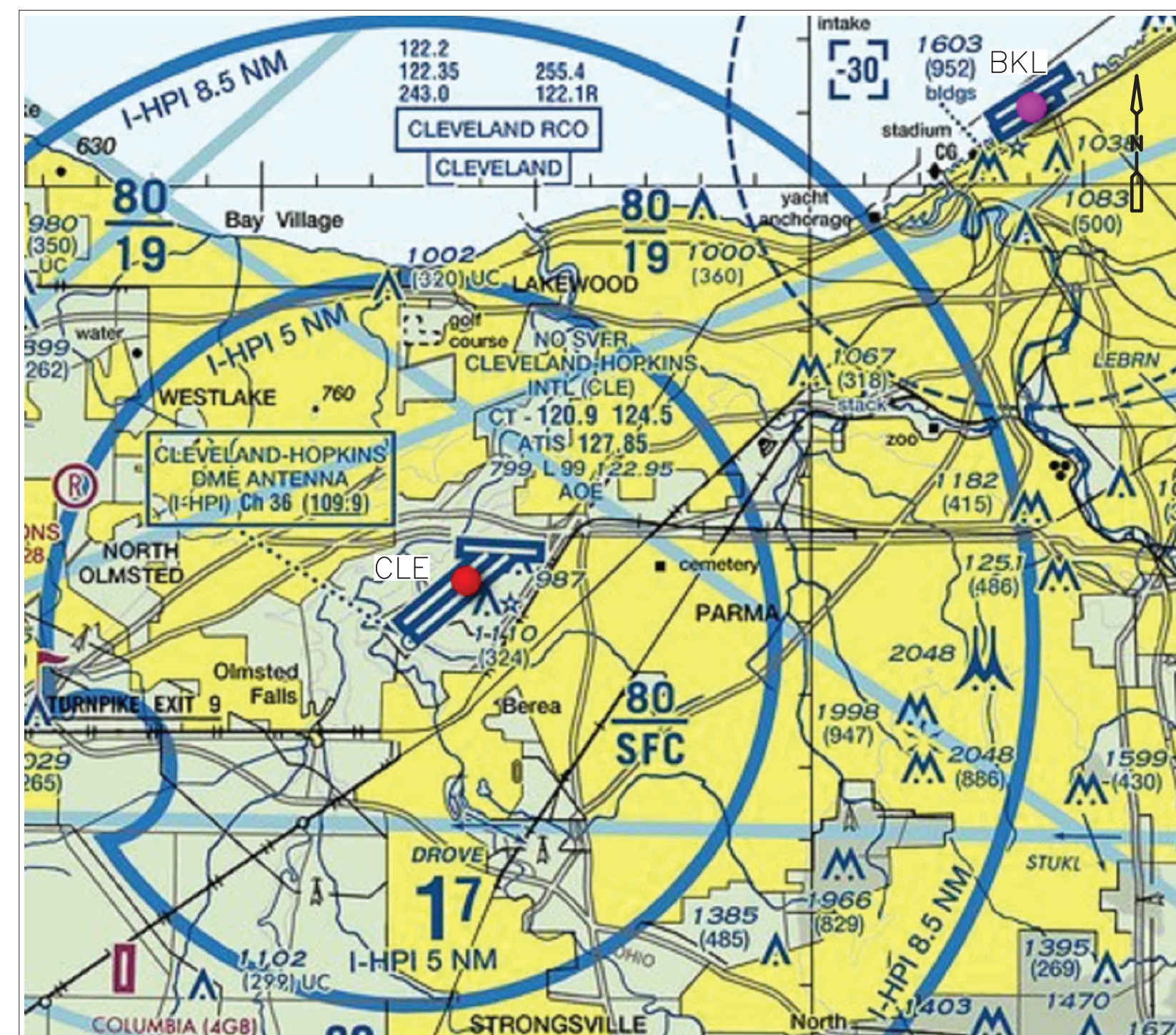


# CLEVELAND HOPKINS INTERNATIONAL AIRPORT (CLE)

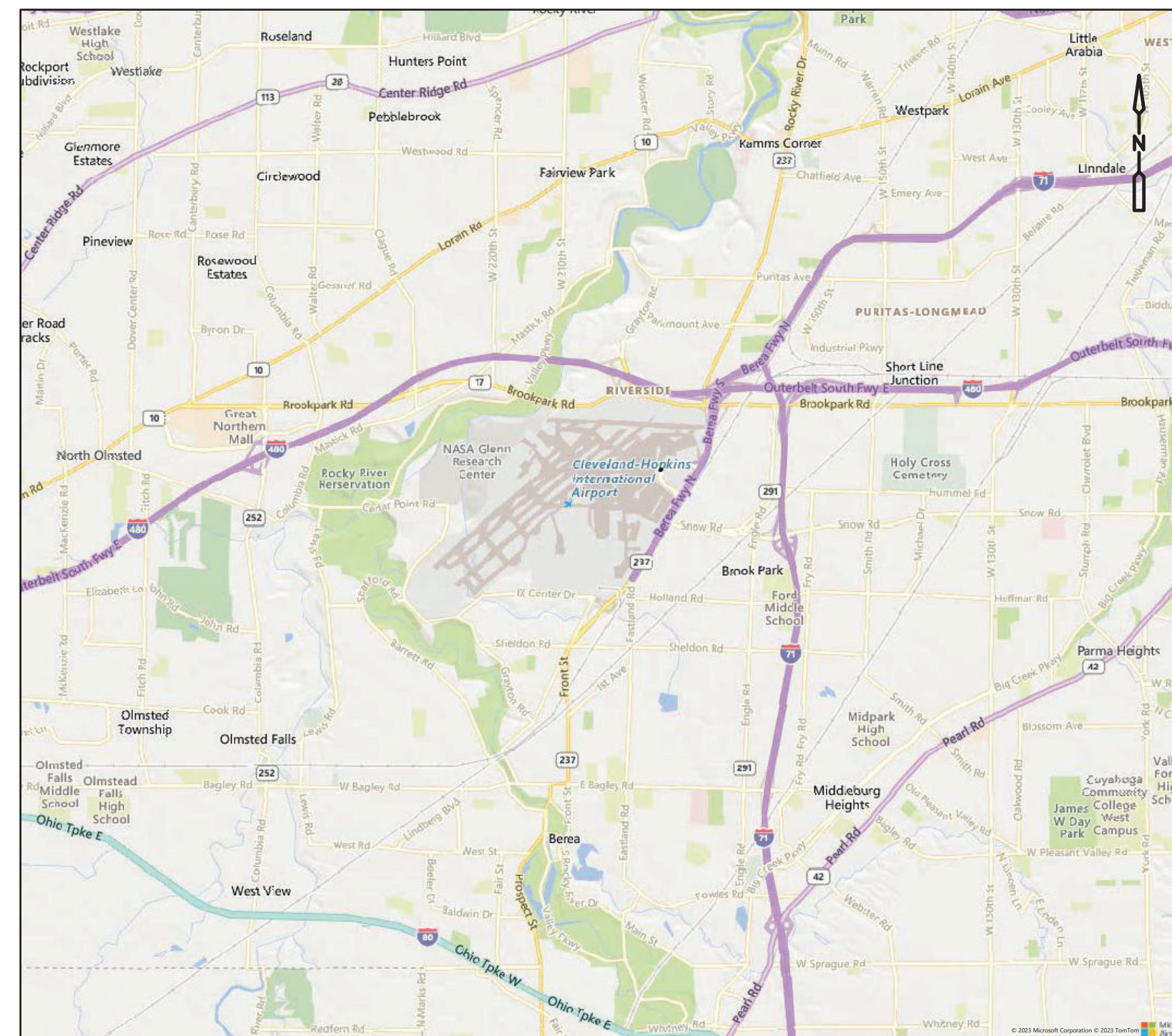
## CITY OF CLEVELAND DEPARTMENT OF PORT CONTROL

### RTA TUNNEL MEMBRANE REPLACEMENT PROJECT



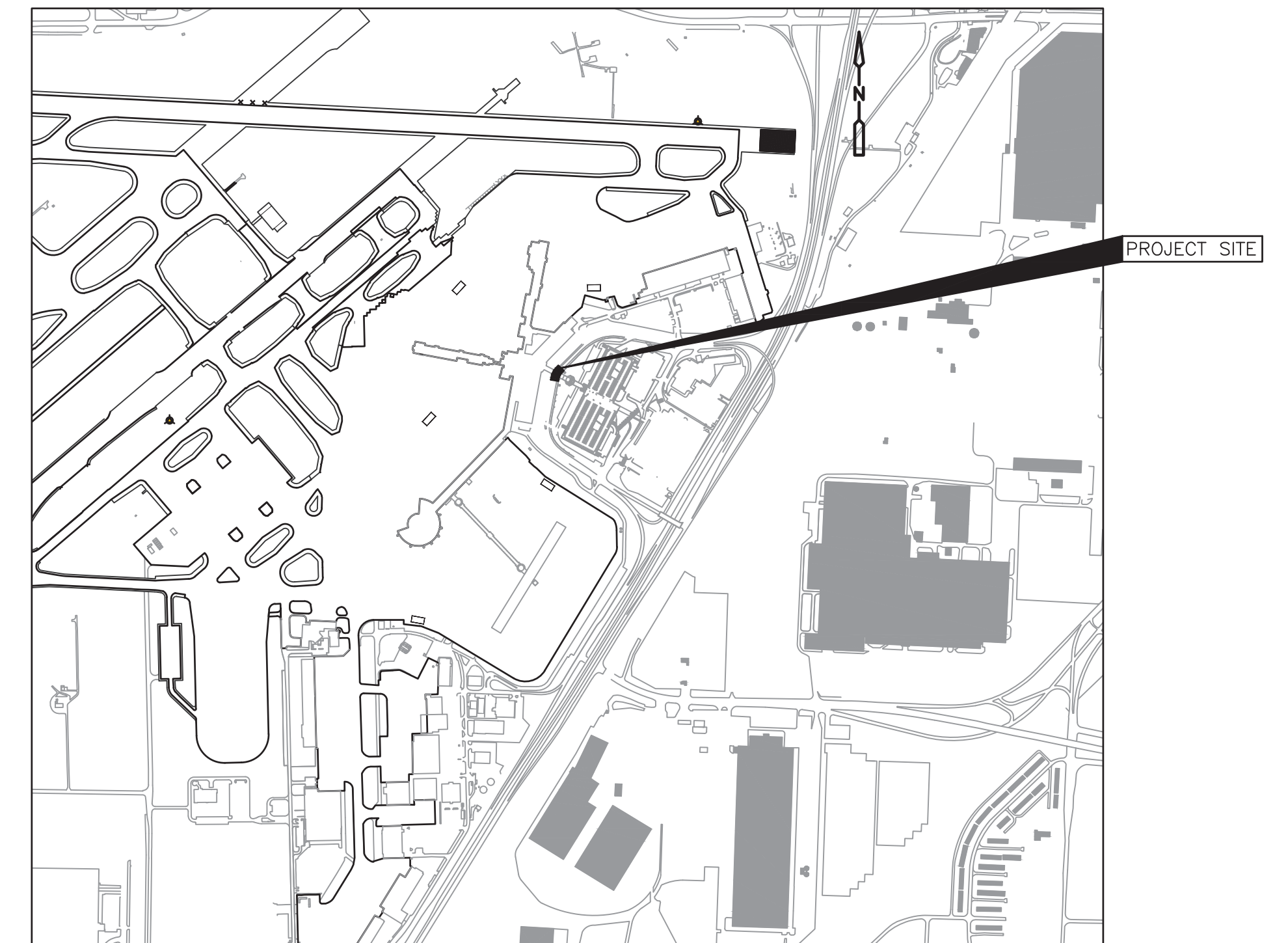
**AREA MAP**

NOT TO SCALE



**VICINITY MAP**

NOT TO SCALE



**SITE MAP**

SCALE: 1" = 1000'



THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH CURRENT FEDERAL AVIATION ADMINISTRATION (FAA) STANDARDS. ANY DEVIATIONS FROM THE FAA STANDARDS ARE APPROVED OR UNDER REVIEW BY THE FAA AND ARE DISCUSSED IN THE ENGINEER'S REPORT FOR THIS PROJECT.

*Lance G. Wanamaker, P.E.*  
 DESIGN ENGINEER  
 LANCE G. WANAMAKER, P.E. E-67035 OH

2/13/2024  
 DATE

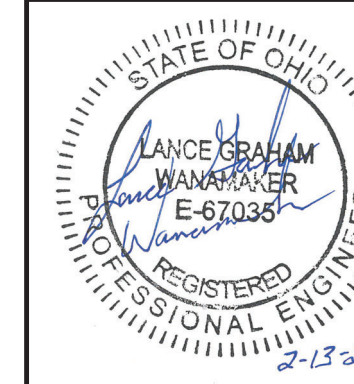
**Michael Baker INTERNATIONAL**

1111 Superior Avenue East, Suite 2300  
 Cleveland, Ohio 44114



*Lori Birschbach-Tober*  
 APPROVED: DIVISION OF PLANNING AND ENGINEERING  
 LORI BIRSCHBACH-TOBER P.E.

2/13/2024  
 DATE



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Revisions	Date	Description	By

<b>CLEVELAND HOPKINS INTERNATIONAL AIRPORT CLEVELAND, OHIO</b>			
Project Title: RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title: TITLE SHEET			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-1	

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C-25	STRUCTURAL WALL REPAIR 1
C-26	CONNECTOR-COLLECTOR MECHANICAL ROOM EXISTING SERVICE PANELS

SUMMARY OF QUANTITIES				
BASE BID				
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	AS-BUILT QUANTITY
C100	CONTRACTOR QUALITY CONTROL PROGRAM	LS	1	
C102-5.1F	DANDY BAG CURB INLET PROTECTION	LF	15	
C105	MOBILIZATION	LS	1	
P101-5.1	PAVEMENT REMOVAL-8"-INCLUDING THICKENED EDGE	SY	6	
P101-5.6	COLD MILLING - 4"	SY	1200	
P101-5.7	REMOVE SLOTTED DRAIN	LF	200	
P101-5.9	CONCRETE WEARING SURFACE REMOVAL - 4"	SY	700	
P101-5.10	REPAIR OF STRUCTURAL SLAB TYPE A, B OR C	SY	200	
P152-4.1	UNCLASSIFIED AND DRAINAGE EXCAVATION	CY	150	
D705-5.4	6" PIPE UNDERDRAIN - COMPLETE INCLUDING BACKFILL AND FILLER FABRIC	LF	180	
D751-5.3	BOX INLETS	LF	200	
L109-7.4	INSTALLATION OF EQUIPMENT IN EXISTING VAULT	EACH	1	
MC-003-6.1	TEMPORARY CONSTRUCTION ITEMS	LS	1	
MC-004-6.1	4" CONCRETE WEARING SLAB	SY	700	
MC-005-5.1	TUNNEL WATERPROOFING SYSTEM	SY	1100	
MC-006-5.1	CONCRETE WALK REMOVED AND RECONSTRUCTED	SY	180	
MC-090-5.1	MECHANICAL ROOM WALL REPAIR	SF	200	
ODOT 255-1	RIGID PAVEMENT REPLACEMENT	CY	60	
ODOT 407-1	TACK COAT	GAL	82	
ODOT 407-2	TACK COAT FOR INTERMEDIATE COURSE	GAL	44	
ODOT 446-1	1" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-22	CY	12	
ODOT 446-2	VARIES 1"-3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG-22	CY	36	
ODOT 516-1	3/4" PREFORMED EXPANSION JOINT FILLER	LF	200	
ODOT 516-2	1/2" PREFORMED EXPANSION JOINT FILLER	LF	250	
ODOT 516-3	1" PREFORMED EXPANSION JOINT FILLER	LF	200	
ODOT 516-4	JOINT SEALER	LF	2000	
ODOT 642-2	LANE LINE, TYPE 2	SF	2000	

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Revisions	Date	Description	By

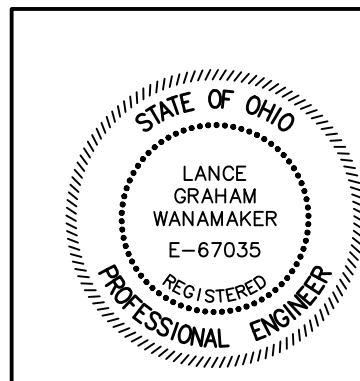
**CLEVELAND HOPKINS  
INTERNATIONAL AIRPORT  
CLEVELAND, OHIO**

Project Title  
**RTA TUNNEL MEMBRANE REPLACEMENT**

Sheet Title  
**SHEET INDEX AND SUMMARY OF QUANTITIES**

Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
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<b>Michael Baker INTERNATIONAL</b>	Scale: AS SHOWN	Project No.: 198348
Date: FEBRUARY 2024	Sheet: C-2	



PROJECT DESCRIPTION:

THIS PROJECT CALLS FOR THE REMOVAL AND REPLACEMENT OF THE WATERPROOFING MEMBRANE COVERING THE RTA CONNECTOR/COLLECTOR TUNNEL. THE EXISTING MEMBRANE IS A MULTILAYERED SYSTEM CONSISTING OF WATERPROOFING MEMBRANES, FIBER REINFORCEMENT, AND PROTECTIVE SHEETS. THE REPLACEMENT INCLUDES THE FOLLOWING ITEMS:

- REMOVAL AND REPLACEMENT OF THE EXISTING MEMBRANE SYSTEM
- REMOVAL AND REPLACEMENT OF ASSOCIATED UNDERDRAINS
- THE REMOVAL AND REPLACEMENT OF THE SLOT DRAINS WITH BOX INLET DRAINS AS PER PLAN.
- THE PROJECT WILL REPAIR THE DAMAGE TO THE RTA CONNECTOR/COLLECTOR MECHANICAL ROOM WALL, INCLUDING THE RELOCATION OF THE ELECTRICAL SERVICE PANELS TO ELECTRICAL VAULT, EV-6.
- ALL OTHER ITEMS REQUIRED IN THE PROJECT DOCUMENTS.

GENERAL NOTES:

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS AND ANY RULES, REGULATIONS, STANDARDS OR SPECIFICATIONS REFERENCED THEREIN. THE PROJECT IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE CITY OF CLEVELAND AND OTHER GOVERNING AGENCIES.
2. CLEVELAND HOPKINS INTERNATIONAL AIRPORT WILL BE IN OPERATION DURING THE CONSTRUCTION OF THIS PROJECT. COORDINATION OF WORK WITH AIRPORT AUTHORITIES IS MANDATORY SO AS TO MINIMIZE IMPACTS ON AIRPORT OPERATIONS, BOTH ON AND OFF THE AIRFIELD.
3. EXISTING AND PROPOSED GRADES – EXISTING GRADES SHOWN ON THE DRAWINGS ARE BELIEVED TO BE ACCURATE, BUT THE CITY OF CLEVELAND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THESE GRADES. IF THE CONTRACTOR DOES NOT CONCUR WITH THE ELEVATIONS GIVEN ON THE DRAWINGS, THEY SHALL NOTIFY THE RESIDENT PROJECT REPRESENTATIVE IN WRITING PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES.
4. THE WORK AREA SHALL BE PROPERLY SECURED AT THE END OF EACH WORKING DAY TO PREVENT VEHICLES AND PEOPLE FROM ENTERING THE SITE. CONTRACTOR SHALL PREVENT UNAUTHORIZED ACCESS TO THE PROJECT SITE DURING WORKING AND NON WORKING HOURS. ANY COSTS FOR TEMPORARY GATES, SECURITY PERSONNEL, OR OTHER MISCELLANEOUS ITEMS REQUIRED TO PROVIDE A SECURE ENVIRONMENT SHALL BE AT THE CONTRACTORS EXPENSE.
5. PERMITS – THE CONTRACTOR MUST OBTAIN PROPER PERMITS FROM THE CITY OF BROOKPARK AND CLEVELAND TO USE THEIR ROADS FOR DELIVERY OF MATERIALS AND EQUIPMENT TO THE SITE. ANY DAMAGE TO OFF-SITE ROADS SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR. ALSO SEE GENERAL CONDITIONS FOR OTHER PERMITTING REQUIREMENTS.
6. WASTE AREAS – ALL EXCESS EXCAVATED MATERIAL, UNSUITABLE MATERIAL AND PAVEMENT RUBBLE SHALL BE DISPOSED OF OFF AIRPORT PROPERTY UNLESS DESIGNATED FOR RECYCLING. THE CONTRACTOR SHALL FURNISH THE RESIDENT PROJECT REPRESENTATIVE WITH COPIES OF SIGNED OFF-SITE WASTE AREA PERMITS.
7. HAUL ROUTES – THE LOCATION OF HAUL ROUTES ON THE AIRPORT SITE SHALL BE COORDINATED WITH THE RESIDENT PROJECT REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS, OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE ROADS UTILIZED AS HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE BEFORE AND AFTER CONDITION OF ON-SITE HAUL ROADS SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE RESIDENT PROJECT REPRESENTATIVE. FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT TEMPORARY HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE WORK. ALL ON-SITE ACCESS ROADS TO AIRPORT FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES.
8. MOBILIZATION/EQUIPMENT STORAGE AREA – AN AREA WILL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION AND STORAGE AS INDICATED ON THE GENERAL PROJECT LAYOUT.
9. VEHICLES – NO PRIVATE VEHICLES ARE ALLOWED ON THE AIRPORT BEYOND THE DESIGNATED PARKING AREA. ALL VEHICLES OPERATING ON THE AIRPORT, EXCEPT CONSTRUCTION EQUIPMENT, MUST HAVE PROPER IDENTIFICATION SIGNS, AIRFIELD VEHICLE PERMITS, FAA APPROVED BEACONS, AND/OR FLAGS. ANY VEHICLE NOT ELIGIBLE FOR REGISTRATION TO OPERATE ON PUBLIC ROADWAYS SHALL BE CONSIDERED CONSTRUCTION EQUIPMENT. HAUL TRUCKS MUST HAVE COMPANY LOGO SIGNS, BEACONS, AND/OR FLAGS AND LIGHTS.
10. SAFETY – THE CONTRACTOR SHALL CONDUCT ACTIVITIES IN A SAFE MANNER AS SPECIFIED IN THE SAFETY/PHASING PLAN AND IN ACCORDANCE WITH FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULAR 150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" CURRENT EDITION, AND TO CONTRACT SPECIFICATIONS.
11. PROTECTION AND REPAIR OF DAMAGE TO EXISTING CABLES – LOCATION OF KNOWN EXISTING AIRPORT UNDERGROUND CABLES ARE SHOWN ON PLANS AND MUST BE VERIFIED BY THE CONTRACTOR. REPAIR OF DAMAGED CABLE MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL COMPLETED. ALL SUCH REPAIRS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER OF THE CABLE, AND SHALL BE AT THE CONTRACTOR'S EXPENSE. IF FAA CABLES ARE DAMAGED, REPAIRS SHALL BE DONE FROM POINT TO POINT IN ACCORDANCE WITH FAA REQUIREMENTS AND IN THE PRESENCE OF AN FAA REPRESENTATIVE. THE OWNER MAY ELECT TO HAVE THE REPAIR PERFORMED BY OTHERS, IN WHICH CASE THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE INCURRED COSTS OF REPAIRS.

GENERAL NOTES (CONT.):

12. CONSTRUCTION LIMITS – ALL CONTRACTOR VEHICLES AND TRAFFIC (UNLESS OTHERWISE AUTHORIZED) SHALL REMAIN WITHIN THE DESIGNATED LIMITS OR HAUL ROUTES.
13. COORDINATION MEETINGS – CLEVELAND AIRPORT SYSTEM PERSONNEL SHALL CONDUCT WEEKLY COORDINATION MEETINGS TO DISCUSS WORK AREAS, SCHEDULING, SAFETY, ETC. WITH THE RESIDENT PROJECT REPRESENTATIVE, AIRPORT OPERATIONS, AND OTHER APPROPRIATE OFFICIALS. MINUTES FROM THE WEEKLY MEETINGS SHALL BE PREPARED BY THE CLEVELAND AIRPORT PERSONNEL, FURNISHED TO ALL ATTENDEES PRIOR TO THE SUBSEQUENT MEETING, AND KEPT ON FILE AT THE FIELD OFFICE.
14. OTHER CONSTRUCTION PROJECTS – SEVERAL OTHER CONSTRUCTION PROJECTS WILL BE TAKING PLACE CONCURRENTLY WITH, AND IN SOME CASES DIRECTLY ADJACENT TO THIS PROJECT. CONTRACTOR IS REQUIRED TO COORDINATE, THROUGH THE RESIDENT PROJECT REPRESENTATIVE AND AIRPORT ENGINEER, WITH THOSE CONTRACTORS TO ELIMINATE CONFLICTS BETWEEN SCHEDULES, WORK AREAS, ACCESS AND OTHER POTENTIAL ISSUES.
15. UTILITIES & EXCAVATION – CONTACT NUMBERS FOR UTILITY LOCATIONS ARE AS FOLLOWS:

OHIO UTILITIES PROTECTION SERVICE (OUPS) 100 FEDERAL PLAZA EAST LOWER LEVEL YOUNGSTOWN, OHIO 44503 (800) 362-2764	CITY OF CLEVELAND WATER DEPARTMENT 1201 LAKESIDE AVENUE CLEVELAND, OHIO 44114 (216) 664-4444
DEPARTMENT OF PORT CONTROL CLEVELAND HOPKINS INTERNATIONAL AIRPORT 5300 RIVERSIDE DRIVE CLEVELAND, OHIO 44135 (216) 265-6007 (ELECTRICAL) (216) 265-6090 (AIRPORT OPERATIONS)	THE ILLUMINATING COMPANY 6896 MILLER RD. SUITE 209 BROOKSVILLE, OH 44141 GLENN PRYOR 440-717-5482 (800) 589-3101
AMERITECH 11TH FLOOR 150 EAST GAY STREET COLUMBUS, OHIO 43215 (614) 223-5123	EAST OHIO GAS 1201 EAST 55TH STREET CLEVELAND, OHIO 44103 MS. MARGARET BEVEL (216) 736-6831 (800) 362-7557

16. CONCRETE TRUCK WASHOUT – CONCRETE TRUCK WASHOUT MAY BE IN DESIGNATED AIRPORT AREAS AS DIRECTED BY THE AIRPORT ENGINEER AND MUST COMPLY WITH SWP3. THE AREA(S) SHALL BE RESTORED TO ITS ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT. IF, IN THE OPINION OF THE RESIDENT PROJECT REPRESENTATIVE, CONCRETE TRUCK WASHOUTS ARE NOT CONTAINED WITHIN THE DESIGNATED AREAS OR DISPOSAL PROCEDURES DO NOT COMPLETELY REMOVE WASHOUT MATERIALS FROM AIRPORT PROPERTY, THE CONTRACTOR SHALL MAKE SUITABLE ARRANGEMENTS FOR WASHOUTS OFF AIRPORT PROPERTY (SEE NOTE 6).
17. STRUCTURAL CONCRETE – ALL CONCRETE WORK ON THIS PROJECT SHALL BE CAST-IN-PLACE UNLESS OTHERWISE SHOWN ON PLANS. DRAINAGE AND ELECTRICAL STRUCTURES MAY BE PRECAST PROVIDED THAT THEY ARE PLACED ON AN APPROVED BASE AND THAT THE MANUFACTURER CERTIFIES THE PRECAST STRUCTURE WILL MEET THE STRUCTURAL DESIGN REQUIREMENTS. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL OF ALL REINFORCED CONCRETE STRUCTURES, AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OHIO.
18. RADIOS – THE CONTRACTOR SHALL FURNISH RADIOS OR CELL PHONES TO ALL FLAG PERSONS, GATE SECURITY PERSONNEL AND TO ONE PERSON FROM AIRPORT OPERATIONS. THE FREQUENCY SHALL BE APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE BUT CAN ONLY BE USED IN MAINTAINING THE SAFE OPERATION OF THE PROJECT. AS AN ALTERNATIVE GATE GUARDS AND FLAGGERS MAY BE ISSUED CELL PHONES. CELL PHONE NUMBERS SHALL BE GIVEN TO AIRPORT OPERATIONS.
19. MAINTENANCE OF TRAFFIC – TRAFFIC SHALL BE MAINTAINED ON ALL AIRPORT AND PUBLIC ROADS AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING WARNING SIGNS, FLAG PERSONS, BARRICADES, AND OTHER ITEMS AS REQUIRED IN ACCORDANCE WITH ODOT SECTION 614, MC-003, AND THE PROJECT DOCUMENTS.
20. WORK DONE CONTRARY TO THE INSTRUCTIONS OF THE ENGINEER, WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR AS GIVEN, EXCEPT AS HEREIN SPECIFIED, OR ANY EXTRA WORK DONE WITHOUT AUTHORITY, WILL BE CONSIDERED AS UNAUTHORIZED AND WILL NOT BE PAID FOR UNDER THE PROVISIONS OF THE CONTRACT. WORK SO DONE MAY BE ORDERED REMOVED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
21. UPON THE CONTRACTOR'S FAILURE TO COMPLY IMMEDIATELY WITH ANY ORDER OF THE RESIDENT PROJECT REPRESENTATIVE UNDER THE PROVISIONS OF THIS CONTRACT, THE RESIDENT PROJECT REPRESENTATIVE WILL HAVE AUTHORITY TO CAUSE UNACCEPTABLE WORK TO BE REMEDIED OR REMOVED AND REPLACED AND UNAUTHORIZED WORK TO BE REMOVED AND TO DEDUCT THE COSTS (INCURRED BY THE OWNER) FROM ANY MONIES DUE OR TO BECOME DUE THE CONTRACTOR.

GENERAL NOTES (CONT.):

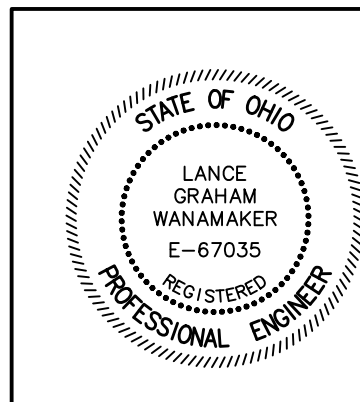
22. CONTRACTOR TO FIELD VERIFY ALL EXISTING GROUND CONDITIONS AS SHOWN ON THE PLAN SHEETS. (SEE NOTE 3).

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Revisions	Date	Description	By

CLEVELAND HOPKINS INTERNATIONAL AIRPORT  
CLEVELAND, OHIO

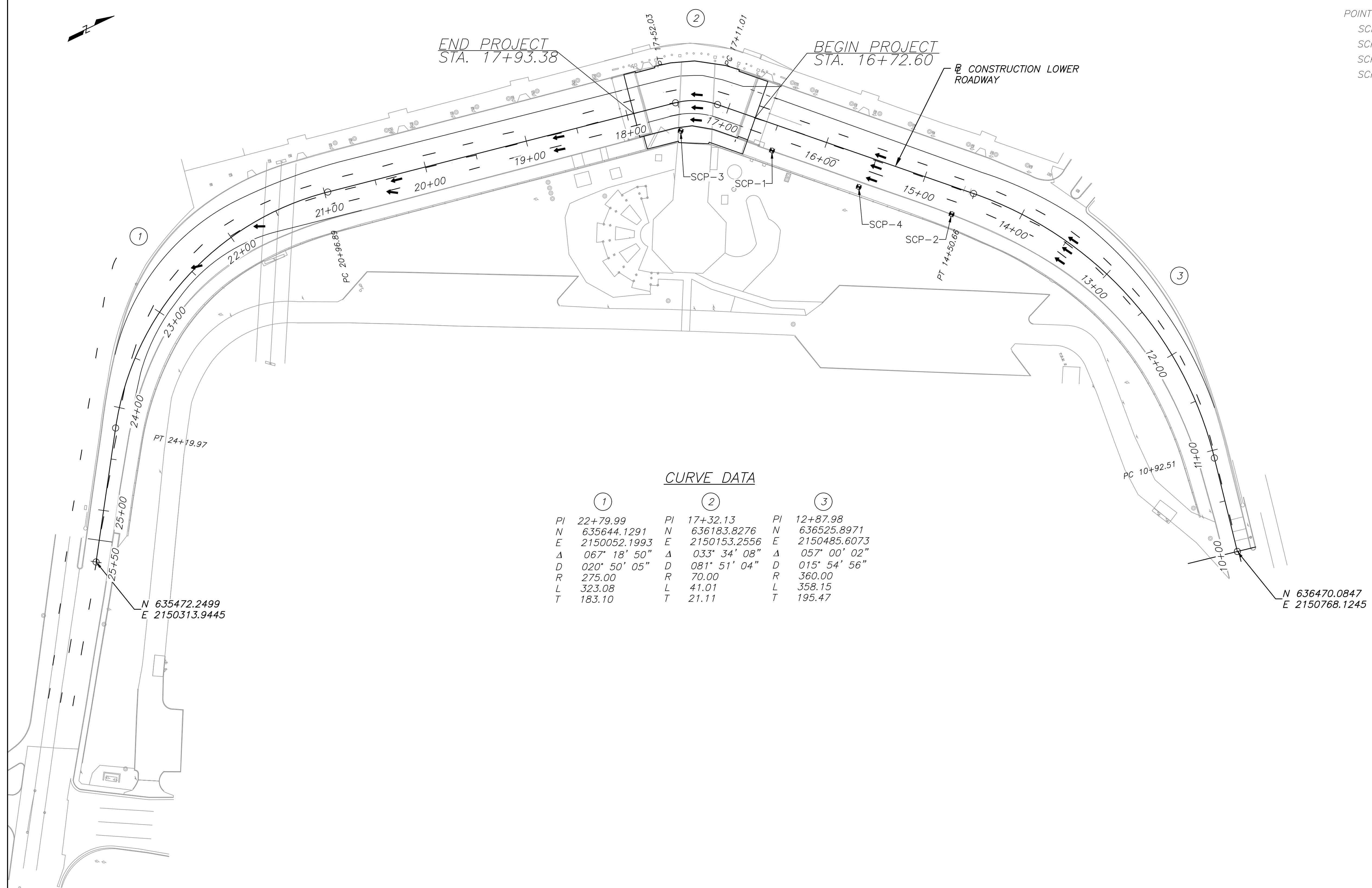
Project Title <b>RTA TUNNEL MEMBRANE REPLACEMENT</b>			
Sheet Title: <b>GENERAL NOTES</b>			
Designed: <b>MSI</b>	Drawn: <b>MSI</b>	Checked: <b>LGW</b>	Approved: <b>LGW</b>
		Scale: <b>AS SHOWN</b>	Project No.: <b>198348</b>
Date: <b>FEBRUARY 2024</b>		Sheet: <b>C-3</b>	





TEMPORARY BENCHMARKS

POINT NAME	NORTHING	EASTING	ELEVATION
SCP-1	636227.7030	2150230.1020	780.52
SCP-2	636358.2560	2150358.4230	780.06
SCP-3	636156.2320	2150175.9180	780.63
SCP-4	636288.4640	2150297.0360	783.33



CURVE DATA

	①	②	③
PI	22+79.99	17+32.13	12+87.98
N	635644.1291	636183.8276	636525.8971
E	2150052.1993	2150153.2556	2150485.6073
Δ	067° 18' 50"	033° 34' 08"	057° 00' 02"
D	020° 50' 05"	081° 51' 04"	015° 54' 56"
R	275.00	70.00	360.00
L	323.08	41.01	358.15
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E 2150313.9445

N 636470.0847  
E 2150768.1245

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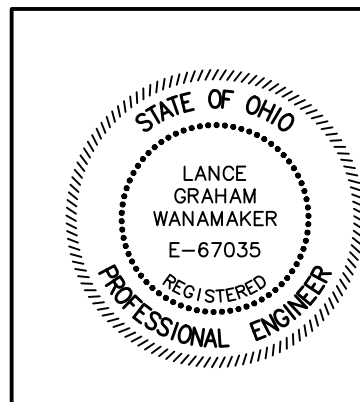
Revisions	Date	Description	By

