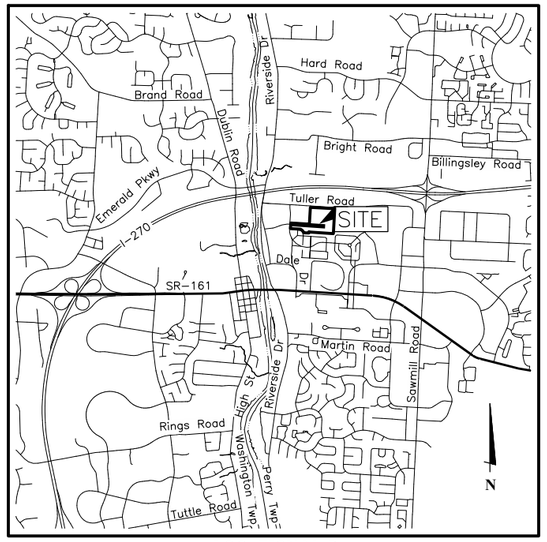
CITY OF DUBLIN, OHIO
PUBLIC SANITARY SEWER
FOR
JOHN SHIELDS PARKWAY
PHASE 2 - PART 1
(15-016-CIP)



LOCATION MAP

Latitude: N40°06'21" Longitude: W83°06'10"

Scale: 1" = 1/2 Mile

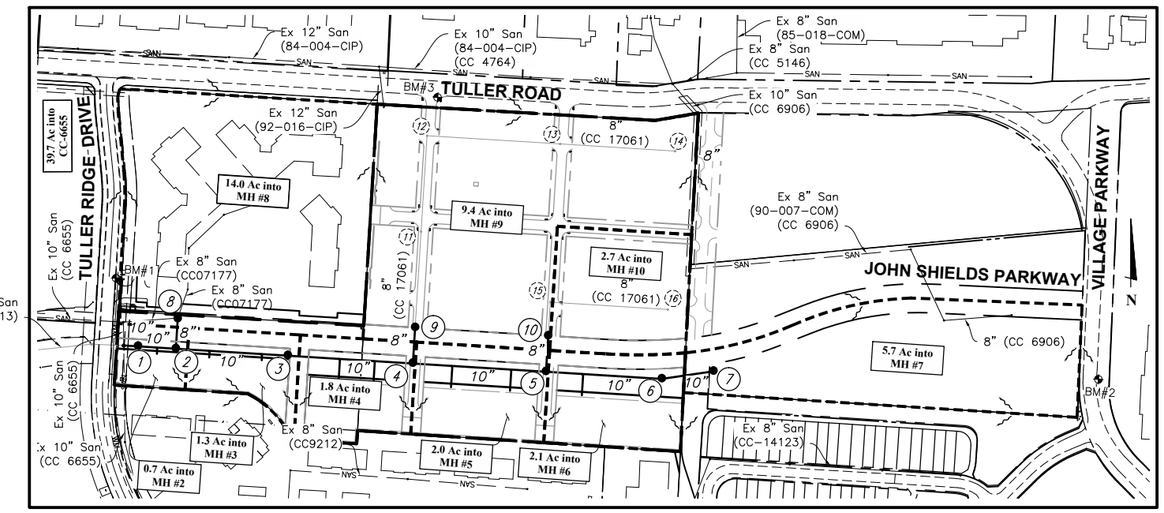
0 1/2 1 1 1/2 2

VERTICAL DATUM

The Vertical Datum is based on the elevation established by the Franklin County Engineering Department, at monument FRANK 73, being 801.706 feet in elevation. The elevation was transferred from said Franklin County Engineering Department monuments using static GPS procedures (03Geoid) and differential leveling to the site. Monument N45, being 826.994 feet in elevation, and monument A5, being 850.413 feet in elevation were used as vertical checks. The said monuments being source bench marks with elevations that are based on the North American Vertical Datum of 1988.

TRIBUTARY SUMMARY TABLE:

Total Tributary for Tuller Flats (CC-17061):	12.1 Ac.
Total Tributary for John Shields Parkway (CC-17101):	27.6 Ac.
Total Combined Tributary entering Ex 10" San (CC6655):	39.7 Ac.



INDEX/TRIBUTARY MAP

Scale: 1" = 200'

BENCH MARKS
(NAVD 1988)

Source BM Frank 73 — Station is a stainless steel rod driven to a depth of 16 feet, in a triangular shaped grass median at the northwest corner of the intersection of Dublin-Granville Road and Riverside Drive, 59.9 feet southeast of the north corner of the median, 28.4 feet northwest of the southeast corner of the median, 20.2 feet northeast of the southwest corner of the median, 2 feet north of a witness post, access through aluminum access cover, level with the sidewalk.

Bench Mark may be disturbed or reset during the construction of SR 161/Riverside Drive Roundabout (Part 1), 13-014-CIP.

Elev. = 801.71

BM#1 — Chiseled square on the southeast corner of a storm curb and gutter inlet located east side of Tuller Ridge Drive, 1100 feet south of the intersection of Tuller Ridge Drive and Tuller Raod.

Elev. = 844.07

BM#2 — Chiseled "X" on the west flange bolt of a fire hydrant located on the east side of Village Parkway, 270 feet north of the intersection of Village Parkway and Cooperstone Drive.

Elev. = 890.10

BM#3 — Chiseled "X" on the north flange bolt of a fire hydrant located on the south side of Tuller Road, 1700 feet east of the intersection of Tuller Road and Tuller Ridge Drive.

Elev. = 858.87

STANDARD CONSTRUCTION DRAWINGS

The Standard Construction Drawings listed on these plans are to be considered a part thereof.

CITY OF COLUMBUS

AA-S102	AA-S117
AA-S106	AA-S119
AA-S107	AA-S149
AA-S110	AA-S150
AA-S111	AA-S160

CITY OF DUBLIN

SA-01	SA-03
SA-02	SA-04

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2-3
SANITARY PLAN & PROFILE	4-7

DEVELOPER/OWNER

CITY OF DUBLIN
5800 Shier Rings Road
Dublin, Ohio 43016
Tel: (614) 410-4600

OHIO Utilities Protection SERVICE 811 or 1-800-362-2764 Call Before You Dig

811 Know what's below. Call before you dig.

City of Dublin

PROJECT DESCRIPTION

The purpose of this plan is to construct 1,864'± of new sanitary sewer as part of John Shields Parkway Phase 2.

SPECIFICATIONS

City of Columbus Construction and Material Specifications, 2012, Edition, and any supplements thereto, along with City of Dublin General Conditions, Division 100 shall govern construction items unless otherwise noted.

PREPARED BY:

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

Registered Engineer No. 72766 Date

CITY OF DUBLIN APPROVALS

Signatures on this plan signify only concurrence with the general purpose and general location of the project. All technical details remain the responsibility of the Engineer preparing the plan.

City Engineer, City of Dublin, Ohio — Date
Paul A. Hammersmith, P.E.

CITY OF COLUMBUS

Approval on the part of the City of Columbus is given pursuant to the provisions of the Sewer Service Agreement made between the City of Dublin and the City of Columbus, Ohio, on April 13, 1993 and all subsequent amendments thereof. The sanitary sewer meets or exceeds the City of Columbus Design Standards (Including per capita flow, peaking factor, and I/I allowance) and material specifications.

Administrator, Division of Sewerage & Drainage — Date
City of Columbus

Director, Department of Public Utilities — Date
City of Columbus

REVISIONS

MARK	DATE	DESCRIPTION

City of Dublin

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
PROPOSED SANITARY SEWER
FOR
JOHN SHIELDS PARKWAY
PHASE 2 - PART 1
TITLE SHEET

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

DATE: JULY 2015

SCALE: As Noted

JOB NO.: 2014-2037

SHEET: 1/8

PM 632, 633, 737, 738 | CC- 17101

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GENERAL NOTES

1. MOD: City of Columbus Construction and Material Specifications, 2012 Edition, and any supplements thereto, along with City of Dublin General Conditions, Division 100, shall govern construction items unless otherwise noted. Item Numbers listed refer to City of Columbus Item Numbers unless otherwise noted.

2. The City Engineer will not be responsible for means, methods, procedures, techniques, or sequences of construction that are not specified herein. The City Engineer will not be responsible for safety on the work site, or for failure by the Contractor to perform work according to contract documents.

3. NOT APPLICABLE

4. The Contractor shall notify the City of Dublin Division of Engineering in writing at least 3 working days prior to beginning construction.

5. The Contractor shall be solely responsible for complying with all federal, state and local safety requirements including the Occupational Safety and Health Act of 1970. The Contractor shall exercise precaution always for the protection of persons (including employees) and property. It shall also be the sole responsibility of the Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work, including the requirements for confined spaces per 29 CFR 1910.146.

6. NOT APPLICABLE

7. The Contractor shall restrict construction activity to public right–of–way and areas defined as permanent and/or temporary construction easements, unless otherwise authorized by the City Engineer.

8. The Contractor shall carefully preserve benchmarks, property corners, reference points, stakes and other survey reference monuments or markers. In cases of willful or careless destruction, the Contractor shall be responsible for restorations. Resetting of markers shall be performed by an Ohio Professional Surveyor as approved by the City Engineer.

9. Non–rubber tired vehicles shall not be moved on or across public streets or highways without the written permission of the City Engineer.

10. The Contractor shall restore all disturbed areas to equal or better condition than existed before construction. Drainage ditches or watercourses that are disturbed by construction shall be restored to the grades and cross–sections that existed before construction.

