not greater than 5/32" and not less that 1/16". Pavers shall not be directly touching each other unless they have spacing bars.

Mortared joints are to be flush with top surface and struck so as to give a smooth surface. Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

The surface of any two adjacent units should not differ by more than 1/8" in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during construction.

EXPANSION JOINTS: shall be provided in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. A 1/2" Item 705.03 expansion joint filler shall be provided around the edge of ramps built in existing concrete walk. Lines shown on this drawing indicate the ramp edge and slope changes and are not necessarily joint lines.

RELIEF JOINTS: must be provide at all points of continuous slope changes in Curb Type A and Type C.

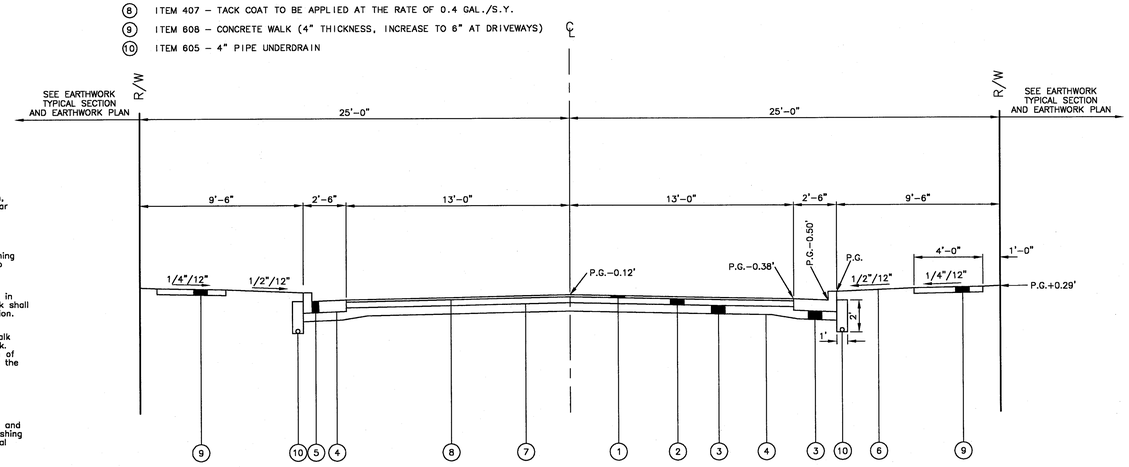
PAYMENT: Item 608, CURB RAMP, EACH, shall include the cost of furnishing and installing all materials (including truncated domes,) grading, forming and finishing of the curb and walk of the curb ramp and removal of any existing material to perform such work

LEGEND

1. The engineer may permit no less than 3'–0" in existing sidewalks if the landing is unconstrained along the back edge.
2. Where landing width has been reduced to 3'–0" the flared sides shall have a maximum slope of 12:1 [0.083].
3. The max. slope of the ramp toward the curb is 12:1 [0.083] as related to the horizontal, but the, relative to the existing or proposed walk slope.

   The Engineer may allow the following in Historical Areas

   A) 10:1 [0.10] for a max. rise of 6",
   B) 8:1 [0.125] for a max. rise of 3",
   C) 6:1 [0.167] over a max. run of 2'–0" for historic areas where a flatter slope is not feasible.
4. The minimum length of a Type A or B ramp is 6' from the back of a 6" curb and may be increased where feasible to obtain a flatter ramp slope or to better blend with the walk configuration.
5. Gutter counter slopes at the foot of perpendicular curb ramps should not exceed 20:1 [0.05] over a distance of 2'–0" from the curb.