**CLEVELAND HOPKINS INTERNATIONAL AIRPORT**  
CLEVELAND, OHIO

Project Title: **RTA TUNNEL MEMBRANE REPLACEMENT**

Sheet Title: **SCHEMATIC PLAN**

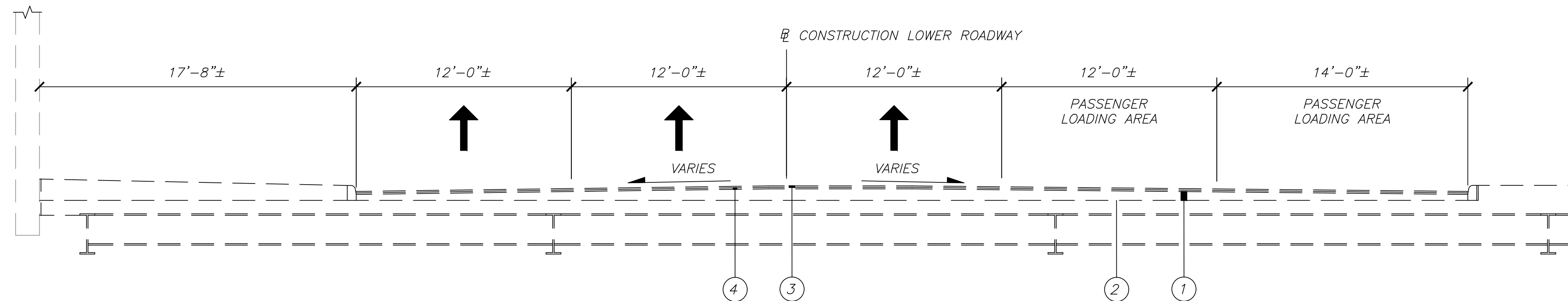
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Date: FEBRUARY 2024		Sheet: C-4	



**Michael Baker INTERNATIONAL**

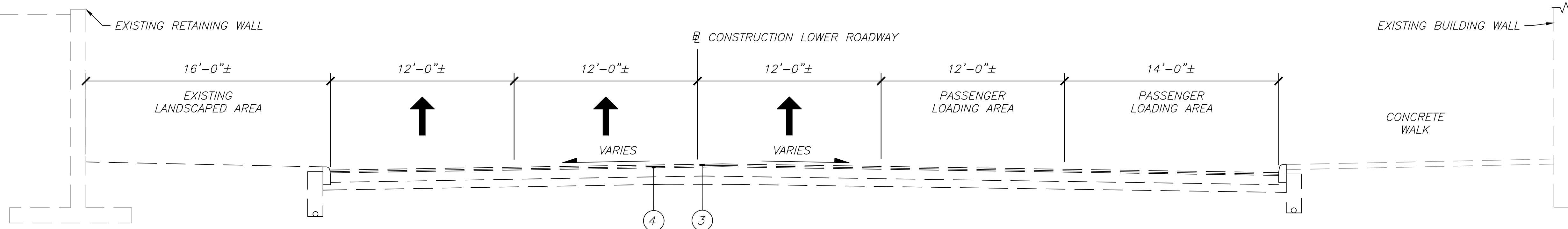
EXISTING LEGEND

- ① ITEM SPECIAL - 4" CONCRETE WEARING SLAB
- ② ITEM SPECIAL - TUNNEL WATERPROOFING SYSTEM
- ③ ITEM 448 - 1" ASPHALT CONCRETE SURFACE COURSE
- ④ ITEM 448 - VARIES 1"-3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1



EXISTING SECTION AT TUNNEL

STATION 17+06.91 TO STATION 17+58.41 = 51.50 LF

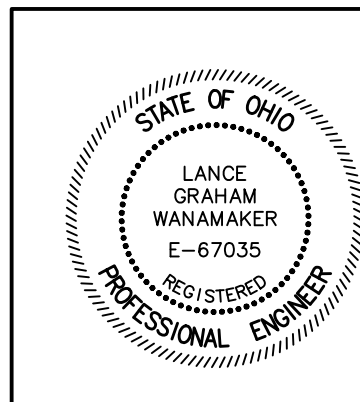


EXISTING SECTION

STATION 16+72.60 TO STATION 17+06.91 = 34.31 LF  
 STATION 17+58.41 TO STATION 17+93.38 = 34.97 LF

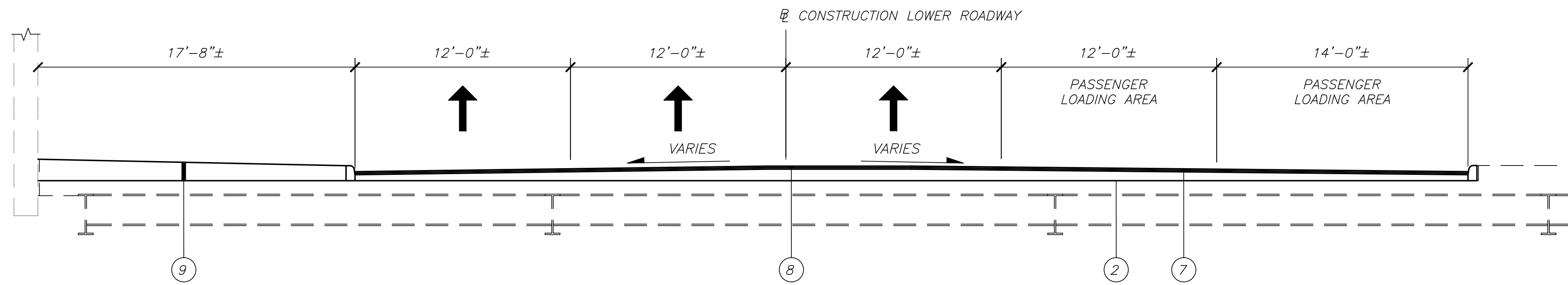
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Revisions	Date	Description	By

**CLEVELAND HOPKINS  
INTERNATIONAL AIRPORT  
CLEVELAND, OHIO**



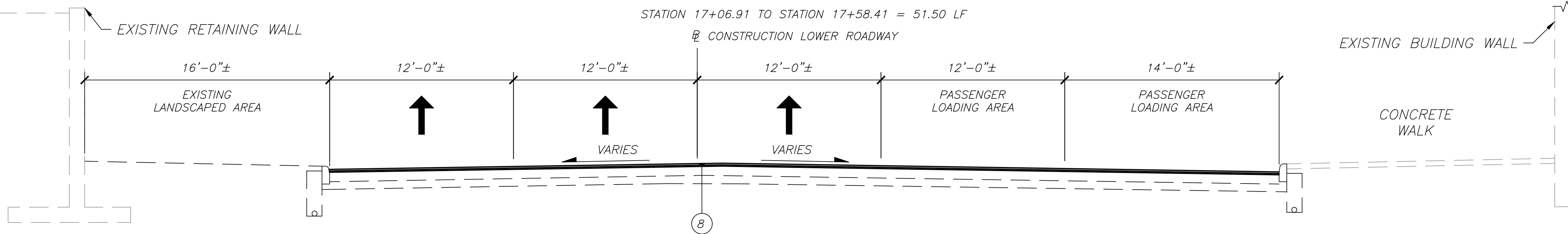
Project Title: RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title: TYPICAL SECTIONS - 1			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-5	

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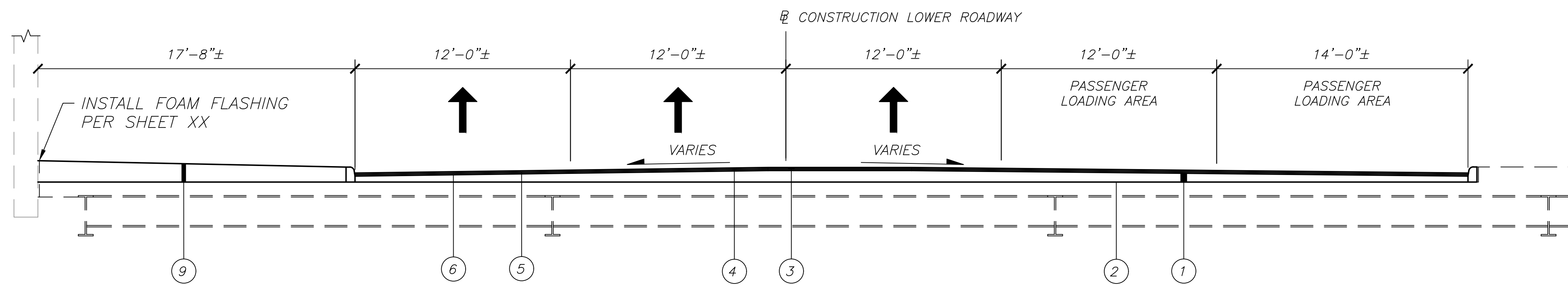
**DEMOLITION SECTION AT TUNNEL**

STATION 17+06.91 TO STATION 17+58.41 = 51.50 LF



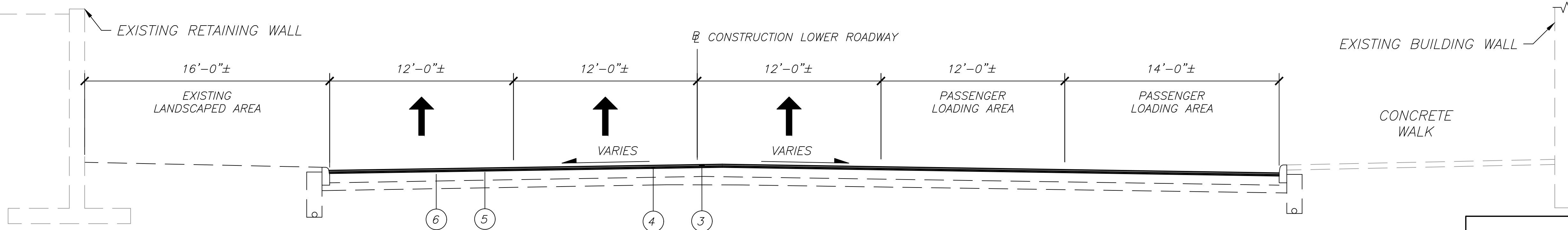
**DEMOLITION SECTION**

STATION 16+72.60 TO STATION 17+06.91 = 34.31 LF  
STATION 17+58.41 TO STATION 17+93.38 = 34.97 LF



**PROPOSED TYPICAL SECTION AT TUNNEL**

STATION 17+06.91 TO STATION 17+58.41 = 51.50 LF



**PROPOSED TYPICAL SECTION**

STATION 16+72.60 TO STATION 17+06.91 = 34.31 LF  
STATION 17+58.41 TO STATION 17+93.38 = 34.97 LF

**DEMOLITION LEGEND**

- ② MC-005 TUNNEL WATERPROOFING SYSTEM
- ⑦ P101 4" CONCRETE WEARING SURFACE REMOVAL
- ⑧ P101 3"± COLD MILLING
- ⑨ MC-006 10" CONCRETE WALK REMOVED AND RECONSTRUCTED

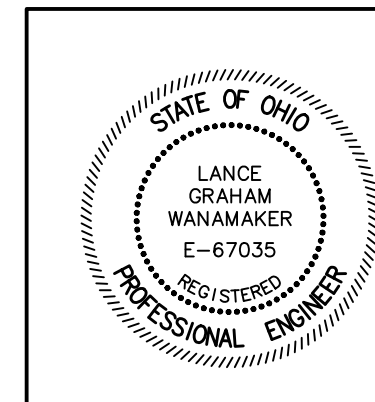
**PROPOSED LEGEND**

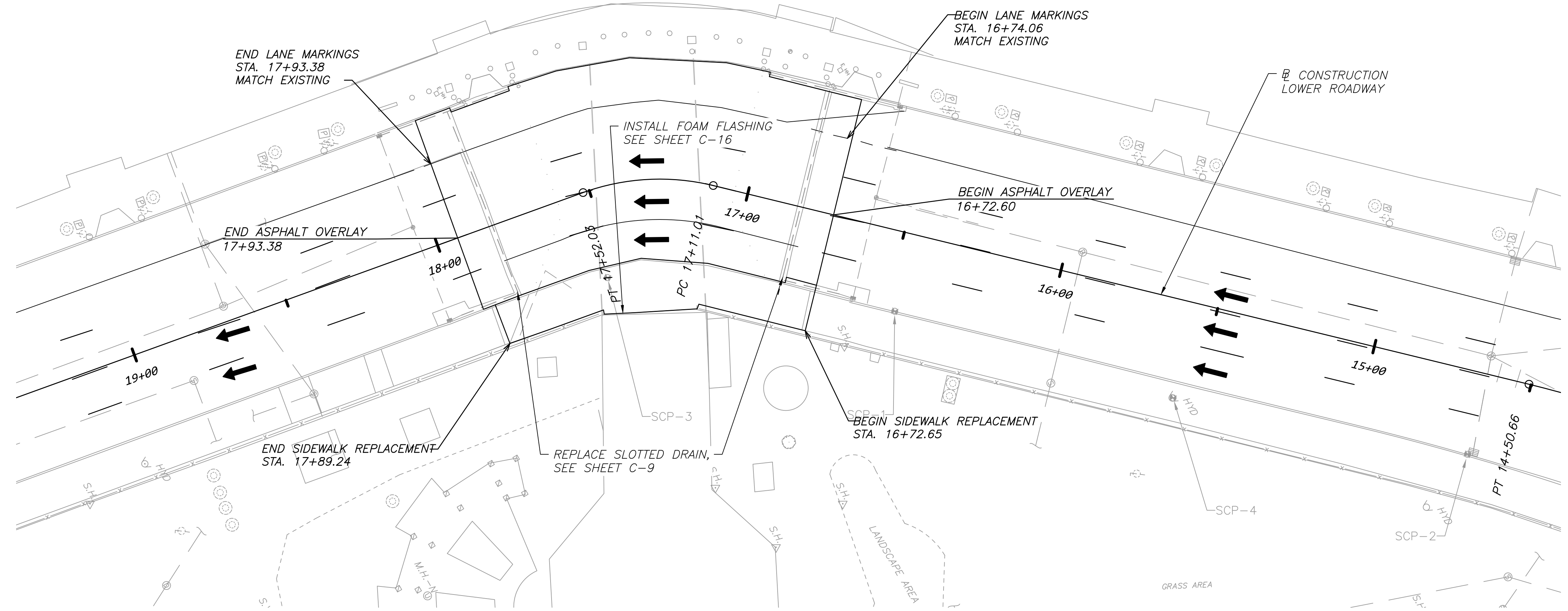
- ① MC-004 - 4" CONCRETE WEARING SLAB
- ② ITEM SPECIAL - TUNNEL WATERPROOFING SYSTEM
- ③ ITEM 448 - 1" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22
- ④ ITEM 448 - VARIES 1"-3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22
- ⑤ ITEM 407 - TACK COAT
- ⑥ ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
- ⑨ MC-006 - WALKWAY MISC.: 10" CONCRETE WALK REMOVED AND RECONSTRUCTED

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**CLEVELAND HOPKINS  
INTERNATIONAL AIRPORT  
CLEVELAND, OHIO**

Project Title: RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title: TYPICAL SECTIONS - 2			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-6	



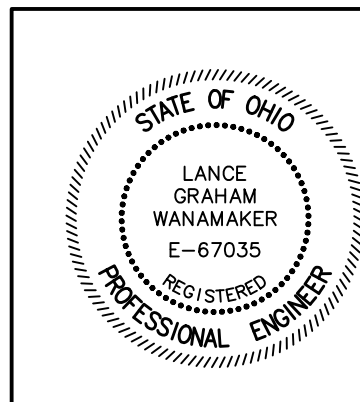


NOTE: STRUCTURAL CAPACITY OF THE EXISTING LOWER ROADWAY TUNNEL FRAMING IS LIMITED TO A MAXIMUM TOTAL VEHICLE WEIGHT OF 21 TONS FOR A SINGLE VEHICLE AND A MAXIMUM TOTAL WEIGHT OF 7 TONS FOR MULTIPLE VEHICLES DRIVEN SIDE BY SIDE. NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION, OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DEPARTMENT OF PORT CONTROL AT LEAST 10 DAYS BEFORE CONSTRUCTION BEGINS.

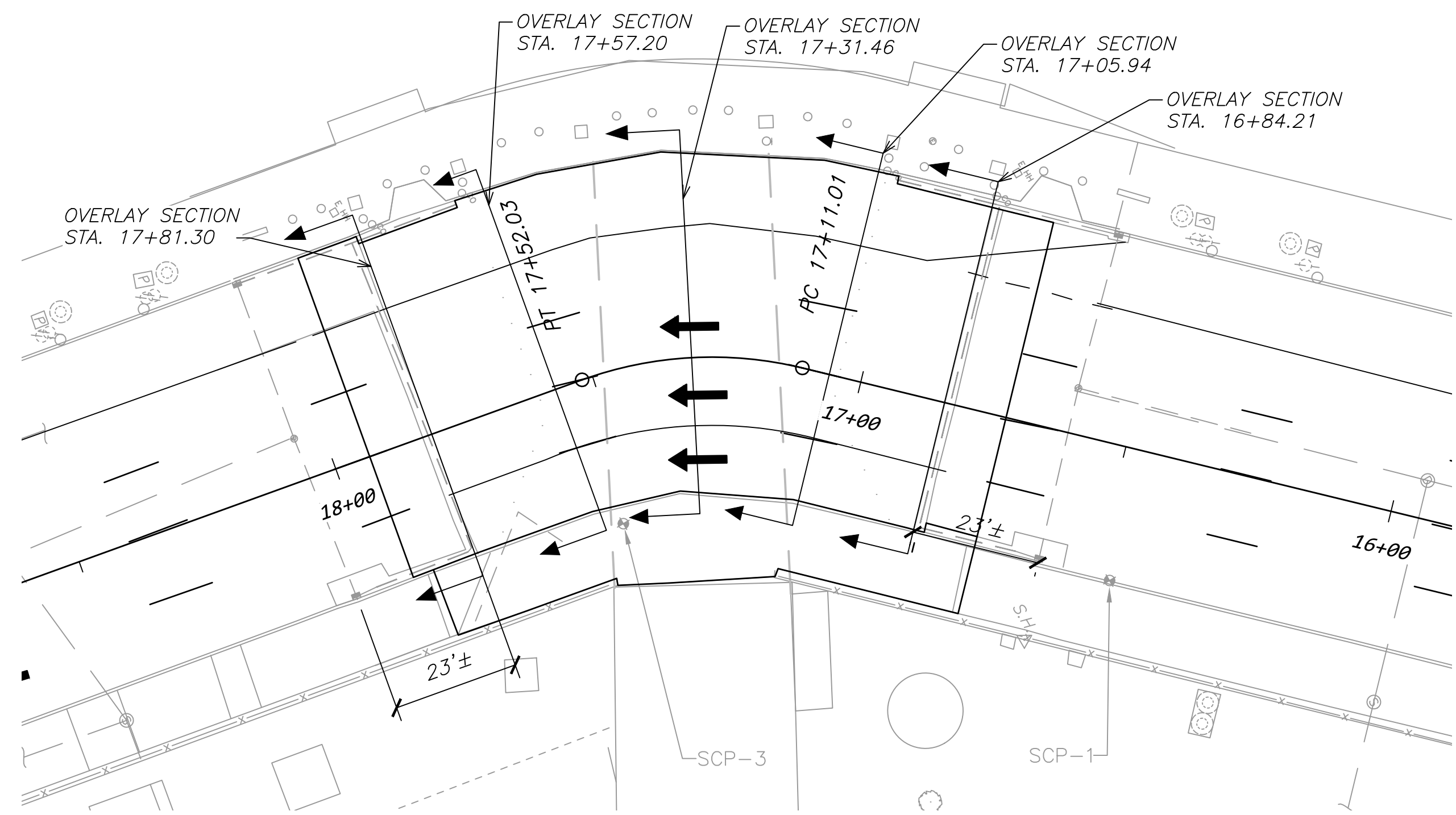
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Revisions	Date	Description	By

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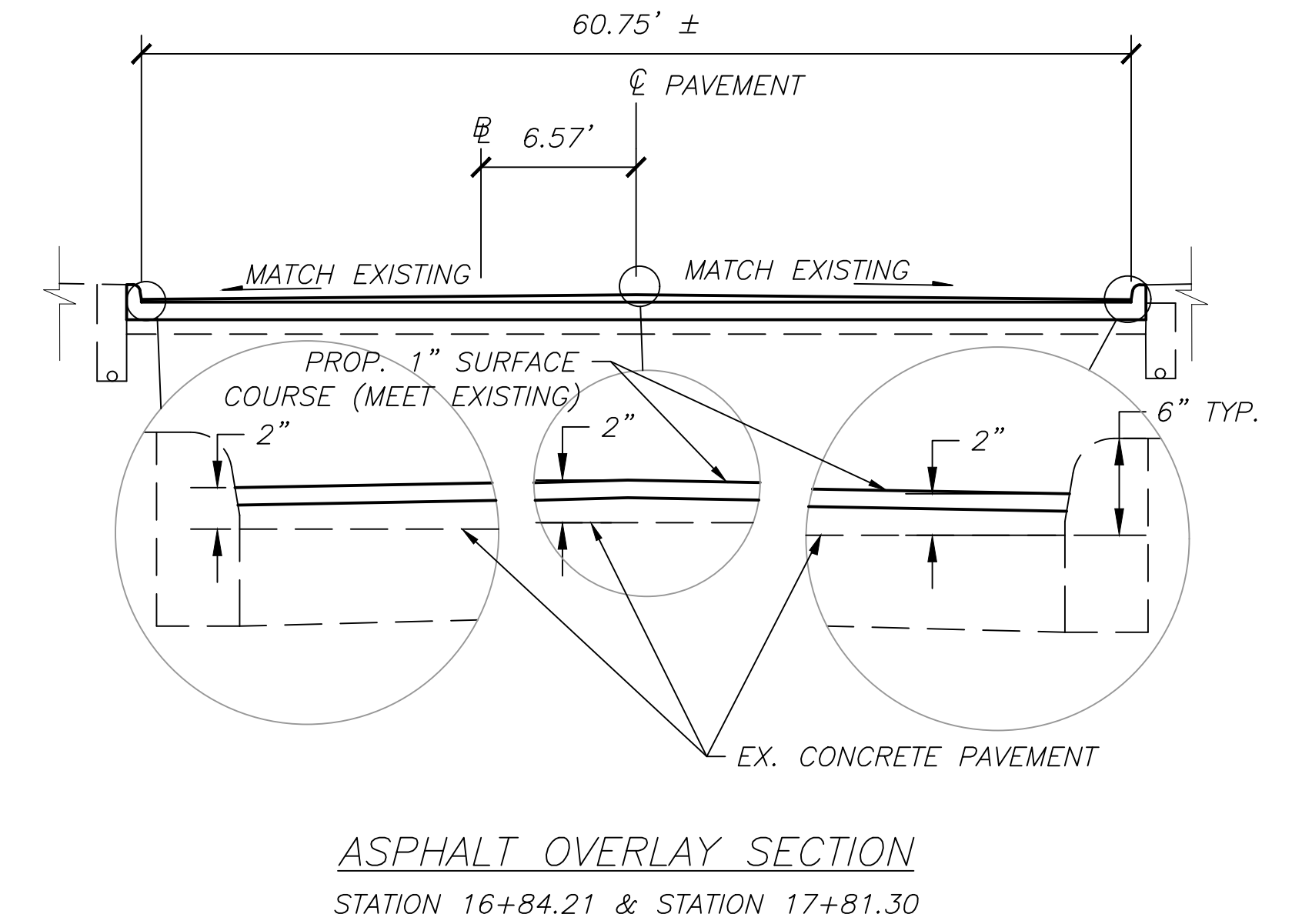
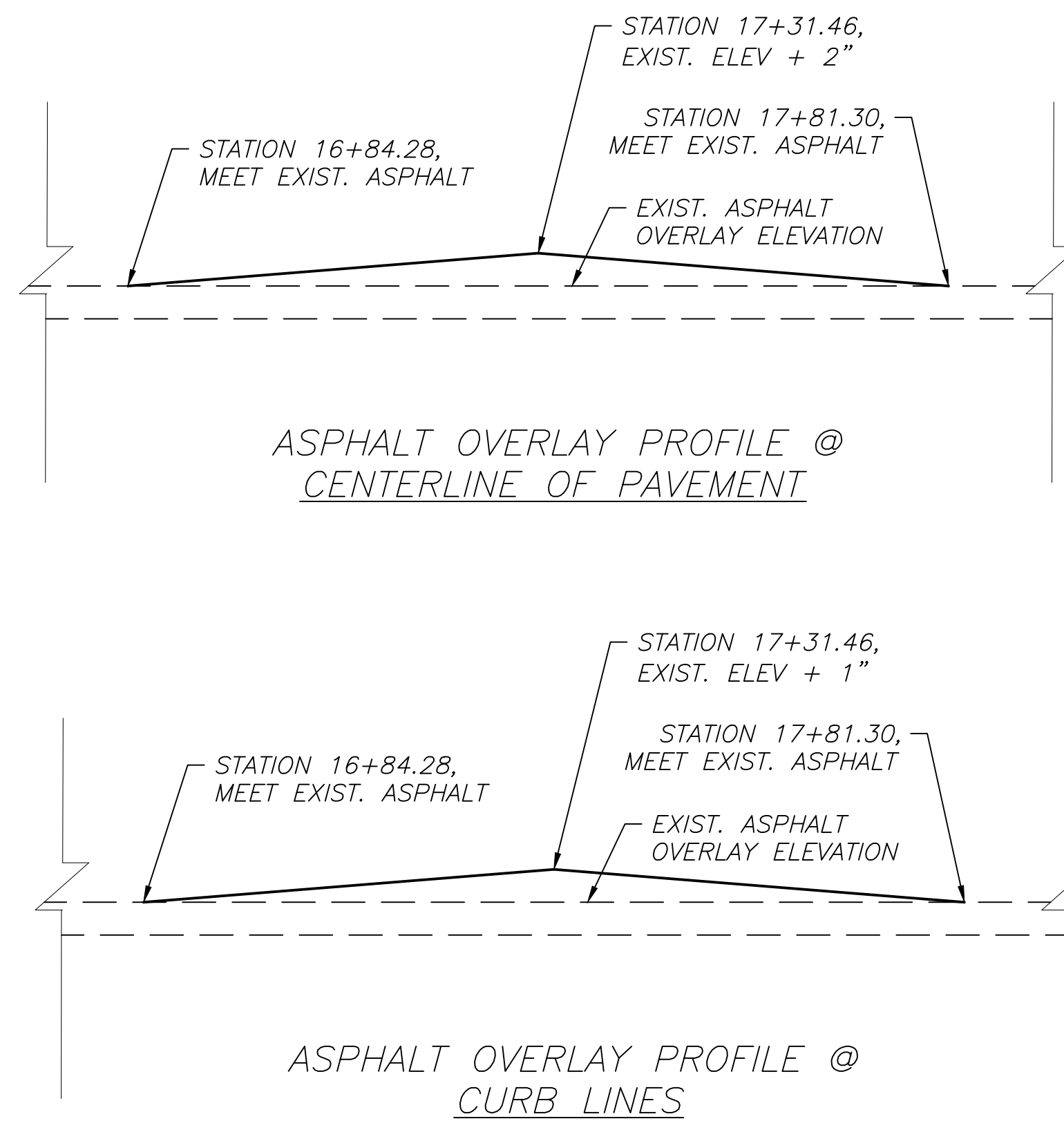
Project Title: RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title: PROPOSED LOWER ROADWAY PLAN			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-7	



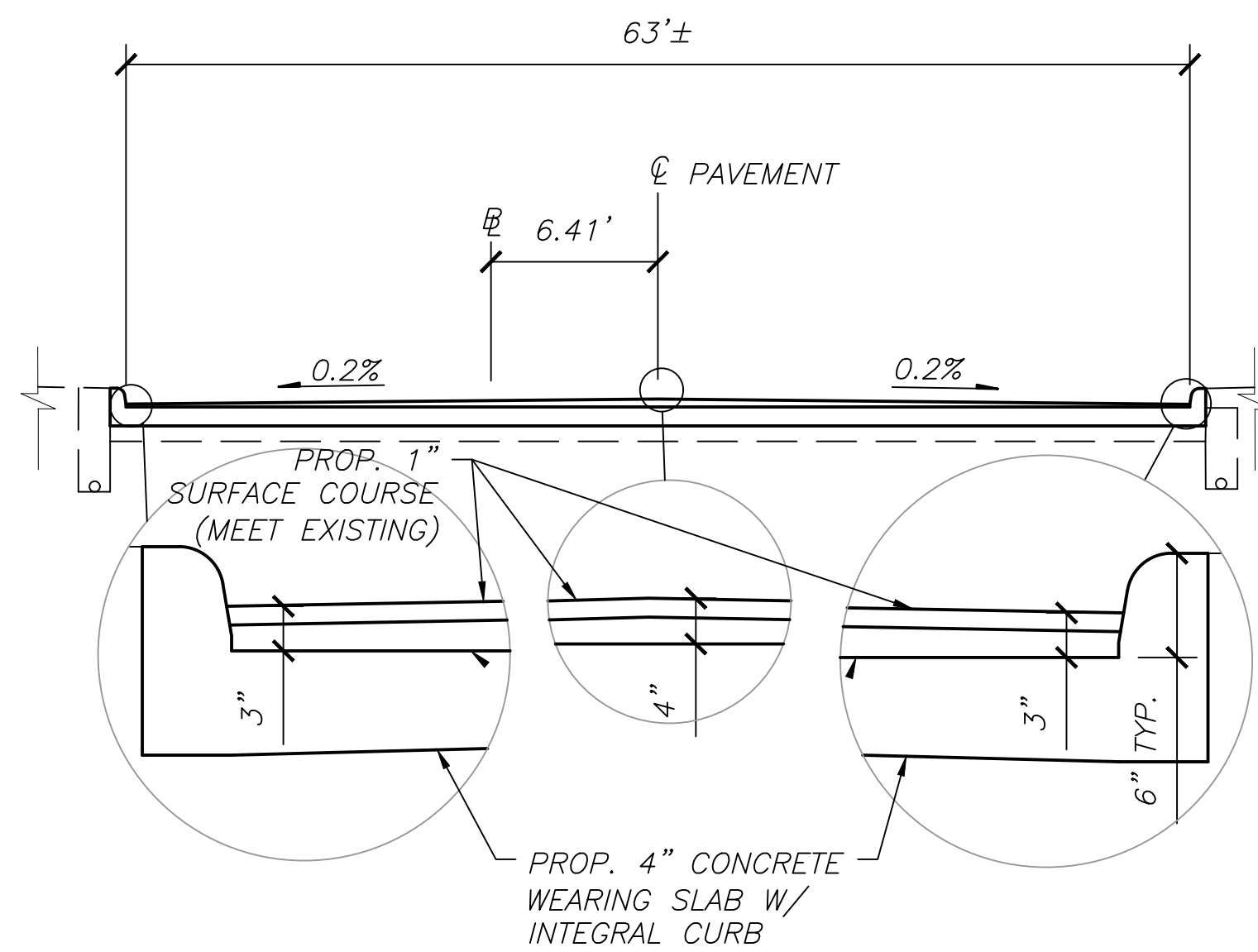
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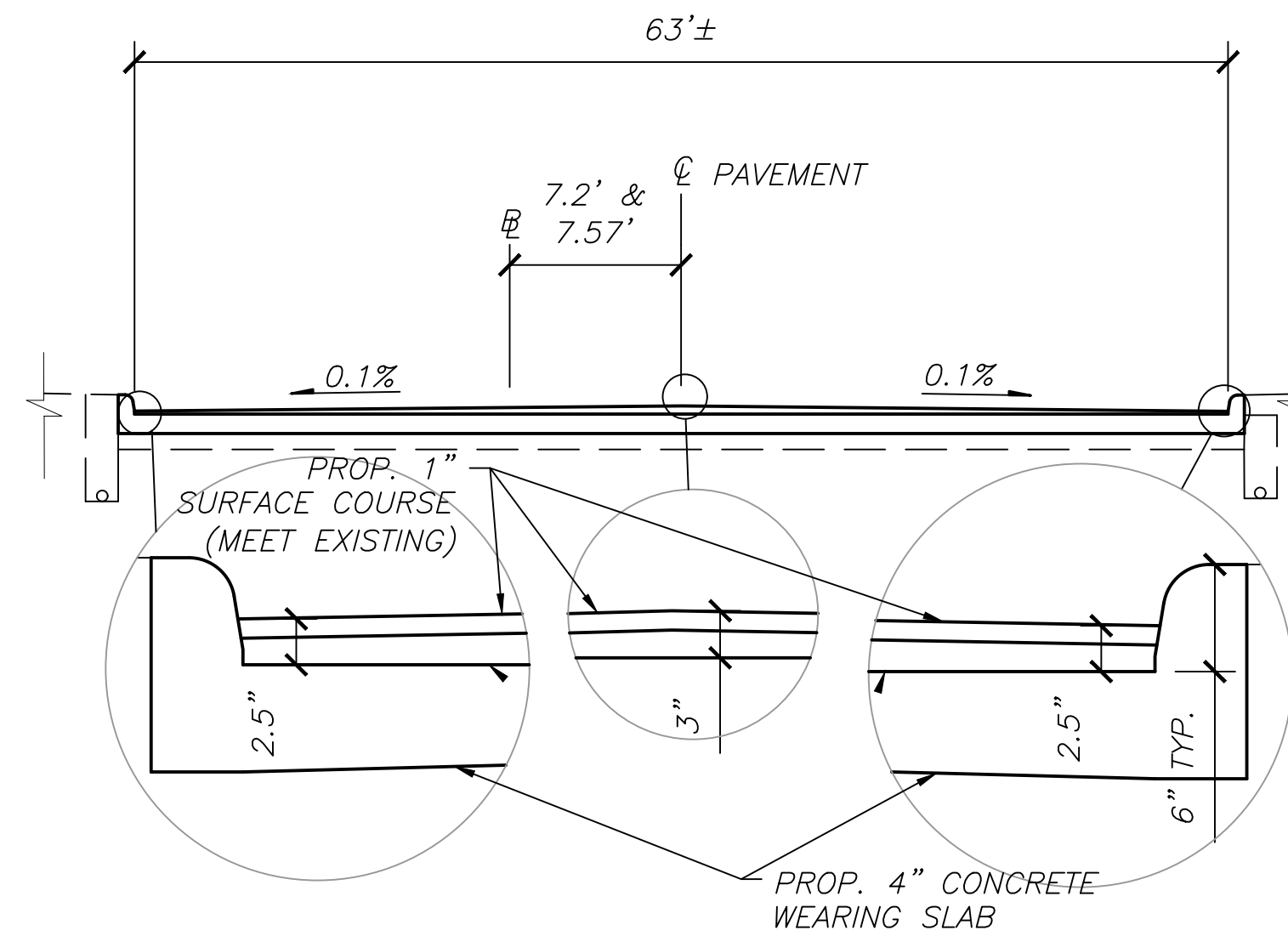
ASPHALT OVERLAY PLAN  
STATION 16+84.19 TO STATION 17+81.30



ASPHALT OVERLAY SECTION  
STATION 16+84.21 & STATION 17+81.30



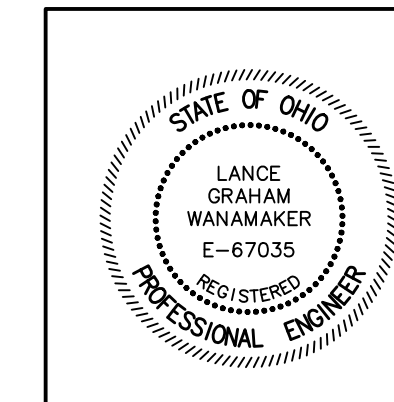
ASPHALT OVERLAY SECTION  
STATION 17+31.46



