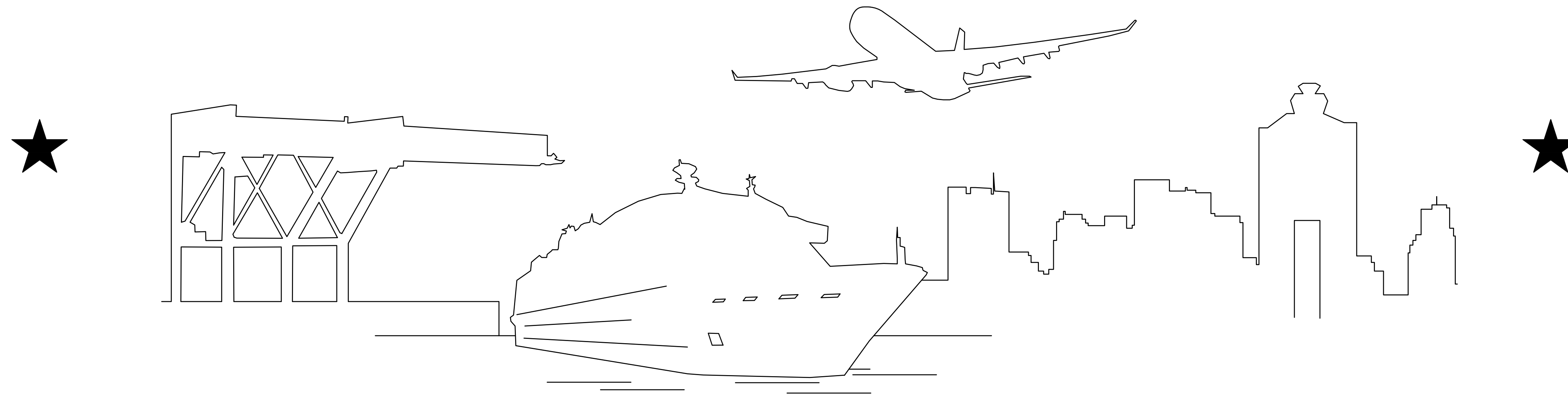


# MASSACHUSETTS PORT AUTHORITY



## REHABILITATE TAXIWAY E FROM TAXIWAY M TO RUNWAY 11-29

### & CONSTRUCT TAXIWAY E5 LAURENCE G. HANSCOM FIELD

BEDFORD, MASSACHUSETTS

MPA PROJECT NO. H296-C1

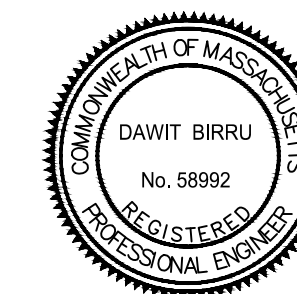
AIP #3-25-003-XXX-2025

MARCH 2025



MASSACHUSETTS PORT AUTHORITY  
CAPITAL PROGRAMS DEPARTMENT  
ONE HARBORSIDE DRIVE, SUITE 209S  
EAST BOSTON, MASSACHUSETTS 02128

MASSACHUSETTS PORT AUTHORITY  
CAPITALS PROGRAM & ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909



CIVIL



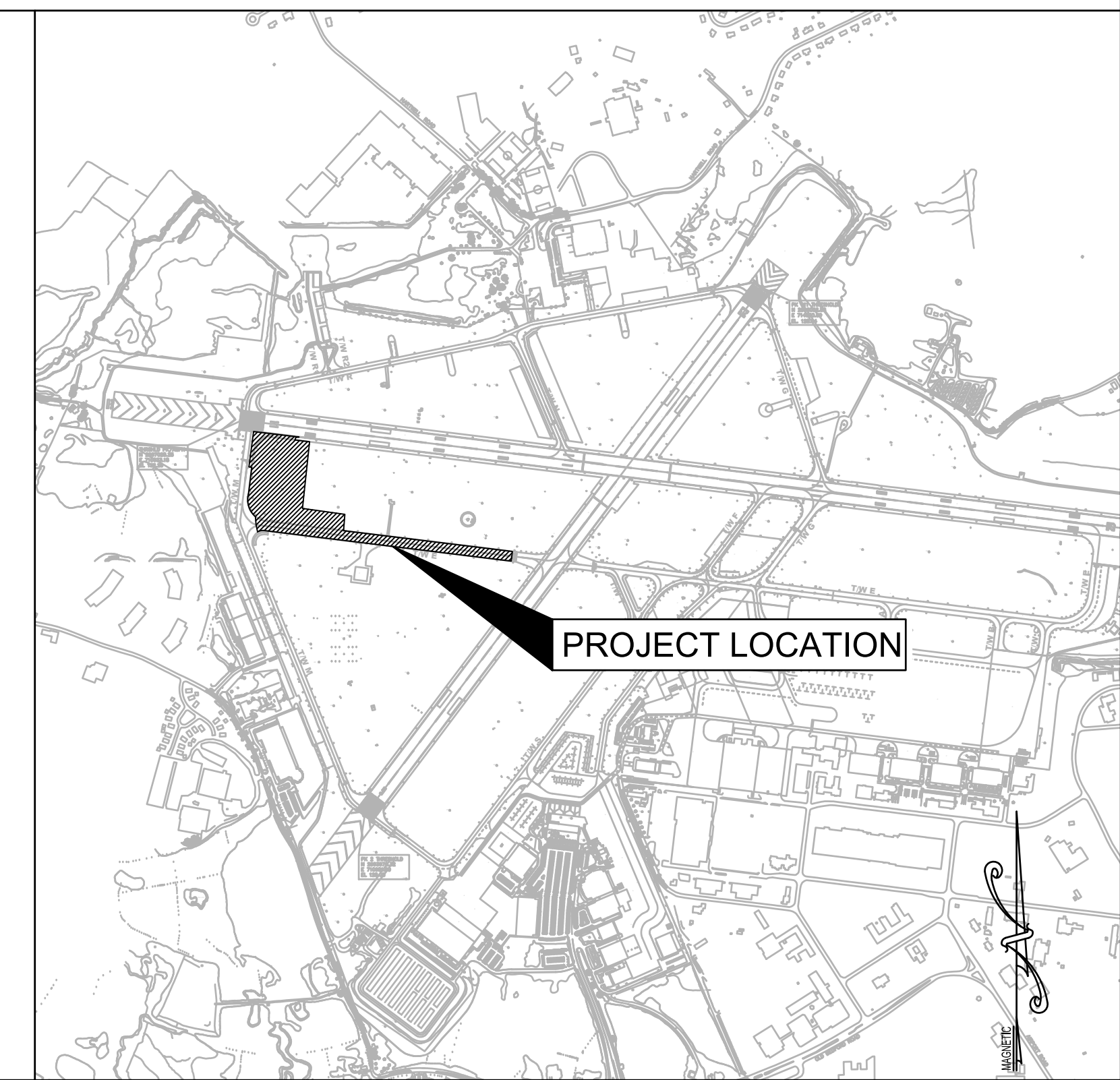
ELECTRICAL

03/21/25

#### LIST OF DRAWINGS:

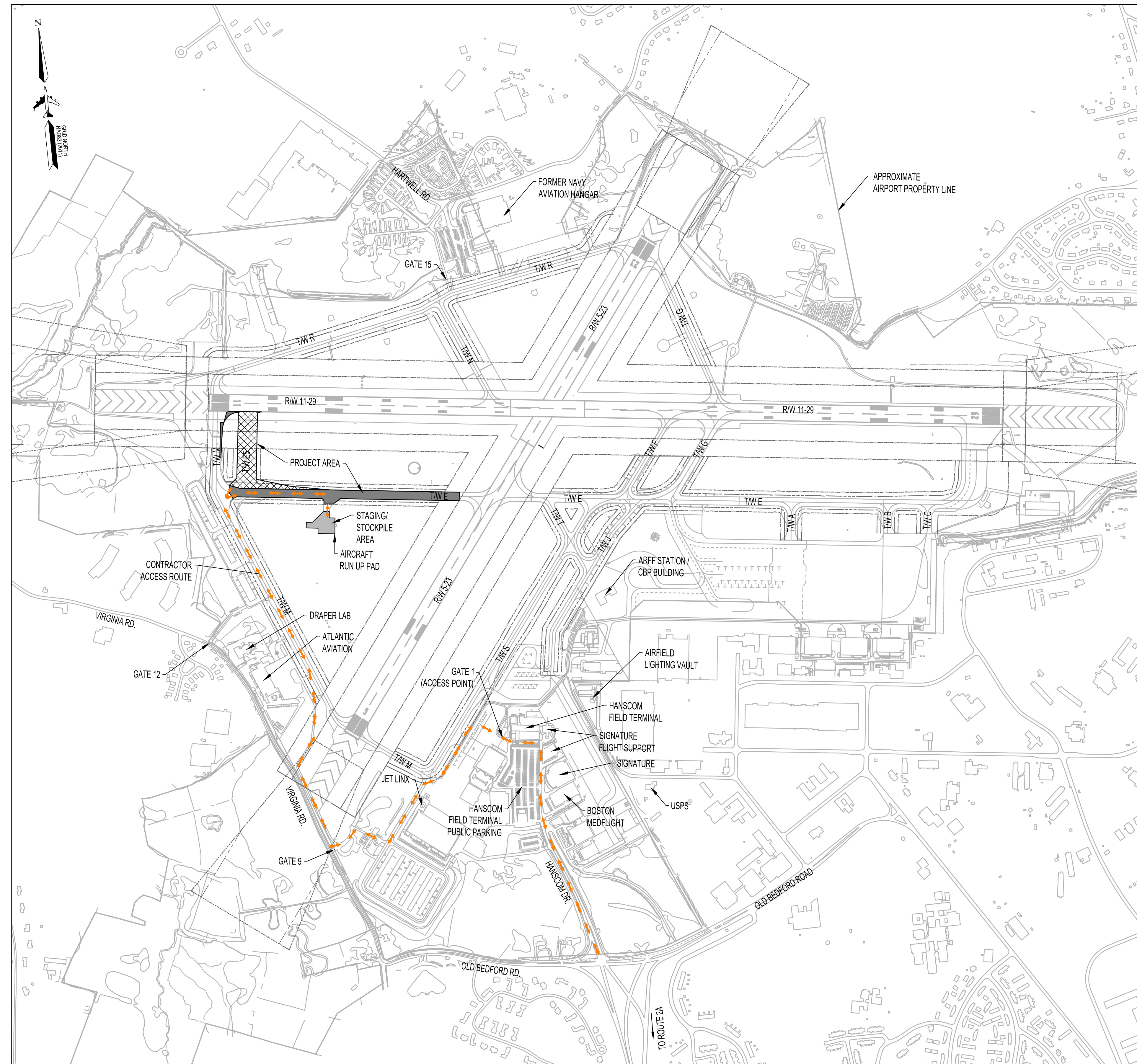
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GENERAL NOTES:

1. SUMMARY OF MAJOR WORK:
  - REHABILITATE TAXIWAY E FROM TAXIWAY M TO RUNWAY 5-23
  - MILLING
  - HOT MIX ASPHALT PAVING
  - BUILD NEW CONNECTION TAXIWAY E5 FROM TAXIWAY E TO RUNWAY 11-29 INCLUDING EARTHWORK AND BASE COURSE PLACEMENT
  - CRACK REPAIR
  - UTILITY ADJUSTMENTS
  - TOPSOIL AND SEEDING
  - PAVEMENT MARKINGS
  - TAXIWAY EDGE LIGHTS, AND CONDUITS INSTALLATION
2. STORMWATER POLLUTION PREVENTION (SWPPP) AND ASSOCIATED EROSION CONTROLS ARE TO BE INSTALLED IN ALL AREAS WITHIN THE LIMIT OF WORK AND STAGING AREA IN ACCORDANCE WITH THE PROJECT SPECIFIC SWPPP PLAN AS DIRECTED BY THE ENGINEER. REFER TO DRAWINGS C601 AND C602 FOR ADDITIONAL INFORMATION RELATING TO EROSION CONTROL.
3. ALL ACCESS TO THE PROJECT AREA SHALL BE AS FOLLOWS:
  - 3.1. GATE 1 SHALL BE UTILIZED FOR TRACK HAULING AND ALL WORK. ADDITIONAL GATE ACCESS SHALL BE REQUESTED AND APPROVED BY AIRPORT OPERATION. THE CONTRACTOR IS HEREBY NOTIFIED OF TRUCKING RESTRICTIONS WHILE LEAVING AIRPORT PROPERTY. TRUCKING OPERATION ROUTE AND SCHEDULE SHALL BE SUBMITTED TO AIRPORT FOR APPROVAL PRIOR TO THE START OF THE WORK.
  - 3.2. ACCESS ROUTES ARE SUBJECT TO CHANGE BASED ON PREVAILING WINDS AND RUNWAY CONFIGURATION IN USE AND ARE DESIGNATED BY HANSCOM OPERATIONS TO AVOID CROSSING OF ACTIVE RUNWAYS AND TO MINIMIZE CROSSING OF ACTIVE TAXIWAYS. USE OF ALTERNATE ACCESS ROUTE(S) SHALL NOT BE CONSIDERED A VALID REASON FOR ANY CLAIM FOR EXTRA TIME OR COMPENSATION.
  - 3.3. REFER TO THE G101 SERIES FOR INDIVIDUAL PHASE DRAWINGS SHOWING ANTICIPATED ACCESS ROUTES SPECIFIC TO EACH PHASE.
  - 3.4. CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT EXISTING AIRFIELD LIGHTING & SIGNAGE SYSTEMS FROM DAMAGE WHEN EMPLOYEES AND EQUIPMENT ACCESS (TO/FROM) THE WORK AREAS. DAMAGE TO ANY EXISTING LIGHTING OR SIGNAGE CAUSED BY THE CONTRACTOR'S PERSONNEL AND EQUIPMENT SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR IN CONSULTATION WITH AIRPORT OPERATIONS TO THE RPR'S SATISFACTION AT NO COST TO THE AUTHORITY.
4. NO TRENCH SHALL BE BACKFILLED UNTIL ALL EXPOSED UTILITIES ARE RECORDED BY ELECTRONIC SURVEY EQUIPMENT AND INSPECTED AND VERIFIED BY MASSPORT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RECORD LOCATIONS OF EXPOSED UTILITIES AND ENSURE TRENCH SAFETY.
5. CONSTRUCTION SIGNS SHALL BE LOCATED AT THE WORK AREA ACCESS/EGRESS POINTS. THERE SHALL BE NO SEPARATE PAYMENT FOR PROVIDING, MAINTAINING, RELOCATING AND REMOVING THESE SIGNS. REFER TO G101 SERIES FOR ANTICIPATED CONSTRUCTION SIGN PLACEMENT LOCATION.
6. THE CONTRACTOR'S ACCESS/EGRESS HAUL ROUTES, WORK AREAS, INCLUDING BUT NOT LIMITED TO THE AIRPORT VEHICLE ACCESS ROAD, DESIGNATED HAUL ROUTES BY MASSPORT, PUBLIC ROADWAYS, VEHICLE ACCESS ROADS, PARKING LOTS, AIRCRAFT APRONS, TAXIWAYS AND SHOULDERS, RUNWAYS AND OTHER AREAS DETERMINED BY HANSCOM OPERATIONS AND/OR THE RPR, SHALL BE MAINTAINED FREE OF FOREIGN OBJECTS AND DEBRIS (FOD) AT ALL TIMES AND CLEANED AS DIRECTED BY THE ENGINEER AT NO COST TO THE AUTHORITY.
7. ALL WORK WHICH IS WITHIN 250 FEET OF A RUNWAY CENTERLINE SHALL REQUIRE A RUNWAY CLOSURE. ALL WORK WITHIN 85.5' OF A TAXIWAY CENTERLINE SHALL REQUIRE A TAXIWAY CLOSURE OR "WORK IN PROGRESS". ALL RUNWAY AND TAXIWAY CLOSURES SHALL BE COORDINATED IN WRITING WITH HANSCOM OPERATIONS THROUGH THE RPR A MINIMUM OF 48 HOURS IN ADVANCE. CONTRACTOR REQUESTS FOR "WORK IN PROGRESS" WILL BE REVIEWED BY THE RPR AND MASSPORT
8. ALL REQUIRED "WORK IN PROGRESS" OR CLOSURES SHALL BE SUBJECT TO WIND/WEATHER AVAILABILITY AND A RECALL TIME AS APPROVED BY HANSCOM OPERATIONS AND THE RPR. SCHEDULING OF ALL WORK WITHIN THE AIRFIELD OPERATIONS AREA (AOA) SHALL BE COORDINATED IN WRITING WITH HANSCOM OPERATIONS THROUGH THE RPR A MINIMUM OF 48 HOURS IN ADVANCE.
9. WHEN WORKING UNDER A "WORK IN PROGRESS", ALL ADJACENT PAVEMENTS SHALL REMAIN AVAILABLE FOR AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL CONDUCT ALL CONSTRUCTION ACTIVITIES IN A MANNER SUCH THAT NO INTERFERENCE WITH AIRCRAFT OPERATION OCCURS. THE CONTRACTOR SHALL BE PREPARED AND IS REQUIRED TO RELOCATE PERSONNEL AND EQUIPMENT TO THE LIMIT OF THE TAXIWAY OBJECT FREE AREA (85.5' FROM THE TAXIWAY CENTERLINE) TO ALLOW SAFE AND UNIMPEDED MOVEMENT OF ALL TAXIING AIRCRAFT.
10. CONTRACTOR IS ADVISED THAT OTHER AIRFIELD PROJECTS MAY BE CONSTRUCTED CONCURRENTLY WITH THIS PROJECT. REFER TO CONTRACT SPECIFICATION DIVISION I, ARTICLE 31 REGARDING COOPERATION BETWEEN ADJACENT AND/OR CONCURRENT CONTRACTS. COORDINATION BETWEEN CONTRACTS FOR SCHEDULING, CONSTRUCTION PHASING, AND CONSTRUCTION ACCESS SHALL BE DONE THROUGH HANSCOM OPERATIONS AND THE RPR.
11. ALL SURVEY LAYOUT REQUIRED SHALL BE PERFORMED BY THE CONTRACTOR'S PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS. ALL COSTS ASSOCIATED WITH SURVEY LAYOUT AND AS-BUILT DOCUMENTATION SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
12. REFER TO DRAWING G002 AND G101 FOR ADDITIONAL NOTES PERTAINING TO CONSTRUCTION SAFETY AND PHASING.
13. REFER TO G101 SERIES DRAWINGS FOR DETAIL OF INDIVIDUAL PHASES.
14. AIRFIELD PAVEMENTS (INCLUDING HAUL ROUTES) NOT CONSIDERED FOR REHABILITATION UNDER THIS PROJECT SHALL BE PROTECTED FROM CONSTRUCTION EQUIPMENT BY THE CONTRACTOR. ANY DAMAGE TO SUCH PAVEMENT SURFACES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO MASSPORT. THE CONTRACTOR SHALL VIDEO RECORD THE EXISTING ON-AIRPORT PCC AND BITUMINOUS PAVEMENT PRIOR TO COMMENCEMENT OF WORK. A COPY OF THE VIDEO SHALL BE PROVIDED TO MASSPORT CAPITAL PROGRAMS PRIOR TO COMMENCEMENT OF WORK. ALL THERMOPLASTIC AND REGULAR MARKINGS BEING DRIVEN OVER SHALL BE PROTECTED AND REPAIRED IF DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST. THERMOPLASTIC MARKINGS MUST BE COVERED BY A METHOD APPROVED BY THE RPR, INCLUDING BUT NOT LIMITED TO 1/2" PLYWOOD.
15. THE CONTRACTOR IS NOTIFIED TO CONSIDER ONGOING PROJECTS IN AND AROUND THE AIRPORT. TEMPORARY DELAYS RESULTING FROM TRAFFIC OPERATIONS ASSOCIATED WITH CONSTRUCTION WILL NOT BE CONSIDERED AS A CAUSE FOR ADDITIONAL COMPENSATION.
16. THE CONTRACTOR IS ADVISED THAT THIS PROJECT IS WITHIN THE BOUNDARIES OF A CERCLA / SUPERFUND SITE. THE CONTRACTOR SHALL COMPLY WITH THE REQUIRED PROTOCOLS OUTLINED IN DIVISION IIB, APPENDIX O REGARDING COMPLIANCE WITH ALL REQUIREMENTS THEREIN.



17. ANY COST ASSOCIATED WITH UPDATES TO AIRFIELD LIGHTING CONTROL MONITORING SYSTEM (ALCMS)/TOUCH SCREEN TO SHOW THE PROPOSED TAXIWAY E5 CONCURRENT WITH THE COMPLETION OF PHASE 3 SHALL PAID UNDER ITEM L-100.01 AS AN ALLOWANCE.

