LUTZ SANITARY SEWER EXTENSION

18" SEWER NORTH OF MUDBROOK CREEK AND ALONG LUTZ AVENUE

JACKSON TOWNSHIP
LUTZ AVENUE N.W.
SEC. 7 & SEC. 18
STARK COUNTY, OHIO

PRIVATE SANITARY SEWER EXTENSION NO. 2000.10

MAY 2000

ISSUED
DEC 10 2001
HAMMONTREE & ASSOC., LTD.

APPROVED

N

SHEET INDEX

LEGEND

1 DENOTES SANITARY SEWER MANHOLE NO.
——S—— PROPOSED SANITARY SEWER
— — —S— — — EXISTING SANITARY SEWER

VICINITY MAP
0 0.5 1
2" = 1 MILE

APPROVED Michael S. Armogida DATE 2/22/01
STARK COUNTY SANITARY ENGINEER
BY:

APPROVED DATE 12/8/00
MASSILLON CITY ENGINEER

APPROVED FOR ACCEPTANCE OF EFFLUENT ONLY
FROM EXISTING MANHOLE #15 TO MANHOLE #56
POTENTIAL FLOW FROM EXISTING STRUCTURES TO THIS SERVICE AREA = 6,400 GPD*
ESTIMATED FUTURE FLOWS TO THIS SERVICE AREA = 763,600 GPD*

TOTAL AVERAGE DAILY FLOW = 770,000 GPD

APPROVED BY OHIO EPA AS PER LETTER DATED OCTOBER 22, 2001

UTILITY OWNERSHIP

STARK COUNTY ENGINEER
5165 SOUTHWAY STREET S.W.
CANTON, OHIO 44706
(330) 477–6781
ATTN: KENNETH MACE

AMERITECH
50 W. BOWERY ST.
AKRON, OHIO 44601
(330)384–8057
ATTN: JAMES MCLAUGHLIN

CONSUMER OHIO WATER
123 THIRD STREET SE
MASSILLON, OH 44646
(330) 832–5764 X 205
ATTN: DON SNYDER

STARK CO. METROPOLITAN SEWER DISTRICT
1701 MAHONING ROAD
CANTON, OHIO 44705
(330) 438–9303

OHIO EDISON
1910 W. MARKET STREET
FAIRLAWN BUILDING 1
AKRON, OHIO 44313
(330) 384–4839
ATTN: KEN DOWNS

EAST OHIO GAS COMPANY – DISTRIBUTION
4725 SOUTHWAY STREET S.W.
CANTON, OHIO 44706–1936
(330) 478–3136
ATTN: STEVE CRAWL

EAST OHIO GAS COMPANY – TRANSMISSION
7015 FREEDOM AVENUE N.W.
N. CANTON, OHIO 44720–7381
(330) 497–5136
ATTN: JOHN SCHNIEGENBERG

* SEE SHEET 3 FOR SERVICE AREA FLOW DETERMINATIONS.

SANITARY SEWER PLANS PREPARED BY
HAMMONTREE & ASSOCIATES, LIMITED
CONSULTING ENGINEERS, PLANNERS, SURVEYORS
CANTON AND AKRON, OHIO
BY: DATE: 12/8/2000
SCOTT E. ELLSWORTH REGISTERED ENGINEER NO. E–61718

STATE OF OHIO
SCOTT E. ELLSWORTH
E-61718
REGISTERED PROFESSIONAL ENGINEER

DEVELOPER:
GENESIS GROUP
C/O ANDY GINELLA
3721 WHIPPLE AVE NW
CANTON, OHIO 44718–2757
PH: (330) 492–4249
FAX: (330) 492–2221

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800–362–2764
OHIO UTILITIES PROTECTION SERVICE
NON–MEMBERS
MUST BE CALLED DIRECTLY

THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SANITARY SEWER NOTES

1. SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO STARK COUNTY SANITARY 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. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRE–CONSTRUCTION MEETING WITH THE CONSTRUCTION ENGINEER OF THE STARK COUNTY SANITARY ENGINEERING DEPARTMENT (330/438–9310). A MINIMUM OF 72 HOURS NOTICE IS REQUIRED TO SCHEDULE THIS MEETING.

4. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS ALONG THE ROUTE OF THE SANITARY SEWER AT LEAST THREE (3) DAYS PRIOR TO START OF CONSTRUCTION.

5. THE CONTRACTOR SHALL ALERT THE UTILITIES PROTECTION SERVICE AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.

6. APPROVAL BY THE STARK COUNTY SANITARY ENGINEERING DEPARTMENT CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.

7. 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 STARK COUNTY SANITARY ENGINEERING DEPARTMENT AT THE PRE–CONSTRUCTION MEETING.

8. ALL ROUGH GRADING TO WITHIN SIX (6) INCHES OF FINISHED GRADE SHALL BE COMPLETED WITHIN THE RIGHTS–OF–WAY AND EASEMENTS PRIOR TO SANITARY SEWER CONSTRUCTION.

9. 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.

10. MINIMUM VERTICAL CLEARANCE BETWEEN SANITARY SEWER AND WATERLINE SHALL BE 18 INCHES. MINIMUM HORIZONTAL SEPARATION SHALL BE 10 FT.

11. SANITARY SEWER SERVICE LATERALS SHALL BE 6–INCH DIAMETER AND BE LAID AT NO LESS THAN 1.0% GRADE.

12. NO CHANGES TO SANITARY SEWER SERVICE LATERAL LOCATIONS SHALL BE MADE WITHOUT THE APPROVAL OF THE STARK COUNTY SANITARY ENGINEER.

13. FOR NEW SUBDIVISION CONSTRUCTION, SEWER SERVICE LATERALS SHALL EXTEND 10 FT. INTO EACH LOT 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.

14. 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 IF SEWER IS LESS THAN 15" IN DIAMETER. SEE STARK COUNTY SPECIFICATIONS FOR LARGER SEWERS.

15. MINIMUM COVER OVER SANITARY SEWER SHALL BE 3 FT.

16. ACCEPTABLE SANITARY SEWER PIPE MATERIALS ARE AS FOLLOWS:

PIPE		JOINTS	INSTALLATION
PVC SMOOTH EXTERIOR:	ASTM D–3034	ASTM D–3212	ASTM D–2321
PVC:	ASTM F–794	ASTM D–3212	ASTM D–2321
CLOSED PROFILE (DUAL WALL)			
CORRUGATED (DUAL WALL)			
RIBBED (OPEN PROFILE)			
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):	AWWA C–151	AWWA C–110/C–111	AWWA C–151
ABS COMPOSITE:	ASTM D–2680	ASTM D–2235	ASTM D–2680
PVC COMPOSITE:	ASTM D–2680	ASTM D–2564	ASTM D–2680

17. ALL SANITARY SEWERS, 8–INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE COMPLETE INTERNAL INSPECTION VIDEOTAPE TO THE STARK COUNTY SANITARY ENGINEERING DEPARTMENT. THE VIDEOTAPING PROCEDURE SHALL BE IN ACCORDANCE WITH STARK COUNTY SANITARY ENGINEERING DEPARTMENT SPECIFICATIONS.

18. 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 STARK COUNTY SANITARY ENGINEERING DEPARTMENT SPECIFICATIONS. THE ALLOWABLE DEFLECTION RATE SHALL NOT EXCEED FIVE (5%) PERCENT. TESTING SHALL BE IN ACCORDANCE WITH ASTM D–3034.

19. ALL SANITARY SEWERS MUST PASS A LOW PRESSURE AIR TEST, WHICH SHALL BE CONDUCTED IN ACCORDANCE WITH STARK COUNTY SANITARY ENGINEERING DEPARTMENT SPECIFICATIONS. THE MAXIMUM ALLOWABLE TEST LEAKAGE SHALL BE 100 GAL/INCH OF DIAMETER / MILE / DAY.

20. 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.

21. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED, WITH BENCHES AND CHANNELS FORMED AND REPAIRED AS NECESSARY.

22. ANY MANHOLE DROP ATTACHMENTS SHALL BE "OUTSIDE" TYPE.

23. 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 STARK COUNTY SANITARY ENGINEERING DEPARTMENT SPECIFICATIONS AND DETAILS.

24. ALL SANITARY SEWER TRENCHES BENEATH PROPOSED OR EXISTING PAVEMENT SHALL BE COMPACTED IN LIFTS, IN A MANNER, AND WITH MATERIAL AS SPECIFIED BY THE STARK COUNTY SANITARY ENGINEERING DEPARTMENT AND ALL APPLICABLE O.D.O.T. SPECIFICATIONS.

25. ALL 18 INCH DIAMETER PIPE MUST BE IN ACCORDANCE WITH STARK COUNTY SANITARY ENGINEERING DEPARTMENT SPECIFICATION ITEM 15–LARGE DIAMETER PIPE (ASTM F–794).

GENERAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR CONSTRUCTION. HE SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE STREETS OR ROADWAYS AND ASSOCIATED STRUCTURES AND SHALL MAKE REPAIRS AS NECESSARY TO THE SATISFACTION OF THE STARK COUNTY ENGINEER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNS AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TRAFFIC THROUGH THE CONSTRUCTION PERIOD.

