

NOT FOR CONSTRUCTION INFORMATION ONLY



Contract No: N1245017
Project Title: HAM-75-1.25 Trunkline, ODOT PID 122902
Client PM: ODOT

Version No.: 9
Date: 10/1/2026
PM: Joe Hauber

HAM-75-1.25 Trunkline, ODOT PID 122902 Risk Register - Version No. 9 - Updated 10/1/2026

Risk Identification						Risk Analysis			Risk Response			Post-Risk Response Risk Analysis			Risk Monitoring		
						Qualitative Analysis						Qualitative Analysis					
						Probability	Impact	Level of Risk				Probability	Impact	Level of Risk			
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1	09/16/24	DJD	Facility Planning & Design	Interference with existing highway infrastructure	Utilities may have to be relocated or the design changed to accommodate existing utility.	Could happen	Significant effect	High Risk	ODOT	Avoid	Relocate alignment to avoid. Require potholing and/or test pits during construction	Unlikely to happen	Moderate effect	Moderate Risk	Expired	Realigned to miss interferences. See Risk ID 41	02/19/25
2	09/16/24	DJD	Facility Planning & Design	Interference with proposed highway infrastructure	Since the proposed highway infrastructure is in development, the probability is low; however, the impact will be the same as encountering an unknown utility	Could happen	Significant effect	High Risk	ODOT	Mitigate	Coordinate with HWY designer to seek acceptable mitigation	Highly unlikely	Moderate effect	Low Risk	Expired	Realigned to miss interferences. See Risk ID 41	02/19/25
3	09/16/24	DJD	Facility Planning & Design	Contaminated ground requires special handling and disposal	Water and soil may need to be tested and hauled to an appropriate facility. Lane closures necessary for construction and flaggers at locations of occurrence.	Unlikely to happen	Significant effect	Moderate Risk	ODOT	Accept	Use appropriate measures for handling and disposal if contaminated ground. Identify contaminated areas and design around. Not sure it would impact the probability or cost. May not be possible. May need to include this cost into the GMP.	Highly unlikely	Significant effect	Low Risk	Active	Nothing found in Geotech borings to suggest contaminated ground. Risk probability lowered during 9/10/25 review.	09/10/25
4	02/19/25	DJD	Facility Planning & Design	City is against new storm drain being under public streets	Sewer has to be shifted under interstate	Could happen	Significant effect	High Risk	ODOT	Avoid	Detailed discussions with City on microtunnel impacts to streets	Unlikely to happen	Minimal effect	Low Risk	Expired	ODOT working with City. Risk Qualities Analysis probability has expired.	01/30/26
5	03/17/25	MJB	Facility Planning & Design	Possibility of differing site conditions encountered	Possible project delays and/or DSC Claim from the contractor	Could happen	Significant effect	High Risk	ODOT	Mitigate	Bridging documents provide guidance on expected conditions and highlight possible unknown risks. Transfers more risk to the contractor which mitigates potential DSC claims at the expense of higher initial bid fees.	Unlikely to happen	Moderate effect	Moderate Risk	Active	DSC could still occur, but likelihood of major claims mitigated. No change in risk profile.	09/11/25
