ALLEGHENY COUNTY SANITARY AUTHORITY

April 1, 2021

CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 10

All bidders bidding Contract No. 1729 G, E, H, P shall read and take note of this Addendum No. 9. The Contract Documents for **Contract No. 1729 G, E, H, P – East Headworks** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1729 G, E, H, P; Addendum No. 10

The Acknowledgement attached to Addendum No. 9 is to be signed and returned immediately via email to Kathleen Uniatowski at contract.clerks@alcosan.org and acknowledged with the Bidder's Proposal.

Kimberly Kennedy, P.E.
Director – Engineering and Construction

ACKNOWLEDGEMENT OF

CONTRACT NO. 1729 G, E, H, P – EAST HEADWORKS

ADDENDUM NUMBER 10

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

April 1, 2021

CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 10

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CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 10

A. Contract Documents – Volume 1

No Items

B. Contract Specifications – Volume 2

1. Maintenance of Plant Operations (Section 01 52 00)

    a) Paragraph 1.7.M, ADD paragraph 5 as follows:

        "5. A portion of the plant drain system including Manhole SAN MH-4 to SAN MH-5 will need to be installed and backfilled to grade by September 30, 2021. This work needs completed to allow timely installation of the new duct bank system noted to be installed in Contract 1739 on Drawing C-22 by Keynotes 30 and 31."

    b) Paragraph 1.7.P.2, ADD the following to the end of the paragraph, "Refer to 1.7.M. for work to be installed in this area before the Contract 1739 ductbank work."

    c) Paragraph 1.7.P.4, REPLACE paragraph with the following:

        "4. Target date for completion of work described in paragraphs 1, 2, and 3 is November 30, 2021."

2. Formed Metal Column Covers (Section 05 58 13)

    a) Paragraph 2.2 MATERIALS, DELETE paragraph A in its entirety and REPLACE with the following:

"A. Stainless-Steel Face Sheet: ASTM A 666, Type 304 architectural grade alloy.

1. Face Sheet Thickness: 0.057 inch/16 gage (1.45 mm).
2. Finish: Brushed, No. 4."

b) Paragraph 2.6 FINISHES, DELETE paragraphs A and B in their entirety and REPLACE with the following:

"A. Stainless Steel Sheet Finishes: Prepare surfaces by removing tool and die marks and stretch lines. Following finishing, passivate, rinse, and leave surfaces clean. Provide the following finish:

1. Directional Satin Finish: No. 4.

3. Machine Room-Less Electric Traction Passenger Elevators (14 21 23.16)

a) ADD the following paragraphs under section 1.2 SUMMARY:

"C. Non-proprietary Components

1. Insofar as practicable, the Owner desires that the electric traction elevators are comprised of non-proprietary components, including control equipment, that will allow service and maintenance by whomever the Owner determines, not necessarily the elevator contractor for this project.

a. Contractors are expected to clarify what, if any, proprietary components are included, along with procedures for obtaining spare parts and maintaining the elevators.

2. Special tools: Any special tools required to service the elevator shall be included in the base bid and become the property of the owner upon contract completion.

3. Diagnostic capabilities must be integral with the controls. Any diagnostic devices necessary to adjust, troubleshoot and change parameters must be a part of the control system and become the Owner's property upon completion of the job. If a separate diagnostic device is required, it shall be included in the bid at no additional cost to the Owner and become the Owner's property upon completion of the job.

4. The Owner must have ready access to software revisions and any technical support required to maintain the elevator in its originally installed functional state after completion of the installation."

Additionally, General Contractor is to provide attached Elevator Compliance Letter signed by Elevator Vendor with their bid. The listed manufacturers are aware of this requirement from Contract 1735.

C. Contract Specifications – Volume 3

1. Table of Contents

    a) DIVISION 40 – PROCESS INTERCONNECTIONS, ADD "40 05 36.23 FIBERGLASS-REINFORCED PLASTIC PROCESS PIPE FOR PROCESS LIQUID SERVICE"

2. Truck Scales (Section 34 78 13)

    a) Paragraph 2.3, ADD paragraph L as follows,

    "L. Provide steel skid plates with wheel stops integrated into the concrete decks for each truck scale."

3. Common Work Results for Process Interconnections (Section 40 05 00)

    a) Paragraph 3.13.G.2, ADD paragraph b as follows:

    "b. Pipe size 14 IN and larger

        1) See Specification Section 400536.23 "Fiberglass-Reinforced Plastic Process Pipe for Process Liquid Service" for DRS piping system.
        2) Lining: 100 mil structural corrosion liner
        3) Coatings: None. Label as indicated in Specification Section 099600 "High Performance Coatings""

4. ADD New Specification Section 40 05 36.23 – Fiberglass-Reinforced Plastic Process Pipe for Process Liquid Service

5. Butterfly Valves (Section 40 05 64)

    a) Paragraph 2.2, MODIFY title to read, "Butterfly Valve – General Liquid Service."

    b) ADD paragraph 2.3 as follows:

    "2.3 Butterfly Valve – DRS Service

1. Butterfly valves in DRS service 14 inch and above shall be double flanged style, cast ductile iron body, with Type 316 stainless steel disc and stem. Provide bonded FKM seat material that completely isolates the valve body from the process liquid.
2. DRS service butterfly valves shall be rated for operating continuously at 150 psi at 180 degrees F, while providing a bidirectional bubble tight seal.
3. Flanges shall be drilled to ASME B16.1 Class 125 dimensions.
4. DRS service butterfly valves shall comply with API 609 Category B short pattern face to face dimensions.
5. DRS service butterfly valves installed in fiberglass reinforced plastic piping systems shall be installed with a filler gasket between the outer diameter of the raised face and the flange outer diameter in order to protect the FRP flat flange from the bolting moment.
6. Provide extended shaft where indicated on Contract Drawings. Shaft shall be sized to accommodate chainwheel.
7. DRS service butterfly valves shall be the Series 3A as manufactured by Bray International, Inc."

D. Contract Drawings

1. Drawing G-08

    a) ADD the following under Pipe Materials,

    "PVF Polyvinylidene Fluoride"

2. Drawing C-11

    a) DELETE this drawing and REPLACE with the attached drawing C-11.

3. Drawing C-13

    a) DELETE this drawing and REPLACE with the attached drawing C-13.

4. Drawing C-21

    a) DELETE this drawing and REPLACE with the attached drawing C-21.

5. Drawing C-22

    a) DELETE this drawing and REPLACE with the attached drawing C-22.

6. Drawing C-26

    a) DELETE this drawing and REPLACE with the attached drawing C-26.

7. Drawing C-32

    a) DELETE this drawing and REPLACE with the attached drawing C-32.

8. Drawing 530-A-15

    a) DELETE this drawing and REPLACE with the attached drawing 530-A-15.

9. Drawing 530-A-55

    a) DELETE this drawing and REPLACE with the attached drawing 530-A-55.

10. Drawing S-02

    a) DEMOLITION, DELETE Note 4 in its entirety and REPLACE with the following:

    "4. PORTIONS OF THE WORK ARE LOCATED OVER EXISTING BURIED STRUCTURES / ELEMENTS REMAINING FROM THE FORMERLY DEMOLISHED OPERATIONS AND MAINTENANCE BUILDING (O&M BUILDING). DEMOLISH ALL EXISTING REMANING BURIED ELEMENTS LEFT FROM THE PARTIALLY DEMOLISHED O&M BUILDING; ELEMENTS INCLUDE BUT ARE NOT LIMITED TO, 12-INCH DIAMETER CAST-IN-PLACE CONCRETE PILES WITH STEEL CASING, REINFORCED CONCRETE PILE CAPS OR MAT FOUNDATIONS, REINFORCED CONCRETE BEAMS, SLABS, WALLS, PIPE TUNNEL, AND PIT FOUNDATIONS. DEMOLISH EXISTING PILES TO A DEPTH OF 1'-0" MINIMUM BELOW THE BOTTOM OF NEW CONCRETE MAT FOUNDATION. REFER TO CONTRACT NO. 1691 "DEMOLITION OF OLD OPERATIONS AND MAINTENANCE BUILDING" FOR MORE INFORMATION ON STRUCTURES THAT MUST BE DEMOLISHED."

    This work to be included in base bid.

11. Drawing 420-M-02

    a) REPLACE tags marked "EPM-1"-CAS" (6 places on right side of sheet) with "PVF-3/4"-CAS"

12. Drawing 420-M-03

    REPLACE tags marked "EPM-1"-SHC" (6 places on right side of sheet) with "PVF-3/4"-SHC"

13. Drawing 420-M-13

a) DELETE this drawing and REPLACE with the attached drawing 420-M-13.

E. Questions

205. **QUESTION:** Will this project be subject to the PA Steel act or AIS? If it is only subject to PA Steel, how will this be enforced?

RESPONSE: See requirements defined in Article 3.77, Pennsylvania Steel Products Procurement Act.

206. **QUESTION:** Please confirm that the fire alarm scope of work is to be included in the plumbing contract and not the electrical contract per 01 11 00-Work covered by contracts.

RESPONSE: As specified in Section 01 11 00 – Summary of Work, the fire alarm system is to be provided and installed by the Plumbing Contractor. Wiring and raceways needed in support of the fire alarm system is to be provided and installed by the Electrical Contractor.

207. **QUESTION:** Reference specification section 074213.19, Article 2.3.B: Please confirm that the requirement for "mica" finish is correct.

RESPONSE: The Basis of Design Centria Sundance Mica finish (Refer to Specification Section 07 42 13.19, Part 2.3B.1) is correct for colors "Silversmith", "Elite Lime", and "Blue". For the color "Kaleidoscope" the Basis of Design finish is Centria Kolorshift (Refer to Specification Section 07 42 13.19, Part 2.3B.2).

208. **QUESTION:** Reference drawings 530-M-10 and 534-10,11 & 12: Is all PAL piping shown on these drawings to be flanged or butt welded? If flanged what is the starting point?

RESPONSE: Per Section 40 05 00 Common Work Results for Process Interconnections Paragraph 3.13.L.2.g PAL piping joints shall be 'butt welded with flanges at equipment and valves.'. Therefore, all PAL pipe joints shall be butt welded, with the exception that piping joints at equipment and valves shall be flanged according to Section 40 05 23 Stainless Steel Process Pipe and Tubing.

209. **QUESTION:** Reference specification Testing Concrete Structures for Watertightness section 01 45 25 3.1.A.5 Surcharged Hydrostatic Tightness Test for Closed Containment Structures prior to backfilling: Please confirm that the 120-inch conduit is to undergo this particular test and is to follow the ACI 350.1.`

RESPONSE: Refer to Addendum No. 8 for revisions to testing requirements for the 120-inch conduit.

210. **QUESTION:** Reference specification 055813-2.2A indicates that the material for the column covers is Galvanized steel. Section 2.3A.3 shows that the substrate material is Stainless steel. Section 2.6B.1 states that the interior of the column covers shall be painted. Please clarify what material the column covers shall be, including the specified paint finish if required.

RESPONSE: Column covers are to be stainless steel with a satin No. 4 finish.

211. **QUESTION:** Please provide concrete mix design strength & WC ratio for concrete paving.

RESPONSE: Concrete shall be Class AA Cement Concrete as specified.

212. **QUESTION:** Please specify sub base thickness for 8" concrete paving and 6" concrete paving.

RESPONSE: Subbase shall be 6".

213. **QUESTION:** Please confirm 8" concrete paving is unreinforced except for the longitudinal joint tie bars.

RESPONSE: Yes, confirmed.

214. **QUESTION:** Reference drawing MS-01 (295 of 645), please clarify if the Stop Log quantities in the Stop Log Quantity Schedule represents a total log count for each size width or a log count for each frame listed in the Stop Log Frame Schedule.

RESPONSE: The Schedule indicates the total stop log count for the respective width and height dimensions of the stop logs required.

215. **QUESTION:** Please clarify what pipe material & size is required for air release or air/vac discharge lines.

RESPONSE: Pipe connecting from process pipe to ball valve, and from ball valve to air release and air/vac valves shall be the size indicated on the drawings, and unless otherwise noted no less than 2-inch, and shall comply with Specification Section 40 05 00 Common Work Results for Process Interconnections Specification Schedule System 3. Vent pipe from air release and air/vac valves shall be the same size as the connection in the air release and air/vac valve and shall comply with Specification Schedule System 6.

216. **QUESTION:** Please provide specification information for the 1" EPDM Rubber Hose (EPH) required in the Odor Control Facility 420.

