

GENERAL NOTES

The County of Delaware requirements, together with the Specifications of the State of Ohio, Department of Transportation, including all supplements thereto, shall govern all construction items that are a part of this plan. The Contractor shall refer to the "Standard Plans and Specifications for Construction of Sanitary Facilities in Delaware County, Ohio" for all needed construction details.

All gravity sanitary sewers shall be vitrified clay pipe meeting the requirements of ASTM C700 or PVC pipe meeting the requirements of ASTM D-1784 and D-3034, SDR-35.

Force mains shall be tested by a hydrostatic pressure and leakage test. With the main subjected to a hydrostatic pressure of 125 psi at its lowest elevation, allowable leakage shall not exceed 20 gallons per inch diameter per mile per 24 hours.

The contractor is required to submit a plan at least 48 hours in advance describing the methodology in which he plans to connect the proposed force main to the existing force main.

The contractor shall cooperate with the Delaware County Sanitary Engineer and shall provide all necessary equipment to perform all testing.

All gravity sanitary sewer lines installed on this project using PVC pipe will be subject to deflection testing by pulling an approved Mandrel. Acceptable deflection versus time criteria are located in Section 5.5 of the Delaware County Standard Plans and Specifications for Construction of Sanitary Facilities.

Gravity sewer trenches shall be de-watered to 2" below bell of pipe prior to installation of pipe.

Any field tile disturbed during construction shall be replaced as directed by the County, with ABS pipe spanning the trench. The trench shall be filled with compacted granular material.

Roof drains, foundation drains and other clean water connections to the Sanitary Sewer are prohibited on this project.

Gravity sanitary sewers shall be tested by the exfiltration method. Allowable leakage shall not exceed 100 gallons per inch diameter per mile of pipe per 24 hours. Contractor shall cooperate with Delaware County Engineer and provide all necessary equipment to perform sewer test.

The Contractor and Sub-Contractor shall be solely responsible for complying with all Federal, State and Local Safety Requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the Contractor and Sub-Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work.

The Contractor shall provide and install wye poles at all wye locations as constructed. Wye pole shall extend above existing or proposed grade whichever is higher a minimum of 2'-0".

6" Service Risers shall be installed where depth from Wye fitting to the existing or proposed surface elevation exceeds 10 feet. Top of Riser shall be 9 feet below existing or proposed surface elevation, whichever is higher.

The Contractor shall furnish and place acceptable material as backfill and embankment around the proposed structures. Material used may be obtained from the material excavated or from approved off-site borrow, if required. Waste excavation may be disposed of on the site or on the off-site areas when required. All backfill and embankment shall be placed in accordance with Delaware County Engineer Drawings R100 and Delaware County Engineer Construction and Materials Specification 203.08

The cost for all compacted backfill shall be included in the price bid for the various items.

Finished grade at sanitary sewer manholes shall be six inches (6") below the top of casting to avoid unnecessary infiltration into the sanitary sewer system, unless watertight lid required, then top of casting to match finish grade.

No connection shall be made to the receiving sanitary sewer system until this project has been fully installed, tested and approved.

EXISTING UTILITIES:

The identity and location of the existing underground utility facilities known to be located in the construction area have been shown on the plans as accurately as provided by the Owner of the underground utility. Delaware County and/or the Engineer assume no responsibility as to the accuracy of the underground facilities shown on the plans.

Support, protection and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor. The cost of this work shall be included in the price bid for the various item.

The Contractor shall cause notice to be given to the Registered Underground Utility Protection Protection Services (Telephone 800-362-2764 - toll free) and the Owner's of underground utility facilities shown on the plans who are not members of a registered Underground Protection Service in accordance with Section 153.64 of the Revised Code. The above mentioned notice shall be given at least 48 hours prior to start of construction.

The following utilities and Owners are located within the work limits of this project and do not subscribe to a registered underground utility protection service:

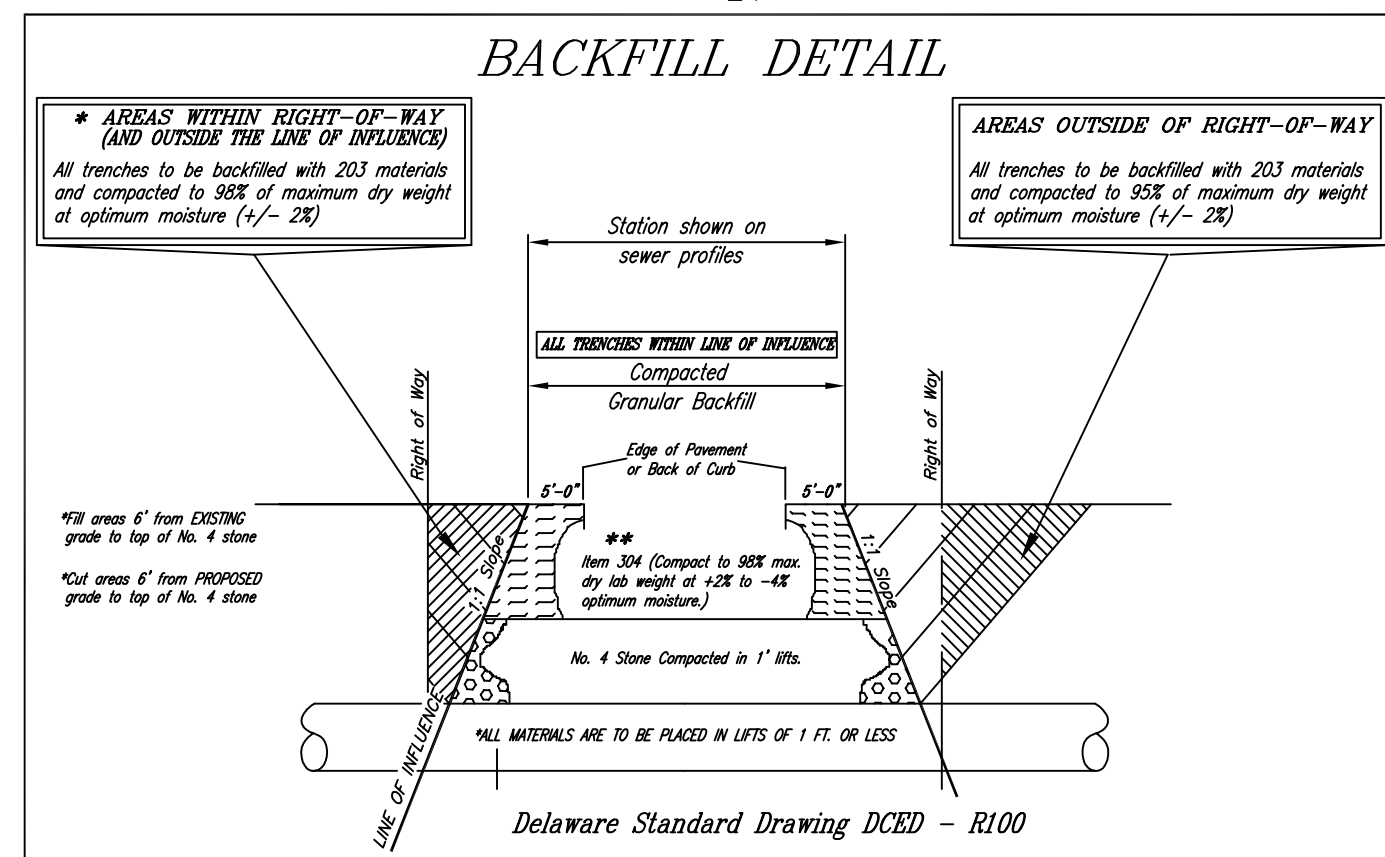
| UTILITY | CONTACTING AGENT | TELEPHONE |
|-----------------|---|----------------|
| Storm Sewers | Delaware County Engineer 50 Channing Street Delaware, Ohio 43015 | (740) 833-2400 |
| Sanitary Sewers | Delaware County San. Eng. 50 Channing Street Delaware, Ohio 43015 | (740) 833-2240 |

STANDARD DRAWINGS

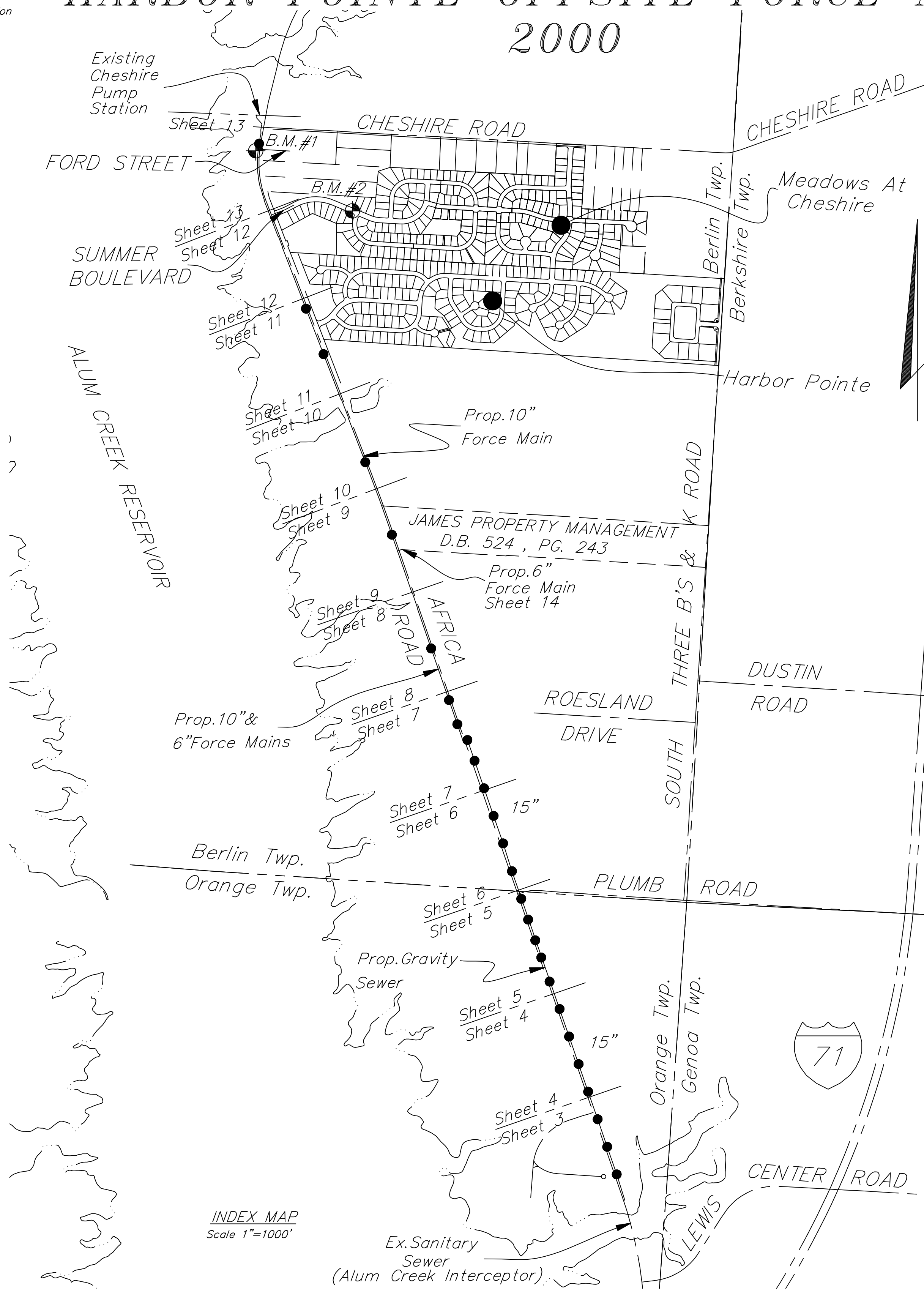
Standard Drawings listed on these plans, as shown in the "Preliminary Standard Plans and Specifications for Construction of Sanitary Facilities in Delaware County, Ohio, shall be considered a part thereof.

The Standard Construction Drawings Listed On These Plans Shall Be Considered A Part Thereof.

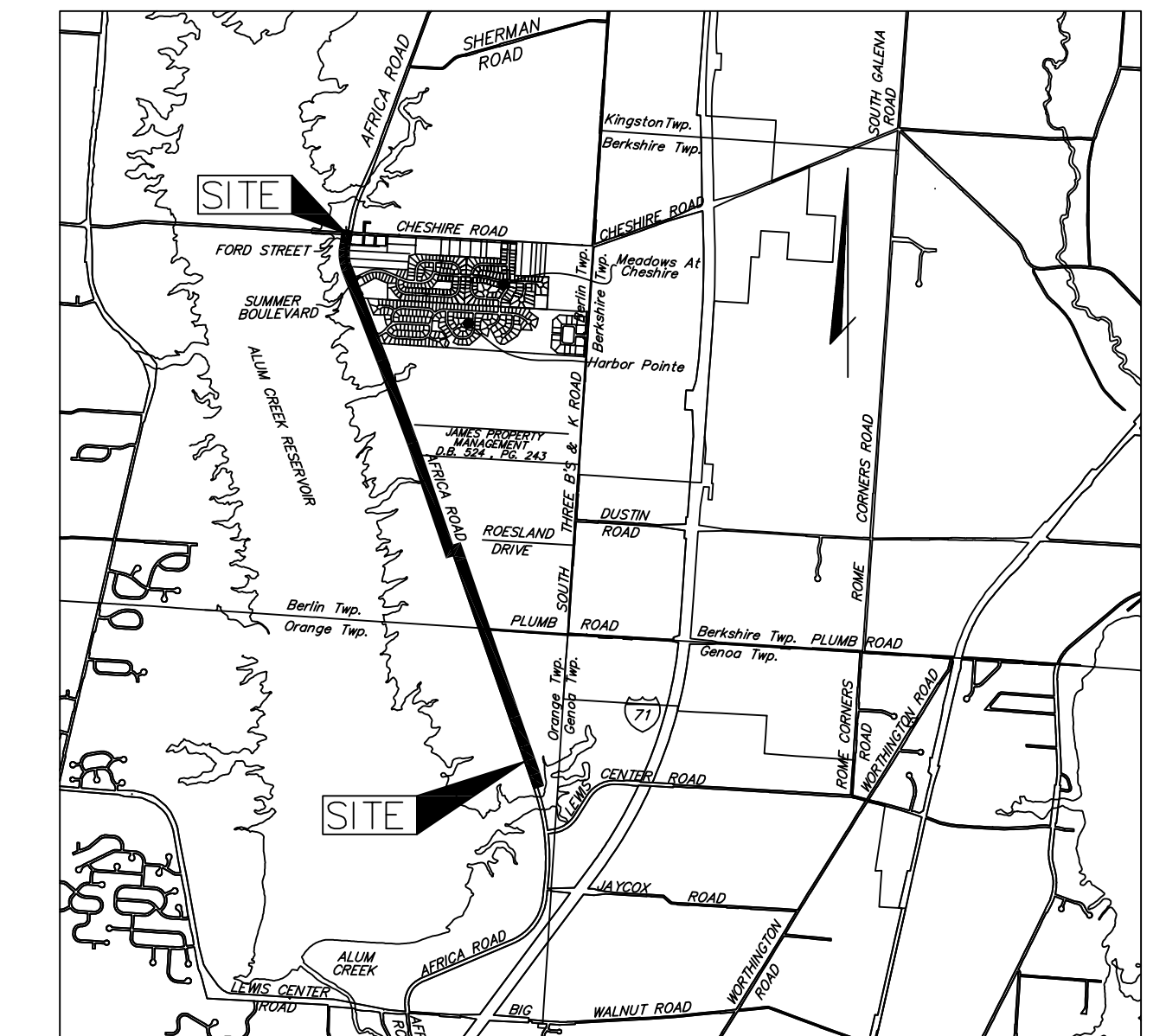
| | | | | |
|---|---|----|----|----|
| 1 | 4 | 12 | 18 | 25 |
| 2 | 5 | 14 | 23 | |
| 3 | 6 | 15 | 24 | |