6	09/23/24	DJD	Facility Planning & Design	Stakeholder, political, or legal issues require significant design changes or special requirements	Design changes that are significant	Unlikely to happen	Significant effect	Moderate Risk	ODOT	Avoid	Keep great communications with stakeholders and political interest. Owner does significant outreach while bridging documents are developed and does not include these risks in the Design Builders Price. Extra cost for engineering and public outreach during development of bridging documents.	Unlikely to happen	Moderate effect	Moderate Risk	Expired	Post-Risk Response impact lowered on 1/30/26	10/01/26
7	03/17/25	MJB	Facility Planning & Design	Construction monitoring issues have been known to delay projects, due to malfunction, theft, or improper use.	Delays in receiving data could delay the project, or lead to possible failures.	Could happen	Moderate effect	Moderate Risk	ODOT	Mitigate	Bridging documents provide clear performance requirements for instrumentation and monitoring. Require backups of long lead time items, critical equipment, or items that frequently are damaged during construction.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile	09/11/25
8	09/23/24	DJD	Facility Planning & Design & Construction	Coordination with adjacent projects delays this project	Delays to project and re-design	Could happen	Significant effect	High Risk	ODOT	Accept	Keep great communications with adjacent projects	Unlikely to happen	Significant effect	Moderate Risk	Active	Monitoring adjacent projects. Coordination with others ongoing; need info from City/MSDGC/GCWW for performance specs. Risk probability lowered in 9/11/25 review.	09/11/25
9	09/23/24	DJD	Bid	Low number of bidders due to complexity of design resulting in higher bid prices	There are some significantly large DB contractors who would take this on. The complexity increases the price because the Design Builder carries design risk GMP/Bid cost significantly higher than budgeted.	Could happen	Moderate effect	Moderate Risk	ODOT	Avoid	Simplify design to attract more bidders with microtunnel capabilities. Prequalify Microtunnel contractors. Owners Rep should follow guidelines to perform significant outreach. Create bridging documents that focus on project complexity. ODOT now considering allowing longer drives up to 3,000 feet, which could reduce number of bidders, but save cost on more shafts.	Could happen	Moderate effect	Moderate Risk	Active	Project delivery changed from Design-Bid-Build to Design-Build. Project being simplified to attract more bidders. Plans to pre-qualify contractors in place. Risk probability lowered during 9/11/25 review.	06/18/26
10	09/23/24	DJD	Bid	Cost escalation due to national or International event	GMP/Bid cost significantly higher than budgeted.	Could happen	Significant effect	High Risk	ODOT/DBT	Accept	Incorporate into front end specifications a mechanism to negotiate if such an event occurs. Monitor and react.	Could happen	Significant effect	High Risk	Active	No change in risk profile	02/19/25
11	09/16/24	DJD	Design	Drive lengths exceed the jacking capability of the MT equipment	Design Builder designs microtunnel drive lengths that exceed the capacity of the pipe, or jacking frame. This requires contractor to stop and inject bentonite at all ports along the pipeline OR dig up the machine.	Could happen	Significant effect	High Risk	DBT	Mitigate	Install additional shaft and/or intermediate jacking stations. (IJS). Require minimum number of IJS's with on site spare	Highly unlikely	Moderate effect	Low Risk	Expired	Drive lengths reduced to assist in meeting ODOT Manhole spacing requirements. Jacking load estimated approximately 2,300 tons per drive requiring at least 1 IJS. No change in risk profile on 9/11/25.	09/11/25