ASPHALT OVERLAY SECTION  
STATION 17+05.94 & STATION 17+57.20

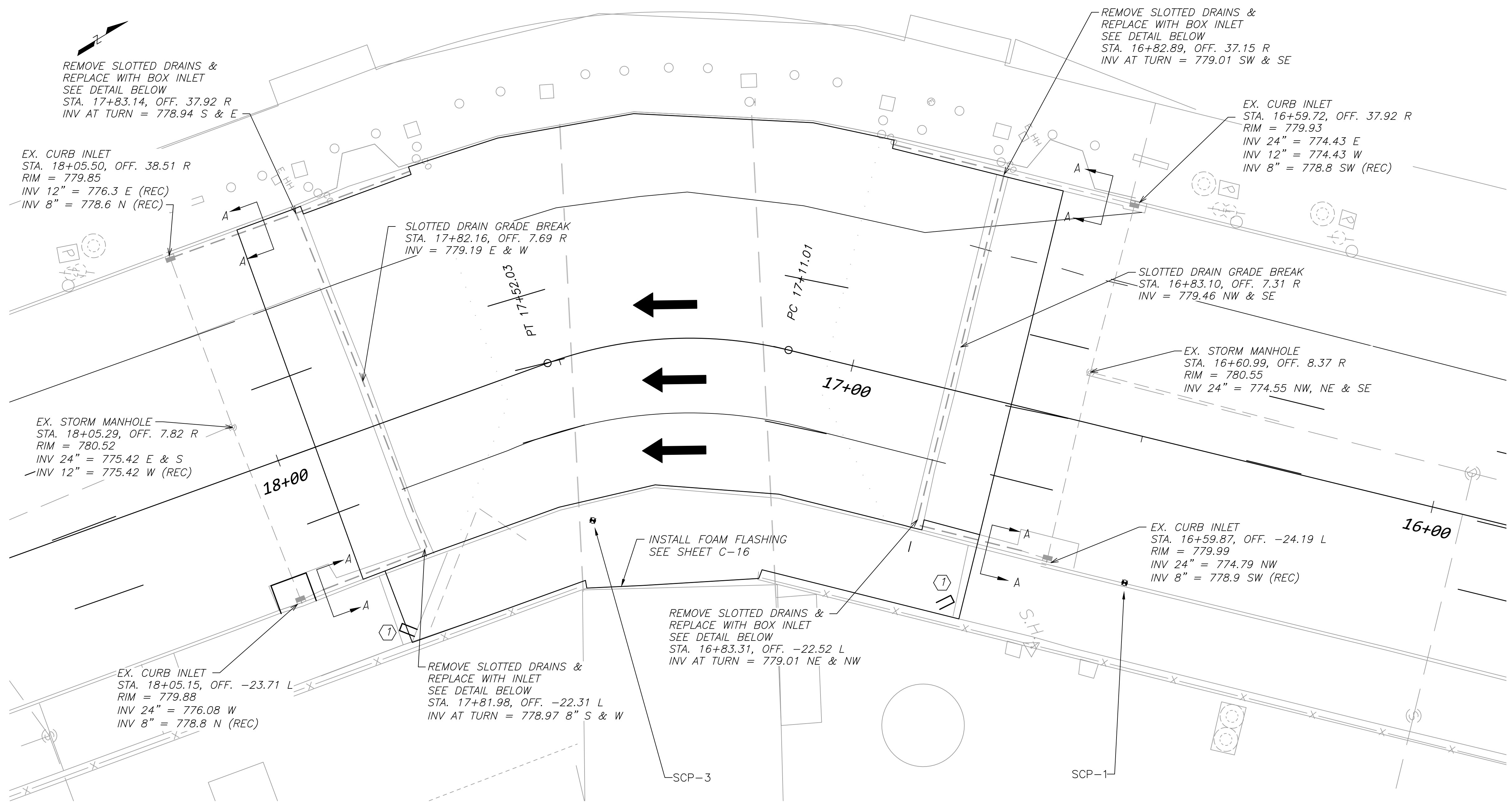
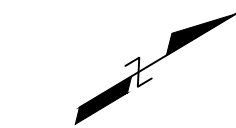
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Project Title <b>RTA TUNNEL MEMBRANE REPLACEMENT</b>			
Sheet Title <b>PROPOSED ASPHALT OVERLAY ELEVATIONS</b>			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-8	



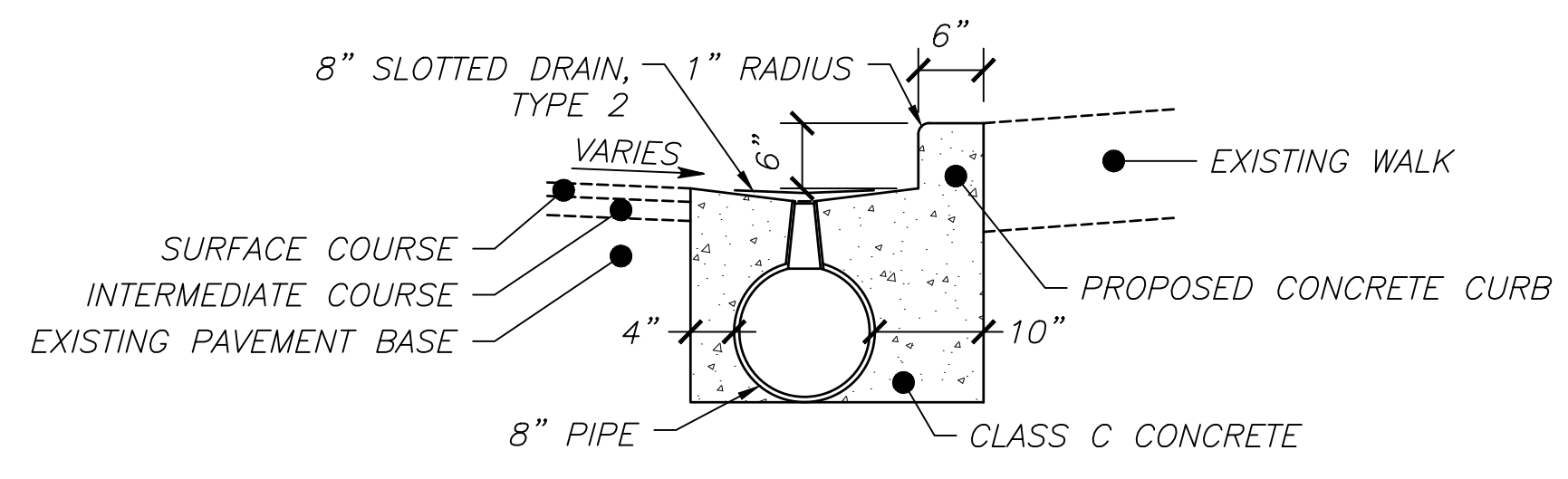


**NOTES:**

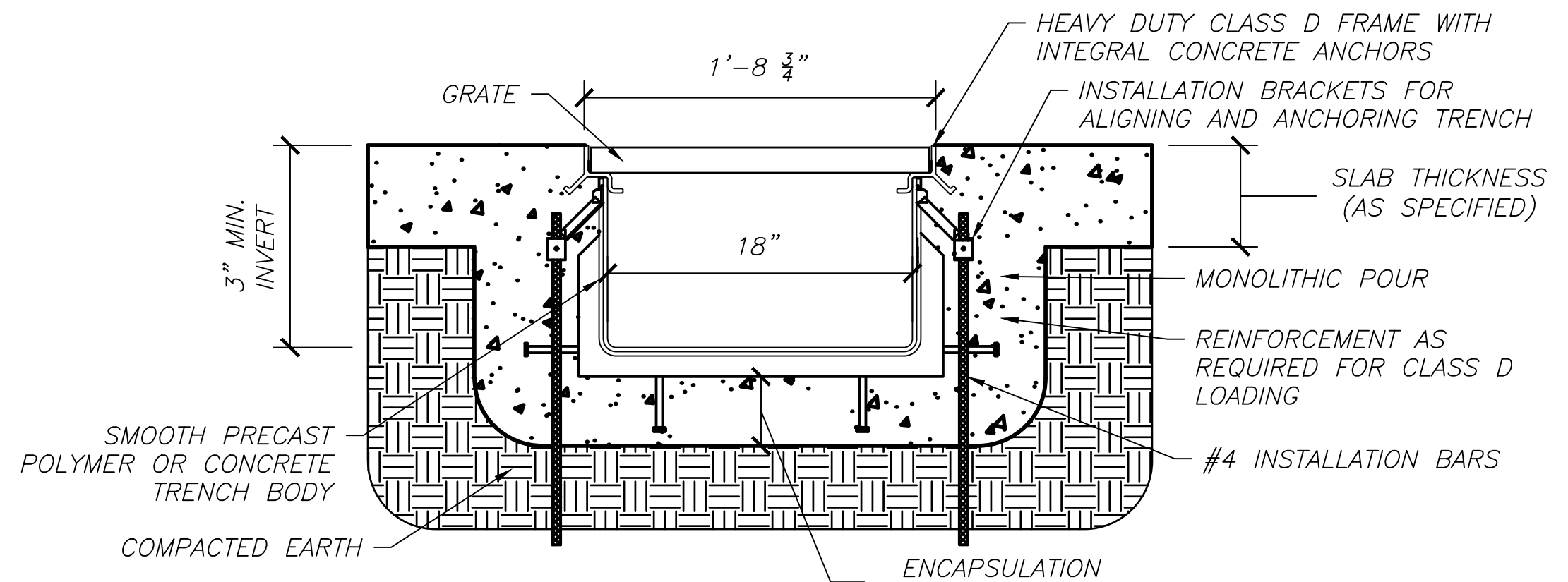
- CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

**KEYNOTES:**

1 ELECTRICAL CONDUITS EXPOSED APPROX. 2' BELOW SIDEWALK.



**SECTION A-A**  
(TYPICAL ALONG CURB)  
**EXISTING 8" SLOTTED DRAIN, TYPE 2**  
SEE ODOT STANDARD DRAWING DM-1.3



**NOTES:**

- STANDARD SLOPE IS 0.5% UNLESS OTHERWISE SPECIFIED
- REINFORCE ACCORDING TO STRUCTURAL REQUIREMENTS FOR CLASS D LOADING
- TRENCH DRAIN MUST BE 1/8" BELOW FINISHED CONCRETE GRADE

**D751 BOX INLET**  
SCALE: NTS

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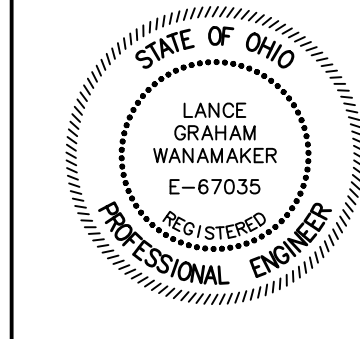
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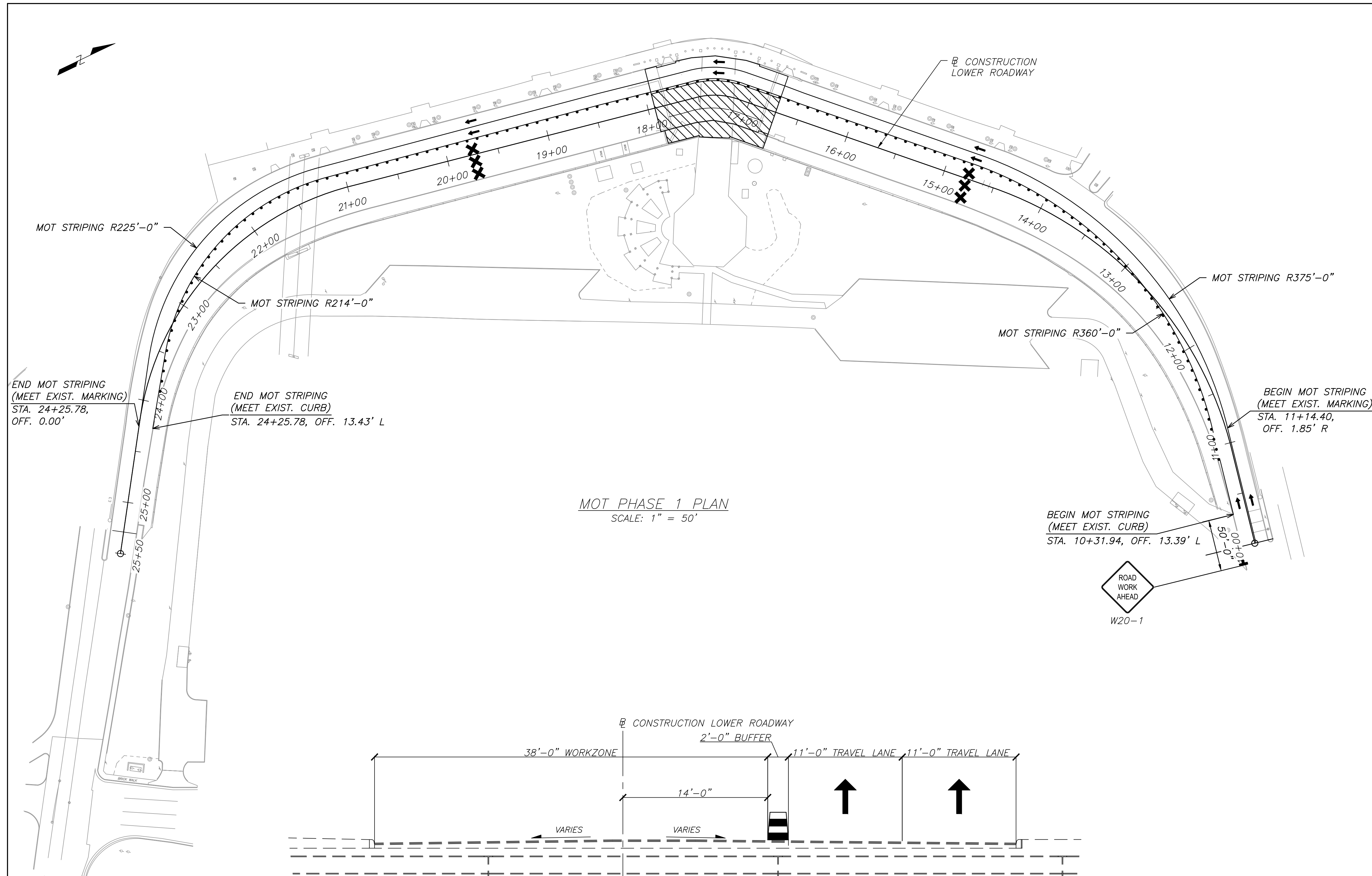
Project Title: **RTA TUNNEL MEMBRANE REPLACEMENT**

Sheet Title: **DRAINAGE DETAILS**

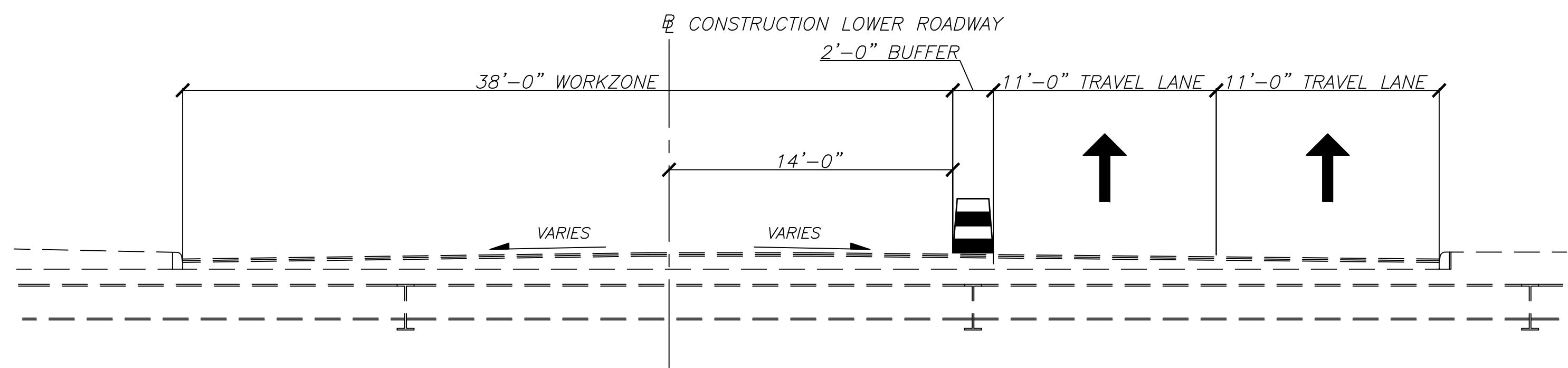
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
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Scale: AS SHOWN	Project No.: 198348
Date: FEBRUARY 2024	Sheet: C-9





MOT PHASE 1 PLAN  
SCALE: 1" = 50'



MOT PHASE 1 TYPICAL SECTION

PHASE 1 WORK

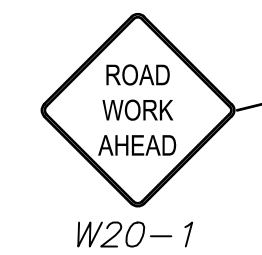
1. MILL ASPHALT CONCRETE WEARING COURSE. ASPHALT THICKNESS 3"-4".
2. REMOVE EXISTING 4" CONCRETE WEARING SLAB, REMOVE EXISTING WATERPROOFING LAYER, AND REPLACEMENT OF THE TUNNEL FOOTER DRAINS.
3. MAKE ANY CONCRETE REPAIRS TO STRUCTURAL SLAB
4. INSTALL PROPOSED MC-005 WATERPROOFING AROUND TUNNEL
5. INSTALL PROPOSED 4" MC-004 CONCRETE WEARING SLAB
6. REPLACE SLOTTED DRAINS WITH D751 BOX INLETS
7. PLACE INTERMEDIATE ASPHALT CONCRETE COURSE
8. APPLY TEMPORARY PAVEMENT STRIPING

NOTES

1. USING CONSTRUCTION DRUMS AND TEMPORARY STRIPING, ESTABLISH A PART WIDTH WORK ZONE. MAINTAIN TWO 11' TRAVEL LANES THROUGHOUT THE WORK ZONE AT ALL TIMES.
2. CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

LEGEND

- WORK AREA, PHASE 1
- DRUMS AT 10' C/C
- TRAFFIC FLOW
- CLOSED LANE



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Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

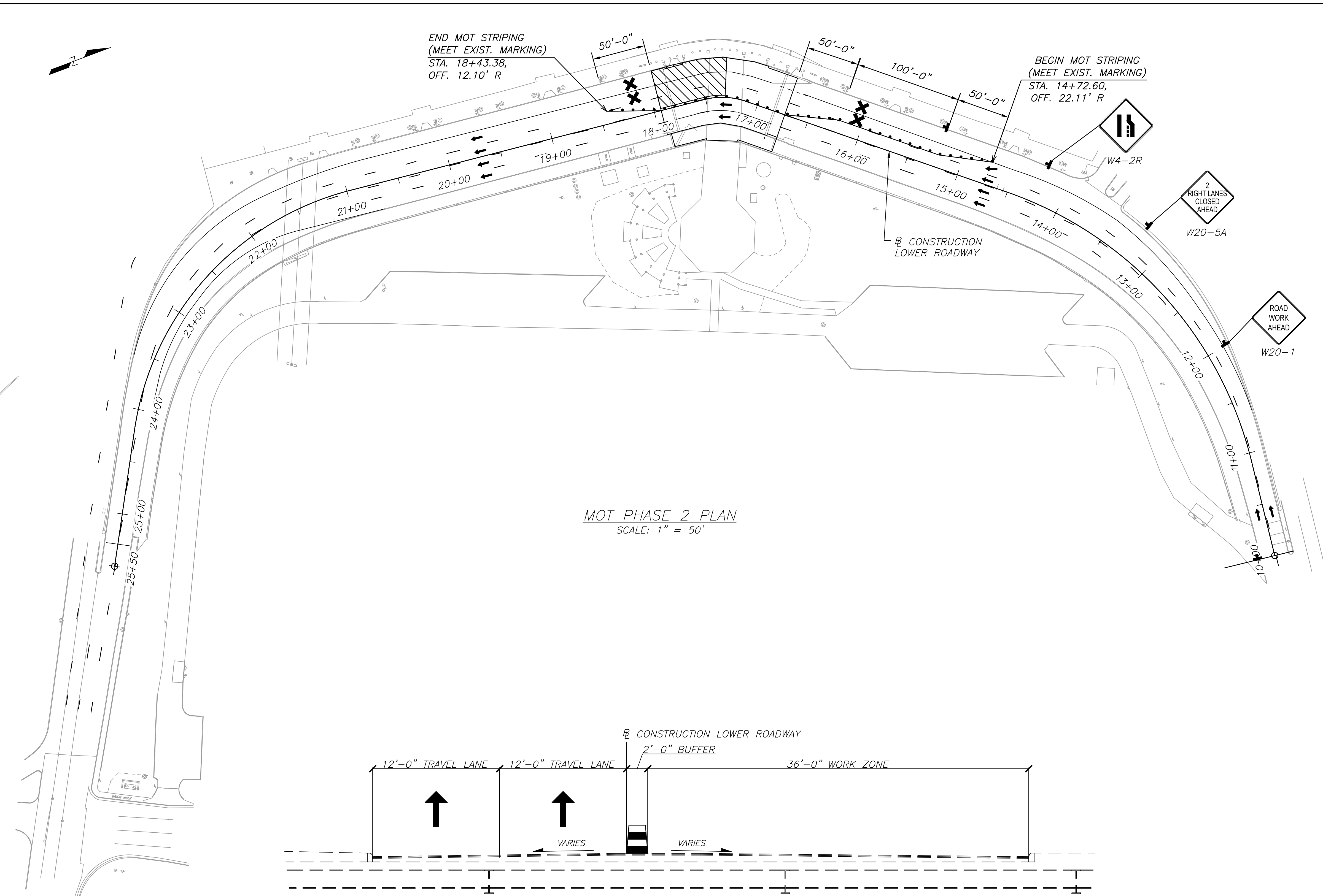
Sheet Title: MAINTENANCE OF TRAFFIC - PHASE 1

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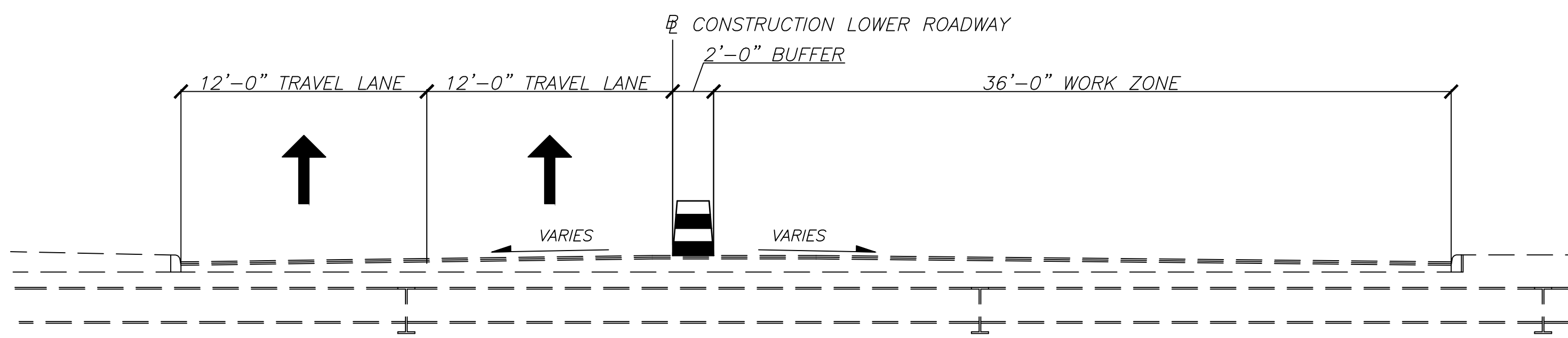
Scale: AS SHOWN	Project No.: 198348
Date: FEBRUARY 2024	Sheet: C-10



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MOT PHASE 2 PLAN  
SCALE: 1" = 50'



MOT PHASE 2 TYPICAL SECTION

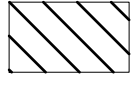



PHASE 2 WORK

1. MILL ASPHALT CONCRETE WEARING COURSE OFF OF SURFACE
2. REMOVE EXISTING 4" CONCRETE WEARING SLAB, REMOVE EXISTING WATERPROOFING LAYER, AND REPLACEMENT OF THE TUNNEL FOOTER DRAINS.
3. MAKE ANY CONCRETE REPAIRS TO STRUCTURAL SLAB
4. INSTALL PROPOSED MC-005 WATERPROOFING AROUND TUNNEL
5. INSTALL PROPOSED MC-004 4" CONCRETE WEARING SLAB
6. REMOVE EXISTING SLOT DRAINS AND REPLACE WITH BOX INLETS
7. PLACE INTERMEDIATE ASPHALT CONCRETE COURSE
8. APPLY TEMPORARY PAVEMENT STRIPING

NOTES

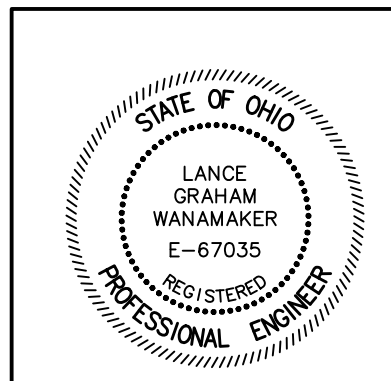
1. USING CONSTRUCTION DRUMS AND TEMPORARY STRIPING, ESTABLISH A PART WIDTH WORK ZONE. MAINTAIN TWO 12' TRAVEL LANES THROUGHOUT THE WORK ZONE AT ALL TIMES.
2. CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

LEGEND

-  - WORK AREA, PHASE 2
-  - DRUMS AT 10' C/C
-  - TRAFFIC FLOW
-  - CLOSED LANE

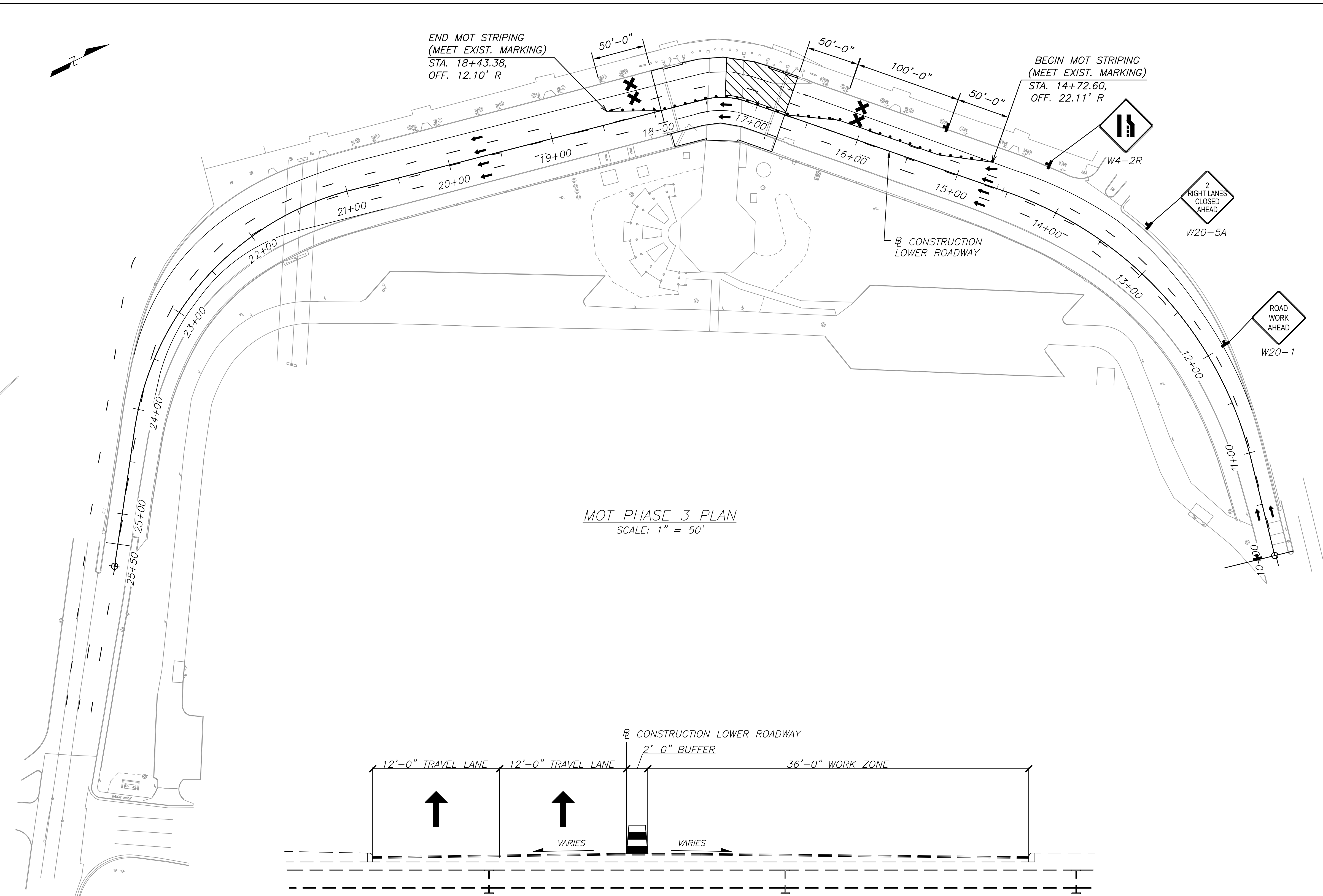
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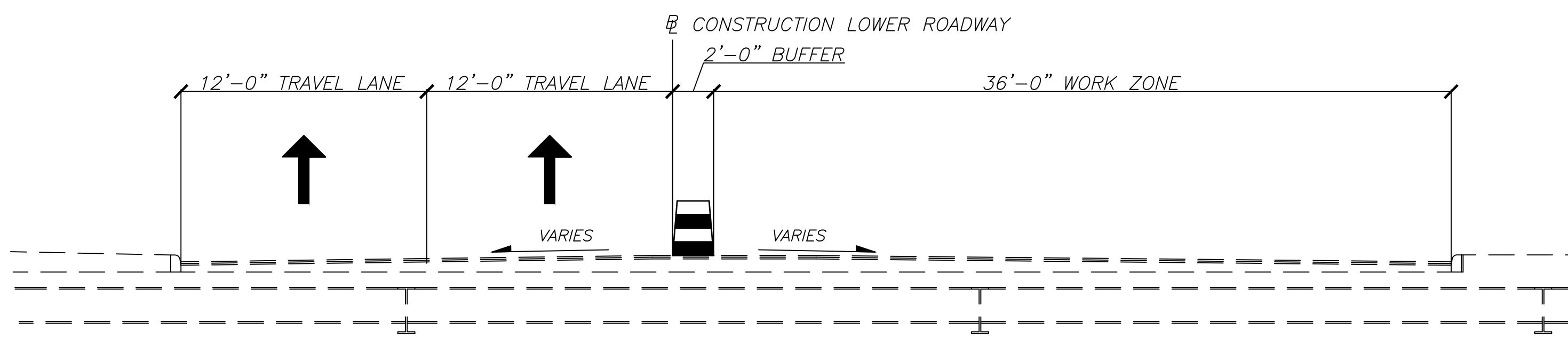


Project Title: RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title: MAINTENANCE OF TRAFFIC - PHASE 2			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-11	

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MOT PHASE 3 PLAN  
SCALE: 1" = 50'



MOT PHASE 3 TYPICAL SECTION

PHASE 3 WORK

1. MILL ASPHALT CONCRETE WEARING COURSE OFF OF SURFACE
2. REMOVE EXISTING 4" CONCRETE WEARING SLAB, REMOVE EXISTING WATERPROOFING LAYER, AND REPLACEMENT OF THE TUNNEL FOOTER DRAINS.
3. MAKE ANY CONCRETE REPAIRS TO STRUCTURAL SLAB
4. INSTALL PROPOSED MC-005 WATERPROOFING AROUND TUNNEL
5. INSTALL PROPOSED MC-004 4" CONCRETE WEARING SLAB
6. REMOVE EXISTING SLOT DRAINS AND REPLACE WITH BOX INLETS
7. PLACE INTERMEDIATE ASPHALT CONCRETE COURSE
8. APPLY TEMPORARY PAVEMENT STRIPING

NOTES

1. USING CONSTRUCTION DRUMS AND TEMPORARY STRIPING, ESTABLISH A PART WIDTH WORK ZONE. MAINTAIN TWO 12' TRAVEL LANES THROUGHOUT THE WORK ZONE AT ALL TIMES.
2. CONTRACTOR TO SURVEY AND NOTE LOCATIONS OF ALL MARKINGS TO BE REMOVED. AT THE CONCLUSION OF THE WORK, CONTRACTOR TO REINSTALL MARKINGS AT THEIR ORIGINAL LOCATIONS.

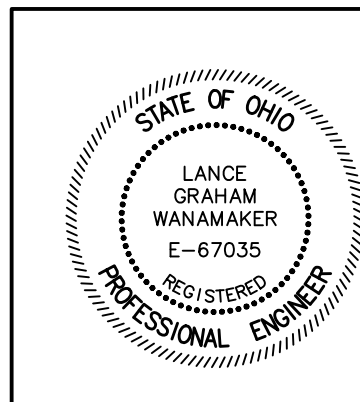
LEGEND

- WORK AREA, PHASE 3
- DRUMS AT 10' C/C
- TRAFFIC FLOW
- CLOSED LANE

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Project Title RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title MAINTENANCE OF TRAFFIC - PHASE 3			
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Date: FEBRUARY 2024		Sheet: C-12	






**PHASE 4 WORK**

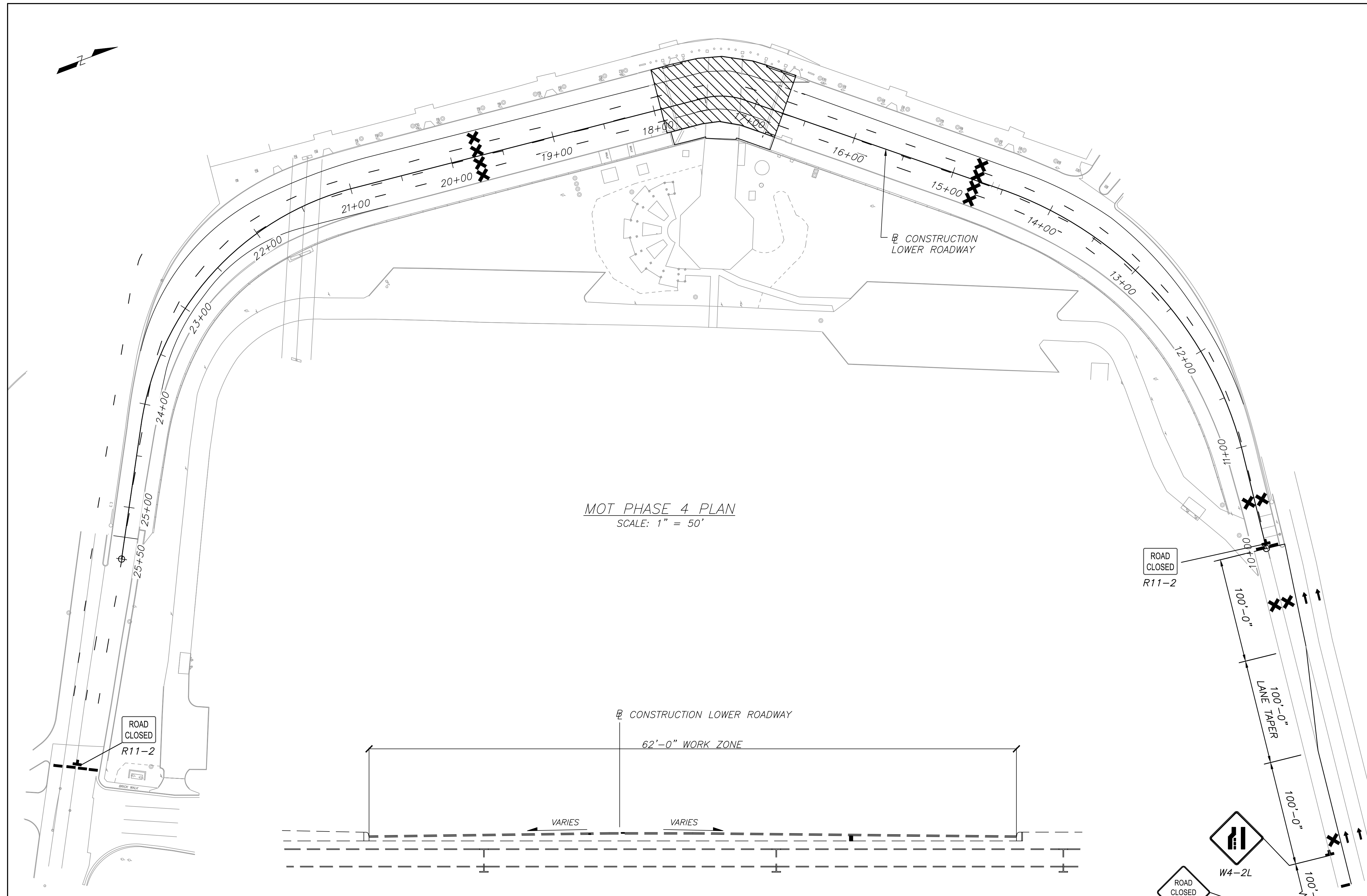
1. INSTALL ASPHALT CONCRETE SURFACE COURSE AND PAVEMENT STRIPING
2. CONTRACTOR TO REINSTALL TRAFFIC MARKINGS AT THE PRE-CONSTRUCTION LOCATIONS

**NOTES**

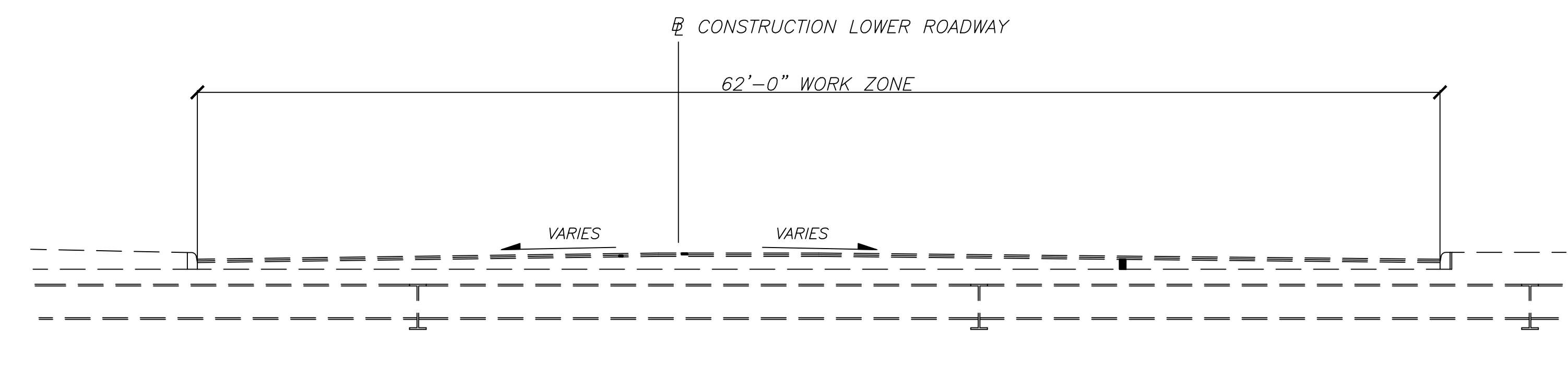
LOWER ROADWAY TO BE CLOSED TO TRAFFIC. PERFORM ROAD CLOSURE AND WORK AT TIMES APPROVED BY THE CLEVELAND AIRPORT SYSTEM.