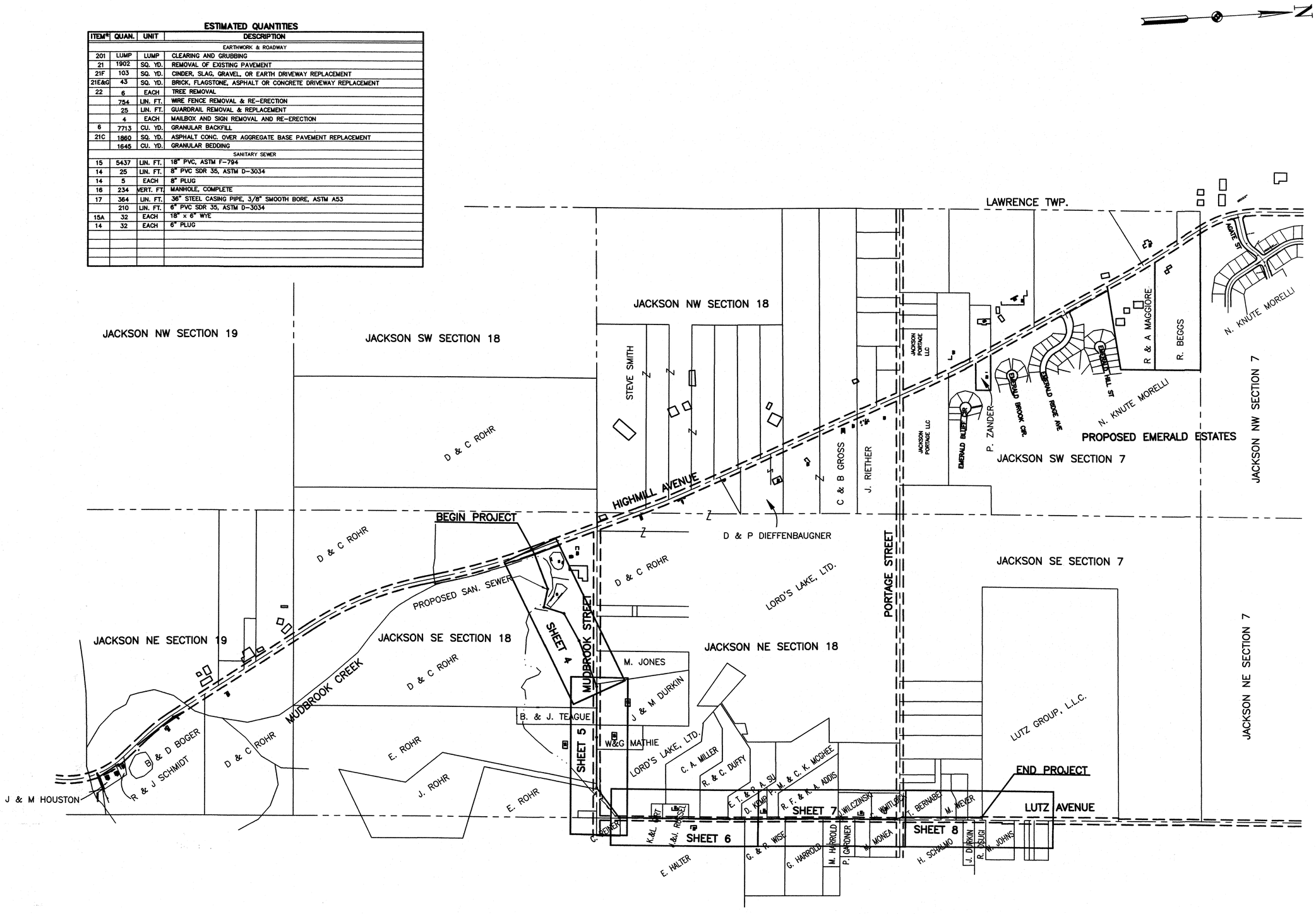
THE LENGTH OF OPEN TRENCHES SHALL BE KEPT TO A MINIMUM AND SHALL BE PROTECTED BY SIGNS, BARRICADES AND LIGHTS AS NECESSARY AND IN CONFORMANCE WITH THE REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

THE FUNCTION OF EXISTING TRAFFIC CONTROL DEVICES SHALL BE RETAINED AT ALL TIMES. EXISTING SIGNS THAT MUST BE RELOCATED LATERALLY SHALL BE PLACED IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND SUCH SIGNS SHALL NOT BE MOVED WITHOUT THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RESTORE RELOCATED SIGNS TO THE POSITION AND CONDITION WHICH EXISTED PRIOR TO CONSTRUCTION.

RECEIVED BY FW DATE 12/11/01

ESTIMATED QUANTITIES

ITEM*	QUAN.	UNIT	DESCRIPTION
			EARTHWORK & ROADWAY
201	LUMP	LUMP	CLEARING AND GRUBBING
21	1902	SQ. YD.	REMOVAL OF EXISTING PAVEMENT
21F	103	SQ. YD.	CINDER, SLAG, GRAVEL, OR EARTH DRIVEWAY REPLACEMENT
21E&G	43	SQ. YD.	BRICK, FLAGSTONE, ASPHALT OR CONCRETE DRIVEWAY REPLACEMENT
22	6	EACH	TREE REMOVAL
	754	LIN. FT.	WIRE FENCE REMOVAL & RE-ERECTION
	25	LIN. FT.	GUARDRAIL REMOVAL & REPLACEMENT
	4	EACH	MAILBOX AND SIGN REMOVAL AND RE-ERECTION
6	7713	CU. YD.	GRANULAR BACKFILL
21C	1860	SQ. YD.	ASPHALT CONC. OVER AGGREGATE BASE PAVEMENT REPLACEMENT
	1645	CU. YD.	GRANULAR BEDDING
			SANITARY SEWER
15	5437	LIN. FT.	18" PVC, ASTM F-794
14	25	LIN. FT.	8" PVC SDR 35, ASTM D-3034
14	5	EACH	8" PLUG
16	234	VERT. FT.	MANHOLE, COMPLETE
17	364	LIN. FT.	36" STEEL CASING PIPE, 3/8" SMOOTH BORE, ASTM A53
	210	LIN. FT.	8" PVC SDR 35, ASTM D-3034
15A	32	EACH	18" x 8" WYE
14	32	EACH	8" PLUG



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REVISION BY: PAT DATE: 2-25-01 DESCRIPTION: UPDATE QUAN. & LAYOUT

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F.B. 441 PAGE: 4
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SCALES:
HORIZ: 1"=400'

ESTIMATED QUANTITIES & INDEX SHEET
LUTZ SANITARY SEWER EXTENSION
PART OF SECTIONS 7 AND 18 IN THE TOWNSHIP OF JACKSON, (T-11, R-9), COUNTY OF STARK AND STATE OF OHIO.

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LEGEND

1 — DENOTES SANITARY SEWER MANHOLE NO.

PROPOSED SANITARY SEWER

EXISTING SANITARY SEWER

ZONED B-3 COMMERCIAL BUSINESS DISTRICT

ZONED B-1 SUBURBAN OFFICE AND LIMITED BUSINESS DISTRICT

ZONED R-R RURAL RESIDENTIAL DISTRICT

FLOW DETERMINATION

ASSUMED 400 GALLONS PER DAY PER SINGLE FAMILY EQUIVALENT

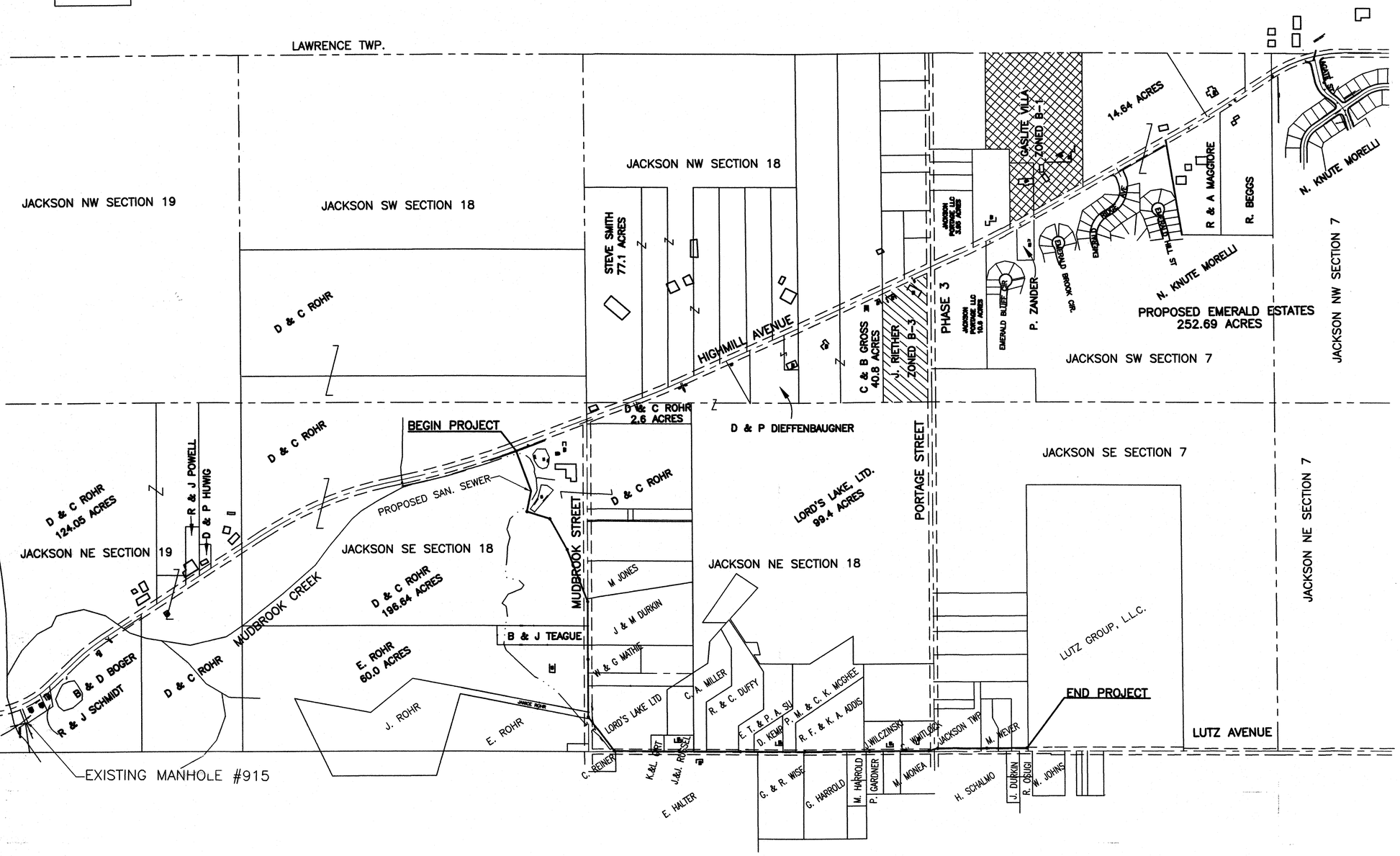
16 EXISTING SINGLE-FAMILY HOMES (6,400 GPD)

3 POTENTIAL SINGLE-FAMILY HOMES AT LORDS LAKE (1,200 GPD)

PROPOSED WOODMOOR PUMP STATION (STARK COUNTY SANITARY SEWER PROJECT 529)(616,000 GPD)
INCLUDES EXISTING WOODMOOR SEWAGE TREATMENT PLANT

55 POTENTIAL SINGLE-FAMILY HOMES AT HUNTERS CHASE (22,000 GPD)

FUTURE DEVELOPMENT ON LARGE ACREAGES (124,400 GPD)



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REVISION BY: PAT	DATE: 2-28-01	DESCRIPTION: UPDATE LAYOUT

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SCALES:
HORIZ: 1"=400'

LUTZ SANITARY SEWER EXTENSION

LAND USE

PART OF SECTIONS 7 AND 18 IN THE TOWNSHIP OF JACKSON, (T-11,R-9), COUNTY OF STARK AND STATE OF OHIO.