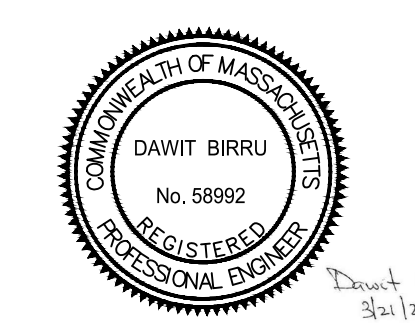


MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
PROJECT SUBMISSION PHASE: BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**GENERAL PLAN & NOTES**

DISCIPLINE:  
GENERAL

DRAWN BY:	CHECKED BY:	APPROVED BY:
DB	SD/SF	RL

SCALE:  
1" = 500'

DATE:  
MARCH 2025

SHEET NUMBER:  
2 OF 44

DWG NUMBER:  
**G-001**

**A. SAFETY PLAN:**

- THE CONTRACTOR SHALL DEVELOP AND SUBMIT A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) A MINIMUM OF TWO WEEKS PRIOR TO THE ISSUANCE OF A NOTICE TO PROCEED. ANY DELAY IN THE ISSUANCE OF THE NOTICE TO PROCEED DUE TO FAILURE BY THE CONTRACTOR TO SUBMIT AN APPROVED SPCD WILL NOT BE GROUNDS FOR ANY CONTRACT TIME EXTENSIONS OR PROJECT PHASING MODIFICATION.
- THE SPCD SHALL DEMONSTRATE HOW THE CONTRACTOR WILL COMPLY WITH THE FAA APPROVED "CONSTRUCTION SAFETY AND PHASING PLAN" (CSPP). THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE OF THE REQUIREMENTS AND PROCEDURES OF THE CSPP FAA ADVISORY CIRCULAR 150/5370-2 (CURRENT EDITION), AND THE APPROVED CSPP AND INCORPORATE THESE ITEMS INTO THE SPCD. THE SPCD SHALL BE MODIFIED AND UPDATED AS REQUIRED TO ADDRESS EACH PHASE AND/OR SUBPHASE AS WORK PROGRESSES. THE SPCD SHALL INCLUDE, BUT IS NOT LIMITED TO:
  - STATEMENT CERTIFYING COMPLIANCE WITH APPROVED CSPP AND SPCD UNLESS WRITTEN APPROVAL RECEIVED FROM HANSCOM OPERATIONS
  - DESIGNATION OF A DEDICATED POINT OF CONTACT FOR SPCD COMPLIANCE
  - 24 HOURS / 7 DAYS PER WEEK EMERGENCY CONTACT PROCEDURES
  - WORK SCHEDULING, COORDINATION, AND NOTIFICATION PROCEDURES OF CONSTRUCTION ACTIVITY
  - PROTECTION OF UTILITIES, NAVAIDS, AND NAVAID CRITICAL AREAS
  - METHODS AND REQUIREMENTS FOR SEPARATING CONSTRUCTION AREAS FROM AIRFIELD OPERATION AREAS (AOA)
  - LOW PROFILE CONSTRUCTION BARRICADE PLACEMENT LOCATIONS, AND TEMPORARY SIGNAGE LOCATIONS
  - WORK AREA ACCESS, HAUL ROUTES, AND PARKING PROCEDURES
  - EQUIPMENT/MATERIALS STOCKPILE LOCATION REQUESTS
  - CONSTRUCTION VEHICLE REQUIREMENTS, PROCEDURES, AND DRIVER TRAINING FOR OPERATIONS WITHIN MOVEMENT AND NON-MOVEMENT AREAS
  - AIRFIELD COMMUNICATIONS AND EMERGENCY NOTIFICATION PROCEDURES
  - CONTROL OF FOREIGN OBJECT DEBRIS (FOD)
  - PROCEDURES, REQUIREMENTS, AND COORDINATION OF TAXIWAY AND RUNWAY CLOSURES
  - INSPECTION REQUIREMENTS FOR COMPLIANCE TO THE SPCD
  - CONSTRUCTION OPERATIONS ADJACENT TO OR WITHIN SAFETY AREAS, OBJECT FREE AREAS, NAVAID CRITICAL AREAS, AND APPROACH SURFACES. (I.E. GRADING, HAULING MATERIALS, ETC.)
  - CONTRACTOR ACCESS POINTS, VEHICLE CROSSING LOCATIONS, SECURITY FENCING AND GATES, AND EMPLOYEE SECURITY TRAINING.
  - PREVENTING INTERFERENCE WITH ILS CRITICAL AREAS.
- THE CONTRACTOR SHALL PROVIDE A COMPETENT SAFETY PERSON (REFER TO DIVISION IIB.43) FAMILIAR WITH AIRPORT SAFETY TO MONITOR CONSTRUCTION ACTIVITIES. THIS INDIVIDUAL SHALL BE RESPONSIBLE FOR MONITORING CONSTRUCTION ACTIVITIES AND PERSONNEL TO ENSURE THAT THEY ADHERE TO THE SAFETY REQUIREMENTS ESTABLISHED BY THE CONTRACT DOCUMENTS, THE SPCD, THE REGULATIONS AND REQUIREMENTS OF THE AIRPORT AND THE FAA, AND OTHER APPLICABLE AGENCIES.
- THE CONTRACTOR SHALL PROVIDE A SINGLE POINT OF CONTACT TO THE OWNER WHO CAN BE CONTACTED AT ANY TIME THROUGHOUT THE COURSE OF THE CONTRACT (24 HOURS A DAY, 7 DAYS A WEEK). THIS INDIVIDUAL SHALL BE CAPABLE OF COORDINATING AN IMMEDIATE RESPONSE TO CORRECT ANY CONSTRUCTION RELATED ACTIVITY THAT MAY ADVERSELY AFFECT THE OPERATIONAL SAFETY OR SECURITY OF THE AIRPORT.

**B. CONSTRUCTION ADJACENT TO OR WITHIN THE AIRFIELD OPERATIONS AREA (AOA):**

- DELINEATION OF CLOSED WORK AREAS SHALL BE AS FOLLOWS:
  - DAILY/NIGHTLY RUNWAY/TAXIWAY CLOSURES (LESS THAN 24 HOURS) SHALL BE DELINEATED WITH LOW PROFILE FLASHER BARRICADES AS SHOWN ON THE DRAWINGS AND AS APPROVED/DIRECTED BY THE RPR AND HANSCOM OPERATIONS.
  - EXTENDED RUNWAY/TAXIWAY CLOSURES (24 HOURS OR MORE) SHALL BE DELINEATED WITH LIGHTED, FRANGIBLE, AND COLLAPSIBLE BARRICADES AND LIGHTED CHANNELIZER CONES AS SHOWN ON THE DRAWINGS AND AS APPROVED/DIRECTED BY THE RPR, MASSPORT CAPITAL PROGRAMS, AND HANSCOM OPERATIONS.
- LIGHTED PORTABLE RUNWAY CLOSURE MARKERS (LIGHTED X'S) ARE REQUIRED FOR ALL RUNWAY CLOSURES 2 HOURS OR LONGER IN DURATION AND THAT HAVE A RECALL TIME OF MORE THAN 1 HOUR. NO SEPARATE PAYMENT WILL BE MADE FOR SUPPLYING, MAINTAINING, INSTALLING, AND REMOVING LIGHTED PORTABLE RUNWAY CLOSURE MARKERS (LIGHTED X'S) AS DEFINED IN DIVISION IIB.58.7. AT THE CONCLUSION OF THE PROJECT, THE LIGHTED PORTABLE RUNWAY CLOSURE MARKERS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- UPON RECEIPT OF A CLOSURE AND BEFORE EQUIPMENT ENTERS THE AIRFIELD, THE WORK AREA SHALL BE SECURED IMMEDIATELY. LIGHTING EQUIPMENT SHALL BE PLACED AS APPLICABLE, AND OPERATIONAL, CLOSURE MARKERS INSTALLED, THE WORK AREA SHALL BE CLEARLY DELINEATED AND ALL SAFETY REQUIREMENTS SHALL BE APPROVED BY THE RPR AND HANSCOM OPERATIONS.
- ALL SAFETY/CONSTRUCTION BARRICADES/LIGHTED CHANNELIZER CONES/RUNWAY CLOSURE MARKERS SHALL BE IN PLACE AND APPROVED BY THE RPR AND HANSCOM OPERATIONS, PRIOR TO COMMENCING CONSTRUCTION OPERATIONS. PLACEMENT OF LIGHTED CHANNELIZER CONES OR BARRICADES SHALL BE COMPLETED IMMEDIATELY AFTER RECEIVING NOTIFICATION OF CLOSURE OF THE WORK AREA. THE RPR, HANSCOM OPERATIONS AND THE CONTRACTOR SHALL INSPECT THE WORK AREA AND VERIFY THAT ALL CONES, BARRICADES AND LIGHTS ARE IN PLACE AND IN WORKING ORDER DURING HOURS OF DARKNESS AND INCLEMENT WEATHER.
- MASSPORT CAPITAL PROGRAMS MAINTAINS A SUPPLY OF CONSTRUCTION BARRICADES FOR CONTRACTOR USE. SHOULD ADDITIONAL CONSTRUCTION BARRICADES BE REQUIRED AN ALLOWANCE HAS BEEN PROVIDED FOR THEIR PURCHASE. ALL SUCH PURCHASES SHALL BE APPROVED IN ADVANCE BY MASSPORT CAPITAL PROGRAMS.
- THERE SHALL BE NO SEPARATE PAYMENT FOR PLACING, MAINTAINING AND REMOVAL OF BARRICADES, SIGNS, ETC., REQUIRED BY HANSCOM OPERATIONS, THE RPR, AND/OR MASSPORT CAPITAL PROGRAMS, AT THE COMPLETION OF THE PROJECT ANY NEW BARRICADES AND SIGNS SHALL BECOME THE PROPERTY OF MASSPORT. THE CONTRACTOR SHALL DELIVER AND NEATLY STACK ALL UNITS IN AN AREA DESIGNATED BY THE RPR AND/OR HANSCOM OPERATIONS. ALL BARRICADES AND SIGNAGE TURNED OVER SHALL BE IN WORKING ORDER, INSPECTED AND APPROVED BY THE RPR AND MASSPORT. DAMAGED BARRICADES, SIGNS, ETC., SHALL BE DISPOSED OF OFF-SITE AND REPLACED WITH NEW BARRICADES/SIGNS BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- PRIOR TO PERFORMING NIGHT WORK, CONTRACTOR WILL SUBMIT A LIGHTING PLAN TO THE RPR FOR APPROVAL BY HANSCOM OPERATIONS AND THE RPR. CONTRACTOR WILL NOT DEVIATE FROM THE APPROVED PLAN AND SHALL DIRECT ALL LIGHT AWAY FROM ADJACENT

- NEIGHBORHOODS, ACTIVE RUNWAYS, AND THE ATCT IN A MANNER THAT DOES NOT INTERFERE WITH THE ATCT AND AIRCRAFT OPERATIONS. THE RPR AND HANSCOM OPERATIONS SHALL APPROVE THE LOCATION AND OPERATION OF ALL LIGHTING EQUIPMENT. CONTRACTOR SHALL SUBMIT A LIGHTING PLAN TO THE RPR FOR APPROVAL PRIOR TO COMMENCEMENT OF NIGHT WORK.
- EQUIPMENT/MATERIAL STOCKPILES SHALL NOT BE PERMITTED WITHIN AOA WORK AREAS UNLESS APPROVED IN WRITING BY HANSCOM OPERATIONS. NO MILLINGS SHALL BE STOCKPILED ON MASSPORT PROPERTY AND SHALL LEAVE THE SITE AS THEY ARE GENERATED. DUST CONTROL IS REQUIRED FOR MATERIAL STOCKPILES.
  - THE CONTRACTOR SHALL NOT LEAVE ANY TRENCHES OR OTHER EXCAVATIONS OPEN AT NIGHT, ON WEEKENDS OR AT OTHER TIMES WHEN THE CONTRACTOR IS NOT ON SITE WITHOUT PRIOR APPROVAL OF THE RPR AND HANSCOM OPERATIONS. ANY TRENCHES/EXCAVATIONS LEFT UNATTENDED SHALL BE ADEQUATELY PROTECTED, MARKED, LIGHTED, AND COORDINATED WITH THE RPR, HANSCOM OPERATIONS AND FIRE/RESCUE.
  - THE CONTRACTOR SHALL ENSURE AT ALL TIMES THAT NO PAVEMENT LIPS OR EDGES EXCEED 2 INCHES WITHIN ACTIVE AIRCRAFT OPERATIONAL AREAS. THE CONTRACTOR SHALL ALSO ENSURE AT ALL TIMES THAT NO SIGN BASES, STRUCTURES OR OTHER APPURTENANCES HAVE EXPOSED LIPS OR EDGES IN EXCESS OF 2 INCHES WITHIN THE SAFETY AREA OF ANY TAXIWAY OR RUNWAY.
  - IN ADDITION TO ALL APPLICABLE OSHA SAFETY REQUIREMENTS ALL PERSONNEL SHALL WEAR APPROPRIATE REFLECTIVE SAFETY VESTS AND HARD HATS AT ALL TIMES WHEN WORKING IN ALL AREAS OF THE AOA.
  - THE CONTRACTOR SHALL COORDINATE AND PARTICIPATE IN A MINIMUM OF ONE 'SAFETY Huddle' AT THE BEGINNING OF EACH WORK SHIFT. SAFETY Huddles SHALL INCLUDE ALL CONTRACTOR AND SUB-CONTRACTOR PERSONNEL AND SHALL AT A MINIMUM REVIEW ; THE DAILY WORK PLAN, LIMITS OF PROPOSED PHASE, HAUL ROUTES, LOCATIONS OF EXISTING UTILITIES/STRUCTURES, ACCESS AND EGRESS POINTS FOR WORK AREA, CURRENT RUNWAY CONFIGURATION, ESCORT PROCEDURES AND ANY OTHER KNOWN HAZARDS. ATTENDEES AT SAFETY Huddle SHALL BE RECORDED BY THE CONTRACTOR AND SUBMITTED TO THE RPR DAILY. MASSPORT CAPITAL PROGRAMS REQUIRES THAT ALL PERSONNEL SHALL ADHERE TO THE 20/20/20 PROCEDURE (TAKE 20 SECONDS EVERY 20 MINUTES TO LOOK 20 FEET AROUND).
  - AIRPORT SECURITY AND SAFETY REQUIREMENTS ARE SUBJECT TO CHANGE. THE CONTRACTOR SHALL IMMEDIATELY ABIDE BY ANY AND ALL CHANGES IN SECURITY AND SAFETY REQUIREMENTS. CHANGES IN SECURITY AND SAFETY REQUIREMENTS WILL NOT BE GROUNDS FOR ANY CONTRACT TIME EXTENSIONS OR COMPENSATION.

**C. CONTRACTOR ACCESS**

- THE CONTRACTOR SHALL BE REQUIRED TO DEVELOP AND SUBMIT AN OPERATIONS PLAN A MINIMUM OF TWO WEEKS PRIOR TO THE ISSUANCE OF A NOTICE TO PROCEED. THE PLAN SHALL DETAIL THE PRECAUTIONS THEY PROPOSE FOR THE CONTROL OF VEHICLE TRAFFIC INCLUDING FLAG PEOPLE, SIGNS, ESCORTS, AND ANY OTHER MEASURES THEY PROPOSE. NO WORK SHALL START UNTIL THE OPERATIONS PLAN IS APPROVED. REFER TO DIVISION IIB OF THE CONTRACT SPECIFICATIONS.
- CONTRACTOR'S VEHICLES WILL NOT BE ALLOWED ACCESS TO PORTIONS OF THE AIRPORT OTHER THAN THE WORK AND STAGING AREAS AND HAUL ROUTES. THE WORK AREA LIMITS SHALL BE DELINEATED ON THE GROUND BY MEANS OF BARRICADES OR OTHER DEVICES APPROVED BY THE RPR. UNSCORTED OR UNAUTHORIZED ENTRY INTO THE MOVEMENT AREAS (RUNWAYS/TAXIWAYS/APRONS) ARE SUBJECT TO LOCAL AND FEDERAL PROSECUTION AND PENALTIES.
- CONTRACTOR'S VEHICLES AND EQUIPMENT MUST AT ALL TIMES GIVE WAY TO AIRCRAFT OPERATIONS, SUPPORT VEHICLES, AND EMERGENCY VEHICLES. THE CONTRACTOR MUST CONDUCT OPERATIONS IN SUCH A MANNER THAT NO INTERFERENCE WITH AIRCRAFT OPERATIONS OCCURS. THE CONTRACTOR SHALL PROVIDE A FULL TIME RADIO ESCORT AT EACH WORK AREA THAT IS BEING WORKED ON WITHIN AN ACTIVE TAXIWAY OBJECT FREE AREA OR AN ACTIVE RUNWAY OBJECT FREE AREA.
- THE CONTRACTOR SHALL OBEY ALL INSTRUCTIONS AS TO THE OPERATION AND ROUTES TO BE TAKEN BY EQUIPMENT TRAVELING ON AIRPORT PROPERTY. ANY SIGNS, LIGHTS, SIGNALS, MARKINGS, TRAFFIC CONTROL AND OTHER DEVICES WHICH MAY BE REQUIRED SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR DURING THE COURSE OF THE WORK, SUBJECT TO THE APPROVAL OF THE RPR. THERE SHALL BE NO SEPARATE PAYMENT FOR PROVIDING, MAINTAINING, RELOCATING AND REMOVING THESE ITEMS.
- EACH CONTRACTOR'S VEHICLE OPERATING IN THE AOA SHALL BE EQUIPPED WITH AN AMBER FLASHING LIGHT AND/OR A 3-FOOT-SQUARE ORANGE & WHITE CHECKERED FLAG, AND THE COMPANY IDENTIFICATION PLAINLY VISIBLE ON BOTH SIDES OF THE VEHICLE IN ACCORDANCE WITH AC 150/5210-5 (CURRENT EDITION). IN ADDITION, THE CONTRACTOR'S ESCORT VEHICLES MUST HAVE AN AMBER FLASHING LIGHT, AN ORANGE/WHITE CHECKERED FLAG, COMPANY IDENTIFICATION, AND THE VEHICLE CALL SIGN PLAINLY VISIBLE ON BOTH SIDES (16" LETTERS) OF THE VEHICLE.
- CONTRACTOR SHALL PROVIDE BADGED ESCORTS TO AND FROM THE WORK AREA FROM GATES APPROVED BY HANSCOM OPERATIONS FOR THE PROJECT. BADGED ESCORTS WILL ESCORT A MAXIMUM OF THREE VEHICLES TO AND FROM THE WORK AREA.
- BADGED ESCORTS ARE REQUIRED TO CARRY A CURRENT LIST OF THE PERSONNEL BEING ESCORTED ON THE PROJECT AND SHALL ALWAYS HAVE THE ESCORTED PERSONNEL WITHIN SIGHT, EARSHOT AND IN CLOSE PROXIMITY (250' OR LESS). ESCORTS SHALL FURTHER BE POSITIONED IN SUCH A MANNER THAT THEY WILL NOT BE REQUIRED TO CROSS ACTIVE TAXIWAYS OR RUNWAYS TO REACH THE PERSONNEL BEING ESCORTED.
- A MINIMUM OF THREE RADIO EQUIPPED CONSTRUCTION SAFETY VEHICLES (ESCORT TRUCKS) MANNED WITH QUALIFIED/BADGED ESCORT PERSONNEL SHALL BE PROVIDED FOR ALL SCHEDULED CONSTRUCTION ACTIVITIES WITHIN THE AOA. A MINIMUM OF THREE OF THE CONTRACTOR'S ESCORT PERSONNEL SHALL POSSESS A MASSPORT CLASS 3 (RED) AERODROME BADGE, MEET ALL MASSPORT SAFETY AND SECURITY REQUIREMENTS AND SHALL MAINTAIN PROPER RADIO PROTOCOL. THE CONTRACTOR SHALL PROVIDE ALL APPROVED VEHICLES, RADIOS, EQUIPMENT, PERSONNEL AND ADVANCED TRAINING FOR THIS PURPOSE.
- IN THE EVENT THAT CONCURRENT ACTIVITIES ON THE AIRFIELD ARE APPROVED, TWO DEDICATED ESCORT DRIVERS HAVING RADIO CONTACT WITH BOTH HANSCOM OPERATIONS AND THE RPR SHALL BE STATIONED AT EACH WORK SITE DURING ALL HOURS WORK IS PROGRESSING. AT NO TIME WILL PERSONNEL BE ALLOWED AT THE WORK SITE WITHOUT THE AVAILABILITY OF FULL TIME TWO-WAY COMMUNICATIONS WITH THE TOWER, HANSCOM OPERATIONS, THE RPR, AND WITH CONTRACTOR'S RESPONSIBLE PERSONNEL ON HAND.
- SECURITY MEASURES AT THE AIRPORT REQUIRE THAT THE CONTRACTOR PARK ONLY THOSE WORK VEHICLES AND EQUIPMENT REQUIRED FOR CONSTRUCTION WITHIN THE SECURED AREAS OF THE AIRPORT AT THE DESIGNATED CONTRACTOR PARKING AREA. CONTRACTOR EMPLOYEE PERSONAL CARS WILL NOT BE PERMITTED WITHIN THE SECURED AREAS OF THE AIRPORT. ARRANGEMENTS FOR TEMPORARY STORAGE AND PARKING OF CONTRACTOR'S TRUCKS, CRANES AND OTHER VEHICLES MUST BE MADE THROUGH THE RPR AND HANSCOM

OPERATIONS. REFER TO SPECIFICATION DIVISION IIB FOR FURTHER REQUIREMENTS RELATED TO PARKING AND ACCESS TO AND FROM THE WORK SITE.