11. Tracking or spilling mud, dirt or debris upon streets, residential or commercial drives, sidewalks or bike paths is prohibited according to Section 97.38 of the Dublin Code of Ordinances. Any such occurrence shall be cleaned up immediately by the Contractor at no cost to the City. If the Contractor fails to remove said mud, dirt, debris, or spillage, the City reserves the right to remove these materials and clean affected areas, the cost of which shall be the responsibility of the Contractor.

12. Disposal of excess excavation within Special Flood Hazard Areas (100–year floodplain) is not permitted.

13. All signs, landscaping, structures or other appurtenances within right–of–way disturbed or damaged during construction shall be replaced or repaired to the satisfaction of the City Engineer. The cost of this work shall be the responsibility of the Contractor.

14. All field tile broken or encountered during excavation shall be replaced or repaired and connected to the public storm sewer system as directed by the City Engineer. The following quantity has bee included for use as directed for repair/replacement of filed tile:

    CMSC ITEM 901 – 12" Pipe, 706.02, with Type 1 Bedding, with CMSC ITEM 912 – Compacted granular material 50 Ft

15. All precast concrete products shall be inspected at the location of manufacture. Approved precast concrete products will be stamped or have such identification noting that inspection has been conducted by the City of Columbus. Precast concrete products without proof of inspection shall not be approved for installation.

16. Backfill within a 1:1 influence line of existing structures (houses, garages, etc.) or public infrastructure (pavement, curbs, sidewalks, bike paths, etc.) shall be compacted granular backfill according to Item 912 of the Standard Specifications or Flowable CDF, Type III according to Item 636. Item 911 of the Standard Specifications shall be used elsewhere.

17. The Contractor shall submit a copy of the approved construction drawings and a list of proposed precast concrete product manufacturers to the City of Columbus Construction Inspection Division before commencing construction.

    Send the information to the following address: Construction

    Inspection Division
    City of Columbus
    1800 East 17th Avenue
    Columbus, Ohio 43219

    Send a copy of the transmittal letter to the following address:

    Division of Engineering
    City of Dublin
    5800 Shier Rings Road
    Dublin, Ohio 43016 18.

18. All trenches within public right–of–way shall be backfilled according to the approved construction drawings or securely plated during nonworking hours. Trenches outside these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during nonworking hours. Clean up shall follow closely behind the trenching operation.

19. All trees within the construction area not specifically designated for removal shall be preserved, whether shown or not shown on the approved construction drawings. Trees to be preserved shall be protected with high visibility fencing placed a minimum 15 feet from the tree trunk. Trees 6 – inches or greater at DBH (Diameter Breast Height) must be protected with fencing placed at the critical root zone or 15 feet, whichever is greater. Trees not indicated on the approved construction drawings for removal may not be removed without prior approval of the Division of Engineering.

20. NOT APPLICABLE

21. The Contractor shall be responsible for the condition of trenches within the right–of–way and public easements for a period of one year from the final acceptance of the work, and shall make any necessary repairs at no cost to the City.

22. Pavements shall be cut in neat, straight lines the full depth of the existing pavement, or as required by the City Engineer. Pavement replacement shall be conducted according to City of Columbus Standard Drawing 1441 Dr. A and applicable City of Dublin standard drawings. The replacement of driveways, handicapped ramps, sidewalks, bike paths, parking lot pavement, etc. shall be provided according to the approved construction drawings and City of Dublin standard construction drawings.

23. Tree trimming within the construction zone is to be completed by a certified Arborist. At the completion of the project, the Arborist is to return and trim any broken branches as needed.

24. Any modification to the work shown on drawings must have prior written approval by the City Engineer, City of Dublin.

25. All inlets shall be channelized.

26. NOT APPLICABLE

27. Traffic control and other regulatory signs shall be Type S with a square post anchor base installation and meet all requirements of ODOT TC–41.20 and applicable City of Dublin specifications.

28. Street signs shall meet all City of Dublin specifications with lettering colored in white displayed over a brown background. Sign tubing shall be brown in color and conform with the Type S, square post anchor base installation requirements of ODOT TC–41.20.

UTILITIES

1. The following utilities are known to be located within the limits of this project: for water, sanitary sewers, storm sewer, street lighting, traffic signals:

    City of Dublin
    Division of Engineering
    5800 Shier Rings Road
    Dublin, OH 43016
    Office: (614) 410–4600

    For water,
    City of Columbus
    Division of Water
    910 Dublin Road
    Columbus, OH 43215
    Office: (614) 645–7788

    Columbia Gas of Ohio
    Rob Caldwell
    3350 Johnny Appleseed Ct
    Columbus, OH 43215
    Office: (614) 481–1057
    Cell:

    AEP
    Attn: Paul Paxton
    850 Tech Center Drive
    Gahanna, OH 43230
    Phone: 614–883–6831

    AT&T
    Attn: Gary VanAlmsick
    111 N. 4th Street
    Columbus, OH 43215
    Phone: (614) 223–7276
    Fax: (614) 223–5579

    AT&T Transmission Teleport
    Attn: Anita Nuckols
    8372 E. Broad St.
    Reynoldsburg, OH 43068
    Phone: (614) 868–2347
    Cell: (614) 302–4908

    Time Warner Communications
    Attn: Ray Maurer
    3760 Interchange Road
    Columbus, OH 43204
    Phone: (614) 481–5262
    Fax: (614) 255–6428
    Cell: (614) 348–2979

    Time Warner Telecom/
    Level 3 Communications
    Attn: Bobb Kurto
    250 W. Old Wilson Bridge Rd.,
    Suite 130
    Worthington, OH 43085
    Phone: (614) 255–2128

    Wide Open West (WOW)
    Attn.: Sean Pummel
    WOW! Business (aka Bluemile)
    22 Data Center Director
    6 N. 5th Street
    Columbus, Ohio 43215
    Office: 614–388–6421
    Cell: 614–270–2978

    XO Communication
    Attn: Dale Ferguson
    6900 South Point Parkway
    Brecksville, OH 44141
    Phone: (216) 619–3492
    Cell: (216) 820–3868

    Fibertech Networks
    Attn: James Highsmith
    140 Allens Creek Road
    Rochester, NY 14618
    Phone: (585) 697–5145
    Fax: (585) 242–9807
    Cell: (585) 303–8554

    DubLink
    Attn: Brian Smith c/o Team Fishel
    1366 Dublin Road
    Columbus, OH 43215
    Phone: (614) 921–8634
    Fax: (614) 347–4351

2. The Contractor shall give notice of intent to construct to Ohio Utilities Protection Service (telephone number 800–362–2764), Producer's Underground Protection Service (telephone number 614–587–0486), and to owners of underground utilities that are not members of a registered underground protection service. Notice shall be given at least 2 working days before start of construction.

3. The identity and locations of existing underground utilities in the constructions area have been shown on the approved constructions drawings as accurately as provided by the owner of the underground utility. The City of Dublin and the City Engineer assumes no responsibility for the accuracy of depths of underground facilities shown on the approved construction drawings. If damage is caused, the Contractor shall be responsible for repair of the same and for any resulting contingent damage.

4. Location, support, protection, and restoration of all existing utilities and appurtenances, whether shown or not shown on the approved construction drawings, shall be the responsibility of the Contractor.

5. When unknown or incorrectly located underground utilities are encountered during construction, the Contractor shall immediately notify the owner and the City Engineer.

6. Public street lighting may be in the vicinity of this project. Contact the City of Dublin, Division of Engineering at 410–4637, two days prior to beginning work.

TRAFFIC CONTROL

No traffic will be disturbed as part of this plan.

EROSION AND SEDIMENT CONTROL

1. The Contractor shall provide sediment control at all points where storm water runoff leaves the project, including waterways, overland sheet flow, and storm sewers.
2. Accepted methods of providing erosion/sediment control include but are not limited to: sediment basins, silt filter fence, aggregate check dams, and temporary ground cover. Hay or straw bales are not permitted.
3. The Contractor shall provide adequate drainage of the work area at all times consistent with erosion control practices.
4. Disturbed areas that will remain unworked for 30 days or more shall be seeded or protected within seven calendar days of the disturbance. Other sediment controls that are installed shall be maintained until vegetative growth has been established. The Contractor shall be responsible for the removal of all temporary sediment devices at the conclusion of the construction but not before growth of permanent ground cover is established.

BLASTING

Blasting is not permitted. Rock excavation shall be included for payment under Item 901. Top of rock elevations shall be shown on "as–built" construction drawings.

SANITARY SEWERS

1. Connections to the sanitary sewer will be permitted upon receiving an OEPA Permit to Install (PTI), and upon receiving a satisfactory letter from the design engineer stating that the project has been constructed as per the plans, and all of the conditions of the PTI have been met. The developer is responsible for obtaining all required Ohio EPA approvals and paying review fees.

2. Sanitary sewage collection systems shall be constructed in accordance with the rules, regulations, standards and specifications of the City of Dublin, Ohio EPA, Ohio Department of Health and the current edition of the Great Lakes–Upper Mississippi River Board (Ten States) – Recommended Standards for Wastewater Facilities.

3. The minimum requirements for sanitary sewer pipe with diameters 10 inches and smaller shall be PVC sewer pipe ASTM D3034, SDR 35. Pipe for 6–inch diameter house service lines shall be PVC pipe ASTM D3034, SDR 35. PVC pipe shall not be used at depths greater than 28 feet. Pipe materials and related structures shall be shop tested in accordance with City of Columbus Construction Inspection Division quality control requirements.