REVISIONS

1. 1/24/2006 PER CITY OF MASSILLON
2. 2/24/2006 PER CITY OF MASSILLON

GBC DESIGN, INC.
3378 West Market St. Akron, OH 44333–3386
Phone 330–836–0228 Fax 330–836–5782

BARRINGTON FRAMING COMPANY, Inc.
1725 FALLEN TIMBER ST. N.E
CANTON, OHIO 44721

GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
INTERSECTION DETAIL
TYPICAL SECTION

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

DRAWING NO. 18 OF 20

Francis H. Clochinelli, Jr.
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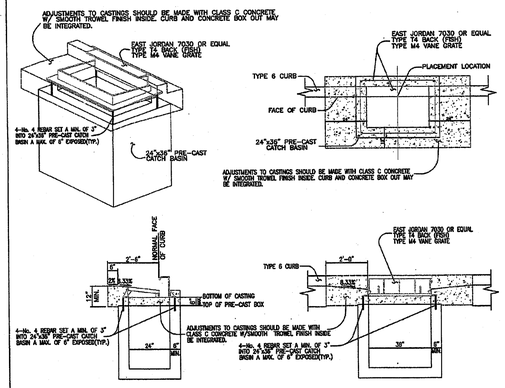
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

CATCH BASIN DETAIL



Massillon Curb Inlet (MASS CI-1)

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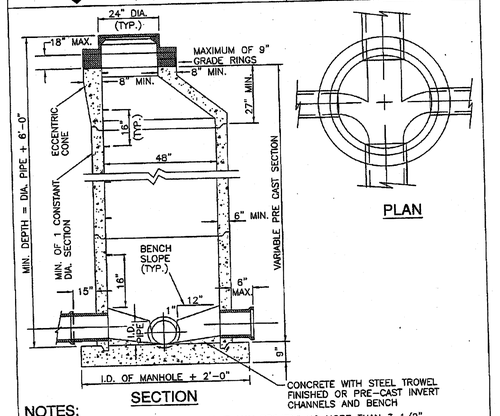
SANITARY MANHOLE TYPE 3 SEWERS 8" TO 21"



SECTION

PLAN

NOTES:

1. IF TOP STEP IS IN 24" DIA. OPENING IT MAY PROJECT NO MORE THAN 3 1/2".
2. M.A. IND. PS-1-PF STEPS OR APPROVED EQUAL.
3. FOR SPECIFICATIONS REGARDING CONCRETE TO BE USED IN MANHOLES SEE ITEM NO. 4&16.
4. FOR PVC & ABS PIPE CONNECTIONS USE ASTM C-923 FLEXIBLE GASKET SUCH AS A-LOK, DURA SEAL III, KOR-N-SEAL OR APPROVED EQUAL. THIS METHOD ALSO ACCEPTABLE FOR VCP.
5. PRE CAST MANHOLES SECTIONS SHALL MEET ASTM C478.
6. MANHOLE JOINTS SHALL MEET ASTM C443.
7. MANHOLE ADJUSTMENTS TO GRADE WILL BE NO GREATER THAN 18", USING PRECAST COLLARS MEETING ASTM C-32

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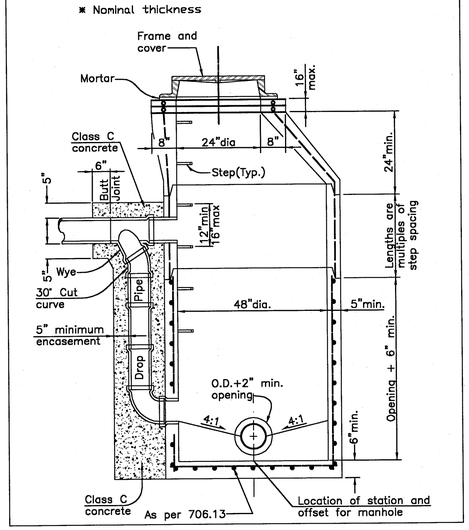
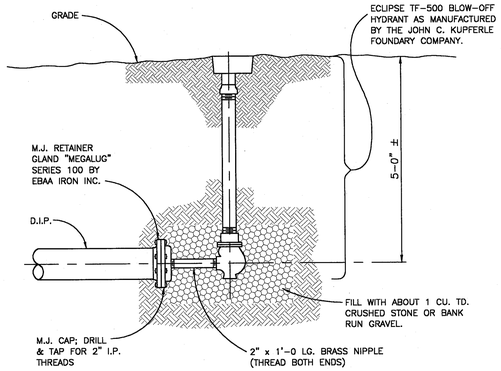
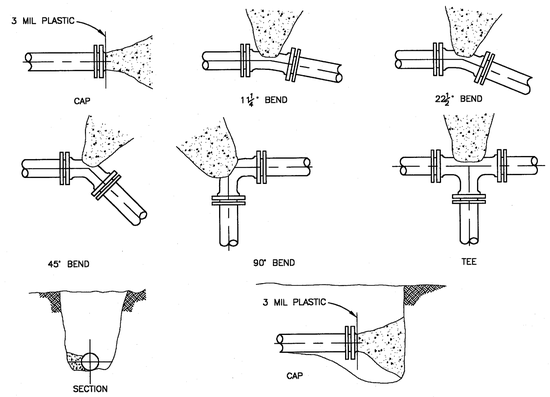
STANDARD DROP MANHOLE





