5/21/2025

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT

OF CLEVE PROBLEM OF CLE

IMPROVEMENTS CUYAHOGA COUNTY, OHIO

RICHMOND RICHTS

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UNDERGROUND UTILITIES CONTACT BOTH SERVICES

(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS

MUST BE CALLED DIRECTLY

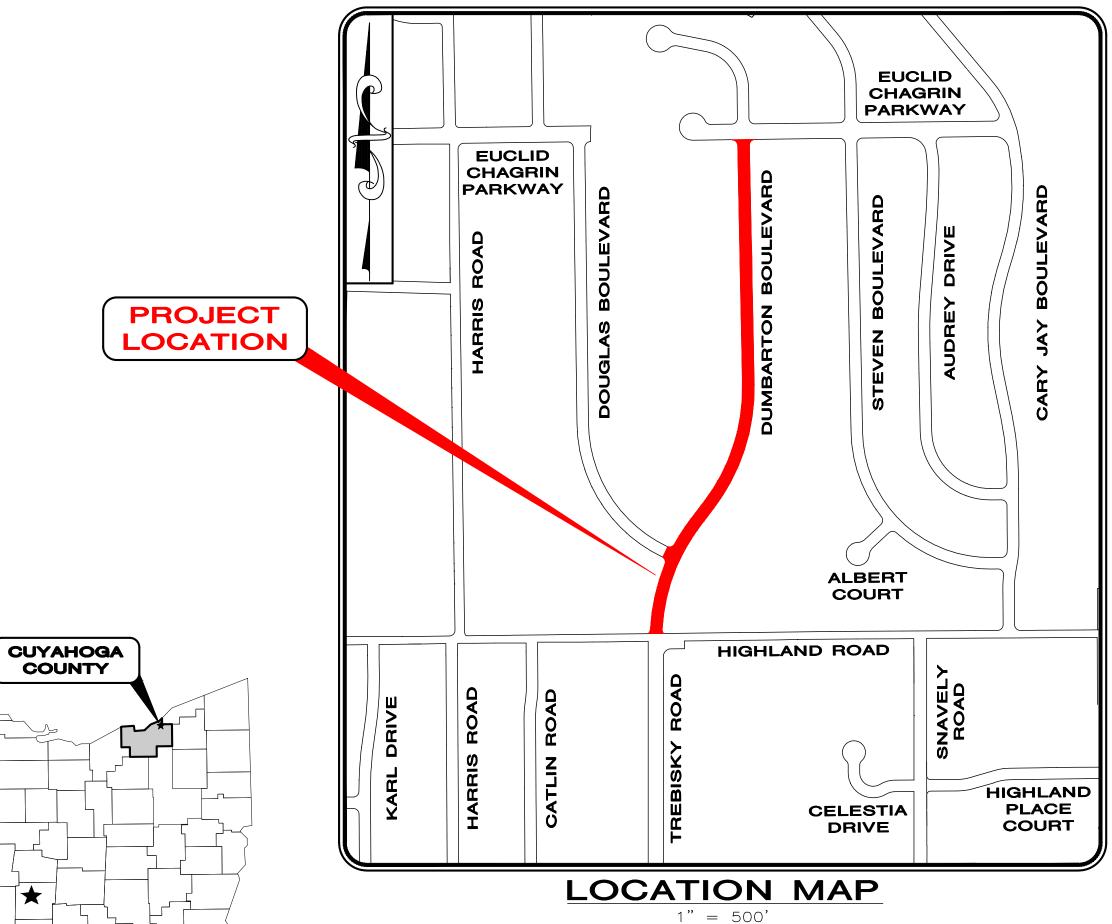
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

1. THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.

Utilities Protection

SERVICE

- 2. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
- 3. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



verdantas

CITY OFFICIALS:

COUNCIL-AT-LARGE

BOBBY JORDAN, PRESIDENT

JUANITA LEWIS

DANIEL J. URSU

TRACEY BLAIR, CLERK OF COUNCIL

TRACY JUSTICE, WARD I

ASU MOOK ROBINSON, WARD III
CASSANDRA NELSON, WARD III

WARD COUNCIL

BRIAN SILVER, WARD IV

BAYYINAH BROOKS, SPECIAL ASSISTANT TO THE MAYOR

CITY ADMINISTRATORS:

R	N TIEDMANSERVICE DIRECTOR
N	LOPARDQ ASSISTANT SERVICE DIRECTOR
R	ODD HUNTLAW DIRECTOR
Т	DILEILLIO FINANCE DIRECTOR
R	OLPH HILLIARDBUILDING COMMISSIONER
С	ERON CAMPBELL
С	/IN D. WILLIAMSPOLICE CHIEF
M	C NEUMANNFIRE CHIEF
J	TIN HASELTON

9 womin

5-28-25

PETER J. FORMICA

P.E. No. 58646

DATE

GENERAL NOTES

- MATERIALS OF WORK FOR "AS DIRECTED" ITEMS SHALL NOT BE ORDERED FOR THE DELIVERY TO THE PROJECT OR WORK PERFORMED UNTIL AUTHORIZED BY THE ENGINEER
- 2. MANHOLES, CATCH BASINS, MONUMENT BOXES, WATER VALVE BOXES AND OTHER CASTINGS SHALL BE RAISED OR LOWERED FLUSH WITH THE FINISHED SURROUNDING SURFACE. ANY METER OR VALVE BOX ENCOUNTERED WITHIN THE WORK SITE SHALL BE EXPOSED AND ADJUSTED TO GRADE PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID.
- BEFORE THE CITY WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTY RETAINER. THE CONTRACTOR SHALL FURNISH THE CITY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTOR HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.
- 4. THE CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION VIDEO TAPE SURVEY OF THE ENTIRE PROJECT AREA. ANY DAMAGE DEEMED TO HAVE BEEN CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE. ALL COSTS ASSOCIATED FOR THIS WORK, INCLUDING THE VIDEO TAPE SURVEY, SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS IN THE BID PROPOSAL UNLESS THERE IS A PRECONSTRUCTION VIDEO DOCUMENTATION BID ITEM INCLUDED IN THE PROJECT.

TRENCH EXCAVATION AND BACKFILL

- ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.
- BACKFILL FOR ALL UNDERGROUND UTILITIES INSTALLED UNDER PAVEMENT (INCLUDING DRIVEWAYS), OR WITHIN A 1:1 ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT, SHALL BE "COMPACTED GRANULAR BACKFILL" AS DESCRIBED IN SPECIFICATION SECTION 312323.14 AND IN ACCORDANCE WITH THE PLANS. BACKFILL IN OTHER AREAS SHALL BE AS DESCRIBED IN SPECIFICATION SECTION 312323.13 - "COMPACTED BACKFILL" OR SECTION 312323.14 - "COMPACTED GRANULAR BACKFILL". THE OWNER AND THE ENGINEER DO NOT GUARANTEE NOR SUGGEST THE INSITU MATERIAL TO BE EXCAVATED WILL BE SUITABLE OR IN ITS PRESENT STATE WILL CONSIST OF THE PROPER MOISTURE CONTENT TO ACHIEVE THE COMPACTION REQUIREMENTS. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE BACKFILL MATERIAL HE WILL USE. UPON REQUEST, THE OWNER WILL PROVIDE ACCESS TO THE SITE FOR THE CONTRACTOR TO CONDUCT SUCH INVESTIGATION AND TESTS DEEMED NECESSARY TO MAKE HIS DETERMINATION. NO EXTRA PAYMENT WILL BE MADE TO DISPOSE OF UNSUITABLE MATERIAL OR FURNISH AND PLACE SUITABLE MATERIAL MEETING THE REQUIREMENTS OF SECTION 312323.13 "COMPACTED BACKFILL" OR SECTION 312323.14 "COMPACTED GRANULAR BACKFILL".
- SLAG PRODUCTS WILL NOT BE PERMITTED FOR BEDDING OR BACKFILL MATERIAL.
- 4. ALL UTILITY LINES CROSSING TRENCHES, i.e. STORM LATERALS, SANITARY SEWERS, SANITARY LATERALS, WATER MAINS, WATER SERVICE CONNECTIONS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND OBT CONDUITS, CABLE T.V. LINES SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK, EVEN IF NOT SHOWN ON THE PLANS.
- 5. ALL EXISTING SEWER CASTINGS REMOVED ON THIS PROJECT SHALL REMAIN THE PROPERTY OF THE CITY OF RICHMOND HEIGHTS AND SHALL BE DELIVERED BY THE CONTRACTOR TO A SITE DESIGNATED BY THE CITY.
- 6. IF APPLICABLE, ALL EXISTING TEST TEE MARKINGS ENCOUNTERED ON THE SIDEWALK AND/OR CURB DURING CONSTRUCTION SHALL BE REFERENCED AND RESTORED, MARKED WITH A SAW CUT SYMBOL ON THE SIDEWALK. (+) FOR STORM TEE AND (Δ) FOR SANITARY TEE.
- BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 9" IN DEPTH. BACKFILL MATERIAL SHALL BE PLACED WITH 2% OF THE OPTIMUM MOISTURE. THE ENGINEER MAY ORDER THE REMOVAL, REFILLING, RECOMPACTION AND RETESTING OF ALL BACKFILL NOT MEETING THE REQUIREMENTS OF THE CONTRACT.
- BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED USING MACHINE MOUNTED COMPACTION EQUIPMENT IN LAYERS SUFFICIENT TO MEET THE

COMPACTION REQUIREMENT ODOT 203.

- 9. NO BACKFILLING OF ANY TRENCHES OR EXCAVATIONS WILL BE PERMITTED WITHOUT TAMPING EQUIPMENT BEING USED. FLOODING, JETTING OR PUDDLING OF BACKFILL WILL NOT BE PERMITTED.
- 10. TRENCH EXCAVATION SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF REPLACEMENT SECTION WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

PROJECT PHASING

IT IS THE DESIRE OF THE CITY OF RICHMOND HEIGHTS TO HAVE THE CONTRACT WORK PROCEED IN AN ORDERLY AND NEAT MANNER IN ORDER TO KEEP THE DISRUPTION TO THE BUSINESSES AND RESIDENTS TO A MINIMUM. THUSLY THE CONTRACTOR IS TO PREPARE AND IMPLEMENT A WORK PHASING PLAN, APPROVED BY THE DIRECTOR OF PUBLIC SERVICE AND THE ENGINEER, INCLUSIVE OF THE FOLLOWING REQUIREMENTS:

- 1. ALL WORK SHALL BE 1/2 WIDTH, EXCEPT FOR ASPHALT MILLING AND RESURFACING OPERATIONS.
- 2. NO WORK SHALL BE DONE ON THE OPPOSITE SIDE OF THE STREET UNTIL ALL NEW PAVEMENT (CONCRETE OR ASPHALT BASE AND INTERMEDIATE COURSES), DRIVE APRONS, SIDEWALKS AND ROUGH GRADE LANDSCAPING ARE IN PLACE ON THE SIDE BEING CONSTRUCTED.
- 3. THE CITY MAY, ACCEPT A PHASING PLAN CONSISTING OF PERFORMING 1/2 WIDTH IMPROVEMENTS ALONG THE SECTIONS/PHASES OF THE PROJECT LENGTH. THE CONTRACTORS PLAN SHALL SUBSTANTIALLY COMPLETE EACH PHASE ON BOTH SIDES OF THE RIGHT-OF-WAY BEFORE MOVING ON THE THE NEXT PHASE.
- DRIVE APRON ACCESS IS TO BE MAINTAINED AT ALL TIMES EXCEPTING DURING CONCRETE PLACEMENT AND CURING.

ROADWAY EXCAVATION AND PAVEMENT

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES PROOF ROLL TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF PAVEMENT. WORK WILL NOT BEGIN UNTIL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER.
- 2. PART WIDTH CONSTRUCTION AS DESCRIBED IN PROJECT PHASING GENERAL NOTE SHALL BE USED FOR PAVING OPERATIONS. PAVING OPERATIONS SHALL NOT BEGIN ON THE OPPOSITE LANE(S) UNTIL ROADWAY AND DRIVE APRONS ARE INSTALLED AND OPEN TO TRAFFIC ON THE STARTING SIDE.
- 3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE BARRICADE DEVICES TO PREVENT VEHICULAR TRAFFIC ON NEW CONCRETE PAVEMENT AND APRONS UNTIL THE END OF THE CURE PERIOD OR THE SPECIMEN TEST BEAMS HAVE ATTAINED A MODULUS OF RUPTURE OF 400 PSI FOR M.S. CONCRETE.
- 4. THE EXCAVATION, EMBANKMENT AND COMPACTION OF THE NEW ROADWAY SUBGRADES IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 203. A MINIMUM OF TWO (2) PROOF ROLLINGS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER BEFORE PAVING. THE FIRST PROOF ROLLING SHALL BE PERFORMED AFTER THE INSTALLATION OF ALL UNDERGROUND IMPROVEMENTS AND AFTER FINE GRADING JUST PRIOR TO PAVING. THE PROOF ROLLINGS SHALL BE COMPLETED AS FOLLOWS: EXCAVATION OR EMBANKMENT TO FINISHED SUBGRADE. EMBANKMENTS ARE COMPACTED AND TESTED FOR COMPACTION IN 6" LIFTS PER ODOT 203. THE SUBGRADE IS COMPACTED AND TESTED. THE SUBGRADE FOR THE NEW ROAD IS THEN PROOF ROLLED. AREAS EXHIBITING UNACCEPTABLE MOVEMENT UNDER PROOF ROLLING ARE UNDERCUT TO A DEPTH DIRECTED BY THE ENGINEER AND BACKFILLED WITH MATERIALS SPECIFIED IN THE PLANS. THE SUBGRADE IS RE-PROOF ROLLED TO VERIFY THE UTILITY OF THE UNDERCUT. UPON PASSING THE PROOF ROLL THE AREA IS APPROVED FOR THE INSTALLATION OF THE BASE MATERIAL. THE AGGREGATE BASE MATERIAL IS PLACED PER ODOT SPECIFICATIONS, COMPACTED, TESTED AND PROOF ROLLED. UPON PASSING THE PROOF ROLL THE SPECIFIED TOP COURSES OF RIGID PAVEMENT MAY BE INSTALLED MOISTURE CONTENT OF THE SUBGRADE AT THE TIME OF PROOF ROLLING SHALL CONFORM TO SECTION 203.11 OF THE ODOT SPECIFICATIONS. THE MINIMUM EQUIPMENT SHALL CONSIST OF A SINGLE UNIT. TANDEM AXLE DUMP TRUCK CAPABLE OF BEING LOADED TO 30.000 POUND AXLE LOAD. 60.000 POUND GVW. TIRE PRESSURE SHALL BE MAINTAINED AT 90 PSI OR AS SPECIFIED UNDER SECTION 203.14 OF ODOT

SPECIFICATIONS. ANY AREA PERMITTING TIRES TO LEAVE A GROOVE OF ONE (1) INCH OR MORE SHALL BE UNACCEPTABLE FOR PAVING. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ZERO (0) TO ONE-HALF (1/2) INCH DEEP SHALL BE ACCEPTABLE. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ONE-HALF (1/2) INCH TO ONE (1) INCH DEEP SHALL BE AT THE ENGINEER'S DISCRETION.

- 5. JOINT AND CRACK SEALER FOR PAVEMENT SHALL MEET THE REQUIREMENTS OF ODOT ITEM 705.04 AND ASTM D 3405. A DOUBLE BOILER SHOULD BE USED FOR HEATING THE MATERIAL
- 6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT SECURITY MEASURES AND/OR PERSONNEL TO PROTECT ALL NEW CONCRETE WORK FROM VANDALISM AT NO ADDITIONAL COST TO THE CITY. ANY VANDALIZED CONCRETE SHALL BE REPLACED IN FULL AT THE CONTRACTOR'S EXPENSE.

EXISTING UTILITIES

- 1. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE CITY OF RICHMOND HEIGHTS AND THE CLEVELAND WATER DEPARTMENT DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.
- 2. BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE", AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. THE FOLLOWING REFERENCE NUMBERS HAVE BEEN ASSIGNED TO THIS PROJECT BY THE OHIO UTILITIES PROTECTION SERVICE. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE CITY OF RICHMOND HEIGHTS. TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE CITY OF RICHMOND HEIGHTS, INCLUDING ANY INSPECTION FEES OR MAINTENANCE
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS LISTED BELOW AND THE UTILITY PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE AND OUTLINED IN PROJECT SPECIFICATIONS. THE UTILITY **OWNERSHIPS ARE AS FOLLOWS:**

AT&T **ATTN: JAMES JANIS** 13630 LORAIN AVE., 2ND FLOOR **CLEVELAND OHIO 44111** 216-534-7285 Pj8191@att.com

CLEVELAND WATER

1201 LAKESIDE AVE

ATTN: FRED ROBERTS

CLEVELAND OHIO 44114

216-664-2444 ext 75590

ATTN: WILLIAM SNYDER 320 SPRINGSIDE DR. SUITE 320 AKRON OHIO 44333 330-664-2409 relocation@dominionenergy.com

ENBRIDGE GAS OHIO

THE ILLUMINATING COMPANY P.O. BOX 5000 CLEVELAND, OHIO 44101

PHONE: (216) 622-9800

CITY OF RICHMOND HEIGHTS 457 RICHMOND ROAD RICHMOND HEIGHTS, OHIO 44143 PHONE: (216) 731-7014

ATTN: ROB STOERKEL

CLEVELAND OHIO 44115

3900 EUCLID AVE

216-881-8247

NORTHEAST OHIO REGIONAL

OHIO UTILITY PROTECTION SERVICE 12467 MAHONING AVENUE NORTH JACKSON, OHIO 44451 PHONE: (800) 362-2746

fred roberts@clevelandwater.com

- 4. WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE. THE COST AND COORDINATION FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING POWER OR TELEPHONE POLES SHALL NOT BE THE RESPONSIBILITY OF THE CITY OF RICHMOND HEIGHTS. DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.
- 5. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AFFECTED BY THE PROPOSED CONSTRUCTION.

SERVICE CONNECTIONS

- 1. ALL ACTIVE DRAINAGE PIPES ENCOUNTERED SHALL BE RECONNECTED TO EXISTING FACILITIES OR CONNECTED TO THE NEW FACILITIES
- 2. ALL EXISTING UTILITY SERVICE CONNECTIONS (SANITARY, STORM, WATER, GAS, ELECTRIC, TELEPHONE, ETC.) WHICH ARE DAMAGED DURING THE INSTALLATION OF PIPE SHALL BE REPAIRED WITH LIKE MATERIALS OR REPLACED, AS REQUIRED. THE COST OF UTILITY SERVICE CONNECTION REPAIR/REPLACEMENT SHALL BE INCLUDED IN THE UNIT PRICES FOR ALL ITEMS IN THE PROPOSAL.
- 3. ALL UTILITY LINES CROSSING THE NEW TRENCH SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS; OR REMOVED, REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. IF ANY OF THESE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED IN-KIND.
- 4. THE CONTRACTOR SHALL BE REQUIRED TO BYPASS AND MAINTAIN THE FLOW TO/FROM ALL HOUSE UTILITY CONNECTIONS DURING CONSTRUCTION.
- 5. THE CONTRACTOR SHALL EXPECT ONE UNDERGROUND SEWER, GAS AND WATER CONNECTION FOR EACH LOT (INCLUDING VACANT LOTS) ON BOTH SIDES OF THE STREET FOR THE ENTIRE PROJECT LENGTH.
- 6. THE COST OF UTILITY RELOCATION, REPLACEMENT, AND/OR SUPPORT SHALL BE INCLUDED IN THE COST PER LINEAL FOOT OF ASSOCIATED SEWER / WATER REPLACEMENT.

GRASS RESTORATION

- 1. PRIOR TO START OF CONSTRUCTION THE CONTRACTOR SHALL INVENTORY TREELAWNS FOR EXISTING ORNAMENTAL LANDSCAPE FEATURES INCLUDING LAWN SPRINKLER SYSTEMS AND IRON PINS. ANY LANDSCAPE FEATURE DISTURBED OR DAMAGED BY THE CONTRACTOR'S ACTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION. COST OF INVENTORY AND RESTORATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR LAWN RESTORATION.
- 2. RESTORATION OF TREELAWNS AND GRASS AREAS IN EASEMENTS SHALL BE PERFORMED BY A LANDSCAPE CONTRACTOR TO BE APPROVED BY THE CITY ENGINEER AND SERVICE DIRECTOR. THE LANDSCAPE CONTRACTOR MUST BE EXPERIENCED IN COMMERCIAL INSTALLATIONS AND PROVIDE REFERENCES AND OTHER DETAILED INFORMATION TO ENABLE THE OWNER TO JUDGE HIS EXPERIENCE AND CAPABILITY TO PERFORM THE WORK. GRASS AREAS TO BE RESTORED SHALL BE SEEDED UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS. THE SEED SHALL BE PLACED ON A FOUR (4) INCH BED OF COMPACTED TOPSOIL THAT HAS BEEN RAKED AND BROUGHT TO AN EVEN SURFACE. TOPSOIL SHALL BE SHREDDED AND BE FREE OF ROCKS, ROOTS AND WEEDS. THE CONTRACTOR SHALL PROVIDE TOPSOIL SAMPLES AND SOURCES OF SUPPLY TO THE ENGINEER FOR APPROVAL PRIOR TO DELIVERY OF THE MATERIAL TO THE JOB SITE.

SEWER INSTALLATION

- 1. ALL SANITARY SEWER 21" AND UNDER AND ALL STORM SEWER 18" AND UNDER SHALL BE PVC, SDR 26 RESILIENT AND FLEXIBLE (PREMIUM) JOINTS UNLESS OTHERWISE SHOWN ON THE PLANS. ALL STORM SEWER 21" AND GREATER SHALL BE ASTM F2281 CORRUGATED SMOOTH INTERIOR POLYPROPYLENE (PP) PIPE WITH ASTM 3212 BELL AND SPIGOT JOINTS (WT) UNLESS OTHERWISE SHOWN ON THE PLAN.
- 2. ALL CONNECTIONS MADE TO EXISTING STORM SEWERS SHALL BE MADE WITH MISSION COUPLINGS OR APPROVED EQUAL.
- 3. ALL SEWER REPAIRS AND/OR SECTIONS OF SEWER REPLACEMENT SHALL BE VISUALLY INSPECTED BY MEANS OF TELEVISING AND RECORDING ON DVD FORMAT VIDEOTAPE ALONG WITH AUDIO COMMENTARY. THE TELEVISING AND VIDEOTAPE RECORDING SHALL BE PERFORMED ONCE AFTER SEWER CONSTRUCTION IS COMPLETE. TELEVISING SHALL BE AS PER SPECIFICATION 330130.11. ANY DEFECT IN MATERIAL OR WORKMANSHIP REVEALED BY THE VISUAL-AID INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE CITY AND TO THE FULL SATISFACTION OF THE CITY AND ENGINEER BEFORE ACCEPTANCE OF THE WORK AND RELEASE OF FINAL ESTIMATE AND PAYMENT THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TOTAL COST OF CLEANING ALL SEWERS PRIOR TO VISUAL INSPECTION. COST OF TELEVISING AND VIDEOTAPING OPERATION SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS OF THE PROPOSAL



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NO REVISION DATE **CITY OF RICHMOND HEIGHTS**

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT **IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUED FOR: ISSUE DATE: 5/21/2025 AS SHOWN SCALE: **DESIGNED BY** PJF DRAWN BY: TJM CHECKED BY:

GENERAL NOTES 1

PROJE	CT NO.	
32052		
DISCI	PLINE	
CIV	/IL	
SHEET NAME		
GN1		
SHEET	OF	

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PROPERTY PINS AND MONUMENTS

1. THE SURVEY CONTROL PLAN SHOWS ALL EXISTING MONUMENTS AND PROPERTY CORNERS WITHIN THE CONSTRUCTION LIMITS. THE INFORMATION SHOWN ON THE PLAN HAS BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE CITY OF RICHMOND HEIGHTS DOES NOT GUARANTEE THEIR COMPLETENESS. THE CONTRACTOR SHALL PROTECT ALL PINS AND MONUMENTS DURING CONSTRUCTION. IF PINS AND MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL HAVE THEM REPLACED BY THE REGISTERED SURVEYOR AT NO ADDITIONAL COST TO THE CITY.

EROSION AND DUST CONTROL

- SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY HYDRO SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISH GRADING IN ACCORDANCE WITH ODOT ITEM 659 OR AS DIRECTED BY THE ENGINEER.
- 2. THE CONTRACTOR SHALL BEGIN THE RESTORATION PROCESS AS SOON AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZING EACH DISTURBED AREA WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS.
- 3. THE CONTRACTOR SHALL REMOVE DAILY ALL MUD, SOIL AND DEBRIS THAT MAY BE TRACKED ONTO EXISTING STREETS OR DRIVES BY HIS EQUIPMENT OR THAT OF SUBCONTRACTORS OR SUPPLIERS.
- 4. ALL MATERIALS TO BE DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOOD PLAIN OR OTHER ENVIRONMENTALLY SENSITIVE
- EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED.
- 6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY WHEN NEEDED OR ORDERED BY THE OWNER WATER OR CALCIUM CHLORIDE PER ODOT 616 FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM HIS CONSTRUCTION ACTIVITIES. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL. THE COST OF DUST CONTROL SHALL BE INCLUDED IN THE UNIT BID PRICES FOR ALL ITEMS OF THE PROPOSAL.
- OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHALL MINIMIZE SEDIMENT LADEN WATER ENTERING ACTIVE STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS TO A SEDIMENT POND. INLET PROTECTION IS MANDATORY WHERE SEDIMENT SETTLING PONDS WILL NOT BE IMPLEMENTED.

EXCESS EXCAVATION

ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A LOCATION TO BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE CITY IF THE MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY

AIR / NOISE CONTROL

1. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO WEEKDAY DAYTIME HOURS, UNLESS APPROVED IN ADVANCE BY THE CITY.

MAINTAINING TRAFFIC

1. SEE MAINTENANCE OF TRAFFIC PLAN.

TRENCH EXCAVATION

TRENCH EXCAVATION SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF REPLACEMENT SECTION WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

1. THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY: OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. ALL EQUIPMENT AND STORED MATERIALS SHALL NOT CAUSE SIGNIFICANT SIGHT DISTANCE HAZARDS TO THE TRAVELING PUBLIC. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

SUSPENSION OF WORK

REVISION

1. IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE MANUAL, THE ENGINEER MAY SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS. NO COMPENSATION WILL BE PAID FOR SUSPENSION OF WORK.

DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT **IMPROVEMENTS**

DESIGNED BY PJF DRAWN BY: TJM CHECKED BY:

SCALE:

ISSUED FOR:

ISSUE DATE:

5/21/2025

AS SHOWN

GENERAL NOTES 2

PROJECT NO. 32052 DISCIPLINE CIVIL SHEET NAME GN2 SHEET 33

PETER J. FORMICA 58646

verdantas

CUYAHOGA COUNTY, OHIO

REFERENCE STANDARDS

- 1. ASTM A276- STAINLESS STEEL BARS AND SHAPES
- 2. ASTM A193/A194- ALLOY-STEEL AND STAINLESS-STEEL BOLTING FOR HIGH TEMPERATURE OR HIGH-PRESSURE SERVICE AND OTHER SPECIAL PURPOSE APPLICATIONS
- 3. ASTM A536- DUCTILE IRON CASTINGS
- 4. ASTM A1097- STEEL CASING PIPE, CARBON, ELECTRIC-FUSION (ARC)-WELDED (NPS 10 AND LARGER)
- 5. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
- 6. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC
- 7. ANSI/AWWA C111- RUBBER-GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS
- 8. ANSI/AWWA C151-DUCTILE-IRON PIPE, CENTRIFUGALLY CAST
- 9. ANSI/AWWA C153- DUCTILE IRON COMPACT FITTINGS
- 10. ANSI/AWWA C110- DUCTILE IRON FLANGED FITTINGS
- 11. AWWA C219- BOLTED SLEEVE-TYPE COUPLINGS FOR PLAIN-END PIPE
- 12. AWWA C509- RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
- 13. AWWA C515- REDUCED-WALL, RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
- 14. AWWA C900- POLYVINYL CHLORIDE PVC PRESSURE PIPE AND FABRICATED FITTINGS
- 15. AWWA C909- MOLECULARLY ORIENTED POLYVINYL CHLORIDE
- 16. ODOT 499- CONCRETE

DUCTILE IRON PIPE

1. ALL PIPE SHALL BE AWWA C151 DUCTILE IRON, MINIMUM CLASS 52, WITH A CEMENT MORTAR LINING, HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET. MAINS 36" AND LARGER SHALL BE MINIMUM PRESSURE CLASS 350.

PVC PIPE

- 1. AWWA C900 CLASS 235 PSI (DR18) *OR* AWWA C909 CLASS 235 PSI (DR18)
- 2. INSIDE DIAMETER: NO LARGER THAN 12", NO SMALLER THAN 4".

GATE VALVES

- 1. AWWA C509 OR C515 APPROVED MODEL RESILIENT SEATED GATE VALVES
- 2. VALVE OPERATING NUTS: TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM)
 AND 2" DEEP
- 3. MIDDLE RING AND FOLLOWER GLANDS TO BE DUCTILE IRON ASTM A536

AIR RELIEF VALVES

- 1. AIR RELIEF VALVE COMPONENT PARTS SHALL CONFORM TO AWWA C800 AND ASTM B584 FOR MATERIALS THAT COME INTO CONTACT WITH POTABLE WATER.
- 2. VALVE INLET AND OUTLET SIZE SHALL BE 2". INSTALL **ONLY** CLEVELAND WATER-APPROVED AIR RELIEF VALVE PRODUCTS.

HYDRANTS

- 1. INSTALL ONLY CLEVELAND WATER-APPROVED HYDRANT MODELS .
- 2. HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE, INCLUDING STORZ IF REQUESTED BY THE LOCAL MUNICIPALITY.
- 3. INSTALL ALL HYDRANTS WITH APPROVED PVC PIPE (ITEM 2) AND AWWA C509 6" RW GATE VALVES .
- 4. HYDRANT CONNECTIONS ARE TO BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS WITH ROD AND

- CLAMPS AS DIRECTED BY CLEVELAND WATER.
- 5. HYDRANT BRANCHES TO BE FULLY RESTRAINED. IF BRANCH IS SHORTENED, USE ONLY 1 SLEEVE OR COUPLING WITH NO NEW PIPE REQUIRED.
- 6. MIDDLE RING AND FOLLOWER GLANDS TO BE EITHER STEEL OR DUCTILE IRON ASTM A536.
- 7. FLUSHING HYDRANTS SHALL CONSIST OF 2" FIP VERTICAL INLET, 2" MIP OUTLET AND BE SELF-DRAINING. FLUSHING HYDRANT SHALL BE FULLY OPERABLE AND SERVICEABLE FROM ABOVE GROUND. EQUAL TO KUPERFERLE TRUFLO MODEL NO. TF500.