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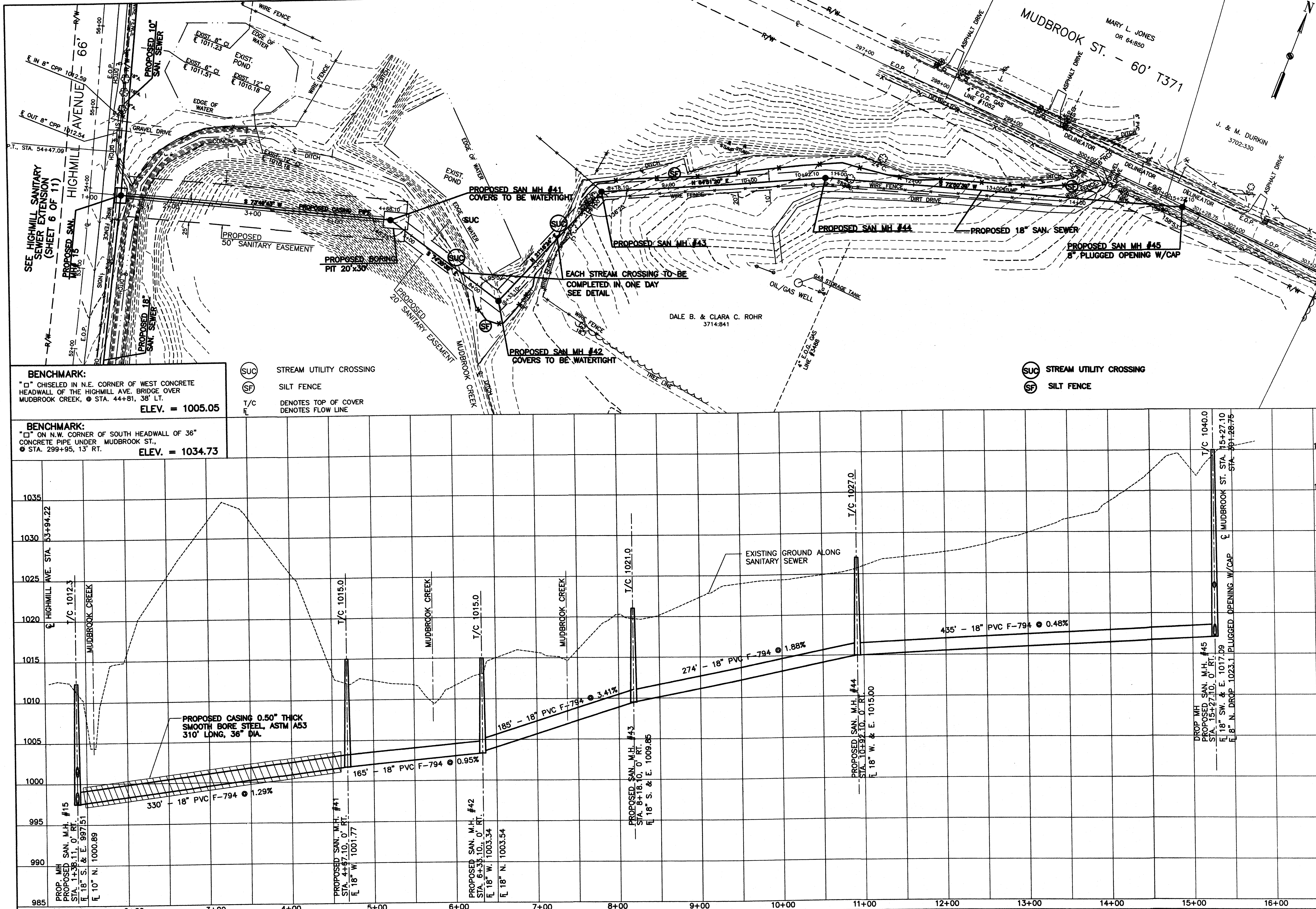

REVISION BY:	DATE:	DESCRIPTION:
REVISION BY:	DATE:	DESCRIPTION:
REVISION BY: SEG	DATE: 7-17-01	DESCRIPTION: SWP3 PLAN
REVISION BY: PAT	DATE: 12-20-00	DESCRIPTION: NEW ALIGNMENT ALONG CREEK
REVISION BY: PAT	DATE: 11-20-00	DESCRIPTION: NEW ALIGNMENT @ MUDBROOK ST.

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SCALES:
HORIZ: 1"=50'
VERT: 1"=5'

PLAN & PROFILE - STA. 1+00 TO STA. 14+50

LUTZ SANITARY SEWER EXTENSION

PART OF SECTIONS 7 AND 18 IN THE TOWNSHIP OF JACKSON, (T-11,R-9), COUNTY OF STARK AND STATE OF OHIO.

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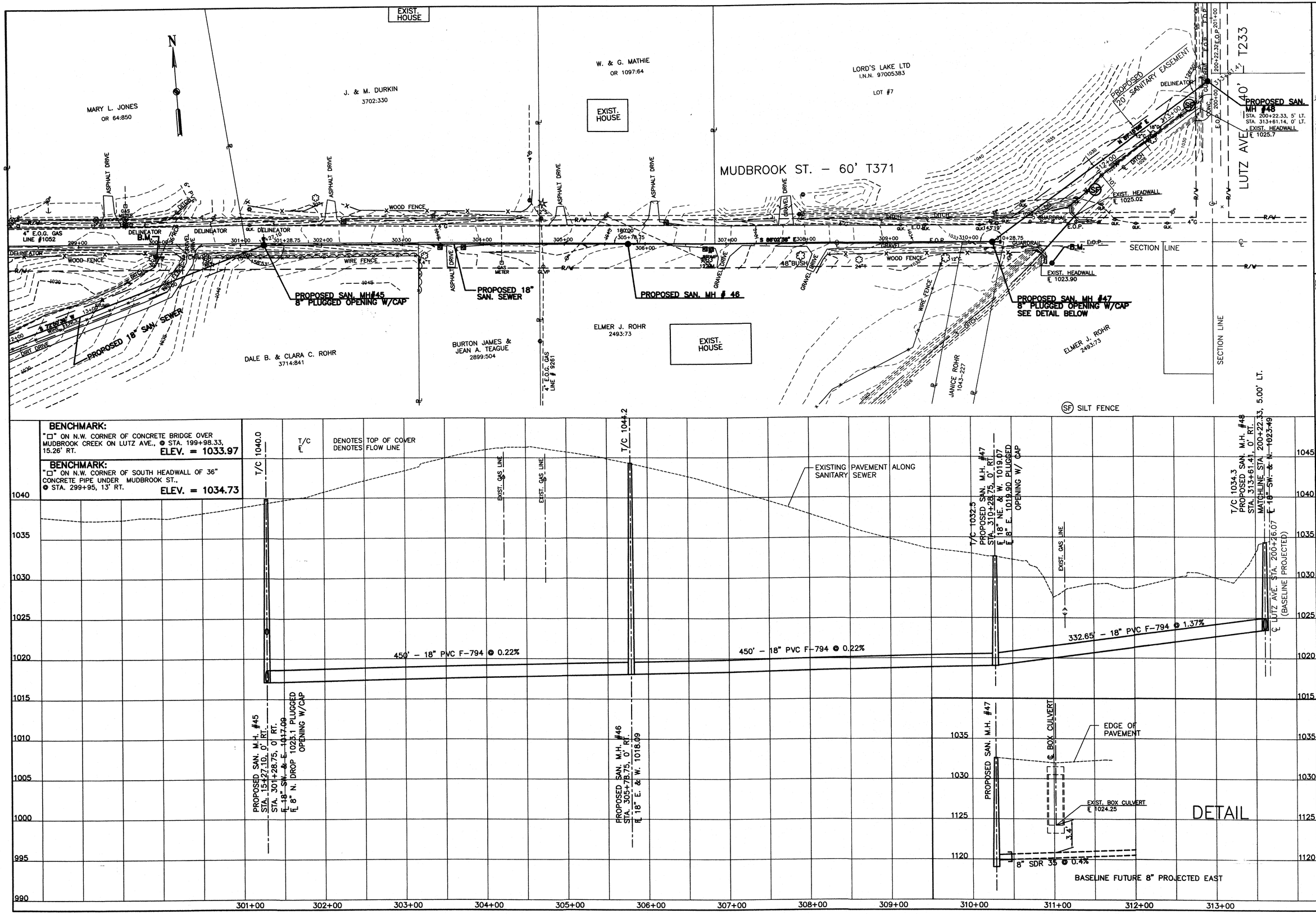

BENCHMARK:
"□" ON N.W. CORNER OF CONCRETE BRIDGE OVER MUDBROOK CREEK ON LUTZ AVE., @ STA. 199+98.33, 15.26' RT. **ELEV. = 1033.97**

BENCHMARK:
"□" ON N.W. CORNER OF SOUTH HEADWALL OF 36" CONCRETE PIPE UNDER MUDBROOK ST., @ STA. 299+95, 13' RT. **ELEV. = 1034.73**

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REVISION BY:___ DATE:___ DESCRIPTION:___
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SCALES:
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VERT: 1"=5'