DELAWARE COUNTY, OHIO SANITARY SEWER IMPROVEMENT ALUM CREEK INTERCEPTOR EXTENSION AND HARBOR POINTE OFFSITE FORCE MAIN 2000



INDEX MAP
Scale 1"=1000'



LOCATION MAP
No Scale

OWNER
Delaware County
Sanitary Engineer
50 Channing Street
Delaware, Ohio 43015
(740) 833-2240

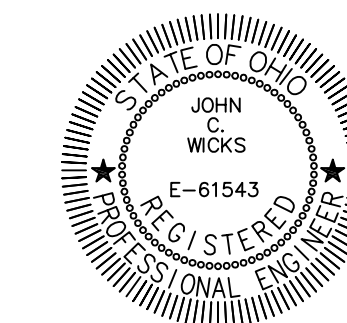
DEVELOPER
M/A Schattenstein Homes, Inc.
3 Easton Oval
Columbus, OH 43219
(614) 418-8000

BENCH MARKS (NAVD 1929)

- Master B.M. Southwest bolt of Fire Hydrant located at Sta. 20+71.62 on Summer Boulevard. Elev. = 937.52
- Source B.M. Railroad spike in power pole, North side of Ford Street and East side of Africa Road (C.R. 21) - Southeast side of pole at ground level. Elev. = 903.68
- B.M. #1 North rim of Sanitary manhole, West side of Africa Road (C.R. 21) and E of Ford Street Extension. Elev. = 900.38
- B.M. #2 Street side bolt of Fire Hydrant located at Sta. 8+78.42 (near int. of Greenfield Drive and Summer Boulevard). Elev. = 937.27

PREPARED BY
EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS
GAHANNA, OHIO
(614) 471-5150

| Date approved | Approved | Prepared | Change | Date Prepared | CHANGE ORDER SCHEDULE | Sht. No. |
|---------------|----------|----------|--------|---------------|-----------------------|----------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |



Professional Engineer _____ Date _____

Approved this _____ day of _____, 2000
County Commissioner _____

Approved this _____ day of _____, 2000
County Commissioner _____

Approved this _____ day of _____, 2000
County Commissioner _____

Approved this _____ day of _____, 2000
Delaware County Sanitary Engineer _____

Approved this _____ day of _____, 2000
Delaware County Engineer _____

GENERAL NOTES

All areas within the public right-of-way, including fence, that are disturbed by this project, shall be restored to original or better condition, per Item 659 (Seeding and Mulching), Item 607 (Fence), or other applicable specification.

No materials, including pipe, shall be stored within twenty (20) feet of the edge of pavement of Africa Road, nor within fifty (50) feet of any intersecting street or driveway. During non-working hours, storage of equipment shall comply with these same requirements. Compliance with these requirements shall not in any way relieve the Contractor of his legal responsibilities or liabilities for the safety of the public.

The Contractor shall expose the utility or structure indicated sufficiently in advance of laying the proposed sewer in order to verify the proposed location. Cost to be included in the price bid for the various sewer items.

All signs, fences, shrubs, drainage structures, or other physical features disturbed or damaged during work under this Contract shall be restored to their original condition by the Contractor. Unless otherwise provided in the Contract, the cost of all such work shall be included in the price bid for the various sewer items.

All topsoil shall be removed from the work area before installation of the improvements. All topsoil shall be separated from proposed backfill.

The Contractor shall be responsible for maintaining mail service in the construction area. Prior to disturbing any mail boxes the Contractor shall contact the postal authorities and shall temporarily relocate mail boxes in accordance with the requirements therefor. The Contractor shall restore mail boxes to their original condition and location. Cost of same shall be included in the unit price bid for the various sewer items.

In addition to direct requirements of the Contract Documents, the Contractor shall observe and conform to the specific requirements of all rights-of-ways including easements, court entries, rights of entry or action filed in court in accordance with the code of the applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the price bid for the various items of the contract unless specific provision is made in the Contract Documents for the measurement of and payment for such cost specific items of the Contract.

All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways", copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 25 South Front Street, Columbus, Ohio 43215.

Type C Steady Burn Lights shall be used on all barricades, drums and similar traffic control devices in use at night.

The contractor is responsible to submit a traffic control plan to the Delaware County Sanitary Engineer's Office at least two weeks before commencement of the proposed improvements.

All trenches shall be backfilled or securely plated during non-working hours.

Ingress and egress shall be maintained at all times to public and private property.

All driveways cut by the Contractor shall be provided with temporary pavement on the same day that the original pavement is cut. Unless otherwise ordered by the Engineer, Driveways shall be temporarily replaced with a minimum of 8" crushed stone or gravel. Permanent replacement shall be provided, when ordered by the Engineer, as specified on these plans. Payment will be made at contract unit price for Pavement Replacement.

The flow in all sewers, drains and watercourses encountered shall be maintained by the Contractor at his own expense, and whenever such watercourses and drains are disturbed or destroyed during the prosecution of the work they shall be restored by the Contractor at his own cost and expense to a condition satisfactory to the Engineer.

All backfill shall be compacted to a density of 95% of maximum laboratory density unless otherwise noted.

The cost of Compacted Granular Material shall be included in the price bid for the Sewer Items. All sewer trenches under existing driveways shall be Compacted Granular Material.

Temporary Guardrail shall be maintained at night and during non-working hours. When sewer construction is complete, the Contractor shall rebuild the Guardrail to its original state. Cost of performing all the above work shall be included in the unit prices bid for Sanitary Sewer Pipe and Force Main.

All Force Mains shall be Cast Iron Pipe meeting the requirements of ANSI Specifications A21.6 (AWWA C106) or A21.8 (AWWA C108); Ductile Iron Pipe meeting the requirements of ANSI A21.51 (AWWA C151); PE Plastic Pipe meeting the requirements of ASTM Specification D-248 and D-2837 or PVC Pipe Meeting the requirements of ASTM D-1784 and ASTM D-2241 and shall be a minimum SDR 21. Cast Iron Pipe and Ductile Iron Pipe minimum barrel thickness shall be calculated meeting the requirements of the Standard Plans and Specifications for Construction of Sanitary Facilities in Delaware County, Ohio.

The County of Delaware requirements, together with the Specifications of the State of Ohio, Department of Transportation, including all supplements thereto in force on June 1, 1998 shall govern all materials and workmanship involved in the improvements shown on these plans unless otherwise noted.

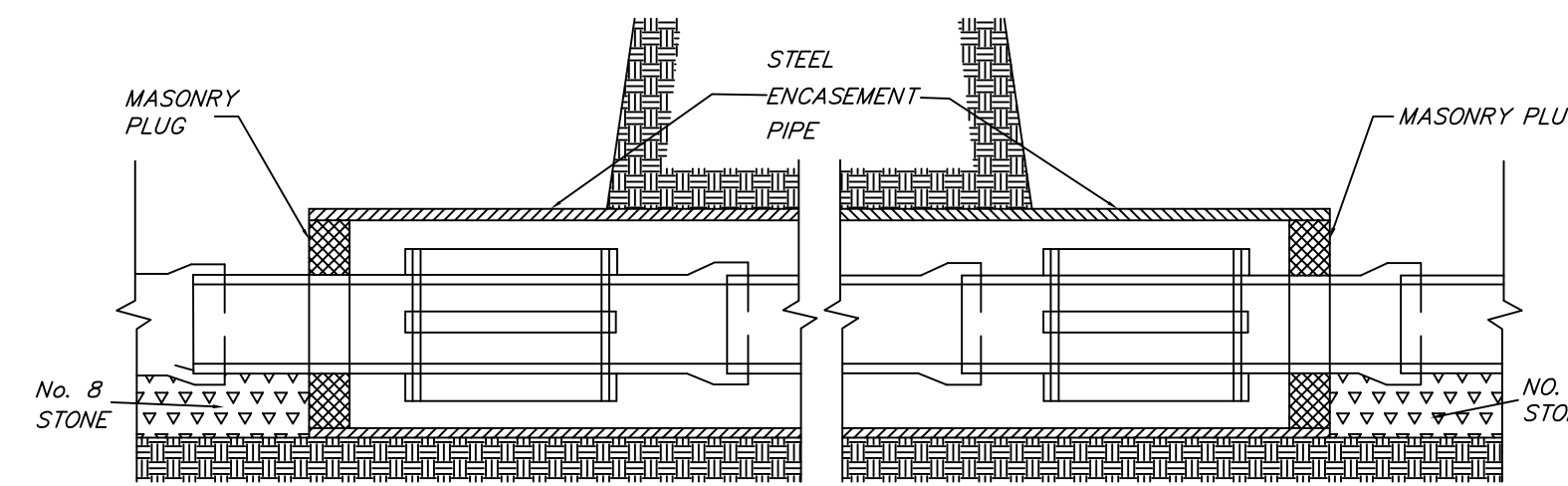
The following utility companies may have facilities located on this project:

GTE
550 Leader Street
Marion, Ohio 43302
(740) 383-0551

COLUMBIA GAS CO. AMERITECH
939 West Goodale Blvd. 150 East Gay Street, Rm. 7A
Columbus, Ohio 43212 Columbus, Ohio 43215
(614)460-2156 (800)362-2764

SUBURBAN NATURAL GAS COAXIAL COMMUNICATIONS
2626 Lewis Center Road 3770 East Livingston Avenue
Lewis Center, Ohio 43035 Columbus, Ohio 43227
(614)548-2450 (614)236-1292

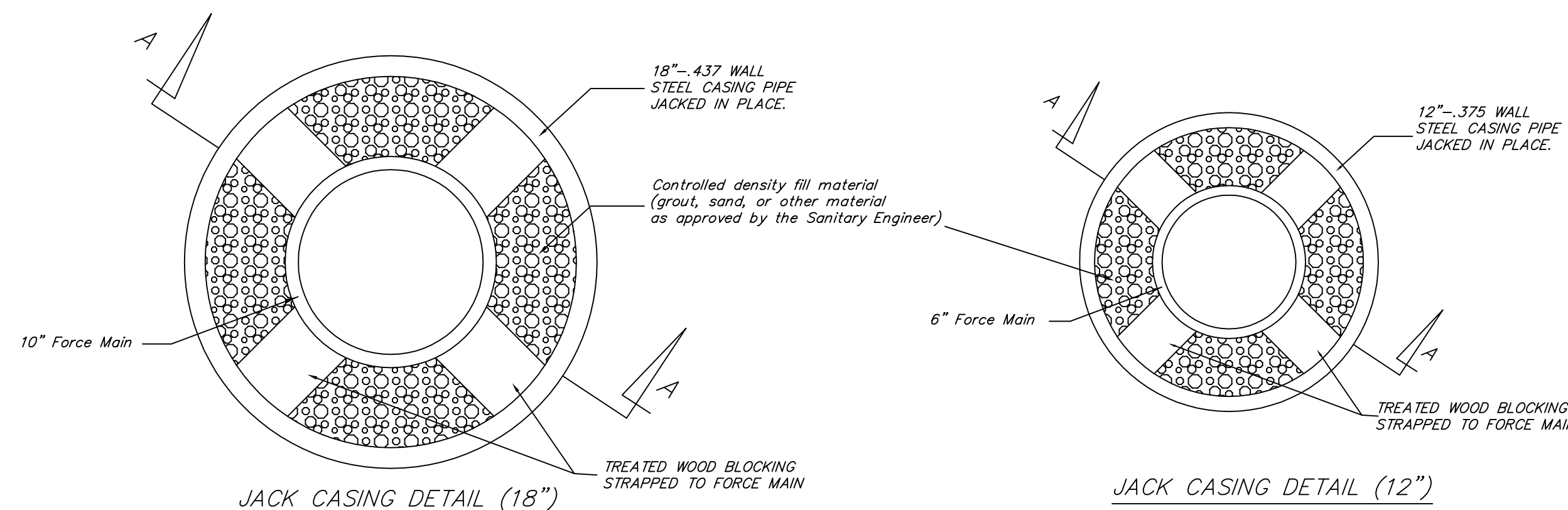
AMERICAN ELECTRIC POWER WARNER CABLE
215 North Front Street 1266 Dublin Road
Columbus, Ohio 43215 Columbus, Ohio 43216
(614)836-2570 (614)481-5050



NOTE: WELD ALL ENCASUREMENT PIPE JOINTS.

BORING DETAIL SECTION A-A

NOTE: TREATED WOOD BLOCKING TO BE 6 INCHES LONG
No Scale



NOTES:

1. TREATED WOOD BLOCKING TO BE 8 INCHES LONG BANDED TO EACH LENGTH OF PIPE, 8'-0" MAXIMUM C/C. ALLOW 1 INCH MAXIMUM CLEARANCE BETWEEN BLOCKS AND CASING PIPE.
2. STEEL CASING PIPE TO BE 18" IN DIAMETER UNLESS APPROVED IN WRITING BY THE ENGINEER. MINIMUM YIELD STRENGTH=35,000 PSI; NOMINAL WALL THICKNESS=0.437 UNLESS CALCULATIONS ARE SUBMITTED THAT JUSTIFY OTHER WALL THICKNESSES.