COMPRESSION COUPLINGS - VALVES AND HYDRANTS

- 1. CLASS 250 AWWA C219 GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END PIPE
- 2. MINIMUM WORKING PRESSURE: 250 PSI
- 3. EQUAL TO DRESSER STYLE NO. 38, 138, OR 162 (TRANSITION TYPE) OR ROMAC 501/ SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.
- 4. EACH COUPLING TO CONSIST OF 1 DUCTILE IRON MIDDLE RING WITHOUT STOPS (ASTM-A536), 2 DUCTILE IRON FOLLOWER GLANDS (ASTM A536), 2 RUBBER COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS, AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS OF ASTM A276/A193/194 TYPE 304 EXTRA HEAVY HEX TO PROPERLY COMPRESS THE GASKETS.

FITTINGS/JOINTS

- 1. ALL FITTINGS/JOINTS TO BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED, OR FUSION BONDED EPOXY COATED (UNLESS OTHERWISE CALLED FOR ON PLANS).
- 2. ALL FITTINGS TO BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C110/A21.10 AND ANSI/AWWA C111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C153/A21.53.
- 3. MUST HAVE APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.
- 4. ALL FITTINGS ARE TO HAVE BELL ENDS.

GASKETS AND LUBRICANTS

- 1. ELASTOMERIC GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477 FOR HIGH-HEAD APPLICATIONS.
- 2. GASKETS AND LUBRICANTS INTENDED FOR USE WITH POTABLE WATER SHALL BE CERTIFIED BY AN ACCREDITED TESTING AGENCY FOR COMPLIANCE WITH NSF/ANSI 61.

ANODE PROTECTION

- 1. MAGNESIUM ALLOY ANODES SHALL MEET ASTM B843 AND ASTM G97.
- 2. THERMITE WELDS ARE TO BE COATED WITH A PREFABRICATED ONE-PIECE PLASTIC CAP.
- 3. COPPER SLEEVES ARE REQUIRED FOR THERMITE WELD WIRE CONNECTIONS USING #10 AWG WIRE OR SMALLER.

WATER MAIN TRENCH

- 1. BEDDING, INITIAL, AND PREMIUM BACKFILL MATERIAL: # 57 OR #67 COARSE LIMESTONE AGGREGATE COMPLYING WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 703.11; WRITTEN APPROVAL REQUIRED BY CWD FOR SAND BEDDING FOR DUCTILE IRON PIPE.
- 2. SUITABLE BACKFILL: EXCAVATED MATERIAL FREE OF ROCK LARGER THAN 1.5", FROZEN MATERIALS, ORGANIC MATERIAL, AND DEBRIS.
- 3. TYPE 2 CONTROLLED LOW-STRENGTH MORTAR (CLSM) SHALL CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 613.03. CLSM MAY BE USED AS DIRECTED BY CLEVELAND WATER.

CASING

- 1. CASING SPACER: 8" WIDE STAINLESS STEEL WITH EPDM LINER AND REINFORCED PLASTIC RUNNERS
- 2. CASING PIPE: ASTM A1097 COATED OR UNCOATED STEEL WITH A MIN. 35.000 PSI SMYS.
- 3. FOR 8" WATER MAIN USE 16" CASING
- 4. FOR 12" WATER MAIN USE 20" CASING

TRACER WIRE

- 1. MUST BE INSTALLED WITH A CONTINUOUS RUN OF 12-GAUGE COPPER-CLAD STEEL WIRE.
- 2. BREAKING LOAD: MIN. 450 POUNDS
- 3. MIN. 30 MILS OF BLUE HDPE INSULATION CERTIFIED FOR DIRECT BURIAL
- 4. GROUND ROD: MIN 1.5 LB MAGNESIUM DRIVE-IN ANODE ROD WITH CONNECTED GROUND WIRE.
- 5. CONNECTORS: WATERPROOF, CONTAIN DIELECTRIC SILICONE AND RATED FOR DIRECT BURIAL.
- 6. NON-LOCKING FRICTION FIT, TWIST-ON, AND TAPED CONNECTIONS ARE NOT PERMITTED.

SERVICE CONNECTIONS

- 1. ALL SERVICE CONNECTIONS SHALL BE A MINIMUM OF 1"
- 2. FOR CONNECTIONS 2" AND SMALLER: USE TYPE K COPPER
- 3. FOR CONNECTIONS 3" AND LARGER: USE CLASS 52 DUCTILE IRON WRAPPED IN V-BIO® ENHANCED POLYETHYLENE ENCASEMENT.

BOLTS AND NUTS

1. ALL BOLTS AND NUTS ON ALL RETAINED MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE 1 COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF V-BIO® POLYETHYLENE WRAP OR APPROVED EQUAL WRAPPING IN ACCORDANCE WITH ANSI/AWWA C105/A21.5 MODIFIED METHOD "A".

CONCRETE

- 1. FOR BULKHEAD: CLASS QC 1 OR 4,000 PSI HIGH STRENGTH BAGGED CONCRETE MIX
- 2. FOR THRUST BLOCK: CLASS QC 1 WITH 4,000 PSI 28 DAY COMPRESSIVE STRENGTH (ODOT 499)

FROST PROOFING

1. USE PRE-FORMED CELLULAR CONCRETE FOAM "GILSULATE 500 XR" AS MANUFACTURED BY GILSULATE INTERNATIONAL, INC. OR APPROVED EQUAL.

LOWERING

- 1. PIPE USED SHALL BE 8" (MIN.) AND 12" (MAX.) IN DIAMETER.
- 2. MAXIMUM BEND ALLOWED TO BE 22.5 DEGREES.

<u>IEE</u>

- 1. PIPE TO BE USED ON TEE: 8" (MIN.) AND 12" (MAX)
- 2. AWWA C110 OR C153 DI CLASS 350 MJ FITTINGS WITH FBE COATING, CEMENT LINING, POLYETHYLENE ENCASEMENT
- 3. AWWA C219 PIPE COUPLINGS- ROMAC 501 OR SMITH BLAIR 441 DI ONLY
- 4. AWWA C509 DUCTILE IRON RESILIENT WEDGE GATE VALVE (MJ X MJ)
- 5. MECHANICAL JOINT RETAINER GLAND FOR PVC PIPE-TYLER UNION OR APPROVED EQUAL

CITY OF CLEVELAND		EVISION	S	MATERIAL CRITERIA FOR WATER MAIN
DEPARTMENT OF PUBLIC UTILITIES	NO.	DATE	BY	INSTALLATION AND REPLACEMENT
DIVISION OF WATER (CWD)				DETAIL NO.: GEN-000A
,				SCALE: N.T.S. DATE: 7/12/2024



verdantas

O REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

CLEVELAND WATER NOTES 1

DISCIPLINE
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DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE *UP-TO-DATE* VERSION MOST CAN BE FOUND WWW.CLEVELANDWATER.COM/CONSTRUCTION/ OR AS PROVIDED BY CLEVELAND WATER STAFF.

REFERENCE STANDARDS

- 1. AWWA C600 INSTALLATION OF DUCTILE-IRON MAINS AND THEIR **APPURTENANCES**
- 1. AWWA C605- UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS
- 2. AWWA C651- DISINFECTING WATER MAINS
- 3. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION HYDROSTATIC PRESSURE TESTING OF THERMOPLASTIC PRESSURE PIPING
- 4. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC PIPE

OVERALL PIPE PREPARATION AND EXECUTION

- 1. ALL DUCTILE IRON PIPE SHALL BE INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600, AWWA MANUAL M41, DIPRA'S "INSTALLATION GUIDE FOR DUCTILE IRON PIPE" (ISBN 0-9642194-0-9) AND "DIRECT TAPPING OF DUCTILE IRON PIPING ENCASED IN POLYETHYLENE", AS WELL AS THE MANUFACTURER'S INSTRUCTIONS.
- 2. ALL DUCTILE IRON BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO® ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A" AND ASTM A674.
- 3. PIPE AND ACCESSORIES SHOULD BE INSPECTED FOR DEFECTS AND CLEANLINESS BEFORE THEY ARE LOWERED INTO THE TRENCH. ANY DEFECTIVE OR DAMAGED MATERIAL SHOULD BE REPAIRED OR REPLACED AND ALL FOREIGN MATTER OR DIRT REMOVED FROM THE INTERIOR OF THE PIPE AND ACCESSORIES BEFORE LOWERING INTO TRENCH.
- 4. ALL PVC PIPE SHALL BE INSTALLED PER AWWA, C605, ASTM D2774, ASTM F1668, AND MANUFACTURER'S INSTRUCTIONS.
- 5. ONCE DELIVERED, ALL PVC PIPE MUST BE PROTECTED FROM DIRECT SUN EXPOSURE UNTIL THE PIPE IS INSTALLED AND BACKFILLED.
- 6. ANY PIPE JOINT THAT HAS BEEN OVER-INSERTED SHALL HAVE BOTH THE BELL PIPE AND THE SPIGOT PIPE REMOVED AND DISCARDED.
- 7. IN NO CASE SHALL MAINS BE LAID WITH LESS THAN 3'-6" OF COVER IN UNPAVED AREAS AND 3'-0" TO BOTTOM OF SLAB IN PAVED AREAS. MAINS SHALL BE LAID AT A BURY DEPTH OF 6 FT MIN. UNLESS WRITTEN PERMISSION IS PROVIDED BY CLEVELAND WATER.
- 8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND DIVISION OF WATER STANDARDS.
- 9. TWO FEET ABOVE THE MAIN, DETECTABLE TRACER TAPE NOTING THE PRESENCE OF A WATER MAIN SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE MAIN, INCLUDING HYDRANT LATERALS AND OPEN CUT INSTALLED SERVICE CONNECTIONS.
- 10. ALL MATERIALS USED SHALL ABIDE BY REQUIREMENTS LISTED ON MATERIAL SPECIFICATION LIST (GEN-000A).

TRACER WIRE FOR PVC PIPE

PETER J. FORMICA 58646

1. ALL NEW TRACER WIRE INSTALLATIONS SHALL HAVE THEIR FUNCTION

- VERIFIED BY BEING LOCATED USING TYPICAL LOW FREQUENCY (512HZ) LINE TRACING EQUIPMENT. THE LOCATING FIRM SHALL PROVIDE WRITTEN CERTIFICATIONS THAT THE SYSTEM IS COMPLETELY FUNCTIONAL AT TEST COMPLETION.
- 2. MAGNESIUM GROUND ANODE RODS ARE TO BE INSTALLED AT EACH DEAD END PER THE MANUFACTURER'S INSTRUCTIONS.
- 3. TRACER LINES SHALL TERMINATE AT A DEDICATED AT-GRADE ACCESS POINT/TEST STATION IDENTIFIED WITH "WATER" ON THE CAP. AT LEAST 2 FEET OF SLACK WIRE SHALL BE PROVIDED AT EACH TERMINATION POINT.
- 4. LATERAL TRACER LINES ON HYDRANTS, TEES, AND CROSSES ARE NOT TO CUT THE MAIN TRACER WIRE.

- 1. CLEAN PIPE PRIOR TO CONDUCTING HYDROSTATIC PRESSURE TESTING. CLEANING MAY BE COMPLETED VIA FLUSHING OR SWABBING EXCEPT IF DISINFECTION IS CONDUCTED USING THE TABLET METHOD.
- 2. FILL WATER MAIN AT A CONTINUOUS RATE, 1 FT/SEC MAXIMUM. ONCE FULL, FLUSH THE LINE NOT LESS THAN 3 FT/SEC UNLESS DIRECTED BY CLEVELAND WATER THAT CONDITIONS DO NOT PERMIT THE REQUIRED FLOW RATE TO BE ACHIEVED. FLUSHING SHALL CONTINUE UNTIL THE VOLUME OF WATER IN THE NEWLY INSTALLED MAIN HAS TURNED OVER AT LEAST ONE TIME.
- 3. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI.
- DURATION: 2 HOURS (WITH PRESSURE MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE).
- SHOULD THE PRESSURE TEST FAIL, THE CONTRACTOR SHALL IDENTIFY THE SOURCE(S) AND CORRECT THE DEFICIENCY. THE HYDROSTATIC PRESSURE TEST SHALL BE REPEATED FOR THE PRESCRIBED DURATION TO VERIFY THAT THE NEW WATER MAIN MEETS THE TEST CRITERIA. WORK PERFORMED TO IDENTIFY AND CORRECT FAILURE SOURCE(S) AND THEIR REMEDIATION MUST BE COMPLETED TO THE SATISFACTION OF CLEVELAND WATER AT NO ADDITIONAL COST.

DISINFECTION

1. DISINFECTION FOR WATER MAINS SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN THE MOST CURRENT REVISION OF AWWA C651.

SERVICE CONNECTIONS

- 1. SADDLE TAPPING SHALL BE PERFORMED FOR PIPES OF ANY NOMINAL SIZE AND PRESSURE CLASS. TAP SIZE IS LIMITED TO 2-INCHES MAXIMUM.
- 2. TAPPING SLEEVE AND VALVE IS REQUIRED FOR SERVICE CONNECTIONS LARGER THAN 2-INCHES. THRUST RESTRAINT IS REQUIRED.
- 3. SERVICE CLAMPS OF SADDLES SHALL PROVIDE FULL SUPPORT AROUND THE CIRCUMFERENCE OF THE PIPE AND PROVIDE A BEARING AREA OF SUFFICIENT WIDTH ALONG THE AXIS OF THE PIPE TO PREVENT DISTORTION WHEN THE SADDLE IS TIGHTENED. NARROW U-BOLT-TYPE STRAPS AND SADDLES HAVING LUGS ARE PROHIBITED.

PIPE JOINTS

1. PIPE JOINTS SHALL ADHERE TO ANSI/AWWA C110/A21.10, C111/A21.11, C153/A21.53, C900, C905, C907 AND C909 REQUIREMENTS AND PROCEDURES FOR JOINT METHODS AND MATERIALS.



CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES NO. | DATE | BY DIVISION OF WATER (CWD)

GUIDELINES FOR WATER MAIN REVISIONS INSTALLATION AND REPLACEMENT GEN-000B DETAIL NO.: DATE: 5/31/2024 SCALE: N.T.S.

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT **IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUE DATE: SCALE:

CLEVELAND WATER NOTES 2

4. RESTRAINED JOINTS, AS INDICATED ON THE PLANS, SHALL COMPLY WITH

ALL FITTINGS SHALL BE APPROVED DUCTILE IRON CLASS 350, CEMENT

LINED AND FUSION BOND EPOXY COATED CONFORMING TO THE

REQUIREMENTS OF ANSI/AWWA C110/A21.10 OR ANSI/AWWA

USING A "RETAINED" MECHANICAL JOINT. JOINTS SHALL COMPLY WITH

2. ALL FITTINGS AND PIPES CONNECTED TO FITTINGS SHALL BE RESTRAINED

3. ALL FITTINGS MUST HAVE BELL ENDS UNLESS APPROVED BY CLEVELAND

. PROVIDE PROPER SUPPORT FOR VALVES, HYDRANTS, AND FITTINGS SUCH

1. PIPE SPIGOT END, BELL END, COUPLER OR FITTING, AND ELASTOMERIC

GASKET SHALL BE CLEANED IMMEDIATELY BEFORE ASSEMBLY. DO NOT

REMOVE FACTORY INSTALLED GASKETS. APPROVED LUBRICANTS SHALL BE

APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S

C900, AND MANUFACTURER REQUIREMENTS. PIPE SHALL BE MARKED

ASSEMBLY. USE FACTORY-FINISHED PIPE END AS A GUIDE TO DETERMINE

THE ANGLE AND LENGTH OF THE BEVEL. DEBURR AND CLEAN CUT PIPE

AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL PLUG ALL OPEN

PIPE ENDS WITH WATERTIGHT PLUGS AS PER THE "PREVENTATIVE AND

CORRECTIVE MEASURES DURING CONSTRUCTION" SECTION OF THE MOST

CURRENT REVISION OF AWWA C-651 AS TO PREVENT THE INFILTRATION

OR INTRUSION OF ANY FOREIGN OBJECTS OR MATERIALS. DATE STAMPED

DIGITAL PHOTOS SHALL BE PROVIDED FOR EACH WORKDAY

DEMONSTRATING THAT PROPER AWWA C-651 METHODS WERE USED TO

PLUG ALL OPEN WATER MAIN ENDS. EACH PHOTO SHALL CLEARLY

IDENTIFY THE STATION AT WHICH THE PIPE IS PLUGGED BY USE OF A

STATION MARKER PLACED AT THE PLUGGED PIPE END. PHOTOS SHALL BE

SUBMITTED ON A DAILY BASIS UNLESS OTHERWISE DEFINED BY THE

CLEVELAND WATER INSPECTOR OR ENGINEER. ALL PHOTOS TAKEN OVER

THE COURSE OF THE PROJECT SHALL BE SUBMITTED BY THE CONTRACTOR

AS PART OF THE AS-BUILT SUBMITTAL. PHOTOS ARE TO INCLUDE

STATIONING MARKERS. AS-BUILTS SHALL BE DEEMED INCOMPLETE

CLEVELAND WATER INSPECTORS SHALL BE INVITED TO WITNESS TRACER

WIRE VERIFICATION FOR PVC PIPE INSTALLATIONS. THIS VERIFICATION

SHALL BE PERFORMED UPON COMPLETION OF ROUGH GRADING AND

AGAIN PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT. CONTINUITY

TESTING IN LIEU OF ACTUAL LINE TRACING SHALL NOT BE ACCEPTED.

CLEVELAND WATER WILL REQUIRE COMPLETION OF THE FIRST

VERIFICATION PRIOR TO CHLORINATION, WITH CERTIFICATION

SUBMITTED ALONG WITH RED LINE DRAWINGS. CERTIFICATION OF THE

SECOND VERIFICATION SHALL BE PROVIDED WITH AS-BUILT DRAWINGS.

WITHOUT SAID COLLECTION OF DIGITAL PHOTOS.

2. PIPE CUTTING SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C600,

3. CUT ENDS OF PIPE SHALL BE BEVELED TO ENSURE PROPER JOINT

AROUND ITS ENTIRE CIRCUMFERENCE TO ENSURE A SQUARE CUT.

ANSI/AWWA C111/A21.11.

FITTINGS AND APPURTENANCES

ANSI/AWWA C111/A21.11.

THAT THE WEIGHT IS NOT APPLIED TO THE PIPE.

C153/A21.53.

FIELD QUALITY CONTROL

RECOMMENDATIONS.

END PRIOR TO BELL INSERTION.

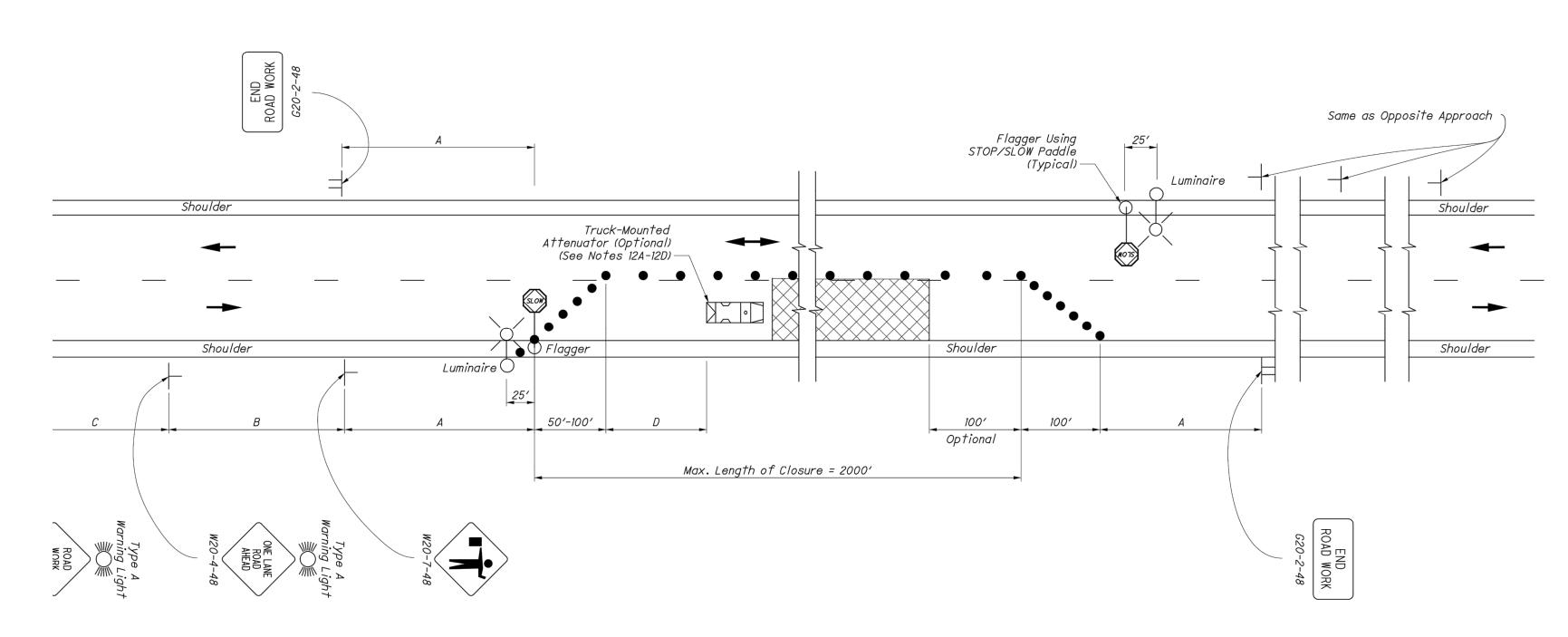
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verdantas

DESIGNED BY DRAWN BY: CHECKED BY:

ISSUED FOR:



FLAGGERS

 Flaggers, one for each direction, shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall be able to communicate with each other at all times.

LENGTH OF CLOSURE

2. Several small work areas close together should be combined into one work zone. However, the closure shall not be more than 2000' long unless approved by the Engineer. The minimum length between closures shall be 2000'. Only one side of the road shall be closed in any one work zone.

SIGN LOCATION AND SPACING

- 3A. The minimum spacing between work zone signs is shown in Table I. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.
- 3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds of 50 mph or greater.
- 3C. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

ADJUSTMENTS FOR SIGHT DISTANCE

4. The location of the flagger station and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

BASIC SIGNING

- 5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.
- 5B. END ROAD WORK (G20-2) signs are only required for lane closures of more than 1 day. It is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.
- 5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any ROAD WORK AHEAD (W20-1) or END ROAD WORK (G20-2) sign which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.

SIGNING DETAILS

- 6A. The Advisory Speed (W13-1P) plaque shall be used when specified in the plan.
- 6B. 36" warning signs may be used when the approach speed limit is 40 mph or less.

FLASHING WARNING LIGHTS

7. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs and on the LANE CLOSED AHEAD (W20-5) signs are required whenever a night lane closure is necessary.

DRUMS / CONES

- 8A. Drum spacing shall be as follows:

 a) Spacing along the closure shall be 40' center-to-center.
 b) Spacing along the approach taper shall be 10' center-
- 8B. Cones may be substituted for drums as follows:
- a) Cones used for daytime traffic control shall have a minimum height of 28".
 b) Cones used for nighttime traffic control shall have a minimum height of 42".
- c) Use of cones at night shall be prohibited along tapers.

 8C. Provisions shall be made to stabilize the cones and
- drums to prevent them from blowing over.
- 8D. A minimum of two drums shall be used to close the paved shoulder.

(RESERVED FOR FUTURE USE)

9A. (intentionally blank)

- AREA ILLUMINATION
- 10A. Adequate area illumination of each flagger station shall be provided at night. Use of portable flood lighting is acceptable. Luminaires shall be located adjacent to each flagger station.
- 10B. To ensure the adequacy of floodlight placement and the elimination of glare, the Contractor and the Engineer shall drive through the worksite each night when the lighting is in place. Light placement and shielding shall be adjusted to the satisfaction of the Engineer.

INTERSECTION / DRIVEWAY ACCESS

- 11. Within the length of closure, provision shall be made to control traffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The Contractor shall:
- a) Place across the closed lane, either three drums (cones) or barricades, and/or
 b) Provide an additional flagger at every public street intersection and major driveway.

Drums (cones) placed across the closed lane shall be located 25' beyond the projected pavement edges of the driveway or cross highway, as shown in Standard Construction Drawings (SCDs MT-97.11 or MT-97.12. For barricades, see SCD MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions.

The method of control shall be subject to the approval of the Engineer.

SHADOW VEHICLE

- 12A. The shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenver workers are not in the work area.
- 12B. The shadow vehicle shall be equipped with a highintensity yellow rotating, flashing, oscillating, or strobe light(s).
- 12C. The vehicle shall be equipped with a truck-mounted attenuator when called for in the plans.
- 12D. Other protective devices may be used in lieu of the shadow vehicle shown when approved by the Engineer.

CHIP SEAL OPERATIONS

- 13. For chip seal operations, additional signing shall be incorporated in the advanced warning area.
- a) The LOOSE GRAVEL (W8-7) and FRESH TAR (W21-2) signs shall
- both be used in advance of the chip seal operation.
 b) Repeat the LOOSE GRAVEL sign with a 35 mph Advisory
- Speed (W13-1) plaque every half mile per CMS 422.09.
 c) The FRESH TAR and the LOOSE GRAVEL signs shall both be used for signing of side roads intersecting the work

TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE		SPEED		
	А	В	С		LIMIT (MPH)
Two-Lane (≤ 40 MPH)	100	100	100		25
Two-Lane (45-50 MPH)	350	350	350		30
Two-Lane (55-60 MPH)	500	500	500		35
777 77 1111 111				l	40
					45

WORK AREA DRUMS/CONES DIRECTION OF TRAVEL SHADOW VEHICLE

30 200 35 250 40 305 45 360 50 425 55 495 60 570

TABLE II

BUFFER

(D) (FT)

MIN.

155

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G. DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET

OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:

ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR

EXPRESSWAY; AND AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER

THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND, AADT OF 50,000

(OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:

THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR OTHER LOCATION AS APPROVED BY THE ENGINEER.

THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS

ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

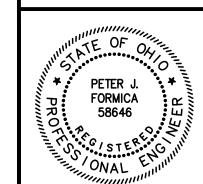
THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE

FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ADDITIONAL TRAFFIC MAINTENANCE NOTES

- 1. ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES FOR LOCAL TRAFFIC AND EMERGENCY VEHICLES. LOCAL ACCESS TO ABUTTING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. ACCESS TO ALL DRIVEWAYS SHALL ALSO BE MAINTAINED AT ALL TIMES.
- 2. PART WIDTH CONSTRUCTION, ONE LANE WIDTH, SHALL BE USED DURING THE PERFORMANCE OF PAVING OPERATIONS.
- SATISFACTORY LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL ABUTTING PROPERTIES WITHIN THE PROJECT. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGMEN, TEMPORARY GUARDRAIL, DETOUR AND CONSTRUCTION SIGNING AND OTHER TRAFFIC CONTROLS SO AS TO AVOID DAMAGE AND/OR INJURY TO AND ENSURE THE SAFETY OF VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION BOTH WITHIN AND OUTSIDE OF THE PROJECT LIMITS.
- MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. DETOUR ROUTES & SIGNAGE SHALL MEET THE APPROVAL OF THE CITY ENGINEER.
- IN ORDER TO MAINTAIN LOCAL AND DRIVEWAY ACCESS, THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC COMPACTED SURFACE, TYPE A OR B IN ACCORDANCE WITH ODOT ITEM 410 LIMESTONE OR GRAVEL ONLY INCLUDING NECESSARY WATER AND CALCIUM CHLORIDE IN ACCORDANCE WITH ODOT ITEM 616 AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE FOR MAINTAINING TRAFFIC INCLUDING PROVIDING TRAFFIC COMPACTED SURFACES, OTHER TEMPORARY ROADWAYS, TRAFFIC CONTROL, AND ALL OTHER SAFEGUARDS. COST FOR MAINTAINING TRAFFIC INCLUDING ALL MATERIALS, LABOR AND EQUIPMENT FOR CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS OF THE PROPOSAL.
- 6. LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.
- 7. NOTICE OF CLOSURE SIGNS, FOR SEVERAL SIDE ROADS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.
- 8. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN ON THE PLANS.
- 9. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.
- 10. IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THEREFROM. NO ALTERNATIVE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE ENGINEER.
- 11. PAYMENT FOR THE MAINTENANCE OF TRAFFIC ITEMS, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DETAILED IN THE PLANS.



verdantas

NO REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	ТЈМ
CHECKED BY:	PJF

MAINTENANCE OF TRAFFIC

PROJECT NO.