RESPONSE: Provide 3/4" Polyvinylidene Fluoride (PVDF) as specified in the following table. All overhead PVDF tubing shall be installed in a single length with no splices, joints, or fittings.

O.D. (in)	I.D. (in)	Wall (in)	Nominal O.D. (in)	O.D. Tolerance (in)	Wall Tolerance (in)	Working Pressure (PSIG)	Burst Pressure (PSIG)	Minimum Bend Radius (in)
¾	5/8	0.062	0.75	+/- 0.006	+/- 0.003	180	902	6

217. **QUESTION:** Reference drawing 420-M-01 (305 of 645) which shows lines CUP-2"-EWF & CUP-1"-EWF going from 2 locations on DIP-4"-EWF to 2 locations on CVP-8"-SRC. Please clarify where the DIP-4"-EWF is to be tapped, where the pressure reducing valves & by-pass assemblies are to be installed, and where the CUP-2"-EWF & CUP-1"-EWF lines tie into the CVP-8"-SRC lines.

RESPONSE: See updates to Drawing 420-M-13 included with this addendum.

218. **QUESTION:** The Reference Documents furnished with the Contract No. 1729 bid package includes drawings from ALCOSAN Contract No. 1691 DEMOLITION OF OLD OPERATIONS & MAINTENANCE BUILDING. On drawings 301-ADM-01 (12 of 25) & 301-ADM-05, 06, & 07 (16-18 of 25) for the old O&M building, it appears that the concrete walls and slabs for the basement and pipe tunnels remain in place below (approx.) EL 724.
    1. On Contract No. 1729 drawing 530-S-02 (208 of 645) general note 3 refers to existing piles and shows them on the plan sheet, but existing slabs and/or walls for the basement and pipe tunnels are not indicated on this drawing. Please confirm if these concrete slabs and walls were left in place and need to be demolished for construction of the new East Headworks building.
    2. Also please confirm if all the concrete foundations and slabs for the old garage remain and will require demolition below (approx.) EL 727 to facilitate construction of the new East Headworks building.
    3. Please clarify the required removal limits for these existing concrete walls, slabs, and piling.

    RESPONSE: Demolish ALL existing buried structures / elements left from the partially demolished O&M facility to provide room for the East Headworks Facility. Demolish existing piles to a depth of 1'-0" minimum below the bottom of new concrete mat foundations.

219. **QUESTION:** Please advise if UHPC (Ultra high performance concrete panel) should be applied to the wall between columns C and E on sheet 530-A-17.

    RESPONSE: UHPC Panels are to be applied to this wall as shown on Wall Section 3/530-A-27.

220. **QUESTION:** Please advise where Storefront SF-14 is located. It is not called out on the drawings.

    RESPONSE: SF-14 is the front entrance door between Vestibule 111 and Elevator Lobby 112. It is called out on the door schedule.

221. **QUESTION:** There doesn't look to be any framing for a 23' span of vertical metal panel except for a steel girt as shown on sheet 530-A-26. Please confirm that this is your intent. Are the panels double sided?

    RESPONSE: We assume that the question is referencing the interior panel along column line B in Section 2. This panel spans that height with one girt at elevation 752. This is an interior wall panel finished on both sides.

222. **QUESTION:** Please confirm what type of roofing the canopy is. Reference sheet 530-A-45.

    RESPONSE: All roofs are Modified Bitumen as specified in Section 07 52 16. Sheet 530-A-15 has been updated and included with this addendum.

223. **QUESTION:** Sheet 530-A-11 shows a partitions labeled 0D.1. It appears to be a fire rated vertical panel. However, there is no partition type for this. Please confirm.

    RESPONSE: This partition is not required to be rated per code. However, it is required to be airtight. The D Partition Type on sheet 530-A-55 has been updated and included with this addendum.

F. Clarifications

1. Drawings showing new 14-inch Fiberglass-Reinforced Plastic pipe to be routed from a connection point outside Building 420 and continuing into the East Headworks building to discharge into the bar screen influent channel will be added in the next addendum. Outside piping will be supported by the East Headworks odor control duct support. Specifications are included herein to define intended the piping materials.
2. The attached civil drawings have been updated to reflect changes. These changes would apply to the background of all other drawings.
3. In numerous places in the specs and drawings, "EWF" should be labeled as "EFW", effluent flushing water. EWF and EFW refer to the same lines.

Attachments:

Specifications:

Section 40 05 36.23 – Fiberglass-Reinforced Plastic Process Pipe for Process Liquid Service

Drawings:

C-11
C-13
C-21
C-22
C-26
C-32
530-A-15
530-A-55
420-M-13

Other:

Elevator Compliance Letter

*** * * * END OF ADDENDUM NO. 10 * * * ***

SECTION 40 05 36.23 – FIBERGLASS-REINFORCED PLASTIC PROCESS PIPE FOR PROCESS LIQUID SERVICE

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section includes requirements for providing fiberglass-reinforced plastic (FRP) process piping, fittings, and accessories for process liquid service, as indicated in accordance with the Contract Documents.

B. The diameter and approximate routing of the FRP pipe is shown on the Contract Drawings. Exact layout will be determined in the field.

1.2 QUALITY ASSURANCE

A. Materials and installation shall be in accordance with the latest revisions of the following codes, standards, and specifications, except where more stringent requirements have been specified herein:

1. American Society of Mechanical Engineers (ASME)
2. American Society for Testing and Materials (ASTM)

a. D 3567, Practice for Determining Dimensions of “Fiberglass” (Glass-Fiber Reinforced-Thermosetting-Resin) Pipe and Fittings,

b. ASTM C-582 Standard Specification for Contact Molded “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Corrosion Resistant Equipment,

c. ASTM D6041 Standard Specification for Contact Molded “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Corrosion Resistant Pipe and Fittings,

d. ASTM D2992 Standard Practice for Obtaining Hydrostatic or Pressure Design Basis for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings,

e. ASTM D5421 Standard Specification for Contact Molded “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Flanges.

B. The FRP process pipe manufacturer shall have at least twenty five (25) years’ experience in the manufacture of FRP pressure process pipe and equipment.

1.3 SUBMITTALS

A. Submittals shall be submitted in accordance with the provisions set forth in the Section 013300 “Submittals”.

B. Shop Drawings

1. Drawings showing the layout of pipes, fittings, drains, supports, anchoring, valves and equipment.

2. Cross sections showing elevations of pipes, fittings, drains, supports, anchors, valves and equipment. Pipe size, type, materials and schedule.

3. Detailed shop drawings of all supports, including support anchoring devices.

4. Laminate sequence used.

5. A letter from the resin supplier stating that the material used for this project complies with the specification and meets all corrosion requirements.

6. Design calculations and support calculations performed by the manufacturer and stamped by a Professional Engineer registered in the state of Pennsylvania.

C. Manufacturer's installation instructions including field jointing procedures.

D. Required certifications and test result data. Quality control inspection procedures and forms.

E. Required qualifications and reference of manufacturer.

1.4 GENERAL NOTES

A. The Contractor shall verify all dimensions of valves, fittings, equipment, etc., to ensure that all the pipe work performed shall fit together properly and conform to the arrangement as shown on the Contract Drawings. In selecting laying lengths of fittings, the Contractor shall be guided by the dimensions of equipment to which connections are made and by the indicated dimensions on the Contract Drawings. All pipe and specials shall be accurate to the dimensions shown. Flanges shall be at right angles to the axis of the opening, and openings shall be at the exact angle specified.

B. All fittings shall be of the type indicated on the Contract Drawings unless otherwise specified. In general, all fittings shall be as specified hereinafter in paragraph entitled "Pipe and Fittings Schedule".

C. Wherever the sizes of pipe are reduced, the fittings shall be made to suit these changes without the use of bushings.

D. All flanges shall come fairly face to face, the pipe in perfect line, the pipes shall not be sprung to make a joint. Gaskets for flanged joints shall be as specified under "Joints". All joints shall be neatly made and with great care.

1.5 EQUIPMENT DESIGN

A. Equipment design, workmanship, testing and operation shall be as specified in Section 400500 “Common Work Results For Process Interconnections”.

1.6 DELIVERY, STORAGE AND HANDLING

A. The equipment shall be packaged to minimize possible damage from moisture, temperature variations and impact due to shipping conditions. Exposed threads shall be protected with tape or caps, openings shall be closed by caps or plugs. Detailed installation instructions shall accompany the equipment.

B. The Contractor shall inspect the equipment when it is delivered to ensure that it is not damaged. Store the equipment in a dry location and maintain the equipment per Manufacturer’s recommendations.

C. Dispose of packing materials in accordance with state and federal regulations.

D. Delivery, storage and handling shall be in accordance with Division 1.

E. Protect shop-fabricated and factory-fabricated ductwork, accessories and purchased products from damage during shipping, storage and handling. Ductwork shall be properly supported to avoid damage due to flexural strains.

F. Contractor shall provide temporary closure of polyethylene film or other covering which will prevent entrance of dust, debris and moisture during storage.

A. All factory machined areas shall be protected from sunlight until installed. Each box, crate, or package shall be properly marked to show its contents and the net weight.

1.7 WARRANTY AND GUARANTEE

Contractor shall warrant and guarantee to the Owner that all work will be in accordance with Division 1. Warranty period for the FRP Process Pipe shall be for five (5) years from the date the system is placed in operation which shall be upon successful completion of the Acceptance Testing as defined in Section 017500 “Facility Start-Up”.

PART 2 - RODUCTS

2.4 GENERAL

A. Pipe of the same size and material shall be furnished by the same manufacturer. Each pipe length and fitting shall be clearly marked with the manufacturer's name or trademark.

B. No change in material or joint selection shall be permitted after submittal of shop drawings and their final review by the Owner.

C. Provide piping support systems as specified in this Section. No attempt has been made to show all required pipe supports in all locations on the Contract Drawings. The absence of

pipe supports and details on any drawings shall not relieve the Contractor of the responsibility for providing them to ensure proper support of piping systems.

D. Piping penetrations of slabs, floors, walls, and roofs with wall pipes shall be in accordance with requirements included in Section 040509 “Wall Pipes, Floor Pipes, And Pipe Sleeves”.

2.5 PIPE AND FITTINGS SCHEDULE

A. See Section 400500 “Common Work Results For Process Interconnections”.

1.4 FRP PROCESS PIPE FOR LIQUIDS SYSTEMS

A. Service Conditions

1. FRP Pipe shall be constructed for the following process fluid service conditions:

a.	Process	DRS, Scrubber Drain
b.	Process Temperature	< 180 degrees F
c.	Process Operating Pressure	150 psi
d.	Process pH	3 – 12
e.	Process Fluid Specific Gravity	1.1

B. FRP process pipe and fittings shall be as manufactured by:

1. ERSHIGS, Inc. of Bellingham, WA

C. FRP Pipe

1. FRP process pipe shall be corrosion-resistant, UV light inhibited and designed for ambient temperatures ranging from -20°F to 120°F. The resin shall carry a flame spread rating of 25 or less, and smoke contribution rating of Unrated (in excess of 1000) with the addition of 3% antimony trioxide.
2. FRP process pipe shall be contact molded pressure pipe designed for the service conditions.
3. FRP process pipe shall have a minimum wall thickness of 0.72 inches. Wall thickness shall include a 100 mil structural corrosion liner.
4. FRP process pipe shall be designed with a 10:1 safety factor.

D. Joints

1. FRP process pipe, other than flanges, shall be butt-joints with laminated overlays in accordance with ASTM D3754.
2. Field weld kits shall be supplied by the FRP pipe manufacturer. All necessary fiberglass and reinforcing material shall be supplied pre-cut and individually packaged for each joint. Bulk Glass rolls will not be acceptable.
3. All resin, catalyst and putty shall be supplied in quantities to complete all field joints plus 20% extra for waste.

4. Prior to joining, ends shall be ground smooth. All dust and debris must be fully removed. Ends shall be resin-coated to prevent corrosion. The joint should be of equal strength as the FRP pipe. A butt and wrap sequence and thickness chart should be shown on the fabrication drawings. The laminate sequence for each size pipe should be supported by a separate section in the design.

E. Fittings

1. All fittings shall be hand lay-up construction fabricated from the same resin and have the same strength as contact molded FRP pipe.
2. The inside diameter of the fittings shall be consistent with the inside diameter of the pipe.