**LEGEND**

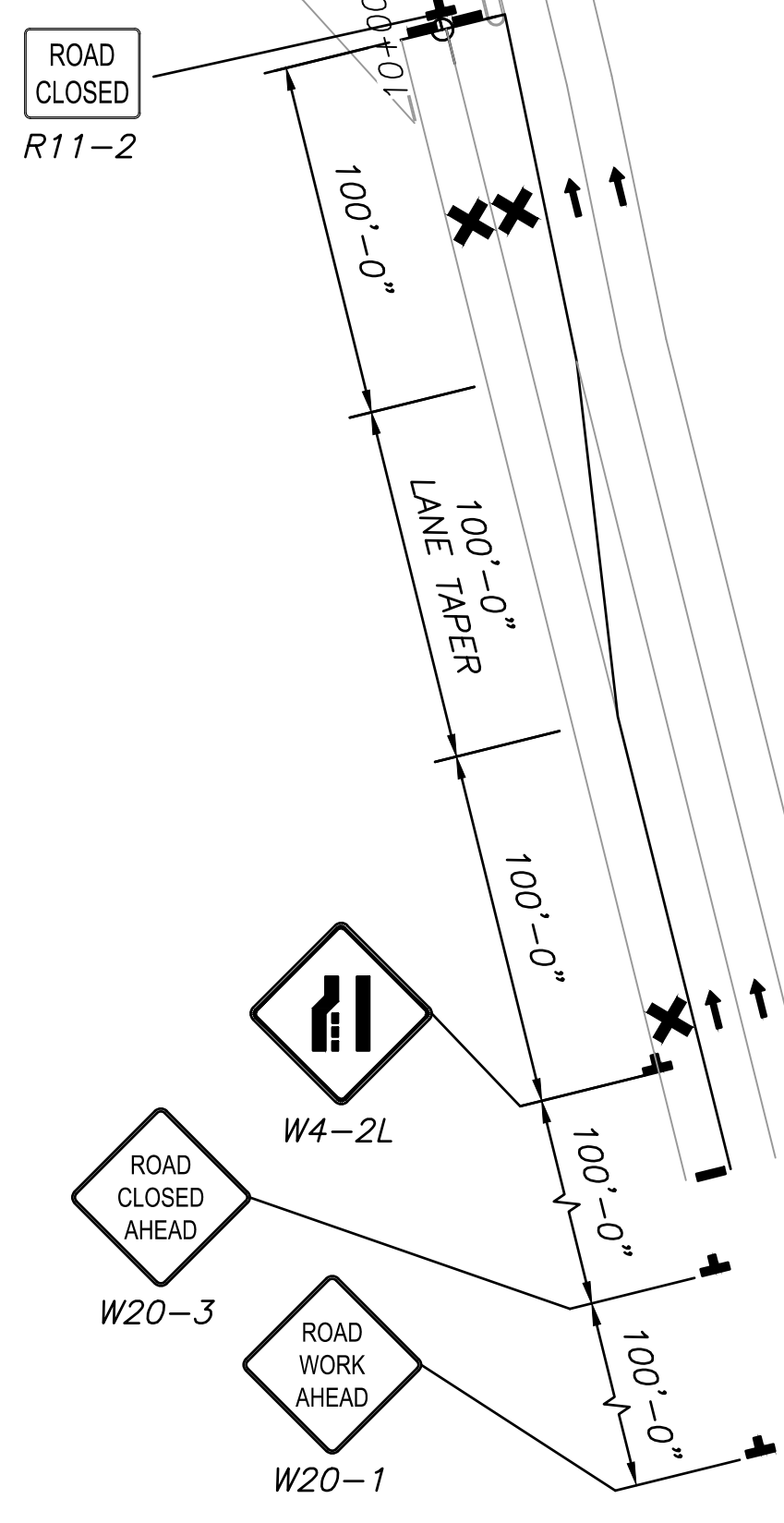
-  - WORK AREA, PHASE 4
-  - DRUMS AT 10' C/C
-  - TYPE 3 BARRICADE
-  - TRAFFIC FLOW
-  - CLOSED LANE



**MOT PHASE 4 PLAN**  
SCALE: 1" = 50'



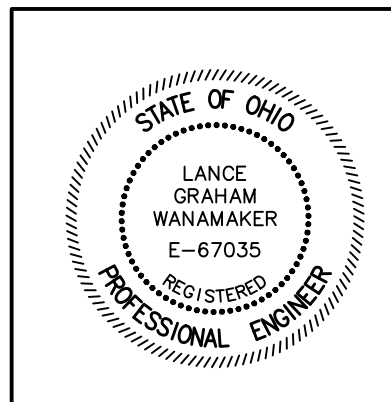
**MOT PHASE 4 TYPICAL SECTION**



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Project Title: RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title: MAINTENANCE OF TRAFFIC - PHASE 4			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-13	



PROPOSED WORK

PHASE 1

1. INSTALL SCAFFOLDING/PEDESTRIAN PROTECTION UNDERNEATH TUNNEL TO MAINTAIN ACCESS TO THE RTA.
2. SET UP MOT STRIPING AND DRUMS TO CLOSE TRAFFIC TO LANES ON THE EAST SIDE OF THE MEDIAN AND CREATE WORKZONE WITH ASSOCIATED TAPERS FOR PHASE 1.
3. SAWCUT PHASE REMOVAL JOINT.
4. PAVEMENT PLANING, ASPHALT CONCRETE, 4"±.
5. REMOVE EXISTING 4" CONCRETE WEARING SLAB, CURB, & SIDEWALK.
6. REMOVE EXISTING WATERPROOFING SYSTEM.
7. INSPECT AND MAKE ANY NECESSARY REPAIRS TO EXISTING STRUCTURAL SLAB.
8. INSTALL PROPOSED WATERPROOFING SYSTEM AND CONCRETE WEARING SLAB. WATERPROOFING SHOULD EXTEND BEYOND LONGITUDINAL PHASE CONSTRUCTION JOINT. WEARING SLAB SHOULD TERMINATE AT PHASE CONSTRUCTION JOINT.
9. REMOVE EXISTING SLOTTED DRAINS IN THE PHASE 1 WORK AREA AND REPLACE WITH BOX INLETS PER PROJECT PLANS. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY CONNECTIONS TO THE EXISTING SYSTEM.
10. INSTALL PROPOSED INTERMEDIATE COURSE OF ASPHALT CONCRETE.
11. INSTALL TEMPORARY PAVEMENT MARKINGS FOR MAINTENANCE OF TRAFFIC IN PHASE 2.

PHASE 2

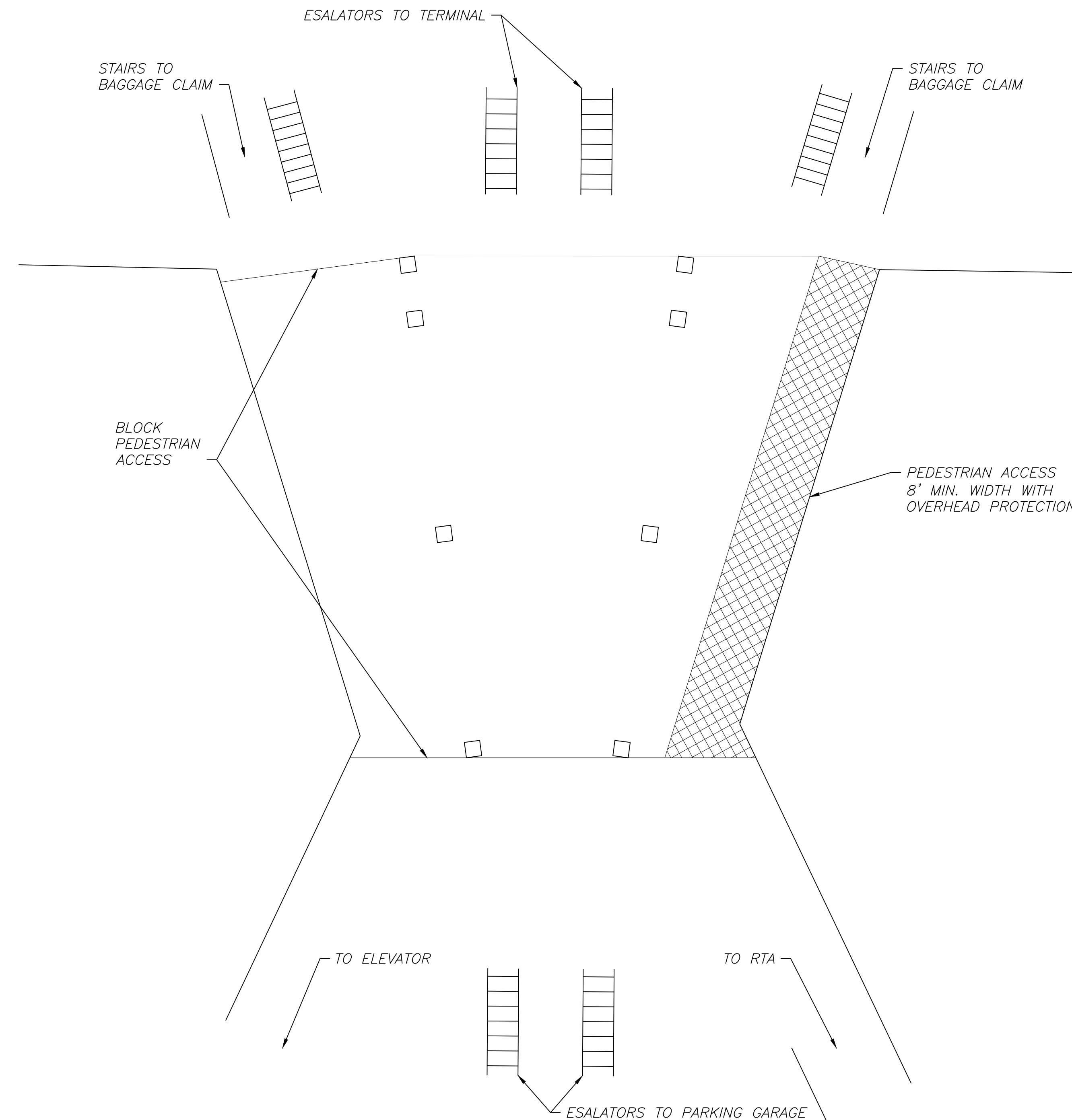
1. USE DRUMS AND MOT STRIPING TO CREATE WORKZONE AND ASSOCIATED TAPERS FOR PHASE 2.
2. PAVEMENT PLANING, ASPHALT CONCRETE, 4"±.
3. REMOVE EXISTING 4" CONCRETE WEARING SLAB, CURB, & WALK (CURB RAMP).
4. REMOVE EXISTING WATERPROOFING SYSTEM.
5. INSPECT AND MAKE ANY NECESSARY REPAIRS TO EXISTING STRUCTURAL SLAB.
6. INSTALL PROPOSED WATERPROOFING SYSTEM AND CONCRETE WEARING SLAB.
7. REMOVE EXISTING SLOTTED DRAINS IN THE PHASE 2 WORK AREA AND REPLACE WITH BOX INLETS PER PROJECT PLANS. CONNECT TO DRAINS INSTALLED IN PHASE 1.
8. INSTALL PROPOSED INTERMEDIATE COURSE OF ASPHALT CONCRETE.

PHASE 3

1. USE DRUMS AND MOT STRIPING TO CREATE WORKZONE AND ASSOCIATED TAPERS FOR PHASE 3.
2. PAVEMENT PLANING, ASPHALT CONCRETE, 4"±.
3. REMOVE EXISTING 4" CONCRETE WEARING SLAB, CURB, & WALK (CURB RAMP).
4. REMOVE EXISTING WATERPROOFING SYSTEM.
5. INSPECT AND MAKE ANY NECESSARY REPAIRS TO EXISTING STRUCTURAL SLAB.
6. INSTALL PROPOSED WATERPROOFING SYSTEM AND CONCRETE WEARING SLAB.
7. REMOVE EXISTING SLOTTED DRAINS IN THE PHASE 3 WORK AREA AND REPLACE WITH BOX INLETS PER PROJECT PLANS. CONNECT TO DRAINS INSTALLED IN PHASE 1.
8. INSTALL PROPOSED INTERMEDIATE COURSE OF ASPHALT CONCRETE.

PHASE 4

1. USE DRUMS TO CLOSE LOWER ROADWAY TO ALL TRAFFIC DURING NIGHT WORK (CONTRACTOR MUST NOTIFY AND RECEIVE APPROVAL FROM CLEVELAND AIRPORT SYSTEM OF DATES AND TIMES ROAD TO BE CLOSED PRIOR TO WORK).
2. INSTALL 1" SURFACE COURSE OF ASPHALT CONCRETE.
3. FINAL STRIPING WORK.



INTERIOR MAINTENANCE OF PEDESTRIAN TRAFFIC

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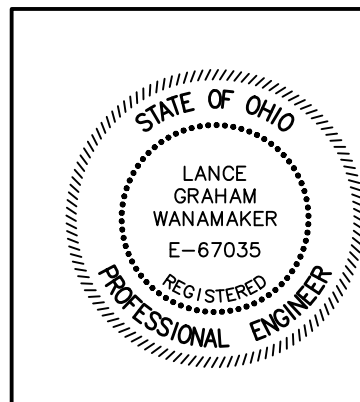
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Project Title: **RTA TUNNEL MEMBRANE REPLACEMENT**

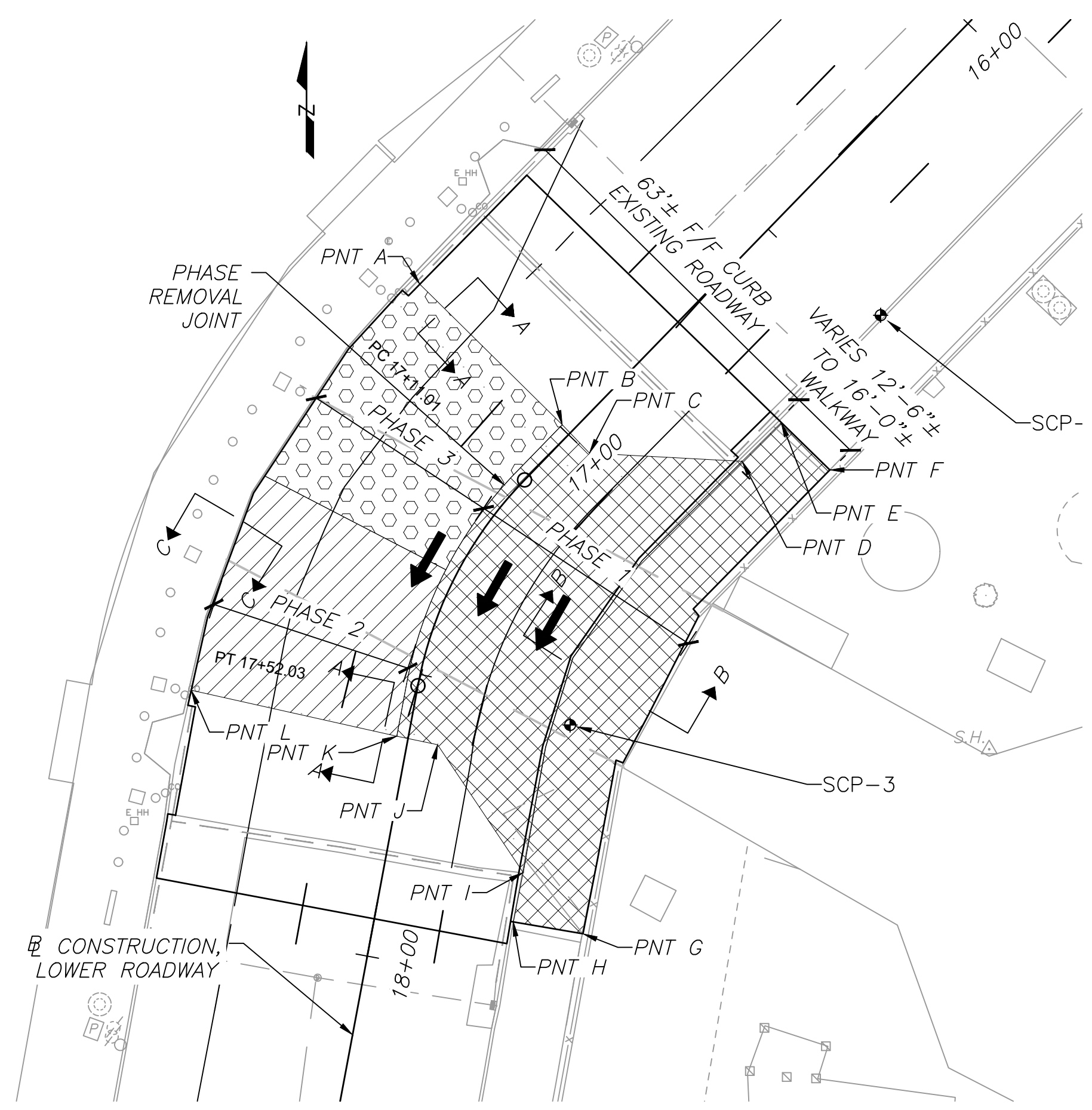
Sheet Title: **PHASING NOTES**

Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
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Scale: AS SHOWN	Project No.: 198348
Date: FEBRUARY 2024	Sheet: C-14

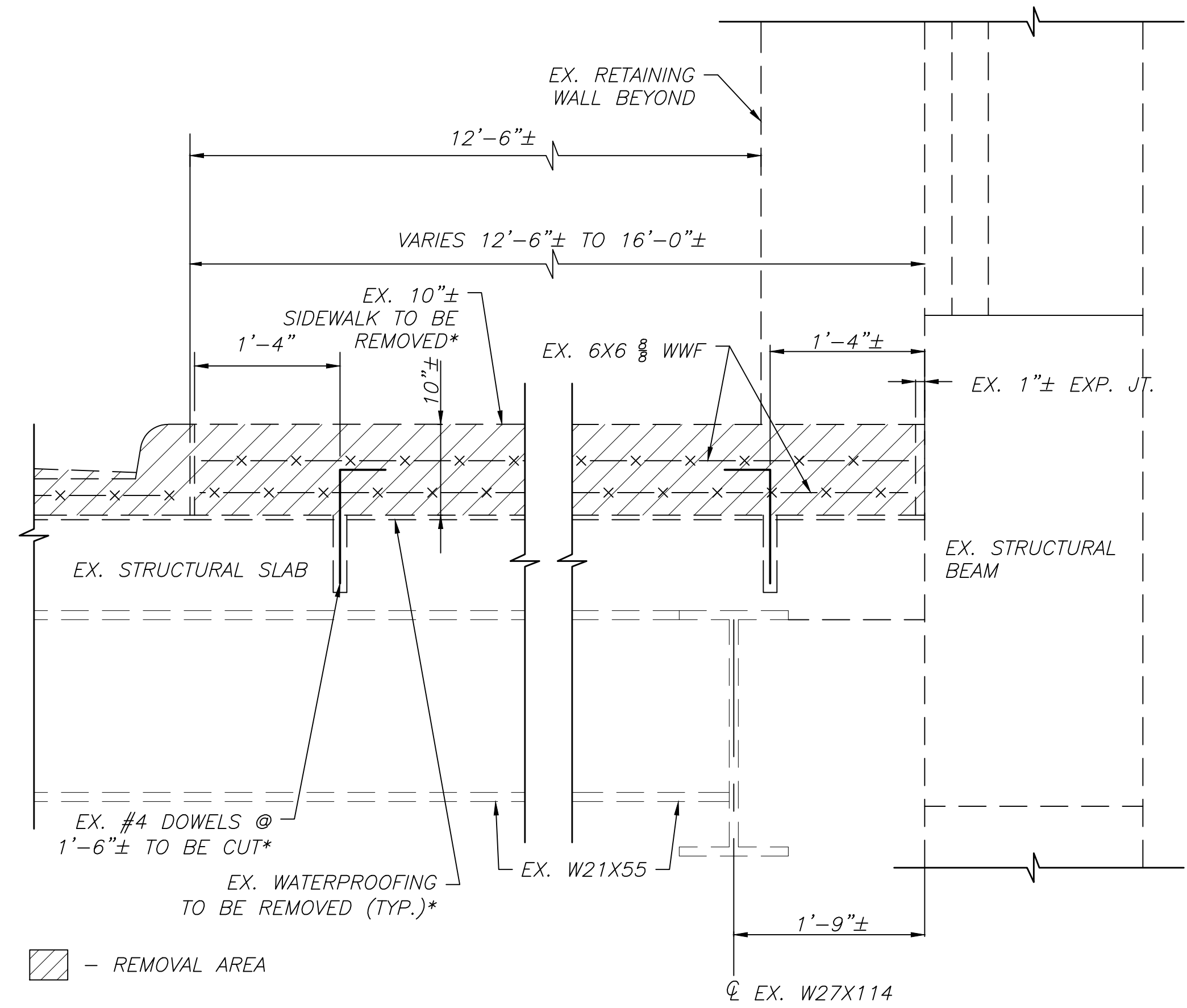


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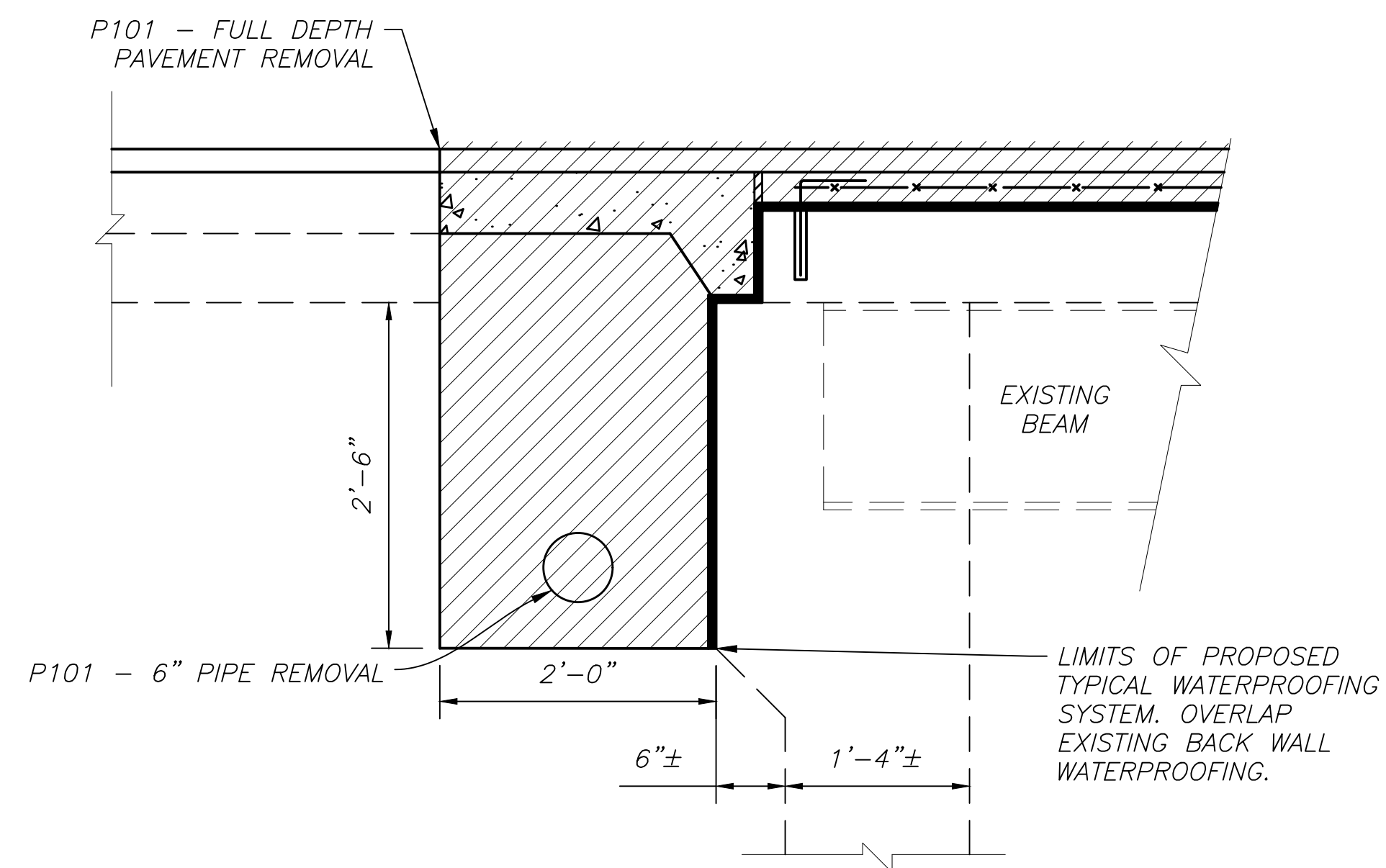


- AREA TO BE REMOVED, PHASE 1
- AREA TO BE REMOVED, PHASE 2
- AREA TO BE REMOVED, PHASE 3

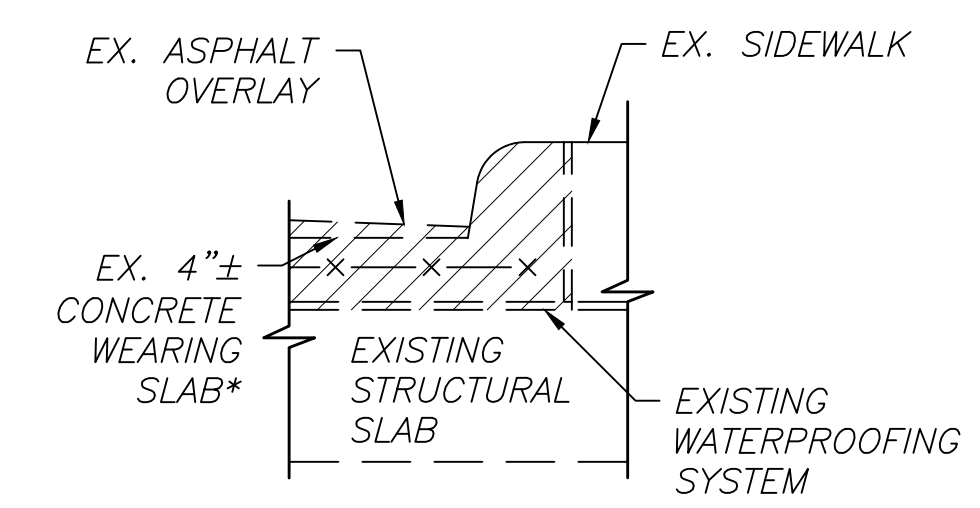
**PHASE REMOVAL PLAN**  
SCALE: 1" = 20'



**EXISTING SECTION B-B**  
SCALE: 1" = 1'



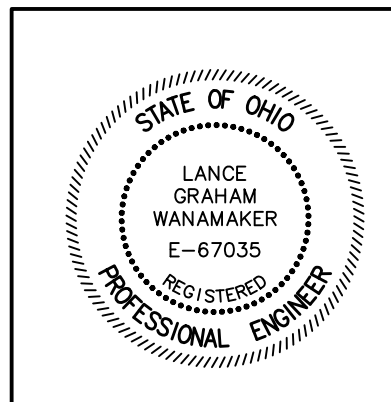
**EXISTING SECTION A-A**  
SCALE: NTS



**EXISTING SECTION C-C**  
SCALE: NTS

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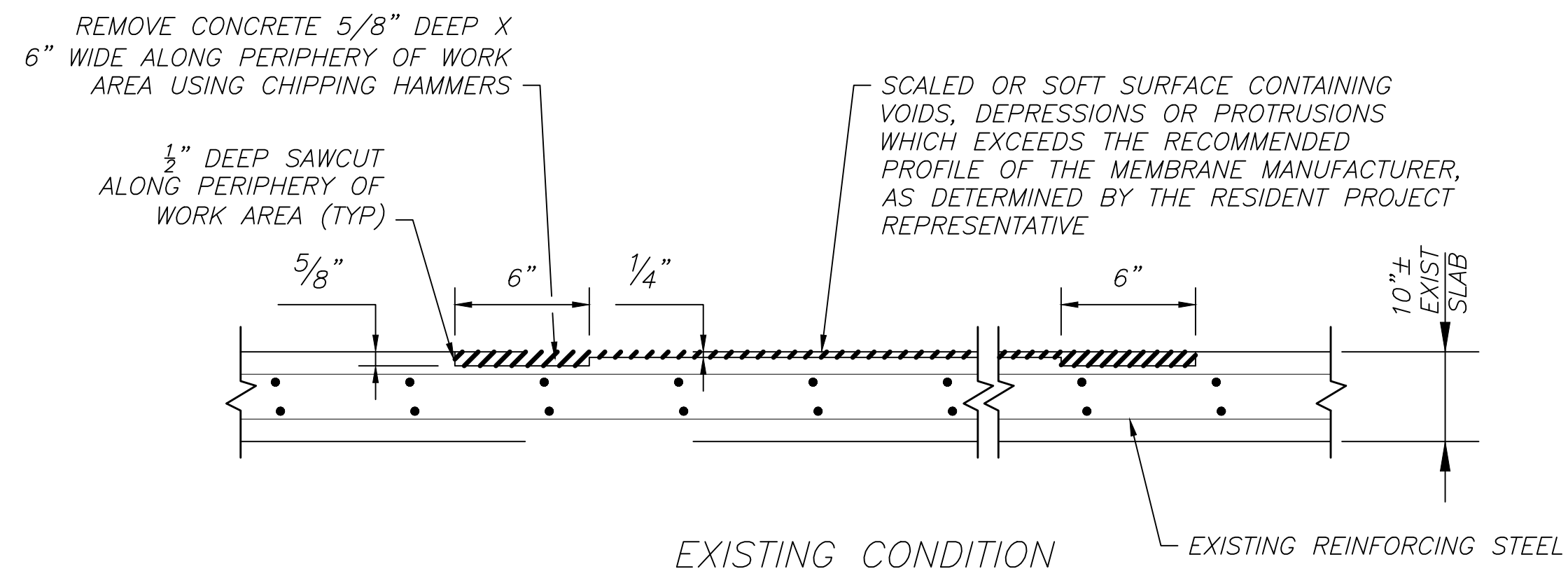


Project Title: <b>RTA TUNNEL MEMBRANE REPLACEMENT</b>			
Sheet Title: <b>TUNNEL REPAIR - REMOVAL DETAILS</b>			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-15	

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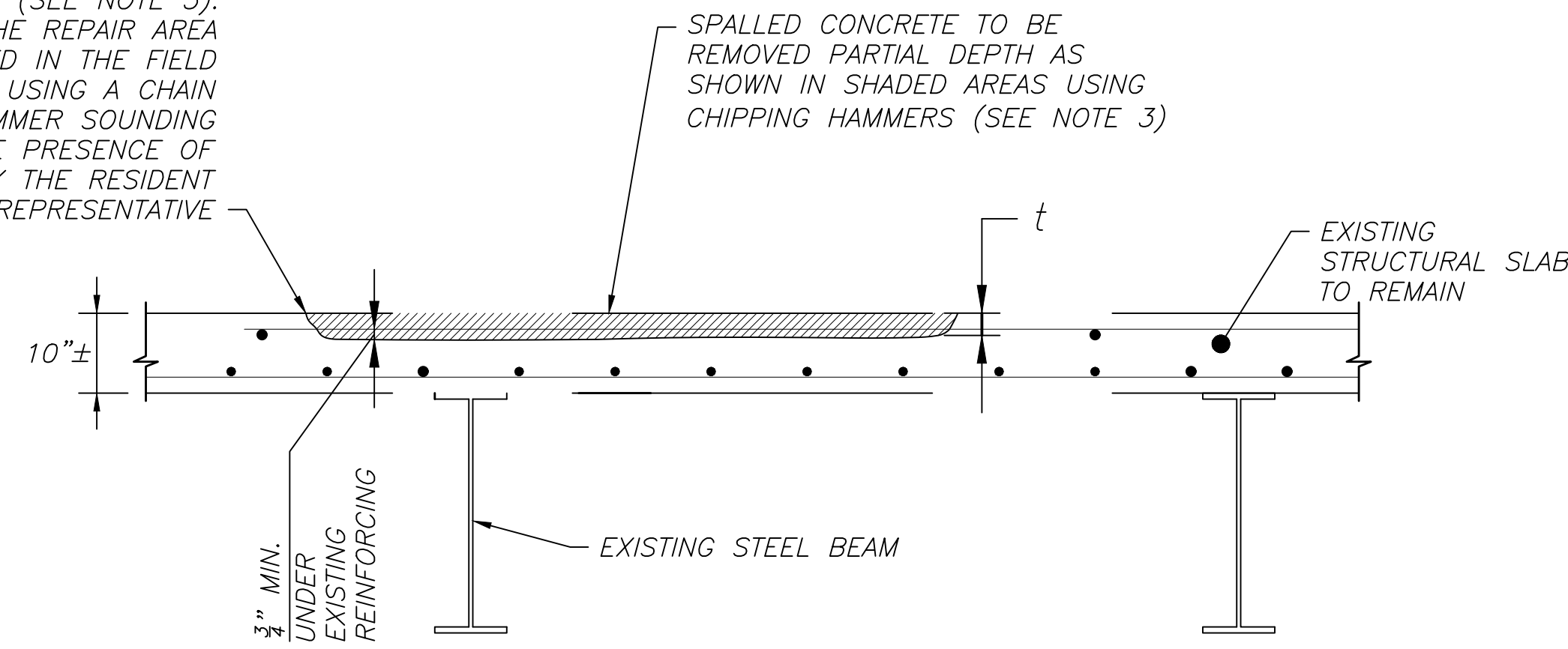
**NOTES:**

1. SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE ABRASIVELY CLEANED. ABRASIVELY CLEANED. PATCHING MATERIAL TO BE PLACED WITHIN 24 HOURS OF CLEANING. ACCEPTABLE METHODS INCLUDE ABRASIVE BLASTING WITH CONTAINMENT OR VACUUM ABRASIVE BLASTING.
2. USE THE FOLLOWING MATERIAL TYPE BASED ON PATCH DEPTH t:
  - TYPE A -  $t > 3"$
  - TYPE B -  $t \leq 1\frac{1}{2}"$
  - TYPE C -  $1\frac{1}{2}" < t \leq 3"$
 SEE DETAIL SPECIFICATIONS FOR DETAILS OF MATERIAL TYPE AND FURTHER REPAIR SPECIFICATIONS.
3. IF WORKING AROUND REINFORCING STEEL, AVOID DAMAGING OR DEBONDING THE REINFORCING STEEL, OR SHATTERING THE CONCRETE, BEYOND THE AREA TO BE PATCHED. ADEQUATELY SUPPORT REINFORCEMENT THAT IS LOOSE, AND TIE IT BACK INTO PLACE. REPLACE REINFORCEMENT DAMAGED DURING CONCRETE REMOVAL.
4. INCLUDE WITH ITEM P-101.