4. The minimum requirements for sanitary sewer pipes with diameters 12 inches and larger shall be ADS Sanitite HP Sanitary Sewer Pipe (ASTM F2736) with gasketed integral bell and spigot joints (ASTM F477) installed in accordance with ASTM.

5. All in–line wye and tee connections in concrete sewers, 18–inch diameter and larger, shall be either Kor–N–Tee or Kor–N–Seal connections conforming to the manufacturer's recommendations.

6. Granular backfill shall be compacted granular material according to Item 912 of the Standard Specifications or Controlled Density Backfill according to Item 636, Type III of the Standard Specifications as directed by the City Engineer.

7. All manhole lids shall be provided with continuous self–sealing gaskets. The approved construction drawings shall show where bolt–down lids are required. Sanitary sewer manholes shall be precast concrete or as approved by the City Engineer and conform to the City of Dublin sanitary manhole standard drawing. Manhole lids shall include City of Dublin logo.

8. All PVC sewer pipes shall be deflection tested no less than 60 days after completion of backfilling operations. All other requirements shall be according to Item 901.21 of the Standard Specifications.

9. Temporary bulkheads shall be placed in pipes at locations shown on the approved construction drawings and shall remain in place until the Permit to Install (PTI) has been issued by the OEPA and the sewers have been approved for use by the City Engineer. The cost for furnishing, installing, maintaining, and removing bulkheads shall be included in the contract unit bid price for the various sanitary sewer items.

10. All sanitary sewers including sanitary sewer service lines shall be subjected to and pass infiltration or exfiltration tests according to Item 901 of the Standard Specifications and must be approved for use by the City Engineer before any service connections are tapped into sewers.

11. For sanitary sewer infiltration, leakage through joints shall not exceed 100 gallons per inch of tributary sewer diameter per 24 hours per mile of length or the computed equivalent. All sanitary sewers shall be tested.

12. At the determination of the City Engineer, the Contractor may be required to perform a TV inspection of the sanitary sewer system prior to final acceptance by the City. This work shall be completed by the Contractor at his expense.

13. Visible leaks or other defects observed or discovered during TV inspection shall be repaired to the satisfaction of the Engineer.

14. Roof drains, foundation drains, field tile or other clean water connections to the sanitary sewer system are strictly prohibited according to Section 51.23 of the Dublin Code of Ordinances.

15. All water lines shall be located at least 10 feet horizontally and 18 inches vertically, from sanitary sewers and storm sewers, to the greatest extent practicable. Where sanitary sewers cross water mains or other sewers or other utilities, trench backfill shall be placed between the pipes crossing and shall be compacted granular material according to Item 912 of the Standard Specifications. In the event that a water line must cross within 18 inches of a sanitary sewer, the sanitary sewer shall be concrete encased or consist of ductile iron pipe material.

16. Service risers shall be installed where the depth from wyes to proposed ground elevation exceeds 10 feet. Tops of risers shall be no less than 9 feet below proposed ground elevation if basement service is intended.

17. Where service risers are not installed, a minimum 5–foot length of sanitary sewer service pipe of the same size as the wye opening shall be installed.

18. The Contractor shall furnish and place, as directed, approved wye poles made of 2 inches x 2 inches lumber at all wye locations, ends of extended services, or at the end of each riser where risers are required. Wye poles shall be visible before acceptance by the City. The cost of these poles shall be included in the contract unit price for the various sewer items.

19. Existing sanitary sewer flows shall be maintained at all times. Costs for pumping and bypassing shall be included in the Contractor's unit price bid for the related items. Extended periods of bypass pumping are anticipated with this project to complete the in–line replacement of existing sewers in several locations. The Contractor shall submit a detailed bypass pumping plan a minimum of 3 weeks prior to planning the implementation thereof. The bypass pumping plan shall be subject to review, comment and approval of the City of Dublin.

20. The Contractor shall furnish all material, equipment, and labor to make connections to existing manholes. The sewer pipe to manhole connections for all sanitary sewers shall be flexible and watertight. All holes shall be neatly cored. The sewer pipe barrel at the springline shall not extend more than 1 inch beyond the inside face of the manhole. To maintain flexibility in the connection, a 1–inch space shall be left between the end of the pipe inside the manhole and the concrete channel; this space shall be filled with a waterproof flexible joint filler. Any metal that is used shall be Type 300 Series Stainless Steel. The connection may be any of the following types:

    A. Rubber sleeve with stainless steel banding.
        1) Kor–N–Seal as manufactured by National Pollution Control Systems, Inc.
        2) Lock Joint Flexible Manhole Sleeve as manufactured by Interpace Corporation.
        3) Or equal as approved by the City Engineer.

    B. Rubber gasket compression.
        1) Press Wedge II as manufactured by Press–Seal Gasket Corporation.
        2) Dura Seal III as manufactured by Dura Tech, Inc.
        3) Link–Seal as manufactured by Thunderline Corporation.
        4) Or equal as approved by the City Engineer.

    The cost for this work along with a new channelized base for the manhole shall be included in the unit bid price for the related items of work.

ITEM 659 – SEEDING AND MULCHING, AS PER PLAN

SEED

Certification of grass seed shall be provided by seed vendor for each grass–seed mixture stating the botanical and common name, percentage by weight of each species and variety; and percentage of purity, germination, and weed seed. Include the year of production and date of packaging. Furnish National Turfgrass Evaluation Program (NTEP) data for each species to be used.

Grass seed must be fresh, clean, dry, new–crop seed complying with the AO.S.A "Journal of seed technology" rules for testing seeds for purity and germination tolerances.

Seed species shall be as follows, with not less than 90 percent germination, not less than 90 percent pure seed, and not more than 0.5 percent weed seed.

Turf grass seed mixture proportioned by weight:

A. 80 percent tall fescue (festuca arundinacea), with a minimum of 3 improved turf–type varieties. Kentucky– 31 and Alta varieties are not approved.

B. 20 percent perennial ryegrass (Lolium Perenne).

SEEDING

Sow grass seed the rate indicated below with a spreader or seeding machine. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

Turf Grass Mixture: 7–9 Lb. per 1,000 S.F.

Protect seeded areas with slopes exceeding 3:1 with erosion control mat as detailed in the plans.

Hydro–Seeding: NOT PERMITTED.

HYDRO–MULCHING

Apply slurry at a rate so that mulch component is deposited at not less than 1,500 Lb. / Acre dry weight.

TURF MAINTENANCE

Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, and replanting to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide the same materials and installation as those used in the original installation. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

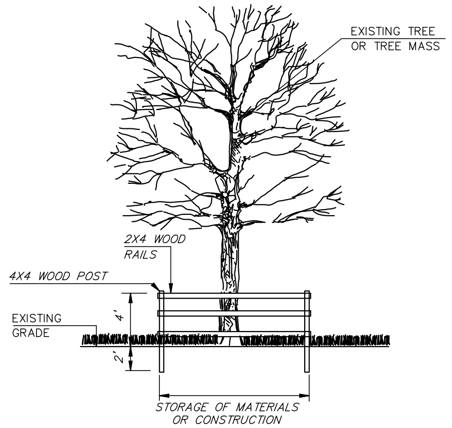
Mow turf grass seed mix areas as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than ⅓ of grass height. Mow areas to a height of 2–3 inches.

ITEM–SPECIFIC NOTES

MAINTENANCE OF EROSION & SEDIMENT CONTROL

Contractor shall be responsible to maintain sediment and erosion controls placed by others within the construction limits. If it is necessary to temporarily remove or alter existing sediment and erosion controls for prosecution of the work, the Contractor shall be reponsible to restore erosion controls in a timely manner to the satisfaction of the Engineer. The following quantities are included for restoration, replacement, and maintenance of sediment and erosion controls, as directed by the Engineer:

Item 207 – Filter Fabric Fence	500 Ft.
Item 207 – Construction Seeding and Mulching	400 S.Y.
Item 670 – Ditch Erosion Protection	50 S.Y.
Item SPEC – Rock Check Dam	2 Ea.
Item SPEC – Tree Protection Fence	200 Ft.



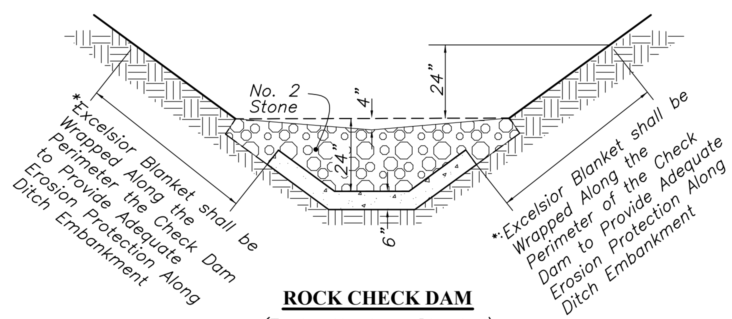
TREE PROTECTION FENCE

NO SCALE

(To be Used as Directed)

ITEM SPECIAL – TREE PROTECTION FENCE

1. *The contractor shall be responsible for the construction, erection and maintenance of temporary fencing where shown on plan. Fenced areas shall be considered "Tree Protection Areas".*
2. *Fencing shall remain in place and be secured in an upright position during the entire construction period to prevent the impingement of construction vehicles, materials, spoils, and equipment into or upon the tree preservation area.*
3. *During all phases of construction, all steps to prevent the destruction or damage to protected trees shall be taken. No construction activity, movement and/or placement of equipment, vehicles, materials or spoils storage shall be permitted within the tree preservation area. No excess soil, additional fill, liquids, or construction debris shall be placed within the critical root zone of all trees that are to be preserved.*
4. *No attachments, including but not limited to ropes, nails, advertising posters, signs, fences, or wires (other than those used for bracing, guying or wrapping) shall be attached to any tree.*
5. *No gaseous liquids or solid substances which are harmful to trees shall be permitted within the tree preservation area.*
6. *No fire or heat shall be permitted within the tree preservation area.*
7. *Construction, installation, maintenance, and removal of fence shall be paid for in Item Special, Tree Protection Fence.*



ROCK CHECK DAM

(To be Used as Directed)

Rock Check Dams to be Installed After the Construction of the Paved Concrete Channel.