32052

DISCIPLINE

CIVIL

SHEET NAME

MOT

SHEET OF

6 33

Z:\PROJECT FILES\QA-RZ\RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\DWG\SHEETS\C_32052 - MAINTENANCE OF TRAFFIC.DWG - MOT - 6/2/2025 4:12:48 PM - TYLER MINTUS

SURVEY ARIAL TARGET **BENCH MARK** CHISLED "X" DRILL HOLE **GPS TARGET** MONUMENT BOX MONUMENT - CONCRETE MONUMENT - RIGHT-OF-WAY NAIL - MAG PIN - IRON PIN - IRON, 1" DIAMETER PIPE - IRON STAKE STONE - CORNER LAND HOOK GROUND

VEGETATION

GEOTECH - SOIL BORING

GEOTECH - TEST WELL

WATER, SWAMP

GEOTECH - MONITORING WELL

TREE - DECIDUOUS

TREE - CONIFEROUS

BUSH / SHRUB

STUMF

UTILITIES - MISCELLANEOUS

MISCELLANEOUS PULL BOX

MISCELLANEOUS CLEAN OUT

MISCELLANEOUS MANHOLE

MISCELLANEOUS MANHOLE - LID ONLY

MISCELLANEOUS PAINT MARK

MISCELLANEOUS VALVE

UTILITIES - TRAFFIC

TRAFFIC CONTROL BOX

TRAFFIC PULL BOX

TRAFFIC MANHOLE

TRAFFIC MANHOLE - ADJUST

TRAFFIC PAINT MARK

TRAFFIC SIGNAL - PEDESTRIAN

TRAFFIC MANHOLE - LID ONLY

UTILITIES - POLE

POLE - BRACE
POLE - CABLE TV

POLE - CABLE TV / LIGHT

POLE - POWER / CABLE TV

POLE - POWER / LIGHT

POLE - POWER / TELEPHONE

POLE - POWER / TELEPHONE / CAB

POLE - POWER / TELEPHONE / CABLE TV

POLE - POWER / TEL / CABLE TV / LIGHT

POLE - POWER / TELEPHONE / LIGHT

POLE - TELEPHONE / CABLE TV

POLE - TELEPHONE / CABLE TV / LIGHT
POLE - TELEPHONE / LIGHT

POLE - ELECTRIC (POWER)

POLE - GENERAL

POLE - GUY

POLE - GUY ANCHOR

POLE - LIGHT

POLE - LIGHT - DECORATIVE

POLE - LIGHT - OVERHEAD

POLE - MISCELLANEOUS

POLE - TELEPHONE

POLE - TRAFFIC

UTILITIES - STORM

CAP, STORM PIPE CATCH BASIN - SQUARE CATCH BASIN - SQUARE - ADJUST CATCH BASIN - SQUARE - SIDE INLET CATCH BASIN - SQUARE - SIDE INLET - ADJ. CATCH BASIN - SQUARE - SOLID LID CATCH BASIN - SQUARE - SOLID LID - ADJ. CATCH BASIN - DOME CATCH BASIN - ROUND CURB INLET - ADJUST CURB INLET - DOUBLE CURB INLET - DOUBLE - ADJUST STORM CLEAN-OUT STORM DRAIN STORM MANHOLE STORM MANHOLE - ADJUST STORM MANHOLE - GRATE STORM MANHOLE - GRATE - ADJUST

STORM MANHOLE -SIDE INLET

STORM MANHOLE - LID ONLY

STORM STRUCTURE NUMBER

STORM PAINT MARK

UTILITIES - SANITARY

SANITARY CAP / PLUG
SANITARY CLEAN-OUT
SANITARY MANHOLE
SANITARY MANHOLE - ADJUST / RECON
SANITARY MANHOLE - LID ONLY
SANITARY PAINT MARK
SANITARY SERVICE MARKER (END)
SANITARY STRUCTURE NUMBER

UTILITIES - GAS

EX:

GAS LUMINAIRE - POST

GAS MANHOLE

GAS MANHOLE - ADJUST

GAS MANHOLE - LID ONLY

GAS MARKER POST

GAS PAINT MARK

GAS REGULATOR

GAS SERVICE (END)

GAS VALVE

⊗ GAS VALVE W/ TEXT

Ø GAS VENT

UTILITIES - WATER

WATER CAP WATER PLUG FIRE DEPARTMENT CONNECTION FIRE DEPARTMENT CONNECTION - BUILDING FIRE HYDRANT **BACTERIA SAMPLING POINT** IRRIGATION CONTROL BOX IRRIGATION SPRINKLER WATER METER WATER METER PIT WATER MANHOLE WATER MANHOLE - ADJUST WATER MANHOLE - LID ONLY WATER PAINT MARK WATER REDUCER WATER SERVICE MARKER (END) WATER VALVE WATER VALVE W/ TEXT

UTILITES - WATER

 PROPOSED:
 WATER LINE

 — WS — WS — WS — WS — WATER SERVICE

 EXISTING:
 WATER LINE

 — WAT — WAT — WAT — WATER DOUBLE LINE

 — WAT-ABAN — WAT-ABAN — WAT-ABAN — WATER LINE - ABANDONED

 — WS — WS — WS — WS — WATER SERVICE

BOUNDARIES

EXISTING: **BOUNDARY LINE** SUBDIVISION LINE RIGHT-OF-WAY - CENTERLINE RIGHT-OF-WAY RIGHT-OF-WAY - LA PROPERTY LINE PROPERTY LINE PROPERTY LEASE ANNEXATION LINE CORPORATION LINE COUNTYLINE FARM LOT LINE FLOOD ZONE LINE SECTION LINE STATE LINE TOWNSHIP LINE SETBACK LINE SETBACK - STREAM PHASE LINE — - - - WETLAND LINE

FEATURES

VEGETATION

EXISTING:

TREE LINE

BUSH LINE

BRUSH LINE

TREE DRIP LINE

UTILITES - ELECTRIC

 EXISTING:

 — STM — STM — STM — STM — STORM LINE

 — STM-ABAN — STM-ABAN — STM-ABAN — STORM LINE - ABANDONED

 — UD — UD — STORM UNDERDRAIN

UTILITES - SANITARY

 EXISTING:

 — SAN — SAN — SAN — SAN-ABAN — SAN-ABAN — SAN-ABAN — SAN-ABAN — SANITARY LINE - ABANDONED

 — SAN-FM — SAN-FM — SAN-FM — SANITARY FORCE MAIN

 — SS — SS — SS — SS — SS — SANITARY SERVICE

UTILITES - GAS

 EXISTING:

 — GAS — GAS — GAS LINE

 — GAS-ABAN — GAS-ABAN — GAS-ABAN — GAS LINE - ABANDONED

 — GS — GS — GS — GS — GAS SERVICE

UTILITES - TRAFFIC

 EXISTING:
 TRAF
 TRAFFIC LINE

 — TRAF-ABAN — TRAF-ABAN — TRAFFIC LINE - ABANDONED
 TRAFFIC LINE - ABANDONED

 — TRAF-OH — TRAF-OH — TRAFFIC LINE - OVERHEAD
 TRAFFIC LINE - UNDERGROUND

 — TRAFFIC LOOP
 TRAFFIC LOOP

UTILITES - CABLE TV:

 EXISTING:

 — — — CATV — — — CATV — — CATV LINE

 — — — CATV-ABAN — — CATV-ABAN — — CATV LINE - ABANDONED

 — — — CATV-OH — — CATV-OH — CATV LINE - OVERHEAD

 — — — CATV-UG — CATV-UG — CATV LINE - UNDERGROUND

UTILITES - FIBER OPTIC:

 EXISTING:

 — — FOC — FOC — FOC — FIBER OPTIC LINE

 — FOC-ABAN — FOC-ABAN — FOC-ABAN — FIBER OPTIC LINE - ABANDONED

 — — FOC-OH — FOC-OH — FIBER OPTIC LINE - OVERHEAD

 — FOC-UG — FOC-UG — FIBER OPTIC LINE - UNDERGROUND

UTILITES - TELECOM

 EXISTING:

 — — TEL — — TEL — — TEL — UTILITY LINE

 — — TEL-ABAN — TEL-ABAN — TEL-ABAN — UTILITY LINE - ABANDONED

 — — TEL-OH — TEL-OH — UTILITY LINE - OVERHEAD

 — TEL-UG — TEL-UG — UTILITY LINE - UNDERGROUND

<u>UTILITES - MISCELLANEOUS</u>

 EXISTING:

 — — UTIL — UTIL — UTILITY LINE

 — UTIL-ABAN — UTIL-ABAN — UTIL-ABAN — UTILITY LINE - ABANDONED

 — UTIL-OH — UTIL-OH — UTILITY LINE - OVERHEAD

 — UTIL-UG — UTIL-UG — UTILITY LINE - UNDERGROUND



verdantas

NO REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

LEGEND

PROJECT NO.

32052

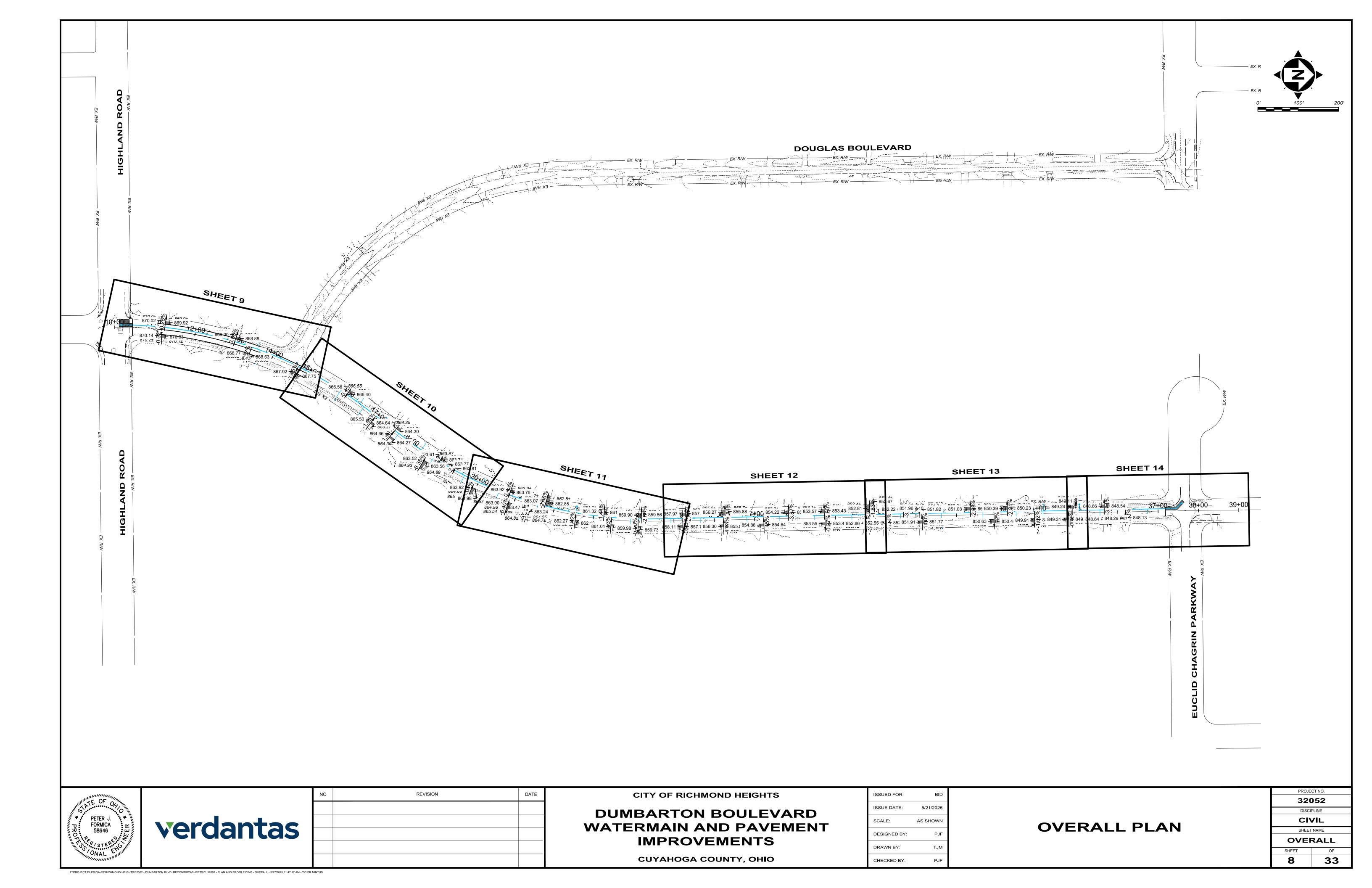
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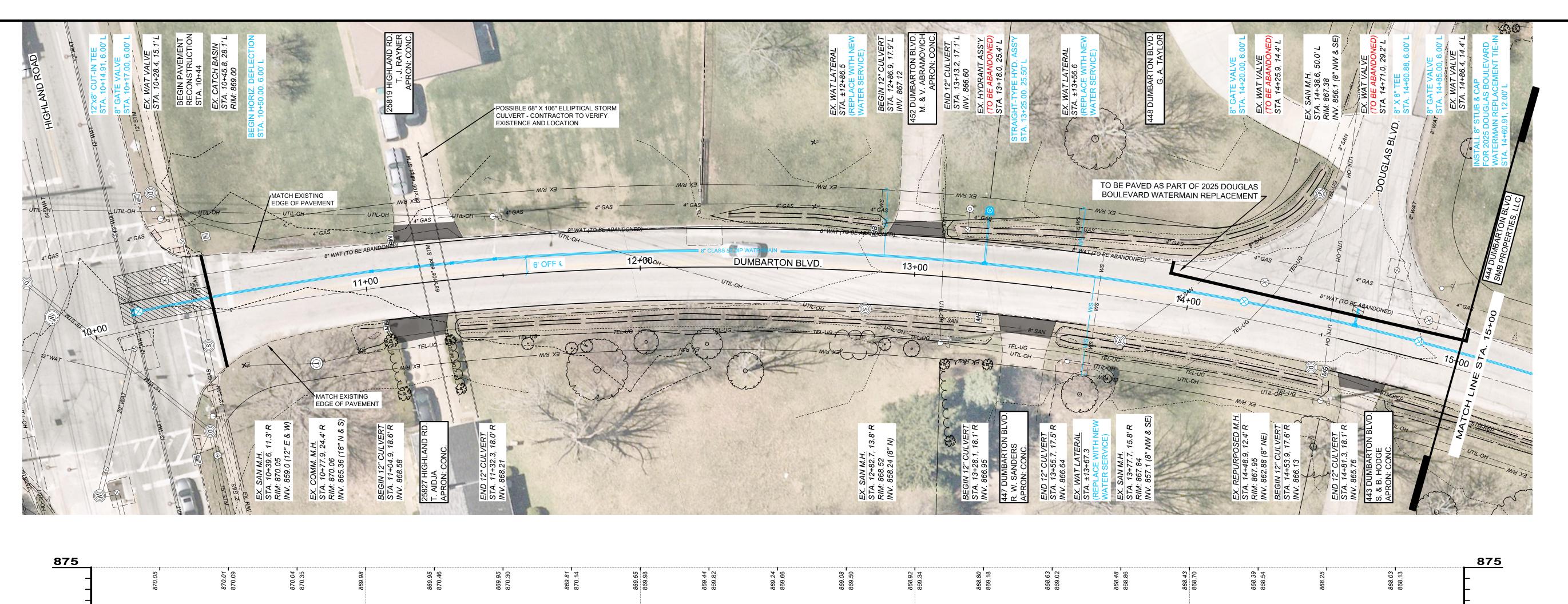
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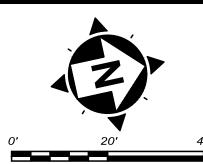
SHEET NAME

LGND

33







- 1. EXISTING WATER
 SERVICE CONNECTIONS
 ARE TO BE FIELD
 LOCATED.
- 2. CONTRACTOR SHALL
 ASSUME ONE GAS,
 WATER, SANITARY AND
 STORM CONNECTION
 EACH PER PARCEL.
- 3. PROPOSED WATERLINE
 TO BE CONNECTED TO
 NEW DOUGLAS BLVD.
 WATERLINE THROUGH
 NEW 8" VALVE PROVIDED
 BY OTHERS.

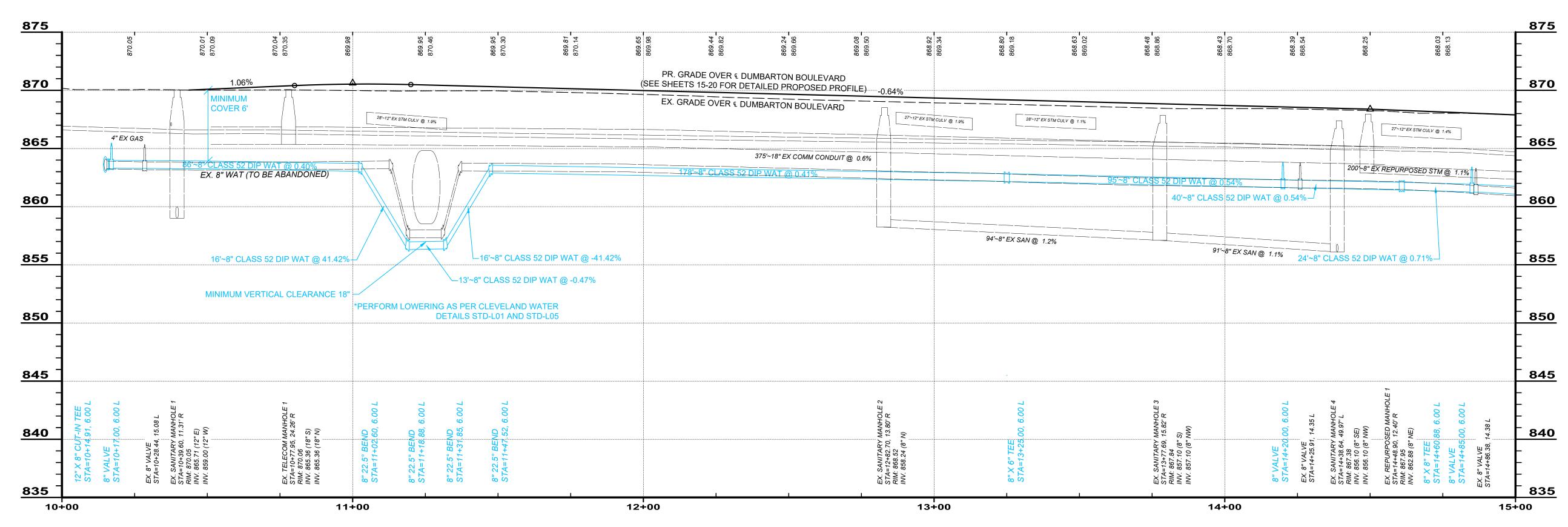
LEGEND

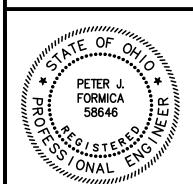


CONCRETE DRIVE APRON REPLACEMENT



TYPE B PAVEMENT REPLACEMENT





verdantas

O REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

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DRAWN BY: TJM

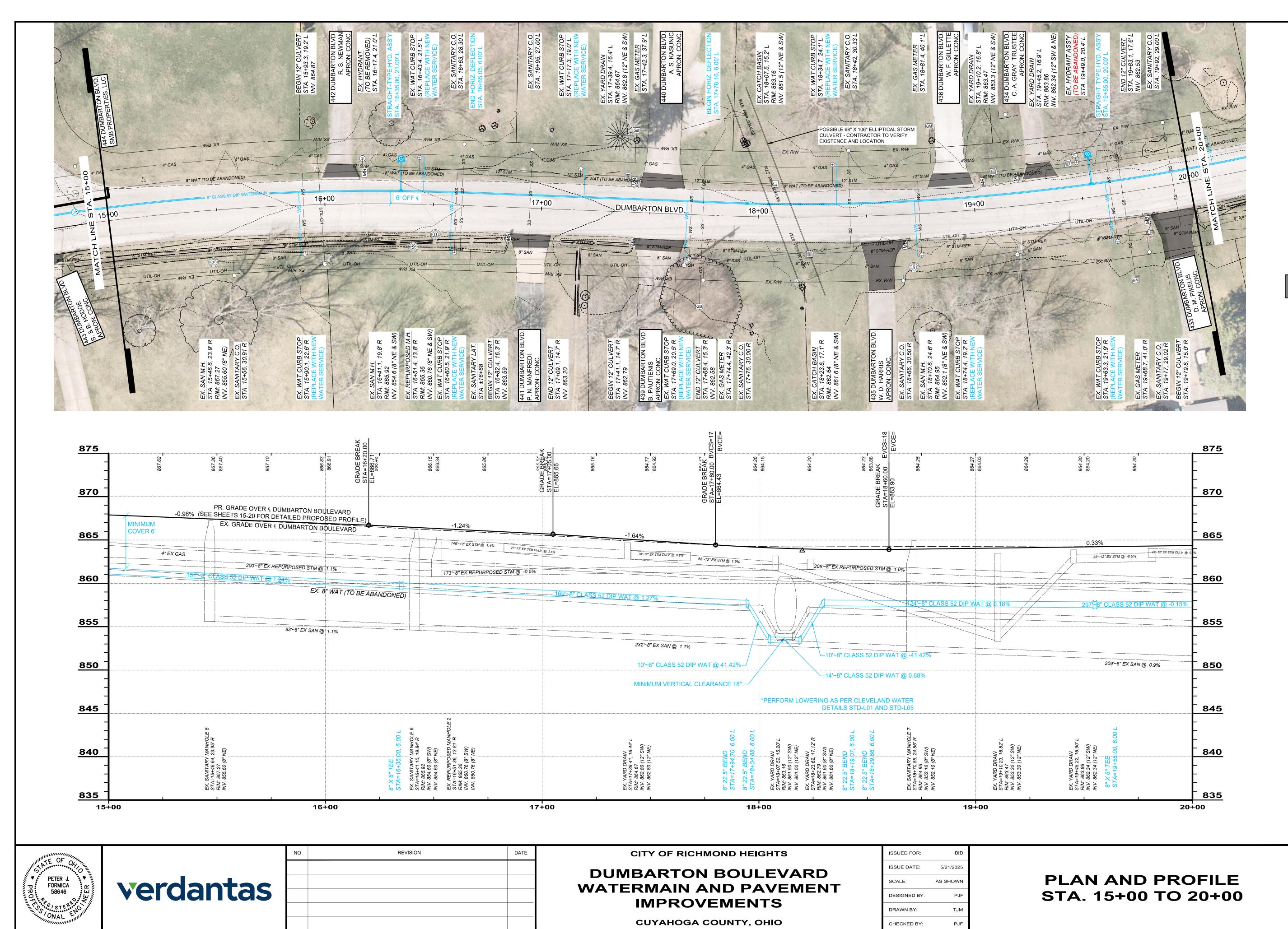
CHECKED BY: PJF

PLAN AND PROFILE STA. 10+00 TO 15+00

PROJE	CT NO.	
32052		
DISCI	PLINE	
CIV	/IL	
SHEET NAME		
PP-1		
SHEET	OF	

9

33



PROJECT NO.

32052

DISCIPLINE

CIVIL

SHEET NAME

PP-2

SHEET OF

10 33

NOTES:

1. EXISTING WATER

LOCATED.

LEGEND

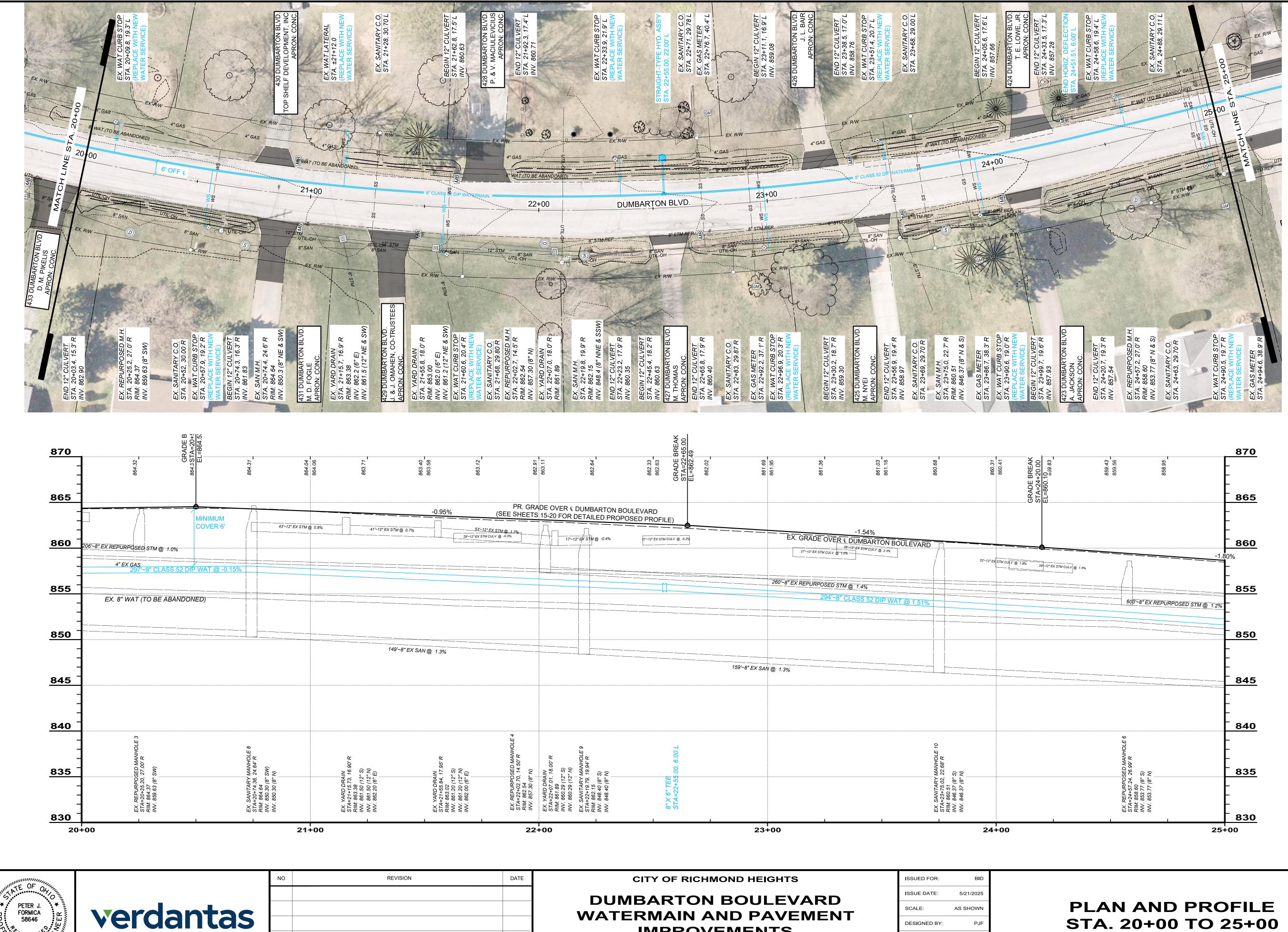
ARE TO BE FIELD

2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

SERVICE CONNECTIONS

CONCRETE DRIVE APRON REPLACEMENT

Z:\PROJECT FILES\QA-RZ\RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\DWG\SHEETS\C_32052 - PLAN AND PROFILE.DWG - PP-2 - 5/27/2025 11:47:17 AM - TYLER MINTUS



PROJECT NO. 32052 DISCIPLINE **CIVIL** SHEET NAME PP-3 33

NOTES:

1. EXISTING WATER

ARE TO BE FIELD LOCATED.