F. Flanges

1. Provide flat faced flanged to flat faced flanged connections to valves, expansion joints, and other locations as shown on the drawings. When the mating flange has a raised face, a flat ring gasket shall be used and a filler gasket shall be provided between the outer diameter of the raised face and the flange outer diameter in order to protect the FRP flange from the bolting moment.
2. FRP pipe flanges shall be made of the same materials as the FRP piping.
3. Flanges shall be hand lay-up construction and shall be integral to the pipe per ASME C-582.
4. Flanges shall be drilled in accordance with ANSI B16.1, Class 125. Bolt holes shall straddle the centerline of the pipe. Backs of flange face shall be flat so that washer seats fully on bolt face and flange backing.
5. Gaskets shall be PTFE, full face, and minimum 1/8-inch thickness.
6. All bolts, nuts and washers shall be Type 316 stainless, ASTM A193, Grade B8M hex head bolts and ASTM A194, Grade 8M hex head nuts shall be provided for flanges.

G. Support Materials:

1. Supports shall be constructed of 316 stainless steel.
2. Pipe saddle supports may be either fixed or guided as required on the Contract Drawings. Pipe saddles shall be a 180 deg bottom support with 180 deg retainer band.

H. All hangers and supports that are used with FRP pipe shall be lined with an elastomeric pad, shore “A” hardness 50-70 to form to any surface irregularities. Point loading shall not be acceptable.

I. The Contractor shall note that all pipe support locations are shown on the Contract Drawings, and the Contractor shall follow the specifications herein in locating additional supports as required. The Contractor shall be responsible for the design of additional supports and for the overall stability of the entire support system. Support and hanger details and a detailed layout showing the location of all pipe

supports and hangers shall be submitted in the shop drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: All FRP process pipe shall be installed in a neat and workmanlike manner, properly aligned, and cut from measurements taken at the site to avoid interferences with structural members, architectural features, openings, and equipment. Exposed FRP process pipe shall afford maximum headroom and access to equipment. All installations shall be acceptable to the Engineer. Contractor shall obtain training by the pipe manufacturer’s field representative in the correct installation and support of all FRP process piping.

B. Supports and Anchors: All FRP process piping shall be firmly supported with fabricated or commercial hangers as shown on the Contract drawings. Where necessary to avoid stress on equipment or structural members, the FRP process piping shall be anchored or harnessed.

C. Install the piping, fittings and appurtenances in accordance with the manufacturer's recommendations.

D. Installation of the FRP process piping shall not be attempted until the equipment manufacturer has provided detailed installation manuals to the Contractor and the Contractor and manufacturer have instructed key field personnel in detail regarding installation of the equipment.

E. Assemble, install and support FRP process piping in accordance with recognized industry practices which will perform the indicated service. Install each run with the minimum of joints.

D. Align FRP process piping accurately at connections, within 1/8" misalignment tolerance and with internal surfaces smooth.

E. Support FRP process piping rigidly with suitable ties, braces, hangers, and anchors of type which will hold pipe true-to-shape and to prevent buckling.

F. Complete fabrication of work at project site as necessary to match shop-fabricated work and accommodate installation requirements.

G. Coordinate duct installations with installation of fitting, valves, equipment, controls and other associated work of FRP process piping system.

3.2 TESTING OF PIPES

A. Test piping systems in accordance with Section 400500 “Common Work Results For Process Interconnections”.

3.3 IDENTIFICATION OF PIPING SYSTEMS

A. Painting, color coding and labeling of the various piping systems shall be as specified in Section 099600 “High Performance Coatings”.

B. All piping systems listed in the Schedule in Section 099600 “High-Performance Coatings” shall be color coded and labeled with the name of the service to indicate the use of that particular pipe and provided with arrows showing the normal direction of flow. Labels shall be plain block letters of the size indicated in the Schedule. Names shall be located as indicated in Section 099600 “High-Performance Coatings”. All names shall be so located as to be legible from the floor, walkway or platform. Labels shall be applied after the piping has been tested, covered (if required) and painted. Any system inadvertently not listed shall be labeled as directed by the Owner. Paint all valves and operators the same color as the piping.

C. All materials shall be applied in accordance with the manufacturer's recommendation and Section 099600.

END OF SECTION

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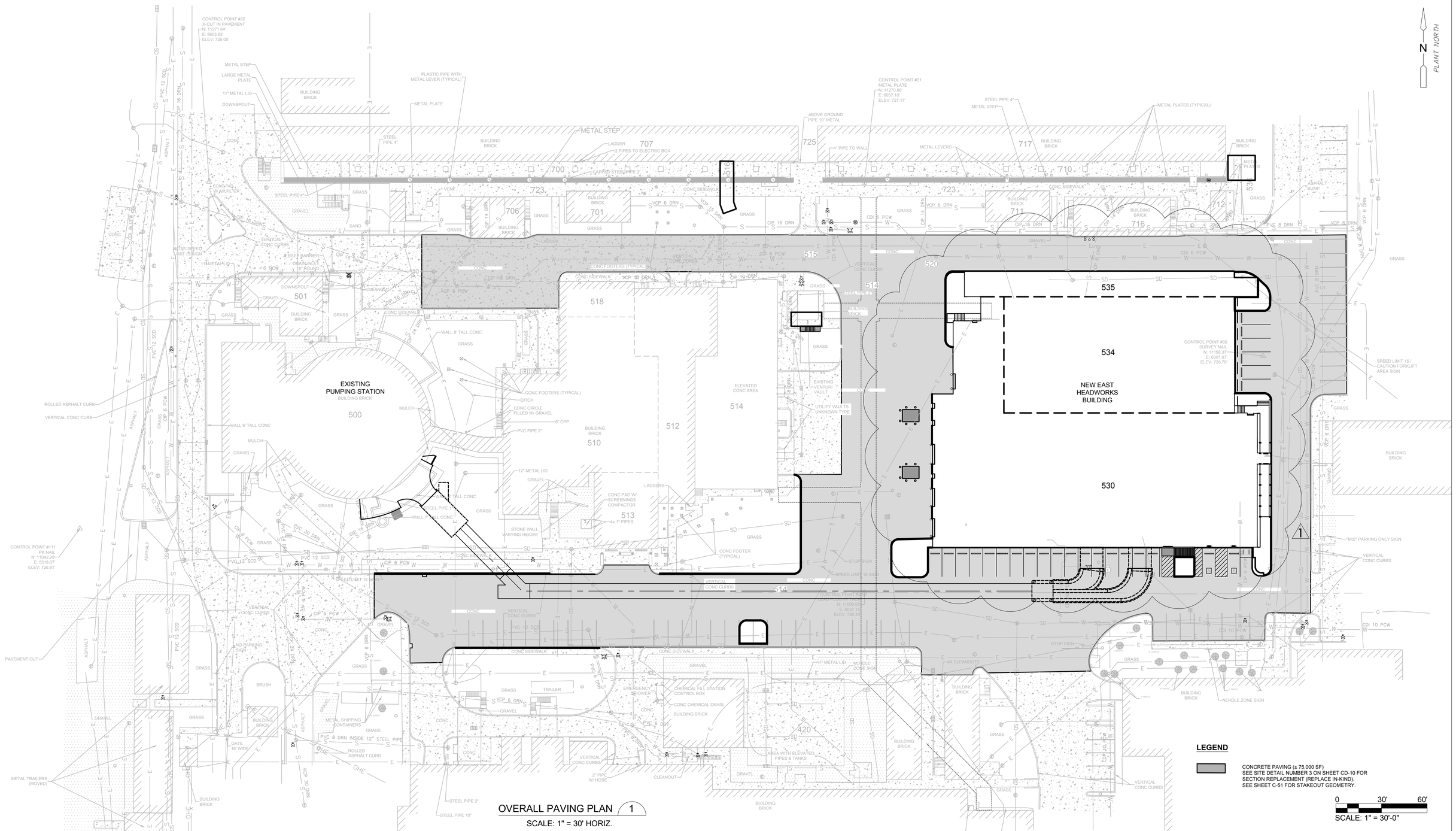

OVERALL PAVING PLAN (1)

SCALE: 1" = 30' HORIZ.

Designed by:	REVISION			
JRS	REV No.	DATE	DESCRIPTION	APPV
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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JOHN D. HARDING ENGINEER 027491-E
March 31, 2021

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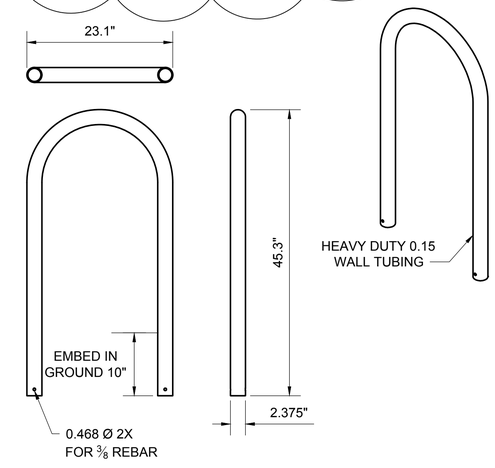
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

C-11
OVERALL PAVING PLAN

Contract:	1729
CAD File Name:	C11-OVERALL PAVING PLAN.DWG
Date:	OCTOBER 2020
Sheet:	35 OF 645

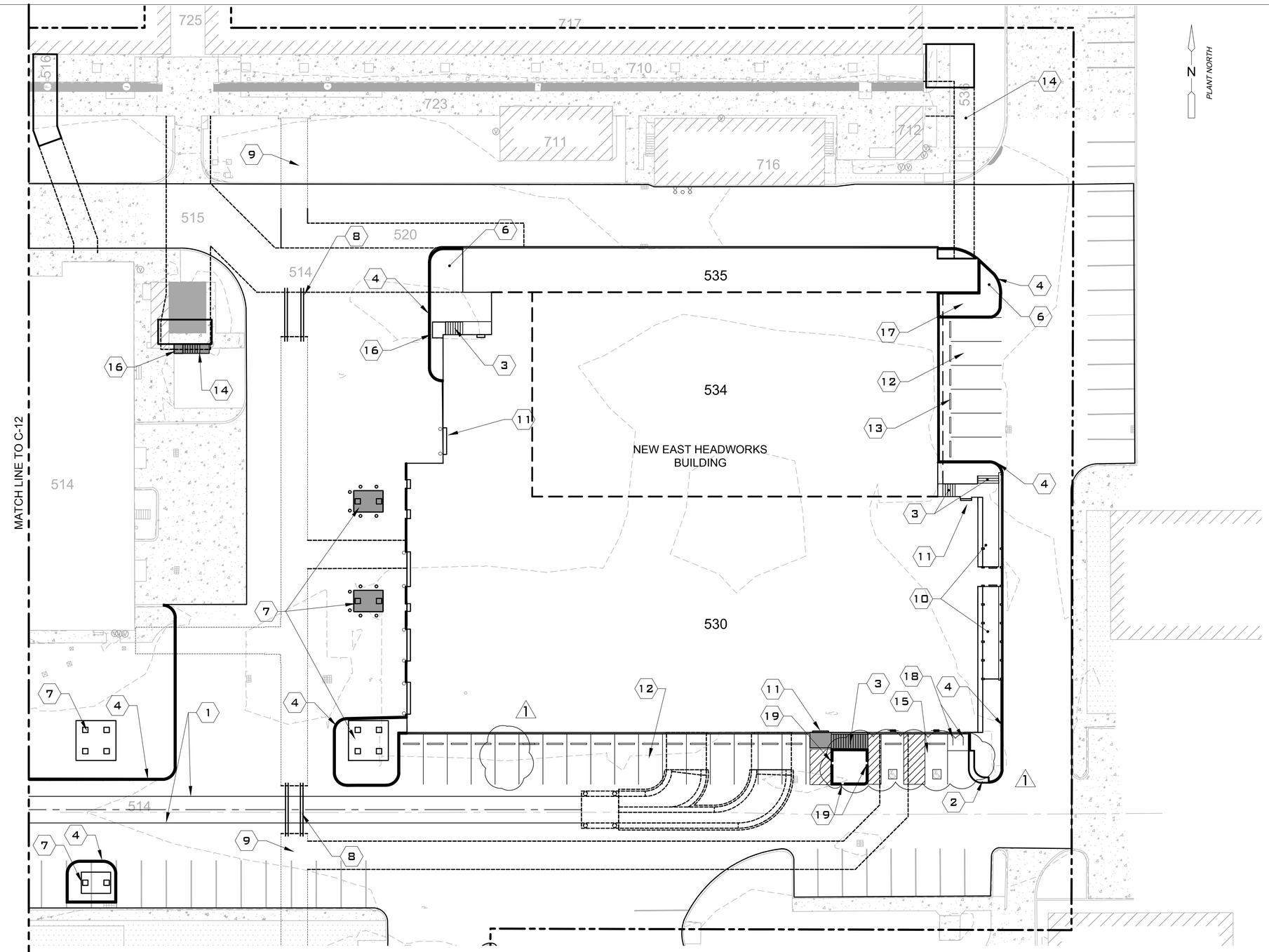
KEYNOTES

1. NEW 120" DIAMETER INFLUENT CONDUIT (SEE SHEET 509-C10)
2. ADA RAMP FOR ENTRANCE (SEE DETAIL DRAWING CD-12)
3. NEW STAIRS
4. NEW CONCRETE CURB (SEE DETAIL DRAWING CD-10)
5. BOLLARDS (TYPICAL - SEE DETAIL DRAWING CD-10)
6. LANDSCAPE AREA (GRASS)
7. CONCRETE PEDESTAL FOR OVERHEAD AIR HANDLING DUCTWORK
8. PIPE GALLERY UTILITIES (SEE 520 M DRAWINGS FOR DETAILS)
9. EXISTING PIPE GALLERY
10. ELEVATED CONCRETE PLATFORM AND CANOPY FOR ENTRANCE
11. TYPICAL ACCESS FOR ENTRANCE
12. TYPICAL PARKING (9' X 19') - TYP.
13. NEW PARKING BUMP STOP (SEE DETAIL DRAWING CD-10)
14. EXISTING INFLUENT CHAMBER
15. NEW ADA ACCESSIBLE PARKING (SEE DETAIL DRAWING CD-11)
16. CONCRETE PAD
17. NO PARKING
18. BIKE RACK (SEE DETAIL BELOW)
19. CURB CUT FOR STORM DRAIN (SEE SHEET CD-12)