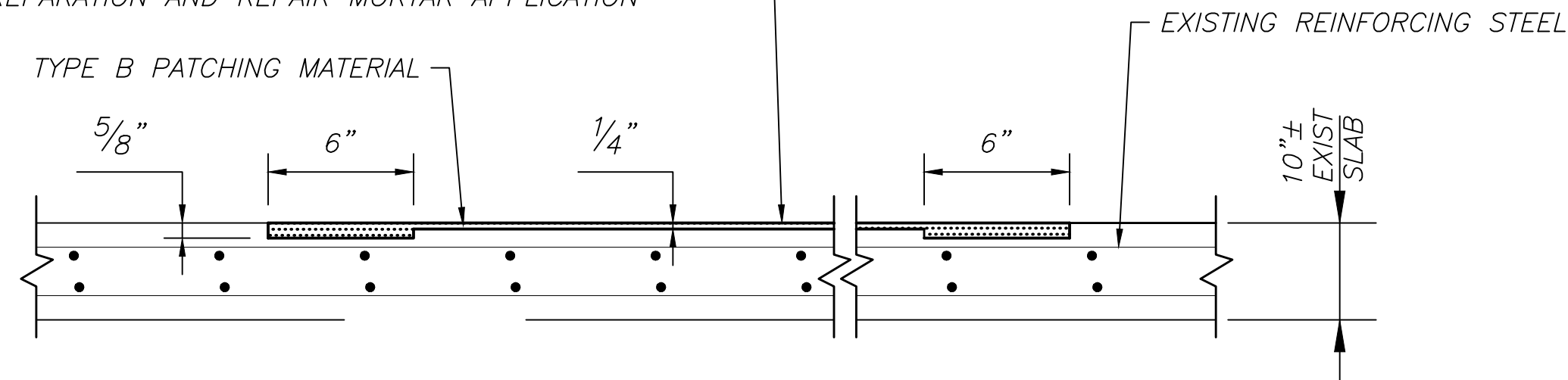
EXISTING CONDITION

SAWCUT 1/2" DEEP (SEE NOTE 3). EXACT EXTENT OF THE REPAIR AREA SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR USING A CHAIN DRAG OR HAMMER SOUNDING TECHNIQUE, IN THE PRESENCE OF AND AS DIRECTED BY THE RESIDENT PROJECT REPRESENTATIVE



EXISTING CONDITION AND DEMOLITION

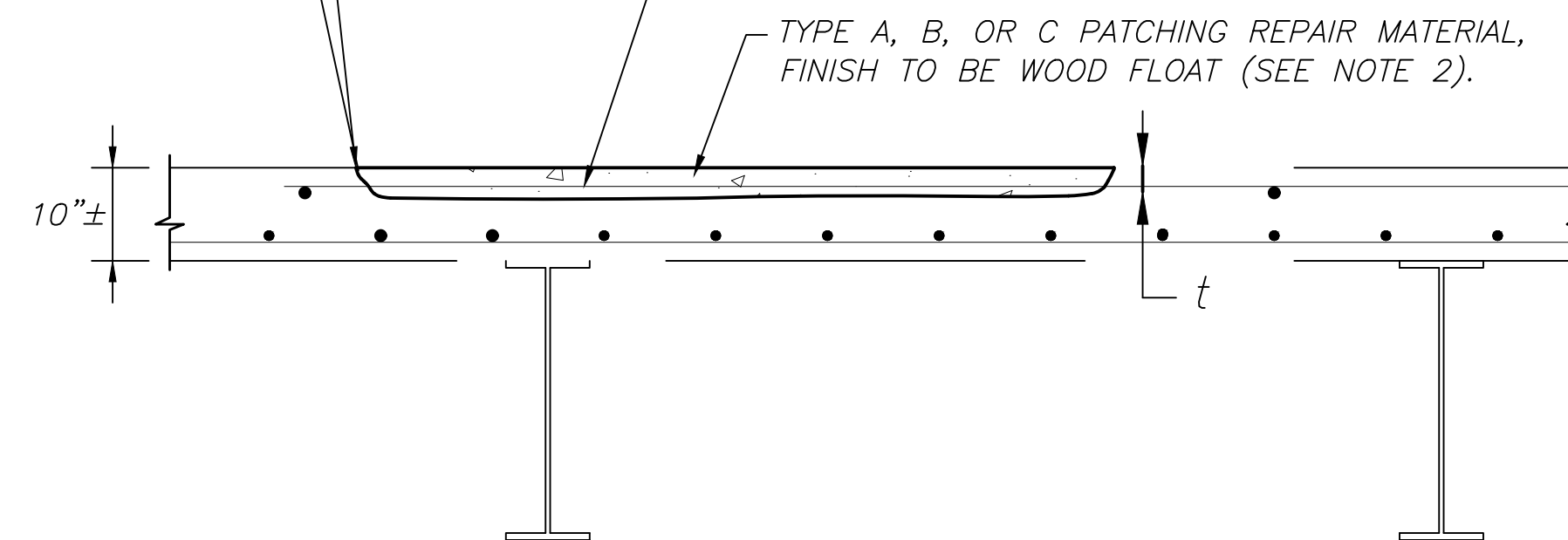
REFER TO SPECIFICATION SECTION P101 FOR SURFACE PREPARATION AND REPAIR MORTAR APPLICATION



REPAIRED CONDITION

ABRASIVELY CLEAN EXISTING REINFORCEMENT. IF THE EXISTING REINFORCEMENT HAS LOST MORE THAN 20% OF IT'S CROSS-SECTIONAL AREA, AS DETERMINED BY THE RESIDENT PROJECT REPRESENTATIVE, IT SHALL BE SUPPLEMENTED WITH NEW EPOXY COATED REBARS, AS DIRECTED BY THE RESIDENT PROJECT REPRESENTATIVE (SEE NOTE 1)

PROVIDE TOOLED JOINT ALONG EDGE OF REPAIR AREA



REPAIRED CONDITION

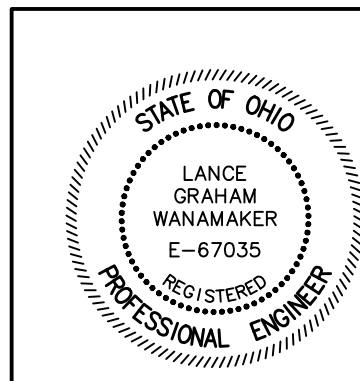
STRUCTURAL SLAB SURFACE SCALING REPAIR DETAIL (SEE NOTE 4)  
NOT TO SCALE

STRUCTURAL SLAB PATCHING DETAILS (SEE NOTE 4)  
NOT TO SCALE

ISSUED FOR BID

Revisions	Date	Description	By

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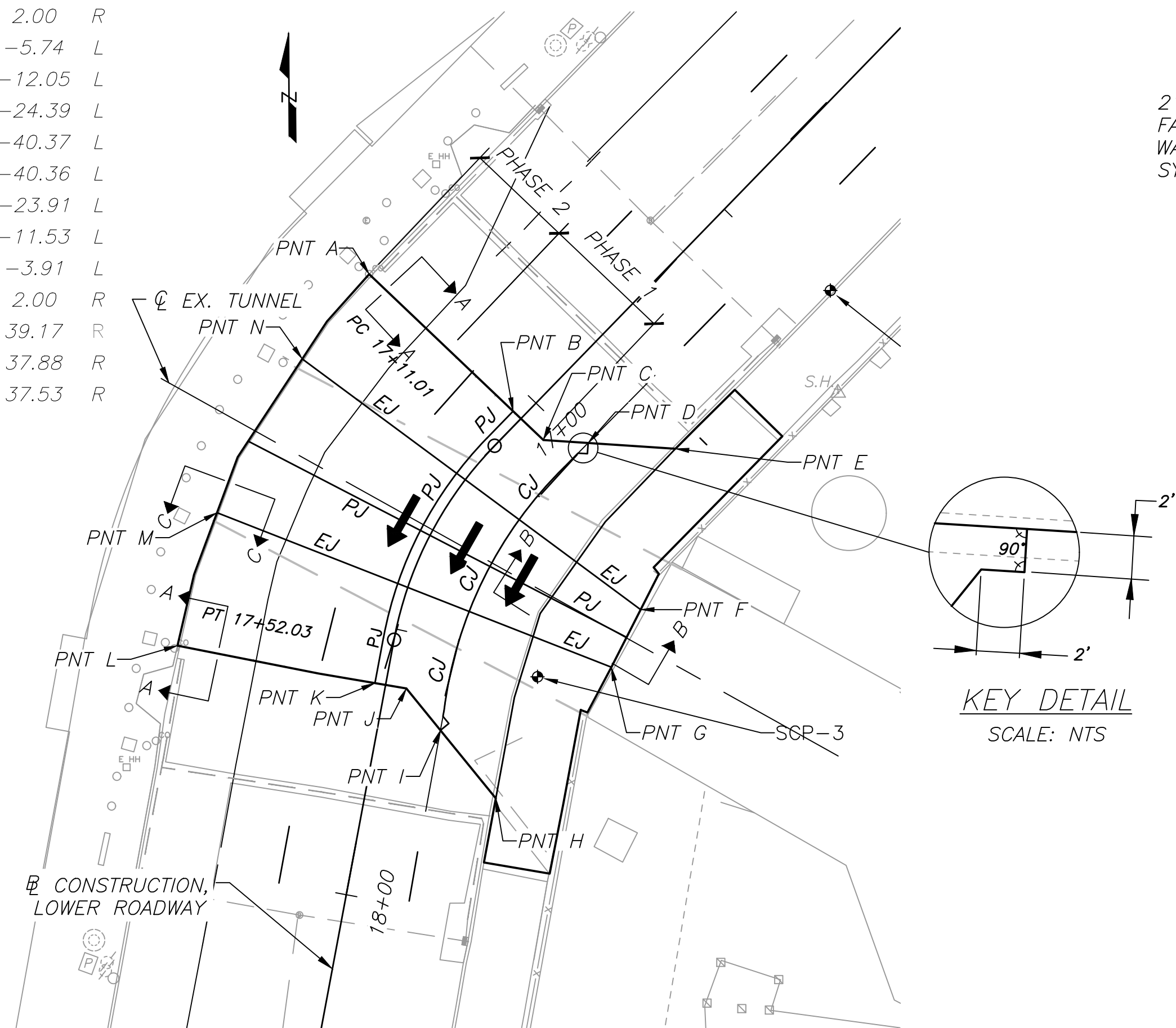


Project Title <b>RTA TUNNEL MEMBRANE REPLACEMENT</b>			
Sheet Title <b>TUNNEL REPAIR - STRUCTURAL SLAB DETAILS</b>			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Michael Baker INTERNATIONAL		Scale: AS SHOWN	Project No.: 198348
Date: FEBRUARY 2024		Sheet: C-16	

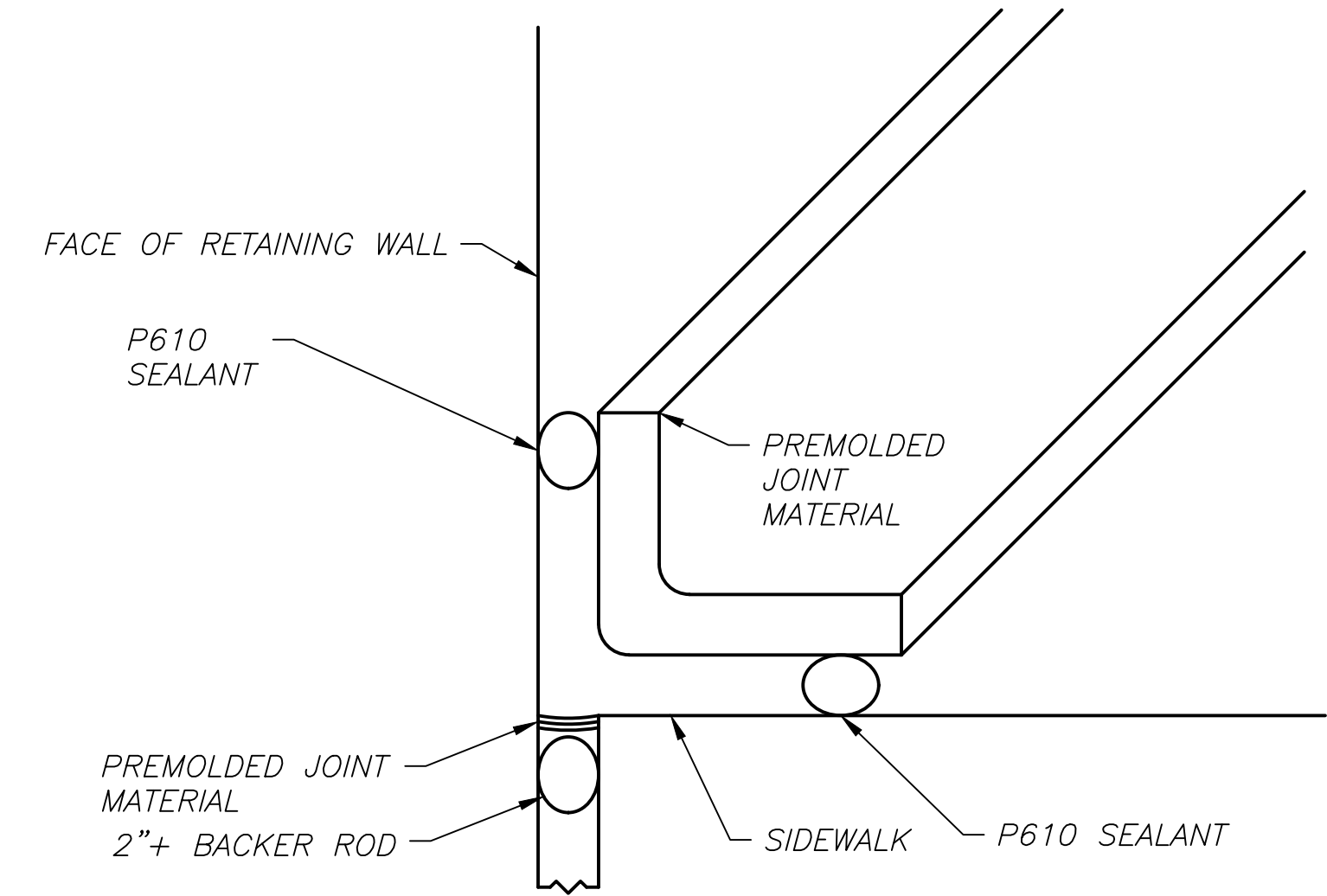
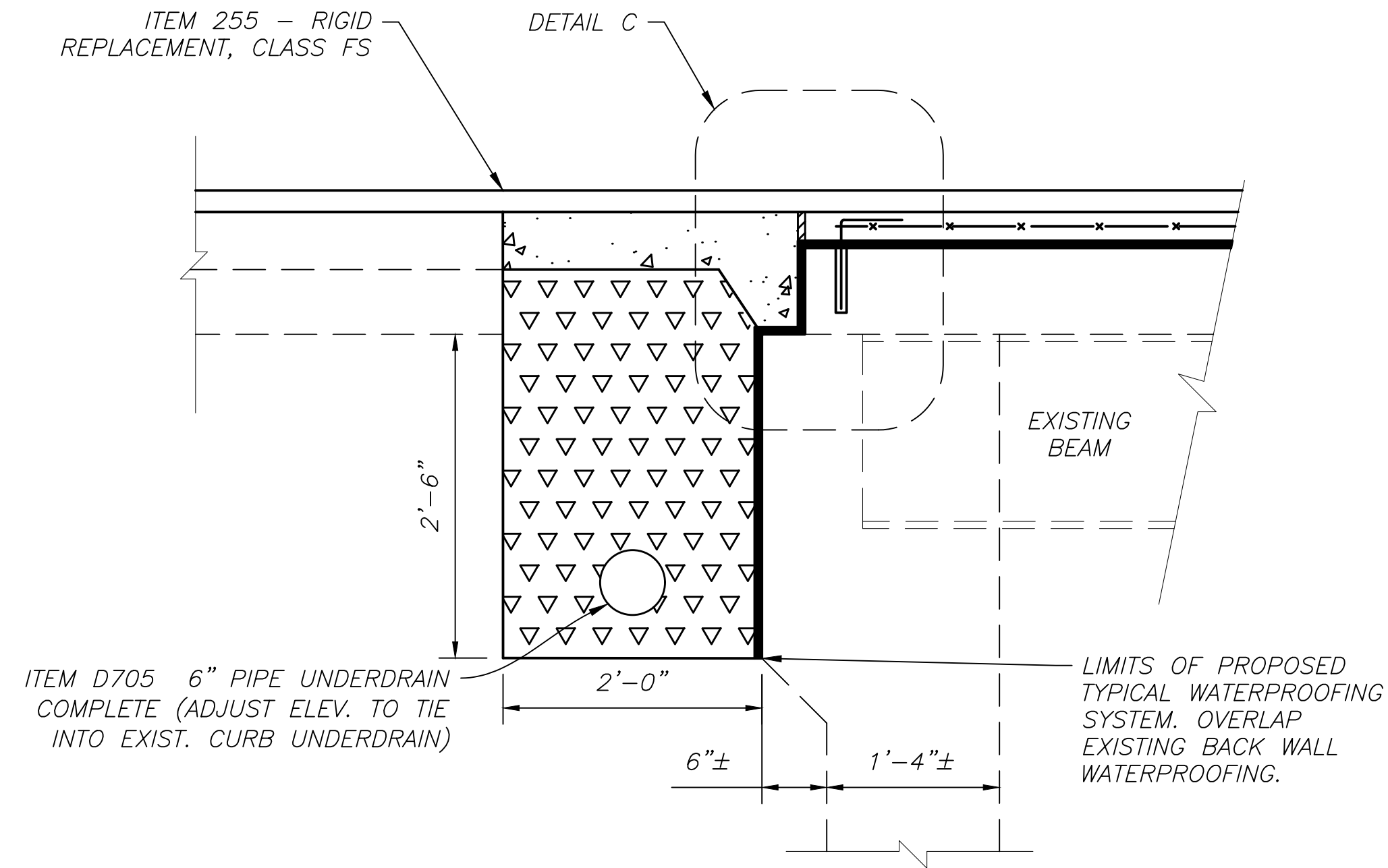
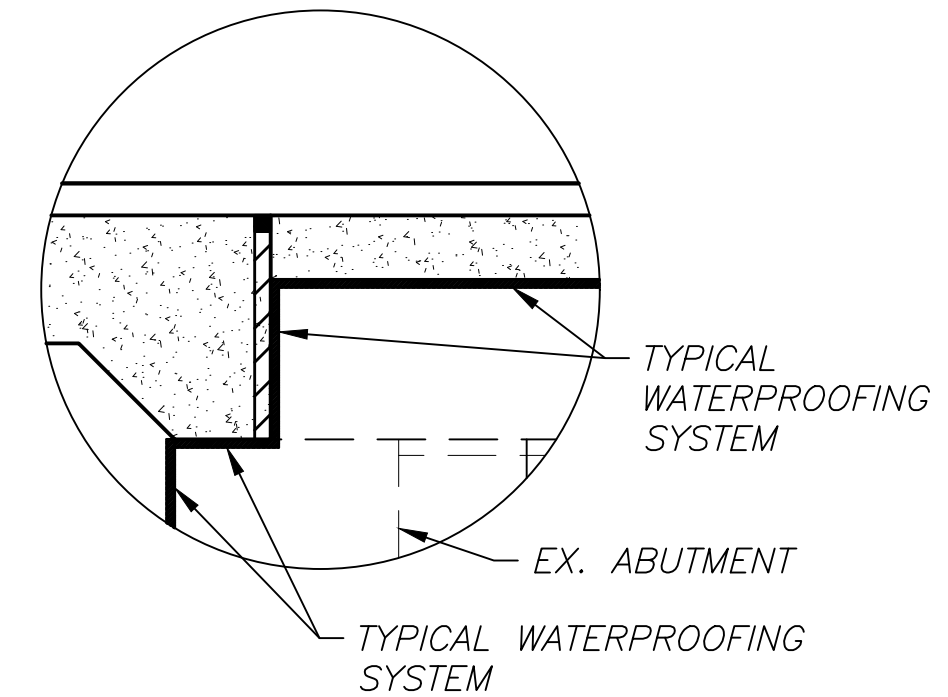
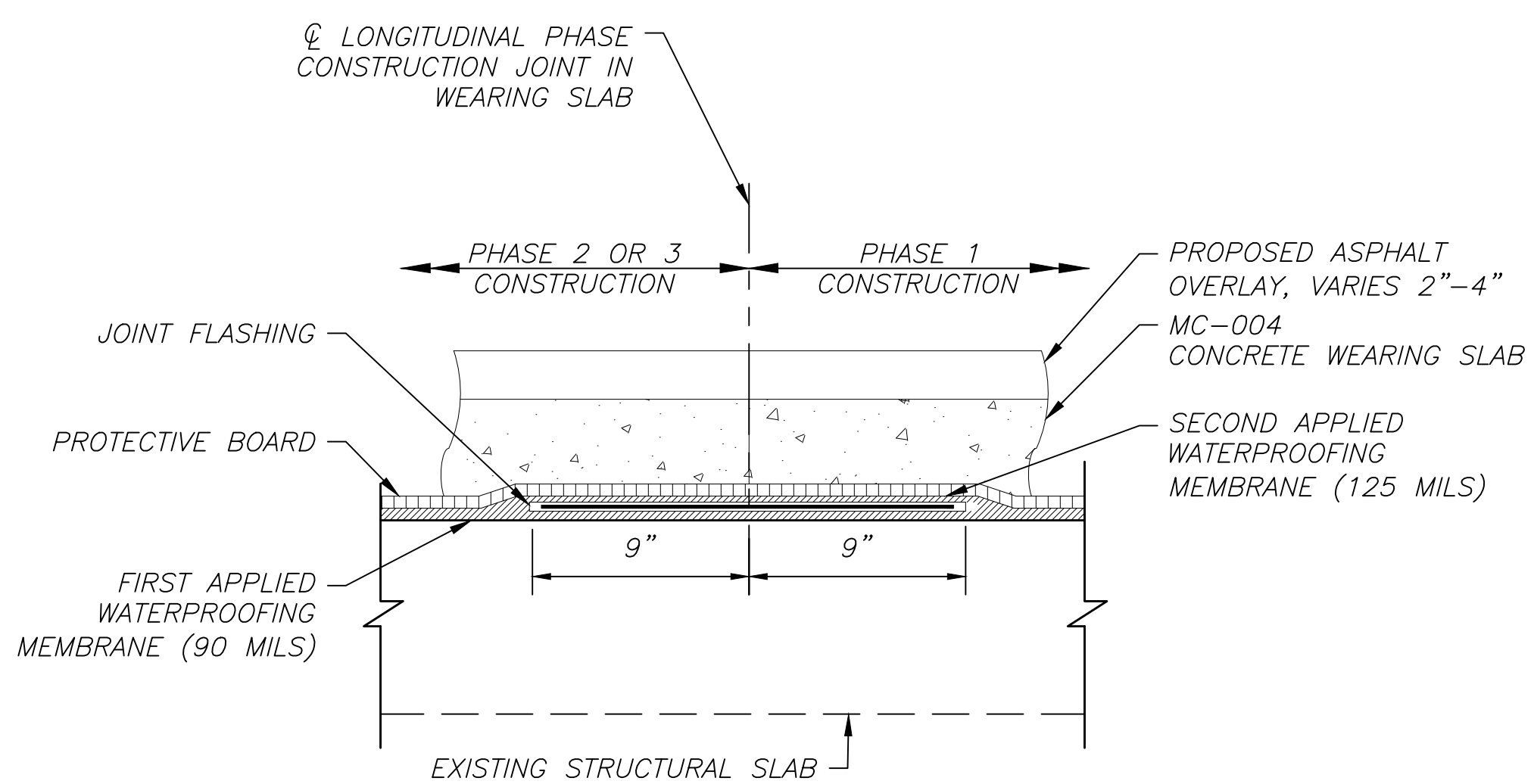
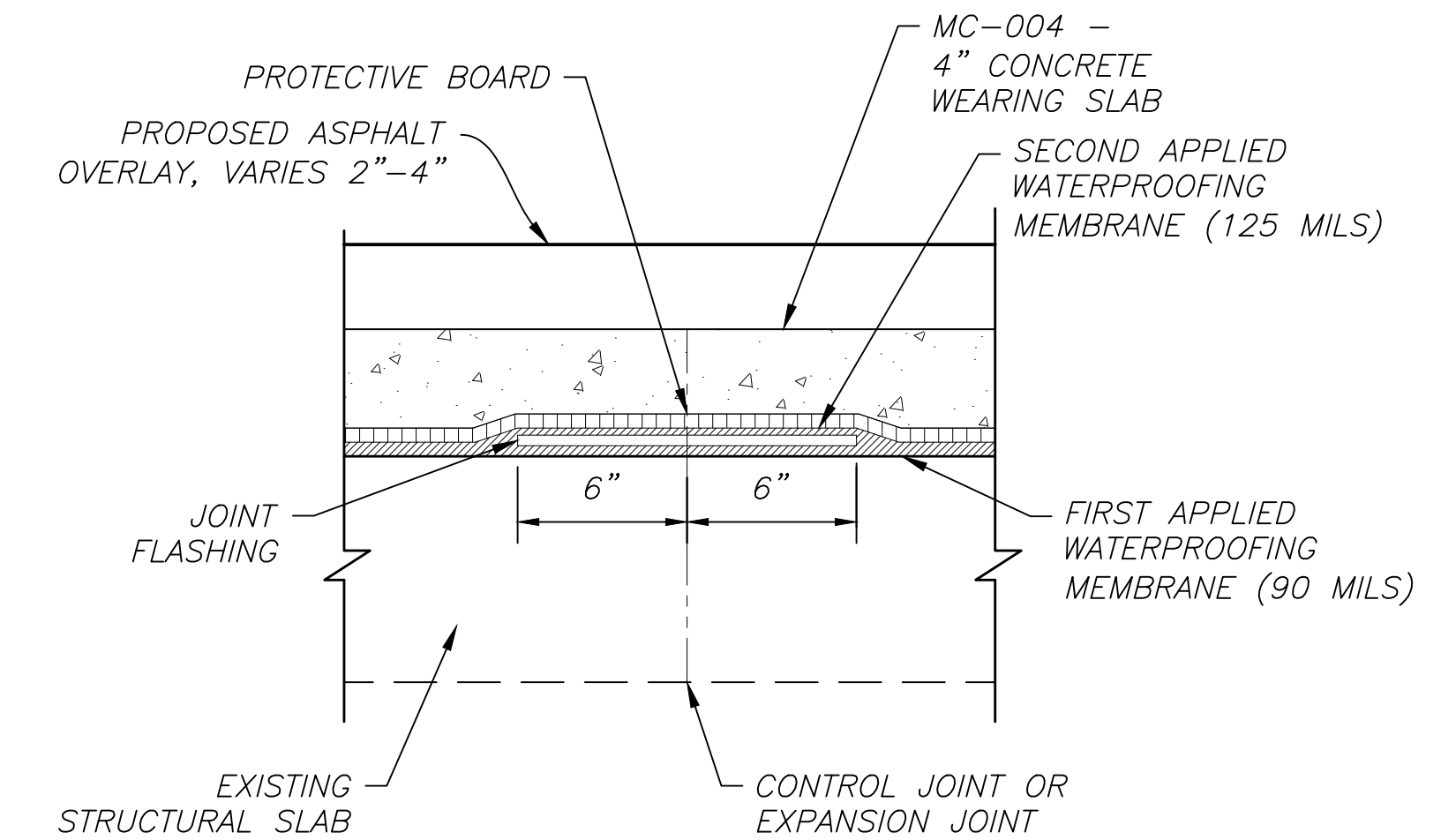
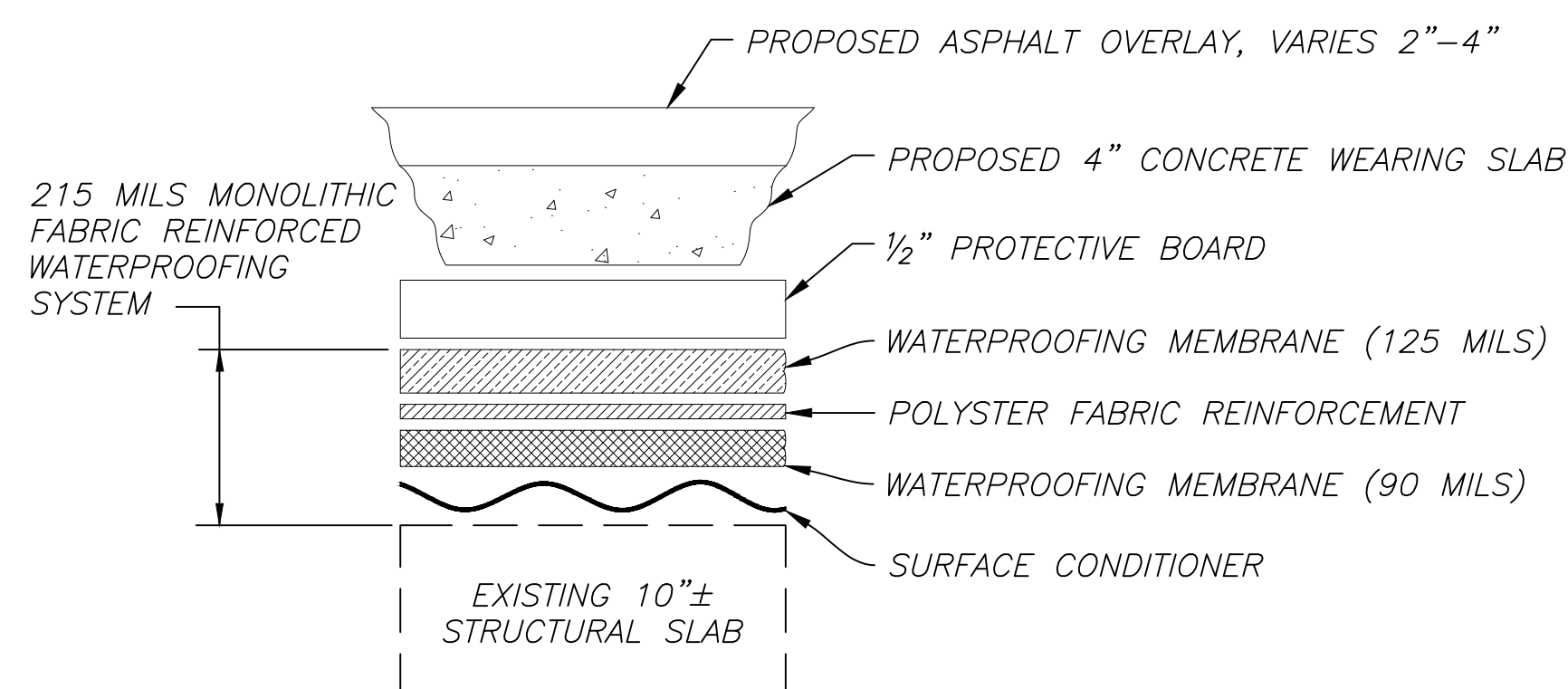
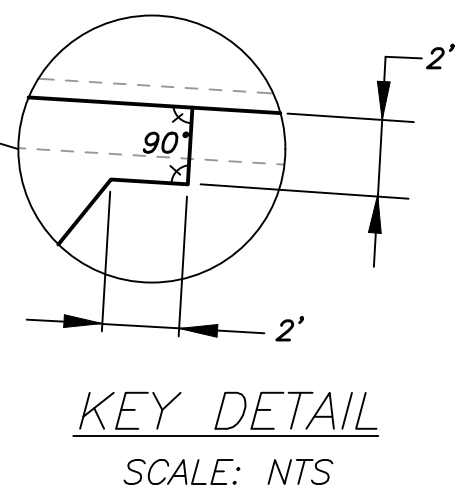


**COORDINATE TABLE**

POINT	STATION	OFFSET	
A	17+04.40	38.76	R
B	17+04.02	2.00	R
C	17+03.94	-5.74	L
D	16+98.57	-12.05	L
E	16+88.08	-24.39	L
F	17+17.87	-40.37	L
G	17+46.30	-40.36	L
H	17+77.38	-23.91	L
I	17+66.90	-11.53	L
J	17+60.45	-3.91	L
K	17+60.55	2.00	R
L	17+60.46	39.17	R
M	17+40.89	37.88	R
N	17+19.67	37.53	R



**WATERPROOFING LIMITS AND JOINT PLAN**  
SCALE: 1" = 20'



CONTRACTOR TO PROVIDE FOAM FLASHING AS INDICATED ON THE PLANS. FLASHING SYSTEM SHALL BE EQUAL TO THE REQUIREMENTS OF THE INDIVIDUAL ITEMS ABOVE. SYSTEM MUST BE APPROVED PRIOR TO INSTALLATION.

NOTES:  
1. SEE SHEET C-19 FOR SECTION B-B AND C-C WATERPROOFING DETAILS.