Maintenance:

Aggregate Check Dams shall be Inspected Immediately After Each Rainfall and at Least Daily During Prolonged Rainfall.

Close Attention shall be Paid to the Repair of Damaged Check Dams, End Runs and Undercutting Beneath Dams.

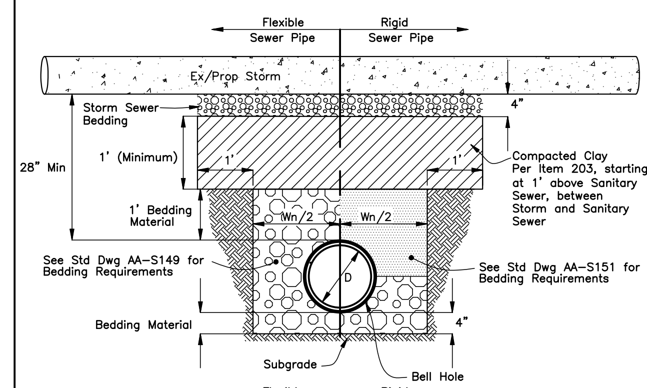
Necessary Repairs to Check Dams shall be Accomplished Promptly.

Any Sediment Deposits Remaining in Place After the Aggregate is no Longer Required shall be Dressed to Conform to the Proposed Grade, Prepared and Seeded.

Sediment Deposits Should be Removed After Each Rainfall. They must be Removed when the Level of Deposition Reaches Approximately one–half the Height of the Barrier.

**: Excelsior Matting shall be Contech Standard Grade Excelsior Blanket (efbi) or Approved Equivalent.*
Installation shall be in Accordance with the Manufacturer's Specification.

† ANTI INFILTRATION AND INFLOW BARRIER DETAIL



"Detail for Existing/Proposed Sanitary Crossing with Proposed/Existing Water Mains and/or Existing Storm Sewers"

Flexible Sewer Pipe (* Inches)

D *	W_n *	D *	W_n *
6	30	24	48
8	30	27	52
10	30	30	56
12	32	36	64
15	36	42	72
18	40	48	80
21	44		

Rigid Sewer Pipe (* Inches)

D *	W_n *	D *	W_n *
6	24	30	57
8	27	33	61
10	30	36	64
12	32	42	71
15	36	48	78
18	40	54	87
21	44	60	96
24	48	66	105
27	52		

No Scale

NOTES:

1. A Compacted Clay Barrier Shall be placed in Accordance With CMSC Item 203 at All Crossing Locations between the Sanitary Sewer/Service Laterals and Storm Pipes. (Refer to I and I Barrier Detail on this Sheet.) The minimum length of the I & I barrier along the service laterals and sanitary mains shall be 5' each side of the storm sewer. See sewer profile for locations.

ESTIMATE OF QUANTITIES

Item No.	Description	Quantity	Units
201	Clearing and Grubbing	1	L.S.
207*	Filter Fabric Fence	500	Ft.
207*	Construction Seeding and Mulching	400	S.Y.
202	Manhole Removed	1	Ea.
202	Pipe Removed	144	L.F.
604	Sanitary Manhole (AA-S102)	10	Ea.
604	Existing Sanitary Manhole to be Cored and Booted	1	Ea.
623	Construction Layout Stakes	1	L.S.
624	Mobilization	1	L.S.
659	Seeding and Mulching, As Per Plan	4,153	S.Y.
659	Topsoil (T=3")	350	C.Y.
670*	Ditch Erosion Protection	50	S.Y.
901	8-inch Sanitary Sewer Pipe, with Type I Bedding with Item 912 Compacted Granular Backfill	275	L.F.
901	10-inch Sanitary Sewer Pipe, with Type I Bedding with Item 911 Compacted Backfill	1314	L.F.
901	10-inch Sanitary Sewer Pipe, with Type I Bedding with Item 912 Compacted Granular Backfill	246	L.F.
901*	12-inch Pipe, 706.02, w/ Type I Bedding, w/ Item 912 Compacted Granular Material (Field Tile Repair)	50	L.F.
914	6" Pipe Risers	55	Ft.
915	10" X 6" Diameter Wye Fitting	9	Ea.
918	6" Diameter Pipe, Sanitary House Connection Service	410	L.F.
SPEC	Proof Survey	1	L.S.
SPEC*	Rock Check Dam	2	Ea.
SPEC*	Tree Protection Fence	200	Ft.
108.03	Type B - Critical Path Method (CPM) Schedule	1	L.S.

CALCULATED BY: DCV | DATE: 06/29/15 | CHECKED BY: EAM

* Denotes Contingency

LEGEND

ABBREVIATIONS

EXISTING

- WS ······ WATER SERVICE
- SS ······ SANITARY SERVICE
- GS ······ GAS SERVICE
- RD ······ ROOF DRAIN
- OHE ······ OVERHEAD ELECTRIC
- OHT ······ OVERHEAD TELEPHONE
- TEL ······ UNDERGROUND TELEPHONE
- CATV······ CABLE TELEVISION
- TR ······ TRAFFIC SIGNAL CONDUIT
- INT ······ SIGNAL INTERCONNECT CONDUIT

PROPOSED

- (DND)······DO NOT DISTURB
- (TBA) ······TO BE ABANDONED
- (TBR) ······TO BE REMOVED
- (TBRO)······TO BE REMOVED (BY OTHERS)
- (TBRL)······TO BE RELOCATED BY THIS PROJECT
- (TBRLO)··· TO BE RELOCATED (BY OTHERS)
- (APP)······ AS PER PLAN
- (ATG)······ ADJUST TO GRADE
- (RTG)······ RECONSTRUCT TO GRADE
- (BO) ······ BY OTHER PLAN

EXISTING CONDITIONS

CENTERLINE SURVEY
CENTERLINE EXIST. DRIVE
EDGE OF PAVEMENT
CURB
SHOULDER
DRIVEWAY
PARKING LOT
CONC. WALK
FENCE
GUARDRAIL
EX. R/W — RIGHT OF WAY
PROPERTY LINE
PROPERTY LINE EXTENDED
LOT LINE (SAME OWNER BOTH SIDES)
RAILROAD RIGHT OF WAY
EX. 12" STM — STORM
EX. 12" SAN — SANITARY
EX. 12"W — WATER
EX. 12"G — GAS
TELEPHONE (UNDERGROUND)
ELECTRIC
ELECTRIC (UNDERGROUND)
DITCH
CHAIN LINK/WIRE WOVEN FENCE
WOOD FENCE
CATV
CONC. WALL
ROCK
TREELINE
TREES
BUSHES
HEDGE/SHRUB
STUMP
CONC. PAD
WOOD POST
POST/BOLLARD
MAILBOX
FLAGPOLE
PARKING BLOCK
BUILDING

EXISTING UTILITY SYMBOLS

STM. MH
STM. MH (OPEN GRATE)
CURB & GUTTER INLET
CURB INLET
SAN. MH
CATCH BASIN
WATER VALVE
FIRE HYDRANT
GAS METER
GAS VALVE
LIGHT POLE
TELEPHONE POLE
TELEPHONE LIGHT POLE
TELEPHONE ELECTRIC LIGHT POLE
TELEPHONE ELECTRIC POLE
ELECTRIC POLE
LIGHT POLE
GUY ANCHOR
TEL. BOOTH
ELEC. PULLBOX
TEL. PEDESTAL
TEL. MH
LIGHTING CONTROLLER
SIGNAL POLE MOUNT
SIGNAL CONTROLER
PEDESTRIAN PUSH BUTTON
SIGNS

EXISTING SURVEY SYMBOLS

I.P.F. — IRON PIN FND./METAL BAR FND.
I.P.F. — IRON ROD FND./RR SPIKE FND.
P.K.F. — PK NAIL FND.
BENCHMARK
RIGHT–OF–WAY MON. FND.
I.P.S. — IRON PIN SET/MAG NAIL SET/PK NAIL SET/RR SPIKE SET/TRAVERSE DRILL HOLE

PROPOSED LAYOUT

CENTERLINE CONSTRUCTION
CENTERLINE PROP. DRIVE
EDGE OF PAVEMENT
BACK OF CURB
FACE OF CURB
CONC. WALK/ASPH. BIKEPATH
RIGHT–OF–WAY
GUARDRAIL
CONSTRUCTION LIMITS
PROPERTY LINE
TEMPORARY EASEMENT
UTILITY EASEMENT
SLOPE EASEMENT
STORM EASEMENT
12" — STORM
SAN — SANITARY
CENTERLINE OF DITCH
CHAIN LINK / WIRE WOVEN FENCE
WOOD FENCE
EXISTING SANITARY SEWER TO BE ABANDONED
PROPOSED SANITARY SEWER AND MANHOLE

