alcosan
allegheny county sanitary authority

December 29, 2025

CONTRACT NO. 1797

OHIO RIVER TUNNEL

ADDENDUM No. 11

All Bidders bidding **Contract No. 1797** shall read and take note of this **Addendum.** The Contract Documents for **Contract No. 1797 – Ohio River Tunnel** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1797

The Acknowledgement attached to **Addendum No. 11** is to be signed and returned immediately via email to ORT.bids@alcosan.org and acknowledged with Bidder's Proposal.

Michael Lichte P.E.

Director of Regional Conveyance

3300 Preble Avenue • Pittsburgh, PA 15233-1092 • ph: 412.766.4810
www.alcosan.org

ACKNOWLEDGEMENT OF

CONTRACT NO. 1797 – OHIO RIVER TUNNEL

***** return via email to ORT.bids@alcosan.org *****

ADDENDUM No. 11

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

December 29, 2025
CONTRACT NO. 1797
OHIO RIVER TUNNEL
ADDENDUM No. 11

ATTENTION:
BIDS DUE: 11:00 A.M., prevailing time, on **Thursday, February 26, 2026**
DEADLINE FOR QUESTIONS: 5:00 P.M., **Friday, January 16, 2026**

This Addendum No. 011 consists of 82 total pages including the following attachments:

- Attachment A – APPENDIX A – TECHNCIAL SPECIFICAITONS, Section 01 45 23, Attachment 2 – *ATTACHMENT 2 – List of Utilities for Inspection and Cleaning* (7 pages, Revised 12/29/25)
- Attachment B – APPENDIX E – SUPPLEMENTAL INFORMAITON, Section 10 *Utility Inspection Coverage Exhibits* (9 sheets including Appendix E fly sheet)
- Attachment C – CONTRACT DRAWINGS
  - Revised O14-CI-600 (Sheet 519 of 770)
  - Revised O14-ST-605 (Sheet 545 of 770)
  - Revised O14-ST-606 (Sheet 546 of 770)
- Attachment D – CONTRACT DRAWINGS
  - Revised AS1-CI-501 (Sheet 500 of 770)
  - Revised AS1-CI-507 (Sheet 506 of 770)
  - Revised O41-CI-202 (Sheet 301 of 770)
  - Revised O41-CI-203 (Sheet 302 of 770)
  - Revised O41-CI-205 (Sheet 304 of 770)
- Attachment E – APPENDIX E – SUPPLEMENTAL INFORMATION, Section 5.7.3 – *Robb Street Sewer, Project Number 76-0212-006-02* (8 sheets including Appendix E fly sheet)
- Attachment F - CONTRACT DRAWINGS
  - Revised A58-ST-406 (Sheet 407 of 770)
  - Revised AS1-CI-503 (Sheet 502 of 770)
  - Revised AS1-CI-505 (Sheet 504 of 770)
- Attachment G - CONTRACT DRAWINGS
  - Revised O07-ST-701 (Sheet 590 of 770)
- Attachment H – CONTRACT DRAWINGS
  - Revised ORT-ST-103 (Sheet 103 of 770)

    - Revised ORT-ST-500 (Sheet 152 of 770)
- Attachment I – CONTRACT DRAWINGS
    - Revised ORT-ST-200 (Sheet 117 of 770)
    - Revised ORT-ST-300 (Sheet 130 of 770)
    - Revised ORT-ST-400 (Sheet 141 of 770)
    - Revised ORT-ST-600 (Sheet 159 of 770)
    - Revised ORT-ST-700 (Sheet 169 of 770)
    - Revised ORT-ST-800 (Sheet 179 of 770)

ATTENTION BIDDERS
The following additions to and modifications of the Contract Documents will be included in and become part of the Contract for the Allegheny County Sanitary Authority (ALCOSAN) Ohio River Tunnel. Bidders are instructed to take the following into account in rendering any Bid for this work

The Bidder is responsible for verifying that he/she has received and reviewed all of the pages of the Contract Documents as well as all of the pages and attachments of all addenda. The Bidder shall verify all pages with the table of contents in the Contract Documents and the first page of all Addenda. Receipt of this Addendum must be noted on the Bid Form. These items modify the portions of the documents specifically noted; all other provisions of the Contract Documents shall remain in effect.

CONTRACT NO. 1797
OHIO RIVER TUNNEL
ADDENDUM NO. 11

A. QUESTIONS & ANSWERS FROM RFI'S SENT TO ORT.bids@alcosan.org

Q1 *Clause 1.1.C in specification section 01 90 00 calls for the Contractor to comply with several agreements ALCOSAN has entered into with the affected railroads including obtaining and paying for right-of-entry permits and associated fees for activities planned in the right-of-way that are not specifically covered in the agreements listed in 1.3.A of that same specification section. Per clause 1.3.A in 01 90 00 please confirm the Contractor is responsible for coordinating the necessary protection services with the appropriate railroads while ALCOSAN will pay the railroads directly for said protection services.*

A1 **It is the Contractor's responsibility to coordinate with the railroads to obtain permits and approvals, railroad-provided engineering reviews, railroad-provided construction inspections, railroad-provided protection services, to pay for permit fees and insurance, to pay for the costs associated with obtaining permits, and to pay other fees associated with railroads' requirements. Please review specific Bid Items and Allowances.**

Railroads' insurance requirements as they are currently known are identified in the Contract Documents, Article 3SC, Exhibit A – 3SC. Prepare bids in accordance with the Contract Documents.

Related to this response, see:
Section B, Items 1, 2, and 3 for CHANGES TO CONTRACT DOCUMENTS:

- **Article 1 – Bidding Documents, Bid Form, Item 121, Specific Allowance #9 – Additional Traffic Control and Site Security and Railroad Requirements**
- **Specification Section 01 22 00 - Measurement and Payment, 3.2 Bid Items, Item 121, Specific Allowance #9 – Additional Traffic Control and Site Security and Railroad Requirements**
- **Specification Section 01 90 00 - Railroad Permit Compliance Requirements, 1.3.A, 3.1.A, and 3.1.C.**

Q2 *Please provide copies of all railroad agreements referenced in specification section 01 90 00.*

A2 **Railroad agreements are pending and will be provided upon receipt from each of the three railroads.**

Bidders must inform themselves of railroad requirements unique for each railroad. The Contractor is responsible for timely coordination with railroads to obtain and maintain required insurances, acquire permits, to obtain railroad-provided protection services, and to obtain railroad-provided construction inspections in advance of work. Bidders are advised to request necessary railroad-provided services well in advance of need.

Q3 *Please confirm the Contractor will be granted compensable time extension(s) for any Work delayed by a railroad's failure to provide protection services that the Contractor requested in accordance with the timelines required by the respective railroad agreement.*

A3 **Request for consideration of perceived railroad delay will be considered by the Owner on a case by case basis upon Contractor's written documentation of submittals to the railroads, including documentation to show timeliness and completeness of Contractor's submittals, and documentation to demonstrate the impact to the overall project's critical path.**

Bidders are advised to request necessary railroad-provided reviews well in advance of need.

Q4 *Attachment 2 from Specification 01 45 23, in the section for site O14, lists the cleaning and inspection of a 15" VCP and 30" RCP from MH 007P029 to MH 1D. The Utility Inspection Limit Map provided with Addendum 4 appears to show the 15" passing through MH 007P023 and into MH-N0 and, apparently, the 30" running from MH-N0 to MH1D. Drawing O14-CI-608 appears to show a different routing. The 15" appears to dead-end into the 42" RCP and the 30" appears to run from MH-N0 to a dead-end into the 48" RCP. Several questions arise:*
A)What is the correct routing of these two lines?
B)Are either the 15" or the 30" subject to the dry-weather flow volumes of the 42" and/or the 48" sewers?
C)Since all the 30" and the portion of the 15" downstream of MH 007P023 are going to be removed, why don't we simply do the inspection and cleaning from MH 007P029 to 007P023?

A4 **A) Refer to O14-CI-600 for the presumed routing of the sewer line based on field survey and CCTV inspection documentation. This information generally aligns with the Utility Inspection Coverage Exhibits included in Addendum 4, Attachment B.**
B) Bidders to assume that the existing 15" and the existing 30" sewer lines may be influenced during dry weather.
C) Suggestion accepted. Replace Specification Section 01 45 23, Attachment 2 in its entirety with Specification Section 01 45 23, Attachment 2 REVISED 12/23/25. See Item 4 and Attachment A of this Addendum for CHANGES TO CONTRACT DOCUMENTS. Exhibits added to APPENDIX E –

SUPPLEMENTAL INFORMATION in Addendum 4 have been REVISED. See Attachment B of this Addendum.

Q5 *Attachment 2 from Specification 01 45 23, in the section for site O14, lists the cleaning and inspection of a 48" Sewer from MH O-14-PS to Outfall O-14. It also lists the cleaning and inspection of a 42" Sewer from MH O-14-PS to Outfall O-14A. Both of these outfalls are shown on Drawing O14-CI-600 as "NOT FOUND". There is no information on Table 2 as to whether or not the outfalls have flap gates and it appears that the flap gates for these lines are at the existing regulator, the site of MH O-14-PS. There are no provisions for a cofferdam at either outfall. Are these lines submerged and, if so, how can they be cleaned and inspected?*

A5 **Both noted overflow sewers are submerged. Flap gates exist within the existing O14 regulator, not at the outfall locations. See Section B, Item 4 and Attachment A of this Addendum as the requirement for CCTV of these two existing lines has been modified to sonar inspection.**
Specification 01 45 23, Part 1.1.G. has been added in its entirety. See Section B, Item 5 for CHANGES TO CONTRACT DOCUMENTS.
Specification 01 22 00 – Measurement and Payment, Bid Item 108 – Sewer CCTV, Cleaning and Stabilization is REVISED; see Section B, Item 6 for CHANGES TO CONTRACT DOCUMENTS.

Q6 *Attachment 2 from Specification 01 45 23, in the section for site O14, lists the cleaning and inspection of a 54" Sewer from MH O-14-PS to MH ADC007P014A (13 LF). There is no information on dry weather flow volumes for this sewer shown on the Table in Specification 02 73 40. Please provide.*

A6 **See Section B, Item 4 and Attachment A of this Addendum as the requirement for inspection and cleaning of the 54" sewer from MH O-14-PS to MH ADC007P014A has been eliminated.**

Q7 *Note 17 on Drawing O14-ST-606 states that "THE CONTRACTOR SHALL DISCHARGE ALL CONSTRUCTION WATER ARISING FROM THE O14-DS SITE TO THE EXISTING O14 REGULATOR (VORTEX DROP STRUCTURE) VIA THE PROPOSED 48" RCP WEST PIPE TRANSITION BOX." Additionally, Note II.G on Drawing O14-ST-607 requires that, prior to SOE installations, the Contractor must have completed "PREPARATION OF BYPASS PUMPING SYSTEM BETWEEN EXISTING MANHOLE NUMBER MN-01 ON THE 42" RCP AND NEWLY INSTALLED FLOW TRANSITION BOX TO THE O14 REGULATOR." This Transition Box, as identified by Suggested Construction Sequence #9 on Drawings O14-ST-604 and O14-ST-608, is located inside the Secant Pile SOE for the new Regulator. As there is significant discharge construction water associated with secant pile construction and other construction activities that are shown to occur before Suggested Construction Sequence #9, making this sequencing and requirements appear to be in direct conflict. Is there not an alternate route for discharging construction water to the existing Regulator?*

A7 **Refer to Section 31 23 19 - Control of Groundwater and Construction Water, Part 1.8.A (Table) for the designations, and Sheet O14-CI-600, for the plan locations, of the proposed discharge points (ALCOSAN-O14W/O14E) into the existing O-14 Regulator.**

Note 17 on Sheet O14-ST-606 has been revised to: THE CONTRACTOR SHALL DISCHARGE ALL CONSTRUCTION WATER ARISING FROM THE O14-DS SITE TO THE EXISTING O14 REGULATOR (VORTEX DROP STRUCTURE) ~~VIA THE PROPOSED 48-INCH RCP WEST PIPE TRANSITION BOX~~.

Note II.G on Drawing O14-ST-607 refers to "PREPARATION" work for the bypass pumping during DRY WEATHER conditions for the period of the fluming pipe installation. Contractor may wish to sequence work so that the discharging of construction water and future bypass pumping of the 42-inch RCP sewer do not overlap during that period of time.

See Section B, Item 7 (Specification) and Item 8 (Revisions to O14-CI-600, O14-ST-605, and O14-ST-606), and Attachment C of this Addendum for CHANGES TO CONTRACT DOCUMENTS.

Q8 *O14 Regulator Bypass Pumping - The suggested construction sequence for the bypass pumping at the O14 regulator appears to direct the flow from an existing 15" and 48" sewer pipes into manhole No. MH-N1. This bypass pumping will combine with the 42" flow already running through manhole No. MH-N1 and will eventually run through the flume pipe when the regulator is being constructed. Please confirm this is the intent of the bypass pumping scheme and if not provide clarification.*

A8 **The design intent is to bypass pump the flow in the 15" sewer into MH-N1 until the transition box to the existing regulator is completed (or partially completed), as noted in suggested Sequence Step 9 on Sheet O14-ST-608.**

Bypass pumping of the flow in the 48" RCP sewer is only required during the period of its final removal during dry weather conditions only. Refer to Answer to A9 of this Addendum for further clarification. The location for this bypass pumping shall be at a suggested upstream site to be provided in the next Addendum.

Q9 *O14 Regulator Bypass Pumping - The suggested construction sequence for the bypass pumping at the O14 regulator appears to direct the flow from an existing 15" and 48" sewer pipes into manhole No. MH-N1. This bypass pumping will combine with the 42" flow already running through manhole No. MH-N1 and will eventually run through the flume pipe when the regulator is being constructed. Please confirm the proposed 42" flume pipe is sized to accommodate all of these flows.*

A9 **The 42" fluming pipe size is an "in-kind" temporary replacement for the existing 42" RCP, providing same capacity as existing. Flows to be bypassed into the 42" RCP will be needed at different times during construction.**

Flow through the existing 48" RCP shall be maintained or replaced with a fluming pipe until its removal near the end of construction at this site as indicated on the Contract Documents.

Q10 *Table 2 from Specification 01 45 23, in the section for site O41, lists the cleaning and inspection of a 54" RCP sewer from MH 007F078 to Outfall 007KO40. Does Outfall 007KO40 have a flap gate which would allow for dewatering of the 54" sewer? If not, how is this sewer to be cleaned and inspected?*

A10 **There is no existing flap gate at Outfall 007KO40; Specification 01 45 23, Attachment 2 has been REVISED to allow for Sonar Inspection of the existing 54" sewer between MH 007F074 and Outfall 007KO40. Remaining portions of the existing 54" sewer shall be See Attachment A.**

Q11 *O27 High Voltage Power Line Outages - Specification Section 01 14 19 - Use of Sites, Section 3.1 states that de-energization of the existing high voltage lines at Site O27 MAY be possible during short periods of the ORT Project construction. The specifications also state to assume that the lines cannot be de-energized during seasonal high loads and consumption (which may vary). The Plans and Specifications also indicate that the existing high voltage power lines at Site O27 will impact the work at the site including the IPP River Wall. Since the installation of the river wall is critical to the advancement of the work at Site O27 and all work at the site is on the critical path, please provide the durations and outage windows that the lines can be de-energized. This information is critical to the contractors price proposal and the evaluation of whether or not the project can be completed on time.*

A11 **Duquesne Light Company (DLC) has confirmed that the 23 kV lines were constructed for and provide power only to the Owner. As such, maximum flexibility for the de-energization of the 23 kV power line will be coordinated by the Contractor in real time with the Owner and DLC. A minimum of 15 business days is needed from time of receipt of Contractor's written request for de-energization of these power lines and the de-energization of the power line. Specification 01 14 19, Part 3.1.B.2. has been revised. See Section B, Items 9 and 10 for CHANGES TO THE CONTRACT DOCUMENTS.**

Q12 *Please clarify the standard against which a differing site condition will be judged when conditions/locations are not baselined in the GBR, to avoid gaps in relief for atypical subsurface conditions.*

A12 **Page 1 of the GBR contains the following: "... If a condition is encountered that is not addressed in the GBR, the parties may look to other Contract Documents, including the GDR and Specifications, for assistance." Addendum 001, Section**

B, Item 11 states "...Other indications of site conditions and anticipated quantities or work are contained in other Contract Documents". If the subsurface condition is not indicated in the contract documents, and agreement cannot be reached with the Owner, the Contractor may submit a request to the DRB for adjudication.

Q13 *Please delete the phrase ", subject to the controlling provisions of the Contract, including the GBR's own terms" from the definition of the GBR as reliance on the GBR should be unqualified.*

A13 **This change has already been made. Please refer to Addendum No. 002, B. CHANGES TO CONTRACT DOCUMENTS, Item, 13. This answer replaces Addendum 9 Q39/A39.**

Q14 *The documents do not address delayed NTP as a relief event. Please add language deeming delayed NTP a suspension or change that entitles Contractor to equitable adjustments of price and time.*

A14 **The following will be added to the Contract Documents: If the Notice to Proceed exceeds 180 calendar days from the bid submission date, the Contractor may submit a request under the provisions in General Contract Conditions Article 3.32. for escalation of bid costs, but not time. See Section B, Item 17 – CHANGES TO CONTRACT DOCUMENTS for revisions.**

Q15 *There is no right afforded Contractor to terminate if Owner-directed suspensions persist or NTP is materially delayed. Please add a right for Contractor to terminate if suspensions exceed 180 days in the aggregate or if NTP is delayed beyond a reasonably defined period.*

A15 **The following will be added to the Contract Documents: If the Notice to Proceed exceeds 360 calendar days from the bid submission date, the Contractor may elect to terminate. A 60-calendar day notice of intent to terminate must be provided by the Contractor. See Section B, Item 18 – CHANGES TO CONTRACT DOCUMENTS for revisions.**

Q16 *The final paragraph of Section 3.30 of the General Conditions shifts risk by requiring Contractor to, at its sole expense, relocate, replace, or repair any materials or Work which becomes an obstruction or is damaged in any way due, in the Owner's sole opinion, to the Contractor's failure to properly store and/or protect the materials and/or Work during a suspension. Please delete the phrases ", at its sole expense and without any increase in the Contract Sum," and ", in the Owner's sole opinion," from the second sentence in Section 3.30. Further, please modify the provision such that reasonable demobilization/protection/replacement/repair/storage costs are compensable as part of the equitable adjustment provided Contractor is not at fault for the indefinite suspension.*

A16 **It is the Contractor's sole responsibility to protect all materials and work on the sites during a suspension of work, and the Contractor will remain liable for failing to do so in a manner that results in damage to the materials or work. Section 3.30 TEMPORARY SUSPENSION OF THE WORK of the General Condition allows for the Contractor to claim for all "out-of-pocket" costs, this would include the items mentioned in your question.**

Q17 *Exhibit B (Cost Reduction Incentive), if applicable, seemingly addresses value engineering. The following language appears therein (emphasis added): "The Contractor's forty percent (40%) share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the Work". Please clarify the intent of the underlined language as it seems potentially overbroad.*

A17 **The Owner cannot know in advance what cost reductions the Contractor will propose during value engineering, or the mechanism for remuneration, and as such any proposed cost reductions will be reviewed individually on a case by case basis. Should the Contractor and Owner fail to agree on any individual value engineering proposal for any reason, the Contractor is free to withdraw the value engineering proposal.**

Q18 *Relief for force majeure events appears conditioned on Owner "acknowledging and accepting it," and the list of qualifying events is closed/limited. Please (i) delete "as acknowledged and accepted by the Owner" from Section 3.34(A)(4) of the General Conditions, (ii) add "any other cause beyond Contractor's reasonable control" to the list in Section 3.34(A), and (iii) delete the phrase "that is not sought by Contractor in accordance with the Contract Documents" from Section 3.34(A)(10).*

A18 **Please see ARTICLE 2, ATTACHMENT B3, ESCROW AGREEMENT, Section E, H, Force Majeure. Where it clearly states that " Such acts shall include but not be limited to…....". The section you are quoting does not refer to Force Majeure events but to events that do not rise to that standard. As such, the Owner must accept that the events stated in 3.34 A. 4. have a delay on the critical path of the latest Owner accepted Contract Schedule. No changes will be made to the Contract Documents.**

Bidder item (ii), no changes will be made to the Contract Documents.

Bidder item (iii) the phrase "that is not sought by Contractor in accordance with the Contract Documents." will be deleted. See Section B, Item 19 – CHANGES TO CONTRACT DOCUMENTS for revisions.

Q19 *Please confirm, and include language in the contract to that effect, that Contractor will remain entitled to schedule relief in the event of concurrent delay.*

A19 **The Contractor is not entitled to schedule relief for concurrent delays. However, the Contractor may claim schedule relief in the event of concurrent delays under Article 3, Section 3.32 PROPOSED CHANGE ORDERS, CHANGE ORDERS, AND CHANGE DIRECTIVES and Section 3.34 DELAYS AND EXTENSION OF TIME.**

Q20 *Please add express language to the contract making it clear that Contractor is not bound by any performance metrics when it comes to the operation of the tunnel but rather is building to Owner-provided plans and specs.*

A20 **If the tunnel and regulator structures are constructed to the precise Owner provided plans and specs, the Contractor is not bound by any performance metrics. However, if the tunnel and regulator structures are not constructed to the precise Owner provided plans and specs then performance requirements may be considered in the determination of Contractor obligation.**

Q21 *Owners Protective Liability - Section 3 Insurance, Provision 6 – Owner's Protective Liability Can you please clarify what is meant by Owner's Protective Liability? Are you referring to General Liability or Professional Liability with this requirement?*

A21 **In the Supplemental Contract conditions, Article 3SC, Section 3.9 regarding insurance was deleted in its entirety and replaced with Exhibit A – 3SC Insurance which requires no Owner's Protective Liability.**

Q22 *Property Insurance - Section 3 Insurance, Provision 6 – Property Insurance –*

Requirement that states Contractor will include owner soft costs. Specifically, fees associated with Engineers and Architects and Loss of Use or Time Delay.

To include this coverage within the Builder's Risk Property Insurance, the Owner will need to provide Contractor with an itemization of these costs and the quantified values of insurance that you will be requiring. This will need to include the substantiation of the value you declare, so that we are able to present this to our underwriters to determine the cost for these extension of coverage.

A22 **For Article 3SC EXHIBIT A-3SC, INSURANCE, Property Insurance, the Contractor should assume a maximum liability for "fees and charges of engineers and architects" and "coverage for loss of use or time delay", of $5 million total.**

Q23 *On site A58/AS1 on drawing AS1-CI-505 in the plan a 96" x 96" Timber Flap Gate is called out at being in place on the existing outfall. Is this timber flap gate operable and in good condition such that it can be used to prevent river water from flowing back into the 102" brick combined sewer?*

A23 **Inspection and repair requirements of the flap gate at A58 outfall have been ADDED to Section 01 22 00 (BID ITEM 39). Notes for this effort have been ADDED to Contract Drawings A58-ST-406, AS1-CI-503, and AS1-CI-505. See Section B Items 11 and 12, and Attachment F for Changes to Contract Documents.**

Q24 *Specification 02 73 40 – 3.2.A calls for a dry weather flow management system of sufficient capacity to continuously convey 1.5 times the average daily maximum dry weather flows provided in the table below. The table provides two listings at Site O07: one for the 45" Chartiers Creek Interceptor (CCI) and one for the 24" McKees Rocks sewer. Specification Section 02 73 40 – 3.2.N provides requirements for bypassing the 24" sewer in subsection .2. However, subsection .1 addresses the CCI and is silent as to any bypassing requirements. In fact, it directs the Contractor to plan any construction on top of the CCI during dry weather periods.*

Per Detail C7 on Sheet 664, this 45" pipe will need to be demolished down to about spring-line to install line C-04-CS. Are Bidders to assume that this 45" line runs at half-full or less during dry weather periods?

A24 **With regard to (Sheet 664) Sheet ORT-MD-017 Detail C-7 for C-04-CS and C-04-MH2 construction, the Bidder is to assume that the 45" line runs half-full or less during dry weather periods for the installation of C-04-CS.**

For clarification purposes, Section 02 73 40 Part 3.5.N (not 3.2.N as quoted in the RFI) addresses flow management operations at the O07 Site. In addition, Details of C-04-MH1/C-04-CS, and C-04-MH2 are shown on Sheet O07-CI-705 and Sheet ORT-MD-017 (Detail C-7), respectively. Note 12 on Sheet O07-ST-701 has been revised to include reference ORT-MD-017.

See Section B Item 13 and Attachment G for Changes to Contract Drawing.

Q25 *For the cutoff of the secants three feet below grade in areas where near surface structures terminate at grade (such as the regulator at site A48) you would be pouring these structures up against the secant walls. When the cutoff of the secants is done, any exposed face of the walls of these structures will not have uniform walls and will take the shape of the piles. Is this acceptable or what remedies would Alcosan prefer in these instances?*

A25 **The exposed permanent NSF wall will be embedded in backfill during the final site grading. If determined necessary during SOE removal process, this shall be addressed on a case by case basis as a field change.**

Q26 *The cast-in-place concrete specification is calling for mockups in section 1.4C. Are mockups required for each site, or can they be done at one site and applied across the project?*

A26 **Section 03 30 00 Part 1.4.C has been deleted. See Section B Item 14 for changes to Contract Documents.**

Q27 *Does the concrete for the near surface facilities require integral waterproofing?*

A27 **Yes. Refer to Section 03 30 00 Part 2.3.L. Also refer to Addendum 006, Q44/A44 and Q46/A46 for the same requirement for shaft and tunnel concrete.**

Q28 *O06A Work Hours for Adit Construction - Specification section 01 32 13, Paragraph 1.3.D.5 indicates that the Contractor is exempt from the listed working hours when constructing the O06A adit if we are performing probing, grouting, drilling, maintenance and other underground non-blast-related work for adit construction.*

In order to meet the project completion dates, our project schedule indicates that we will need to perform blast related activities during work hours outside the Regular Work Hours at site 0O6A of 7:00AM to 7:00PM Monday through Friday, excluding Legal Holidays.

Please revise the specifications to allow contractors to blast for the O06A adit from 9:00AM to 5:00PM on Saturdays and remove muck from the O06A shaft from 7:00AM to 8:00PM on Saturdays.

A28 **No change to Contract Documents.**

The Bidder is reminded of Section 01 32 13 Part 1.3.C regarding obtaining written permission of the Owner and approval of the Municipality for work hours not authorized in the Contract Documents. Also noting that additional time is being added to the Contract per this Addendum Q49/A49 and Section B, Item 20.

Q29 *O27 IPP Wall Constructability - At the 027 site, the IPP wall shows and details an interlocking pipe pile that extends into rock. The current design is not constructable for two reasons:*
1. In order to advance the pipe into bedrock, this will require the pipe to be drilled through the bedrock. Assuming we drill in advance of the pipe, there are drilling systems that allow us to advance the casing, but would not allow the interlocking system to be drilled into rock.
2. If we were to try and oversize the drilling to incorporate the interlocking mechanism in the borehole, this would create an overlapping pilot hole in bedrock. Once the first interlocking pipe is installed, the interlocking mechanism would be in the way of drilling the 2nd pipe pile in.

Based on the above, can the design team provide specific design parameters for the contractor to assume when looking at alternative wall systems? Please confirm that alternative wall systems are permitted.

A29 **Ample case histories have used commercially available core bit / ring bit technologies for socketing interlocked pipe piles into rock. Bid the IPP walls as shown on Contract Documents.**

Q30 *Secant Pile Dimensions - Is there any significance to the secant pile diameters shown on the drawings as it relates to existing facilities/utilities? The exact sizes shown on the drawings do not match industry standard tooling as they are typically in metric sizes. Assuming the contractor can modify the pile sizes and maintain an equivalent design as shown (ie. equivalent section modulus per LFT of wall), can the contractor modify the pile diameters and spacing to match their tooling capabilities (ie. means and methods)?*

A30 **Yes, as long as the revised dimensions provide, at a minimum, equivalent structural capacity, rigidity, joint watertightness, functionality, and mitigation of ground settlement and groundwater drawdowns to the designs shown on the Contract Documents. Contractor must prepare and submit calculations.**

Q31 *We request an extension of the question deadline to two weeks prior to the bid date to allow us time to submit after the holiday season.*

A31 **See Addendum 10.**

Q32 *Is there any significance to the secant pile diameters shown on the drawings as it relates to existing facilities/utilities? The exact sizes shown on the drawings do not match industry standard tooling as they are typically in metric sizes. Assuming the contractor can modify the pile sizes and maintain an equivalent design as shown (ie. equivalent section modulus per LFT of wall), can the contractor modify the pile diameters and spacing to match their tooling capabilities (ie. means and methods)?*

A32 **Yes, as long as the revised dimensions provide, at a minimum, equivalent structural capacity, rigidity, joint watertightness, functionality, and mitigation of ground settlement and groundwater drawdowns to the designs shown on the Contract Documents. Contractor must prepare and submit calculations.**

Q33 *At the 027 site, the IPP wall shows and details an interlocking pipe pile that extends into rock. The current design is not constructable for two reasons:*
a. In order to advance the pipe into bedrock, this will require the pipe to be drilled through the bedrock. Assuming we drill in advance of the pipe, there are drilling systems that allow us to advance the casing, but would not allow the interlocking system to be drilled into rock.
b. If we were to try and oversize the drilling to incorporate the interlocking mechanism in the borehole, this would create an overlapping pilot hole in bedrock. Once the first interlocking pipe is installed, the interlocking mechanism would be in the way of drilling the 2nd pipe pile in.
Based on the above, can the design team provide specific design parameters for the

contractor to assume when looking at alternative wall systems? Please confirm that alternative wall systems are permitted.

A33 **Ample case histories have used commercially available core bit / ring bit technologies for socketing interlocked pipe piles into rock. Bid the IPP walls as shown on Contract Documents.**

Q34 *Will ALCOSAN consider establishing an allowance item to cover the cost of ground modification under the existing sewers, where such work is specified, to reduce uncertainty that will lead to potentially unnecessary costs being included in the Contractor's bid?*

A34 **Refer to BID ITEM 116 - SPECIFIC ALLOWANCE #4 - GROUT MATERIALS USED FOR NEAR SURFACE STRUCTURES. For actual ground treatment operations, include all effort in the BID ITEM pertaining to each NSF structure at the sites (e.g., BID ITEM 56 for A48 site regulator) based on the Provisions of Section 01 22 00 Part 3.1.I - Ground Improvement.**

Q35 *CCT Final Lining Dimensions - Can the CCT final lining dimension size be increased to match our equipment?*

A35 **No, the CCT final lining dimensions will not be changed during the bid phase. Any proposed changes following award can be made under Article 3, Exhibit B, Cost Reduction Incentive.**

Q36 *Drawing ORT-ST-100 – Table 1. When using the values in this table the clear distance between the 'A' Line at Grade and the 'B' Line shown in Section 2 is 2'-0" for:*

- *SMRT–014-DS*
- *ORT-27-DS*
- *ORT-O41-DS*
- *CCT-O07-AS*
- *ORT-AS1*

When using the values in this table the clear distance between the 'A' Line at Grade and the 'B' Line shown in Section 2 is 1'-10" for:

- *ORT-A48-DS*
- *ORT-A58-DS*
- *CCT-O06A-DS*

Question: Is the 1'-10" value correct?

A36 **The 1'-10" value is correct.**
Refer to the SOE drawings of the respective shafts for detailed dimensions related to the space between the 'A' Line and the 'B' Line. Also Refer to Addendum 8 Answer A15 for clarification on vertical tolerances regarding the 'A' Line and 'B' Line.

Q37 *Drawing ORT-ST-103, Note #9 (Shaft O27) and ORT-ST-500, Note #7 (Shaft AS1) - Both of these notes state "CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PANELS."*

Question #1: Where on the Drawings are the locations of the Toe Grouting PVC pipes in the Secondary Panels shown?
Question #2: Are there any Toe Grouting PVC pipes required for the Primary Panels?
Question #3: Where on the Drawings are the locations of the Inclinometer Casings in the Secondary Panels shown?
Question #4: Are there Inclinometer Casings required in the Primary Panels?
Question #5: Where in the Specifications are the requirements for Toe Grouting beneath the Slurry Wall Secondary Panels detailed / listed?
Question #6 – To aid in assembly, handling and placement can the contractor use Sch. 40 steel pipe in lieu PVC for the toe

A37 **Answer to Questions #1 and #2: Note 9 on ORT-ST-103 and Note 7 on ORT-ST-500 have been removed. Also refer to Addendum 009 Q15/A15 for additional information.**

ORT-ST-103 and ORT-ST-500 have been revised. See Section B Item 15 and Attachment H for Changes to Contract Documents.
Answers to Questions #3 and #4: Approximate inclinometer locations in or around shaft SOEs (and NSF SOEs) are shown on the GI series of Contract Drawings per site. The final locations of the inclinometers and their support in the panels shall be developed by the Contractor and as approved by the Owner during the shop drawing development process as stated in Section 31 09 13 Part 1.1.B and 1.6.B.
Answer to Question # 5: Refer to Addendum 009, Q15/A15 for additional information.
Answer to Question #6: If the Contractor elects to conduct toe grouting, the type of grouting pipe is Contractor's choice.

Q38 *See the following Drawings:*
• Drawing ORT-ST-200, Note #8, (O41 Drop Shaft)
• Drawing ORT-ST-300, Note #8, (A48 Drop Shaft)
• Drawing ORT-ST-400, Note #8, (A58 Drop Shaft)
• Drawing ORT-ST-600, Note #8, (O14 Drop Shaft)
• Drawing ORT-ST-700, Note #8, (O07 Drop Shaft)
• Drawing ORT-ST-800, Note #8, (O06A Drop Shaft)
These notes state " CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES."

Question #1: Where in the Specifications are the requirements for Toe Grouting beneath the Secondary Secant Piles detailed / listed?
Question #2 – The note in the Secondary Pile Detail points to one pipe. However, two pipes are shown in the detail. How many 3" PVC tubes are to be included in the secondary piles covered by this note?
Question #3 – To aid in assembly, handling and placement can the contractor use 3" Sch. 40 steel pipe in lieu 3" PVC tube shown in the Secondary Pile Detail?

A38 **Answer to Questions #1 and #2: Note 8 on these drawings have been removed. As stated in Section 31 57 00 (Secant Pile Wall) Part 1.6.D.8, the Contractor shall submit "Procedures and mix designs for grouting of the toe of the secant piles to seal the secant pile wall/ground interface, where applicable." Refer to Addendum 009, Q15/A15 for additional information. See Section B Item 16 and Attachment I for Changes to Contract Documents.**
Answer to Question #3: If the Contractor elects to conduct toe grouting, the type of grouting pipe is Contractor's choice.

Q39 *Drawing ORT-ST-201, Section B shows a "Soft Eye for Regulator Connection". However, Drawing ORT-ST-200 shows all of the Secant Piles as being unreinforced.*

Question: Please clarify how there can be a "soft eye" required if the piles are unreinforced.

A39 **The call out of "soft eye" was meant to highlight the location of structural connection from adjacent structure, whether the SOE is reinforced or unreinforced. Since the shaft SOE shown on the Contract Drawings is unreinforced, no special structural reinforcements within the SOE are applicable. In case the Contractor elects to use reinforcements for its own convenience (e.g., reinforced slurry wall), then special consideration shall be given to this zone of "soft eye".**
No changes to Contract Documents.

Q40 *Drawing ORT-ST-301, Section B shows a "Soft Eye for 72" ID Pipe Connection from A48-RG ". However, Drawing ORT-ST-300 shows all of the Secant Piles as being unreinforced.*

Question: Please clarify how there can be a "soft eye" required if the piles are unreinforced.

A40 **See response this Addendum A39**

Q41 *Drawing ORT-ST-401, Section B shows a "Soft Eye for A58-RG1 Connection and Soft Eye for A58-RG2 Connection ". However, Drawing ORT-ST-400 shows all of the Secant Piles as being unreinforced.*

Question: Please clarify how there can be a "soft eyes" required if the piles are unreinforced.

A41 **See response this Addendum to A39.**

Q42 *Drawing ORT-ST-601, Section B shows a "Soft Eye for O14 SC Connection ". However, Drawing ORT-ST-600 shows all of the Secant Piles as being unreinforced.*

Question: Please clarify how there can be a "soft eye" required if the piles are unreinforced.

A42 **See response this Addendum to A39.**

Q43 *Drawing ORT-ST-701, Section B shows a "Soft Eye for O07 Tunnel Relief Outfall Connection". However, Drawing ORT-ST-700 shows all of the Secant Piles as being unreinforced.*

Question: Please clarify how there can be a "soft eye" required if the piles are unreinforced.

A43 **See response this Addendum to A39.**

Q44 *Drawing ORT-ST-801, Section A shows a "Soft Eye for CCT-O06A-RG Connection". However, Drawing ORT-ST-800 shows all of the Secant Piles as being unreinforced.*

Question: Please clarify how there can be a "soft eye" required if the piles are unreinforced.

A44 **See response this Addendum to A39.**

Q45 *Reference Drawing O14-CI-610 Site Restoration Plan, Keynote D -*
Keynote is labelled as "On-Site Aggregate Pavement", but reference Detail C-20 in drawing ORT-MD-019 labels it as "On-Site Aggregate Surface".
Please confirm that this keynote should be titled "On-Site Aggregate Surface".

A45 **There is no Keynote D labeled "On-Site Aggregate Pavement" on O14-CI-610.**

Q46 *Addendum 7 answer 25 waives permit fees for connection to Alcosan structures. Are charges for discharge waived? Should contractor assume no charges for discharge will be required outside of the Borough of McKees Rock?*

A46 **ALCOSAN and Pittsburgh Water will not charge fees for discharging construction water into ALCOSAN structures as shown in the Contract Documents.**

McKees Rocks has confirmed that they do not currently have established fees for the discharge of construction water into McKees Rocks sewers.

Q47 *Since it is virtually impossible to accurately predict how much water the ORT Project will discharge and the actual costs, a large contingency cost must be included in the proposal. The rates for water discharge from ground excavation are unclear for the 3 infrastructure owners along the project alignment. Will Alcosan please assume responsibility for all ground dewatering discharge fees on the project?*

A47 **For purpose of the Bid, the Bidders should assume that they will not be charged discharge fees.**

Q48 *Is Contractor required to pay discharge fees solely based on water usage?*

A48 **No.**

Q49 *Contract Duration - The current contract duration is insufficient based on the following:*
•Given the magnitude of the project coupled with stipulated work hour constraints at each site, an extraordinary and unrealistic amount of resources will be required to work 6 days a week for the duration of the project in order to attempt to meet the current completion date•The limited availability of specialized tunneling workforce given multiple concurrent work activities equates to potential workforce shortages
•The application of contractor assumed weather related non-working days (based on historical local weather statistics) to the project schedule exacerbates the schedule challenges
•The suggested work sequence in the Contract Documents at the O27 site advises against concurrent work activities prior to IPP Riverwall completion. Concurrent work activities during IPP Installation would be required in order to attempt to meet the current completion date. However, varying from the suggested sequence in the Contract Documents puts an unreasonable amount of risk on the Contractor.

Please add an additional 365 days to all project milestones.

A49 **An additional six months (183 calendar days) will be added to all project milestones. See Section B, Item 20 for CHANGES TO CONTRACT DOCUMENTS.**

Q50 *Bid Date Let Extension - There are a significant amount of questions that remain unanswered less than a week before the question cut off date. These unanswered questions are critical to the preparation of the bid and the assessment of contractor risk, including but not limited to questions associated with O14 Bypass Work, O27 Riverwall Powerlines, O27 IPP Riverwall, and TBM Work. Given the outstanding unanswered questions and the time required to incorporate question responses into the bid, please extend the bid date an additional 1 Month to now be due on February 26, 2026.*

A50 **Please see Addendum 10.**

Q51 *Unit Price over 15% - Addendum-8, answer to question number 51 rejected the time extension by quantity change of the unit prices over 15%. We understand the bid unit price is in effect throughout the entire Contract duration per section 01 22 00-1.2, B but we need time extension so that we can avoid to carry huge contingency. Please consider.*

A51 **As stated in the original request "The actual quantity of a unit-priced item exceeding the contractual estimated quantity by 15% or more." does not automatically entitle the Contractor to an extension of time. However, should the Contractor reasonably believe that it is entitled to an extension of time for such an event it may notify the Owner under Article 3, Section 3.34 DELAYS AND EXTENSIONS OF TIME. No changes will be made to the Contract Documents.**

Q52 *Liability Limit of Performance and Payment Bond - Addendum-8, answer to question number 58 does not accept to rewrite "Surety's total liability under this bond is limited to the penal sum"*
but Addendum 6 limited the contractor's total liability to 100% of the Contract Value. Thus, the liability of performance bond and payment bond is limited to 100% of the Contract Value. Please confirm.

A52 **This question appears to ask for a legal conclusion and is best directed to your legal counsel.**

The Contractor's total liability is being revised to 50% of the Contract Value. This was previously set at 100% in Addendum #6. See Section B, Item 21 CHANGES TO CONTRACT DOCUMENTS.