Revisions	Date	Description	By
ISSUED FOR BID			

**CLEVELAND HOPKINS INTERNATIONAL AIRPORT**  
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Project Title: **RTA TUNNEL MEMBRANE REPLACEMENT**  
Sheet Title: **TUNNEL REPAIR - WATERPROOFING DETAILS**

Designed: MSI | Drawn: MSI | Checked: LGW | Approved: LGW

Scale: AS SHOWN | Project No.: 198348

Date: FEBRUARY 2024 | Sheet: C-17

**Michael Baker International**



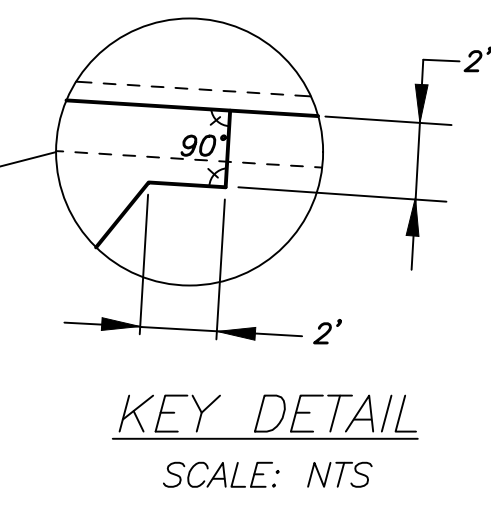
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B	17+04.02	2.00	R
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F	17+17.87	-40.37	L
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I	17+66.90	-11.53	L
J	17+60.45	-3.91	L
K	17+60.55	2.00	R
L	17+60.46	39.17	R
M	17+40.89	37.88	R
N	17+19.67	37.53	R

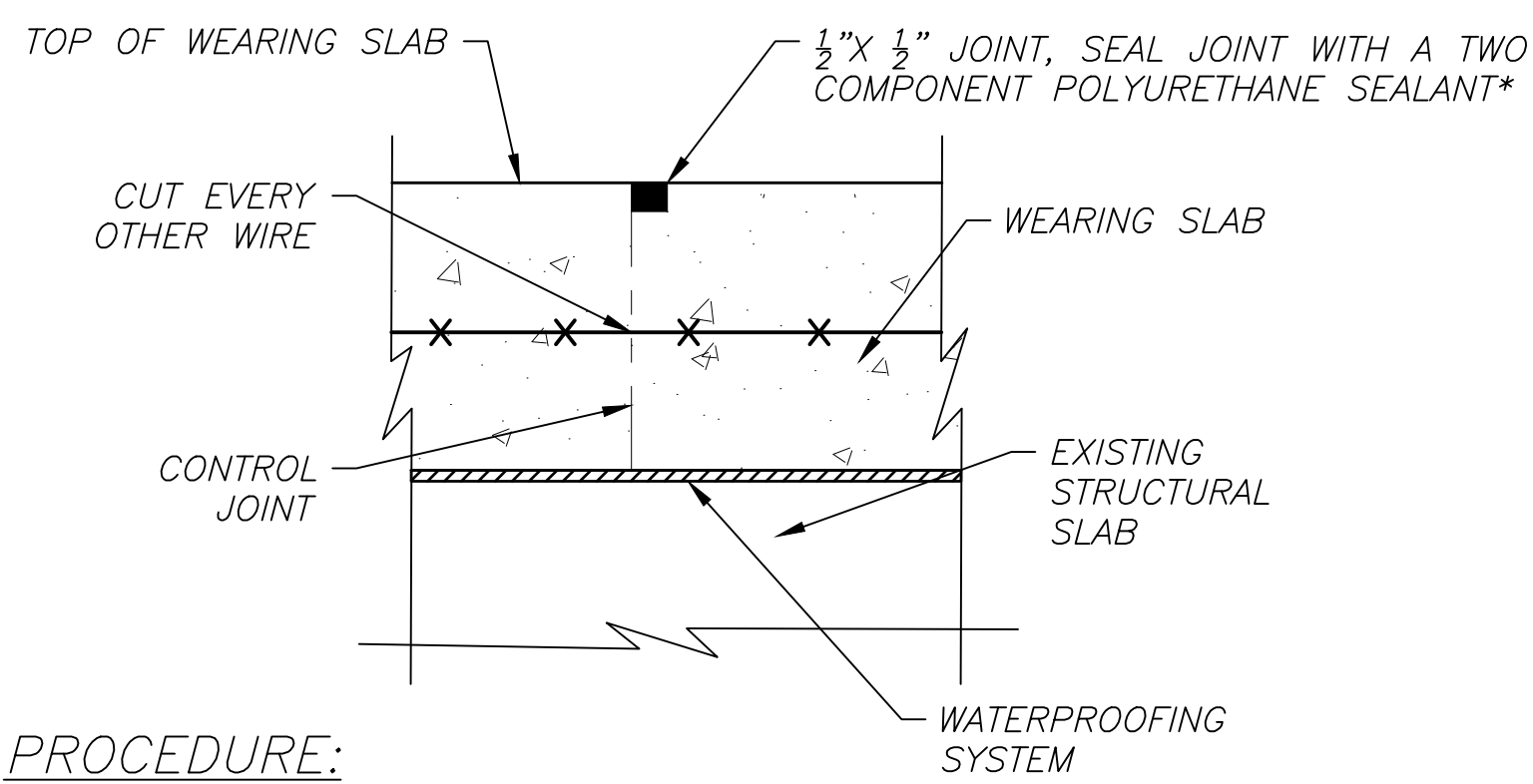


WEARING SLAB JOINT PLAN

SCALE: 1" = 10'



- NOTES:
- \* INCLUDE WITH ITEM 516 - TWO COMPONENT POLYURETHANE SEALANT FOR PAYMENT
  - \*\* INCLUDE WITH ITEM 516 - 1/2" PEJF FOR PAYMENT
  - \*\*\* INCLUDE WITH MC-004 4" CONCRETE WEARING SLAB FOR PAYMENT

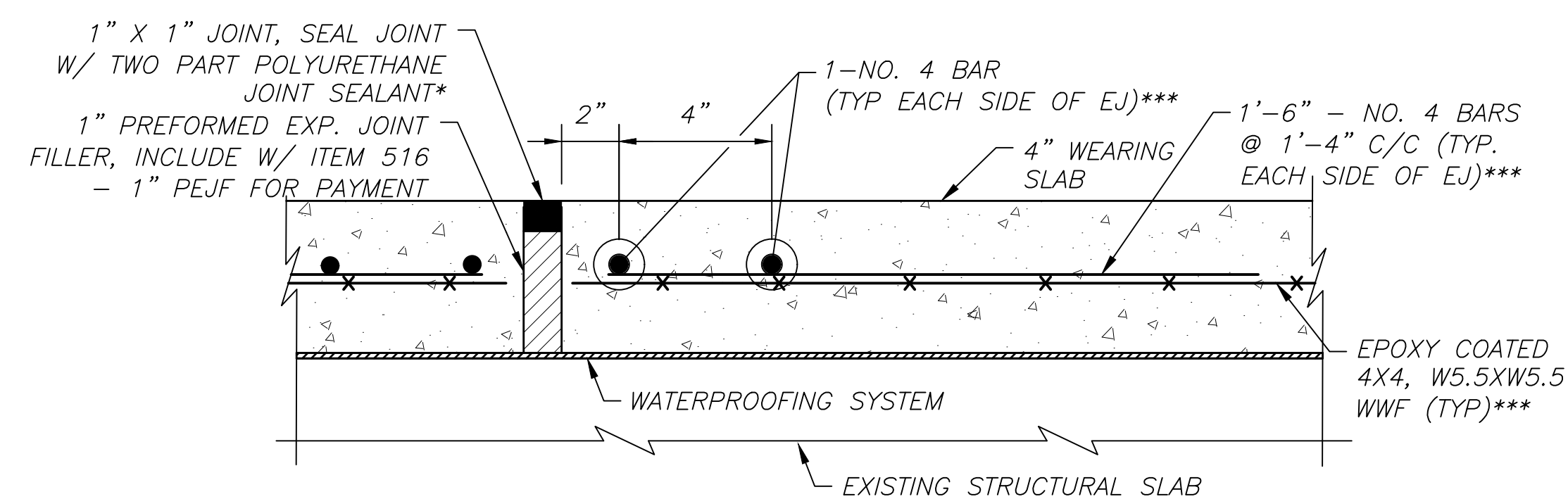


PROCEDURE:

1. PROVIDE CONTROL JOINTS AND EXPANSION JOINTS IN WEARING SLAB AS SHOWN IN JOINT PLAN.
2. PREPARE JOINTS IN ACCORDANCE WITH THE JOINT SEALANT MANUFACTURER'S RECOMMENDATION.
3. PROHIBIT VEHICULAR TRAFFIC OR ASPHALT OVERLAY OPERATION ON SEALED JOINTS UNTIL THE MATERIAL HAS CURED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

TYPICAL CONTROL JOINT (CJ) DETAIL

SCALE: NTS



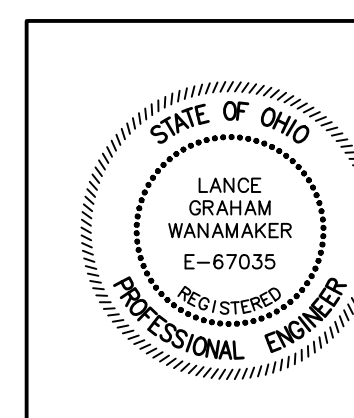
TYPICAL EXPANSION JOINT (EJ) DETAIL

SCALE: NTS

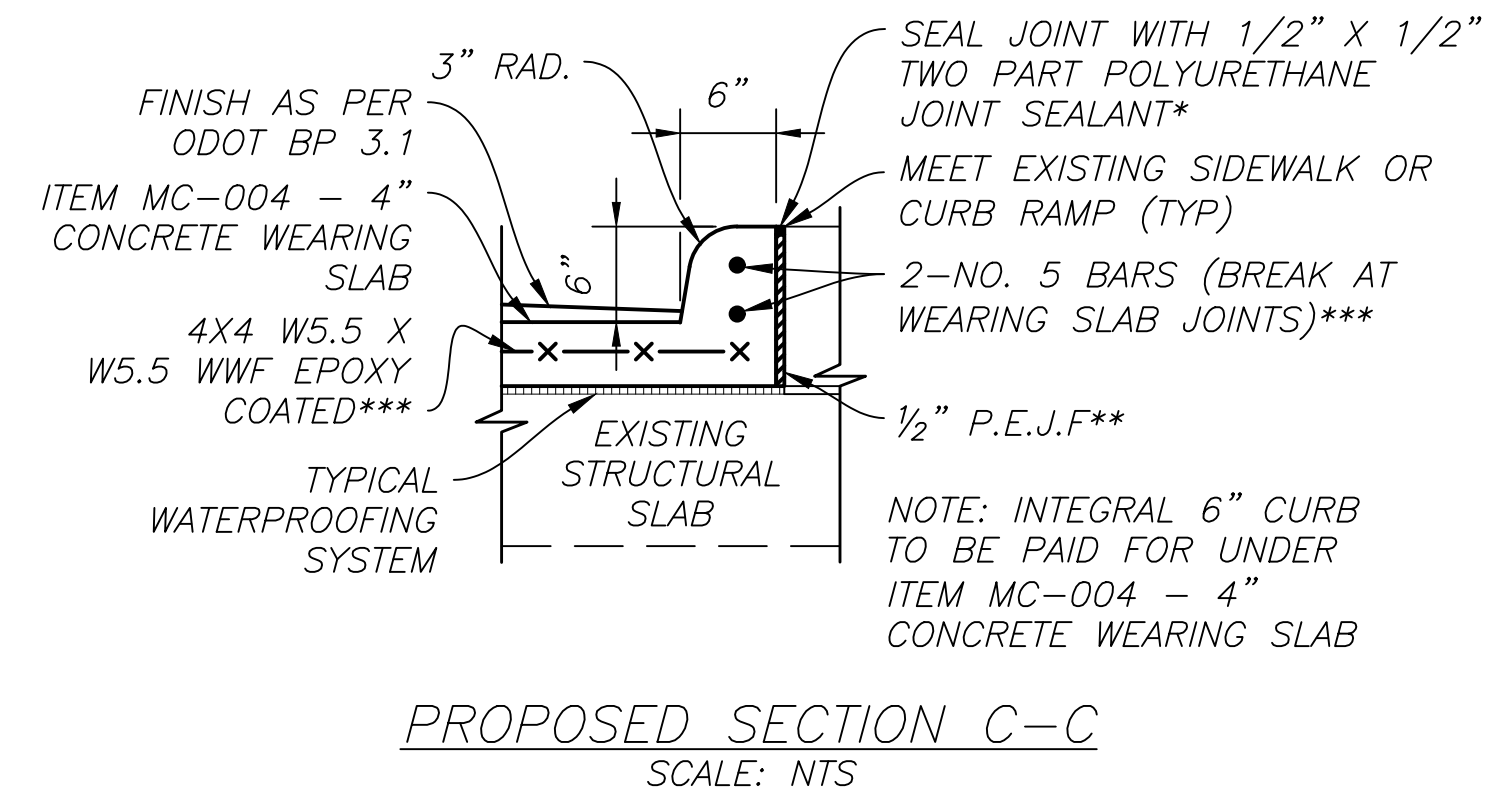
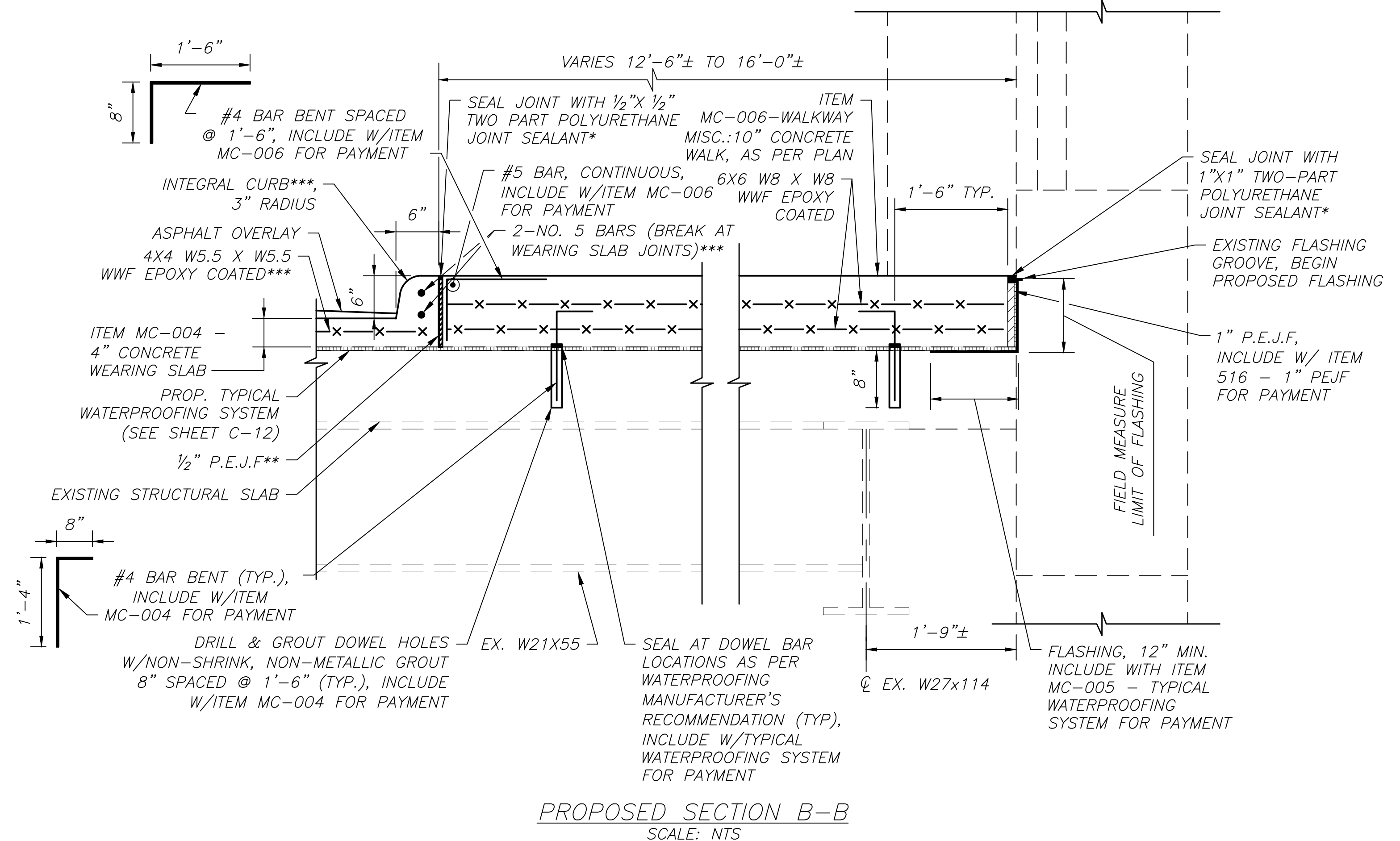
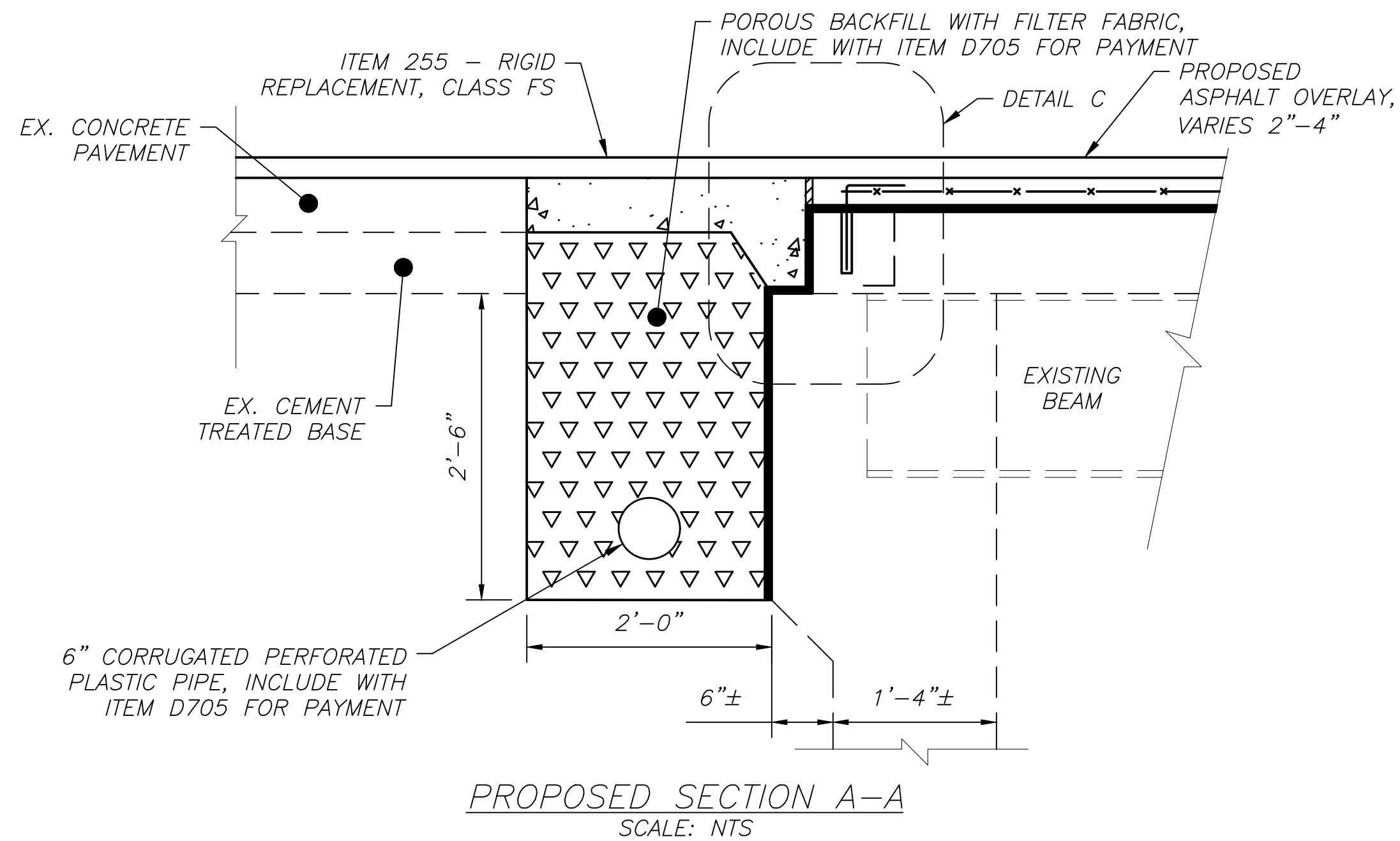
Revisions	Date	Description	By

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Project Title RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title TUNNEL REPAIR - WEARING SLAB JOINT PLAN			
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Scale: AS SHOWN		Project No.: 198348	
Date: FEBRUARY 2024		Sheet: C-18	



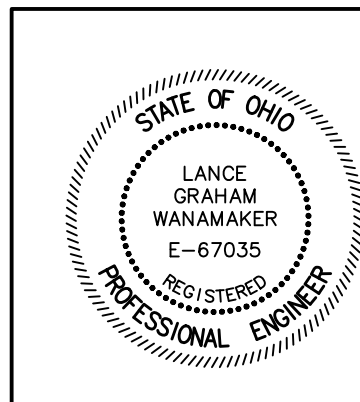
Michael Baker INTERNATIONAL



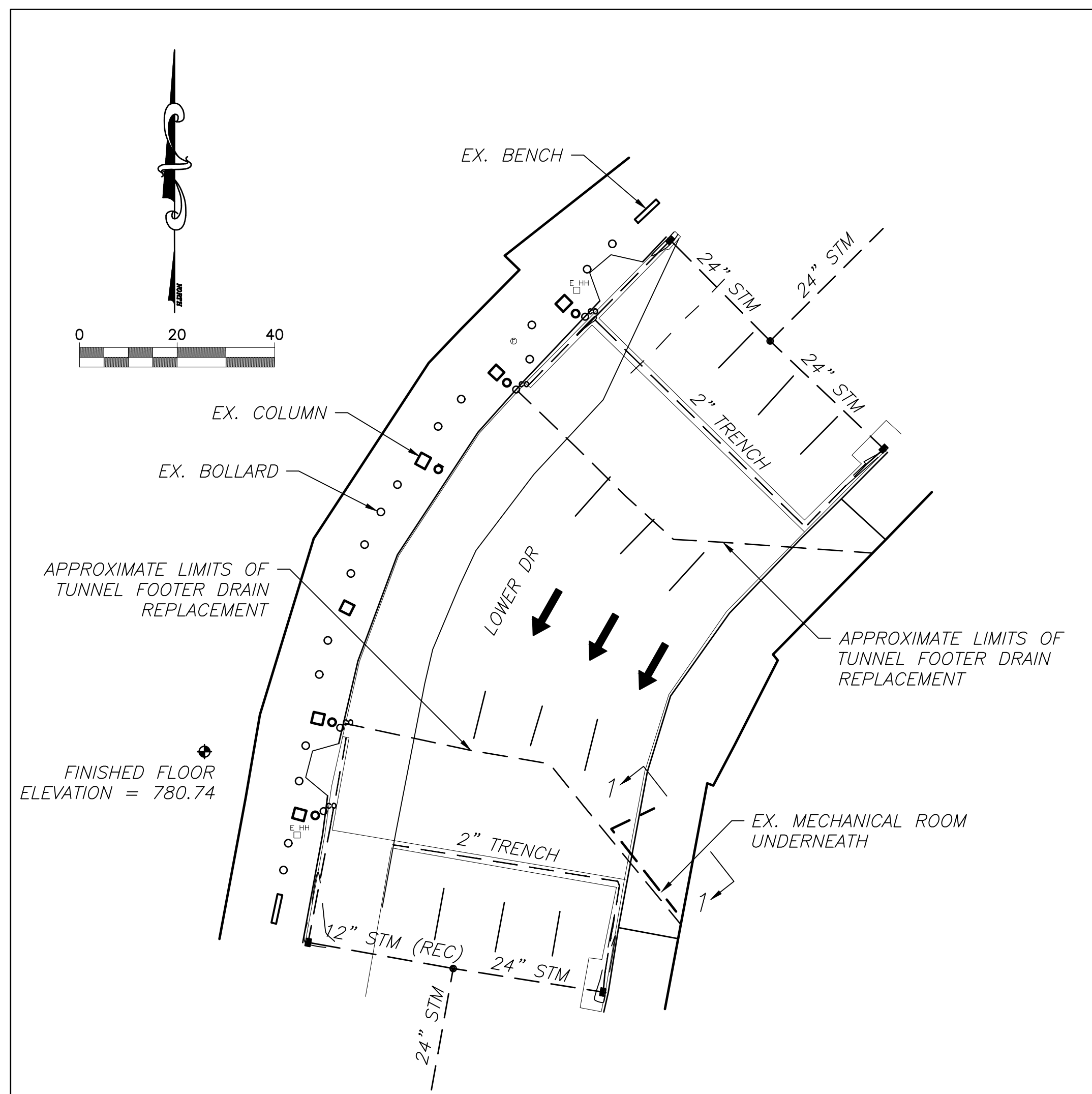
NOTES:  
 \* INCLUDE WITH ITEM 516 - TWO COMPONENT POLYURETHANE SEALANT FOR PAYMENT  
 \*\* INCLUDE WITH ITEM 516 - 1/2" PEJF FOR PAYMENT  
 \*\*\* INCLUDE WITH MC-004 4" CONCRETE WEARING SLAB FOR PAYMENT

Revisions	Date	Description	By

**CLEVELAND HOPKINS INTERNATIONAL AIRPORT**  
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Project Title <b>RTA TUNNEL MEMBRANE REPLACEMENT</b>			
Sheet Title <b>TUNNEL REPAIR - WEARING SLAB DETAILS</b>			
Designed: MSI	Drawn: MSI	Checked: LGW	Approved: LGW
Scale: AS SHOWN		Project No.: 198348	
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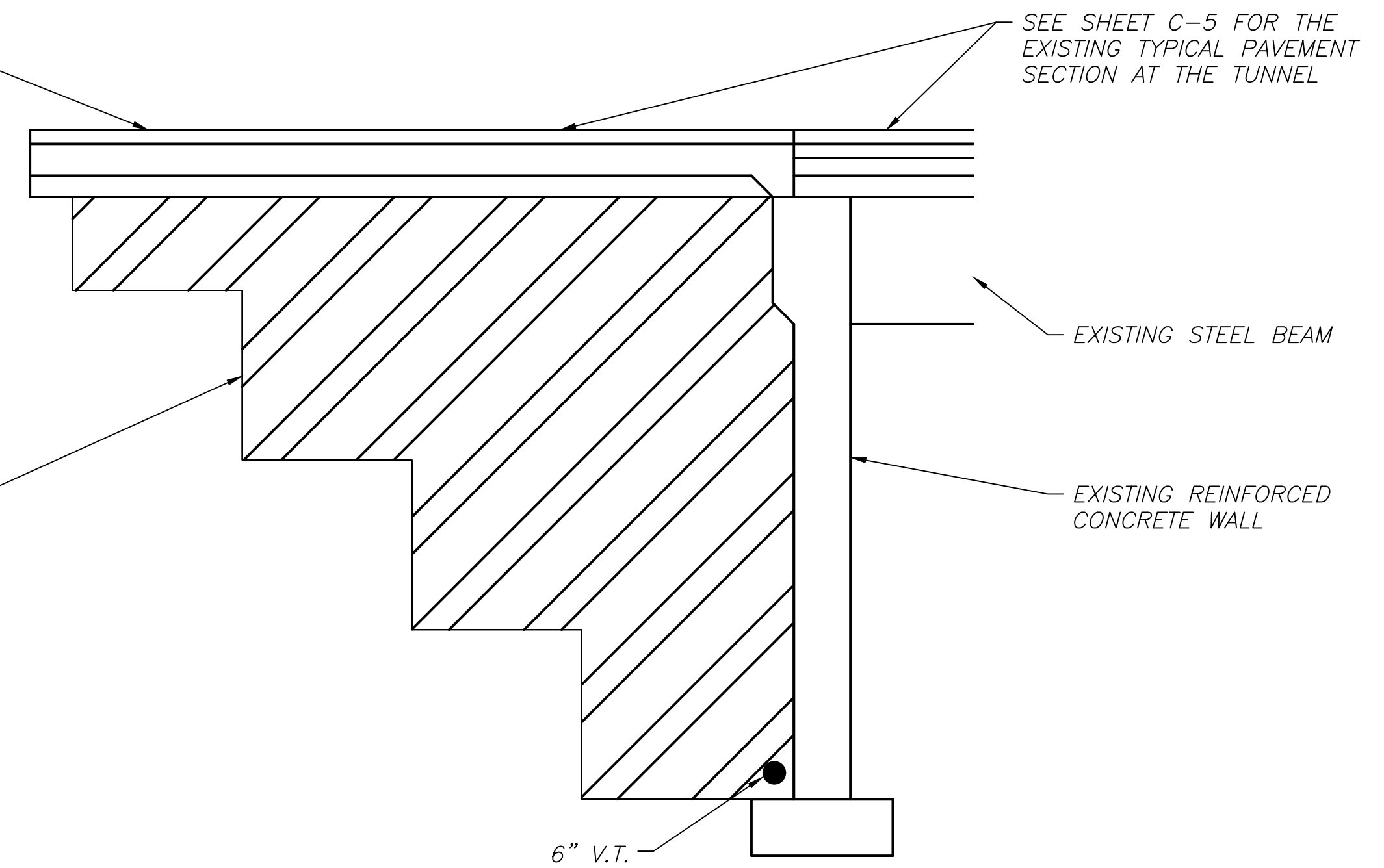
PLAN  
SCALE: 1" = 20'

ACTUAL PAVEMENT REMOVAL LIMITS WILL BE BASED ON CONTRACTOR MEANS AND METHODS. PAVEMENT REMOVAL IS INCIDENTAL TO ITEM D705 6" PIPE UNDER DRAINS

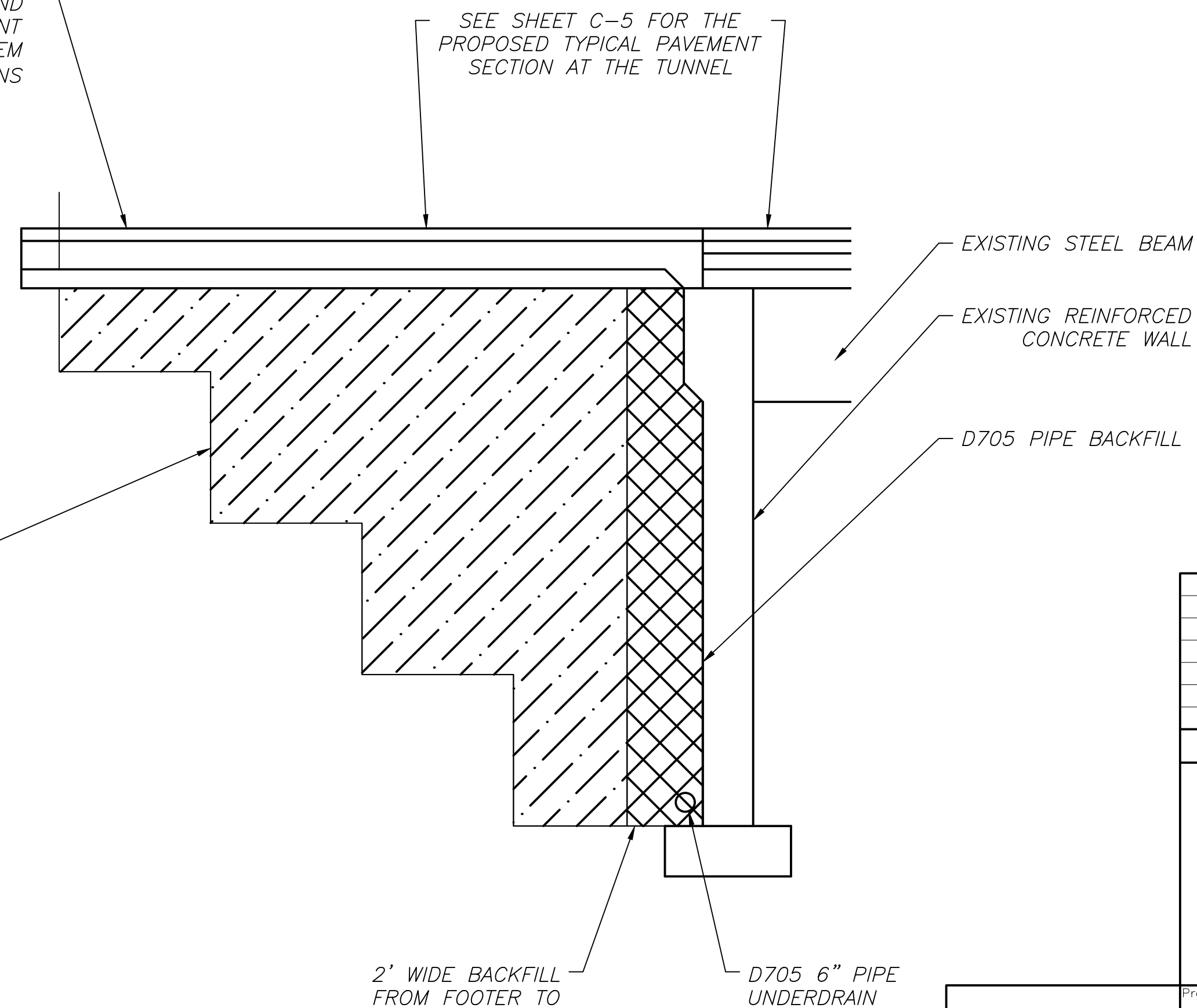
PROPOSED EXCAVATION LIMIT. EXCAVATION IS INCIDENTAL TO D705 6" PIPE UNDER DRAINS

ACTUAL PAVEMENT REPLACEMENT LIMITS WILL BE BASED ON CONTRACTOR MEANS AND METHODS. PAVEMENT REPLACEMENT IS INCIDENTAL TO ITEM D705 6" PIPE UNDER DRAINS

PROPOSED EMBANKMENT LIMIT. EMBANKMENT IS INCIDENTAL TO D705 6" PIPE UNDER DRAINS



FOOTER DRAIN EXISTING SECTION  
SCALE: NTS



FOOTER DRAIN PROPOSED SECTION  
SCALE: NTS

SEE SHEET C-5 FOR THE EXISTING TYPICAL PAVEMENT SECTION AT THE TUNNEL

SEE SHEET C-5 FOR THE PROPOSED TYPICAL PAVEMENT SECTION AT THE TUNNEL

EXISTING STEEL BEAM

EXISTING STEEL BEAM

EXISTING REINFORCED CONCRETE WALL

EXISTING REINFORCED CONCRETE WALL

D705 PIPE BACKFILL

D705 6" PIPE UNDERDRAIN

2' WIDE BACKFILL FROM FOOTER TO THE BOTTOM OF 8" CONCRETE BASE LAYER

ISSUED FOR BID			
Revisions	Date	Description	By

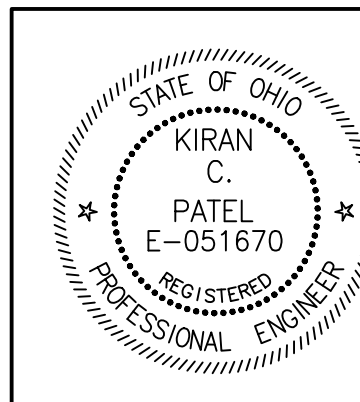
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CLEVELAND, OHIO

Project Title: **RTA TUNNEL MEMBRANE REPLACEMENT**

Sheet Title: **PATCHING CONCRETE STRUCTURE**

Designed: [MM]	Drawn: [MM]	Checked: [KCP]	Approved: [KCP]
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<b>G &amp; T Associates Inc.</b> Consulting Engineers Cleveland, Ohio Ph. (440) 572-0555	Scale: AS SHOWN	Project No.: 198348
	Date: FEBRUARY 2024	Sheet: C-20



GENERAL SWP3 NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL OHIO EPA PERMITS AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.
2. THE CONTRACTOR SHALL ADHERE TO THE CONSTRUCTION SCHEDULE. SEE PHASING PLANS.
3. SWP3 PLANS ARE FOR STORM WATER POLLUTION PREVENTION ONLY. REFER TO OTHER SITE PLANS FOR CONSTRUCTION OF PAVEMENT, UTILITIES, GRADING, ETC.
4. ONLY DISCHARGES COMPOSED ENTIRELY OF STORM WATER SHALL ENTER SURFACE WATERS OF THE STATE OR A STORM DRAIN LEADING TO SURFACE WATERS OF THE STATE, UNLESS COVERAGE IS GRANTED UNDER AN APPROPRIATE NPDES PERMIT. THE FOLLOWING EXCEPTIONS TO THIS REQUIREMENT ARE COVERED BY OHIO EPA'S CONSTRUCTION GENERAL PERMIT (CGP): DISCHARGES FROM FIREFIGHTING ACTIVITIES, FIRE HYDRANT FLUSHINGS, POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS, IRRIGATION DRAINAGE, LAWN WATERING, ROUTINE EXTERNAL BUILDING WASHDOWN WHICH DOES NOT USE DETERGENTS, UNCONTAMINATED PAVEMENT WASHWATERS, AIR CONDITIONING CONDENSATE, SPRINGS, AND UNCONTAMINATED GROUND WATER FROM DEWATERING ACTIVITIES.
5. THE SWP3 REQUIREMENTS LISTED ON THIS SHEET ARE APPLICABLE TO ALL AREAS DISTURBED BY CONSTRUCTION AND TO THE FOLLOWING AREAS WHERE SUPPORT ACTIVITIES OCCUR: CONCRETE AND ASPHALT BATCH PLANTS, EQUIPMENT STAGING AREAS, MATERIAL STORAGE AREAS, EXCAVATED MATERIAL DISPOSAL AREAS AND BORROW AREAS.
6. THIS SWP3 SET IS CONSIDERED A PUBLIC DOCUMENT AND SHALL BE MADE AVAILABLE ON-SITE DURING WORKING HOURS AND PRESENTED UPON REQUEST TO THE DIRECTOR OF OHIO EPA, LOCAL AGENCIES APPROVING SEDIMENT AND EROSION CONTROL PLANS, GRADING PLANS OR STORM WATER MANAGEMENT PLANS, AND LOCAL GOVERNMENT OFFICIALS. A COPY OF THE NOTICE OF INTENT (NOI) FOR COVERAGE UNDER THE OHIO EPA NPDES CONSTRUCTION GENERAL PERMIT (CGP) #OHCO00005 SHALL ALSO BE AVAILABLE ON-SITE, ALONG WITH THE LETTER GRANTING PERMIT COVERAGE.
7. THE CGP HOLDER SHALL PROVIDE THE DIRECTOR OF THE OHIO EPA OR HIS AUTHORIZED REPRESENTATIVE WITH ANY REQUESTED SWP3 INFORMATION WITHIN 10 DAYS OF A WRITTEN REQUEST. COPIES OF REQUIRED SWP3 RECORDS MUST ALSO BE PROVIDED WHEN REQUESTED. WRITTEN REQUESTS MUST ALSO BE HONORED WITHIN 10 DAYS WHEN RECEIVED FROM LOCAL AGENCIES APPROVING SEDIMENT AND EROSION PLANS, GRADING PLANS, OR STORM WATER MANAGEMENT PLANS.
8. THE CGP HOLDER SHALL MAKE SWP3 DOCUMENTS AVAILABLE TO THE PUBLIC UPON REQUEST OR PROVIDE A COPY, AT COST, IN A TIMELY MANNER.
9. THE CGP HOLDER SHALL ALLOW THE DIRECTOR OF THE OHIO EPA OR AN AUTHORIZED REPRESENTATIVE TO ACCESS THE PERMITTED CONSTRUCTION AREAS AT REASONABLE TIMES FOR ANY OF THE FOLLOWING PURPOSES: TO COPY RECORDS DEMONSTRATING PERMIT COMPLIANCE, TO INSPECT FACILITIES AND EQUIPMENT, AND/OR TO PERFORM SAMPLING OR MONITORING ACTIVITIES TO ASSURE PERMIT COMPLIANCE.
10. THE CONTRACTOR WILL BE RESPONSIBLE TO AMEND THE SWP3 IF ANY DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE CHANGE RESULTS IN AN INCREASED POTENTIAL FOR DISCHARGING POLLUTANTS FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE. THE REVISION TO THE SWP3 MUST BE COMPLETED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT. THE SWP3 SHALL ALSO BE AMENDED IF IT IS FOUND TO BE INEFFECTIVE FOR CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES FROM THE SITE. THE CONTRACTOR SHALL KEEP A LOG DOCUMENTING ALL SWP3 AMENDMENTS THAT OCCUR AFTER CONSTRUCTION ACTIVITIES COMMENCE.
11. THE PERMIT HOLDER SHALL COMPLY WITH ALL CONDITIONS OF THE OHIO EPA NPDES CGP #OHCO00005. THIS SWP3 SET MAY NOT REFERENCE ALL SUCH CONDITIONS. THE TERMS AND CONDITIONS OF THE CGP SHALL REMAIN IN EFFECT UNTIL A SIGNED NOTICE OF TERMINATION (NOT) FORM IS SUBMITTED TO OHIO EPA. THE NOT FORM SHALL BE SUBMITTED TO OHIO EPA WITHIN 45 DAYS OF COMPLETING ALL CGP REQUIREMENTS.
12. UTILITY COMPANIES MUST COMPLY WITH ALL STORM WATER POLLUTION PREVENTION MEASURES AS DEFINED ON THE STORM WATER POLLUTION PREVENTION PLANS, DETAILS AND NOTES.