PLAN & PROFILE – STA. 14+50 TO STA. 28+50
LUTZ SANITARY SEWER EXTENSION
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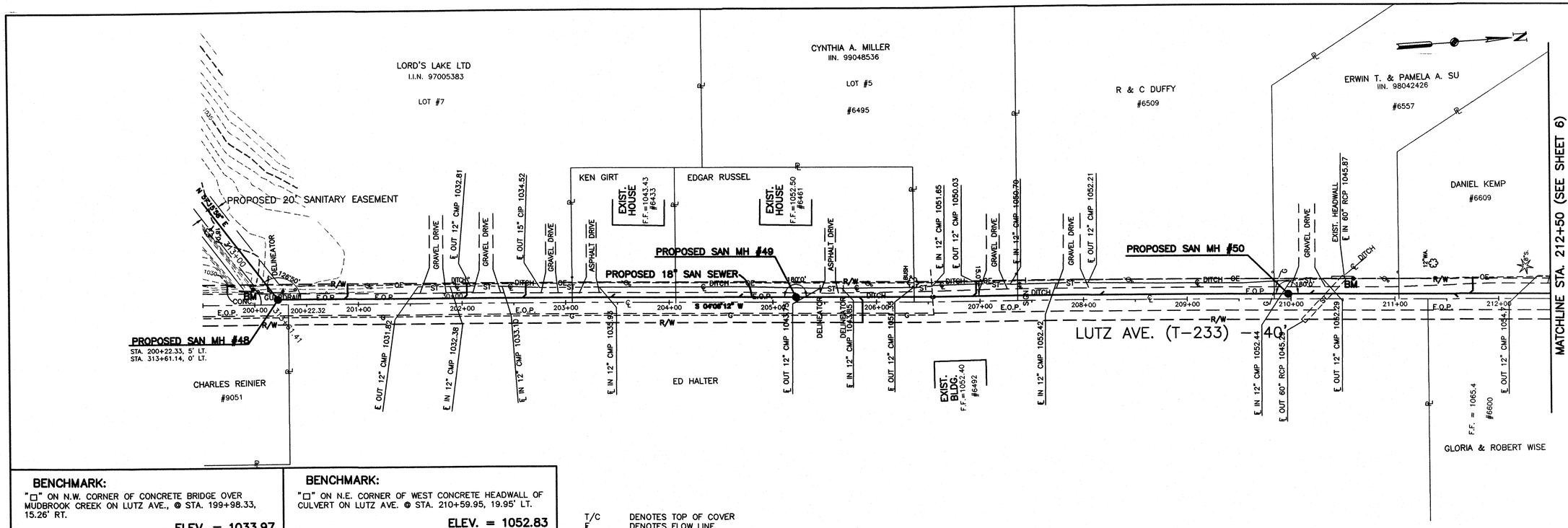
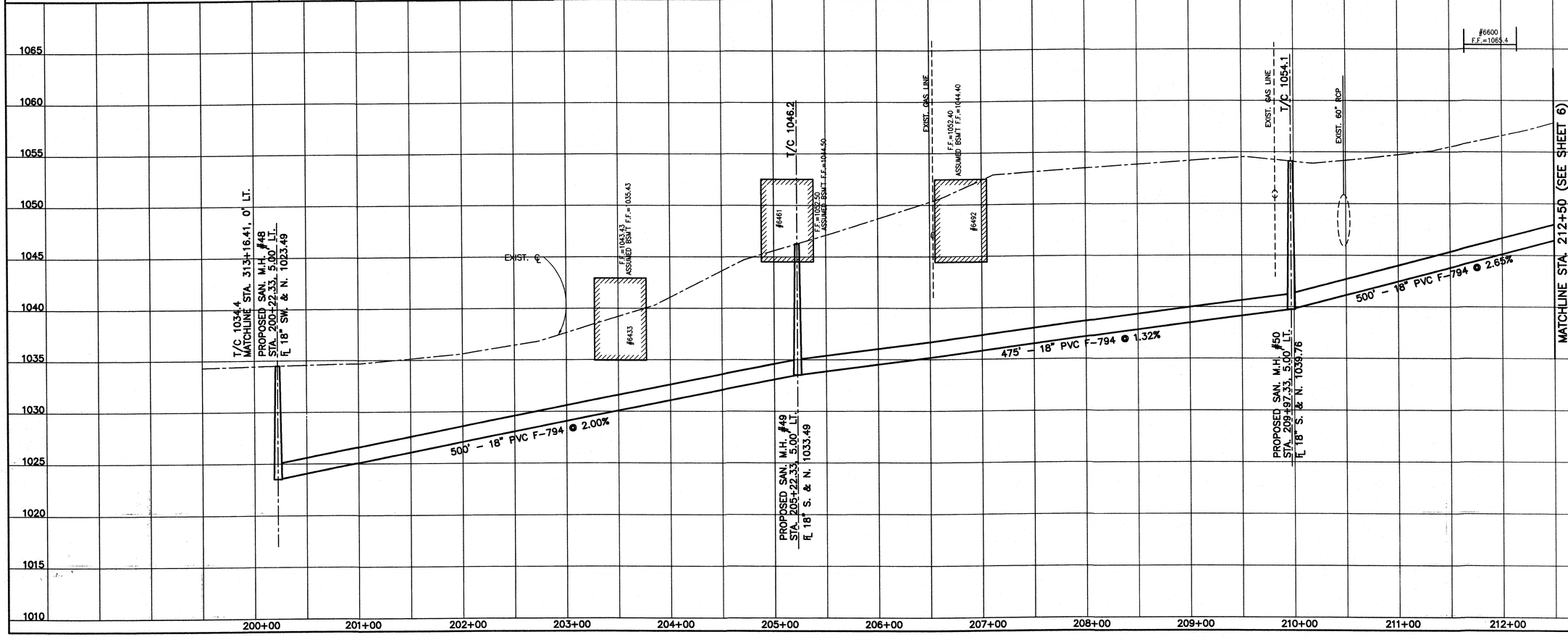


BENCHMARK:
"□" ON N.W. CORNER OF CONCRETE BRIDGE OVER MUDBROOK CREEK ON LUTZ AVE., @ STA. 199+98.33, 15.26' RT.
ELEV. = 1033.97

BENCHMARK:
"□" ON N.E. CORNER OF WEST CONCRETE HEADWALL OF CULVERT ON LUTZ AVE. @ STA. 210+59.95, 19.95' LT.
ELEV. = 1052.83

T/C DENOTES TOP OF COVER
℄ DENOTES FLOW LINE



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SCALES:
HORIZ: 1"=50'
VERT: 1"=5'

PLAN & PROFILE - STA. 199+50 TO STA. 212+50
LUTZ SANITARY SEWER EXTENSION
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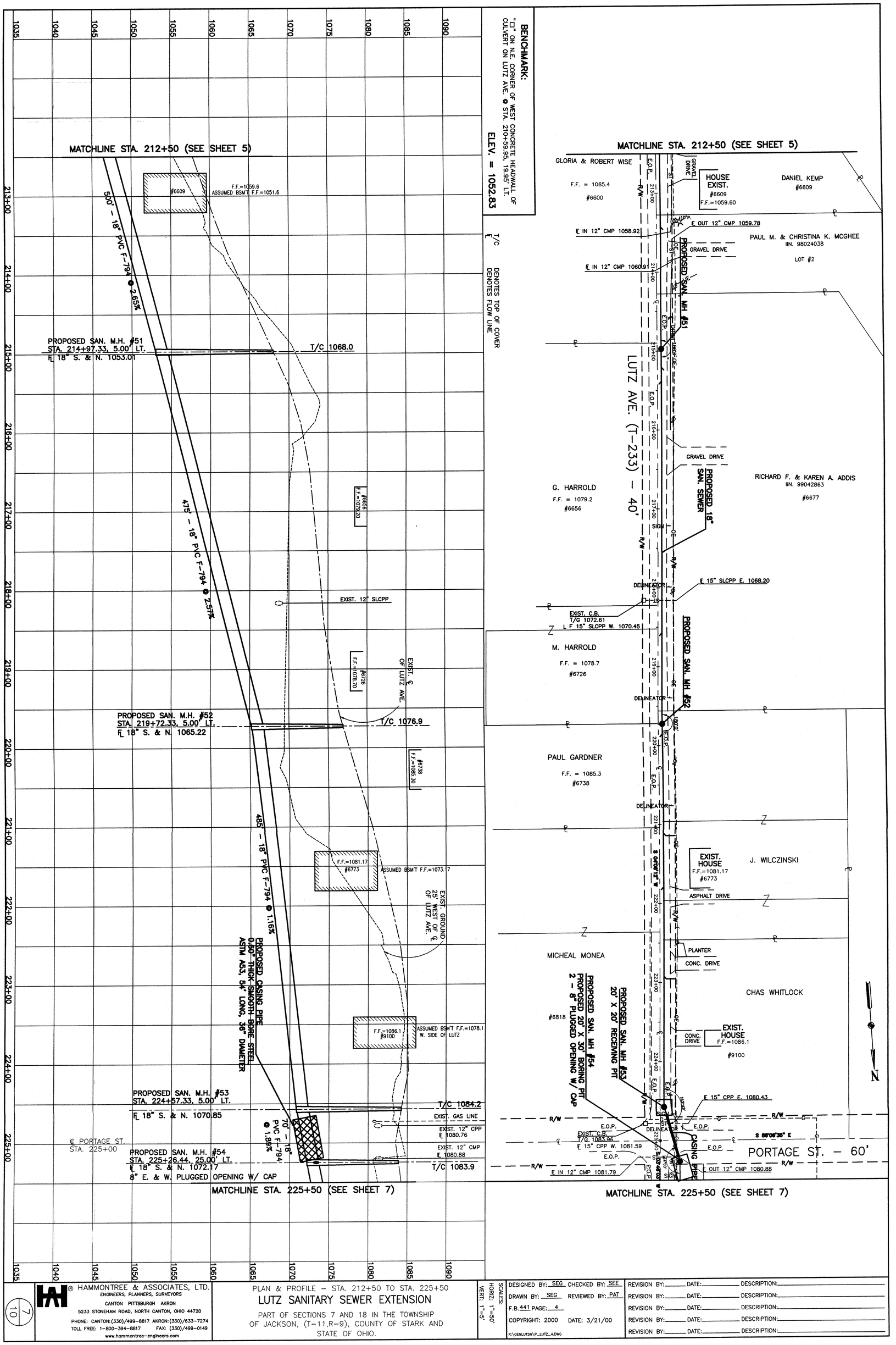

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7/10

PLAN & PROFILE - STA. 212+50 TO STA. 225+50

LUTZ SANITARY SEWER EXTENSION

PART OF SECTIONS 7 AND 18 IN THE TOWNSHIP OF JACKSON, (T-11,R-9), COUNTY OF STARK AND STATE OF OHIO.