CALCULATED --- CHECKED ---

GENERAL NOTES

JOHN SHIELDS PARKWAY PHASE 2 - PART 1

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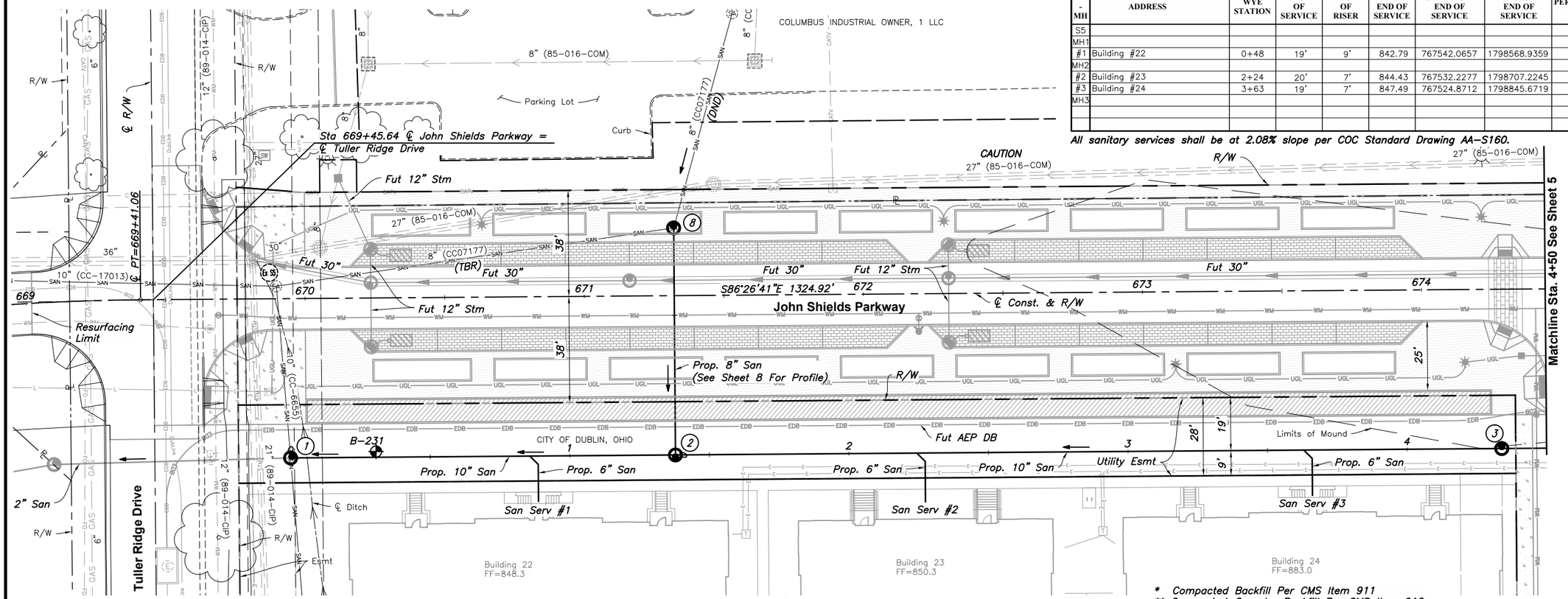
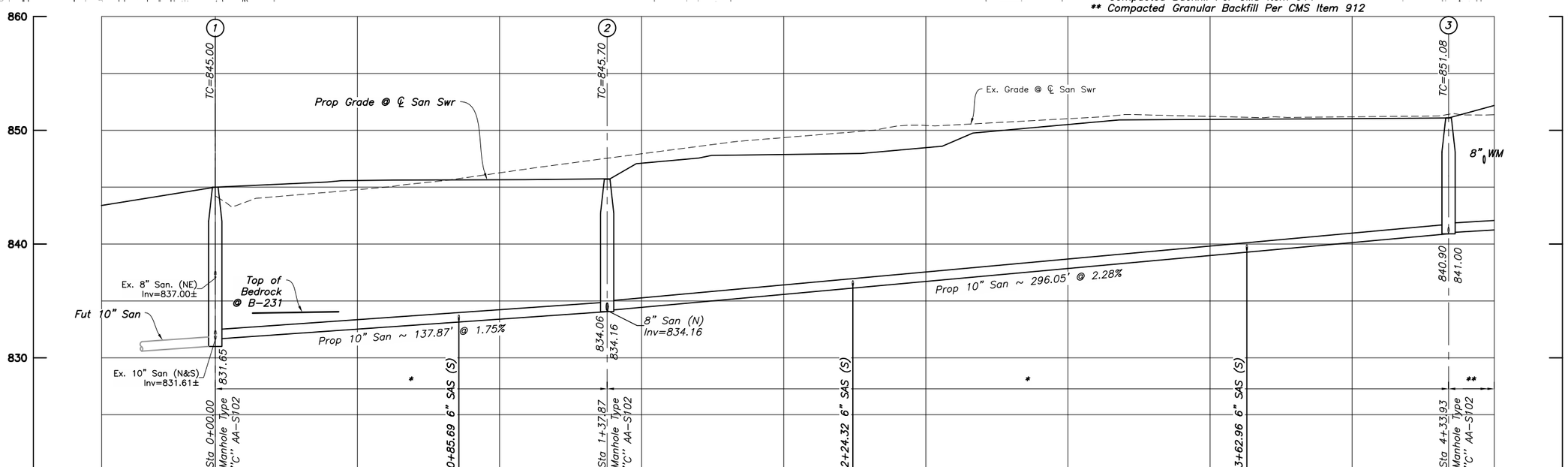
SANITARY HOUSE CONNECTION SERVICE SCHEDULE

MH - MH	ADDRESS	WYE STATION	LENGTH OF SERVICE	LENGTH OF RISER	ELEV. AT END OF SERVICE	NORTHING AT END OF SERVICE	EASTING AT END OF SERVICE	PERMIT #
S5								
MH1								
#1	Building #22	0+48	19'	9'	842.79	767542.0657	1798568.9359	
MH2								
#2	Building #23	2+24	20'	7'	844.43	767532.2277	1798707.2245	
#3	Building #24	3+63	19'	7'	847.49	767524.8712	1798845.6719	
MH3								

All sanitary services shall be at 2.08% slope per COC Standard Drawing AA-S160.





STATION	0	1	2	3	4	
EX GROUND	844.23	846.26	849.36	851.02	851.18	851.37
INVERT	831.00	833.40	836.88	838.60	840.32	841.26
CUT	13.23	12.86	12.48	12.42	10.87	10.11

SANITARY SEWER TABLE

LINE	BEARING	LENGTH	SIZE
1-2	S86°26'41"E	137.87'	10"
2-3	S86°26'41"E	296.05'	10"
2-8	N03°33'19"E	81.33'	8"

STRUCTURE COORDINATES

STRUCTURE #	NORTHING - PLAN	EASTING - PLAN	NORTHING - AS BUILT	EASTING - AS BUILT
1	767563.8053	1798481.4267		
2	767555.2552	1798619.0358		
8	767636.4305	1798624.0794		