EROSION AND SEDIMENT CONTROLS

1. THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES WILL BE USED ON THIS SITE: DANDY BAG INLET PROTECTION. THESE ITEMS HAVE BEEN IDENTIFIED ON THE SWP3 AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE ODNR MANUAL – RAINWATER AND LAND DEVELOPMENT, CURRENT EDITION.
2. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL REQUIRED SEDIMENT AND EROSION CONTROL ITEMS SHOWN ON THE PLAN, INCLUDING CONTROLS REQUIRED AT ANY OFF-SITE BORROW OR SPOIL AREAS REQUIRED FOR THIS PROJECT.

EROSION AND SEDIMENT CONTROLS (CONT.)

3. THE GENERAL CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE REQUIRED SEDIMENT AND EROSION CONTROLS SHOWN ON THE PLAN ARE INSTALLED BY ALL SUBCONTRACTORS. IT IS ALSO THE GENERAL CONTRACTOR'S RESPONSIBILITY TO PERFORM INSPECTIONS AND MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL ITEMS AS REQUIRED BY THE CGP AND UNTIL ALL UPSLOPE AREAS ARE STABILIZED. SEE INSPECTION AND MAINTENANCE NOTES FOR ADDITIONAL DETAILS.
4. ALL EXISTING CATCH BASINS OR INLETS WITHIN THE WORK LIMITS SHALL HAVE INLET PROTECTION INSTALLED TO PROTECT THEM, UNLESS THE SEWER HAS BEEN MADE INACTIVE BY PRIOR WORK. EXISTING CATCH BASINS OR INLETS WHICH ARE TO BE REMOVED OR ABANDONED DURING THIS PROJECT SHALL NOT HAVE THE INLET PROTECTION REMOVED UNTIL AFTER THE DOWNSTREAM STORM STRUCTURE IS PLUGGED FROM STORM FLOW. ALL NEW STORM CATCH BASINS OR INLETS SHALL HAVE INLET PROTECTION UNTIL THE SITE IS STABILIZED.
5. AT A MINIMUM, ALL STOCKPILES SHALL HAVE FILTER SOCK PLACED 10' OFF AND ALONG THE BOTTOM FOOTPRINT OF THE FINAL STOCKPILE CONFIGURATION. THE CONTRACTOR SHALL WORK WITH THE OWNER AND RESIDENT PROJECT REPRESENTATIVE TO SELECT STOCKPILE LOCATIONS THAT BEST FIT THE CONTRACTOR'S MEANS AND METHODS BUT AT NO TIME ALLOW SEDIMENT-LADEN RUNOFF TO EXIT THE SITE. SEE OVERALL SWP3 PLAN FOR PROPOSED STOCKPILE LOCATIONS. SEE SOIL STABILIZATION NOTE FOR ADDITIONAL INFORMATION RELATED TO STOCKPILES.
6. THE CONTRACTOR SHALL LIMIT THE SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY EXCAVATION, BORROW AND FILL OPERATIONS AND PROVIDE IMMEDIATE PERMANENT OR TEMPORARY CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, WETLANDS OR OTHER AREAS OF WATER IMPOUNDMENT.
7. IF UNFORESEEN ENVIRONMENTAL CONDITIONS ARE ENCOUNTERED, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BECOME NECESSARY AND REQUIRE AN AMENDMENT TO THE SWP3. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY ALSO BE REQUESTED BY THE OWNER, LOCAL AUTHORITY, RESIDENT PROJECT REPRESENTATIVE, SOIL CONSERVATION SERVICE REPRESENTATIVE OR OHIO EPA AT ANYTIME. SUCH REQUESTS SHALL BE IMPLEMENTED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND SHALL SUPPLY WATER TRUCKS, OR OTHER MEANS AS NECESSARY TO CONTROL DUST GENERATED BY CONSTRUCTION ACTIVITIES ON THE SITE PER THE REQUIREMENTS OF THE OWNER AND RESIDENT PROJECT REPRESENTATIVE. USED OIL MAY NOT BE USED AS A DUST SUPPRESSANT.
9. NEIGHBORING ROADS SHALL BE INSPECTED DAILY AND CLEANED OF SEDIMENT AND DEBRIS.

EROSION AND SEDIMENT CONTROL MAINTENANCE

1. ALL TEMPORARY AND PERMANENT CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
2. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UPSLOPE AREAS THEY CONTROL ARE PERMANENTLY STABILIZED.
3. THE CONTRACTOR SHALL CARRY OUT THE MAINTENANCE PROCEDURES FOR ALL SEDIMENT AND EROSION CONTROLS. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE CONTROLS MUST BE MAINTAINED AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3 AND THE CGP.

EROSION AND SEDIMENT CONTROL INSPECTIONS

1. ALL SEDIMENT AND EROSION CONTROLS MUST BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF ANY STORM EVENT THAT PRODUCES 0.5 INCHES OR MORE OF RAIN OVER THE PRECEDING 24 HOUR PERIOD.
2. ONLY "QUALIFIED INSPECTION PERSONNEL" SHALL CONDUCT INSPECTIONS TO ENSURE THAT THE CONTROL PRACTICES ARE FUNCTIONAL, ADEQUATE AND PROPERLY IMPLEMENTED.
3. A WRITTEN RECORD DOCUMENTING THE RESULTS OF EACH INSPECTION MUST BE MAINTAINED WITH THE SWP3. EACH INSPECTION RECORD MUST INCLUDE AN INSPECTION CHECKLIST COMPLETED AND SIGNED BY QUALIFIED INSPECTION PERSONNEL. ALL INSPECTION RECORDS SHALL BE KEPT BY THE CGP HOLDER FOR THREE YEARS FOLLOWING THE SUBMITTAL OF A NOT.
4. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3. FURTHERMORE, THE CONTRACTOR SHALL ENSURE THAT THE CONTROL MEASURES ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING.

EROSION AND SEDIMENT CONTROL INSPECTIONS (CONT.)

5. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE:  
*IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN THREE (3) DAYS OF INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN TEN (10) DAYS OF THE INSPECTION.*
6. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION:  
*IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE FAILS TO PERFORM ITS INTENDED FUNCTION AND THAT ANOTHER, MORE APPROPRIATE CONTROL PRACTICE IS REQUIRED, THE SWP3 MUST BE AMENDED, AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN TEN (10) DAYS OF INSPECTION.*
7. WHEN PRACTICES DEPICTED ON THE SWP3 ARE NOT INSTALLED:  
*IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT BEEN IMPLEMENTED IN ACCORDANCE WITH THE SWP3, THE CONTROL PRACTICE SHALL BE IMPLEMENTED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN TEN (10) DAYS OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE PLANNED CONTROL PRACTICE IS NOT NEEDED, THE SWP3 MUST BE AMENDED AND THE INSPECTION RECORD MUST CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.*
8. INSPECTIONS SHALL OCCUR AT THE REQUIRED INTERVALS FOR THE DURATION OF THE PROJECT. AFTER AN AREA HAS BEEN PERMANENTLY STABILIZED, THE AREA MAY BE MARKED ON THE SWP3, AND NO FURTHER INSPECTION REQUIREMENTS APPLY TO THAT PORTION OF THE SITE.
9. IF THE SITE WILL BE DORMANT FOR A LONG PERIOD OF TIME, THE SITE IS STABILIZED, AND LESS FREQUENT INSPECTIONS ARE DESIRED, A WAIVER REQUEST MUST BE SUBMITTED TO OHIO EPA FOR A REDUCTION TO THE MONTHLY INSPECTIONS.

SOIL STABILIZATION

1. IF A STOCKPILE OR OTHER DISTURBED AREA WILL BE INACTIVE FOR 14 DAYS OR MORE, THEN THE SURFACE SHALL BE TEMPORARILY STABILIZED WITHIN 7 DAYS OF LAST ACTIVITY.
2. ALL DISTURBED AREAS MUST BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF REACHING FINAL GRADE.
3. SETTLED OR FILTERED SEDIMENT SHALL BE DISPOSED OF IN A STABILIZED LOCATION WHERE IT WILL NOT BE CARRIED OFF-SITE OR INTO A STORM SEWER BY RAINFALL.
4. THE CONTRACTOR SHALL KEEP A LOG DOCUMENTING ALL GRADING AND STABILIZATION ACTIVITIES THAT OCCUR AFTER CONSTRUCTION ACTIVITIES COMMENCE.

DEWATERING

1. THE CONTRACTOR MAY NEED TRENCH AND GROUND WATER CONTROLS TO ENSURE THAT DEWATERING ACTIVITIES DO NOT RESULT IN TURBID DISCHARGES TO SURFACE WATERS OF THE STATE. GROUND WATER WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS IS NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER GROUND WATER CONTAINING SEDIMENT MUST PASS THROUGH AN EFFECTIVE SEDIMENT CONTROL DEVICE PRIOR TO DISCHARGE FROM THE SITE.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SEDIMENT CONTROL DEVICES REQUIRED TO TREAT TURBID (I.E. MUDDY) WATER FROM DEWATERING ACTIVITIES. SUCH DEVICES SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.
3. CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS, OTHER POLLUTANT SOURCES, OR ERODE THE DISCHARGE AREA.

POLLUTION PREVENTION MEASURES

1. THE CONTRACTOR IS RESPONSIBLE TO PREVENT DISCHARGE OF WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS FROM MIXING WITH RUNOFF AND LEAVING THE SITE. THE CONTRACTOR SHALL SIZE THE CONCRETE WASHOUT PIT TO HANDLE THE PROPOSED CONCRETE OPERATIONS AND SHALL MAINTAIN THE PIT SUCH THAT ALL CONCRETE TRUCKS CAN USE IT TO WASHOUT. ALL CURED RESIDUE FROM THE PIT SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. THE LOCATIONS FOR THE WASHOUT PITS ARE TO BE DETERMINED IN THE FIELD AND APPROVED BY THE OWNER AND RESIDENT PROJECT REPRESENTATIVE PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE TO PREVENT THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING. ALL WASH WATERS MUST BE TREATED BY SEDIMENT CONTROL DEVICES PRIOR TO BEING DISCHARGED FROM THE SITE. SUCH CONTROL DEVICES SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.

POLLUTION PREVENTION MEASURES (CONT.)

3. THE CONTRACTOR IS RESPONSIBLE FOR ALL NON-SEDIMENT POLLUTION CONTROLS AT THIS SITE, WHICH PROHIBIT NON-SEDIMENT POLLUTANTS FROM DISCHARGING INTO RUNOFF OR INTO THE GROUND AND MUST DISPOSE OF THEM IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATORY AUTHORITIES. IT IS PROHIBITED TO BURN, BURY, DISCHARGE OR POUR OUT INTO THE GROUND, DITCH OR INTO A STORM SEWER, SOLVENTS, SOAPS, STUCCO, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT, CURING COMPOUND AND OTHER SUCH TOXIC OR HAZARDOUS WASTES. STORAGE TANKS FOR THESE MATERIALS SHALL BE LOCATED IN DIKED AREAS AWAY FROM DRAINAGE CHANNELS, AND EACH DIKED AREA SHOULD HOLD A VOLUME OF 110% OF THE LARGEST TRUCK, OR TANK. SHOULD THE CONTRACTOR FAIL TO PREVENT NON-SEDIMENT POLLUTION AT THIS SITE, THE CONTRACTOR MUST IMMEDIATELY REMEDIATE THE SITE TO LOCAL, STATE AND FEDERAL REGULATORY AUTHORITIES' APPROVAL ENTIRELY AT HIS OWN EXPENSE AND NOTIFY THE PROPER AUTHORITIES.
4. THE CONTRACTOR SHALL MINIMIZE THE EXPOSURE OF ON-SITE MATERIALS TO PRECIPITATION AND STORM WATER. SUCH MATERIALS MAY INCLUDE: BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS.

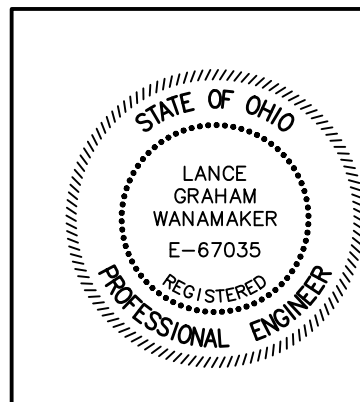
WASTE MANAGEMENT

1. THE CONTRACTOR SHALL PROVIDE SANITARY FACILITIES AND SHALL HAVE A WATER SOURCE. ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY REGULATIONS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SANITARY FACILITIES AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE WHICH MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A COMMERCIAL OPERATOR.
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE A MINIMUM OF ONE METAL LEAK PROOF DUMPSTER FOR SOLID WASTE DISPOSAL. NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORM WATER. ALL TRASH, CONSTRUCTION DEBRIS AND OTHER SOLID WASTE MUST BE COLLECTED AND DISPOSED OF IN THE DUMPSTER(S). THE DUMPSTER LOCATION IS NOT SHOWN ON THE SWP3 PLANS BUT SHOULD BE DETERMINED BY THE CONTRACTOR IN THE FIELD, WITH APPROVAL FROM THE OWNER AND RESIDENT PROJECT REPRESENTATIVE. EACH DUMPSTER WILL HAVE A SECURE WATERTIGHT LID, BE PLACED AWAY FROM STORM WATER CONVEYANCES AND DRAINS, AND MEET ALL FEDERAL, STATE AND MUNICIPAL REGULATIONS.
3. THE TRASH DUMPSTER(S) WILL BE INSTALLED ONCE THE MATERIAL STORAGE AREA HAS BEEN ESTABLISHED.
4. THE DUMPSTER(S) WILL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER STORM EVENTS.
5. THE DUMPSTER(S) WILL BE EMPTIED WEEKLY BY A CONTRACT TRASH DISPOSAL SERVICE AND TAKEN TO THE LOCAL LANDFILL BY A QUALIFIED HAULER. IF TRASH AND CONSTRUCTION DEBRIS ARE EXCEEDING THE DUMPSTER'S CAPACITY, THE DUMPSTER WILL BE EMPTIED MORE FREQUENTLY.
6. MATERIAL THAT CAN BE RECYCLED SHALL BE PLACED INTO A SEPARATE DUMPSTER DESIGNATED FOR RECYCLABLES.

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Project Title			
RTA TUNNEL MEMBRANE REPLACEMENT			
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STORMWATER POLLUTION PREVENTION NOTES 1			
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WASTE MANAGEMENT (CONT.)

7. ALL HAZARDOUS WASTE MATERIALS SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINTS, AND EQUIPMENT MAINTENANCE FLUIDS WILL BE SEGREGATED FROM OTHER NON-HAZARDOUS WASTE MATERIALS AND STORED IN APPROPRIATE AND CLEARLY MARKED SEALED SHIPPING CONTAINERS, WITHIN THE HAZARDOUS MATERIALS STORAGE AREA. SECONDARY CONTAINMENT WILL BE PROVIDED FOR ALL WASTE MATERIALS IN THE HAZARDOUS MATERIALS STORAGE AREA AND WILL CONSIST OF COMMERCIALY AVAILABLE SPILL PALLETS.
8. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND MUNICIPAL REGULATIONS. HAZARDOUS WASTE MATERIALS WILL NOT BE DISPOSED OF INTO THE ON-SITE DUMPSTERS.
9. NO MATERIALS WILL BE BURIED ON-SITE, NOR WILL ANY OPEN BURNING OCCUR ON-SITE.
10. ALL MATERIAL STORAGE AND DISPOSAL WILL BE LOCATED IN THE STAGING AREAS SHOWN ON THE PLANS. THE STAGING AREA SHALL BE ESTABLISHED ON EXISTING PAVEMENT OR A STONE BASE. CONSTRUCTION ENTRANCES ARE SHOWN ON THE PLANS. IF NEEDED, ADDITIONAL CONSTRUCTION ENTRANCE(S) AND/OR HAUL ROADS SHALL BE ESTABLISHED ON 10" OF ODOT #2 (1.5-2.5 INCH) STONE BASE. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE STONE SUCH THAT IT IS REPLENISHED WHEN THE DEPTH IS LESS THAN 10" OR REMOVED AND REPLACED IF THE STONE BECOMES MUD-LADEN. THE FOLLOWING ITEMS SHALL BE LOCATED AT THE STAGING AREA UNLESS OTHERWISE AUTHORIZED: STORAGE OR DISPOSAL OF SOLID, SANITARY, AND HAZARDOUS WASTES, INCLUDING DUMPSTER AREAS, CONCRETE TRUCK WASHOUT AREAS AND VEHICLE FUELING AREAS.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTRUCTING PERSONNEL REGARDING THE CORRECT DISPOSAL OF TRASH AND CONSTRUCTION DEBRIS AS WELL AS PROPER PROCEDURES FOR HAZARDOUS WASTE DISPOSAL. NOTICES THAT STATE THESE PROCEDURES WILL BE POSTED IN THE OFFICE TRAILER, AND THE INDIVIDUAL WHO MANAGES DAY-TO-DAY OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
12. THE CONTRACTOR MUST ENSURE THAT ALL CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, ARE AWARE OF THE FOLLOWING GENERAL GUIDELINES REGARDING DISPOSAL AND HANDLING OF HAZARDOUS AND CONSTRUCTION WASTES:
  - PREVENT SPILLS.
  - USE PRODUCTS UP.
  - FOLLOW LABEL DIRECTIONS FOR DISPOSAL.
  - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH.
  - RECYCLE WASTES WHENEVER POSSIBLE.
  - DO NOT POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
  - DO NOT POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS.
  - DO NOT BURY CHEMICALS OR CONTAINERS.
  - DO NOT BURN CHEMICALS OR CONTAINERS.
  - DO NOT MIX CHEMICALS TOGETHER.
13. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WILL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3714

SPILLS AND UNINTENDED RELEASES

1. SHOULD AN ACCIDENTAL SPILL OR RELEASE OCCUR, THE CONTRACTOR SHALL MEET THE REPORTING REQUIREMENTS OF 40 CFR PART 117 AND 40 CFR PART 302.
2. THE CONTRACTOR MUST MINIMIZE THE DISCHARGE OF HAZARDOUS SUBSTANCES WITH THE SITE'S STORM WATER DISCHARGES BY MEETING THE REQUIREMENTS OF THE CONSTRUCTION SWP3.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT, DURING ANY 24-HOUR PERIOD, STORM WATER DISCHARGES FROM THE CONSTRUCTION SITE DO NOT CONTAIN A HAZARDOUS SUBSTANCE EQUAL TO OR IN EXCESS OF REPORTABLE QUANTITIES.
4. THE CONTRACTOR MUST TAKE IMMEDIATE ACTION TO CONTAIN, REMOVE, AND DISPOSE OF ANY SPILLED MATERIAL IN THE MANNER SPECIFIED BY LOCAL, STATE, AND FEDERAL REGULATIONS AND BY THE MANUFACTURER OF THE SPILLED PRODUCT.
5. WITHIN THIRTY (30) MINUTES OF A SPILL GREATER THAN 25 GALLONS OR ANY SPILL THAT CAUSES A SHEEN ON A WATERWAY, THE CONTRACTOR MUST REPORT TO AIRFIELD OPERATIONS AT (216) 265-6090. THE OBSERVED SHEEN SHALL BE REMOVED BY ABSORBENT MATERIALS, A VACUUM TRUCK OR OTHER APPROPRIATE MEANS.
6. SPILLS GREATER THAN 25 GALLONS OR MORE THE CONTRACTOR MUST CONTACT OHIO EPA AT 1-800-282-9378, THE LOCAL FIRE DEPARTMENT AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) AT (216) 443-5700 (DAY) OR (216)711-1365 (24-HR) WITHIN 30 MINUTES OF A SPILL.

SPECIFICATIONS

1. ALL WORK SPECIFIED AS AN ODOT ITEM SHALL BE GOVERNED BY THE CURRENT STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATION HANDBOOK. ALL OTHER ITEMS SHOULD CONFORM TO SPECIFICATIONS CONTAINED IN THE ODNR MANUAL - RAINWATER AND LAND DEVELOPMENT, CURRENT EDITION.

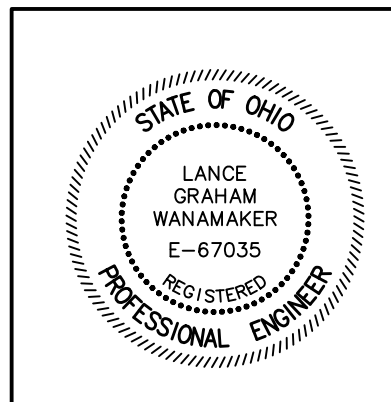
GENERAL CONSTRUCTION SEQUENCE

1. THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH ALL SUBCONTRACTORS TO REVIEW THE SWP3 AND POLLUTION PREVENTION MEASURES.
2. INSTALL TEMPORARY SIGNAGE AND TEMPORARY BARRICADES. SEE PHASING PLANS.
3. INSTALL ALL SEDIMENT CONTROL STRUCTURES PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
4. ALL OTHER TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS (I.E., SEDIMENT BASINS) SHALL BE INSTALLED AS SOON AS POSSIBLE BUT NO LATER THAN WITHIN 7 DAYS OF THE FIRST SOIL DISTURBANCE.
5. INSTALL TRENCH AND GROUND WATER CONTROL MEASURES AS NECESSARY TO ENSURE THAT NO DEWATERING ACTIVITIES RESULT IN TURBID OR POLLUTANT-LADEN DISCHARGES TO WATERS OF THE STATE.
6. BEGIN UTILITY AND PAVEMENT REMOVAL FOR ONLY THAT PHASE SCHEDULED FOR WORK WITHIN THE NEXT 14 DAYS, OTHERWISE STABILIZATION IS REQUIRED WITHIN 7 DAYS OF LAST ACTIVITY.
7. BEGIN INSTALLATION OF NEW UTILITIES AND UNDERGROUND STRUCTURES.
8. THE CONTRACTOR IS RESPONSIBLE TO ESTABLISH A BY-PASS PUMPING SYSTEM IN ORDER TO INSTALL DEEP MANHOLES WITHOUT SHUTTING DOWN THE EXISTING STORM SEWER. THE CONTRACTOR SHALL PLUG THE DOWNSTREAM SIDE OF THE UPSTREAM MANHOLE AND PUMP TO THE NEAREST DOWNSTREAM MANHOLE.
9. BEGIN EXCAVATION, GRADING AND COMPACTION FOR PAVEMENT SUBBASE. STABILIZE ALL PREPARED EARTH AREAS THAT WILL NOT BE WORKED ON WITHIN THE NEXT 14 DAYS WITH AGGREGATE COURSES OR FILTER FABRIC WITHIN 7 DAYS OF LAST ACTIVITY AT NO ADDITIONAL COST TO OWNER.
10. INSTALLATION OF NEW PAVEMENT.
11. BEGIN FINAL GRADING OPERATIONS.
12. WITHIN 7 DAYS AFTER REACHING FINAL GRADE, BEGIN SEEDING, OR SODDING OPERATIONS.
13. SOD SHALL BE PLACED WITHIN 20' OF ALL TAXIWAY AND RUNWAY PAVEMENT, AND ALL REMAINING AREAS SHALL BE SEEDED AND MULCHED UNLESS SPECIFIED OTHERWISE.
14. AFTER PERMANENT STORM WATER STRUCTURES ARE OPERATIONAL AND THE SITE IS SUFFICIENTLY STABLE, THE TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS SHALL BE REMOVED. ALL SEDIMENT SHALL BE REMOVED FROM THE STORM SEWER AND DISPOSED OF IN A DESIGNATED LOCATION PREVIOUSLY APPROVED BY THE LOCAL REGULATORY AUTHORITIES AND RESIDENT ENGINEER.
15. AT COMPLETION OF WORK, THE CONTRACTOR SHALL REMOVE FROM THE SITE AND DISPOSE OF DEBRIS AND WASTE MATERIALS RESULTING FROM HIS ACTIVITIES. THE CONTRACTOR SHALL ALSO THOROUGHLY CLEAN ALL PAVEMENT, CLEANOUTS, PIPES AND STRUCTURES TO REMOVE DEBRIS AND DIRT ACCUMULATED AS A RESULT OF THE CONSTRUCTION AND OPEN ALL GUTTERS SO THAT FREE DRAINAGE IS OBTAINED.

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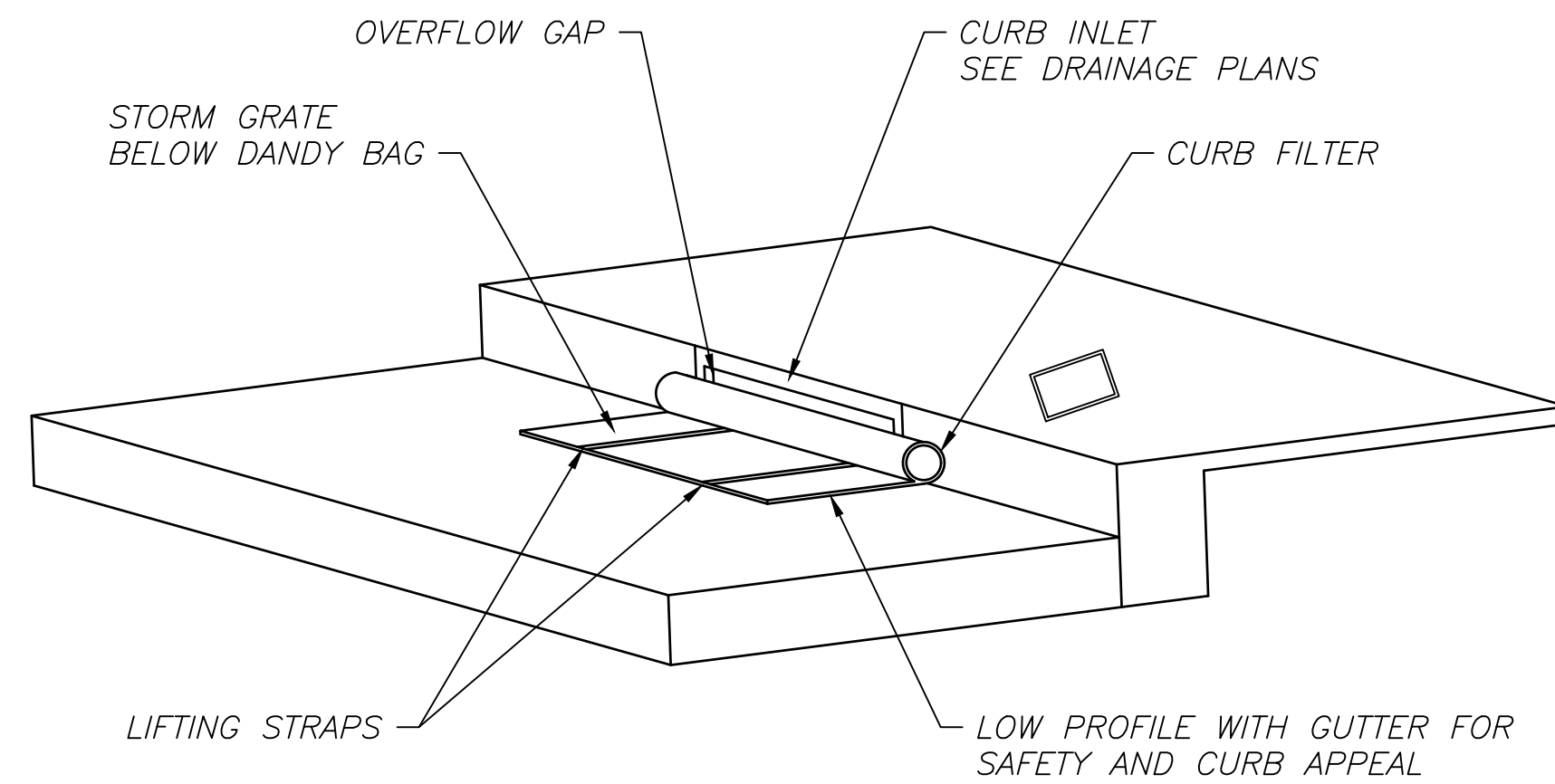
Revisions	Date	Description	By

CLEVELAND HOPKINS  
INTERNATIONAL AIRPORT  
CLEVELAND, OHIO



Project Title			
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STORMWATER POLLUTION PREVENTION NOTES 2			
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MSI	MSI	LGW	LGW
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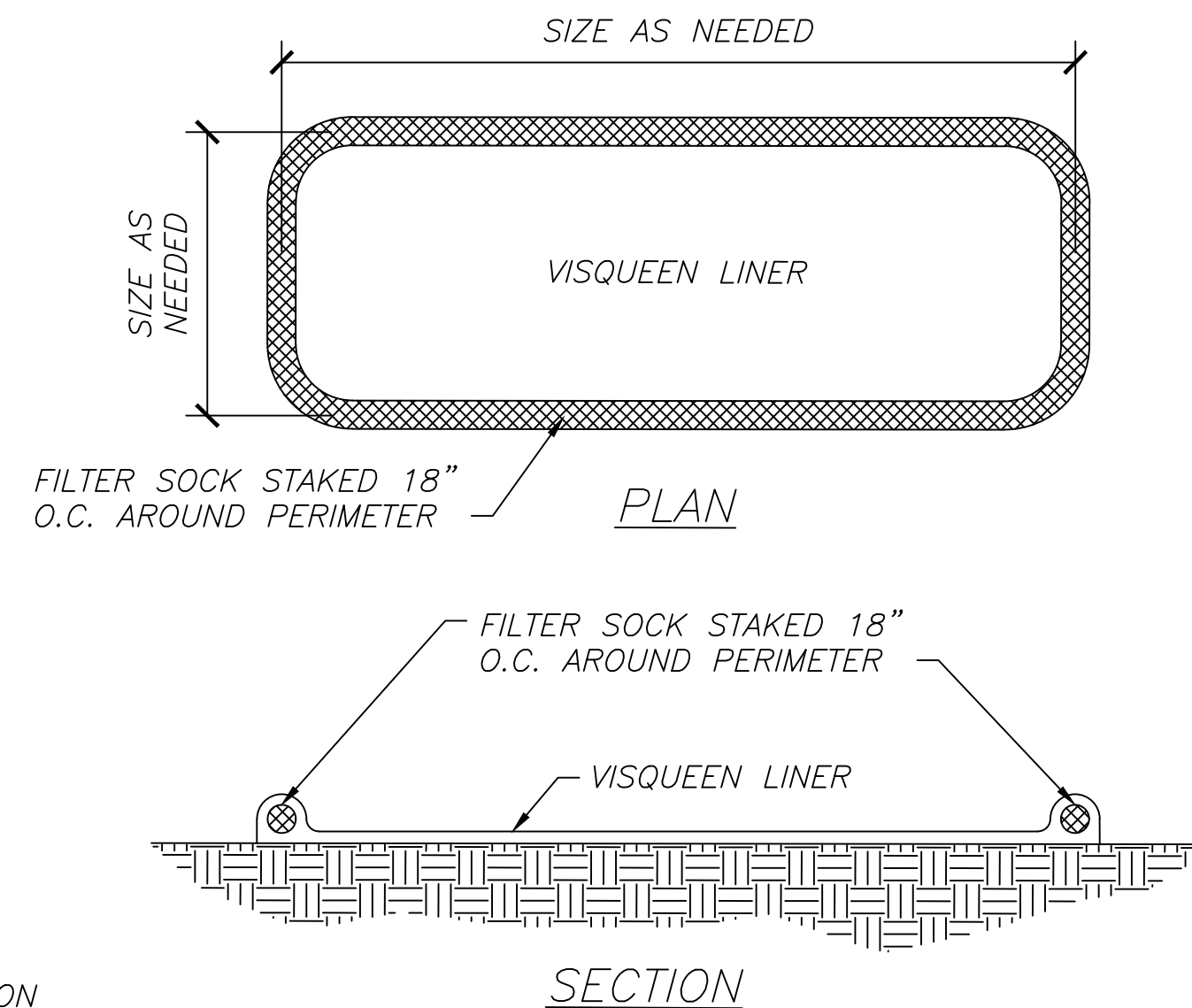
Michael Baker  
INTERNATIONAL



**CURB BAG INLET PROTECTION NOTES**

1. INSTALL EMPTY CURB BAG OVER THE GRATE AND ENSURE PROPER FIT. TUCK ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING STRAPS (DO NOT RELY ON THE LIFTING STRAPS TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME (STREET SIDE FIRST), THEN LOWER BACK EDGE WITH DAM INTO PLACE. WHEN PROPERLY INSTALLED, THE DANDY CURBBAG SHOULD BE PARTIALLY BLOCKING THE CURB HOOD.
2. REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE SURFACE AND VICINITY OF THE DANDY BAG AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED.
3. UPON PROJECT COMPLETION OR REMOVAL OF THE STORM CATCH BASIN OR GRATE, REMOVE THE DANDY BAG AND PROPERLY RECYCLE OR DISPOSE OF THE BAG IN ACCORDANCE WITH APPLICABLE REGULATIONS.

**DANDY BAG CURB INLET PROTECTION**  
SCALE: NTS



**INSTALLATION**

1. CONCRETE WASH OUT PIT LOCATION(S) AND SIZE(S) SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE PROJECT REPRESENTATIVE. THE DIMENSIONS AND VOLUME SHOULD BE SUFFICIENT TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
2. THE CONCRETE WASH OUT PIT SHALL BE CONSTRUCTED WITH NO POTENTIAL FOR DISCHARGE.
3. CLEAR THE AREA OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL PRIOR TO INSTALLING THE CONCRETE WASH OUT PIT.
4. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE CONCRETE WASH OUT PIT SHALL BE CUT AND PLUGGED.
5. THE VISQUEEN LINER SHALL BE FREE OF TEARS OR HOLES THAT WOULD ALLOW THE WASH WATER TO ESCAPE.
6. IF THE CONCRETE WASH OUT FACILITY IS NOT WITHIN VIEW OF THE CONCRETE POUR LOCATION, SIGNAGE WILL BE NEEDED TO DIRECT THE TRUCK DRIVERS.