SCALES: HORIZ: 1"=50' VERT: 1"=5'

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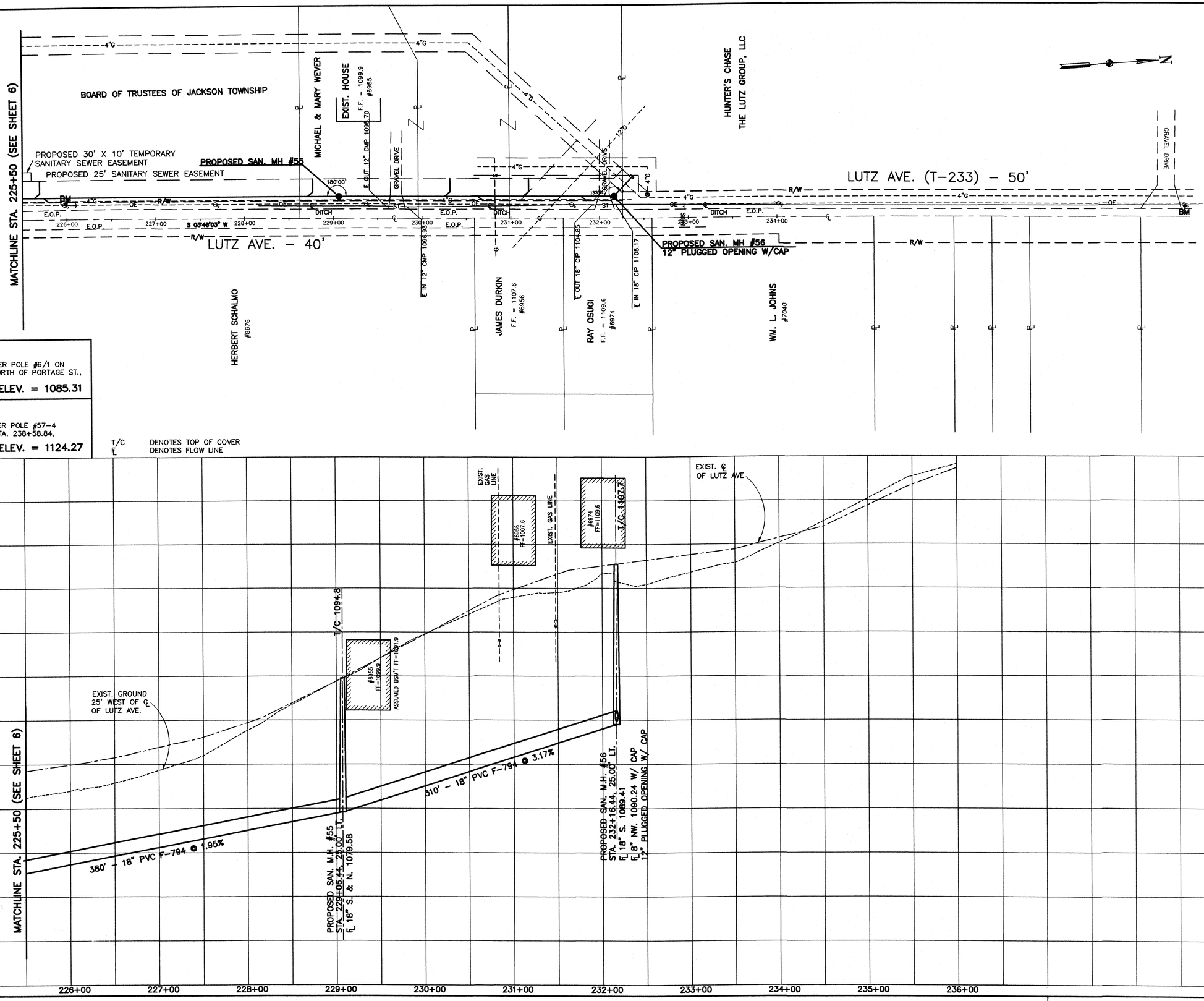

BENCHMARK:

RR SPIKE 1' UP N.W. SIDE OF POWER POLE #6/1 ON WEST SIDE OF LUTZ AVE. ±100' NORTH OF PORTAGE ST., @ STA. 225+98.65, 18.18' LT.

ELEV. = 1085.31

BENCHMARK:

RR SPIKE 1' UP N.E. SIDE OF POWER POLE #57-4 ON WEST SIDE OF LUTZ AVE., @ STA. 238+58.84, 11.80' RT.

ELEV. = 1124.27

T/C DENOTES TOP OF COVER
℄ DENOTES FLOW LINE

REVISION BY:____ DATE:____ DESCRIPTION:____

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SCALES:
HORIZ: 1"=50'
VERT: 1"=5'

PLAN & PROFILE - STA. 225+50 TO STA. 236+00

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SITE INFORMATION

SITE DESCRIPTION – A SANITARY SEWER WILL BE LAID WITHIN AND ALONG LUTZ AVENUE.

SCHEDULE OF MAJOR CONSTRUCTION
COMMENCEMENT – SUMMER 01
COMPLETION – SUMMER 02

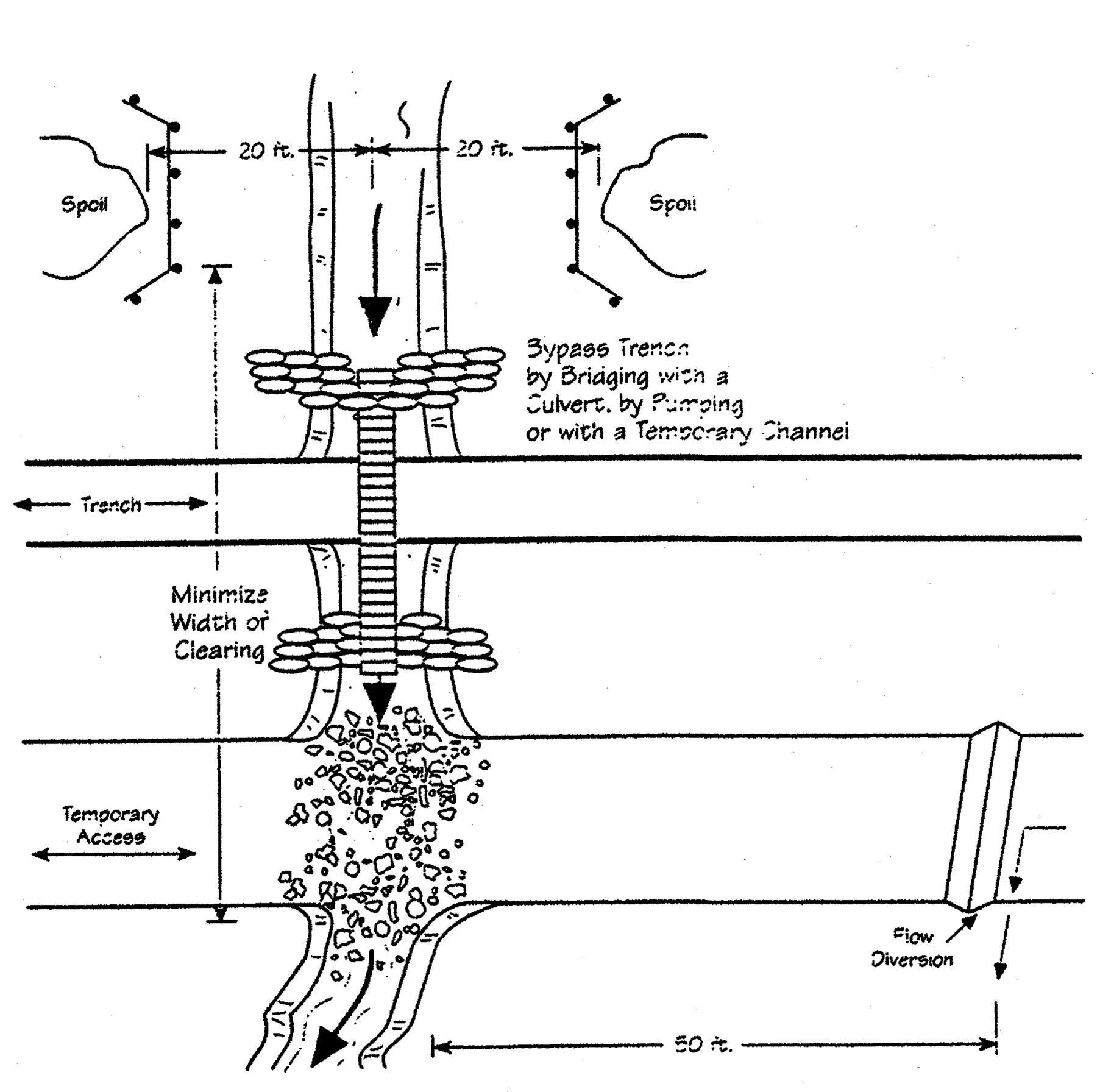
RECEIVING STREAM AND SURFACE WATERS:
STORM SEWERS ARE MAINTAINED BY JACKSON TWP. AND/OR STARK COUNTY AUTHORITIES.
RECEIVING STREAM IS MUDBROOK CREEK.

EXISTING SOILS ON SITE

Sl	SLOAN SILT LOAM
WuC2	WOOSTER SILT LOAM, 6 TO 12 PERCENT SLOPES, MODERATELY ERODED
CpB	CHILI SILT LOAM, 0 TO 2 PERCENT SLOPES
ReA	RAVENNA SILT LOAM, 0 TO 2 PERCENT SLOPES
CdC	CANFIELD SILT LOAM, 6 TO 12 PERCENT SLOPES
Lz	LURAY SILT LOAM, GRAVELLY SUBSOIL VARIANT

Small Stream Utility Crossing

N.T.S.