2. CONTRACTOR SHALL ASSUME ONE GAS,

LEGEND

SERVICE CONNECTIONS

WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

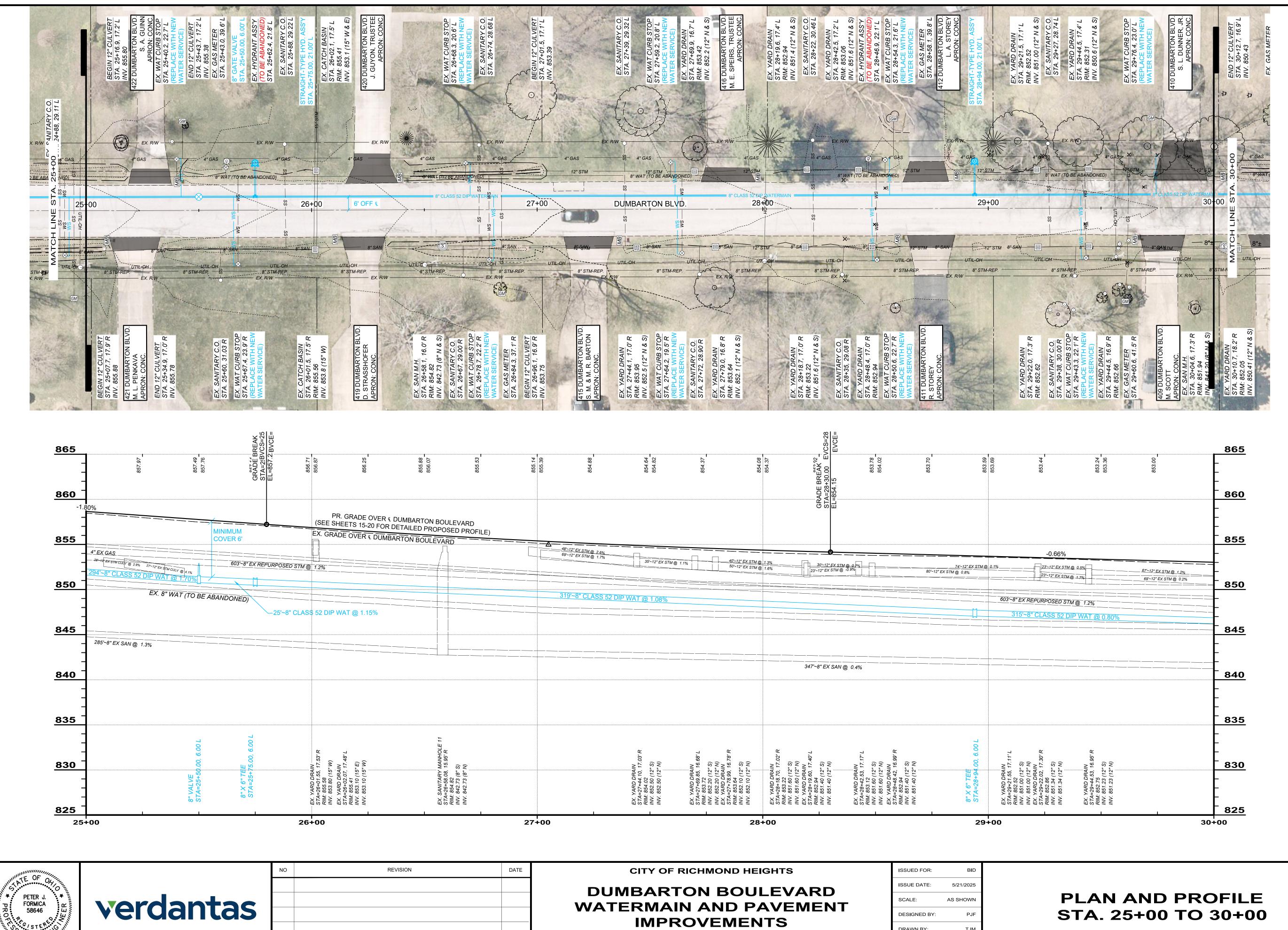
CONCRETE DRIVE APRON REPLACEMENT

WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

DESIGNED BY:	PJF
DRAWN BY:	ТЈМ
CHECKED BY:	PJF

PLAN AND PROFILE STA. 20+00 TO 25+00



- 1. EXISTING WATER SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
- 2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

LEGEND

CONCRETE DRIVE APRON REPLACEMENT

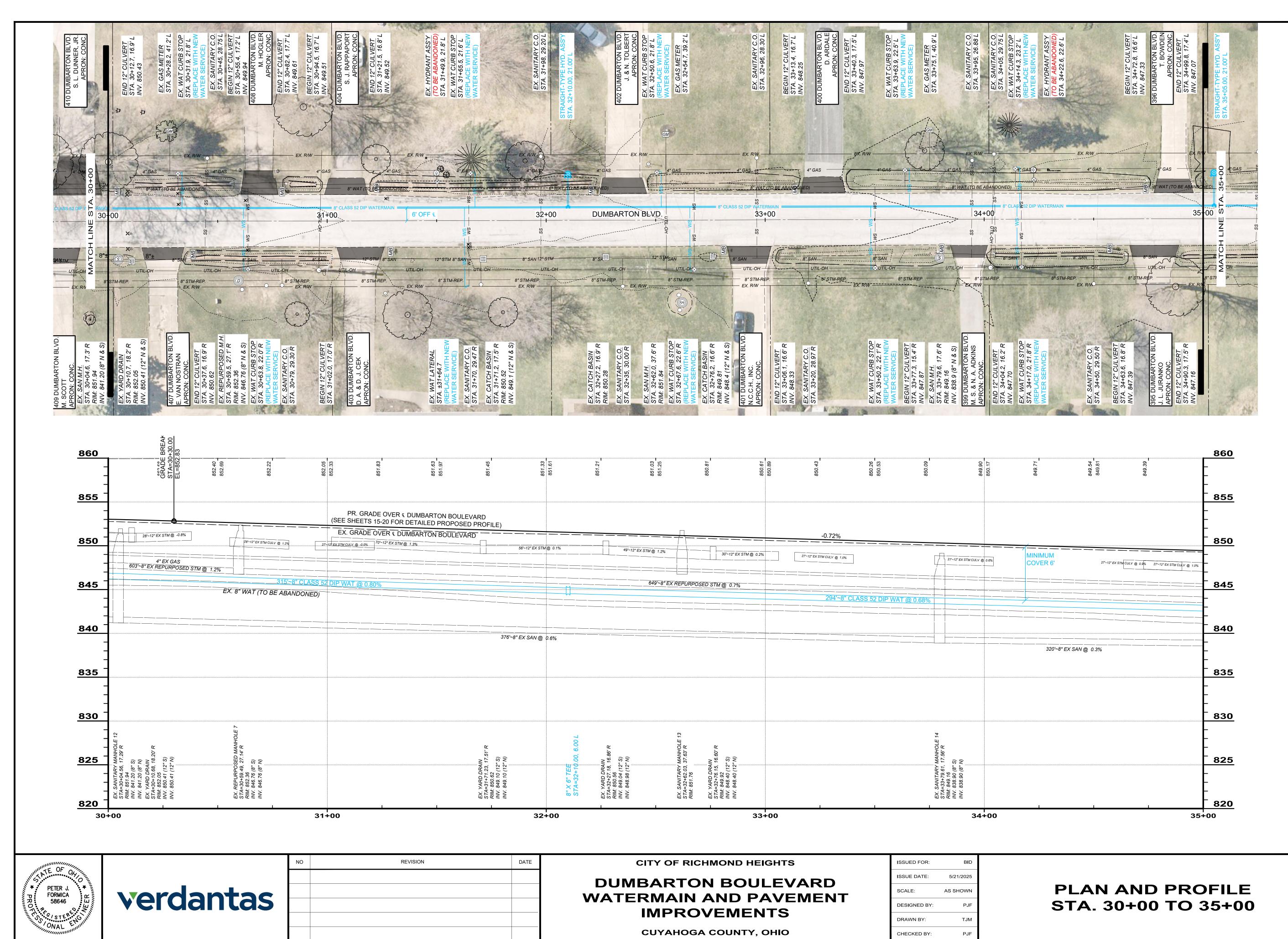
PROJECT NO. 32052 DISCIPLINE CIVIL SHEET NAME PP-4

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CUYAHOGA COUNTY, OHIO

DRAWN BY: CHECKED BY:

33 **12**



32052

DISCIPLINE

CIVIL

SHEET NAME

PP-5

SHEET OF

13 33

PROJECT NO.

NOTES:

1. EXISTING WATER

LOCATED.

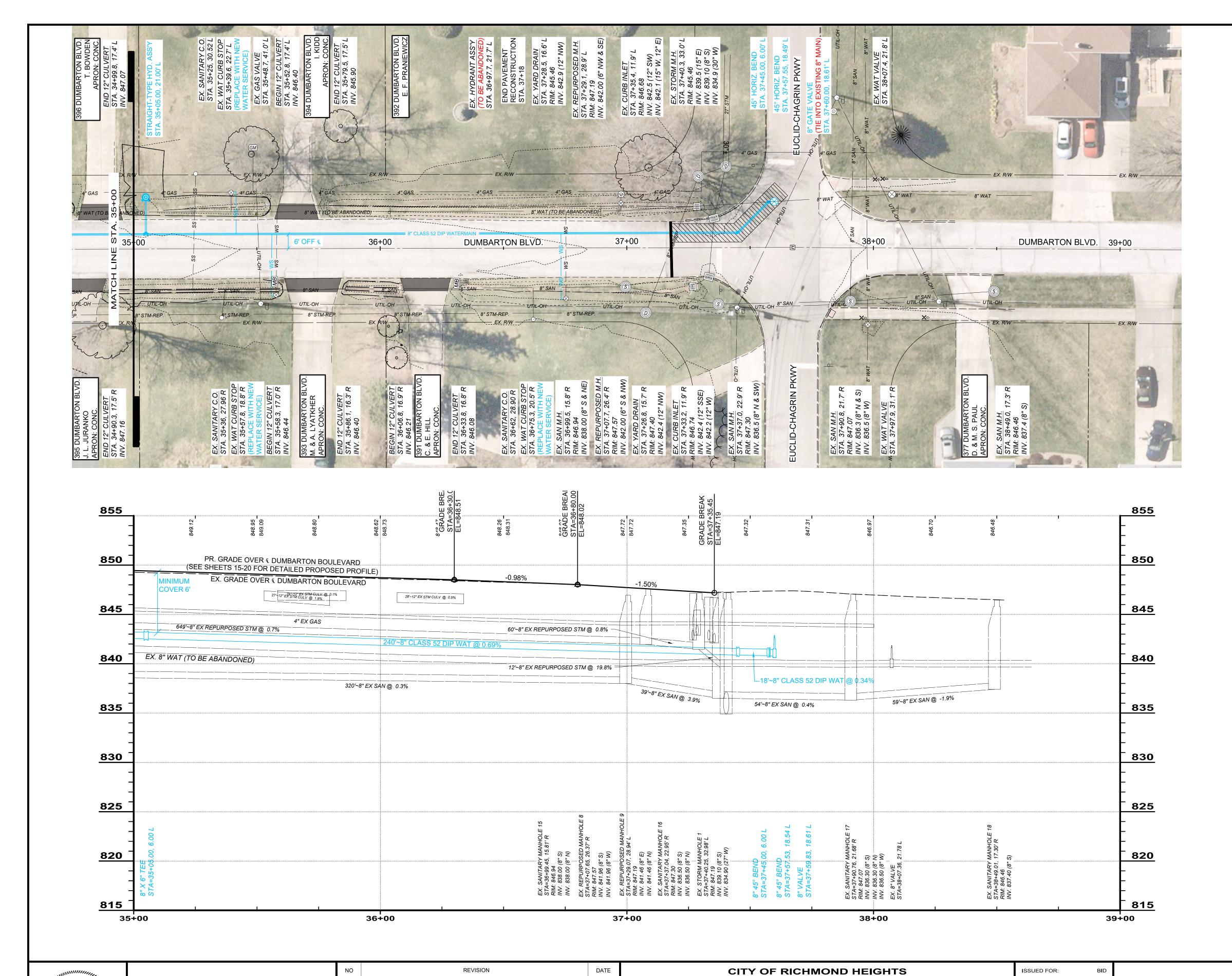
LEGEND

ARE TO BE FIELD

2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

SERVICE CONNECTIONS

CONCRETE DRIVE APRON REPLACEMENT





EXISTING WATER

LOCATED.

LEGEND

ARE TO BE FIELD

2. CONTRACTOR SHALL
ASSUME ONE GAS,
WATER, SANITARY AND
STORM CONNECTION
EACH PER PARCEL.

SERVICE CONNECTIONS

CONCRETE DRIVE APRON REPLACEMENT

TYPE B PAVEMENT REPLACEMENT

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT

IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

PLAN AND PROFILE STA. 35+00 TO 39+00

32052

DISCIPLINE

CIVIL

SHEET NAME

PP-6

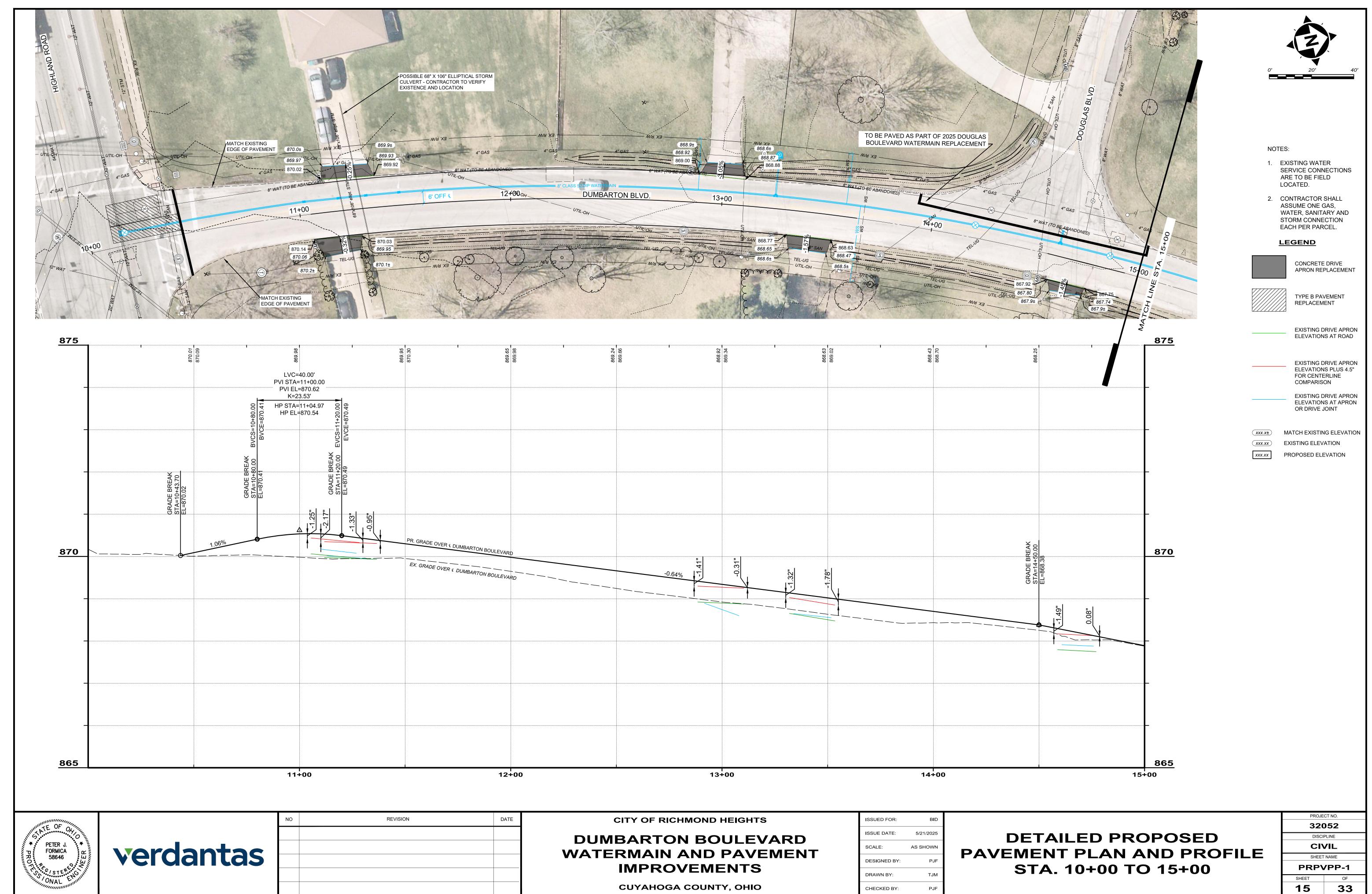
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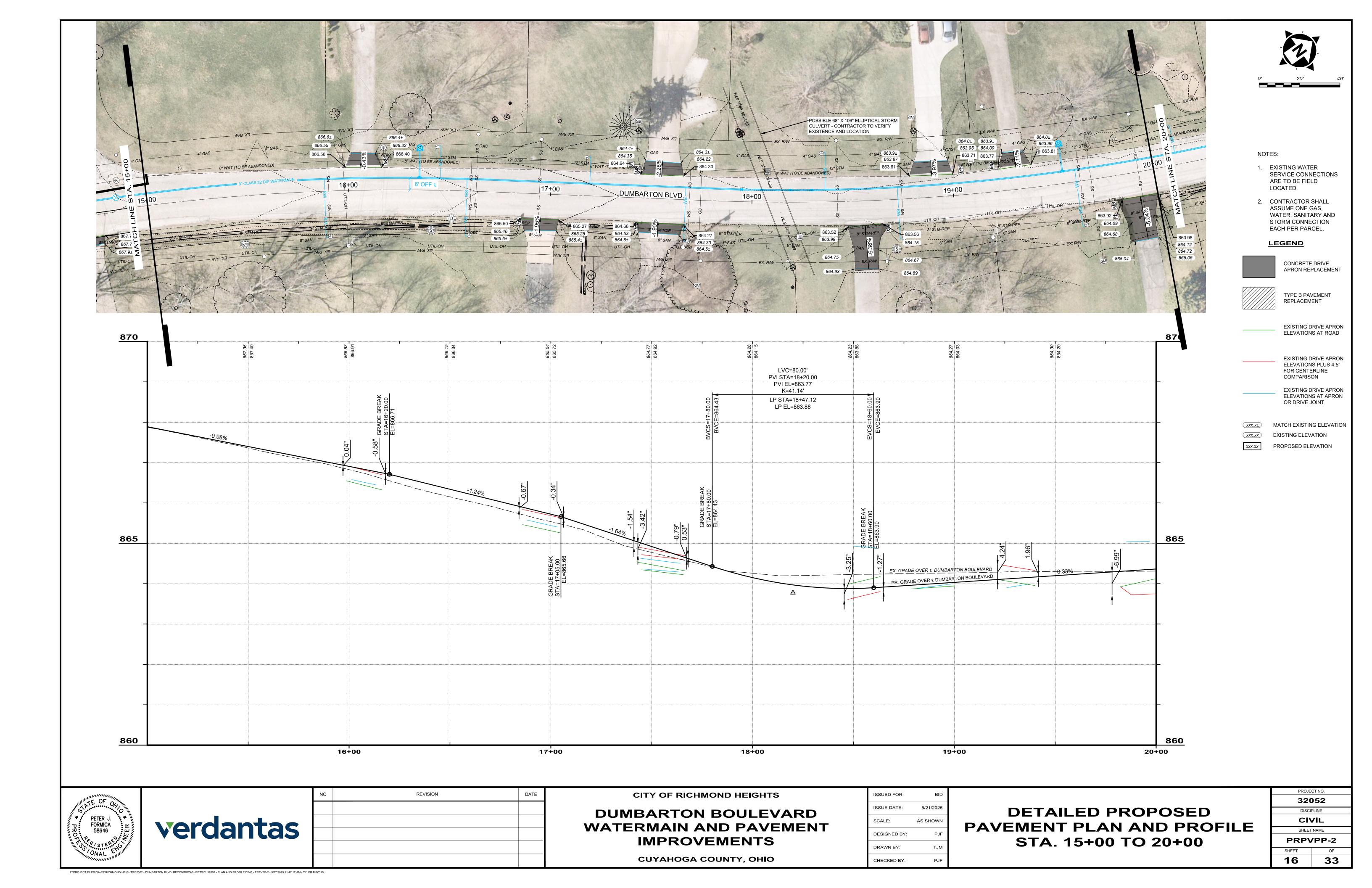
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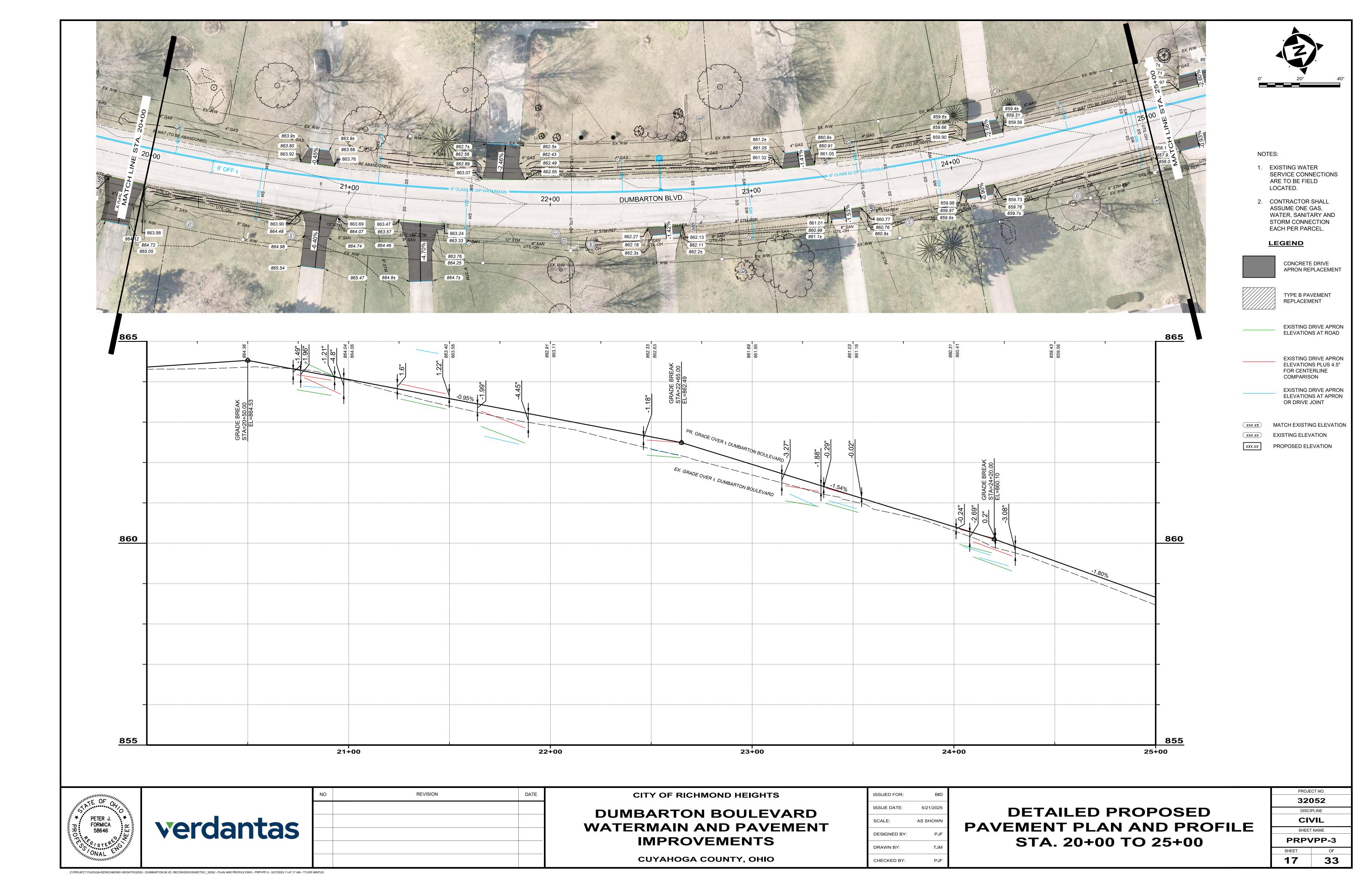
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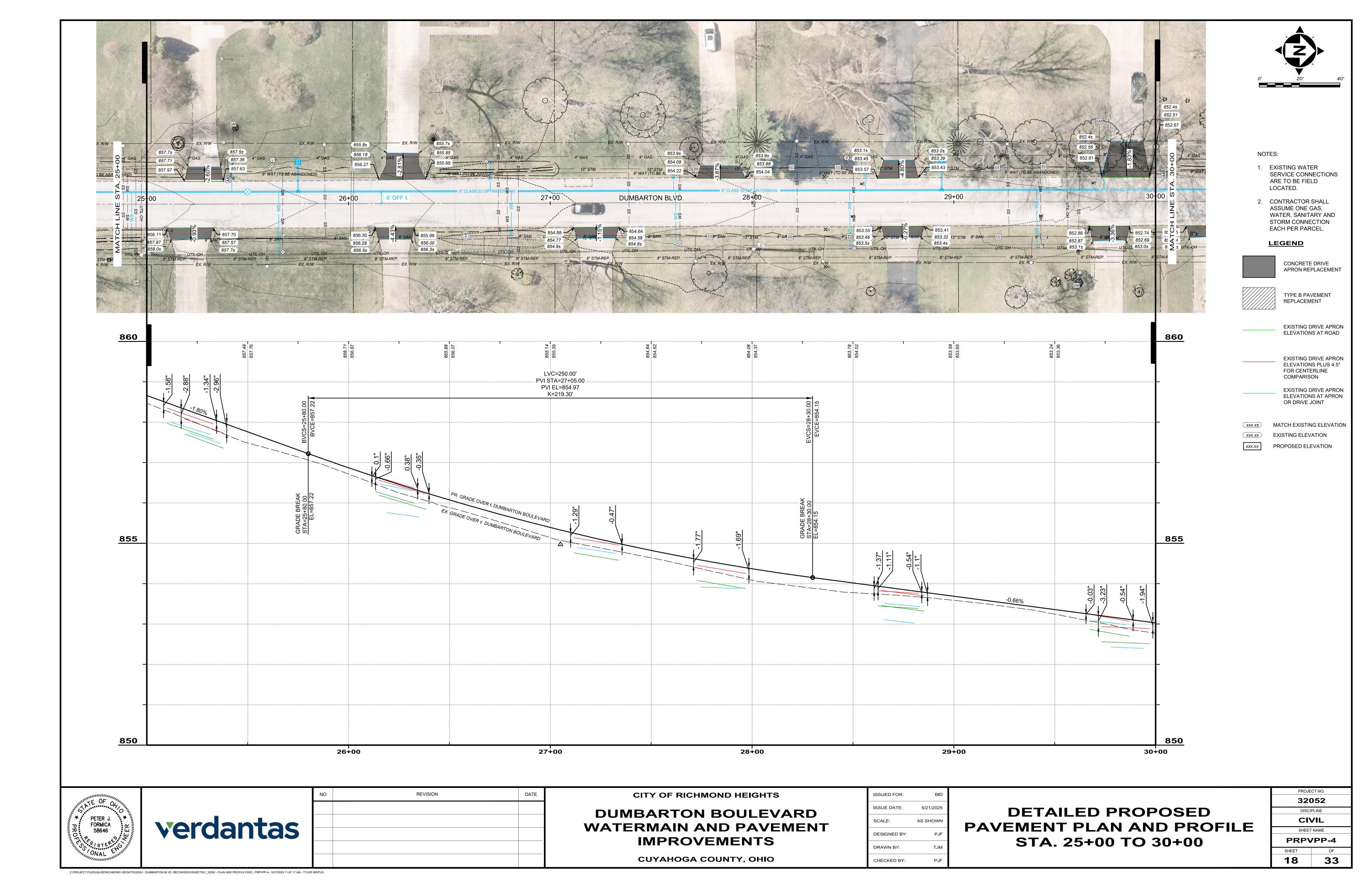
verdantas

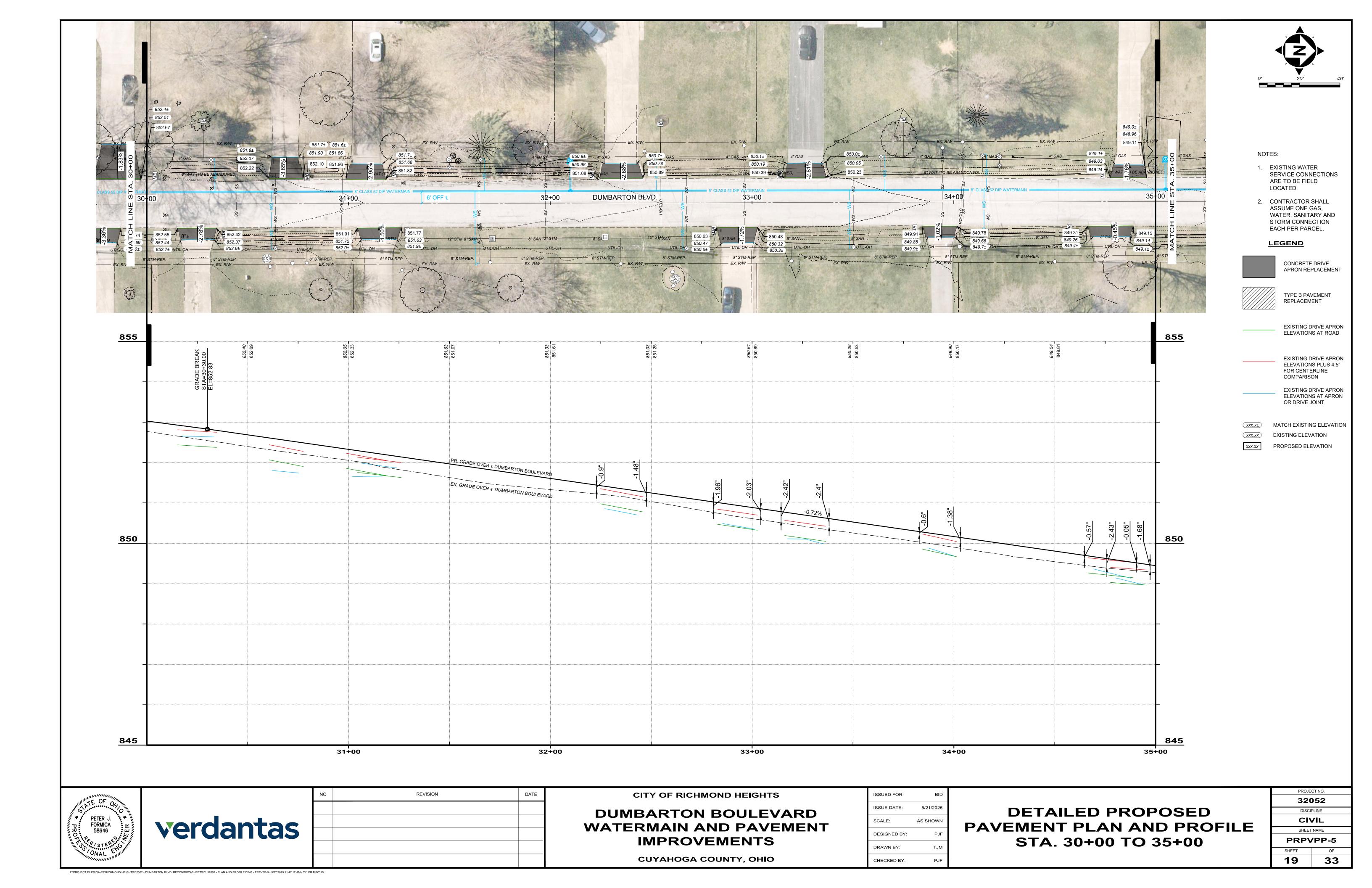
PETER J. FORMICA 58646

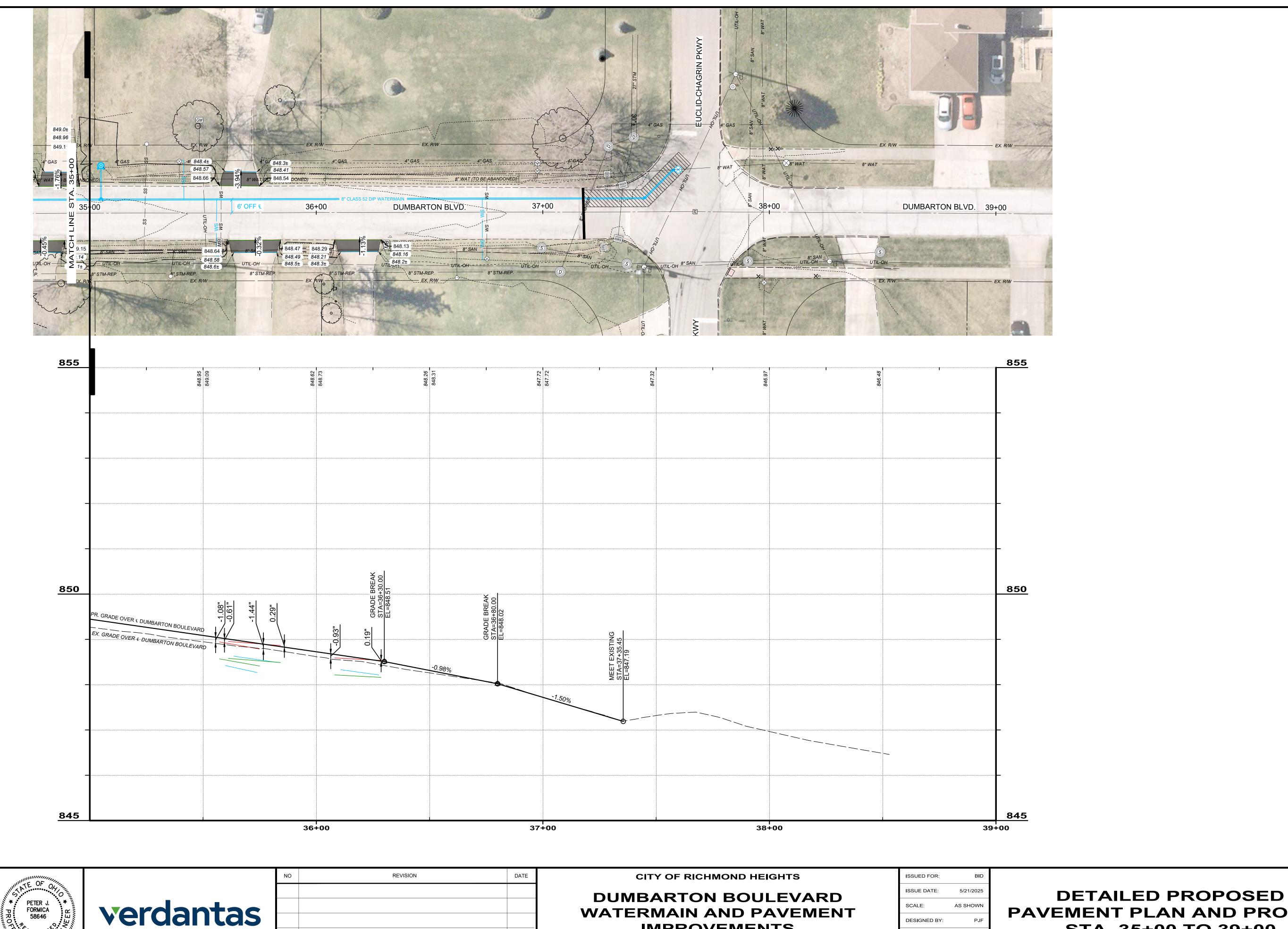


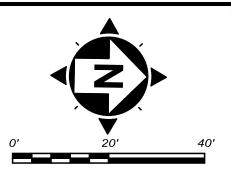












- EXISTING WATER SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
- 2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