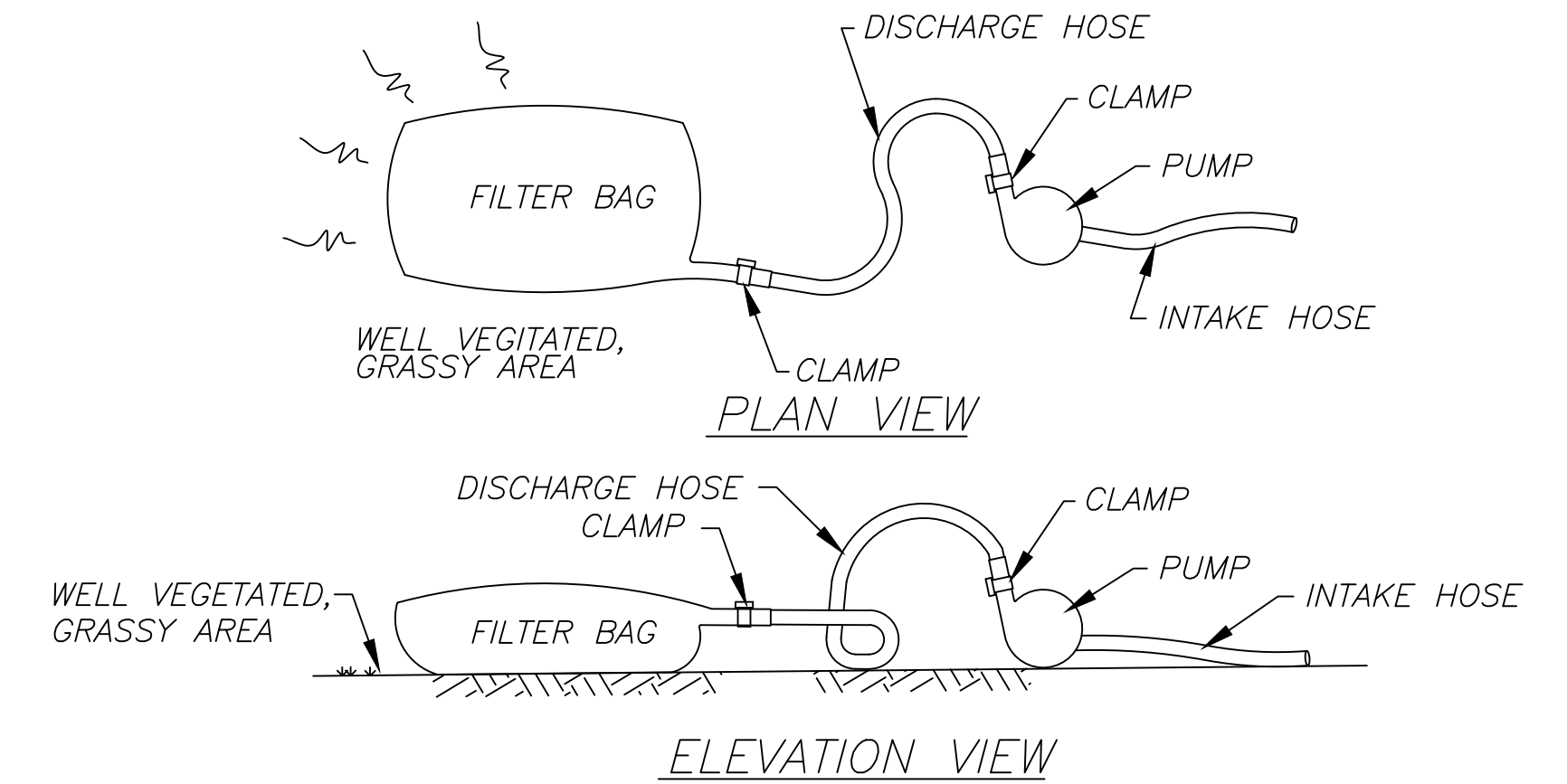
**INSPECTION AND MAINTENANCE**

1. THE CONCRETE WASH OUT PIT SHALL BE MAINTAINED TO ENSURE THAT CONCRETE WASH WATER IS NOT ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCES.
2. THE CONCRETE WASH OUT PIT SHALL BE INSPECTED DAILY AND AFTER EACH SIGNIFICANT RAIN EVENT (1/2" IN 24 HRS) TO IDENTIFY ANY PLASTIC LININGS AND SIDEWALLS THAT HAVE BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. THE INSPECTOR SHALL ALSO DETERMINE WHETHER THE PIT HAS BEEN FILLED TO OVER 75 PERCENT CAPACITY.
3. PRIOR TO HEAVY RAINS, THE LIQUID LEVEL IN THE PIT SHALL BE LOWERED OR THE PIT SHALL BE COVERED TO AVOID OVERFLOW DURING THE RAIN STORM.
4. WHEN THE WASH OUT PIT HAS BEEN FILLED TO OVER 75 PERCENT OF ITS CAPACITY, THE WASH WATER SHOULD BE VACUUMED OFF OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS.
5. AFTER THE PIT HAS BEEN USED AND THE WASH WATER HAS EVAPORATED OR HAS BEEN VACUUMED OFF, THE REMAINING HARDENED SOLIDS SHALL BE BROKEN UP AND REMOVED FROM THE PIT.
6. MATERIAL COLLECTED IN THE CONCRETE WASH OUT PIT SHALL BE PROPERLY DISPOSED OF AT AN APPROVED DISPOSAL FACILITY. DISPOSAL SHALL BE SCHEDULED AS NEEDED.
7. IF EMPTYING OF THE PIT RESULTS IN DAMAGE TO THE FILTER SOCKS OR VISQUEEN LINER, THE PIT WILL NEED TO BE REPAIRED AND RELINED WITH NEW PLASTIC.
8. IN THE EVENT OF A LEACHATE OUTBREAK, MEASURES MUST BE TAKEN TO ISOLATE THE DISCHARGE FOR COLLECTION AND PROPER DISPOSAL. INVESTIGATIVE MEASURES AND CORRECTIVE ACTIONS MUST BE IMPLEMENTED TO IDENTIFY AND ELIMINATE THE SOURCE OF ALL LEACHATE OUTBREAKS.

**REMOVAL**

1. REMOVE ACCUMULATED SOLIDS FROM THE PIT, AND DISPOSE OF AT AN APPROVED DISPOSAL FACILITY.
2. CUT OPEN FILTER SOCK, AND DISPERSE COMPOST MATERIAL ON SITE, AS DETERMINED BY RESIDENT ENGINEER. IF COMPOST HAS BECOME CONTAMINATED, DISPOSE OF IN THE PROPER WASTE OR RECYCLING FACILITY.
3. REMOVE MESH NETTING, STAKES AND VISQUEEN LINER ENTIRELY, AND DISPOSE OF IN THE PROPER WASTE OR RECYCLING FACILITY
4. RESTORE PIT AREA AND STABILIZE ANY EXPOSED SOIL.

**CONCRETE WASHOUT PIT**  
SCALE: NTS



**NOTES:**

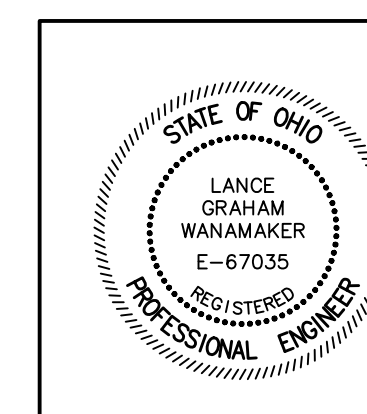
1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.
7. FILTER BAGS ARE DESIGNED TO FILTER WATER FROM WORK AREAS PRIOR TO DISCHARGE.

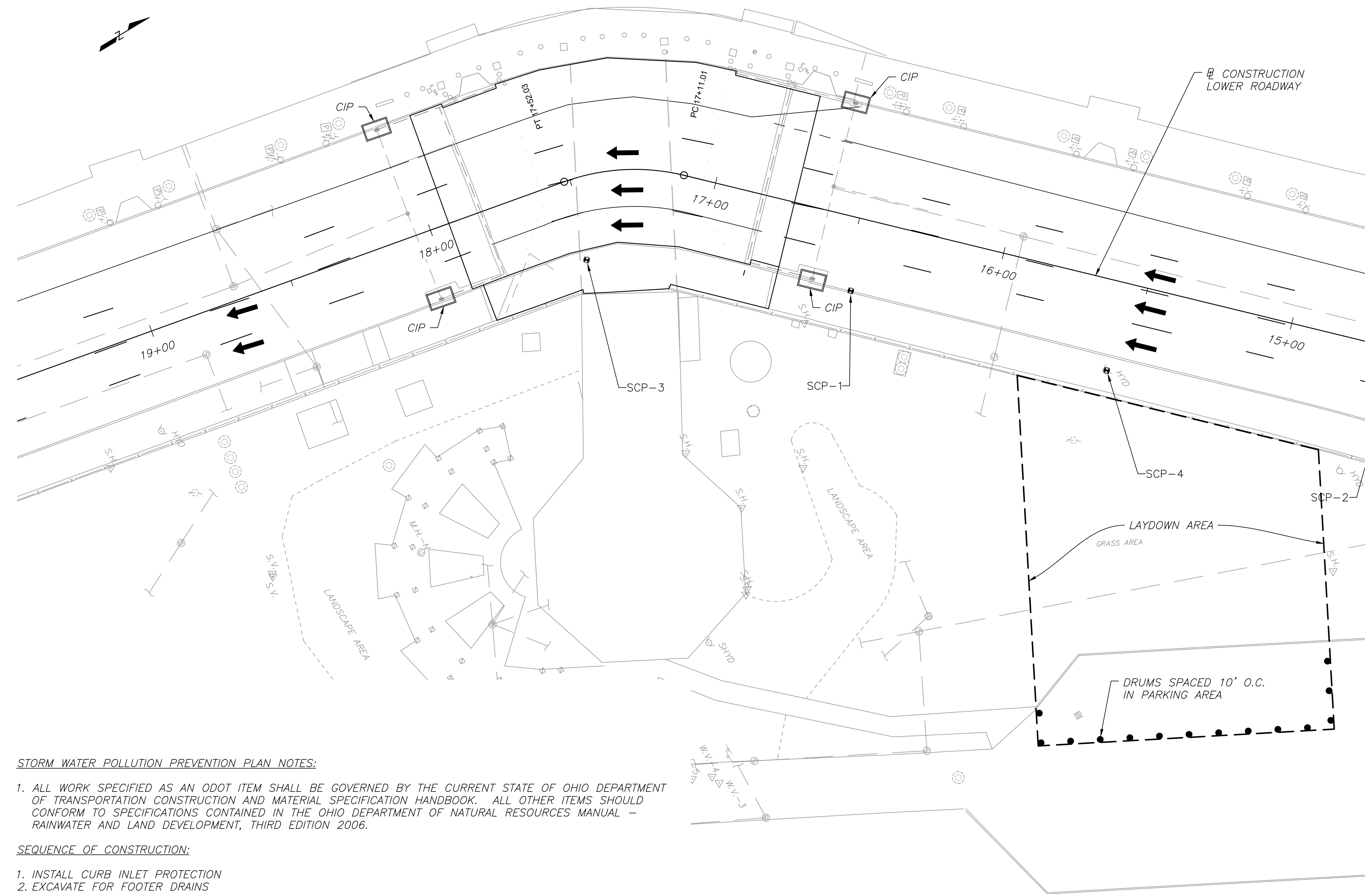
**PUMPED WATER FILTER BAG**  
SCALE: NTS

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**CLEVELAND HOPKINS INTERNATIONAL AIRPORT**  
CLEVELAND, OHIO

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RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title			
STORMWATER POLLUTION PREVENTION DETAILS			
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**LEGEND**

□ CURB INLET PROTECTION (CIP)

**STORM WATER POLLUTION PREVENTION PLAN NOTES:**

1. ALL WORK SPECIFIED AS AN ODOT ITEM SHALL BE GOVERNED BY THE CURRENT STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATION HANDBOOK. ALL OTHER ITEMS SHOULD CONFORM TO SPECIFICATIONS CONTAINED IN THE OHIO DEPARTMENT OF NATURAL RESOURCES MANUAL - RAINWATER AND LAND DEVELOPMENT, THIRD EDITION 2006.

**SEQUENCE OF CONSTRUCTION:**

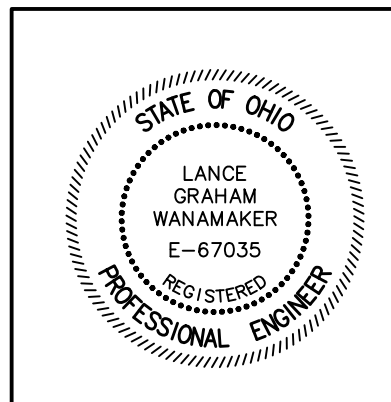
1. INSTALL CURB INLET PROTECTION
2. EXCAVATE FOR FOOTER DRAINS
3. REMOVE PAVEMENT
4. BACKFILL FOOTER DRAINS
5. INSTALL WATERPROOFING
6. PERFORM PAVING
7. PERFORM STREET SWEEPING
8. REMOVE CURB INLET PROTECTION ONCE ALL CONSTRUCTION IS COMPLETE

**REQUIREMENTS FOR CONTROLS OF OTHER WASTES:**

1. SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS OR THEIR PACKAGING, SHALL BE PROPERLY DISPOSED OF AND SHALL NOT BE DISCHARGED IN STORMWATER RUNOFF.
2. CONCRETE TRUCKS ARE NOT PERMITTED TO WASH OUT DIRECTLY INTO STORM SEWERS, STREAMS OR DRAINAGE CHANNELS.
3. OFF-SITE TRACKING OF SEDIMENTS BY CONSTRUCTION VEHICLES MUST BE REMOVED BY SWEEPING.
4. CONTAMINATED SOILS OR SOILS WHERE CONSTRUCTION SITE CHEMICALS HAVE BEEN SPILLED MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
5. STORM WATER THAT COMES IN CONTACT WITH CONTAMINATED SOILS, OR SOLID AND INDUSTRIAL WASTE MUST BE COLLECTED AND DISPOSED OF AS WASTEWATER.
6. FUEL TANKS AND DRUMS OR OTHER CONTAINERS HOLDING CONSTRUCTION SITE CHEMICALS MUST BE STORED WITHIN A DIKED AREA.

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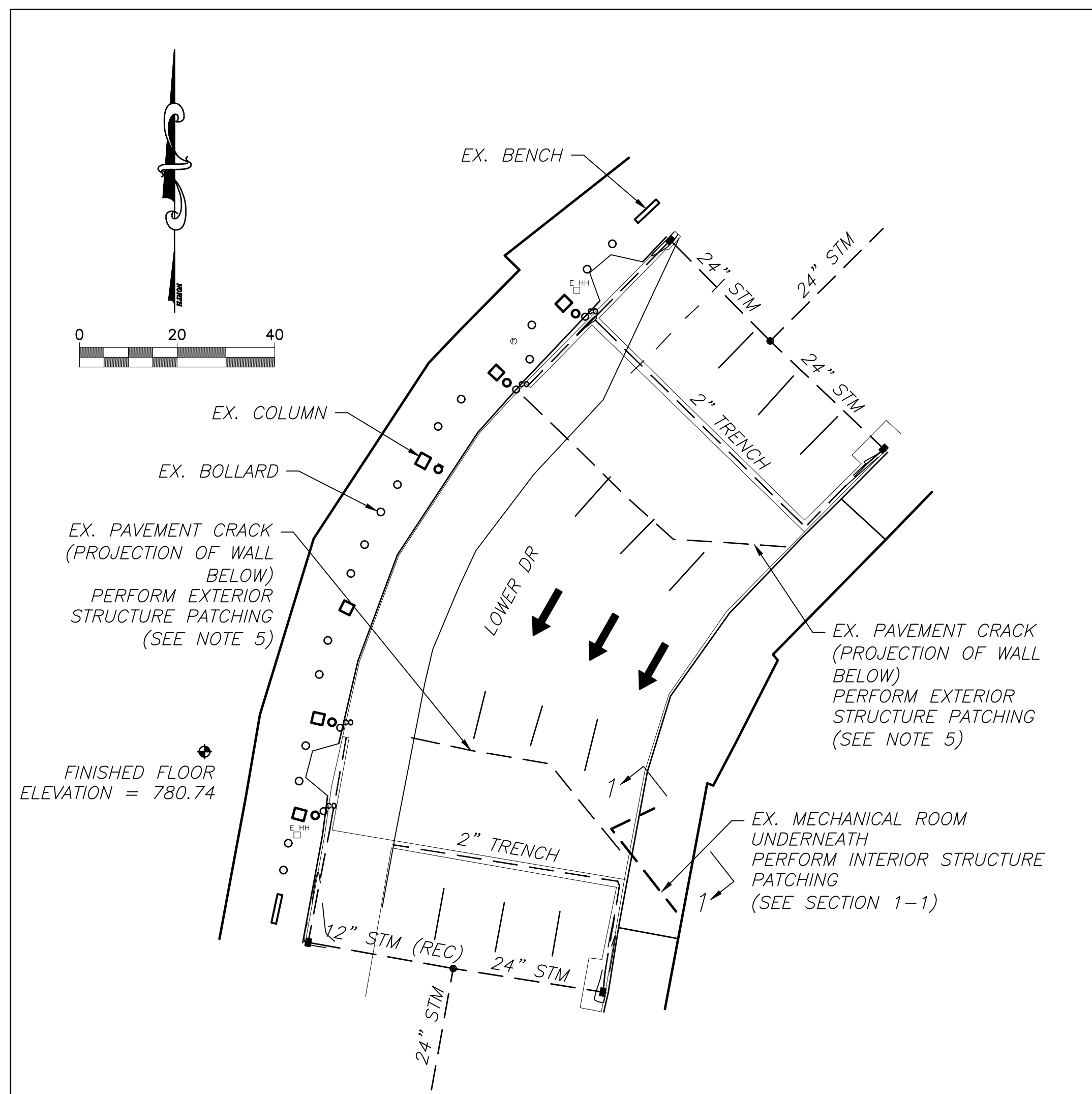
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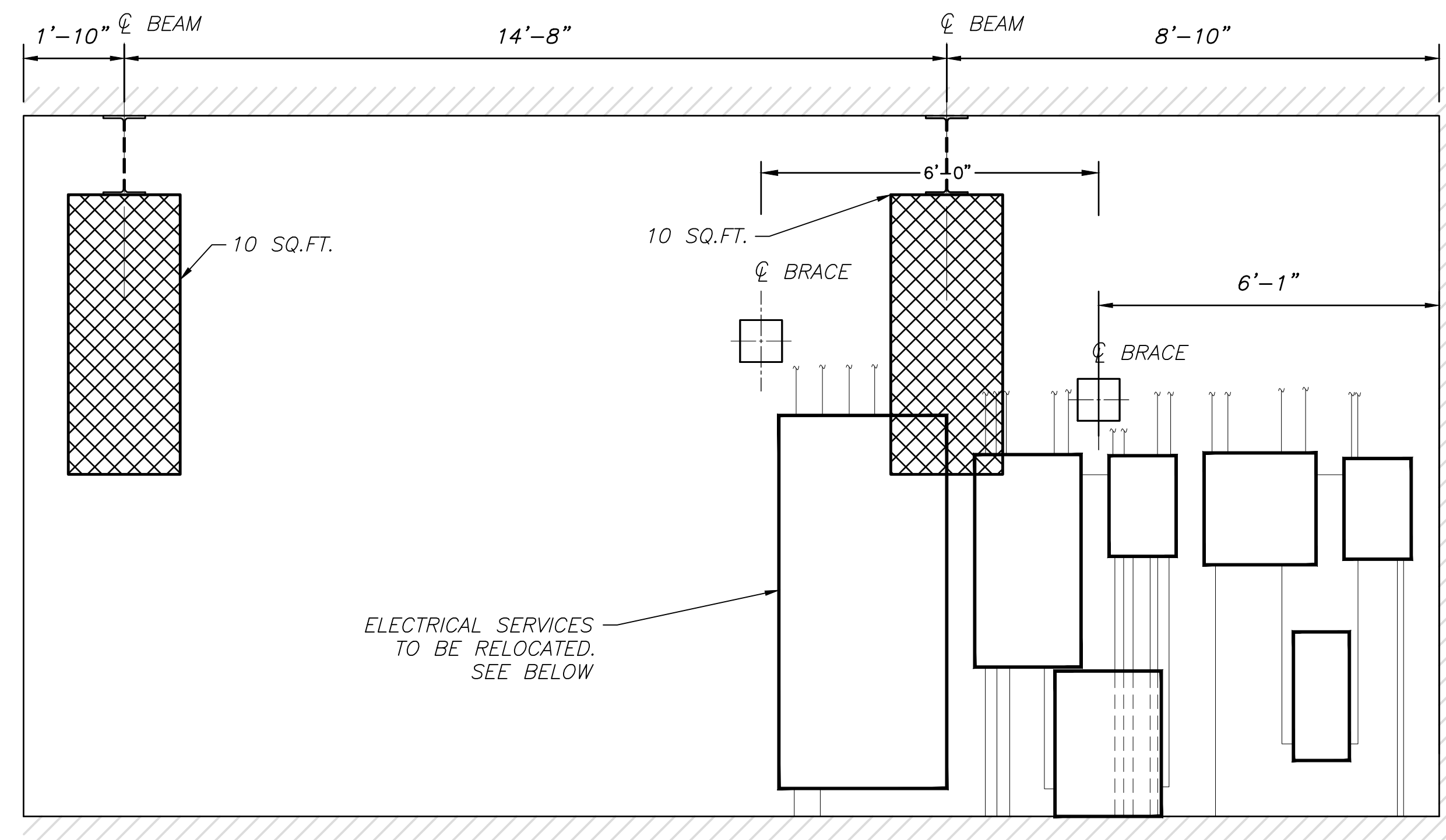
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Sheet Title <b>STORMWATER POLLUTION PREVENTION PLAN</b>			
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PLAN  
SCALE: 1" = 20'



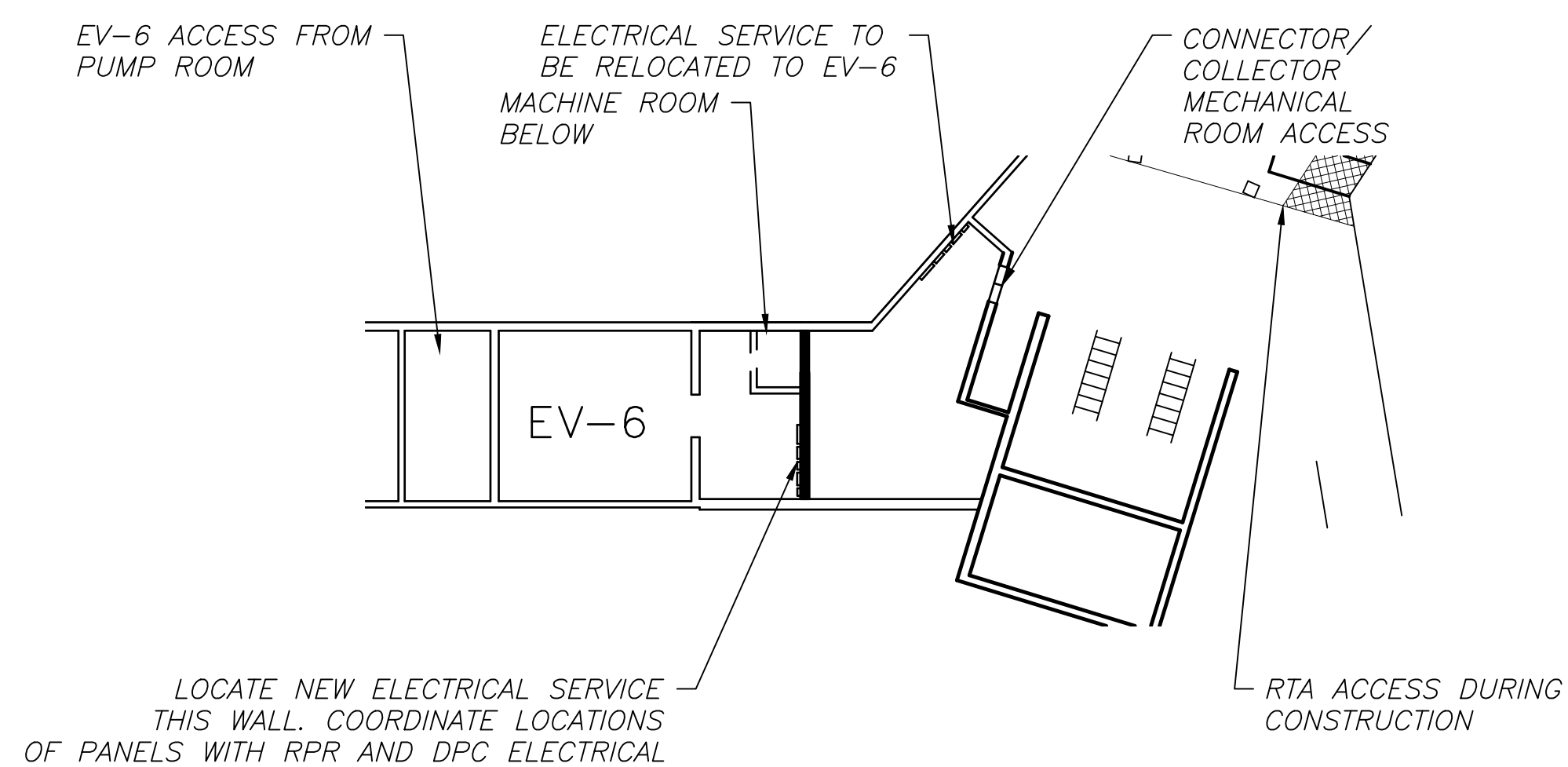
SECTION 1-1  
MECHANICAL ROOM WALL PATCHING DETAIL  
SCALE: NTS

**WALL PATCHING NOTES:**

1. THE CONTRACTOR TO FOLLOW ODOT ITEM 519 - PATCHING CONCRETE STRUCTURES SPECIFICATIONS WHEN PERFORMING THE PATCHING WORK.
2. THE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. NO DETAILED INSPECTION WAS PERFORMED. PATCH AREAS TO BE FIELD LOCATED BY THE CONTRACTOR AND APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE (RPR). THE CONTRACTOR WILL BE PAID FOR THE ACTUAL SQUARE FOOT AREA PATCHED.
3. THE CONTRACTOR TO PROVIDE TEMPORARY SHORING UNDERNEATH THE BEAMS FOR THE DURATION OF WALL PREPARATION AND PATCHING WORK.
4. PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCED STEEL. ACCEPTABLE METHODS INCLUDE:  
- INTERIOR: VACUUM ABRASIVE BLASTING;  
- EXTERIOR: HIGH PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.
5. ADDITIONAL QUANTITIES ARE INCLUDED IN THIS PACKAGE FOR USE AS DIRECTED BY THE RPR TO ALLOW FOR ADDITIONAL EXTERIOR WALL PATCHING WORK ASSOCIATED WITH WALL WATERPROOFING APPLICATION. NO INSPECTION OF THE WALL HAS BEEN PERFORMED.
6. UNLESS NOTED OTHERWISE, ALL DETAILS ARE DRAWN NOT TO SCALE.

**ELECTRICAL SERVICE RELOCATION NOTES:**

1. THE EXISTING 600 AMP ELECTRICAL SERVICE CURRENTLY LOCATED IN THE CONNECTOR/COLLECTOR MECHANICAL ROOM IS TO BE RELOCATED TO ELECTRICAL VAULT EV-6. ALL OF THE AFFECTED SERVICE PANELS AND TRANSFORMERS ARE INCLUDED IN ITEM L109.
2. ACCESS TO EV-6 WILL BE THROUGH THE PUMP ROOM LOCATED ACROSS THE LOWER ROADWAY FROM THE CONNECTOR/ COLLECTOR MECHANICAL ROOM.
3. THE EXISTING SERVICE SKETCH WAS CREATED FROM THE AVAILABLE RECORD DRAWINGS.
4. THE PANEL SCHEDULE SKETCH WAS CREATED FROM AVAILABLE INFORMATION ON THE SERVICE PANELS. THE CONTRACTOR IS TO VERIFY THE LOCATION AND AFFECTED CIRCUITS PRIOR TO THE SERVICE RELOCATION TO EV-6.
5. THE CONTRACTOR SHALL ALLOW A MINIMUM OF 120 HOURS TO RESEARCH THE AFFECTED FACILITIES ASSOCIATED WITH THE PANELS/SERVICES TO BE RELOCATED. COSTS FOR RESEARCHING THE CURRENT CIRCUITRY TO BE INCIDENTAL TO ITEM L109.
6. SHUTDOWNS ARE LIMITED TO 4 HOURS/NIGHT AND ARE TO BE PERFORMED BETWEEN THE HOURS OF 0000 AND 0400, MILITARY TIME.
7. THE COSTS FOR SERVICE RELOCATION IS TO BE INCIDENTAL TO ITEM L109-7.4, INSTALLATION OF EQUIPMENT IN EXISTING VAULT



CONNECTOR/COLLECTOR MECHANICAL ROOM EXISTING SERVICE  
SCALE: NTS

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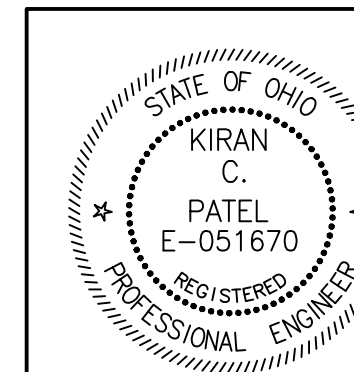
Project Title: RTA TUNNEL MEMBRANE REPLACEMENT

Sheet Title: STRUCTURAL WALL REPAIR 1

Designed: MM Drawn: MM Checked: KCP Approved: KCP

Scale: AS SHOWN Project No.: 198348

Date: FEBRUARY 2024 Sheet: C-25



**G & T Associates Inc.**  
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DP-CC					
TEXT ON PANEL	PAPER SCHEDULE	120	277	PAPER SCHEDULE	TEXT ON PANEL
MDP	BRK #1 600 AMP			BRK #2 200 AMP	HCP
	3 PHASE FEED MDP	1	2	3 PHASE FEED HCP	
		3	4		
	BRK #3 100 AMP	5	6	BRK #4 60 AMP	ELEVATOR
	3 PHASE FEED SPARE			3 PHASE FEED ELEV	
AC-5	BRK #6 30 AMP			BRK #6 30 AMP	
	3 PHASE FEED AC-5			3 PHASE FEED AC-4	

LEM-2					
TEXT ON PANEL	PAPER SCHEDULE	120	277	PAPER SCHEDULE	TEXT ON PANEL
FIRE ALARM	ELEVATOR PIT LIGHTS & PLUGS/PUMP ROOM LIGHTS	1 20A	2 20A	(EM) LIGHTS CONNECTOR (EN) ESCALATOR #13 AND 14 PIT (EO) LIGHTS AND PLUGS	F/A TEMP/ESCALATOR PIT LIGHTS
HIGH LIGHTS	CENTER CAN LIGHTS	3 20A	4 20A	SIEMANS PANELS EAST WALLS	SIEMANS PANELS EAST WALL
RTA LIGHTING	ELEVATOR CAR LIGHTS	5 20A	6 20A	SUMP PUMP ALARM	SUMP PUMP ALARM
25	NORTH ELEC. DOOR OPENER COLLECTOR	7 20A	8 20A	CONTROL PANEL #2 F.A.	CONTROL PANEL #2 F.A.
23	SOUTH ELEC. DOOR OPENER COLLECTOR	11 20A	10 20A	FIELD CABINET #6	FIELD CABINET #6
RTA TRACK LIGHTS	(EM) LIGHTS CONNECTOR TEMP WALKWAY OUTLETS DOUBLED UP ON BRKRS 9 & 11	9 20A	12 20A	EMERGENCY LIGHTS CONNECTOR	RTA TRACK LIGHTS

HEM-2					
TEXT ON PANEL	PAPER SCHEDULE	120	277	PAPER SCHEDULE	TEXT ON PANEL
SUMP PUMP	SUMP PUMPS #23 AND #25	30A	30A	15 KVA TRANSFORMER FEED FOR PANEL HEM SP	TRANS
CENTRIC PAK #1	SPARE	7 20A	8 20A	LIGHTS BY ELEVATOR	
LIGHTS-TEMPORARY WALKWAY	LIGHTS-TEMPORARY WALKWAY	11 20A	10 20A	LIGHTS BY ELEVATOR	HEM SP TRIPPED 10-29-98
LIGHTS-TEMPORARY WALKWAY	LIGHTS-TEMPORARY WALKWAY	9 20A	12 20A	"ONE" FIXTURE ELEVATOR	

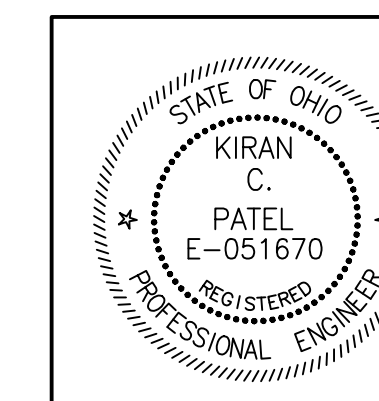
LCP-3			
TEXT ON PANEL	PAPER SCHEDULE	120	277
BASE PLUG AT FLOOR BOXES-SOUTH	1 20A	2 20A	BAGGAGE ATM AND LOTTO
WATATA CABINET	3 20A	4 20A	BASE PLUG AND FLOOR BOXES-NORTH SIDE NEAR ESCALATOR 4
MECHANICAL ROOM LIGHTS	5 20A	6 20A	BASE PLUGS EAST OF ESCALATORS
BASE PLUGS EAST OF ESCALATOR	7 20A	8 20A	#4-5 PLUGS
#3 "7" PLUGS LIGHTS IN MECHANICAL ROOM	9 20A	10 20A	4 BASE PLUGS ON COLUMN V
RECEPTACLE FOR PRESSURE WASHER	11 20A	12 20A	CONNECTOR AND 2 PLUG COLLECTOR

HCP-3							
TEXT ON PANEL	PAPER SCHEDULE EDITS	PAPER SCHEDULE	120	277	PAPER SCHEDULE	PAPER SCHEDULE EDITS	TEXT ON PANEL
	SPARE #1	BRK #1-50 AMP 3-PHASE FEED TRANS 30 KVA	1	2	BRK #2-60 AMP 3-PHASE FEED ESC #14	#2 3 POLE CKT 36	
	SPARE #1	BRK #1-50 AMP 3-PHASE FEED TRANS 30 KVA	3	4	BRK #2-60 AMP 3-PHASE FEED ESC #14	#2 3 POLE CKT 38	
	SPARE #1	BRK #1-50 AMP 3-PHASE FEED TRANS 30 KVA	5	6	BRK #2-60 AMP 3-PHASE FEED ESC #14	#2 3 POLE CKT 40	
	#3 3 POLE CKT 30	BRK #3-60 AMP 3-PHASE FEED ESCALATOR #13	7	8	BRK #4-15 AMP 3-PHASE SPARE	#4 3 POLE	
	#3 3 POLE CKT 32	BRK #3-60 AMP 3-PHASE FEED ESCALATOR #13	9	10	BRK #4-15 AMP 3-PHASE SPARE	#4 3 POLE	
	#3 3 POLE CKT 34	BRK #3-60 AMP 3-PHASE FEED ESCALATOR #13	11	12	BRK #4-15 AMP 3-PHASE SPARE	#4 3 POLE	
	6	30 AMP FEED LOWER WINDOW HEATER	13	14	BRK #5-30 AMP 3-PHASE FEED SUMP PUMPS 35 & 36	#5 CKT 16	SUMP PUMP UNDER ESCALATOR
	7	30 AMP FEED LOWER WINDOW HEATER	15	16	BRK #5-30 AMP 3-PHASE FEED SUMP PUMPS 35 & 36	#5 CKT 18	SUMP PUMP
	8	30 AMP FEED LOWER WINDOW HEATER	17	18	BRK #5-30 AMP 3-PHASE FEED SUMP PUMPS 35 & 36	#5 CKT 20	
CKT-1	1	HI BAY LGT COLLECTOR VIA CONTACTOR #6 21 OF 42 LIGHTS	19	20	WALL WASHER FIXTURE N SIDE CONNECTOR VIA CONTACTOR 3	2	RED TAPE C3
CKT-3	3	HI BAY LGT COLLECTOR VIA CONTACTOR #6 21 OF 42 LIGHTS	21	22	WALL WASHER FIXTURE N SIDE CONNECTOR VIA CONTACTOR 3	4	RED TAPE C3
SOUTH 2X2 RTA LIGHTS RED TAPE C-1	5	LIGHTING MAIN AREA CONNECTOR CIRCUIT 5 & 11 VIA CONTACTOR 1	23	24	LTG CIRS BETWEEN ESCALATOR CONNECTOR TO TERMINAL CIR 7 & 9 VIA CONTACTOR 2	6	CENTER 2X2 LIGHT NORTH AND SOUTH RED TAPE C1
RTA: LIGHTS NORTH-CENTER 4 STRIP LIGHTS RED TAPE C-2	7	LGT MAIN AREA CONN CIR 7 & 9 VIA CONT 2	25	26	LTG CIRS BETWEEN ESCALATOR CONNECTOR TO TERMINAL	8	SOUTH RECESSED RED TAPE C2
RTA: LIGHTS RECESSED-SOUTH RED TAPE C-2	9	LTG MAIN AREA CONN CIR 7 & 9 VIA CONT 2	27	28	LTG CIRS BETWEEN ESCALATOR CONNECTOR TERMINAL	10	RECEPTACLES THIS ROOM RED TAPE C-1
RTA: ESCALATORS EAST AND NORTH RED RAPE C-1	11	LTG MAIN AREA CONN CIR 5 & 11 CONT 1 CIR 7 & 9 CONT 2	29	30	HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #33	12	
	13	12 MERC VAPER LIGHTS VIA CONTACTOR #5 OF SIDES OF UPPER COLLECTOR WAS CIR #37	31	32	SPARE	14	
	15	SIGN LIGHTING VIA CONTACTOR #4	33	34	HTR ON NORTH SIDE OF COLLECTOR WAS CIR #28	16	
	CIR-17	8 PLANTER LIGHTS VIA CONTACTOR #4	35	36	SPARE	18	
		HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #31	37	38	HTR ON NORTH SIDE OF COLLECTOR WAS CIR #28		HTR
		HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #27	39	40	HTR ON NORTH SIDE OF COLLECTOR	WAS CIR #22	HTR
		HTR ON SOUTH SIDE OF COLLECTOR WAS CIR #29	41	42	HTR ON NORTH SIDE OF COLLECTOR	WAS CIR #24	HTR

CONNECTOR/COLLECTOR MECHANICAL ROOM EXISTING SERVICE PANELS

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CLEVELAND, OHIO



Project Title			
RTA TUNNEL MEMBRANE REPLACEMENT			
Sheet Title			
CONNECTOR-COLLECTOR MECHANICAL ROOM EXISTING SERVICE PANELS			
Designed:	Drawn:	Checked:	Approved:
MM	MM	KCP	KCP
Scale:		Project No.:	
AS SHOWN		198348	
Date:		Sheet:	
FEBRUARY 2024		C-26	



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