NOTES:

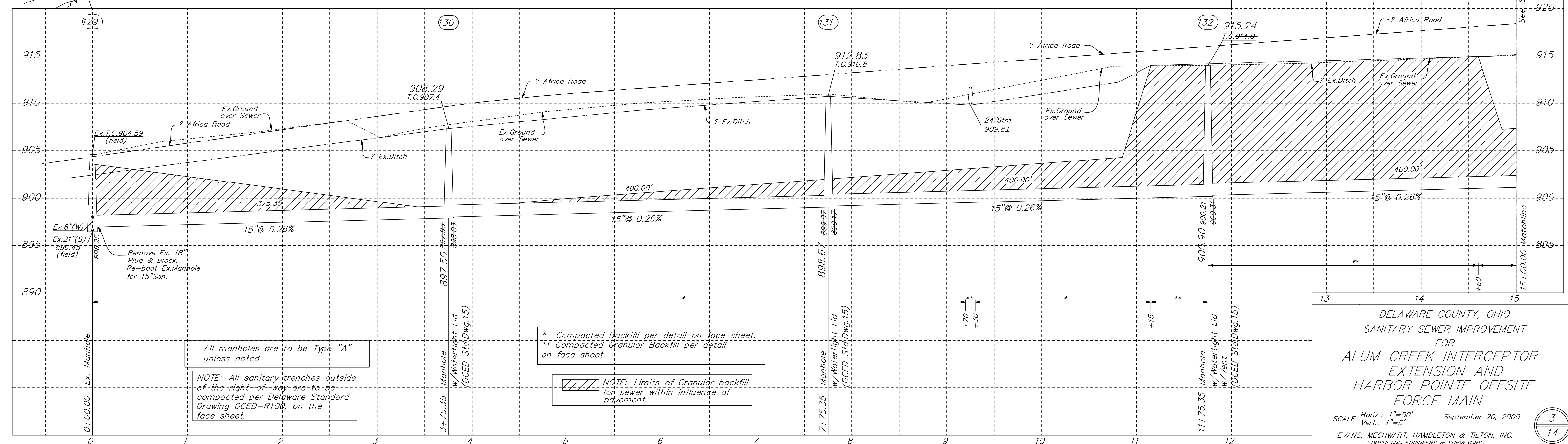
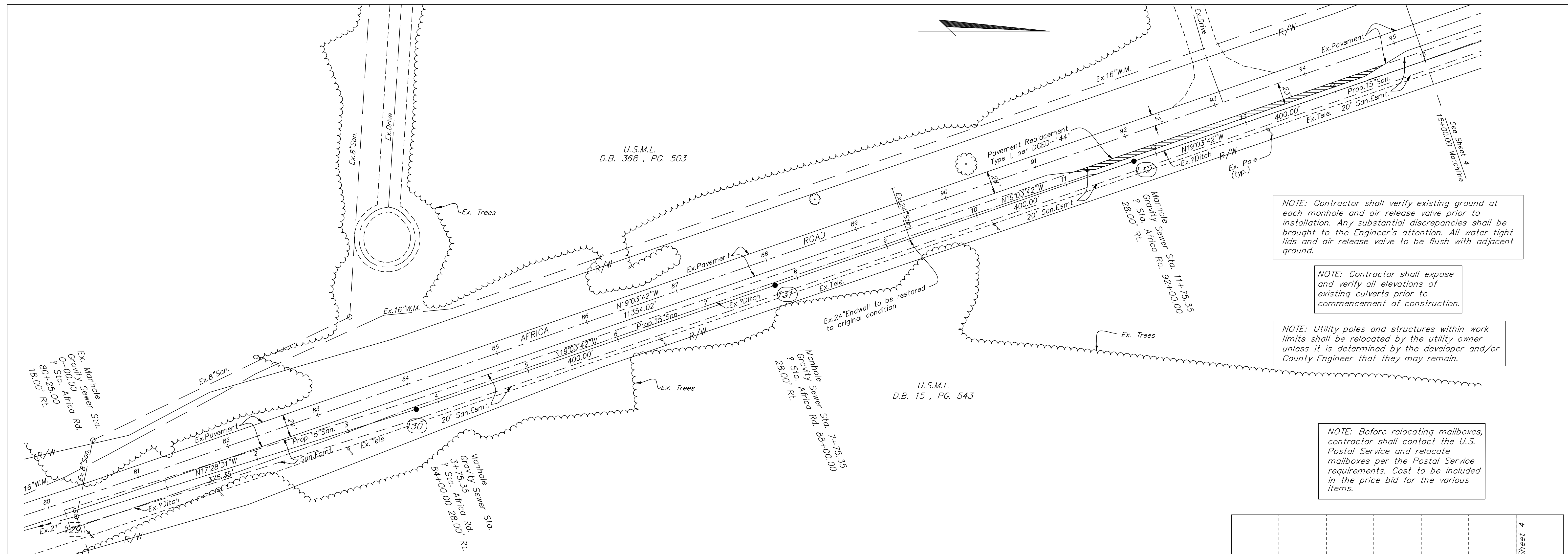
1. TREATED WOOD BLOCKING TO BE 6 INCHES LONG BANDED TO EACH LENGTH OF PIPE, 6'-0" MAXIMUM C/C. ALLOW 1 INCH MAXIMUM CLEARANCE BETWEEN BLOCKS AND CASING PIPE.
2. STEEL CASING PIPE TO BE 12" IN DIAMETER UNLESS APPROVED IN WRITING BY THE ENGINEER. MINIMUM YIELD STRENGTH=35,000 PSI; NOMINAL WALL THICKNESS=0.375 UNLESS CALCULATIONS ARE SUBMITTED THAT JUSTIFY OTHER WALL THICKNESSES.

| ESTIMATE OF QUANTITIES | | |
|------------------------|----------|--|
| QUANTITY | UNIT | DESCRIPTION |
| 655 | Lin. Ft. | 15" Sanitary Sewer (0'-8' Deep) |
| 1725 | Lin. Ft. | 15" Sanitary Sewer (8'-12' Deep) |
| 4300 | Lin. Ft. | 15" Sanitary Sewer (12'-16' Deep) |
| 2890 | Lin. Ft. | 6" Force Main |
| 9215 | Lin. Ft. | 10" Force Main |
| 70 | Lin. Ft. | 12" Steel Casing Pipe, Bored and Jacked |
| 101 | Lin. Ft. | 18" Steel Casing Pipe, Bored and Jacked |
| 1 | Each | Re-Boot Ex. Manhole for 15" Sanitary |
| 18 | Each | Manhole, Type "A", 14 w/watertight lids (DCED Std.Dwg 15), 5 w/vents |
| 6 | Each | Automatic Air Release Valve (w/60" base) (DCED Std.Dwg. 25) |
| 5 | Each | Automatic Air Release Valve (w/48" base) (DCED Std.Dwg. 25) |
| 1 | Each | 10"x8"x8" Tee |
| 1 | Each | 10" Valve (Clow F-6112, Resilient wedge valve) |
| 1 | Each | 8" Valve (Clow F-6112, Resilient wedge valve) |
| 275 | Lin.Ft. | 6" Service Pipe |
| 24 | Lin.Ft. | 6" Riser Pipe |
| 12 | Each | 15"x6" Wye |
| 2 | Each | Endwall for 18" Pipe (DCED-S169) |
| 1 | Each | Endwall for 24" Pipe (DCED-S169) |
| 2 | Each | Endwall for 42" Pipe (DCED-S169) |
| 2 | Each | Endwall for 36"x22" Pipe (DCED-S169) |
| 2125 | S.F. | Permanent Pavement Replacement Type I (DCED-R1441) |
| 685 | S.F. | Permanent Pavement Replacement Type III-A (DCED-R2160) |
| 365 | S.F. | Permanent Pavement Replacement Type III-B (DCED-R2160) |
| 490 | S.F. | Permanent Pavement Replacement Type III-C (DCED-R2160) |
| Lump | Sum | Clearing And Grubbing |
| Lump | Sum | Maintenance of Traffic |
| Lump | Sum | Water Course Protection |
| 195 | Each | Straw Bale Barrier |

DELAWARE COUNTY, OHIO
SANITARY SEWER IMPROVEMENT
FOR
ALUM CREEK INTERCEPTOR
EXTENSION AND
HARBOR POINTE OFFSITE
FORCE MAIN

SCALE: As Noted September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS



All manholes are to be Type "A" unless noted.

NOTE: All sanitary trenches outside of the right-of-way are to be compacted per Delaware Standard Drawing DCED-R100, on the face sheet.

* Compacted Backfill per detail on face sheet.
 ** Compacted Granular Backfill per detail on face sheet.

NOTE: Limits of Granular backfill for sewer within influence of pavement.

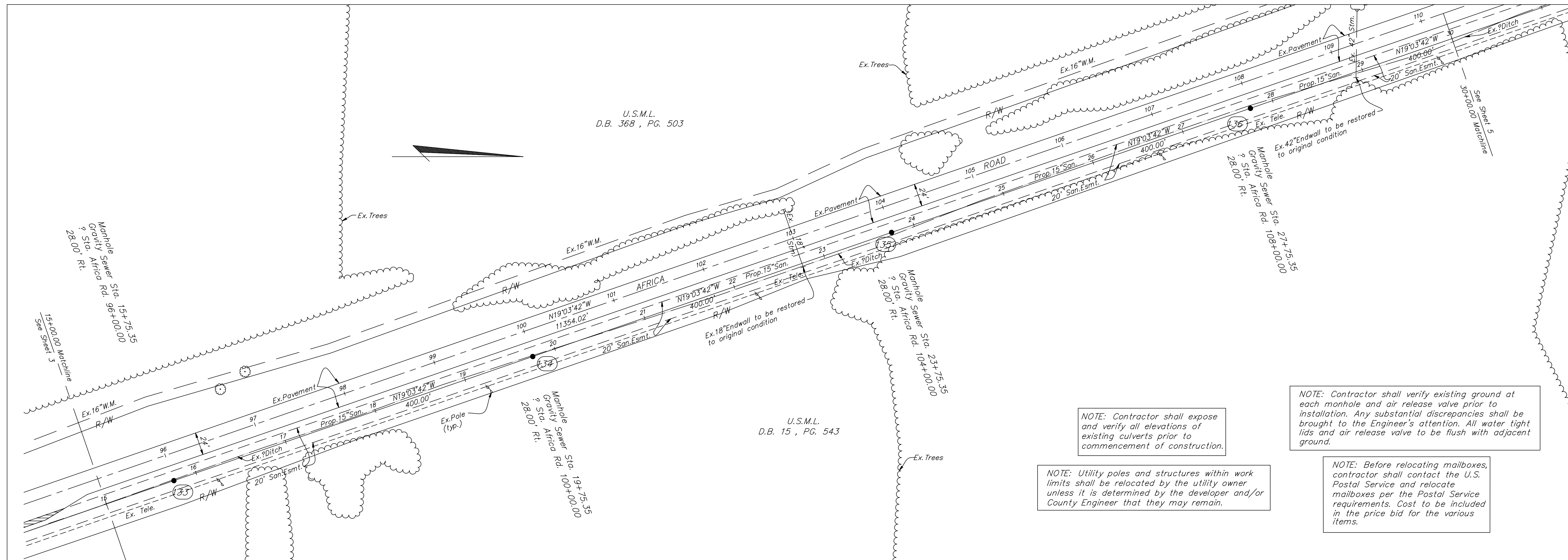
DELAWARE COUNTY, OHIO
 SANITARY SEWER IMPROVEMENT
 FOR
 ALUM CREEK INTERCEPTOR
 EXTENSION AND
 HARBOR POINTE OFFSITE
 FORCE MAIN

SCALE Horiz.: 1"=50'
 Vert.: 1"=5'

September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
 CONSULTING ENGINEERS & SURVEYORS

2000-0729.01



U.S.M.L.
D.B. 368 , PG. 503

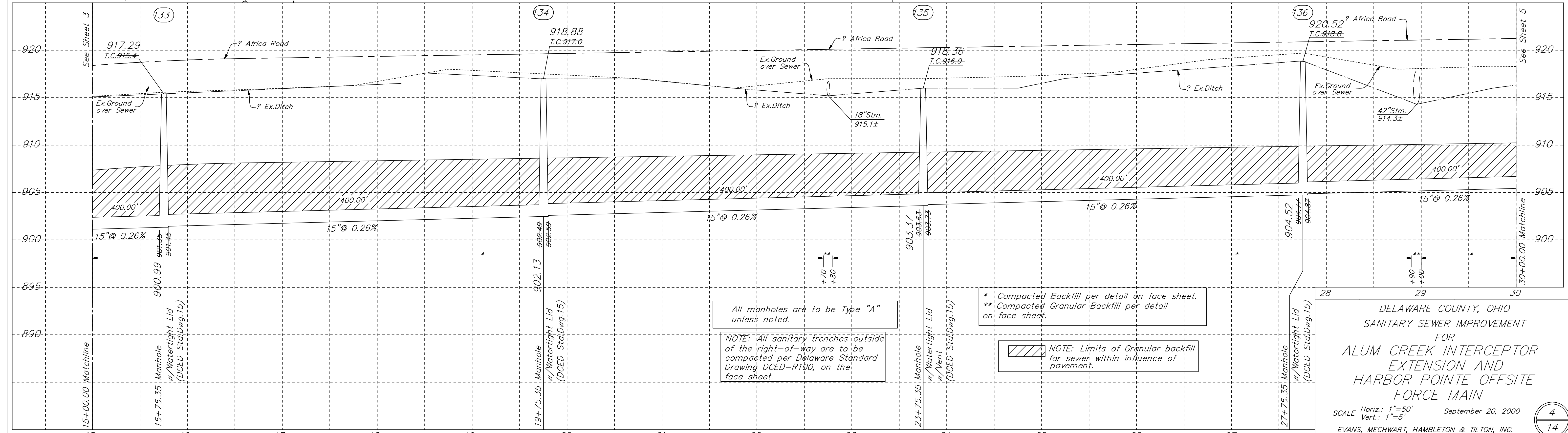
U.S.M.L.
D.B. 15 , PG. 543

NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

NOTE: Utility poles and structures within work limits shall be relocated by the utility owner unless it is determined by the developer and/or County Engineer that they may remain.

NOTE: Contractor shall verify existing ground at each manhole and air release valve prior to installation. Any substantial discrepancies shall be brought to the Engineer's attention. All water tight lids and air release valve to be flush with adjacent ground.

NOTE: Before relocating mailboxes, contractor shall contact the U.S. Postal Service and relocate mailboxes per the Postal Service requirements. Cost to be included in the price bid for the various items.



All manholes are to be Type "A" unless noted.