TYPICAL BLOWOFF DETAIL

NO SCALE



FITTINGS SIZES	BEARING AREA OF BLOCK IN SQUARE FEET				
	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

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.

CONCRETE THRUSTBLOCKING DETAIL

NO SCALE

MATERIALS SPECIFICATIONS

DUCTILE IRON PIPE
TYPE REQUIRED: PUSH-ON JOINTS, CEMENT LINED, PRESSURE CLASS 350 FOR 4 INCH THROUGH 12 INCH, PRESSURE CLASS 300 FOR 16 INCH, MANUFACTURING STANDARDS AWWA C150 AND C151.

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.

FIRE HYDRANTS
TYPE REQUIRED, POST TYPE, BREAKABLE FLANGE DESIGN FOR TRAFFIC COLLISIONS; 4 1/2 INCH DIAMETER MAIN VALVE MINIMUM; ONE 4 1/2 INCH PUMPER AND TWO 2 1/2 INCH HOSE NOZZLES; 6 INCH MECHANICAL JOINT INLET; MAIN VALVE TO OPEN LEFT, DESIGNED FOR 5 FOOT TRENCH; NATIONAL STANDARD THREADS ON NOZZLES; O-RING PACKING PREFERRED; OPERATING NUT AND NUTS ON CAPS; 1 1/2 INCH PENTAGON, COLOR: YELLOW PAINT ON BOSY TRIMMED WITH RED PAINT ON TOP AND CAPS; AWWA STANDARD C502; MUELLER CENTURION A421 OR APPROVED EQUAL.

TAPPING VALVES
TYPE REQUIRED: RESILIENT SEATED IRON BODY, MECHANICAL JOINT ACCESSORIES, NON-RISING STEM, FOR UNDERGROUND SERVICE, O-RING PACKING PREFERRED, OPEN RIGHT (CLOCKWISE) 2 INCH SQUARE OPERATING NUT, MANUFACTURING STANDARDS PRESSURE RATING AWWA SPECIFICATIONS C500.

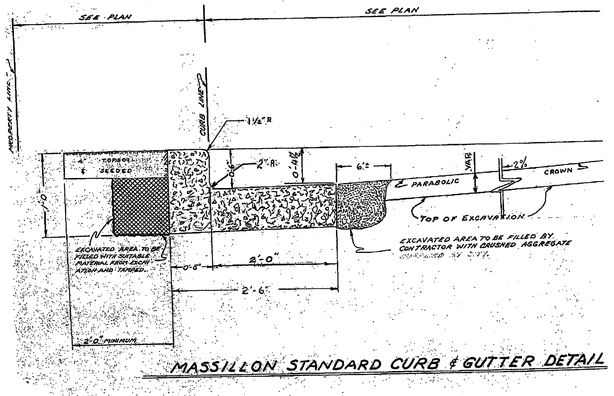
VALVE BOXES
TYPE REQUIRED: TWO PIECE, CAST IRON, SCREW TYPE FOR ADJUSTABLE HEIGHT, HEIGHT RANGE TO BE APPROXIMATELY 36 TO 60 INCHES. THEY MUST INCLUDE A WELL FITTING CAST IRON LID, THE WORD "WATER" TO BE CAST ON LID.