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12	10/29/24	DJD	Design	Joints overstressed in curve due to point loading	When point loads occur on curved drives the joint seal is breached, causing flooding of the pipeline or making it impossible to move forward.	Could happen	Significant effect	High Risk	DBT	Mitigate	Require the use of Jack Control in curved sections	Highly unlikely	Moderate effect	Low Risk	Active	No change in risk profile	02/19/25
13	09/16/24	DJD	Design	Existing cross over sewers and storm drains in poor condition and cannot allow movement without failure	Utility must be repaired. Extensive bypass pumping may be required	Could happen	Significant effect	High Risk	ODOT/DBT/MSD	Mitigate	MSDGC to provide limits to settlement limits and timelines for pipe replacement (before or after microtunnel construction). ODOT to obtain city record drawings, flow data, CCTV inspection videos, and provide performance criteria that must be maintained during construction. DBT to provide methods to stabilize/shore/support/replace, etc.	Unlikely to happen	Moderate effect	Moderate Risk	Active	CCTV tapes and reports reviewed. All appear to be in good condition, but limited detail on foundations. Coordination with MSDGC ongoing. Risk probability lowered on 9/12/25. Post-Risk Response risk impact lowered on 1/30/26.	01/30/26
14	09/16/24	DJD	Design	Work zone encroachment onto City streets (e.g., Western Ave, Spring Grove Ave, etc.) and into ramps (e.g., WHV) impacting traffic flow	Lane closures necessary for construction and flaggers at locations of occurrence	Will probably happen	Moderate effect	High Risk	ODOT/ City	Mitigate	Obtain permission and possible easements to take out traffic lane and do linear work zones with TMP Detailed discussion with City on microtunnel impacts to streets	Could happen	Moderate effect	Moderate Risk	Active	See Risk IDS 2 and 40	09/12/25
15	02/19/25	DJD	Design & Construction	Insufficient space for jacking or receiving shaft work zone per event	Lane closures or utility relocations may be required.	Could happen	Moderate effect	Moderate Risk	ODOT/DBT/ City	Mitigate	Layout jacking and receiving shafts with jacking shafts having most available space. Layout typical equipment in each work zone to verify	Could happen	Moderate effect	Moderate Risk	Active	Could happen depending on DBT options	10/01/26
16	10/10/24	DJD	Design & Construction	Contractor struggles with labor, resources, or equipment delaying project	Depending on market conditions, the GMP will likely include significant cost to cover this risk.	Could happen	Significant effect	High Risk	ODOT/DBT	Avoid	Prequalify contractors, use strong specs and construction monitoring to enforce requirements	Could happen	Significant effect	High Risk	Active	No change in risk profile	02/19/25
17	09/26/24	DJD	Construction	Alignment is in location where using an emergency rescue shaft (i.e., in an I-75 Travel Lane) will not allow for excavation of rescue shaft	Machine recovery required. Pipe ram from reception shaft and recover machine. Install pipeline within the rammed casing	Highly unlikely	Moderate effect	Low Risk	DBT	Mitigate	Revise alignment during design to avoid issue. Require contractor to use MTBM with internal face access.	Highly unlikely	Moderate effect	Low Risk	Active	Alignment adjusted to avoids potential issue	01/30/26
18	10/10/24	DJD	Construction	Interference by abandoned building foundations during construction of I-75	Machine recovery required. Pipe ram from reception shaft and recover machine. Install pipeline within the rammed casing or excavate from surface if possible	Highly unlikely	Moderate effect	Low Risk	ODOT/DBT	Avoid	Use GPR and Ground probes to confirm, review city records, potholing, or test pits to adjust design or remove foundation as needed	Highly unlikely	Moderate effect	Low Risk	Active	See Risk ID 5 for Risk Monitoring comment	01/30/26
19	10/17/24	DSW	Construction	Unexpected soil or rock formations cause delays, increased costs, or damage to equipment leading to further delaying of project	Depending on the variability of the geology, this could be a significant cost impact to the project.	Unlikely to happen	Moderate effect	Moderate Risk	ODOT/DBT	Mitigate	Identify potential ground conditions in GBR. This is primarily mitigated with the negotiated GBR. Bridging documents include GBR-B. Contractor performs additional borings and provide GBR-C for Owner review and consideration	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile	02/19/25
20	10/17/24	DSW	Construction	Excessive groundwater ingress affect the tunneling operation and shaft stability adding cost and delay	Destabilized shafts, shaft repair, significant dewatering costs beyond assumed by contractor. Raise the Cost of the GMP	Could happen	Moderate effect	Moderate Risk	DBT	Mitigate	Identify potential groundwater in GBR. Perform pump tests to provide contractor with adequate information to plan an adequate dewatering plan	Could happen	Moderate effect	Moderate Risk	Active	No change in risk profile	02/19/25
21	10/17/24	DSW	Construction	Soil settlement occurs due to ground disturbance, potentially affecting nearby structures or utilities	Settlement of roads, structures, utilities would have to be fixed.	Could happen	Significant effect	High Risk	DBT	Mitigate	Identify potential ground conditions in GBR. Require strict ground movement instrumentation and adjust progress as needed. Design the pipe with sufficient offset from buildings to keep building foundations out of the zone of influence. Evaluate the consolidation potential of the soils, especially when dewatered	Unlikely to happen	Moderate effect	Moderate Risk	Active	Geotech instrumentation plan and performance specs to be developed for Design-Build application.	01/30/26
22	10/17/24	DSW	Construction	Shaft instability leading to launch or receiving shafts suffering from structural failures such as wall collapse or base heave during excavation per event	Shaft floods, microtunnel floods, shaft repair, repair of microtunneling machine or acquire new machine	Could happen	Moderate effect	Moderate Risk	DBT	Mitigate	Identify potential ground conditions in GBR. Bridging documents require water-tight shoring - secants etc.	Unlikely to happen	Moderate effect	Moderate Risk	Active	DB Contractor to control groundwater, design shafts with launch control. Risk probability lowered on 9/15/25.	09/15/25