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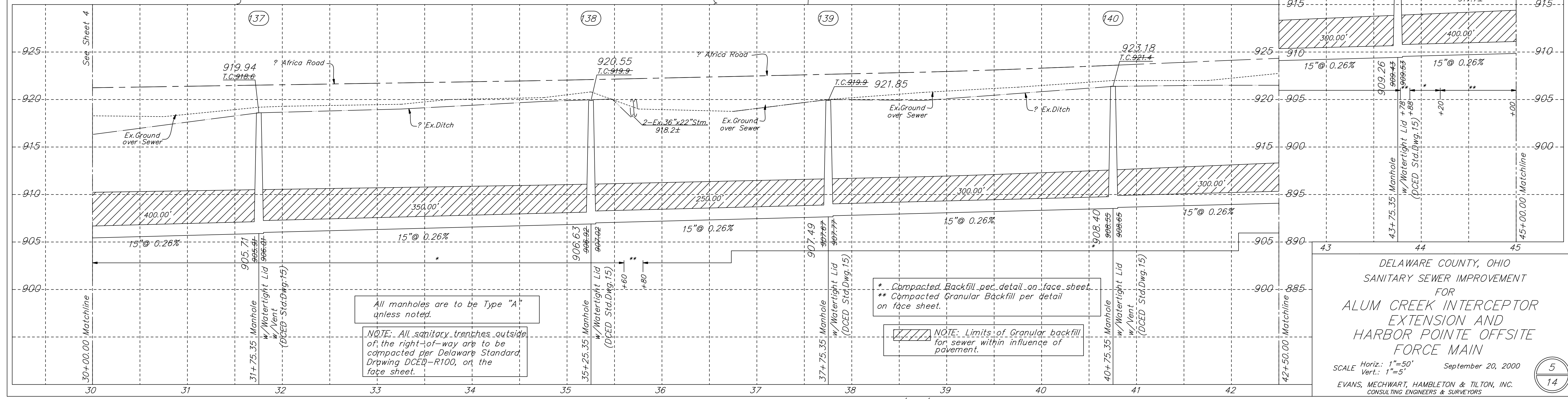
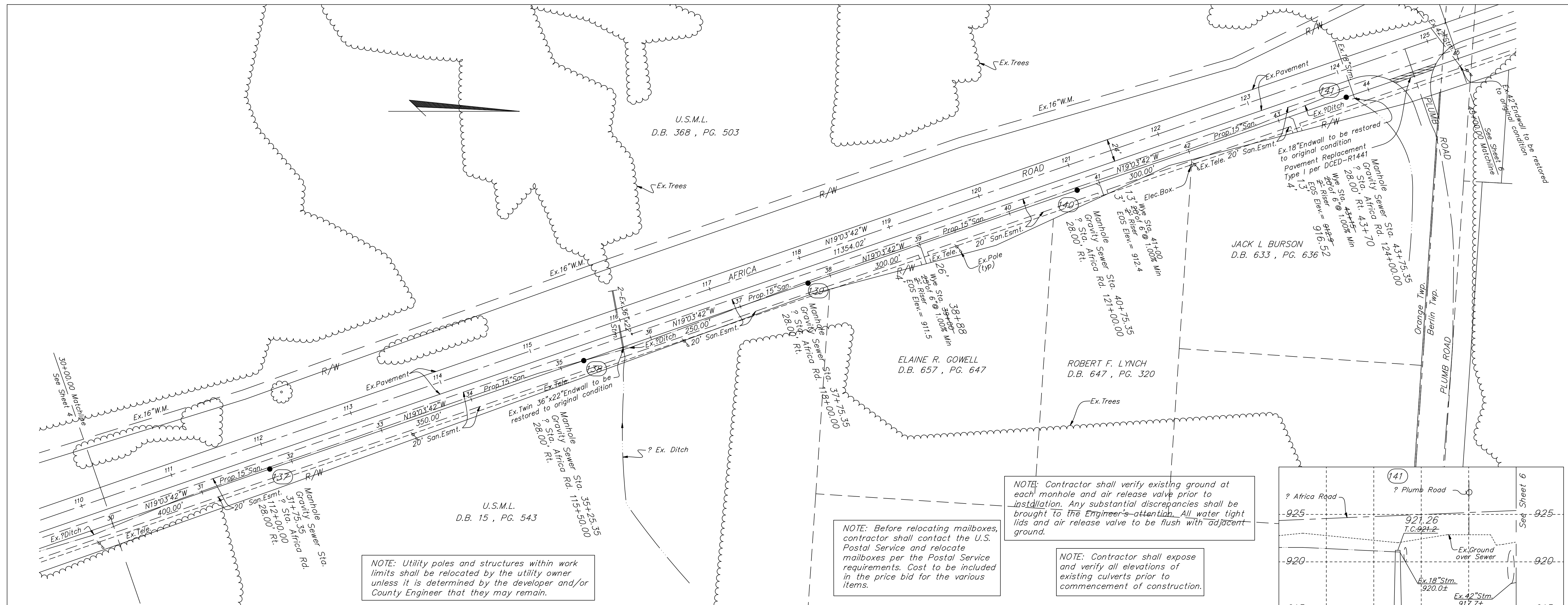
DELAWARE COUNTY, OHIO
SANITARY SEWER IMPROVEMENT
FOR
ALUM CREEK INTERCEPTOR
EXTENSION AND
HARBOR POINTE OFFSITE
FORCE MAIN

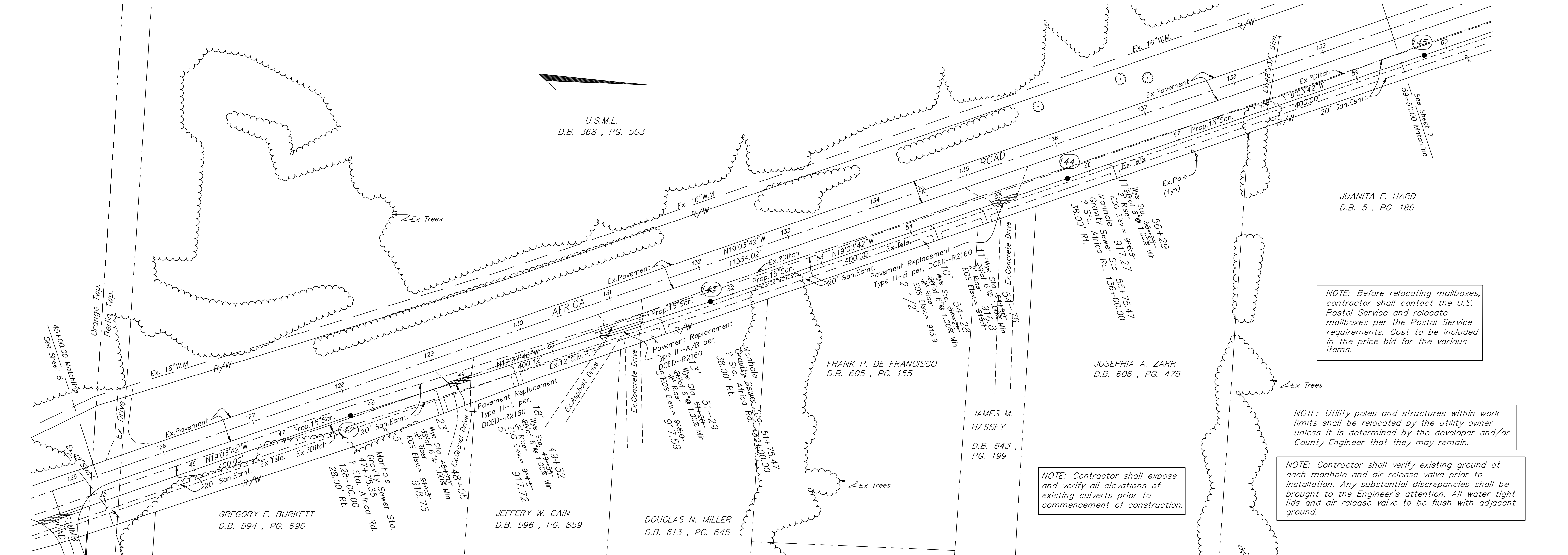
SCALE Horiz.: 1"=50'
Vert.: 1"=5'

September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS

PLAN AND PROFILE





U.S.M.L.
D.B. 368 , PG. 503

JUANITA F. HARD
D.B. 5 , PG. 189

NOTE: Before relocating mailboxes, contractor shall contact the U.S. Postal Service and relocate mailboxes per the Postal Service requirements. Cost to be included in the price bid for the various items.

NOTE: Utility poles and structures within work limits shall be relocated by the utility owner unless it is determined by the developer and/or County Engineer that they may remain.

NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

NOTE: Contractor shall verify existing ground at each manhole and air release valve prior to installation. Any substantial discrepancies shall be brought to the Engineer's attention. All water tight lids and air release valve to be flush with adjacent ground.

GREGORY E. BURKETT
D.B. 594 , PG. 690

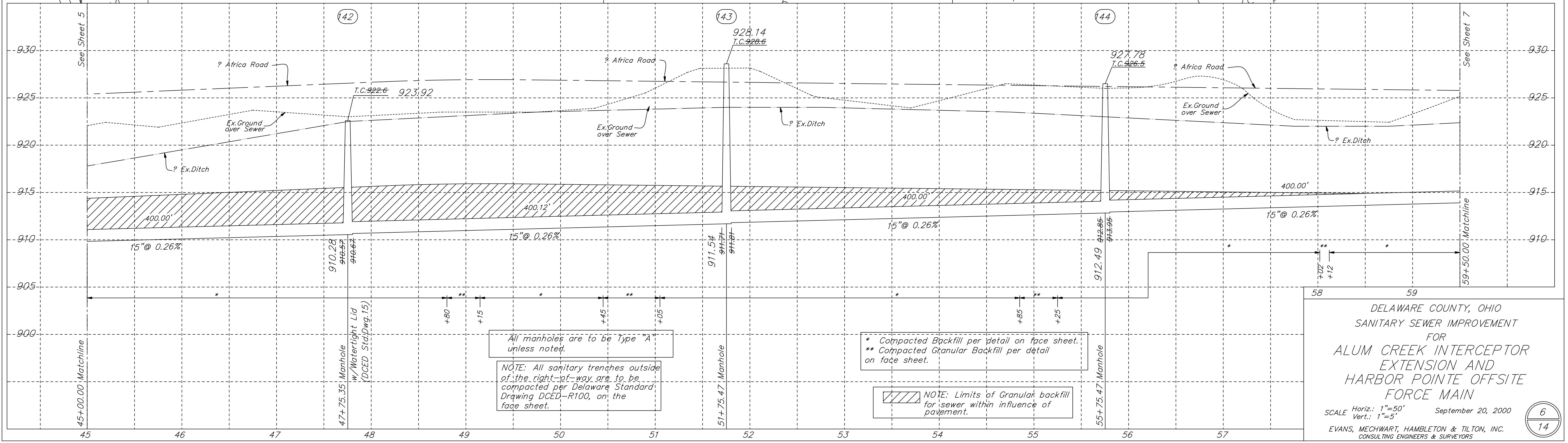
JEFFERY W. CAIN
D.B. 596 , PG. 859

DOUGLAS N. MILLER
D.B. 613 , PG. 645

FRANK P. DE FRANCISCO
D.B. 605 , PG. 155

JOSEPHIA A. ZARR
D.B. 606 , PG. 475

JAMES M. HASSEY
D.B. 643 , PG. 199



All manholes are to be Type "A" unless noted.

NOTE: All sanitary trenches outside of the right-of-way are to be compacted per Delaware Standard Drawing DCED-R100, on the face sheet.

* Compacted Backfill per detail on face sheet.
** Compacted Granular Backfill per detail on face sheet.

NOTE: Limits of Granular backfill for sewer within influence of pavement.

DELAWARE COUNTY, OHIO
SANITARY SEWER IMPROVEMENT
FOR
ALUM CREEK INTERCEPTOR
EXTENSION AND
HARBOR POINTE OFFSITE
FORCE MAIN

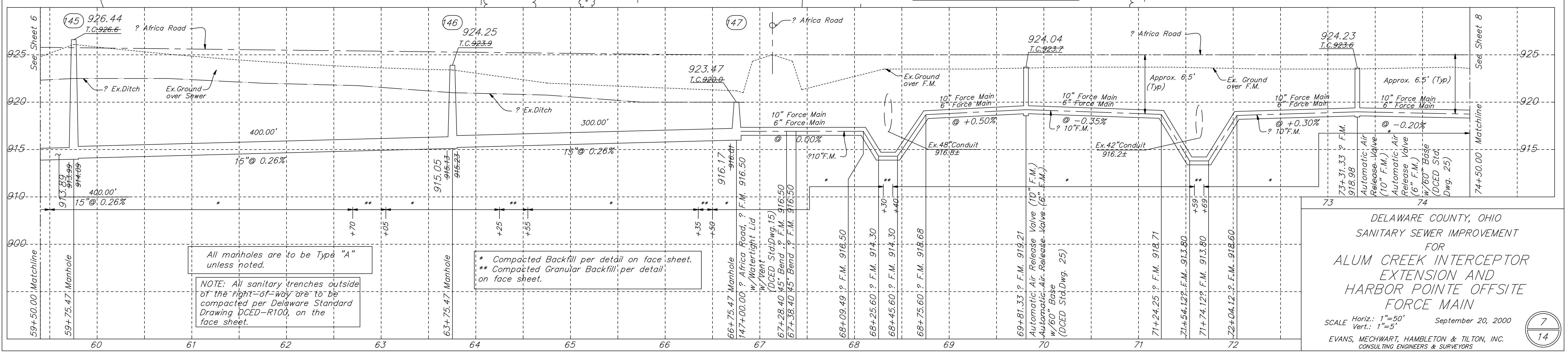
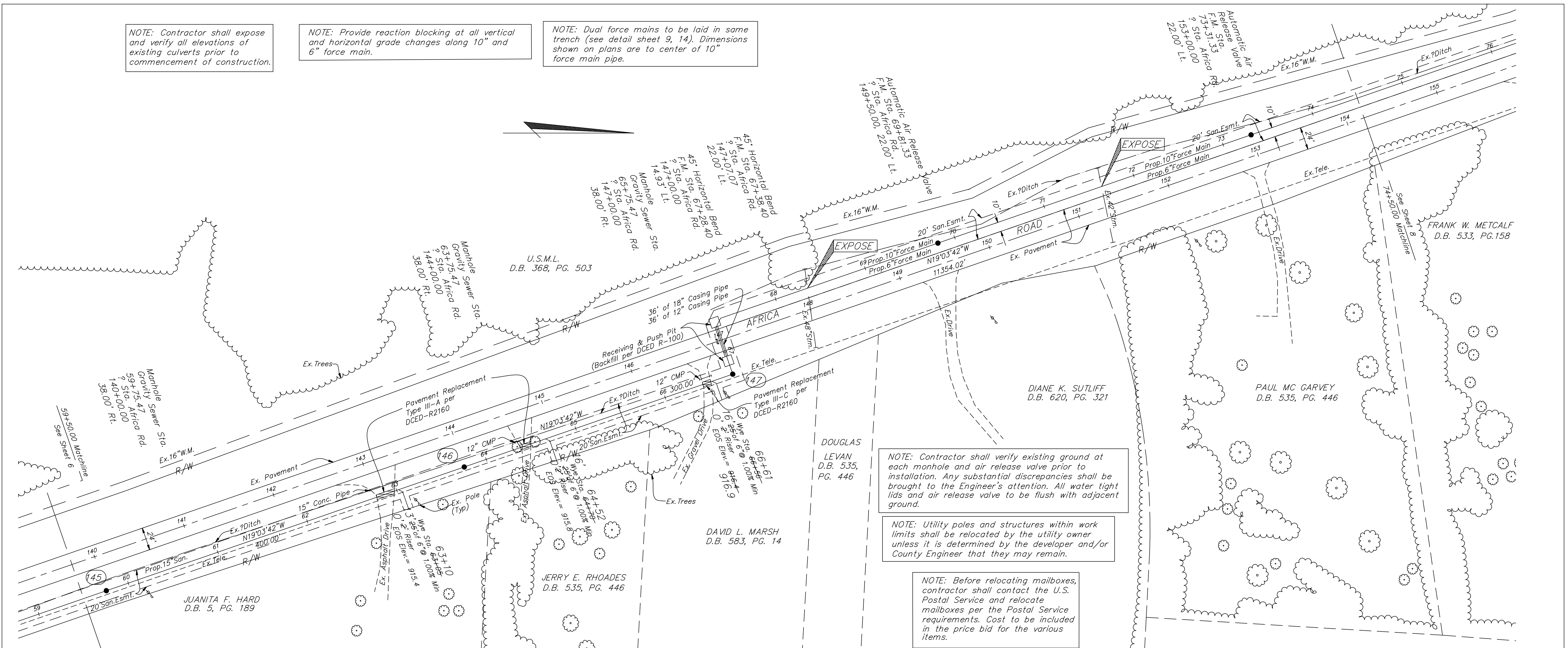
SCALE Horiz.: 1"=50'
Vert.: 1"=5'
September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS

NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

NOTE: Provide reaction blocking at all vertical and horizontal grade changes along 10" and 6" force main.