**D. PHASING REQUIREMENTS**

- THE PHASING PLANS HAVE BEEN APPROVED BY HANSCOM OPERATIONS. COMBINING, MODIFYING OR ALTERNATING PHASES IS NOT ALLOWED WITHOUT THE APPROVAL OF HANSCOM OPERATIONS AND THE RPR. STATIONS OF PHASE LIMITS ARE APPROXIMATE. EXACT LIMITS SHALL BE APPROVED IN THE FIELD BY THE RPR.
- THE CONTRACTOR SHALL NOT EXCEED PHASE LIMITS WITHOUT PRIOR APPROVAL FROM HANSCOM OPERATIONS. UNLESS OTHERWISE NOTED, ALL WORK SHOWN IN A DISTINCT PHASE SHALL BE COMPLETED IN ITS ENTIRETY AND ALL WORK ACCEPTED BY THE RPR AND MASSPORT CAPITAL PROGRAMS BEFORE THE NEXT PHASE CAN BE STARTED. PHASES DESIGNATED TO BE WORKED ON CONCURRENTLY, AS INDICATED, SHALL BE COMPLETED AND ACCEPTED WITHIN THE ALLOCATED DURATION FOR EACH PHASE PRIOR TO STARTING THE NEXT PHASE.
- IN ADDITION TO THE 'SAFETY Huddle', COORDINATION MEETINGS WITH THE RPR, HANSCOM OPERATIONS, MASSPORT CAPITAL PROGRAMS AND THE CONTRACTOR WILL BE HELD AT LEAST ONCE PER WEEK TO HELP IN IDENTIFYING LIMITS OF PROPOSED WORK AND SCHEDULE FOR EACH PHASE.
- FORMAL CONSTRUCTION OPERATIONS WITHIN INDIVIDUAL WORK AREAS SHALL BE PERFORMED IN A CONSECUTIVE, SEQUENTIAL MANNER AS REQUIRED PER THE PLANS AND SPECIFICATIONS. HOWEVER, DEPENDING ON WIND AND WEATHER CONDITIONS, THE CONTRACTOR MAY BE ALLOWED BY HANSCOM OPERATIONS TO PERFORM CONSTRUCTION OPERATIONS IN OTHER WORK AREAS OF THE PROJECT, PROVIDED THE PROPOSED ACTIVITIES WILL NOT INTERFERE WITH AIRCRAFT OPERATIONS. THE CONTRACTOR WILL BE REQUIRED TO IMMEDIATELY REMOVE ALL EQUIPMENT AND PERSONNEL FROM THE WORK AREA AND/OR CRITICAL AREAS UPON NOTIFICATION BY THE RPR AND/OR HANSCOM OPERATIONS. THE CONDITION OF THE WORK AREA SHALL MEET THE REQUIREMENTS AS SPECIFIED IN THE CONTRACT DOCUMENTS, THE APPROVED CSPP, OR AS INSTRUCTED BY THE RPR.
- THE CONTRACTOR SHALL SCHEDULE MANPOWER AND EQUIPMENT AS REQUIRED TO COMPLETE ALL SCHEDULED WORK WITHIN THE SPECIFIED TIME FRAMES TO THE FULL COMPLIANCE OF THE CONTRACT DOCUMENTS AND ACCEPTANCE BY MASSPORT.
- CLOSURE OF A DISTINCT PHASE SHALL BE SCHEDULED A MINIMUM OF 48 HOURS PRIOR TO THE SCHEDULED START DAY. FINAL DECISION ON THE AVAILABILITY OF THE PROPOSED WORK AREA WILL BE MADE BY HANSCOM OPERATIONS THROUGH THE RPR A MINIMUM OF 10 HOURS PRIOR TO THE SCHEDULED START. DECISION ON THE AVAILABILITY WILL BE MADE BASED ON WIND/WEATHER AVAILABILITY AND FORECAST OPERATIONS/GATE ASSIGNMENTS. ONCE THE PROPOSED WORK AREA IS MADE AVAILABLE TO THE CONTRACTOR, IT IS EXPECTED THAT THE CONSTRUCTION WILL BE READY AND PREPARED TO COMPLETE THE REQUISITE WORK WITHIN EACH DISTINCT PHASE UNLESS INCLEMENT WEATHER OR OTHER EXTENUATING CIRCUMSTANCES DICTATE OTHERWISE.
- REMOVAL OF TEMPORARY AND EXISTING MARKINGS DURING THE VARIOUS CONSTRUCTION PHASES SHALL BE AS APPROVED/DIRECTED BY THE RPR AND HANSCOM OPERATIONS. THE CONTRACTOR SHALL SURVEY LOCATE ALL PAVEMENT MARKINGS PRIOR TO MILLING PAVEMENT IN A SPECIFIC AREA. PRIOR TO APPLYING PAVEMENT MARKINGS, THE CONTRACTOR'S MARKINGS LAYOUT SHALL BE APPROVED BY THE RPR AND HANSCOM OPERATIONS.
- DURING CONSTRUCTION AND AS REQUIRED BY PHASING, THE CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL CONNECTIONS, AS APPROVED/DIRECTED BY MASSPORT ELECTRICAL, THE RPR, AND/OR HANSCOM OPERATIONS TO MAINTAIN ACTIVE THE REMAINING PORTIONS OF THE LIGHTING AND SIGNAGE CIRCUITS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ELECTRICAL PROJECT ITEMS. THE CONTRACTOR SHALL PREPARE A TEMPORARY ELECTRICAL CONNECTIONS PLAN FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
- ALL LIGHTING AND SIGNAGE REMOVED FROM SERVICE DURING A DISTINCT PHASE SHALL BE OPERATIONAL AT THE END OF EACH PHASE OR WHEN THE AREA IS RETURNED TO AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL SCHEDULE AND PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT TO INSURE THESE SYSTEMS ARE FULLY OPERATIONAL WITHIN THE SPECIFIED TIME FRAME.
- THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, BY HANSCOM OPERATIONS AND MASSPORT ELECTRICAL A DETAILED PLAN OF ALL LIGHTING CIRCUITS THEY PROPOSE TO ALTER AND/OR WORK ON IN A PARTICULAR PHASE OR SHIFT. THE PLAN SHALL INCLUDE ALL WORK ASSOCIATED WITH THE LIGHTS AND CIRCUITS AFFECTED AND THE LIGHTS THAT ARE REQUIRED TO REMAIN OPERATIONAL FOR THE DURATION OF THE PHASE OR SHIFT.
- WHEN THE CONTRACTOR IS PERFORMING LIGHT ADJUSTMENTS, THE APPROPRIATE CIRCUIT SHALL BE RENDERED ENTIRELY OUT OF SERVICE, THE CIRCUIT SHALL BE LOCKED OUT, TAGGED AND SECURED AT THE ELECTRICAL VAULT IN ACCORDANCE WITH MASSPORT'S LOCK-OUT/TAG-OUT PROCEDURE. FOR EACH CIRCUIT THAT IS RENDERED OUT OF SERVICE, THE CONTRACTOR SHALL LEAVE ALL ISOLATION TRANSFORMERS IN PLACE AND PROTECT SECONDARY CABLE WITH ELECTRICAL TAPE.
- ANY CASE IN WHICH THE HANSCOM OPERATIONS/RPR REQUIRES A PORTION OF A LIGHTING CIRCUIT TO REMAIN IN SERVICE WHILE PERFORMING LIGHT ADJUSTMENTS, ISOLATION TRANSFORMERS SHALL BE REMOVED FROM THE PRIMARY CIRCUIT AND THE PRIMARY CIRCUIT RECONNECTED TO ALLOW FOR UNINTERRUPTED SERVICE TO REMAINING LIGHTS. ALL RE-CONNECTIONS OF THE PRIMARY CIRCUIT SHALL BE WATERPROOF AND IN ACCORDANCE WITH INDUSTRY STANDARDS.
- PAVEMENT MARKINGS SHALL BE APPLIED WITH TWO COATS OF PAINT (SEE CONTRACT SPECIFICATION SECTION P-620 FOR FURTHER INFORMATION). THE FIRST COAT (INITIAL MARKINGS) SHALL BE APPLIED PRIOR TO EACH PHASE OPENING TO AIRCRAFT TRAFFIC. THE SECOND COAT (FINAL MARKINGS) OF PAINT SHALL BE APPLIED 30 DAYS AFTER PAVEMENT PLACEMENT AND AFTER GROOVING HAS BEEN COMPLETED, AND PRIOR TO FINAL ACCEPTANCE WITH APPROVAL OF THE RPR.
- PRIOR TO THE START OF AN EXTENDED CLOSURE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE FAA, HANSCOM OPERATIONS, MASSPORT CAPITAL PROGRAMS, THE RPR, AN ANTICIPATED SCHEDULE FOR WORK REQUIRING AN FAA NAVAID SHUTDOWN (INCLUDING BUT NOT LIMITED TO: GLIDESLOPE, LOCALIZER, PAPI, AND REILS). ALL NAVAID SHUTDOWNS SHALL BE COORDINATED THROUGH MASSPORT CAPITAL PROGRAMS, HANSCOM OPERATIONS AND SHALL BE COMPLETED BY THE FAA PRIOR TO THE START OF WORK. AT LEAST 30 DAY NOTICE IS REQUIRED FOR COORDINATING FAA NAVAID SHUTDOWN. FAILURE TO PROVIDE 30 DAY NOTICE WILL NOT BE GROUNDS FOR ANY CONTRACT TIME EXTENSIONS OR COMPENSATION.
- ALL WORK WITHIN 85.5 FEET OF AN ACTIVE TAXIWAY CENTERLINE REQUIRES A CLOSURE OR CAUTION. ALL TAXIWAY CLOSURES OR CAUTIONS SHALL BE COORDINATED IN WRITING WITH THE RPR AND HANSCOM OPERATIONS 48 HOURS IN ADVANCE OF COMMENCING PROPOSED WORK.

- TEMPORARY TAXIWAY CLOSURES OR CAUTIONS ARE SUBJECT TO WIND/WEATHER AVAILABILITY AND ARE SUBJECT TO A RECALL OF 15 MINUTES FOR SURVEY AND 2 HOURS FOR SURFACE REPAIR FOR CONSTRUCTION CLOSURE.
- ADDITIONAL PHASING REQUIREMENTS ARE NOTED THROUGHOUT THE G-SERIES DRAWINGS.

**E. MAINTENANCE OF CONSTRUCTION SITE AND DUST CONTROL.**

- PRIOR TO THE COMMENCEMENT OF THE PROJECT, ALL CONTRACTOR(S) AND SUBCONTRACTOR'S PERSONNEL SHALL ATTEND A FOREIGN OBJECT DEBRIS (FOD) AND SAFETY PRESENTATION BY HANSCOM OPERATIONS. ALL ATTENDEES WILL BE REQUIRED TO UNDERSTAND AND COMPLY WITH MASSPORT SAFETY AND SECURITY REQUIREMENTS.
- THE CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE FREE OF PAPER, BOXES, LITTER, AND ALL OTHER DEBRIS SUCH AS POORLY DISPOSED FOOD WHICH COULD BE BLOWN ONTO THE AOA, AND/OR ATTRACT WILDLIFE.
- THE CONTRACTOR SHALL REMOVE ALL DEBRIS IN OR AROUND THE PROJECT AREA AND ALL OTHER AREAS WHERE WORK MAY BE PERFORMED. HAUL ROUTES (AIRSIDE AND PUBLIC), THE CONTRACTOR'S STORAGE/STAGING AREA AND OTHER AREAS AS DESIGNATED BY HANSCOM OPERATIONS & MASSPORT CAPITAL PROGRAMS OR THE RPR ON A DAILY BASIS OR AT ANY TIME REQUESTED BY MPA.
- THE CONTRACTOR SHALL FURNISH ON-SITE AND OPERATE A MINIMUM OF TWO (2) SELF-PROPELLED VACUUM ASSISTED SWEEPERS WITH DEDICATED OPERATORS DURING ALL HOURS OF WORK, UNLESS OTHERWISE APPROVED IN WRITING BY MASSPORT. NO SEPARATE PAYMENT SHALL BE MADE FOR FURNISHING AND OPERATING SELF PROPELLED VACUUM ASSISTED SWEEPERS. COST SHALL BE INCIDENTAL TO THE CONTRACT.
- THE OPERATIONS OF THE RUNWAYS, TAXIWAYS, APRONS, AND ASSOCIATED NAVAIDS ARE ESPECIALLY SENSITIVE TO DUST. THE RPR AND HANSCOM OPERATIONS RESERVES THE RIGHT TO STOP CONSTRUCTION, HAULING, OR OTHER WORK IF NECESSARY TO BRING CONTRACTOR GENERATED DUST UNDER CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL WITHIN THE CONSTRUCTION LIMITS AS WELL AS ALONG ANY AIRPORT OR PUBLIC ROADWAYS USED BY HIS EQUIPMENT AND VEHICLES. FAILURE TO CONTROL THESE ITEMS SHALL RESULT IN SUSPENSION OF PROJECT WORK. SMOKING, BURNING AND/OR OPEN FLAMES SHALL NOT BE PERMITTED BY THE CONTRACTOR WITHIN THE AIRPORT PROPERTY. NO ADDITIONAL COMPENSATION OR TIME SHALL BE MADE TO THE CONTRACTOR SHOULD LOSS OF PRODUCTIVITY OR DOWN TIME OCCUR AS A RESULT OF THE RPR AND/OR HANSCOM OPERATIONS LIMITING OR SUSPENDING WORK BECAUSE OF THE CONTRACTOR'S FAILURE TO CONTROL DUST OR DEBRIS. AT A MINIMUM THE CONTRACTOR SHALL PROVIDE A WATER TRUCK AND APPLY WATER FOR DUST CONTROL AS NECESSARY. ADDITIONAL MEASURES MAY BE REQUIRED AS DIRECTED BY THE RPR. NO SEPARATE PAYMENT SHALL BE MADE FOR FURNISHING WATER AND OPERATING WATER TRUCKS. COST SHALL BE INCIDENTAL TO THE CONTRACT.

**F. UNDERGROUND UTILITIES AND TRENCHING**

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT LOCATIONS AND/OR ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORD DRAWINGS AND WERE FIELD SURVEYED BY MASSPORT SURVEY FOR CONFIRMATION ONLY WHERE POSSIBLE. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING COMPLETE OR EXACT AND THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION PRIOR TO COMMENCEMENT OF THE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RPR AND MASSPORT CAPITAL PROGRAMS IN WRITING OF ANY DISCREPANCY DISCOVERED DURING FIELD VERIFICATION, AND SURVEYED LOCATIONS OF THESE DISCOVERIES SHALL BE REPRESENTED IN AN AUTOCAD FILE TO BE DELIVERED TO MASSPORT SURVEY.
- THE CONTRACTOR SHALL PROVIDE A QUALIFIED UTILITY LOCATING SERVICE TO LOCATE/VERIFY UTILITY LOCATIONS PRIOR TO COMMENCING EXCAVATION. REFER TO DIVISION IIB OF THE CONTRACT SPECIFICATIONS. ALL EXISTING UTILITIES IN THE VICINITY OF ANY EXCAVATION SHALL BE CLEARLY MARKED ON THE GROUND BY THE CONTRACTOR PRIOR TO BEGINNING EXCAVATION. ALL SUCH MARKINGS SHALL BE SURVEYED, VERIFIED IF UNCOVERED DURING CONSTRUCTION, AND REPRESENTED IN AN AUTOCAD FILE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AIRFIELD ACCESS, THROUGH THE RPR, AND COMPLETING UTILITY LOCATING PRIOR TO THE START OF PHASED CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL HAND DIG OR VACUUM EXCAVATE WHEN WITHIN THREE (3) FEET OF ANY KNOWN OR SUSPECTED UNDERGROUND UTILITY. THERE SHALL BE NO ADDITIONAL COMPENSATION FOR HAND EXCAVATION OR VACUUM EXCAVATION. IT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PROJECT ITEMS.
- ANY UNDERGROUND UTILITIES DAMAGED BY CONTRACTOR OPERATIONS SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR IN CONSULTATION WITH HANSCOM OPERATIONS TO THE RPR'S SATIFICATION AT NO COST TO THE CONTRACTOR.
- THE CONTRACTOR SHALL PERFORM AN AIRFIELD LIGHTING CHECK IN THE PRESENCE OF HANSCOM OPERATIONS PRIOR TO THE COMPLETION OF EACH WORK SHIFT TO VERIFY THAT THE LIGHTING SYSTEM AND NAVAIDS ARE OPERATIONAL.
- THE CONTRACTOR SHALL SUBMIT A MASSPORT TRENCH PERMIT APPLICATION A MINIMUM OF 2 WEEKS PRIOR TO ANY EXCAVATION. LENGTH OF OPEN TRENCH LEFT BETWEEN WORK SHIFTS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND IN NO CASE SHALL EXCEED 300 FEET WITHOUT THE APPROVAL OF MASSPORT CAPITAL PROGRAMS. ALL TRENCHES AND EXCAVATIONS WITHIN 125 FEET OF TAXIWAY CENTERLINES SHALL BE BACKFILLED AT THE END OF THE WORK SHIFT, AND/OR WHEN ADJACENT TAXIWAY IS BEING RETURNED TO SAFE AIRCRAFT OPERATIONS.
- THE CONTRACTOR SHALL COORDINATE ALL WORK ON AND IN THE VICINITY OF THE UNDERGROUND UTILITIES AND CABLES WITH THE FOLLOWING AGENCIES AS APPROPRIATE:
  - MASSPORT FACILITIES/ELECTRICAL - CONTACT (RALPH VISCONTI)
  - LOCAL FEDERAL AVIATION ADMINISTRATION - CONTACT (MR. JIM CAULFIELD)
  - CONTRACTOR SHALL PROVIDE MASSPORT CAPITAL PROGRAMS WITH RECORDS OF COORDINATION PRIOR TO COMMENCING WITH EXCAVATION.
  - CONTACT INFORMATION IS LOCATED IN APPENDIX B: EMERGENCY CONTACTS OF THE CONSTRUCTION SAFETY AND PHASING PLAN DOCUMENT
- PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL MEET WITH LOCAL FAA TECH OPS TO DETERMINE IF ANY CRITICAL FAA INFRASTRUCTURE RUNS THROUGH THE AREA OF EXCAVATION AND IT SHALL BE PROPERLY LOCATED IN A SAFE MANNER AS APPROVED BY THE ENGINEER.