* ALL DIMENSIONS ARE IN INCHES

INVERTED U BIKE RACK
NTS



SITE PLAN - EAST 1
SCALE: 1" = 20'

0 20' 40'
SCALE: 1" = 20'-0"

Designed by:	REVISION			
LJK	REV No.	DATE	DESCRIPTION	APPV
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March 31, 2021

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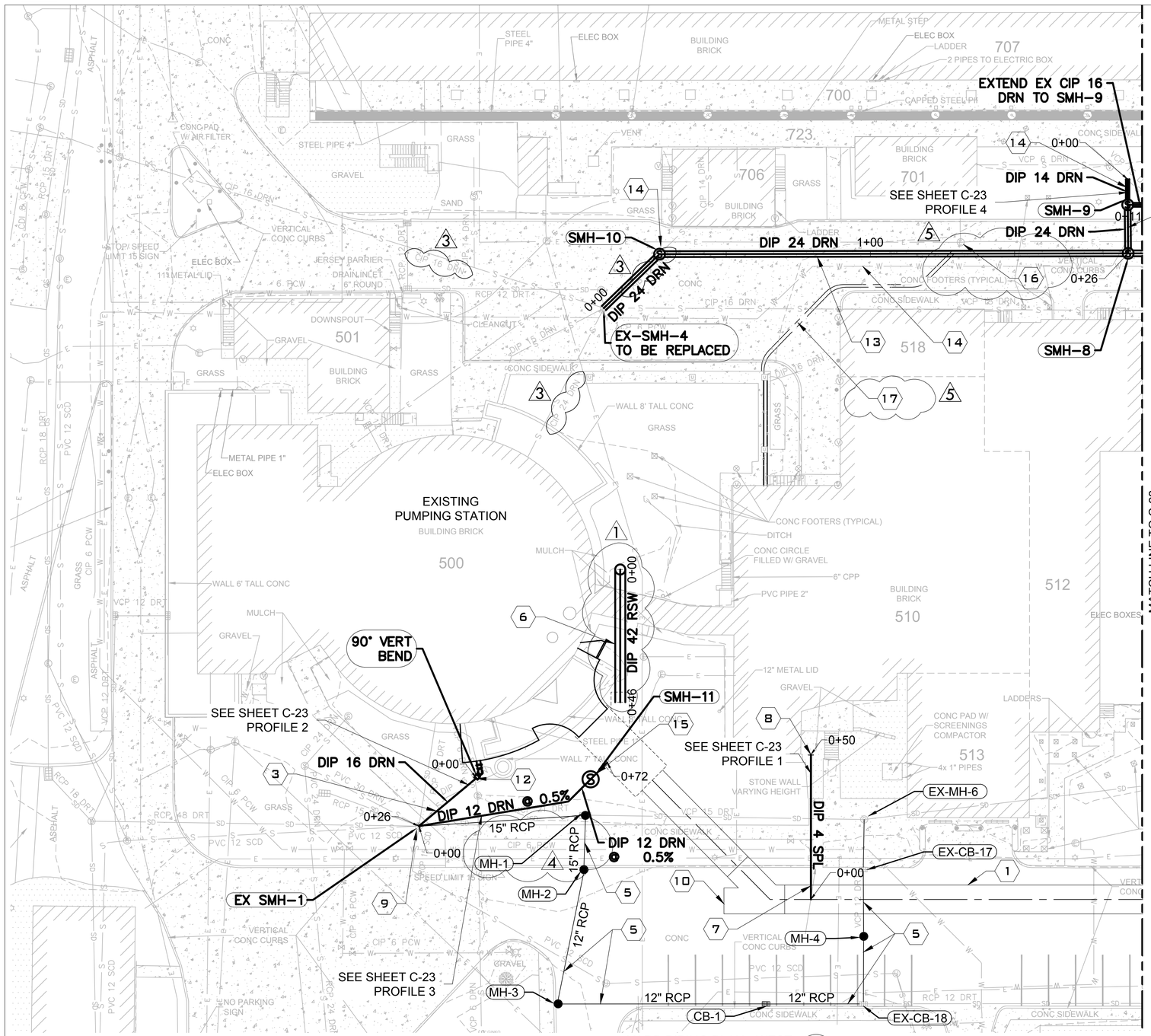
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

C-13
SITE PLAN - EAST

Contract:	1729
CAD File Name:	C-SITE-DESIGN.DWG
Date:	OCTOBER 2020
Sheet:	37 OF 645



YARD PIPING PLAN - WEST 1

SCALE: 1" = 20' HORIZ.

KEYNOTES

1. 120" EAST HEADWORKS INFLUENT PIPE (SEE SHEET 509-C10)
3. ~~NEW 6" WATERLINE~~
3. NEW 16" UTILITY SANITARY DRAIN LINE FOR EXISTING PUMPING STATION (SEE SHEET 500-M-10).
3. ~~NEW 6" WATERLINE CONNECTION WITH NEW BURIED VALVE~~
5. NEW STORMDRAIN - SEE NOTE 7 BELOW
1. ~~NEW 42" RAW SEWAGE LINE (SEE DRAWING G-08 FOR DESIGN)~~ SEE DRAWING 500-M-10
7. SAMPLING LINE CONNECTION TO PROPOSED 120" INFLUENT PIPE
8. 4" SAMPLING LINE CONNECTION (3' EAST OF BUILDING CORNER)
9. EXISTING MANHOLE FOR NEW PLANT DRAIN LINES
10. FUTURE WET WEATHER PUMPING STATION CONNECTION
3. ~~NEW 6" WATER VALVE~~
3. ~~NEW MANHOLE (SEE PROFILE SHEET C-23)~~ TIE INTO 90° VERTICAL BEND. SEE MECHANICAL DRAWINGS (FACILITY 500) FOR CONTINUATION
13. NEW 24" DIAMETER PLANT DRAIN (SEE PROFILE SHEET C-25)
14. (3) MANDATORY TEST PITS (LOCATIONS MAY VARY)
2. 15. 6' DIAMETER SEALED DRY WELL VALVE VAULT (TYP. MANHOLE) SEALED WITH 12" GATE VALVE. (SEE DETAIL ~~18~~ 20 ON SHEET ~~CD-11~~ CD-12.)
5. 16. EM-6 MANHOLE (ELECTRICAL)
5. 17. PROPOSED ELECTRICAL DUCTBANK - (TO BE INSTALLED WITH CONTRACT 1739)

NOTES

1. SEE SHEETS C-31 AND C-32 FOR GRADING PLAN.
2. ALL SITE WORK WILL BE COMPLETED BY THE GENERAL CONTRACTOR.
3. INSTALLATION OF SITE UTILITIES / YARD PIPING WILL BE COMPLETED BY THE GENERAL CONTRACTOR TO 5 FEET FROM THE EXTERIOR WALL OF STRUCTURES. THE PLUMBING CONTRACTOR WILL BE RESPONSIBLE FOR ALL BUILDING CONNECTIONS TO THIS CONNECTION POINT.
4. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE ENTIRE PROPOSED GAS LINE FROM THE BUILDING TO CONNECTION POINT AT THE EXISTING LINE. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR TRENCHING, BEDDING, AND BACKFILL.
5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF CONDUITS, WIRING, CONCRETE AND REBAR FOR DUCTBANKS. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR TRENCHING, BEDDING AND BACKFILL.
6. SEE SHEETS C-23, C-24, AND C-25 FOR YARD PIPING PROFILES.
7. REFER TO DRAWING C-41 AND C-42 FOR STORM DRAIN PIPING DESIGN.

0 20' 40'

SCALE: 1" = 20'-0"

Designed by:	LJK
Drawn by:	TPM
Checked by:	KPK

REVISION

REV No.	DATE	DESCRIPTION	APPV
0	10/28/20	ISSUED FOR BIDS	
1	12/22/20	ADDENDUM 2	
2	1/5/21	ADDENDUM 3	
3	1/11/21	ADDENDUM 4	
4	1/28/21	ADDENDUM 6	
5	3/31/21	ADDENDUM 10	

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March 31, 2021

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

C-21
YARD PIPING PLAN - WEST

Contract:	1729
CAD File Name:	C-SITE-DESIGN.DWG
Date:	OCTOBER 2020
Sheet:	38 OF 645