NOTE: Dual force mains to be laid in same trench (see detail sheet 9, 14). Dimensions shown on plans are to center of 10" force main pipe.



DELAWARE COUNTY, OHIO
 SANITARY SEWER IMPROVEMENT
 FOR
 ALUM CREEK INTERCEPTOR
 EXTENSION AND
 HARBOR POINTE OFFSITE
 FORCE MAIN

SCALE Horiz.: 1"=50'
 Vert.: 1"=5'

September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
 CONSULTING ENGINEERS & SURVEYORS

7
 14

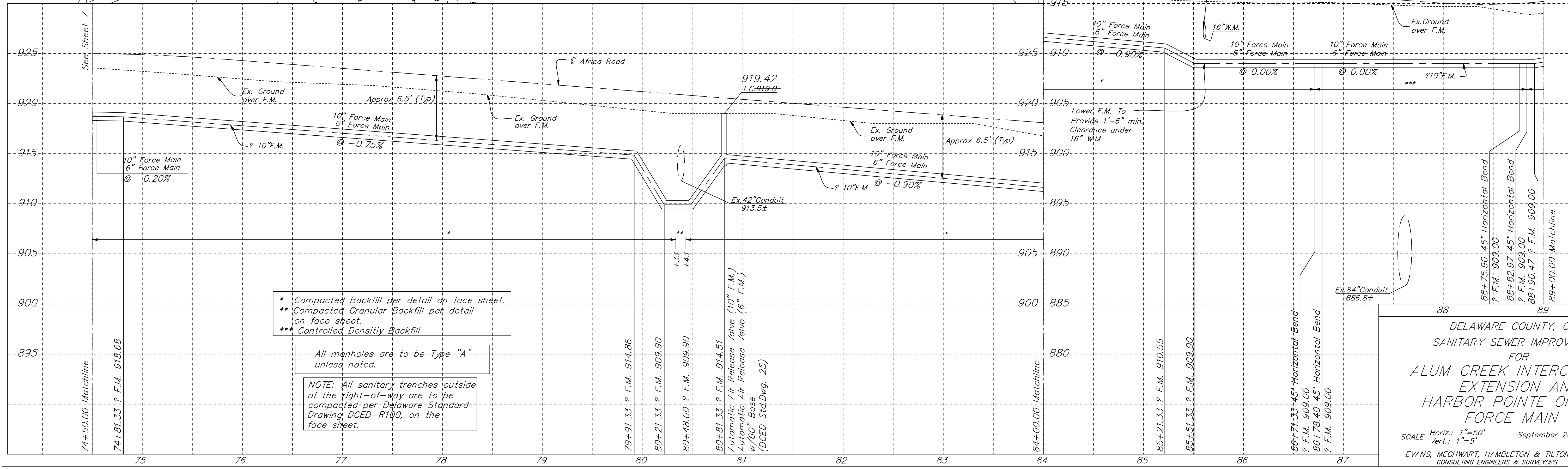
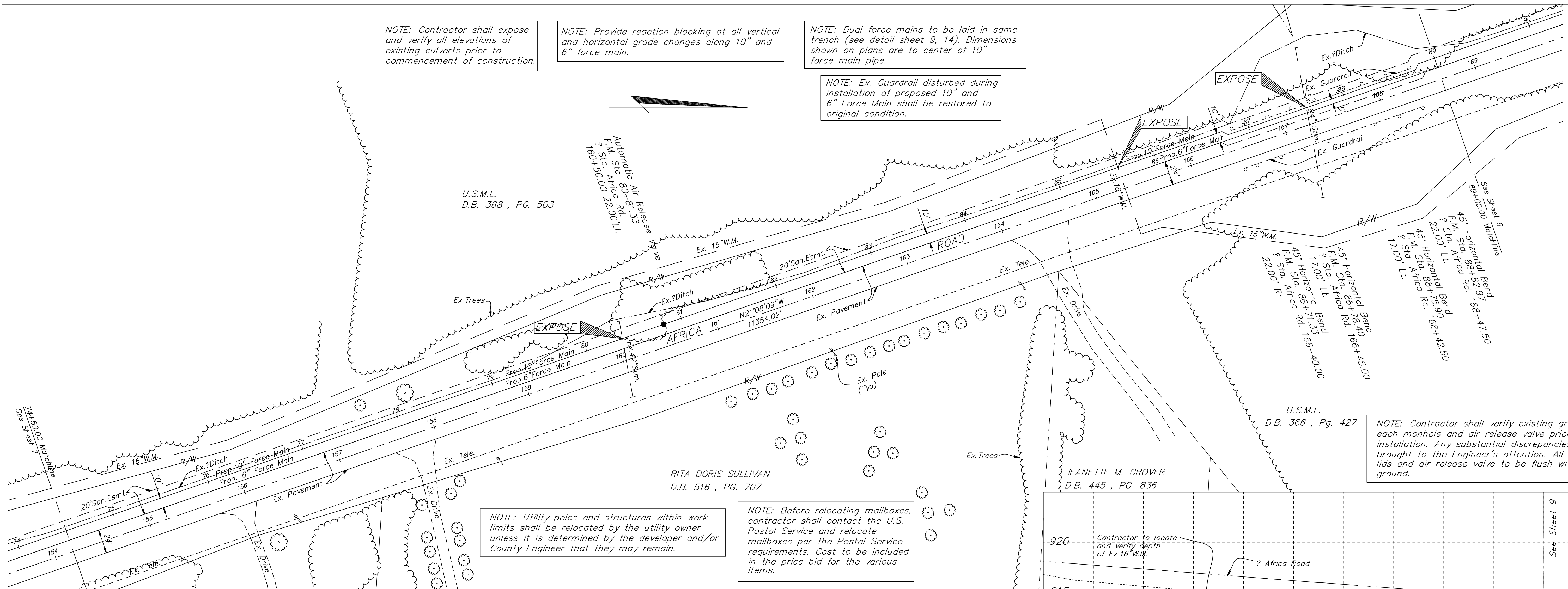
NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

NOTE: Provide reaction blocking at all vertical and horizontal grade changes along 10" and 6" force main.

NOTE: Dual force mains to be laid in same trench (see detail sheet 9, 14). Dimensions shown on plans are to center of 10" force main pipe.

NOTE: Ex. Guardrail disturbed during installation of proposed 10" and 6" Force Main shall be restored to original condition.

NOTE: Contractor shall verify existing ground at each manhole and air release valve prior to installation. Any substantial discrepancies shall be brought to the Engineer's attention. All water tight lids and air release valve to be flush with adjacent ground.



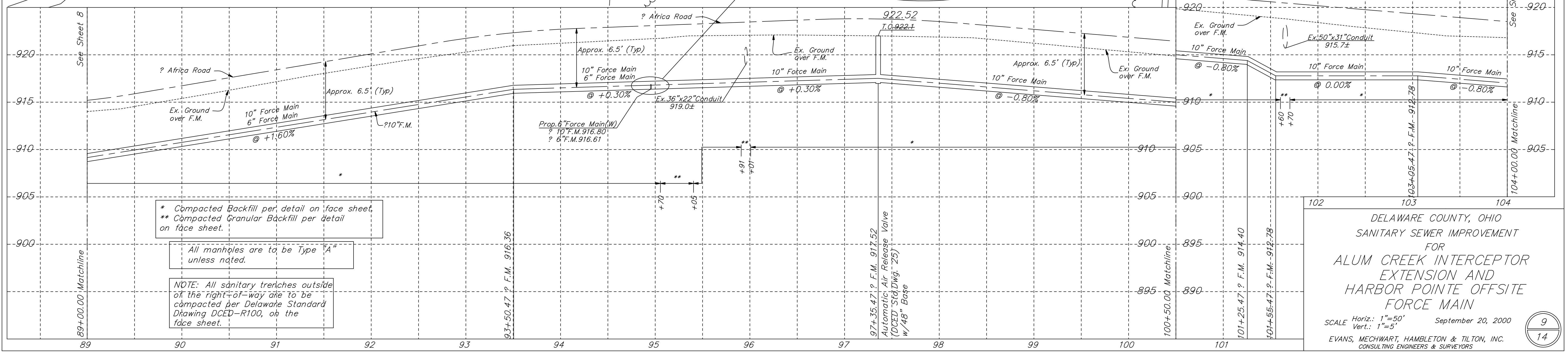
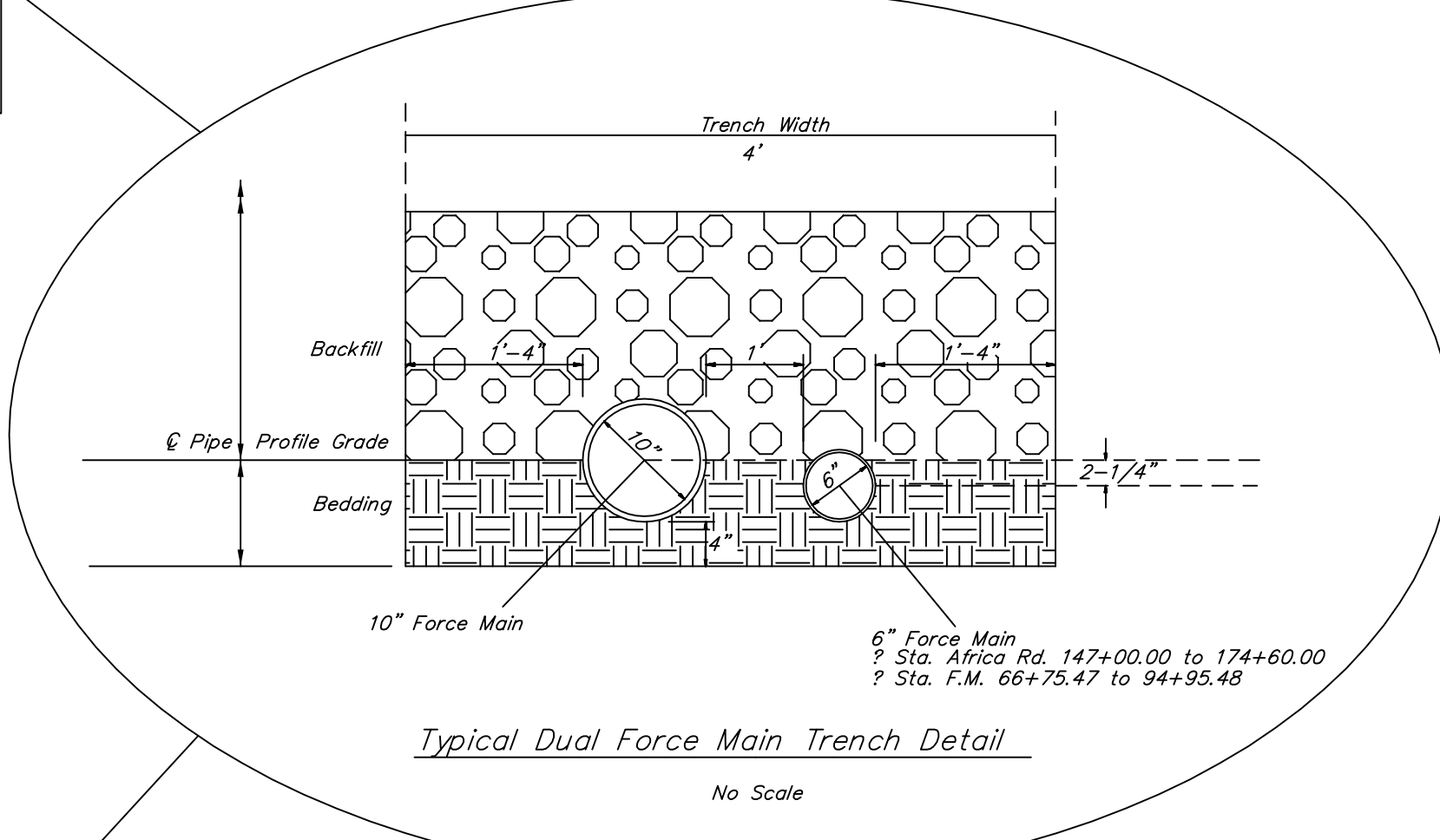
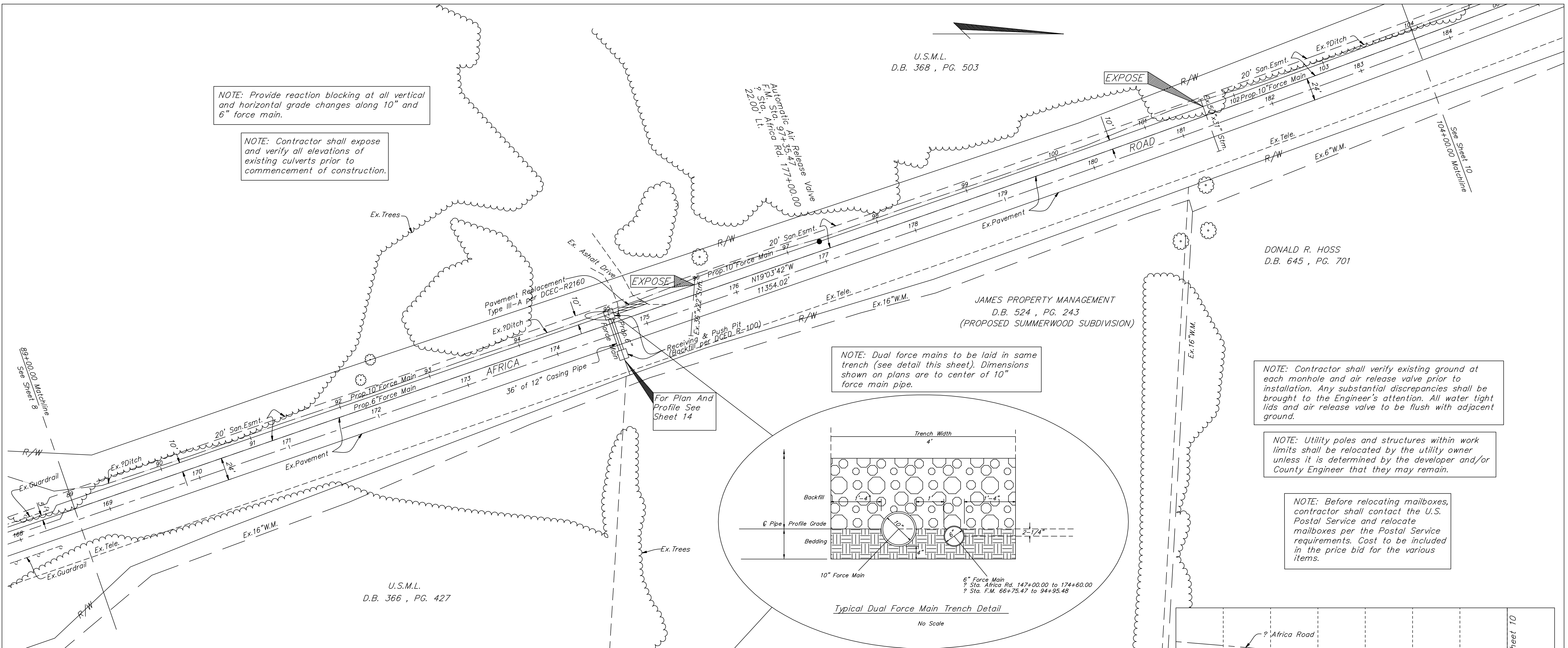
DELAWARE COUNTY, OHIO
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 HARBOR POINTE OFFSITE
 FORCE MAIN

SCALE Horiz.: 1"=50'
 Vert.: 1"=5'

September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
 CONSULTING ENGINEERS & SURVEYORS

2000-0729.01



* Compacted Backfill per detail on face sheet.
** Compacted Granular Backfill per detail on face sheet.