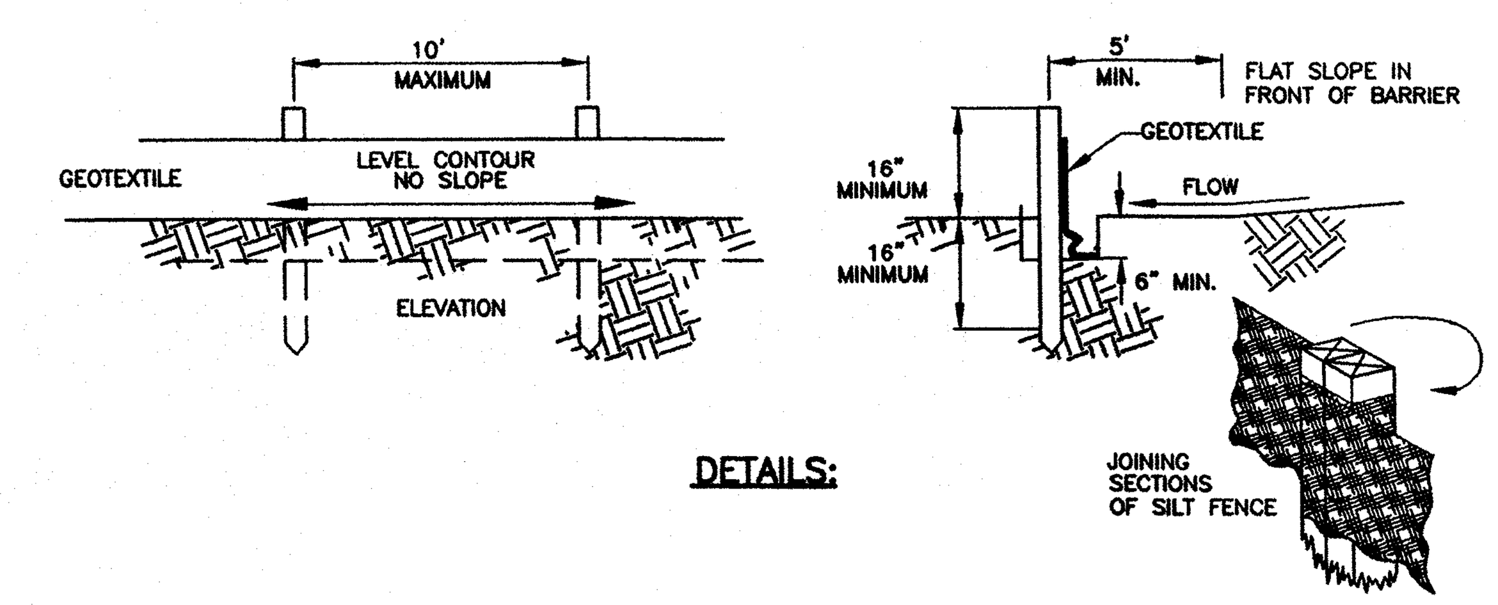
PLAN VIEW

Specifications for
Stream Utility Crossing (SUC)

1. When site conditions allow, one of the following shall be used to divert stream flow or otherwise keep the flow away from construction activity.
   - Drill or bore the utility lines under the stream channel.
   - Construct a cofferdam or barricade of sheet pilings, sandbags or a turbidity curtain to keep the stream from continually flowing through the disturbed areas. Turbidity curtains shall be a pre-assembled system and used only parallel to flow.
   - Stage construction by confining first one-half of the channel until work there is completed and stabilized, then move to the other side to complete the crossing.
   - Route the stream flow around the work area by bridging the trench with a rigid culvert, pumping, or constructing a temporary channel. Temporary channels shall be stabilized by rock or a geotextile completely lining the channel bottom and side slopes.
2. Crossing Width--The width of clearing shall be minimized through the riparian area. The limits of disturbance shall be as narrow as possible including not only construction operations within the channel itself but also clearing done through the vegetation growing on the streambanks.
3. Clearing shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
4. Material excavated from the trench shall be placed at least 20 ft. from the streambanks.
5. To the extent other constraints allow, stream shall be crossed during periods of low flow.
6. Duration of Construction--The time between initial disturbance of the stream and final stabilization shall be kept to a minimum. Construction shall not begin on the crossing until the utility line is in place to within 10 ft. of the streambank.
7. Fill Placed Within the Channel--The only fill permitted in the channel should be clean aggregate, stone or rock. No soil or other fine erodible material shall be placed in the channel. This restriction includes all fill for temporary crossings, diversions, and trench backfill when placed in flowing water. If the stream flow is diverted away from construction activity the material originally excavated from the trench may be used to backfill the trench.
8. Streambank Restorations--Streambanks shall be restored to their original line and grade and stabilized with riprap * or vegetative bank stabilization.
9. Runoff Control Along the Right-of-Way--To prevent sediment-laden runoff from flowing to the stream, runoff shall be diverted with water bar or swales to a sediment trapping practice a minimum of 50 ft. from the stream.
10. Dewatering or pumping water containing sediment shall not be discharge directly to a stream. The flow shall be routed through a settling pond, dewatering sump or a flat, well-vegetated area adequate for removing sediment before the pumped water reaches the stream.
11. Dewatering operations shall not cause significant reductions in stream temperatures. If groundwater is to be discharged in high volumes during summer months, it shall first be routed through a settling pond or overland though a flat well-vegetated area.
12. Permits--In addition to these specifications, stream crossings shall conform to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits) and Ohio Environmental Protection Agency's State Water Quality Certification (401 permits).

EROSION CONTROL NOTES

1. SEDIMENT PONDS AND PERIMETER SEDIMENT CONTROLS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE RE-ESTABLISHED.
2. SILT FENCES ARE TO BE CONSTRUCTED IN FRONT OF ALL STORM INLETS, HEADWALLS AND PIPE OUTLETS.
3. SILT FENCES ARE TO BE CONSTRUCTED ON THE OUTSIDE OF ALL FILL AREAS. AFTER 15 DAYS, TEMPORARY SEEDING WILL BE REQUIRED ON ALL FILL AREAS.
4. TEMPORARY SEEDING SHALL CONSIST OF 3-5 POUNDS OF RYE GRASS PER 1000 SQUARE FEET.
5. TOPSOIL STOCKPILES TO BE ENCIRCLED BY SILT FENCE AND/OR TEMPORARY SEEDING.
6. OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
7. REGULAR INSPECTION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. A COPY OF THE SOIL EROSION CONTROL PLAN SHOULD BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES.
8. ALL EROSION CONTROL PRACTICES MUST MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES, RAINWATER AND LAND DEVELOPMENT MANUAL, SECOND EDITION, 1996.
9. AT THE END OF EACH DAY THE CONTRACTOR SHALL CLEAN EXISTING ROADWAYS OF MATERIALS (SOIL, MUD ETC.) WHICH WERE DEPOSITED DUE TO THE CONSTRUCTION OF THE PROJECT. A STABILIZED PAD OF CRUSHED STONE SHALL BE LOCATED AT ALL POINTS WHERE TRAFFIC ENTERS AND LEAVES THE CONSTRUCTION SITE.
10. RUNOFF WATER CARRYING SEDIMENT SHALL NOT BE PERMITTED TO FLOW ON TO ANY ADJACENT PROPERTIES OR ON TO ADJACENT PUBLIC RIGHT OF WAYS. ALL OFF SITE AND ON SITE EROSION AND SEDIMENT DAMAGE SHALL BE THE TOTAL RESPONSIBILITY OF THE GENERAL CONTRACTOR, AND SHALL BE CORRECTED IMMEDIATELY.
11. CONTRACTOR TO INSTALL FILTER FABRIC FENCE AT VARIOUS LOCATIONS ON THE PROPERTY AS SHOWN ON THIS SHEET.
12. SOIL EROSION CONTROL STRUCTURES SHALL BE INSPECTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 1/2" OR GREATER RAINFALL. THE CONTRACTOR SHALL KEEP A WRITTEN LOG OF ALL INSPECTIONS AND DOCUMENT CORRECTIVE ACTIONS.
13. 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.
14. EROSION CONTROL BLANKETS WITH MATTING WILL BE USED ON DITCHES GREATER THAN 1.5%.
15. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.
16. UTILITY STREAM CROSSINGS ARE TO BE COMPLETED IN ONE DAY, INCLUDING EXCAVATION, INSTALLATION, AND REHABILITATION OF THE STREAM.



DETAILS:

NOTES:

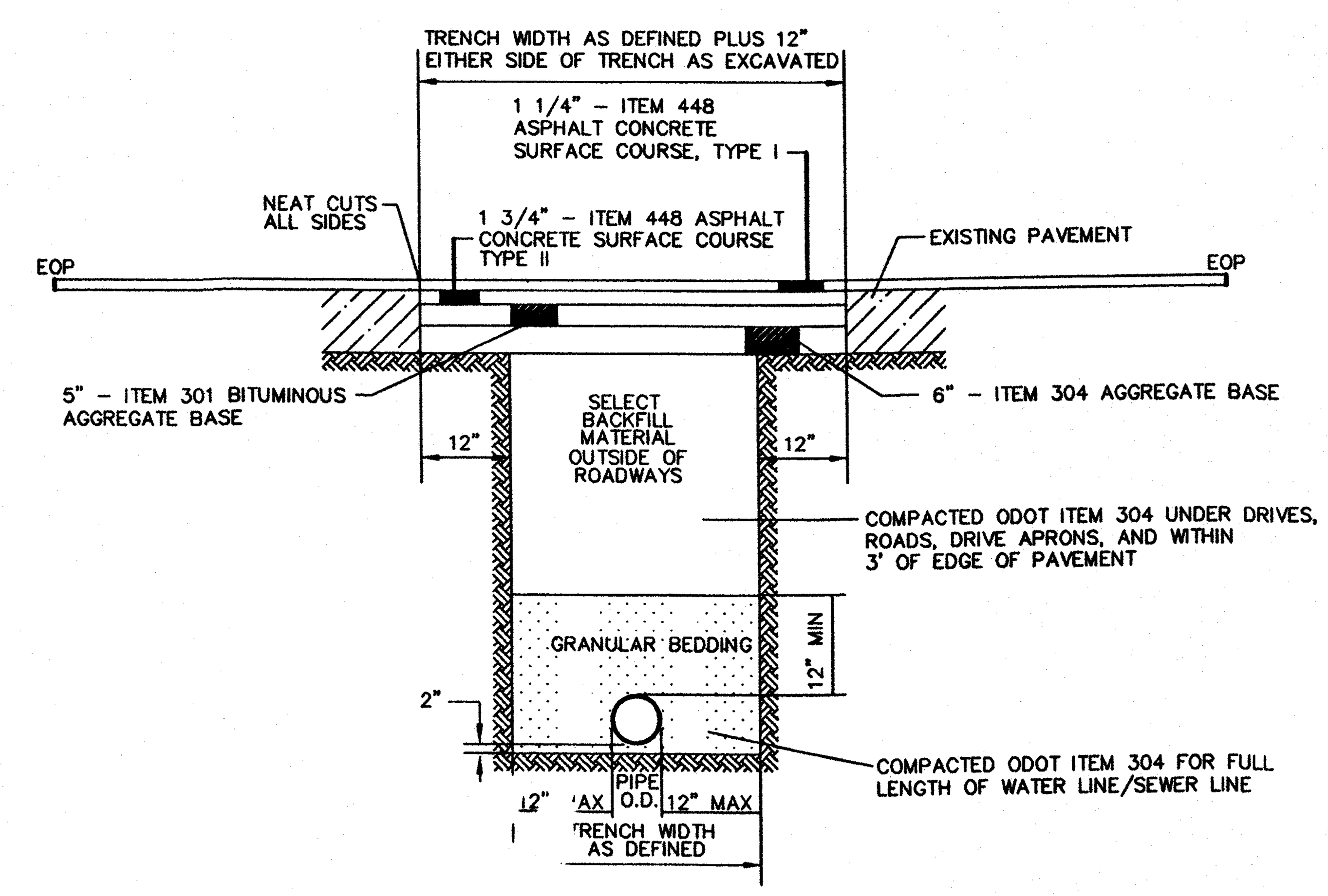
1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTRUBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE 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 RE-ESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE FENCE.
6. SOIL STOCKPILES OR OTHER SOURCES OF SEDIMENT SHALL HAVE SILT FENCE PROTECTION.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6" 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 DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8" OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6" DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
9. SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE 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,
    3) OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS

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

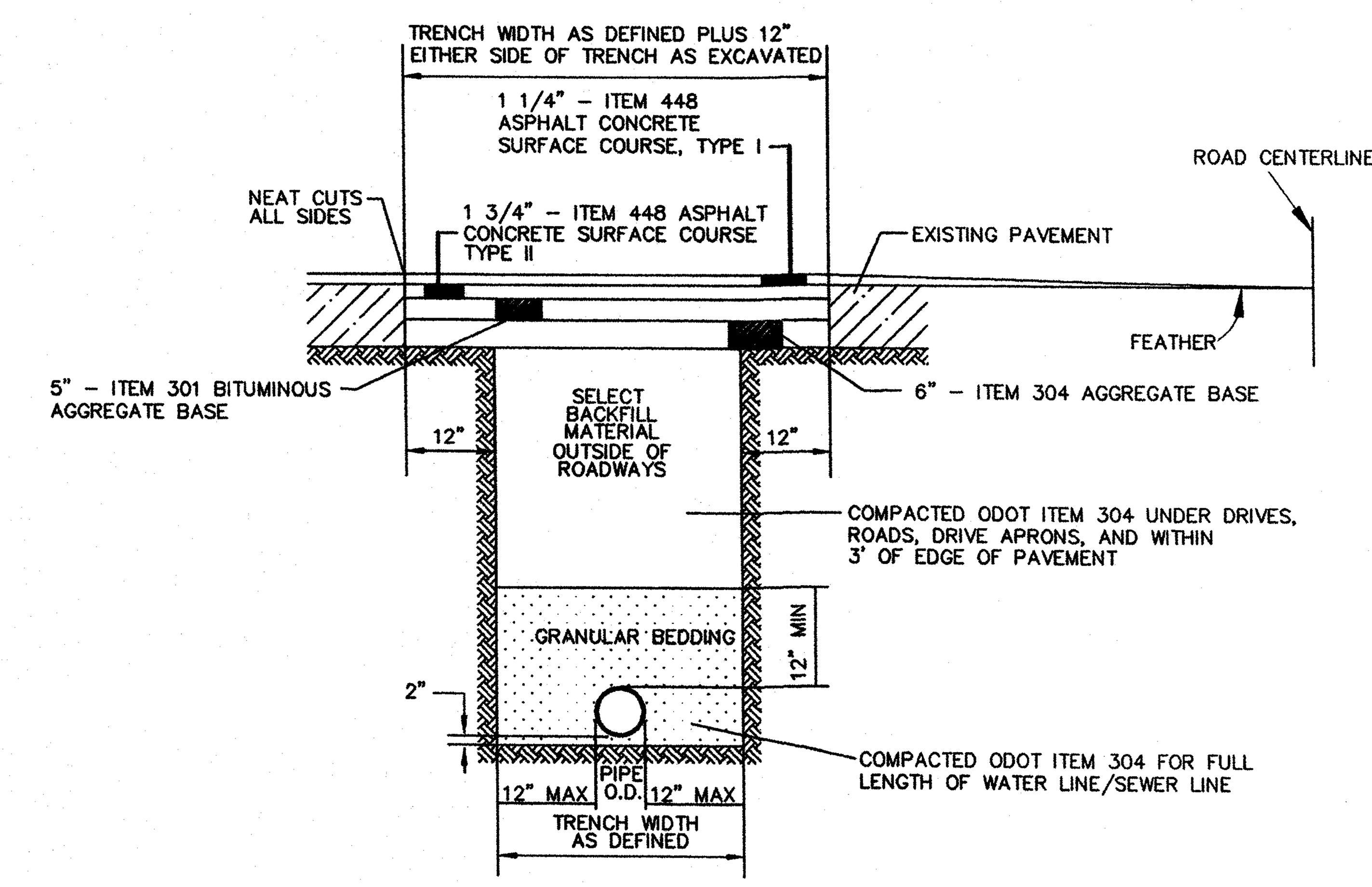
FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 P.S.I. MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./FT.^{2} MAXIMUM	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM-G-26

SILT FENCE (SF)
N.T.S.



NOTES:
1) FOR ALL SEWER INSTALLED IN THE MIDDLE OF LUTZ – 1-1/4 INCH OF 448 MATERIAL SHALL BE INSTALLED ACROSS THE ENTIRE WIDTH OF THE ROADWAY.

SURFACE DAMAGE
UTILITY TRENCH DETAIL
N.T.S.



NOTES:
1) FOR ALL SEWER INSTALLED ON LUTZ OR MUDBROOK THAT DAMAGES OR UNDERMINES THE EDGE OF PAVEMENT – 1-1/4 INCH OF 448 MATERIAL SHALL BE INSTALLED ACROSS THE IMPACTED LANE AND FEATHERED DOWN THE CENTERLINE OF THE ROADWAY. THE REPAIR SHALL BE A MINIMUM OF 25 FEET EACH SIDE OF THE DAMAGES ROAD EDGE.

EDGE DAMAGE
UTILITY TRENCH DETAIL
N.T.S.

REVISION BY: SEG DATE: 3-5-01 DESCRIPTION: AS PER TOWNSHIP COMMENTS
REVISION BY: AJB DATE: 2-21-01 DESCRIPTION: TRENCH DETAIL

DESIGNED BY: ___ CHECKED BY: ___
DRAWN BY: SEG REVIEWED BY: SEE
F.B. ___ PAGE: ___
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SCALE:

SOIL EROSION CONTROL DETAILS
LUTZ SANITARY SEWER EXTENSION
PART OF SECTIONS 7 AND 18 IN THE TOWNSHIP OF JACKSON, (T-11,R-9), COUNTY OF STARK AND STATE OF OHIO.

HAMMONTREE & ASSOCIATES, LTD.
ENGINEERS, PLANNERS, SURVEYORS
CANTON PITTSBURGH AKRON
5233 STONEHAM ROAD, NORTH CANTON, OHIO 44720
PHONE: CANTON:(330)499-8817 AKRON:(330)633-7274
TOLL FREE: 1-800-394-8817 FAX: (330)499-0149

PERMANENT SEEDING			
SEED MIX	SEEDING RATE LB./AC.	SEEDING RATE LB./1,000 FT.^{2}	NOTES:
GENERAL USE			
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20–40 10–20 10–20	1/2–1 1/4–1/2 1/4–1/2	
TALL FESCUE	40	1	
DWARF FESCUE	40	1	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40	1	
CROWN VETCH TALL FESCUE	10 20	1/4 1/2	DO NOT SEED LATER THAN AUGUST.
FLAT PEA TALL FESCUE	20 20	1/2 1/2	DO NOT SEED LATER THAN AUGUST.
ROAD DITCHES AND SWALES			
TALL FESCUE	40	1	
DWARF FESCUE KENTUCKY BLUEGRASS	90 5	2 1/4	
LAWNS			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	60 60	1 1/2 1 1/2	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	60 60	1 1/2 1 1/2	FOR SHADED AREAS.
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.			

PERMANENT SEEDING (S)

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB./1,000 FT.^{2}	PER ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	4 BUSHEL 40 LB. 40 LB.
	PERENNIAL RYGRASS 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 RE-WORKED FOR 45 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
3. THE SEED BED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEED BED PREPARATION IS NOT POSSIBLE.
4. SOIL AMENDMENTS – APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
5. SEEDING METHOD – SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR OF CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