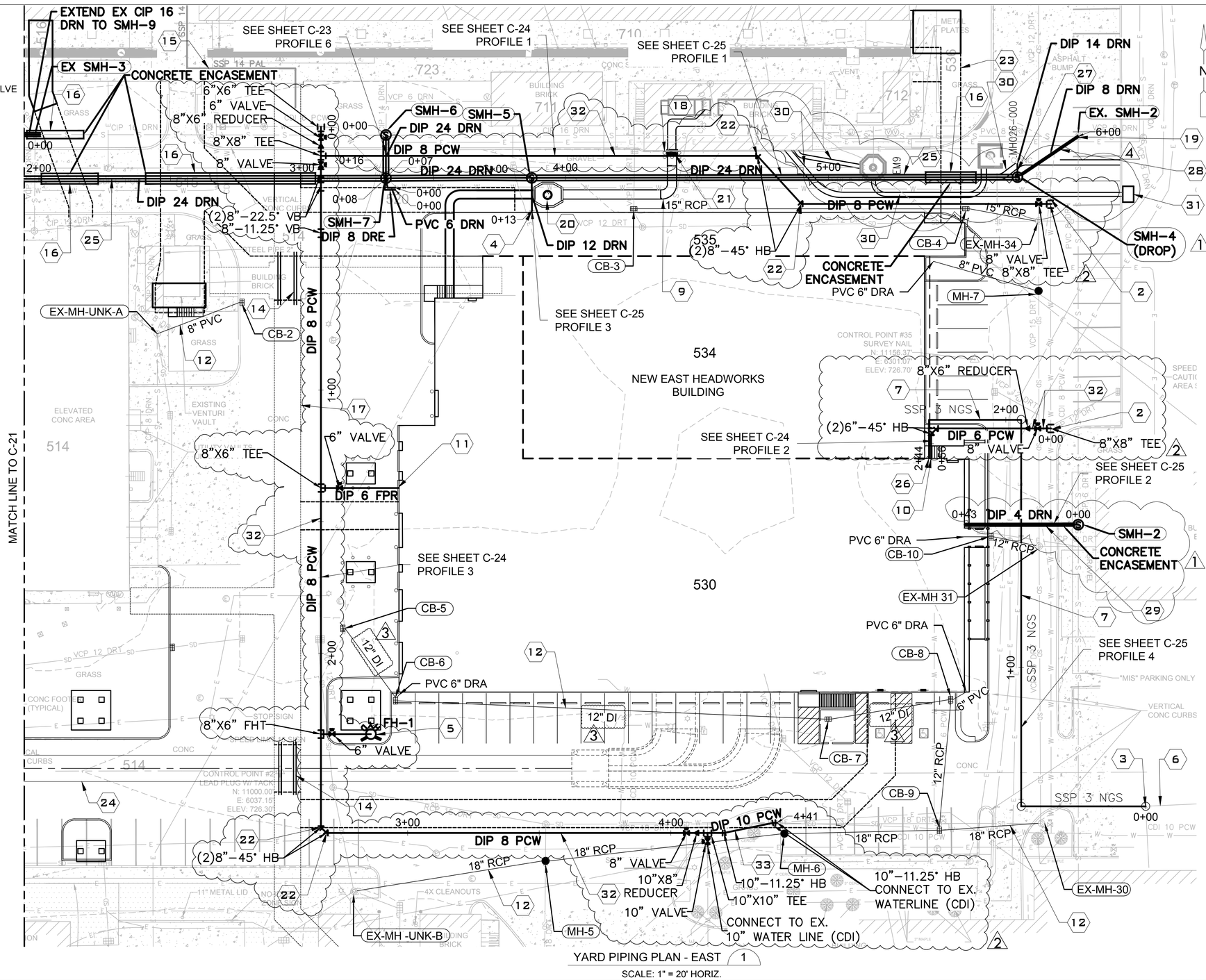
KEYNOTES

1. NEW 6" WATER LINE
2. WATERLINE 6" x 6" 8" x 8" CONNECTION, AND NEW 6" 8" VALVE (SEE PROFILE ON C-24) 2
3. NEW 3" GAS LINE CONNECTION TO EXISTING GAS LINE - 3" TEE FITTING AND NEW BURIED PLUG VALVE
4. TANK LINE DRAIN (8" SANITARY) SEE 530-M-09 FOR CONTINUATION
5. 6" WATERLINE TO FIRE HYDRANT ASSEMBLY (FH-1) (SEE DETAIL NUMBER 7, SHEET CD-10)
6. APPROXIMATE LOCATION OF EXISTING 3" GAS LINE LOCATION FOR CONNECTION
7. NEW 3" GAS LINE
8. NEW SANITARY MANHOLE SMH-1 2
9. CABLE ELECTRIC DUCTBANK
10. NEW 2" WATER LATERAL WITH 6" x 2" REDUCER
11. NEW 6" FIRE SUPPRESSION LINE TO BUILDING
12. NEW STORM DRAIN (SEE SHEET C-41 AND C-42 FOR STORM DRAINS)
13. NORTH WATERLINE RELOCATION (SEE SHEET C-24 FOR PROFILE) 2
14. NEW (PIPE GALLERY UTILITIES)
15. ABOVE GRADE AIR LINE
16. CONCRETE ENCASEMENT FOR NEW PLANT DRAIN (SEE PROFILES)
17. EXISTING PIPE GALLERY
18. NEW BOLLARDS - TO PROTECT PROPOSED ELECTRICAL - SEE DETAIL 6 ON CD-10 (TYPICAL)
19. 24" PLANT DRAIN CONNECTION TO EXISTING SEWER (SEE PROFILE ON SHEET C-25)
20. NEW ELECTRICAL MANHOLE 10' X 10' X 8' (SEE ELECTRICAL DRAWINGS)
21. NEW UTILITY WALL PENETRATION (REFERENCE ELECTRICAL DRAWINGS)
22. (2) 45 DEGREE BENDS (6" 8" PCW WATERLINES) 2
23. NEW EAST PRIMARY INFLUENT CONDUIT (FACILITY 536)
24. NEW PROPOSED 120" INFLUENT PIPE (SEE SHEET 509-C10)
25. NEW 24" SANITARY SEWER PLANT DRAIN LINE
26. NEW 3" GAS LINE LATERAL TO EAST HEADWORKS
27. EXTEND 14" DIP NORTH FOR FUTURE TANK DRAIN APPROXIMATELY 5'. PROVIDE 14" RESTRAINED DIP CAP.
28. NEW DIP 8" DRN
29. CONCRETE ENCASEMENT FOR NEW PLANT DRAIN (SEE PROFILES)
30. NEW ELECTRIC DUCTBANK (18" X 18"). TO BE INSTALLED WITH CONTRACT 1739. 1
31. NEW ELECTRICAL DUCTBANK HANDHOLE (18" X 18"). TO BE INSTALLED WITH CONTRACT 1739.
32. NEW 8" WATERLINE
33. NEW 10" WATER LINE 2

NOTES

1. ALL SITE WORK WILL BE COMPLETED BY THE GENERAL CONTRACTOR.
2. INSTALLATION OF SITE UTILITIES / YARD PIPING WILL BE COMPLETED BY THE GENERAL CONTRACTOR TO 5 FEET FROM THE EXTERIOR WALL OF STRUCTURES. THE PLUMBING CONTRACTOR WILL BE RESPONSIBLE FOR ALL BUILDING CONNECTIONS TO THE CONNECTION POINT WITH THE GENERAL CONTRACTOR.
3. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE ENTIRE PROPOSED GAS LINE FROM THE BUILDING TO CONNECTION POINT AT THE EXISTING LINE. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR TRENCHING, BEDDING, AND BACKFILL.
4. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF CONDUITS, WIRING, CONCRETE AND REBAR FOR DUCTBANKS. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR TRENCHING, BEDDING, AND BACKFILL.
5. SEE SHEETS C-23, C-24, AND C-25 FOR YARD PIPING PROFILES.
6. SEE SHEET C-26 FOR NEW CONDUIT PROFILES.
7. SEE SHEET C-41 AND C-42 FOR STORM DRAIN DESIGN.
8. CONTRACTOR TO SUPPORT NEW AND EXISTING ELECTRICAL UTILITIES DURING CONSTRUCTION OF NEW 24" DIAMETER PLANT DRAIN LINE. (SEE PROFILE ON C-25 FOR DETAILS).

0 20' 40'
SCALE: 1" = 20'-0"



YARD PIPING PLAN - EAST 1
SCALE: 1" = 20' HORIZ.

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LJK	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	0	10/28/20	ISSUED FOR BIDS	
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March 31, 2021

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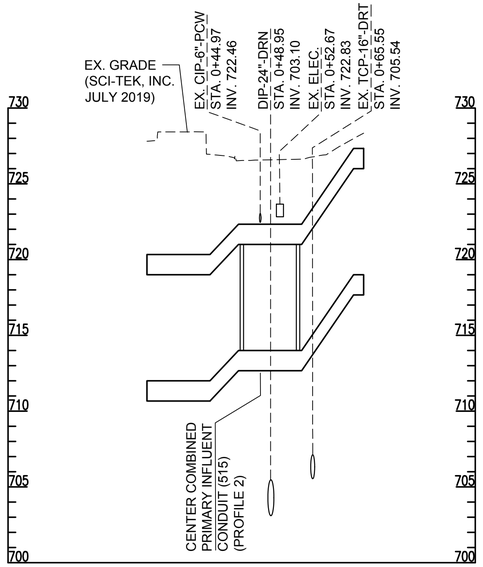
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

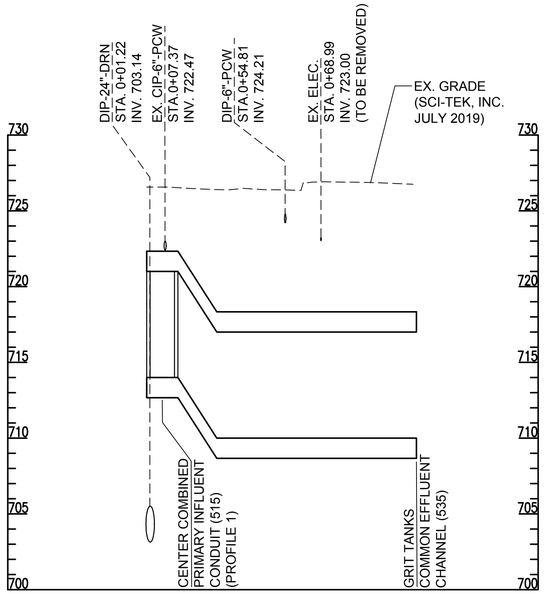
C-22
YARD PIPING PLAN - EAST

Contract:	1729
CAD File Name:	C-SITE-DESIGN.DWG
Date:	OCTOBER 2020
Sheet:	39 OF 645



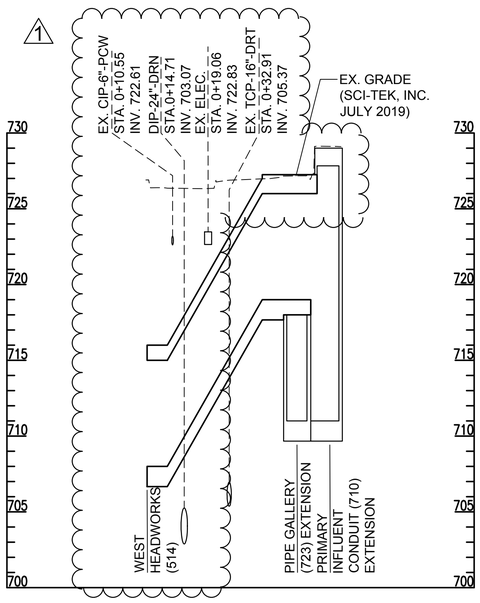
PROFILE - CENTER COMBINED
PRIMARY INFLUENT CONDUIT (515) 1

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.



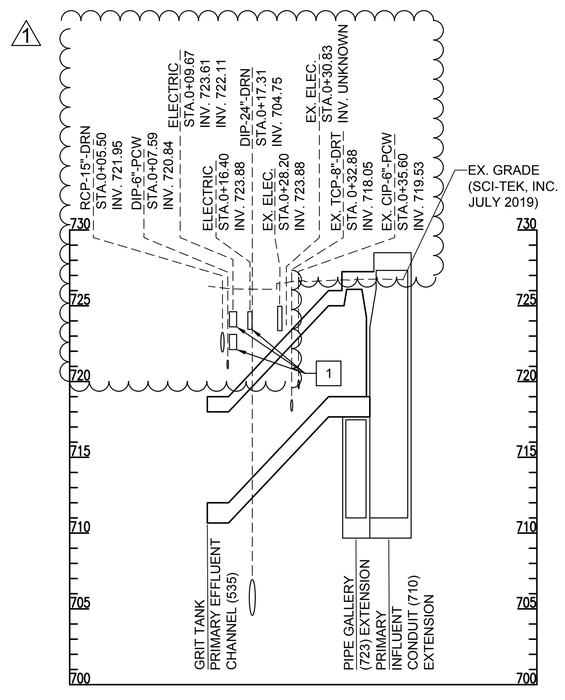
PROFILE - CENTER COMBINED
PRIMARY INFLUENT CONDUIT (515) 2

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.



PROFILE - WEST PRIMARY
INFLUENT CONDUIT (516) 3

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.



PROFILE - EAST PRIMARY
INFLUENT CONDUIT (536) 4

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

GENERAL SHEET NOTES

1. SEE STRUCTURAL DRAWINGS FOR CONDUIT DESIGN AND CONCRETE SLAB ELEVATION INFORMATION.

X SHEET KEY NOTES:

1. ELECTRICAL DUCT BANKS TO BE INSTALLED UNDER CONTRACT 1739.

VERTICAL 0 5' 10'
SCALE: 1" = 5'-0"

HORIZONTAL 0 30' 60'
SCALE: 1" = 30'-0"

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COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — MICHAEL DUANE OLIVER — ENGINEER — No. PE076953 — 10/28/20