Q53 *Proposal Page Limit - Schedule D - Is there a page limit on the "Method Statement" portion of the Bidder Qualification Statement?*

A53 **No, there is no page limit.**

Q54 *DBE Certification Agency - Question 72 in Addendum No. 08 was asked to add additional DBE/MBE certifying agencies because the PAUCP is not accepting new applications at this time. Please reconsider the response and add additional DBE/MBE certifying agencies which will serve to expand the pool of qualified subcontractors and suppliers.*

A54 **Although PAUCP has paused accepting new certification applications, there is no change to certification status for existing MBEs, WBEs and DBEs currently certified through PAUCP for participation on non-USDOT work. The Owner will continue to accept DBE, MBE, and WBE certifications from any UCP (interstate or PAUCP), as well as third-party certifiers recognized by the Commonwealth of Pennsylvania, including NMSDC, WBENC, and DGS/BDISBO-recognized entities, for purposes of meeting the contract's participation goals. The Owner does not accept self-certifications.**

B. CHANGES TO CONTRACT DOCUMENTS

NOTE: for items with Bid Items changes, a revised Bid Form will be issued in a future Addendum.

1. Article 1 – Bidding Documents, Bid Form, Item 121, Specific Allowance #9 – Additional Traffic Control and Site Security and Railroad Requirements

Item	Description	Unit Price	Total Item Price
121	Specific Allowance #9 – Additional Traffic Control and Site Security and Railroad Requirements	Allowance	$2,300,000.00

2. APPENDIX A – TECHNICAL SPECIFICATIONS - Section 01 22 00 - Measurement and Payment, 3.2 Bid Items, Item 121, Specific Allowance #9 – Additional Traffic Control and Site Security and Railroad Requirements

   a. REVISE BID ITEM 121 (CHANGES ARE NOTED IN RED):

   BID ITEM 121. SPECIFIC ALLOWANCE #9 – Additional Traffic Control and Site Security and Railroad Requirements

   1. This Allowance Item is for Traffic Control and Site Security beyond that identified in the Contract Documents, beyond that identified in other Traffic Control and Site Security BID ITEMs, or beyond that which could have been reasonably expected based on Familiarization of the site and specific Contract Requirements.
   2. This Allowance Item shall also include costs associated with railroad coordination, review, and training, railroad-required permits and agreements, and railroad-required flaggers and/or railroad-required construction inspectors.

3. APPENDIX A – TECHNICAL SPECIFICATIONS - Section 01 90 00 - Railroad Permit Compliance Requirements, 1.3.A, 3.1.A, and 3.1.C.
   a. REVISE 1.3.A (CHANGES ARE NOTED IN RED):
      A. The Owner has obtained the railroad ~~permits and~~ agreements for ~~construction~~ the Owner's long-term encroachments or occupancies of the ORT Project in the railroads' rights of way. Comply with the railroads' ~~permits and~~ agreements between each railroad and the Owner.
         1. Facility Encroachment Agreement Between CSX Transportation, Inc. and ALCOSAN (Agreement No. CSX 970958 for the Chartiers Creek Tunnel Crossing). Contractor requirements and associated payments include, but are not limited to, notifications, insurance requirements, authorizations for

proposed field changes, as-built drawings, and coordination for protection services such as railroad-required flaggers or inspectors.

2. Facility Encroachment Agreement Between CSX Transportation, Inc. and ALCOSAN (Agreement No. CSX 970960 for the Saw Mill Run Tunnel Crossing). Contractor requirements and associated payments include, but are not limited to, notifications, insurance requirements, authorizations for proposed field changes, as-built drawings, and coordination for protection services such as railroad-required flaggers or inspectors.
3. License Agreement Between Norfolk Southern Railway Company and ALCOSAN (Activity Number: 1321691) for three Ohio River Tunnel Crossings and the A48 Adit Crossing. Contractor requirements and associated payments include, but are not limited to, application for entry, notifications, insurance requirements, authorizations for proposed field changes, as-built drawings, and coordination for protection services such as railroad-required flaggers or construction monitoring.
4. Occupancy License Agreement (Permit No. POHC240928684) Between The Pittsburgh & Ohio Central Railroad Company (c/o Genesee & Wyoming Railroad Services, Inc.) and ALCOSAN for the Chartiers Creek Tunnel Adit Crossing. Contractor requirements include, but are not limited to, ~~contractor right of entry fee, contractor right of entry license agreement,~~ submittals, ~~notifications,~~ insurance requirements, and as-built drawings.
5. Construction and Maintenance Agreement (RR Project #: 23POHC01R) between The Pittsburgh & Ohio Central Railroad Company and ALCOSAN for the Chartiers Creek Tunnel Adit Crossing. Contractor requirements and associated payments include, but are not limited to, construction schedule, notifications, coordination for protection services such as flaggers or inspectors, submittals, roadway worker protection training policy, and contractor safety rules.

b. REVISE 3.1.A (CHANGES ARE NOTED IN RED):
A. Comply with ~~permits,~~ agreements~~, and approvals~~ obtained by the Owner related to the Work.

c. REVISE 3.1.C in its entirety (CHANGES ARE NOTED IN RED):

C. ~~The Owner will pay the permit and agreement fees for the permits and agreements that the Owner has obtained.~~ The Contractor will pay permit and agreement fees for their construction related activities and permitting.

4. APPENDIX A – TECHNICAL SPECIFICATIONS, Section 01 45 23, Attachment 2:

a. DELETE ATTACHMENT 2 - List of Utilities for Inspection and Cleaning (7 pages, Revised 09/25/25) and ADD ATTACHMENT 2 – List of Utilities for Inspection and Cleaning (8 pages, Revised 12/23/25), which is Attachment A to this Addendum.

5. APPENDIX A – TECHNICAL SPECIFICAITONS, Section 01 45 23, Part 1.1. ADD Part 1.1.G. in its entirety as follows:

   a. ADD 1.1.G. in its entirety (CHANGES ARE NOTED IN RED):
      G. Existing sewers that require sonar inspection are identified in Attachment 2 to this Section.

6. APPENDIX A – TECHNCIAL SPECIFICAITONS, Section 01 22 00, Bid Item 108 – Sewer CCTV, Cleaning and Stabilization is REVISED as follows (CHANGES ARE NOTED IN RED):

   a. ADD ", and Sewer Sonar Inspection" the BID ITEM 108 heading and ADD the following text to first sentence of BID ITEM 108, 1.a. :

      BID ITEM 108. Sewer CCTV, Cleaning and Stabilization, and Sewer Sonar Inspection
      1. This BID ITEM shall constitute full compensation for furnishing all labor, equipment, and materials necessary to perform:
         a. Sewer CCTV Inspections, Sewer Sonar Inspections, Cleaning and Stabilization, as required in the Specification Section 01 45 23 – Pre-Construction and Post-Construction Inspections, and elsewhere in the Contract Documents.

   b. ADD BID ITEM 108, 2.j. in its entirety as follows:
      j. Sonar inspection of the sewers to document pre-construction and post-construction conditions.

7. APPENDIX A – TECHNCIAL SPECIFICAITONS, Section 31 23 19 – Control of Groundwater and Construction Water, PART 1 – General, 1.8.A is REVISED.

   a. REVISE the following in Section 31 23 19, Part 1.8.A (Table) as follows (CHANGES ARE NOTED IN RED):

Construction Site	Existing Regulator or MH Number	Discharge Maximum MGD
ORT-AS1	A-58 Regulator	3
ORT-A58	A-58 Regulator	
ORT-A48	PWSA MH008F058	3
SMRT- O41	O-40 Regulator	1
SMRT-O14	MH O-14-PS on O-14W/O-14E Regulator	2

ORT-O27	O-27 Regulator	3
CCT-O07	C-03A Manhole	1
CCTO06A	MRB-0288/0289 Manhole	1.5

8. APPENDIX B – CONTRACT DRAWINGS.
    a. DELETE 014-CI-600 (Sheet 519 of 770) and ADD revised 014-CI-600 (Sheet 519 of 770), which is Attachment C of this Addendum.
    b. DELETE 014-ST-605 (Sheet 545 of 770) and ADD revised 014-ST-605 (Sheet 545 of 770), which is Attachment C of this Addendum.
    c. DELETE 014-ST-606 (Sheet 546 of 770) and ADD revised O14-ST-606 (Sheet 546 of 770), which is Attachment C of this Addendum.

9. APPENDIX A – TECHNCIAL SPECIFICAITONS, Section 01 14 19 – Use of Sites, PART 3 – EXECUTION, 3.1 SITE USE AT ORT O27, B.2. to be DELETED and REPLACED in its entirety.

    a. DELETE Section 01 14 19, Part 3.B.2 in its entirety and REPLACE Section 01 14 19, Part 3.B.2 in its entirety (CHANGES ARE NOTED IN RED):
        2. ~~Assume that DLCO cannot de-energize these lines between May 15 and September 15 each year due to seasonal power loads and power consumption. These dates may fluctuate due to operational conditions.~~ Maximum flexibility for the de-energization of the 23 kV power line will be coordinated by the Contractor in real time with the Owner and DLC. A minimum of 15 business days is needed from time of receipt of Contractor's written request for de-energization and the de-energization of the power line.

10. APPENDIX A – TECHNCIAL SPECIFICAITONS, Section 01 31 13 – Project Coordination, PART 3 – EXECUTION, 3.7 DUQUESNE LIGHT COMPANY (DLCO), C. has been REVISED.

    a. REVISE Section 01 31 13, Part 3.7.C as follows (CHANGES ARE NOTED IN RED):

        C. Coordinate de-energization of overhead transmission lines at O27 and O07 if required during construction. Coordinate de-energization of overhead power lines with the following DLCO points of contact:

        Anthony Nolla, PMP
        DLCO - Sr. Project Manager
        412.228.8829
        tnolla@duqlight.com

        Ms. Collen Karczewski

DLCO - Owner's Representative/POC
(412) 935-3701
ckarczewski@duqlight.com

11. APPENDIX A – TECHNCIAL SPECIFICAITONS, Section 01 22 00 – Measurement and Payment, BID ITEM 39 –New Sewer to Existing A58 Regulator for Water Disposal is REVISED.

    a. ADD Bid Item 39, Part 2 in its entirety as follows; REVISE current Part 2 to be Part "3"; and ADD Part 4 in its entirety as follows (CHANGES ARE NOTED IN RED):

    BID ITEM 39. New Sewer to Existing A58 Regulator for Water Disposal

    1. This item shall include compensation for the new Sewer to existing A58 Regulator for Water Discharge, including but not limited to:
        a. Provisions of all items in Part 3.1.R – Installation of Pipe in Open Trench of this Section.
        b. Provisions of furnishing and installation of waterproof/sealed and lockable manhole frames, covers, access hatches, as well as manhole rungs and ladder-ups.
        c. All other work required to provide the New Sewer to Existing A58 Regulator for Water Discharge.
    2. Upon completion of existing A58 regulator inspection, including flap gate inspection, Contractor to submit repair plan and estimate to the Owner for approval prior to repairs.
    3. Measurement and payment for this BID ITEM will be made in accordance with the requirements for Unit Price Items based on linear foot of installed sewer at invert.
    4. Upon receipt of Owner approval, Contractor will implement approved repairs to existing A58 regulator and flap gates. Measurement and payment for repairs associated with approved work will be made from BID ITEM 123.

12. APPENDIX B – CONTRACT DRAWINGS.
    a. DELETE A58-ST-406 (Sheet 407 of 770) and ADD revised A58-ST-406 (Sheet 407 of 770), which is Attachment F of this Addendum.
    b. DELETE AS1-CI-503 (Sheet 502 of 770) and ADD revised AS1-CI-503 (Sheet 502 of 770), which is Attachment F of this Addendum.
    c. DELETE AS1-CI-505 (Sheet 504 of 770) and ADD revised AS1-CI-505 (Sheet 504 of 770), which is Attachment F of this Addendum.

13. APPENDIX B – CONTRACT DRAWINGS

a. DELETE O07-ST-701 (Sheet 590 of 770) and ADD revised O07-ST-701 (Sheet 590 of 770), which is Attachment G of this Addendum.

14. APPENDIX A – TECHNCIAL SPECIFICATIONS, , Section 03 30 00 – Cast-In-Place Concrete, PART 1– GENERAL, 1.4.C. has been DELETED.

a. DELETE Section 03 30 00, Part 1.4.C. in its entirety (CHANGES ARE NOTED IN RED):

~~C. Mockup Panel:~~

~~1. The Contractor shall produce a mockup wall panel for each approved mix and each finish for approval by the Owner.~~
~~2. Wall mockup panel shall be of sufficient size to replicate formwork, placement procedures, and quality of finish. Panel shall be no less than 2 feet wide by 4 feet high and 8 inches thick. Mockup panel shall contain reinforcement.~~
~~3. Concrete patching, such as for form tie holes, shall be applied to the wall mockup for approval.~~
~~4. For concrete mixes that incorporate Type 1L cement, the Contractor shall produce a slab mockup for each approved mix.~~
~~5. Minimum slab dimensions shall be 12 feet by 12 feet by 3 feet.~~
~~6. Placement procedures, finishing equipment, and curing shall be identical to those that will be used on final production slabs. Changes in procedures, etc. may require additional slabs to be produced.~~
~~7. Mockup may be used for acceptance and rejection of concrete finishes. It is critical that the mockups match the actual anticipated finishes. A different finish may be applied to each side of the mockup panel.~~
~~8. Mockup panels shall remain onsite for the duration of the project or until final acceptance of all concrete placements related to associated mix. Owner shall be notified for agreement prior to panel demolition.~~
~~9. Mockup panels and slabs that fail to meet acceptable quality shall be reconstructed with procedures being adjusted until panels/slabs are accepted.~~

15. APPENDIX B - CONTRACT DRAWINGS

a. DELETE ORT-ST-103 (Sheet 103 of 770) and ADD revised ORT-ST-103 (Sheet 103 of 770), which is Attachment H of this Addendum.
b. DELETE ORT-ST-500 (Sheet 152 of 770) and ADD revised ORT-ST-500 (Sheet 152 of 770), which is Attachment H of this Addendum.

16. APPENDIX B - CONTRACT DRAWINGS

a. DELETE ORT-ST-200 (Sheet 117 of 770) and ADD revised ORT-ST-200 (Sheet 117 of 770), which is Attachment I of this Addendum.

b. DELETE ORT-ST-300 (Sheet 130 of 770) and ADD revised ORT-ST-300 (Sheet 130 of 770), which is Attachment I of this Addendum.
c. DELETE ORT-ST-400 (Sheet 141 of 770) and ADD revised ORT-ST-400 (Sheet 141 of 770), which is Attachment I of this Addendum.
d. DELETE ORT-ST-600 (Sheet 159 of 770) and ADD revised ORT-ST-600 (Sheet 159 of 770), which is Attachment I of this Addendum.
e. DELETE ORT-ST-700 (Sheet 169 of 770) and ADD revised ORT-ST-700 (Sheet 169 of 770), which is Attachment I of this Addendum.
f. DELETE ORT-ST-800 (Sheet 179 of 770) and ADD revised ORT-ST-800 (Sheet 179 of 770), which is Attachment I of this Addendum.

17. REVISE Article 2; Section 2.06 SUBMISSION AND OPENING OF BIDS. ADD after last paragraph. (CHANGES ARE NOTED IN RED):
If the Notice to Proceed exceeds 180 calendar days from the bid submission date, the Contractor may submit a request under the provisions in General Contract Conditions Article 3.32. for escalation of bid costs, but not time.

18. REVISE Article 2; Section 2.07 AWARD AND CONTRACT EXECUTION. ADD after last paragraph. (CHANGES ARE NOTED IN RED):

If the Notice to Proceed exceeds 360 calendar days from the bid submission date, the Contractor may elect to terminate. A 60-calendar day notice of intent to terminate must be provided by the Contractor.

19. REVISE Article 3; Section 3.34. A.10. DELAYS AND EXTENSION OF TIME. DELETE the following text after "the Work" as shown below; CHANGES ARE DENOTED IN RED TEXT:

Order of any court of competent jurisdiction enjoining the performance of the Work~~. that is not sought by Contractor in accordance with the Contract Documents.~~

20. ARTICLE 4 – BID DOCUMENTS, CONTRACT AGREEMENT, Item 2. (page 4-2); 183 Calendar days are being added to the Construction Milestone. CHANGES ARE DENOTED IN RED TEXT:

The Contractor further agrees and acknowledges that time is of the essence of the Contract and that Contractor shall commence the Work immediately upon receipt of the Notice to Proceed and shall prosecute the Work diligently to Final Completion of the entire Work within ~~2,162~~ **2,345** calendar days ("Contract Time") and as specified for Interim Milestone #1 and Substantial Completion of the Work as set forth below:

Construction Milestone	Contract Time Calendar Days	Notes
Interim Milestone #1 – Demobilize AS1 Site	~~1,634 days~~ 1,817 days	From Notice to Proceed
Substantial Completion of Contract 1797	~~2,043 days~~ 2,226 days	From Notice to Proceed
Final Completion of Contract 1797	~~2,162 days~~ 2,345 days	From Notice to Proceed

21. CONTRACT DOCUMENTS, Article 3SC – Article 3.61 LIMITATION OF LIABILITY and ADDENDUM #6 (Q8/A8 and CHANGES TO CONTRACT DOCUMENTS ITEM 4)

AMEND ADDENDUM #6, CHANGES TO CONTRACT DOCUMENTS, ITEM 4 (CHANGES ARE DENOTED IN RED):

ADD the following in its entirety at the end of Article 3.61, 1st paragraph on page 3-69

The Contractor's total liability for all claims will be limited to ~~100%~~ **50%** of the Contract value, but will not apply to any amounts expressly payable pursuant to this Contract or any amounts entitled to be set-off, or Contractor's liability, to the extent that:

A. Such losses have been covered by insurance pursuant to this Contract.
B. Such losses are covered by the proceeds of insurance carried by the Contractor regardless of whether such policies are required pursuant to this Contract.
C. Under any indemnity pursuant to this Contract where such indemnity relates to claims asserted and/or losses suffered by any third party including those listed as indemnified parties in Article 3SC, Section 3.10, Indemnification.
D. Loss arising out of fraud, willful misconduct, recklessness, criminal conduct, bad faith or gross negligence.

Addendum No. 11

Attachment A - TECHNICAL SPECIFICATIONS

- Section 01 45 23, Attachment 2 – List of Utilities for Inspection and Cleaning

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	Facility(s)	Facility Owner	Description		Existing Constructed Access	Extent(s) of Inspection/Cleaning		
			Type/ Dia.	Exposure to river pool		Upstream (US)	Downstream (DS)	Approx. Dimension(s)
O27	Existing O27 Combined Sewer Flow Regulator	ALCOSAN	Concrete structure with hydro- mechanical equipment	Partially below normal river pool. Internal flap gate. Gate condition unknown.	Manhole(s) at grade	Structure inlet(s)	Structure outlet(s)	30 feet x 25 feet x 20 feet (WxLxD)
O27	Existing O27 Combined Sewer Outfall	ALCOSAN	144-inch dia. brick sewer	Fully below normal river pool. No flap gate.	None	Manhole, ALCOSAN MH 044B002	Outfall, ALCOSAN OF 044BO27	350 feet (L)
~~O27~~	~~Existing Sanitary Sewer~~	~~ALCOSAN~~	~~144-inch dia. unk sewer~~	~~--~~	~~--~~	~~Manhole, ALCOSAN MH ADC044B027B~~	~~Manhole, ALCOSAN MH ADC044B027C~~	~~16 feet (L)~~
O27	Existing Sanitary Sewer	Unknown	15-inch dia. PVC sewer	--	--	Manhole, Unknown MH 075P001	Junction, Unknown JCT 044B001	266 feet (L)
O27	Existing Combined Sewer	PWSA	36-inch dia. RCP sewer	--	--	Manhole, PWSA MH 075R053	Outfall, PWSA OF OF075P001	392 feet (L)
O41	Existing O41 Combined Sewer Flow Regulator	ALCOSAN	Concrete structure with hydro- mechanical equipment	Partially below normal river pool. Internal flap gate. Gate condition unknown.	Manhole(s) at grade	Structure inlet(s)	Structure outlet(s)	6 feet x 15 feet x 15 feet (WxLxD)
~~O41~~	~~Existing O41 Combined Sewer Outfall~~	~~PWSA~~	~~4-foot dia. brick sewer~~	~~Fully below normal river pool. No flap gate.~~	~~None~~	~~Manhole, ALCOSAN MH ADC007F041~~	~~Outfall, ALCOSAN OF 007KO41~~	~~40 feet (L)~~
O41	Existing Storm Sewer	PWSA	24-inch dia. RCP sewer	--	--	Manhole, PWSA MH 007F059	Manhole, PennDOT MH 007F078	142 feet (L)
O41	Existing Storm Sewer	PennDOT	48-inch dia. RCP sewer	--	--	Manhole, PennDOT MH 007F097	Manhole, PennDOT MH 007F078	126 feet (L)
O41	Existing Storm Sewer	PennDOT	18-inch dia. RCP sewer	--	--	Manhole, PennDOT MH 007F005	Manhole, PennDOT MH 007F078	41 feet (L)
O41	Existing Storm Sewer	PennDOT	30-inch dia. RCP sewer	--	--	Manhole, PennDOT MH 007F064	Manhole, PennDOT MH 007F078	193 feet (L)
O41	Existing Storm Sewer	PennDOT	18-inch dia. RCP sewer	--	--	Manhole, PennDOT MH 007F006	Manhole, PennDOT MH 007F078	95 feet (L)
~~O41~~	~~Existing Storm Sewer~~	~~PennDOT~~	~~54-inch dia. RCP sewer~~	~~--~~	~~--~~	~~Manhole, PennDOT MH 007F078~~	~~Outfall, ALCOSAN OF 007KO40~~	~~471 feet (L)~~
O41	Existing Storm Sewer	PennDOT	54-inch dia. RCP sewer	--	--	Manhole, PennDOT MH 007F078	Manhole, PennDOT MH 007F074	385 feet (L)
O41	Existing Storm Sewer	PennDOT	54-inch dia. RCP sewer**	--	--	Manhole, PennDOT MH 007F074	Outfall, ALCOSAN OF 007KO40	86 feet (L)
O41	Existing Combined Sewer	PWSA	18-inch dia. VCP sewer	--	--	Manhole, PWSA MH 007F051	Manhole, ALCOSAN MH ADC007F040	211 feet (L)
O41	Existing Outfall Sewer	ALCOSAN	18-inch dia. VCP sewer	--	--	Manhole, ALCOSAN MH ADC007F040	Manhole, PennDOT MH 007F074	73 feet (L)
O41	Existing Sanitary Sewer	PWSA	15-inch dia. PVC sewer	--	--	Manhole, PWSA MH 007G130	Manhole, ALCOSAN MH ADC007F040	788 feet (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	Facility(s)	Facility Owner	Description		Existing Constructed Access	Extent(s) of Inspection/Cleaning		
			Type/ Dia.	Exposure to river pool		Upstream (US)	Downstream (DS)	Approx. Dimension(s)
O41	Existing Combined Sewer	ALCOSAN	8-inch dia. VCP sewer	--	--	Manhole, ALCOSAN MH ADC007F041	Manhole, PWSA MH 007F073	329 feet (L)
O41	Existing Combined Sewer	PWSA	24-inch dia. BR sewer	--	--	Manhole, PWSA MH 007G108	Manhole, ALCOSAN MH ADC007F041	414 feet (L)
O41	Existing Combined Sewer	PWSA	15-inch dia. VCP sewer	--	--	Manhole, PWSA MH 007F007	Manhole, PWSA MH 007F008	34 feet (L)
O41	Existing Combined Sewer	PWSA	36-inch dia. RCP & 48-inch dia. BR sewer	--	--	Manhole, PWSA MH 007F063	Manhole, ALCOSAN MH ADC007F041	225 feet (36-inch) & 33 feet (48-inch) (L)
A48	Existing Combined Sewer	PWSA	54"x72" brick Sewer	Above normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, PWSA MH 008F002	Junction, PWSA JCT 008F092	633 feet (L)
A48	Existing A48 Combined Sewer	PWSA	108-inch dia. brick sewer w/gunite lining	Above normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, PWSA MH 008F074	Manhole, PWSA MH 008G134	785 feet (L)
A48	Existing Combined Sewer	PWSA	15-inch dia. VCP sewer	--	--	Manhole, PWSA MH 008F003	Manhole, PWSA MH 008F059	93 feet (L)
A48	Existing Combined Sewer	PWSA	36-inch dia. UNK & 108-inch dia. BR sewer	--	--	Manhole, PWSA MH 008G067	Manhole, PWSA MH 008G070	306 feet (36-inch) & 39 feet (108-inch) (L)
A48	Existing Combined Sewer	PWSA	48-inch dia. RCP sewer	--	--	Manhole, PWSA MH 008G080	Manhole, PWSA MH 008G070	16 feet (L)
A48	Existing Combined Sewer	PWSA	18-inch dia. RCP & 24-inch dia. RCP sewer	--	--	Endcap, PWSA EC 008F004	Manhole, PWSA MH 008G074	17 feet (18-inch) & 361 feet (24-inch) (L)
A48	Existing Combined Sewer	PennDOT	21-inch dia. RCP, 24-inch dia. RCP, 27-inch, & 30-inch RCP sewer	--	--	Manhole, PennDOT MH 008F083	Manhole, PennDOT MH 008G137	233 feet (21-inch), 151 feet (24-inch), 246 feet (27-inch), & 83 feet (30-inch) (L)
A48	Existing Storm Sewer	PWSA	15-inch dia. PVC & 14-inch dia. DIP sewer	--	--	Manhole, PWSA MH 008F109	54"x72" Brick Sewer Connection	24 feet (15-inch) & 31 feet (14-inch) (L)
A48	Existing Combined Sewer	PWSA	15-inch dia. VCP sewer	--	--	Manhole, PWSA MH 008F058	Junction, PWSA JCT 008F071	21 feet (L)
A48	Existing Combined Sewer	PWSA	15-inch dia. VCP sewer	--	--	Manhole, PWSA MH 008F079	Junction, PWSA JCT 008F068	145 feet (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	Facility(s)	Facility Owner	Description		Existing Constructed Access	Extent(s) of Inspection/Cleaning		
			Type/ Dia.	Exposure to river pool		Upstream (US)	Downstream (DS)	Approx. Dimension(s)
A58	Existing A58 Combined Sewer (Madison Ave.)	ALCOSAN	102-inch dia. brick sewer w/gunite lining	Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, ALCOSAN MH 009A100	A58 Outfall, ALCOSAN OF ACSO009EA58	651 feet (L)
A58	Existing Combined Sewer Outfall (Voeghtly St.)	PennDOT	10-foot x 12-foot (HxW) reinforced concrete box culvert	Varies from fully (at outfall) to partially (upstream) below normal river pool. No flap gate.	None	Manhole, Unknown MH 009A0099	Manhole, Unknown MH 009E087	1051 feet (L)
A58	Existing Combined Sewer (E. Lacock St.)	PWSA	15-inch dia. VCP sewer	Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, PWSA MH 009A071	Direct connection to existing A58 Combined Sewer (Madison Ave.), PWSA JCT009A015	205 feet (L)
A58	Existing Combined Sewer (Voeghly St.)	PWSA	15-inch dia. VCP sewer	Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, PWSA MH 009A009	Manhole, PWSA MH 009E064	537 feet (L)
A58	Existing Combined Sewer	Unknown	15-inch dia. UNK sewer	--	--	End Cap, Unknown EC 009A004	Manhole, PWSA MH 009A016	74 feet (L)
A58	Existing Combined Sewer	PWSA	15-inch dia. VCP sewer	--	--	Manhole, PWSA MH 009A015	Manhole, PWSA MH 009B026	327 feet (L)
A58	Existing Combined Sewer	PWSA	15-inch dia. VCP sewer	--	--	Manhole, PWSA MH 009B038	Junction, PWSA JCT 009E027	292 feet (L)
AS1	Existing Combined Sewer (Warfield Street)	PWSA	24-inch dia. VCP Sewer	MH invert above normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, PWSA MH 009B022	Manhole, PWSA MH 009B036	451 feet (L)
AS1	Existing Combined Sewer (Carpenter Way)	PWSA	15-inch dia. VCP Sewer	MH invert above normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, PWSA MH 024P150	Manhole, PWSA MH 009B022	572 feet (L)
AS1	Existing Combined Sewer (Carpenter Way)	PWSA	15-inch dia. VCP Sewer	MH invert above normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Endcap, PWSA EC 009B003	Manhole, PWSA MH 009B022	103 feet (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	**Facility(s)**	**Facility Owner**	**Description**		**Existing Constructed Access**	**Extent(s) of Inspection/Cleaning**		
			Type/ Dia.	**Exposure to river pool**		**Upstream (US)**	**Downstream (DS)**	**Approx. Dimension(s)**
AS1	Existing Combined Sewer	ALCOSAN	8-inch dia. VCP Sewer	--	--	Manhole, ALCOSAN MH A-59Z-02	Manhole, ALCOSAN MH ADC009BA59A	255 feet (L)
AS1	Existing Combined Sewer	PWSA	15-inch dia. VCP Sewer	--	--	Manhole, PWSA MH 009B026	Manhole, PWSA MH 009B027	129 feet (L)
AS1	Existing Combined Sewer	PWSA	15-inch dia. VCP Sewer	--	--	Manhole, PWSA MH 009B076	Manhole, PWSA MH 009B027	562 feet (L)
O14	Existing O14 Combined Sewer Flow Regulator	ALCOSAN	Concrete structure with hydro- mechanical equipment	Partially below normal river pool. Internal flap gate. Gate condition unknown.	Manhole(s) at grade	Structure inlet(s)	Structure outlet(s)	35 feet x 35 feet x 15 feet (WxLxD)
O14	Existing O14 Combined Sewer (East)	ALCOSAN	42-inch dia. RCP sewer	Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, ALCOSAN MH N03	Manhole, ALCOSAN MH O-14-PS	385 feet (L)
O14	Existing O14 Combined Sewer (West)	ALCOSAN	48-inch dia. RCP sewer	Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, ALCOSAN MH 1A	Manhole, ALCOSAN MH O-14-PS	537 feet (L)
~~O14~~	~~Existing Combined Sewer (Riverside St.)~~	~~PWSA~~	~~15-inch dia. VCP sewer & 30-inch dia. RCP sewer~~	~~Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.~~	~~Manhole(s) at grade~~	~~Manhole, PWSA MH 007P029~~	~~Manhole, ALCOSAN MH 1D~~	~~625 feet (15-inch) & 12 feet (30-inch) (L)~~
O14	Existing Combined Sewer (Riverside St.)	PWSA	15-inch dia. VCP sewer	--	Manhole(s) at grade	Manhole, PWSA MH 007P029	Manhole, ALCOSAN MH 007P023	590 feet (L)
O14	Existing Combined Sewer Outfall	ALCOSAN	48-inch dia. RCP sewer**	--	--	Manhole, ALCOSAN MH O-14-PS	Outfall, ALCOSAN OF O-14	160 feet (L)
O14	Existing Combined Sewer Outfall	ALCOSAN	42-inch dia. RCP sewer**	--	--	Manhole, ALCOSAN MH O-14-PS	Outfall, ALCOSAN OF O-14A	155 feet (L)
O14	Existing Combined Sewer	PWSA	24-inch dia.VCP sewer	--	--	Manhole, PWSA MH 006B043	Manhole, ALCOSAN MH N02	676 feet (L)
~~O14~~	~~Existing Combined Sewer~~	~~ALCOSAN~~	~~54-inch dia. RCP sewer~~	~~--~~	~~--~~	~~Manhole, ALCOSAN MH O-14-PS~~	~~Manhole, ALCOSAN MH ADC007P014A~~	~~13 feet (L)~~
O06A	Existing Combined Sewer (Shingiss St, south of Ella St.)	McKees Rocks	12-inch dia. VCP sewer	Below normal river pool. Downstream river backflow controlled by Ella St. pump station.	Manhole(s) at grade	Manhole, MROCK MH 0287	Manhole, MROCK MH 0324	834 feet (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	Facility(s)	Facility Owner	Description		Existing Constructed Access	Extent(s) of Inspection/Cleaning		
			Type/ Dia.	Exposure to river pool		Upstream (US)	Downstream (DS)	Approx. Dimension(s)
O06A	Existing Combined Sewer	McKees Rocks	60-inch dia. brick sewer	Below normal river pool. Downstream river backflow controlled by Ella St. pump station.	Manhole(s) at grade	Manhole, MROCK MH 0340	Manhole, MROCK MH 0295A	696 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	15-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0292	Manhole, MROCK MH 0340A	254 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	12-inch dia. VCP sewer	--	--	Manhole, Unknown UK_MH-1	Manhole, MROCK MH 0295	193 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	12-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0322	Manhole, MROCK MH 0295	289 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	12-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0332	Manhole, MROCK MH 0334	376 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	12-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0320	Manhole, MROCK MH 0335	389 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	18-inch RCP & 18-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0282	Manhole, MROCK MH 0283	170 feet (RCP) & 143 feet (VCP) (L)
O06A	Existing Combined Sewer	McKees Rocks	12-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0464	Manhole, MROCK MH 0328	417 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	15-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0318	Manhole, MROCK MH 0328	227 feet (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	Facility(s)	Facility Owner	Description		Existing Constructed Access	Extent(s) of Inspection/Cleaning		
			Type/ Dia.	Exposure to river pool		Upstream (US)	Downstream (DS)	Approx. Dimension(s)
O06A	Existing Combined Sewer	McKees Rocks	18-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0326	Dropshaft, ALCOSAN DS O-06	1267 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	18-inch & 36-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0285	Manhole, MROCK MH 0329A	991 feet (18-inch) & 5 feet (36-inch) (L)
O06A	Existing Combined Sewer	McKees Rocks	36-inch dia. CP sewer	--	--	Manhole, MROCK MH 0535	Manhole, MROCK MH 0329	222 feet (L)
~~O06A~~	~~Existing Combined Sewer~~	~~McKees Rocks~~	~~36-inch & 24-inch & 18-inch dia. VCP sewer~~	~~--~~	~~--~~	~~Manhole, MROCK MH 0329~~	~~Outfall, MROCK O-06~~	~~44 feet (36-inch) & 60 feet (24-inch) & 395 feet (18-inch) (L)~~
O06A	Existing Combined Sewer	McKees Rocks	36-inch & 24-inch & 18-inch dia. VCP sewer	--	--	Manhole, MROCK MH 0329	Manhole, MROCK MH O-06-04	44 feet (36-inch) & 60 feet (24-inch) & 215 feet (18-inch) (L)
O06A	Existing Combined Sewer	McKees Rocks	18-inch dia. VCP sewer**	--	--	Manhole, MROCK MH O-06-04	Outfall, MROCK O-06	180 feet (L)
O06A	Existing Combined Sewer	McKees Rocks	36-inch dia. UNK sewer	--	--	Manhole, MROCK MH 0329A	Outfall, MROCK OF Robb St PS	473 feet (L)
~~O07~~	~~Existing Combined Sewer~~	~~McKees Rocks~~	~~24-inch dia. VCP sewer~~	~~Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.~~	~~Manhole(s) at grade~~	~~Manhole, MROC MH 0366A~~	~~C-04 flow regulator, ALCOSAN C-04-00~~	~~483 feet (L)~~
O07	Existing Combined Sewer	McKees Rocks	24-inch dia. VCP sewer	Below normal river pool. Flap gate at downstream flow regulator outfall. Gate condition unknown.	Manhole(s) at grade	Manhole, MROC MH 0366A	Regulator, ACSA RG C-04-00	469 feet (L)
~~O07~~	~~Existing Combined Sewer~~	~~McKees Rocks~~	~~24-inch dia. VCP sewer~~	~~--~~	~~--~~	~~Regulator, ACSA RG C-04-00~~	~~Outfall, ACSA OF C-04-00~~	~~14 feet (L)~~
O07	Existing Combined Sewer	McKees Rocks	18-inch dia. VCP sewer	--	--	Manhole, MROC MH 0367	Manhole, MROC MH 0370	258 feet (L)
O07	Existing Combined Sewer	ALCOSAN	8-inch dia. CAS sewer	--	--	Manhole, ACSA MH C-03A-00	Regulator, ASCA RG C-04-00	24 feet (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

ATTACHMENT 2 - List of Utilities for Inspection and Cleaning*								Revised 12/29/2025
Site	**Facility(s)**	**Facility Owner**	**Description**		**Existing Constructed Access**	**Extent(s) of Inspection/Cleaning**		
			Type/ Dia.	**Exposure to river pool**		**Upstream (US)**	**Downstream (DS)**	**Approx. Dimension(s)**
~~O07~~	~~Existing Combined Sewer~~	~~ALCOSAN~~	~~36-inch & 34-inch dia. RCP sewer~~	~~--~~	~~--~~	~~Manhole, ACSA MH C-03A-00~~	~~Outfall, ASCA OF C-03A-OVF~~	~~17 feet (36-inch) & 15 feet (34-inch) (L)~~
O07	Existing Combined Sewer	ALCOSAN	8-inch dia. CAS sewer	--	--	Regulator, ACSA RG C-03-00	Manhole, ACSA MH C-03A-00	181 feet (L)
O07	Existing Combined Sewer	PWSA	18-inch dia. VCP sewer	--	--	Manhole, PWSA MH 043S001	Regulator, ACSA RG C-03-00	149 feet (L)
O07	Existing Combined Sewer	ALCOSAN & PWSA	8-inch dia. CAS & 15-inch dia. UNK sewer	--	--	Manhole, PWSA MH 043S013	Regulator, ACSA RG C-03-00	102 feet (8-inch) & 98 feet (15-inch) (L)

*Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

**Sewer is to be inspected using sonar technology.

Addendum No. 11

Attachment B

APPENDIX E – SUPPLEMENTAL INFORMATION (FOR INFORMATION ONLY)

SECTION 10

- Utility Inspection Coverage Exhibits (9 sheets including Appendix E – Supplemental Information fly sheet)

Addendum No. 11

Attachment B

APPENDIX E – SUPPLEMENTAL INFORMATION (FOR REFERENCE ONLY)

SECTION 10

Utility Inspection Coverage Exhibits

N

ALCOSAN INTERCEPTOR

OF 075P001

200'

MH 075R053

Tracy St

MH 075R054

ALCOSAN INTERCEPTOR

Preble Ave

DWT

MH 075P001

MH 075P002

MH 075P003

300'

CCT

JCT 044B001

MH 044B002

MH ADC044B027C

OF 044BO27

MH ADC044B027A

MH ADC044B027B

Westhall St

SEE NOTE 2

ORT

Legend

- Upstream/Downstream Inspection Extents
- Intermediate Nodes
- Existing Sewer Infrastructure
- Blast Zone Of Influence (Spec. Section 31 71 16)
- ORT Proposed Structure Footprints
- Proposed Tunnels & Sewers

ORT O27 UTILITY INSPECTION COVERAGE EXHIBIT

Specification Section 01 45 23 Rev. 1 - 12/23/25 Scale: N.T.S.

Notes:

1. All sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

2. The 144" combined sewer from MH ADC044B027B to OF O44B027 is to be inspected pre-construction only as the existing OF O44B027 is to be bulkhead and backfilled. See drawing O27-CI-103.