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23	10/17/24	DSW	Construction	Excessive ground movement around the shaft impacts nearby structures, utilities, or infrastructure causing additional cost and bad project publicity	Repair of utilities or structures required.	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Mitigate	Identify potential ground conditions in GBR. Require design to consider. Ensure that shaft locations maintain sufficient clearance from structures, utilities to mitigate the probability. Or relocate utilities	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design	02/19/25
24	10/17/24	DSW	Construction	Faster-than-expected cutterhead wear due to abrasive soil conditions leads to project delays and additional cost	Contractor has to re-fit the machine at the completion of every drive. This is typically a \$250,000 per each drive. This may require a shaft to change cutters or compressed air intervention for back-loading cutters (which adds significant project cost and risk)	Could happen	Moderate effect	Moderate Risk	DBT	Mitigate	Require Maintenance Records and service plans by contractor. Consider Face Access MTBM be required. Identify potential ground conditions in GBR. Require the contractor to include refurbishment and spare downhole tooling in the bridging documents. This will raise the GMP	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design	02/19/25
25	10/17/24	DSW	Construction	Working in the launch or receiving shafts exposes workers to confined space dangers, such as limited oxygen or hazardous gases	Safety risk for workers that need to take time away from the job. Injuries	Unlikely to happen	Minimal effect	Low Risk	DBT	Mitigate	Require confined space entry plans and on site safety person. Research the potential for hazardous gas. The contractor must follow OSHA standards. Enforce OSHA standards during construction. Do not allow contractors with poor safety records to propose on project	Unlikely to happen	Minimal effect	Low Risk	Active	No change in risk profile. Contractor to design	02/19/25
26	10/17/24	DSW	Construction	Working at height or in deep shafts poses risks of falls and related injuries	Could cause serious injury or death; however, the Contractor MUST follow OSHA regulations.	Unlikely to happen	Minimal effect	Low Risk	DBT	Mitigate	Require work safety plans and on site safety person. Enforce OSHA regulations during construction. Do not allow Contractors with poor safety records to propose on project.	Unlikely to happen	Minimal effect	Low Risk	Active	No change in risk profile. Contractor to design	02/19/25
27	10/17/24	DSW	Construction	Shaft collapse due to inadequate bracing or unexpected ground conditions leading to additional cost and delay	Could cause serious injury or death; however, the Contractor MUST follow OSHA regulations.	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Mitigate	Identify potential ground conditions in GBR. Require contractor to have PE designed and stamped SOE system	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
28	10/17/24	DSW	Construction	Unexpected surface water ingress in either the shafts or tunnel can delay operations and potential damage to down hole equipment	Delays in schedule and potential added cost	Unlikely to happen	Minimal effect	Low Risk	DBT	Mitigate	Require high side working shafts. Design flow diversion if appropriate into bid package	Unlikely to happen	Minimal effect	Low Risk	Active	No change in risk profile. Contractor to design. Added impact of risk on 9/15/25	09/15/25
29	10/17/24	RSY	Construction	Malfunctioning of installed geotechnical instrumentation leading to delay in data flow and possible delay in project	Contractor will have to fix the construction problem that they were not aware of because instrumentation failed.	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Mitigate	Specify to stock spare sensors. Design redundancy in instrumentation. Specify to install piezometers in pairs in same borehole.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design	02/19/25
30	10/17/24	RSY	Construction	Instrumentation signal wire and monitoring hardware damage by construction leading to delay in flow of data and possible delay in project	Contractor will have to fix the construction problem that they were not aware of because instrumentation failed.	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Mitigate	Specify all the repairs to happen within 24 hr. Design redundancy in instrumentation. Specify to stock cable / cable repair material.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
31	10/17/24	RSY	Construction	Underground obstructions hindering instrumentation installation leading to delay in installation.	Contractor will have to fix the construction problem that they were not aware of because instrumentation failed.	Could happen	Minimal effect	Moderate Risk	DBT	Mitigate	Specify to install, test and baseline instruments in at least two weeks prior to start of construction in the vicinity.	Could happen	Minimal effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
32	10/17/24	RSY	Construction	Uncertainty in utilities locations. Encountering abandoned utilities leading to delay in instrumentation installation	Contractor to relocate instrumentation with approval of ODOT	Could happen	Minimal effect	Moderate Risk	DBT	Mitigate	Civil drawings to provide accurate information on underground utilities. Civil to identify abandoned utilities. Pothole utilities (Geophysics and SUE Quality Level A). Relocate and redrill new borehole in the same vicinity. Specify to install, test and baseline instruments in at least two weeks prior to start of construction in the vicinity.	Could happen	Minimal effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
33	10/17/24	RSY	Construction	Theft and vandalization of instrumentation hardware leading to delay in data flow and possible delay in project	Contractor will have to fix the construction problem from theft and vandalism.	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Mitigate	Specify not to identify installation to make it appear inconspicuous. Specify to stock spares to continue monitoring. Recommend contingency by GC. Specify GC to employ security people to patrol area.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
34	10/17/24	RSY	Construction	Instrumentation hardware procurement lead time delays start of project	May require different kinds of instrumentation used on the project	Highly unlikely	Significant effect	Low Risk	DBT	Mitigate	Specify to procure monitoring hardware well in advance. Specify to install, test, and baseline instruments in at least two weeks prior to start of construction in the vicinity.	Highly unlikely	Moderate effect	Low Risk	Active	No change in risk profile. Contractor to design	02/19/25

