

SITE IMPROVEMENT PLANS FOR KENYON CREEK ESTATES - PHASE I

SITUATED IN THE CITY OF MASSILLON,
COUNTY OF STARK, STATE OF OHIO

SANITARY SEWER

CONSTRUCTION NOTES:

1. FLEXIBLE GASKETS ON SEWER LINES SHOULD MEET SECTION 34.6 OF THE TEN STATE STANDARDS AND ASTM SPEC. D-923.
2. MANHOLE ADJUSTMENTS TO GRADE SHALL BE 12" OR LESS. USE PRECAST COLLARS AND A MAXIMUM OF TWO COURSES OF BRICK IF NECESSARY AND SHALL FOLLOW ASTM SPEC C-32.
3. LEAKAGE TEST LIMITS ARE 100 GAL/IN DIAMETER/MILE/DAY.

DEFLECTION TEST NOTES:

1. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.
2. NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT. IF DEFLECTION EXCEEDS 5 PERCENT, RELACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS, G.L.U.M.R.B. SECTION 33.85.
3. THE RIGID BALL OR MANDRELL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

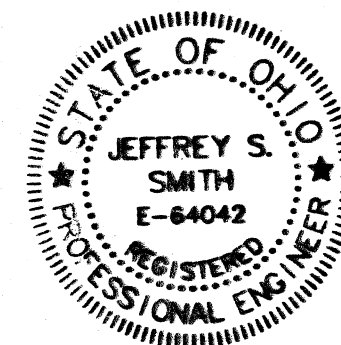
OHIO E.P.A. NOTES

1. HYDROSTATIC TEST SHALL NOT EXCEED 100 GAL. PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM.
2. AIR LEAKAGE TESTING OF PLASTIC SANITARY SEWER SHALL BE PER A.S.T.M. F-1417.
3. MANHOLE AIR/VACUUM TESTING SHALL BE PER A.S.T.M. C-1244.
4. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.
5. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED. (ORDINANCE NO. 85-656, APPROVED 10/8/35).

PLANS SUBMITTED BY

PREPARED BY JEFFREY S. SMITH, P.E. AND SUBMITTED
THIS 21st DAY OF MAY, 2002.

JEFFREY S. SMITH, P.E. Reg. No. E-64042



APPROVED BY A. R. LOCKHART DEVELOPMENT COMPANY
THIS 9th DAY OF JULY, 2002.

A. R. LOCKHART, PRESIDENT

PLAN APPROVALS

APPROVED BY THE CITY OF MASSILLON ENGINEER
THIS 7th DAY OF JULY, 2002.

CITY OF MASSILLON ENGINEER

WATERLINE IS APPROVED BY CONSUMERS OHIO WATER COMPANY
THIS 9 DAY OF JULY, 2002.

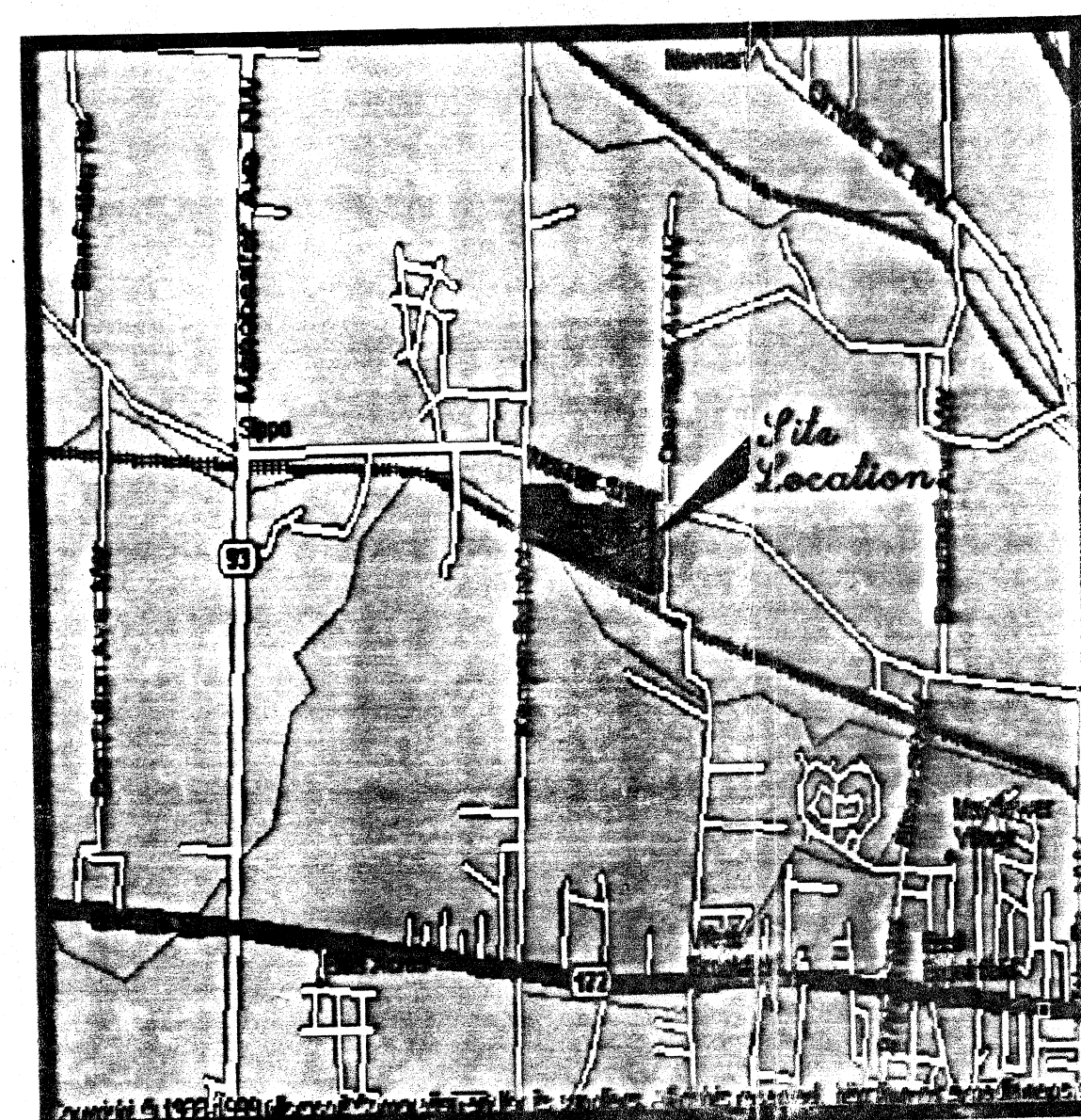
CONSUMERS OHIO WATER COMPANY

SANITARY SEWER PERMIT TO INSTALL (P.T.I.) HAS BEEN RECEIVED
FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY
THIS ____ DAY OF _____, 20__.

WATERLINE PERMIT TO INSTALL (P.T.I.) HAS BEEN RECEIVED
FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY
THIS ____ DAY OF _____, 20__.

A.R. LOCKHART DEVELOPMENT COMPANY
800 WEST WATERLOO ROAD
AKRON, OHIO 44314
PH: (330) 745-6520
FAX: (330) 745-0718

MARCH, 2002



LOCATION MAP

Not to scale

DRAWING LIST

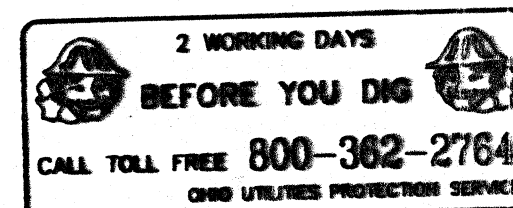
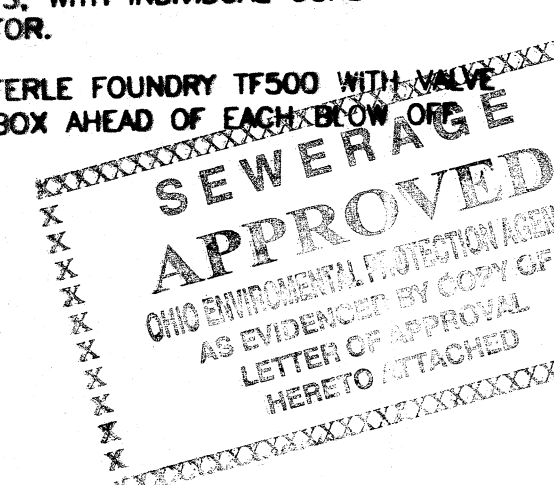
SHT. NO.	DESCRIPTION
1	TITLE SHEET
2	SITE AND UTILITY PLAN
3	GRADING AND S.W.P.P. PLAN
4	S.W.P.P. NOTES AND DETAILS
5	S.W.P.P. NOTES AND DETAILS
6	TYPICAL SECTION AND INTERSECTION DETAILS
7	PLAN/PROFILE - KENYON CREEK AVE.
8	PLAN/PROFILE - WOOD CREEK CIR. AND SILVER CREEK CIR.
9	PLAN/PROFILE - LAKE CREEK CIRCLE AND SANITARY LINE "A"
10	MISCELLANEOUS UTILITY PROFILES
11	POND "A" DETAILS
12	POND "B" DETAILS
13	WATER MAIN AND MISCELLANEOUS DETAILS
14	MISCELLANEOUS DETAILS
15	MISCELLANEOUS DETAILS
16	CITY OF MASSILLON - STANDARD GENERAL NOTES
17	CITY OF MASSILLON - STANDARD GENERAL NOTES

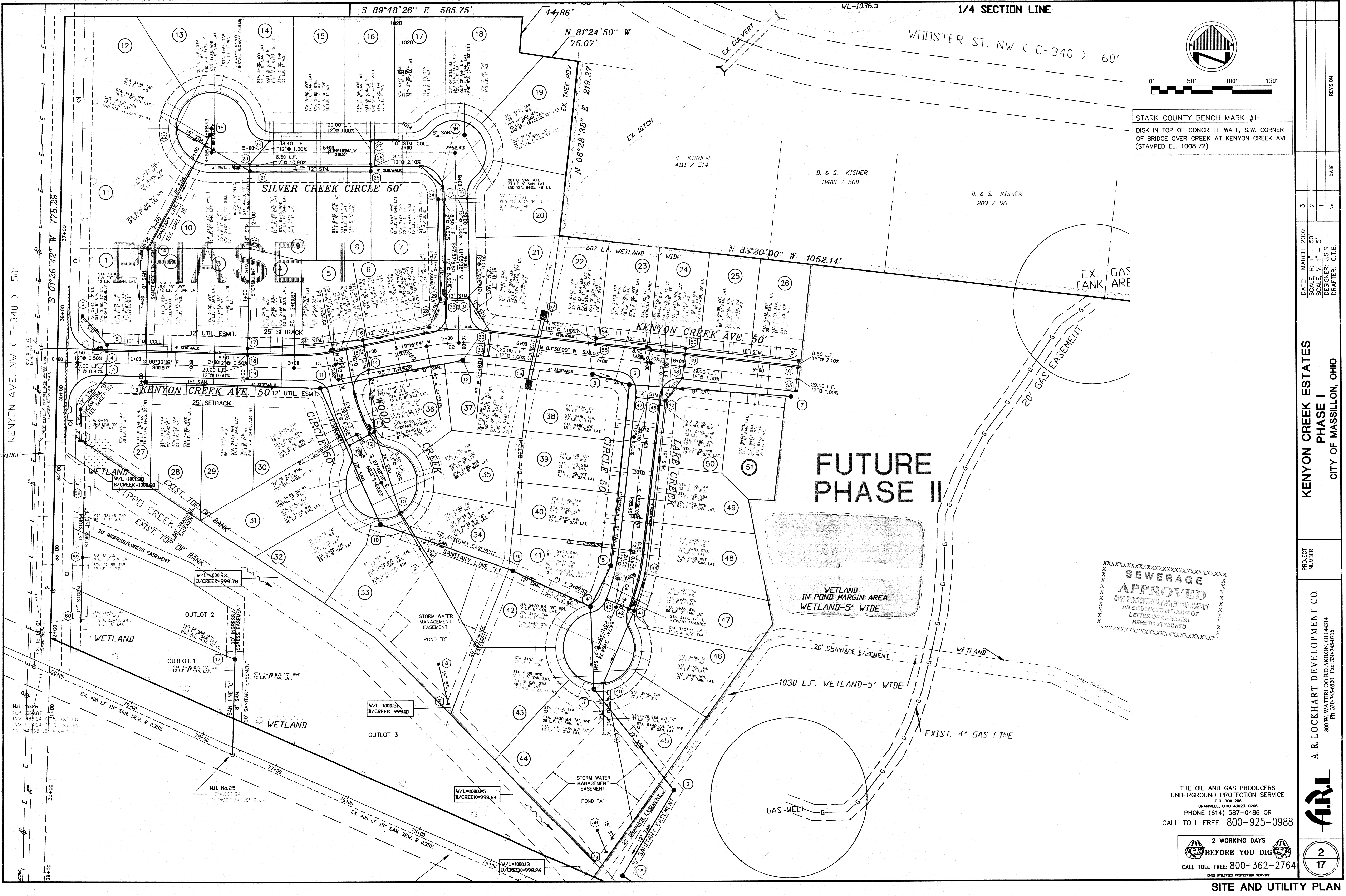
WATER MAIN CONSTRUCTION NOTES

1. MUST MAINTAIN A 12" MINIMUM VERTICAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE TO EDGE OF ALL PROPOSED STORM SEWERS AND/OR INLET LEAD PIPE WHERE THEY CROSS.
2. MUST MAINTAIN A 4.0' MINIMUM HORIZONTAL CLEARANCE FROM EDGE OF WATER MAIN PIPE TO EDGE OF STORM SEWER PIPE INLETS AND STORM SEWER MANHOLES.
3. MUST MAINTAIN A 10.0' MINIMUM HORIZONTAL CLEARANCE FROM EDGE OF WATER MAIN PIPE TO EDGE OF SANITARY SEWER AND/OR FORCE MAIN PIPE.
4. MUST MAINTAIN A 18" MINIMUM VERTICAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE AND/OR SERVICE TO OUTSIDE EDGE OF ALL SANITARY SEWER PIPE WHERE THEY CROSS.
5. THE GROUND OVER THE WATER MAIN LINE SHALL REMAIN FREE OF TRASH CONTAINERS, TREES, SHRUBS AND ALL OTHER VEGETATION (EXCLUDING GRASS). MOUNDING OF EARTH OVER THE WATER LINE FOR AESTHETIC PURPOSES IS PROHIBITED.
6. WHERE WATER MAINS CROSS SEWER TRENCHES, THE TRENCH IS TO BE BACKFILLED WITH APPROVED GRANULAR MATERIAL.
7. ALL WATERLINES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS ESTABLISHED BY THE CONSUMERS OHIO WATER COMPANY. PIPE SHALL BE CLASS 350, CEMENT-LINED, DUCTILE IRON WITH PUSH ON JOINTS, EXCEPT AS NOTED. ALL FITTINGS SHALL BE CEMENT-LINED MECHANICAL JOINT TYPE. VALVES SHALL BE MECHANICAL JOINT, NON-RISING STEM, RIGHT OPEN (CLOCKWISE) WITH 2-INCH SQUARE OPERATING NUT. POURED CONCRETE THRUST BLOCKS MUST BE CONSTRUCTED WHERE NECESSARY. ALL VALVES 4" THRU 12" ARE GATE VALVES AND MUST HAVE BOXES.
8. COMPACTED PREMIUM BACKFILL IS REQUIRED FOR UNDERGROUND CONSTRUCTION UNDER OR WITHIN 3 FEET OF ANY PROPOSED OR EXISTING SIDEWALK OR PAVEMENT.
9. ANY EXISTING WATER APPURTENANCES THAT ARE DAMAGED MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR SHALL SUPPLY A TEMPORARY SAFE WATER SERVICE TO ANY HOME THAT WILL HAVE ITS WATER SERVICE INTERRUPTED BY THIS CONSTRUCTION.
11. NO TAPS FOR WATER SERVICES SHALL BE MADE UNTIL AFTER THE MAIN LINE HAS BEEN TESTED AND STERILIZED.
12. ALL WATER MAIN CONSTRUCTION SHALL BE INSPECTED BY THE CONSUMERS OHIO WATER COMPANY. NOTIFY THE CONSUMERS OHIO WATER COMPANY AT LEAST 48 HOURS PRIOR TO BEGINNING WATERLINE CONSTRUCTION.
13. ALL NEW WATER MAINS ARE TO BE COMPLETELY WRAPPED WITH POLYETHYLENE ENCASEMENT AS SPECIFIED IN AWWA C-105.
14. PRIOR TO ACCEPTANCE THE WATERLINE SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA C-600, LATEST EDITION, AND DISINFECTED IN ACCORDANCE WITH AWWA C-651, LATEST EDITION, BY THE CONTRACTOR.
15. ALL HYDRANTS SHALL HAVE STANDARD THREADS ON ALL HOSE CONNECTIONS.
16. MUST MAINTAIN A 36" MINIMUM HORIZONTAL CLEARANCE FROM THE EDGE OF ALL WATER MAIN PIPE TO THE EDGE OF DIRECT BURIAL CONDUIT, CONCRETE ENCASED ELECTRICAL CONDUIT, THE LIGHT POLE BASES, AND THE HAND HOLE PULL BOXES.
17. MUST MAINTAIN A 12" MINIMUM VERTICAL CLEARANCE FROM EDGE OF ALL WATER MAIN PIPE TO THE EDGE OF THE DIRECT BURIAL CONDUIT AND THE EDGE OF THE CONCRETE ENCASED ELECTRICAL CONDUIT WHERE THEY CROSS.
18. USE EXTREME CAUTION WHEN EXCAVATING IN THE AREA OF EXISTING WATER MAIN PIPES, VALVES OR HYDRANTS.
19. ALL 2 INCH PIPE AND FITTINGS AROUND CUL-DE-SACS ARE TO BE HOPE TUBING WITH TRACER WIRE AND MARKING TAPE INSTALLED WITH 4 FEET 6 INCHES OF COVER.
20. SERVICE TAPS OFF OF MAINLINE TO BE MADE BY CONSUMERS OHIO WATER COMPANY. SERVICES OFF OF 2" TEES AT CUL-DE-SACS MAY BE SPLIT TO SERVICE TWO UNITS, WITH INDIVIDUAL CURB STOPS, INSTALLED BY THE CONTRACTOR.
21. BLOW-OFF ASSEMBLIES TO BE KUPFERLE FOUNDRY TF500 WITH VALVE BOX. INSTALL 2" CURB STOP WITH BOX AHEAD OF EACH BLOW OFF.

GENERAL CONSTRUCTION NOTES

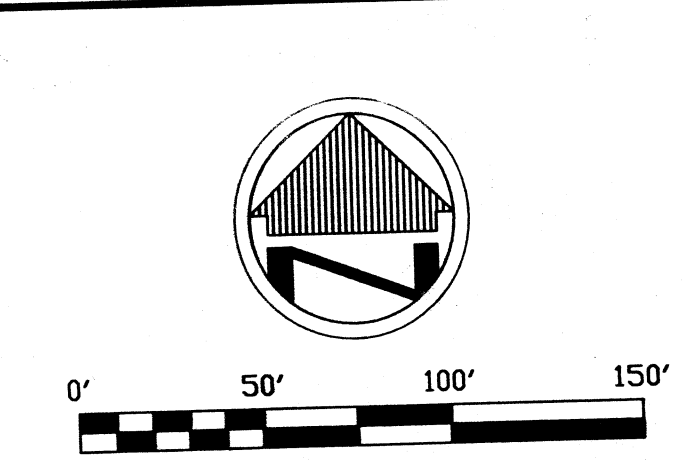
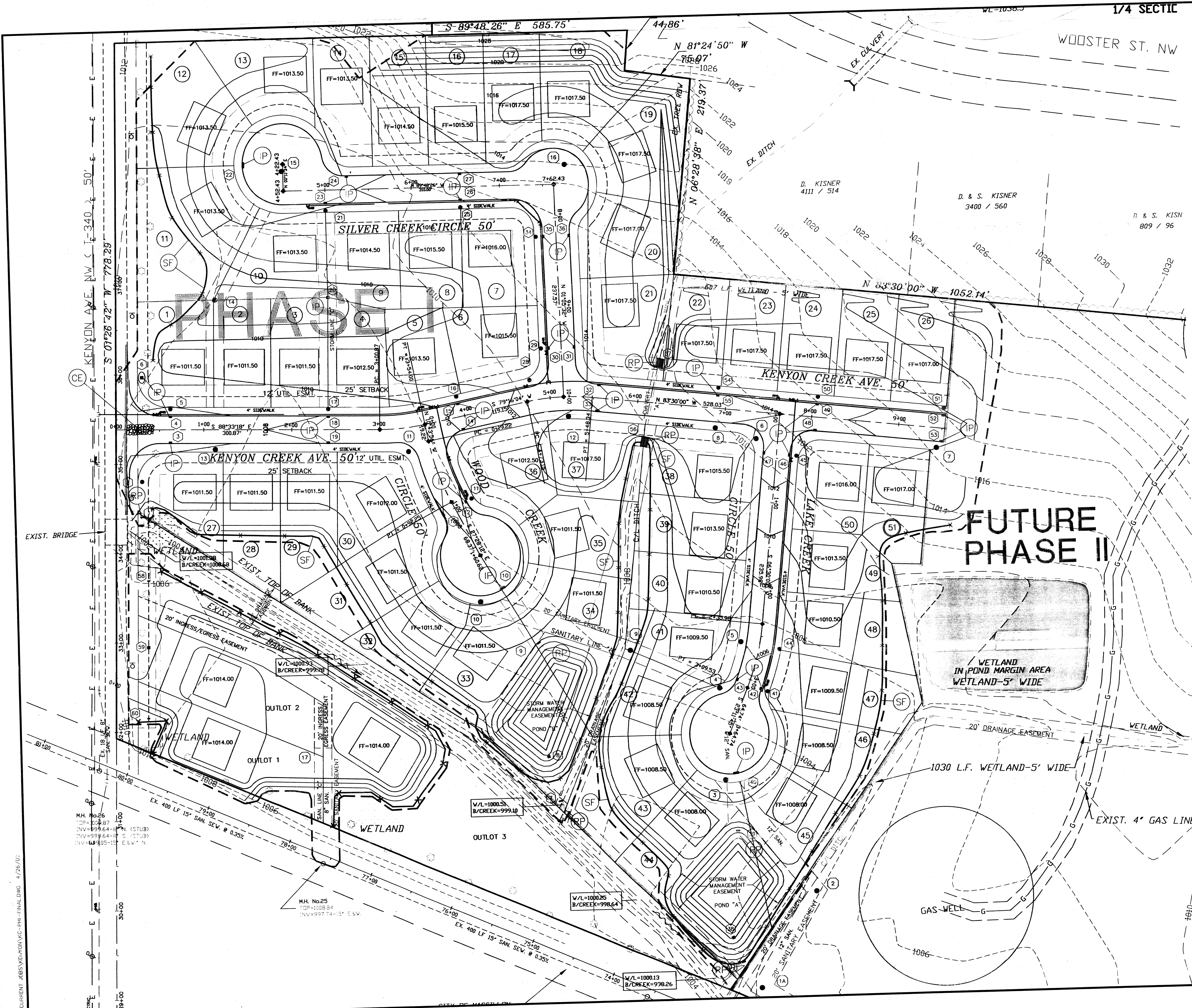
1. CONSTRUCTION SHALL BE INSPECTED BY THE CITY OF MASSILLON ENGINEERING DEPARTMENT. A PRE-CONSTRUCTION MEETING IS REQUIRED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. CONTACT JASON HAINES AT 330-830-1722.
2. THE CONTRACTOR OR OWNER MUST NOTIFY THE ENGINEERING DEPARTMENT FOR MATERIAL AND CONSTRUCTION INSPECTION AT LEAST THREE (3) WORKING DAYS PRIOR TO THE TIME WORK IS STARTED ON THE PROPOSED PROJECT WHICH THE CITY OF MASSILLON WILL INSPECT.
3. MATERIALS:
SANITARY SEWER
THE CONTRACTOR SHALL USE SDR 35 PVC PIPE IN ACCORDANCE WITH ITEM 707.44 OF THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION) UNLESS NOTED OTHERWISE ON THE PLANS, WITH CLASS "B" BEDDING IN ACCORDANCE WITH SECTION 603.04.
STORM SEWER
ALL STORM SEWERS 12" OR GREATER SHALL BE REINFORCED CONCRETE PIPE IN ACCORDANCE WITH ITEM 706.02 OF THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION) UNLESS OTHERWISE NOTED ON THE PLANS, WITH CLASS "B" BEDDING IN ACCORDANCE WITH SECTION 603.04.
4. ALL TRENCH BACKFILL SHALL BE GRANULAR MATERIAL THAT CONFORMS TO O.D.O.T. ITEM 603.
5. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
6. ALL MANHOLE TOPS WITHIN STREET RIGHTS-OF-WAY ARE TO BE SET FLUSH WITH FINISHED GRADE. ALL MANHOLES SHALL BE SUPPLIED WITH SOLID LIDS EXCEPT IN EASEMENTS WHERE THE MANHOLE COVERS SHALL BE THE SOLID-LOCKING TYPE.
7. ALL SANITARY MANHOLES SHALL HAVE PRECAST CONCRETE BOTTOMS AND INVERTS CHANNELLED TO CARRY FLOW.
8. CONTACT OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS BEFORE BEGINNING WORK.
9. COST OF WYES AND STUBS TO BE INCLUDED IN PRICE BID PER LINEAR FOOT OF SANITARY SEWER.
10. PRICES BID PER FOOT FOR ALL PIPE IS COMPLETE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITIONS.
11. ALL FILL AREAS UNDER PAVEMENT, STRUCTURES AND OTHER AREAS INDICATED ON THE PLANS SHALL CONFORM TO CITY SPECIFICATIONS.
12. EACH SANITARY LATERAL (6" PVC SDR 35 MATERIAL) IS TO BE EXTENDED AT LEAST 12" INTO A LOT, OR BEYOND THE FARTHEST UTILITY, WHICHEVER IS GREATER. EACH LATERAL SHALL BE NO SHALLOWER THAN EIGHT (8) FEET BELOW GRADE AT ITS TERMINUS.
13. EXCESS EXCAVATION TO BE PLACED IN ACCORDANCE WITH THE APPROVED GRADING PLAN.
14. FERTILIZING, SEEDING AND MULCHING FOR THE RESTORATION OF DISTURBED AREAS BETWEEN THE PAVEMENT EDGES AND THE RIGHT-OF-WAY LINE AND EASEMENTS SHALL CONFORM TO O.D.O.T. ITEM 659 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION). TOPSOIL IS TO BE SPREAD 4" THICK OVER ALL DISTURBED AREAS.
15. ALL SANITARY SEWERS TO PASS AIR AND MANDRELL TESTS AND TO BE VIDEO-TAPED, WITH ALL COSTS TO BE AT THE DEVELOPER'S EXPENSE.
16. COST OF ANY SHEETING OR DEWATERING NECESSARY FOR THE INSTALLATION OF SANITARY SEWER SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF RESPECTIVE ITEMS. ANY FOUNDATION SLAG REQUIRED WILL BE INCLUDED IN THE COST OF THE SANITARY SEWER.
17. ALL EXISTING ROAD SURFACES, EASEMENTS OR RIGHTS OF WAY DISTURBED BY CONSTRUCTION OF ANY PART OF THIS IMPROVEMENT PLAN ARE TO BE RESTORED COMPLETELY TO THE "BEFORE CONSTRUCTION" CONDITION OR BETTER AND ALL COSTS ARE INCLUDED IN THE PAY ITEMS.
18. TEMPORARY SOIL EROSION AND SILTATION CONTROL WILL BE REQUIRED IN ACCORDANCE WITH O.D.O.T. ITEM 207 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION).
19. ALL SEWER RUN DISTANCES GIVEN ARE FROM CENTERLINE TO CENTERLINE OF MANHOLES OR INLETS. ALL INVERT ELEVATIONS GIVEN ARE TO CENTERLINE OF MANHOLE OR INLET. ALL TOP ELEVATIONS ARE TO TOP OF MANHOLE OR BACK OF CURB AT INLETS. SEWER GRADES ARE ESTABLISHED FROM CENTERLINE TO CENTERLINE OF MANHOLE OR INLET AND ARE CARRIED THROUGH TO ASSURE POSITIVE FLOW FROM INVERT TO INVERT.
20. ALL SANITARY LATERALS SHALL BE LAID AT NO LESS THAN 1.00%.
21. AS-BUILT DRAWINGS ARE REQUIRED UPON CONSTRUCTION COMPLETION.





STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W. CORNER
OF BRIDGE OVER CREEK AT KENYON CREEK AVE.
(STAMPED EL. 1008.72)

KENYON CREEK ESTATES PHASE I CITY OF MASSILLON, OHIO		DATE: MARCH, 2002	3
PROJECT NUMBER		SCALE: H: 1" = 50'	2
A. R. LOCKHART DEVELOPMENT CO. 800 W. WATERLOO RD. ANSON, OH 44814 PH: 330-745-0320 FAX: 330-745-0716		SCALE: V: 1" = 5'	1
THE OIL AND GAS PRODUCERS UNDERGROUND PROTECTION SERVICE GRANVILLE, OHIO 43023-0206 PHONE (614) 587-0486 OR CALL TOLL FREE 800-925-0988		DESIGNER: J.S.S.	No.
2 WORKING DAYS BEFORE YOU DIG CALL TOLL FREE: 800-362-2764 OHIO UTILITIES PROTECTION SERVICE		DRAFTER: C.T.S.	DATE
SITE AND UTILITY PLAN		REVISION	
		2 17	



STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W. CORNER
OF BRIDGE OVER CREEK AT KENYON CREEK AVE.
(STAMPED EL. 1008.72)

EROSION CONTROL LEGEND

- CE CONSTRUCTION ENTRANCE
- DD DIVERSION DIKE
- SF SILT FENCE
- IP INLET PROTECTION
- RP ROCK CHANNEL PROTECTION

EROSION CONTROL NOTES

1. THIS PLAN IS IN CONFORMANCE WITH LOCAL WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.
2. DUMPED ROCK CHANNEL PROTECTION IS TO BE PLACED AS PER PLAN.
3. INSTALL GEOTAB OR EQUAL FABRIC FENCE AS SHOWN, 3.5' IN HEIGHT, AS PER MANUFACTURER'S RECOMMENDATIONS. THIS FABRIC FENCE WILL BE USED DURING GRADING OPERATIONS AND UNTIL ALL BARE AREAS ARE STABILIZED.
4. ALL AREAS LEFT BARE DUE TO CONSTRUCTION AND ARE NOT DISTURBED FOR 14 DAYS SHALL BE SEEDED.
5. TEMPORARY SEEDING OF ENTIRE SITE SHALL OCCUR BY NOVEMBER 1st, UNLESS THE SITE CAN BE FINAL SEEDED BY NOVEMBER 15th.
6. SEDIMENT PONDS/TRAPS AND PERIMETER CONTROL SHALL BE IMPLEMENTED AS A FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE STABILIZED.
7. DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 45 DAYS OR MORE, SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 7 DAYS.
8. EROSION CONTROL BLANKETS WITH MATTING WILL BE USED ON DITCHES GREATER THAN 1.5% AND ALL OTHER SLOPES GREATER THAN 6% GRADE.
9. BUILDER IS RESPONSIBLE FOR EROSION CONTROL ON EACH INDIVIDUAL LOT. BUILDER MUST FILE AN INDIVIDUAL LOT NOTICE OF INTENT (NOI) WITH OHIO E.P.A.
10. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.
11. OFF-SITE SEDIMENT TRACKING SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN.
12. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (1998).
13. OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
14. REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD.
15. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24-HOUR PERIOD. PROVIDE THE NAME OF THE INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION AND ANY CORRECTIVE MEASURES TAKEN.

SEWERAGE
APPROVED
BY THE OHIO DEPARTMENT OF
HEALTH
AS EVIDENCED BY COPY OF
LETTER OF APPROVAL
HERE TO ATTACHED

THE OIL AND GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
P.O. BOX 206
GRANVILLE, OHIO 43023-0206
PHONE (614) 587-0486 OR
CALL TOLL FREE 800-925-0988

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

KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

PROJECT
NUMBER

A. R. LOCKHART DEVELOPMENT CO.
8800 W. WATERLOO RD. AKRON, OH 44314
Ph: 330-745-6520 Fax: 330-745-0716

A.R.L.

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GRADING AND S.W.P.P. PLAN

GENERAL NOTES FOR EROSION AND SEDIMENTATION CONTROL MEASURES

- Soil stabilization measures shall include temporary and/or permanent seeding, sodding, mulching, riprap and grading.
- Runoff control measures shall include: diversions, waterways, subsurface drainage, structures and outlet protection.
- Sediment control measures shall include sediment basins, construction road stabilization, straw bale barrier, silt fences, storm drain inlet protection, land grading and vegetation filters.

I. SOIL STABILIZATION

Temporary Seeding and Mulching

Temporary seeding shall be done on disturbed areas within 7 working days where additional work is not scheduled for a period of three weeks to less than a year. Lime on acid soil shall be applied at the rate of 100 pounds per 1000 SF, using agricultural ground limestone. Fertilizer shall be applied at the rate of 12-15 pounds per 1000 SF, of 10-10-10 or 12-12-12 analysis or equivalent. Both shall be worked into the soil with a harrow to a depth of two (2) inches. Seeding species shall be selected from the following according to season of the year and applied at the rate shown.