Vert: 1 inch = 5 feet
Horiz: 1 inch = 20 feet

CALCULATED
CHECKED

SANITARY PLAN & PROFILE
Sta. 0+00 to Sta.4+50

JOHN SHIELDS PARKWAY PHASE 2 - PART 1

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4
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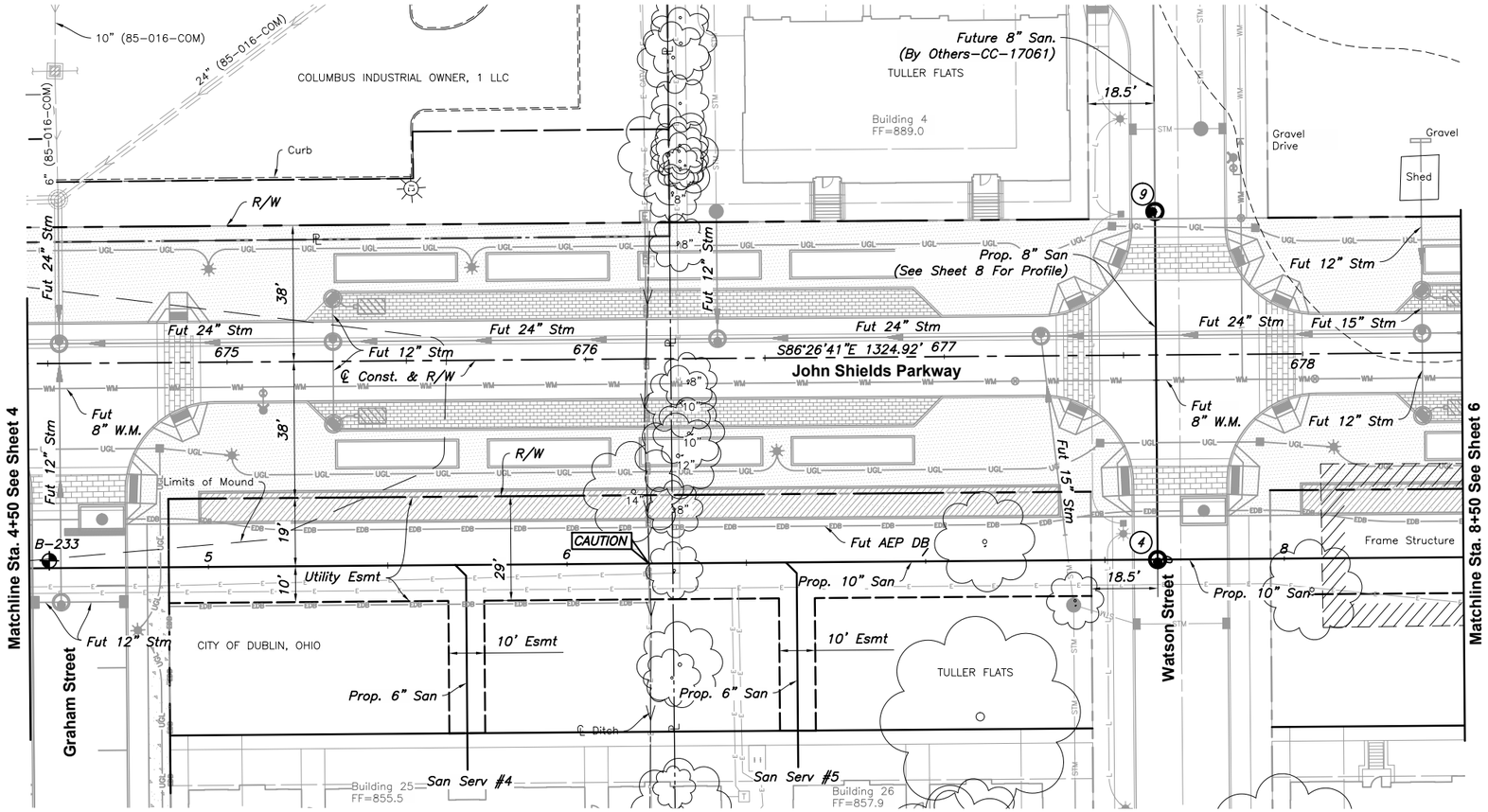
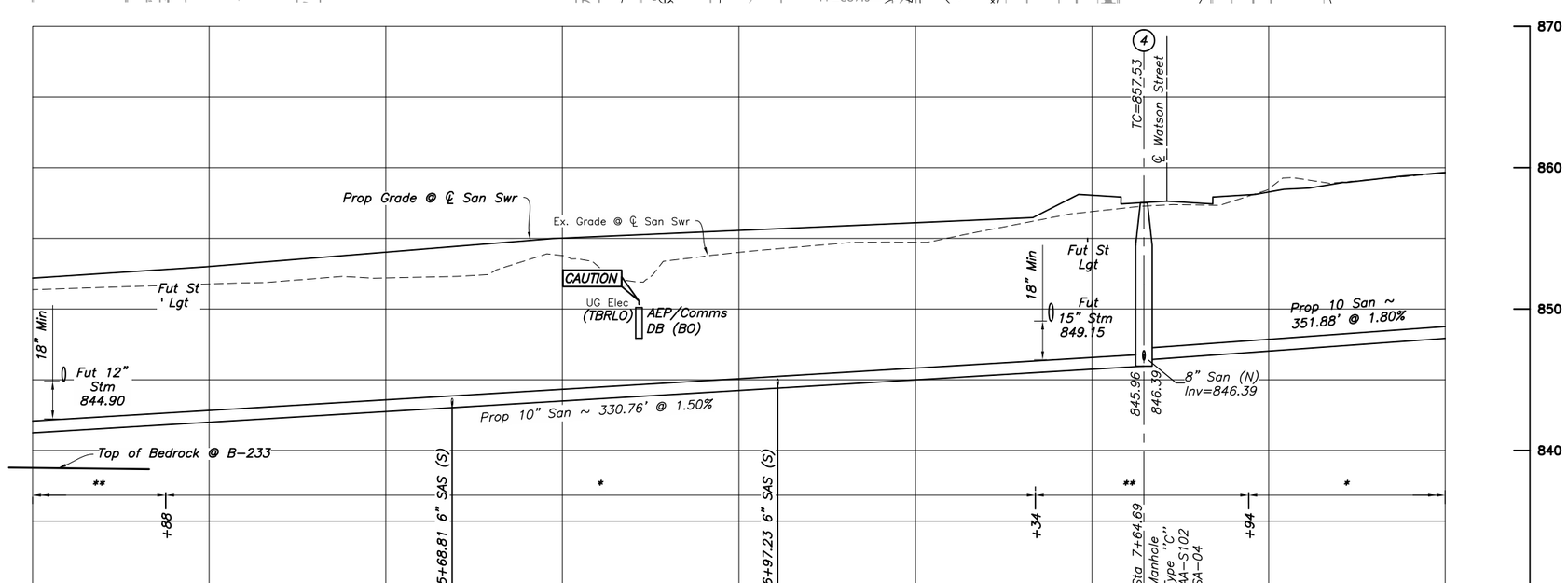
JULY 2015





STATION	5	6	7	8	
EX GROUND	851.77	853.78	854.72	858.49	859.62
INVERT	842.06	843.66	845.26	847.03	847.92
CUT	9.72	10.13	9.46	11.46	11.70

SANITARY HOUSE CONNECTION SERVICE SCHEDULE

MH - MH	ADDRESS	WYE STATION	LENGTH OF SERVICE	LENGTH OF RISER	ELEV. AT END OF SERVICE	NORTHING AT END OF SERVICE	EASTING AT END OF SERVICE	PERMIT #
MH-3								
#4	Building #25	5+69	60'	5'	850.18	767471.3226	1799048.5958	
#5	Building #26	6+61	60'	6'	852.56	767465.6048	1799140.6209	
MH-4								

All sanitary services shall be at 2.08% slope per COC Standard Drawing AA-S160.

STRUCTURE COORDINATES

STRUCTURE #	NORTHING - PLAN	EASTING - PLAN	NORTHING - AS BUILT	EASTING - AS BUILT
3	767536.8920	1798914.5187		
4	767516.3844	1799244.6417		
9	767613.2630	1799250.6610		

SANITARY SEWER TABLE

LINE	BEARING	LENGTH	SIZE
3-4	S86°26'41"E	330.76'	10"
4-5	S86°26'41"E	351.88'	10"
4-9	S86°26'41"E	97.07'	8"

* Compacted Backfill Per CMS Item 911
** Compacted Granular Backfill Per CMS Item 912

CALCULATED ---
CHECKED ---

SANITARY PLAN & PROFILE
Sta. 4+50 to Sta. 9+00

JOHN SHIELDS PARKWAY
PHASE 2 - PART 1

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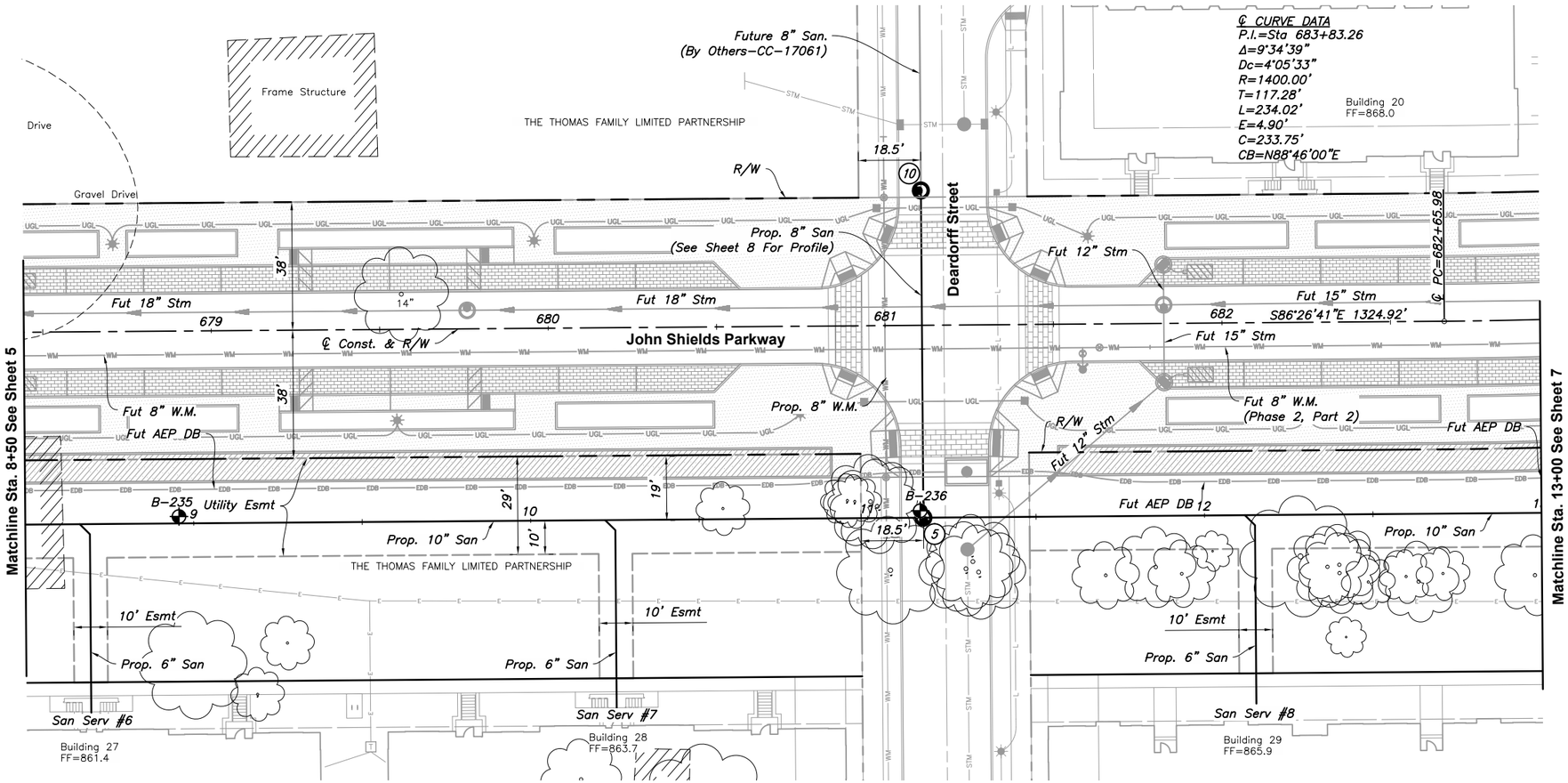