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35	10/17/24	RSY	Construction	Instrumentation false alarms leading to delay in data flow and possible delay in project	Schedule and cost delays	Could happen	Minimal effect	Moderate Risk	DBT	Mitigate	Specify instrumentation engineer to validate sensor data in real-time and email immediately.	Unlikely to happen	Minimal effect	Low Risk	Active	On 9/15/25, lowered risk probability, added impacts of risk. Contractor to design.	09/15/25
36	10/17/24	RSY	Construction	Piezometer not reading correct groundwater elevation leading to flow of inaccurate data, delays in reporting, and possible delay in project	Schedule and cost delays	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Mitigate	Specify to select bentonite cement slurry based on ground condition and in consultation with the sensor manufacturer. Specify quality control while mixing bentonite, cement and water and grouting operation.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
37	10/17/24	RSY	Construction	Clogging piezometers borehole, resulting in incorrect groundwater elevation leading to data flow issues utilized in various aspects of project	Schedule and cost delays	Unlikely to happen	Significant effect	Moderate Risk	DBT	Avoid	Specify to perform drilling using hollow stem augers, not using bentonite or any other agent, as drilling fluid, likely to clog soils.	Unlikely to happen	Significant effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
38	10/17/24	RSY	Construction	Instrumentation boreholes not staying vertical leading to design and construction issues	Schedule and cost delays	Will happen	Minimal effect	Moderate Risk	DBT	Mitigate	Specify maximum vertical deviation for inclinometer boreholes and specify to be verified by performing profile check after installation. Locate instruments away from shafts etc. to avoid possible interference with the shaft construction.	Unlikely to happen	Minimal effect	Low Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
39	10/17/24	RSY	Construction	Inclinometer casing twist during installation leading to poor installation practice	Schedule and cost delays	Unlikely to happen	Minimal effect	Low Risk	DBT	Mitigate	Specify to lower inclinometer casing in borehole without twisting. Specify to pull hollow stem augers slowly and without rotation.	Unlikely to happen	Minimal effect	Low Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
40	10/17/24	RSY	Construction	Instrumentation head damage by others due to impact, roadway traffic or other leading to delay in flow of data and possible delay in project	Schedule and cost delays	Unlikely to happen	Moderate effect	Moderate Risk	DBT	Avoid	Specify to install highway rated roadway boxes in concrete to protect instrumentation heads. Specify that GC discuss with every entity working on the project site about safety of installed instrumentation.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
41	10/17/24	RSY	Construction	Datalogger missing reading due to power loss leading to delay in data flow and possible delay in project	Schedule and cost delays	Could happen	Moderate effect	Moderate Risk	DBT	Avoid	Specify to remove snow, plants, trees covering solar panels. Specify to install larger solar panels and check battery re-chargeability after long use. Specify to inspect dataloggers and solar panels at regular interval.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
42	10/17/24	RSY	Construction	Datalogger missing reading due to signal cables damage by birds and insects leading to delay in data flow and possible delay in project	Schedule and cost delays	Highly unlikely	Moderate effect	Low Risk	DBT	Avoid	Specify to seal-off holes in datalogger to stop birds and insect from nesting and to inspect dataloggers at regular interval.	Highly unlikely	Moderate effect	Low Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
43	10/17/24	RSY	Construction	Sensors not identified at datalogger leading to delay in flow of data and possible delay in project	Schedule and cost delays	Could happen	Moderate effect	Moderate Risk	DBT	Avoid	Specify to tag end of signal wires with ID and make sure these tags do not get damaged while passing them through hollow-stem augers or conduits. Permanently mark all sensors and wires for identification at anytime during the project duration.	Unlikely to happen	Moderate effect	Moderate Risk	Active	No change in risk profile. Contractor to design. Impact of risk added on 9/15/25.	09/15/25
44	09/16/24	DJD	Construction	Unknown / unmapped manmade obstructions deflect alignment or stops MTBM	The obstruction would have to be moved from in front of the microtunneling machine or the machine recovered with a reception shaft. In addition, obstructions often damage the machine	Will probably happen	Moderate effect	High Risk	DBT	Mitigate	The obstruction would have to be moved from in front of the microtunneling machine or the machine recovered with a reception shaft. In addition, obstructions often damage the machine. Include discussion in GBR	Unlikely to happen	Moderate effect	Moderate Risk	Expired	Buildings from 1950's before I-75 built. Remnants of construction debris down to 15 feet below surface in Geotech borings	02/19/25
45	03/15/25	KS	Construction	Object deflects microtunneling machine	Microtunnel goes out of line and grade. Grade issues could be significant and pipe could have reverse grade. May require paving the invert resulting in loss of capacity.	Could happen	Moderate effect	Moderate Risk	DBT	Mitigate	Use oversized casing and adjust pipeline within the casing. Identify areas of concern from Geotech Borings. Bridge to performance spec.	Unlikely to happen	Moderate effect	Moderate Risk	Active	Adjust Bridging docs	06/19/26