March 1 - Aug. 15:	Oats	3 lb. per 1000 SF.
	Perennial Ryegrass	1 lb. per 1000 SF.
	Tall Fescue	1 lb. per 1000 SF.
Aug. 16 - Nov. 1:	Rye	3 lb. per 1000 SF.
	Wheat	1 lb. per 1000 SF.
	Perennial Ryegrass	1 lb. per 1000 SF.
	Tall Fescue	1 lb. per 1000 SF.

Seed shall be applied uniformly on a firm, moist seedbed. Wheat or rye no deeper than one inch. Ryegrass no deeper than 1/4 inch. When feasible, seedbed shall be firmed following seeding operation.

Temporary mulching will be applied uniformly and shall consist of small grain straw (wheat or rye) and shall be applied at the rate of 100 lbs. per 1000 SF. Anchoring methods can be mechanical; asphalt emulsion, applied at the rate of 160 gal. per acre; or by mulch nettings.

All temporary seeding shall be watered as necessary until such time as the plant growth is firmly established.

Permanent Seeding and Mulching

Permanent seeding shall be done on disturbed areas within 7 working days of finish grading where long lived vegetation cover is needed to stabilize the soil and in rough graded areas which will not be final graded for several months or more.

Soil material should consist of 25% silt and clay. Where compacted soils occur, they shall be broken up to a depth of 6-8 inches to create favorable rooting. Final grading, topsoil application and all erosion control devices shall be in place and time and fertilizer shall be worked into the soil to a depth of three inches before permanent seeding is done. On sloping land this final operation shall be on the contour. (Note: lime and fertilizer shall be applied at the same rate as for temporary seeding.)

Seeding species shall be selected from the following according to the season and the site and shall be applied at the rate shown: (Other seed species may be substituted with the approval of the Engineer.)

Dates	Seed and/or Mixture	Per 1000 SF.
March - May	a) Creeping Red Fescue, Domestic Ryegrass+	1/2 lb.*
Aug. - Sept.	b) Kentucky Bluegrass & Tall Fescue	1/4 lb.
(* For lawns increases 2-3 times)	c) Dwarf (turf type) fescue	1 lb.*

For steep banks or cut the following is recommended:

March - May	d) Tall Fescue	1 lb.
August	e) Cramchick & Tall Fescue	1/4 lb.
	f) Flotea + Tall Fescue	1/2 lb.

For waterways and road ditches the following is recommended:

March - May	g) Tall Fescue	1 lb.
Aug. - Sept.		

For dormant seeding from November 20 through March 15, prepare as permanent for seeding increasing the seeding rates by 50%.

Mulching for permanent and dormant seeding shall be applied uniformly and shall consist of small grain straw (wheat or rye) applied at the rate of 100 lbs. per 1000 SF. Anchoring methods can be mechanical; asphalt emulsion, applied at the rate of 160 gal. per acre; or by mulch nettings.

Maintenance of permanent and dormant seeding areas shall consist of watering as necessary, repair (if inadequate), overseed and fertilize using half of original rate and mulch, if over 60% damaged - reestablish as originally prepared, fertilizing and mowing.

Fertilizer Rate Formula	Rate	Time	Mow
For: a)	10-10-10	12 lb. per 1000 SF.	Fall/yearly
b & d)	10-10-10	12 lb. per 1000 SF.	Fall/yearly
c)	10-10-10	12 lb. per 1000 SF.	Fall/yearly
e & f)	0-20-20	10 lb. per 1000 SF.	Spring/yearly

Sodding
Sodding shall be used when it is necessary to establish permanent turf immediately as for waterways with intermittent flow, drop inlets in grassed swales and residential or commercial lawns for aesthetic purposes.

The site shall be prepared as if for permanent seeding. Lime on acid soil shall be applied at the rate of 100 lbs. per 1000 SF, using agricultural ground limestone. Fertilizer shall be applied at the rate of 25 lbs. per 1000 SF, of 10-10-10 or 12-12-12 analysis. Both shall be worked into the soil with a harrow to a depth of 3 inches.

The sod shall be cut with smooth, clean edges and square ends and a uniform thickness of not less than 3/4 inch measured from the crown of the plants to the bottom of the sod strips. Bluegrass shall be cut to a thickness of not less than 1 1/2 inches. The sod shall be moved to not less than 2 inches nor more 4 inches and shall be kept moist and covered until placement. No sod shall be placed when the temperature is below 32° F, nor shall frozen sod be placed, or sod be placed on frozen soil. When placed during June thru September and December thru February, it shall be uniformly covered immediately with approximately 1/2 inch of straw mulch. Sod shall be placed continuously with joints staggered. On steep channels the sod shall be stacked using wood stakes 1/2"x3/4"x12". They shall be driven flush with the top of the sod with the flat side against the slope. Where sodding does not establish, failure should be ascertained, corrected and resodded preparing the area as before.

Ground Cover

Ground cover shall be used where vegetation other than turf is preferred, on steep or rocky slopes, where ornamentals are desirable, where turf maintenance is difficult, for soil conservation or to establish wildlife habitat.

Planting should be done in early spring to May 1st for bare root stock. Potted stock may be planted later. For short slopes and/or small areas 5-10-10 fertilizer with 10-10-10 fertilizer shall be applied at the rate of 30-50 lbs. per 1000 SF, and worked into the soil to a depth of 4-6 inches. For steep slopes and/or larger areas, center hole planting is recommended. Each plant shall be fertilized with 1 oz. of 10-10-10 and organic material as needed. Mulch shall be added to the entire area, in severe areas, jute or fibreglass matting may be required. Unless a controlled release fertilizer was used at the time of planting, the area shall be fertilized with 5-10-10 at the rate of 2-3 lbs. per 100 SF. In the spring of the second growing season.

Trees and Shrubs

Bare root seedlings shall be planted only while dormant in spring. They shall be planted vertically and slightly deeper than originally taking care not to bend the main root. For balled or container grown trees (deciduous), spring planting is preferred, for evergreens fall is preferred. The soil ball should be 12 inches in diameter for each inch diameter of the trunk, wrapped in burlap and kept moist until planting. Each tree shall be supported with stakes or guy wires, thoroughly watered and mulched. Depending upon rainfall, trees upon rainfall, trees shall receive water once a week. Fertilizer shall be added within a year using a 10-8-6 or 10-6-4 at a rate of 2 lbs. per inch of trunk diameter measured 4 feet from the ground. For evergreen use 1/2 the amount of chemical fertilizer or use only organic fertilizers. Fertilize in late fall or early spring before leaf coverage.

Mulching, Permanent and Temporary

- Organic - Hay or straw, corn stalks, wood chips or shredded bark.
- Synthetic - Emulsions or dispersion of vinyl compounds, asphalt, rubber, etc. mixed with water.
- Jute or vinyl matting.
- Gravel or crushed stone.

Organic	Rate	Notes (1) Temporary (P) Permanent
A) Straw (T)	90 lb./1000 SF.	Free from weeds. Must be anchored.
B) Wood chips (T or P)	9-10 yd./1000 SF.	3" deep, treat w/ 12 lb. nitrogen/ton. Do not use in firm turf area.
C) Bark chips or shredded bark (T)	1 1/2-2 yds./1000 SF.	1/2" deep. Do not use in firm turf area.
D) Gravel or crushed stone (P)	9-10 yd./1000 SF.	3" deep.

Mulch may be anchored by use of an anchoring tool designed to punch mulch approximately 2 inches into the soil surface, with a liquid binder, with mulch nettings or with peg and twine.

Chemical mulches may be used when no other material is available, to bind other mulches, or with wood fiber in a slurry at any time. Manufacturer's recommendations for application shall be followed.

Nets may be used on level areas, on slopes no steeper than 3:1, in waterways and over organic mulch except for wood fiber. Wood fiber may be sprayed on top of net. Excelsior blankets are considered protective mulches and may be used alone at all time of year. Staples will be No. 8 gauge or heavier plain iron wire and 6 inches in length. Net shall be stapled every 12 inches across the top, at 3 foot intervals down the center and at the edges. Adjacent edges shall be overlapped 3 inches. When joining strips overlap the end of the previous roll 18 inches, turn under 6 inches and staple across every 12 inches. After installation, net shall be rolled.

Riprap

Riprap shall be used as designated to protect soil from erosion, to slow runoff velocity or to stabilize slopes. Riprap shall conform to ODOT material specifications for graded riprap by diameter and weight. Filter blankets may be a gravel layer or a plastic filter cloth. Filter blankets shall be required at storm drain outlets. Filter blanket edges shall overlap at least 12 inches and be anchored with 15 inch long pins every 3 feet. Upper and lower end shall be buried 12 inches.

Construction Road Stabilization and Grading

Construction road stabilization and grading shall be done in compliance with these plans, ODOT Specifications and any local standards and specifications governing the area within the boundaries of this project.

II. Runoff Control

Diversions

A diversion is an earthen channel with a supporting ridge on the lower side constructed across the slope that shall be used to divert runoff to a stabilized outlet, to a sediment basin, or to shorten the flow length. All permanent diversion ridges and channels are to be seeded to prevent erosion. See details for example.

Waterways

Waterways will be a natural or constructed waterway or outlet established to dispose of runoff without causing erosion. The preferred cross section is parabolic; however, trapezoidal or triangular are acceptable (see details). Grade and depth shall be as shown on the plans. Filter strips/sedimentation control shall be provided when sediment is to be controlled before it reaches the waterway. Waterway lining may be done by: sodding, concrete, riprap or flagstone.

Subsurface Drainage

Subsurface drainage shall consist of perforated conduits installed to intercept and convey ground water. Size and type of conduit shall be as specified in the plans with 3 inches being minimum. Minimum depth is 24 inches, preferred is 36 inches and spaced at 50 ft. intervals. See "Ohio Drainage Guide".

Pipe Structures

Pipe structures shall be as shown on the plans and shall conform to ODOT Materials and Specifications and local standards and specifications governing the area within the boundaries of this project. See Details.

Outlet Protection

Outlet protection shall be shown on the plans and shall conform to ODOT Materials and Specifications and local standards and specifications governing the area within the boundaries of this project. See Details.

III. SEDIMENT CONTROL

Sediment Basins

A sediment basin is a temporary barrier across a watercourse to retain sediment. Height shall be 25 feet or less with a total storage volume of 150 acre feet, a drainage area of 100 acres or less shall be removed within three years after construction. A construction permit is required from the Division of Water, Ohio Department of Natural Resources if the height of the dam is 10 feet or greater. Should it be desirable for a sediment basin to become a storm water retention basin, it must be constructed as such. Sillway pipe design for Class 1 dams will be sufficient to pass the runoff of a 10 year, 24 hour, storm the minimum top width shall be 10 feet, the upstream slope no steeper than 2:1 and the downstream slope 5:1. For Class 2 and 3 dam pipe design shall be for 2 year, 24 hour storm, a minimum top width of 10 feet and side slopes no steeper than 2.5:1. Where basins are accessible to the public, they should be fenced and posted.

Silt Fence/Filter Barrier

A silt fence consists of a synthetic filter fabric, posts, with or without wire fence for support. Fabric shall have a standard tensile strength of 30 lbs./in. inch, (minimum) and shall be a pervious sheet of polypropylene, nylon polyester or ethylene yarn. Posts shall be 4 inch diameter wood or 1.33 lb./in. ft. steel, 5 feet long. Steel posts shall have projections for fastening wire. Wire fence reinforcement shall be a minimum of 42 inches high, 14 gauge and maximum mesh spacing of 6 inches. Maximum height of a silt fence shall be 36 inches with posts spaced at 10 feet apart and driven a minimum of 12 inches into the ground. See Details.

A filter barrier consists of stakes and burlap or synthetic filter fabric. Fabric may be the same as for a filter fence or burlap of 10 oz. per Sq.Yd. Stakes shall be 1"x2" wood and a minimum length of 3 feet. Minimum height shall be 15 inches and shall not exceed 18 inches. Stakes shall be a maximum of 3 feet apart and set a minimum of 8 inches into the ground. See Details.

Storm Drain Inlet Protection

Where storm drain inlets are made operational before permanent stabilization is complete, a sediment filter using strips of sod or gravel and wire mesh shall be utilized. See Details.

Filter Strip

Shall be an area of vegetation a minimum of 15 feet wide by 100 feet long and shall be used to reduce sediment damage from sheet flow to adjacent property.

Seeding	Rate/Acre	Yst	Well Grained
a) Alfalfa + Red Clover + Timothy or Orchardgrass or Bromegrass	10 lb. 4 lb. 6 lb. 6 lb.		X
b) Ladino Clover + Timothy or Orchardgrass or Bromegrass	1/2 lb. 4 lb. 4 lb. 8 lb.	X	X
c) Tall Fescue + Tall Fescue	15 lb. 10 lb.	X	X

* Recommend for wildlife habitat.

Streambank Stabilization

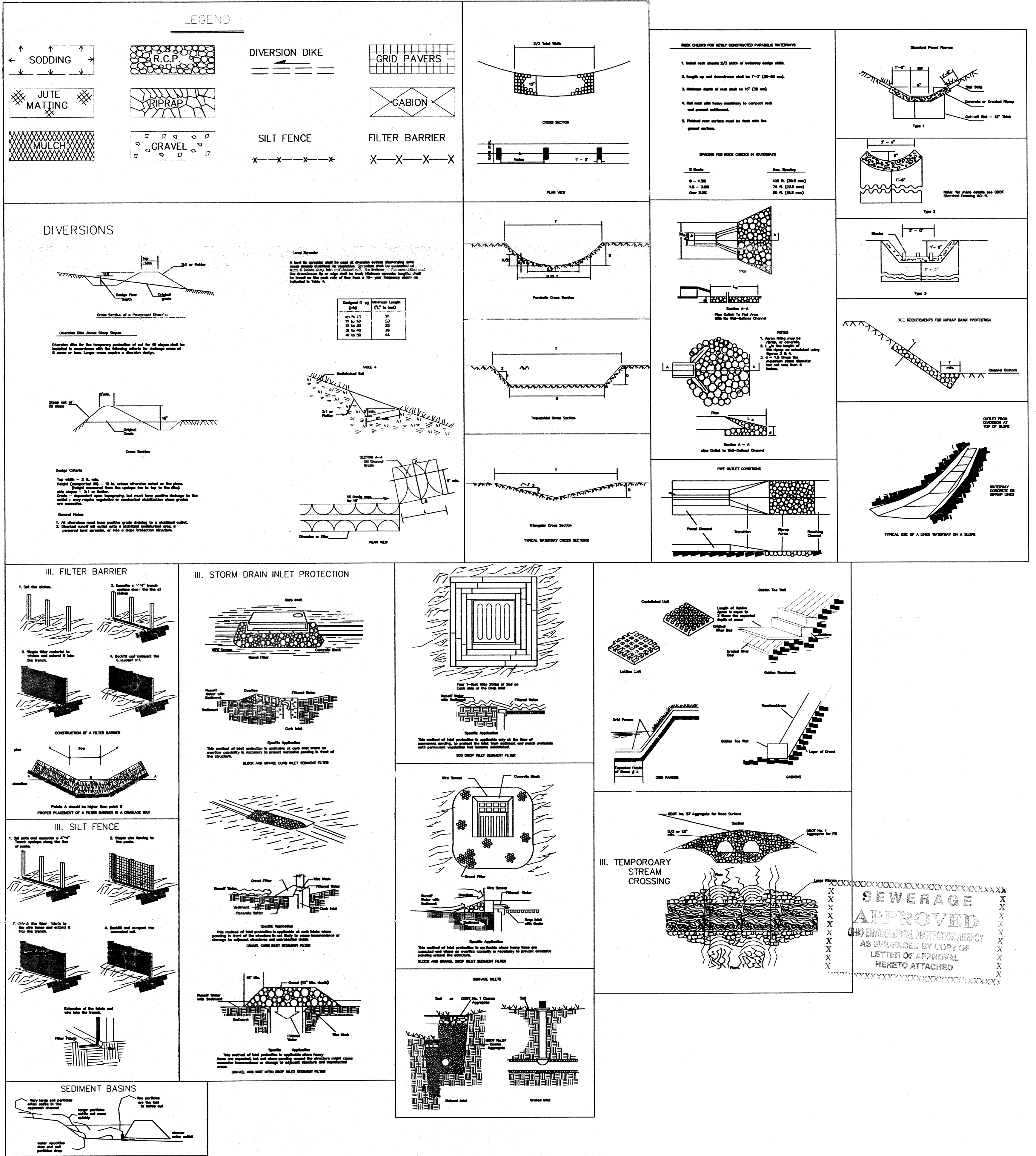
Where vegetation is used to stabilize stream banks, trees and brush that will affect desirable growth will be removed, debris cleared and overhanging bank edges cut back to 2-1 or better. The seedbed shall be raked and fertilized with 15-15-15 at the rate of 24 lb. per 1000 SF. Seed with Tall Fescue at a rate of 1 lb. per 1000 SF, and mulch at a rate of 80 lb. per 1000 SF. Shrubs shall be either "Streamco" Purpleleaf or "Bankers" Willow, using either 1 year old nursery stock or first cuttings. Nursery stock will be planted at the same depth as originally and cuttings shall be 3/8" to 1/2" thick and 12 to 18 inches long. For streambank seeding methods, see "Water Management and Sediment Control for Urbanizing Areas".

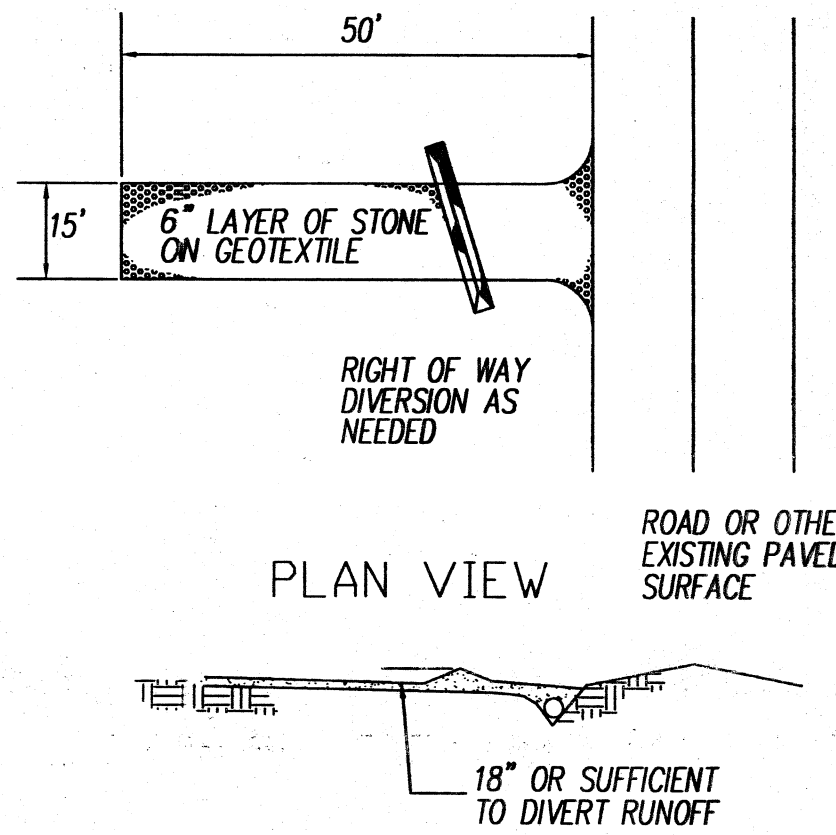
When structures are necessary to protect streambanks from erosion, the following methods may be used.

- Riprap - See previous note.
- Gobions - Rectangular rock filled wire baskets, designed and installed in accordance with manufacturer's standards and specifications. See Details.
- Deflections (grains or jetties) - Barriers projecting into stream to divert flow from eroding section.
- Reinforced concrete - Retaining walls or bulkheads with positive drainage.
- Log cribbing - Retaining wall of logs.
- Grid Pavers - Modular concrete units. Design and installation to be in accordance with manufacturer's instructions. See Details.

Temporary Stream Crossing

Where culverts are installed to provide a temporary stream crossing, the pipes shall be large enough to convey a 2 year storm without altering the stream flow. Minimum size pipes shall be 18". Compacted soil covering the pipes shall be equal to 1/2 the diameter of the pipes or 12 inches whichever is greater. The compacted fill shall have a 6" minimum cover of ODOT No. 1 stone and the minimum approved length shall be 25 feet. The structure shall be removed when it is no longer necessary for project construction and the stream return to its original condition. See Details.

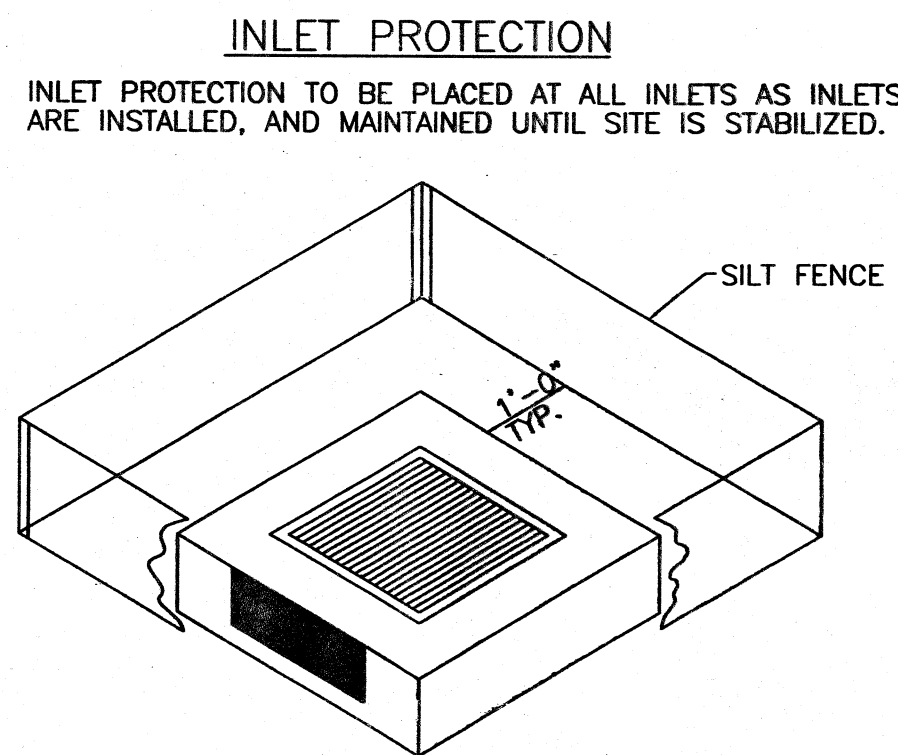




PLAN VIEW
PROFILE
TEMPORARY CONSTRUCTION DRIVE

TEMPORARY CONSTRUCTION DRIVE NOTES:

1. STONE SIZE- TWO-INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT
2. LENGTH- THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FEET.
3. THICKNESS- THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK.
4. WIDTH- THE ENTRANCE SHALL BE AT LEAST 15 FEET WIDE.
5. BEDDING- A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LBS. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LBS.
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.



IP SILT FENCE FILTER FOR INLETS

NOTE:

REQUIRED EROSION CONTROL FOR ALL PROPOSED CURB INLETS

1. INSTALL SILT FENCE ENTIRELY AROUND EACH INLET AND MAINTAIN AS REQUIRED.
2. UPON INSTALLATION OF CONCRETE PAVEMENT WITH INTEGRAL CURB, MAINTAIN SILT FENCE BEHIND THE CURB (OR PLACE STRAW BALES).
3. MAINTAIN THE SILT FENCE (OR STRAW BALES) BEHIND THE CURB UNTIL GRASS IN THE TREE LAWN AREA IS ESTABLISHED.

SEDIMENT PONDS/TRAPS AND PERIMETER CONTROLS SHALL BE IMPLEMENTED AS A FIRST STEP OF GRADING WITHIN 7 DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE STABILIZED.

DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 45 DAYS OR MORE, SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROPRIATE MEANS WITHIN 7 DAYS.

DITCHES WITH GRADES GREATER THAN 1.5% WILL HAVE EROSION CONTROL BLANKETS/MATTING INSTALLED AS PART OF STABILIZATION MEASURES.

BUILDER IS RESPONSIBLE FOR EROSION CONTROL ON INDIVIDUAL LOTS.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

OFF-SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROADS(S) NOTED ON PLAN.

ALL EROSION AND SEDIMENTATION CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO WATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK FOR URBANIZING AREAS.

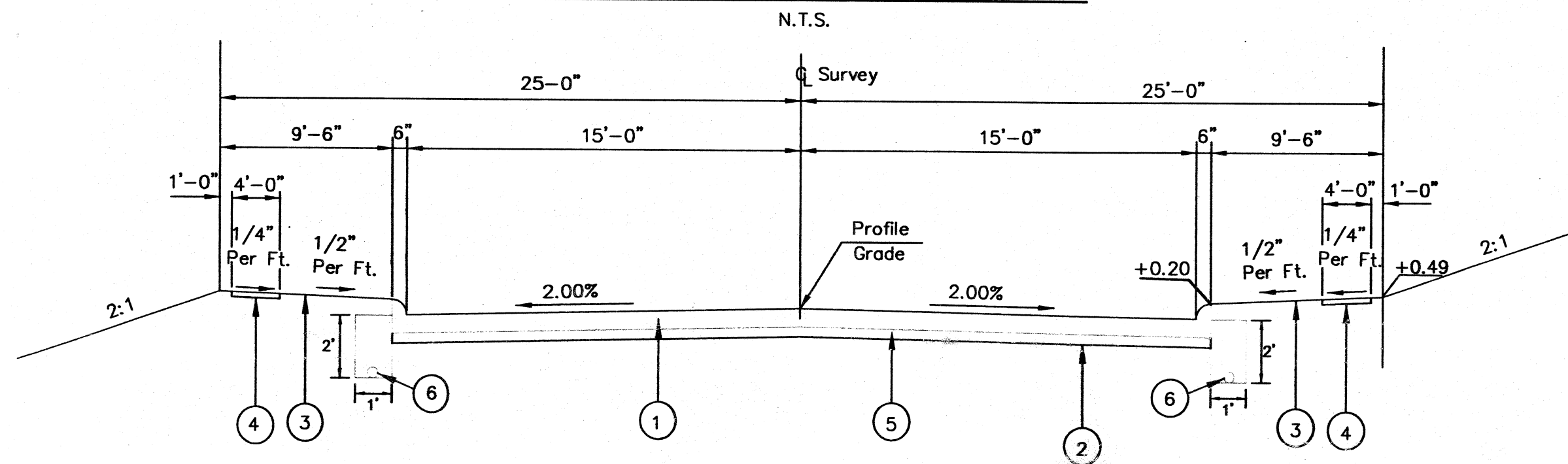
OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.

REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY SEVEN DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24 HOUR PERIOD. PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN.

GENERAL NOTES												
-NOTICE OF INTENT (NOI) MUST BE SUBMITTED TO OHIO EPA FOR NPDES PERMIT 45 DAYS PRIOR TO THE START OF CLEARING AND OR GRADING.												
- CONSTRUCTION MUST COMPLY WITH ALL LOCAL EROSION AND SEDIMENT CONTROL REGULATIONS.												
- NO SOLID OR LIQUID WASTE SHOULD BE DISCHARGED INTO STORM WATER RUNOFF.												
- OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED.												
- SWPPP MUST SHOW COMPLIANCE WITH LOCAL WASTE DISPOSAL, SANITARY, AND HEALTH REGULATIONS.												
PERMANENT RECORDS OF MAINTENANCE AND INSPECTION MUST BE MAINTAINED A MINIMUM OF ONCE EVERY SEVEN DAYS AND AFTER STORM EVENTS GREATER THAN 0.5 INCH IN A 24 HOUR PERIOD. NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF INSPECTION, CERTIFICATION OF COMPLIANCE, CORRECTIVE MEASURES TAKEN. RECORDS MUST BE MAINTAINED FOR 2 YEARS AFTER NOTICE OF INTENT PER OHIO EPA NPDES PERMIT.												
REPAIRS												
ANY EROSION CONTROL MEASURES, STRUCTURES, DEVICES, OR RELATED ITEMS IN NEED OF REPAIR WILL BE MADE WITHIN FIFTEEN DAYS.												
SOIL PROTECTION CHART												
STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D
PERMANENT SEEDING	*	*	*	*	*	*	*	*	*	*	*	*
DORMANT SEEDING	*	*	*	*	*	*	*	*	*	*	*	*
TEMPORARY SEEDING	*	*	*	*	*	*	*	*	*	*	*	*
SODDING	*	*	*	*	*	*	*	*	*	*	*	*
MULCHING	*	*	*	*	*	*	*	*	*	*	*	*
** IRRIGATION NEEDED DURING JUNE THRU AUGUST												
** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER APPLYING SOD												
EROSION CONTROL SCHEDULE PROJECT IMPLEMENTATION SCHEDULE												
SYMBOL	ODOT ITEM	QUANTITIES	UNITS	DESCRIPTION								
1. SITE VEGETATION												
X	201.03	13.5	ACRE	SITE CLEARING LIMITS (DENUDED AREA)								
2. SEDIMENT CONTROL MEASURES												
SF	207	3200	L.F.	SILT FENCING (FILTER FABRIC FENCE)								
SBB	207	X	BALE	STRAW BALE BARRIER								
SB	207	X	C.Y.	SEDIMENTATION BASINS								
IP	207	32	EA.	INLET PROTECTION (FABRIC)								
D	207	X	L.F.	DRAINAGE-WAY ROUTING (DIVERSIONS)								
SPS	603	X	L.F.	STR. WTR. DISCHARGE CONDUIT ROUTING								
3. SITE GRADING												
TSM	207	13.5	ACRE	TEMP. SEEDING & MULCHING MIX NO. 1								
FS	207	X	S.Y.	VEGETATIVE FILTER STRIP								
DP	207	X	S.Y.	DITCH PROTECTION								
	651	X	C.Y.	TOPSOIL STOCKPILE								
CRS	703.01	X	TONS	CONST. ROAD STABILIZATION #1 AGGREGATE								
4. SITE IMPROVEMENT INSTALLATION												
IP	207	32	EA.	INLET PROTECTION								
CP	601	X	C.Y.	ROCK CHANNEL PROTECTION TYPE A W/ FILTER								
OP	601	16	C.Y.	ROCK OUTLET PROTECTION TYPE B W/ FILTER								
PS M	659	X	ACRE	PERM. SEEDING & MULCHING MIX NO.2								
5. MISCELLANEOUS												
SCD	207	X	EA.	SILTATION CHECK DAM								
EM	670	X	S.Y.	EROSION CONTROL MAT								

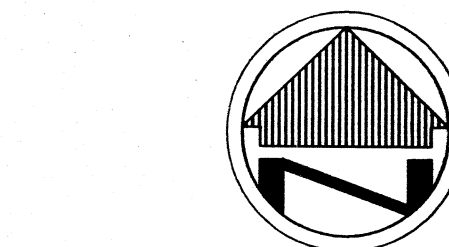
SCHEDULE OF MAJOR CONSTRUCTION OPERATIONS													2002	
	J	F	M	A	M	J	J	A	S	O	N	D		
CLEARING				X	X									
SILT FENCE				X	X									
SEDIMENT BASINS				X	X									
STRAW BALE BARRIERS				X	X									
DRAINAGE-WAY ROUTING														
INLET PROTECTION						X	X	X	X					
DITCH PROTECTION														
MULCHING														
TEMP. SEEDING & MULCHING						X	X	X	X	X				
PERM. SEEDING & MULCHING						X	X	X	X	X				

TYPICAL SECTION



LEGEND

- ① Item 452 7" Plain Portland Cement Concrete Pavement
- ② Item 203 Subgrade Compaction
- ③ Item 659 Seeding and Mulching
- ④ Item 608 4" Concrete Sidewalk (6" @ Drives)
- ⑤ Item 304 6" Aggregate Base
- ⑥ Item 605 4" Pipe Underdrain (Install only if directed by the City of Massillon Engineer during construction & inspection of subgrade in cut areas only)