N

MH 007F097

MH 007F059

MH007F005

MH 007F064

MH 007F078

MH 007F063

MH 007F065

MH 007F004

MH 007G130

MH 007F079

MH 007F051

MH 007F006

MH 007G108

MH 007F091

MH 007F066

MH 007F092

MH 007F008

MH ADC007F041

MH 007F007

MH 007F093

MH ADC007F040

MH 007F073

MH 007F074

SEE NOTE 3

OF 007KO40

SEE NOTE 2

OF 007KO41

200'

300'

200'

ALCOSAN INTERCEPTOR

ORT

ORT

Kroll Dr

Beaver Ave

W End Brg

Ohio River Blvd

N Shore Ctr

Reedsdale St

N Point Dr

Lighthill St

Belmont St

SMRT

730 ft

65

19

Legend

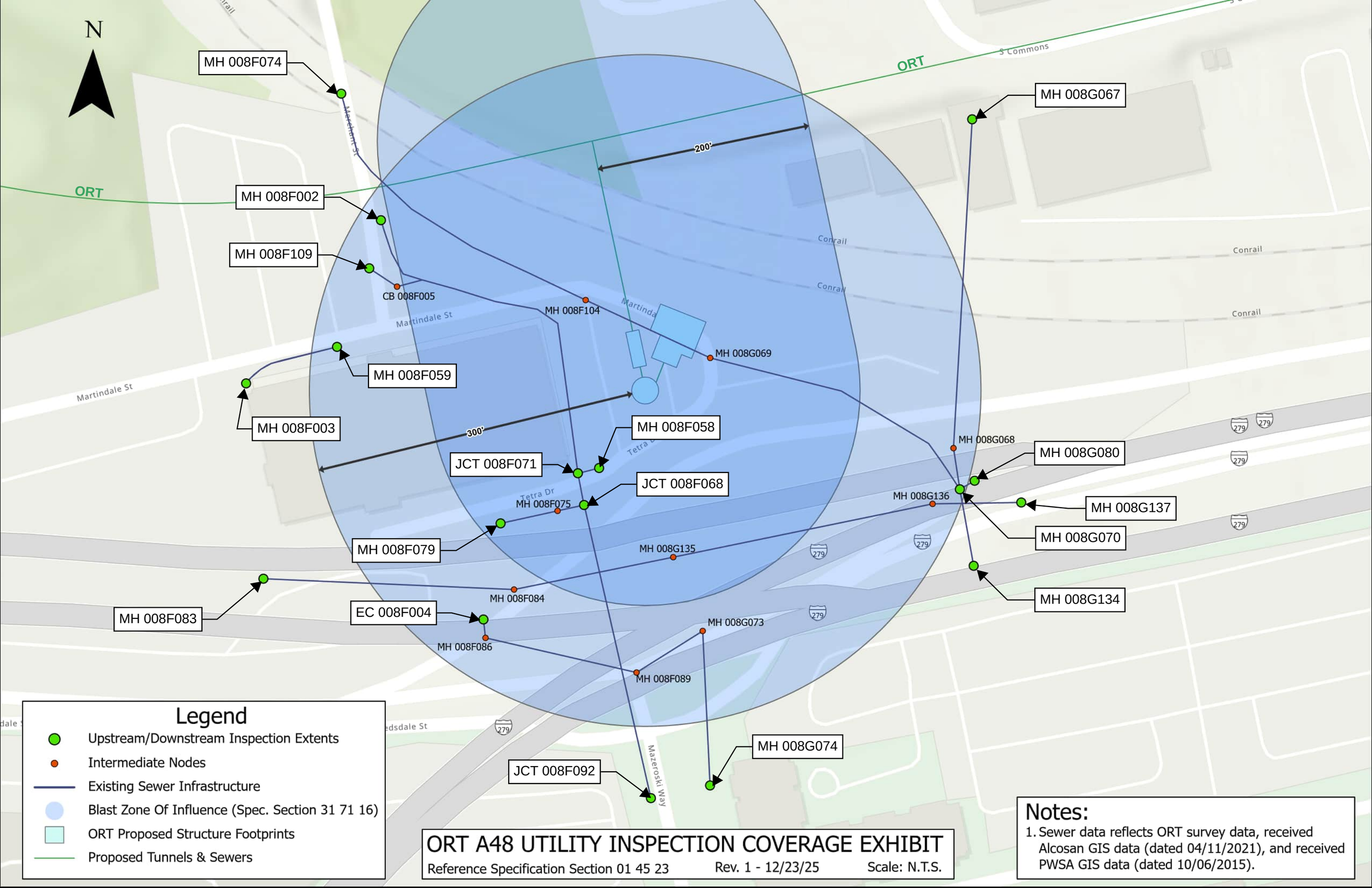
- Upstream/Downstream Inspection Extents
- Intermediate Nodes
- Existing Sewer Infrastructure
- Blast Zone Of Influence (Spec. Section 31 71 16)
- ORT Proposed Structure Footprints
- Proposed Tunnels & Sewers

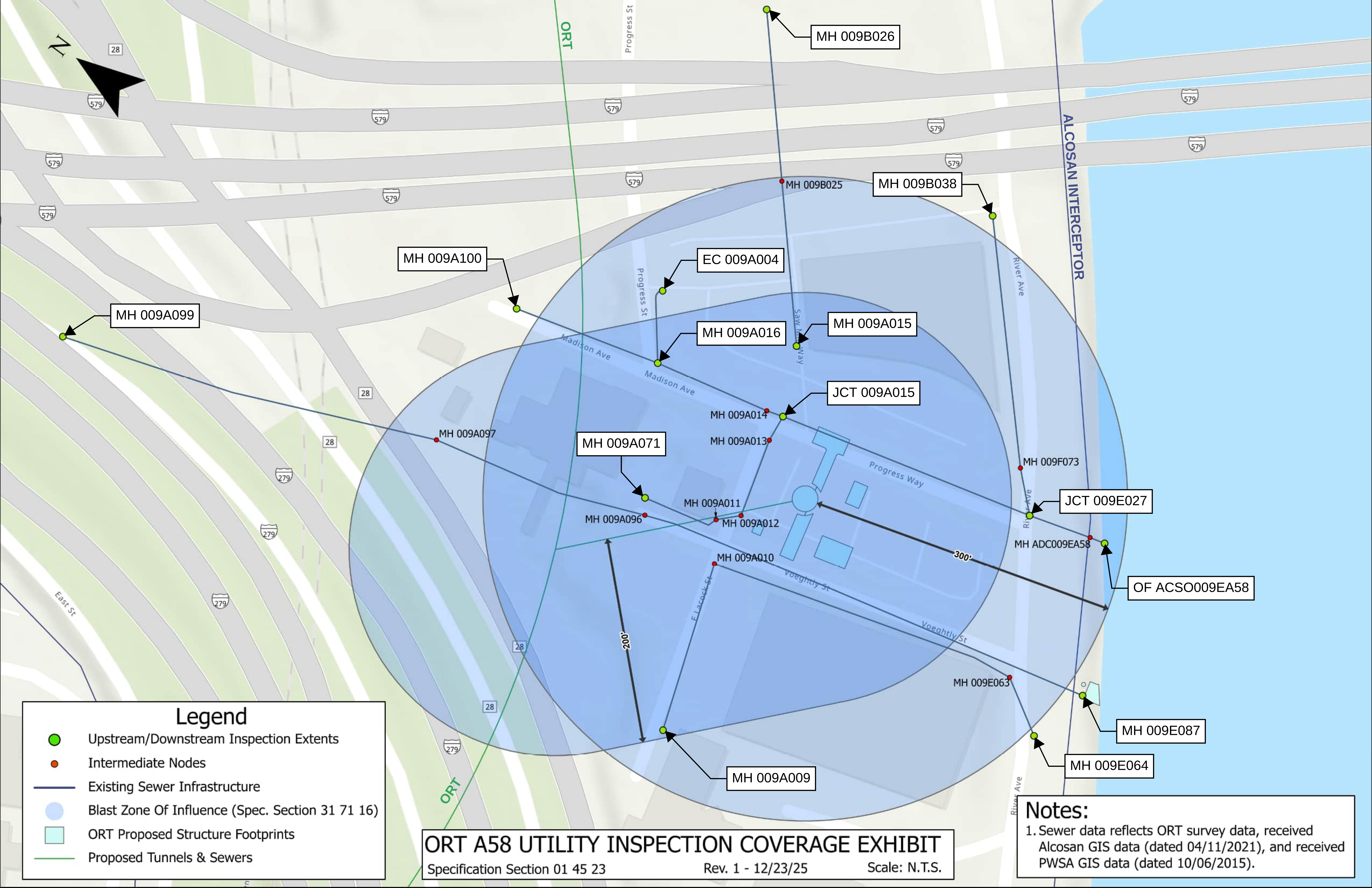
Notes:

1. All sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).
2. The 48" combined sewer overflow from MH ADC007F041 to OF 00K041 is to be abandoned. No inspection and cleaning required due to abandonment. See drawing O41-CI-201.
3. The 54" combined sewer overflow from MH 007F074 to OF 007O40 is to be inspected using sonar technology.

ORT O41 UTILITY INSPECTION COVERAGE EXHIBIT

Specification Section 01 45 23 Rev. 1 - 12/23/25 Scale: N.T.S.


N
MH 008F074
MH 008F002
MH 008F109
CB 008F005
MH 008F104
MH 008F059
MH 008F003
MH 008F058
JCT 008F071
JCT 008F068
MH 008F075
MH 008F079
MH 008F083
MH 008F084
EC 008F004
MH 008F086
MH 008F089
JCT 008F092
MH 008G067
MH 008G069
MH 008G068
MH 008G080
MH 008G136
MH 008G137
MH 008G070
MH 008G135
MH 008G134
MH 008G073
MH 008G074
200'
300'
ORT
S Commons
Merchant St
Martindale St
Conrail
Tetra Dr
Mazeroski Way
279
Legend
Upstream/Downstream Inspection Extents
Intermediate Nodes
Existing Sewer Infrastructure
Blast Zone Of Influence (Spec. Section 31 71 16)
ORT Proposed Structure Footprints
Proposed Tunnels & Sewers
ORT A48 UTILITY INSPECTION COVERAGE EXHIBIT
Reference Specification Section 01 45 23
Rev. 1 - 12/23/25
Scale: N.T.S.
Notes:
1. Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).


N
ORT
Progress St
MH 009B026
ALCOSAN INTERCEPTOR
MH 009B025
MH 009B038
MH 009A100
EC 009A004
River Ave
MH 009A099
MH 009A016
MH 009A015
Madison Ave
Saw Mill Way
JCT 009A015
MH 009A014
MH 009A097
MH 009A013
MH 009A071
Progress Way
MH 009F073
JCT 009E027
MH 009A011
MH 009A096
MH 009A012
MH ADC009EA58
300'
MH 009A010
Voeghtly St
OF ACSO009EA58
E Lacock St
200'
East St
MH 009E063
MH 009E087
MH 009E064
MH 009A009
28
279
579
Legend
Upstream/Downstream Inspection Extents
Intermediate Nodes
Existing Sewer Infrastructure
Blast Zone Of Influence (Spec. Section 31 71 16)
ORT Proposed Structure Footprints
Proposed Tunnels & Sewers

ORT A58 UTILITY INSPECTION COVERAGE EXHIBIT

Specification Section 01 45 23 Rev. 1 - 12/23/25 Scale: N.T.S.

Notes:

1. Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).

N

MH 024P150

MH ADC009BA59A

MH 024P151

300'

MH 009B023

MH 009B076

MH 009B022

MH A-59-Z-02

MH 009B030

EC 009B003

MH 009B029

MH 009B024

MH 009B028

MH 009B027

MH 009B026

MH 009B036

S Canal St

Chesboro St

Carpenter Way

Progress St

Chestnut St

Bolin Way

Saw Mill Way

Warfield St

River Ave

ALCOSAN INTERCEPTOR

ORT

28

579

Legend

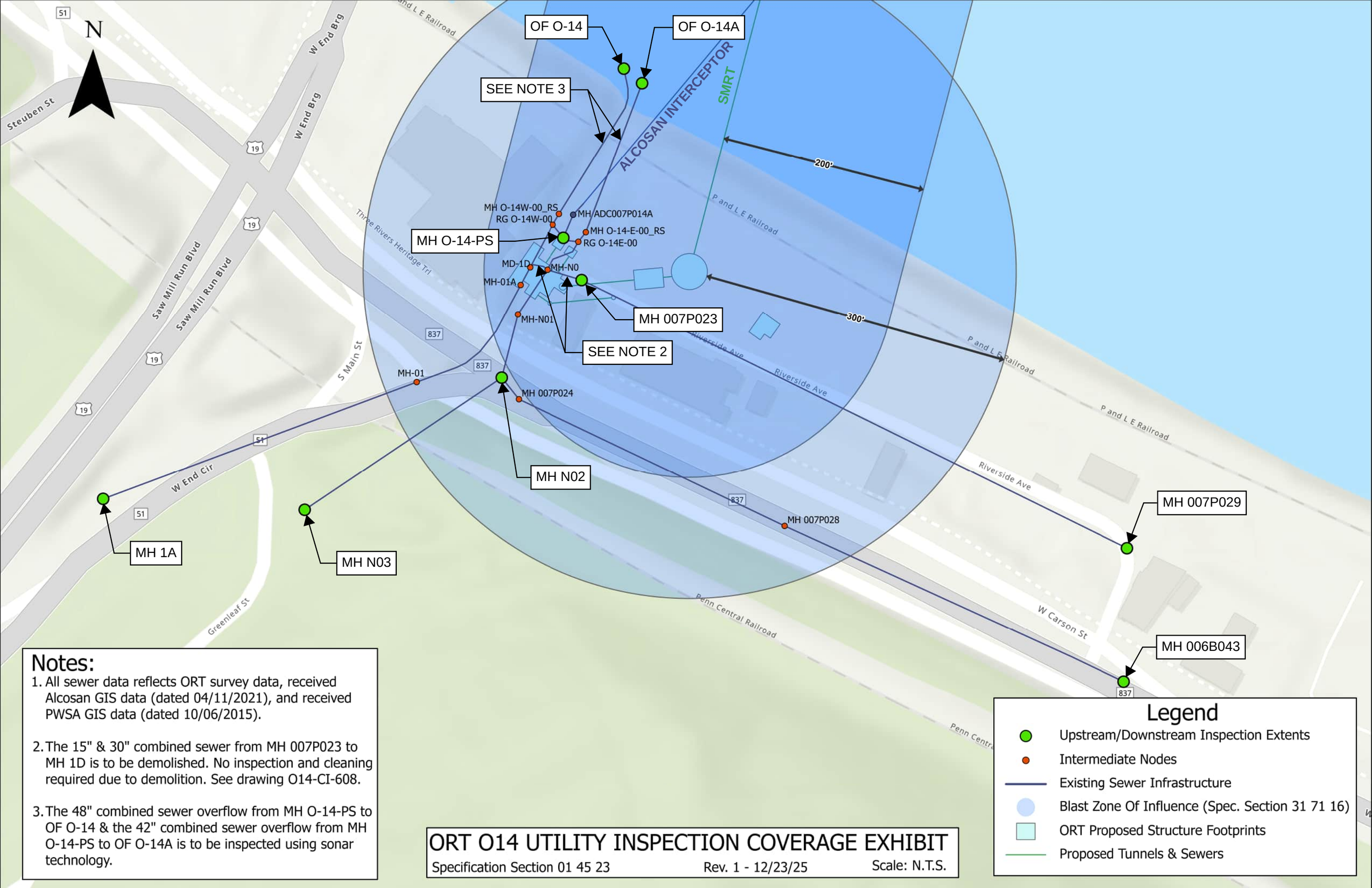
- Upstream/Downstream Inspection Extents
- Intermediate Nodes
- Existing Sewer Infrastructure
- Blast Zone Of Influence (Spec. Section 31 71 16)
- ORT Proposed Structure Footprints
- Proposed Tunnels & Sewers

ORT AS1 UTILITY INSPECTION COVERAGE EXHIBIT

Specification Section 01 45 23 Rev. 1 - 12/23/25 Scale: N.T.S.

Notes:

1. Sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).



Notes:

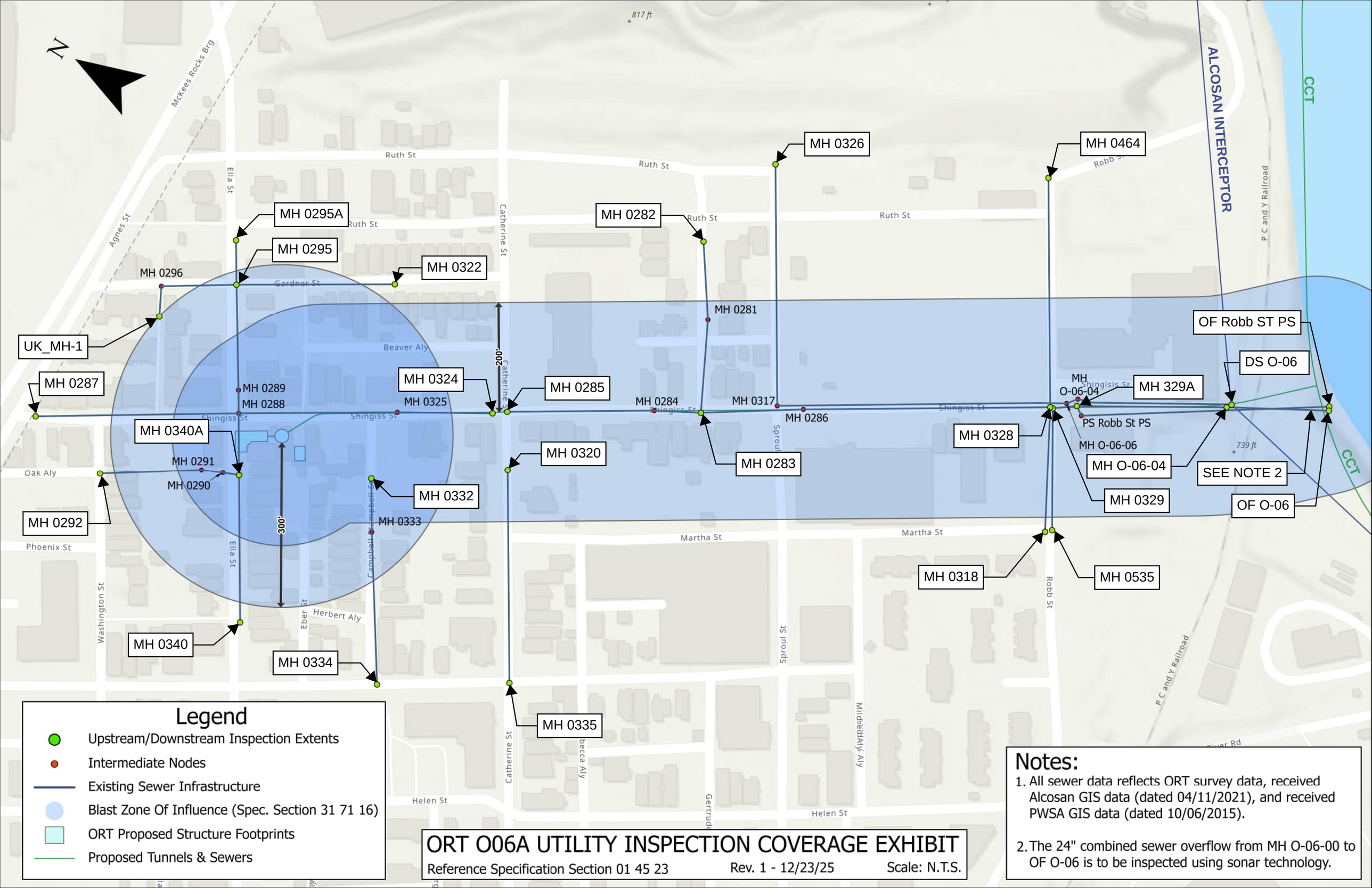
1. All sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).
2. The 15" & 30" combined sewer from MH 007P023 to MH 1D is to be demolished. No inspection and cleaning required due to demolition. See drawing O14-CI-608.
3. The 48" combined sewer overflow from MH O-14-PS to OF O-14 & the 42" combined sewer overflow from MH O-14-PS to OF O-14A is to be inspected using sonar technology.

Legend

- Upstream/Downstream Inspection Extents
- Intermediate Nodes
- Existing Sewer Infrastructure
- Blast Zone Of Influence (Spec. Section 31 71 16)
- ORT Proposed Structure Footprints
- Proposed Tunnels & Sewers

ORT O14 UTILITY INSPECTION COVERAGE EXHIBIT

Specification Section 01 45 23 | Rev. 1 - 12/23/25 | Scale: N.T.S.



Legend

- Upstream/Downstream Inspection Extents
- Intermediate Nodes
- Existing Sewer Infrastructure
- Blast Zone Of Influence (Spec. Section 31 71 16)
- ORT Proposed Structure Footprints
- Proposed Tunnels & Sewers

ORT O06A UTILITY INSPECTION COVERAGE EXHIBIT

Reference Specification Section 01 45 23 Rev. 1 - 12/23/25 Scale: N.T.S.

Notes:

1. All sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).
2. The 24" combined sewer overflow from MH O-06-00 to OF O-06 is to be inspected using sonar technology.

N

MH 0370

MH 0366A

MH 0366B

MH 0367

MH 0366

RG C-04-00

MH C-03A-00

DC C-03A-00

OF C-03A-OVF

SEE NOTE 3

SEE NOTE 2

OF C-04-00

MH C-02-00

RG C-03-00

MH 043S013

MH 043S001

300'

McKees Rocks Plz

Chartiers Ave

CCT

River Rd

PA and LE Railroad

W Carson St

Chartiers Creek

ALCOSAN INTERCEPTOR

51

Legend

- Upstream/Downstream Inspection Extents
- Intermediate Nodes
- Existing Sewer Infrastructure
- Blast Zone Of Influence (Spec. Section 31 71 16)
- ORT Proposed Structure Footprints
- Proposed Tunnels & Sewers

ORT O07 UTILITY INSPECTION COVERAGE EXHIBIT

Specification Section 01 45 23 Rev. 1 - 12/23/25 Scale: N.T.S.

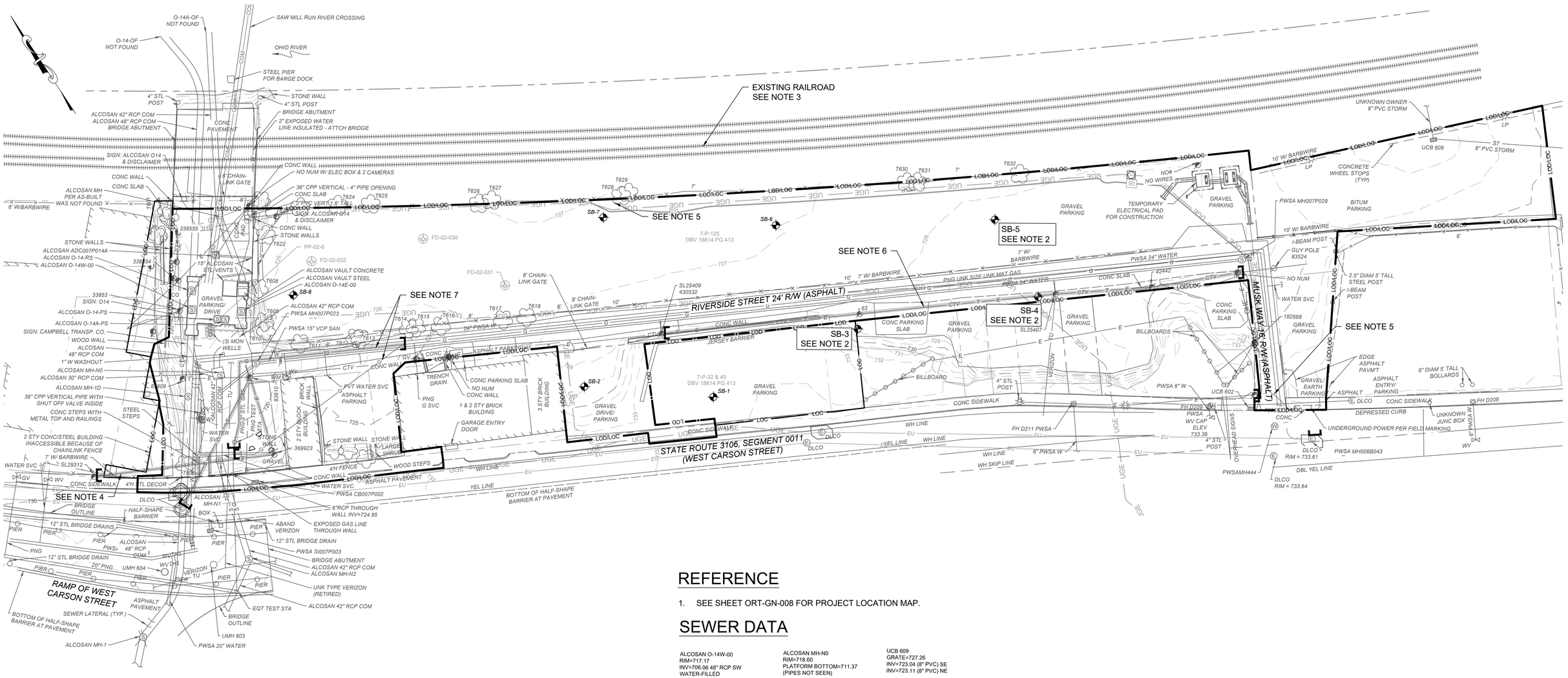
Notes:

1. All sewer data reflects ORT survey data, received Alcosan GIS data (dated 04/11/2021), and received PWSA GIS data (dated 10/06/2015).
2. The 36" & 34" combined sewer overflow from MH C-03A-00 to OF C-03A-OVF is to be abandoned. No inspection and cleaning required due to abandonment. See drawing O07-CI-701.
3. The 24" combined sewer overflow from RG C-04-00 to OF C-04-00 is to be abandoned. No inspection and cleaning required due to abandonment. See drawing O07-CI-701.

Addendum No. 11

Attachment C – CONTRACT DRAWINGS

- Revised O14-CI-600 (Sheet 519 of 770)
- Revised O14-ST-605 (Sheet 545 of 770)
- Revised O14-ST-606 (Sheet 546 of 770)



REFERENCE

1. SEE SHEET ORT-GN-008 FOR PROJECT LOCATION MAP.

SEWER DATA

ALCOSAN O-14W-00
RIM=717.17
INV=706.06 48" RCP SW
WATER-FILLED
BOTTOM=705.47

1
ALCOSAN O-14E-00
RIM=717.57
INV=705.68 42"RCP SW
INV=706.48 W
WATER-FILLED

ALCOSAN O-14-PS
RIM=717.63
PIPES NOT SEEN
BOTTOM=708.72

ALCOSAN O-14A-PS
RIM=717.64
PIPES NOT SEEN
BOTTOM=706.61

ALCOSAN O-14-RS
RIM=717.11
WATER-FILLED
BOTTOM=704.21

ALCOSAN MH-1
RIM=731.06
INV=SQUARE OPENING S
INV=706.86 48" RCP SW
INV=NOT MEASURED ?"RCP W
INV=726.66 15" CMP N
INV=RECESSED 48" RCP NE

ALCOSAN MH-1D
RIM=723.16
BOTTOM=705.61

ALCOSAN MH-N0
RIM=718.60
PLATFORM BOTTOM=711.37
(PIPES NOT SEEN)

ALCOSAN MH-N1
RIM=722.49
INV=706.10 42" RCP S
INV=705.84 42" RCP NE

ALCOSAN MH-N2
RIM=731.78
INV=708.98 42" RCP SW
INV=706.89 42" RCP N

UCB 601
GRATE=730.93
INV=727.71 18" RCP N

UCB 602
RIM=733.10
BOTTOM=725.84

UCB 606
GRATE=731.89
WATER-FILLED

UCB 607
GRATE=728.91
INV=726.04 (8" PVC) NE

UCB 608
GRATE=728.44
INV=725.01 (8" PVC) SW
INV=724.89 (8" PVC) NW

UCB 609
GRATE=727.26
INV=723.04 (8" PVC) SE
INV=723.11 (8" PVC) NE

UMH 605
RIM=732.57
CANNOT OPEN DUE
TO TRAFFIC

NOTES

1. EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN AND MAY NOT BE ACCURATE OR COMPLETE. THE CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF SIGNIFICANT DISCREPANCIES OR ADDITIONAL UTILITIES ARE FOUND THAT WILL IMPACT THE WORK.
2. SB-1 THROUGH SB-8 REPRESENT ENVIRONMENTAL SAMPLING LOCATIONS AS COMPLETED BY CIVIL AND ENVIRONMENTAL CONSULTANTS AND AS DISCUSSED WITHIN THE PHASE II REPORT DATED 11/2/2020. CONTRACTOR IS NOT TO DISTURB THE SOIL AT SB-3, SB-4, AND SB-5.
3. REFER TO SPECIFICATION FOR RAILROAD REQUIREMENTS.
4. DEMOLITION OF EXISTING POWER OVERHEAD UTILITIES TO BE COMPLETED BY OTHERS.
5. CONSTRUCTION OF EXISTING UNDERGROUND POWER UTILITIES TO BE COMPLETED BY OTHERS.
6. DEMOLITION OF EXISTING COMMUNICATION POWER OVERHEAD UTILITIES TO BE COMPLETED BY OTHERS.
7. COORDINATE GAS LINE RELOCATION WITH PEOPLES NATURAL GAS DURING CONSTRUCTION. GAS LINE TO BE RELOCATED AFTER WALL CONSTRUCTION AND BUILDING DEMOLITION

SCALE IN FEET
SCALE 1" = 30'

CITY OF PITTSBURGH ZDR NO.: ZDR-2023-04311

Designed by: JRL
Drawn by: MJN
Checked by: DLM

REV No.	DATE	DESCRIPTION	APPV
1	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040207

STEPHEN B POLEN
PE040360R

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

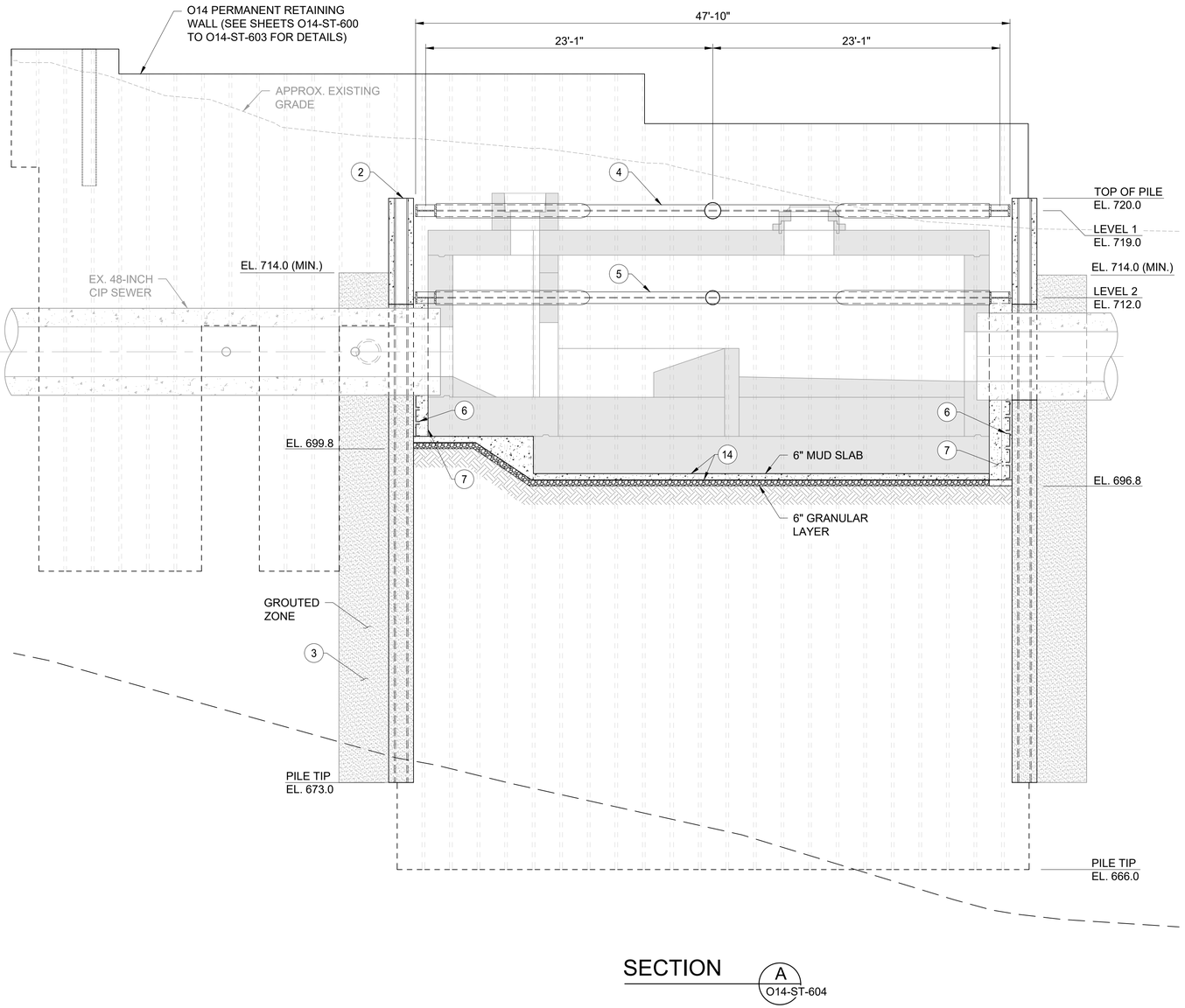
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

O14-CI-600
EXISTING CONDITIONS PLAN

Contract: 1797
File: O14-CI-600.dwg
Date: 07/30/2025
Sheet: 519 OF 770

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\3 - O14\02-Civil\Sheets - O14-CI-600 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 1:42:12 PM



SECTION A
O14-ST-604

NOTES

(NOTES CONTINUED FROM SHEET O14-ST-604)

11. THE INSTALLATION OF THE PARTIAL DEPTH SOE PILES ABOVE, AND FULL DEPTH PILES IMMEDIATELY NEXT TO, THE EXISTING SEWERS MUST AVOID DAMAGES TO THE SEWER BY LEAVING THE APPROPRIATE CLEARANCES TO BE DETERMINED BY THE CONTRACTOR BASED ON ITS MEANS AND METHODS. THE PARTIAL DEPTH SOE PILES SHALL BE INSTALLED TO THE MAXIMUM EXTENT POSSIBLE ONLY AFTER THE FULL DEPTH PILES ARE COMPLETED.

12. THE UNSUPPORTED CLEARANCE ZONES, INCLUDING THE ENTIRE SPACE BELOW EACH SEWER INVERT SHALL BE GROUTED PRIOR TO EXCAVATION AND DURING EXCAVATION WHEN NECESSARY. IN ADDITION TO GROUTING, THE EXPOSED UNSUPPORTED CLEARANCE ZONES SHALL BE FULLY SUPPORTED BY INSTALLATION OF INTERNAL LAGGING DURING THE EXCAVATION PROCESS TO PREVENT SOIL MOVEMENT INTO THE EXCAVATION.

13. THE ADJOINING ZONES BETWEEN THE SOES AND THE EXISTING REGULATOR, INCLUDING THE UNDERSIDE OF THE REGULATOR SHALL BE GROUTED AS REQUIRED HEREIN TO PREVENT GROUNDWATER AND SOIL MOVEMENT INTO THE EXCAVATION.

14. THE EXTENTS OF GROUTED ZONES SHOWN HEREIN ARE MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL EXPAND THESE ZONES AND CONDUCT ADDITIONAL GROUTING AS DEEMED NECESSARY DURING ALL STAGES OF CONSTRUCTION TO ENSURE THAT NO VISIBLE DRIPPING OR MORE SEVERE GROUNDWATER INFILTRATION ENTERS THE EXCAVATION. THE GROUTING METHODOLOGY AND TYPE OF GROUT MIX SHALL BE DETERMINED BY THE CONTRACTOR BASED ON GEOTECHNICAL CONDITIONS AND SITE ACCESS AND SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL ACCORDING TO SPECIFICATION SECTION 31 55 00.

15. TO MAINTAIN EXISTING FLOW FOR THE 42-INCH RCP SEWER, THE CONTRACTOR SHALL DESIGN AND INSTALL A FLUMING PIPE OF THE MINIMUM SIZE SHOWN HEREIN. ITS SUPPORT ELEMENTS SHALL BE INDEPENDENT OF THE REGULATOR SOE SYSTEM. ANY ADDITIONAL LOADS IMPARTED ON THE EXISTING SEWER INVERT AND THE NEW 48-INCH RCP SEWER BY THE FLUMING PIPE AT EACH END SHALL BE KEPT TO A MINIMUM, AND THESE LOADS SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA TO DEMONSTRATE THAT NO UNACCEPTABLE MOVEMENT WILL OCCUR IN THE SEWER INVERT AND THE EXPOSED VERTICAL SOIL WALL BELOW THE SEWER INVERT AS EXCAVATION REACHES THE BOTTOM ELEVATION. THE CONTRACTOR'S DESIGN SHALL BE SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL.

    15.1. THE FLUMING PIPE SHALL CONNECT THE 42-INCH SEWER AT THE LIMIT OF REMOVAL ON THE UPSTREAM SIDE AND THE NEWLY INSTALLED 48-INCH RCP SEWER CONNECTING TO THE EXISTING REGULATOR. THE INSTALLATION OF THE FLUMING PIPE SHALL BE FACILITATED BY IMPLEMENTING A BYPASS PUMPING SYSTEM FOR DRY WEATHER FLOW FROM THE EXISTING MANHOLE MH-N1 ON THE 42-INCH RCP SEWER TO THE NEWLY INSTALLED TRANSITION BOX.

    15.2. DURING THE PERIOD OF INSTALLING THE FLUMING PIPE (1), WHICH INVOLVES DISMANTLING OF THE EXISTING 42-INCH SEWER AND ASSOCIATED CONNECTING CHAMBER ELEMENTS AND INSTALLING THE WESTERN FLOW TRANSITION BOX INTO THE EXISTING O-14 REGULATOR AND THE NEW 48-INCH SEWER, DRY WEATHER FLOW SHALL BE HANDLED BY THE BYPASS PUMPING SYSTEM. HOWEVER, THE CONTRACTOR SHALL MAKE PROVISIONS TO ALLOW FOR WET WEATHER FLOWS OCCURRING DURING THIS PERIOD OF CONSTRUCTION TO PASS THROUGH THE CONSTRUCTION ZONE TO THE EXISTING REGULATOR.

(NOTES CONTINUE ON SHEET O14-ST-606)

BRACING SCHEDULE

LEVEL	WALERS	CROSS-STRUTS	CORNER STRUTS
LEVEL 1	W18x175	HSS16x0.625	HSS14x0.625
LEVEL 2	W18x143	HSS14x0.625	HSS14x0.375

LEGEND

- OUTLINE OF PERMANENT STRUCTURES (SEE NOTE 3 ON SHEET O14-ST-604)
- GROUTED ZONE
- (#) SUGGESTED CONSTRUCTION SEQUENCE STEP (SEE SHEET O14-ST-607 TO O14-ST-609)

4 0 4 8
SCALE IN FEET
SCALE: 3/16" = 1'-0"

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\3 - O14105-Structural\Sheets - O14-ST-605 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 4:21:57 PM

Designed by:	REVISION			
JP/SE	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
BJD				
Checked by:				
ZC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

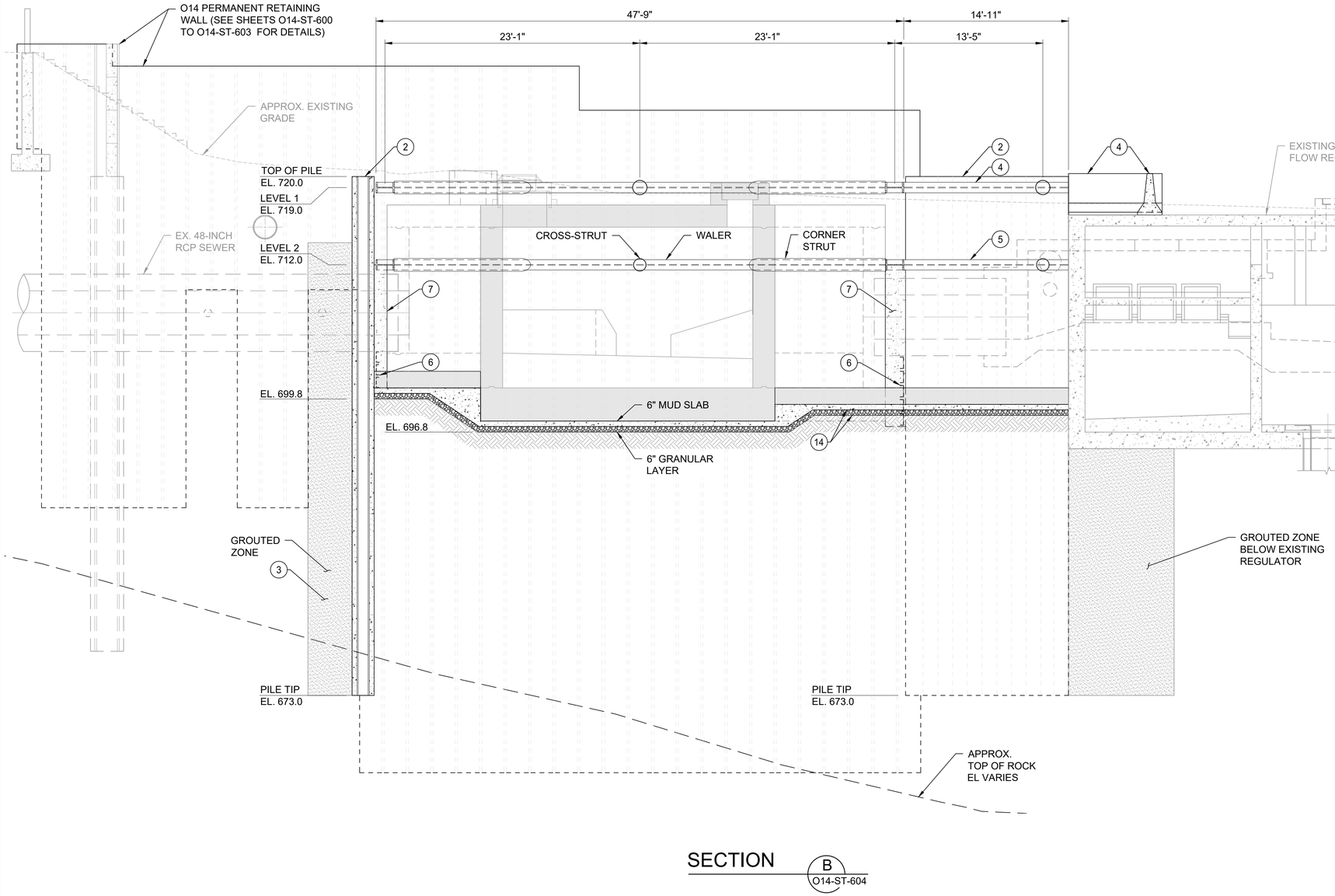
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEPHEN B BOLEN Engineer PE 040360 RF

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

O14-ST-605
SMRT-O14-RG SUPPORT OF EXCAVATION
SHEET 2 OF 8

Contract:	1797
File:	O14-ST-605.dwg
Date:	07/30/2025
Sheet:	545 OF 770



SECTION B
O14-ST-604

NOTES

(NOTES CONTINUED FROM SHEET O14-ST-605)

16. TO MAINTAIN FLOW IN THE EXISTING 48-INCH RCP SEWER, THE FOLLOWING TWO APPROACHES CAN BE ADOPTED. THE FIRST APPROACH IS ADOPTED ON THE CONTRACT DRAWINGS. HOWEVER, IT IS ENTIRELY THE CONTRACTOR'S CHOICE TO IMPLEMENT EITHER DEPENDING ON ACTUAL EXPOSED FIELD CONDITIONS AND THE CONTRACTOR'S MEANS AND METHODS, AND THE CONTRACTOR SHALL INCLUDE ALL REQUIRED WORK IN THE PLANNING AT NO ADDITIONAL COST TO THE OWNER.