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

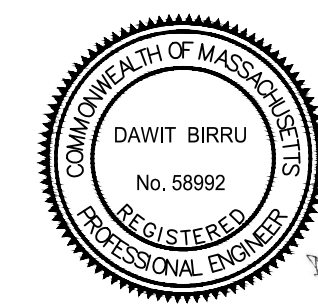
PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: **H296-C1** LOCATION CODE: **3540**

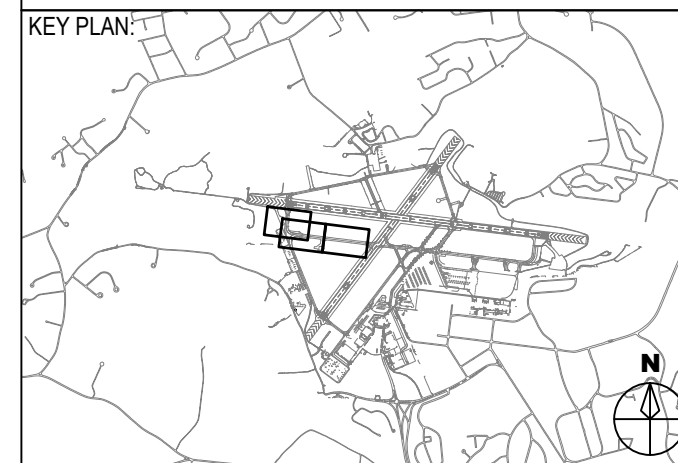
PROJECT SUBMISSION PHASE:

**BID SET**

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:

CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
**REHABILITATE TAXIWAY E**  
**FROM TAXIWAY M TO**  
**RUNWAY 11-29 &**  
**CONSTRUCT TAXIWAY E5**

SHEET TITLE:

**PHASING & SAFETY PLAN**  
**NOTES**

DISCIPLINE:

**GENERAL**

DRAWN BY: **DB** CHECKED BY: **SD/SF** APPROVED BY: **RL**

SCALE: **NOT TO SCALE** DATE: **MARCH 2025**

SHEET NUMBER: **3** OF 44 DWG NUMBER: **G-002**

2025 PROJECT SCHEDULE														
PHASE	DURATION CALENDAR DAYS	PROJECT DURATION												
		BEFORE NTP	08/04 - 08/10	08/11 - 08/17	08/18 - 08/24	08/25 - 08/31	09/01 - 09/07	09/08 - 09/14	09/15 - 09/21	09/22 - 09/28	09/29 - 10/05			
1	20D		← 20 CALENDAR DAYS →											
2	10D			← 10 CALENDAR DAYS →										
FINAL MARKING	30D											FINAL MARKING (TW E)		
CALENDAR DAYS		1	5	10	15	20	25	30	35	40	45	50	55	60
H = HOURS D = DAYS N = NIGHTS		MILESTONE 1												

7/31: END OF BREEDING SEASON

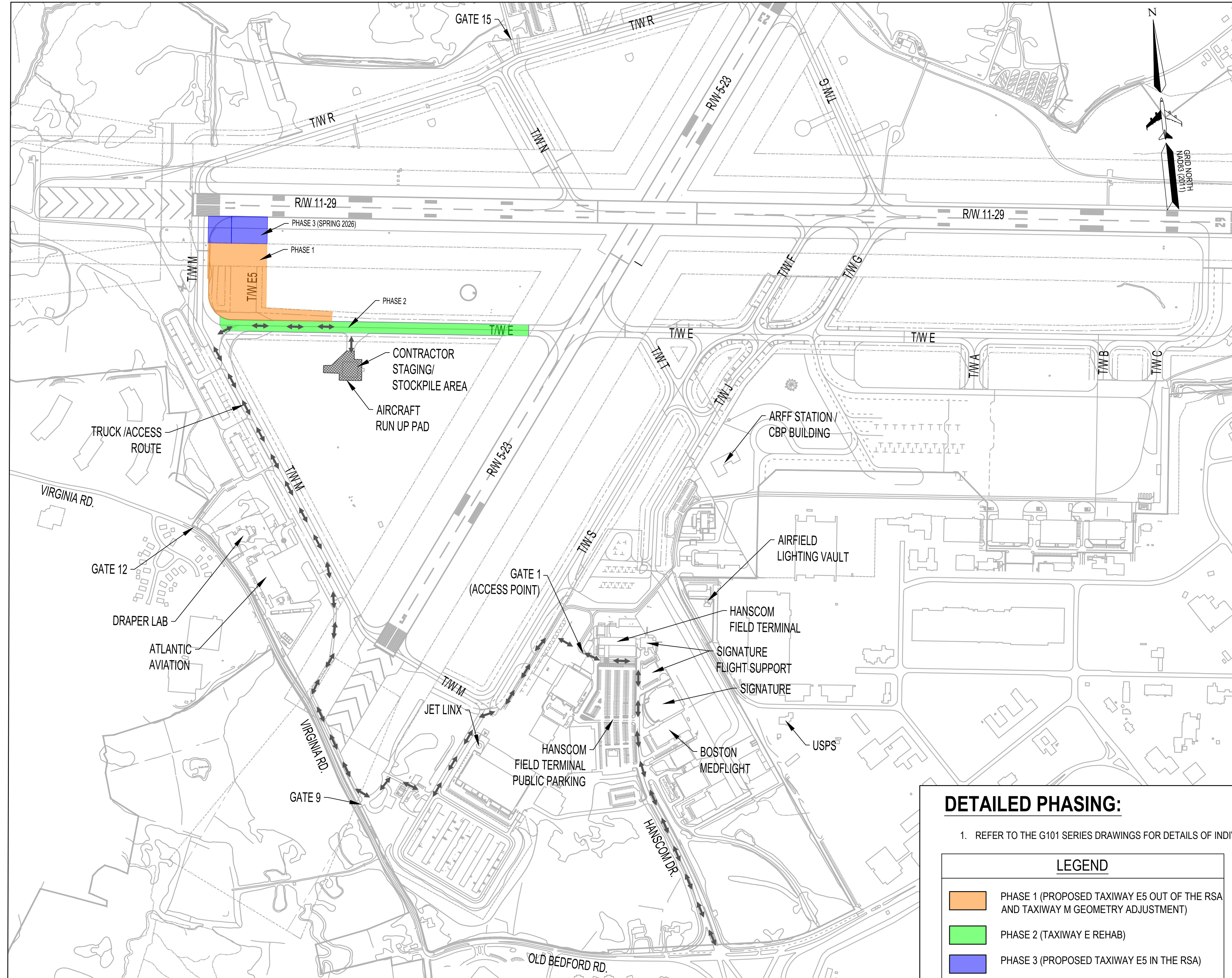
9/2: LABOR DAY

2026 PROJECT SCHEDULE																
PHASE	DURATION CALENDAR DAYS	PROJECT DURATION														
		04/06 - 04/12	04/13 - 04/19	04/20 - 04/26	04/27 - 05/03	05/04 - 05/10	05/11 - 05/17	05/18 - 05/24	05/25 - 05/31	06/01 - 06/07	06/08 - 06/14	06/15 - 06/21				
3	41N & W	← NIGHTLY & WEEKEND CLOSURE RW 11-29 →														
FINAL MARKING	5D												FINAL MARKING (TW E5)			
CALENDAR DAYS		1	5	10	15	20	25	30	35	40	45	50	55	60	65	70
H = HOURS W = WEEKENDS N = NIGHTS		MILESTONE 2														

2026 SPRING

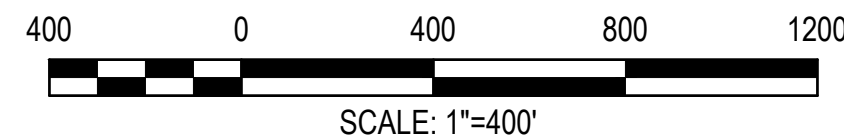
5/25: MEMORIAL DAY

10/19: JUNETEENTH



**OVERALL PHASING**

SCALE: 1" = 400'



SCALE: 1" = 400'

**DETAILED PHASING:**

- REFER TO THE G101 SERIES DRAWINGS FOR DETAILS OF INDIVIDUAL PHASES.

LEGEND	
	PHASE 1 (PROPOSED TAXIWAY E5 OUT OF THE RSA AND TAXIWAY M GEOMETRY ADJUSTMENT)
	PHASE 2 (TAXIWAY E REHAB)
	PHASE 3 (PROPOSED TAXIWAY E5 IN THE RSA)
	CONTRACTOR STAGING AREA

**WORKING HOURS:**

- DAYS (D): MONDAY TO FRIDAY 7:00 AM TO 3:30 PM
- NIGHTS (N): MONDAY TO FRIDAY 10:00 PM TO 6:00 AM
- WEEKEND (W): FRIDAY 10:00 PM TO SUNDAY 3:30 PM

**WORK SCHEDULE:**

ALL WORK MUST PROGRESS WITHIN THE ALLOWABLE WORK HOURS STATED WITHIN THE PHASING PLANS. FORECAST WIND AND WEATHER CONDITIONS WILL BE MONITORED CONTINUALLY, AND CONSTRUCTION SCHEDULES MODIFIED APPROPRIATELY. WORK MAY BEGIN ON ANY DAY OF THE WEEK UPON APPROVAL BY THE RPR, HANSCOM OPERATIONS AND MASSPORT CAPITAL PROGRAMS.

**MILESTONE 1: 30 CALENDAR DAYS**

- PHASE 1 MUST BE COMPLETED WITHIN 20 CALENDAR DAYS OF THE CONSTRUCTION NOTICE TO PROCEED.
- PHASE 2 MUST BE COMPLETED WITHIN 10 CALENDAR DAYS OF THE CONSTRUCTION NOTICE TO PROCEED.
- AFTER 30 DAYS CURING, FINISH FINAL PAVEMENT MARKING FOR TAXIWAY E AND TAXIWAY M. ANY CLOSURE TO FINISH THIS WORK WILL NEED TO BE COORDINATED WITH AIRPORT OPERATIONS.
- ALL EQUIPMENT, MATERIAL, AND SUPPLIES INTENDED FOR MILESTONE 2 MUST BE REMOVED FROM THE AIRPORT WITHIN 3 DAYS AFTER THE COMPLETION OF MILESTONE 1.

**MILESTONE 2: 41 CALENDAR DAYS (SPRING 2026)**

- PHASE 3 (INCLUSIVE OF ALL LIGHT ADJUSTMENTS) MUST BE COMPLETED WITHIN 36 NIGHT AND 2 WEEKEND RUNWAY CLOSURE, WHICH BEGINS ON THE DAY OF THE CONSTRUCTION NOTICE TO PROCEED. THE NIGHT RUNWAY CLOSURE IS DEFINED AS THE CLOSURE OF THE RUNWAY 11-29 THAT PROHIBITS ALL LANDING AND TAKEOFF OPERATIONS ON THE RUNWAY BETWEEN THE HOURS OF 10:00 PM TO 6:00 AM MONDAY TO FRIDAY. WEEKEND RUNWAY CLOSURES ARE FROM FRIDAY 10:00 PM TO SUNDAY 2:00 PM WHERE LANDING AND TAKEOFF OPERATIONS ON THE RUNWAY 11-29 ARE PROHIBITED.
- AFTER 30 DAYS CURING, FINISH FINAL PAVEMENT MARKING FOR TAXIWAY E5. RUNWAY CLOSURE TO FINISH THIS WORK WILL NEED TO BE COORDINATED WITH AIRPORT OPERATIONS.

SEE SHEETS G101 SERIES FOR ADDITIONAL PHASING DETAILS.

REFER TO DIVISION IIB ARTICLES 4 AND 5 FOR MILESTONES AND LIQUIDATED DAMAGES.

**PHASING NOTES:**

- ANTICIPATED NOTICE TO PROCEED FOR PRE-CONSTRUCTION ACTIVITIES AND MOBILIZATION IS ON OR BEFORE JULY 1, 2025. THIS PERIOD IS INTENDED FOR PRECONSTRUCTION ACTIVITIES INCLUDING; SUBMITTALS & PROCUREMENT OF LONG LEAD ITEMS, PROJECT BADGING, PROJECT SURVEY, SUBSURFACE INVESTIGATION, CONTROL STRIP, ETC. ANTICIPATED **NOTICE TO PROCEED FOR CONSTRUCTION IS JULY 28, 2025**. THE CONTRACTOR SHALL BE PREPARED TO START 5 DAYS BEFORE THE ANTICIPATED START DATE.
- ALL PROJECT COMPONENTS SHALL BE COMPLETED FOR MILESTONE 1 AND 2 AS DESCRIBED ABOVE. THE 30 CALENDAR DAY CURE PERIOD REQUIRED PRIOR TO FINAL PAVEMENT MARKINGS WILL NOT BE COUNTED TOWARD CONTRACT CALENDAR DAYS, PROVIDED THE ENGINEER IS SATISFIED WITH THE SUBSTANTIAL COMPLETION OF PREVIOUS MILESTONES.
- PHASING SHALL PROGRESS IN A SEQUENTIAL MANNER UNLESS OTHERWISE APPROVED/DIRECTED BY THE RPR, MASSPORT CAPITAL PROGRAMS, AND HANSCOM OPERATIONS.
- MASSPORT RESERVES THE RIGHT TO ADJUST PHASE ORDER AND/OR PHASE LIMITS, ON AN AS-NEEDED BASIS, AS DICTATED BY WIND AND WEATHER CONDITIONS, AND TO ACCOMMODATE SAFE AND EFFICIENT AIRPORT OPERATIONS AT NO ADDITIONAL COMPENSATION TO THE CONTRACTOR. THE CONTRACTOR SHOULD ASSUME THAT ALL MILLINGS WILL LEAVE AIRPORT PROPERTY AS THEY ARE GENERATED. THERE IS NO AVAILABILITY FOR STOCKPILE LOCATIONS LANDSIDE OR AIRSIDE ON MASSPORT PROPERTY.
- THE CONTRACTOR SHALL BE PREPARED TO PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT TO PERFORM ALL PROPOSED WORK IN A MANNER THAT WILL ACHIEVE THE QUALITY AND PRODUCTION RATE TO COMPLETE THE PROJECT AS SCHEDULED HEREIN.
- ALL AIRFIELD SIGNS DIRECTING TRAFFIC TO/FROM CLOSED PORTIONS OF RUNWAYS AND TAXIWAYS SHALL BE COVERED DURING EACH RESPECTIVE PHASE AS DIRECTED /APPROVED BY THE RPR, MASSPORT CAPITAL PROGRAMS AND HANSCOM OPERATIONS. SIGNS SHALL BE COVERED MINIMUM 2 MIL THICK BLACK POLY/PLASTIC WITH POLYKEN 510 GAFFERS TAPE (OR APPROVED EQUAL). ALL SIGNS COVERINGS SHALL BE SECURED TO RESIST JET BLAST AND TAPE SHALL BE AS SPECIFIED TO AVOID DAMAGE TO SIGNS/SIGN PANELS. SIGNS WHICH HAVE BEEN COVERED WILL BE CLEANED AT THE END OF THE PROJECT TO REMOVE ANY RESIDUE AS A RESULT OF THE COVERING AT NO ADDITIONAL COST.
- LIGHTING ASSOCIATED WITH CLOSED PORTIONS OF RUNWAYS AND TAXIWAYS SHALL BE DISCONNECTED OR COVERED DURING EACH PHASE AS DIRECTED/APPROVED BY THE RPR, MASSPORT CAPITAL PROGRAMS AND OPERATIONS IN ADVANCE. THE USE OF TEMPORARY JUMPERS SHOULD BE ANTICIPATED TO MAINTAIN PORTIONS OF EXISTING CIRCUITS AND APPROVED BY MASSPORT ELECTRICAL DEPARTMENT. NO SEPARATE PAYMENT WILL BE MADE FOR TEMPORARY JUMPERS.
- COVERING AND UNCOVERING OF SIGNS AND TEMPORARY CIRCUIT CONNECTIONS FOR PHASING SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PROJECT ITEMS.
- FINAL MARKING APPLICATION SHALL BE APPLIED 30 DAYS AFTER PAVEMENT PLACEMENT IS COMPLETED, PRIOR TO FINAL ACCEPTANCE WITH APPROVAL FROM THE RPR AND MASSPORT CAPITAL PROGRAMS.
- ALL WORK WITHIN PHASES 1, AND 2 EXCEPT FOR FINAL MARKINGS MUST BE COMPLETED WITHIN 25 CALENDAR DAYS FROM THE CONSTRUCTION NOTICE TO PROCEED DATE. ALL WORK WITHIN PHASE 3 EXCEPT FOR THE FINAL MARKING MUST BE COMPLETED WITHIN 41 CALENDAR DAYS AS SHOWN ABOVE.



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

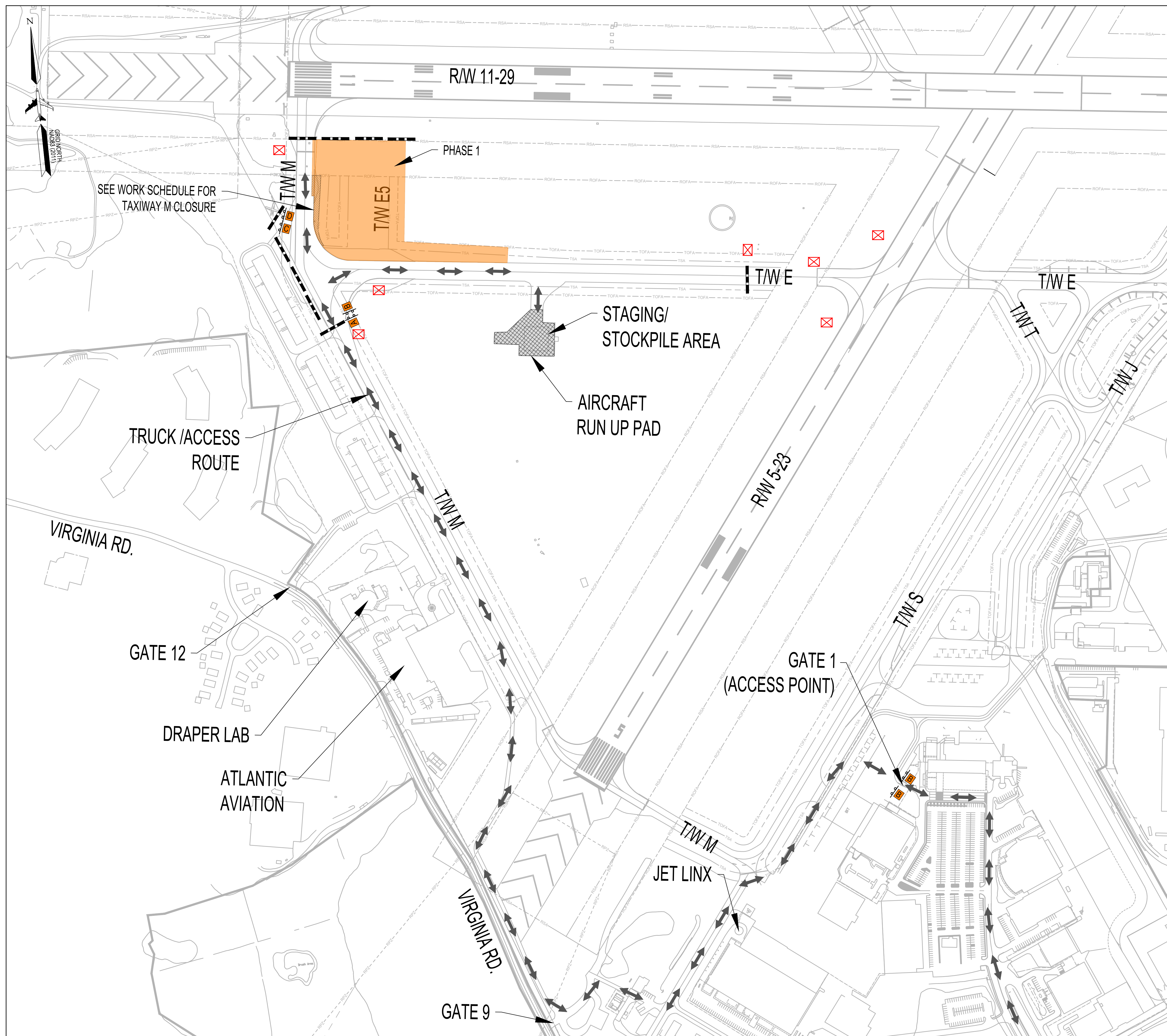
**OVERALL PHASING &  
SAFETY PLAN**

DISCIPLINE:  
GENERAL

DRAWN BY:	CHECKED BY:	APPROVED BY:
DB	SD/SF	RL

SCALE: 1" = 400'  
DATE: MARCH 2025

SHEET NUMBER: 4 OF 44  
DWG NUMBER: G-100



**PHASE 1**  
SCALE: 1" = 200'



**PHASE 1:**

CONSTRUCT PROPOSED TAXIWAY E5 AND TAXIWAY M GEOMETRY ADJUSTMENT

DURATION -  
• 20 CONSECUTIVE CALENDAR DAYS

CLOSURES -  
• TAXIWAY E (RUNWAY 5-23 TO TAXIWAY M)  
• TAXIWAY M ( BETWEEN RUNWAY 11-29 AND TAXIWAY E)

CIRCUIT IMPACTS:  
• TAXIWAY E (RUNWAY 5-23 TO TAXIWAY M)  
• TAXIWAY M (SOUTH OF RUNWAY 11-29)

WORK SCHEDULE:  
• MONDAY TO FRIDAY FROM 7:00 AM TO 3:30 PM  
• ALL WORK WITHIN TAXIWAY M SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS AS PART OF THIS PHASE (PHASE 1).