LEGEND

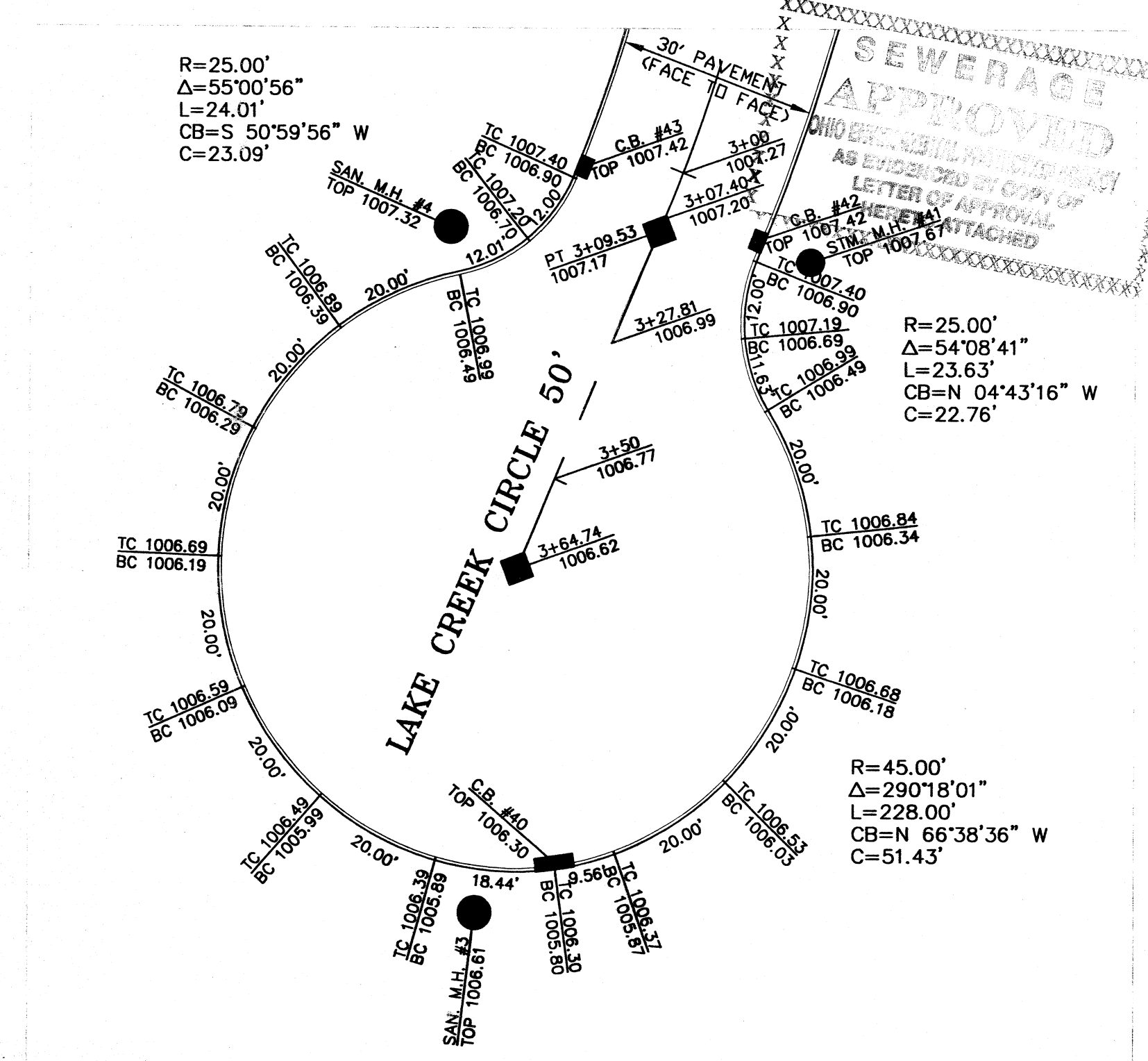
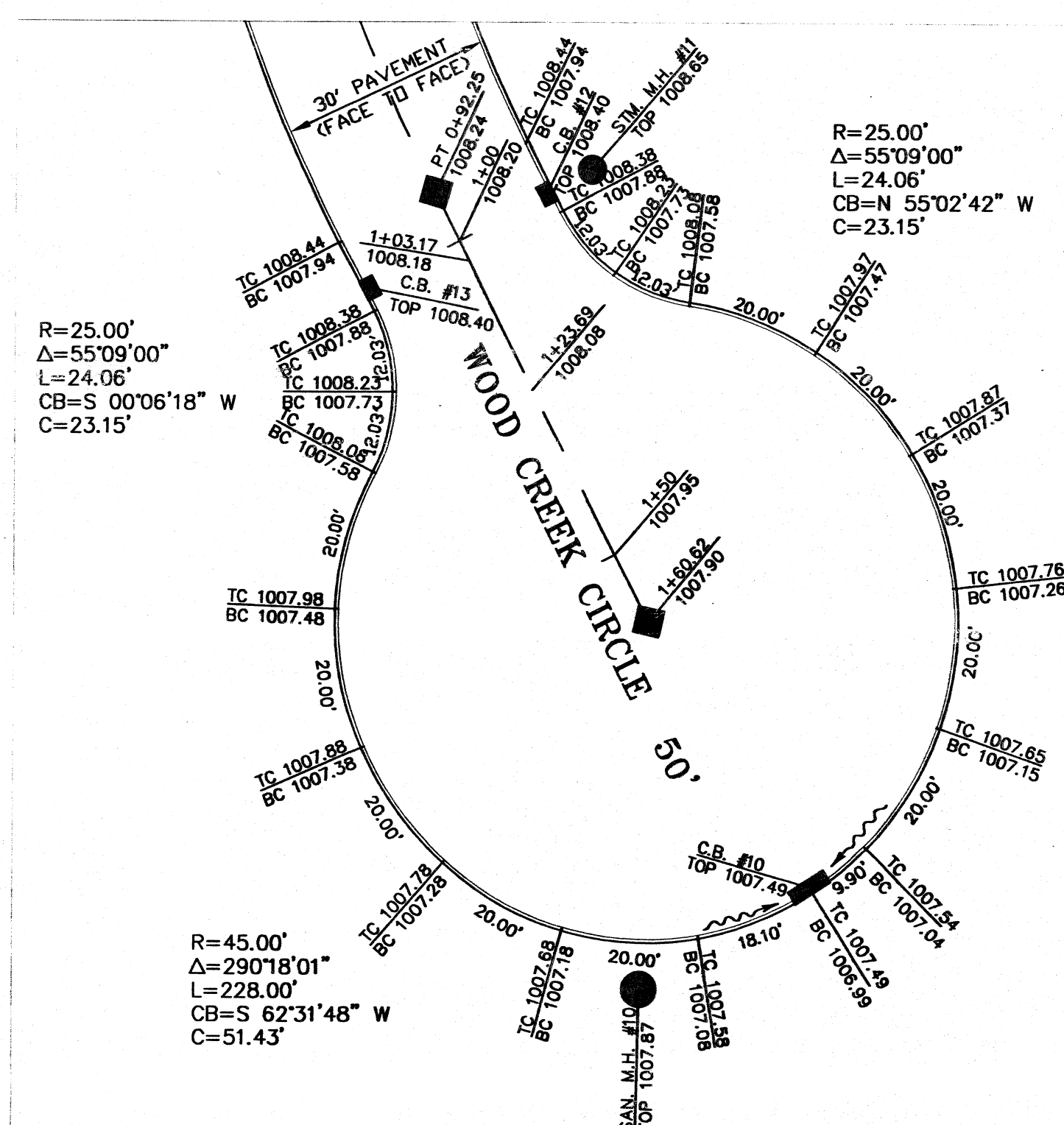
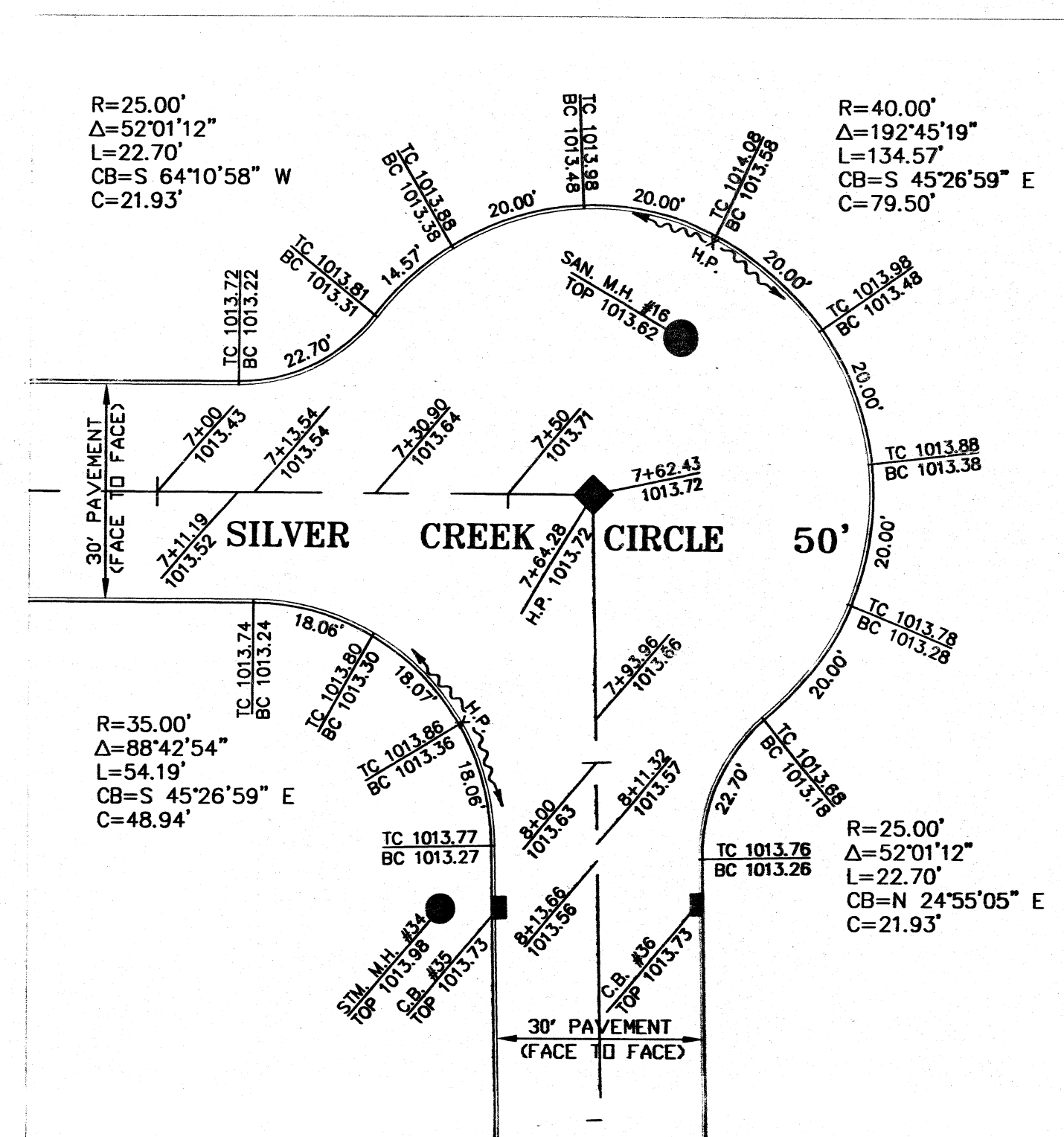
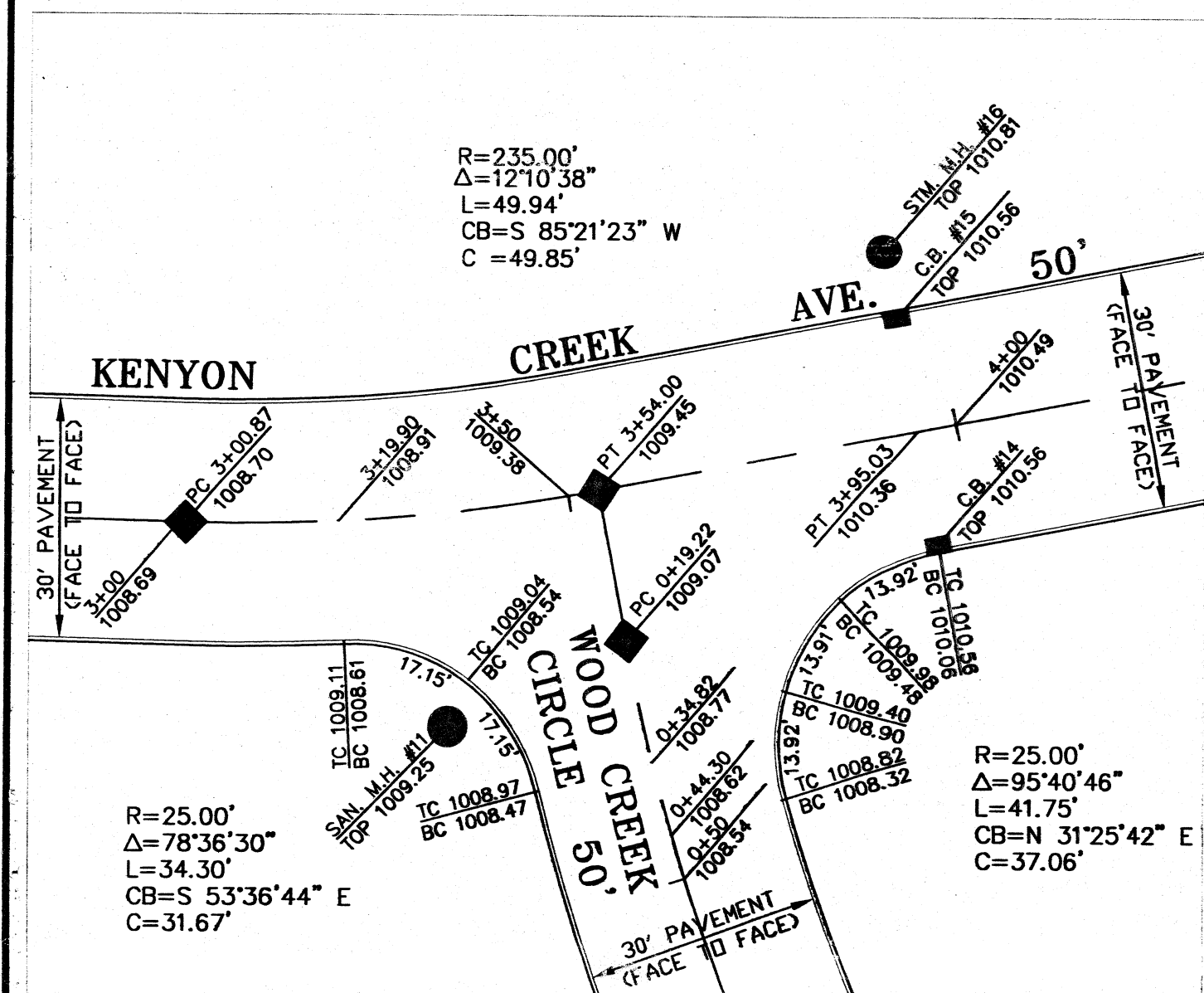
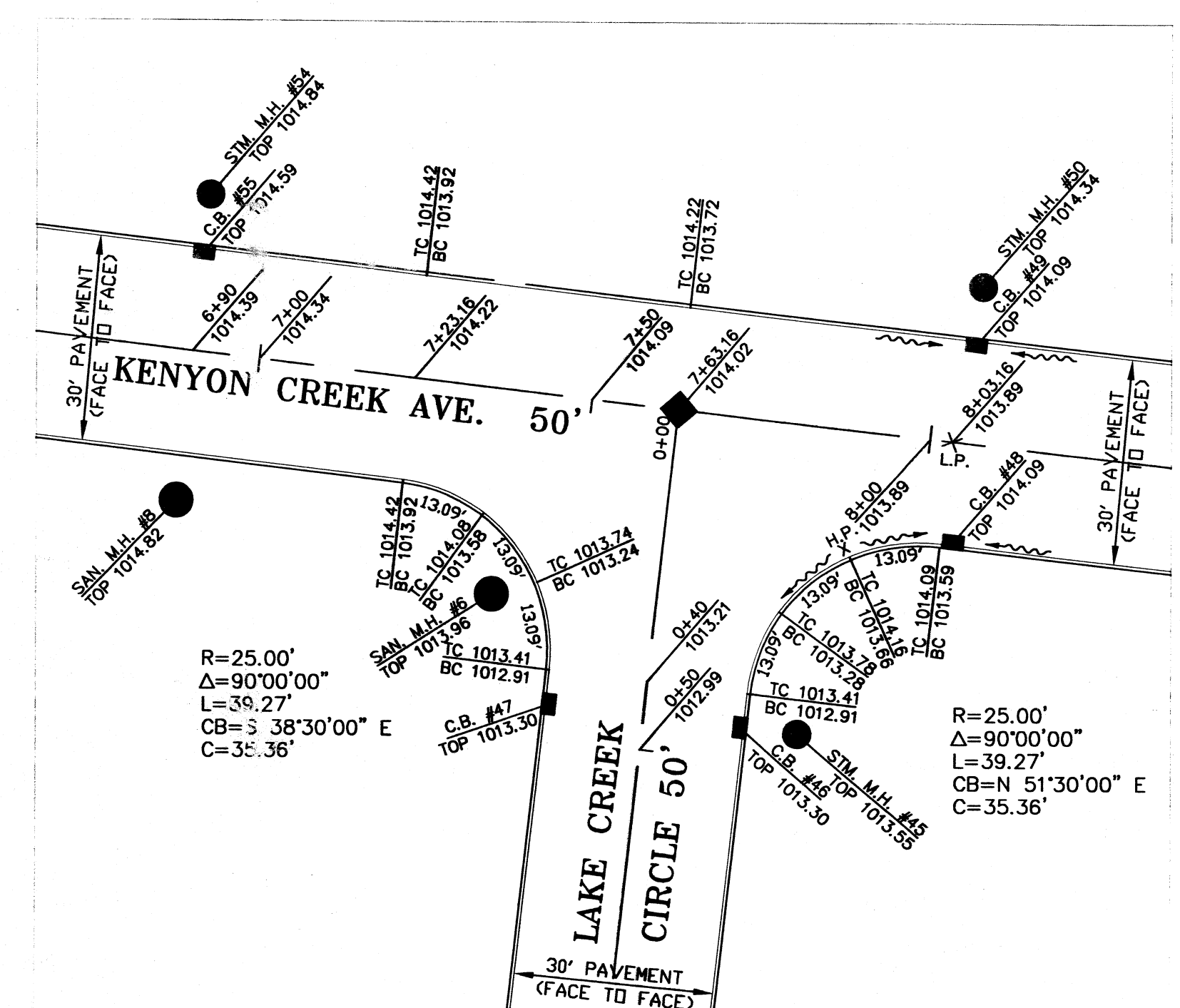
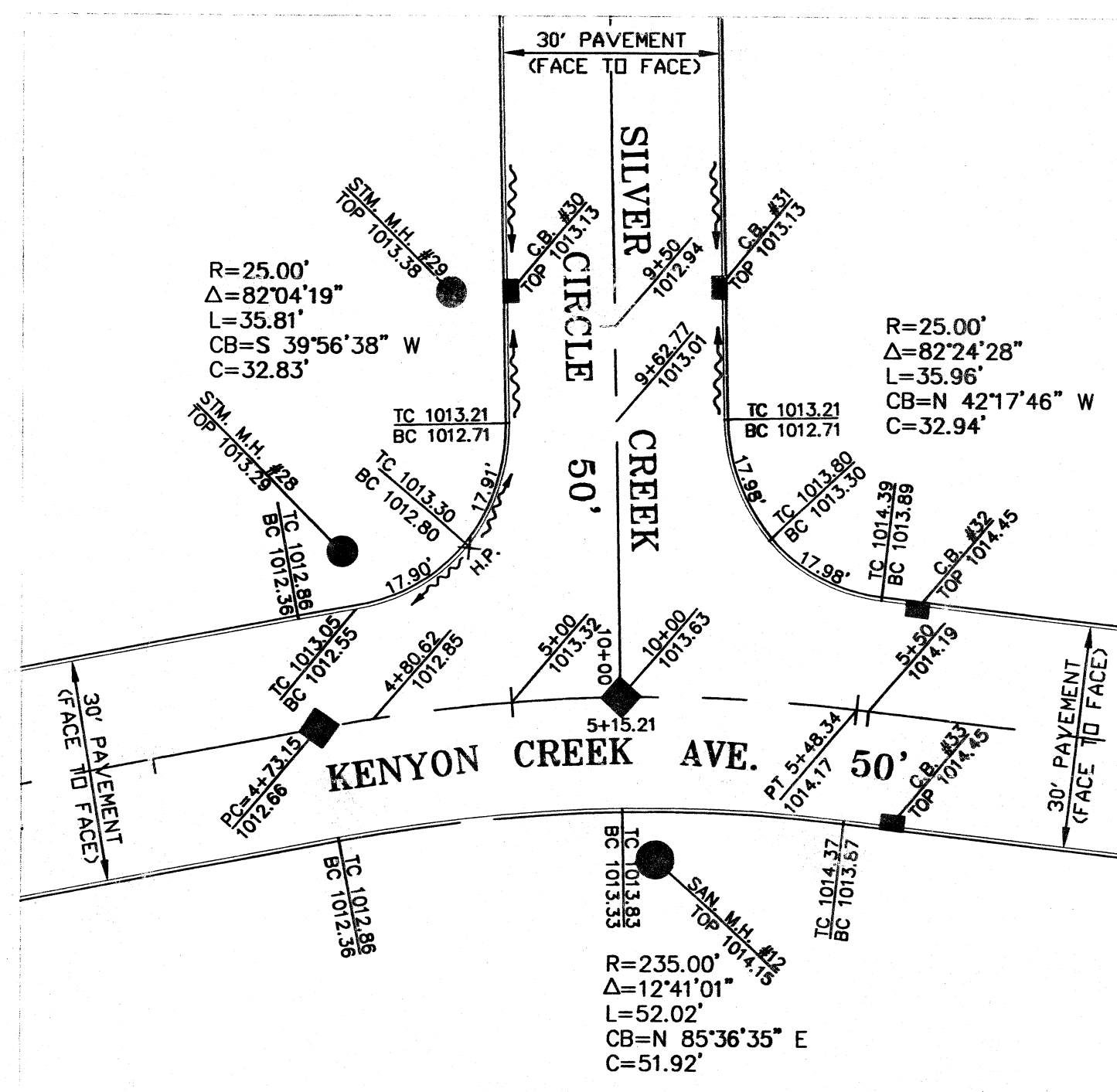
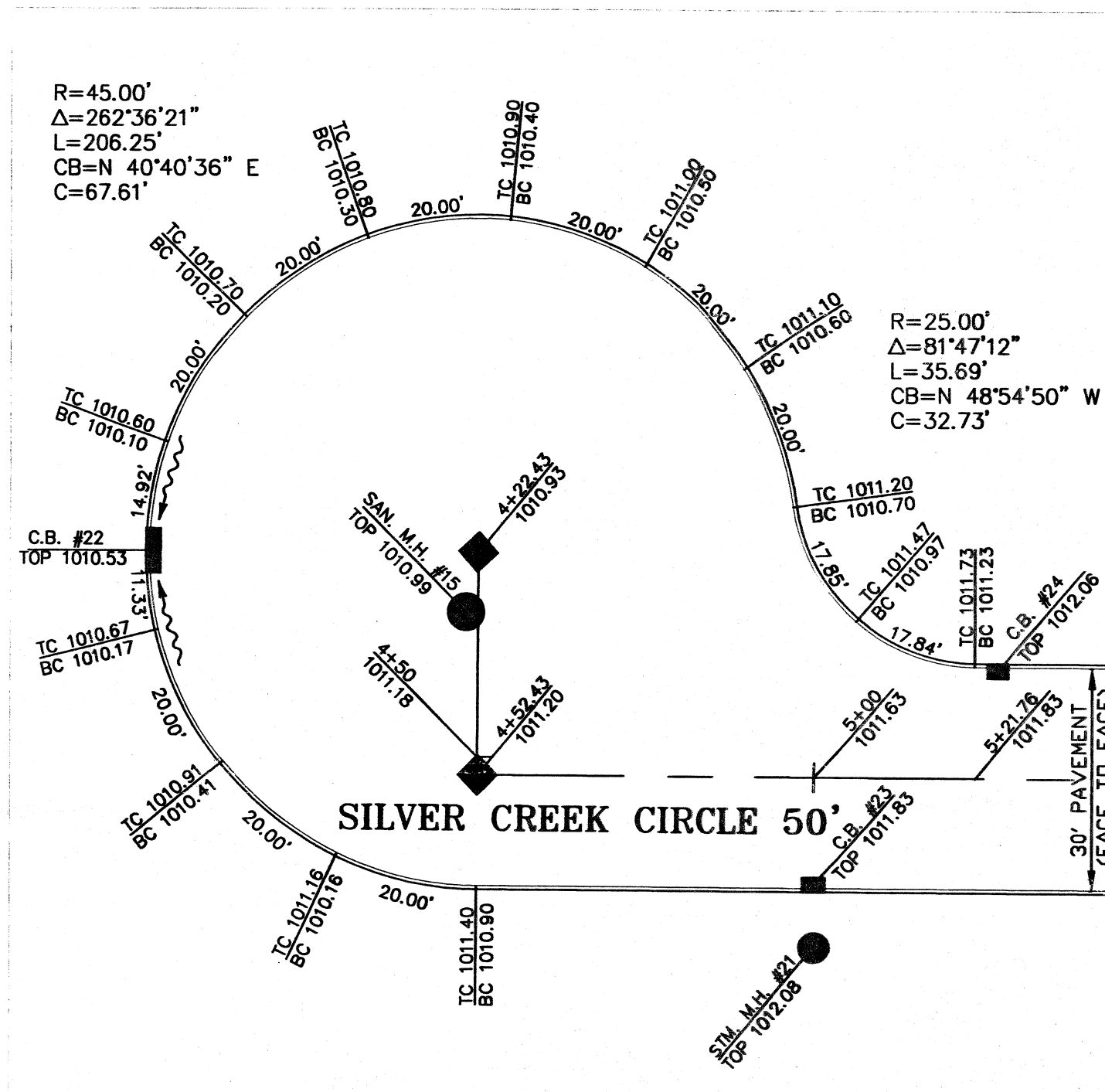
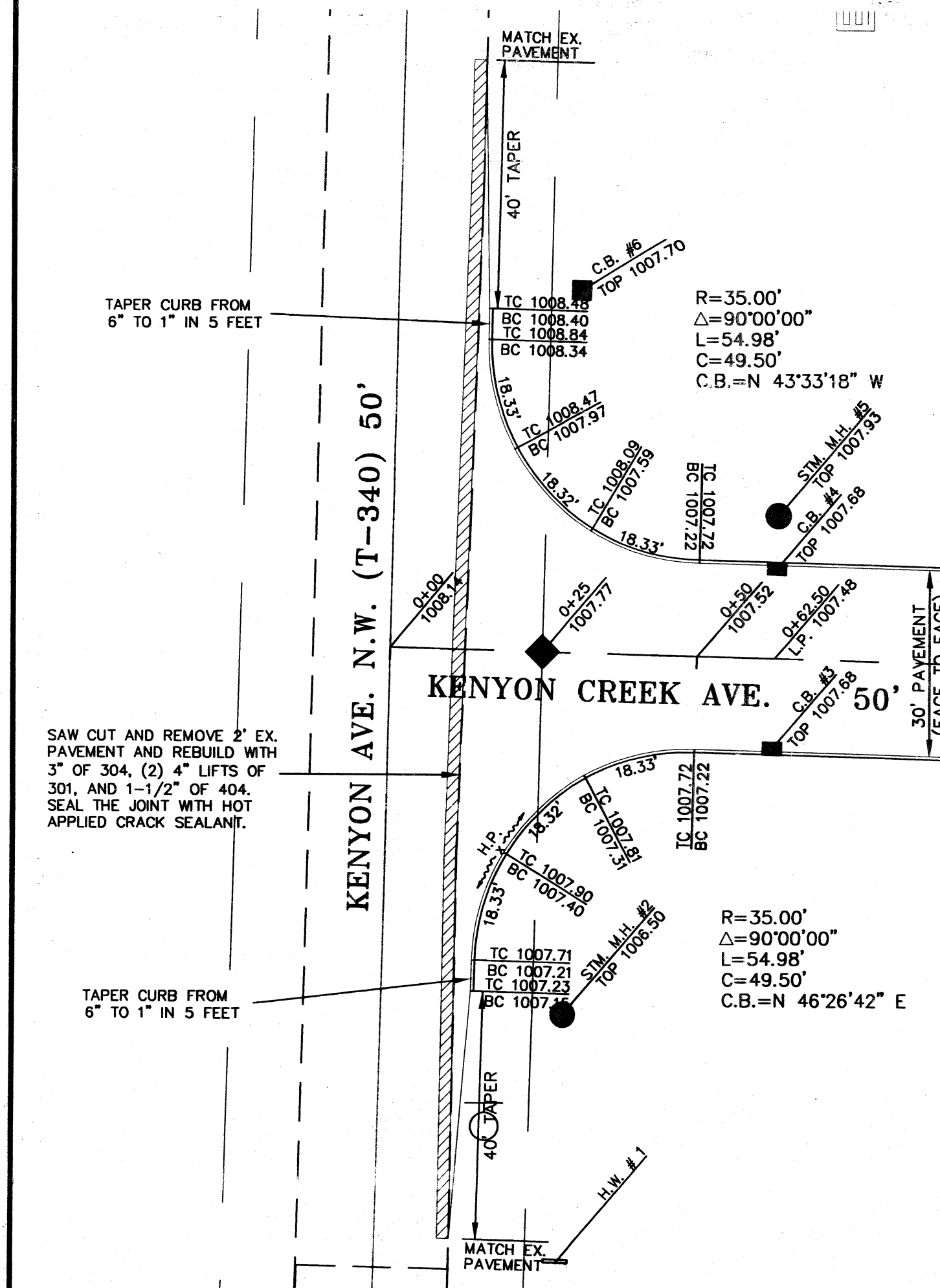
- TC - TOP OF CURB (AT BACK)
- BC - BOTTOM OF CURB
- ◆ - MONUMENT TO BE SET

NOTE: ALL ARC DIMENSIONS AND SPOT ELEVATIONS ARE TO THE FACE OF CURB, UNLESS OTHERWISE NOTED.

STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W. CORNER OF BRIDGE OVER CREEK AT KENYON CREEK AVE. (STAMPED EL. 1008.72)

THE OIL AND GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
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GRANVILLE, OHIO 43023-0206
PHONE (614) 587-0486 OR
CALL TOLL FREE 800-925-0988

2 WORKING DAYS
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CALL TOLL FREE: 800-362-2764



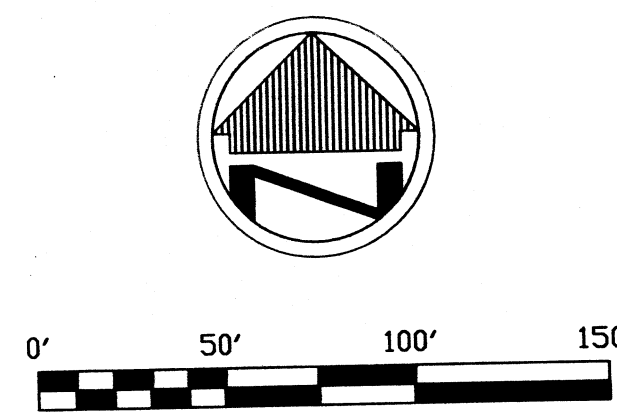
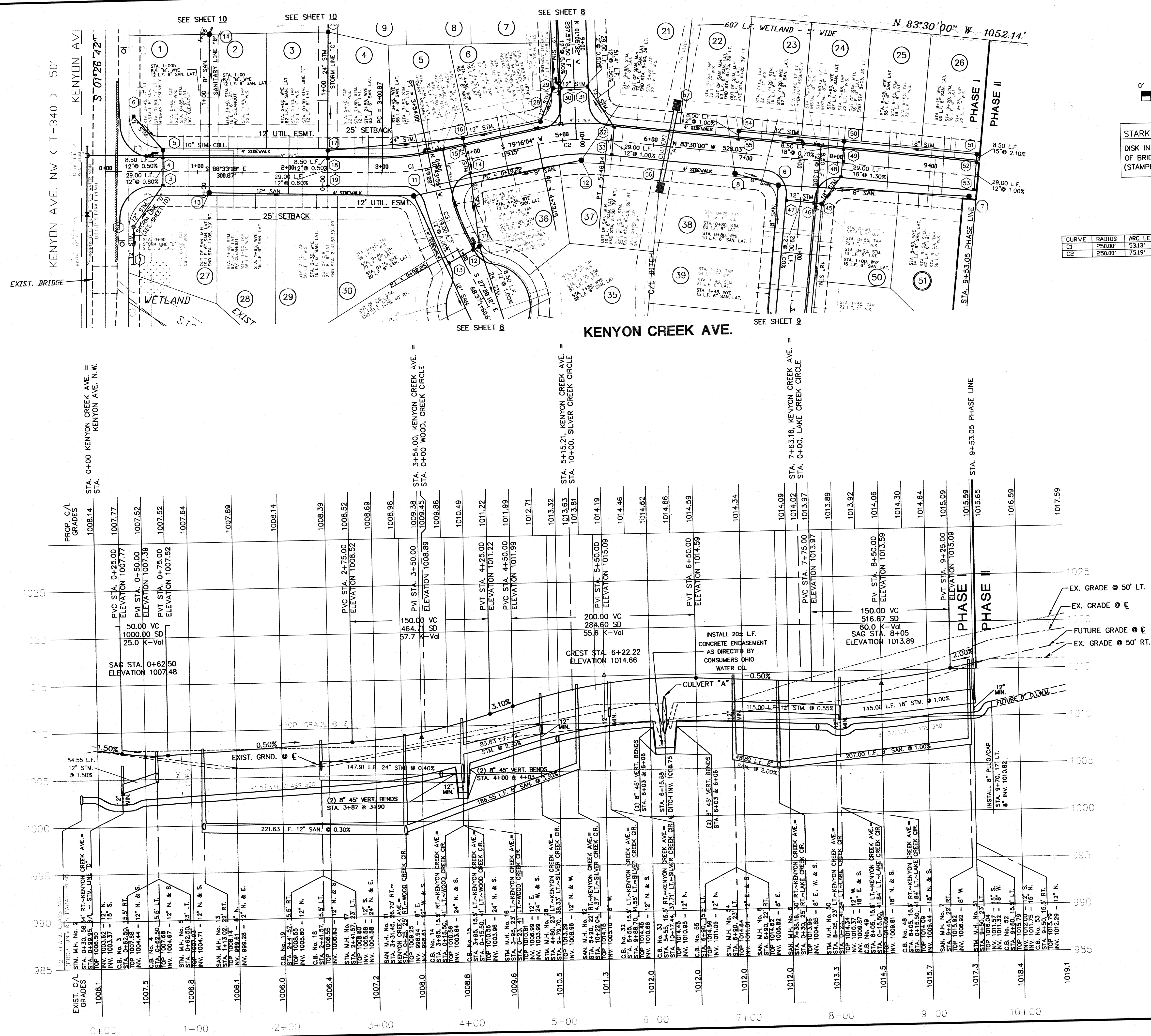
KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

A. R. LOCKHART DEVELOPMENT CO.
800 W. WATERLOO RD. AKRON, OH 44314
PH: 330-745-6520 FAX: 330-745-0716



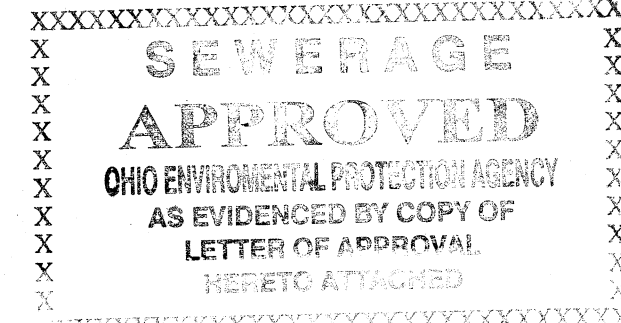
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TYPICAL SECTION AND INTERSECTION DETAILS



STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W. CORNER
OF BRIDGE OVER CREEK AT KENYON CREEK AVE.
(STAMPED EL. 1008.72)

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	250.00'	53.13'	53.03'	N 85°21'23" E	12°10'38"
C2	250.00'	75.19'	74.51'	N 87°53'02" E	17°13'56"



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OHIO UTILITIES PROTECTION SERVICE

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CITY OF MASSILLON, OHIO

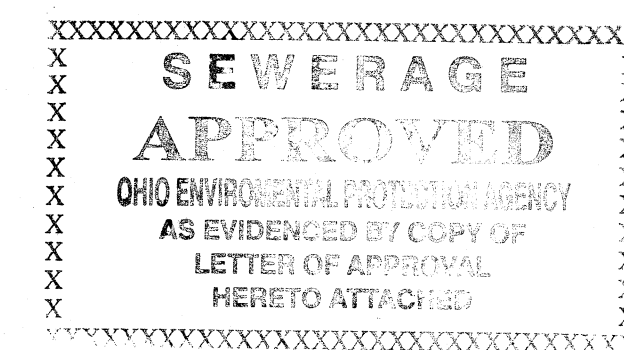
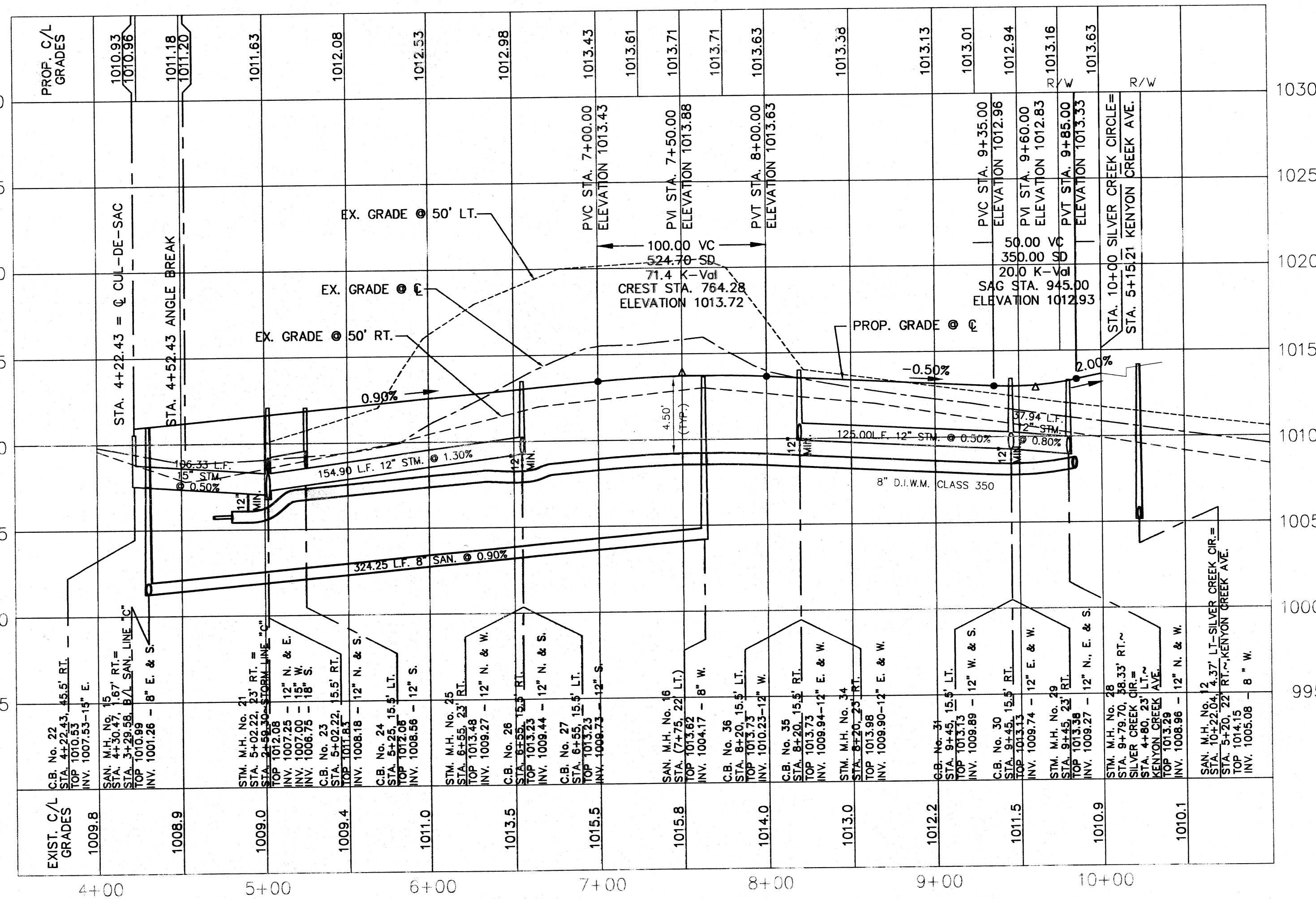
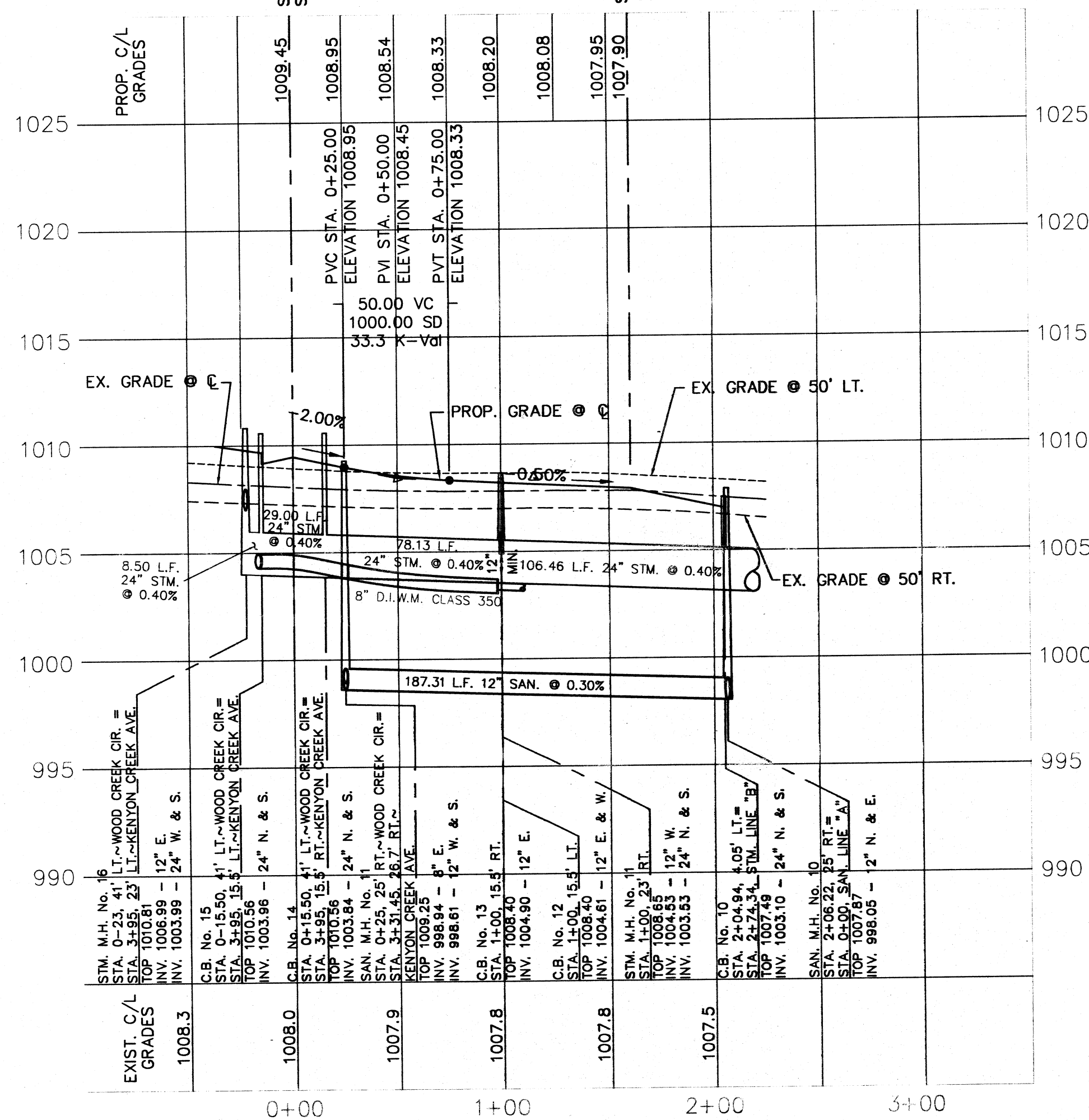
A. R. LOCKHART DEVELOPMENT CO.
800 W. WATERLOO RD. AKRON, OH 44314
PH: 330-745-6520 FAX: 330-745-0716



7
17

DATE	REVISION
MARCH, 2002	3
SCALE: H: 1" = 50'	2
SCALE: V: 1" = 5'	1
DESIGNER: J.S.S.	
DRAFTER: C.T.B.	

1: CURRENT JOBS/KENYONVC-PH-FINAL.DWG 4/25/01



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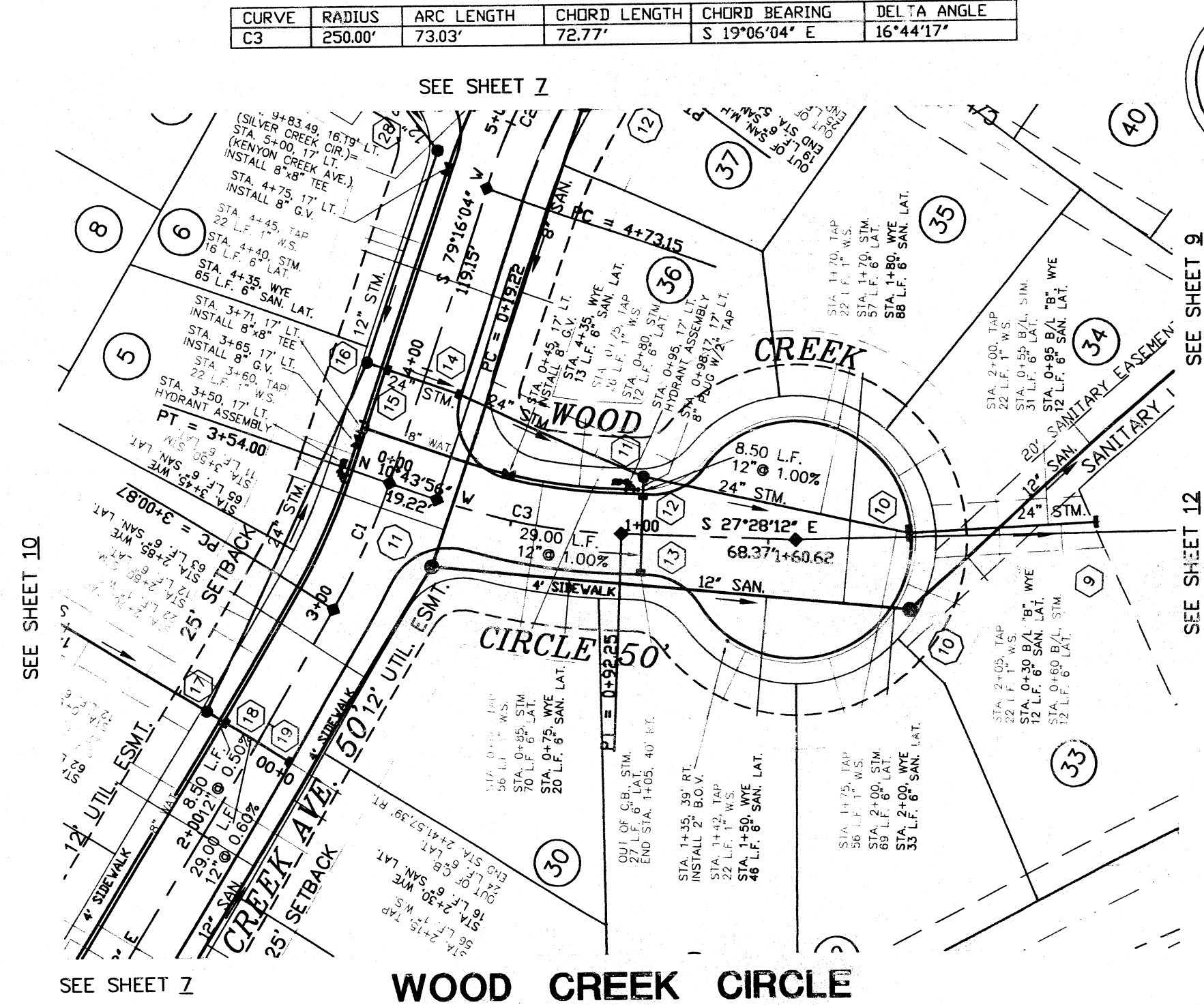
PROJECT
NUMBER

KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

DATE: MARCH, 2002
SCALE: H. 1" = 50'
SCALE: V. 1" = 5'
DESIGNER: J.S.S.
DRAFTER: C.T.B.

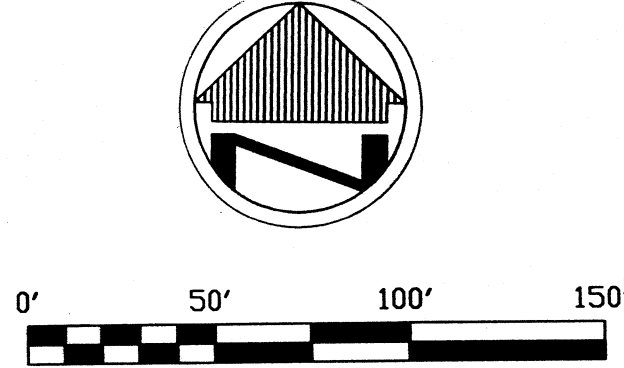
No. DATE REVISION

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C3	250.00'	73.03'	72.77'	S 19°06'04" E	16°44'17"



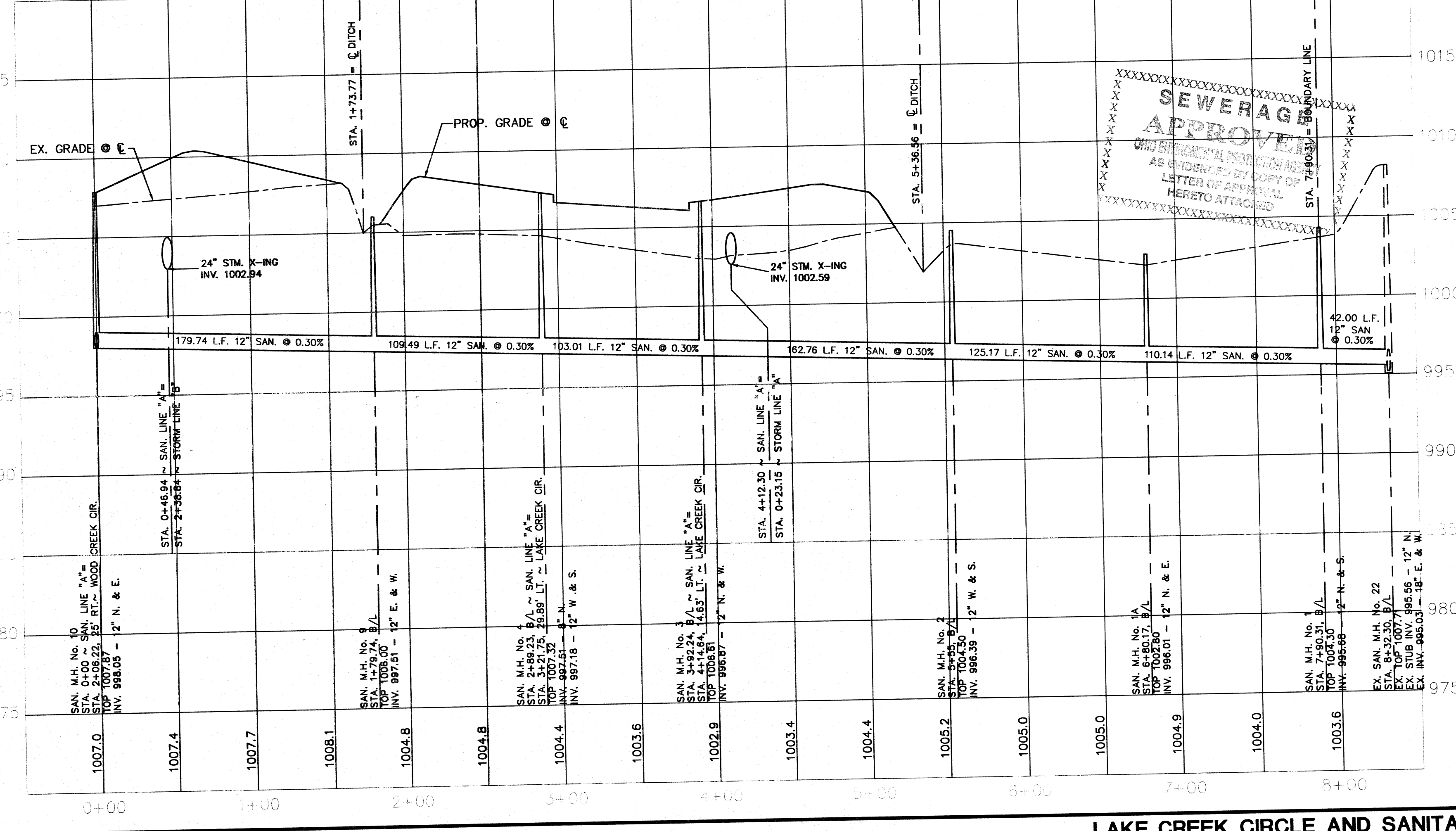
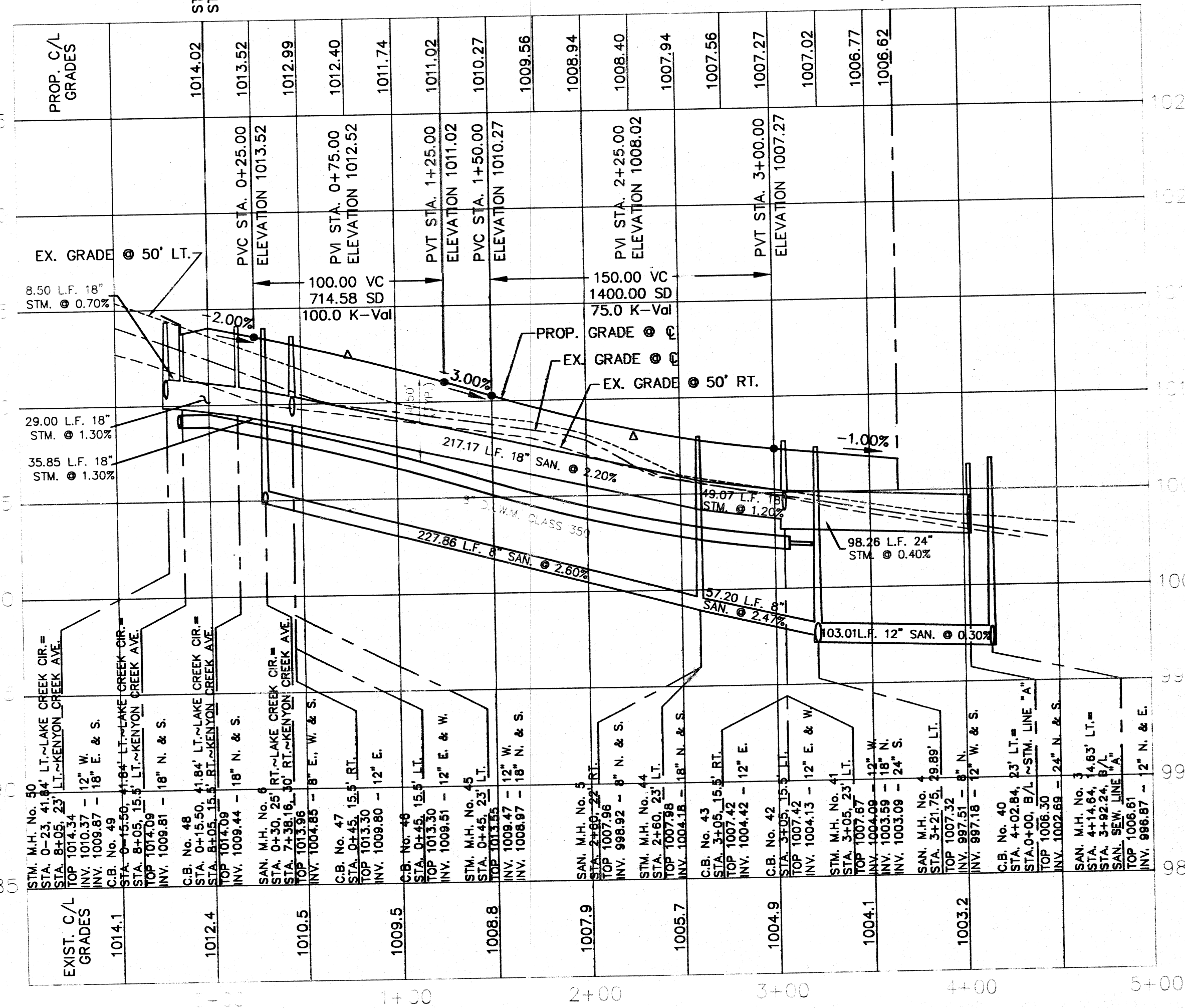
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	250.00'	53.13'	53.03'	N 85°21'23" E	12°10'38"
C2	250.00'	75.19'	74.91'	N 97°53'02" E	17°13'56"

STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W. CORNER
OF BRIDGE OVER CREEK AT KENYON CREEK AVE.
(STAMPED EL. 1008.72)

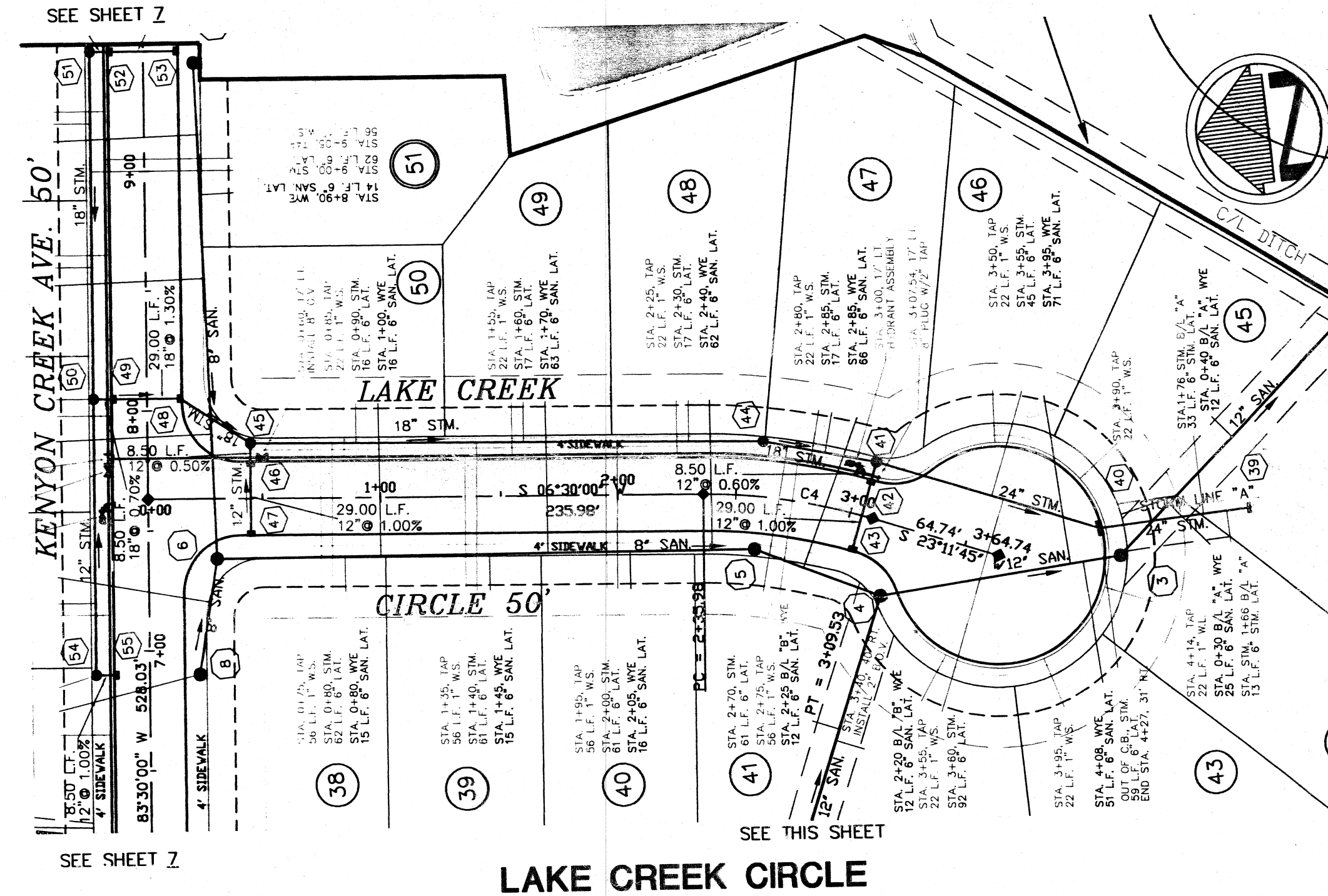


SILVER CREEK CIRCLE

WOOD CREEK CIRCLE

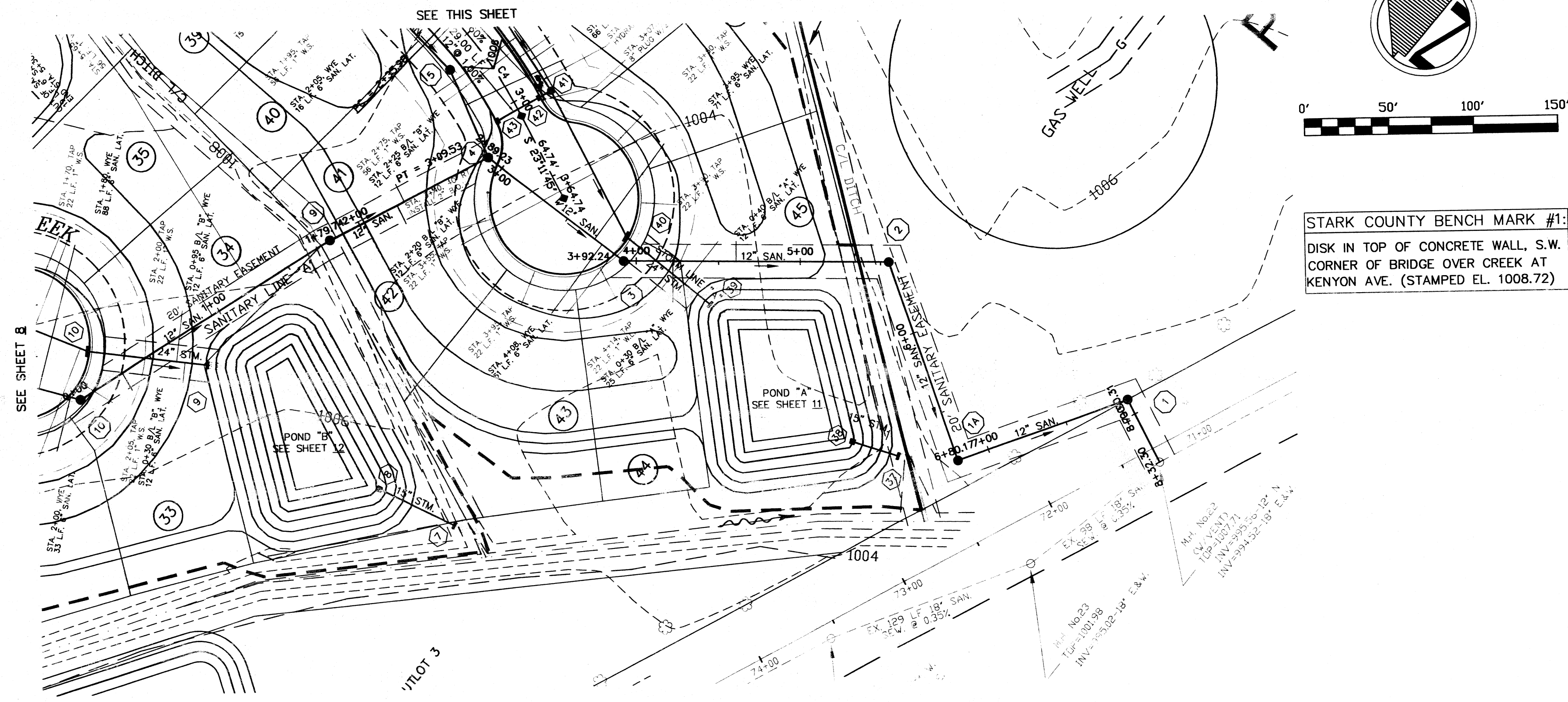


LAKE CREEK CIRCLE AND SANITARY LINE 'A'



CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C4	2500.00'	73.55'	73.29'	N 14°55'42" E	16°51'24"

STA. 3+64.74 = C/L CUL-DE-SAC



STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W.
CORNER OF BRIDGE OVER CREEK AT
KENTON AVE. (STAMPED EL. 1008.72)

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800 W. WATERLOO RD. AKRON, OH 44314
TEL. 330-745-6320 FAX. 330-745-0716

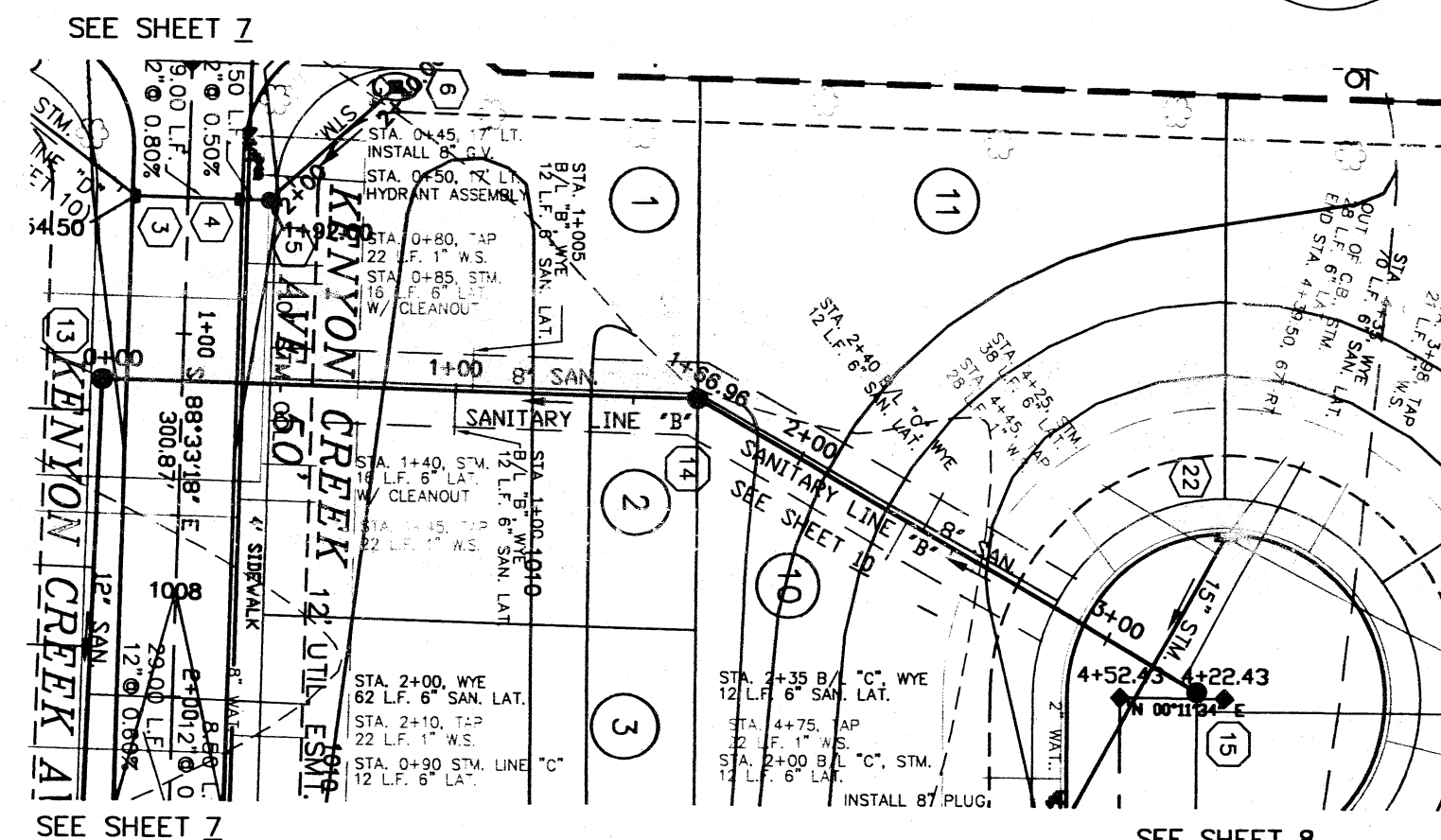
PROJECT
NUMBER

DATE: MARCH, 2002
SCALE: H: 1" = 50'
SCALE: V: 1" = 5'
DESIGNER: J.S.S.
DRAFTER: C.T.B.