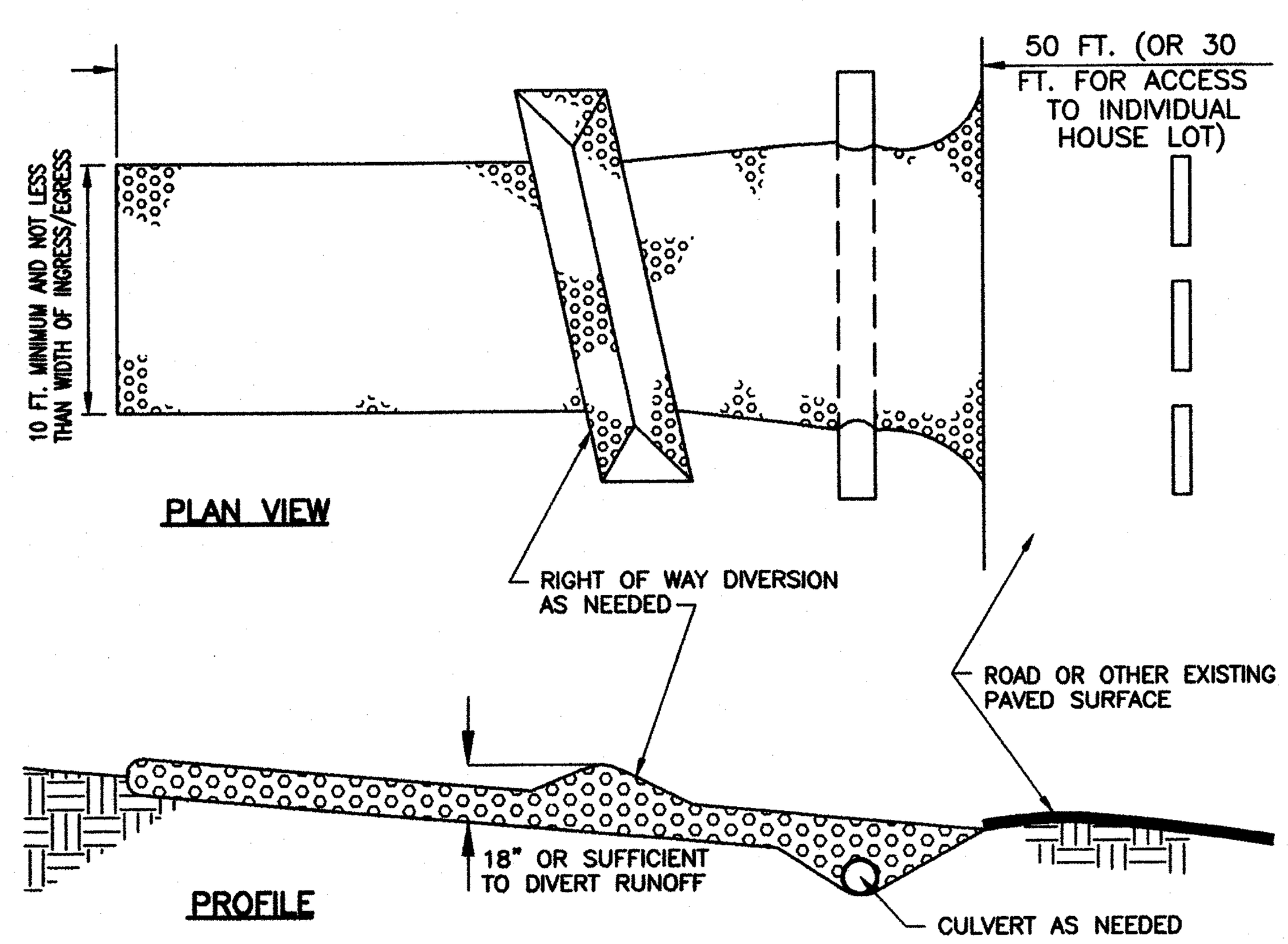
TEMPORARY SEEDING (TS)

1. PERMANENT SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YR. FROM THE TIME OF PLANTING. SEEDED AREAS SHALL BE INSPECTED FOR FAILURE AND VEGETATION RE-ESTABLISHED AS NEEDED. DEPENDING ON SITE CONDITIONS, IT MAY BE NECESSARY TO IRRIGATE, FERTILIZE, OVER SEED, OR RE-ESTABLISH PLANTINGS IN ORDER TO PROVIDE PERMANENT VEGETATION FOR ADEQUATE EROSION CONTROL.
2. MAINTENANCE FERTILIZATION RATES SHALL BE ESTABLISHED BY SOIL TEST RECOMMENDATIONS OR BY USING THE RATES SHOWN IN THE FOLLOWING

MAINTENANCE FOR PERMANENT SEEDINGS FERTILIZATION AND MOWING TABLE.					
MIXTURE	FORMULA	LB./AC.	LB./1,000 FT.^{2}	TIME	MOWING
CREEPING RED FESCUE RYEGRASS KENTUCKY BLUEGRASS	10–10–10	500	12	FALL, YEARLY OR AS NEEDED.	NOT CLOSER THAN 3"
TALL FECUE	10–10–10	500	12		NOT CLOSER THAN 4"
DWARF FESCUE	10–10–10	500	12		NOT CLOSER THAN 2"
CROWN VETCH FESCUE	0–20–20	400	10	SPRING, YEARLY FOLLOWING ESTABLISH-MENT AND EVERY 4–7 YR. THEREAFTER	DO NOT MOW
FLAT PEA FESCUE	0–20–20	400	10		DO NOT MOW
NOTE: FOLLOWING SOIL TEST RECOMMENDATIONS IS PREFERRED TO FERTILIZER RATES SHOWN ABOVE.					

MAINTENANCE OF PERMANENT SEEDING

(S)



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 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 NOT 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 MULLEN 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 WALL SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED 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.

CONSTRUCTION ENTRANCE (RCE)

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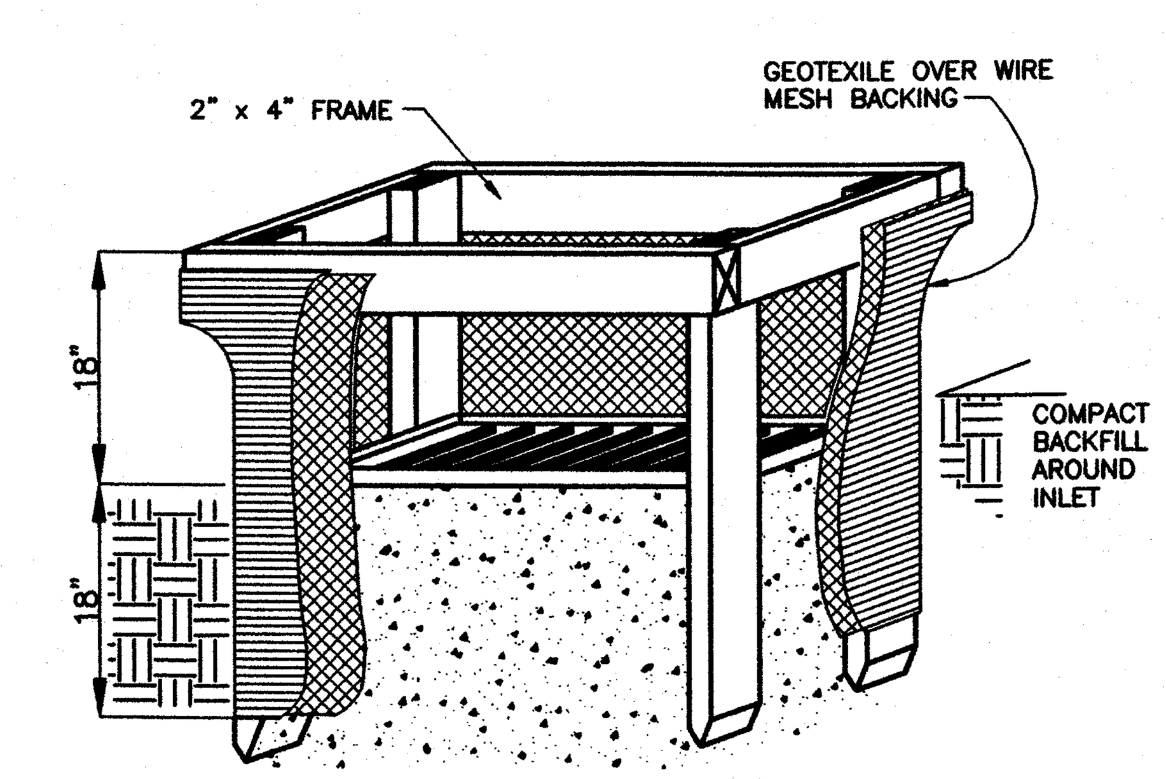

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 IN.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2 IN BY 4 IN. CONSTRUCTION GRADE LUMBER. THE 2 IN. BY 4 IN. POSTS SHALL BE DRIVEN 18 IN. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2 IN. BY 4 IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 IN. 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 THE TOP OF THE FRAME TO 18 IN. 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 IN. HIGHER THAN THE TOP OF THE FRAME.

INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS

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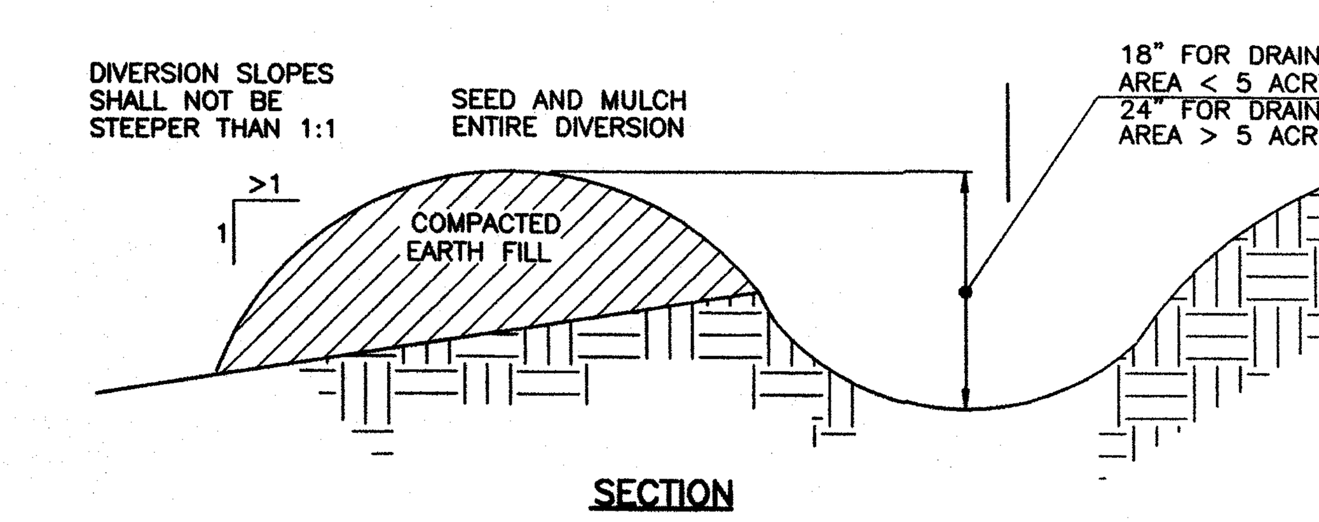

SECTION

1. DIVERSION SHALL BE COMPACTED BY TRAVERSING WITH TRACKED 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 ACRES	2–5 ACRES	5–10 ACRES
0–3%	SEED AND STRAW	SEED AND STRAW	SEED AND STRAW
3–5%	SEED AND STRAW	SEED AND STRAW	MATTING
5–8%	SEED AND STRAW	MATTING	MATTING
8–20%	SEED AND 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.

TEMPORARY DIVERSION (TD)

N.T.S.

REVISION BY: ____ DATE: ____ DESCRIPTION: ____
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SCALE:

SOIL EROSION CONTROL DETAILS
LUTZ SANITARY SEWER EXTENSION
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