    16.1 KEEP IT IN PLACE AND PROTECT IT TO MAINTAIN EXISTING FLOW UNTIL ALL INTERNAL STRUCTURES ARE COMPLETED TO THE MAXIMUM EXTENT AND HAVE ACHIEVED THEIR FUNCTIONS FOR FLOW PASSAGE. THEN, REMOVE THE EXISTING 48-INCH RCP SEWER UNDER DRY WEATHER CONDITIONS WHILE CONDUCTING BYPASS PUMPING TO THE EXISTING 42-INCH SEWER UPSTREAM LOCATION TO BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL PROVIDE ALL LOGISTICS REQUIRED TO PERFORM THE BYPASS PUMPING. MAKE PROVISIONS FOR WET WEATHER FLOW TO PASS THROUGH THE EXCAVATION ZONE TO THE EXISTING O-14 REGULATOR SHOULD THAT OCCUR DURING THIS PERIOD OF TIME.

    16.2 INSTALL A FLUMPING PIPE BY REMOVING THE EXISTING SEWER AFTER IT IS EXPOSED. THIS PROCESS SHALL BE FACILITATED BY IMPLEMENTING BYPASS PUMPING TO THE EXISTING 42-INCH SEWER SIMILARLY AS INDICATED ABOVE.

17. THE CONTRACTOR SHALL DISCHARGE ALL CONSTRUCTION WATER ARISING FROM THE O14-DS SITE TO THE EXISTING O14 REGULATOR (VORTEX DROP STRUCTURE). VIA THE PROPOSED 48-INCH RCP WEST PIPE TRANSITION BOX. THE TRANSITION BOX SHALL BE CONSTRUCTED AS EARLY AS POSSIBLE WITHIN THE OVERALL O14-RG SITE WORKS SCHEDULE AT THE CONTRACTOR'S CHOICE. THE CONTRACTOR SHALL INSTALL A TEMPORARY DROP PIPE WITHIN THE TRANSITION BOX TO ALLOW CONTROLLED DISCHARGE OF CONSTRUCTION WATER TO THE BOX INVERT AND EXISTING O14 REGULATOR VIA THE EXISTING INTERNAL VORTEX DROP APPROACH CHANNEL. THE DROP PIPE SHALL BE REMOVED BY THE CONTRACTOR AFTER COMPLETION OF THE WORKS.

18. IF ALL PERMANENT WORKS AT THIS SITE ARE COMPLETED PRIOR TO FULL ORT AND WWPS COMMISSIONING AND START-UP, THE SLIDING GATE AT THE UPSTREAM END OF THE CONSOLIDATION SEWER SHALL BE CLOSED AT ALL TIMES AND PLACED IN THE OPERATIONAL POSITION AT COMPLETION OF ORT AND WWPS COMMISSIONING AND START-UP.

19. THE RC COLLAR MUST BE INTEGRATED WITH THE SOE WALL USING THREADED HILTI CHEMICAL ANCHORS (OR EQUIVALENT) WITH THE INDICATED DIAMETER, LENGTH, AND EMBEDMENT POST-INSTALLED INTO THE ADJACENT FULL-DEPTH SECANT PILES. THE CONTRACTOR SHALL INSTALL THE TOTAL NUMBER OF ANCHORS WITH APPROXIMATELY THE SAME SPACING AS SHOWN.

20. THE CONTRACTOR SHALL MODIFY THE LAYOUT OF THE RC COLLAR BASED ON THE AS-BUILT PLAN AND VERTICALITY CONDITIONS OF THE SOE WALL TO ENSURE THAT THE ALIGNMENT OF THE POST-INSTALLED ANCHORS SHALL PROVIDE THE REQUIRED ANCHOR EMBEDMENT DEPTH AND THE INTENDED INTEGRATION BETWEEN THE RC COLLAR AND THE ADJACENT PILES IS FULLY ACHIEVED USING THE POST-INSTALLED ANCHORS AS SHOWN.

21. THE ADDITIONAL SUPPORT SYSTEM TO SECURE THE EXCAVATED VERTICAL SOIL WALL BELOW THE SEWER INVERT SHALL BE DESIGNED BY THE CONTRACTOR BASED ON THE GROUTED SOIL MASS PROPERTIES AND FIELD CONDITIONS. HOWEVER, THE EXCAVATION LIFT SHALL BE RESTRICTED TO A MAXIMUM OF THREE (3) FEET PRIOR TO INSTALLATION OF THE BRACING ELEMENTS, AND EACH LIFT MUST BE FULLY SUPPORTED AND SECURED PRIOR TO END OF THE WORK SHIFT OR ANY WORK STOPPAGE. THE CONTRACTOR MUST MAINTAIN THE STABILITY OF THE GROUND AND PROTECT THE EXISTING SEWER AT ALL TIMES.

LEGEND

- OUTLINE OF PERMANENT STRUCTURES (SEE NOTE 3 ON SHEET O14-ST-604)
- GROUTED ZONE
- (#) SUGGESTED CONSTRUCTION SEQUENCE STEP (SEE SHEETS O14-ST-607 TO O14-ST-609)

4 0 4 8
SCALE IN FEET
SCALE: 3/16" = 1'-0"

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\3 - O14\05-Structural\Sheets - O14-ST-606 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 4:26:32 PM

Designed by: JP/SE	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
Drawn by: BJD				
Checked by: ZC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811 Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040207

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER STEPHEN B BOLEN PE040360-R

alcosan allegheny county sanitary authority
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

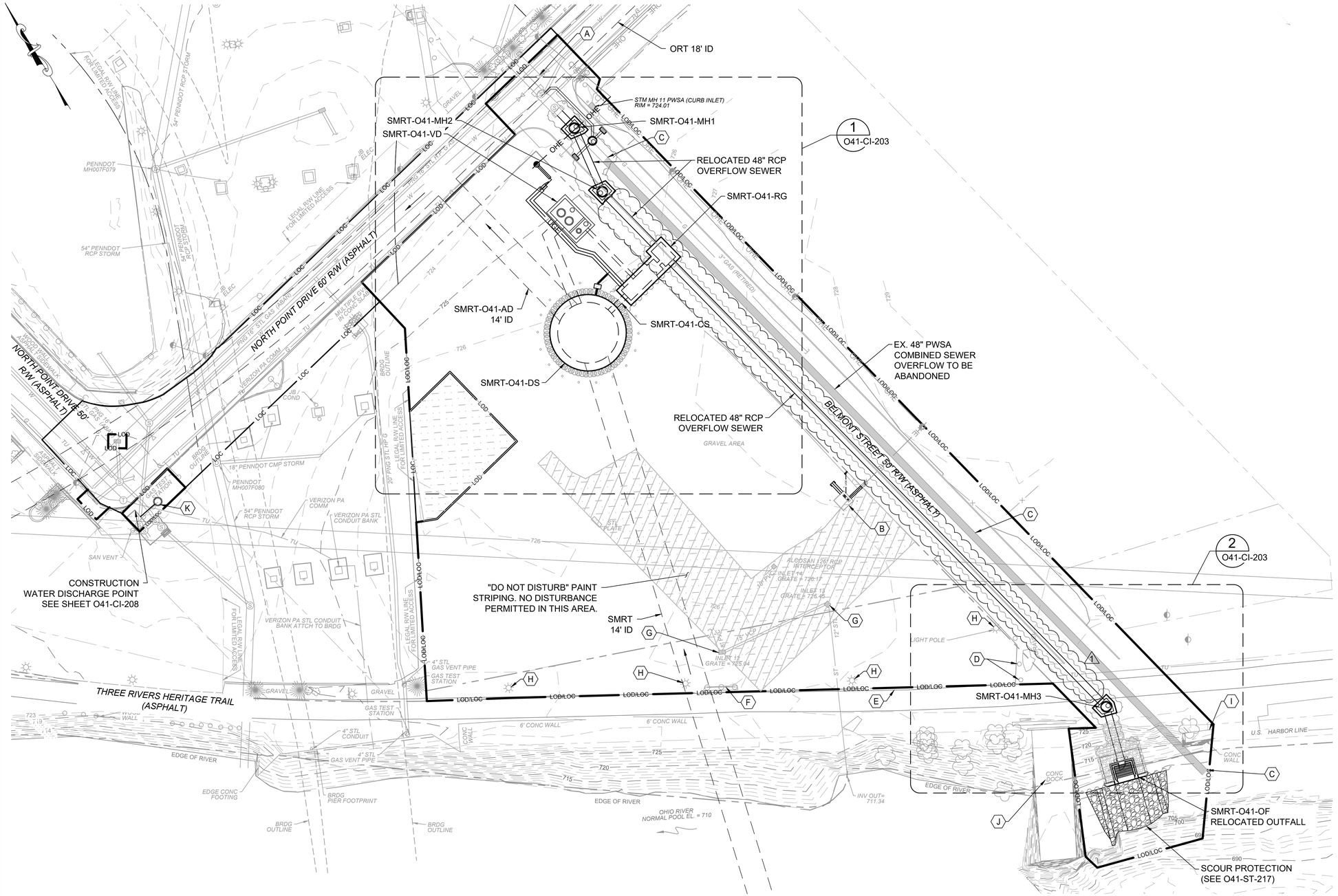
O14-ST-606
SMRT-O14-RG SUPPORT OF EXCAVATION
SHEET 3 OF 8

Contract:	1797
File:	O14-ST-606.dwg
Date:	07/30/2025
Sheet:	546 OF 770

Addendum No. 11

Attachment D – CONTRACT DRAWINGS

- Revised AS1-CI-501 (Sheet 500 of 770)
- Revised AS1-CI-507 (Sheet 506 of 770)
- Revised O41-CI-202 (Sheet 301 of 770)
- Revised O41-CI-203 (Sheet 302 of 770)
- Revised O41-CI-205 (Sheet 304 of 770)



NOTES

1. SEE PWSA PERMIT PLAN SHEET O41-CI-206 FOR WATERLINE RELOCATION AND INLET RELOCATION, AND O41-CI-207 FOR INLET RELOCATION.
2. SEE SHEET O41-CI-204 FOR OUTFALL SEWER RELOCATION.
3. THERE ARE CONSTRUCTION, ACCESS, AND/OR UTILITY EASEMENTS LOCATED THROUGHOUT THE LOD/LOC. REFER TO SPECIFICATIONS FOR EASEMENT EXHIBITS, ESTABLISHED EASEMENT LIMITS, AND ASSOCIATED EASEMENT AGREEMENTS WHICH DETAIL PERMITTED ACTIVITIES AND/OR RESTRICTIONS IN EACH EASEMENT AREA.

KEY NOTES

- (A) DISCONNECT EXISTING 6" WATERLINE. (SEE SHEET O41-CI-206 FOR PLAN AND DETAILS)
- (B) APPROXIMATE LOCATION OF 1MW 480V CONSTRUCTION UTILITY FEED. SEE SHEET O41-EL-200.
- (C) BULKHEAD EXISTING OUTFALL SEWER, ABANDON AND FLOWABLE FILL EXISTING 48" BRICK SEWER.
- (D) (2) STEEL BOLLARDS TO REMAIN AND BE PROTECTED
- (E) FENCE TO REMAIN AND BE PROTECTED
- (F) SIGN TO REMAIN AND BE PROTECTED
- (G) (2) CATCH BASINS AND SEWER LINES TO REMAIN AND BE PROTECTED
- (H) (4) LIGHT POLES TO REMAIN AND BE PROTECTED
- (I) CONCRETE WALL TO REMAIN AND BE PROTECTED
- (J) CONCRETE DOCK TO REMAIN AND BE PROTECTED
- (K) TEMPORARY MANHOLE FOR CONSTRUCTION WATER DISCHARGE. SEE SHEET O41-CI-208 FOR DETAILS.

SITE STRUCTURES	
STRUCTURE ID	DESCRIPTION
ORT	OHIO RIVER TUNNEL
SMRT	SAW MILL RUN TUNNEL
SMRT-O41-AD	SHAFT TO TUNNEL ADIT
SMRT-O41-DS	DROP SHAFT
SMRT-O41-VD	VENTILATION DIFFUSER
SMRT-O41-RG	REGULATOR
SMRT-O41-CS	CONSOLIDATION SEWER
SMRT-O41-OF	OUTFALL
SMRT-O41-MH1	MANHOLE
SMRT-O41-MH2	MANHOLE
SMRT-O41-MH3	MANHOLE

30 0 30 60
SCALE IN FEET
SCALE 1" = 30'

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\4 - O41\02-Civil\Sheets - O41-CI-202 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 4:32:52 PM

Designed by:	REVISION			
JRL	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
MJN				
Checked by:				
DLM				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811 Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040206

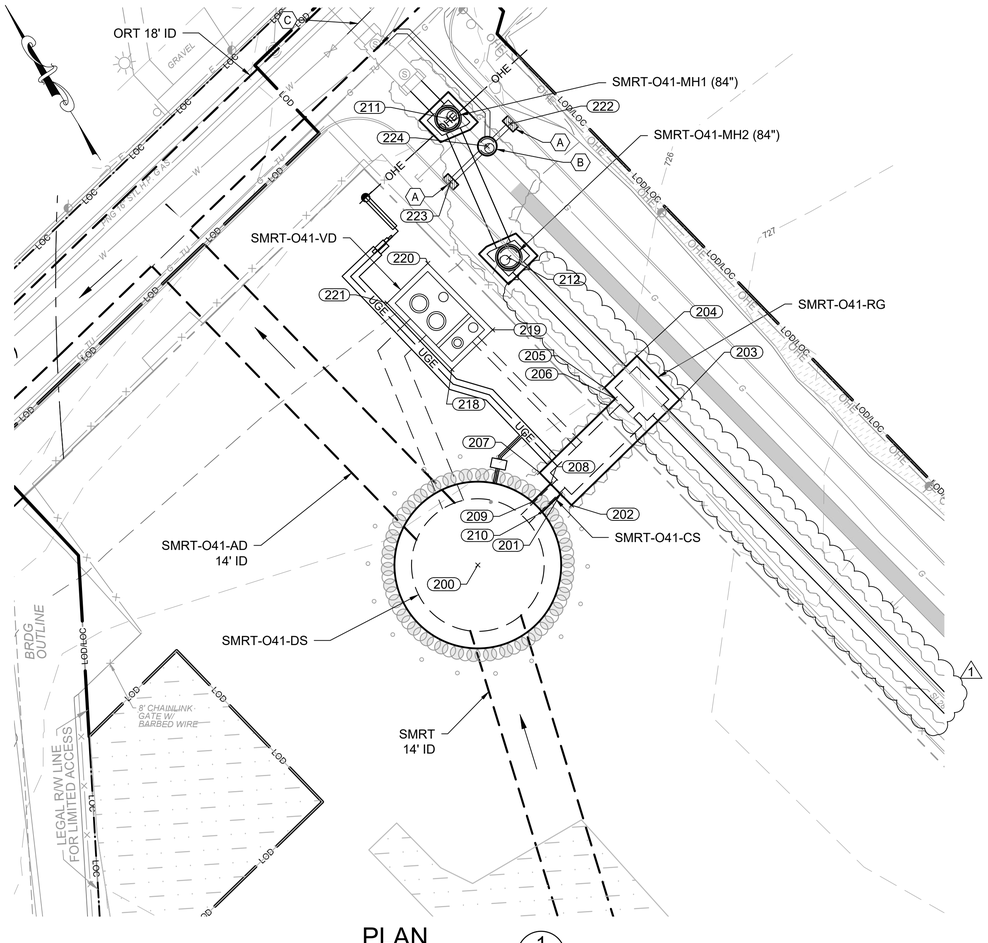
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEPHEN B HOLEN ENGINEER 040360 RI

alcosan allegheny county sanitary authority
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

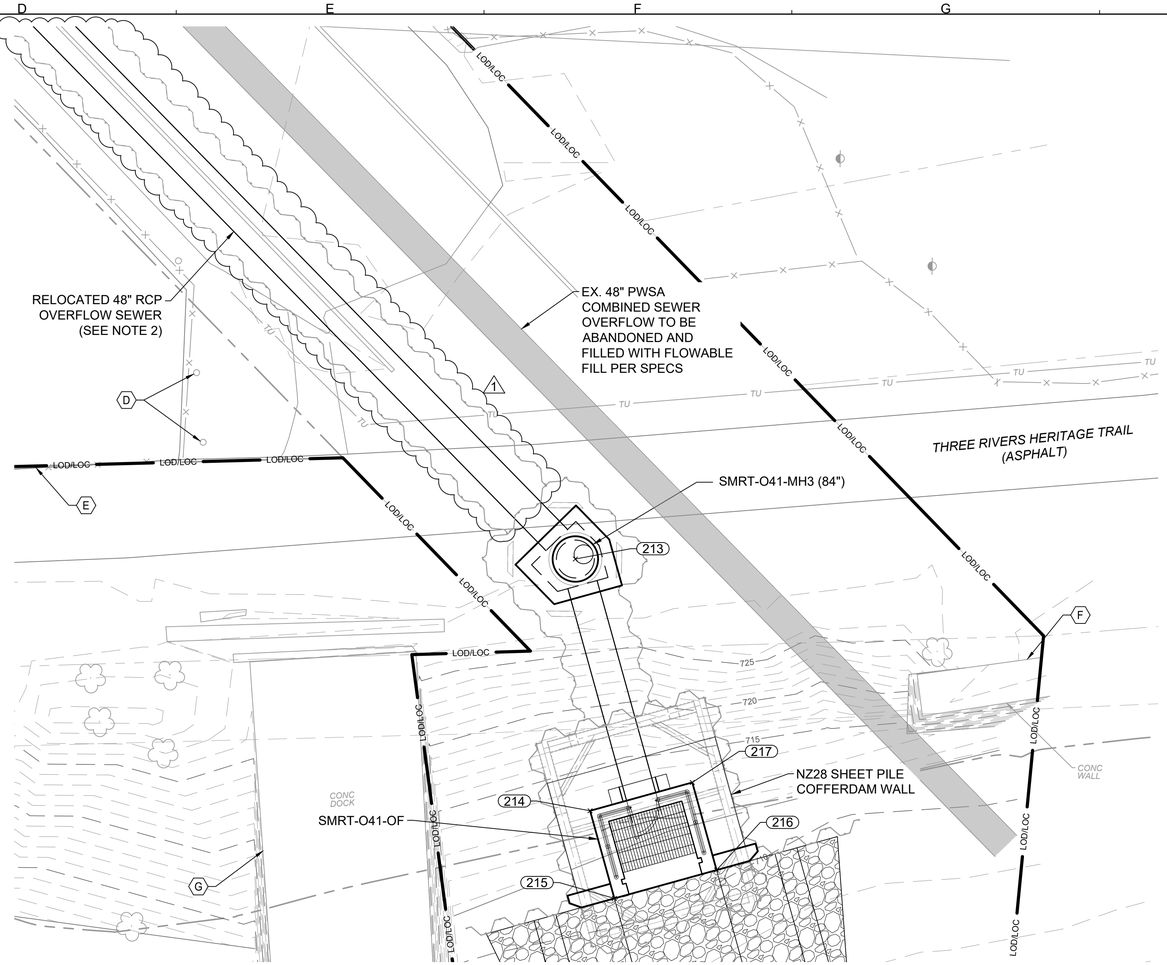
O41-CI-202
PROPOSED SITE PLAN DURING CONSTRUCTION

Contract:	1797
File:	O41-CI-202.dwg
Date:	07/30/2025
Sheet:	301 OF 770



PLAN

SCALE: 1" = 20' (1 / O41-CI-202)



PLAN

SCALE: 1" = 10' (2 / O41-CI-202)

HORIZONTAL CONTROL POINTS			HORIZONTAL CONTROL POINTS			HORIZONTAL CONTROL POINTS		
POINT NO.	NORTHING	EASTING	POINT NO.	NORTHING	EASTING	POINT NO.	NORTHING	EASTING
200	414216.42	1335284.29	209	414223.10	1335305.25	218	414263.95	1335305.53
201	414220.90	1335312.71	210	414219.40	1335306.09	219	414267.24	1335320.17
202	414216.90	1335313.62	211	414320.86	1335339.37	220	414291.14	1335314.80
203	414225.70	1335352.55	212	414281.25	1335333.83	221	414287.86	1335300.16
204	414241.40	1335349.00	213	413876.72	1335425.33	222	414311.09	1335352.69
205	414238.75	1335337.30	214	413847.41	1335409.56	223	414306.32	1335331.21
206	414234.77	1335338.20	215	413835.88	1335406.23	224	414309.24	1335344.39
207	414228.65	1335310.97	216	413831.99	1335419.68			
208	414224.60	1335311.88	217	413843.52	1335423.01			

SITE STRUCTURES	
STRUCTURE ID	DESCRIPTION
ORT	OHIO RIVER TUNNEL
SMRT	SAW MILL RUN TUNNEL
SMRT-O41-AD	SHAFT TO TUNNEL ADIT
SMRT-O41-DS	DROP SHAFT
SMRT-O41-VD	VENTILATION DIFFUSER
SMRT-O41-RG	REGULATOR
SMRT-O41-CS	CONSOLIDATION SEWER
SMRT-O41-OF	OUTFALL
SMRT-O41-MH1	MANHOLE
SMRT-O41-MH2	MANHOLE
SMRT-O41-MH3	MANHOLE

NOTES

1. SEE PWSA PERMIT PLAN SHEET O41-CI-206 FOR WATERLINE RELOCATION AND INLET RELOCATION, AND O41-CI-207 FOR INLET RELOCATION.
2. SEE SHEET O41-CI-204 FOR OUTFALL SEWER RELOCATION.
3. THERE ARE CONSTRUCTION, ACCESS, AND/OR UTILITY EASEMENTS LOCATED THROUGHOUT THE LOD/LOC. (1) REFER TO APPENDIX E – SUPPLEMENTAL INFORMATION FOR EASEMENT EXHIBITS, ESTABLISHED EASEMENT LIMITS, AND ASSOCIATED EASEMENT AGREEMENTS WHICH DETAIL PERMITTED ACTIVITIES AND/OR RESTRICTIONS IN EACH EASEMENT AREA.
   - 7-L-31: TEMPORARY CONSTRUCTION AND PERMANENT ACCESS EASEMENTS.
   - 7-M-110-9: TEMPORARY CONSTRUCTION EASEMENT.

KEY NOTES

- (A) PROPOSED PWSA (2) CATCH BASINS (SEE NOTE 1)
- (B) PROPOSED PWSA MANHOLE (SEE NOTE 1)
- (C) PROPOSED WATERLINE (SEE NOTE 1)
- (D) (2) STEEL BOLLARDS TO REMAIN AND BE PROTECTED
- (E) FENCE TO REMAIN AND BE PROTECTED
- (F) CONCRETE WALL TO REMAIN AND BE PROTECTED
- (G) CONCRETE DOCK TO REMAIN AND BE PROTECTED

10 0 10 20
SCALE IN FEET
SCALE 1" = 10'

20 0 20 40
SCALE IN FEET
SCALE 1" = 20'

Designed by: JRL
Drawn by: MJN
Checked by: DLM

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811 — Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040206

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEPHEN B BOLEN — ENGINEER — 040360-E

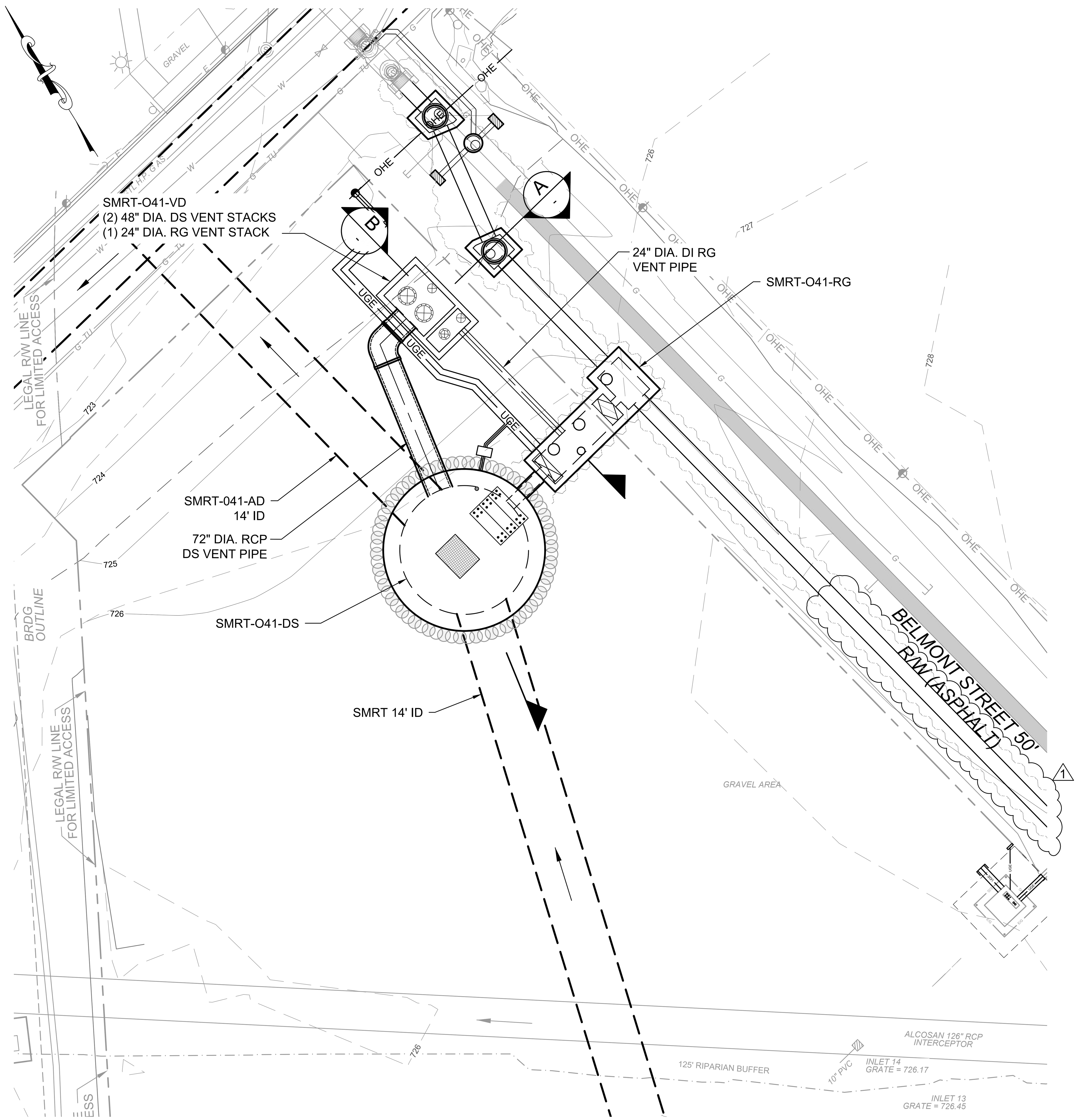
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

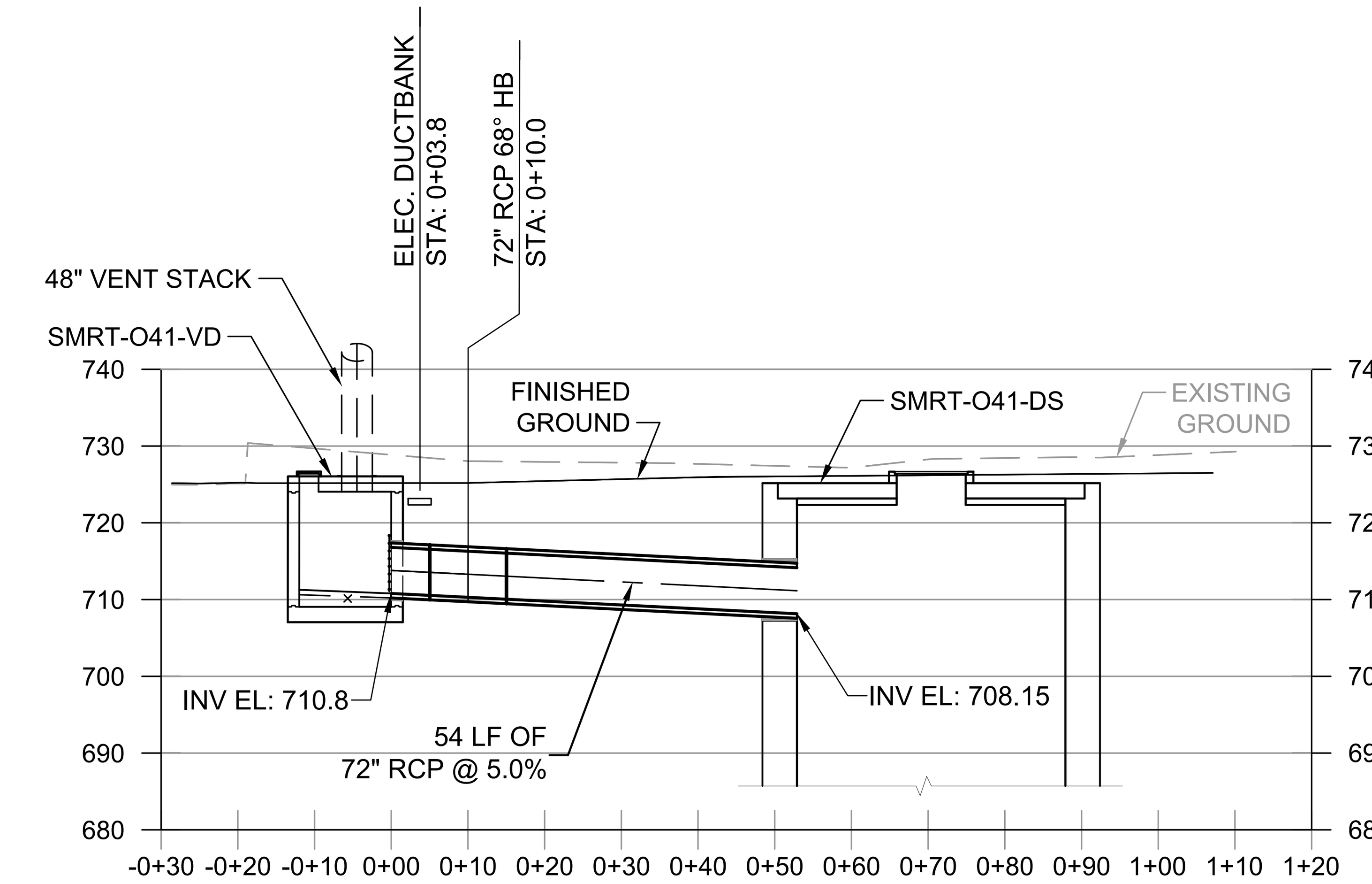
O41-CI-203
ENLARGED SITE PLAN DURING CONSTRUCTION

Contract: 1797
File: O41-CI-203.dwg
Date: 07/30/2025
Sheet: 302 OF 770

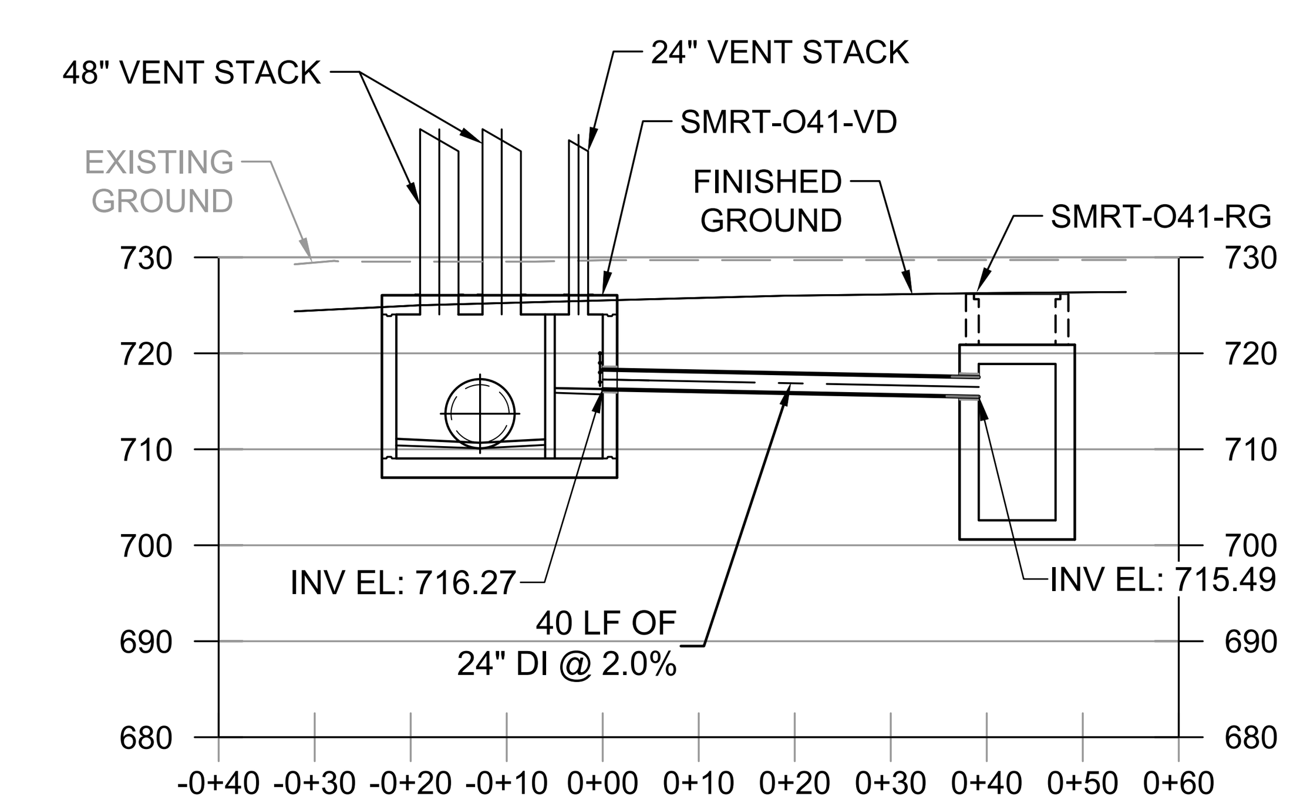
FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\4 - O41\02-Civil\Sheets - O41-CI-203 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 4:36:06 PM



PLAN



72" DIA. DS VENT PIPE PROFILE (A / -)



24" DIA. RG VENT PIPE PROFILE (B / -)

20 0 20 40

SCALE IN FEET
SCALE 1" = 20'

LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 4:37:50 PM

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\4 - O41\02-Civil\Sheets - O41-CI-205

Designed by:	JRL
Drawn by:	VN
Checked by:	DLM

REV No.	DATE	DESCRIPTION	APPV
1	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040206

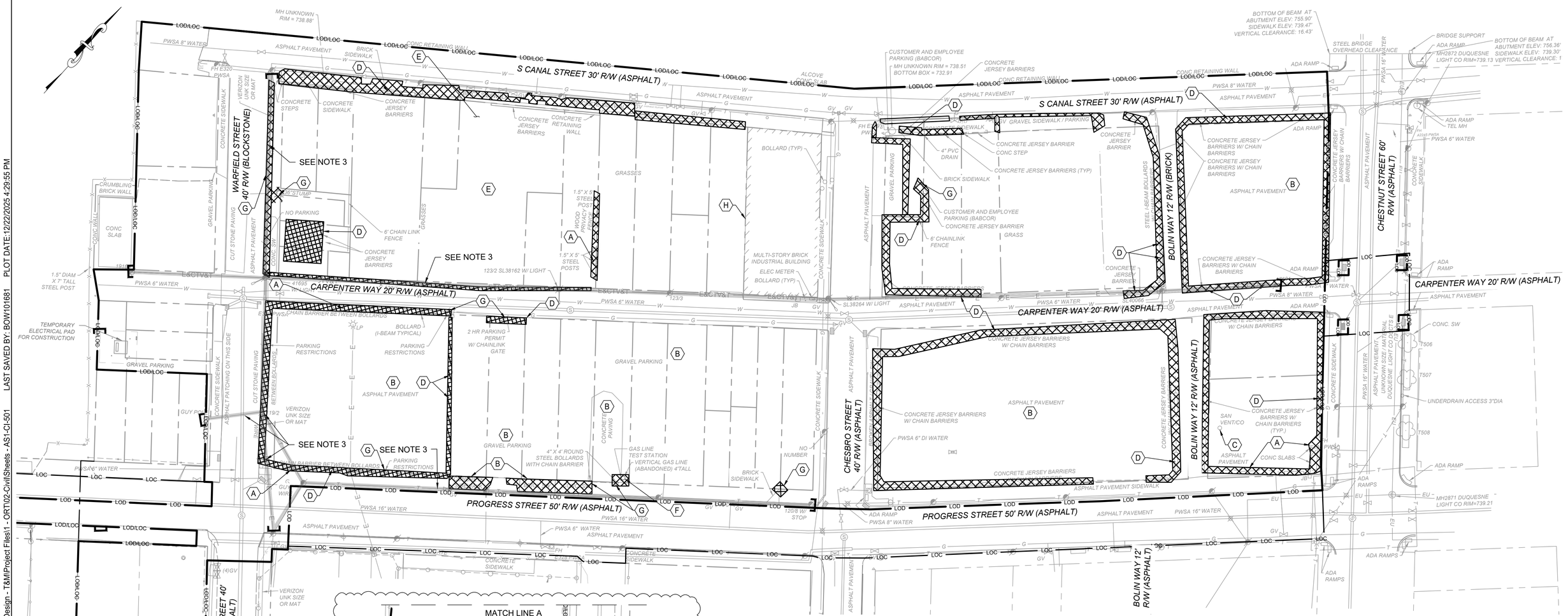
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER STEPHEN B BOLEN

alcosan allegheny county sanitary authority
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

O41-CI-205
UTILITY PLAN
VENTILATION PLAN AND PROFILE

Contract: 1797
File: O41-CI-205.dwg
Date: 07/30/2025
Sheet: 304 OF 770



KEY NOTES

- (A) SIGNS, SIGN POST, STL POST, PIPE, BOLLARDS (TYP.)
- (B) ASPHALT PAVEMENT, BRICK SIDEWALK, CONCRETE PAVING, GRAVEL PARKING (TYP.)
- (C) SANITARY VENT/CO
- (D) LOT PERIMETER JERSEY BARRIER W/ CHAIN BARRIER/BOLLARD AND CHAIN FENCE (TYP.)
- (E) TREES, VEGETATION, SHRUBS (TYP.)
- (F) GAS LINE TEST STATION AND VERTICAL GAS LINE
- (G) STUMP, CONCRETE STEP, BIKE RACK AND PARKING RESTRICTION (TYP.)
- (H) BUILDING TO REMAIN

NOTES

1. SEE AS1-EL-500 SERIES FOR ELECTRICAL PROTECTION, REMOVAL, AND REPLACEMENT.
2. CURB AND SIDEWALK TO BE DEMOLISHED AS NEEDED DURING CONSTRUCTION. CONTRACTOR TO REPLACE PERIMETER SITE CURBING AND SIDEWALK DURING SITE RESTORATION STAGE.
3. DEMOLITION OF EXISTING POWER AND COMMUNICATIONS OVERHEAD UTILITIES TO BE COMPLETED BY OTHERS.
4. CONSTRUCTION OF POWER AND COMMUNICATIONS OVERHEAD UTILITIES TO BE COMPLETED BY OTHERS.