All manholes are to be Type "A" unless noted.

NOTE: All sanitary trenches outside of the right-of-way are to be compacted per Delaware Standard Drawing DCEd-R100, on the face sheet.

DELAWARE COUNTY, OHIO
SANITARY SEWER IMPROVEMENT
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EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS

2000-0729.01

NOTE: Provide reaction blocking at all vertical and horizontal grade changes along 10" and 6" force main.

NOTE: Ex. Guardrail disturbed during installation of proposed 10" and 6" Force Main shall be restored to original condition.

NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

U.S.M.L.
D.B. 368, PG. 503

U.S.M.L.
D.B. 366, PG. 427

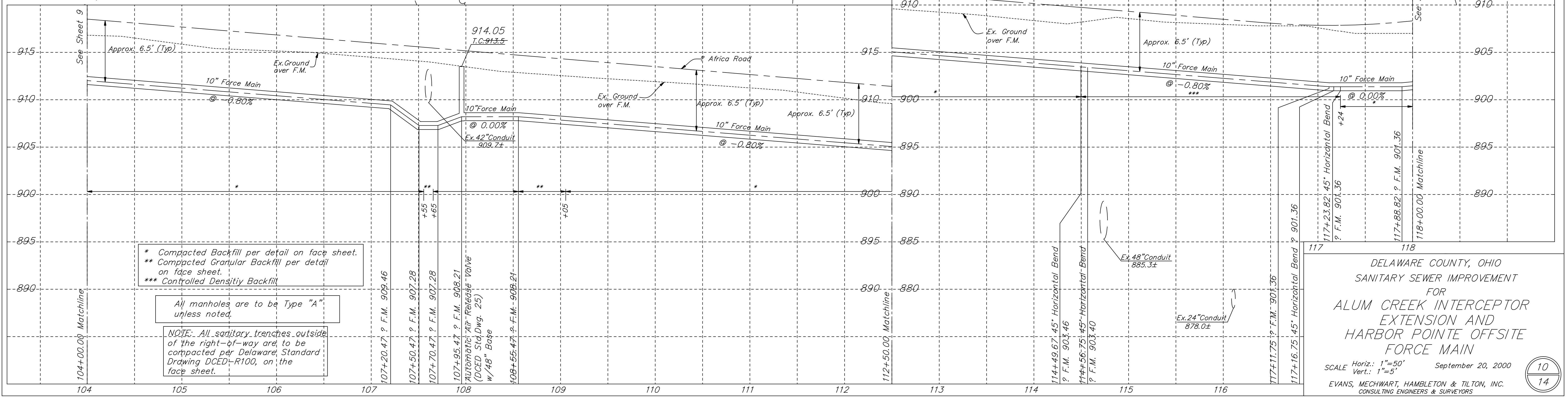
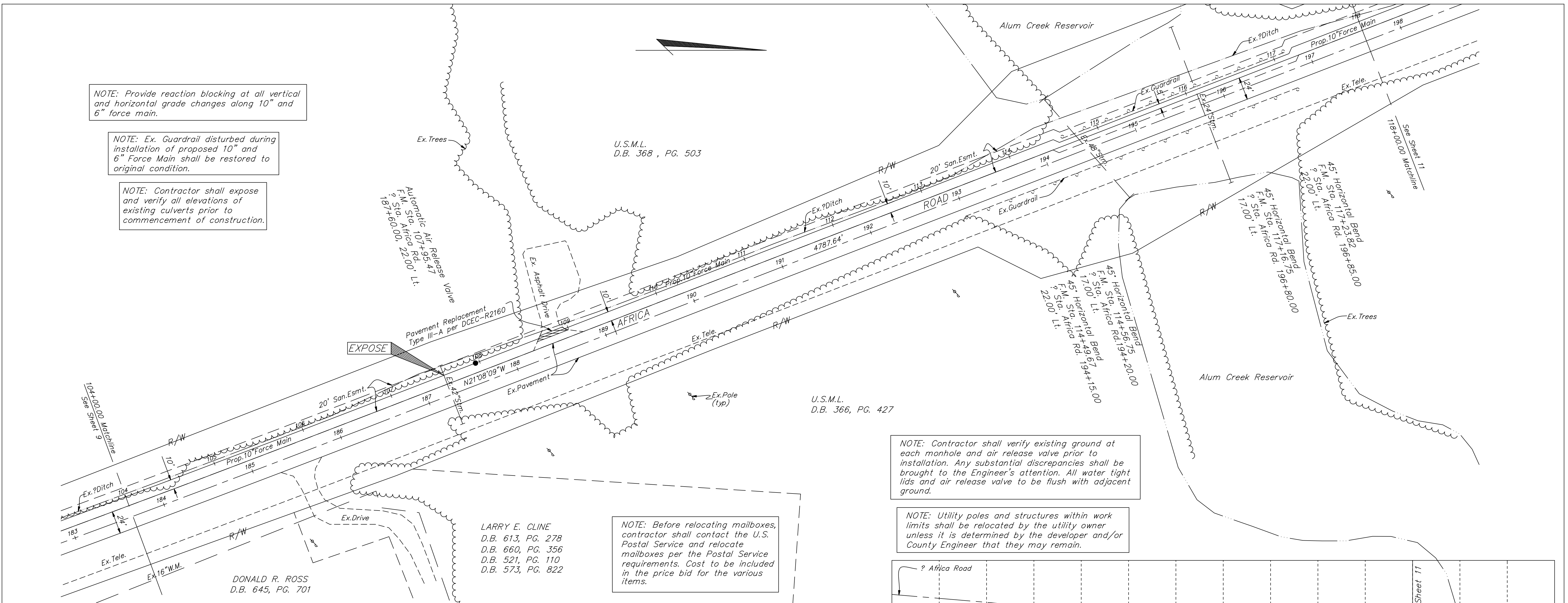
LARRY E. CLINE
D.B. 613, PG. 278
D.B. 660, PG. 356
D.B. 521, PG. 110
D.B. 573, PG. 822

DONALD R. ROSS
D.B. 645, PG. 701

NOTE: Before relocating mailboxes, contractor shall contact the U.S. Postal Service and relocate mailboxes per the Postal Service requirements. Cost to be included in the price bid for the various items.

NOTE: Contractor shall verify existing ground at each manhole and air release valve prior to installation. Any substantial discrepancies shall be brought to the Engineer's attention. All water tight lids and air release valve to be flush with adjacent ground.

NOTE: Utility poles and structures within work limits shall be relocated by the utility owner unless it is determined by the developer and/or County Engineer that they may remain.



* Compacted Backfill per detail on face sheet.
** Compacted Granular Backfill per detail on face sheet.
*** Controlled Density Backfill

All manholes are to be Type "A" unless noted.

NOTE: All sanitary trenches outside of the right-of-way are to be compacted per Delaware Standard Drawing DCED-R100, on the face sheet.

DELAWARE COUNTY, OHIO
SANITARY SEWER IMPROVEMENT
FOR
ALUM CREEK INTERCEPTOR
EXTENSION AND
HARBOR POINTE OFFSITE
FORCE MAIN

SCALE Horiz.: 1"=50'
Vert.: 1"=5'
September 20, 2000
EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS

10
14

NOTE: Provide reaction blocking at all vertical and horizontal grade changes along 10" and 6" force main.

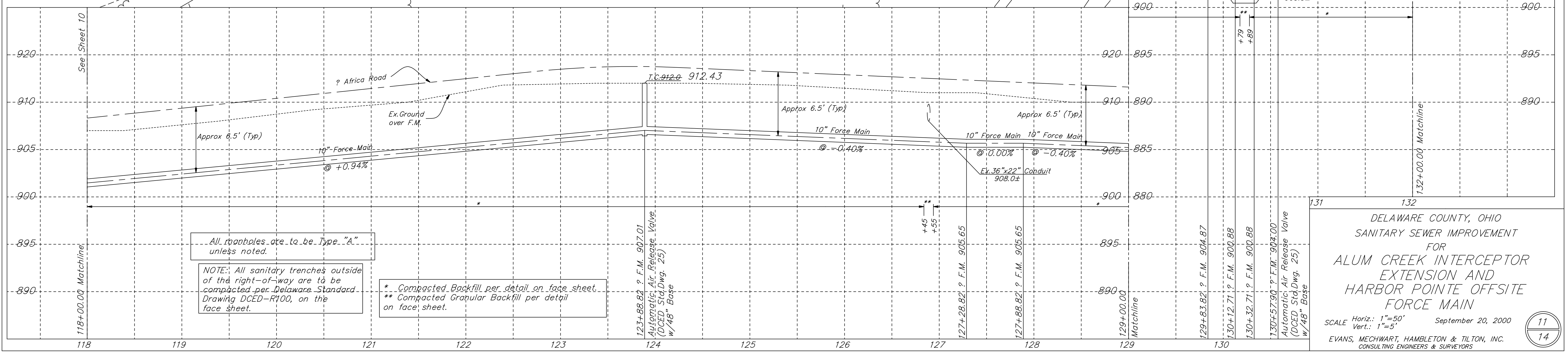
NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

NOTE: Contractor shall verify existing ground at each manhole and air release valve prior to installation. Any substantial discrepancies shall be brought to the Engineer's attention. All water tight lids and air release valve to be flush with adjacent ground.

NOTE: Before relocating mailboxes, contractor shall contact the U.S. Postal Service and relocate mailboxes per the Postal Service requirements. Cost to be included in the price bid for the various items.

U.S.M.L. D.B. 366, PG. 427

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All manholes are to be Type "A" unless noted.

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DELAWARE COUNTY, OHIO
 SANITARY SEWER IMPROVEMENT
 FOR
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 EXTENSION AND
 HARBOR POINTE OFFSITE
 FORCE MAIN

SCALE Horiz.: 1"=50'
 Vert.: 1"=5'

September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
 CONSULTING ENGINEERS & SURVEYORS

2000-0729.01

NOTE: Provide reaction blocking at all vertical and horizontal grade changes along 10" and 6" force main.

NOTE: Ex. Guardrail disturbed during installation of proposed 10" and 6" Force Main shall be restored to original condition.

NOTE: Contractor shall expose and verify all elevations of existing culverts prior to commencement of construction.

U.S.M.L.
D.B. 368, PG. 503

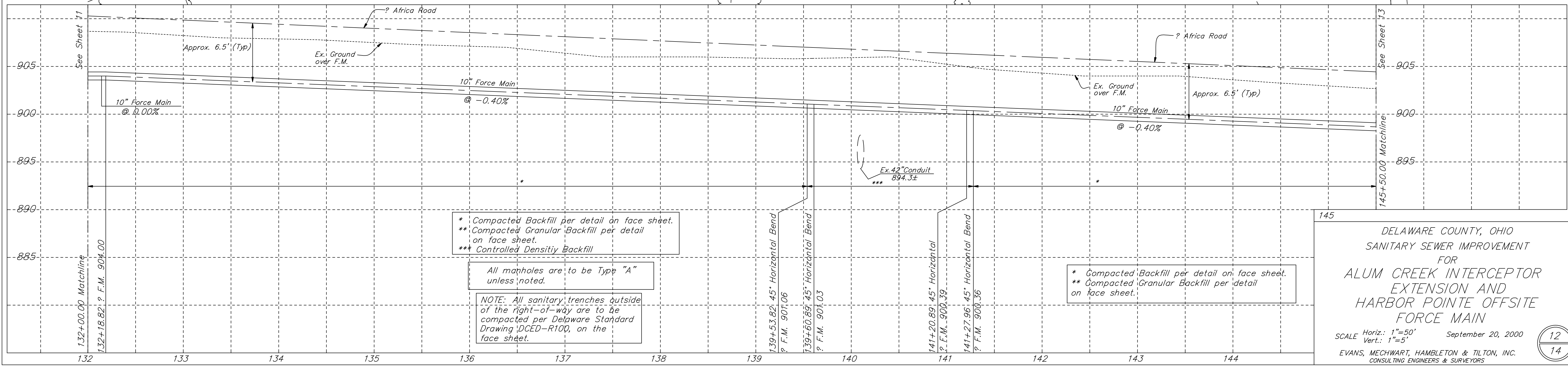
MICHAEL A. SKUNZA
D.B. 627, PG. 202

WAYNE L. WOOD
D.B. 590, PG. 64.3

NOTE: Before relocating mailboxes, contractor shall contact the U.S. Postal Service and relocate mailboxes per the Postal Service requirements. Cost to be included in the price bid for the various items.

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*** Controlled Density Backfill

All manholes are to be Type "A" unless noted.