WORK INCLUDES:  
• CONSTRUCT PROPOSED TAXIWAY E5 PAVEMENT STRUCTURE, INCLUDING PREPPING SITE, EXCAVATION, AND PLACEMENT OF SUITABLE MATERIAL.  
• ADJUST TW M GEOMETRY TO FIT NEW FILLET DESIGN, INCLUDING DEMO EXISTING EDGE OF TAXIWAY AND INSTALL PROPOSED PAVEMENT  
• PAVEMENT PLACEMENT  
• REGRADE SHOULDERS  
• INSTALL AND ADJUST TAXIWAY EDGE LIGHTS  
• PLACEMENT OF LOAM AND SEED  
• INITIAL PAVEMENT MARKING (CENTERLINE, HOLD LINES & HOLD SIGN MARKING)  
• PAVEMENT JOINT SAW AND SEAL.

**ADDITIONAL NOTES:**

1. CONTRACTOR MUST ADHERE TO INSTRUCTION GIVEN BY AIRPORT OPERATION REGARDING THE USAGE OF LOCAL ROADS IN THE VICINITY OF THE AIRPORT.
2. AVAILABILITY OF THE CONTRACTOR'S STAGING AREA IS SUBJECT TO AVAILABILITY AND HANSCOM OPERATIONS APPROVAL. EROSION CONTROL MEASURES SHALL BE INSTALLED AROUND THE PERIMETER OF THE STAGING AREA.
3. THE CONTRACTOR IS RESPONSIBLE FOR ANY MATERIALS REQUIRED TO PROTECT EXISTING AIRFIELD FEATURES IN PLACE, INCLUDING BUT NOT LIMITED TO PLYWOOD TO PROTECT EXISTING RUNWAY HOLD POSITION MARKINGS.

**LEGEND**

- PHASE 1
- CONTRACTOR STAGING AREA
- CONTRACTOR ACCESS ROUTE
- RUNWAY CLOSURE MARKER
- LOW PROFILE BARRICADE
- COVERED SIGN 2  
G201

**SIGN LEGEND**

- ACCESS WORK AREA HERE 3A  
G201
- STOP WAIT FOR ESCORT 3B  
G201
- 3C  
G201
- 3D  
G201
- LEFT TURN ONLY 3E  
G201



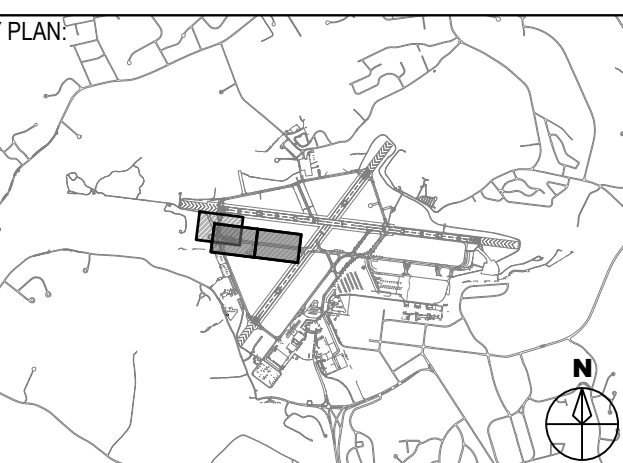
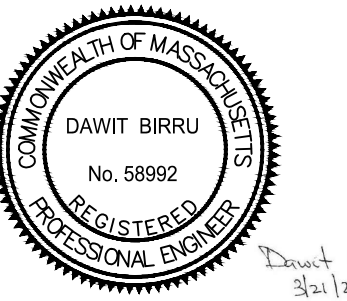
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: **H296-C1** LOCATION CODE: **3540**  
PROJECT SUBMISSION PHASE:

**BID SET**

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

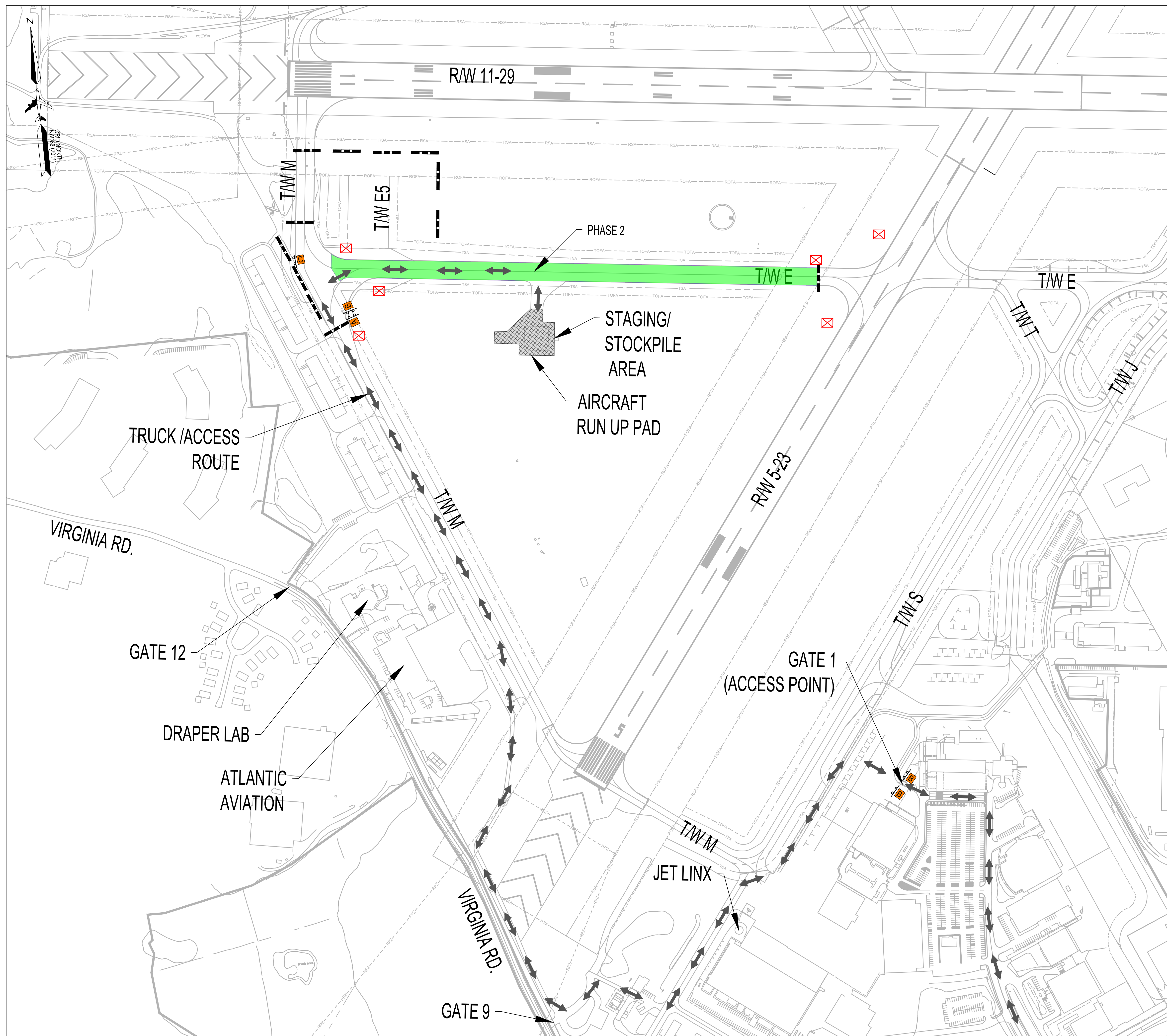
SHEET TITLE:  
**PHASING & SAFETY PLAN -  
PHASE 1**

DISCIPLINE:  
**GENERAL**

DRAWN BY: <b>DB</b>	CHECKED BY: <b>SD/SF</b>	APPROVED BY: <b>RL</b>
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SCALE: <b>1" = 200'</b>	DATE: <b>MARCH 2025</b>
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SHEET NUMBER: <b>5 OF 44</b>	DWG NUMBER: <b>G-101</b>
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PHASE 2  
SCALE: 1" = 200'



**PHASE 2:**

DURATION: 10 CONSECUTIVE CALENDAR DAYS

WORK SCHEDULE:  
 • MONDAY TO FRIDAY FROM 7:00 AM TO 3:30 PM

CLOSURES:  
 • TAXIWAY E (RUNWAY 5-23 TO TAXIWAY M)  
 • TAXIWAY M (BETWEEN RUNWAY 11-29 AND TAXIWAY E)

CIRCUIT IMPACTS:  
 • TAXIWAY E (RUNWAY 5-23 TO TAXIWAY M)

MAJOR WORK ITEMS:  
 • PAVEMENT MILLING AND REMOVAL  
 • BITUMINOUS CRACK REPAIRS  
 • PLACEMENT OF HOT MIX ASPHALT  
 • PLACEMENT OF LOAM AND SEED  
 • ADJUST TAXIWAY EDGE LIGHTS TO FINAL GRADE  
 • INITIAL MARKINGS

- ADDITIONAL NOTES:
- CONTRACTOR MUST ADHERE TO INSTRUCTION GIVEN BY AIRPORT OPERATION REGARDING THE USAGE OF LOCAL ROADS IN THE VICINITY OF THE AIRPORT.
  - AVAILABILITY OF THE CONTRACTOR'S STAGING AREA IS SUBJECT TO AVAILABILITY AND HANSCOM OPERATIONS APPROVAL. EROSION CONTROL MEASURES SHALL BE INSTALLED AROUND THE PERIMETER OF THE STAGING AREA.
  - THE CONTRACTOR IS RESPONSIBLE FOR ANY MATERIALS REQUIRED TO PROTECT EXISTING AIRFIELD FEATURES IN PLACE, INCLUDING BUT NOT LIMITED TO PLYWOOD TO PROTECT EXISTING RUNWAY HOLD POSITION MARKINGS.

**LEGEND**

- PHASE 2
- CONTRACTOR STAGING AREA
- CONTRACTOR ACCESS ROUTE
- X RUNWAY CLOSURE MARKER
- LOW PROFILE BARRICADE
- COVERED SIGN 2  
G201

**SIGN LEGEND**

- A ACCESS WORK AREA HERE 3A  
G201
- B STOP WAIT FOR ESCORT 3B  
G201
- C ← 3C  
G201
- D → 3D  
G201
- E LEFT TURN ONLY 3E  
G201



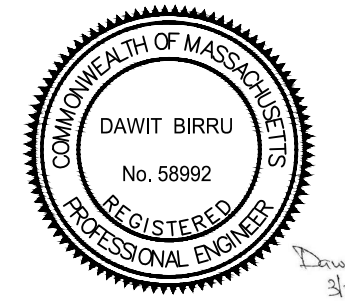
MASSACHUSETTS PORT AUTHORITY  
 EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
 LAURENCE G. HANSCOM FIELD  
 BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: **H296-C1** LOCATION CODE: **3540**  
 PROJECT SUBMISSION PHASE:

**BID SET**

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
 CAPITALS PROGRAM &  
 ENVIRONMENTAL AFFAIRS  
 HORIZONTAL PROJECTS  
 ONE HARBORSIDE DRIVE, SUITE 200S  
 EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
 REHABILITATE TAXIWAY E  
 FROM TAXIWAY M TO  
 RUNWAY 11-29 &  
 CONSTRUCT TAXIWAY E5

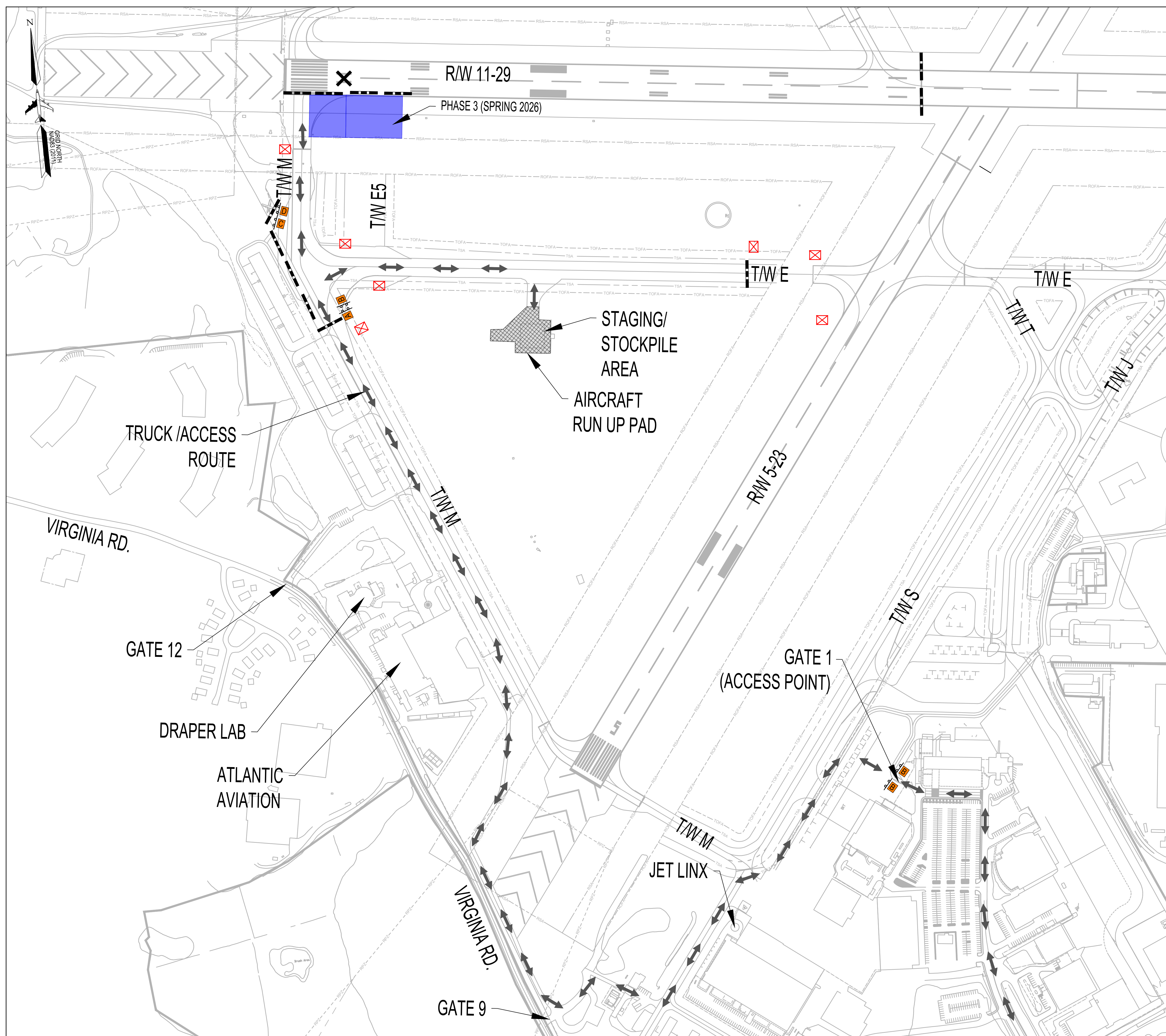
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**PHASING & SAFETY PLAN -  
 PHASE 2**

DISCIPLINE:  
**GENERAL**

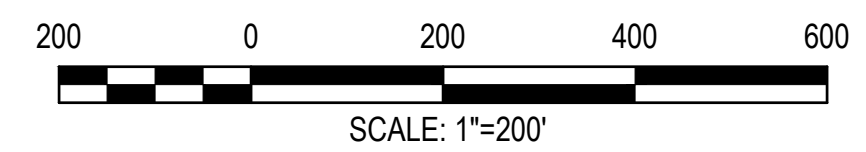
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SCALE: <b>1" = 200'</b>	DATE: <b>MARCH 2025</b>
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SHEET NUMBER: **6** OF 44 DWG NUMBER: **G-102**



PHASE 3  
SCALE: 1"=200'



**PHASE 3:**

DURATION: 41 CALENDAR DAYS

- WORK SCHEDULE:**
- 36 NIGHTS (MONDAY TO FRIDAY 10:00PM TO 6:00AM) AND
  - 2 WEEKEND (FRIDAY 10:00 PM TO SUNDAY 3:30 PM)

- CLOSURES:**
- RUNWAY 11-29
  - TAXIWAY M (BETWEEN OF RUNWAY 11-29 AND TAXIWAY E)
  - TAXIWAY E (BETWEEN RUNWAY 5-23 AND TAXIWAY M)

**CIRCUIT IMPACTS:** RUNWAY 11-29  
TAXIWAY E (EAST OF RUNWAY 5-23)

- MAJOR WORK ITEMS:**
- CONSTRUCT PROPOSED TAXIWAY E5 PAVEMENT STRUCTURE, INCLUDING PREPPING SITE, EXCAVATION, AND PLACEMENT OF SUITABLE MATERIAL.
  - ADJUST TAXIWAY M GEOMETRY TO FIT NEW FILLET DESIGN, INCLUDING DEMO EXISTING EDGE OF TAXIWAY AND INSTALL PROPOSED PAVEMENT
  - PLACEMENT OF HOT MIX ASPHALT
  - PLACEMENT OF LOAM AND SEED
  - REMOVE AND REINSTALL EXISTING RUNWAY EDGE LIGHTS, AND INSTALL PROPOSED TAXIWAY EDGE LIGHTS TO FINAL GRADE
  - INITIAL MARKINGS

- ADDITIONAL NOTES:**
1. CONTRACTOR MUST ADHERE TO INSTRUCTION GIVEN BY AIRPORT OPERATION REGARDING THE USAGE OF LOCAL ROADS IN THE VICINITY OF THE AIRPORT.
  2. AVAILABILITY OF THE CONTRACTOR'S STAGING AREA IS SUBJECT TO AVAILABILITY AND HANSCOM OPERATIONS APPROVAL. EROSION CONTROL MEASURES SHALL BE INSTALLED AROUND THE PERIMETER OF THE STAGING AREA.
  3. THE CONTRACTOR IS RESPONSIBLE FOR ANY MATERIALS REQUIRED TO PROTECT EXISTING AIRFIELD FEATURES IN PLACE, INCLUDING BUT NOT LIMITED TO PLYWOOD TO PROTECT EXISTING RUNWAY HOLD POSITION MARKINGS.
  4. RUNWAY 5-23 TO REMAIN OPEN FOR AIRCRAFT OPERATIONS.