LEGEND



CONCRETE DRIVE APRON REPLACEMENT



TYPE B PAVEMENT REPLACEMENT



EXISTING DRIVE APRON **ELEVATIONS AT ROAD**

EXISTING DRIVE APRON **ELEVATIONS PLUS 4.5"** FOR CENTERLINE COMPARISON

EXISTING DRIVE APRON

ELEVATIONS AT APRON OR DRIVE JOINT

xxx.x± MATCH EXISTING ELEVATION EXISTING ELEVATION

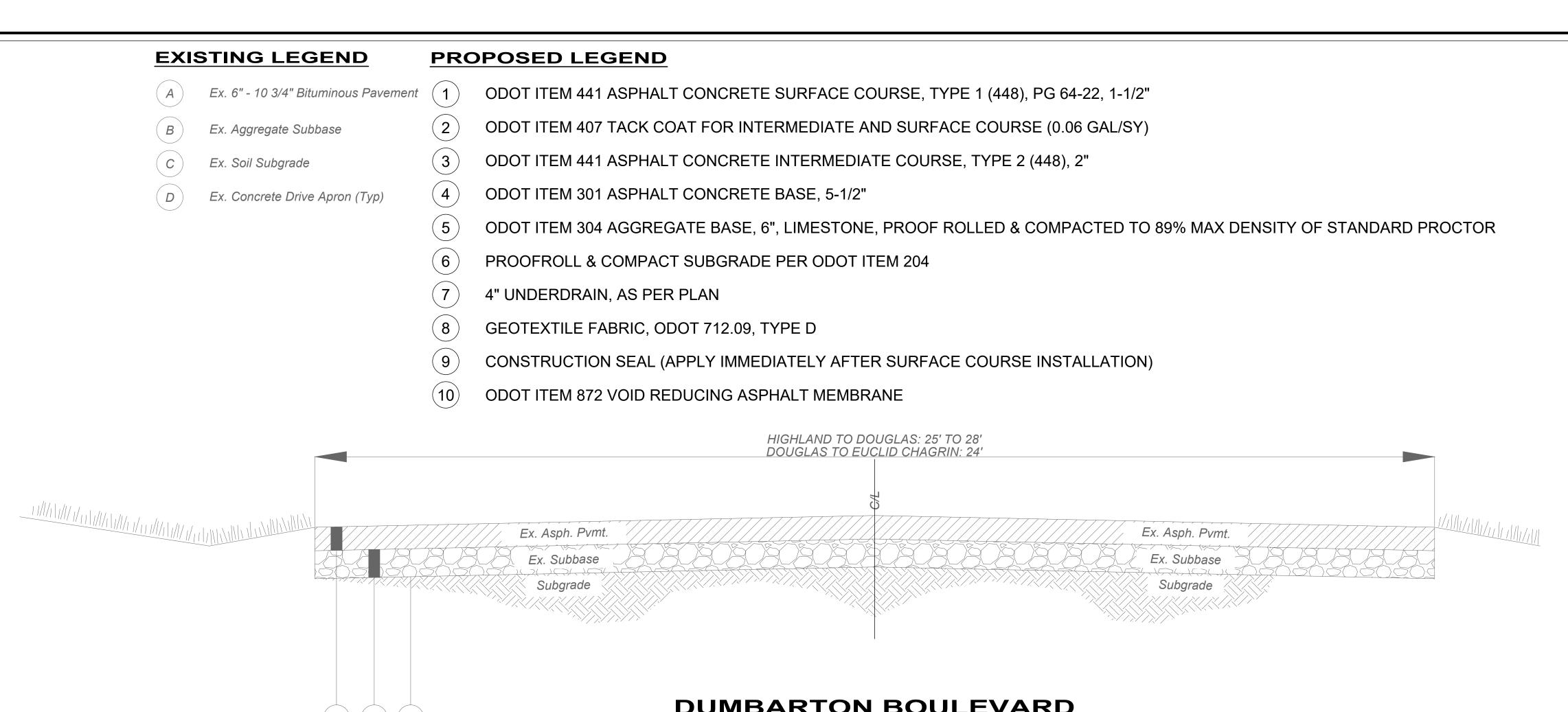
PROPOSED ELEVATION

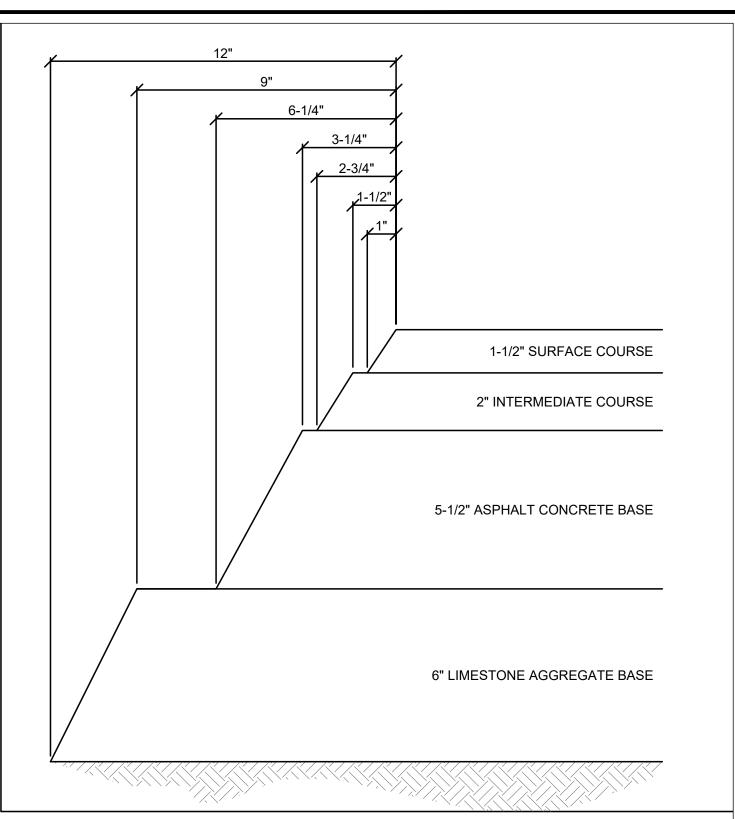
32052 DISCIPLINE CIVIL SHEET NAME PRPVPP-6

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT **IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

SCALE: PAVEMENT PLAN AND PROFILE DESIGNED BY: DRAWN BY: CHECKED BY:



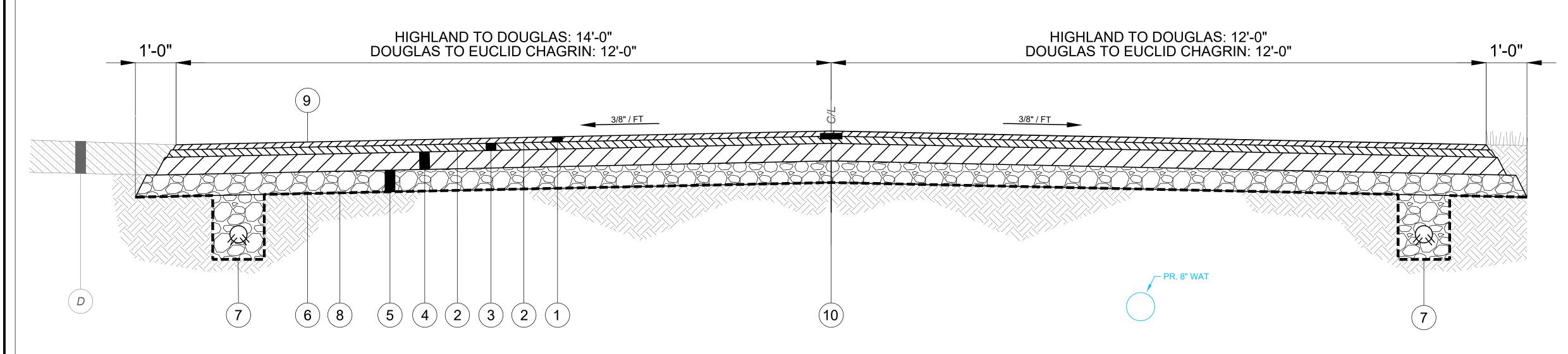


PROPOSED PAVEMENT LAYER **EDGE STEPPING DETAIL**

SCALE: NONE

DUMBARTON BOULEVARD EXISTING TYPICAL SECTION

SCALE: NONE



DUMBARTON BOULEVARD PROPOSED TYPICAL SECTION

SCALE: NONE



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REVISION

CITY OF RICHMOND HEIGHTS

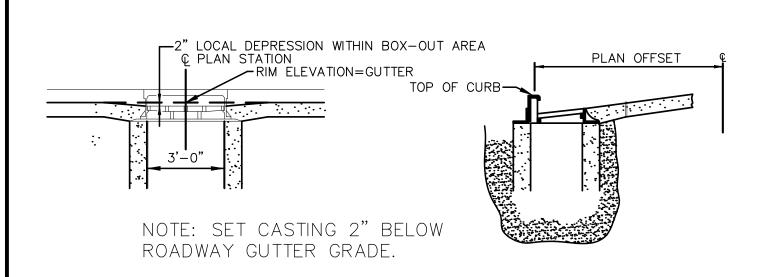
DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

SCALE: DESIGNED BY DRAWN BY: **CUYAHOGA COUNTY, OHIO** CHECKED BY:

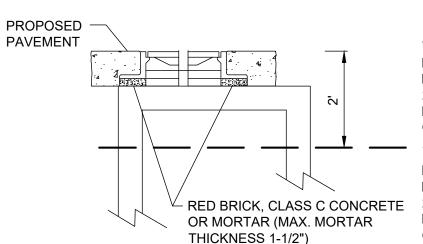
ISSUED FOR:

ISSUE DATE:

TYPICAL SECTIONS



INLET CASTING ADJUSTMENT AND GRADING DETAIL



WORK SHALL INCLUDE RECONSTRUCTION OF MANHOLE/BASIN FOR UP TO 2' FROM PROPOSED RIM ELEVATION OR GUTTER **GRADE ELEVATION**

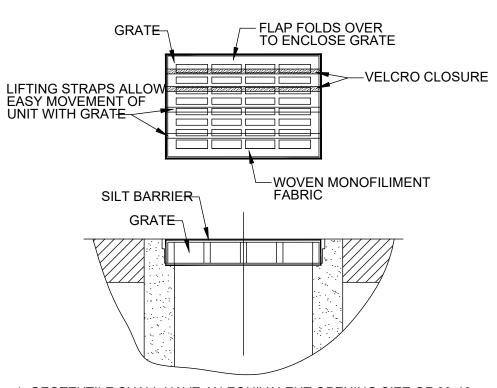
RECONSTRUCTION OF MANHOLE/BASIN BELOW 2' FROM PROPOSED RIM ELEVATION OR GUTTER GRADE ELEVATION SHALL BE PAID FOR UNDER MANHOLE/BASIN RECONSTRUCTED TO

& UNDERDRAIN 4" MAX. TOP SOIL TO FINISH GRADE MIN. 12" OVERLAP — NO. 57 AGGREGATE (O.D.O.T. ITEM 703.01) -PAVEMENT SUBBASE SHALL BE EXPOSED AND EXTENDED TO ODOT 712.09, TYPE A UNDERDRAIN AS PART OF FILTERING FABRIC BACKFILL PROCEDURE. OR APPROVED EQUAL AS REQUIRED -18" MIN. BELOW PAVEMENT SUBBASE PERFORATED DRAIN A.S.T.M. D-3034-(PERFORATIONS TO BE TURNED DOWN) ALL LOOSE EXCAVATION AT BOTTOM INVERT OF PIPE SHALL MAINTAIN POSITIVE OF TRENCH SHALL BE REMOVED OR DRAINAGE WITH NO DIPS OR HUMPS IN COMPACTED BEFORE INSTALLING FLOWLINE OF PIPE. FILTER FABRIC. O.D. + 8"

UNDERDRAIN DETAIL

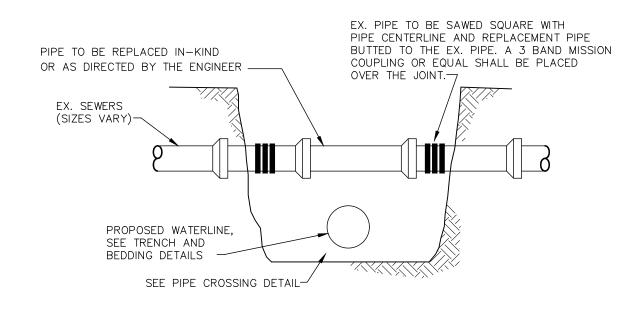
NOTE: ITEM SHALL BE USED AS DIRECTED

M.H./I.B. ADJUSTED TO GRADE

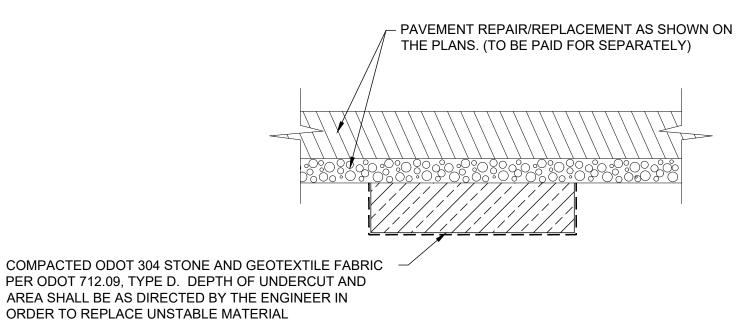


- 1. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT
- 2. MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE SILT BARRIER AS NEEDED.
- 3. TO INSTALL CATCH BASIN INLET SILT BARRIER: THE EMPTY SILT BARRIER SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO

INLET PROTECTION FOR CATCH BASIN IN ROADWAY



SEWER LATERAL REPAIR DETAIL



ADDITIONAL SUBGRADE REPLACEMENT DETAIL (ITEM 204)

NOTE: ITEM SHALL BE USED AS DIRECTED

- EDGE OF PAVEMENT OR STRUCTURE EXCAVATED TRENCH WIDTH (SEE NOTE 1) ZONE OF INFLUENCE SUBGRADE SPECIAL BACKFILL-MATERIAL CONCRETE CRADLE PARALLEL ZONE OF INFLUENCE (MAY NOT BE REQ'D.) FOUNDATION

MONUMENT ASSEMBLY DETAIL

(FLEXIBLE PAVEMENT)

NEENAH R-1968 TYPE 36-B OR EQUAL.

- BASE COURSE

MONUMENT BOX SET PRIOR TO LAYING

OF PAVEMENT SURFACE.

- ASPHALT SURFACE

5/8"Ø 30" LONG STEEL ROD

EXCAVATED GEOTEXTILE FABRIC 1/8 PIPE I.D. WHICHEVER (MAY NOT BE REQ'D.) FOUNDATION IS GREATER

NOTE: ITEM SHALL BE USED AS DIRECTED EXCAVATED GEOTEXTILE FABR (MAY NOT BE REQUIRED) BEDDING SHAPE TRENCH BOTTOM FOR PROJECTING PIPE BELLS TO ALLOW PIPE BARREL TO BE EVENLY SUPPORTED BY THE TRENCH BOTTOM CLASS 'C' PIPE EMBEDMENT

EDGE OF PAVEMENT OR STRUCTURE ZONE OF SPECIAL ... INFLUENCE -BACKFILL MATERIAL

TRANSVERSE

ZONE OF INFLUENCE

CLASS 'A' PIPE EMBEDMENT

1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.

CLASS 'B' PIPE EMBEDMENT

2. FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER. CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE

CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE

CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON—SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE. WHERE ROCK OR SHALE IS ENCOUNTERED, A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

- 4. FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.
- 5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 02204CT.
- 6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.
- 7. GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR
- 8. DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER

TRENCHING, EMBEDMENT AND BACKFILL DETAIL

NOT TO SCALE SD-1-1

(FOR SEWER INSTALLATION)



verdantas

NO REVISION DATE

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

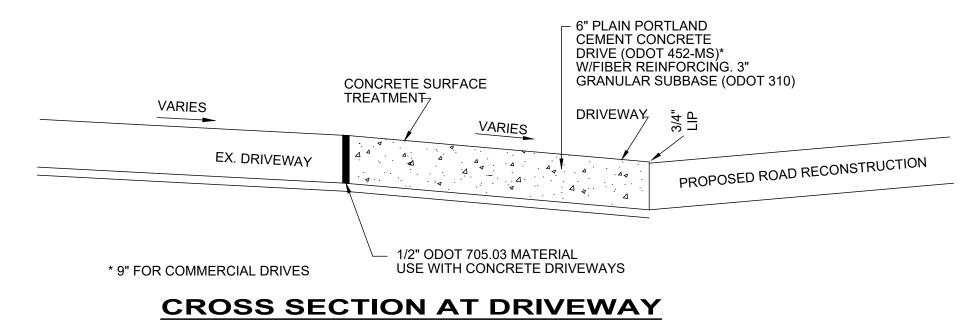
CITY OF RICHMOND HEIGHTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: ISSUE DATE: 5/21/2025 SCALE: AS SHOWN **DESIGNED BY** PJF DRAWN BY: TJM CHECKED BY:

STANDARD DETAILS 1

PROJECT NO. 32052 DISCIPLINE CIVIL SHEET NAME DET-1 33 **22**



NOT TO SCALE NOTE: WIRE MESH REINFORCING SHALL BE FURNISHED & INSTALLED IN-KIND IF FOUND

IN THE EXISTING APRON.

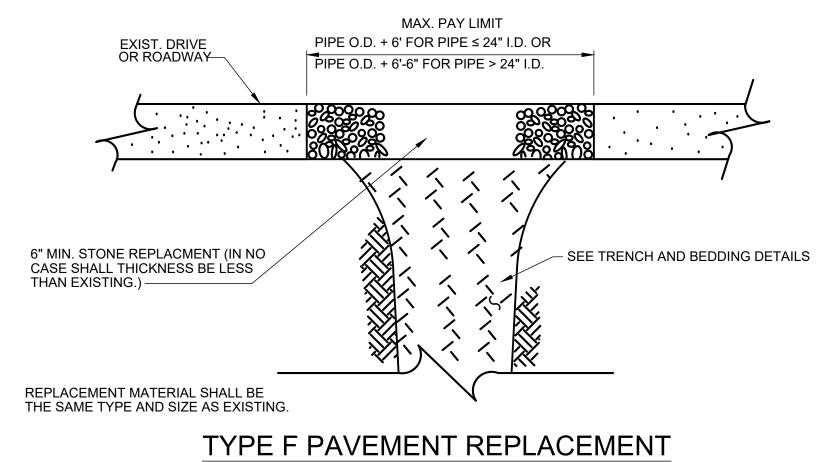
LEGEND — — IMPRESSION JOINT 1/2" PREFORMED EXPANSION JOINT FILLER, ODOT ITEM 705.03 EX. DRIVE WIDTH PROPERTY LINE 1/2" PREFORMED EXPANSION MIDPOINT IMPRESSION JOINT IF JOINT FILLER W/TOP 1" HOT APRON LENGTH IS GREATER THAN 8' APPLIED RUBBERIZED JOINT SEALER. ODOT ITEM 705.03. TREELAWN TREELAWN EX. DRIVE WIDTH -5' OR AS DIRECTED IN NO CASE SHALL THE DRIVE APRON BE SMALLER IN DIMENSION THAN THE EXISTING APRON.

> DRIVEWAY APPROACH DETAIL NOT TO SCALE

REMOVE UNDER ITEM 254 & REPLACE W/NEW SURFACE COURSE PERMISSIBLE REMOVAL & REPLACEMENT --ASPHALT CEMENT COATING SURFACE COURSE "T" MIN. "T" MIN. SURFACE OF EX. PAVT.

COATING

BUTT JOINT DETAIL



(STONE) 10/10 SD-5-6

MAX. PAY LIMIT PIPE O.D. + 6' FOR PIPE < 24" I.D. OR PIPE O.D. + 6'-6" FOR PIPE > 24" I.D. NEAT SAW CUT (TYP. EACH SIDE) EXIST. PAV'T. ----MIN 1" BEYOND SURFACE TO BE PLANED AND OVERLAYED WITH -- EDGE OF TRENCH ASPHALT, REFER TO TYPICAL SECTIONS (TYP. EACH SIDE) (PAID FOR SEPARATELY) CAP TRENCH WITH SUITABLE MATERIAL, TO BE MAINTAINED UNTIL RESURFACING OPERATIONS SEE TRENCH AND BEDDING DETAILS (TO BE INCLUDED WITH TYPE B PAVEMENT REPLACEMENT BID ITEM) 8" ODOT ITEM 305 IN NO CASE SHALL THE THICKNESS, "T" BE NOTES: LESS THAN EXISTING PAVEMENT SECTION. 1. EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

2. REPLACEMENT SHALL BE REINFORCED AS PER O.D.O.T. ITEM 709.10 OR 709.12 IF

EXISTING PAVEMENT IS REINFORCED.

3. 5/8"Ø HOOKBOLT @ 30" O.C. MAY BE REQUIRED AS DIRECTED BY THE

TYPE "B" PAVEMENT REPLACEMENT

(ASPHALT OVER CONCRETE, MODIFIED)

PETER J. FORMICA 58646 verdantas

REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

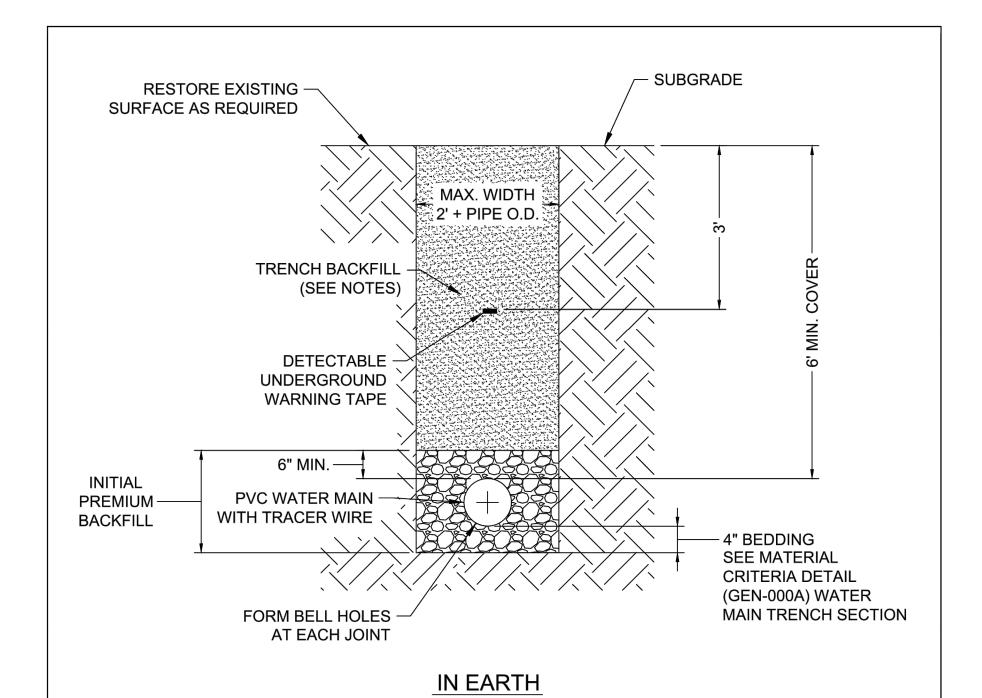
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

ISSUED FOR:

STANDARD DETAILS 2

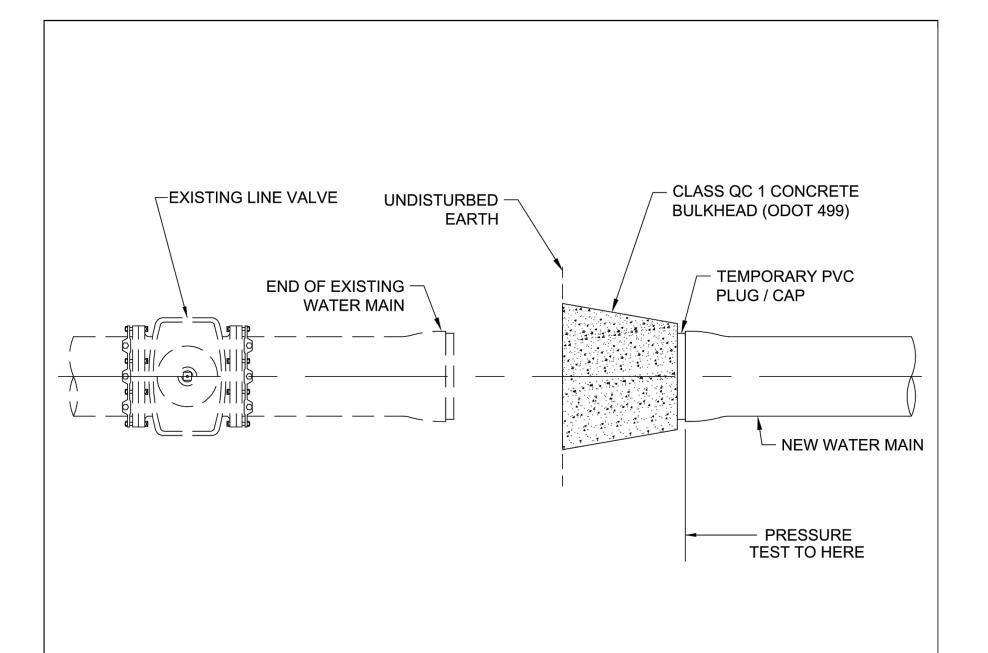
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320)52			
DISCIPLINE				
CIVIL				
SHEET NAME				
DET-2				
SHEET OF				
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Z:\PROJECT FILES\QA-RZ\RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\DWG\SHEETS\C_32052 - DETAILS.DWG - DET-2 - 5/22/2025 2:14:20 PM - TYLER MINTUS



- 1. PLACE AND COMPACT INITIAL PREMIUM BACKFILL USING HAND-HELD OR WALK BEHIND EQUIPMENT. DO NOT ALLOW BACKFILL MATERIAL TO FREE-FALL INTO TRENCH.
- 2. UNDER EXISTING AND FUTURE PAVEMENT, SIDEWALKS, AND DRIVEWAYS WITHIN THE CITY OF CLEVELAND CORPORATION LIMITS, PLACE AND COMPACT CONTROLLED LOW STRENGTH MORTAR CONTROLLED DENSITY FILL (CLSM-CDF) TRENCH BACKFILL TO PAVEMENT SUBGRADE. PLACE CLSM-CDF IN OTHER MUNICIPALITIES WHERE PERMITTED OR DIRECTED.
- 3. UNDER EXISTING AND FUTURE PAVEMENT, SIDEWALKS, AND DRIVEWAYS IN OTHER MUNICIPALITIES WHERE PERMITTED, PLACE AND COMPACT PREMIUM TRENCH BACKFILL MATERIAL IN MAXIMUM 6" LIFTS TO 95% OF STANDARD PROCTOR AT +/2% OF OPTIMUM MOISTURE CONTENT TO PAVEMENT SUBGRADE. IF NOT PERMITTED, FOLLOW LOCAL REQUIREMENTS.
- 4. IN LAWNS AND STREETSCAPE AREAS, PLACE AND COMPACT SUITABLE TRENCH BACKFILL MATERIAL IN MAXIMUM 6" LIFTS TO 85% OF STANDARD PROCTOR AT +/-3% OF OPTIMUM MOISTURE CONTENT TO FINAL RESTORATION SUBGRADE.

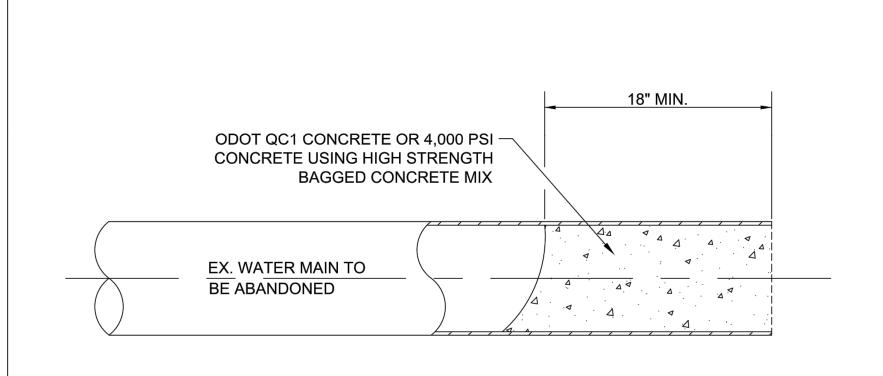
SOF PERSON		REVISIONS		CITY OF CLEVELAND	WATER MAII	N TRENCH DETAILS
Civater	NO.	DATE	BY	DEPARTMENT OF PUBLIC UTILITIES	***************************************	
				DIVISION OF WATER (CWD)	DETAIL NO.:	PVC-001
CUR SERU				Division of Water (CVD)	SCALE: N.T.S.	DATE: 7/9/2024



NOTES:

- INSTALL TEMPORARY PLUG OR CAP AND BULKHEAD FOR PRESSURE TEST. DETERMINE SIZE OF THE BULKHEAD REQUIRED TO WITHSTAND THE TEST PRESSURE AND THE SIZE OF PIPE TO BE TESTED.
- 2. AFTER PASSING THE TEST, CONNECT TO THE EXISTING WATER MAIN WITH NEW PIPE AND SOLID SLEEVE.
- REPAIR DAMAGE TO THE EXISTING WATER MAIN CAUSED BY SUCCESSFUL OR UNSUCCESSFUL PRESSURE TESTING TO THE SATISFACTION OF CWD.