30 0 30 60

SCALE IN FEET
SCALE 1" = 30'

Designed by:	REVISION			
JRL	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
MJN				
Checked by:				
DLM				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

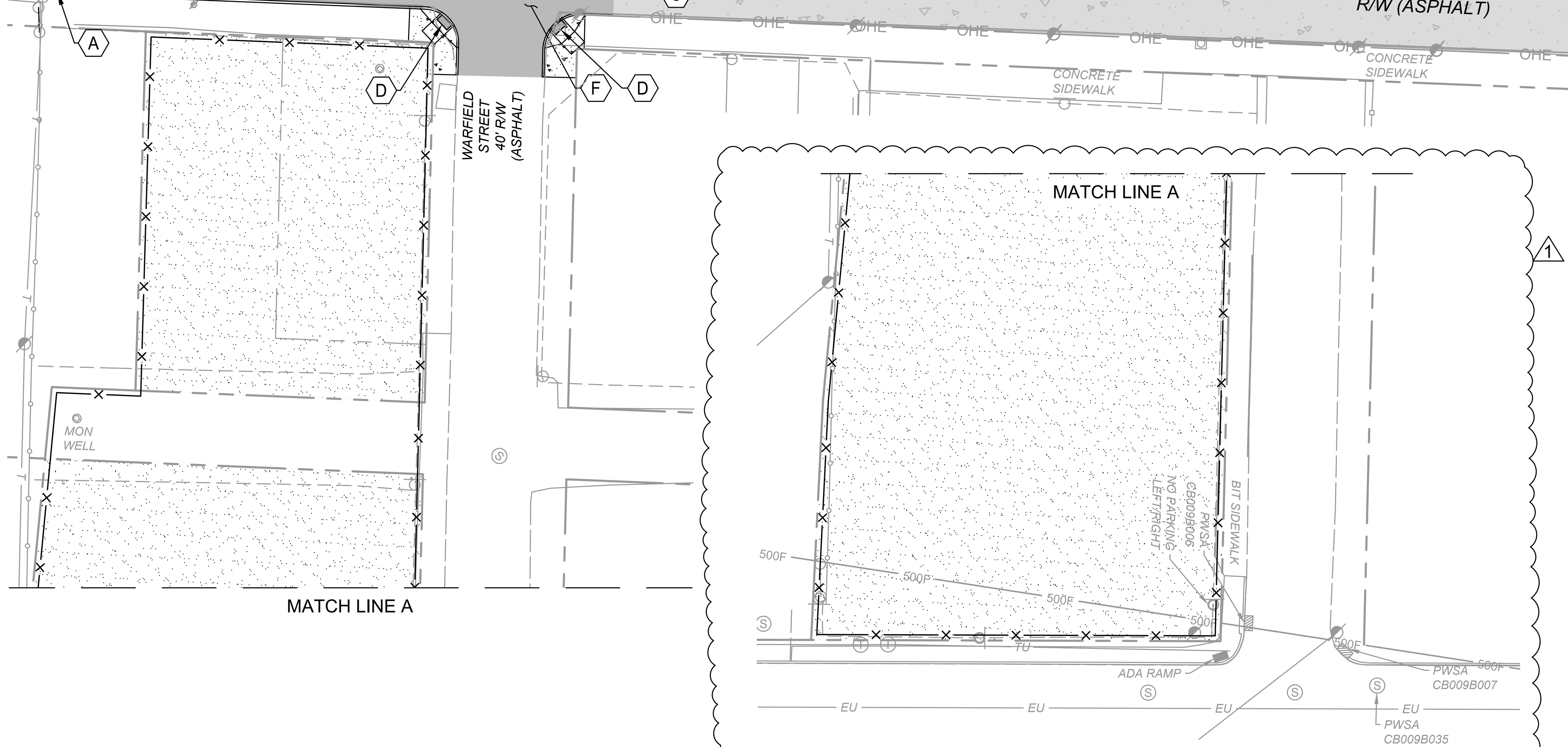
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEPHEN B HOLEN Engineer 044036 ER

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

AS1-CI-501
DEMOLITION PLAN

Contract:	1797
File:	AS1-CI-501.dwg
Date:	07/30/2025
Sheet:	500 OF 770



KEY NOTES

- (A) CONCRETE DEEP CURB W/ 4" REVEAL (TYP.) (SEE STANDARD DETAIL C-42, SHEET ORT-MD-023)
- (B) REINFORCED CONCRETE SIDEWALK (TYP.) (SEE STANDARD DETAIL C-43, SHEET ORT-MD-023)
- (C) SAW CUT EX. PAVEMENT
- (D) ADA RAMP (SEE STANDARD DETAILS C-45 - C-49, SHEET ORT-MD-023 - ORT-MD-024)
- (E) ASPHALT MILL AND OVERLAY (SEE SHEET AS1-CI-508)
- (F) FULL DEPTH ASPHALT PAVEMENT (SEE SHEET AS1-CI-508)

NOTES

1. FULL WIDTH MILL AND ASPHALT OVERLAY IS REQUIRED WITHIN THE LIMITS SHOWN.
2. MATCH EXISTING STREET PROFILES AND CROSS SECTIONS.
3. SEE SHEETS AS1-CI-508 TO AS1-CI-512 FOR DETAILS.
4. SEE SHEET ORT-MD-026 FOR PLANTING LIST AND DETAILS.
5. SEE SHEET AS1-CI-506 FOR RESTORATION IN LIMITS OF CONSTRUCTION AND OUTSIDE RIGHT-OF-WAY.
6. ROW PAVING REQUIREMENTS WITHIN AS1 SITE LIMITS SHALL BE RESTORED PER AS1 PCSM PLAN.

30 0 30 60

SCALE IN FEET
SCALE 1" = 30'

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\02-Civil\Sheets - AS1-CI-507 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 4:31:14 PM

Designed by: TMA
Drawn by: TMA
Checked by: DLM

REV No.	DATE	DESCRIPTION	APPV
1	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811
Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040204

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER STEPHEN B BOLEN

alcosan
allegheny county sanitary authority
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

AS1-CI-507
ROW PAVING PLAN

Contract: 1797
File: AS1-CI-507.dwg
Date: 07/30/2025
Sheet: 506 OF 770

Addendum No. 11

Attachment E

APPENDIX E – SUPPLEMENTAL INFORMATION (FOR INFORMATION ONLY)

SECTION 5.7.3

- Robb Street Sewer (8 sheets including Appendix E – Supplemental Information fly sheet) (Referenced Project Number 76-0212-006-02)

Addendum No. 11

Attachment E

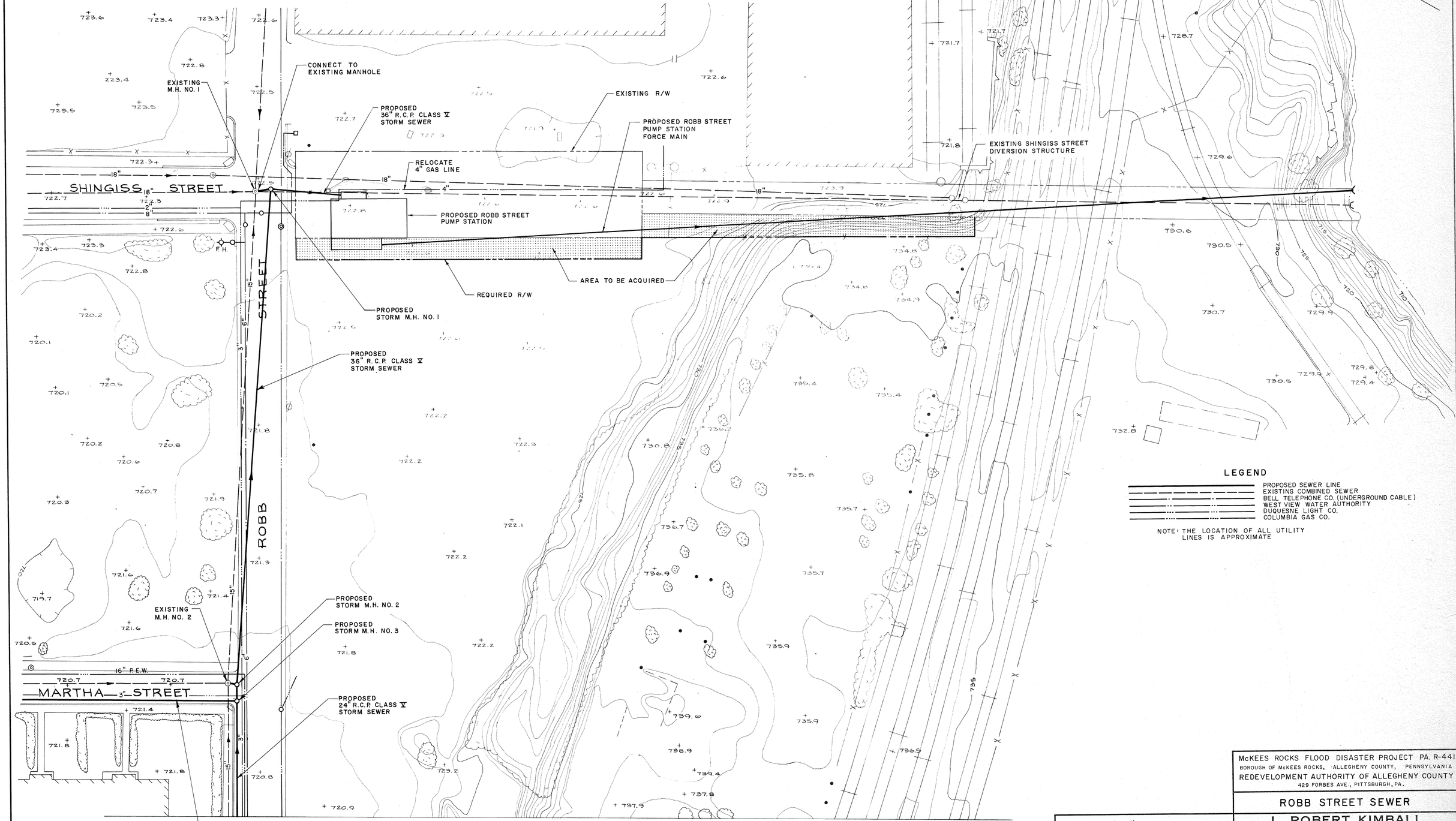
APPENDIX E – SUPPLEMENTAL INFORMATION (FOR REFERENCE ONLY)

SECTION 5.7.3

Pages from Robb Street Sewer, Project Number 76-0212-006-02

- Robb Street Sewer and Pump Station Graphic
- Robb Street Pump Station Drawings (November 1977)


Shingiss St
Robb St
Robb St
Northern Sound & Light
BrandSafway Industries Pittsburgh
Rob Street Storm PS
Uansa Community Room - Food...
Reed Building Supply
© 2022 Google
40°28'19.45" N
80°03'02.54"
29°F Clear



LEGEND

- PROPOSED SEWER LINE
- EXISTING COMBINED SEWER
- BELL TELEPHONE CO. (UNDERGROUND CABLE)
- WEST VIEW WATER AUTHORITY
- DUQUESNE LIGHT CO.
- COLUMBIA GAS CO.

NOTE: THE LOCATION OF ALL UTILITY LINES IS APPROXIMATE

NOTE: SEE SHEET 32 FOR PROPOSED STORM SEWER PROFILES.

McKEES ROCKS FLOOD DISASTER PROJECT PA. R-441
BOROUGH OF McKEES ROCKS, ALLEGHENY COUNTY, PENNSYLVANIA
REDEVELOPMENT AUTHORITY OF ALLEGHENY COUNTY
429 FORBES AVE., PITTSBURGH, PA.

ROBB STREET SEWER

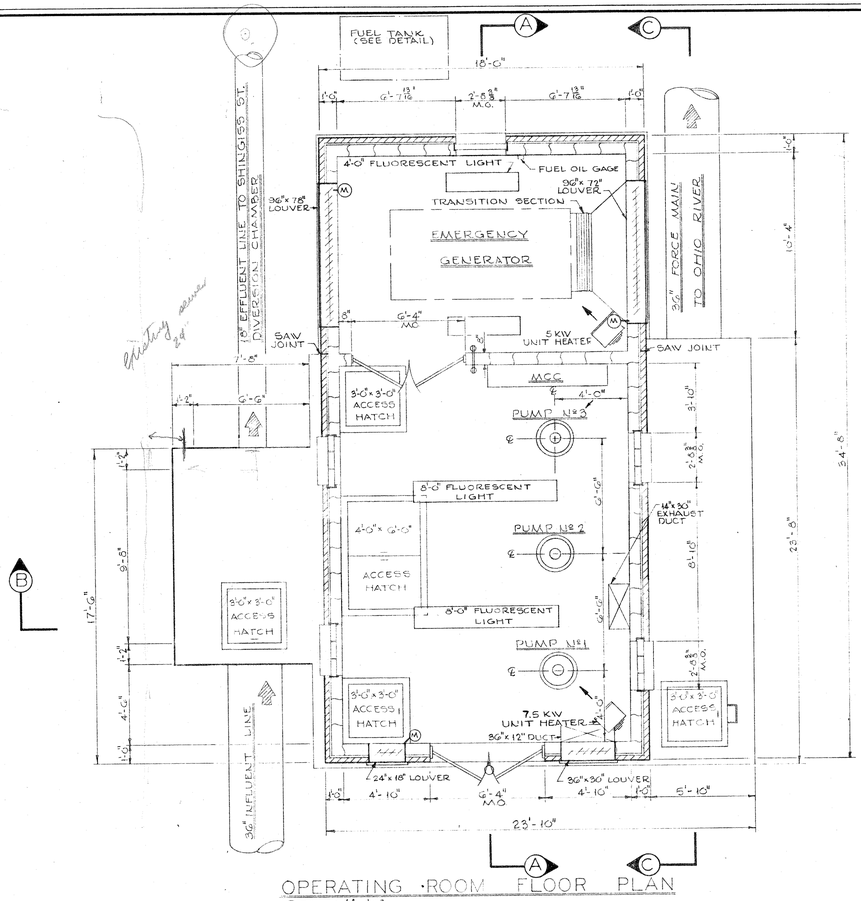
L. ROBERT KIMBALL
CONSULTING ENGINEERS
EBENSBURG PENNSYLVANIA PITTSBURGH

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — LEO ROBERT KIMBALL — ENGINEER No. 14721

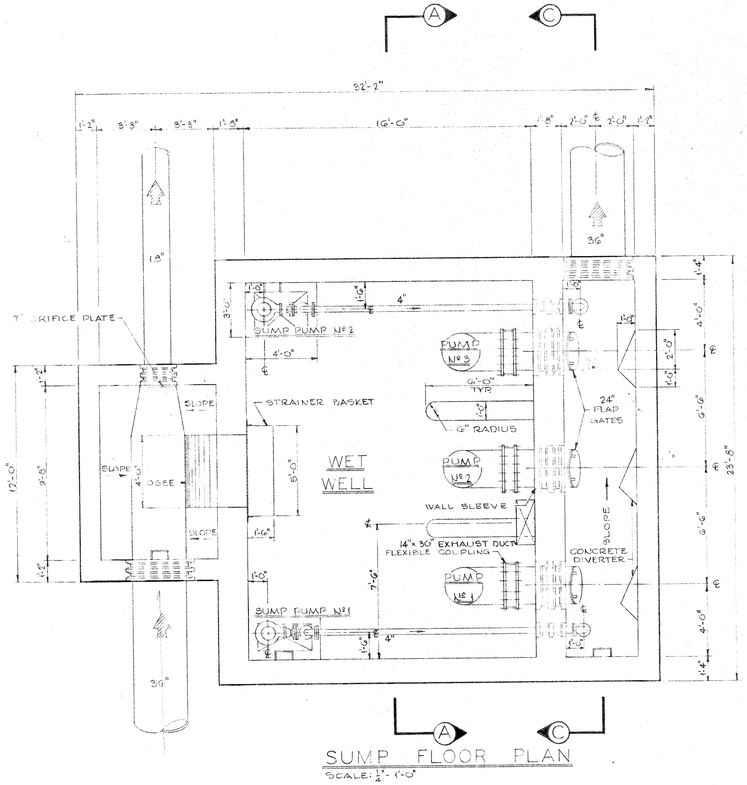
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — EDMUND ROBERT RICHARDSON — ENGINEER 18107-E

DRAWN BY RFS	DATE 8/4/76	PROJECT NUMBER	
CHECKED BY TMG	DATE 11/23/77	76-0212-006-02	
APPROVED BY ERR	DATE 11/28/77	SCALE	SHEET
REFERENCE		1" = 20'	26 OF 45
BOOK NO.	SHEET NO.		

PR 9721-370



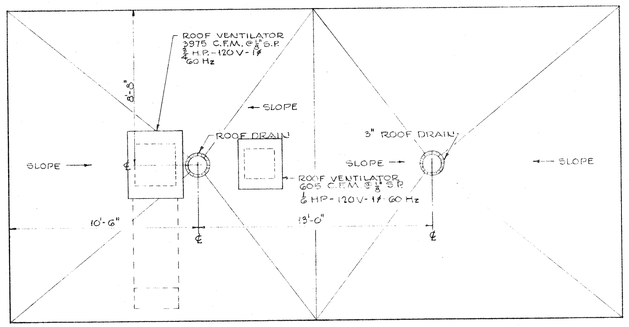
OPERATING ROOM FLOOR PLAN
SCALE: 1/4" = 1'-0"



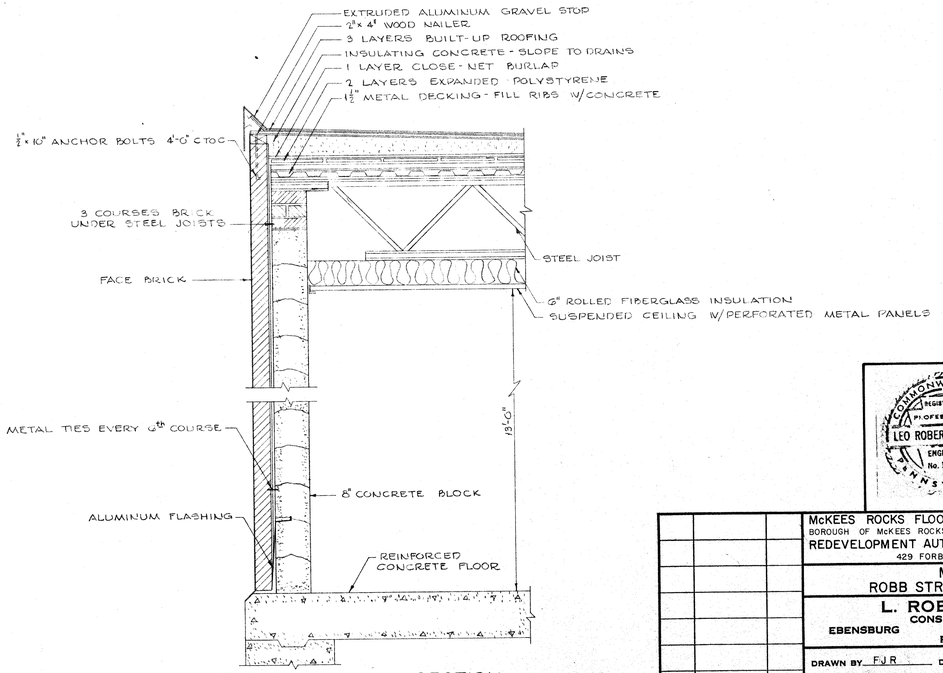
SUMP FLOOR PLAN
SCALE: 1/2" = 1'-0"

8" x 6" = 48 sq in

7" ∅ = 49 sq in



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



TYPICAL WALL SECTION
No Scale

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL LEO ROBERT KIMBALL ENGINEER No. 14721

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL EDMUND ROBERT RICHARDSON ENGINEER 18107-E

McKEES ROCKS FLOOD DISASTER PROJECT PA. R-441
BOROUGH OF McKEES ROCKS, ALLEGHENY COUNTY, PENNSYLVANIA
REDEVELOPMENT AUTHORITY OF ALLEGHENY COUNTY
429 FORBES AVE, PITTSBURGH, PA.

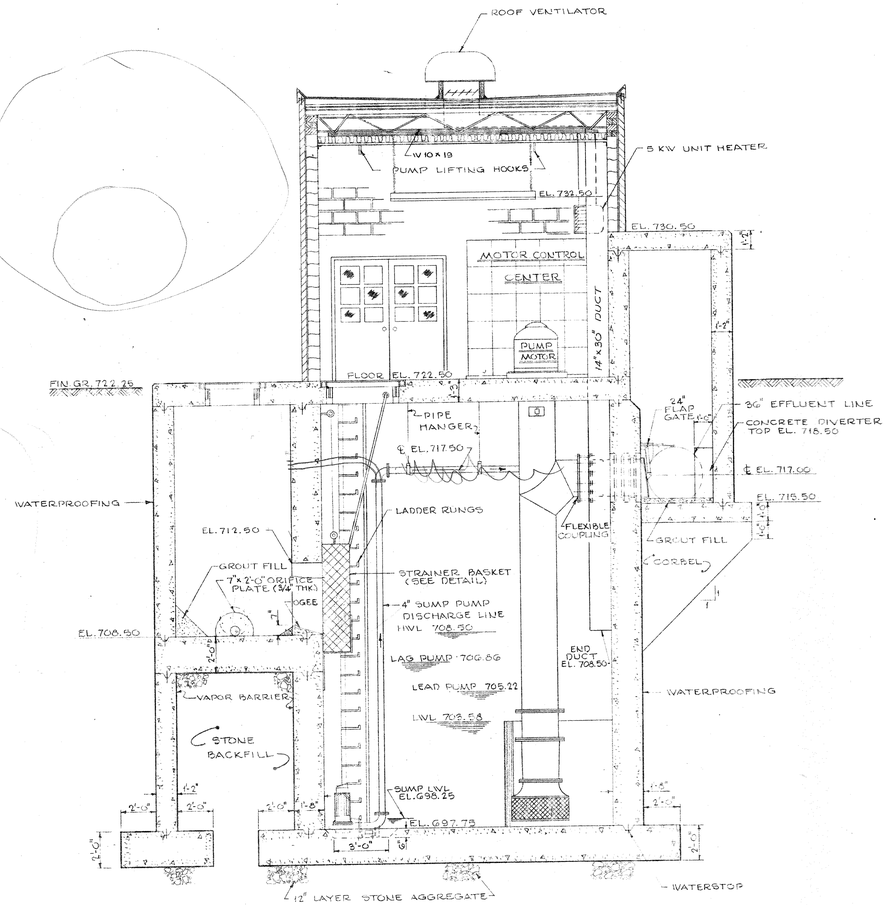
MECHANICAL
ROBB STREET PUMP STATION

L. ROBERT KIMBALL
CONSULTING ENGINEERS
EBENSBURG PITTSBURGH
PENNSYLVANIA

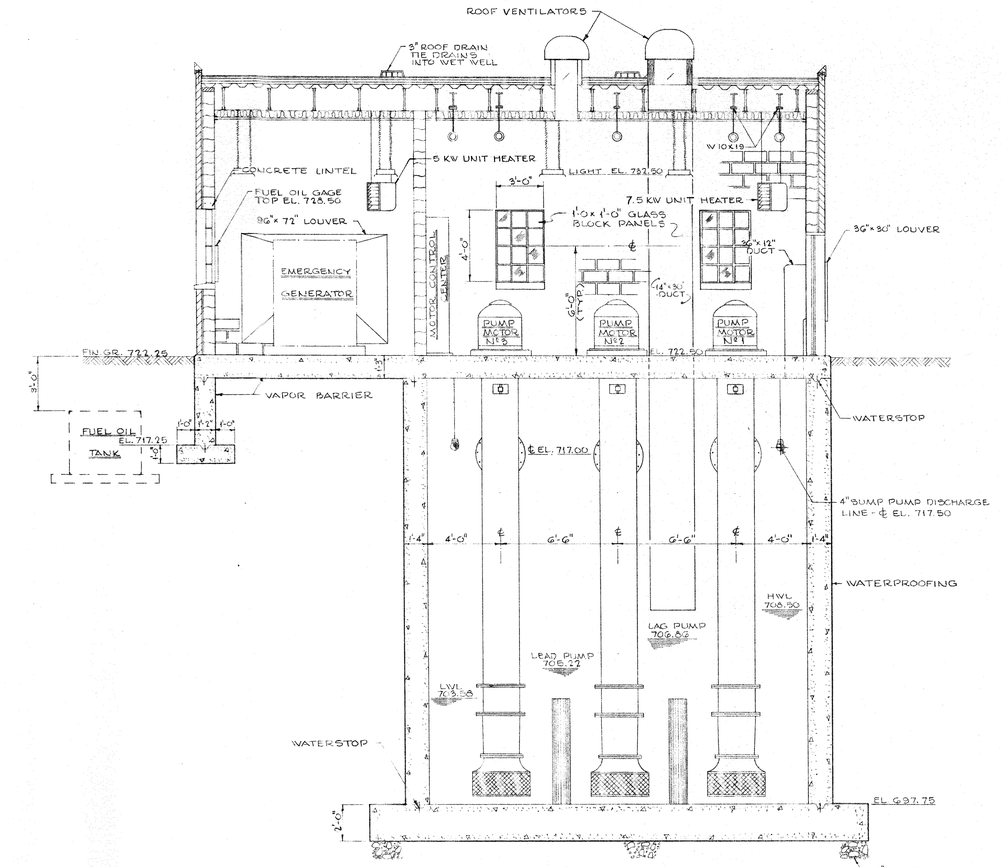
DATE	REVISED	BY

DRAWN BY FJR DATE 11/25/77
TRACED BY FJR DATE 11/25/77
CHECKED BY TMG DATE 11/26/77
APPROVED BY ERR DATE 11/27/77

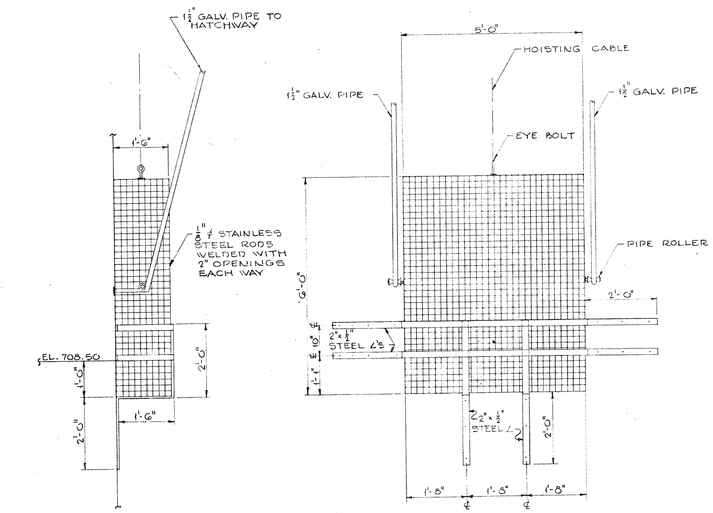
CODE NO. 76-0212 006-03
SHEET NO. 27
SCALE AS-NOTED
OF 45



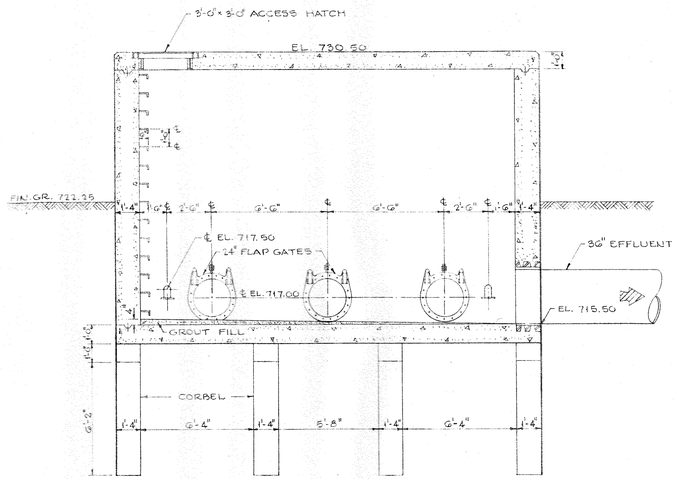
SECTION B-B
SCALE: 1/4" = 1'-0"



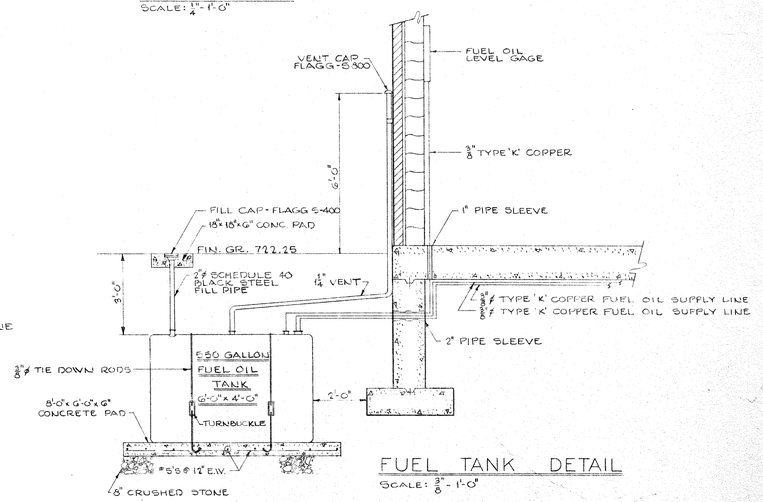
SECTION A-A
SCALE: 1/4" = 1'-0"



STRAINER DETAIL
SCALE: 1/2" = 1'-0"



SECTION C-C
SCALE: 1/2" = 1'-0"



FUEL TANK DETAIL
SCALE: 3/8" = 1'-0"

NOTE:
BACKFILL 1'-0" ABOVE TANK WITH SAND.

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — LEO ROBERT KIMBALL — ENGINEER — No. 14721

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — EDWARD ROBERT RICHARDSON — ENGINEER — 18107-E

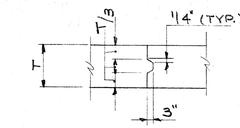
DATE	REVISED	BY

McKEES ROCKS FLOOD DISASTER PROJECT PA. R-441
BOROUGH OF McKEES ROCKS, ALLEGHENY COUNTY, PENNSYLVANIA
REDEVELOPMENT AUTHORITY OF ALLEGHENY COUNTY
429 FORBES AVE., PITTSBURGH, PA.

MECHANICAL
ROBB STREET PUMP STATION

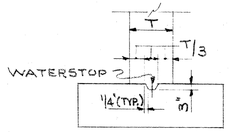
L. ROBERT KIMBALL
CONSULTING ENGINEERS
EBENSBURG PENNSYLVANIA PITTSBURGH

DRAWN BY FJR	DATE 11/26/77	CODE NO. 76-0212 006-03	SHEET NO. 28
TRACED BY FJR	DATE 11/26/77		
CHECKED BY TMG	DATE 11/27/77	SCALE AS-NOTED	OF 45
APPROVED BY ERR	DATE 11/28/77		



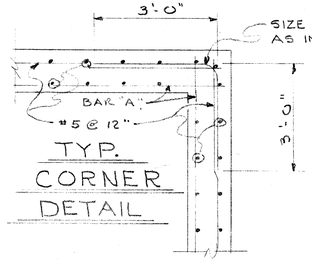
NOTE: EXTEND REINFORCING THRU JOINT

@ WALL

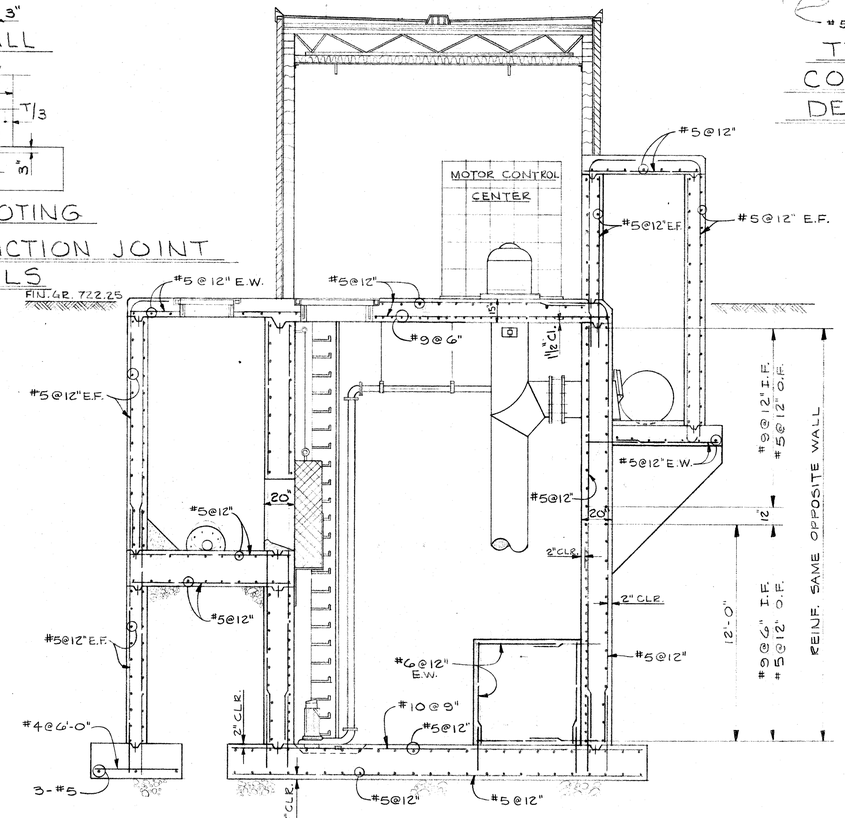


@ FOOTING

TYP. CONSTRUCTION JOINT DETAILS

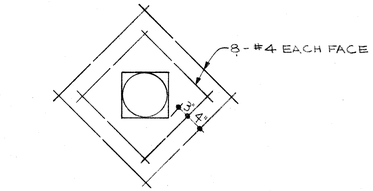


TYP. CORNER DETAIL



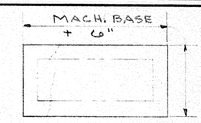
SECTION A-A

SCALE: ¼" = 1'-0"

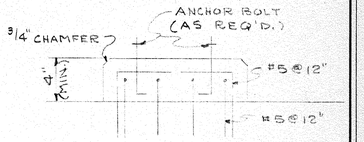


TYP. OPEN'G REINF.

NOTE: POUR PAD INTEGRALLY WITH SLAB.

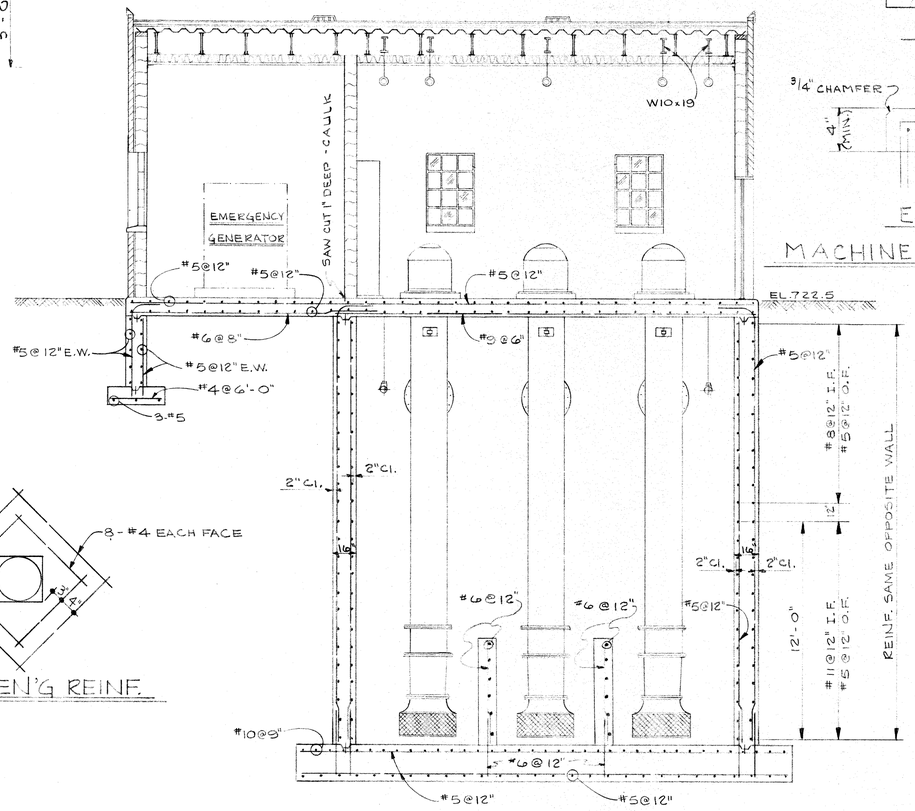


PLAN



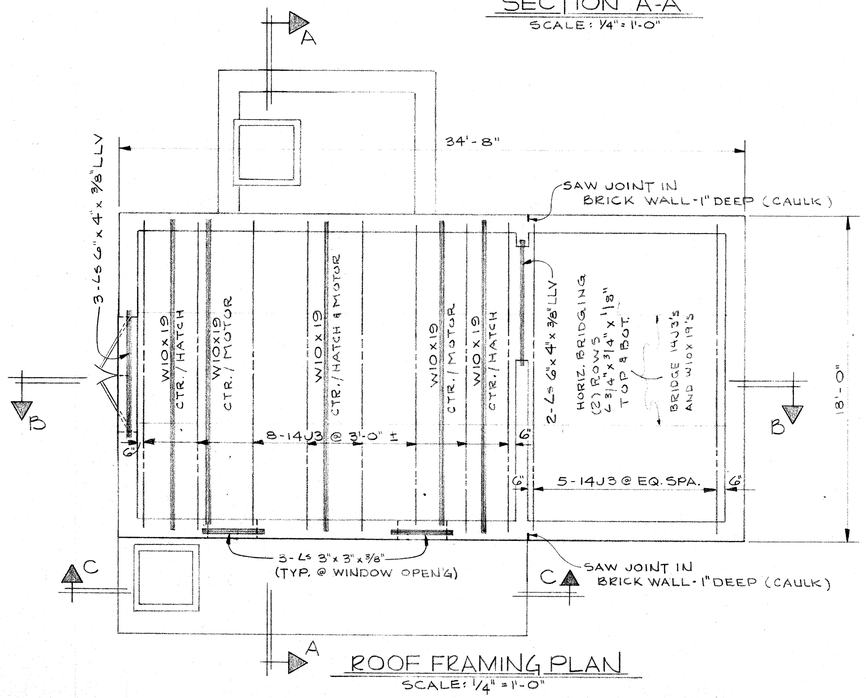
ELEVATION

MACHINE PAD DETAIL



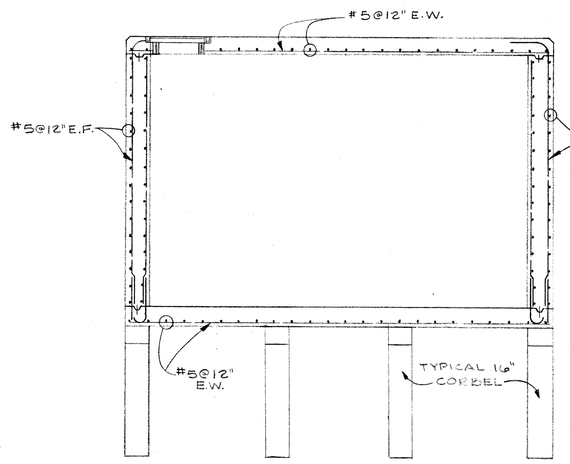
SECTION B-B

SCALE: ¼" = 1'-0"



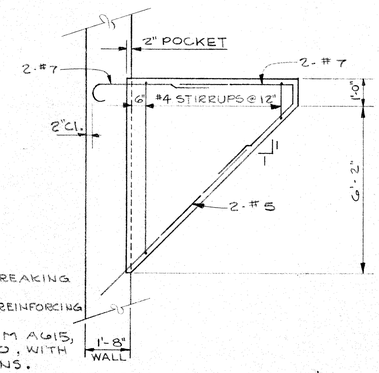
ROOF FRAMING PLAN

SCALE: ¼" = 1'-0"



SECTION C-C

SCALE: ¼" = 1'-0"



TYP. CORBEL REINF.

SCALE: ⅜" = 1'-0"

NOTES:

- ALL CONC. TO HAVE A 28 DAY BREAKING STRENGTH OF 4000 P.S.I.
- ALL SPLICES & BAR LAPS IN REINFORCING TO BE 30 DIA.
- ALL REINFORCING TO BE ASTM A615, A616 OR A617 GRADE 60, WITH ASTM A305 DEFORMATIONS.
- MIN. COVER ON REINFORCING 2" (U.N.O.).
- ALL STRUCTURAL STEEL ASTM A36.
- BOLTS ASTM A307.
- PLACE A MIN. OF 8" OF SOLID MASONRY UNDER ALL BEAMS & JOIST BEARINGS.
- MACHINE & PUMP PAD LOCATION & DIMENSIONS TO BE DETERMINED FROM APPROVED SHOP DWGS.
- PROVIDE WATERSTOP AT ALL CONSTRUCTION JOINTS BELOW OPERATING FLOOR LEVEL.

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — LEO ROBERT KIMBALL — ENGINEER — No. 14723

COMMONWEALTH OF PENNSYLVANIA — PROFESSIONAL — EDMUND ROBERT RICHARDSON — ENGINEER — 18107-E

DATE	REVISED	BY

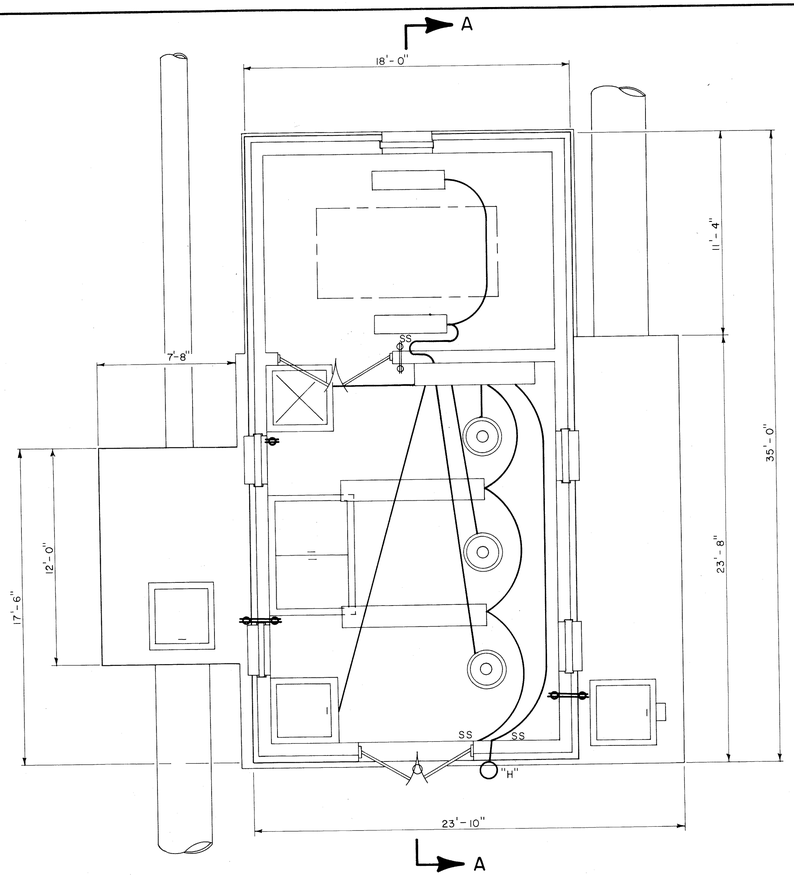
McKEES ROCKS FLOOD DISASTER PROJECT PA. R-441
BOROUGH OF McKEES ROCKS, ALLEGHENY COUNTY, PENNSYLVANIA
REDEVELOPMENT AUTHORITY OF ALLEGHENY COUNTY
429 FORBES AVE., PITTSBURGH, PA.