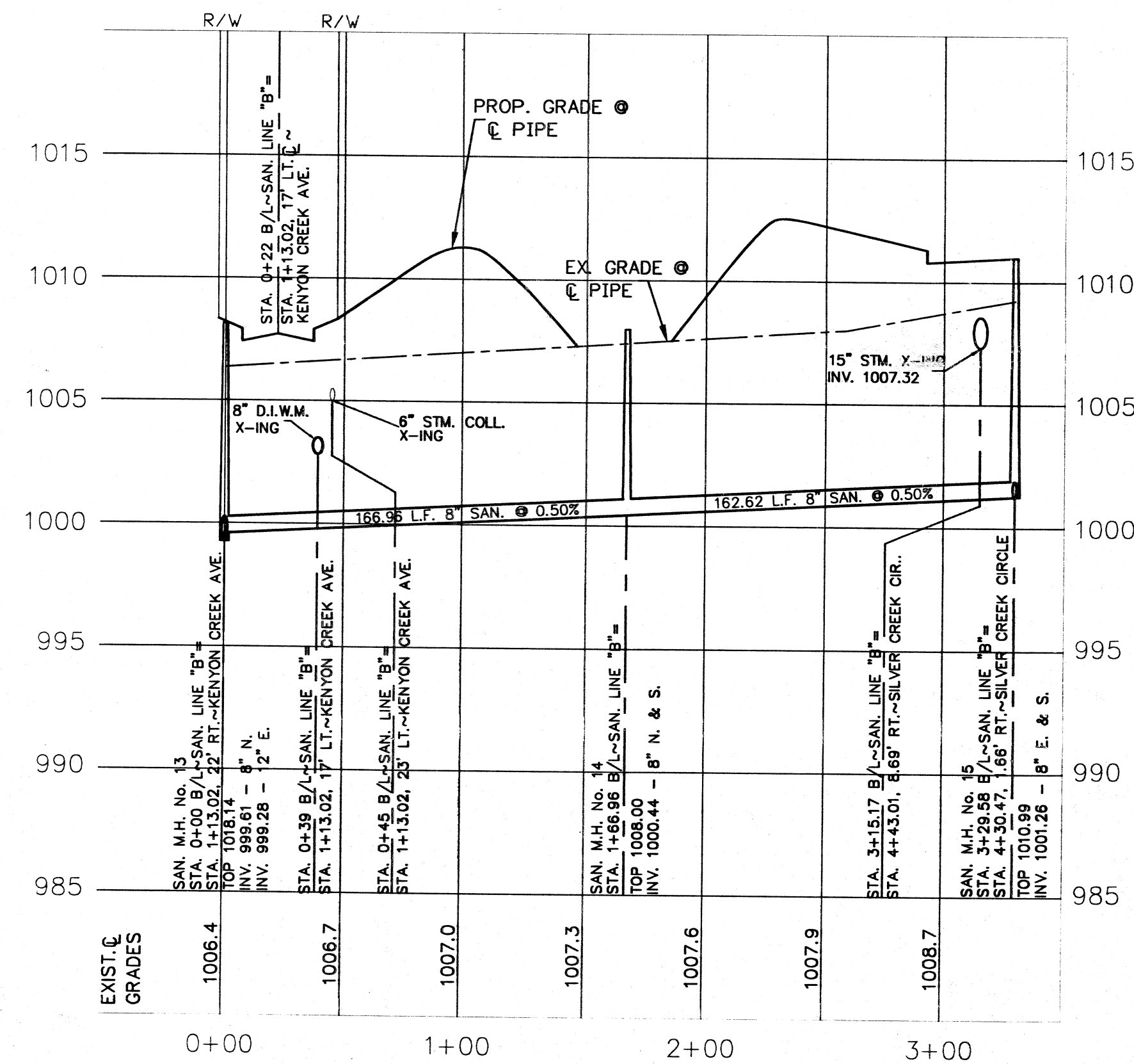
REVISION
No. DATE

9
17

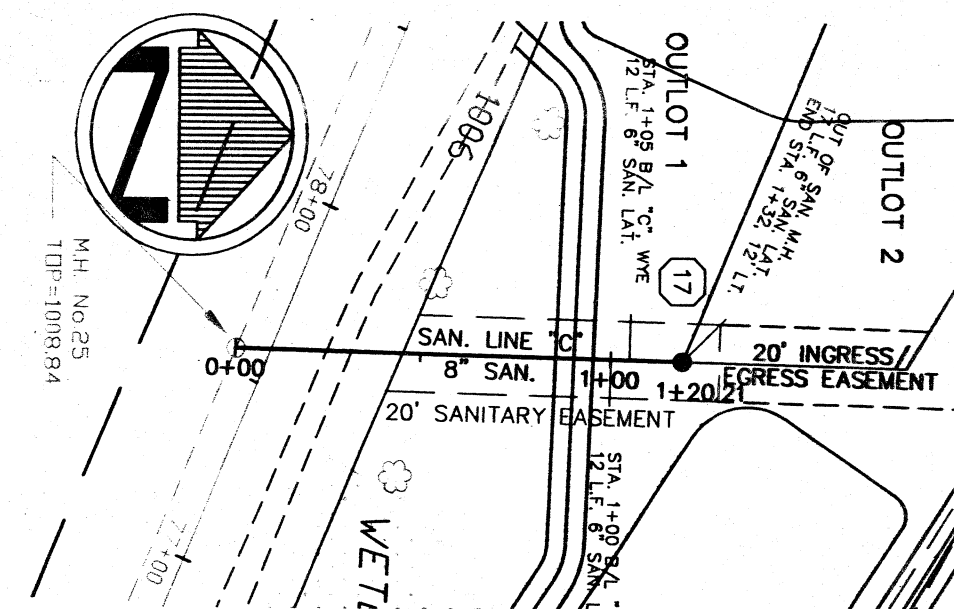
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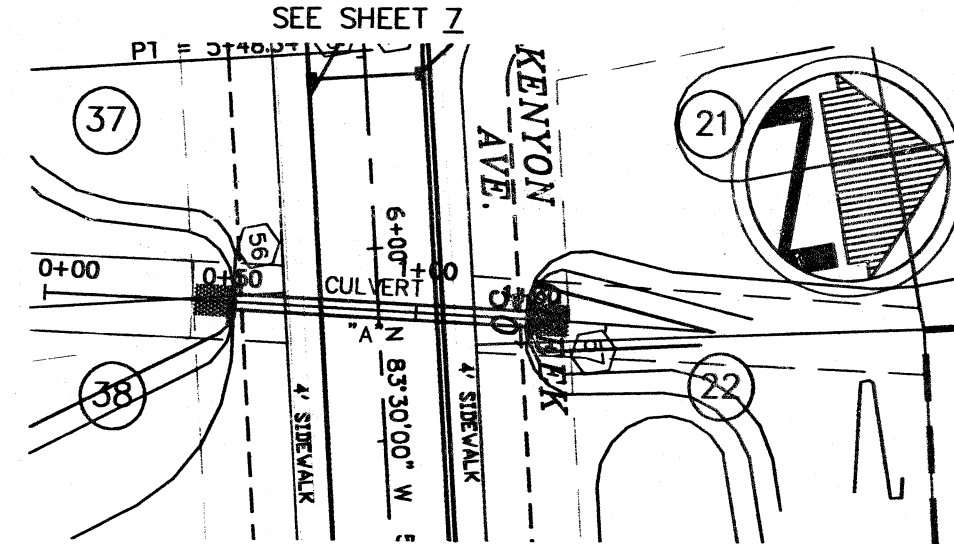
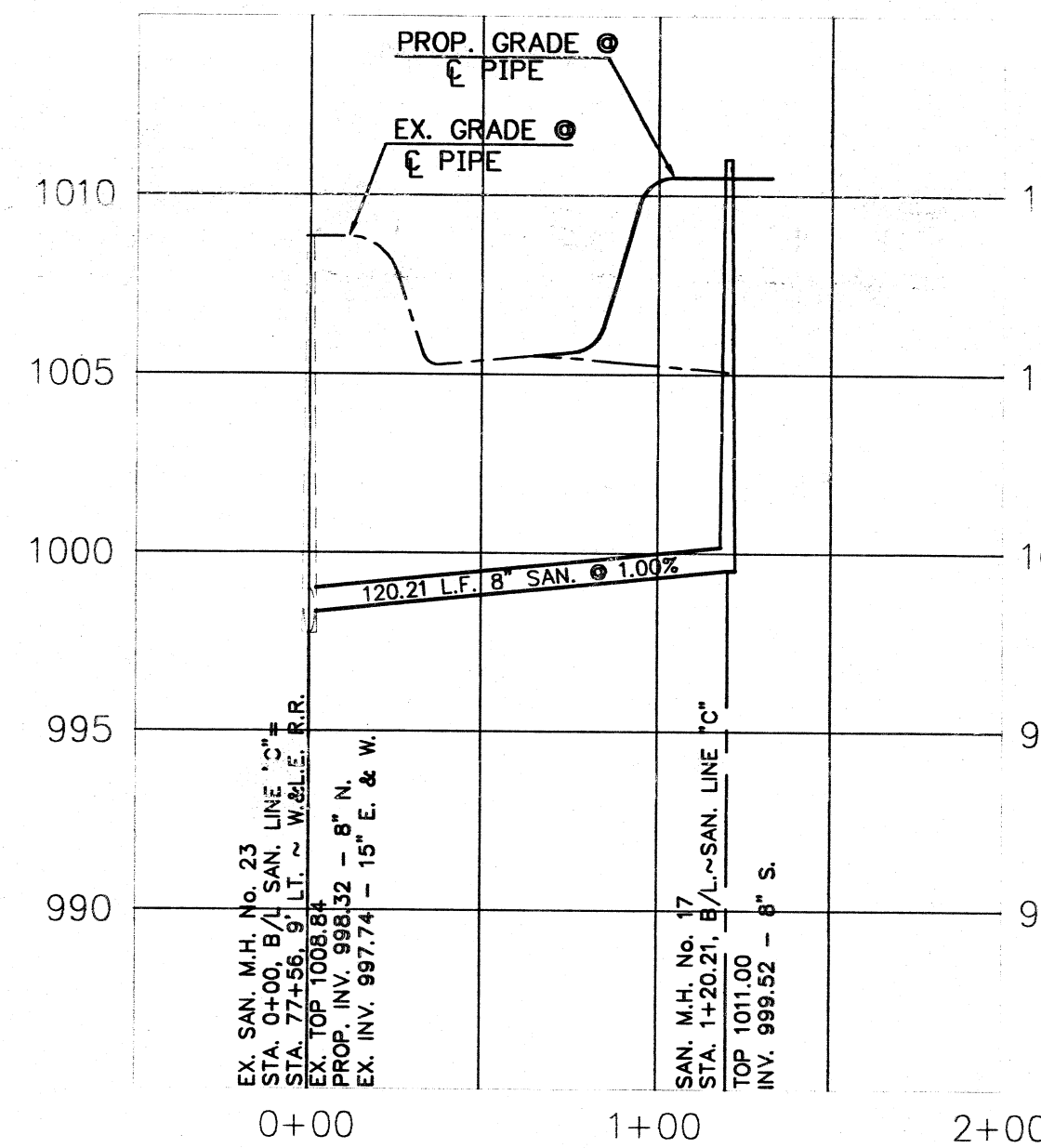
SANITARY LINE 'B'



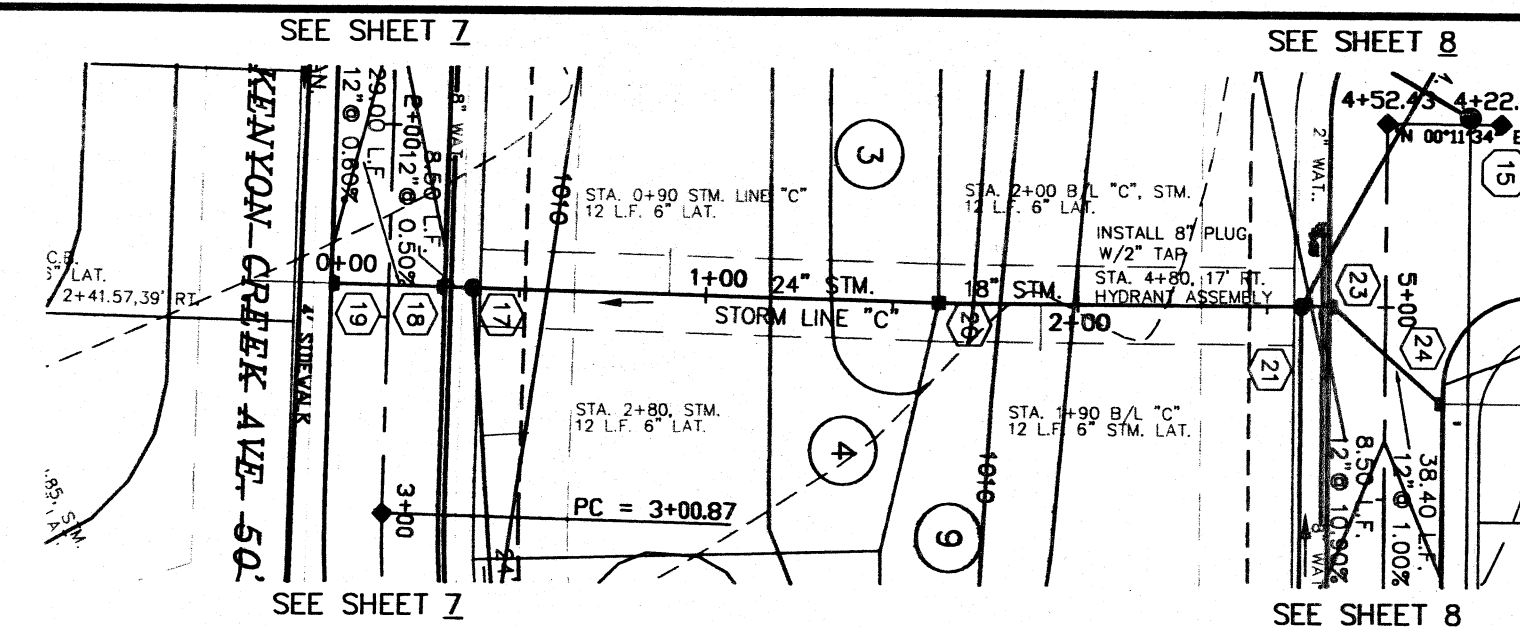
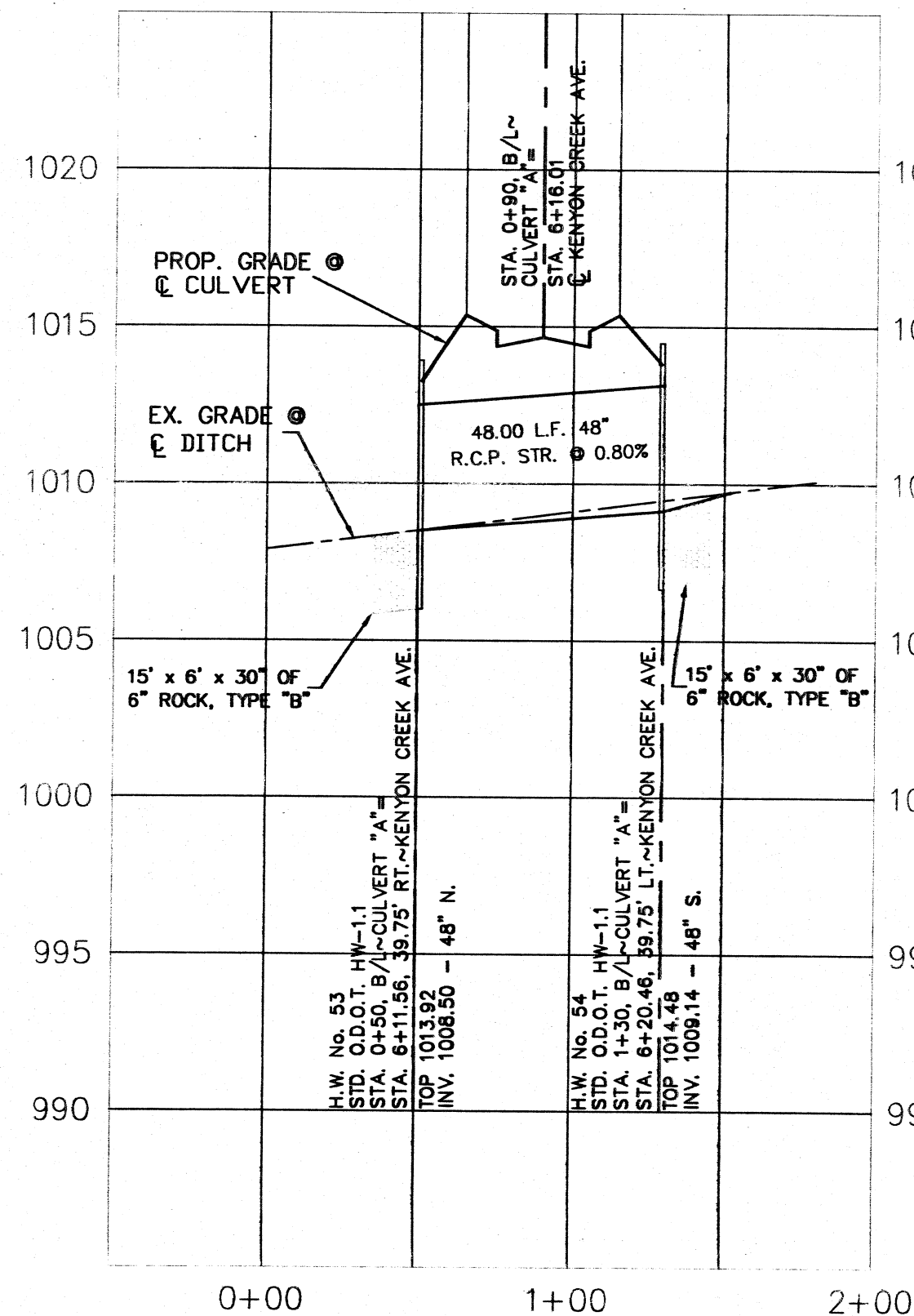
NOTE:
SEE SHEETS 11 AND 12 FOR STORM LINES 'A' AND 'B' RESPECTIVELY.



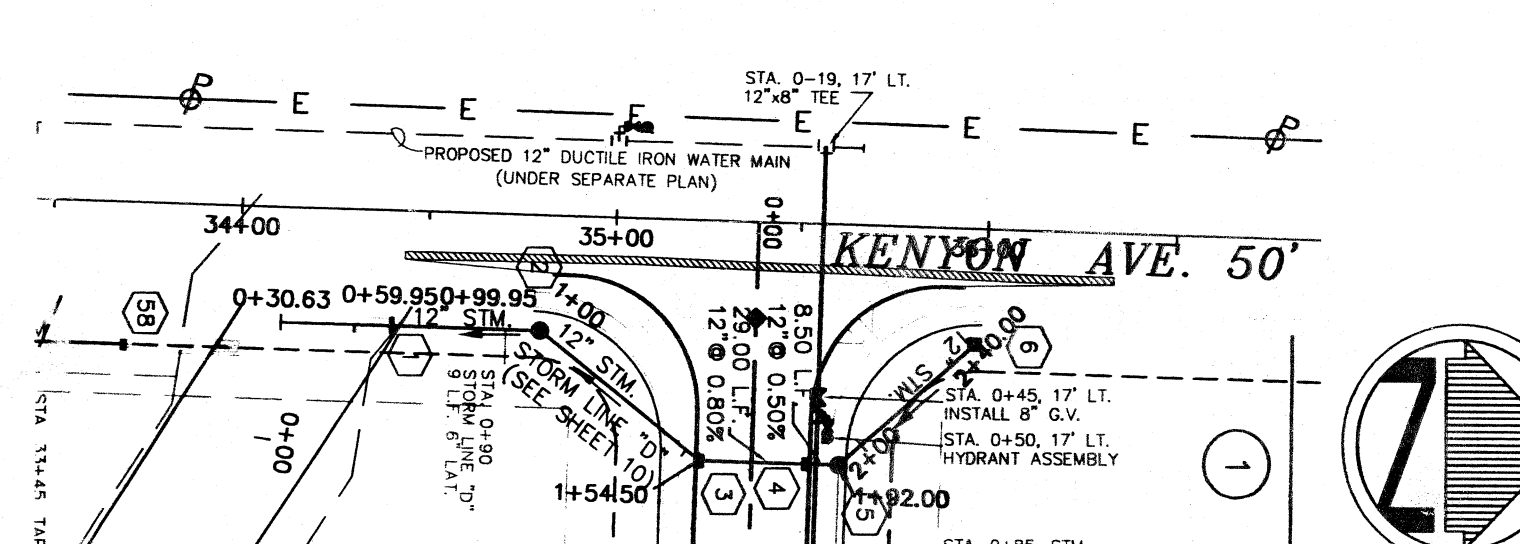
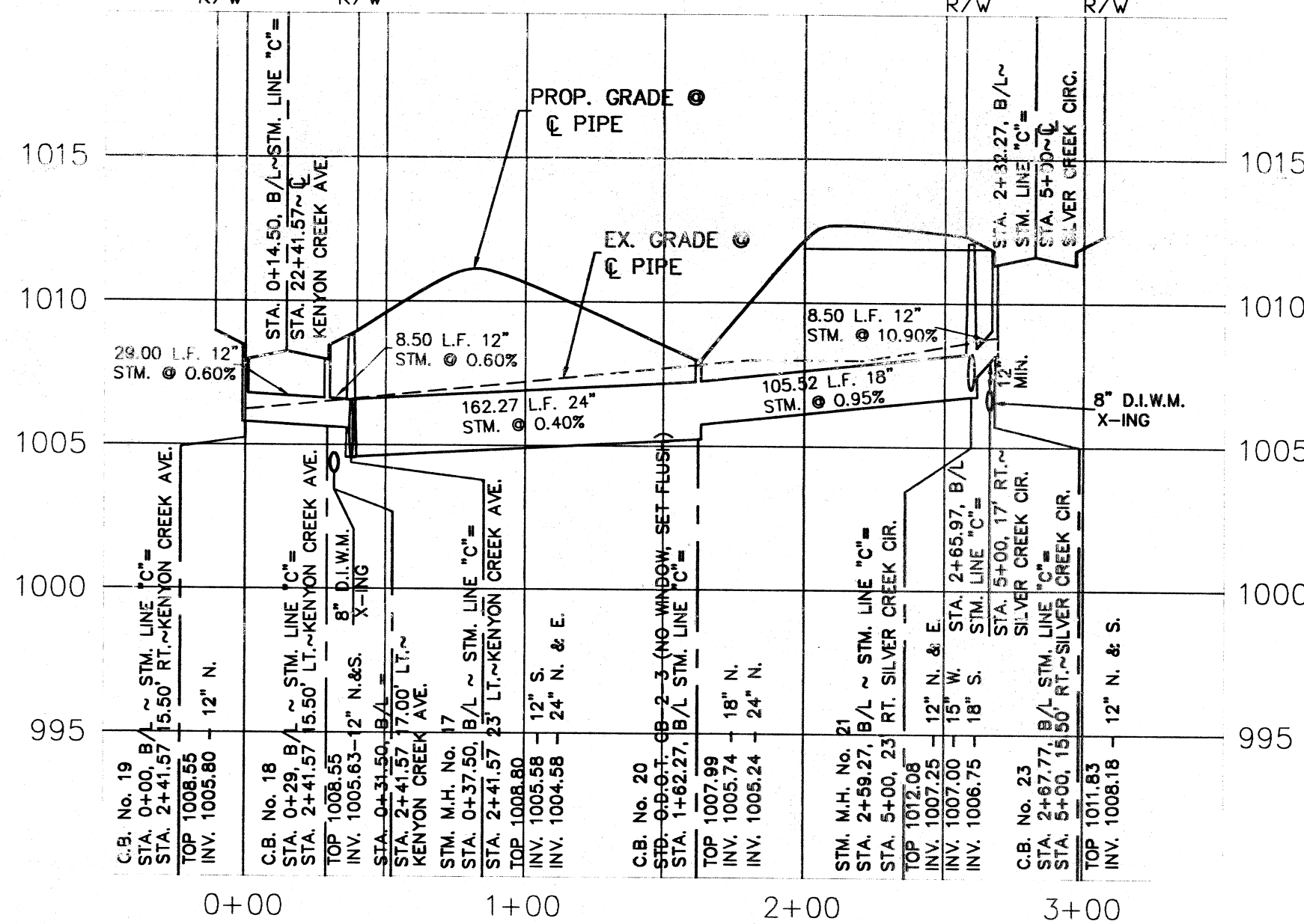
SANITARY LINE 'C'



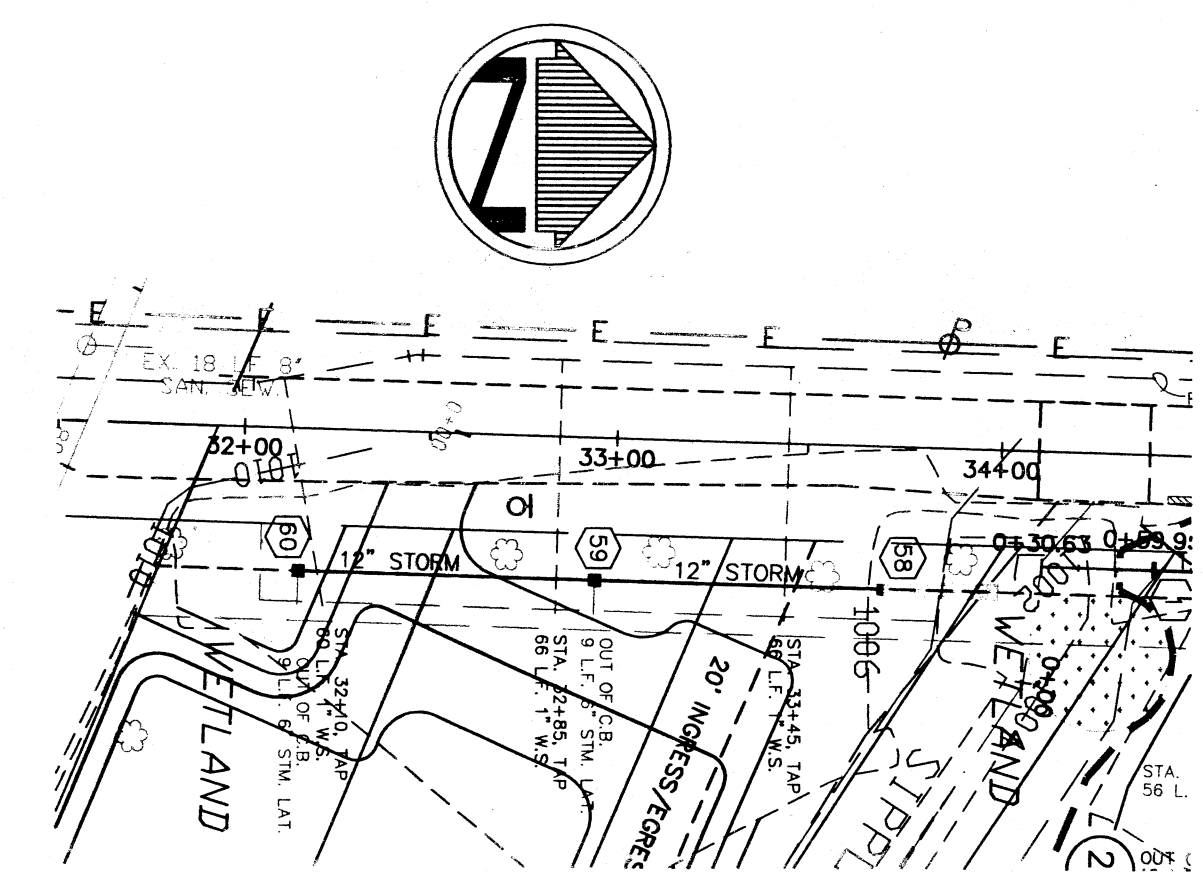
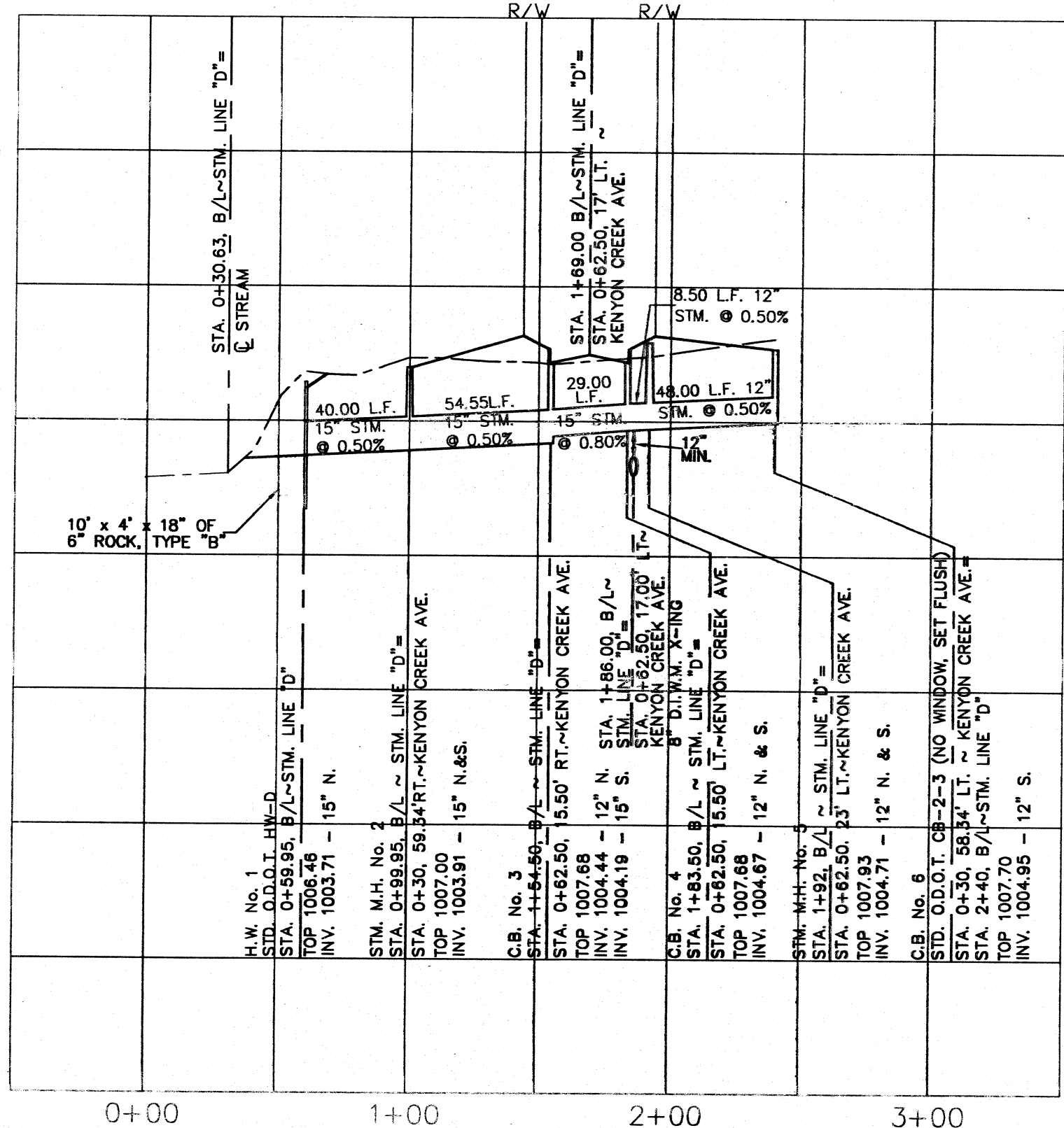
CULVERT 'A'