STOP LEVEL OF		REVISIONS		CITY OF CLEVELAND		ATE PRESSURE
Cuater	NO.	DATE	BY	DEPARTMENT OF PUBLIC UTILITIES	TEST	NG DETAIL
				DIVISION OF WATER (CWD)	DETAIL NO.:	GEN-002
CUR SEKT				Division of William (Otto)	SCALE: N.T.S.	DATE: 1/26/2024



NOTE:

1. DRAIN THE WATER MAIN COMPLETELY PRIOR TO INSTALLING PLUGS.

EVEL		REVISIONS		CITY OF CLEVELAND		G ABANDONED
iter	NO.	DATE	BY	DEPARTMENT OF PUBLIC UTILITIES	WATER	MAIN ENDS
				DIVISION OF WATER (CWD)	DETAIL NO.:	GEN-004
R SFKU				Division of Willand	SCALE: N.T.S.	DATE: 10/31/2023



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O REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

CLEVELAND WATER DETAILS 1

PROJECT NO.

32052

DISCIPLINE

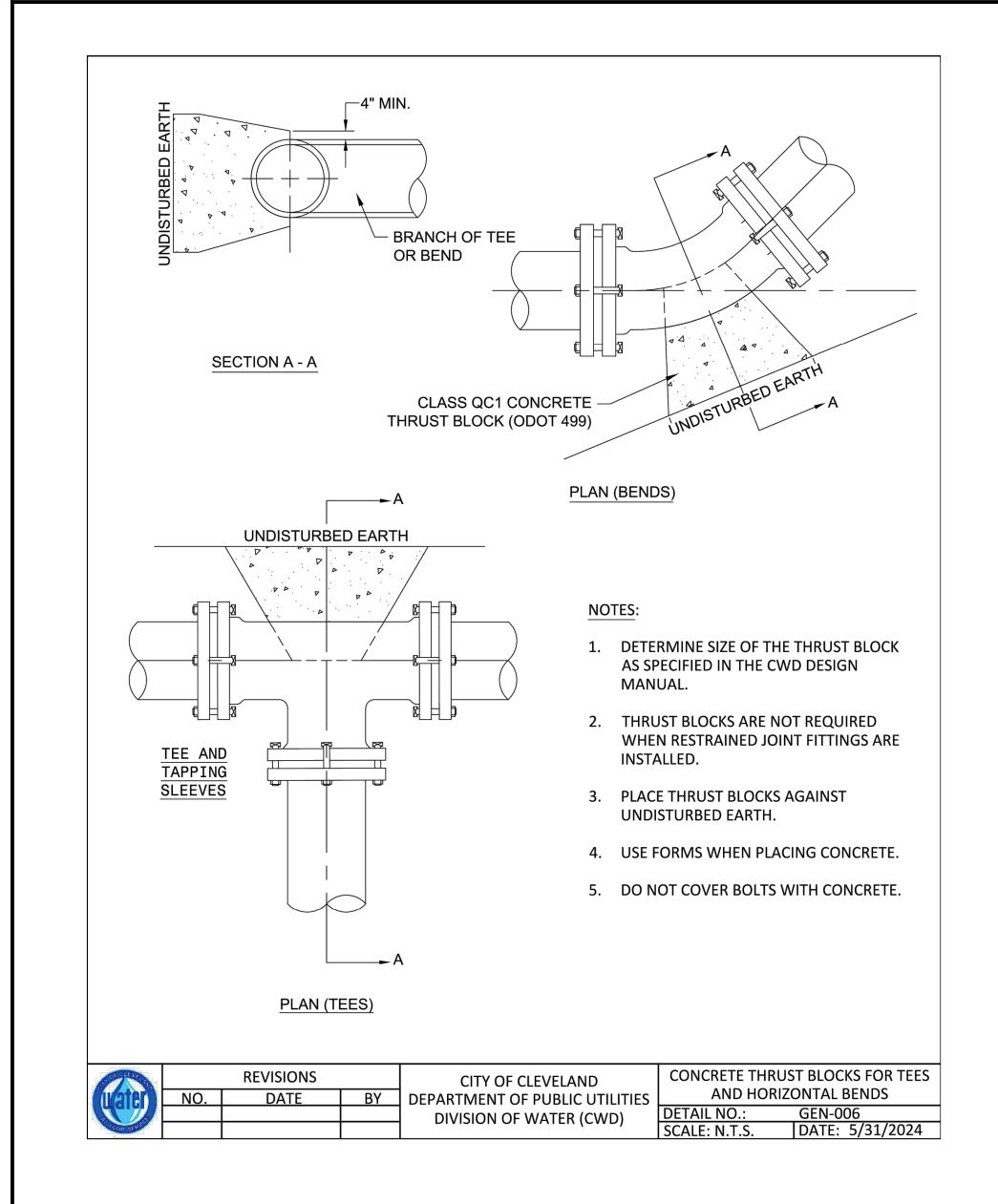
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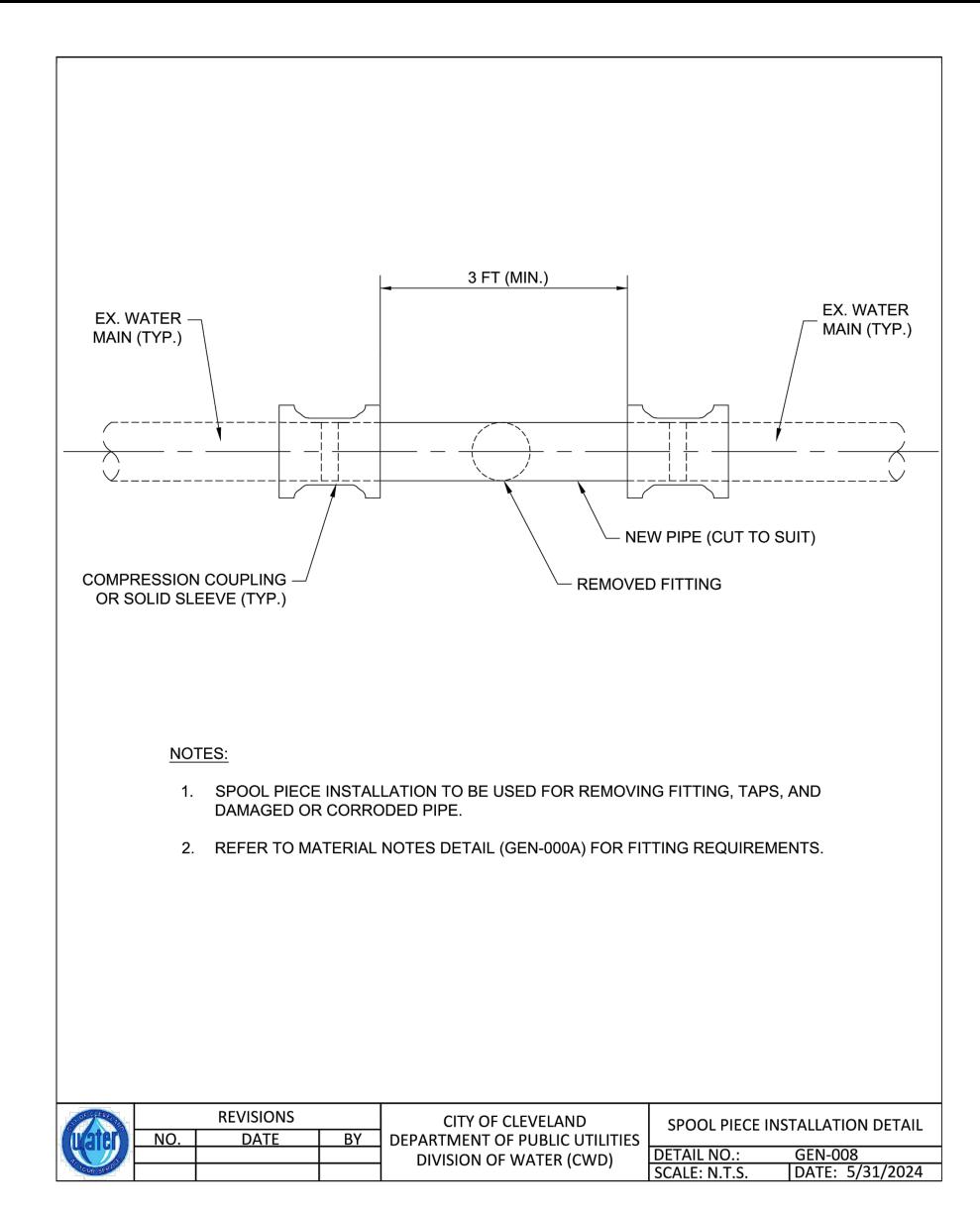
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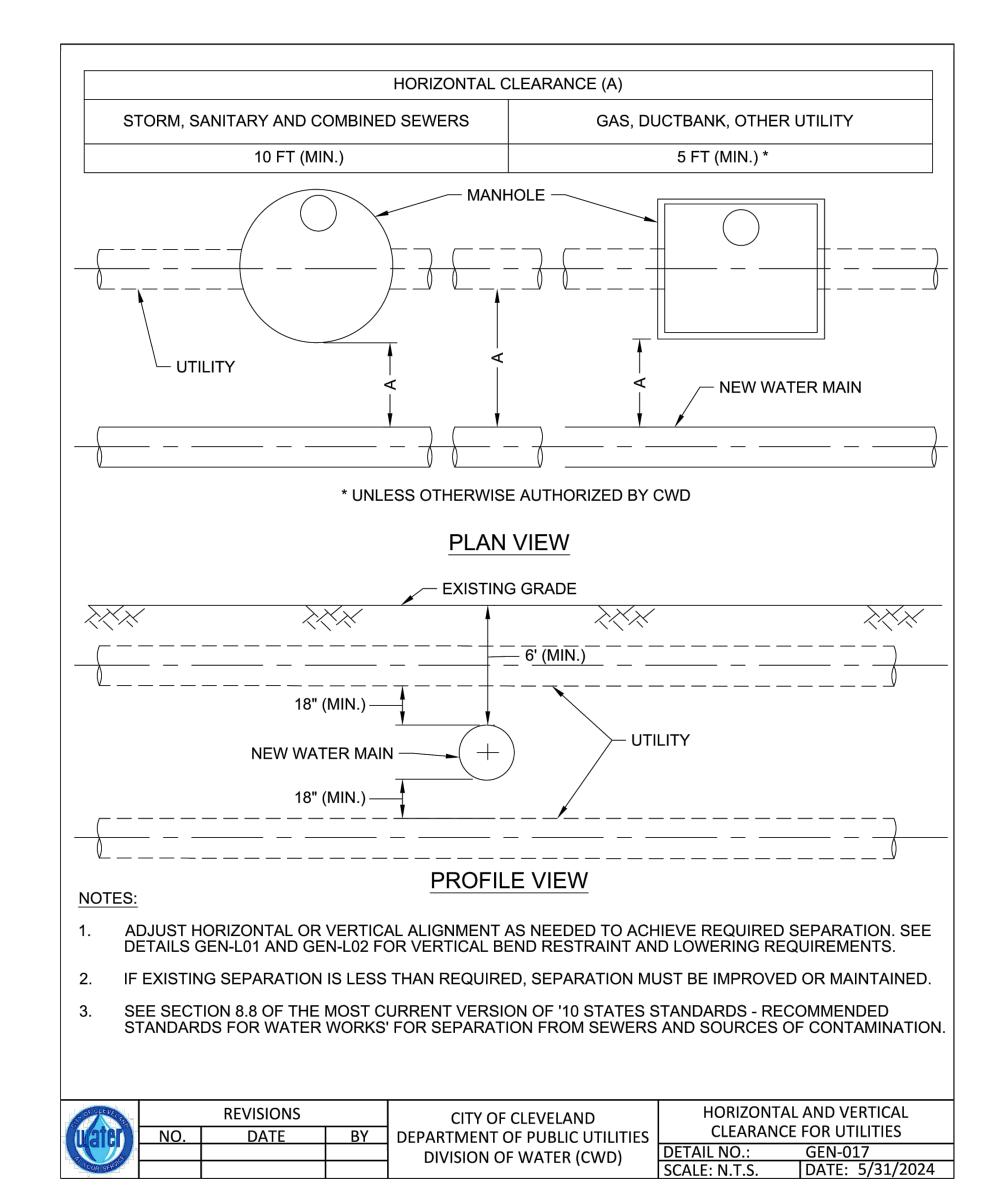
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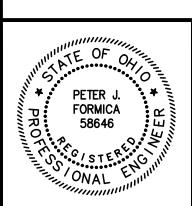
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CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

CLEVELAND WATER DETAILS 2

PROJECT NO.

32052

DISCIPLINE

CIVIL

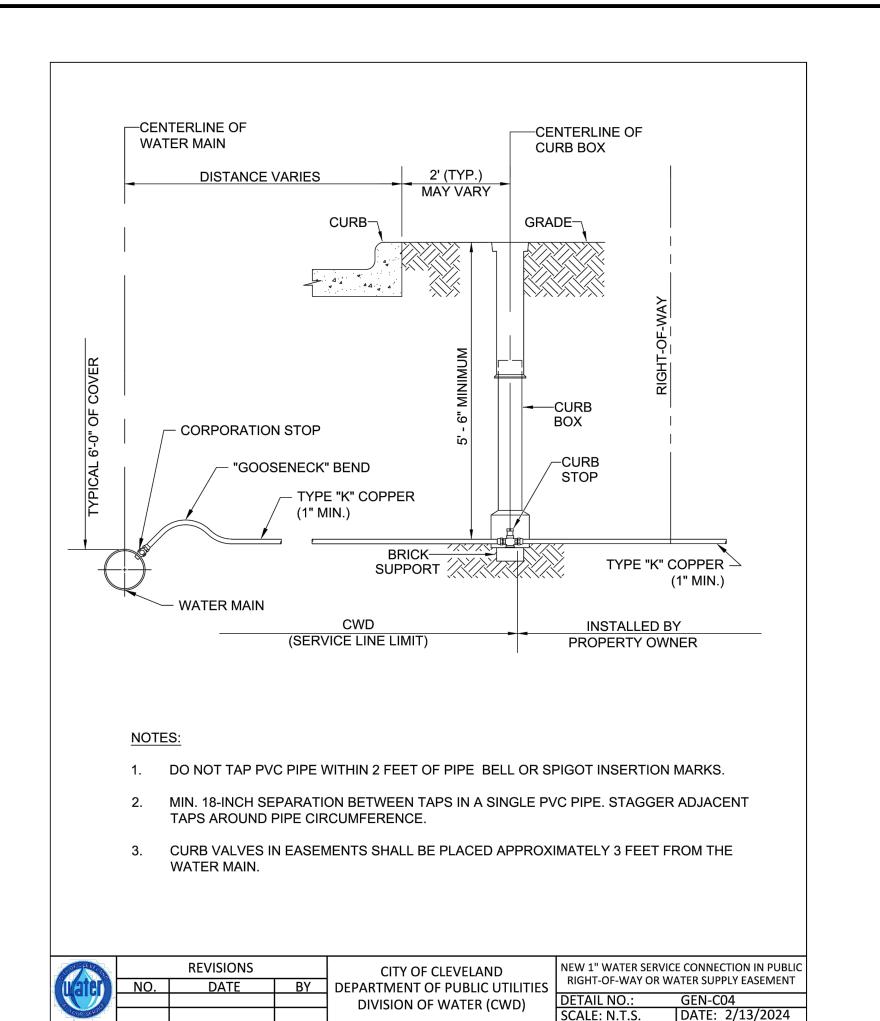
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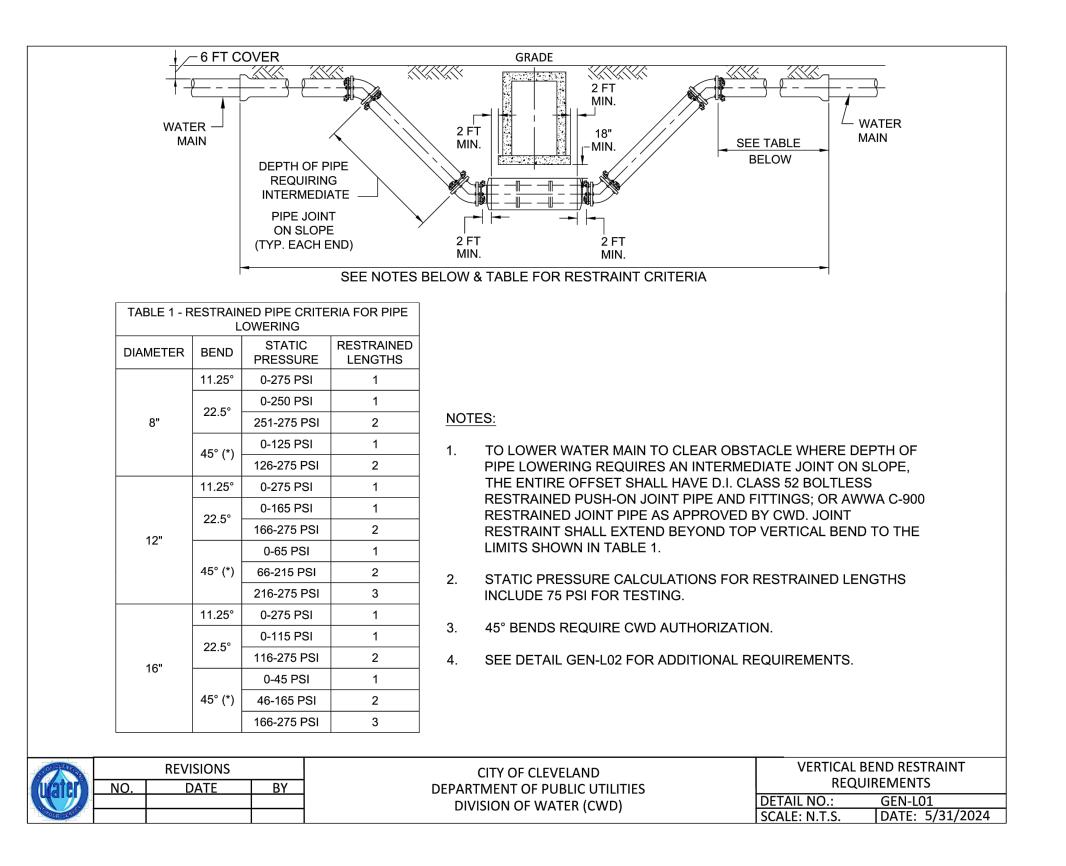
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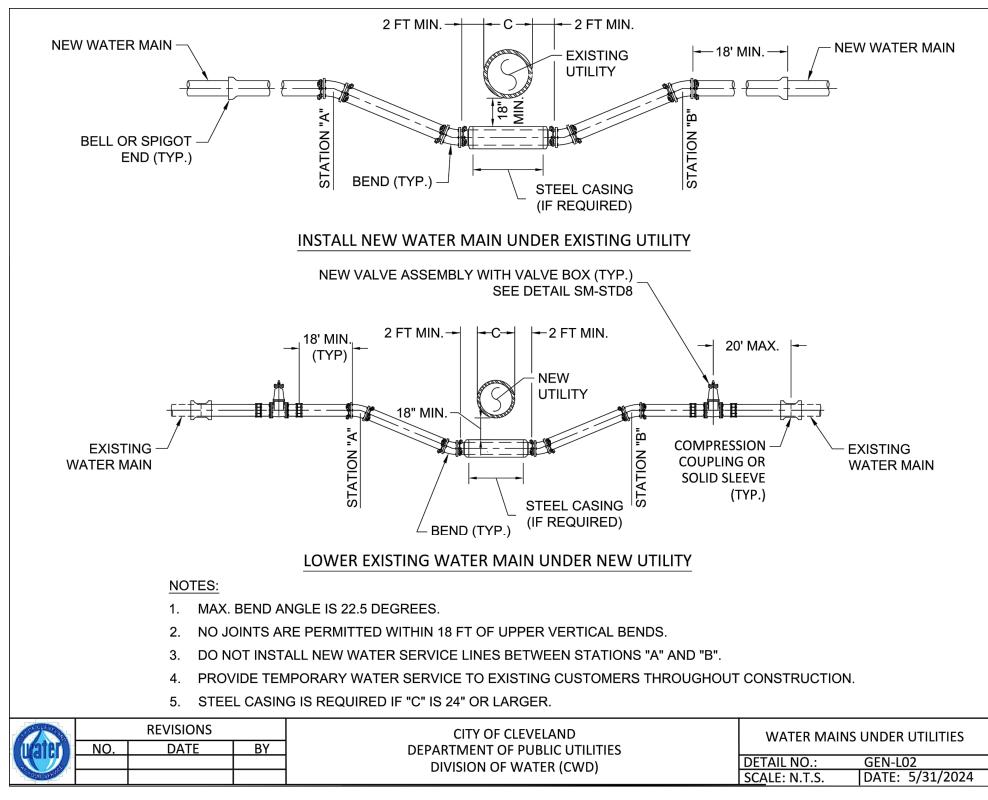
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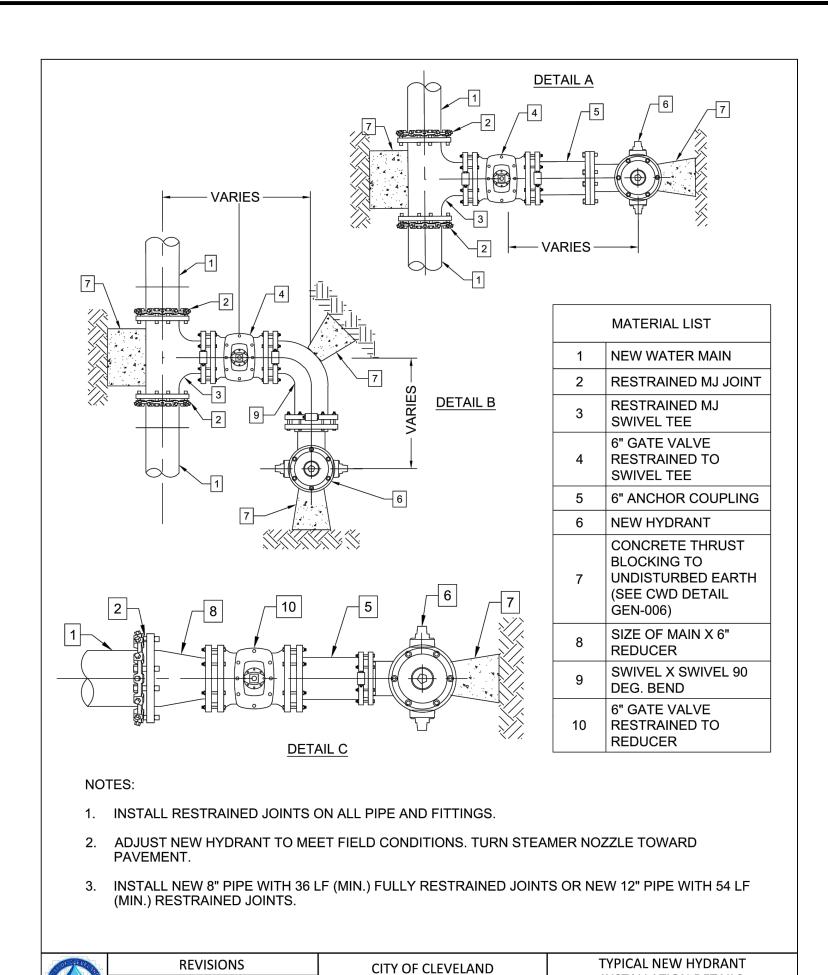
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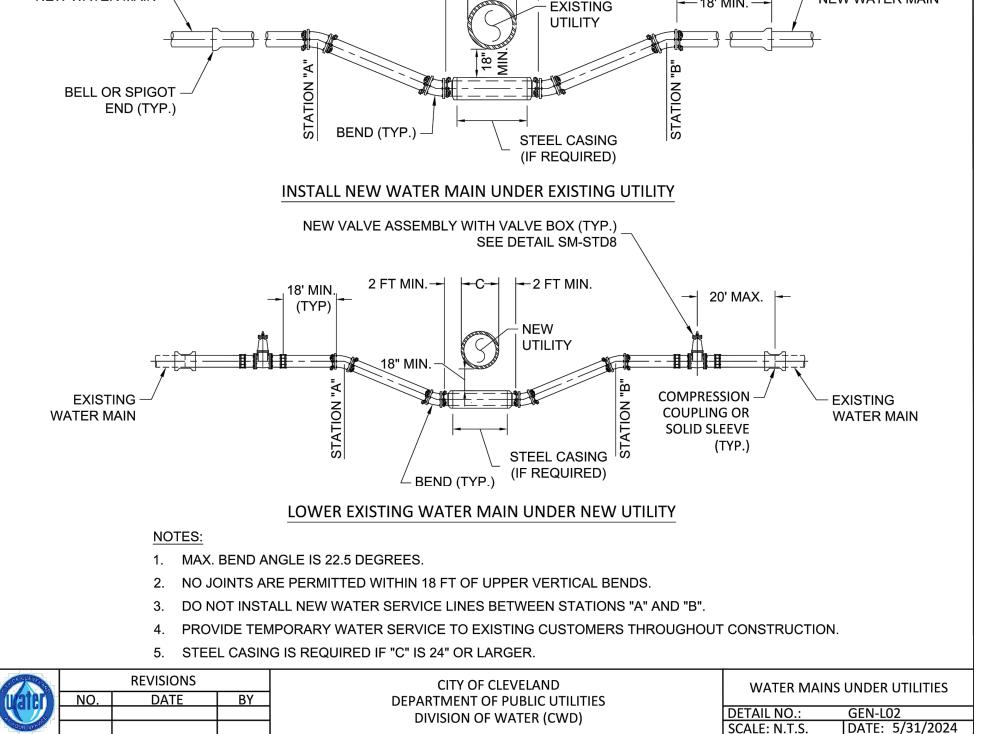


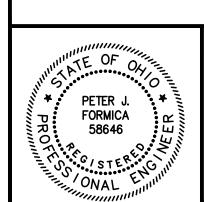




DEPARTMENT OF PUBLIC UTILITIES

DIVISION OF WATER (CWD)





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REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT **IMPROVEMENTS**