STRUCTURAL
ROBB STREET PUMP STATION

L. ROBERT KIMBALL
CONSULTING ENGINEERS
EBENSBURG PENNSYLVANIA PITTSBURGH

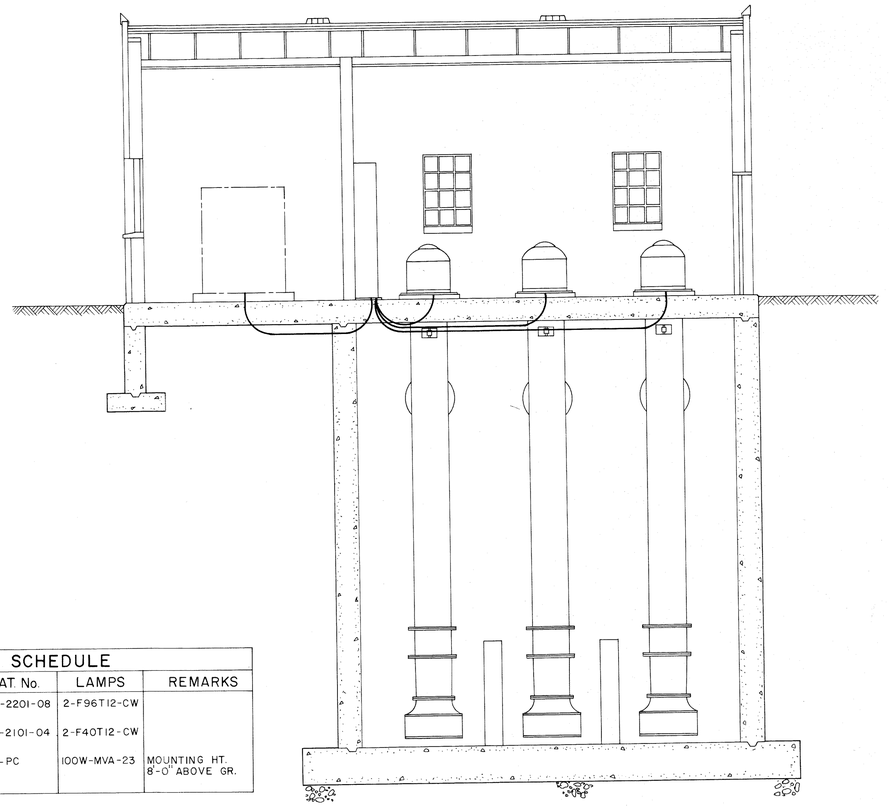
DRAWN BY FJR	DATE 11/22/77	CODE NO. 76-0212 006-03	SHEET NO. 29
TRACED BY FJR	DATE 11/22/77		
CHECKED BY TMG	DATE 11/23/77	SCALE AS-NOTED	OF 45
APPROVED BY ERR	DATE 11/24/77		

10 9948 ALBANENE A. & B. SMITH CO., PGH., PA.
PR 8436-375



OPERATING ROOM FLOOR PLAN

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



SECTION A-A

SCALE 1/4"= 1'-0"

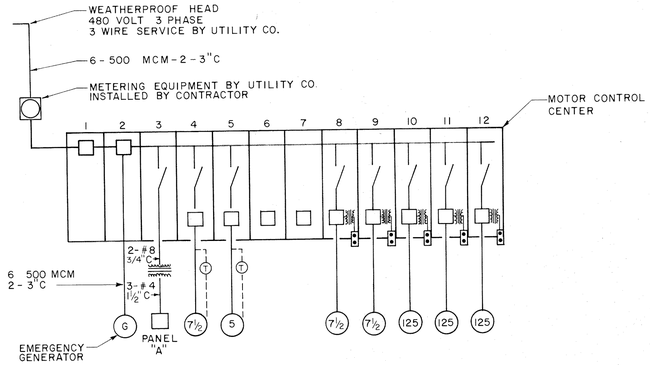
LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUF. & CAT. No.	LAMPS	REMARKS
"A"	8'-0" IND. FLUORESCENT	MILLER 'IMPERIAL' IM-2201-08	2-F96T12-CW	
"G"	4'-0" IND. FLUORESCENT	MILLER 'IMPERIAL' IM-2101-04	2-F40T12-CW	
"H"	EXTERIOR WALL MOUNT MERCURY VAPOR	STONCO 513-100MM-PC	100W-MVA-23	MOUNTING HT. 8'-0" ABOVE GR.

	EQUIPMENT DESCRIPTION	H.P. K.W.	COMBINATION STARTER				MOTOR					REMARKS
			NEMA SIZE	POLES	ACCESSORIES	FUSIBLE SW. SIZE AMPS	BRANCH CIRCUIT DISC. SW. SIZE	DISC. SW. NEMA	NO. COND.	COND. SIZE AWG	COND. SIZE IN.	
1	MAIN DISCONNECT			3		800						FUSED AT 700 AMPS
2	TRANSFER SWITCH											700 AMPS
3	TRANSFORMER SWITCH			2		50						FUSED AT 40 AMPS
4	UNIT HEATER	7 1/2										
5	UNIT HEATER	5										
6	TRIPLEX ALTERNATOR AND ALARM											
7	DUPLEX ALTERNATOR											
8	SUMP PUMP #1	7 1/2	1	3	12345	30	30 NF	4	3	#10	1"	FULL VOLTAGE NON REVERSE
9	SUMP PUMP #2	7 1/2	1	3	12345	30	30 NF	4	3	#10	1"	FULL VOLTAGE NON REVERSE
10	FLOOD PUMP #1	125	5	3	12345	400	400 NF	4	3	300 MCM	3"	REDUCED VOLTAGE STARTER
11	FLOOD PUMP #2	125	5	3	12345	400	400 NF	4	3	300 MCM	3"	REDUCED VOLTAGE STARTER
12	FLOOD PUMP #3	125	5	3	12345	400	400 NF	4	3	300 MCM	3"	REDUCED VOLTAGE STARTER
	TRANSFORMER AND PANEL "A"											15 KVA - 480V-1Ø 60~ 120/240V. 1Ø AND 100 AMP - 28-20A 1P BKRS MAIN BREAKER

MAIN DISCONNECT	PANEL "A"	FLOOD PUMP #1	FLOOD PUMP #2	FLOOD PUMP #3
AUTOMATIC TRANSFER SWITCH				
UNIT HEATER	TRIPLEX ALTERNATOR AND ALARM			
UNIT HEATER				
SUMP PUMP #1	DUPLEX ALTERNATOR			
SUMP PUMP #2				

MOTOR CONTROL CENTER



WIRE DIAGRAM

NOT TO SCALE

McKEES ROCKS FLOOD DISASTER PROJECT PA.R-441
BOROUGH OF McKEES ROCKS, ALLEGHENY COUNTY, PENNSYLVANIA
REDEVELOPMENT AUTHORITY OF ALLEGHENY COUNTY
429 FORBES AVE, PITTSBURGH, PA.

ELECTRICAL
ROBB STREET PUMP STATION

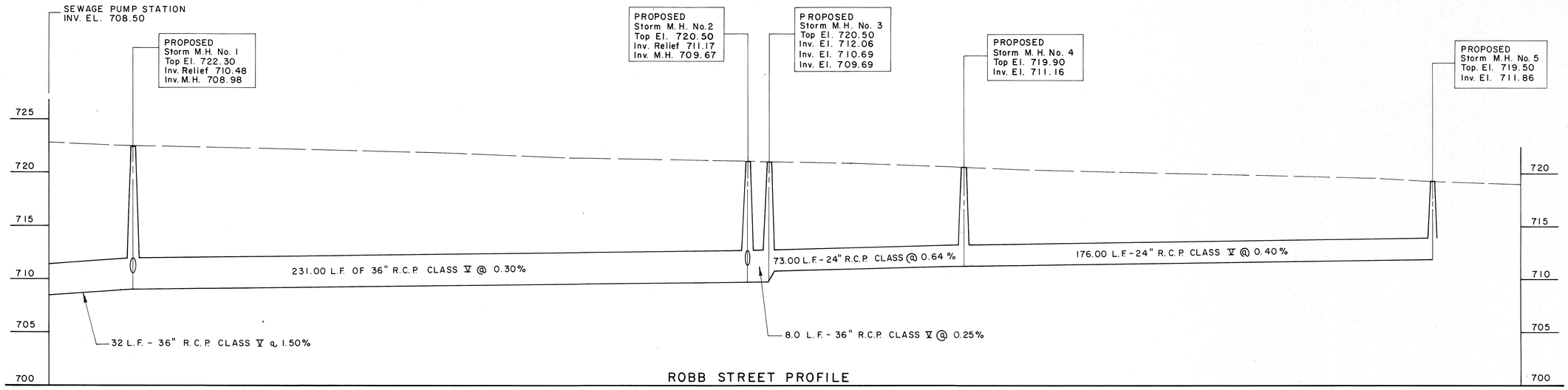
L. ROBERT KIMBALL
CONSULTING ENGINEERS
EBENSBURG PENNSYLVANIA PITTSBURGH

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL LEO ROBERT KIMBALL ENGINEER No. 14721

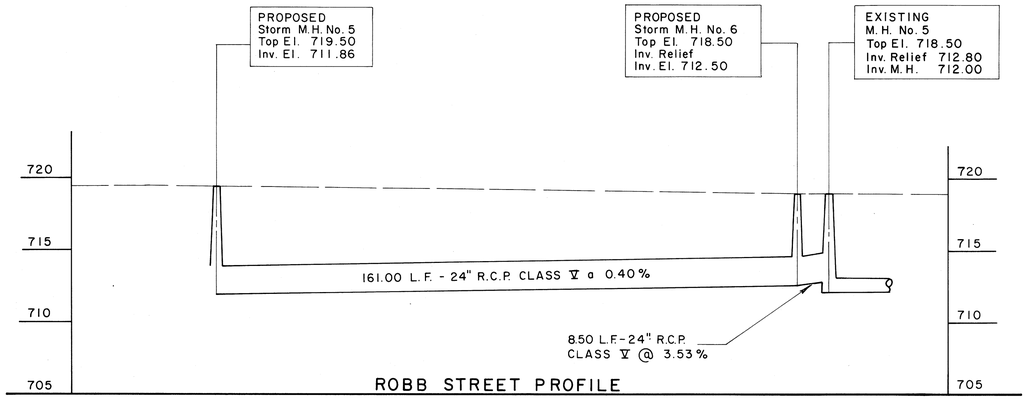
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL EDMUND ROBERT RICHARDSON ENGINEER 18107-E

DRAWN BY TWL	DATE 11/22/77	PROJECT NUMBER	
CHECKED BY TMG	DATE 11/23/77	76 0212 006 03	
APPROVED BY ERR	DATE 11/24/77	SCALE	SHEET
REFERENCE		AS-NOTED	30 OF 45
BOOK NO.	SHEET NO.		

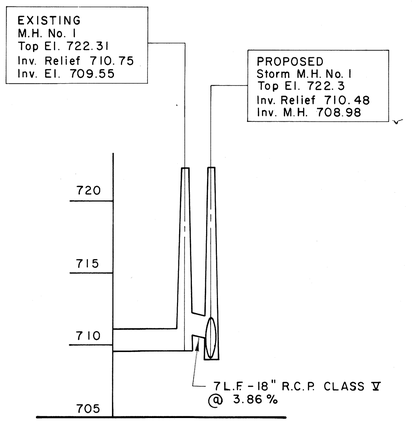
PR 9721-376

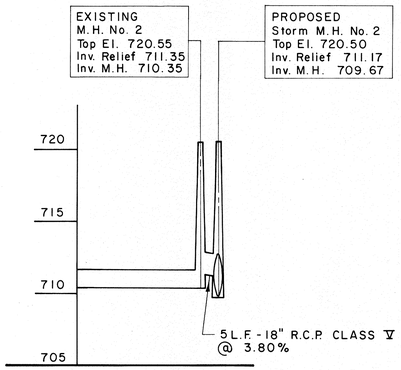


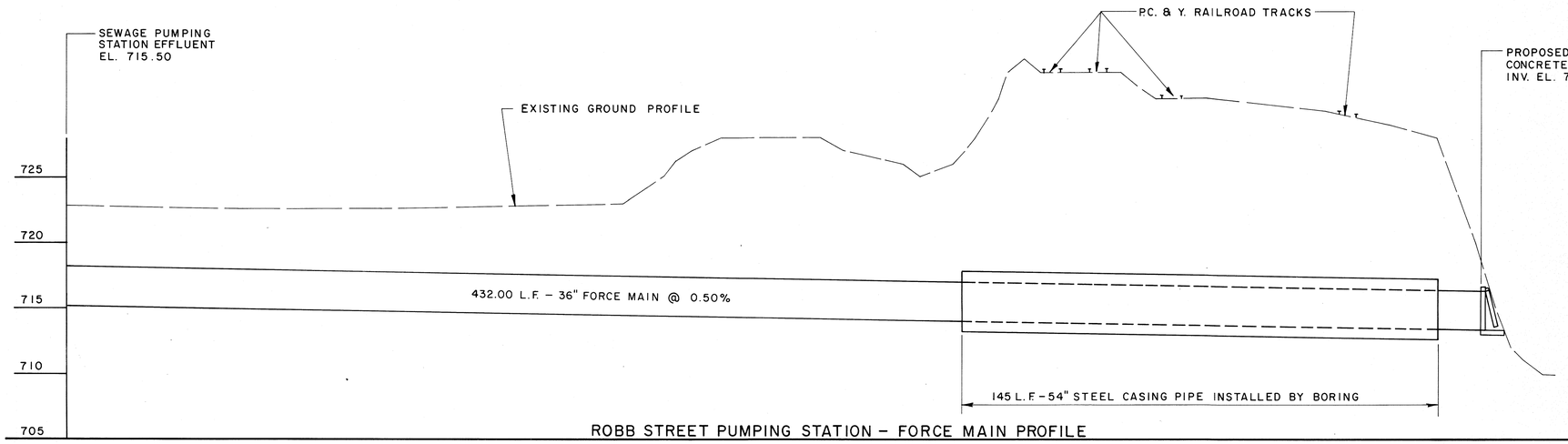
ROBB STREET PROFILE



ROBB STREET PROFILE







ROBB STREET PUMPING STATION - FORCE MAIN PROFILE

McKEES ROCKS FLOOD DISASTER PROJECT PA. R-441
BOROUGH OF McKEES ROCKS, ALLEGHENY COUNTY, PENNSYLVANIA
REDEVELOPMENT AUTHORITY OF ALLEGHENY COUNTY
429 FORBES AVE., PITTSBURGH, PA.

ROBB STREET PROFILE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
LEO ROBERT KIMBALL
ENGINEER
No. 14721

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
EDMUND ROBERT RICHARDSON
ENGINEER
18107-E

L. ROBERT KIMBALL
CONSULTING ENGINEERS
EBENSBURG PENNSYLVANIA PITTSBURGH

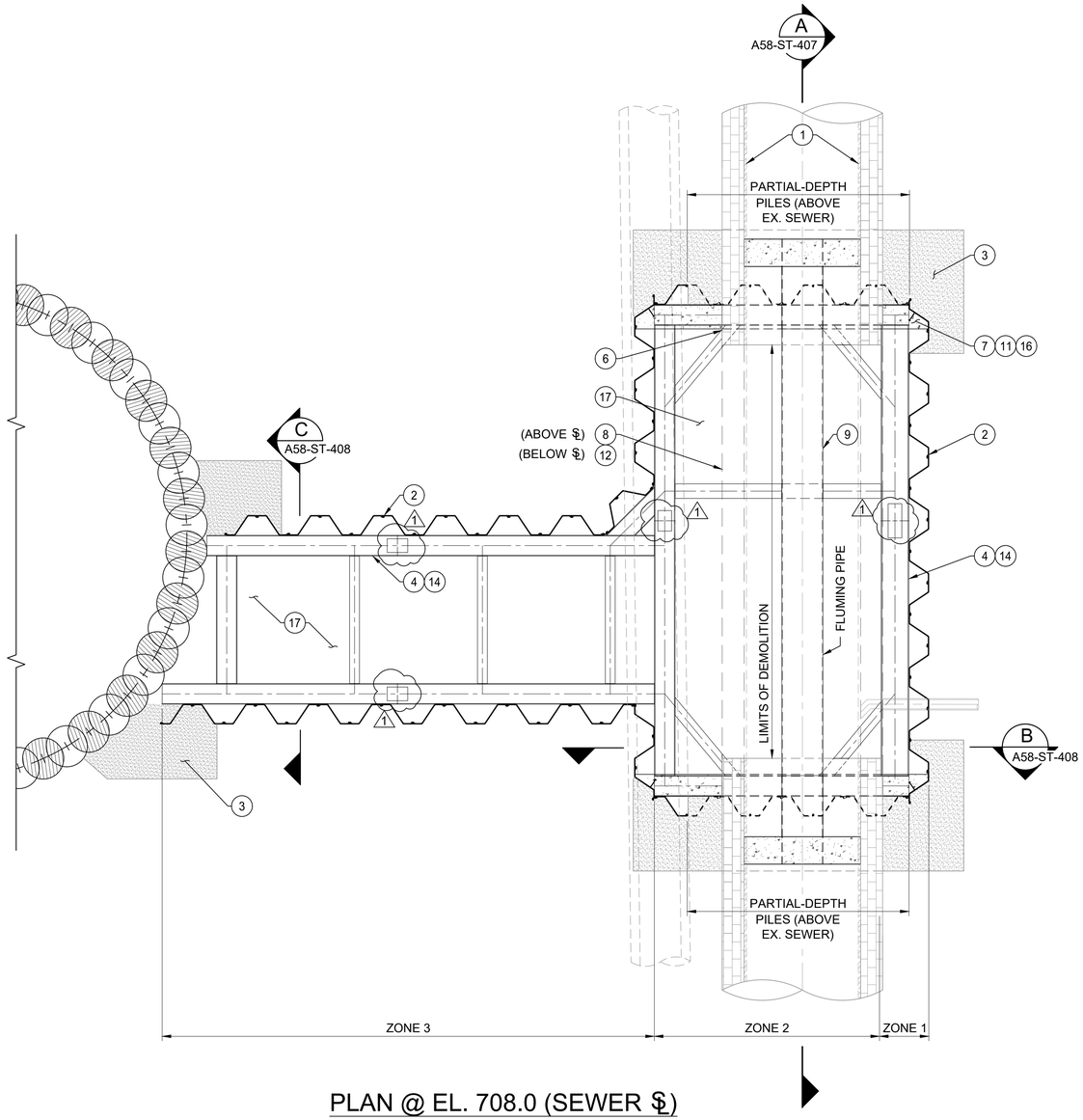
DRAWN BY J. A. F.	DATE 11/21/77	PROJECT NUMBER	
CHECKED BY TMG	DATE 11/23/77	76 - 0212 - 006 - 02	
APPROVED BY ERR	DATE 11/28/77	SCALE	SHEET
REFERENCE		VERT. 1" = 5' HORIZ. 1" = 20'	32 OF 45
BOOK NO.	SHEET NO.		

PR 9721-376

Addendum No. 11

Attachment F – CONTRACT DRAWINGS

- Revised A58-ST-406 (Sheet 407 of 770)
- Revised AS1-CI-503 (Sheet 502 of 770)
- Revised AS1-CI-505 (Sheet 504 of 770)



PLAN @ EL. 708.0 (SEWER ℄)

LEGEND

- GROUTED ZONE
- (#) SUGGESTED CONSTRUCTION SEQUENCE STEP (SEE THIS SHEET AND A58-ST-407)
- SUGGESTED SPLICE LOCATION – ALL LEVELS (SEE SHEET ORT-MD-013 FOR DETAIILS)

SUGGESTED CONSTRUCTION SEQUENCE

I. THE CONSTRUCTION SEQUENCE DESCRIBED BELOW FOR THE SUPPORT OF EXCAVATION (SOE) SYSTEMS OF ORT-A58-RG1 IS SUGGESTED. THE CONTRACTOR MAY MODIFY THE SEQUENCES AS DEEMED NECESSARY, EXCEPT WHERE NOTED, TO ACCOMMODATE ACTUAL FIELD CONDITIONS AND ADOPTED MEANS AND METHODS. THE NOTED REQUIREMENTS HEREIN AND THOSE PERTAINING TO SOE INSTALLATIONS AND NEAR-SURFACE FACILITY CONSTRUCTION PROVIDED IN SPECIFICATION SECTIONS 31 41 16 AND 31 41 00, RESPECTIVELY, MUST BE COMPLIED WITH.

II. PRIOR TO SOE INSTALLATIONS, THE CONTRACTOR SHALL HAVE COMPLETED THE FOLLOWING FIELD WORK:

A. FIELD VERIFICATION OF EXISTING CONDITIONS AS SHOWN ON SHEET A58-CI-400.

B. SITE PREPARATION AS REQUIRED FOR SOE INSTALLATION, INCLUDING PRE-DRILLING / BREAKUP OR REMOVAL OF THE EXISTING ABANDONED 36-INCH BRICK SEWER, AT THE CONTRACTOR'S CHOICE, AND REMOVAL OR RELOCATION OF THE EXISTING LATERAL TO THE EAST SIDE OF THE EXCAVATION.

C. PREPARATION OF PUMPING EQUIPMENT TO MAINTAIN SUITABLE WORKING CONDITIONS WITHIN THE LIMITS OF EXCAVATION.

1 D. INSPECT FLAP GATE AT A58 OUTFALL. THE CONTRACTOR SHALL PROVIDE AN INSPECTION PLAN AND REPAIR PLAN FOR THE OWNERS APPROVAL PRIOR TO INITIATING WORK.

E. UNWATER THE A58 SEWER AFTER ANY REQUIRED REPAIR OF THE FLAP GATE AT THE A58 OUTFALL.

III. OTHER REQUIREMENTS THAT MUST BE COMPLIED WITH DURING EXCAVATION ARE AS NOTED IN THE GENERAL SEQUENCE STEPS BELOW.

SEQUENCE STEPS:

1. COMPLETE INSPECTION OF EXISTING SEWER AND INSTALLATION OF SEWER INTERIOR LINING SUPPORT TO THE SPECIFIED EXTENT. SEE NOTE 4 ON SHEET A58-ST-400 FOR DETAILED REQUIREMENTS, INCLUDING MAINTENANCE OF FLOW.

2. PREPARE AND CONSTRUCT THE SHEET PILES. NOTE THAT THE PARTIAL DEPTH SHEET PILES ABOVE THE EXISTING SEWER MUST BE INSTALLED ONLY AFTER THE FULL DEPTH PILES IMMEDIATELY NEXT TO THE SEWER ARE COMPLETED.

3. PERFORM GROUTING TO TREAT THE SPECIFIED SOIL ZONES TO THE MINIMUM LIMITS SHOWN.

NOTE THAT THE CONTRACTOR IS TO DETERMINE WHICH OF THE ABOVE TWO STEPS SHALL BE IMPLEMENTED FIRST, OR IF THEY NEED TO BE CONDUCTED IN AN ALTERNATING MANNER, DEPENDING ON THE ADOPTED GROUTING METHODOLOGY AND EQUIPMENT ACCESS CONDITIONS.

4. AFTER ALL SHEET PILES ARE COMPLETED AND THE GROUT CURED, EXCAVATE TO 2 FEET BELOW CENTERLINE OF BRACING LEVEL 1 AND INSTALL BRACING LEVEL 1.

5. CONTINUE EXCAVATION TO 2 FEET BELOW THE SEWER SPRINGLINE ELEVATION. NOTE THAT TO PREVENT EXCESSIVE UNBALANCED LOADING ON THE EXISTING SEWER, EXCAVATE IN A STAGGERED MANNER ON EACH SIDE OF THE SEWER AND KEEP THE EXCAVATED ELEVATION DIFFERENTIAL NO MORE THAN 3 FEET BETWEEN THE TWO SIDES. INSTALL LAGGING TO BRACE THE UNSUPPORTED CLEARANCE ZONES BETWEEN THE SEWER AND THE ADJACENT SHEET PILES.

6. PERFORM EXTERIOR REPAIR AROUND THE EXPOSED SEWER TO SECURE ANY LOOSE BRICKS AND MATERIALS, FILL VOIDS AND GAPS TO PREVENT UNRAVELLING OF THE BRICKS WITHIN A MINIMUM OF 4 FEET FROM THE INSIDE FACE OF SOE END WALL. THE METHOD OF REPAIR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MAY INCLUDE BRICK REPOINTING, PATCHING, STRAPPING, OR EQUIVALENT.

7. POWER WASH THE SOE END WALL AND CONSTRUCT TOP PORTION OF THE RC COLLAR ABOVE THE EXCAVATED ELEVATION AS SHOWN. NOTE THAT VERTICAL REBARS MUST BE EXTENDED WITH THE REQUIRED LAPPING LENGTH, AND THE RC COLLAR MUST BE ANCHORED TO THE FULL DEPTH PILES ON EITHER SIDE OF SEWER USING THE MINIMUM NUMBER OF EQUALLY SPACED NELSON STUDS, OR EQUIVALENT, AS SHOWN ON SHEET A58-ST-402.

(CONSTRUCTION SEQUENCE CONTINUES ON SHEET A58-ST-407)

4 0 4 8
SCALE IN FEET
SCALE: 3/16" = 1'-0"

Designed by:	REVISION			
JP/SE	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
BJD				
Checked by:				
ZC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 900

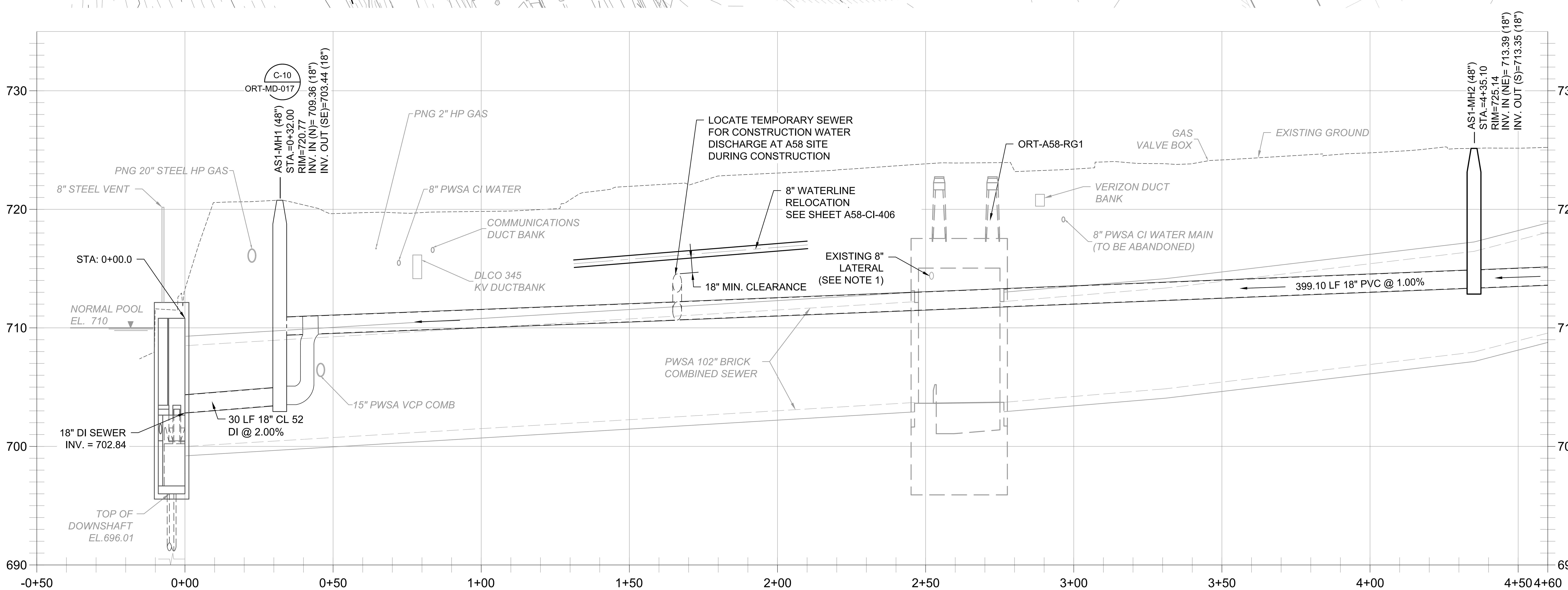
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

A58-ST-406
ORT-A58-RG1 CONSTRUCTION SEQUENCING
SHEET 1 OF 3

Contract:	1797
File:	A58-ST-406.dwg
Date:	07/30/2025
Sheet:	407 OF 770

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\6 - A58\05-Structural\Sheets - A58-ST-406 LAST SAVED BY: BOW101681 PLOT DATE:12/23/2025 4:07:43 PM



SITE STRUCTURES

STRUCTURE ID	DESCRIPTION
AS1-MH1	48" DIA MANHOLE
AS1-MH2	48" DIA MANHOLE
ORT-A58-RG1	REGULATOR
ORT-A58-DS	DROP SHAFT

CONTROL POINTS

POINT NO.	NORTHING	EASTING
501	414715.02	1343668.85
502	414855.58	1343591.90
503	415108.78	1343582.58

NOTE

1. PRIOR TO INSTALLATION OF THE DEWATERING SEWER THE CONTRACTOR SHALL HAVE COMPLETED FIELD VERIFICATION OF THE EXISTING 8" LATERAL INCLUDING ELEVATION OF THE EXISTING CONNECTION TO THE 102" SEWER AND STATUS OF THE LATERAL (ACTIVE OR INACTIVE).
2. PRIOR TO DEWATERING SEWER CONNECTION TO THE EXISTING A58 REGULATOR, CONTRACTOR SHALL CONDUCT A FIELD INSPECTION OF THE EXISTING REGULATOR INCLUDING FLAP GATES.

VERTICAL SCALE IN FEET
SCALE 1" = 5'

HORIZONTAL SCALE IN FEET
SCALE 1" = 20'

PLOT DATE:12/22/2025 3:15:11 PM
LAST SAVED BY: TRAVISTHOMAS
FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALLCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\02-Civil\Sheets - AS1-CI-503

Designed by: JRL
Drawn by: BTM
Checked by: DLM

REVISION

REV No.	DATE	DESCRIPTION	APPV
1	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811 — Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040204

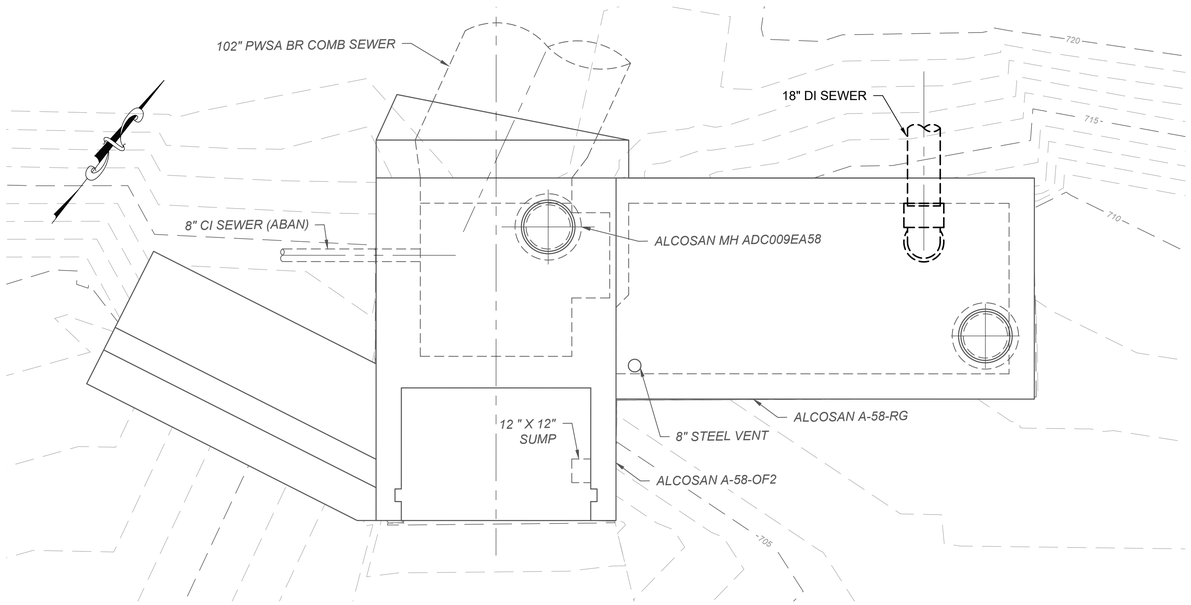
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — STEPHEN B POLEN

alcosan — allegheny county sanitary authority
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

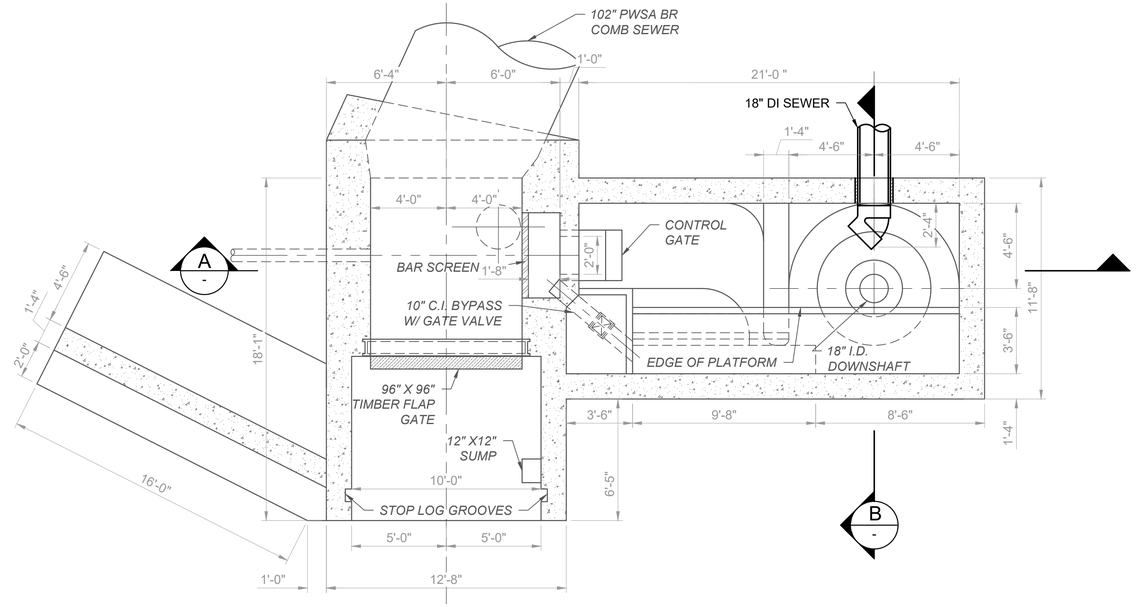
ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

AS1-CI-503
TEMPORARY SEWER FOR CONSTRUCTION WATER DISCHARGE PLAN & PROFILE SHEET 1 OF 2

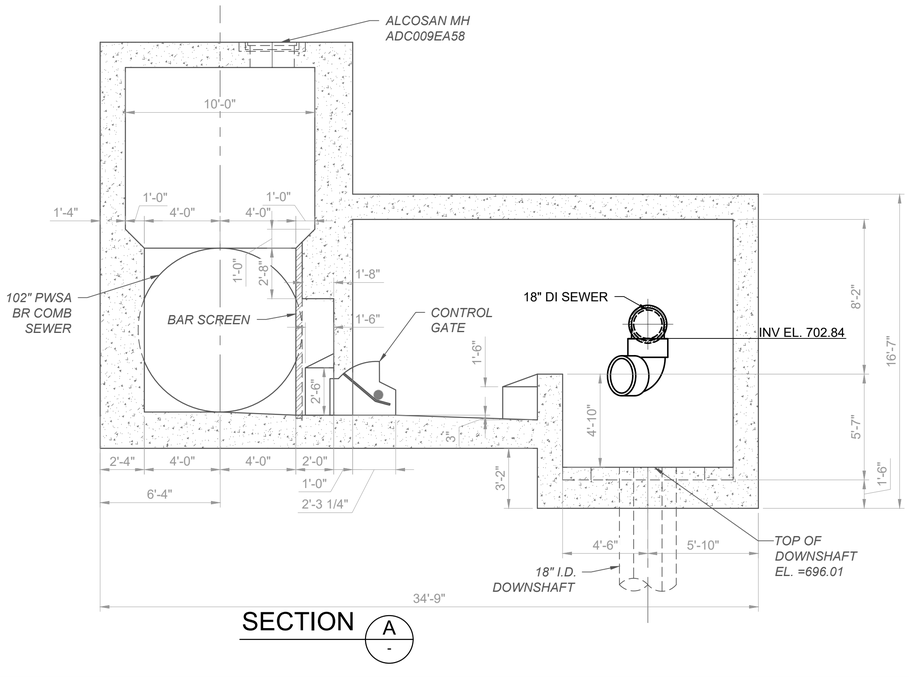
Contract: 1797
File: AS1-CI-503.dwg
Date: 07/30/2025
Sheet: 502 OF 770



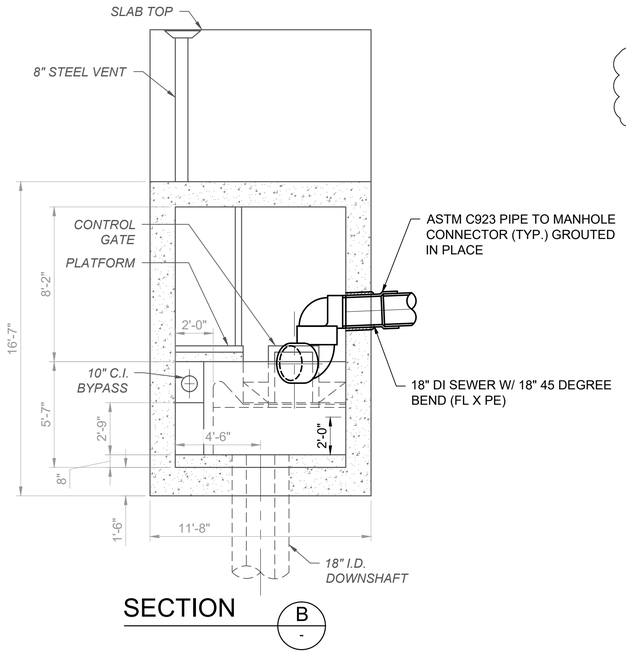
PLAN @ (GRADE LEVEL)



PLAN @ EL 701.45



SECTION A -



SECTION B -

NOTES

1. DIMENSIONS AND ELEVATIONS SHOWN ARE TAKEN FROM ALCOSAN A-58 FIELD VERIFICATION DRAWINGS DATED 02/07/2006 AND FIELD SURVEY DURING PROJECT DESIGN. CONFIRM DIMENSIONS AND ELEVATIONS BEFORE CONSTRUCTING THE NEW DEWATERING SEWER.
2. PRIOR TO DEWATERING SEWER CONNECTION TO THE EXISTING A58 REGULATOR, CONTRACTOR SHALL CONDUCT A FIELD INSPECTION OF THE EXISTING REGULATOR, INCLUDING FLAP GATES. 1

4 0 4 8
SCALE IN FEET
SCALE: 1/4" = 1'-0"

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\d507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\02-Civil\Sheets - AS1-CI-505 LAST SAVED BY: BOW101681 PLOT DATE:12/22/2025 3:17:26 PM

Designed by:	REVISION			
TN	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
MJN				
Checked by:				
DLM				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811 Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040204

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEPHEN B BOLEN ENGINEER 040360-RF

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

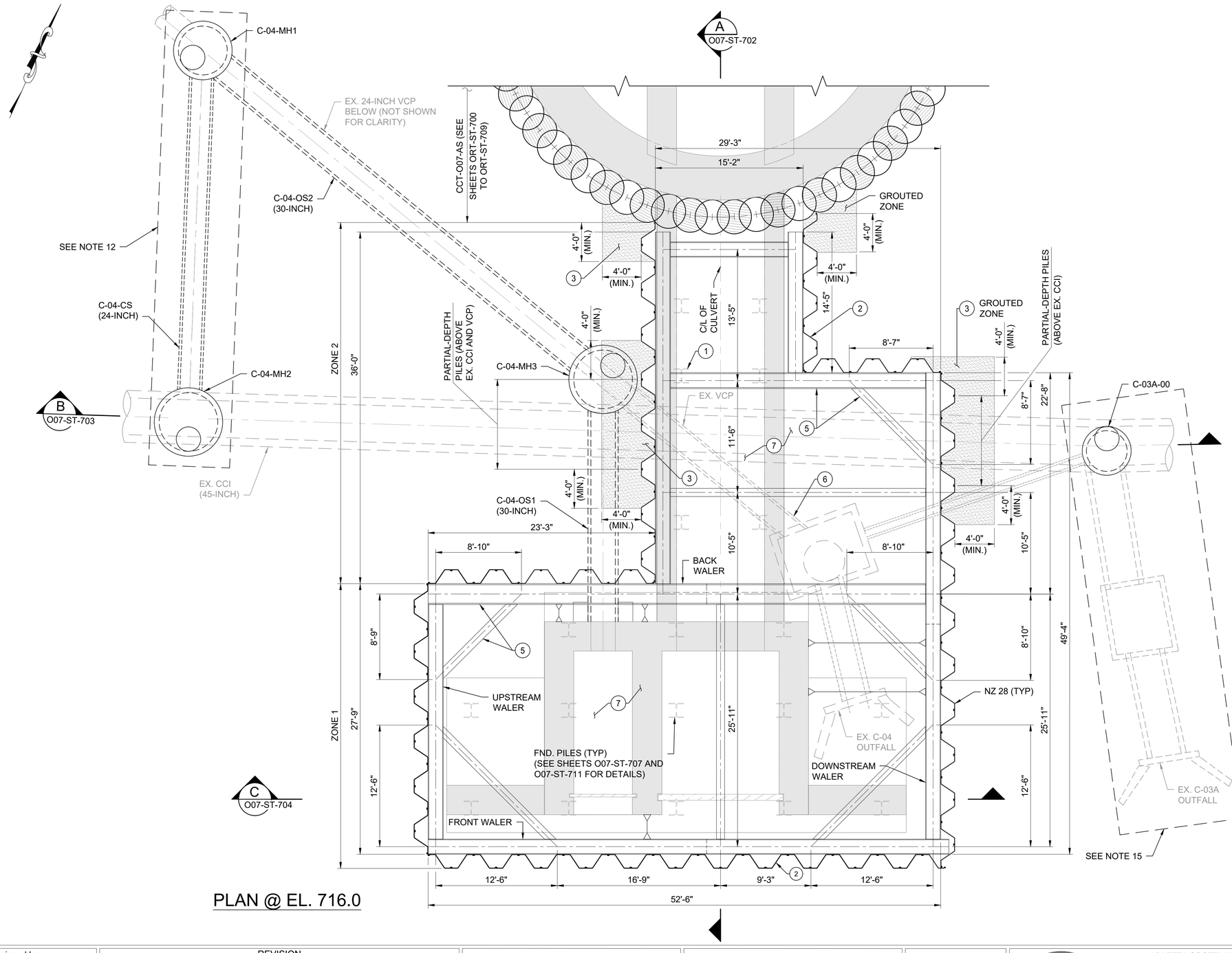
AS1-CI-505
EX. A-58-RG MODIFICATIONS

Contract:	1797
File:	AS1-CI-505.dwg
Date:	07/30/2025
Sheet:	504 OF 770

Addendum No. 11

Attachment G – CONTRACT DRAWINGS

- Revised O07-ST-701 (Sheet 590 of 770)



PLAN @ EL. 716.0

NOTES

(NOTES CONTINUED FROM SHEET O07-ST-700)

11. THE EXTENTS OF GROUTED ZONES SHOWN ARE MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL EXPAND THESE ZONES AND CONDUCT ADDITIONAL GROUTING AS DEEMED NECESSARY DURING ALL STAGES OF CONSTRUCTION TO ENSURE THAT NO VISIBLE DRIPPING OR MORE SEVERE GROUNDWATER INFLOW ENTERS THE EXCAVATION FROM THESE ZONES. THE GROUTING METHODOLOGY AND TYPE OF GROUT MIX SHALL BE DETERMINED BY THE CONTRACTOR BASED ON GEOTECHNICAL CONDITIONS AND SITE ACCESS AND SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL ACCORDING TO SECTION 31 55 00.