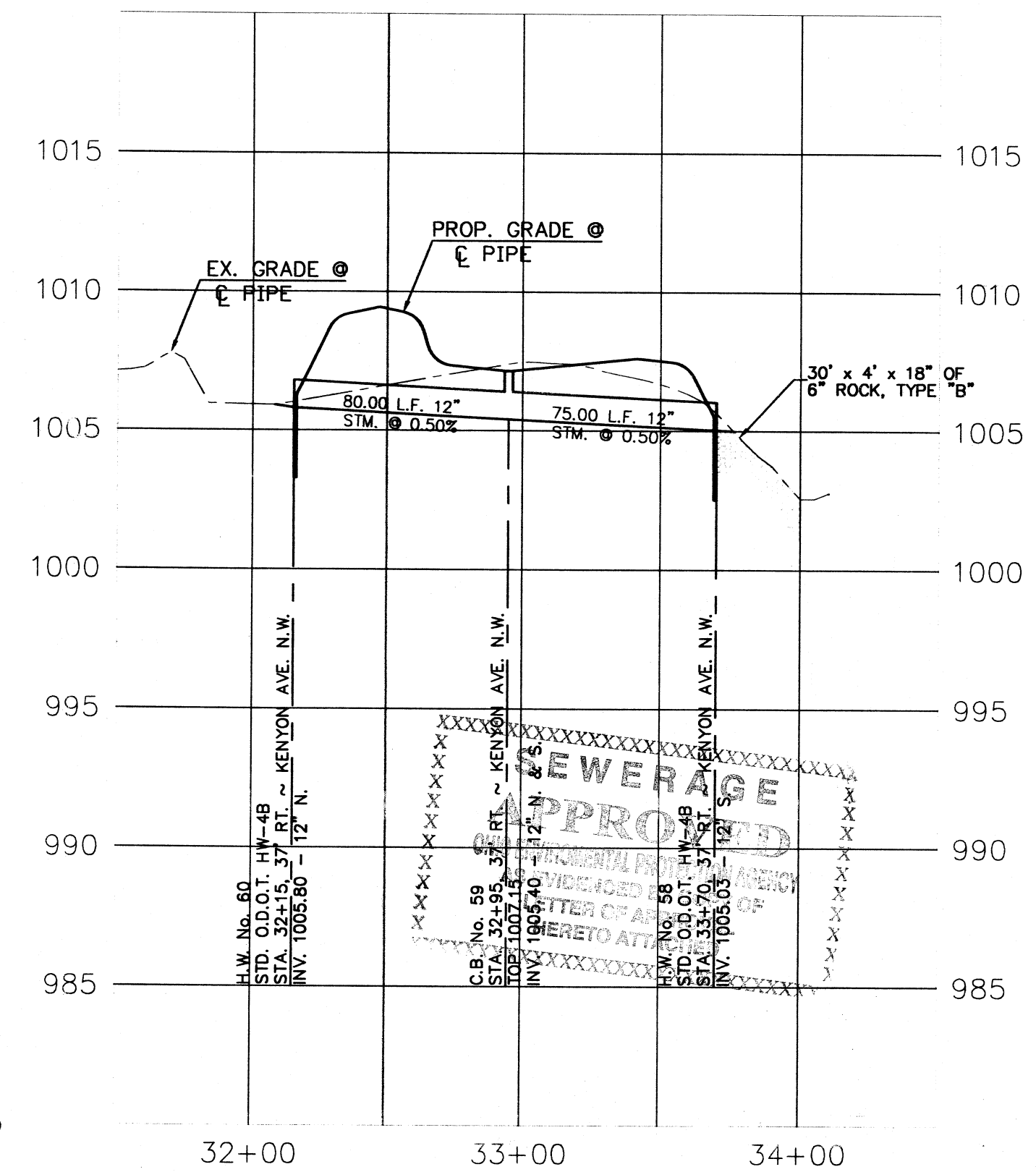
STORM LINE 'C'



STORM LINE 'D'



STORM LINE 'E'



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UNDERGROUND PROTECTION SERVICE
P.O. BOX 208
GRANVILLE, OHIO 43031-0208
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CALL TOLL FREE 800-925-0988

2 WORKING DAYS
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CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

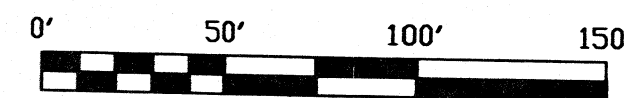
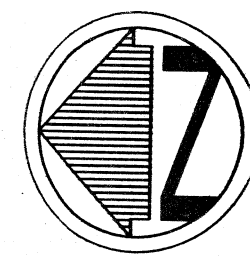
MISCELLANEOUS UTILITY PROFILES

KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

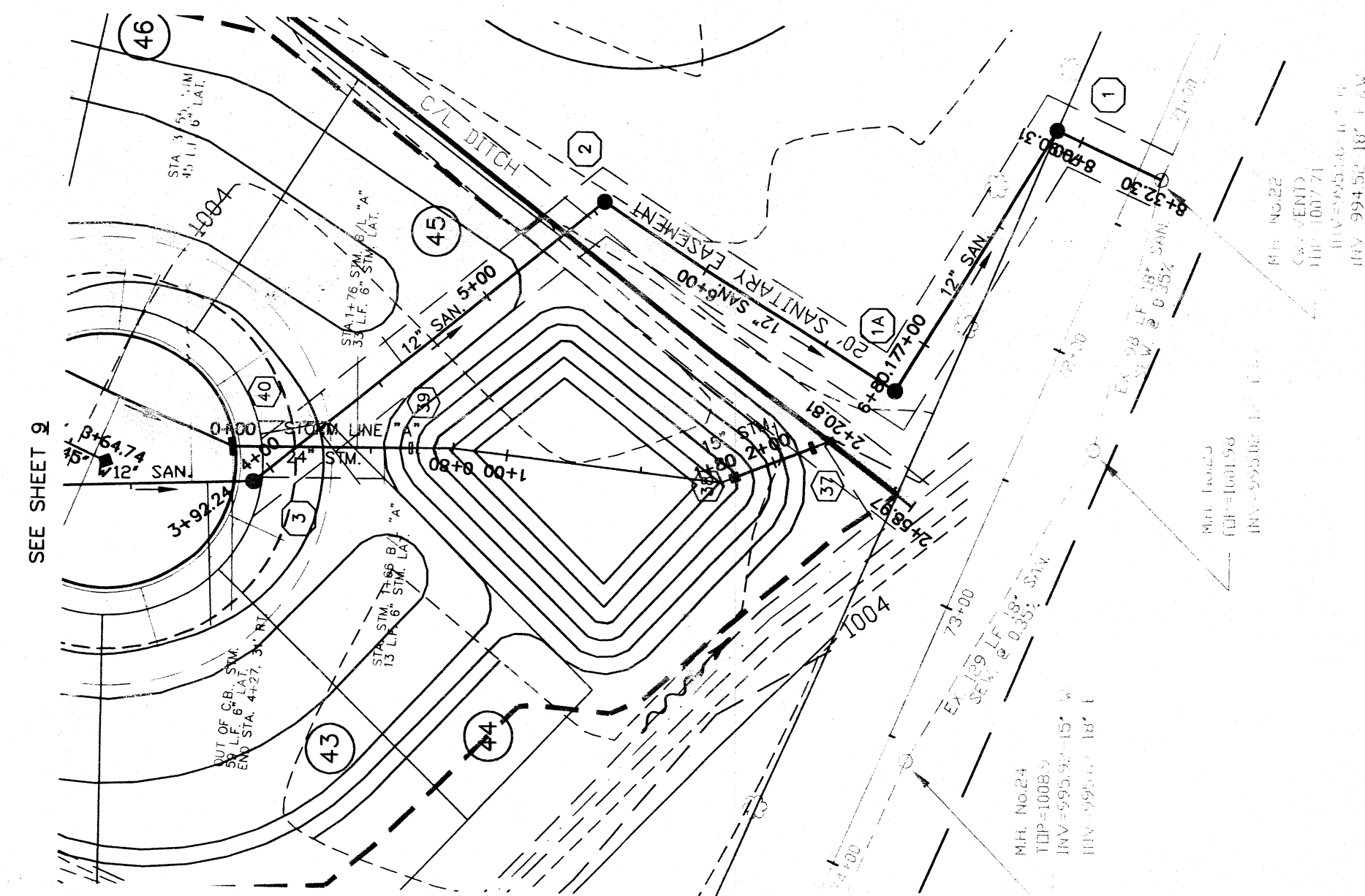
A. R. LOCKHART DEVELOPMENT CO.
800 W. WATERLOO RD AKRON, OH 44314
Ph: 330-745-0716

DATE: MARCH, 2002
SCALE: H. 1" = 50'
SCALE: V. 1" = 5'
DESIGNER: J.S.S.
DRAFTER: C.T.B.

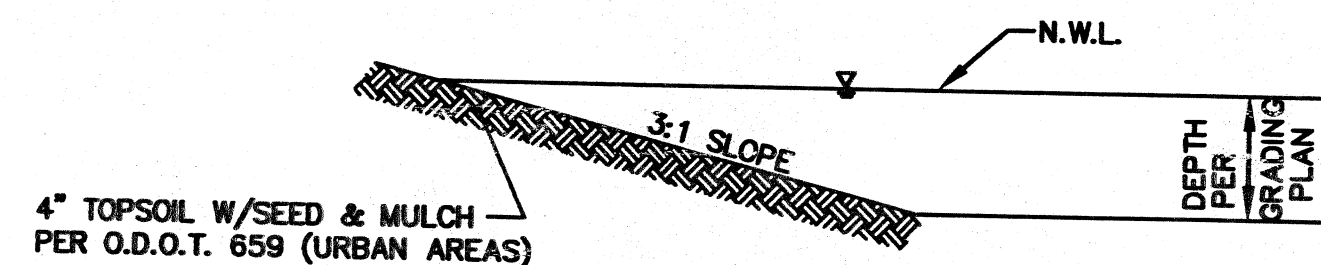
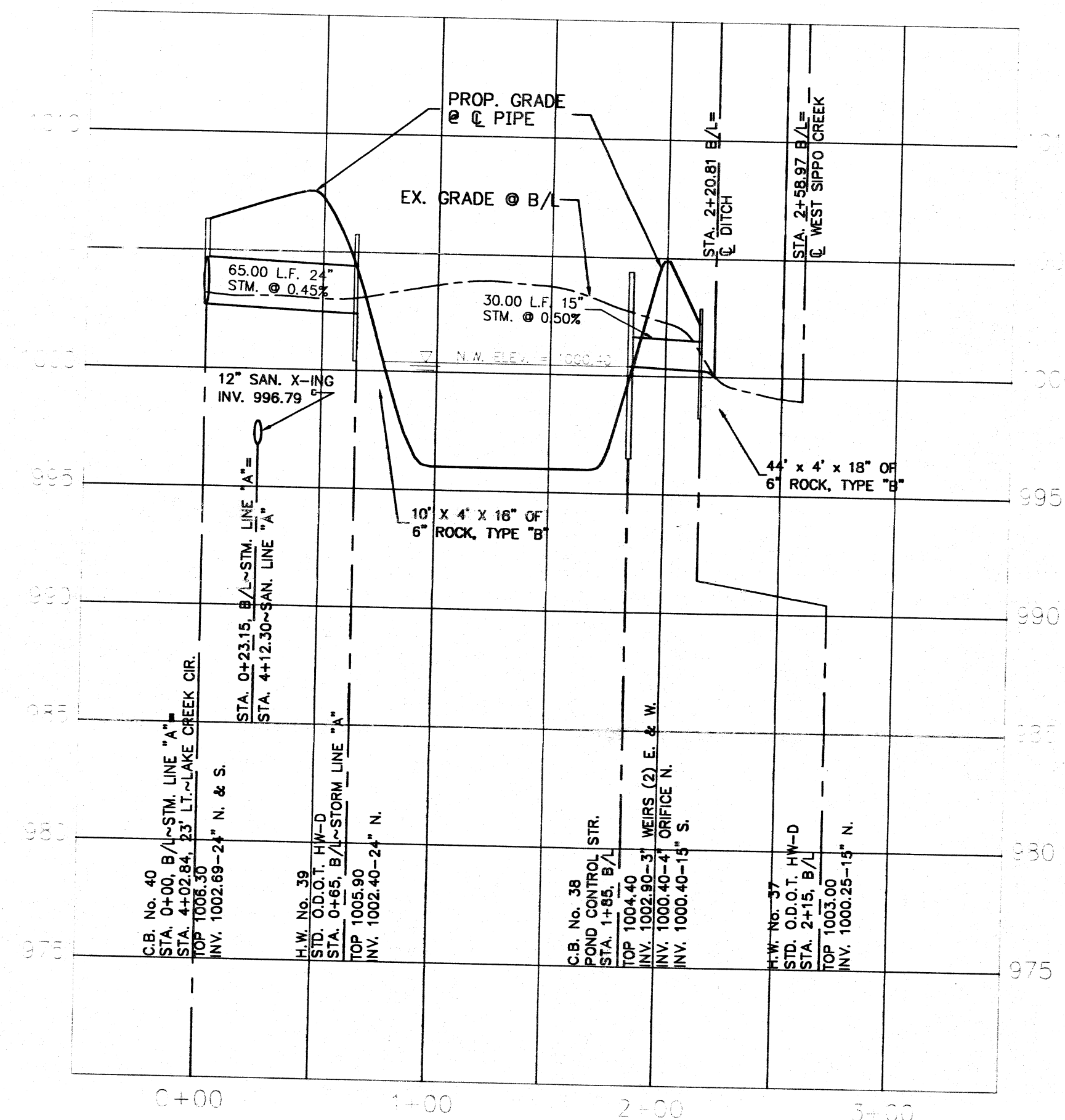
10
17



STARK COUNTY BENCH MARK #1:
DISK IN TOP OF CONCRETE WALL, S.W. CORNER
OF BRIDGE OVER CREEK AT KENYON CREEK AVE.
(STAMPED EL. 1008.72)

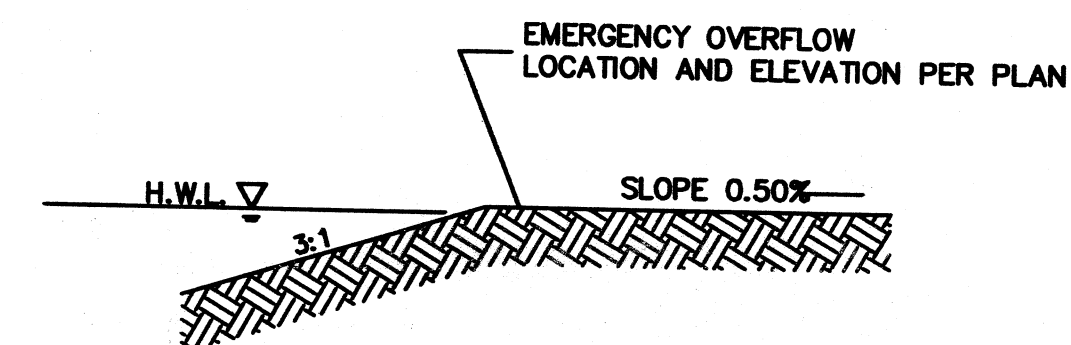


STORM LINE 'A' AND POND 'A'

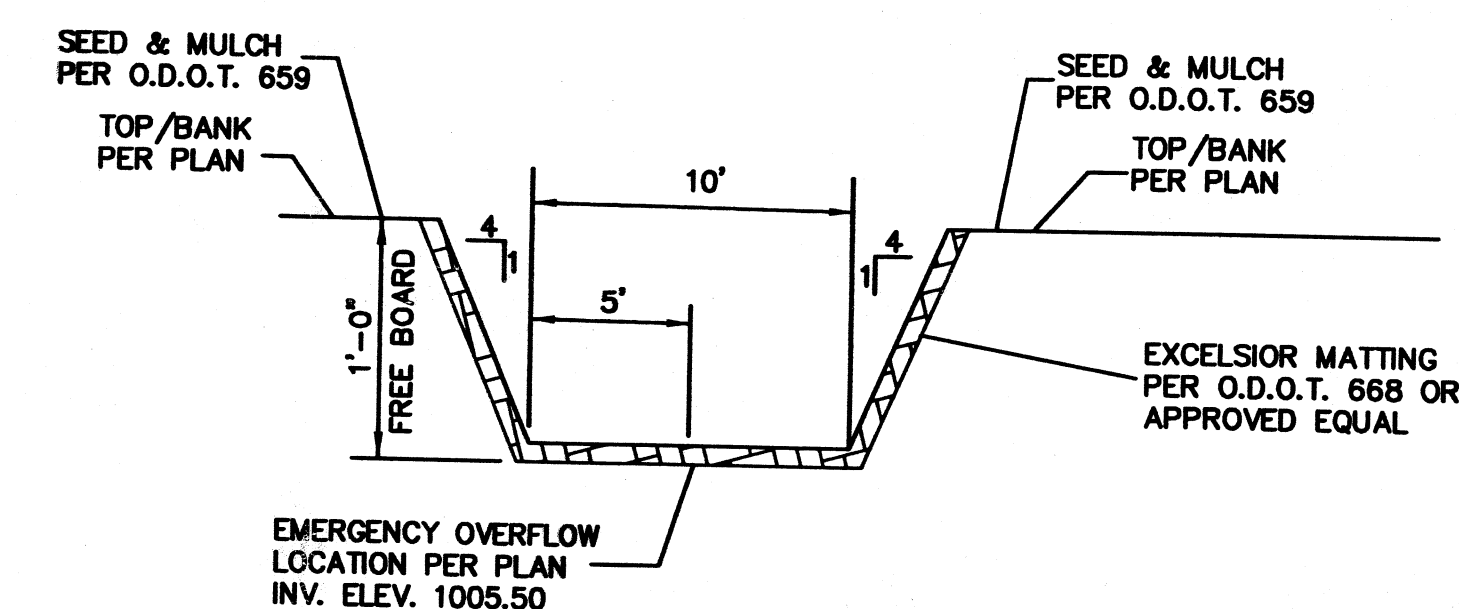


TYPICAL POND HALF CROSS-SECTION
NO SCALE

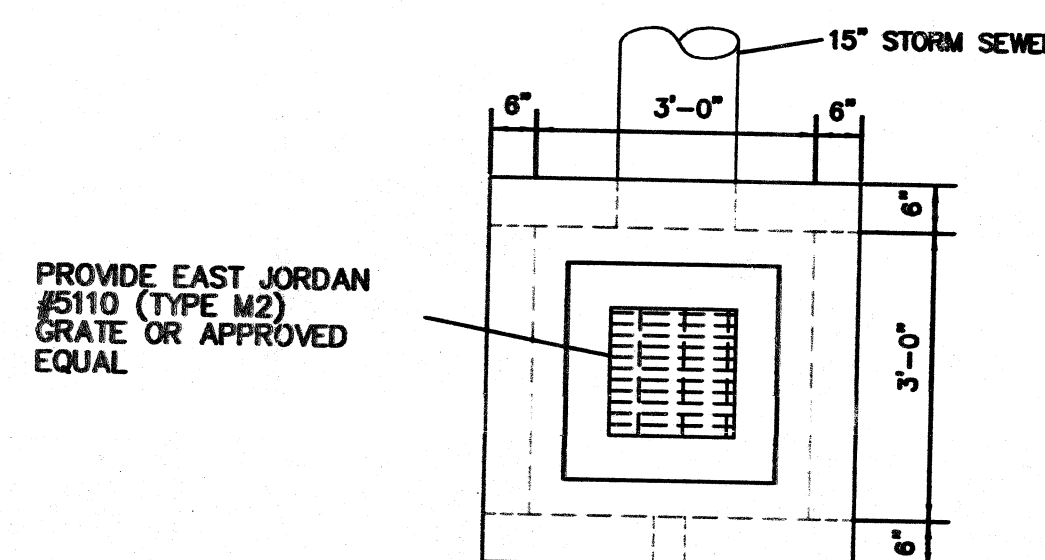
NOTE:
THE STORM WATER MANAGEMENT POND FACILITY WILL BE USED AS
A TEMPORARY SEDIMENT BASIN. UPON UPSTREAM STABILIZATION,
THE TEMPORARY WEIR PLATES ARE TO BE REMOVED AT THE DIRECTION
OF THE OHIO E.P.A. AND/OR THE CITY OF MASSILLON ENGINEER.



SECTION "A"-A"
NO SCALE

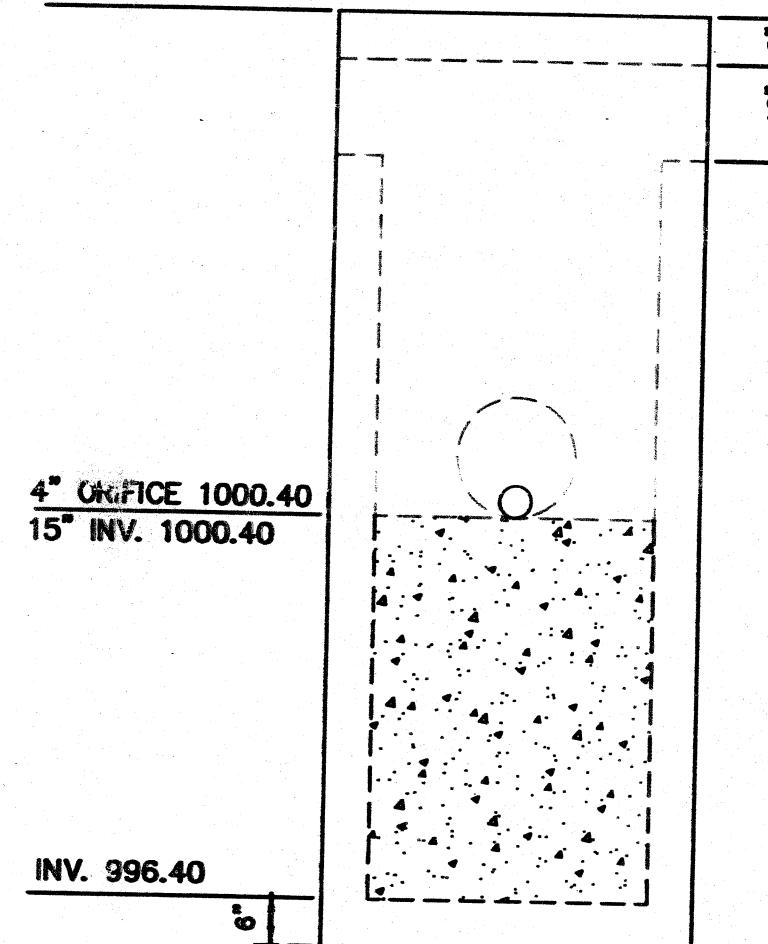


SECTION "B"-B"
EMERGENCY SPILLWAY DETAIL
NO SCALE



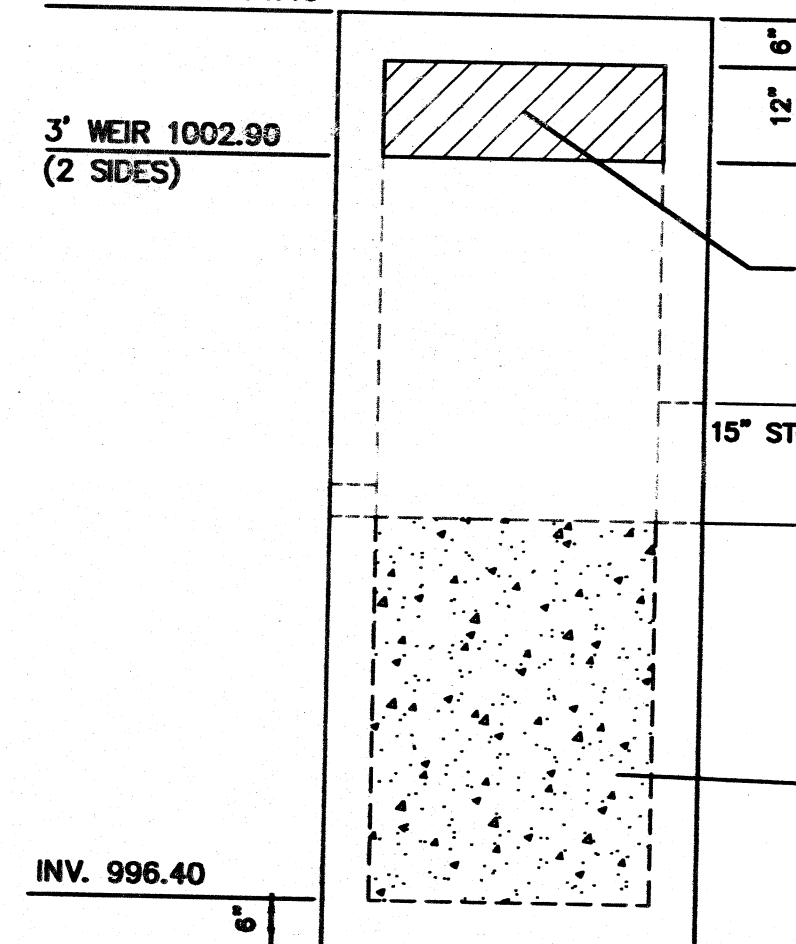
100-YR. W.S.E.	= 1003.20
50-YR. W.S.E.	= 1003.09
25-YR. W.S.E.	= 1003.00
10-YR. W.S.E.	= 1002.76
2-YR. W.S.E.	= 1000.93

TOP OF BANK 1004.90
TOP ELEV. 1004.40



PROPOSED POND CONTROL STRUCTURE
O.D.O.T CB-2-3 (MODIFIED)
NO SCALE

TOP OF BANK 1004.90
TOP ELEV. 1004.40



THE OIL AND GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
P.O. BOX 206
GRANVILLE, OHIO 43023-0206
PHONE (614) 587-0486 OR
CALL TOLL FREE 800-925-0988

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

KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

PROJECT
NUMBER

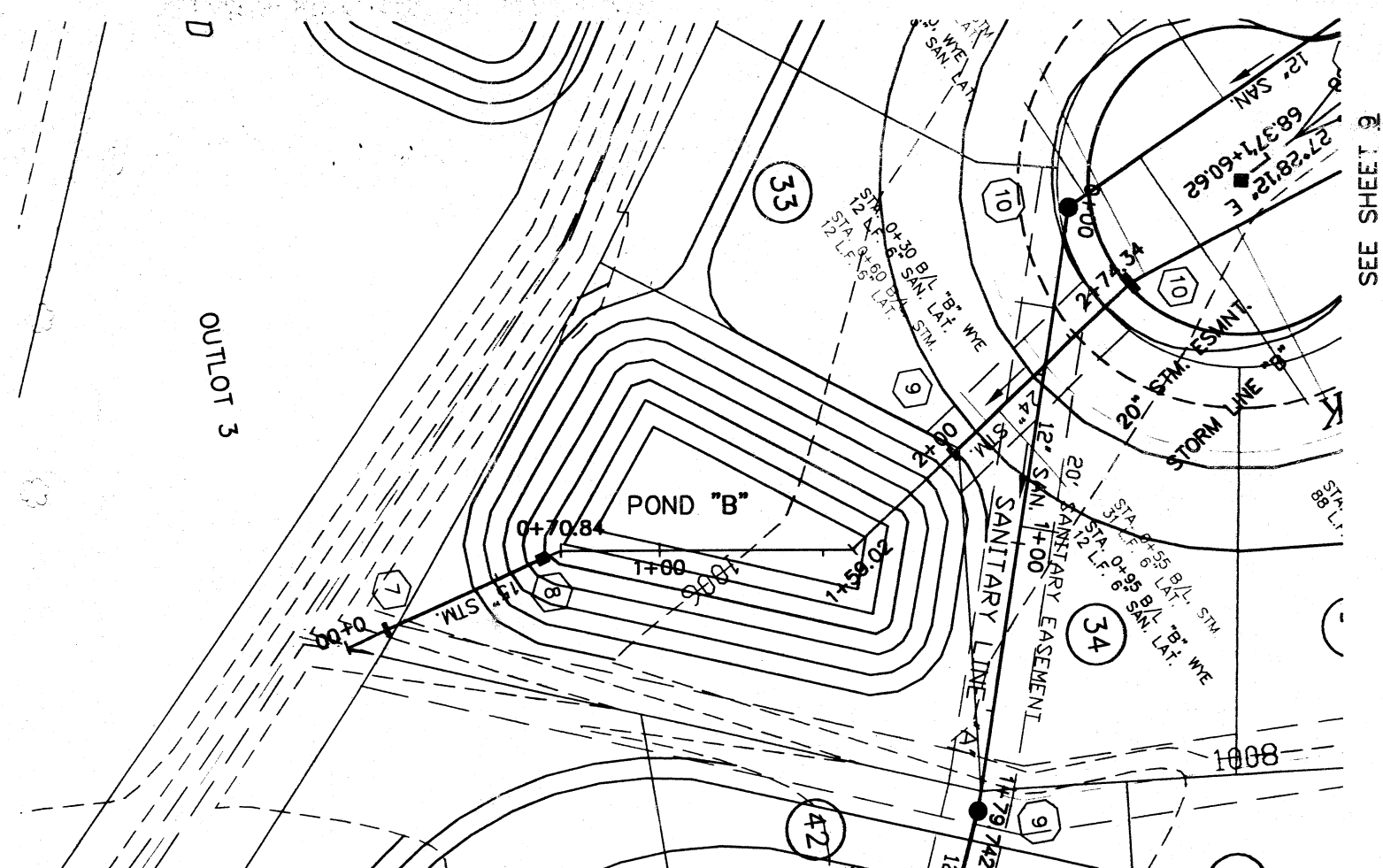
A. R. LOCKHART DEVELOPMENT CO.
800 W. WATERLOO RD. AKRON, OH 44314
Ph: 330-745-6520 Fax: 330-745-6716



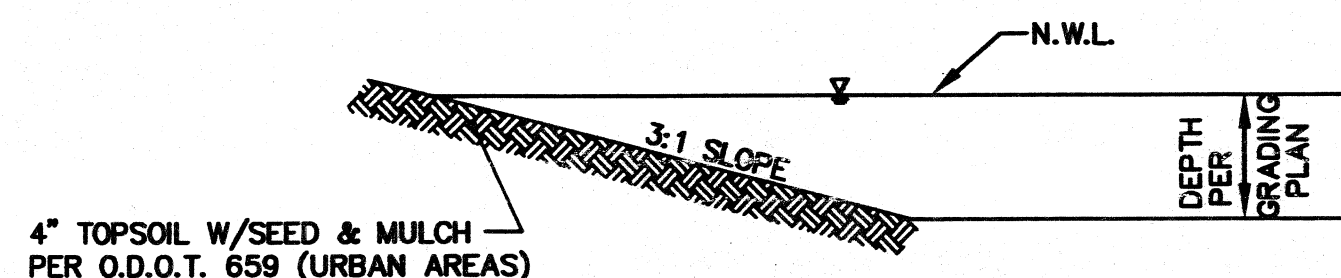
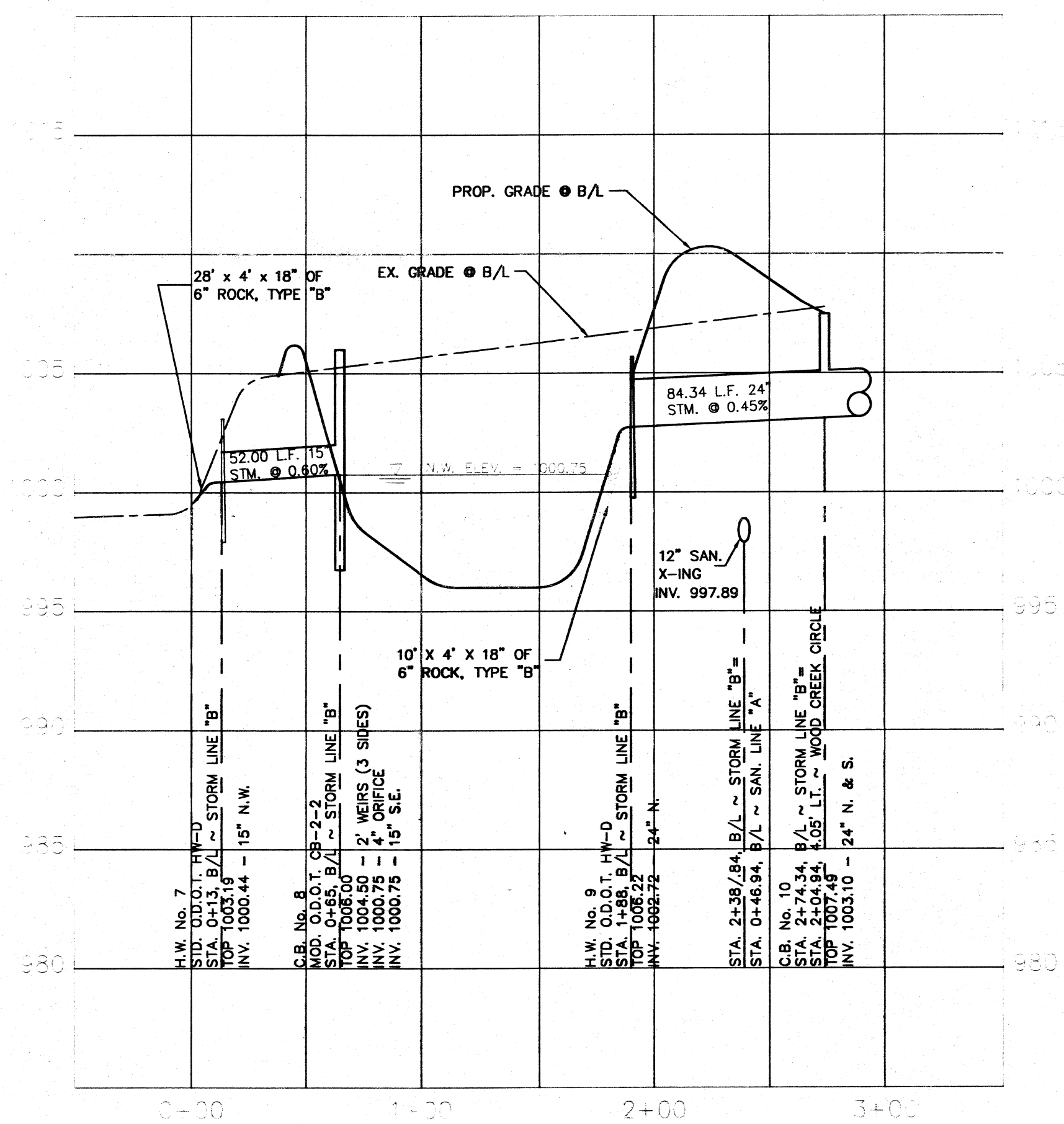
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POND 'A' DETAILS