4 INCH THRU 12 INCH GATE VALVES
TYPE REQUIRED: RESILIENT SEATED, IRON BODY, 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 RATING AWWA C 509, U.S. PIPE MADRAS #5460 OR APPROVED EQUAL.

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 EASEMENT
TYPE REQUIRED: EIGHT MIL THICK POLYETHYLENE TUBE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA-C105/A21.5. POLYETHYLENE ADHESIVE TAP, 1 1/2 INCH WIDE, IS REQUIRED FOR CLOSURE.

BLOW OFF ASSEMBLIES
TYPE REQUIRED: KUPFERLE FOUND TF500 OR APPROVED EQUAL. INSTALL IN VALVE BOX. INSTALL 2" CURB STOP WITH CURB BOX AHEAD OF EACH BLOW OFF.



MASSILLON STANDARD CURB & GUTTER DETAIL

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151 LINCOLN WAY EAST
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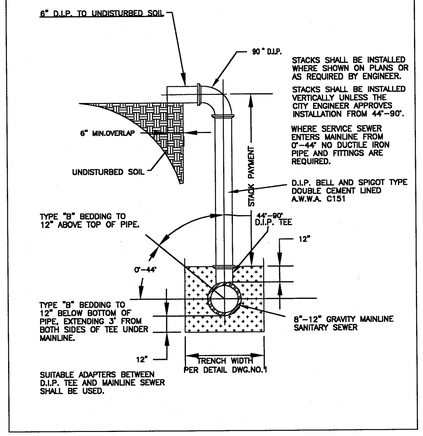
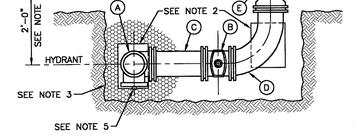
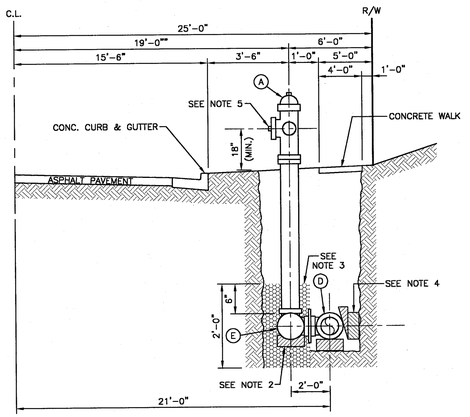
SERVICE STACK 8"-12" MAINLINE





PLAN VIEW



PROFILE VIEW

NOTES

1. THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 25" EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING. NOTE: BURY HYDRANT 4.5' DEEP
2. SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEE'S, BENDS AND HYDRANT ELBOW.
3. CRUSHED STONE FILL AROUND HYDRANT DRAIN AND TO A DEPTH OF 2'-0".
4. SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
5. PUMPER NOZZLE FACING STREET.

ITEM	DESCRIPTION
A	MUELLER HYDRANT, 3-WAY "CENTURION" MODEL
B	6" M.J. GATE VALVE, 3 PIECE VALVE BOX
C	ANCHOR COUPLING (F-1211)
D	ANCHOR ELBOW (F-1218)
E	STANDARD M.J. TEE

TYPICAL HYDRANT SETTING DETAIL

NO SCALE

REVISIONS
1/24/2006 PER CITY OF MASSILLON

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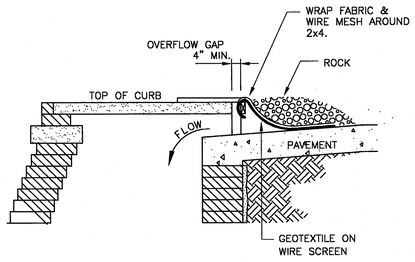
GRAY RIDGE ESTATES
CITY OF MASSILLON
STARK COUNTY, OHIO
WATER MAIN DETAILS
CITY OF MASSILLON DETAILS