**LEGEND**

- PHASE 3
- CONTRACTOR STAGING AREA
- CONTRACTOR ACCESS ROUTE
- RUNWAY CLOSURE MARKER
- LOW PROFILE BARRICADE
- COVERED SIGN 2  
G201

**SIGN LEGEND**

- ACCESS WORK AREA HERE 3A  
G201
- STOP WAIT FOR ESCORT 3B  
G201
- 3C  
G201
- 3D  
G201
- LEFT TURN ONLY 3E  
G201



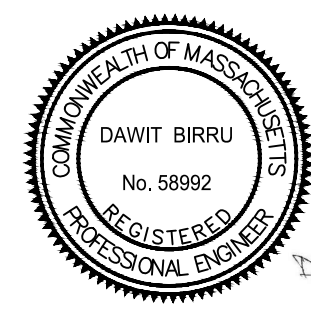
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

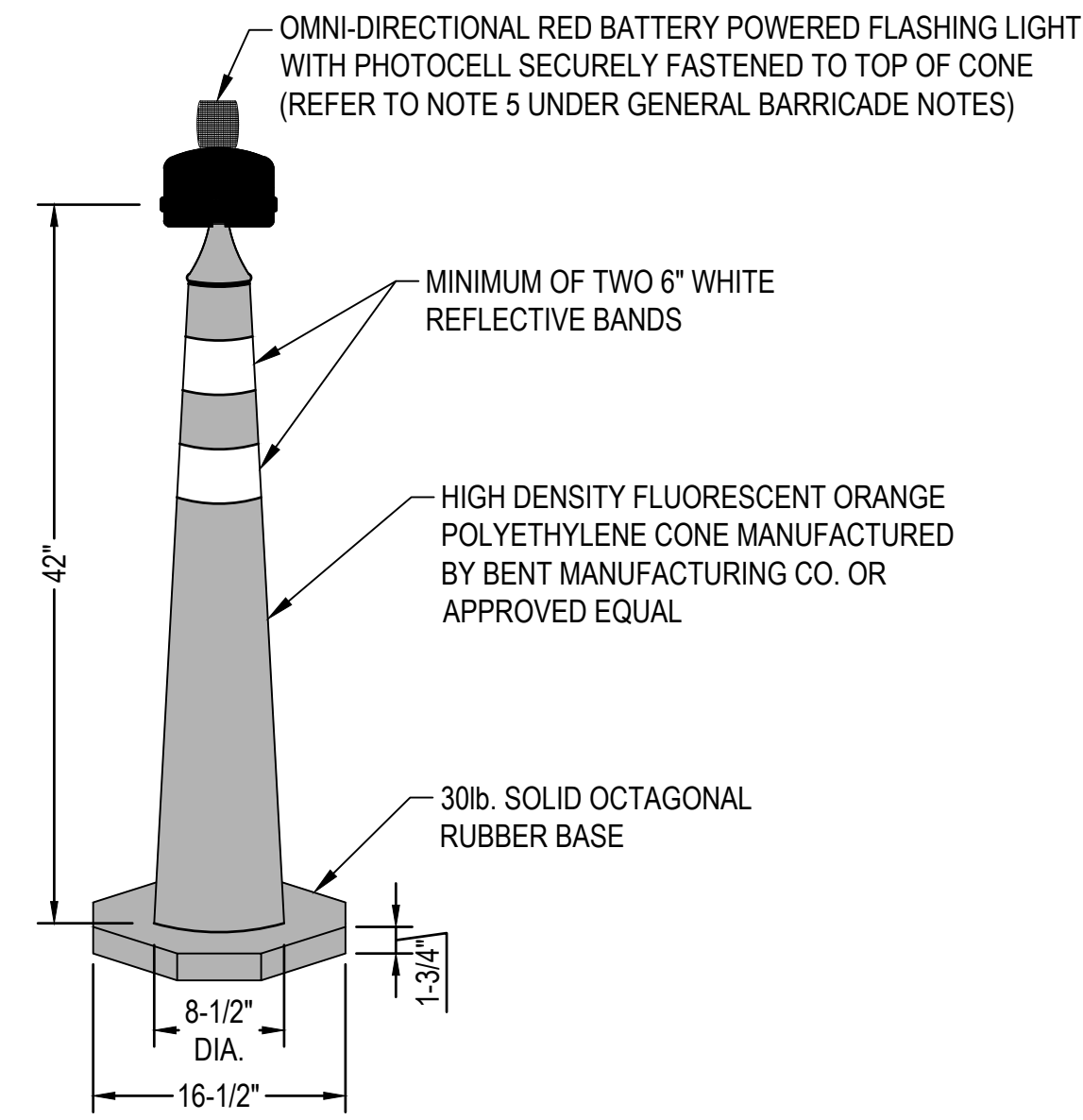
SHEET TITLE:  
**PHASING & SAFETY PLAN -  
PHASE 3**

DISCIPLINE:  
GENERAL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RL
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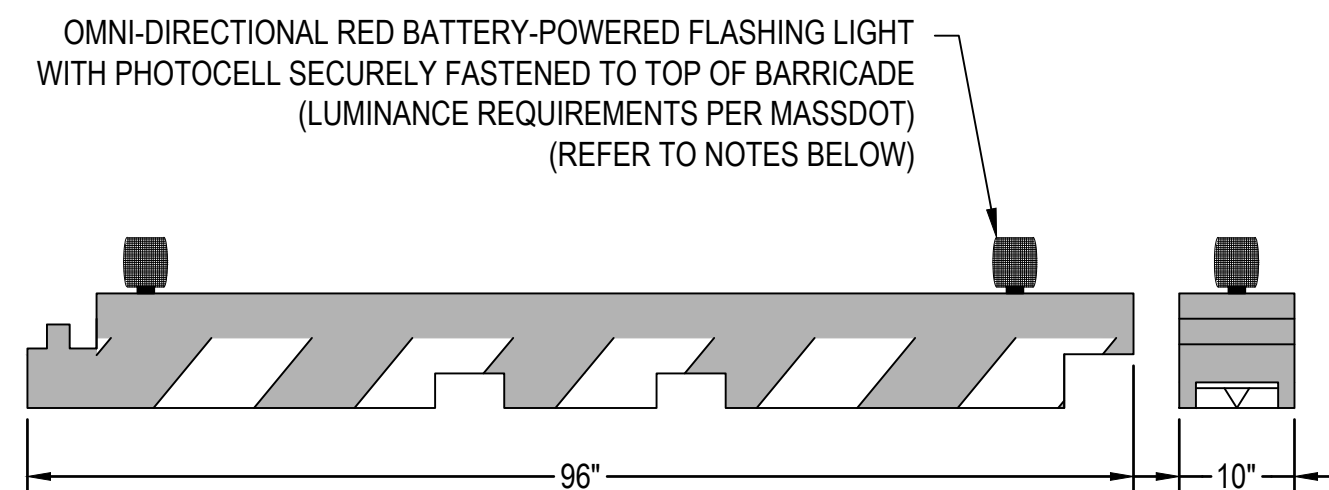
SCALE: 1" = 200'	DATE: MARCH 2025
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SHEET NUMBER: 7 OF 44	DWG NUMBER: <b>G-103</b>
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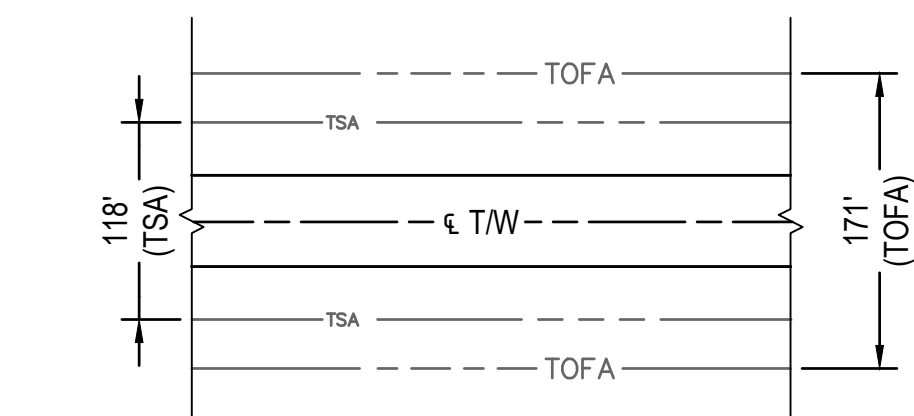
**NOTE:**

- CONES SHALL BE PLACED EVERY 10' O.C.
- CONTRACTOR TO ANTICIPATE DOUBLING RUBBER BASES ON EXTREME WIND DAYS.

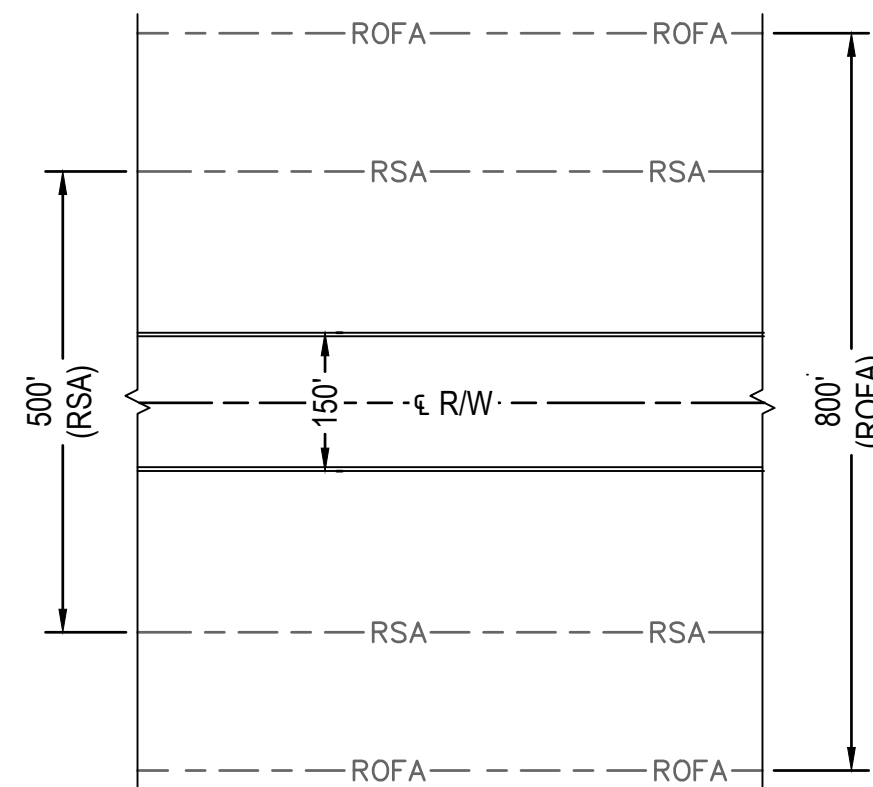


**GENERAL BARRICADE NOTES:**

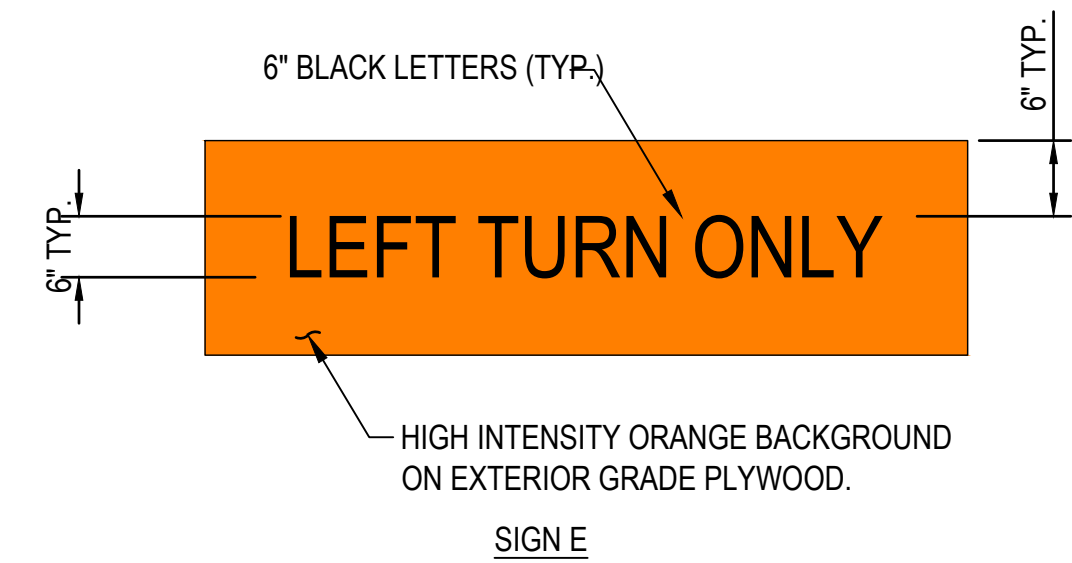
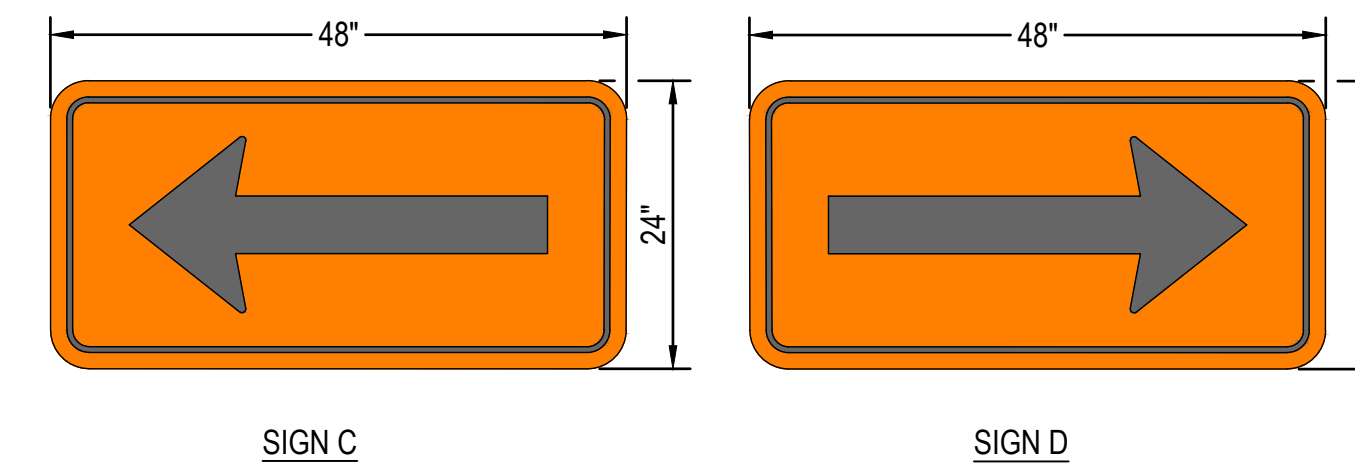
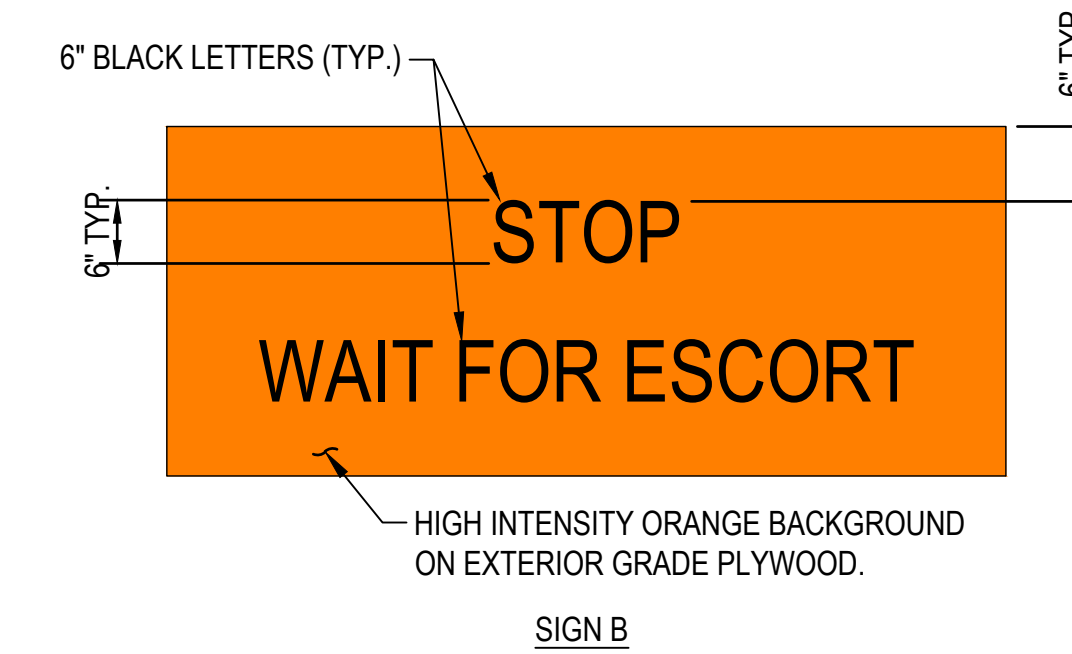
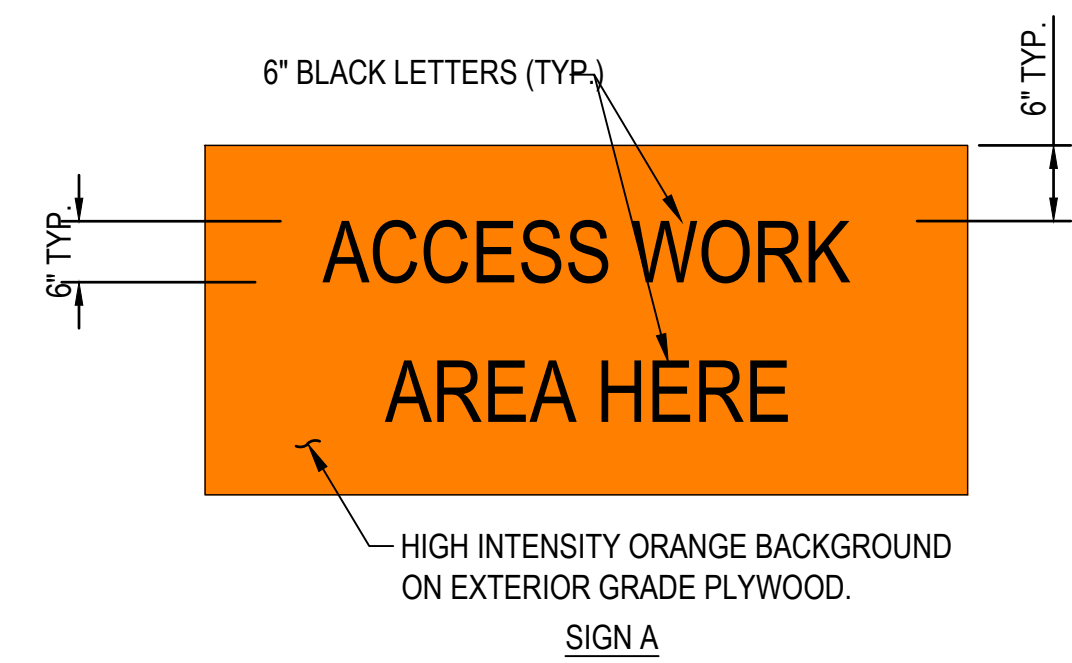
- THE RPR, MASSPORT CAPITAL PROGRAMS AND HANSCOM OPERATIONS SHALL HAVE FINAL DETERMINATION FOR THE PLACEMENT OF EACH TYPE OF BARRICADE
- WATER BALLASTED BARRICADES SHALL BE PLACED AND CONNECTED END TO END TO CREATE A CONTINUOUS BARRICADE UNLESS NOTED OR SPECIFIED BY THE RPR OR HANSCOM OPERATIONS.
- ALL BARRICADES SHALL MEET THE EXISTING FAA REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5370-2G (CURRENT EDITION).
- BARRICADES SHALL BE ADEQUATELY WEIGHTED DOWN TO WITHSTAND HIGH WINDS AND/OR JET BLAST.
- MPA MAINTAINS A SUPPLY OF CHANNELIZER CONES AND BARRICADES FOR CONTRACTOR USE. AN ALLOWANCE IS PROVIDED FOR RED FLASHING LIGHTS, ADDITIONAL CONES AND BARRICADES, AND REPLACEMENT RED FLASHING LIGHTS. REFER TO DIVISION IIB ARTICLES 58.6 AND 64.3 FOR USE OF BARRICADES AND CONES AND ALLOWANCE ITEMS.
- THE BARRICADES SHALL BE CHECKED DAILY TO ENSURE THEY REMAIN FULL OF WATER AND THAT THE LIGHTS OPERATE EVERY NIGHT.



**ADG GROUP III TAXIWAY SAFETY AREA (TSA) & TAXIWAY OBJECT FREE AREA (TOFA) REQUIREMENTS**  
NOT TO SCALE



**RUNWAY SAFETY AREA (RSA) & RUNWAY OBJECT FREE AREA (ROFA) REQUIREMENTS**  
NOT TO SCALE



**CONSTRUCTION SIGN NOTES:**

- SIGN SHALL CONFORM TO LATEST FHWA "STANDARD HIGHWAY SIGNS"
- THE CONTRACTOR SHALL LOCATE SIGNS A & B AT ALL ACCESS/EGRESS POINTS. SIGNS SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL CHARGE TO THE CONTRACT.
- SIGNS SHALL NOT BE MOUNTED HIGHER THAN 4' ABOVE EXISTING GRADE.
- IF WORKING IN MULTIPLE NON ADJACENT AREAS, THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL SIGNS REQUIRED AT THEIR OWN EXPENSE. THESE SIGNS SHALL REMAIN THE CONTRACTORS PROPERTY AT THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL ANCHOR THE SIGNS TO RESIST JET BLAST.