E:\CURRENT\JOBS\KENTON\KAC PHL FINAL.DWG 4/20/02

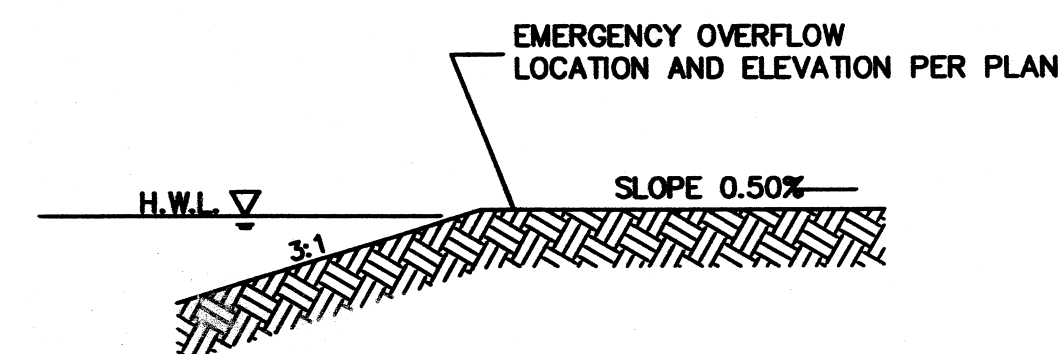


STORM LINE 'B' AND POND 'B'



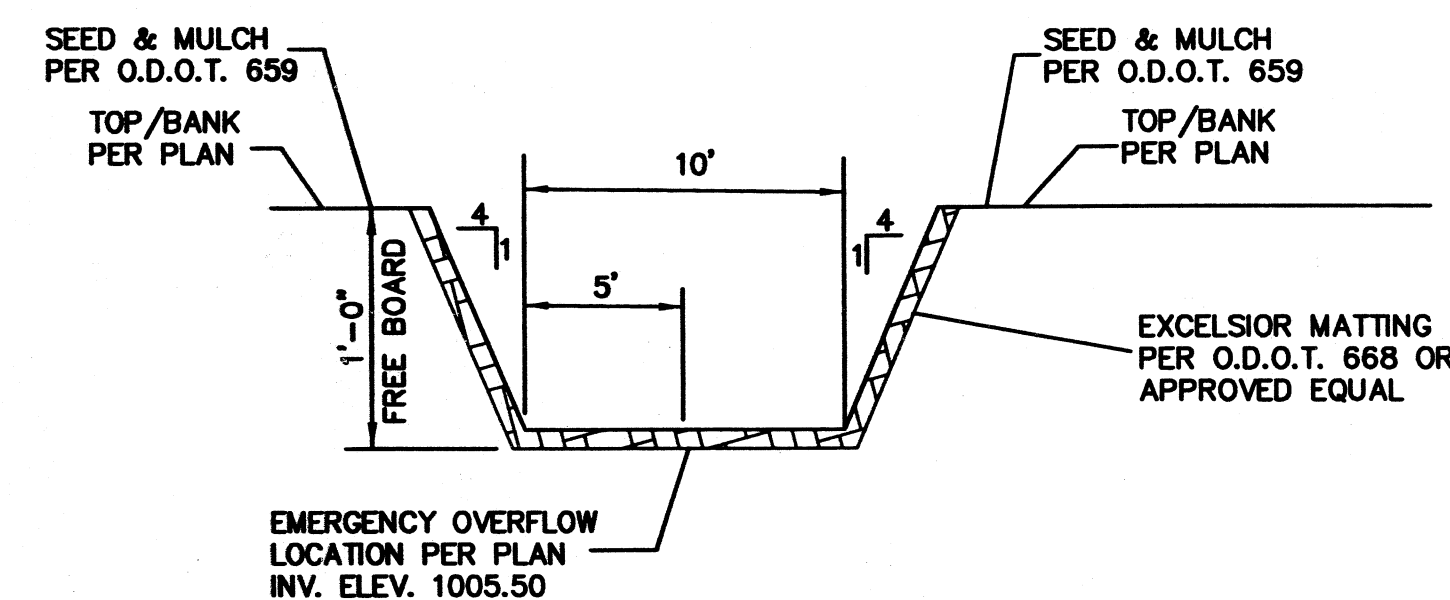
TYPICAL POND HALF CROSS-SECTION

NO SCALE



SECTION "A" - "A"

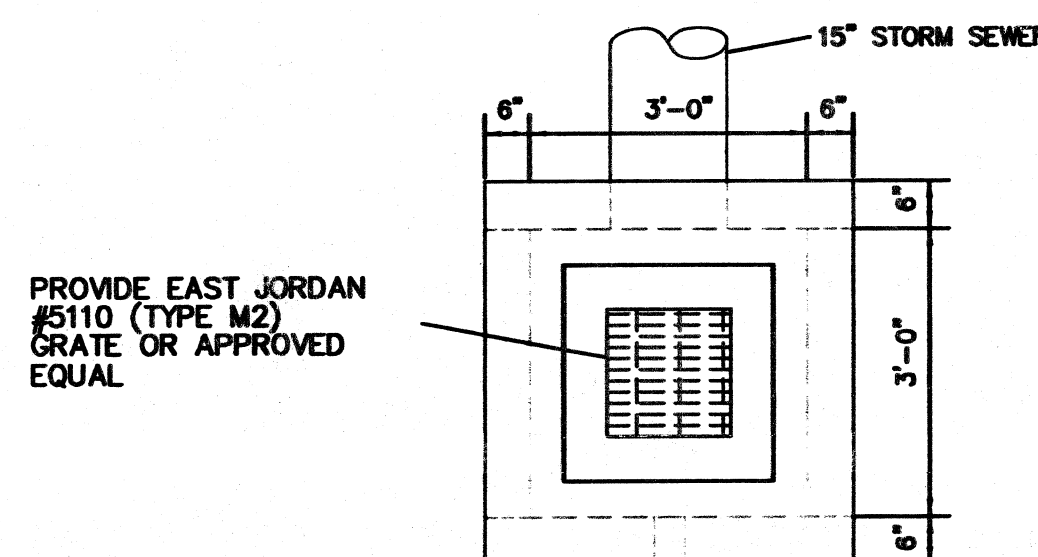
NO SCALE



SECTION "B" - "B"
EMERGENCY SPILLWAY DETAIL

NO SCALE

NOTE:
THE STORM WATER MANAGEMENT POND FACILITY WILL BE USED AS
A TEMPORARY SEDIMENT BASIN. UPON UPSTREAM STABILIZATION,
THE TEMPORARY WEIR PLATES ARE TO BE REMOVED AT THE DIRECTION
OF THE OHIO E.P.A. AND/OR THE CITY OF MASSILLON ENGINEER.



PROVIDE EAST JORDAN
#5110 (TYPE M2)
GRATE OR APPROVED
EQUAL

100-YR. W.S.E.	= 1004.88
50-YR. W.S.E.	= 1004.74
25-YR. W.S.E.	= 1004.63
10-YR. W.S.E.	= 1004.42
2-YR. W.S.E.	= 1001.86

TOP OF BANK 1006.50

TOP ELEV. 1006.00

4" ORIFICE 1000.75
15" INV. 1000.75

INV. 996.75

TOP OF BANK 1006.50

TOP ELEV. 1006.00

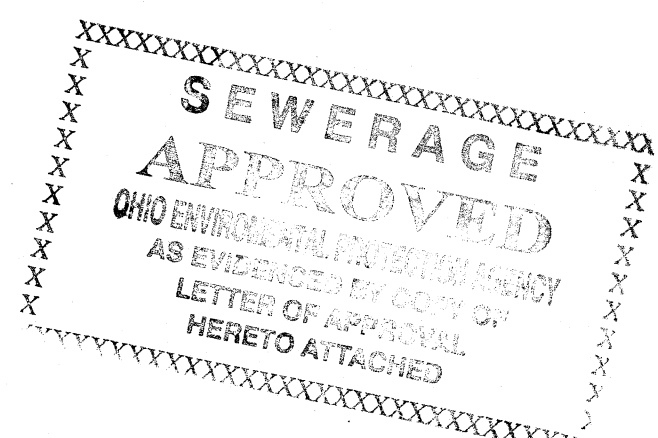
3' WEIR 1004.50
(2 SIDES)

INV. 996.75

INSTALL TEMPORARY WEIR PLATES TO BLOCK INFLOW
INTO THE WEIRS. PRIOR TO UPSTREAM STABILIZATION,
ONLY THE ORIFICE IS TO ALLOW FLOW TO ENTER THE
POND CONTROL STRUCTURE.

POUR 4' CONCRETE
GROUT IN BASE
TO COUNTERACT
BUOYANT FORCES

PROPOSED POND CONTROL STRUCTURE
O.D.O.T. CB-2-3 (MODIFIED)
NO SCALE



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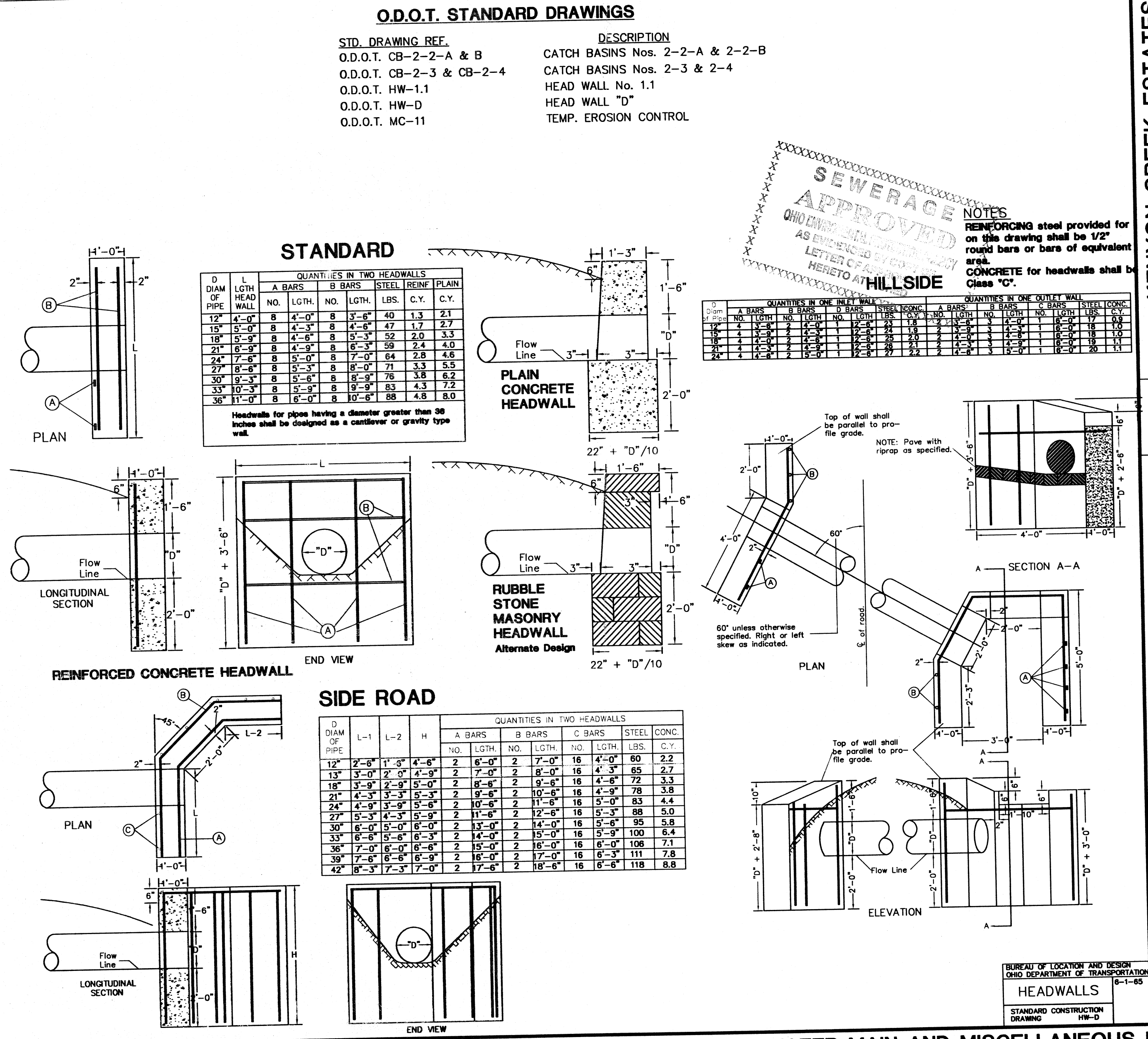
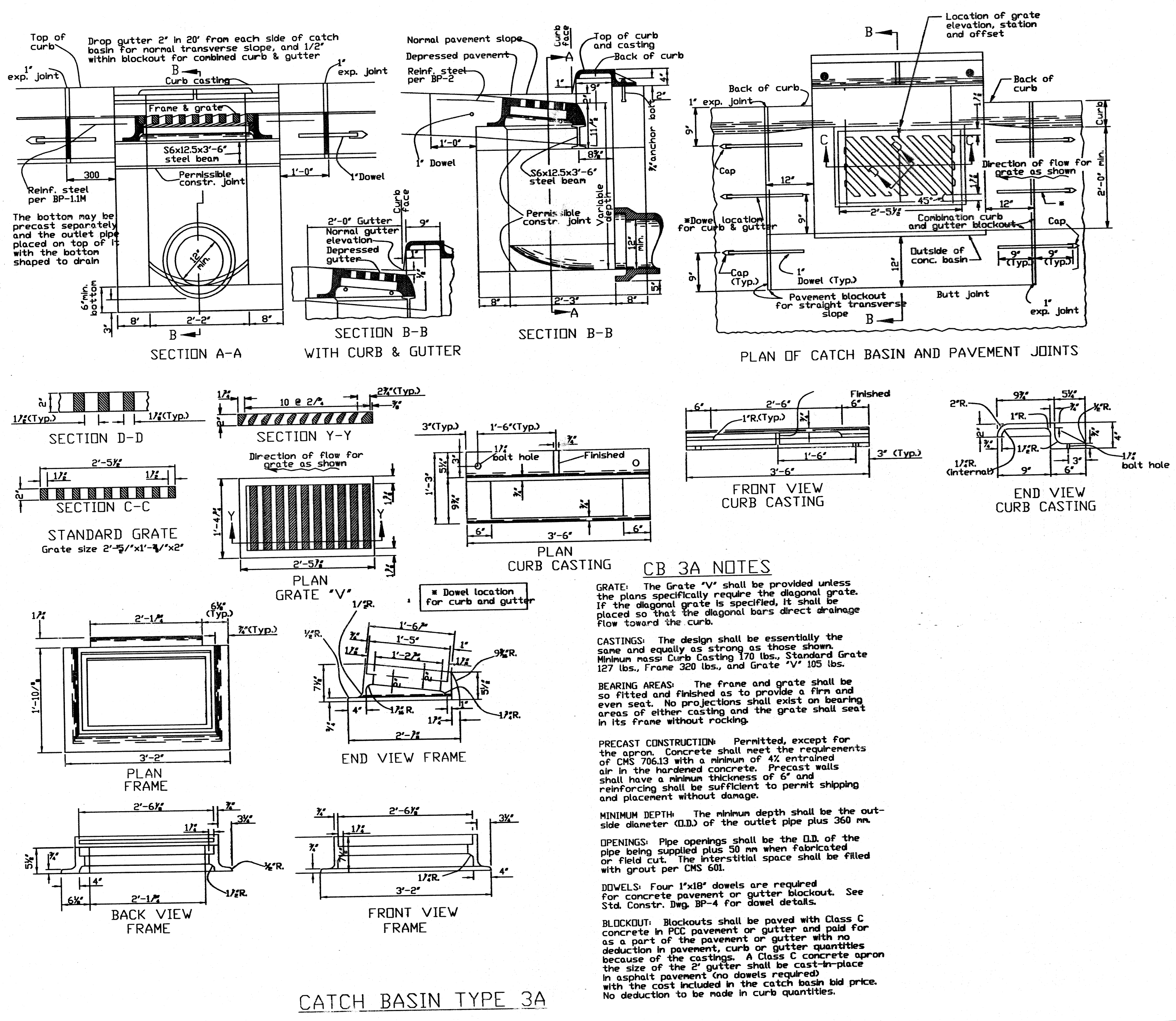
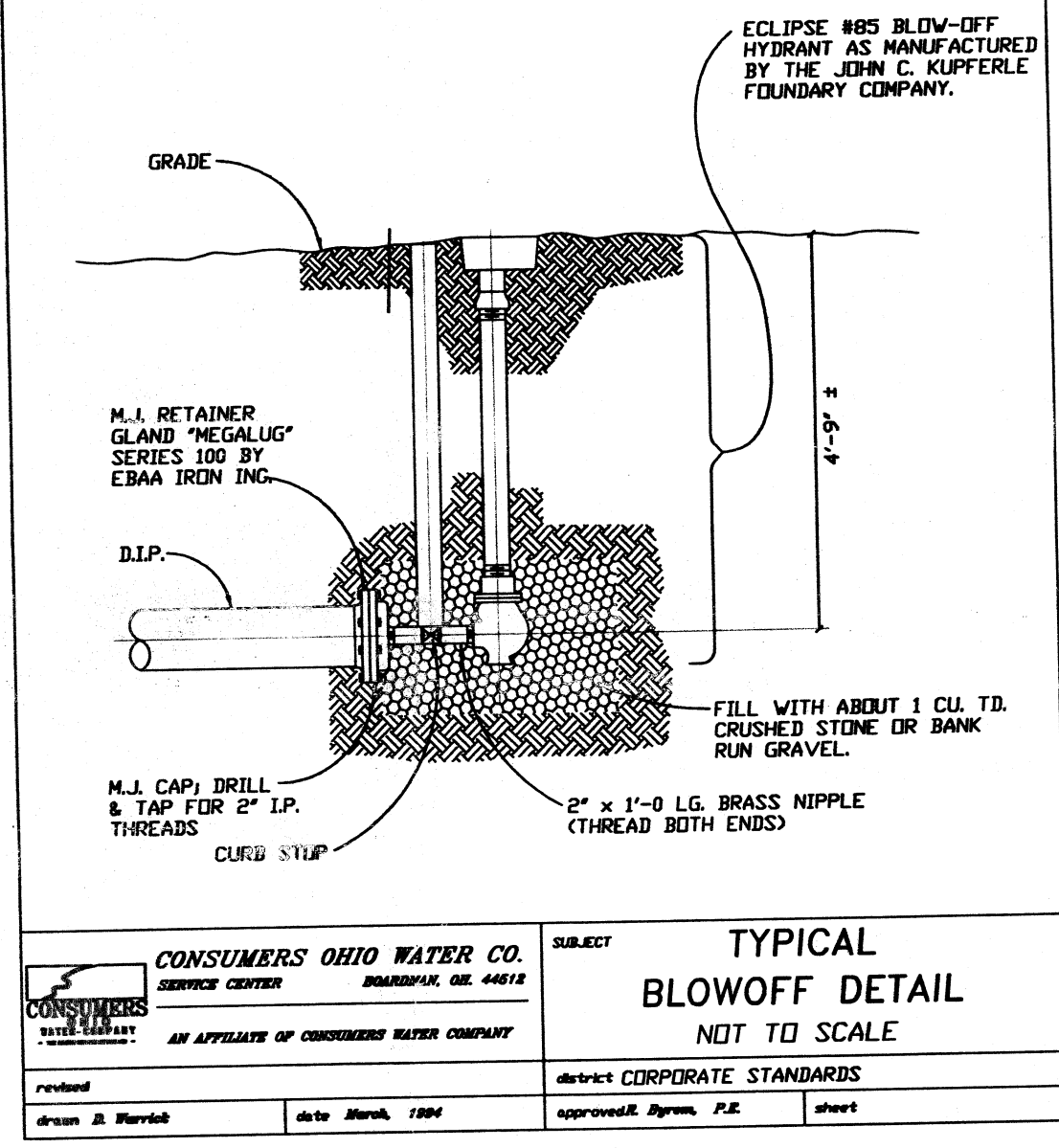
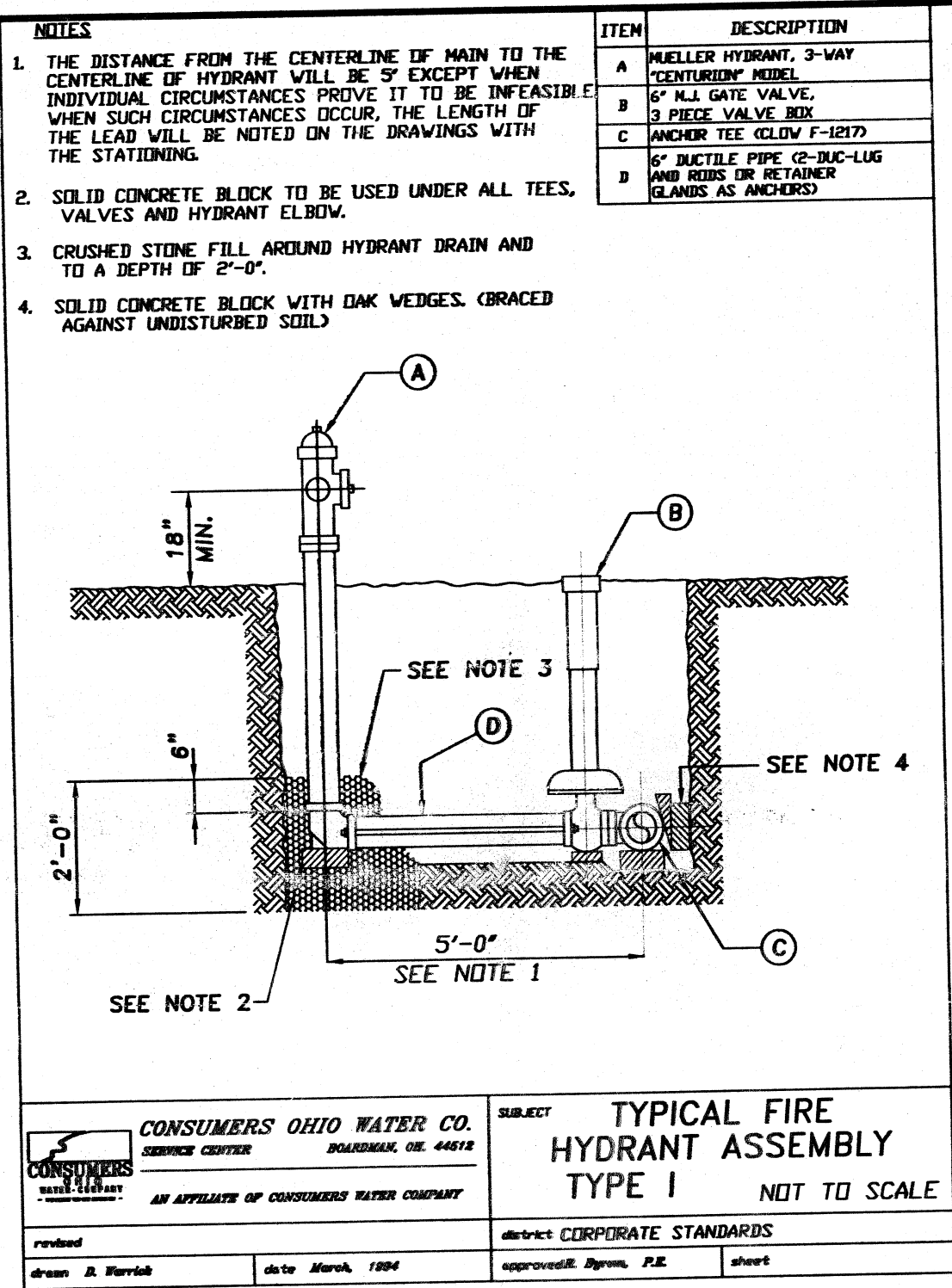
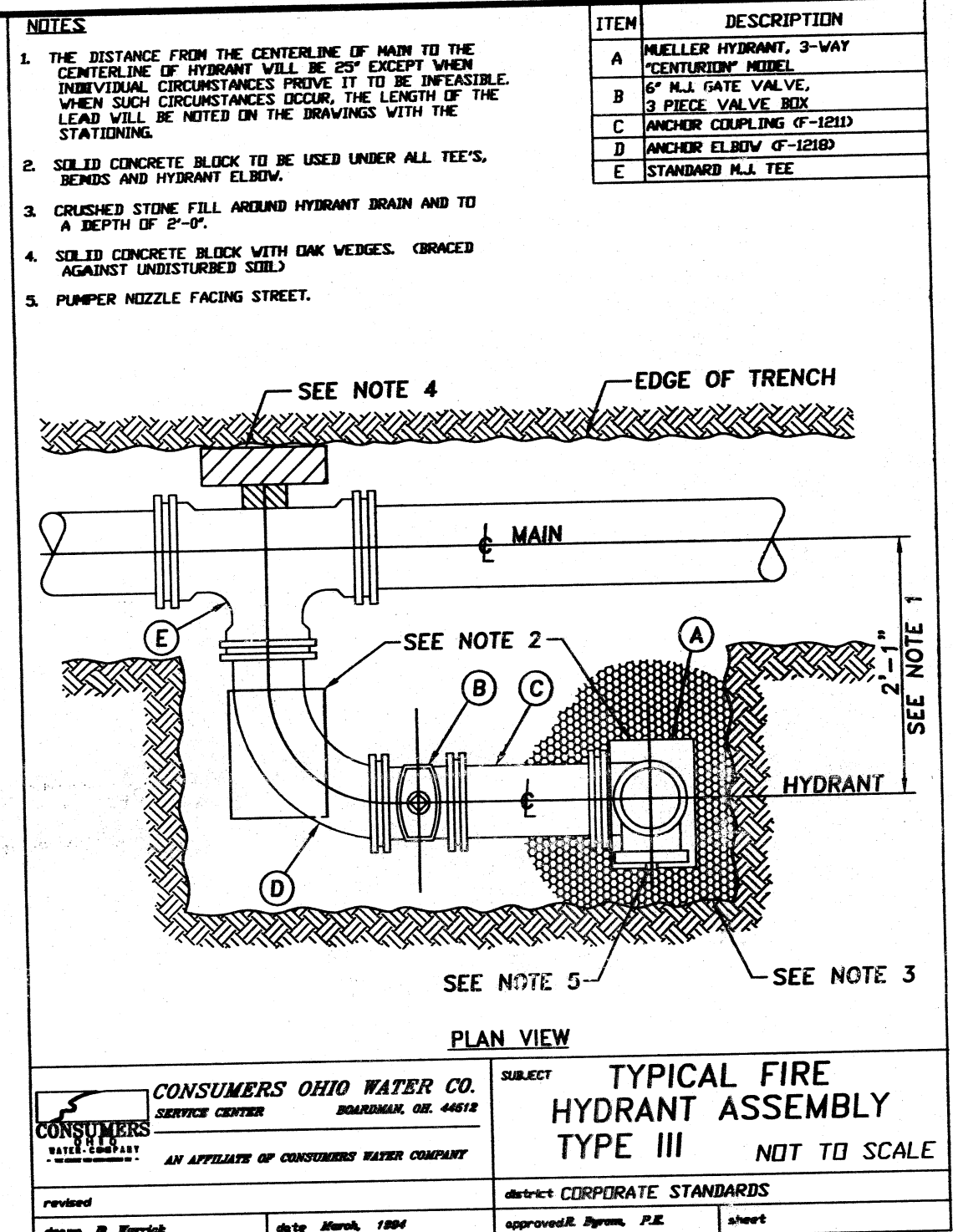
KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

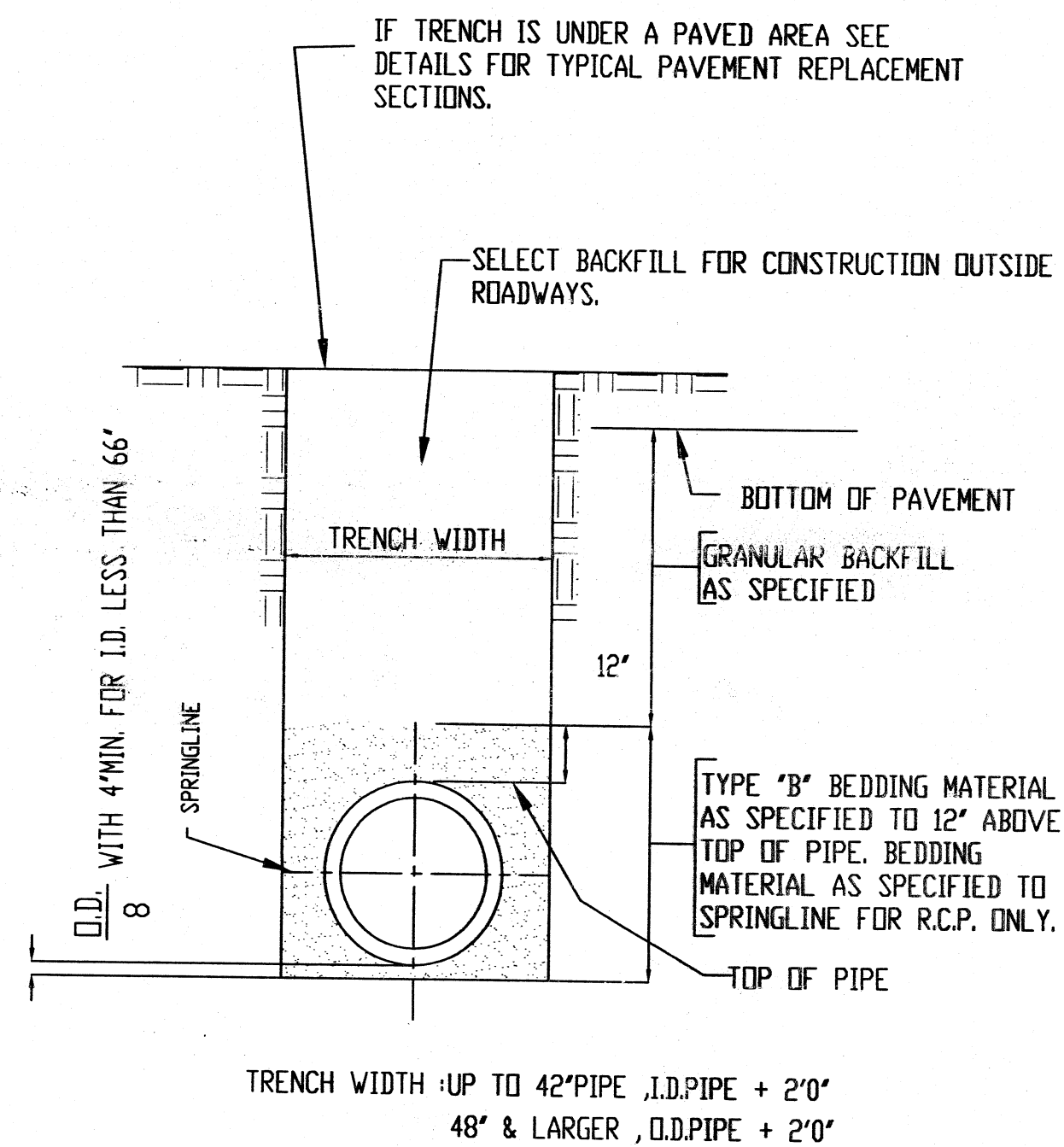
A. R. LOCKHART DEVELOPMENT CO.
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Ph: 330-745-6320 Fax: 330-745-0716

A.R.L.