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

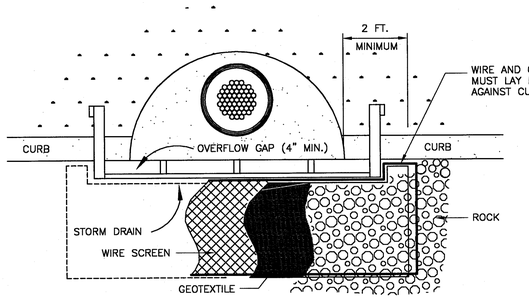
PROJECT NO. 37119D

DRAWING NO. 19 OF 20



CURB INLET PROTECTION SECTION

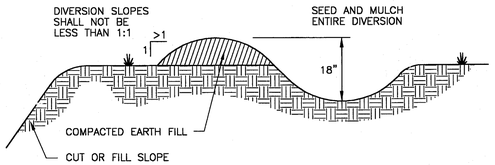
NO SCALE



CURB INLET PROTECTION PLAN VIEW

NO SCALE

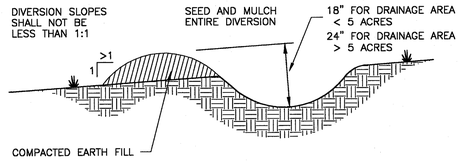
1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR THE STORM DRAIN BECOMES OPERATIONAL.
2. THE WOODEN FRAME IS TO BE CONSTRUCTED OF 2-BY-4-IN. CONSTRUCTION- GRADE LUMBER. THE END SPACERS SHALL BE A MINIMUM OF 1 FT. BEYOND BOTH ENDS OF THE THROUGH OPENING. THE ANCHORS SHALL BE NAILED TO 2-BY-4-IN. STAKES DRIVEN ON THE OPPOSITE SIDE OF THE CURB.
3. THE WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC AND STONE. IT SHALL BE A CONTINUOUS PIECE WITH A MINIMUM WIDTH OF 30" AND 4 FT. LONGER THAN THE THROAT LENGTH OF THE INLET, 2 FT. ON EACH SIDE.
4. GEOTEXTILE CLOTH SHALL HAVE AN EQUIVALENT OPENING SIZE (EOS) OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE AT LEAST THE SAME SIZE AS THE WIRE MESH.
5. THE WIRE MESH AND GEOTEXTILE CLOTH SHALL BE FORMED TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET AND SECURELY FASTENED TO THE 2-BY-4-IN. FRAME.
6. TWO-INCH STONE SHALL BE PLACED OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE CLOTH.



TEMPORARY DIVERSION ABOVE STEEP SLOPES

DIVERSIONS FOR THE TEMPORARY PROTECTION OF CUT OR FILL SLOPES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING CRITERIA FOR DRAINAGE AREA OF 5 ACRES OR LESS. LARGER AREAS REQUIRE A DIVERSION DESIGN.

1. DIVERTED RUNOFF SHALL OUTLET ONTO A STABILIZED UNDISTURBED AREA, SETTLING POND OR INTO A DROP STRUCTURE.
2. DIVERSIONS SHALL BE COMPACTED BY TRAVERSING WITH TRACKED EARTH MOVING EQUIPMENT AND STABILIZED WITH SEED AND MULCH.



TEMPORARY DIVERSION

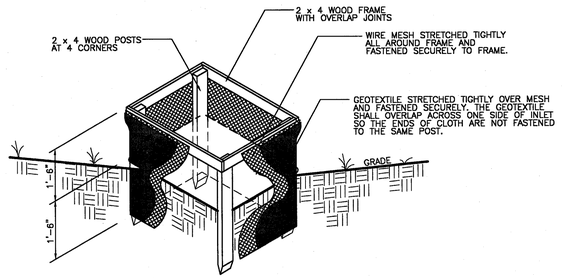
1. DIVERSION SHALL BE COMPACTED BY TRAVERSING WITH TRACED EARTH-MOVING EQUIPMENT.
2. DIVERSIONS SHALL NOT BE BREACHED OR LOWERED TO ALLOW CONSTRUCTION TRAFFIC TO CROSS; INSTEAD THE TOP WIDTH MAY BE MADE WIDER AND SIDE SLOPES MADE FLATTER THAN SPECIFIED ABOVE.
3. DIVERSIONS SHALL BE STABILIZED WITH VEGETATION AND CHECK DAMS OR THE FOLLOWING TREATMENTS:

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.