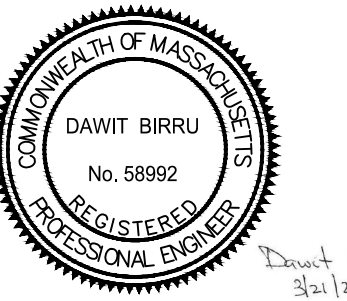
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM & ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E FROM TAXIWAY M TO RUNWAY 11-29 & CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**PHASING DETAILS**

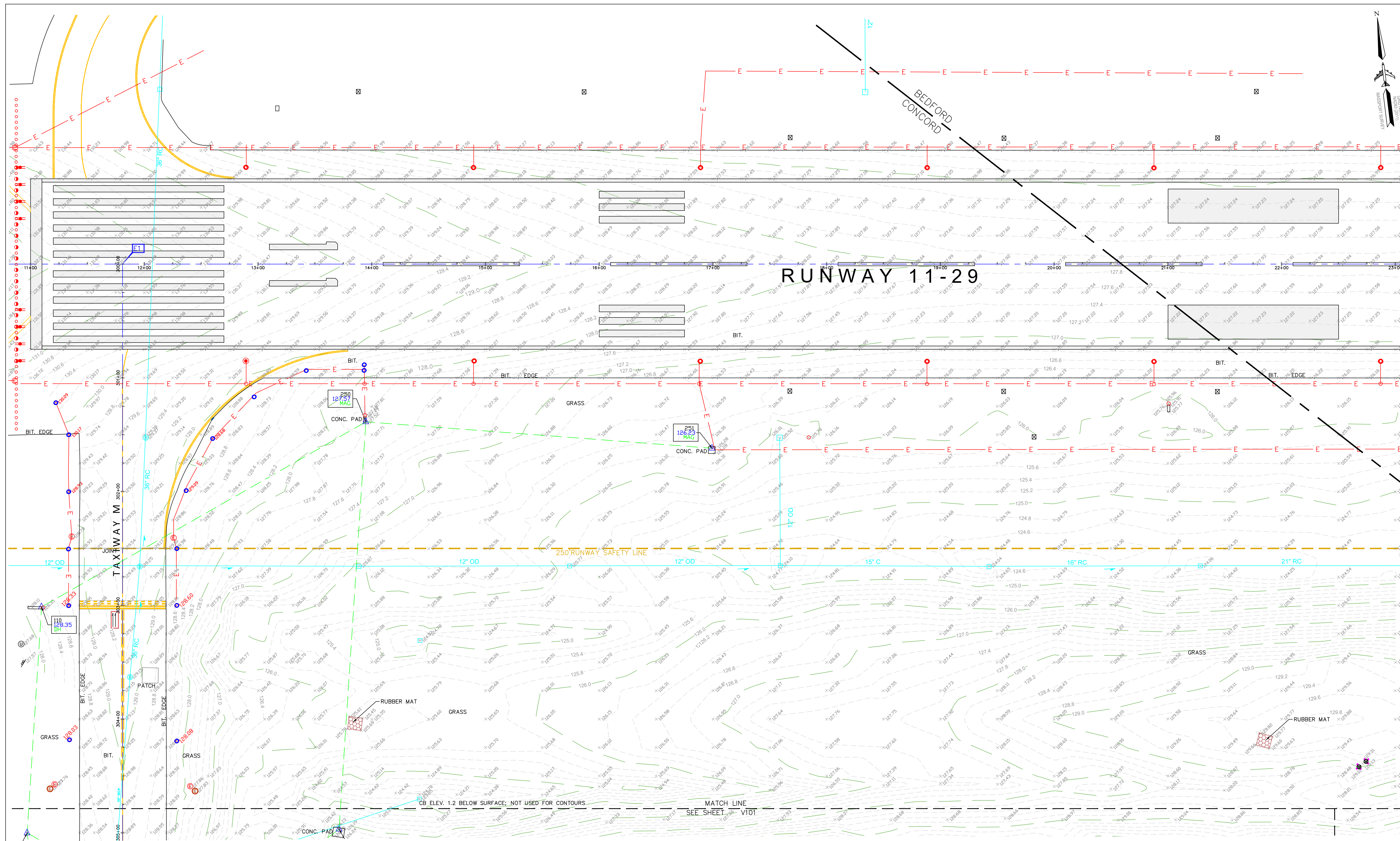
DISCIPLINE:  
GENERAL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RLL
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SCALE: NOT TO SCALE	DATE: MARCH 2025
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SHEET NUMBER: 8 OF 44	DWG NUMBER: <b>G-003</b>
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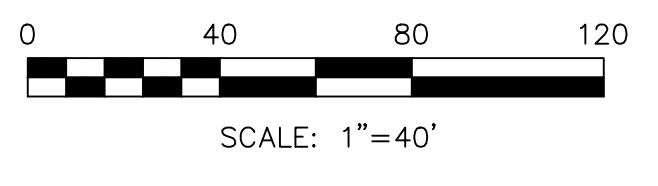




**LEGEND**

- RW SEMI-FLUSH THRESHOLD LIGHT
- RW ELEVATED THRESHOLD LIGHT
- RW ELEVATED EDGE LIGHT
- RW SEMI-FLUSH EDGE LIGHT
- TW ELEVATED EDGE LIGHT
- ABANDONED LIGHT
- ELECTRIC PULL CAN
- DRAIN MANHOLE
- CATCH BASIN
- COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- ⊗ CONC./ABANDONED
- PVC BOLLARD
- UNDERDRAIN CLEAN OUT
- SIGN
- UNKNOWN MANHOLE
- MONITORING WELL
- ⊗ ABANDONED CONC. LT. BASE
- SURVEY CONTROL POINT
- BASELINE CONTROL POINT

- NOTES:**
- COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), NAD83(2011), IN U.S. SURVEY FEET, MASSACHUSETTS MAINLAND ZONE. PROJECT CONTROL POINTS WERE ESTABLISHED USING RTK GPS.
  - ELEVATIONS SHOWN HEREON REFER TO THE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
  - ELEVATIONS SHOWN ON RUNWAY AND TAXIWAY LIGHTS WERE TAKEN ON EDGE OF RISER NEAREST TO THE RUNWAY OR TAXIWAY CENTERLINE OR FLAT PORTION OF RING.
  - ELEVATIONS ON TAXIWAY LIGHTS, WERE NOT USED FOR SURFACE CONTOURS.
  - TAXIWAY BASELINES ARE FROM PREVIOUS CONSTRUCTION PROJECTS.
  - UPON MOBILIZATION THE CONTRACTOR SHALL CONTACT MASSPORT SURVEY (617)561-1799 FOR ASSISTANCE IN THE RECOVERY OF PROJECT SURVEY CONTROL POINTS.
  - CAUTION: UNDERGROUND UTILITIES ARE PRESENT AND MAY NOT ALL BE SHOWN ON THIS PLAN, USERS OF THIS PLAN MUST TAKE THE NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF PERSONNEL AND AVOID THE INTERRUPTION OF UTILITY SERVICES TO THE AIRPORT.
  - THE CONTOUR INTERVAL ON THIS PLAN IS 0.2'
  - FOR TAXIWAY ALIGNMENT TABLES SEE SHEET V102.
  - FOR SURVEY CONTROL TABLE SEE SHEET V102.



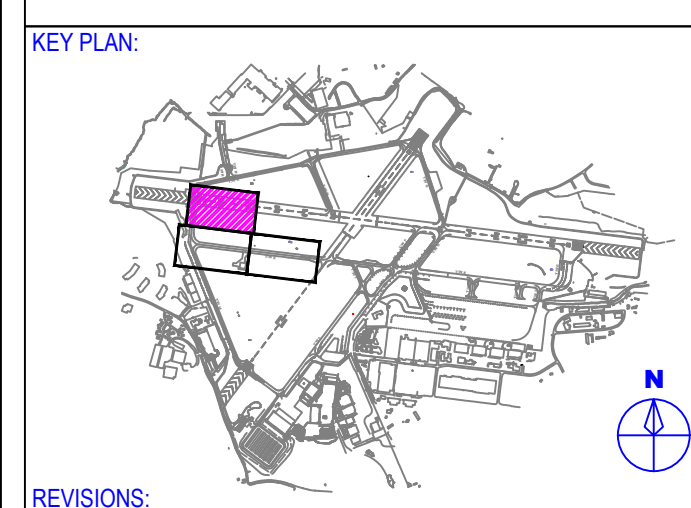
CAUTION: ADDITIONAL UNDERGROUND UTILITIES MAY BE PRESENT BUT NOT SHOWN.



PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1 LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:  
**massport** SURVEY UNIT  
ONE HARBORSIDE DRIVE  
BOSTON, MA 02128  
(617) 561-1799

IN-HOUSE DESIGN:  
CAPITALS PROGRAM & ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
EXISTING CONDITIONS PLAN  
SHEET 1 OF 3

MPA SURVEY PROJECT: 2676 DRAWING: 2676-01

DISCIPLINE:  
SURVEY

DRAWN BY: ML	CHECKED BY: DGM	APPROVED BY: DGM
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SCALE: 1" = 40' DATE: 11/13/2024

SHEET NUMBER: 9 OF 44 DWG NUMBER: V-100



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

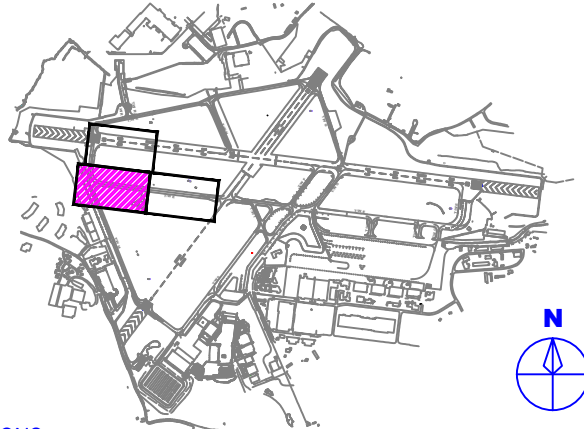
MPA CONTRACT NO.: H296-C1 LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

**massport** SURVEY UNIT  
ONE HARBORSIDE DRIVE  
BOSTON, MA 02128  
(617) 561-1799

IN-HOUSE DESIGN:  
CAPITALS PROGRAM & ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

EXISTING CONDITIONS PLAN  
SHEET 2 OF 3

MPA SURVEY PROJECT: 2676 DRAWING: 2676-01

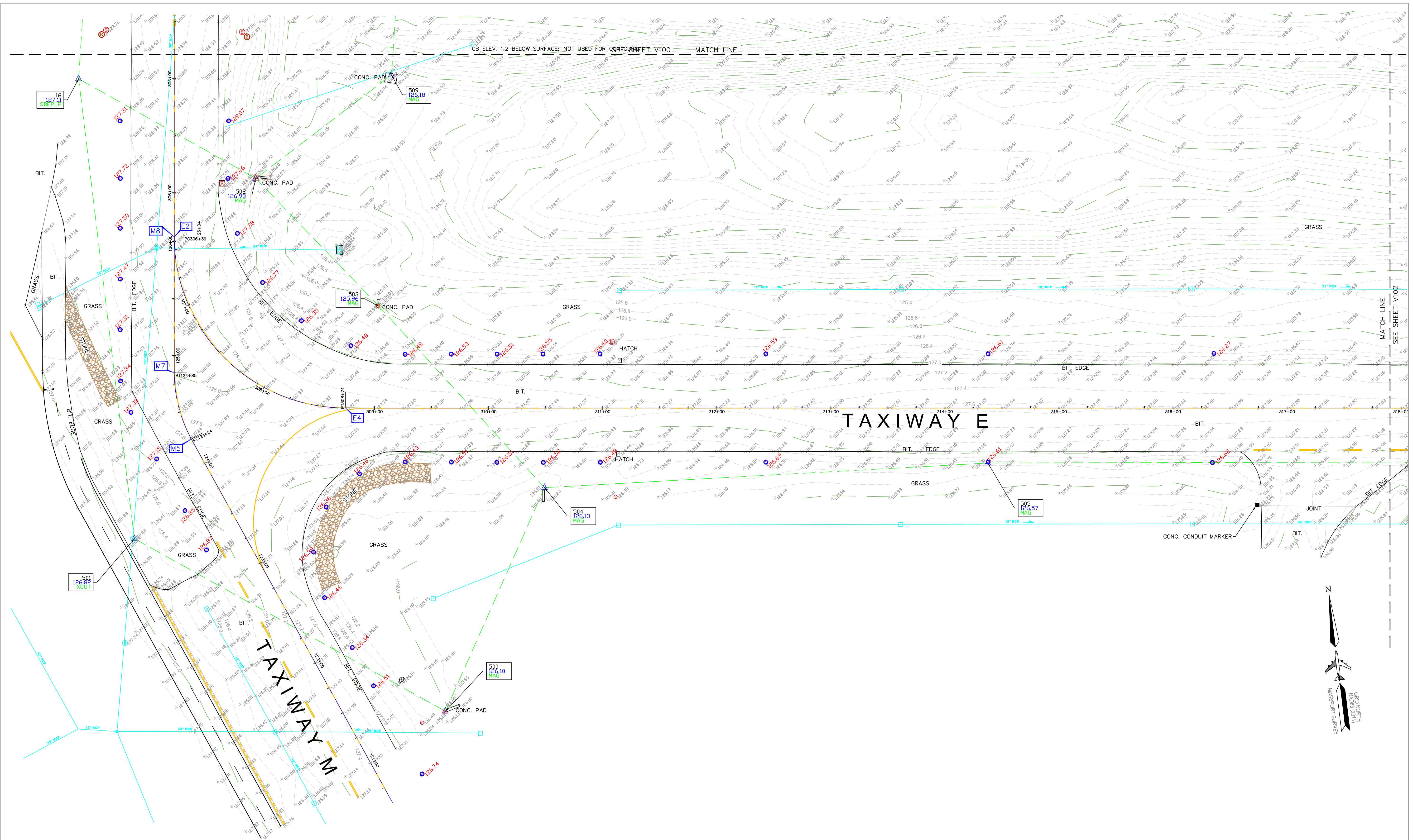
DISCIPLINE:

SURVEY

DRAWN BY: ML CHECKED BY: DGM APPROVED BY: DGM

SCALE: 1" = 40' DATE: 11/13/2024

SHEET NUMBER: 10 OF 44 DWG NUMBER: V-101

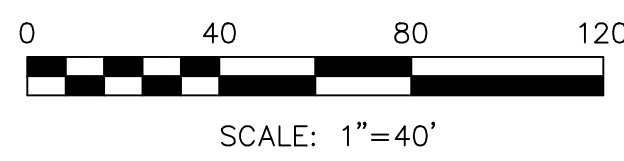


**LEGEND**

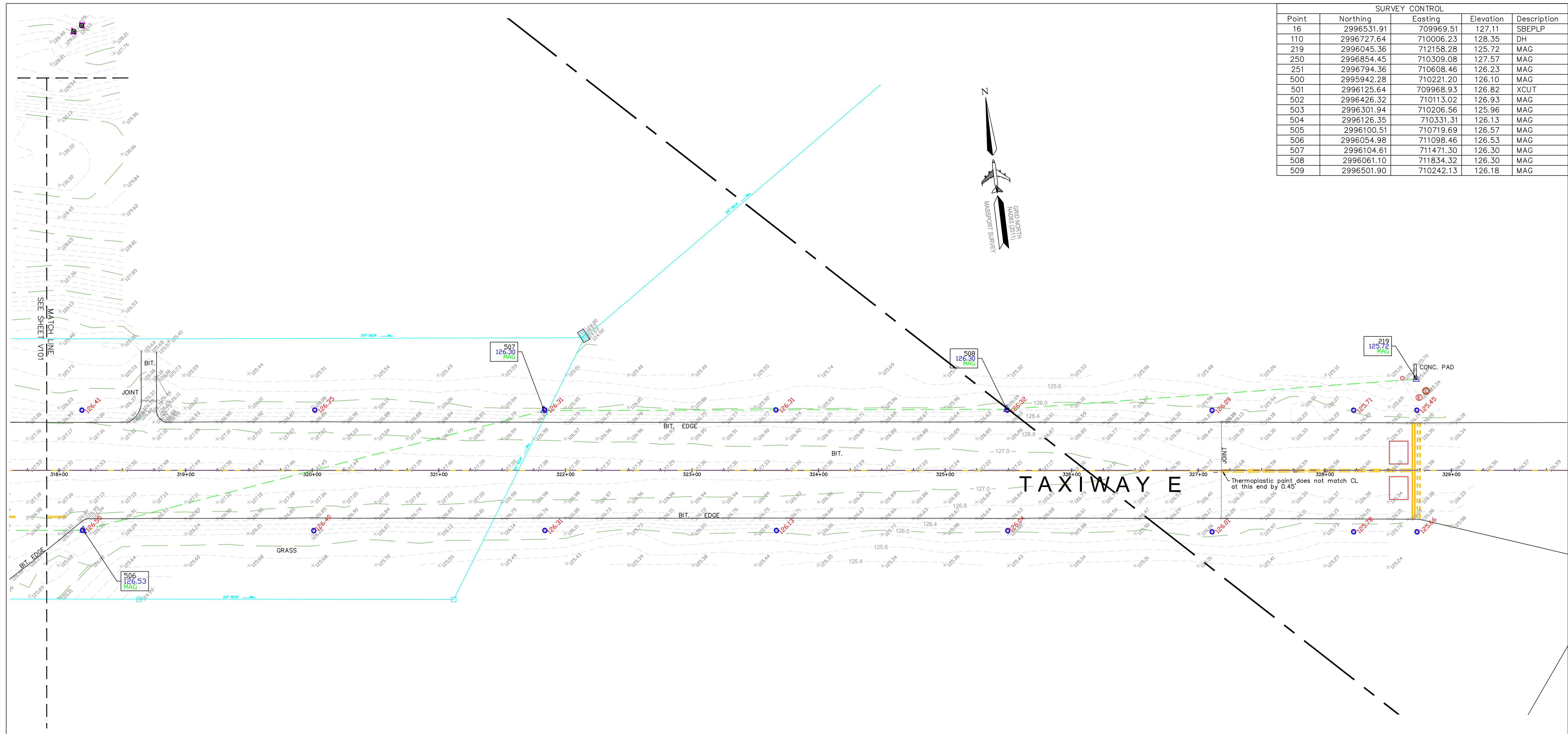
- RW SEMI-FLUSH THRESHOLD LIGHT
- RW ELEVATED THRESHOLD LIGHT
- RW ELEVATED EDGE LIGHT
- RW SEMI-FLUSH EDGE LIGHT
- TW ELEVATED EDGE LIGHT
- ABANDONED LIGHT
- ELECTRIC PULL CAN
- DRAIN MANHOLE
- CATCH BASIN
- COMMUNICATION MANHOLE
- ELECTRIC MANHOLE
- CONC/ABANDONED
- PVC BOLLARD
- UNDERDRAIN CLEAN OUT
- SIGN
- UNKNOWN MANHOLE
- MONITORING WELL
- ABANDONED CONC. LT. BASE
- SURVEY CONTROL POINT
- BASELINE CONTROL POINT

NOTES:

- COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), NAD83(2011), IN U.S. SURVEY FEET, MASSACHUSETTS MAINLAND ZONE. PROJECT CONTROL POINTS WERE ESTABLISHED USING RTK GPS.
- ELEVATIONS SHOWN HEREON REFER TO THE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- ELEVATIONS SHOWN ON RUNWAY AND TAXIWAY LIGHTS WERE TAKEN ON EDGE OF RISER NEAREST TO THE RUNWAY OR TAXIWAY CENTERLINE OR FLAT PORTION OF RING.
- ELEVATIONS ON TAXIWAY LIGHTS, WERE NOT USED FOR SURFACE CONTOURS.
- TAXIWAY BASELINES ARE FROM PREVIOUS CONSTRUCTION PROJECTS.
- UPON MOBILIZATION THE CONTRACTOR SHALL CONTACT MASSPORT SURVEY (617)561-1799 FOR ASSISTANCE IN THE RECOVERY OF PROJECT SURVEY CONTROL POINTS.
- CAUTION: UNDERGROUND UTILITIES ARE PRESENT AND MAY NOT ALL BE SHOWN ON THIS PLAN, USERS OF THIS PLAN MUST TAKE THE NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF PERSONNEL AND AVOID THE INTERRUPTION OF UTILITY SERVICES TO THE AIRPORT.
- THE CONTOUR INTERVAL ON THIS PLAN IS 0.2'
- FOR TAXIWAY ALIGNMENT TABLES SEE SHEET V102.
- FOR SURVEY CONTROL TABLE SEE SHEET V102.



CAUTION: ADDITIONAL UNDERGROUND UTILITIES MAY BE PRESENT BUT NOT SHOWN.