12
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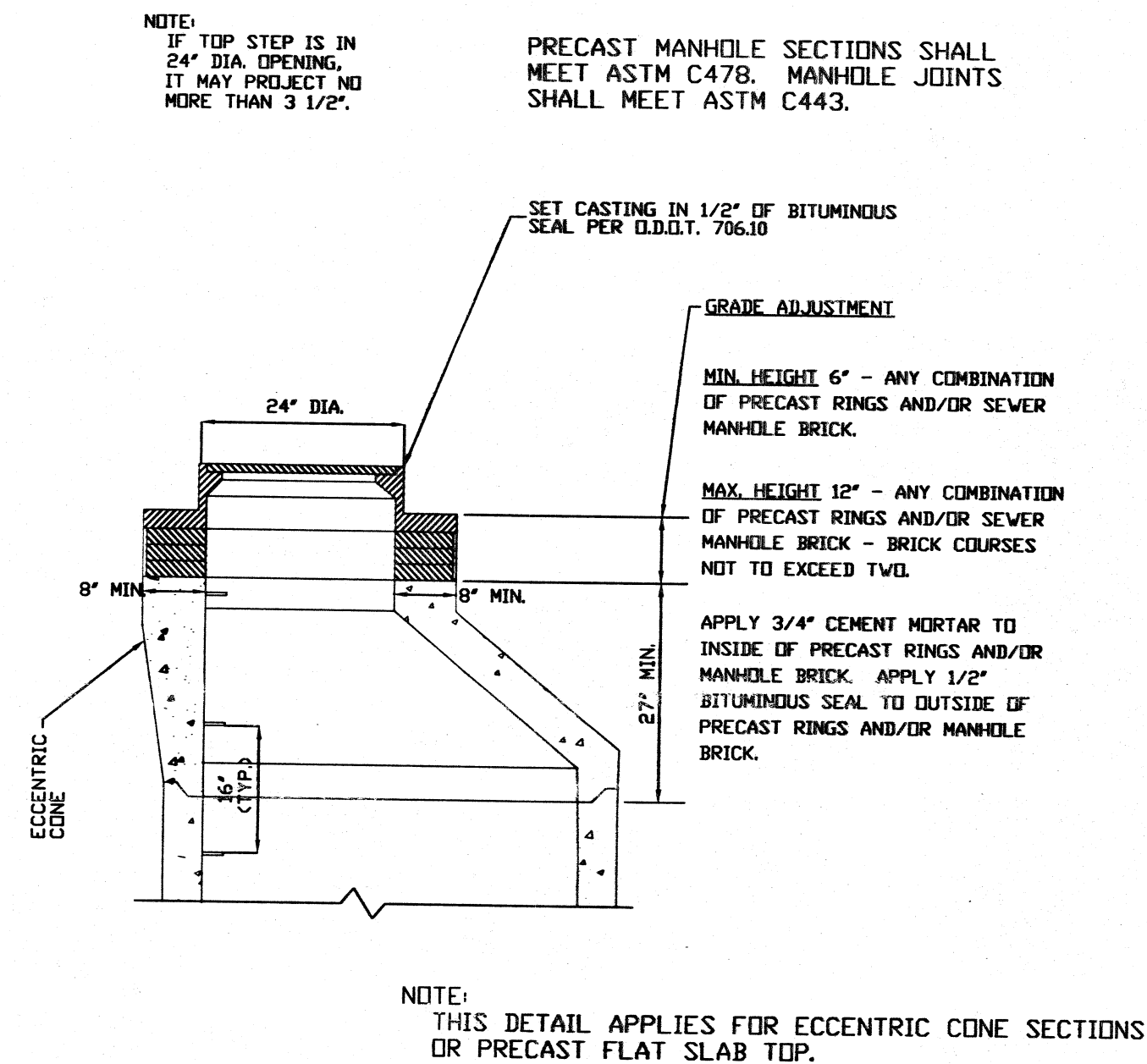
POND 'B' DETAILS



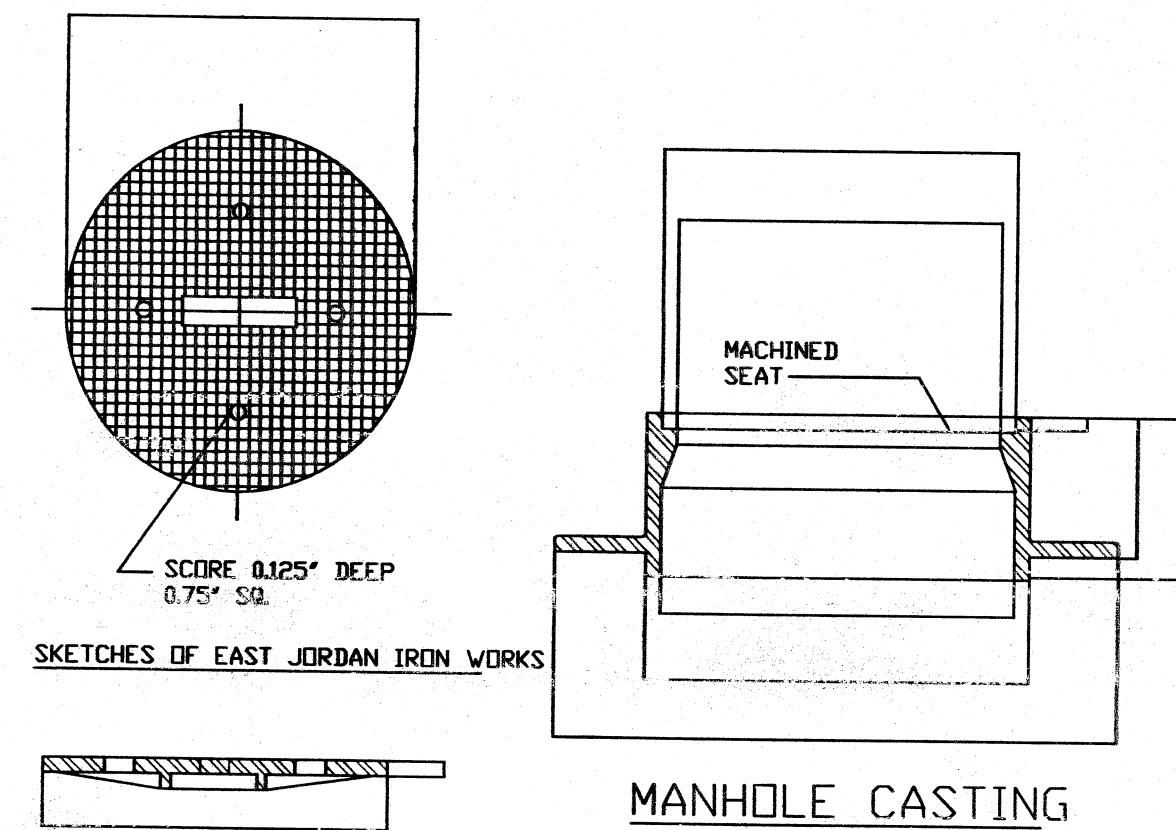


* STARK COUNTY BEDDING CLASSIFICATION TYPE B MEETS OR EXCEEDS ASTM D-2321 CLASS 1 BEDDING FOR FLEXIBLE PIPING, AND ASTM C-12, CLASS B BEDDING FOR RIGID PIPING.

BEDDING AND TRENCH DETAIL
TYPE "B" BEDDING



MANHOLE GRADE ADJUSTMENT DETAIL



MANHOLE COVER

EAST JORDAN IRON WORKS NO. 2015 W/TYPE 'C' VENT COVER
EAST AKRON CASTING CO. CASTING NO. 155, COVER NO. 156 OR APPROVED EQUAL

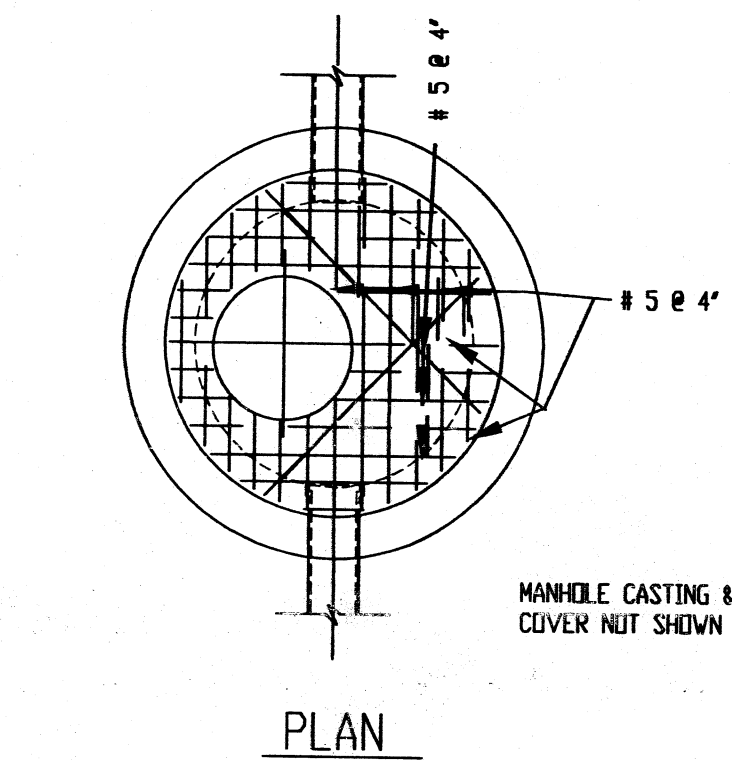
WATERPROOF CASTING AND COVER

NEENAH R 1916 C
EAST JORDAN IRON WORKS NO. 1058 PT
OR APPROVED EQUAL

NOTE:
COVER SHALL BEAR THE WORDS:
"SANITARY SEWER" OR "SAN. SEWER"

ALL CAST IRON SHALL CONFORM TO
ASTM A48, CLASS 350 IRON
CASTING WEIGHT: APPROX. 319 LBS.
COVER WEIGHT: APPROX. 131 LBS.

MANHOLE CASTING AND COVER



MANHOLE I.D.
48" FOR SEWERS 8" through 21"
60" FOR SEWERS 24" through 36"

NOTE:
FOR SPECIFICATIONS REGARDING
CONCRETE TO BE USED IN
MANHOLES SEE ITEM NO'S 4416

NOTE:
IF TOP STEP IS IN 24" DIA.
OPENING IT MAY PROJECT
NO MORE THAN 3-1/2"

NOTE:
MA. IND. PS-1-17 REINFORCED
PLASTIC STEPS OR APPROVED
EQUAL.

SEE DRAWINGS:
NO. 12 FOR GRADE ADJUSTMENT.
NO. 13 FOR CASTING DETAILS.

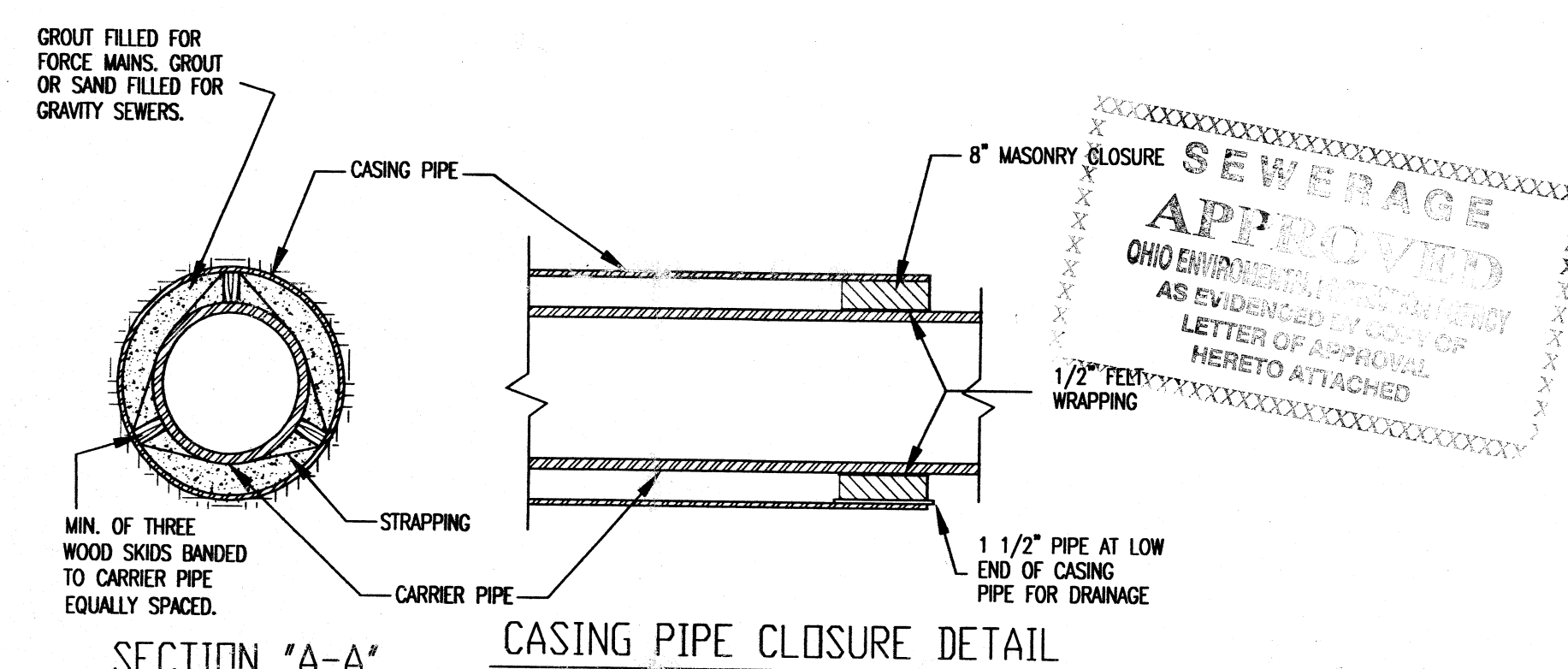
FOR P.V.C. & A.B.S. PIPE
CONNECTIONS USE ASTM C-923
FLEXIBLE GASKET SUCH AS A-LOK,
DURA SEAL III, KIR-N-SEAL OR
APPROVED EQUAL. THIS METHOD
ALSO ACCEPTABLE FOR V.C.P.

PRECAST MANHOLE SECTIONS
SHALL MEET ASTM C478.
MANHOLE JOINTS SHALL MEET
ASTM C443.

CONCRETE WITH STEEL TRIVEL
FINISH OR PRECAST INVERT
CHANNELS & BENCH

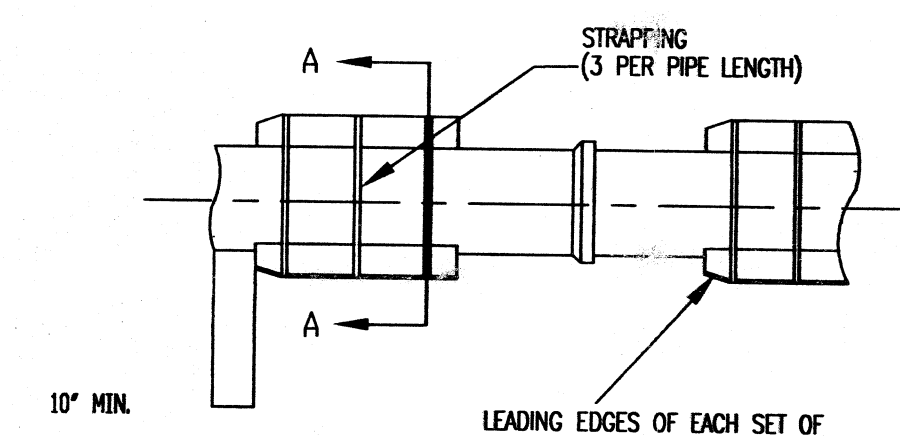
SECTION

SHALLOW PRECAST MANHOLE



SECTION "A-A"

CASING PIPE CLOSURE DETAIL



PIPE SKID DETAIL

CASING PIPE EQUAL TO TWICE THE I.D. OF CARRIER PIPE FOR PUSH-ON-JOINT PIPE.
FOR D.C.I.P. W/MECH. JOINTS & FOR R.C.P. CASING PIPE TO BE TWO SIZES
LARGER THAN TWICE THE CARRIER PIPE I.D.

PIPE BORING

KENYON CREEK ESTATES
PHASE I
CITY OF MASSILLON, OHIO

PROJECT
NUMBER

A. R. LOCKHART DEVELOPMENT CO.
800 W. WATERLOO RD AKRON, OH 44314
Ph: 330-745-6520 Fax: 330-745-0716

A.R.L.

15
17

UTILITIES

LISTED BELOW ARE ALL KNOWN UTILITIES LOCATED WITHIN THE CITY CORPORATION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AMERITECH 50 W.BOWERY, 6TH FLOOR AKRON, OH 44308 800-290-2242 RICK MARSILI	CONSUMER OHIO WATER COMPANY P.O. BOX 584 MASSILLON, OH 44648 (330) 833-4156	OHIO EDISON STARK DIVISION 2600 S. ERIE ST. MASSILLON, OH 44545 (330) 833-3141
MB OPERATING P.O. BOX 21310 CANTON, OH 44701-1310 (330) 456-2454	AT&T COMMUNICATIONS 2535 E. 40TH AVE. DENVER, CO 80205-3601 (800) 852-3786	MASSILLON CABLE TV P.O. BOX 814 MASSILLON, OH 44648 (330) 8334134
CITY OF MASSILLON SANITARY SEWER ONE JAMES DUNCAN PLAZA MASSILLON, OH 44646 (330) 830-1722	THE EAST OHIO GAS COMPANY 4725 SOUTHWAY ST. S.W. CANTON, OH 44706 (330) 478-3142 NANCY KOVACH	NORTHEAST OHIO NATURAL GAS CORP. 1425 N. WOOSTER AVE. STRASBURG, OH 44680-9766 (330) 878-5589

THE CONTRACTOR SHALL NOTIFY ALL UTILITIES 48 HOURS PRIOR TO ANY WORK.

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

OUPS - 1-800-362-2764

DATUM ELEVATION

ALL BENCHMARKS ARE BASED ON REFERENCE BENCHMARKS PROVIDED BY THE CITY OF MASSILLON.

STATIONING

ALL STATIONING SHOWN IS REFERENCED TO THE BASELINE AS SHOWN.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS REMOVED DURING CONSTRUCTION SHALL BE UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING.

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. ____.

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATION SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NORMAL 4"x4" SQUARE OR 4-1/2" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NORMAL PIPE SIZE 2" I.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC..) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.12. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT, (SINGLE) (DOUBLE).

ITEM 609, CAST IN PLACE 6"x18" CONCRETE CURB

GRANULAR BEDDING, BACKFILLING AND CONCRETE CURB PLACEMENT ALONG WITH ALL APPURTENANCES IS TO BE INCLUDED IN ITEM 609.

ITEM 659, TOPSOIL, SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL EXPOSED SOIL BETWEEN THE RIGHT OF WAY LINES, AND WITHIN THE CONSTRUCTIONS LIMITS FOR AREAS OUTSIDE THE RIGHT OF WAY LINES DISTURB DURING CONSTRUCTION.

THE CITY SHALL APPROVE SEED MIX PRIOR TO CONSTRUCTION TO BE USED THROUGH OUT CONSTRUCTION LIMITS. PROPOSED MIX SHALL BE SUBMITTED IN WRITING PRIOR TO ANY CONSTRUCTION.

ITEM 659, SEEDING AND MULCHING LUMP SUM BID

EROSION CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL AND SHALL MEET THE REQUIREMENTS OF 108.04.

ITEM 604, CATCH BASIN NO. 3, 3A

CATCH BASINS SHALL BE CONSTRUCTED IN CONFORMANCE WITH ITEM 604 EXCEPT THAT THE GRATES SHALL BE NEENAH NO. R-4859-C OR EAST JORDAN NO. 6730-2 OR APPROVED EQUALS.

CROSSING OR CONNECTING TO EXISTING PIPES AND UTILITIES

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

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

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

PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REMOVAL AND RELOCATION OF EXISTING UTILITIES

ALL UTILITY CONFLICTS WHERE THE REMOVAL AND RELOCATION OF AND EXISTING UTILITY DO TO PROPOSED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 202 REMOVAL AND RELOCATION OF EXISTING UTILITIES.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EACH LOT SHALL BE SUPPLIED WITH A SINGLE 6" STORM LATERAL THAT WILL BE INSTALLED FROM THE MAIN TO THE PROPERTY LINE. SAID STORM LATERAL SHALL SE CONNECTED TO FOUNDATION DRAINS, SUMP DRAIN AND WHEN POSSIBLE AS PER ENGINEER'S DIRECTION THE DOWN SPOUT WILL BE CONNECTED.

THE FOLLOWING WORK SHALL BE PAID FOR UNDER ITEM 603 6" STORM LATERAL.

DOWN SPOUTS

ALL DOWN SPOUTS UNABLE TO BE CONNECTED TO THE STORM LATERAL SHALL BE PUT THROUGH THE CURB AS PER ENGINEERS DIRECTION.

CURB OPENING SHALL NOT GREATER THAN A 3 1/2" DIAMETER.

THE WORK ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 609.

ITEM 651, TOPSOIL STOCKPILED

THE MATERIAL FOR THIS ITEM SHALL BE OBTAINED FROM AREAS WITHIN THE PROPOSED RIGHT-OF-WAY.

PROVISION OF THIS 651 ITEM SHALL NOT BE CONSTRUED AS A WAIVER OF THE PROVISIONS OF 201.4. SOD AND INCIDENTAL TOPSOIL REMOVED ELSEWHERE ON THIS PROJECT FOR SALVAGE, FOR USE AS DESCRIBED IN 203.04(e), SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE VARIOUS 203 ITEMS.

MANHOLES, CATCH BASINS, INLETS AND PIPES REMOVED OR ABANDONED

ALL CASTING AND PIPES SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT-OF-WAY FOR SALVAGE BY THE CITY. CONTACT THE CITY OF MASSILLON STREET SUPERINTENDENT - GEORGE PATTERSON AT 330-833-5746.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.08 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 408, BITUMINOUS PRIME COAT

THE RATE OF APPLICATION OF THE 408 PRIME COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.40 GALLONS PER SQUARE YARD OF PRIME COAT FOR ESTIMATING PURPOSES ONLY.

REVIEW OF SANITARY AND DRAINAGE FACILITIES

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

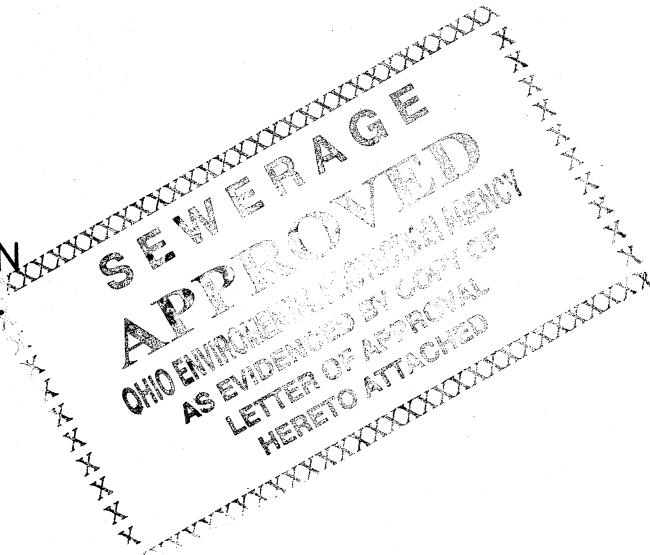
ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY OF MASSILLON.

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

NOTIFICATION OF SAFETY FORCES

THE CONTRACTOR SHALL NOTIFY THE CITY OF MASSILLON FIRE DEPARTMENT, MASSILLON POLICE DEPARTMENT, CITY ENGINEER AND LOCAL (MASSILLON, TUSLAW JACKSON & PERRY) SCHOOL DISTRICT TRANSPORTATION SUPERVISOR, AND THE SAFETY & SERVICE DIRECTOR AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSING OR TRAFFIC CHANGE.



KENYON CREEK ESTATES

PHASE I

CITY OF MASSILLON, OHIO

PROJECT
NUMBER

A. R. LOCKHART DEVELOPMENT CO.
800 W. WATERLOO RD AKRON, OH 44314
Ph: 330-745-6520 Fax: 330-745-0716

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SANITARY / STORM WORK

THE FOLLOWING CONDUIT TYPES MAY BE USED FOR SANITARY SEWER: 707.44 SDR35, 706.08, 706.03, 706.02 WITH JOINTS AS PER 706.11 OR 706.12.

THE FOLLOWING CONDUIT TYPES MAY BE USED FOR STORM SEWER WITH MORE THAN (1) ONE FOOT OF COVER: 707.42, 706.08, 706.02, WITH JOINTS AS PER 706.10 OR 706.11.

THE FOLLOWING CONDUIT TYPES MAY BE USED FOR STORM SEWER WITH LESS THAN (1) ONE FOOT OF COVER: 706.02 WITH JOINTS AS PER 706.10 OR 706.11

CONNECTION TO EXISTING SEWERS

CONSTRUCTION OF THE NEW SEWER SHALL BE SCHEDULED AND PERFORMED SUCH THAT ALL NEW SEWER IS IN PLACE TESTED AND FOUND READY FOR ACCEPTANCE BEFORE THE ACTUAL CUTTING AND TYING INTO THE EXISTING SEWER IS PERFORMED.

INTERNAL TELEVISION INSPECTION

ALL SANITARY SEWERS 8" DIAMETER AND LARGER, MUST PASS INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE COMPLETE, INTERNAL INSPECTION VIDEOTAPE TO THE CITY OF MASSILLON ENGINEERING DEPARTMENT. THE VIDEOTAPING PROCEDURE MUST BE IN ACCORDANCE WITH SPECIFICATION SECTION 02743.

LATERAL LOCATIONS

ALL NEW LATERAL LOCATIONS SHALL BE DETERMINED IN THE FIELD. TO DETERMINE THE LOCATION THE CONTRACTOR SHALL SPEAK TO THE LAND OWNER FOR BEST SUITABLE LOCATION. ALL LOCATIONS MUST BE APPROVED BY ENGINEER.

ALL NEW LATERAL LOCATIONS TO BE FIELD CHECKED AND LOCATED BY THE CONTRACTOR PRIOR TO BACKFILLING.

LATERALS SHALL BE 6" CONDUIT TYPE B.

LATERAL PRICE SHALL INCLUDE ALL APPURTENANCES NECESSARY

EXISTING ROOF DRAINS, YARD DRAINS, OR FOUNDATION DRAINS SHALL BE CONNECTED TO THE 6" STORM SEWER LATERAL AND NOT THE SANITARY SEWER LATERAL.

IT IS PROHIBITED TO CONNECT ANY CLEAN WATER CONDUIT TO THE SANITARY SEWER.

THE FOLLOWING WORK SHALL BE PAID FOR UNDER ITEM 603 6" CONDUIT TYPE B 707.42.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 ITEM.

EXISTING DATA

EACH CONTRACTOR SHALL VISIT THE SITE PERSONALLY TO ASCERTAIN THE NATURE OF THE WORK AND BECOME THOROUGHLY FAMILIARIZED WITH THE SITE PRIOR TO BID SUBMISSION.

EXISTING STRUCTURES, GRADES, PIPING, ETC. ARE INDICATED IN APPROXIMATE LOCATION ON THE PLAN. INFORMATION SHOWN IS NOT GUARANTEED TO BE CORRECT AND COMPLETE. THE DATA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE EXISTENCE OF FACILITIES ABOVE OR BELOW GROUND, WHICH MAY NOT BE SHOWN, WILL NOT BE A BASIS FOR A CLAIM FOR EXTRA WORK.

EXISTING UNDERGROUND UTILITIES SHOWN ARE RECORDS PROVIDED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. SERVICE LATERALS ARE NOT SHOWN.

IT IS THE RESPONSIBILITY OF CONTRACTOR TO NOTIFY THE CITY, PRIOR TO BID OPENING, OF ANY NON-CONFORMING OR CONFLICTING INFORMATION.

CONSTRUCTION SPECIFICATIONS & STANDARDS

ALL CONSTRUCTION TO BE CITY OF MASSILLON SPECIFICATIONS AND STANDARDS, THE LATEST EDITION OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS AND FOLLOW ALL OSHA AND ADA REGULATIONS AND REQUIREMENTS.

CONTRACTOR AVAILABILITY

THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A 24 HOUR PHONE NUMBER WHERE THE CONTRACTOR SHALL BE AVAILABLE FOR EMERGENCIES.

PRESERVATION OF PRIVATE PROPERTY

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY TELEPHONE OR POWER POLES, SIGNS, LANDSCAPING ITEMS, ETC. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE. PRIOR ENGINEER APPROVAL IS REQUIRED BEFORE ANY OF THE ABOVE ITEMS ARE PERFORMED.

PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS ANY TYPE OF LAND MONUMENT. HE SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. HE SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY AN OHIO REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

EXCAVATED MATERIAL

ALL EXCAVATED MATERIAL AND ALL MATERIAL USED IN CONSTRUCTION OF THE WORK SHALL BE PILED IN A MANNER THAT WILL NOT ENDANGER THE WORK AND THAT WILL LEAVE DRIVEWAYS OR OTHER CONTROLS UNOBSERVED AND ACCESSIBLE WHILE THE WORK IS TO BE COMPLETED. SATISFACTORY PROVISIONS SHALL BE MADE FOR STREET DRAINAGE, AND NATURAL WATERCOURSES SHALL NOT TO BE OBSTRUCTED. DURING THE PROGRESS OF THE WORK, ALL MATERIAL PILES SHALL BE KEPT TRIMMED UP AND MAINTAINED IN A NEAT MANNER. ALL EXCAVATED WASTE MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE, AS DIRECTED BY THE ENGINEER. THE WASTE SITE IS TO BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY. UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS. ALONG WITH A LETTER FROM THE PROPOSED WASTE SITE OWNER PERMITTING SUCH AND HOLDING THE CITY HARMLESS.

PRESERVATION OF EXISTING UTILITY SERVICES

ANY EXISTING WATER LINE, SANITARY SEWER, STORM SEWER, GAS LINE OR OTHER UTILITY IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THAT CONTRACTORS EXPENSE.

ITEM 623, CONSTRUCTION STAKING

CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT AND UPON COMPLETION OF PROJECT AS-BUILT DRAWINGS ARE REQUIRED.

THIS WORK IS TO BE UNDER ITEM 623 CONSTRUCTION STAKING.

SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE BIDDER TO MAKE HIS OWN INVESTIGATIONS OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. THE BIDDER MAY EXAMINE THE RECORDS OF ALL BORINGS, TEST EXCAVATIONS AND OTHER SUBSURFACE INVESTIGATIONS, IF ANY, MADE SOLELY FOR DESIGN PURPOSES FOR THE OWNER. SAID BORINGS, TEST EXCAVATIONS AND OTHER SUBSURFACE INVESTIGATIONS, ARE NOT A PART OF THE CONTRACT DOCUMENTS, EXCEPT TO THE EXTENT THAT THE RESULTS THEREOF ARE SPECIFICALLY SHOWN ON THE PLANS OR INCLUDED IN THE SPECIFICATIONS AND ARE NOT WARRANTED TO SHOW THE ACTUAL SUBSURFACE CONDITIONS. THE CONTRACTOR AGREES THAT THEY WILL MAKE NO CLAIM AGAINST THE OWNER OR THE ENGINEER IF, IN CARRYING OUT THE WORK, HE FINDS THAT THE ACTUAL SUBSURFACE CONDITIONS ENCOUNTERED DO NOT CONFORM TO THOSE INDICATED BY SAID BORINGS, TEST EXCAVATIONS AND OTHER SUBSURFACE INVESTIGATIONS.

PAVEMENT DESIGN

PAVEMENT DESIGN CRITERIA SHALL BE BASED UPON SITE-SPECIFIC SOIL CONDITIONS AND DRAINAGE OF THE SITE. IN CERTAIN CASES, SOIL BORINGS AND OTHER SUBSURFACE INVESTIGATIONS MAY BE NECESSARY AS REQUIRED BY THE CITY ENGINEER. ALL PAVEMENT DESIGNS AND SOIL'S INFORMATION SHALL BE SUBMITTED TO THE MASSILLON CITY ENGINEER FOR HIS APPROVAL PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.

RESTORATION

FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED UP TO MAY 15TH OF ANY CALENDAR YEAR, RESTORATION SHALL BE COMPLETE BY JUNE 30TH OF THAT YEAR. FOR INSTALLATION OF SANITARY SEWER TESTED AND ACCEPTED FROM MAY 15TH TO SEPTEMBER 30TH OF ANY CALENDAR YEAR, RESTORATION SHALL BE COMPLETE BY NOVEMBER 15TH OF THAT CALENDAR YEAR. FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED AFTER NOVEMBER 15TH OF ANY CALENDAR YEAR, RESTORATION SHALL BE COMPLETE BY MAY 15TH OF THE NEXT CALENDAR YEAR.

ALL SOIL AREAS DISTURBED BY THE CONTRACTOR SHALL BE TOPSOILED, SEEDED AND MULCHED. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM OF AFFECTED WORK. TOPSOIL, SEEDING AND MULCHING SHALL NOT BE A SEPARATE PAY ITEM. THIS INCLUDES BACKFILLING, SEEDING AND MULCHING ALONG THE EDGE OF ALL PAVEMENT RESTORATION.

PAVEMENT CROSSINGS WILL RECEIVE TYPE C PAVEMENT REPLACEMENT WITH FULL WIDTH PAVEMENT OVERLAY.

CONTRACTOR TO REPLACE ALL PAVEMENT MARKINGS. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT.

CONTRACTOR TO USE HOT APPLIED JOINT CRACK SEALER ON ASPHALT PAVEMENT AT ALL ENDS AND INTERSECTIONS.

ALL TRENCHES IN ROAD RIGHT OF WAY WILL RECEIVE FULL DEPTH PREMIUM GRANULAR BACKFILL.

MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL SUPPLY A MAINTENANCE OF TRAFFIC PLAN TO THE CITY OF ENGINEER.

MAINTENANCE OF TRAFFIC PLAN MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO ANY CONSTRUCTION COMMENCING.

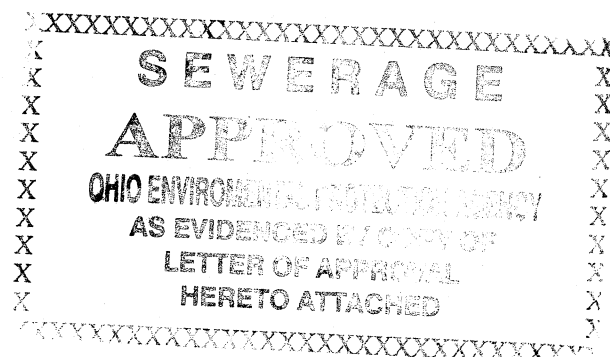
ACCESSIBILITY TO PRIVATE PROPERTY

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHILE LAYING THE SANITARY SEWER ACROSS THE DRIVE. THE TRENCH SHALL BE BACKFILLED AT THE END OF EACH WORK DAY TO PROVIDE ACCESS. THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF CUTTING THEIR DRIVEWAY.

FINAL APPROVAL

A VIDEO TAPE WILL BE MADE BY THE CONTRACTOR AND SUBMITTED TO THE CITY PRIOR TO THE PROJECT COMMENCING. AFTER THE FINAL INVOICE IS RECEIVED THE SITE WILL BE VIDEO TAPED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT.

COST OF THIS WORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.



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