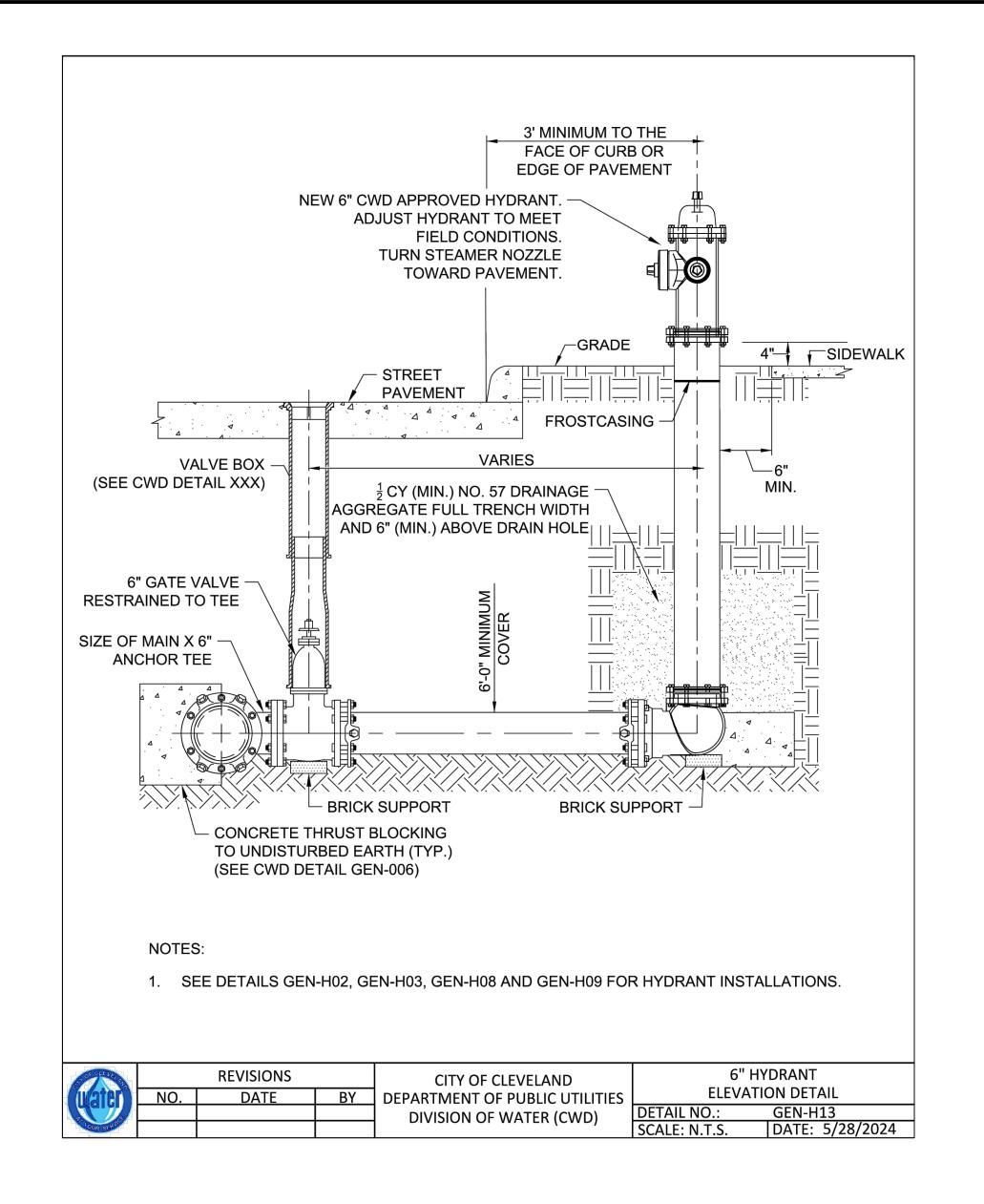
CUYAHOGA COUNTY, OHIO

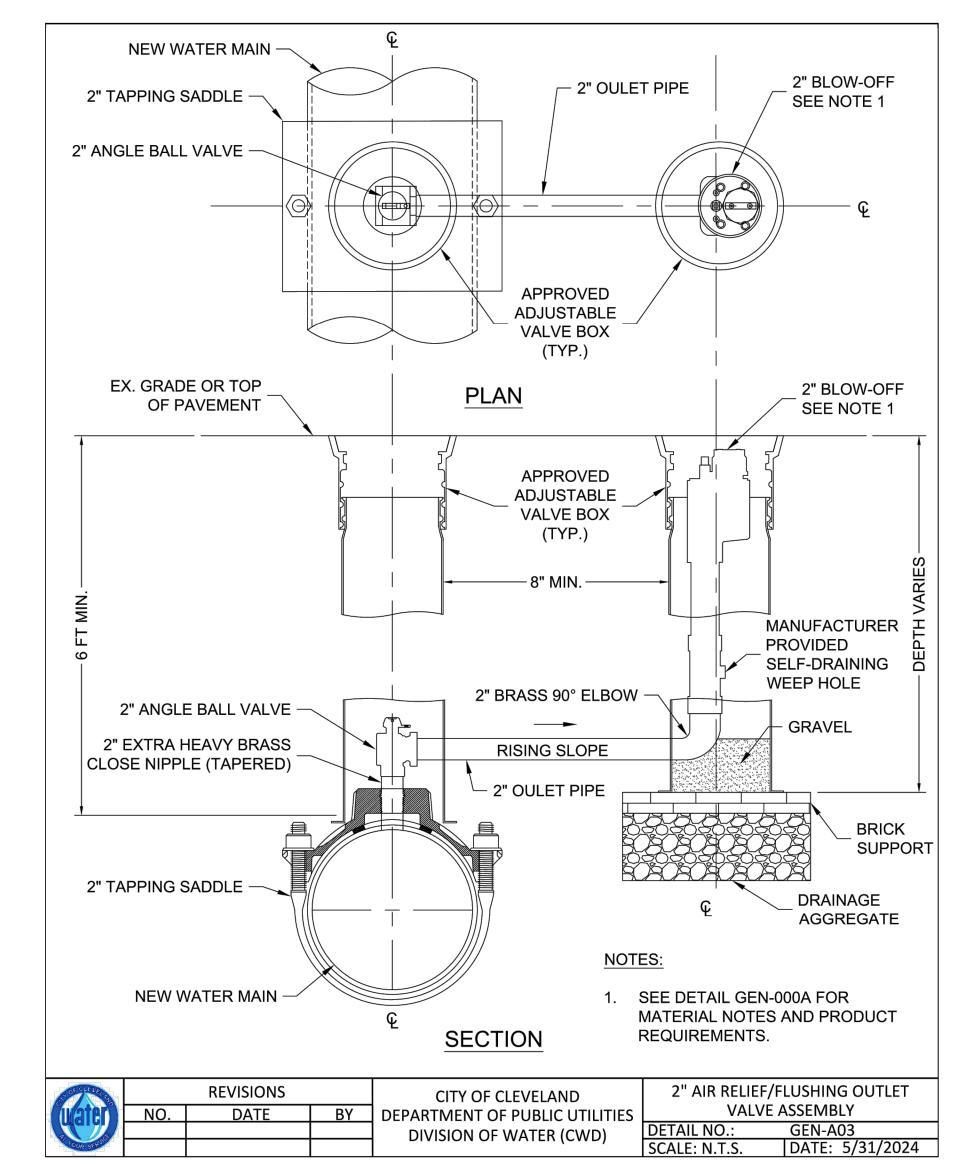
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ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	ТЈМ
CHECKED BY:	PJF

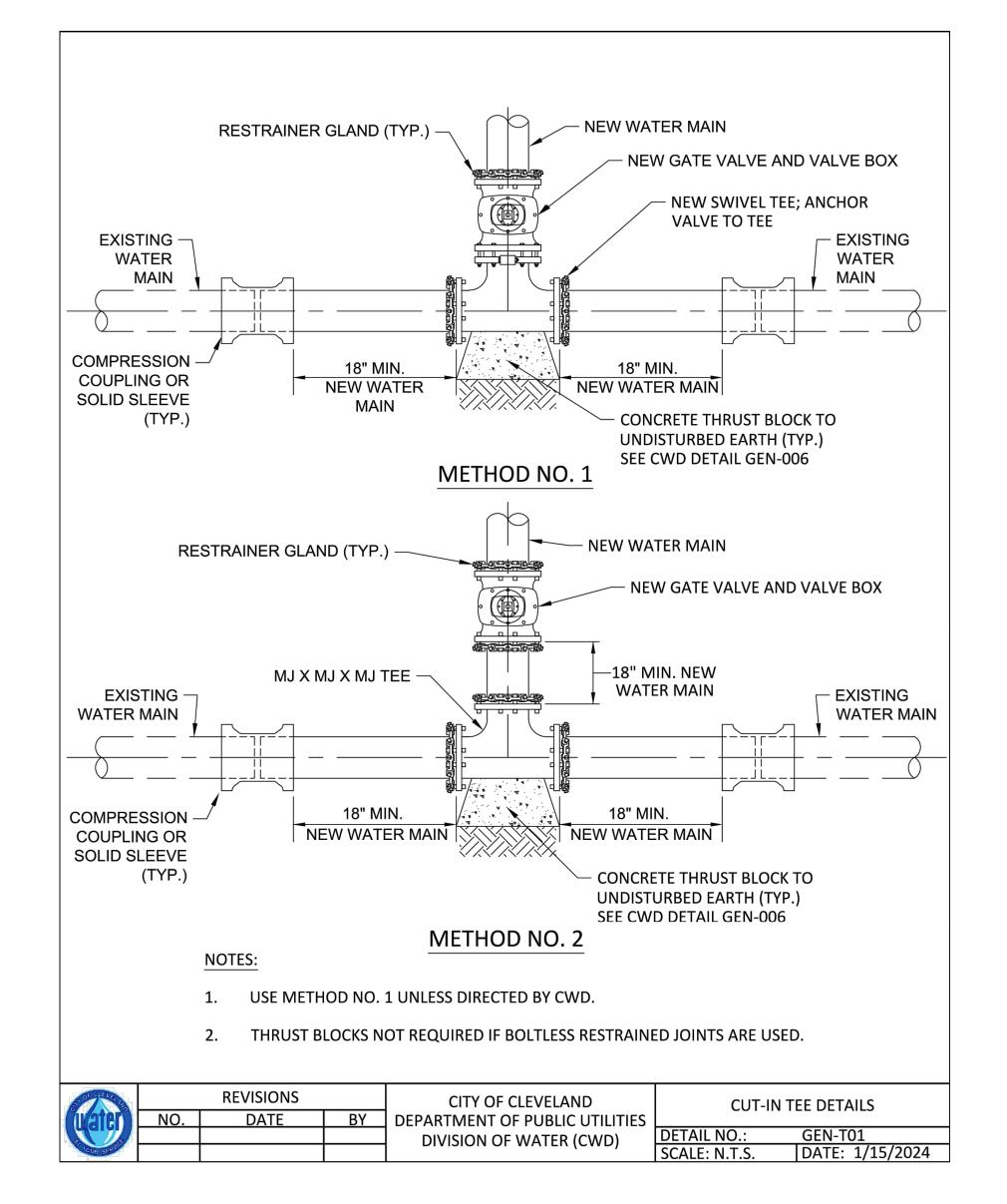
CLEVELAND WATER DETAILS 3

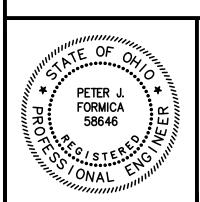
PROJECT NO.				
32052				
DISCIPLINE				
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SHEET NAME				
DET-5				
SHEET OF				
26 33				

INSTALLATION DETAILS









verdantas NO REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

CLEVELAND WATER DETAILS 4

PROJECT NO.

32052

DISCIPLINE

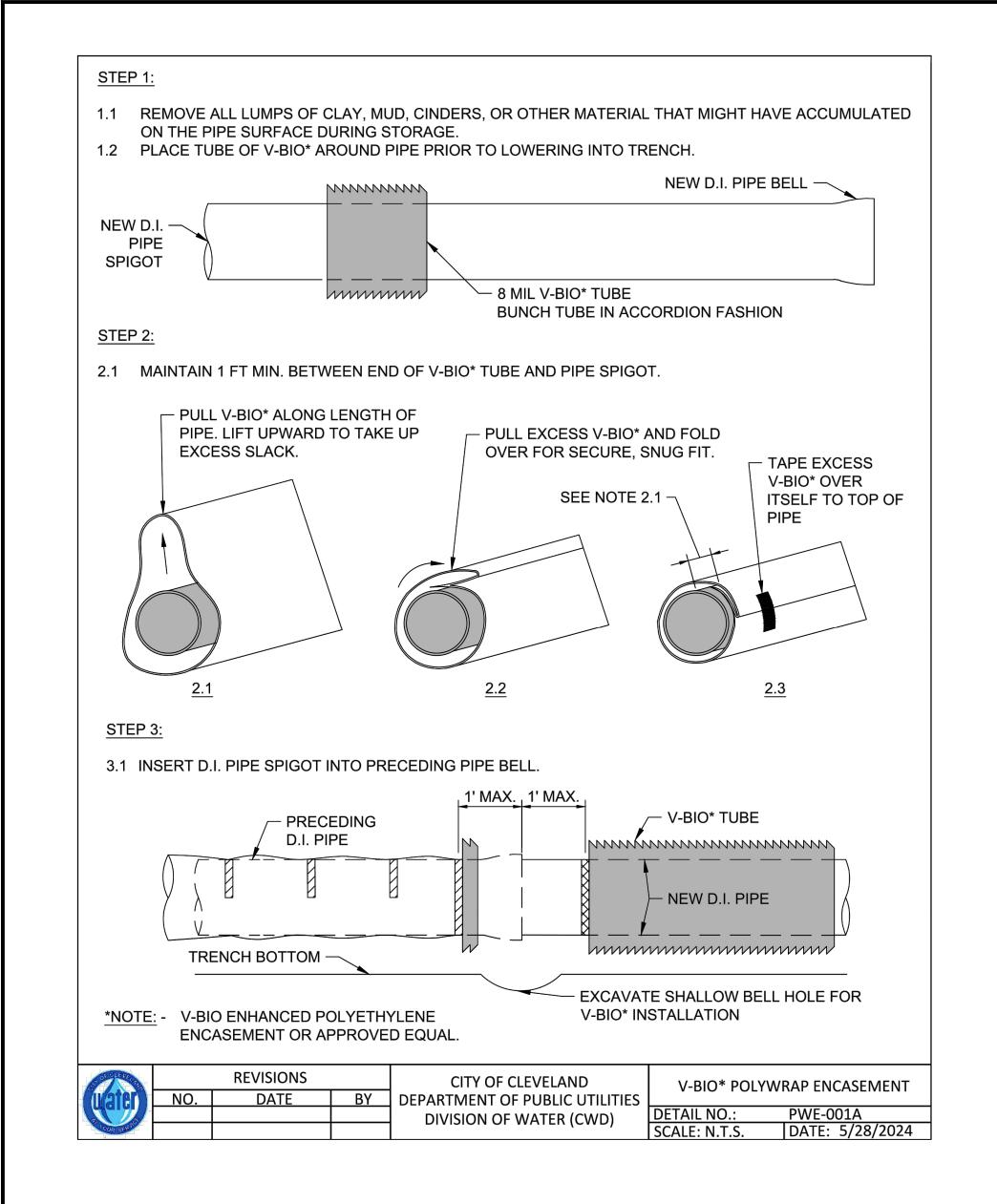
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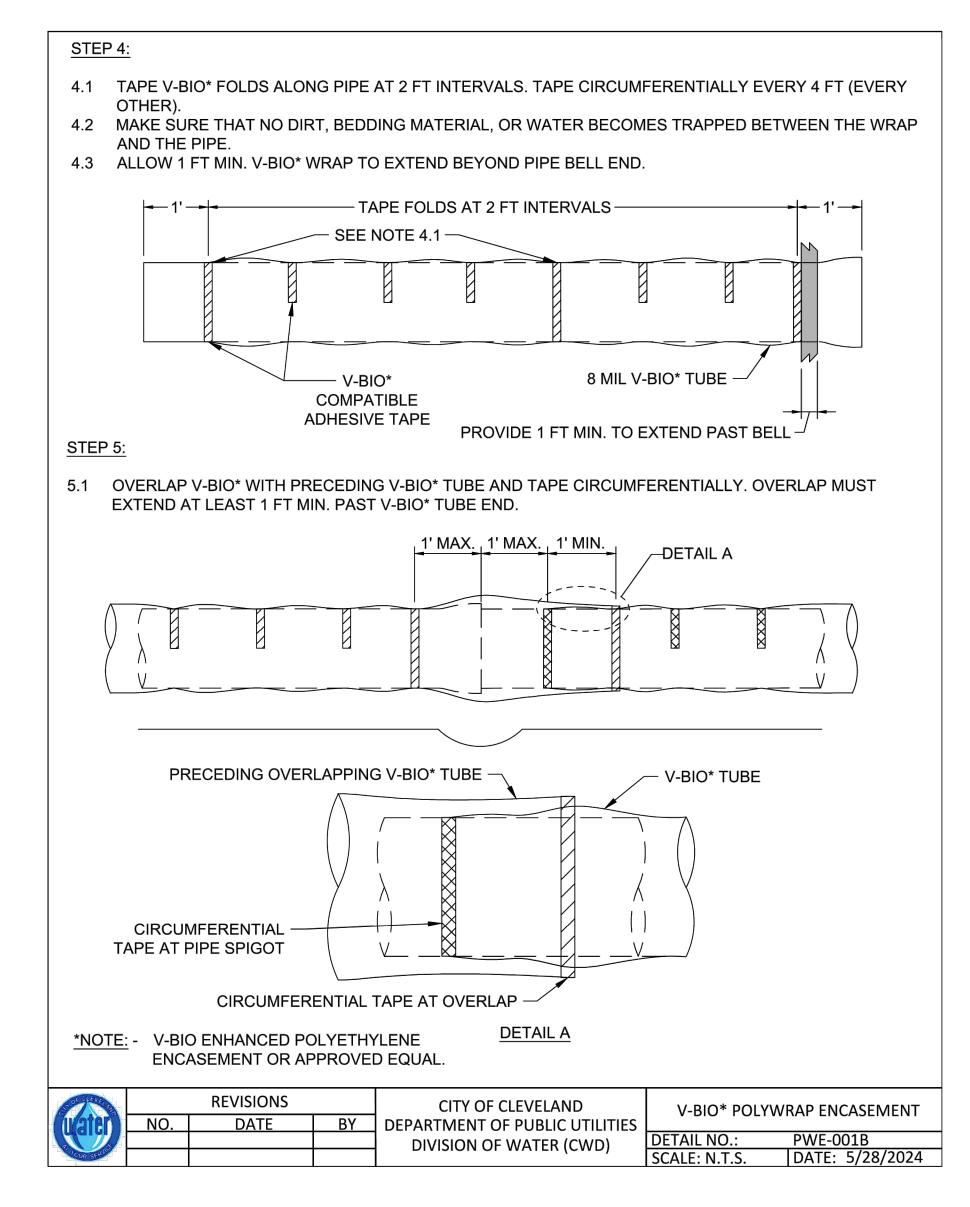
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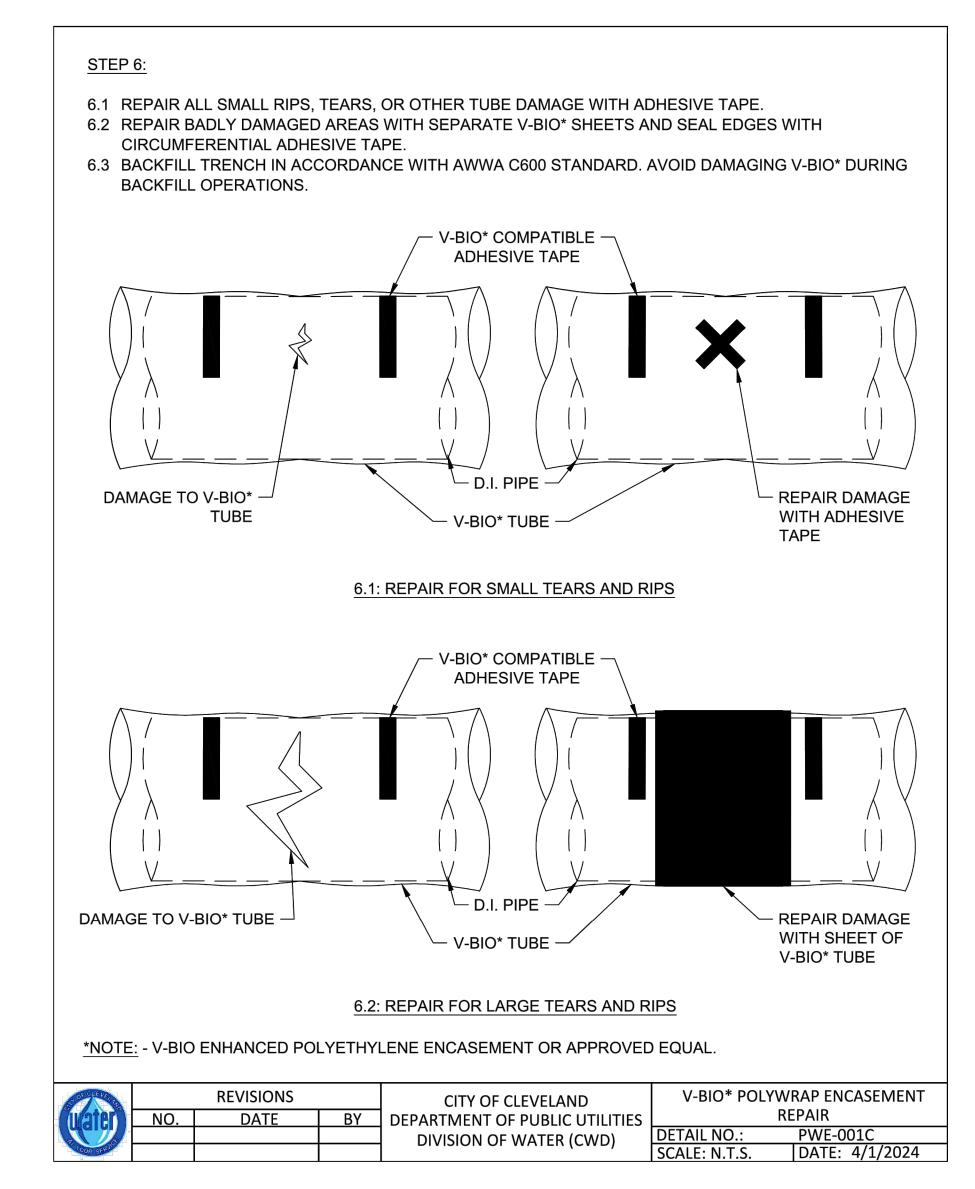
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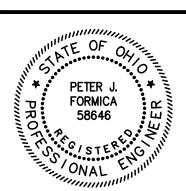
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verdantas No REVISION DATE

CITY OF RICHMOND HEIGHTS

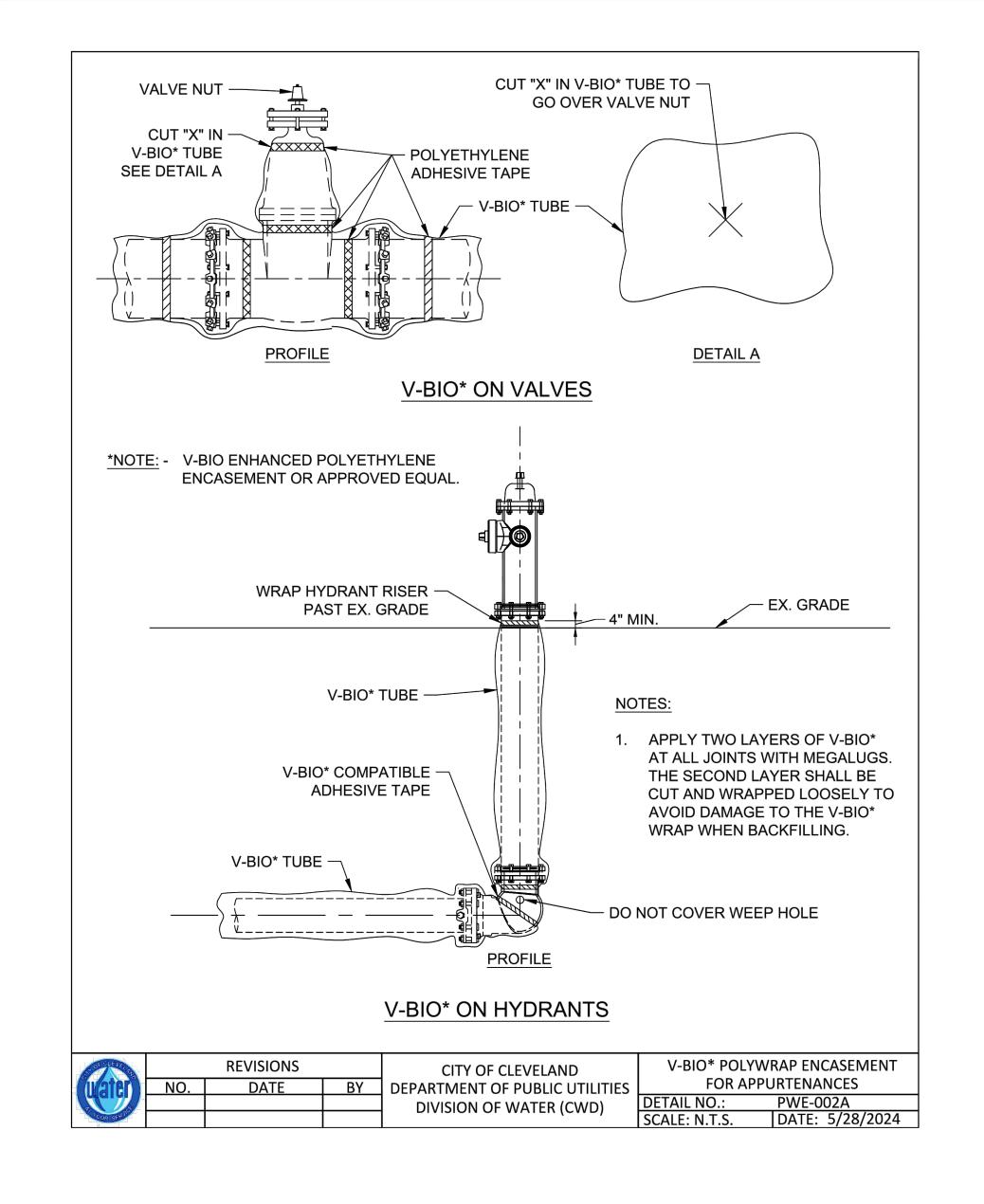
DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

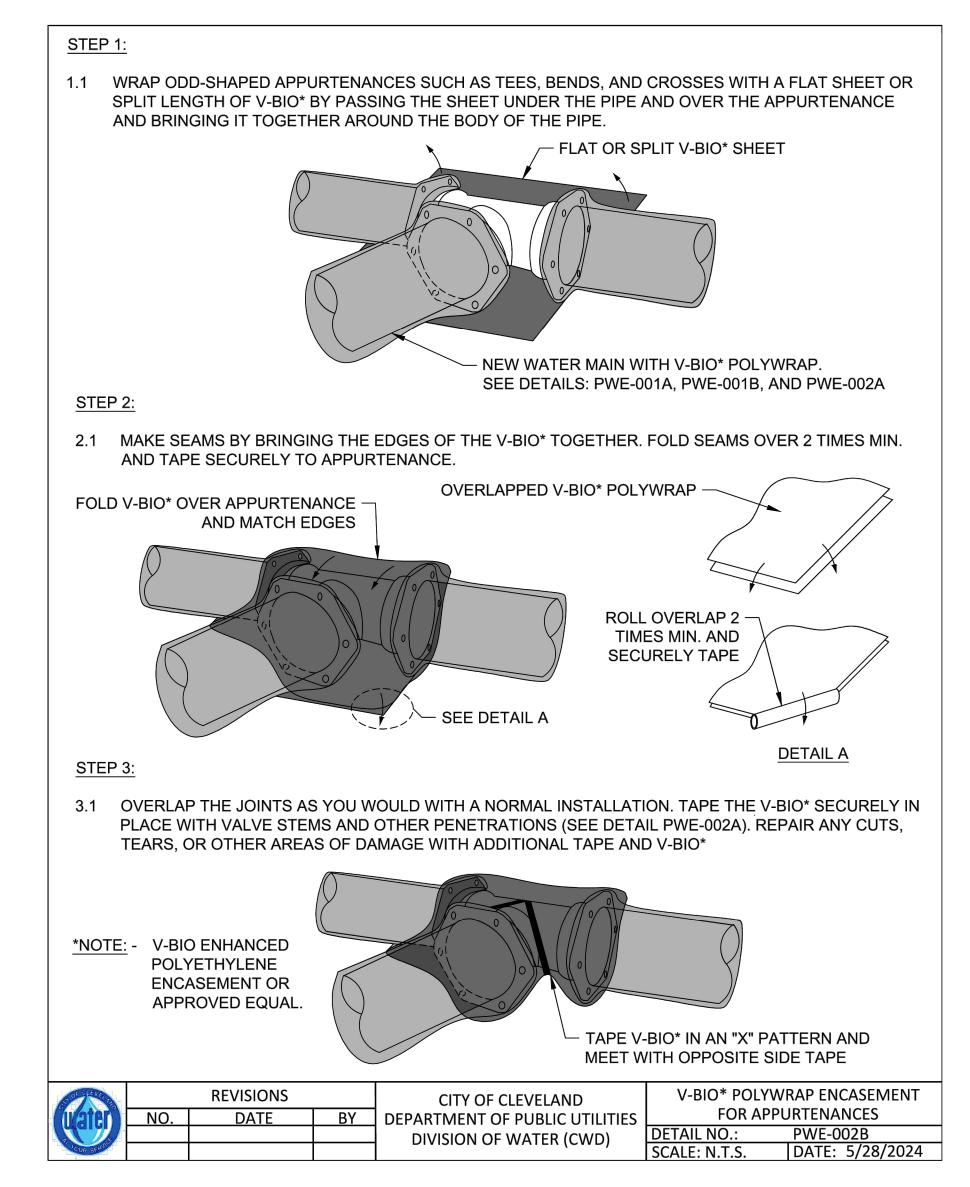
CUYAHOGA COUNTY, OHIO

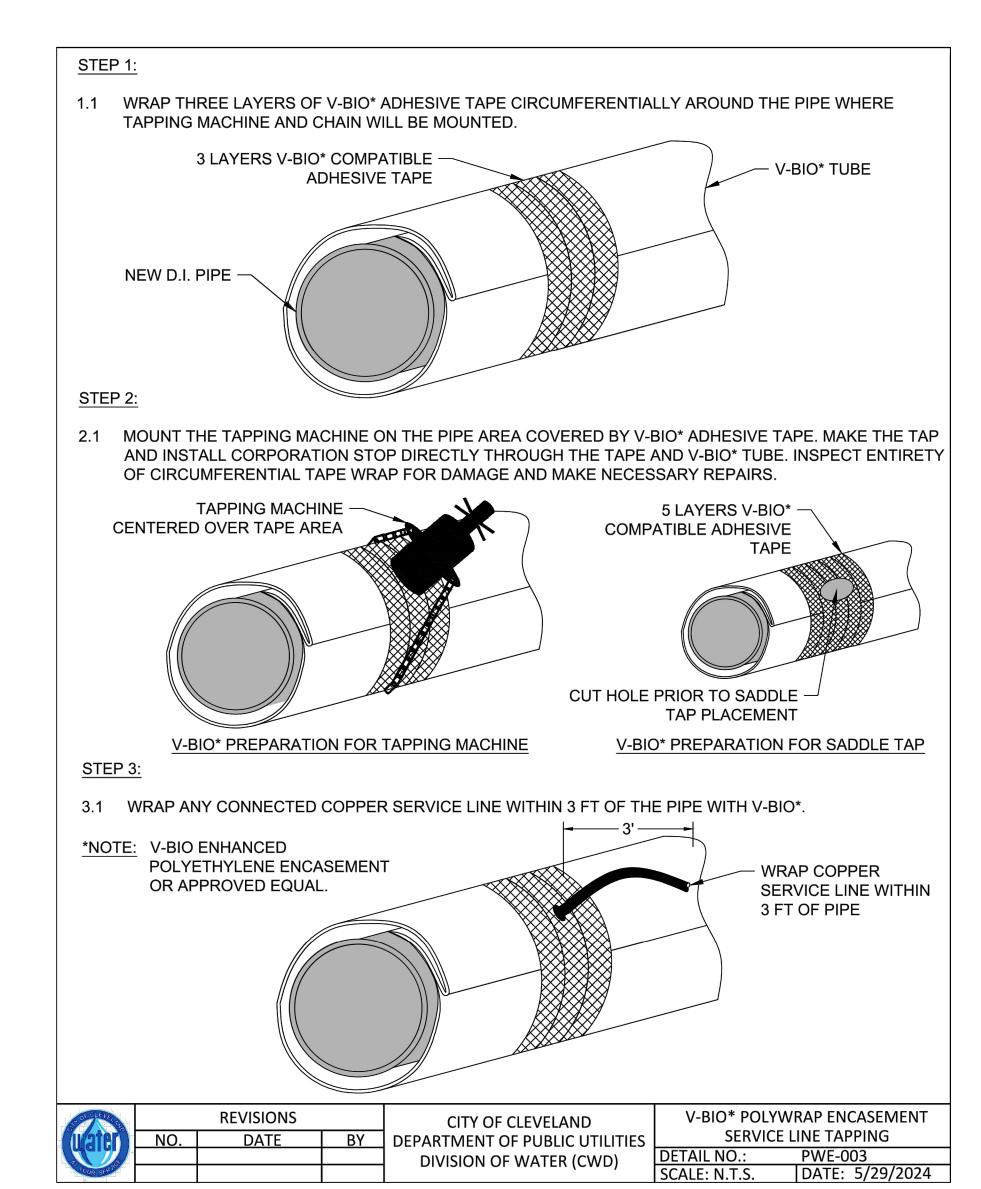
ISSUED FOR:	BID
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SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PIF

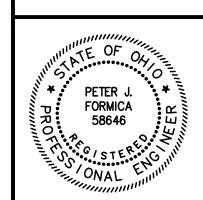
CLEVELAND WATER DETAILS 5

PROJECT NO.				
32052				
DISCIPLINE				
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DET-7				
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verdantas NO REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	ТЈМ
CHECKED BY:	PJF

CLEVELAND WATER DETAILS 6

PROJECT NO.