12. PRIOR TO THE INSTALLATION OF THE SOES AND DEMOLITION OF THE EXISTING 24-INCH VCP SEWER AND THE C-04 OUTFALL ELEMENTS WITHIN THE SOE LAYOUT, THE CONTRACTOR SHALL HAVE COMPLETED THE CONSTRUCTION OF NEW MANHOLES C-04-MH1 AND C-04-MH2 AND THE CROSS CONNECTION (C-04-CS) IN BETWEEN. SEE SHEET O07-CI-705 AND (ORT-MD-017 (DETAIL C-7) (1) DETAILS OF THESE SEWER STRUCTURES. THE CONTRACTOR IS TO DETERMINE THE TYPE OF SOES FOR THEIR INSTALLATION. THE COMPLETION OF THESE SEWER STRUCTURES PRIOR TO THE COMPLETION OF CCT-O07-OF CONSTRUCTION WILL PROVIDE THE MEANS NEEDED TO DIVERT EXISTING FLOW FROM THE 24-INCH VCP SEWER TO THE EXISTING CCI VIA THE NEW CROSS CONNECTION (C-04-CS) FOR DRY WEATHER FLOW AND BYPASS PUMPING FROM THE NEW MANHOLE C-04-MH1 TO THE EXISTING MANHOLE C-03A-00 (PRIOR TO ITS RECONSTRUCTION) AND THE OUTFALL FOR WET WEATHER FLOW.

13. THE CONTRACTOR IS TO DETERMINE THE TYPE OF SOES FOR INSTALLATION OF THE NEW 30-INCH OVERFLOW PIPE (C-04-OS1 AND C-04-OS2) AND MANHOLE C-04-MH3. NOTE THAT THE SOE SHEET PILES FOR THE TUNNEL OUTFALL CULVERT IMMEDIATELY ADJACENT TO C-04-MH3 MAY BE IN CONFLICT WITH THE MANHOLE AND REQUIRE LOCAL REMOVAL AFTER COMPLETION OF THE OUTFALL CULVERT. THEREFORE, THE PROPER MEANS OF ISOLATING THESE SHEET PILES FROM THE TUNNEL OUTFALL CULVERT WALL SHALL BE PROVIDED TO FACILITATE SUCH REMOVAL DURING THE INSTALLATION OF C-04-MH3.

14. THE FULL SOE SYSTEM SHALL REMAIN IN PLACE UNTIL THE PLACEMENT OF FINAL BACKFILL. ONLY THEN, THE SOE SYSTEM CAN BE CUT TO THE SPECIFIED DEPTH BELOW GRADE INLAND AND CUT TO MATCH THE GRADE LINE OF THE SCOUR PROTECTION ROCK LAYER IN WATER.

15. RECONSTRUCTION OF THE EXISTING MANHOLE C-03A-00 AND ABANDONMENT OF THE EXISTING OUTFALL SHALL BE COMPLETED ONLY AFTER THE NEW OUTFALL CCT-O07-OF IS READY TO RECEIVE FLOWS FROM C-04-OS1. THE CONTRACTOR IS TO DETERMINE THE SOE TYPE TO COMPLETE THIS WORK.

16. THE METHOD OF SITE ACCESS FOR SHEET PILING INSTALLATION AND OUTFALL FOUNDATION PILES INSTALLATION IS, THE CONTRACTOR'S CHOICE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED REGULATORY APPROVALS FOR THE METHOD OF SITE ACCESS ADOPTED.

17. THE CONTRACTOR IS FULLY RESPONSIBLE FOR MAINTAINING THE SLOPE STABILITY OF THE RIVERBANK DURING THE ENTIRE CONSTRUCTION PROCESS.

18. THE CONTRACTOR IS INFORMED THAT ENERGIZED HIGH VOLTAGE POWER LINES EXIST DIRECTLY ABOVE THE WATERWAY AND ACROSS A PORTION OF THE LIMIT OF CONSTRUCTION LINE AT THIS SITE AND WILL RESTRICT THE INSTALLATION OF THE SHEET PILES AND OUTFALL FOUNDATION PILES. THE CONTRACTOR IS REQUIRED TO CONTACT THE POWER AUTHORITY - DUQUESNE LIGHT COMPANY (DLC), WITH THE ASSISTANCE OF THE OWNER, TO COORDINATE THE CONSTRUCTION SCHEDULE AND AGREE ON DURATION OF DE-ENERGIZATION REQUIRED TO COMPLETE THE INSTALLATION OF THE OUTFALL SOES AND FOUNDATION PILES.

LEGEND

- OUTLINE OF PERMANENT STRUCTURES (SEE NOTE 3 ON SHEET O07-ST-700)
- GROUTED ZONE
- (#) SUGGESTED CONSTRUCTION SEQUENCE STEP (SEE SHEETS O07-ST-702 AND O07-ST-703)
- SUGGESTED SPLICE LOCATION – ALL LEVELS (SEE SHEET ORT-MD-013 FOR DETAILS)
- RE-SHORING LOCATION (LEVEL 2 ONLY)

4 0 4 8
SCALE IN FEET
SCALE: 3/16" = 1'-0"

Designed by:	REVISION			
JP/SE	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
BJD				
Checked by:				
ZC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811 Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.
Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040203

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ZHENQI CAI — ENGINEER — No. PE090706

alcosan allegheny county sanitary authority

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

O07-ST-701
CCT-O07-OF SUPPORT OF EXCAVATION
SHEET 2 OF 5

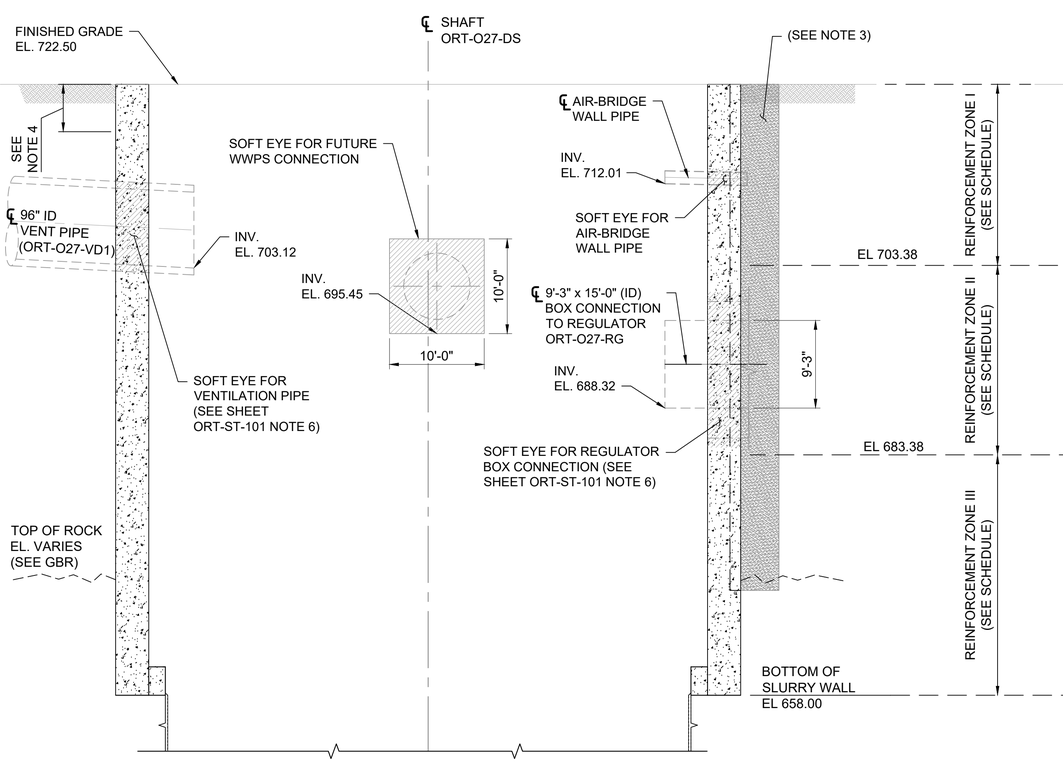
Contract: 1797
File: O07-ST-701.dwg
Date: 07/30/2025
Sheet: 590 OF 770

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\05-Structural\Sheets - O07-ST-701 LAST SAVED BY: DAN96231 PLOT DATE:12/22/2025 10:54:25 AM

Addendum No. 11

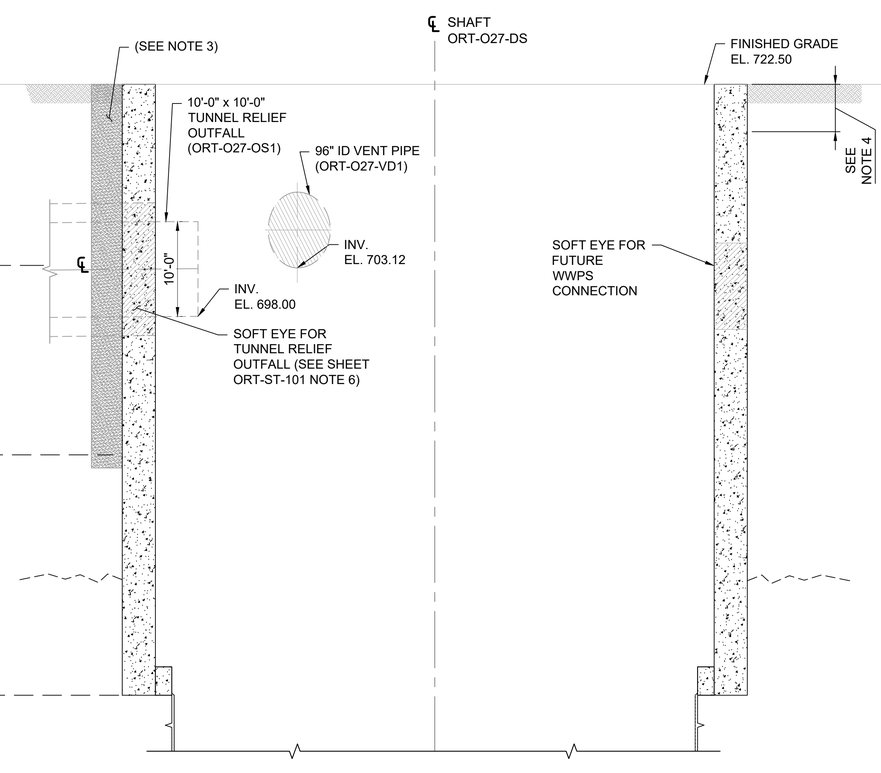
Attachment H – CONTRACT DRAWINGS

- Revised ORT-ST-103 (Sheet 103 of 770)
- Revised ORT-ST-500 (Sheet 152 of 770)



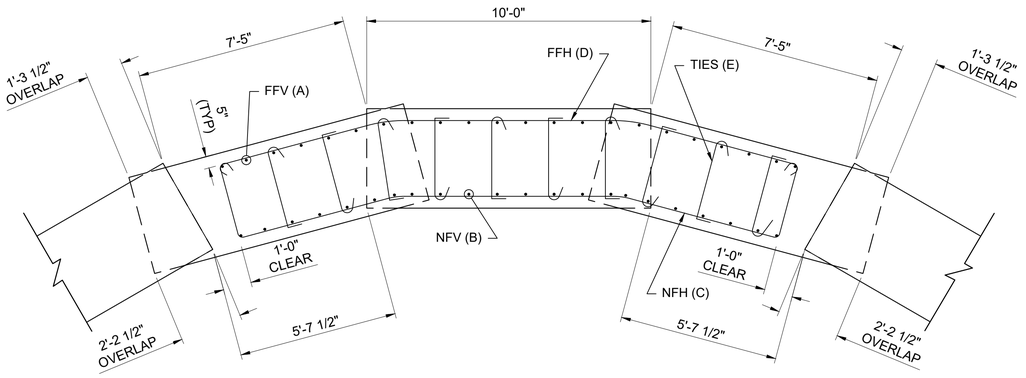
SECTION C

SCALE: 1/8" = 1'-0" — ORT-ST-101



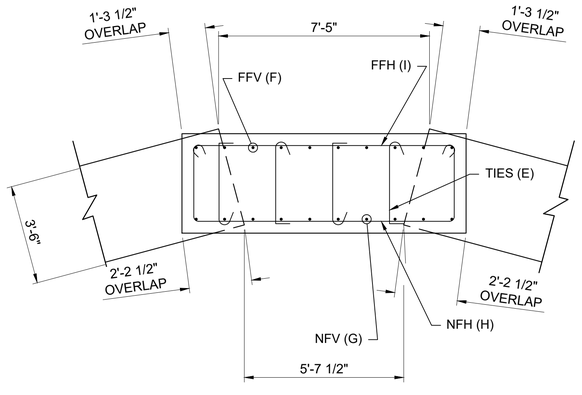
SECTION D

SCALE: 1/8" = 1'-0" — ORT-ST-101



PRIMARY PANEL DETAIL

SCALE: 3/8" = 1'-0" — ORT-ST-101



SECONDARY PANEL DETAIL

SCALE: 3/8" = 1'-0" — ORT-ST-101

NOTES

1. REGULATOR AND TUNNEL RELIEF OUTFALL SUPPORT OF EXCAVATION SYSTEMS NOT SHOWN FOR CLARITY. SEE SHEETS O27-ST-108 THROUGH O27-ST-114 FOR DETAILS.
2. CONTRACTOR SHALL COORDINATE SLURRY PANEL LAYOUT WITH THE LOCATION OF THE FRP REINFORCEMENT ZONES AT THE REGULATOR AND TUNNEL RELIEF OUTFALL OPENINGS. NO PANEL JOINTS SHALL FALL WITHIN 2-FT OF THE FRP REINFORCEMENT ZONE.
3. FOR GROUND IMPROVEMENT ZONE AT ORT-O27-RG AND TUNNEL RELIEF OUTFALL CONNECTIONS, REFER TO SHEETS O27-ST-108 & O27-ST-109, AND O27-ST-111 & O27-ST-113 RESPECTIVELY.
4. TOP PORTION OF THE SUPPORT OF EXCAVATION SYSTEM SHALL BE CUT BACK DOWN A MINIMUM OF 3-FEET BELOW GRADE PRIOR TO SITE RESTORATION. A LARGER DEMOLITION MAY BE REQUIRED AT THE VENTILATION VAULTS LOCATION TO ACCOMMODATE THE FINAL STRUCTURE.
5. SPLICES ARE NOT SHOWN. CONTRACTOR IS TO DETERMINE ALL SPLICES REQUIRED FOR REBAR CAGE FABRICATION AND INSTALLATION.
6. CONTRACTOR SHALL PROVIDE ADDITIONAL STEEL FOR LIFTING AND HANDLING THE REQUIRED REINFORCEMENT CAGE.
7. CONTRACTOR SHALL DESIGN THE TREMIE PIPE DIAMETER, LOCATION, AND NUMBER OF PIPES PER PANEL IN COORDINATION WITH REQUIRED REINFORCEMENT CAGE.
8. SUPPORT OF EXCAVATION SYSTEM FOR THE VENTILATION PIPE, INCLUDING THE CONNECTION TO THE SHAFT SLURRY WALL, IS TO BE DESIGNED BY THE CONTRACTOR. DESIGN SHALL MEET THE MINIMUM REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS AND GBR.

1 ~~9. CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PANELS.~~

REINFORCEMENT ZONE	SLURRY WALL PANEL REINFORCEMENT SCHEDULE						
	ELEVATION		PRIMARY PANEL		SECONDARY PANEL		ALL PANELS
	FROM	TO	A/B	C/D	F/G	H/I	E
ZONE I	T/ PANEL	703.38	#7@12"	#7@12"	#7@12"	#7@12"	#5@12" EW
ZONE II	703.38	683.38	#7@12"	#7@6"	#7@12"	#7@6"	#5@12" EW
ZONE III	683.38	B/PANEL	#7@12"	#7@6"	#7@12"	#7@6"	#5@12" EW
SOFT EYE (FRP)	(SEE SHEET ORT-ST-101 NOTE 6)		#9@6"	#10@6"	#9@6"	#10@6"	#5@6" EW

Designed by:	REVISION			
HTV/SZ	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	12/23/25	REVISION FOR ADDENDUM 11	ZC
RGR				
Checked by:				
ANC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 900

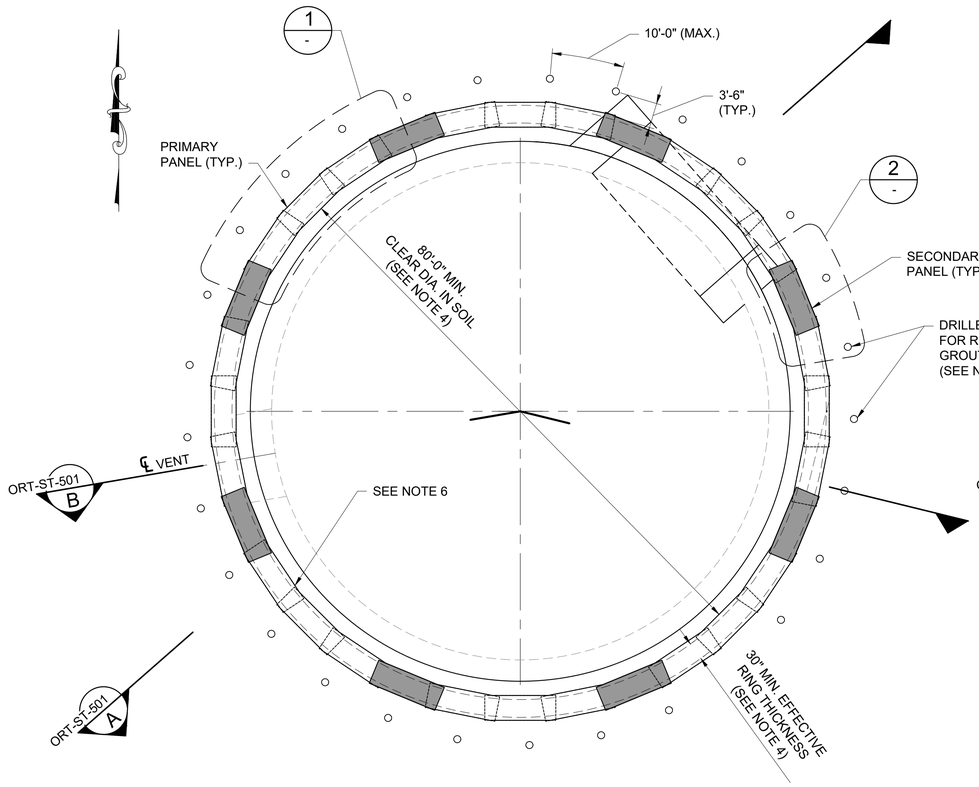
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ZHENQI CAI — ENGINEER — No. PE090706

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

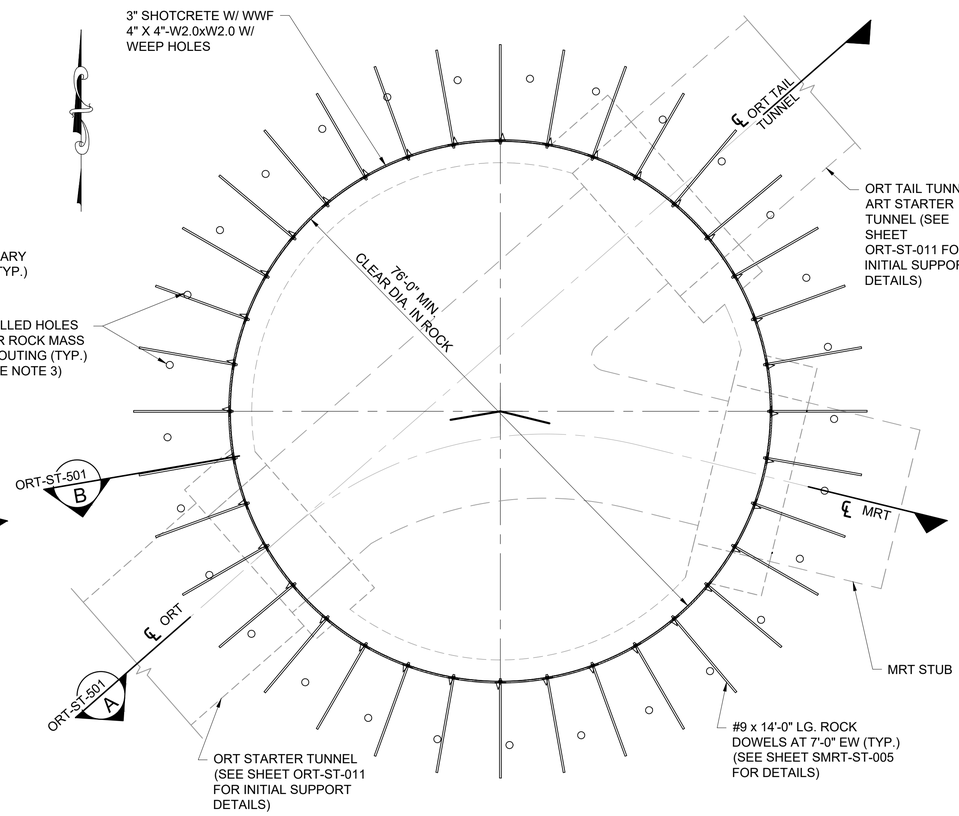
ORT-ST-103
O27 DROP SHAFT
SUPPORT OF EXCAVATION SHEET 3 OF 3

Contract: 1797
File: ORT-ST-103.dwg
Date: 07/30/2025
Sheet: 103 OF 770



SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 674.40)

SCALE: 3/32" = 1'-0"

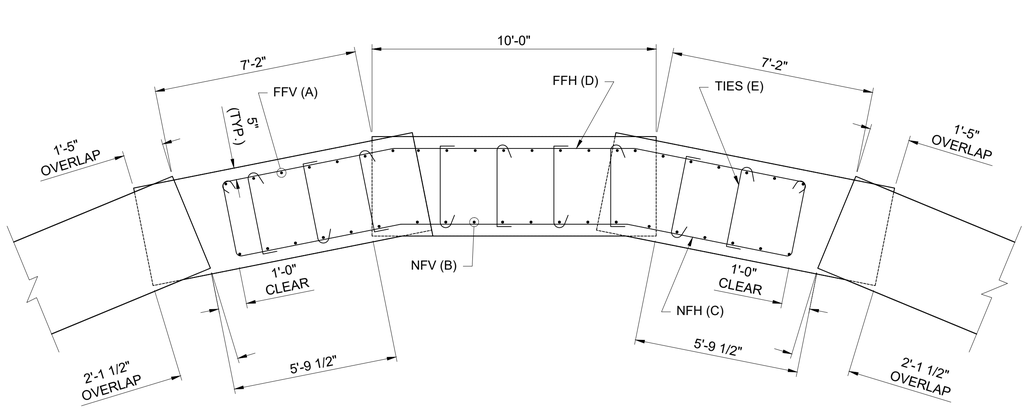


SHAFT INITIAL SUPPORT IN ROCK (EL. 674.40 TO EL. 568.93)

SCALE: 3/32" = 1'-0"

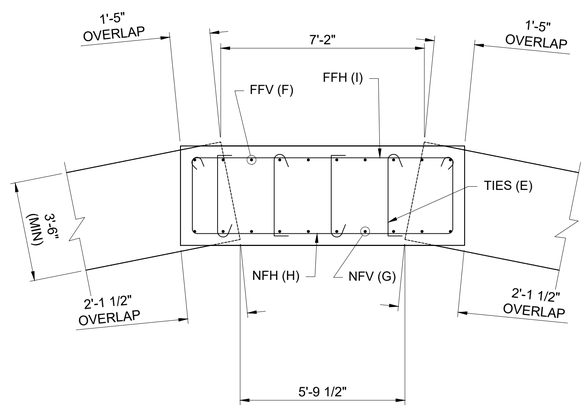
NOTES

1. PRIMARY AND SECONDARY SLURRY PANELS SHOWN FOR REFERENCE. GUIDE WALL CONFIGURATION AND SLURRY WALL PANELS LAYOUT (INCLUDING JOINT TYPES) ARE TO BE DEFINED BY CONTRACTOR BASED ON EQUIPMENT SELECTION AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. REFER TO TECHNICAL SPECIFICATIONS FOR SLURRY WALLS INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN IN THIS DRAWING ARE MET.
5. INSTALL FIBER-REINFORCED POLYMER ROCK DOWELS IN PLACE OF STEEL ROCK DOWELS IN AREAS WHERE ROCK DOWELS WOULD CONFLICT WITH ORT STARTER AND TAIL TUNNELS, AND MRT TUNNEL EXCAVATIONS. SEE SHEET SMRT-ST-005 FOR FRP DOWEL DETAIL.
6. REFER TO SHEET AS1-CI-502 FOR CONTROL POINTS COORDINATES.
7. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PANELS.~~ 1



PRIMARY PANEL DETAIL 1

SCALE: 3/8" = 1'-0"



SECONDARY PANEL DETAIL 2

SCALE: 3/8" = 1'-0"

SLURRY WALL PANEL REINFORCEMENT SCHEDULE						
ELEVATION		PRIMARY PANEL		SECONDARY PANEL		ALL PANELS
FROM	TO	A/B	C/D	F/G	H/I	E
T/ PANEL	B/ PANEL	#7@12"	#7@12"	#7@12"	#7@12"	#5@12" EW
FRP REINFORCEMENT (SEE NOTE D)		#7@12"	#7@6"	#7@12"	#7@6"	#5@12" EW

REINFORCEMENT NOTES

A. SPLICES ARE NOT SHOWN. CONTRACTOR IS TO DETERMINE ALL SPLICES REQUIRED FOR REBAR CAGE FABRICATION AND INSTALLATION.

B. CONTRACTOR SHALL PROVIDE ADDITIONAL STEEL FOR LIFTING AND HANDLING THE REQUIRED REINFORCEMENT CAGE.

C. CONTRACTOR SHALL DESIGN THE TREMIE PIPE DIAMETER, LOCATION, AND NUMBER OF PIPES PER PANEL IN COORDINATION WITH THE REQUIRED REINFORCEMENT CAGE.

D. CONTRACTOR SHALL INSTALL A SOFT EYE WITH FIBER-REINFORCED POLYMER (FRP) REINFORCING BARS IN THE SLURRY PANELS LOCATED AT THE VENT BOX PENETRATION. THE SOFT EYE SHALL EXTEND A MINIMUM OF 2-FT AROUND THE REQUIRED OPENING.

E. CONTRACTOR SHALL COORDINATE SLURRY PANEL LAYOUT WITH THE LOCATION OF THE FRP REINFORCEMENT ZONE AT THE VENT BOX OPENING. NO PANEL JOINTS SHALL FALL WITHIN 2-FT OF THE FRP REINFORCEMENT ZONE.

Designed by: HTV/SZ
Drawn by: RGR
Checked by: ANC

REVISION

REV No.	DATE	DESCRIPTION	APPV
1	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ZHENQI CAI ENGINEER No. PE090705

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

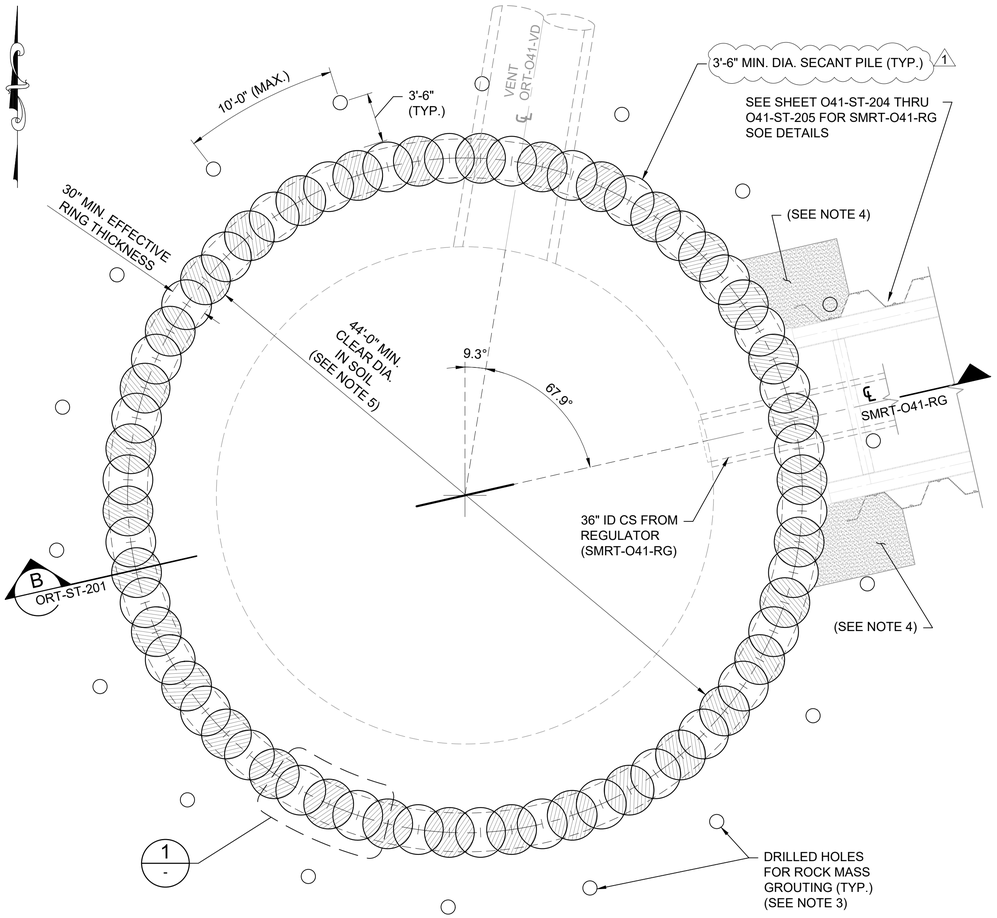
ORT-ST-500
AS1 ACCESS SHAFT
SUPPORT OF EXCAVATION - SHEET 1 OF 2

Contract: 1797
File: ORT-ST-500.dwg
Date: 07/30/2025
Sheet: 152 OF 770

Addendum No. 11

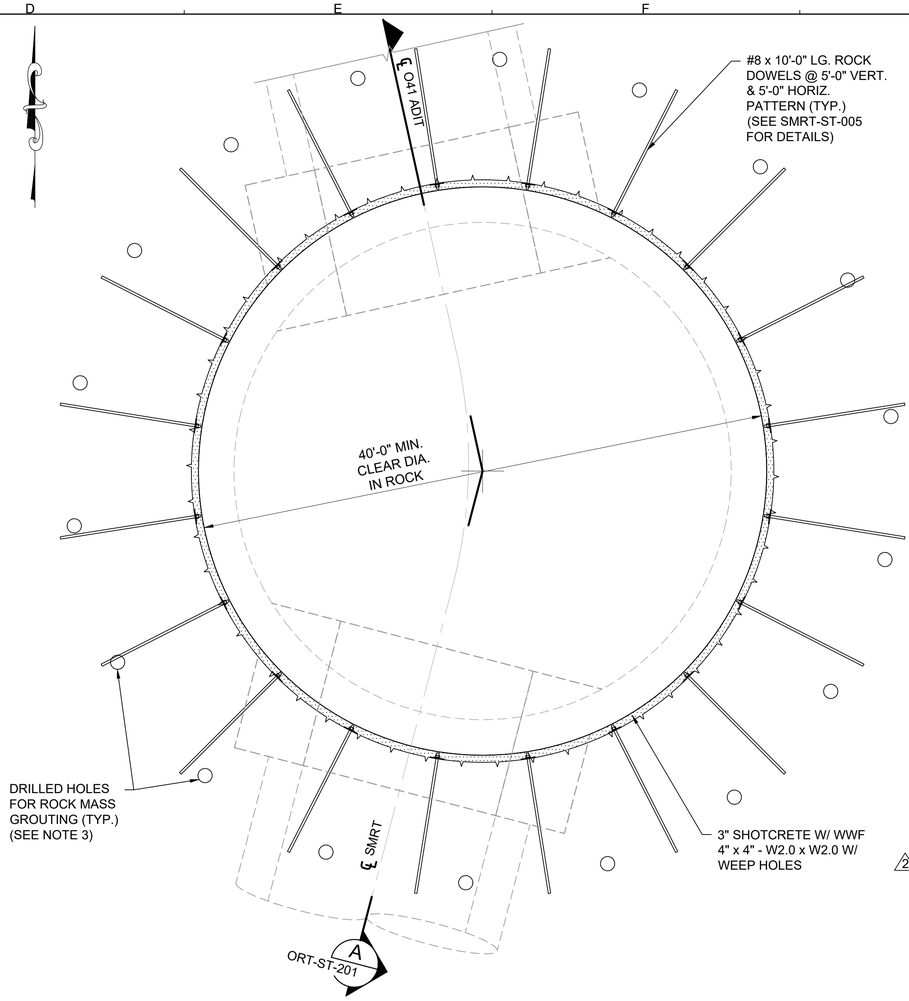
Attachment I – CONTRACT DRAWINGS

- Revised ORT-ST-200 (Sheet 117 of 770)
- Revised ORT-ST-300 (Sheet 130 of 770)
- Revised ORT-ST-400 (Sheet 141 of 770)
- Revised ORT-ST-600 (Sheet 159 of 770)
- Revised ORT-ST-700 (Sheet 169 of 770)
- Revised ORT-ST-800 (Sheet 179 of 770)



SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 659.0)

SCALE: 3/16" = 1'-0"

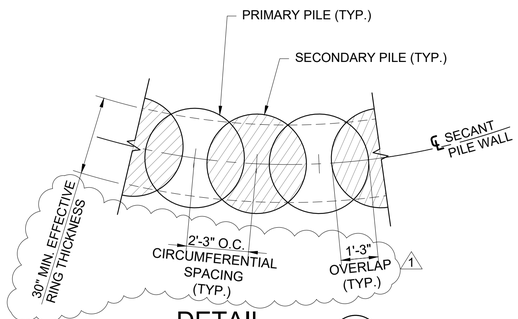


SHAFT INITIAL SUPPORT IN ROCK (EL. 659.0 TO EL. 571.29)

SCALE: 3/16" = 1'-0"

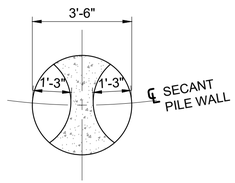
NOTES

1. CONTRACTOR SHALL DESIGN AND INSTALL A CONTINUOUS FLOOD PROTECTION WALL AROUND THE ENTIRE PERIMETER OF THE SHAFT, AS REQUIRED PER SPECIFICATION SECTION 31 75 00.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. FOR GROUND IMPROVEMENT ZONE AT SMRT-O41-RG CONNECTION, REFER TO SHEETS O41-ST-200 THROUGH O41-ST-205.
5. REFER TO TECHNICAL SPECIFICATIONS FOR SECANT PILES INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN ON THIS SHEET ARE MET.
6. REFER TO SHEET O41-CI-203 FOR CONTROL POINTS COORDINATES.
7. CONTRACTOR IS REQUIRED TO INSTALL THE SHAFT FINAL LINING UP TO THE UNDERSIDE OF TOP SLAB PRIOR TO EXCAVATING THE O41 REGULATOR STRUCTURE (ORT-O41-RG) AND INSTALLING THE 36-INCH CONSOLIDATION SEWER FROM O41-RG AND THE 72-INCH VENTILATION PIPE THROUGH THE SHAFT SECANT PILES. IF THE CONTRACTOR ELECTS TO EXCAVATE THE REGULATOR STRUCTURE OR CUT THE PIPE OPENINGS PRIOR TO INSTALLING THE SHAFT PERMANENT LINING, A SUPPORT AND FRAMING DESIGN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE OWNER. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ALL APPLICABLE RE-DESIGNS AND SHALL PROVIDE ADDITIONAL STRUCTURAL REINFORCEMENT OR OTHER MODIFICATIONS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
8. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES.~~ 2



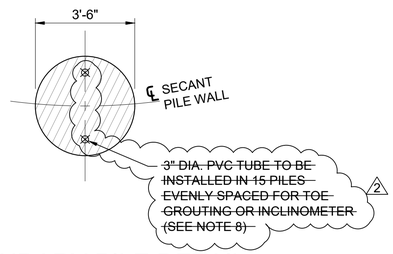
DETAIL 1 -

SCALE: 3/8" = 1'-0"



PRIMARY PILE DETAIL

SCALE: 3/8" = 1'-0"



SECONDARY PILE DETAIL

SCALE: 3/8" = 1'-0"

Designed by:	REVISION			
HTV/SZ	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	9/26/25	PILE DIMENSION UPDATES	ANC
RGR	2	12/23/25	REVISION FOR ADDENDUM 11	ZC
Checked by:				
ANC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