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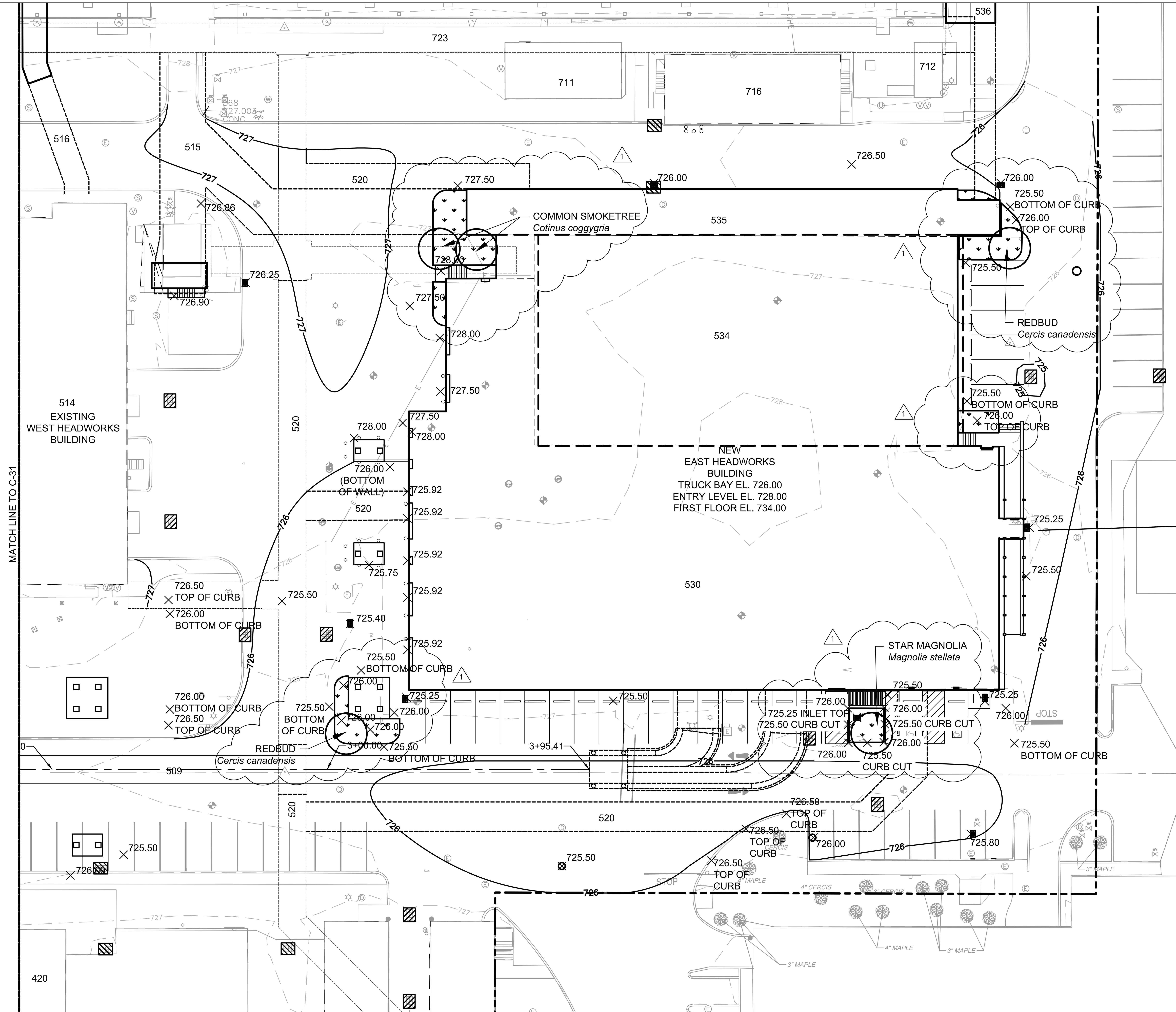
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

C-26
515, 516, 535, AND 536
CONDUIT PROFILES

Contract: 1729
CAD File Name: C-26.DWG
Date: OCTOBER 2020
Sheet: 43 OF 645



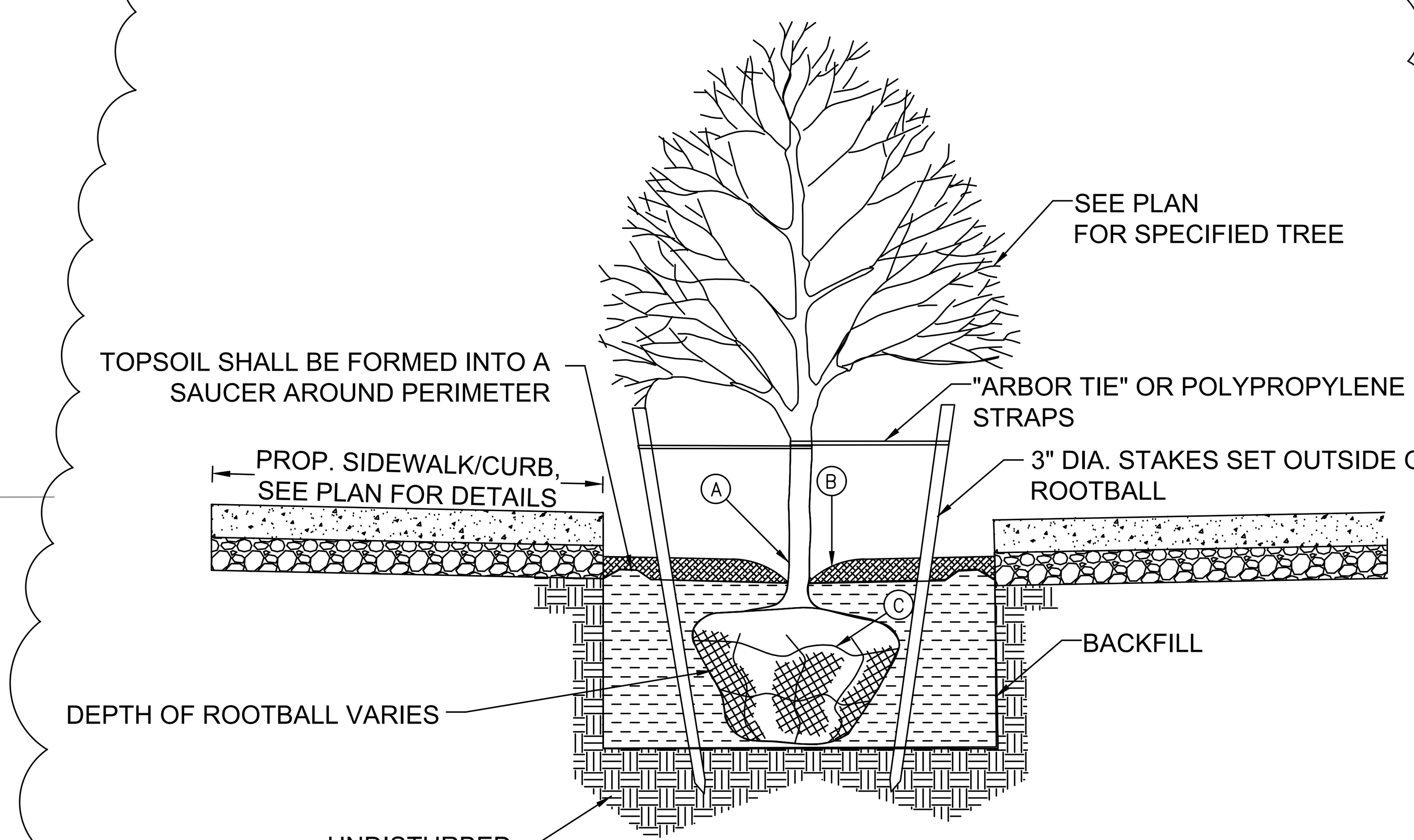
LEGEND

INLET PROTECTION (SEE SHEET C-35)

LIMITS OF DISTURBANCE

PROPOSED TREE, SEE PLAN FOR SPECIES

PROPOSED LANDSCAPED AREA



Ⓐ ROOT FLARE OF TREE SHALL BE PLANTED ABOVE SURROUNDING GRADE; TREE SHALL BE PLUMB AFTER SETTLEMENT

Ⓑ 3" MULCH (PULL AWAY FROM TRUNK)

Ⓒ ROLL BURLAP BACK FROM TOP ONE-THIRD OF ROOTBALL BEFORE BACKFILLING, CUT ROPE FROM TRUNK

TREE PLANTING & STAKE DETAIL

GENERAL NOTES

REFER TO SHEET C-42 FOR STORMWATER PIPING DESIGN INFORMATION.
REFER TO OVERALL LIMITS OF DISTURBANCE ON SHEET C-10.
REFER TO SUGGESTED SEQUENCE OF CONSTRUCTION ON SHEET C-33 AND CONTRACTOR LAYDOWN AREAS ON SHEET G-13.

REFER TO SHEET CD-12 FOR CONCRETE CURB CUT DETAIL.

TREES SHALL BE A MINIMUM 2" CALIPER, MEASURED 6" ABOVE THE ROOT BALL.
THE ROOTBALL SHALL BE LEVEL AND SET SLIGHTLY ABOVE THE SOIL GRADE (1"-2").
THE PLANTED AREA AROUND THE TREE SHALL RECEIVE 2" OF SHREDDED WOOD MULCH FOR WEED CONTROL.
TREES SHALL BE STAKED JUST BELOW THE FIRST BRANCH WITH 1"-3" WIDE POLYPROPYLENE STRAPS. TWO STRAPS ARE REQUIRED PER TREE, INSTALLED ON OPPOSITE SIDES OF THE TREE, AND CONNECTING HORIZONTALLY FROM THE TREE TO A STAKE. DO NOT USE ROPE OR WIRE THROUGH A HOSE. ARBOR-TIE IS AN ACCEPTABLE PRODUCT.
ALL STAKING SHALL BE REMOVED AFTER ONE YEAR.

GRADING AND ESC PLAN (2)
SCALE: 1" = 20'-0"

0 20' 40'
SCALE: 1" = 20'-0"

REV No.	DATE	DESCRIPTION	APPV
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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

C-32
GRADING AND ESC PLAN EAST

Contract: 1729
CAD File Name: C-32.DGN
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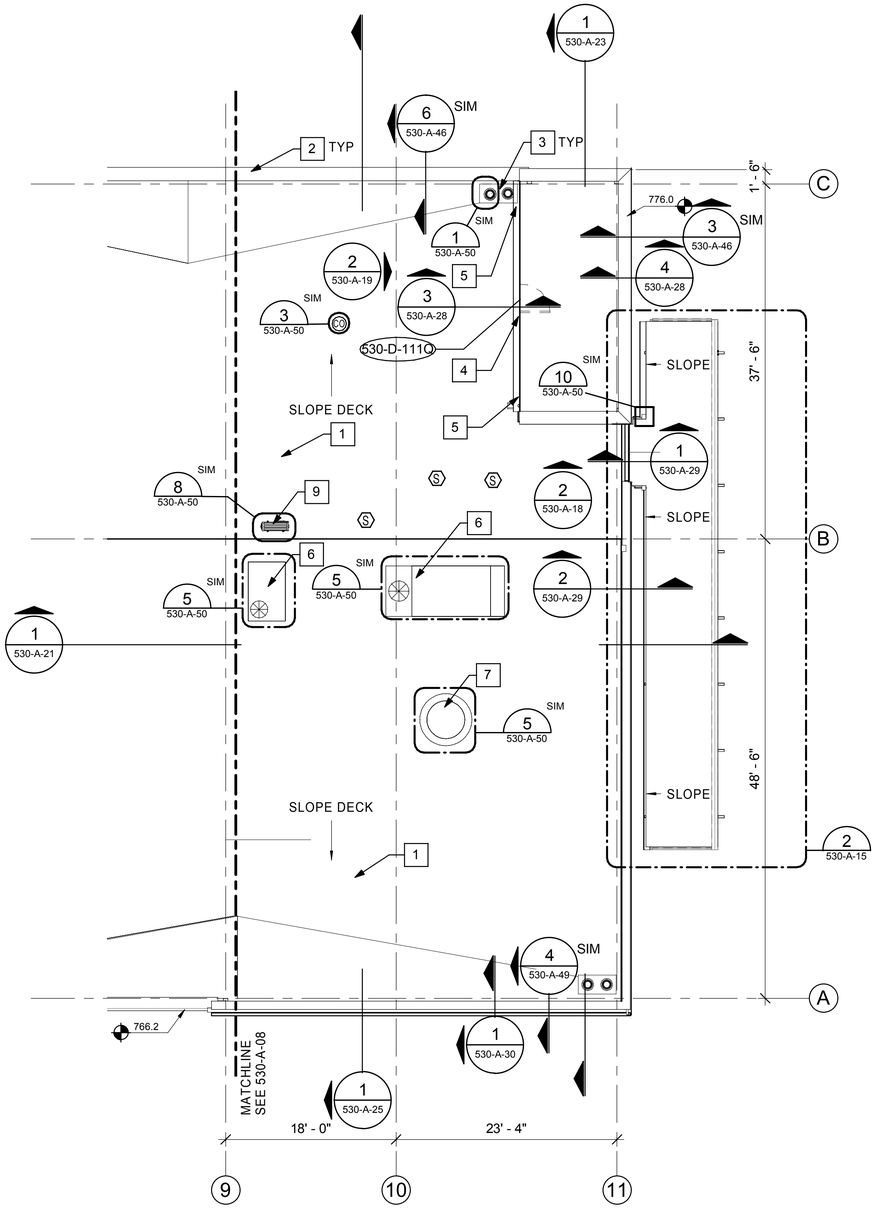
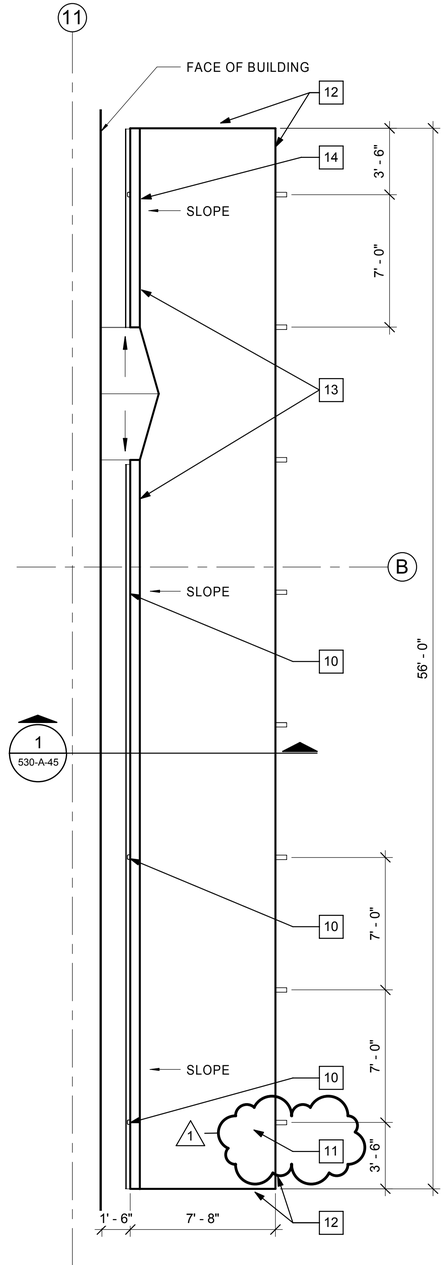