32052

DISCIPLINE

CIVIL

SHEET NAME

DET-8

SHEET OF

29 33

CONTROL MAP

STATE OF OHIO, COUNTY OF CUYAHOGA,

CITY OF RICHMOND HEIGHTS BEING A PART OF THE ORIGINAL EUCLID **TOWNSHIP LOT 66, TRACT 12**



		V	
	В	AR SCALE	
100'	50'	0'	100'
	004	15 41 40	01

NOTES:

- THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY BE SUBJECT TO EASEMENTS AND OTHER RESTRICTIONS, EITHER RECORDED OR UNRECORDED. THE SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS, RECORD ENCUMBRANCES, RESTRICTIVE COVENANTS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
- 2. THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
- THE PROJECT CONTROL COORDINATE SYSTEM IS BASED UPON THE FOLLOWING: · HORIZONTAL DATUM - PROJECT CONTROL COORDINATES FOR THIS PROJECT HAVE BEEN ESTABLISHED BY GPS/RTK OBSERVATIONS UTILIZING THE OHIO COORDINATE SYSTEM OF 1983 (ZONE 3401-OHIO NORTH). OHIO STATE PLANE GRID COORDINATE VALUES ARE EXPRESSED IN UNITS OF U.S. SURVEY FEET. · VERTICAL DATUM - NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- 4. THE SURVEY AND STREET ALIGNMENTS SHOWN HEREON WERE OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR OTHER PURPOSES. THE PROPERTY LINES SHOWN HEREON OUR SUBJECT TO AN ACCURATE BOUNDARY SURVEY AND ARE BASED ON FOUND MONUMENTS LOCATED IN THE FIELD BEST FIT TO THE RECORDS.
- 5. AN ALTA/ NSPS LAND TITLE SURVEY WAS NOT PERFORMED. 6. EASEMENTS, RECORD RESTRICTIONS AND SETBACKS WERE NOT
- ADDRESSED DURING THIS SURVEY. 7. ALL DIMENSIONS GIVEN ARE EXPRESSED IN US SURVEY FEET.
- 8. THE BENCHMARK ELEVATIONS SHOWN IN THE PROJECT CONTROL TABLE ARE AT THE TOP OF THE RED CAP OF THE IRON PIN SET.
- 9. IRON PINS SET ARE 5/8" IRON PINS SET WITH A RED CAP INSCRIBED WITH "CT REF"

LEGEND:

M	CENTERLINE MONUMENT	
	I.PIN SET	
\circ	I.PIN FOUND	
	I.PIPE FOUND	
	EX. R/W ———————————————————————————————————	LIMITS OF PUBLIC R/W
		CENTERLINE PUBLIC R/W
		PARCEL LINES
		SUBDIVISION LINES

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	689143.6640	2239439.8360	867.44	Iron Pin (Set)
10	688781.4380	2239375.5710	869.77	Iron Pin (Set)
11	689449.5130	2239667.2660	863.70	Iron Pin (Set)
12	689819.7470	2239884.9510	862.72	Iron Pin (Set)
13	690232.6550	2239857.0230	855.47	Iron Pin (Set)
14	690630.2010	2239889.3310	852.55	Iron Pin (Set)
15	691067.0430	2239835.7440	848.88	Iron Pin (Set)
16	691402.7450	2239869.2770	847.19	Iron Pin (Set)
20	689429.7590	2239122.5650	862.74	Iron Pin (Set)
21	689901.9440	2239029.3610	856.31	Iron Pin (Set)

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
22	690358.9400	2238989.7200	851.58	Iron Pin (Set)
23	690854.4030	2238984.4740	847.40	Iron Pin (Set)
24	691312.6360	2238978.1160	844.42	Iron Pin (Set)
50	688696.0870	2238377.9720	0.00	Monument Box (Fnd)
51	688717.6200	2240236.4520	0.00	Monument Box (Fnd)
52	689354.6240	2239663.7910	0.00	Iron Pin (Fnd)
53	689258.0780	2239592.5670	0.00	Iron Pin (Fnd)
54	689281.7000	2239536.2650	0.00	Iron Pin (Fnd)
55	689542.6640	2239721.4390	0.00	Iron Pipe (Fnd)
56	689996.1750	2239909.1640	0.00	Iron Pin (Fnd)

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
113	690232.6550	2239857.0230	855.44	Iron Pin (Set)
114	690630.2010	2239889.3310	852.52	Iron Pin (Set)
115	691067.0430	2239835.7440	848.87	Iron Pin (Set)
116	691402.7450	2239869.2770	847.15	Iron Pin (Set)
120	689429.7590	2239122.5650	862.74	Iron Pin (Set)
121	689901.9440	2239029.3610	856.31	Iron Pin (Set)
200	691015.5440	2239837.4660	851.53	Benchmark (Set) A IN ALBERTV

67	689764.2520	2239052.3880	0.00	Iron Pin (Fnd)
68	689700.1790	2239001.5960	0.00	Iron Pipe (Fnd)
69	689799.2470	2238988.9170	0.00	Iron Pin (Fnd)
70	691349.4430	2238996.8540	0.00	Monument Box (Fnd)
71	691349.5800	2238996.9320	0.00	Monument Box (Fnd)
72	691346.5800	2238784.9700	0.00	Monument Box (Fnd)
73	691364.7690	2240183.0190	0.00	Monument Box (Fnd)
74	689840.2610	2239047.2970	0.00	Iron Pin (Fnd)
111	689449.5130	2239667.2660	863.71	Iron Pin (Set)
112	689819.7470	2239884.9510	862.72	Iron Pin (Set)
	•			

POINT TABLE

POINT # NORTHING | EASTING | ELEVATION | DESCRIPTION |

rdantas

NO	REVISION	DATE	
			i

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

POINT TABLE

POINT # NORTHING EASTING ELEVATION DESCRIPTION

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

2239849.3670

2239849.2980

2239908.4140

2239853.0740

2239472.7600

2239314.9710

2239334.6470

2239231.3650

2239173.8180

2239073.8350

689994.8300

690044.1140

690096.1660

691360.4470

689006.2590

689215.4640

689275.4130

689369.6690

689344.1420

689656.5230

59

60

61

62

63

65

Iron Pin (Fnd)

Iron Pin (Fnd)

Iron Pin (Fnd)

Monument Box (Fnd)

Iron Pin (Fnd)

Iron Pin (Fnd)

Iron Pin (Fnd)

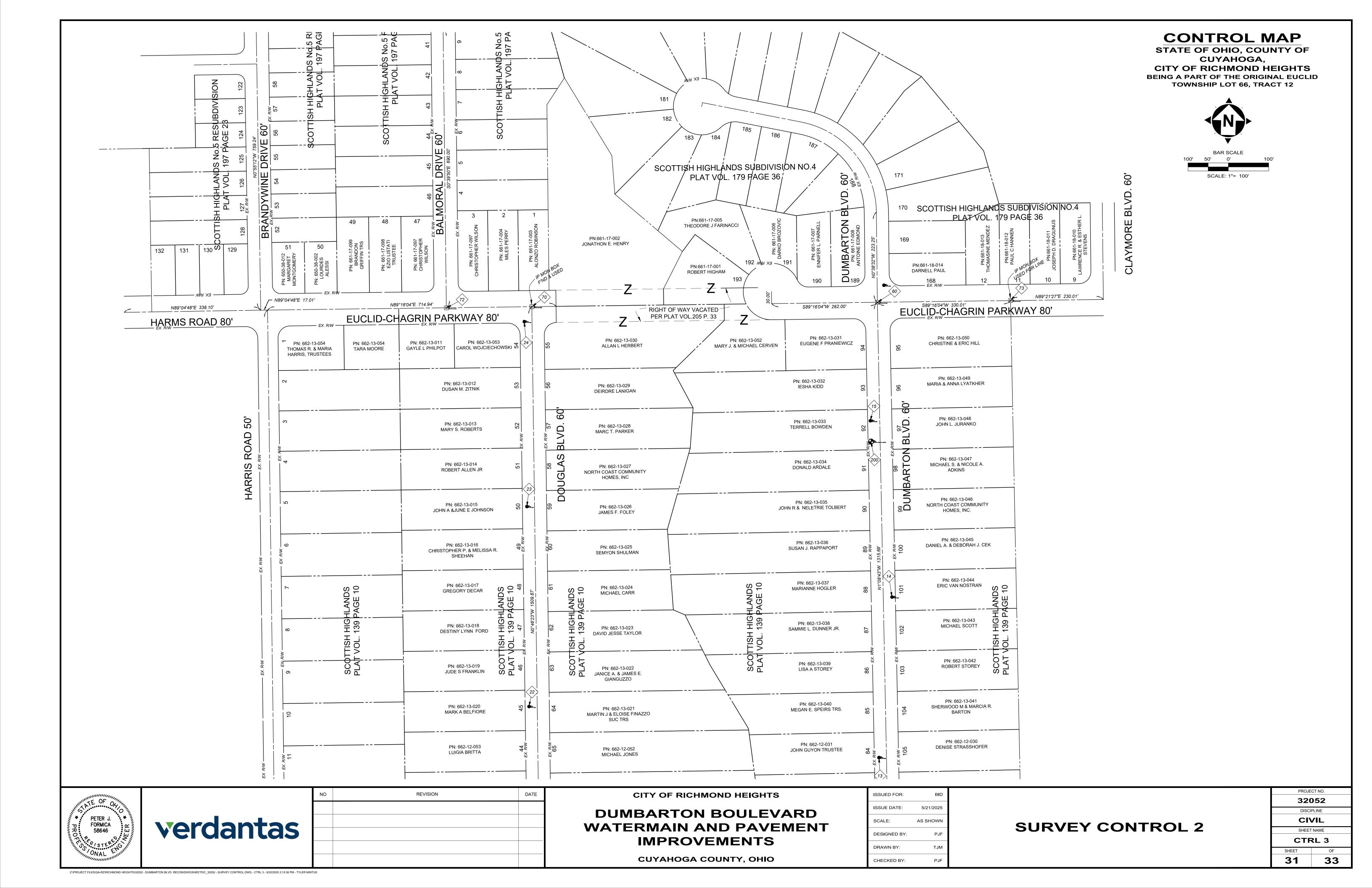
Iron Pin (Fnd)

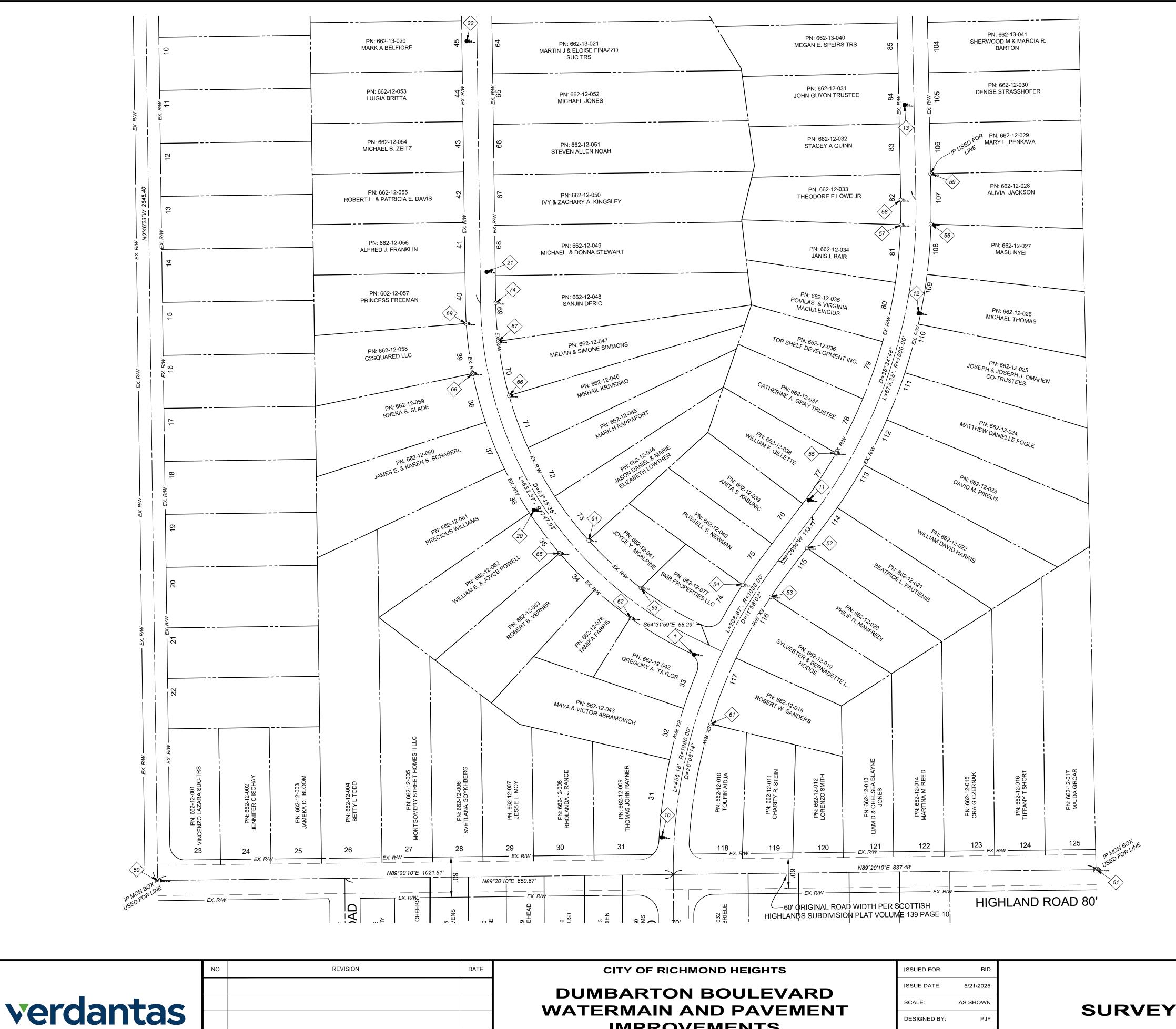
Iron Pipe (Fnd)

Iron Pin (Fnd)

SURVEY CONTROL 1

PROJECT NO.			
32052			
DISCII	PLINE		
CIVIL			
SHEET NAME			
CTRL 1			
SHEET	OF		
30	33		





WATERMAIN AND PAVEMENT

IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

DESIGNED BY

DRAWN BY:

CHECKED BY:

CONTROL MAP

STATE OF OHIO, COUNTY OF CUYAHOGA,

CITY OF RICHMOND HEIGHTS BEING A PART OF THE ORIGINAL EUCLID **TOWNSHIP LOT 66, TRACT 12**

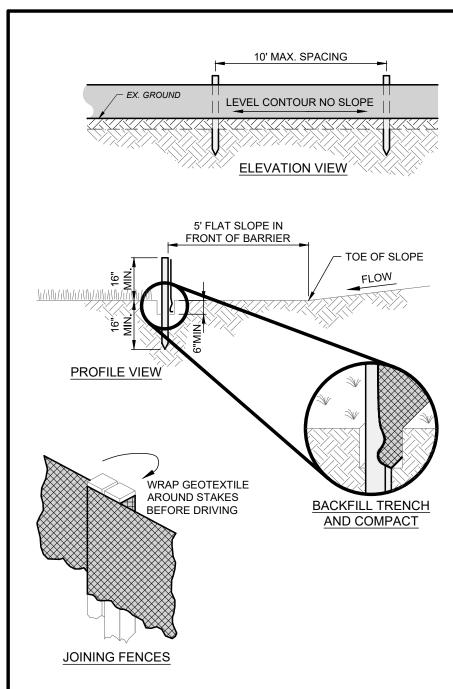


SCALE: 1"= 100'

SURVEY CONTROL 3

PROJECT NO. 32052 DISCIPLINE CIVIL SHEET NAME CTRL 2 **32** 33

PETER J. FORMICA 58646



- PRESERVE VEGETATION FOR 5 FEET OR AS MUCH AS POSSIBLE UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM SILT FENCE INSTALLATION.
- SILT FENCE MAY ONLY PASS RUNOFF AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, THEN CHANGE THE LAYOUT OF THE SILT FENCE, REMOVE ACCUMULATED SEDIMENT OR INSTALL OTHER PRACTICES.
- SILT FENCE SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, VERIFICATION FABRIC IS SECURELY ATTACHED TO FENCE POSTS, AND VERIFICATION FENCE POSTS ARE FIRMLY IN THE GROUND. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED 1/3 THE FENCE HEIGHT
- THE MAXIMUM DRAINAGE AREA PER 100 FEET OF SILT FENCE IS 1/2 ACRE AND IS DEPENDENT ON THE SLOPE PER THE CHART BELOW:

MAX. DRAINAGE AREA (AC.) PER 100-FT OF SILT FENCE (*)	RANGE OF SLOPE PER INDIVIDUAL DRAINAGE AREA
0.50 AC.	<2% (50H:1V)
0.25 AC.	≥2% (50H:1V) BUT <20% (5H:1V)
0.125 AC.	<u>></u> 20% (5H:1V) BUT <50% (2H:1V)

(*) SILT FENCE CANNOT BE USED FOR SLOPES >50% (2H:1V).

SILT FENCE DETAIL

- THE SEED BED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
- SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH VEGETATION. PERFORM SOIL TESTS TO PREDICT THE NEED FOR LIME OR FERTILIZER. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS
- APPLY SEED UNIFORMLY. COVER BROADCASTED SEED BY RAKING OR DRAGGING, AND LIGHTLY TAMPING INTO PLACE.
- MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
- INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND

TEMPORARY SEEDING SPECIES SELECTION				
DATES	SPECIES	LB/1,000 SF	LB/AC.	
MARCH 1 - AUGUST 15	OATS TALL FESCUE PERENNIAL RYEGRASS	3 1 1	128 40 40	
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 40	
AUGUST 16 - OCTOBER 31	RYE TALL FESCUE PERENNIAL RYEGRASS	3 1 1	112 40 40	
	WHEAT TALL FESCUE PERENNIAL RYEGRASS	3 1 1	120 40 40	
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 40	
NOVEMBER 1 - FEBRUARY 28	ONLY MULCH OR DORMANT SEEDING.			

TEMPORARY SEEDING NOTES

- SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
- THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
- APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED BETWEEN MARCH 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 30. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEEDING SHOULD NOT BE APPLIED BETWEEN OCTOBER 1 AND NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. IF SEEDING MUST OCCUR, INCREASE THE SEEDING RATE BY 50% AND ANCHOR. APPLY ADDITIONAL MULCH AND IRRIGATION AS REQUIRED TO ENSURE GERMINATION.
- MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
- SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS.
- SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF SEEDING. DURING THIS PERIOD INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND
- ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/ AC.	TIME	MOW
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		
TURF-TYPE FESCUE	10-10-10	500		<u>></u> 4"
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND	DO
FLAT PEA FESCUE	0-20-20	400	YEARLY AFTER ESTABLISHED	MOW MOW

PERMANENT SEEDING SPECIES SELECTION			
SEED MIX	SEED RATE LB/AC.	NOTES:	
	GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH <2.0 FT./SEC. VELOCITY	
TALL FESCUE	40 - 50		
TURF-TYPE FESCUE	90		
STEEP E	BANKS OR CUT	SLOPES	
TALL FESCUE	40 - 50		
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST	
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST	
ROAD DITCHES AND SWALES			
TALL FESCUE	40 - 50		
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5		
LAWN			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120		
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS	

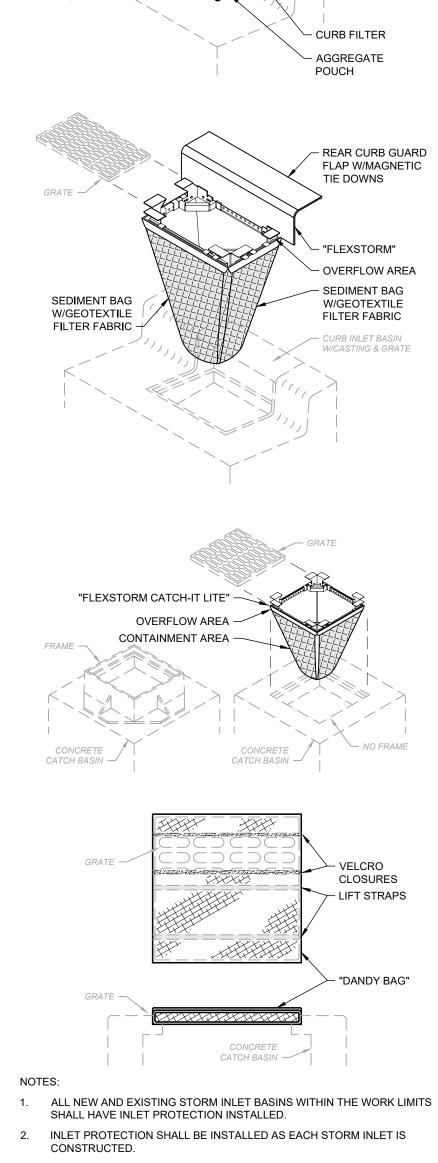
PERMANENT SEEDING NOTES

- MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
- A. UNROTTED SMALL GRAIN STRAW SPREAD UNIFORMLY AT 2 TONS/AC. (2 TO 3 BALES).
- WOOD-CELLULOSE FIBER (I.E. HYDROSEEDING) APPLIED AT 1
- ROLLED EROSION CONTROL PRODUCT OR MULCH MATTING APPLIED PER MANUFACTURER RECOMMENDATION.
- D. WOOD MULCH OR CHIPS APPLIED AT 6 TONS/AC.
- MULCH SHALL BE ANCHORED IMMEDIATELY BY ONE OF THE
- A. PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL USING A DISK, CRIMPER OR SIMILAR TOOL.
- B. NETTING PER MANUFACTURER RECOMMENDATION IN
- CONCENTRATED RUNOFF AREAS OR CRITICAL SLOPES.
- SYNTHETIC BINDERS AT MANUFACTURER RATE. WOOD-CELLULOSE FIBER BINDER AT A NET DRY WEIGHT OF 750

MULCHING NOTES

LB/AC., MIXED WITH WATER, AND CONTAIN 50 LB/100 GAL. MAX. OF

WOOD CELLULOSE FIBER.



SUSPENSION

SYSTEM

- SEDIMENT BAG -

W/FILTER FABRIC

"NYLOPLAST" BASIN

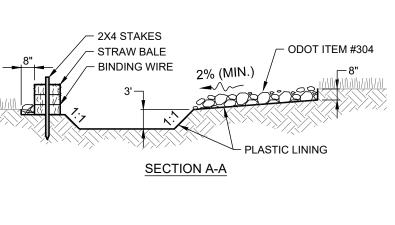
- OVERFLOW GAP

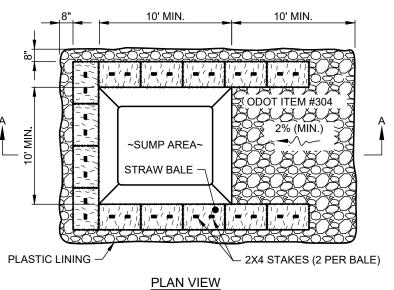
ROUND CONCRETE BASIN

NOT ALL ITEMS SHOWN MAY APPLY OR DIFFERENT TYPES OR CONFIGURATIONS MAY BE REQUIRED. THE CONTRACTOR SHALL MEASURE EACH INLET TO CONFIGURE AND ASSEMBLE CUSTOMIZED

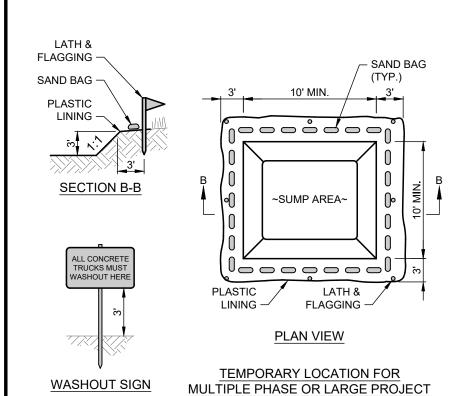
INLET FILTERS.

INLET PROTECTION DETAIL



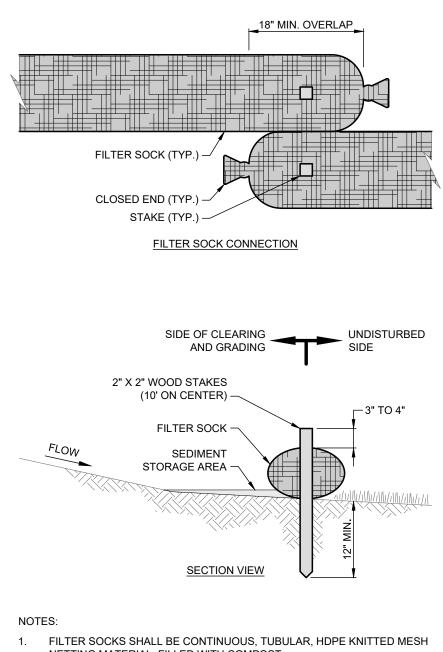


SINGLE LOCATION FOR SMALL PROJECT



- CONCRETE WASHOUT AREA SHALL BE LOCATED A MINIMUM OF 100' FROM STORM SEWER INLETS, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS OF THE STATE.
- 2. IF CONCRETE WASHOUT AREA IS LOCATED AWAY FROM A PAVED SURFACE, CONSTRUCT A GRAVEL ACCESS ROUTE EQUAL IN COMPOSITION TO A CONSTRUCTION ENTRANCE.
- CONCRETE WASHOUT AREA SHALL BE SUFFICIENT SIZE TO CONTAIN CONCRETE WASTE GENERATED. LARGE SITES MAY REQUIRE MULTIPLE CONCRETE WASHOUT AREAS.
- PLASTIC LINING SHALL BE DOUBLE-LINED, CONTINUOUS 10-ML POLYETHYLENE SHEETING FREE OF HOLES, TEARS OR OTHER DEFECTS INSTALLED ON A SMOOTH, LEVEL SURFACE, FREE OF LARGE ROCKS AND DEBRIS.
- 5. CONCRETE WASHOUT SIGNAGE SHALL BE CLEARLY VISIBLE AND LOCATED WITHIN 30 FEET OF EACH WASHOUT AREA.
- CONCRETE WASHOUT AREA SHALL BE COVERED DURING INCLEMENT WEATHER TO PREVENT OVERFLOW.
- PREFABRICATED, PORTABLE AND RE-USABLE CONCRETE WASHOUT CONTAINERS ARE ACCEPTABLE
- CONCRETE WASHOUT AREA SHALL BE INSPECTED DAILY TO CHECK FOR DAMAGE AND DETERMINE IF IT NEEDS CLEANED OR REPLACED. ANY DAMAGE TO THE SIDEWALLS OR PLASTIC LINING SHALL BE REPAIRED IMMEDIATELY. REPLACE THE ENTIRE CONCRETE WASHOUT AREA WHEN IT IS 75% FULL.

CONCRETE WASHOUT DETAIL SCALE: NONE



- NETTING MATERIAL, FILLED WITH COMPOST.
- COMPOST SHALL BE WEED, PATHOGEN AND INSECT FREE, FREE OF REFUSE, CONTAMINANTS OR MATERIALS TOXIC TO PLANT GROWTH, BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER, AND CONSIST OF PARTICLES RANGING FROM 3/8" TO 2".
- FILTER SOCKS SHALL BE PLACED ON A LEVEL LINE ACROSS SLOPES PARALLEL TO THE BASE OF THE SLOPE. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND MID-SLOPE. THE FLAT DIMENSION OF THE SOCK SHALL BE AT LEAST 1.5 TIMES THE
- NOMINAL DIAMETER. FILTER SOCKS SHALL BE PLACED AT LEAST 5' FROM THE TOE OF SLOPE
- FOR SEDIMENT DEPOSIT. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED 1/3 THE FILTER SOCK HEIGHT.
- BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S
- WHEN A FILTER SOCK IS NO LONGER REQUIRED, IT SHALL BE DISPERSED ON-SITE.
- 10. THE MAXIMUM DRAINAGE AREA PER 100 FEET OF FILTER SOCK IS 1/2 ACRE AND IS DEPENDENT ON THE SLOPE PER THE CHARTS BELOW:

MAX. DRAINAGE AREA (AC.) PER 100-FT OF FILTER SOCK (*)	RANGE OF SLOPE PER INDIVIDUAL DRAINAGE AREA
0.50 AC.	<2% (50H:1V)
0.25 AC.	<u>></u> 2% (50H:1V) BUT <20% (5H:1V)
0.125 AC.	<u>></u> 20% (5H:1V) BUT <50% (2H:1V)

(*) FILTER SOCK CANNOT BE USED FOR SLOPES \(\geq 50\)% (2H:1V).

MAX. SLOPE LENGTH ABOVE FILTER SOCK				
SLOPE (%)	RATIO (H:V)	12"	18"	24"
0% TO <2%	0 TO <50:1	250'	300'	350'
<u>></u> 2% TO <10%	≥50:1 TO <10:1	125'	200'	25'
≥10% TO <20%	≥10:1 TO <5:1	100'	150'	200'
<u>></u> 20% TO <50%	<u>></u> 5:1 TO <u>></u> 2:1	50'	75'	100'

FILTER SOCK DETAIL



verdantas

REVISION DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT **IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUED FOR: ISSUE DATE: 5/21/2025 AS SHOWN SCALE: DESIGNED BY DRAWN BY: CHECKED BY:

EROSION AND SEDIMENT CONTROL

PROJECT NO. 32052 DISCIPLINE CIVIL SHEET NAME SWP3 33 33