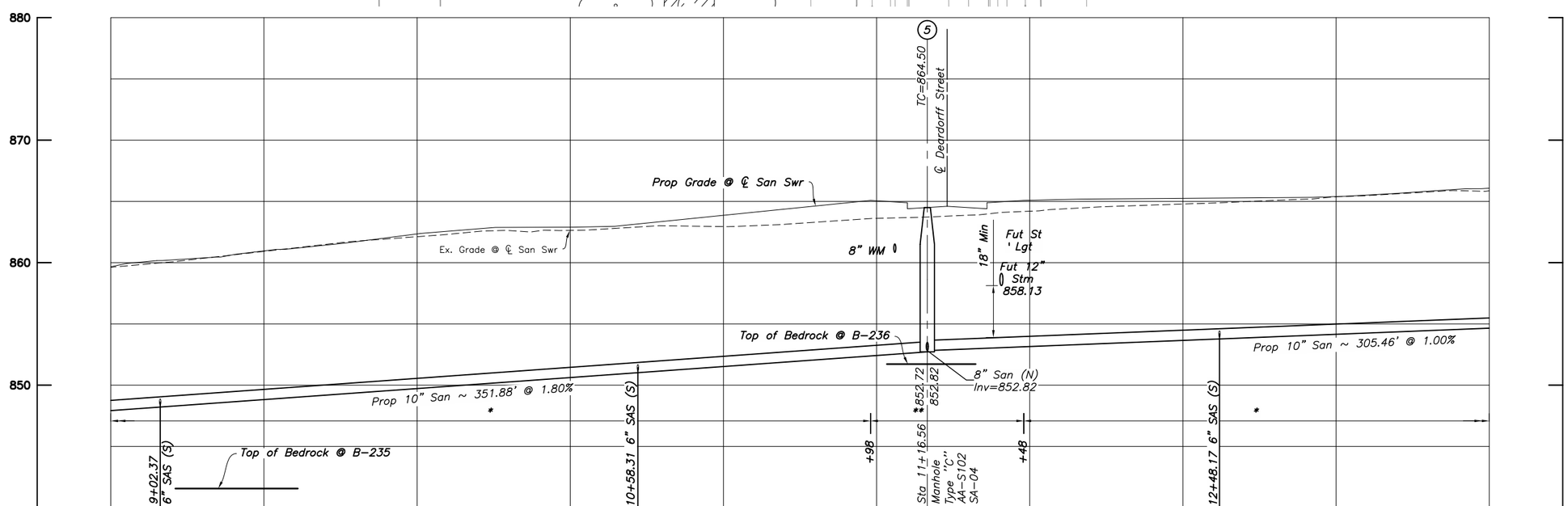

STATION	9	10	11	12	13
EX GROUND	860.92	862.63	863.62	864.79	865.86
INVERT	848.82	850.62	852.42	853.65	854.65
CUT	12.09	12.01	11.19	11.13	11.21

* Compacted Backfill Per CMS Item 911
** Compacted Granular Backfill Per CMS Item 912

SANITARY HOUSE CONNECTION SERVICE SCHEDULE

MH - MH	ADDRESS	WYE STATION	LENGTH OF SERVICE	LENGTH OF RISER	ELEV. AT END OF SERVICE	NORTHING AT END OF SERVICE	EASTING AT END OF SERVICE	PERMIT #
MH4	#6 Building #27	8+66	58'	6'	856.35	767454.0771	1799345.4406	
	#7 Building #28	10+22	58'	5'	858.16	767444.4086	1799501.0804	
MH5	#8 Building #29	12+12	58'	4'	859.91	767432.6351	1799690.5691	
	#9 Building #30 (Sheet 7)	13+91	58'	6'	863.69	767421.5518	1799868.9490	
MH6								

All sanitary services shall be at 2.08% slope per COC Standard Drawing AA–S160.

SANITARY SEWER TABLE

LINE	BEARING	LENGTH	SIZE
5–6	S86°26'41"E	305.46'	10"
5–10	N03°33'19"E	97.07'	8"

STRUCTURE COORDINATES

STRUCTURE #	NORTHING - PLAN	EASTING - PLAN	NORTHING - AS BUILT	EASTING - AS BUILT
5	767494.5633	1799595.8418		
10	767591.4418	1799601.8612		

CALCULATED ---
CHECKED ---

Vert.: 1 inch = 5 feet
Horiz.: 1 inch = 20 feet

SANITARY PLAN & PROFILE
Sta. 9+00 to Sta. 13+50

JOHN SHIELDS PARKWAY
PHASE 2 - PART 1

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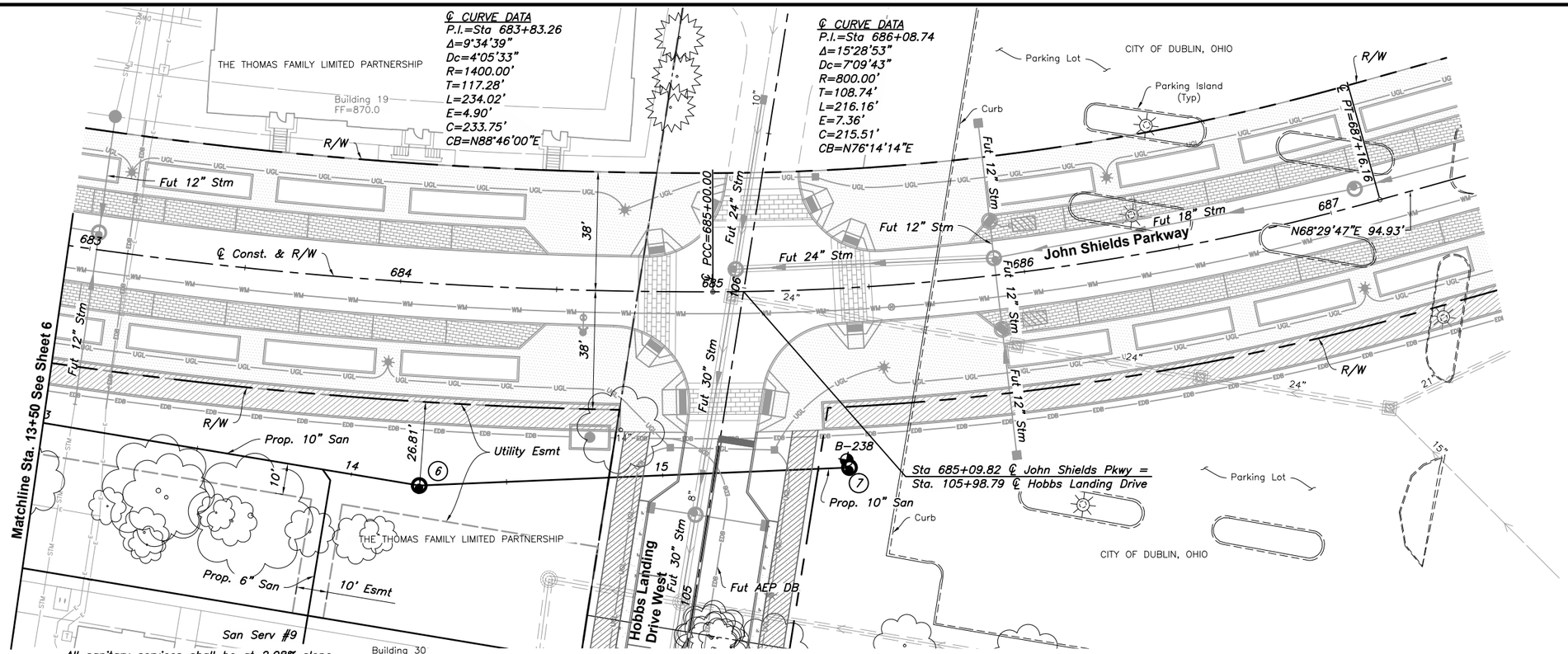
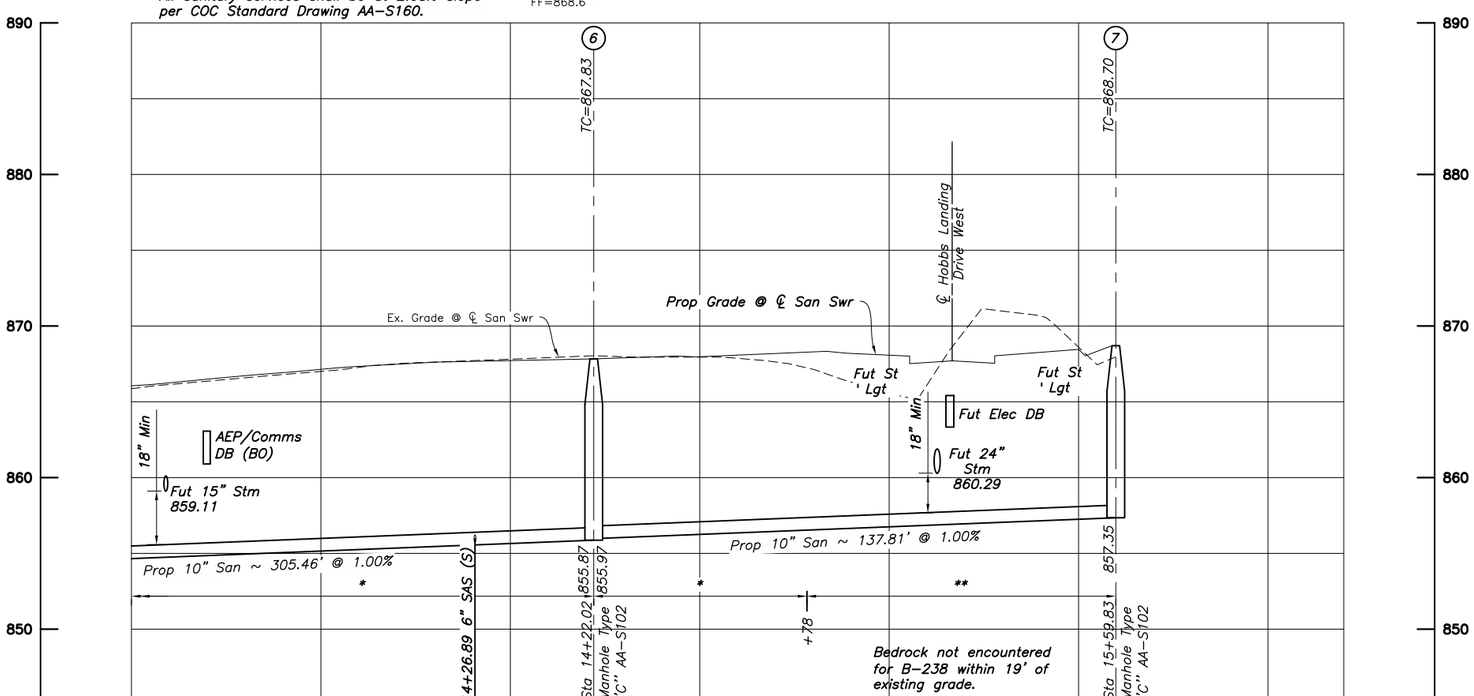