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.



TYPICAL INLET SILT FENCE DETAIL

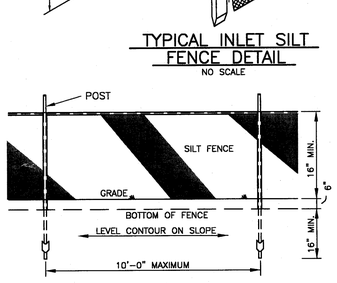
NO SCALE

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 8 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

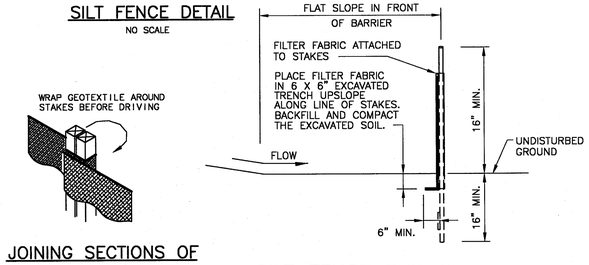
1. FENCE POSTS— THE LENGTH SHALL BE A MINIMUM OF 32 IN. LONG. WOOD POSTS WILL BE 2-BY-2 IN. HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
2. SILT FENCE FABRIC (SEE CHART BELOW):

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



SILT FENCE DETAIL

NO SCALE

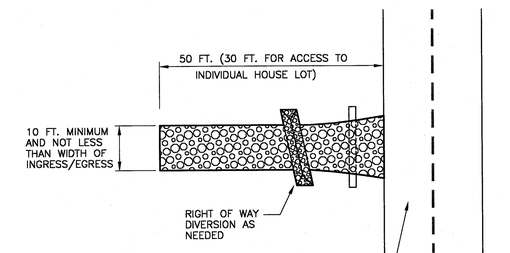


JOINING SECTIONS OF SILT FENCE DETAIL

NO SCALE

SILT FENCE SECTION

NO SCALE



CONSTRUCTION ENTRANCE PLAN

NO SCALE

CONSTRUCTION ENTRANCE PROFILE

NO SCALE

1. STONE SIZE--TWO-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 50 FT. (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30 FT. MINIMUM LENGTH APPLIES).
3. THICKNESS--THE STONE LAYER SHALL BE AT LEAST 6-IN. THICK.
4. WIDTH--THE ENTRANCE SHALL BE AT LEAST 10-FT. WIDE, BUT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. BEDDING--A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLED BURST STRENGTH OF AT LEAST 190 LB.
6. CULVERT--A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
7. 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.
8. 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.
9. 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.

TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB/1000 $FT.^2$	PER ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	4 BUSHEL 40 LB. 40 LB.
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 LB. 40 LB. 40 LB.
AUGUST 16 TO NOVEMBER 1	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	2 BUSHEL 40 LB. 40 LB.
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3 1 1	2 BUSHEL 40 LB. 40 LB.
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 LB. 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. PERMANENT SEEDING SHALL BE APPLIED TO AREAS THAT WILL NOT BE GRADED OR RE-WORKED FOR 1 YEAR OR MORE.
3. DISTURBED AREAS WITHIN 50 FEET OF A STREAM MUST BE STABILIZED WITHIN 2 DAYS OF LAST DISTURBANCE.
4. AREAS AT FINAL GRADE MUST BE SABILIZED WITHIN 7 DAYS OF REACHING FINAL GRADE.
5. 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.
6. 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.
7. 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 MECHANICAL ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY BE LEFT LONGER THAN 6 IN.

   MULCH NETTINGS--NETTINGS SHALL BE USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MADE 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.

REVISIONS

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STARK COUNTY, OHIO

STORM WATER POLLUTION PREVENTION PLAN DETAILS

DRAWN BY: M.E.I.

DATE: OCTOBER, 2005

PROJECT NO. 37119D

DRAWING NO. 20 OF 20