ROOF PLAN PART C 1
SCALE: 1/8" = 1'-0" 530-A-12

1 530-A-17



CANOPY ROOF PLAN 2
SCALE: 1/4" = 1'-0" 530-A-15

GENERAL SHEET NOTES

1. SEE DETAIL 1/530-A-12 FOR TYPICAL ROOF CONSTRUCTION
2. CURBS FOR MECHANICAL UNITS TO BE FURNISHED BY HVAC CONTRACTOR, INSTALLED BY GENERAL CONTRACTOR

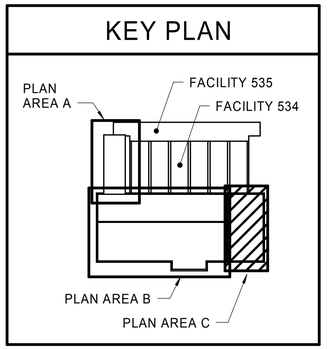
X SHEET KEYNOTES

1. MODIFIED BITUMEN ROOF SYSTEM OVER R-30 INSULATION AND COVER BOARD
2. PARAPET WITH METAL COPING
3. ROOF DRAIN - BY PLUMBING CONTRACTOR
4. GUTTER
5. DOWNSPOUT WITH SPLASHBLOCK
6. MECHANICAL UNIT BY HVAC CONTRACTOR
7. EXHAUST - BY HVAC CONTRACTOR
8. SCUPPER
9. CONDENSING UNIT EQUIPMENT RAIL BY HVAC CONTRACTOR
10. DOWNSPOUT TO CONCRETE RUNNEL
11. MODIFIED BITUMEN ROOF SYSTEM OVER TAPERED INSULATION
12. STAINLESS STEEL ROOF EDGE FASCIA
13. STAINLESS STEEL BENT PLATE GUTTER
14. DOWNSPOUT, TIE TO UNDERSLAB DRAIN SEE FLOOR PLAN FOR ADDITIONAL INFORMATION

N

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

KEY PLAN



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REVISION

REV No.	DATE	DESCRIPTION	APPV
1	03/31/21	ADDENDUM NO. 10	

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

530-A-15
EAST HEADWORKS
ROOF PARTIAL PLAN - C

Contract:	1729
CAD File Name:	530-A-15.DGN
Date:	OCTOBER 2020
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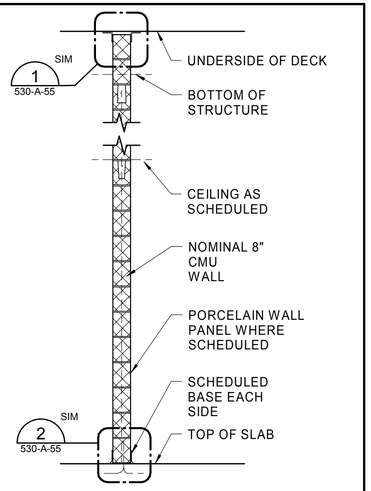
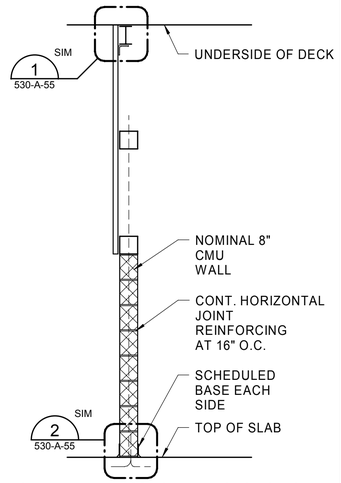


NOTE: SEE STRUCTURAL DRWAINGS FOR REINFORCING, BOND BEAMS, AND ADDITIONAL DETAILING REQUIREMENTS

TYPE MARK	PARTITION PROPERTIES		
	FIRE-RATING	UL NUMBER	FILLED CELLS
0A.1	NOT RATED	N/A	N/A
0A.2	NOT RATED	N/A	INSULATION*
1A.1	1 HR	U905	N/A
2A.1	2 HR	U905	N/A

*FILL CELLS WITH FOAM THERMAL INSULATION

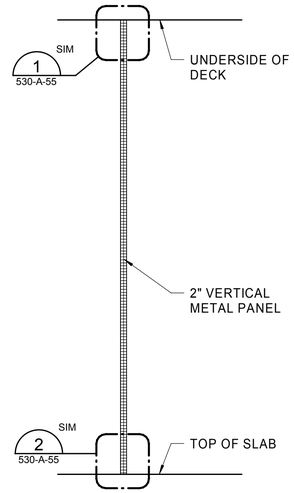
A INTERIOR PARTITION TYPE



NOTE: SEE STRUCTURAL DRWAINGS FOR REINFORCING, BOND BEAMS, AND ADDITIONAL DETAILING REQUIREMENTS

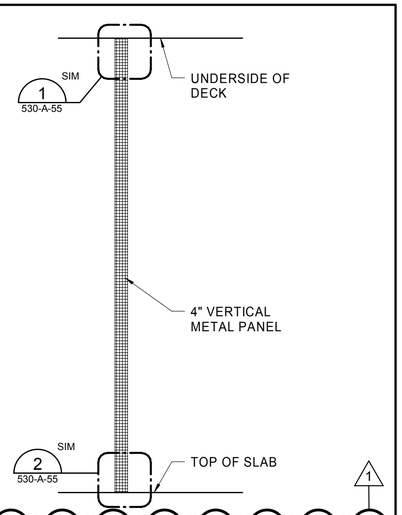
TYPE MARK	PARTITION PROPERTIES		
	FIRE-RATING	UL NUMBER	FILLED CELLS
0B.1	NOT RATED	N/A	N/A

B INTERIOR PARTITION TYPE



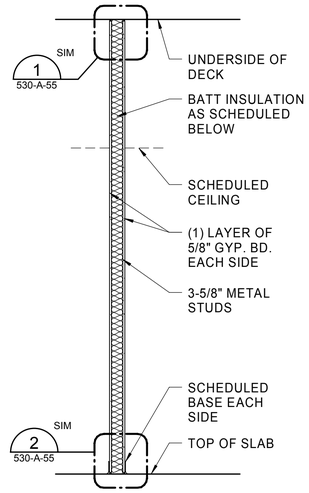
TYPE MARK	PARTITION PROPERTIES		
	FIRE-RATING	UL NUMBER	COMMENTS
0C.1	N/A	N/A	AIR TIGHT PARTITION

C INTERIOR PARTITION TYPE



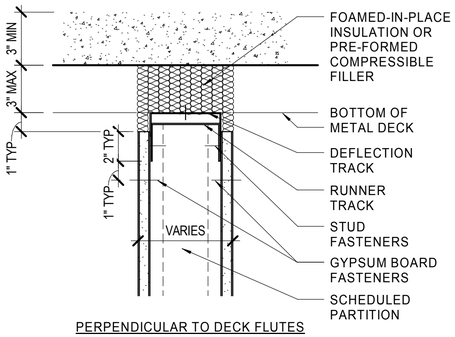
TYPE MARK	PARTITION PROPERTIES		
	FIRE-RATING	UL NUMBER	COMMENTS
1D.1	1HR	N/A	
0D.1	0HR	N/A	AIR-TIGHT PARTITION

D INTERIOR PARTITION TYPE

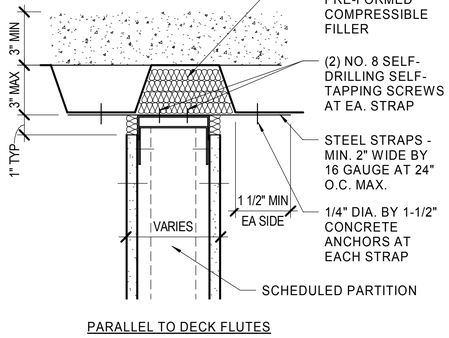


TYPE MARK	PARTITION PROPERTIES		
	FIRE-RATING	UL NUMBER	COMMENTS
0E.1	NOT RATED	N/A	IMPACT RESISTANT GYP BD
1E.1	1HR	U419	IMPACT RESISTANT GYP BD

E INTERIOR PARTITION TYPE

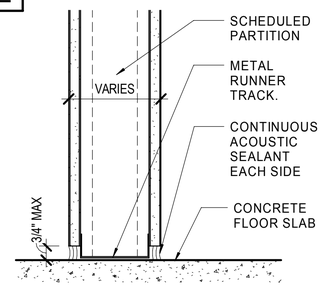


PERPENDICULAR TO DECK FLUTES

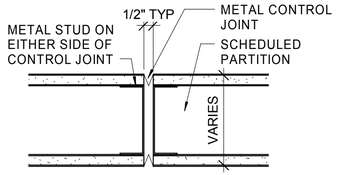


PARALLEL TO DECK FLUTES

TYPICAL WALL HEAD CONDITIONS 1
SCALE: 1/2" = 1'-0"



TYPICAL WALL BASE CONDITIONS 2
SCALE: 1/2" = 1'-0"



TYPICAL WALL CONTROL JOINTS 3
SCALE: 1/2" = 1'-0"

INTERIOR METAL STUD PARTITION TYPICAL DETAIL NOTES

1. REFER TO FLOOR PLANS OR ENLARGED PLANS FOR LOCATIONS OF EACH PARTITION TYPE.
2. TYPICAL CLEARANCE BETWEEN TOP OF STUDS AND FLANGE OF RUNNER TRACK SHALL BE 1/2" MINIMUM AND 3/4" MAXIMUM.
3. GYPSUM BOARD SHALL TYPICALLY BE FASTENED TO STUDS AT 1" BELOW THE BOTTOM OF THE TOP RUNNER TRACK. GYPSUM BOARD SHALL NOT BE ATTACHED TO THE TOP RUNNER TRACK.
4. ALL DETAILS ON THIS SHEET ARE SHOWN WITHOUT BATT INSULATION BETWEEN STUDS FOR CLARITY. SEE WALL TYPES FOR WALLS THAT REQUIRE INSULATION.
5. DEFLECTION TRACKS - PROVIDE DEFLECTION TRACKS SPECIFICALLY DESIGNED TO FIT SNUGLY AROUND RUNNER TRACK AT WALL HEAD. ATTACH DEFLECTION TRACK TO FLOOR OR ROOF ASSEMBLY.

INTERIOR CMU PARTITION TYPICAL DETAIL NOTES

1. OTHER DRAWING SHEETS MAY INCLUDE CONCRETE AND/OR MASONRY CONSTRUCTION DETAILS DIFFERING FROM THE TYPICAL CONDITIONS INDICATED HERE AND SHOULD ONLY BE USED WHERE INDICATED.
2. REFER TO FLOOR PLANS OR ENLARGED PLANS FOR LOCATIONS OF EACH PARTITION TYPE.