All sanitary services shall be at 2.08% slope per COC Standard Drawing AA-S160.



SANITARY SEWER TABLE			
LINE	BEARING	LENGTH	SIZE
6–7	N81°42'21"E	137.81'	10"

STRUCTURE COORDINATES				
STRUCTURE #	NORTHING - PLAN	EASTING - PLAN	NORTHING - AS BUILT	EASTING - AS BUILT
6	767475.6206	1799900.7139		
7	767495.5004	1800037.0825		

* Compacted Backfill Per CMS Item 911
** Compacted Granular Backfill Per CMS Item 912

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2	SCHEMATIC PLAN
4–6	TYPICAL SECTIONS

CC- 17101

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CALCULATED
CHECKED

SANITARY PLAN & PROFILE
Sta. 683+00 to Sta. 687+50

JOHN SHIELDS PARKWAY
PHASE 2 - PART 1

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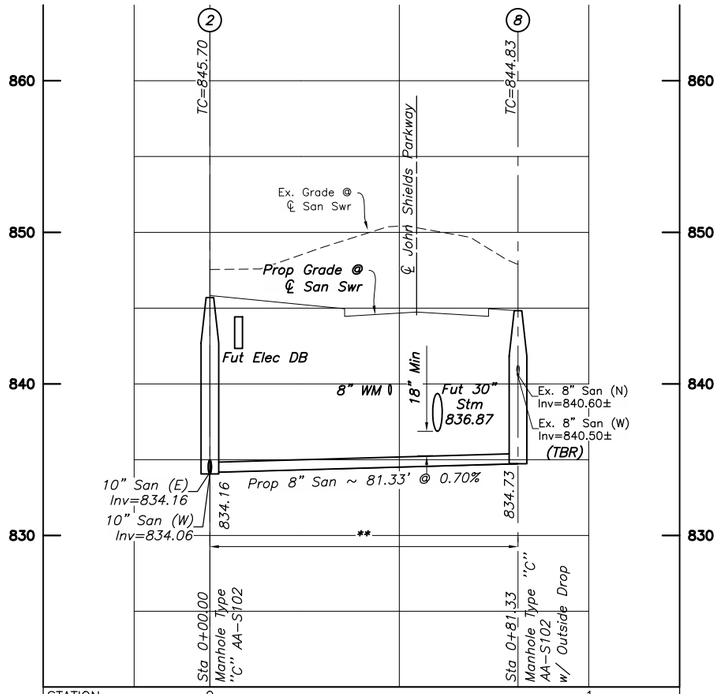
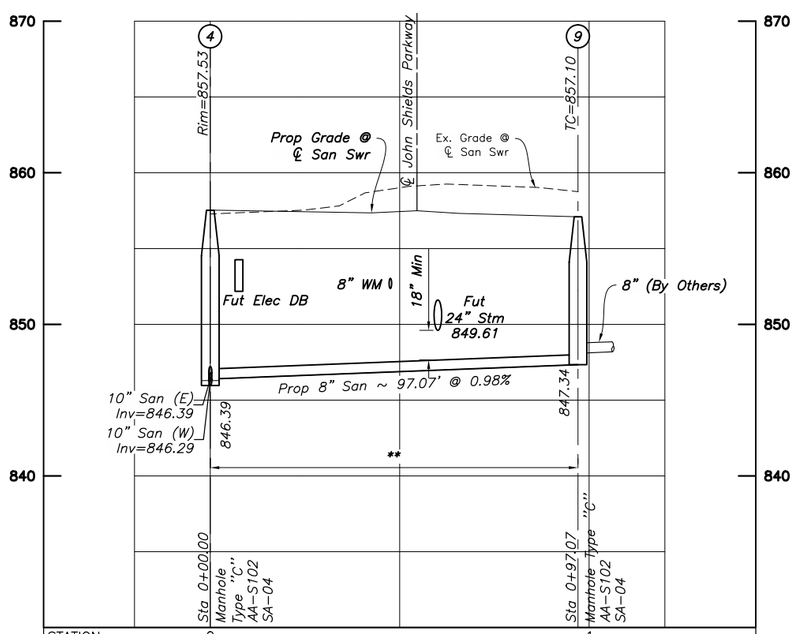


STATION	0	1
EX GROUND	847.54	850.40
INVERT	834.06	834.50
CUT	13.48	15.90

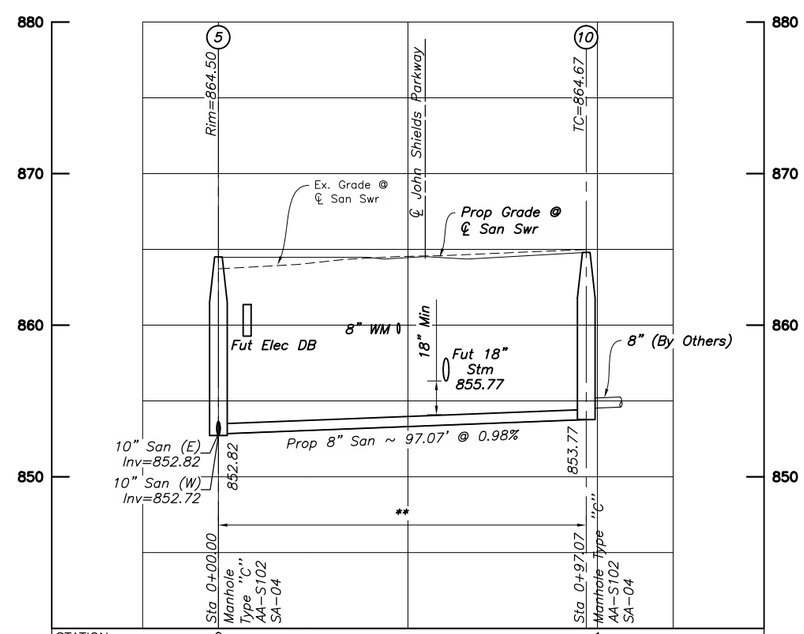
Sanitary Sewer Profile 2-8 See Sheet 4 for Plan View

* Compacted Backfill Per CMS Item 911
** Compacted Granular Backfill Per CMS Item 912



STATION	0	1
EX GROUND	857.28	859.01
INVERT	846.29	846.88
CUT	10.99	12.13

Sanitary Sewer Profile 4-9 See Sheet 5 for Plan View



STATION	0	1
EX GROUND	863.72	864.54
INVERT	852.72	853.31
CUT	11.00	11.23

Sanitary Sewer Profile 5-10 See Sheet 6 for Plan View

CALCULATED ---
CHECKED ---

SANITARY PROFILES
STRUCTURES - 2 - 8, 4 - 9 & 5 - 10

JOHN SHIELDS PARKWAY
PHASE 2 - PART 1

8
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