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46	02/20/25	DJD	Construction	80-ft.-diameter penetration portals by others do not align with I-75 microtunnel alignment	Could require dewatering, and open excavation to connect the two. Locate penetration prior to allowing construction to begin.	Could happen	Significant effect	High Risk	ODOT/DBT/ MSDGC	Avoid	Coordinate with design team for 80-ft.-diameter shaft to make sure no misalignment occurs	Unlikely to happen	Significant effect	Moderate Risk	Active	Coordinate with designers of 80-ft.-diameter shaft	06/19/26
47	09/11/25	EMHT/ODOT	Design & Construction	Foundation for former Gold Star at southeast corner intersection of Bank St and Dalton Ave may form obstruction to microtunnel operations or emergency rescue shaft	Could require removal of obstructions by surface excavation or changing alignment to avoid area	Unlikely to happen	Significant effect	High Risk	DBT	Avoid	Conduct history review of building and foundation. Conduct geophysics to identify obstructions. Conduct test pits to excavate down and explore.	Unlikely to happen	Moderate effect	Moderate Risk	Expired	Determined to have shallow foundation	06/19/26
48	09/15/25	DJD	Design & Construction	Existing MSE walls within the settlement trough of microtunnel	Require reinforcing or to be reinforced to prevent settlement of existing highway	Could happen	Significant effect	High Risk	ODOT/DBT/ MSD	Mitigate	Determine acceptable settlement allowed, provide preliminary estimate of settlement. Require ground modifications if excessive. Require DBT to prevent excessive settlement based on their means and methods.	Unlikely to happen	Moderate effect	Moderate Risk	Active		02/02/26
49	09/15/25	DJD	Design & Construction	Existing 36-in. old water main within the settlement trough of microtunnel	Require reinforcing or to be reinforced to prevent settlement of existing highway	Could happen	Significant effect	Moderate Risk	ODOT/DBT/ GCWW	Mitigate	Determine acceptable settlement allowed, provide preliminary estimate of settlement. Require ground modifications if excessive. Require DBT to prevent excessive settlement based on their means and methods.	Unlikely to happen	Moderate effect	Moderate Risk	Active	Risk profile lower with coordination with GCWW	06/19/26
50	09/15/25	DJD	Design & Construction	Use of pipe smaller than 60 inches in diameter requiring doghouse manholes to be installed	Added cost, schedule, and risk	Will probably happen	Moderate effect	High Risk	ODOT/DBT	Accept	Hydraulic analysis needs to be agreed upon. Pipe sizes selected, spacing of access manholes in accordance with ODOT requirements. Allow DBT to select larger diameter to reduce excavation cost.	Highly unlikely	Minimal effect	Low Risk	Expired	Need changed through design and directive by ODOT	06/19/26
51	06/18/26	ODOT	Design & Bid & Construction	Wood piles below some of the major cross over sewers	Added cost, schedule, and risk including lost of MTBM	Could happen	Significant effect	High Risk	ODOT/DBT	Mitigate	Attempt to microtunnel though piles, or remove piles	Could happen	Significant effect	High Risk	Active	Use geophysical methods to see if piles exist	06/18/26