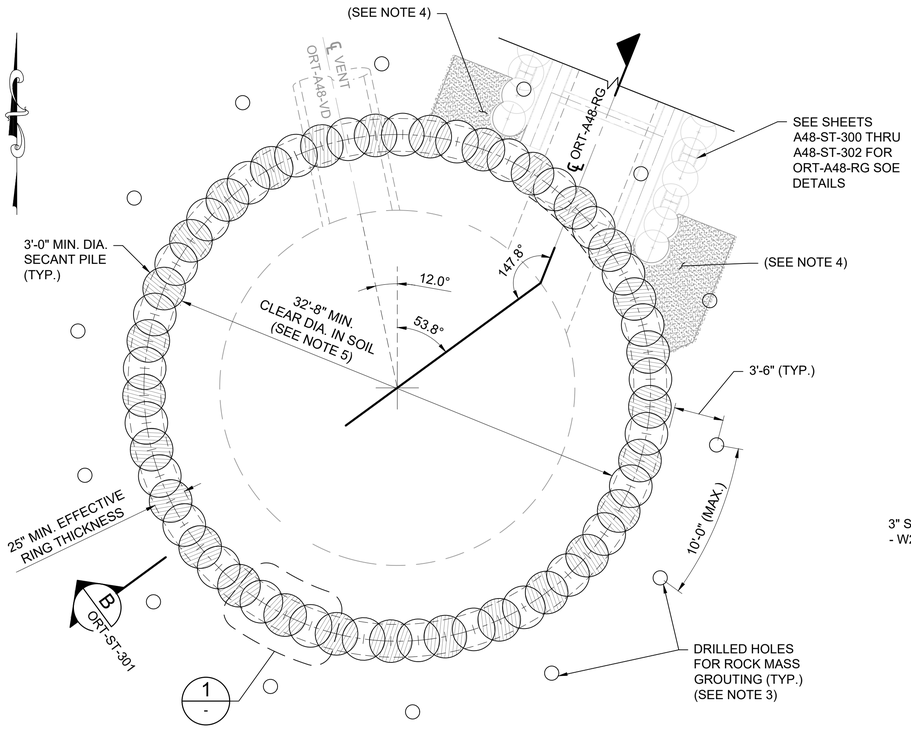
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ZHENQI CAI — ENGINEER — No. PE090706

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

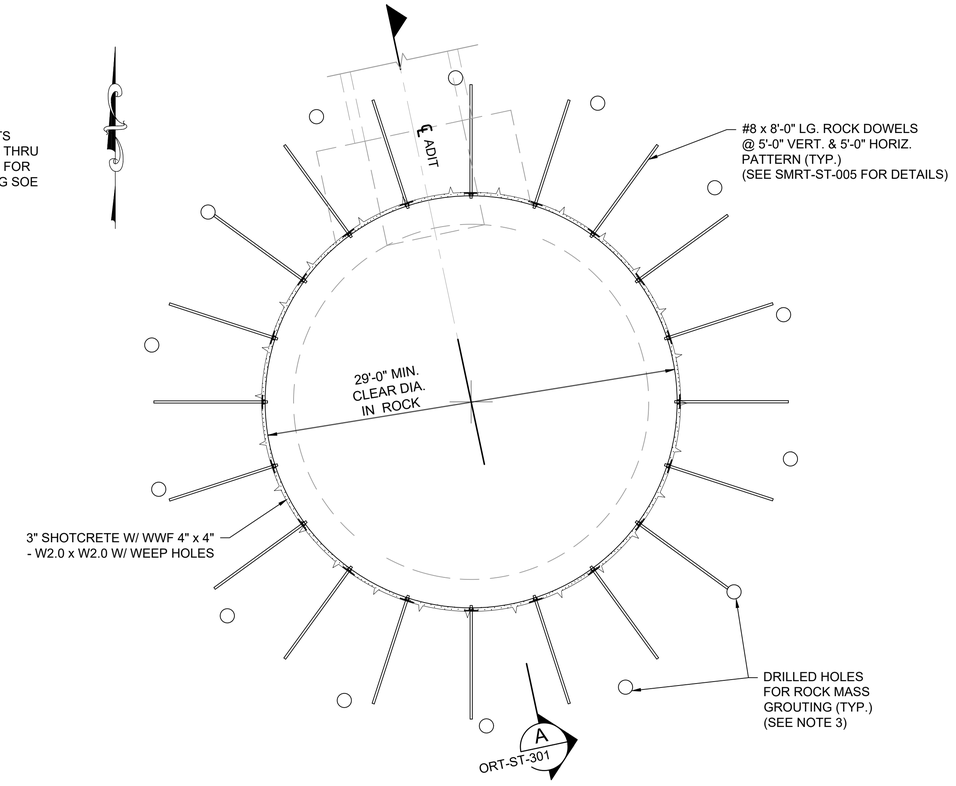
ORT-ST-200
O41 DROP SHAFT
SUPPORT OF EXCAVATION - SHEET 1 OF 2

Contract: 1797
File: ORT-ST-200.dwg
Date: 07/30/2025
Sheet: 117 OF 770



SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 685.73)

SCALE: 3/16" = 1'-0"

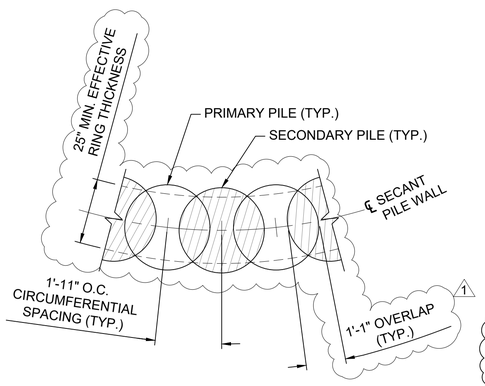


SHAFT INITIAL SUPPORT IN ROCK (EL. 685.73 TO EL. 578.53)

SCALE: 3/16" = 1'-0"

NOTES

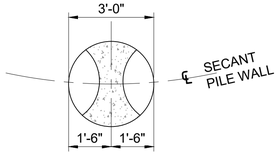
1. CONTRACTOR SHALL DESIGN AND INSTALL A CONTINUOUS FLOOD PROTECTION WALL AROUND THE ENTIRE PERIMETER OF THE SHAFT, AS REQUIRED PER SPECIFICATION SECTION 31 75 00.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. FOR GROUND IMPROVEMENT ZONE AT ORT-A48-RG CONNECTION, REFER TO SHEETS A48-ST-300 THROUGH A48-ST-305.
5. REFER TO TECHNICAL SPECIFICATIONS FOR SECANT PILES WALLS INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN IN THIS DRAWING ARE MET.
6. REFER TO SHEET A48-CI-303 FOR CONTROL POINTS COORDINATES.
7. CONTRACTOR IS REQUIRED TO INSTALL THE SHAFT FINAL LINING UP TO THE UNDERSIDE OF TOP SLAB PRIOR TO EXCAVATING THE A48 REGULATOR STRUCTURE (ORT-A48-RG) AND INSTALLING THE 72-INCH CONSOLIDATION SEWER AND THE 42-INCH VENT PIPE THROUGH THE SHAFT SECANT PILES. IF THE CONTRACTOR ELECTS TO EXCAVATE THE REGULATOR STRUCTURE OR CUT THE PIPE OPENINGS PRIOR TO INSTALLING THE SHAFT PERMANENT LINING, A SUPPORT AND FRAMING DESIGN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE OWNER. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ALL APPLICABLE RE-DESIGNS AND SHALL PROVIDE ADDITIONAL STRUCTURAL REINFORCEMENT OR OTHER MODIFICATIONS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
8. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES.~~ 2



DETAIL

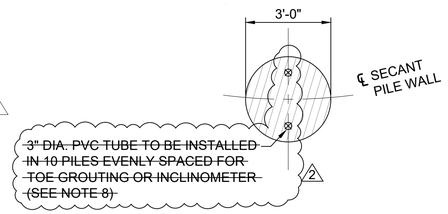
SCALE: 3/8" = 1'-0"

1
-



PRIMARY PILE DETAIL

SCALE: 3/8" = 1'-0"



SECONDARY PILE DETAIL

SCALE: 3/8" = 1'-0"

Designed by:	REVISION			
HTV/SZ	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	9/26/25	PILE DIMENSION UPDATES	ANC
RGR	2	12/23/25	REVISION FOR ADDENDUM 11	ZC
Checked by:				
ANC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

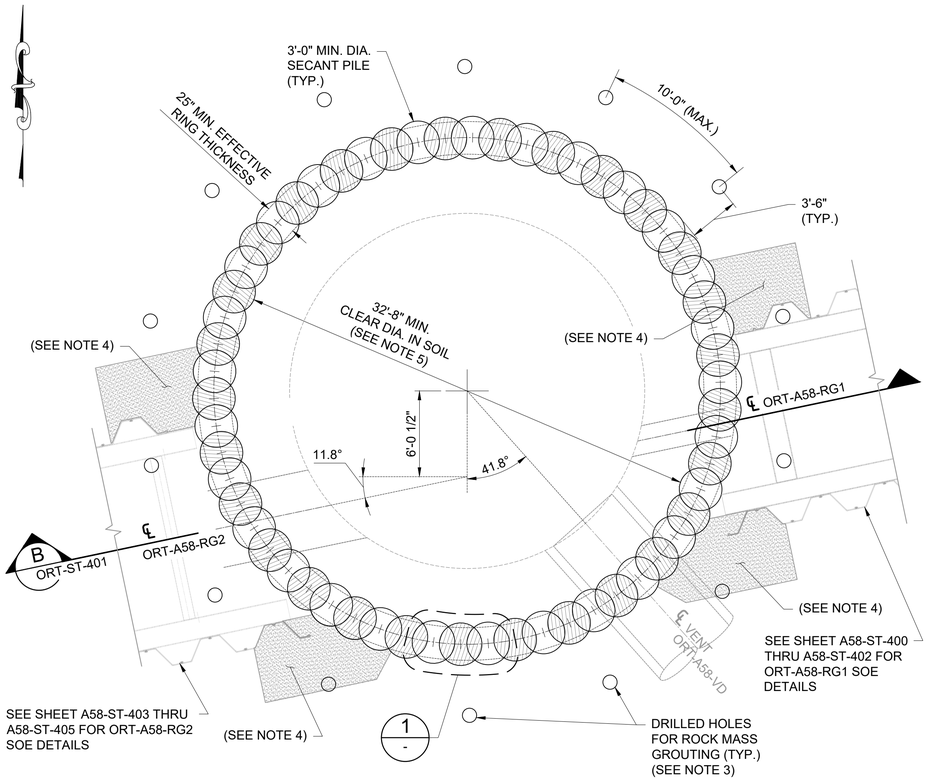
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ZHENQI CAI — ENGINEER — No. PE090706

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

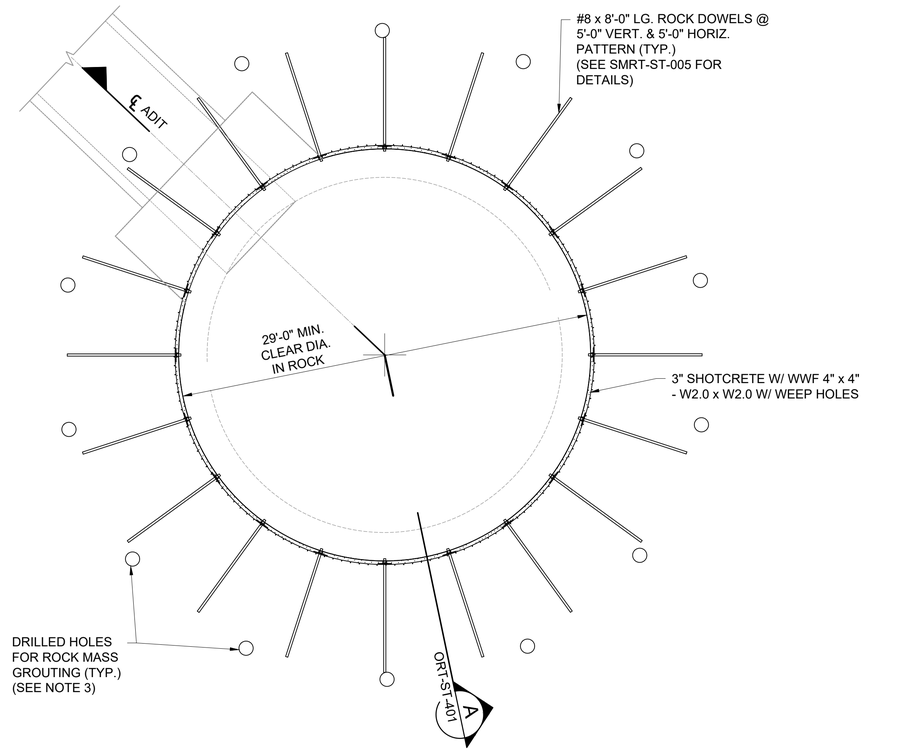
ORT-ST-300
A48 DROP SHAFT
SUPPORT OF EXCAVATION SHEET 1 OF 2

Contract: 1797
File: ORT-ST-300.dwg
Date: 07/30/2025
Sheet: 130 OF 770



SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 662.0)

SCALE: 3/16" = 1'-0"

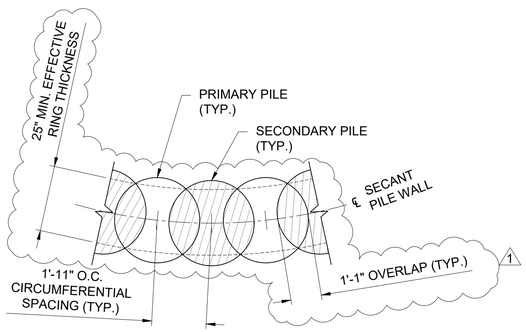


SHAFT INITIAL SUPPORT IN ROCK (EL. 662.0 TO EL. 582.83)

SCALE: 3/16" = 1'-0"

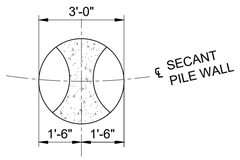
NOTES

1. CONTRACTOR SHALL DESIGN AND INSTALL A CONTINUOUS FLOOD PROTECTION WALL AROUND THE ENTIRE PERIMETER OF THE SHAFT, AS REQUIRED PER SPECIFICATION SECTION 31 75 00.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. FOR GROUND IMPROVEMENT ZONE AT ORT-A58-RG1 AND ORT-A58-RG2 CONNECTIONS, REFER TO SHEETS A58-ST-400 THROUGH A58-ST-411.
5. REFER TO TECHNICAL SPECIFICATIONS FOR SECANT PILES INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN IN THIS DRAWING ARE MET.
6. REFER TO SHEET A58-CI-403 FOR CONTROL POINTS COORDINATES.
7. CONTRACTOR IS REQUIRED TO INSTALL THE SHAFT FINAL LINING UP TO THE UNDERSIDE OF TOP SLAB PRIOR TO EXCAVATING THE A58 REGULATOR STRUCTURES (ORT-A58-RG1 AND A58-RG2) AND INSTALLING THE 3'-0" AND 5'-6" CONNECTIONS, AND THE 60" ID VENT PIPE THROUGH THE SHAFT SECANT PILES. IF THE CONTRACTOR ELECTS TO EXCAVATE THE REGULATOR STRUCTURE OR CUT THE PIPE OPENINGS PRIOR TO INSTALLING THE SHAFT PERMANENT LINING, A SUPPORT AND FRAMING DESIGN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE OWNER. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ALL APPLICABLE RE-DESIGNS AND SHALL PROVIDE ADDITIONAL STRUCTURAL REINFORCEMENT OR OTHER MODIFICATIONS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
8. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES.~~ 2



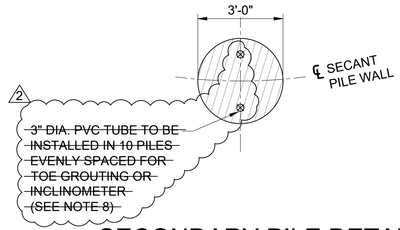
DETAIL 1 -

SCALE: 3/8" = 1'-0"



PRIMARY PILE DETAIL

SCALE: 3/8" = 1'-0"



SECONDARY PILE DETAIL

SCALE: 3/8" = 1'-0"

Designed by: HTV/SZ	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
	1	9/26/25	PILE DIMENSION UPDATES	ANC
Drawn by: RGR	2	12/23/25	REVISION FOR ADDENDUM 11	ZC
Checked by: ANC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — ZHENQI CAI — No. PE090706

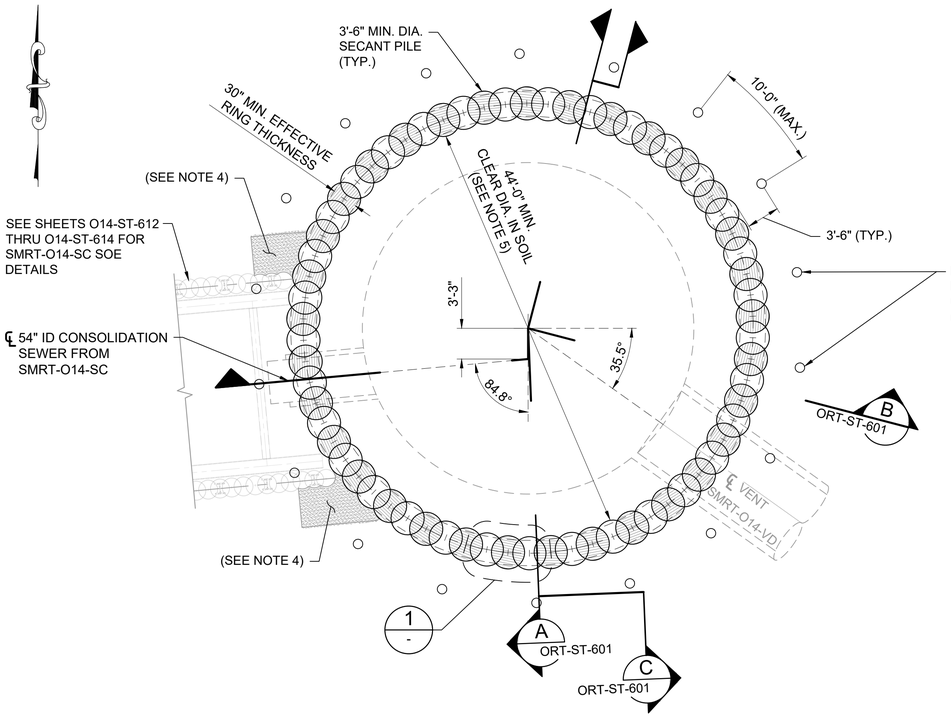
alcosan — allegheny county sanitary authority

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

ORT-ST-400
A58 DROP SHAFT
SUPPORT OF EXCAVATION - SHEET 1 OF 2

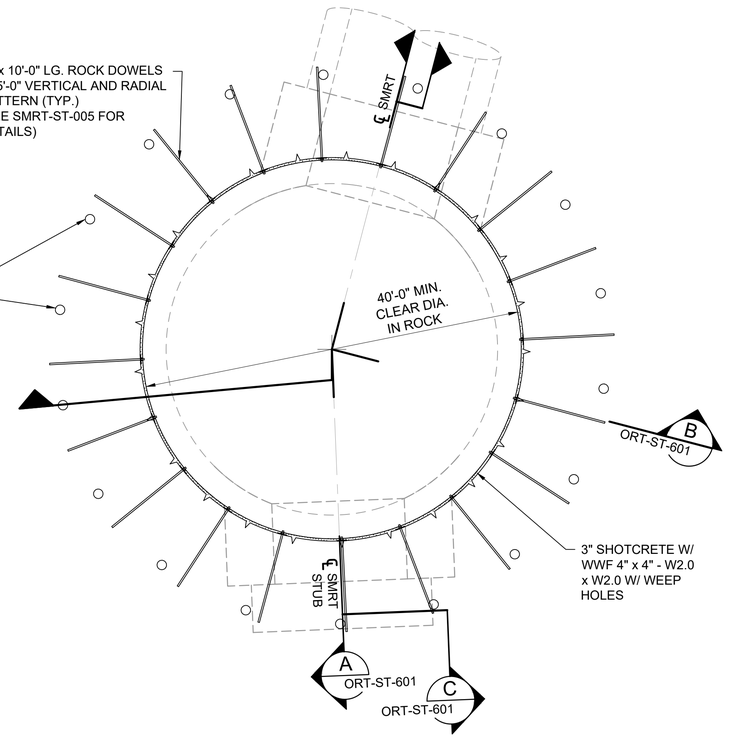
Contract: 1797
File: ORT-ST-400.dwg
Date: 07/30/2025
Sheet: 141 OF 770



SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 675.90)

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

DRILLED HOLES FOR ROCK MASS GROUTING (TYP.) (SEE NOTE 3)

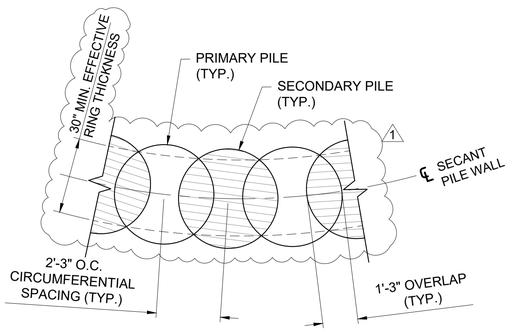


SHAFT INITIAL SUPPORT IN ROCK (EL. 675.90 TO EL. 576.25)

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

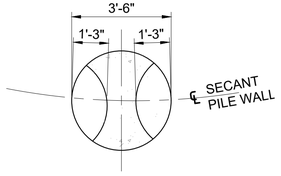
NOTES

1. CONTRACTOR SHALL DESIGN AND INSTALL A CONTINUOUS FLOOD PROTECTION WALL AROUND THE ENTIRE PERIMETER OF THE SHAFT AS REQUIRED PER SPECIFICATION SECTION 31 75 00.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. FOR GROUND IMPROVEMENT ZONE AT SMRT-O14-SC CONNECTION, REFER TO SHEETS O14-ST-612 & O14-ST-614.
5. REFER TO TECHNICAL SPECIFICATIONS FOR SECANT PILES INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN IN THIS DRAWING ARE MET.
6. REFER TO SHEET O14-CI-604 FOR CONTROL POINTS COORDINATES.
7. CONTRACTOR IS REQUIRED TO INSTALL THE SHAFT FINAL LINING UP TO THE UNDERSIDE OF TOP SLAB PRIOR TO EXCAVATING THE O14-SC STRUCTURE AND INSTALLING THE 54" ID CONSOLIDATION SEWER, AND THE 96" ID VENT PIPE THROUGH THE SHAFT SECANT PILES. IF THE CONTRACTOR ELECTS TO EXCAVATE THE REGULATOR STRUCTURE OR CUT THE PIPE OPENING PRIOR TO INSTALLING THE SHAFT PERMANENT LINING, A SUPPORT AND FRAMING DESIGN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE OWNER. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ALL APPLICABLE RE-DESIGNS AND SHALL PROVIDE ADDITIONAL STRUCTURAL REINFORCEMENT OR OTHER MODIFICATIONS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
8. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES.~~ 2



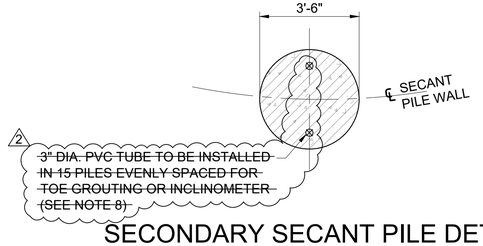
DETAIL 1 / -

SCALE: 3/8" = 1'-0"



PRIMARY SECANT PILE DETAIL

SCALE: 3/8" = 1'-0"



SECONDARY SECANT PILE DETAIL

SCALE: 3/8" = 1'-0"

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\05-Structural\Sheets - ORT-ST-600 LAST SAVED BY: PLE92466 PLOT DATE:12/22/2025 1:23:04 PM

Designed by: HTV/SZ
Drawn by: RGR
Checked by: ANC

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	9/26/25	PILE DIMENSION UPDATES	ANC
2	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

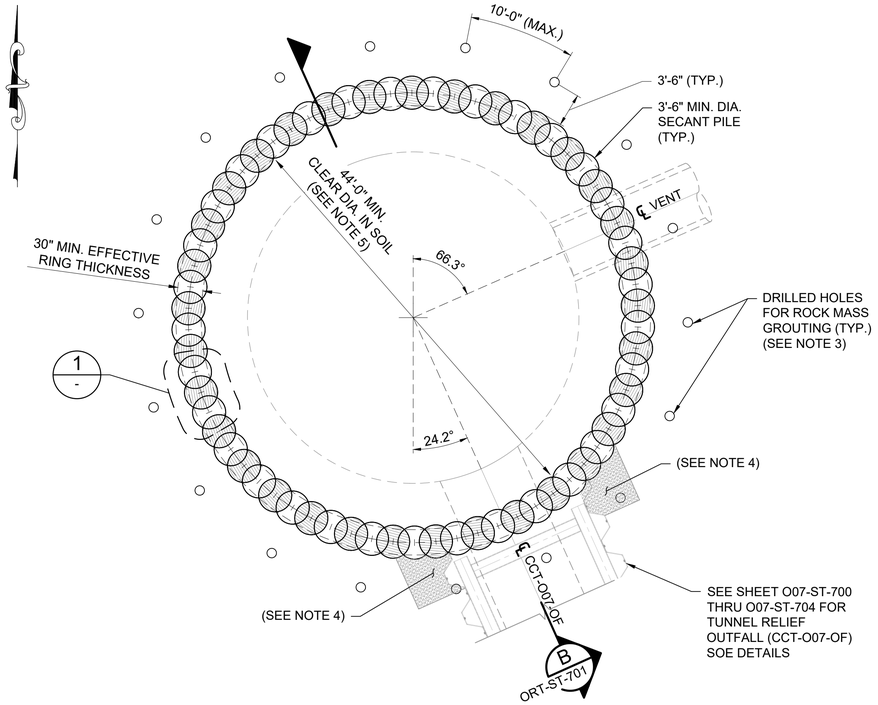
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ZHENQI CAI ENGINEER No. PE096706

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

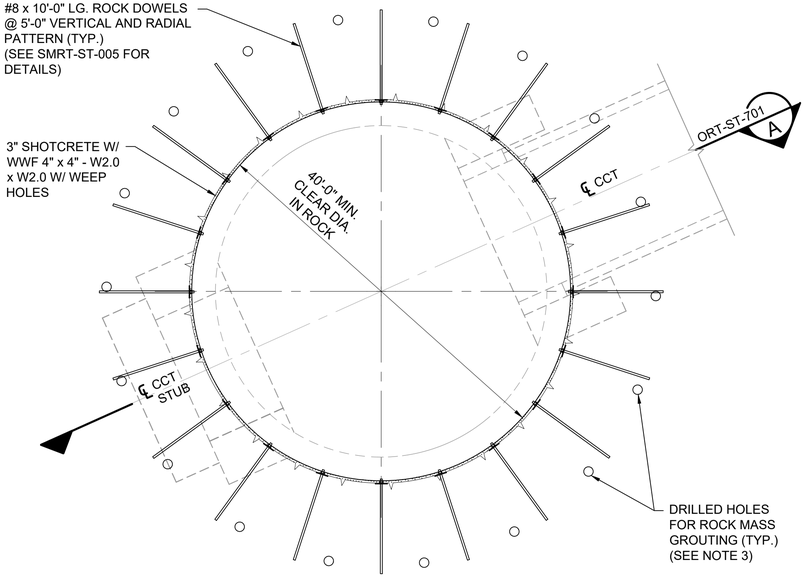
ORT-ST-600
O14 DROP SHAFT
SUPPORT OF EXCAVATION - SHEET 1 OF 2

Contract: 1797
File: ORT-ST-600.dwg
Date: 07/30/2025
Sheet: 159 OF 770



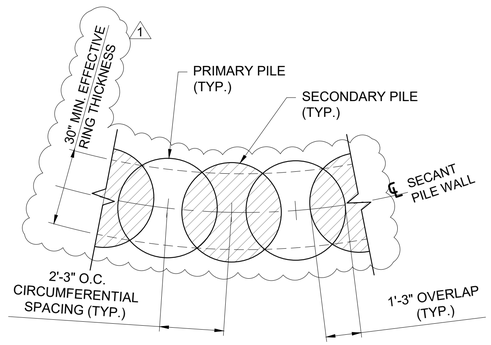
SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 669.50)

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



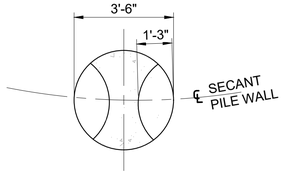
SHAFT INITIAL SUPPORT IN ROCK (EL. 669.50 TO EL. 565.84)

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



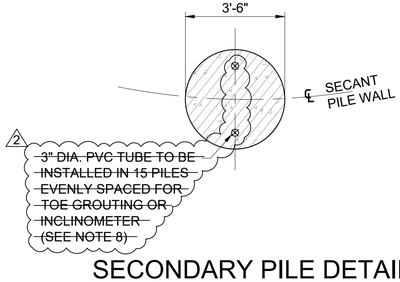
DETAIL 1/-

SCALE: 3/8" = 1'-0"



PRIMARY PILE DETAIL

SCALE: 3/8" = 1'-0"



SECONDARY PILE DETAIL

SCALE: 3/8" = 1'-0"

NOTES

1. CONTRACTOR SHALL DESIGN AND INSTALL A CONTINUOUS FLOOD PROTECTION WALL AROUND THE ENTIRE PERIMETER OF THE SHAFT AS REQUIRED PER SPECIFICATION SECTION 31 75 00.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. FOR GROUND IMPROVEMENT ZONE AT TUNNEL RELIEF OUTFALL CONNECTION, REFER TO SHEETS O07-ST-700 THROUGH O07-ST-704.
5. REFER TO TECHNICAL SPECIFICATIONS FOR SECANT PILES INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN IN THIS DRAWING ARE MET.
6. REFER TO SHEET O07-CI-703 FOR CONTROL POINTS COORDINATES.
7. CONTRACTOR IS REQUIRED TO INSTALL THE SHAFT FINAL LINING UP TO THE UNDERSIDE OF TOP SLAB PRIOR TO EXCAVATING THE O07 OUTFALL (CCT-O07-OF) AND INSTALLING THE 9'-0" x 9'-0" TUNNEL RELIEF OUTFALL, AND THE 66" ID VENT PIPE THROUGH THE SHAFT SECANT PILES. IF THE CONTRACTOR ELECTS TO EXCAVATE THE O07-OF OR CUT THE PIPE OPENINGS PRIOR TO INSTALLING THE SHAFT PERMANENT LINING, A SUPPORT AND FRAMING DESIGN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE OWNER. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ALL APPLICABLE RE-DESIGNS AND SHALL PROVIDE ADDITIONAL STRUCTURAL REINFORCEMENT OR OTHER MODIFICATIONS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
8. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES.~~ 2

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\05-Structural\Sheets - ORT-ST-700 LAST SAVED BY: PLE92466 PLOT DATE:12/22/2025 1:30:44 PM

Designed by: HTV/SZ
Drawn by: RGR
Checked by: ANC

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	9/26/25	PILE DIMENSION UPDATES	ANC
2	12/23/25	REVISION FOR ADDENDUM 11	ZC

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

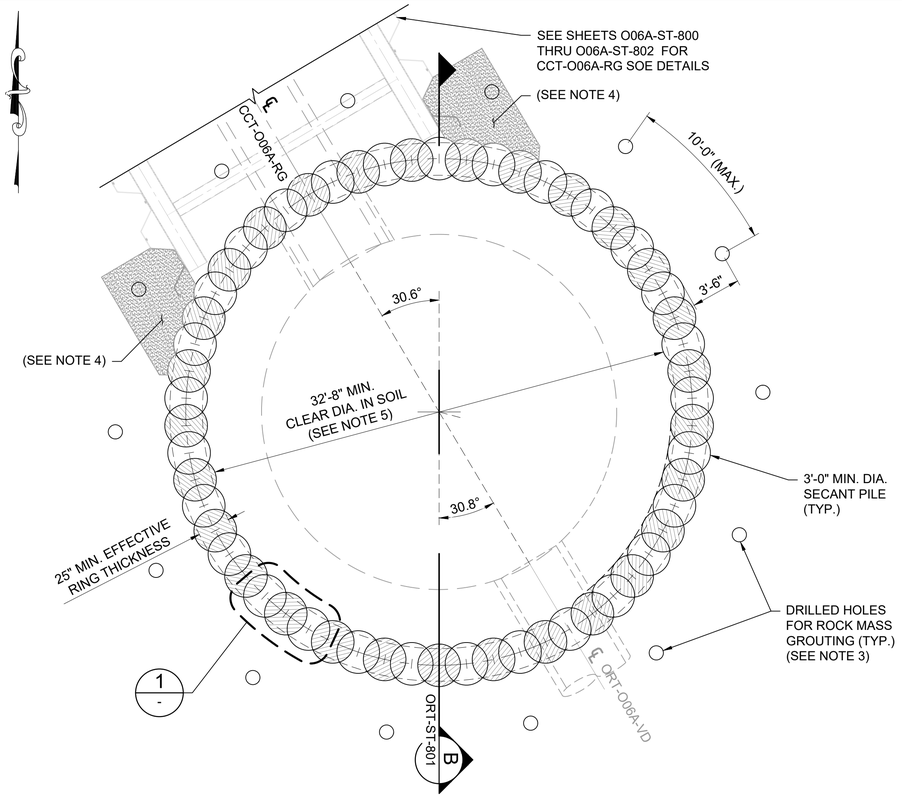
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ZHENQI CAI ENGINEER No. PE096706

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

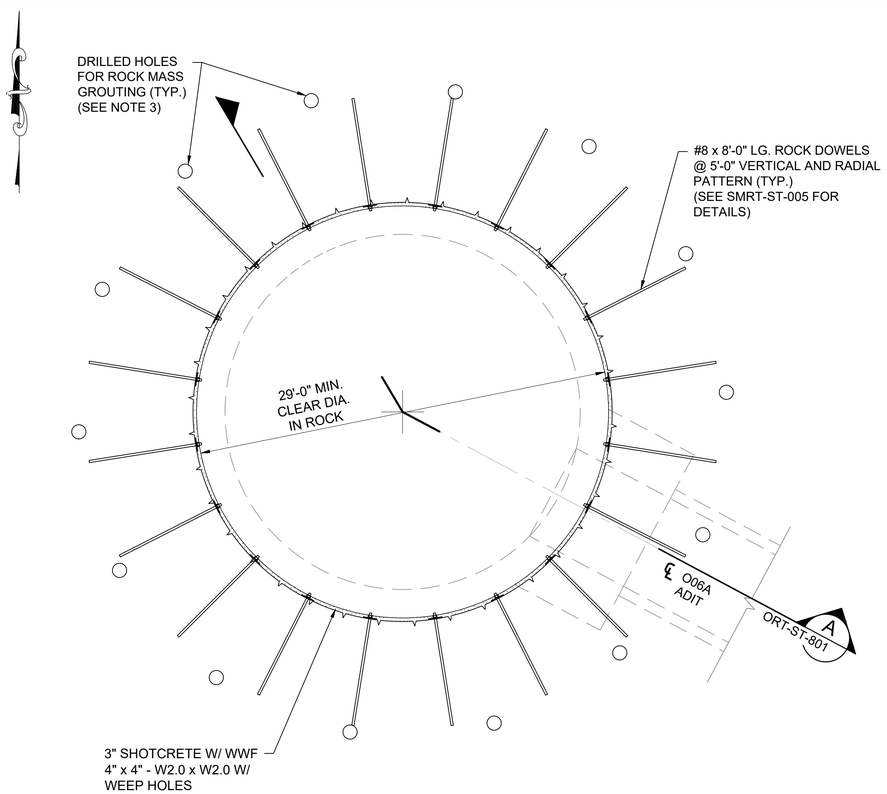
ORT-ST-700
O07 ACCESS SHAFT
SUPPORT OF EXCAVATION - SHEET 1 OF 2

Contract: 1797
File: ORT-ST-700.dwg
Date: 07/30/2025
Sheet: 169 OF 770



SHAFT INITIAL SUPPORT IN SOIL (GROUND SURFACE TO EL. 659.50)

SCALE: 3/16" = 1'-0"

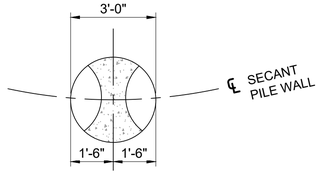


SHAFT INITIAL SUPPORT IN ROCK (EL. 659.50 TO EL. 587.00)

SCALE: 3/16" = 1'-0"

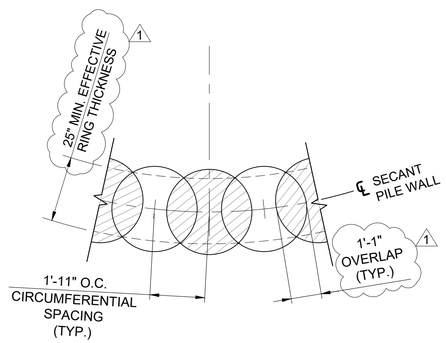
NOTES

1. CONTRACTOR SHALL DESIGN AND INSTALL A CONTINUOUS FLOOD PROTECTION WALL AROUND THE ENTIRE PERIMETER OF THE SHAFT AS REQUIRED PER SPECIFICATIONS SECTION 31 75 00.
2. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC SOIL AND GROUNDWATER CONDITIONS.
3. GROUTING IS REQUIRED AROUND THE PERIMETER OF THE SHAFT AND BELOW THE SHAFT BASE TO REDUCE ROCK MASS PERMEABILITY PRIOR TO EXCAVATING THE SHAFT. SPACING OF THE GROUTING HOLES SHALL NOT EXCEED THE DISTANCE SHOWN IN THIS DRAWING. LOCATION OF GROUTING HOLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL DESIGN AND INSTALL THIS GROUND IMPROVEMENT BASED ON THE ANTICIPATED GROUND AND GROUNDWATER CONDITIONS PROVIDED IN THE GBR AND IN ACCORDANCE WITH REQUIREMENTS INCLUDED IN THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL ALSO PERFORM LOCALIZED GROUTING AS NEEDED DURING ROCK EXCAVATION TO CONTROL ANY RESIDUAL FLOWS THAT ARE NOT SEALED OFF BY THE REQUIRED GROUND IMPROVEMENT.
4. FOR GROUND IMPROVEMENT ZONE AT CCT-O06A-RG CONNECTION, REFER TO SHEETS O06A-ST-800 THROUGH O06A-ST-805.
5. REFER TO TECHNICAL SPECIFICATIONS FOR SECANT PILES INSTALLATION TOLERANCES. CONTRACTOR SHALL INSTALL THE SOE SYSTEMS WITHIN THE REQUIRED INSTALLATION TOLERANCES SO THAT THE CLEAR DIMENSIONS AND EFFECTIVE RING THICKNESS SHOWN ON THIS SHEET ARE MET.
6. REFER TO SHEET O06A-CI-803 FOR CONTROL POINTS COORDINATES.
7. CONTRACTOR IS REQUIRED TO INSTALL THE SHAFT FINAL LINING UP TO THE UNDERSIDE OF THE SLAB PRIOR TO EXCAVATING THE O06A REGULATOR STRUCTURE (CCT-O06A-RG) AND INSTALLING THE 60" ID CONSOLIDATION SEWER, AND THE 54" ID VENT PIPE THROUGH THE SHAFT SECANT PILES. IF THE CONTRACTOR ELECTS TO EXCAVATE THE REGULATOR STRUCTURE OR CUT THE PIPE OPENING PRIOR TO INSTALLING THE SHAFT PERMANENT LINING, A SUPPORT AND FRAMING DESIGN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE OWNER. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ALL APPLICABLE RE-DESIGNS AND SHALL PROVIDE ADDITIONAL STRUCTURAL REINFORCEMENT OR OTHER MODIFICATIONS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
8. ~~CONTRACTOR SHALL PROVIDE THE NECESSARY REINFORCEMENT OR CENTRALIZERS TO SUPPORT AND MAINTAIN THE TOE GROUTING PVC PIPES AND INCLINOMETER CASINGS IN PLACE WHILE POURING CONCRETE IN SECONDARY PILES.~~ 2



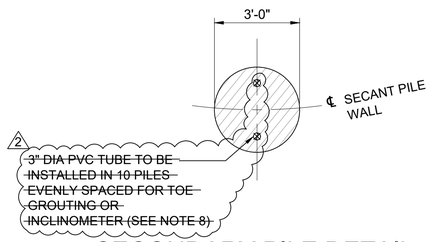
PRIMARY PILE DETAIL

SCALE: 3/8" = 1'-0"



DETAIL 1/-

SCALE: 3/8" = 1'-0"



SECONDARY PILE DETAIL

SCALE: 3/8" = 1'-0"

Designed by:	REVISION			
HTV/SZ	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	9/26/25	PILE DIMENSION UPDATES	ANC
RGR	2	12/23/25	REVISION FOR ADDENDUM 11	ZC
Checked by:				
ANC				

MOTT MACDONALD
Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ZHENQI CAI — ENGINEER — No. PE090706

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

ORT-ST-800
O06A DROP SHAFT
SUPPORT OF EXCAVATION - SHEET 1 OF 2

Contract:	1797
File:	ORT-ST-800.dwg
Date:	07/30/2025
Sheet:	179 OF 770

FILE NAME:C:\Users\bow101681\DC\ACCDocs\Mott MacDonald\5071056\21 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\1 - ORT\05-Structural\Sheets - ORT-ST-800 LAST SAVED BY: PLE92466 PLOT DATE:12/22/2025 1:40:04 PM