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DELAWARE COUNTY, OHIO
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SCALE Horiz.: 1"=50'
Vert.: 1"=5'

September 20, 2000

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CONSULTING ENGINEERS & SURVEYORS

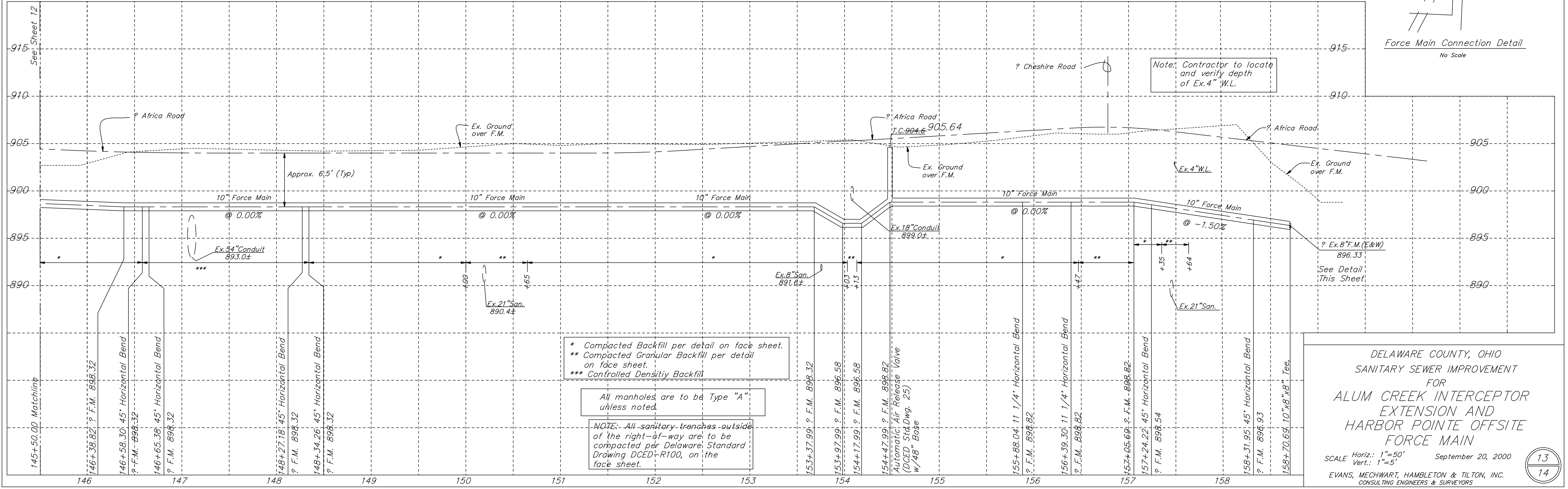
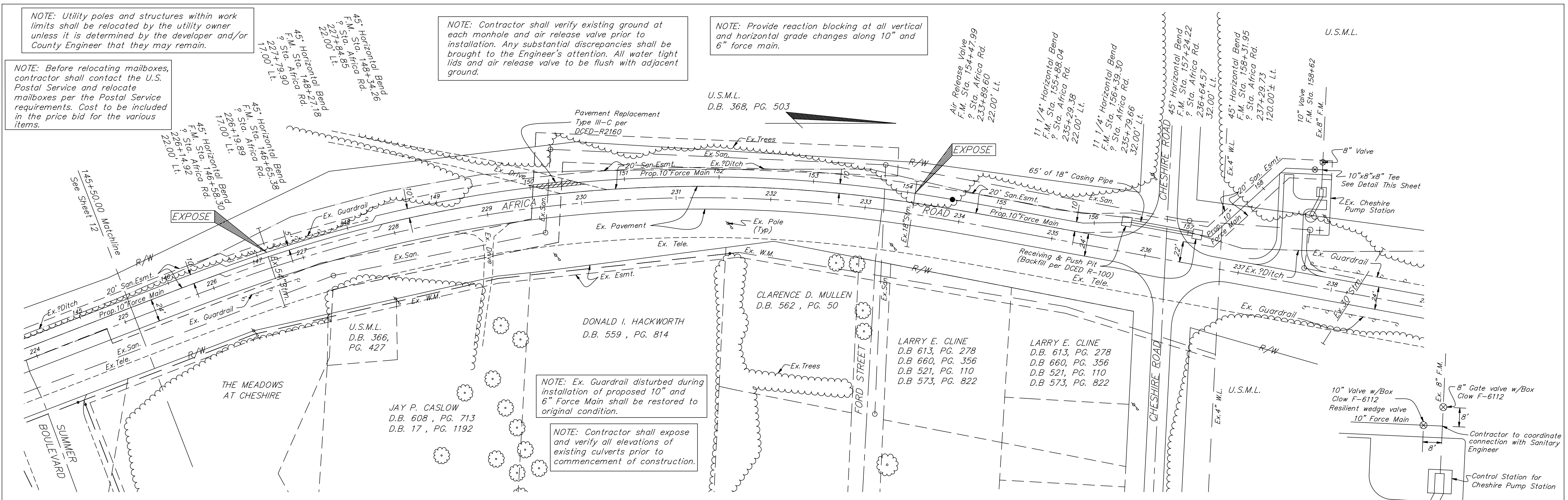
PLAN AND PROFILE

NOTE: Utility poles and structures within work limits shall be relocated by the utility owner unless it is determined by the developer and/or County Engineer that they may remain.

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NOTE: Contractor shall verify existing ground at each manhole and air release valve prior to installation. Any substantial discrepancies shall be brought to the Engineer's attention. All water tight lids and air release valve to be flush with adjacent ground.

NOTE: Provide reaction blocking at all vertical and horizontal grade changes along 10" and 6" force main.



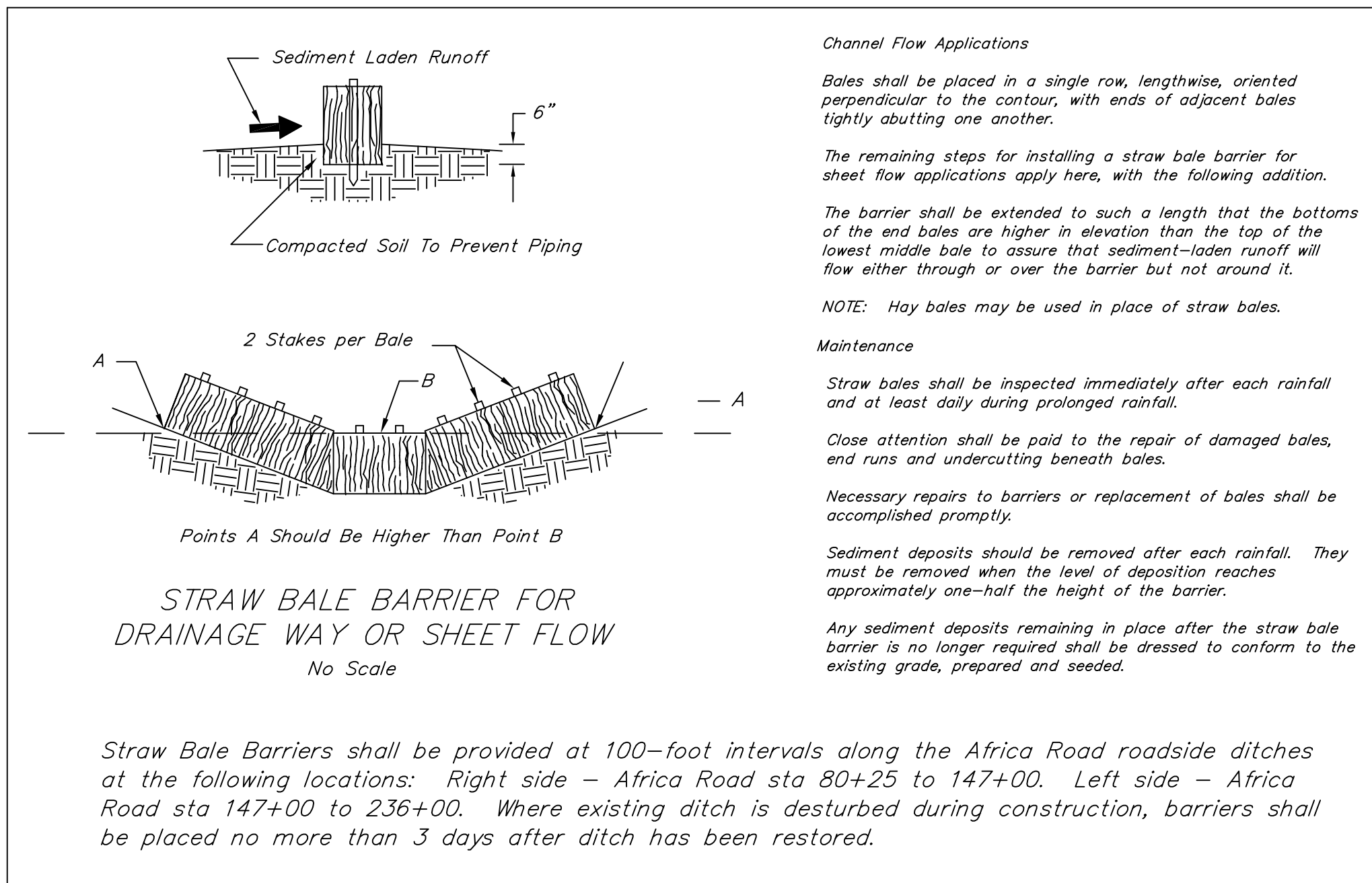
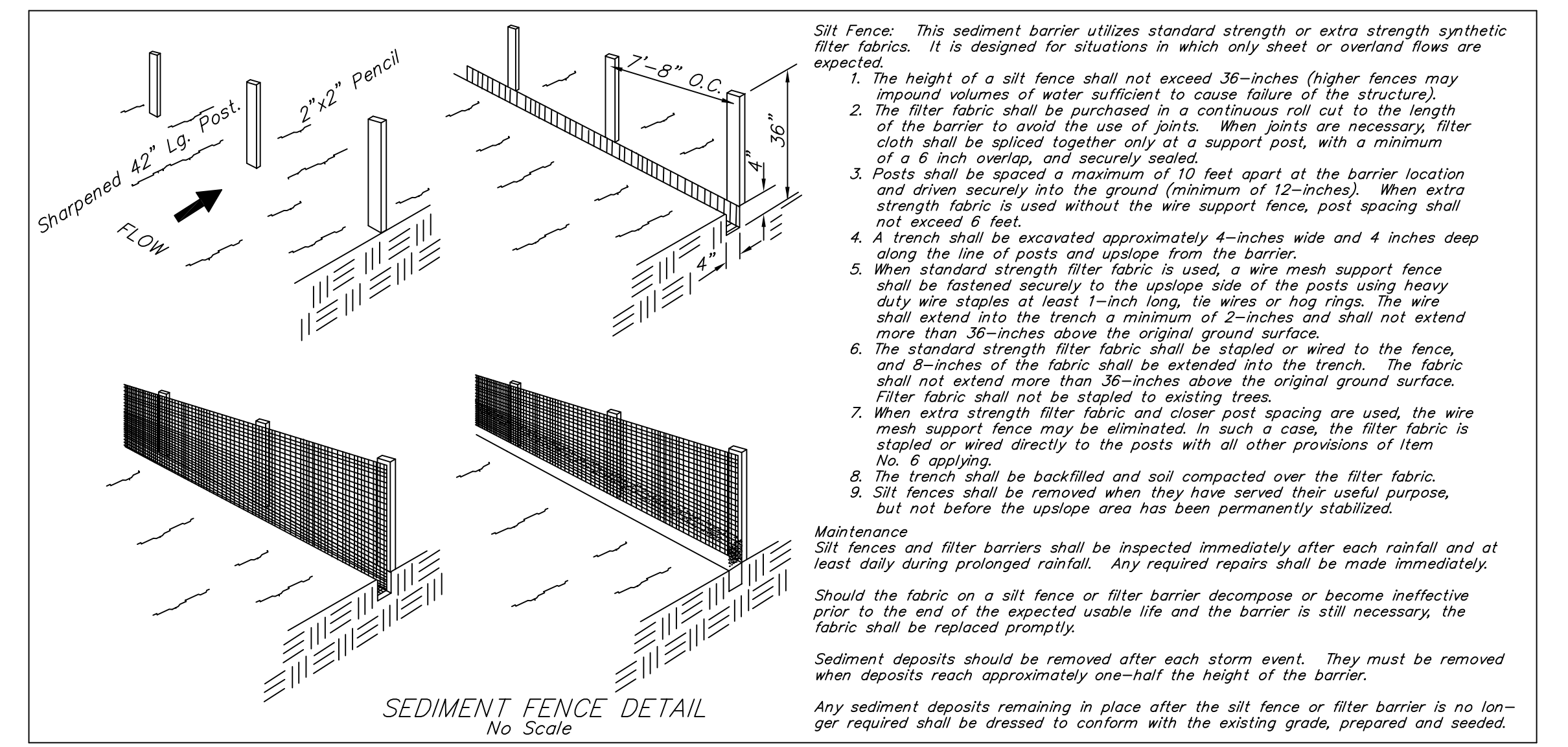
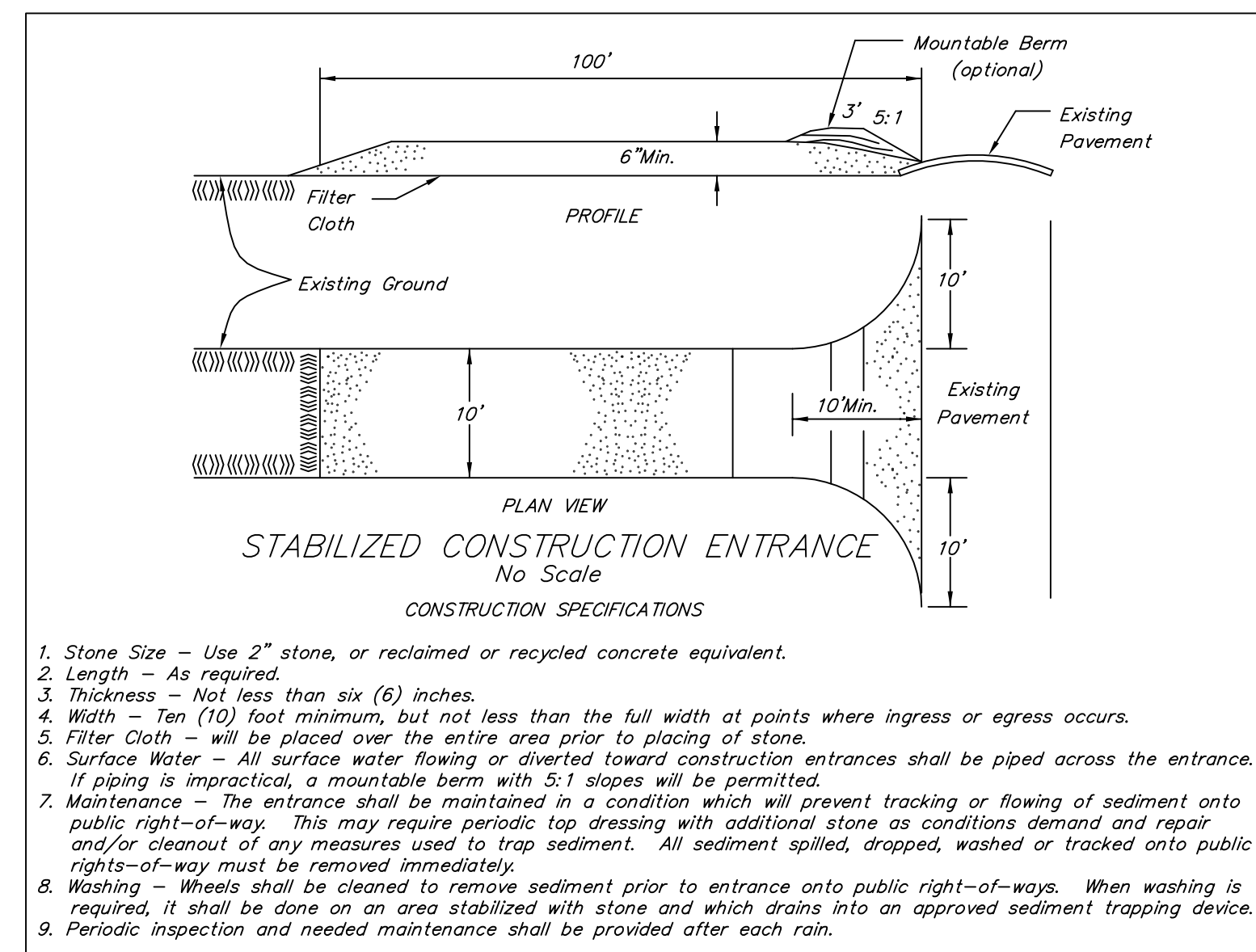
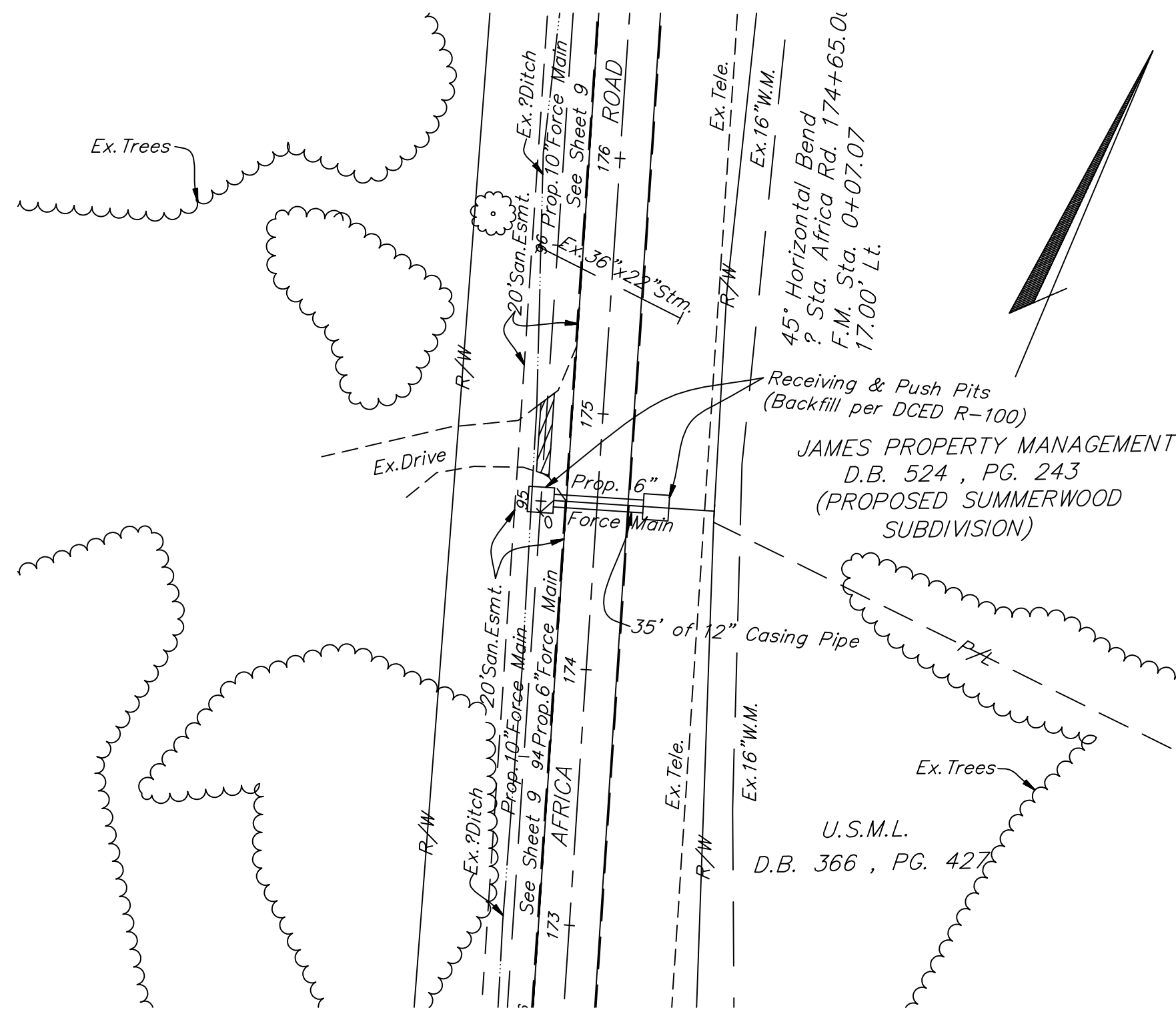
DELAWARE COUNTY, OHIO
 SANITARY SEWER IMPROVEMENT
 FOR
 ALUM CREEK INTERCEPTOR
 EXTENSION AND
 HARBOR POINTE OFFSITE
 FORCE MAIN