52	06/18/26	ODOT	Design & Construction	Future MSE walls aggregate piers to terminate above pipe.	Damage to pipe	Could happen	Minimal effect	Moderate Risk	ODOT/DBT	Avoid	Project teams to ensure there is no overlap as trunk line would get damaged.	Unlikely to happen	Moderate effect	Moderate Risk	Expired	Aggregate piers have been eliminated from MSE wall designs	10/01/26
53	06/18/26	DJD	Design & Construction	Auger Bore for 30-inch storm drain at Sta 54+00 could hit abandoned building foundations	Auger bore installation fails	Will probably happen	Significant effect	High Risk	DBT	Mitigate	Lower 30-inch alignment to pass under abandoned foundations	Unlikely to happen	Moderate effect	Moderate Risk	Active	Design to avoid	06/18/26
54	06/24/26	DJD	Design & Bid & Construction	Settlement criteria for other utilities not defined except zero	May not be possible to achieve zero tolerance without expensive ground modification of rehabilitation of existing pipe	Will probably happen	Significant effect	High Risk	ODOT/DBT/ City	Mitigate	ODOT and Utility owners to coordinate allowable settlement criteria	Could happen	Moderate effect	Moderate Risk	Active	Design to avoid	06/24/26
55	06/24/26	DJD	Design & Bid & Construction	MSDGC will not allow rehab of their pipe	Contractor left with one option: modify ground	Could happen	Significant effect	High Risk	ODOT/DBT/ MSD	Mitigate	ODOT and MSD to coordinate	Unlikely to happen	Moderate effect	Moderate Risk	Active	Coordinate to avoid	06/24/26
56	06/24/26	DJD	Design & Bid & Construction	Storm flows in existing sewer too high to effectively bypass pump	Contractor delays due to weather events	Could happen	Moderate effect	Moderate Risk	ODOT/DBT/ MSD	Mitigate	ODOT and MSD to coordinate	Could happen	Moderate effect	Moderate Risk	Active	Coordinate to avoid	06/24/26
57	06/24/26	DJD	Design & Bid & Construction	MSD cannot accept reduction in flow capacity if sliplined	Contractor forced to rehab using CIPP or ground modification	Could happen	Moderate effect	Moderate Risk	ODOT/DBT/ MSD	Mitigate	ODOT and MSD to coordinate	Unlikely to happen	Moderate effect	Moderate Risk	Active	Coordinate to avoid	06/24/26



Contract No: N1245017
Project Title: HAM-75-1.25 Trunkline, ODOT PID 122902
Client PM: ODOT

Version No.: 9
Date: 10/1/2026
PM: Joe Hauber

HAM-75-1.25 Trunkline, ODOT PID 122902 Risk Register - Version No. 9 - Updated 10/1/2026

Risk Identification						Risk Analysis			Risk Response			Post-Risk Response Risk Analysis			Risk Monitoring		
						Qualitative Analysis						Qualitative Analysis					
						Probability	Impact	Level of Risk				Probability	Impact	Level of Risk			
Risk ID	Date Identified	Identified by	Risk Occurrence Phase	Risk Description	Impacts of Risk	Description	Description		Assigned to	Risk Response Strategy	Actions undertaken	Description	Description		Risk Status	Status Description	Date last updated
58	06/24/26	DJD	Design & Bid & Construction	GCWW's allowable settlement criteria of 0 in. for water mains not achievable without significant ground modification or reinforcement of pipe	Contractor forced to increase ground modification	Could happen	Significant effect	High Risk	ODOT/DBT/ GCWW	Mitigate	ODOT and GCWW to coordinate	Unlikely to happen	Moderate effect	Moderate Risk	Active	Coordinate to avoid	06/24/26