FIRE RATED ASSEMBLY NOTES

1. ALL MATERIALS USED IN FIRE-RATED ASSEMBLIES SHALL BE UL LISTED AND BEAR UL SEALS ACCORDING TO UL REGULATIONS.
2. DETAILS SHOWN ARE REPRESENTATIVE OF THE UL LISTING PROVIDED WITH THE DETAIL. THE DETAILS PROVIDED DO NOT INCLUDE ALL INFORMATION INCLUDED IN THE UL DIRECTORY LISTINGS. FINISHED ASSEMBLIES SHALL COMPLY WITH ALL REQUIREMENTS OF THE LISTED UL ASSEMBLY AND/OR WITH THE AUTHORITY HAVING JURISDICTION.

GENERAL FIRE RATING NOTES

1. WHERE PARTITION TYPES HAVE A UL LISTING ALL COMPONENTS OF THAT PARTITION SHALL CARRY THE UL SEAL OR BE DOCUMENTED AS UL APPROVED FOR USE IN RATED WALLS. ALL ASPECTS OF THE ASSEMBLY WHETHER SPECIFICALLY CALLED OUT IN THESE DETAILS OR NOT SHALL COMPLY W ITH THE SPECIFIED UL LISTING FOR THAT ASSEMBLY. OTHER LISTED ASSEMBLIES MAY BE EMPLOYED WITH WRITTEN NOTIFICATION OF THE DESIRED ALTERNATE ASSEMBLY AND THE ARCHITECT'S APPROVAL.
2. ALL STUDS IN FIRE RATED ASSEMBLIES SHALL MEET THE UL LISTING REQUIREMENTS FOR MINIMUM STUD GAUGE (OR BASE METAL THICKNESS), AND FLANGE AND RETURN DIMENSIONS. MINIMUM FASTENER SIZES AND SPACING SHALL COMPLY WITH UL LISTING AS WELL AS STRUCTURAL ARRANGEMENT REQUIREMENTS. GYPSUM BOARD SHALL BE INSTALLED WITH ORIENTATION AND LAPPING MEETING THE REQUIREMENTS OF THE SPECIFIED UL LISTING.
3. FOR RATED PARTITIONS THAT INTERSECT FLOORS AND/OR ROOFS ABOVE AND BELOW THE PARTITION SHALL BE INSTALLED PER THE DETAILS FOR RATED WALL HEAD AND BASE DETAILS ON THE FOLLOW ING SHEETS. PARTITIONS INTERSECTING FLOORS AND/OR ROOF NOT REQUIRED TO BE RATED MAY USE THE NON-RATED PARTITION HEAD AND BASE DETAILS.

GENERAL INTERIOR PARTITION NOTES

1. PARTITION TYPES SHOWN SHALL BE DESIGNED TO MEET MINIMUM 5 PSF LATERAL LOADING PER THE INTERNATIONAL BUILDING CODE.
2. INTERIOR METAL STUD FRAMING SHALL EXTEND FROM FLOOR TO UNDERSIDE OF STRUCTURE ABOVE. UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR BY SPECIFIC WALL TYPE, STUDS SHALL NOT BE CUT OFF JUST ABOVE THE CEILING.
3. ALL PARTITIONS OR SIDES OF PARTITIONS FACING A "WET" AREA, INCLUDING SHOWERS, SINKS, AND TOILETS SHALL HAVE MOISTURE RESISTANT GYPSUM BOARD IN COMPLIANCE WITH THE SPECIFICATIONS. PARTITIONS TO RECEIVE TILE SHALL HAVE BACKER BOARD IN COMPLIANCE W ITH THE SPECIFICATIONS. W ALLS TO RECEIVE OTHER BOARD MATERIALS SUCH AS ABUSE RESISTANT BOARD MAY BE NOTED ON FLOOR PLANS OR DETAILS.

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Designed by: ECR
Drawn by: KEH
Checked by: FAH

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	03/31/21	ADDENDUM NO. 10	

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

530-A-55
EAST HEADWORKS
PARTITION TYPES

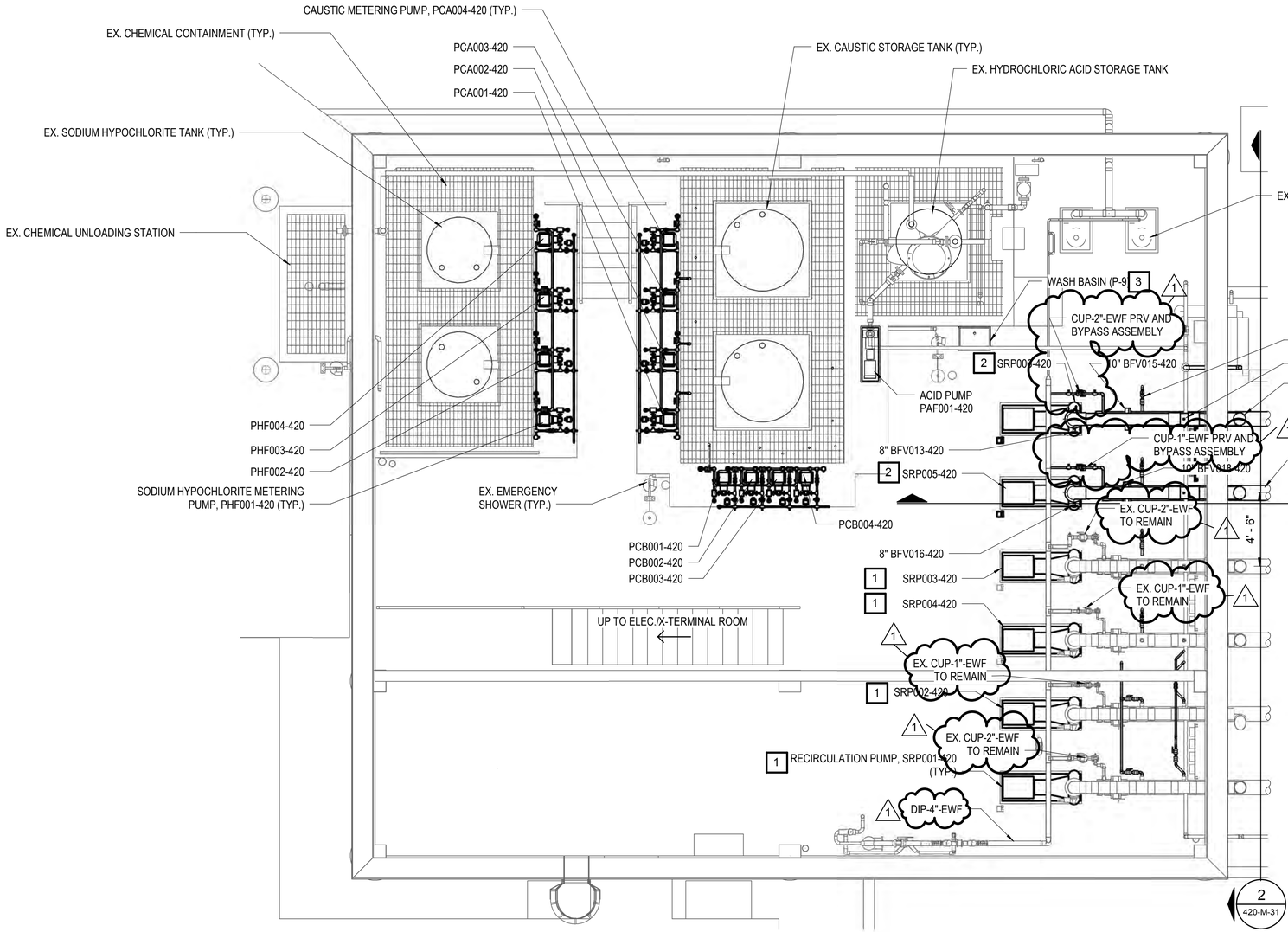
Contract: 1729
CAD File Name: 530-A-55.DGN
Date: OCTOBER 2020
Sheet: 120 of 645

GENERAL SHEET NOTES

1. SEE DRAWINGS G-08 & M-01 FOR PROCESS MECHANICAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

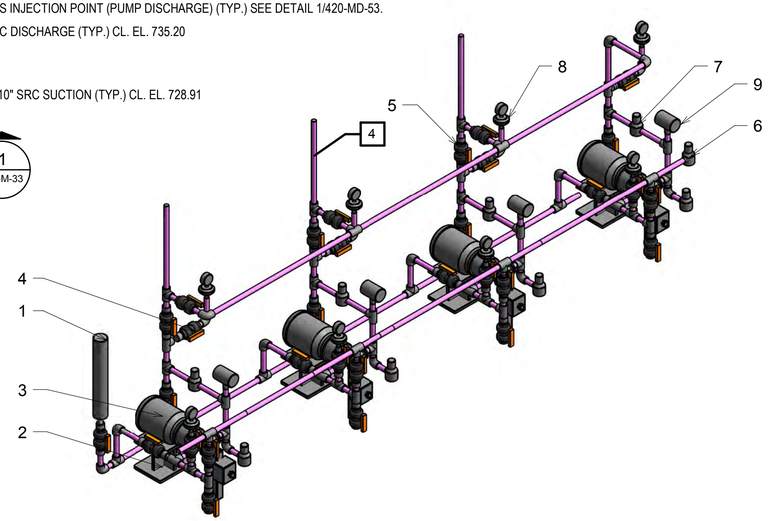
X SHEET KEYNOTES

1. EXISTING RECIRCULATION PUMPS TO BE REPLACED IN KIND. ALL EXISTING PIPING AND VALVES TO REMAIN CONNECTED TO NEW PUMPS.
2. PROVIDE AND INSTALL NEW PUMPS ON EXISTING PADS.
3. PROVIDE AND INSTALL NEW WASH BASIN AND CONNECT TO EMERGENCY SHOWER/EYEWASH WATER SUPPLY. WORK SHALL BE COMPLETED BY THE PLUMBING CONTRACTOR. SEE PLUMBING FIXTURE SCHEDULE ON SHEET 530-P-70 FOR DETAILS.
4. CONTRACTOR SHALL PROVIDE AND INSTALL FRP UNISTRUT AS REQUIRED TO SUPPORT CHEMICAL PIPING, VALVES, AND INSTRUMENTS.



CHEMICAL BUILDING PLAN 1

SCALE: 1/4" = 1'-0"



TYPICAL CHEMICAL METERING PUMP ISOMETRIC VIEW 2

SCALE: NTS

ITEM	QTY.	NAME
1	1	CALIBRATION COLUMN
2	4	PUMP RISER
3	4	GEAR PUMP
4	25	1/2" BALL VALVE
5	13	1" BALL VALVE
6	5	PRESSURE RELIEF VALVE
7	4	BACK PRESSURE VALVE
8	8	PRESSURE GAUGE & DIAPHRAGM SEAL
9	4	PRESSURE TRANSMITTER

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

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Designed by:	BK
Drawn by:	EMS
Checked by:	JPR

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	3/31/21	ADDENDUM NO. 10	

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ENVIRONMENTAL WEBSTER ASSOCIATES, INC.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL BRUCE KOETTER ENGINEER PE079909

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EXECUTIVE DIRECTOR, ALCOSAN

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

420-M-13
HEADWORKS ODOR CONTROL FACILITY
CHEMICAL BUILDING PLAN

Contract:	1729
CAD File Name:	420-M-13.DWG
Date:	OCTOBER 2020
Sheet:	311 of 645

ELEVATOR COMPLIANCE LETTER

As a condition of being included as a listed vendor in ALCOSAN's elevator specifications

[your firm here] _____affirms compliance with Contract 1729 Specification 14 21 23.16 Section 1.2C:

Insofar as practicable, the Owner desires that the electric traction elevators are comprised of non-proprietary components, including control equipment, that will allow service and maintenance by whomever the Owner determines, not necessarily the elevator contractor for this project.

Contractors are expected to clarify what, if any, proprietary components are included, along with procedures for obtaining spare parts and maintaining the elevators.

Special tools: Any special tools required to service the elevator shall be included in the base bid and become the property of the owner upon contract completion.

Diagnostic capabilities must be integral with the controls. Any diagnostic devices necessary to adjust, troubleshoot and change parameters must be a part of the control system and become the Owner's property upon completion of the job. If a separate diagnostic device is required, it shall be included in the bid at no additional cost to the Owner and become the Owner's property upon completion of the job.

The Owner must have ready access to software revisions and any technical support required to maintain the elevator in its originally installed functional state after completion of the installation."

[your firm here] _____further understands that failure to attest compliance in writing with the above specification will result in the rejection of any submitted elevator bid by ALCOSAN.

Signed,

[authorized representative of your firm]