SCALE Horiz.: 1"=50'
 Vert.: 1"=5'

September 20, 2000

EVANS, MECHWART, HAMBLETON & TILTON, INC.
 CONSULTING ENGINEERS & SURVEYORS

2000-0729.01



CONTRACTOR RESPONSIBILITY: Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control. The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the S.C.S. Manual "Water Management and Sediment Control for Urbanizing Areas." The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.

The Contractor shall place all sedimentation and erosion control features prior to starting Construction Operations in a particular area. Field adjustments with respect to locations and dimensions may be made by the Engineer.

The Contractor shall place inlet protection for the erosion control immediately after construction of the catch basins or inlets which are not tributary to a sediment basin or dam.

It may become necessary to remove portions of the barrier during construction to facilitate the grading operations in certain areas. However, the barrier shall be in place in the evening or during any inclement weather.

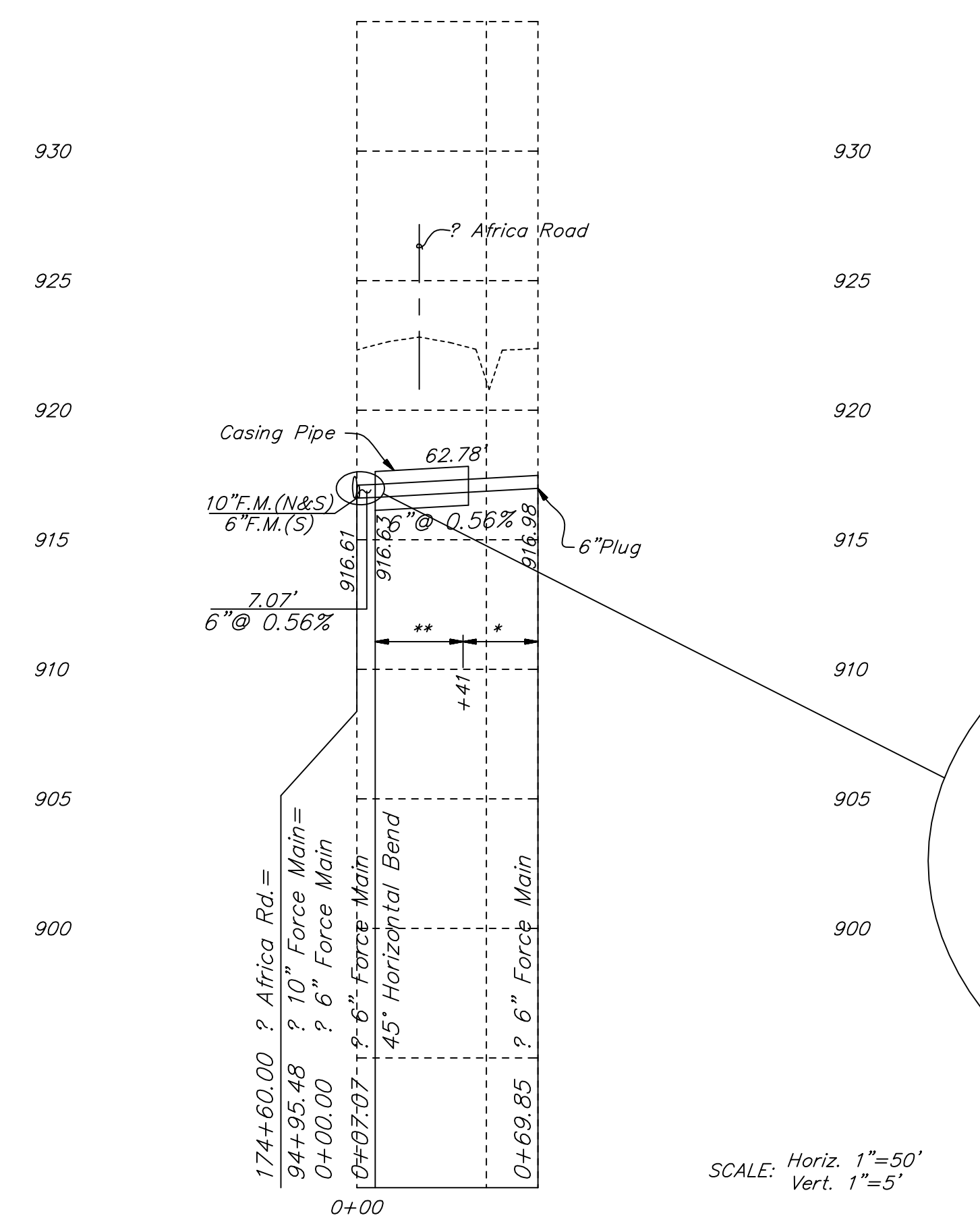
The limits of seeding and mulching are as shown within the plan. Seeding has been assumed to 5'-0" outside the work limits or the right-of-way, whichever is greater. All areas not designated to be seeded shall remain under natural ground cover. Those areas disturbed outside the seeding limits shall be seeded and mulched at the Contractor's expense.

The cost for temporary channels, sediment dams, sediment basins, and other appurtenant earthmoving operations shall be included in the price bid for erosion and sedimentation control quantities.

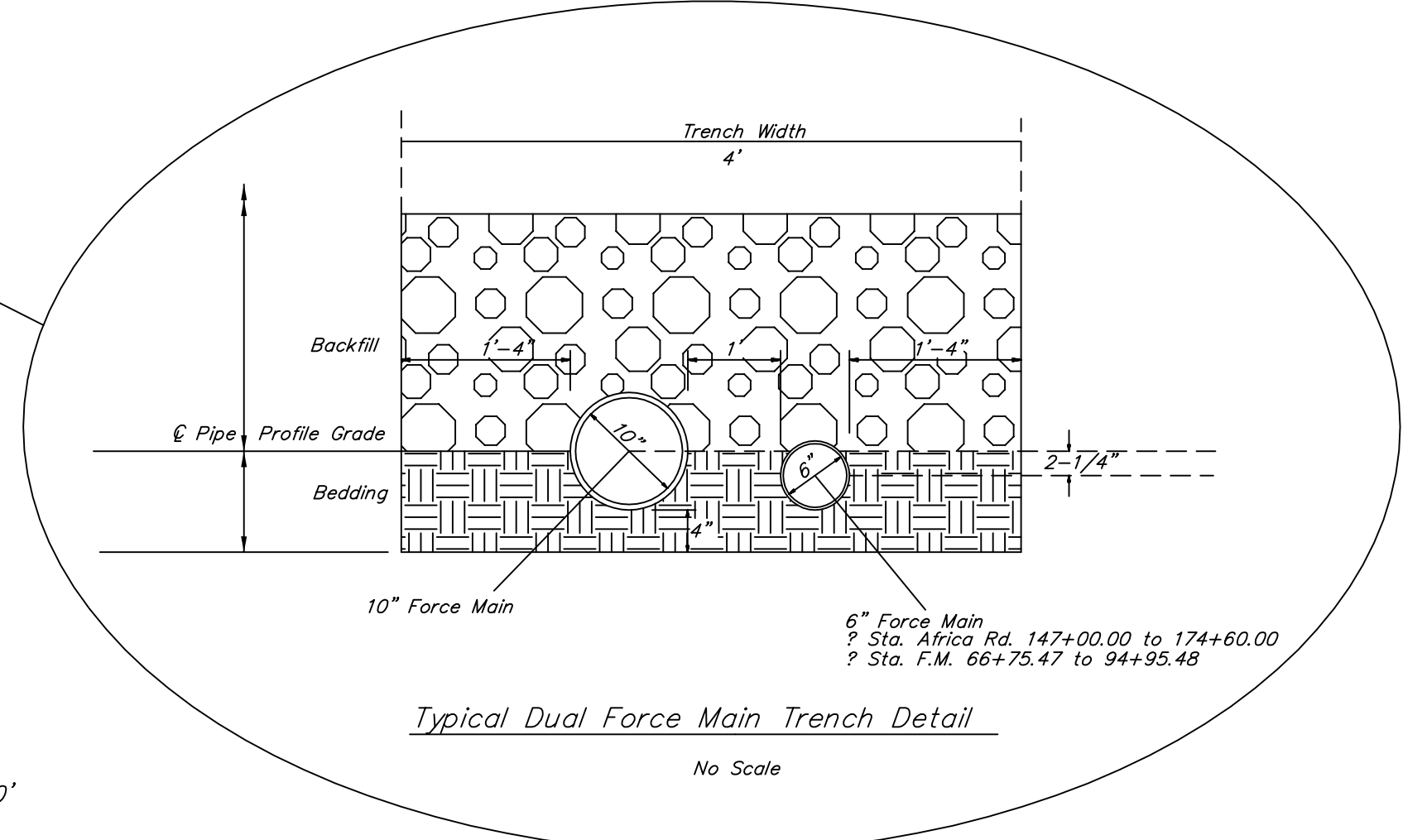
MAINTENANCE: The Contractor is responsible for the maintenance of the sediment control features used on this project. The site shall be inspected periodically and within 24 hours of a significant rainfall. Records of these inspections shall be kept and made available to jurisdictional agencies, if requested. Any sediment or debris which has reduced the efficiency of a structure shall be removed immediately. Should a structure or feature become damaged, the Contractor shall repair or replace the structure or feature at no additional cost to the Owner.

Not all details shown on this sheet may be required for this project

Reference Erosion & Sediment Control and Master Grading Plan.



NOTE: Dual force mains to be laid in same trench (see detail this sheet). Dimensions shown on plans are to center of 10" force main pipe.



SCALE: Horiz. 1"=50'
Vert. 1"=5'

DELAWARE COUNTY, OHIO
SANITARY SEWER IMPROVEMENT
FOR
ALUM CREEK INTERCEPTOR
EXTENSION AND
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FORCE MAIN

September 20, 2000

SCALE: As Noted

EVANS, MECHWART, HAMBLETON & TILTON, INC.
CONSULTING ENGINEERS & SURVEYORS