SURVEY CONTROL				
Point	Northing	Easting	Elevation	Description
16	2996531.91	709969.51	127.11	SBEPLP
110	2996727.64	710006.23	128.35	DH
219	2996045.36	712158.28	125.72	MAG
250	2996854.45	710309.08	127.57	MAG
251	2996794.36	710608.46	126.23	MAG
500	2995942.28	710221.20	126.10	MAG
501	2996125.64	709968.93	126.82	XCUT
502	2996426.32	710113.02	126.93	MAG
503	2996301.94	710206.56	125.96	MAG
504	2996126.35	710331.31	126.13	MAG
505	2996100.51	710719.69	126.57	MAG
506	2996054.98	711098.46	126.53	MAG
507	2996104.61	711471.30	126.30	MAG
508	2996061.10	711834.32	126.30	MAG
509	2996501.90	710242.13	126.18	MAG

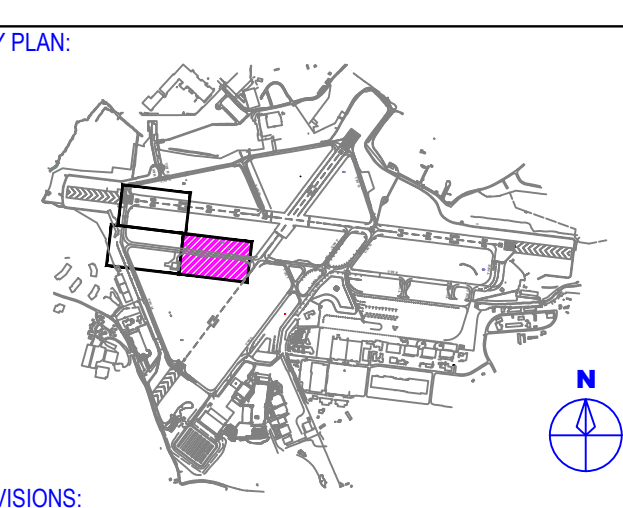
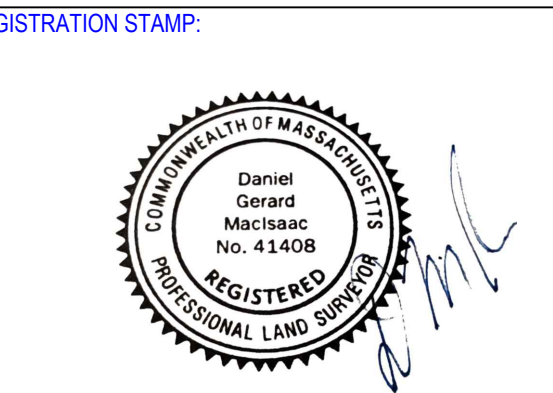


MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:  
**massport** SURVEY UNIT  
ONE HARBORSIDE DRIVE  
BOSTON, MA 02128  
(617) 561-1799

IN-HOUSE DESIGN:  
CAPITALS PROGRAM & ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
EXISTING CONDITIONS PLAN  
SHEET 3 OF 3

MPA SURVEY PROJECT: 2676  
DRAWING: 2676-01

DISCIPLINE:  
SURVEY

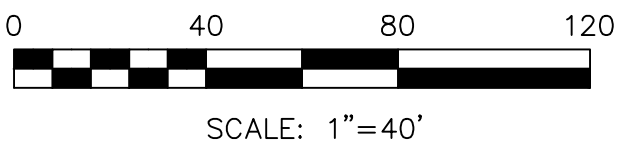
DRAWN BY: ML	CHECKED BY: DGM	APPROVED BY: DGM
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SCALE: 1" = 40'  
DATE: 11/13/2024

SHEET NUMBER: 11 OF 44  
DWG NUMBER: V-102

TAXIWAY E ALIGNMENT									
Point	Station	Northing	Easting	Distance	Bearing	Radius Length	Arc Length	Delta Angle	
E1 POB	300+00.00	2997018.13	710113.59						
E2 PC	306+38.82	2996384.05	710035.86	638.82'	S 06°59'21.1" W				
E3 RP						150.00'	235.62'	90°00'06.6"	
E4 PT	308+74.44	2996216.92	710166.49	6218.08'	S 83°00'45.5" E				
E5 PC	370+92.52	2995460.49	716338.39						
E6 RP						240.00'	376.98'	89°59'53.4"	
E7 PT	374+69.51	2995669.50	716605.80	548.62'	N 06°59'21.1" E				
E8 END	380+18.12	2996214.04	716672.56						

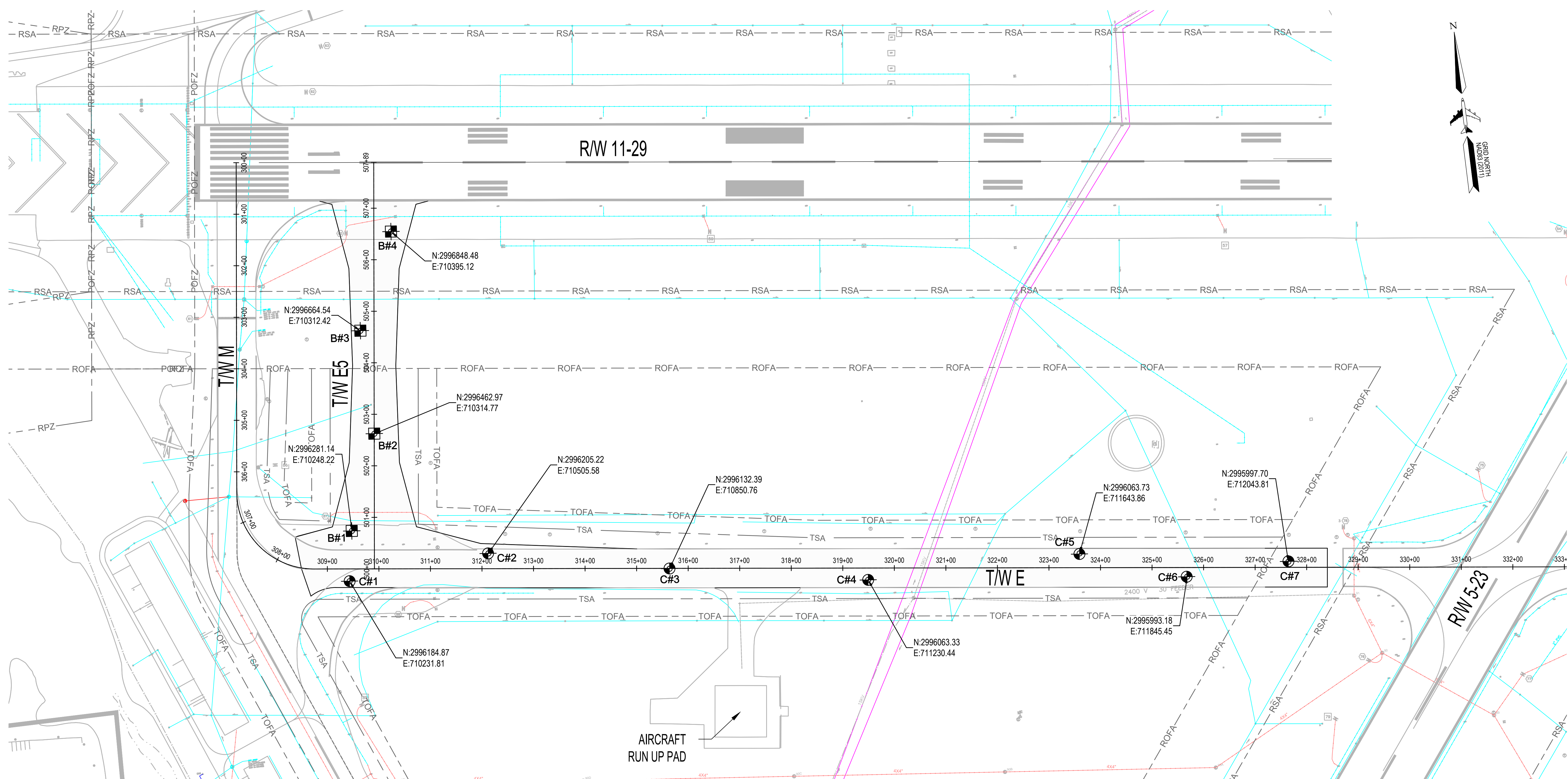
TAXIWAY M WEST ALIGNMENT									
Point	Station	Northing	Easting	Distance	Bearing	Radius Length	Arc Length	Delta Angle	
M1 POB	100+00.00	2994006.10	711002.93						
M2 PC	101+00.14	2994066.35	710922.94	100.14'	N 53°00'44.9" W				
M3 RP						200.00'	108.39'	31°03'07.5"	
M4 PT	102+08.54	2994151.31	710857.78	2215.73'	N 21°57'37.4" W				
M5 PC	124+24.27	2996206.27	710029.17						
M6 RP						120.00'	60.63'	28°56'58.5"	
M7 PT	124+84.90	2996265.75	710021.35	119.19'	N 06°59'21.1" E				
M8=E2	126+04.09	2996384.05	710035.86						



- NOTES:
- COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT), NAD83(2011), IN U.S. SURVEY FEET, MASSACHUSETTS MAINLAND ZONE. PROJECT CONTROL POINTS WERE ESTABLISHED USING RTK GPS.
  - ELEVATIONS SHOWN HEREON REFER TO THE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVDB88).
  - ELEVATIONS SHOWN ON RUNWAY AND TAXIWAY LIGHTS WERE TAKEN ON EDGE OF RISER NEAREST TO THE RUNWAY OR TAXIWAY CENTERLINE OR FLAT PORTION OF RING.
  - ELEVATIONS ON TAXIWAY LIGHTS, WERE NOT USED FOR SURFACE CONTOURS.
  - TAXIWAY BASELINES ARE FROM PREVIOUS CONSTRUCTION PROJECTS.
  - UPON MOBILIZATION THE CONTRACTOR SHALL CONTACT MASSPORT SURVEY (617)561-1799 FOR ASSISTANCE IN THE RECOVERY OF PROJECT SURVEY CONTROL POINTS.
  - CAUTION: UNDERGROUND UTILITIES ARE PRESENT AND MAY NOT ALL BE SHOWN ON THIS PLAN. USERS OF THIS PLAN MUST TAKE THE NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF PERSONNEL AND AVOID THE INTERRUPTION OF UTILITY SERVICES TO THE AIRPORT.
  - THE CONTOUR INTERVAL ON THIS PLAN IS 0.2'

LEGEND

●	RW SEMI-FLUSH THRESHOLD LIGHT
■	RW ELEVATED THRESHOLD LIGHT
○	RW ELEVATED EDGE LIGHT
●	RW SEMI-FLUSH EDGE LIGHT
○	TW ELEVATED EDGE LIGHT
○	ABANDONED LIGHT
○	ELECTRIC PULL CAN
○	DRAIN MANHOLE
○	CATCH BASIN
○	COMMUNICATION MANHOLE
○	ELECTRIC MANHOLE
⊗	CONC/ABANDONED
○	PVC BOLLARD
○	UNDERDRAIN CLEAN OUT
⊂	SIGN
○	UNKNOWN MANHOLE
○	MONITORING WELL
⊗	ABANDONED CONC. LT. BASE
△	SURVEY CONTROL POINT
□	BASELINE CONTROL POINT



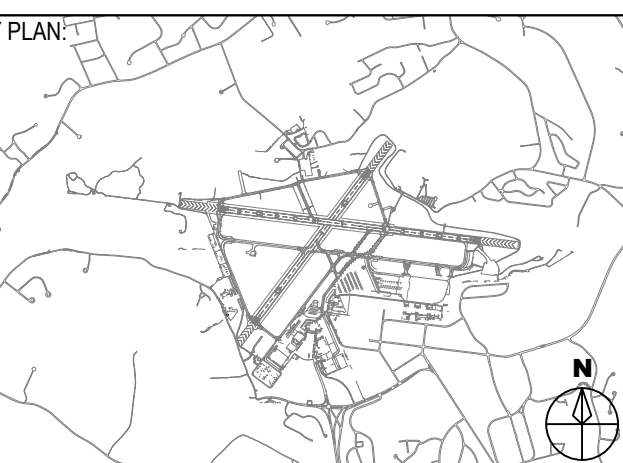
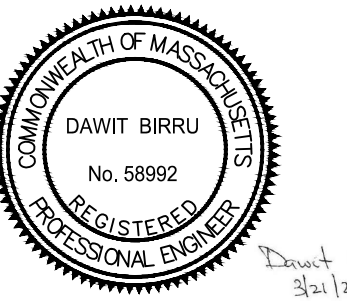
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

OVERALL PAVEMENT CORING  
PLAN

DISCIPLINE:  
CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
DB	SD/SF	RLL

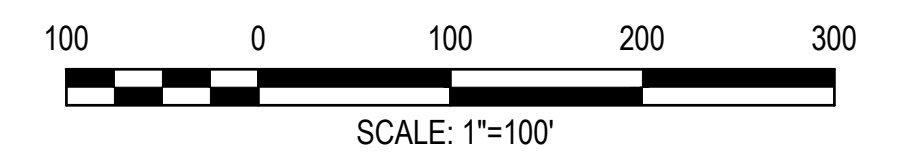
SCALE: 1" = 100'  
DATE: MARCH 2025

SHEET NUMBER: 12 OF 44  
DWG NUMBER: V-200

CORING LOCATIONS AT TW E		
CORING #	DESCRIPTION	NORTHING & EASTING
C#1	CORE LOCATION	N:2996184.8692 E:710231.8052
C#2	CORE LOCATION	N:2996205.2152 E:710505.5794
C#3	CORE LOCATION	N:2996132.3909 E:710850.7609
C#4	CORE LOCATION	N:2996063.3302 E:711230.4400
C#5	CORE LOCATION	N:2996063.7286 E:711643.8600
C#6	CORE LOCATION	N:2995993.1804 E:711845.4525
C#7	CORE LOCATION	N:2995997.7022 E:712043.8093

BORING LOCATIONS AT TW E5		
BORING #	DESCRIPTION	NORTHING & EASTING
B#1	BORING LOCATION	N:2996281.1445 E:710248.2206
B#2	BORING LOCATION	N:2996462.9690 E:710314.7668
B#3	BORING LOCATION	N:2996664.5426 E:710312.4185
B#4	BORING LOCATION	N:2996848.4796 E:710395.1188

- C# CORE SAMPLE LOCATION
- B# BORING LOCATION
- DRAIN LINE
- SEWER LINE
- WATER LINE
- ELECTRIC LINE
- COMMUNICATIONS LINE



ATLAS

Massachusetts Port Authority  
MPA #H296-C1  
Hanscom Airfield Taxiway E Rehab  
Core Photos



Core No. C-1

ATLAS



Core No. C-2



Core No. C-3

ATLAS



Core No. C-4



Core No. C-5

ATLAS



Core No. C-6



Core No. C-7

NOTE  
BORING LAB REPORT IS INCLUDED IN THE SPECIFICATION DIVISION IIB.



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

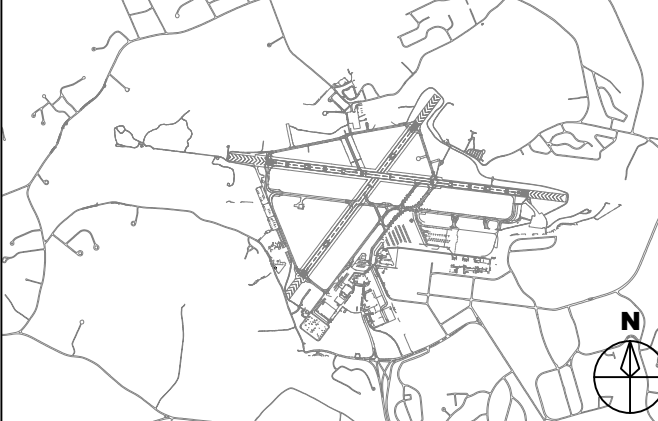
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**PAVEMENT CORE RESULTS**

DISCIPLINE:

CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
DB	SD/SF	RLL

SCALE:	DATE:
NOT TO SCALE	MARCH 2025

SHEET NUMBER: 13 OF 44  
DWG NUMBER: **V-201**



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

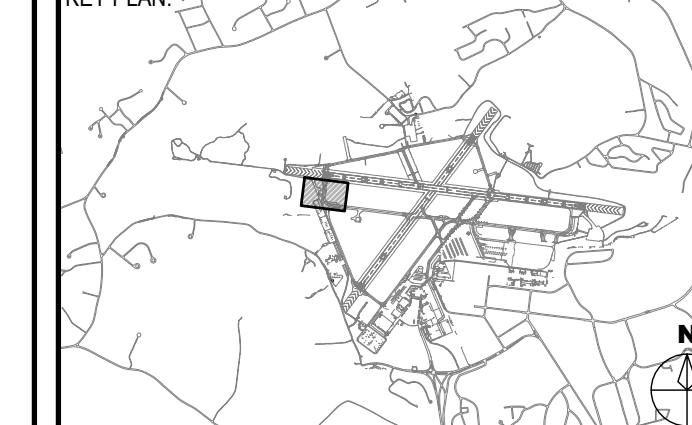
PROJECT SUBMISSION PHASE:

BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:

CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

ALIGNMENT PLAN - 1

DISCIPLINE:

CIVIL

DRAWN BY: DB  
CHECKED BY: SD/SF  
APPROVED BY: RLL

SCALE:

1" = 40'

DATE:

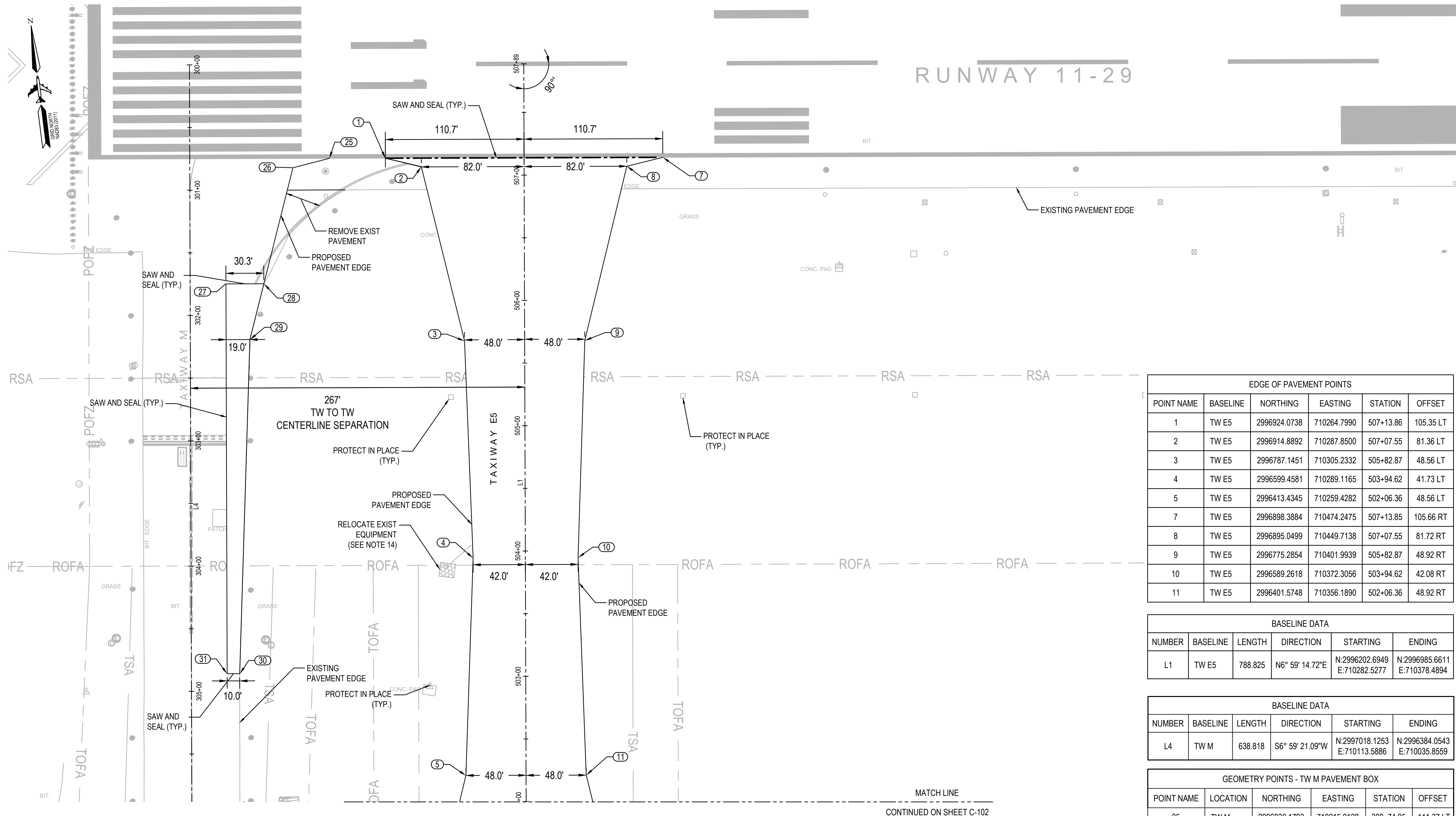
MARCH 2025

SHEET NUMBER:

14 OF 44

DWG NUMBER:

**C-101**



EDGE OF PAVEMENT POINTS					
POINT NAME	BASELINE	NORTHING	EASTING	STATION	OFFSET
1	TW E5	2996924.0738	710264.7990	507+13.86	105.35 LT
2	TW E5	2996914.8892	710287.8500	507+07.55	81.36 LT
3	TW E5	2996787.1451	710305.2332	505+82.87	48.56 LT
4	TW E5	2996599.4581	710289.1165	503+94.62	41.73 LT
5	TW E5	2996413.4345	710259.4282	502+06.36	48.56 LT
7	TW E5	2996898.3884	710474.2475	507+13.85	105.66 RT
8	TW E5	2996895.0499	710449.7138	507+07.55	81.72 RT
9	TW E5	2996775.2854	710401.9939	505+82.87	48.92 RT
10	TW E5	2996589.2618	710372.3056	503+94.62	42.08 RT
11	TW E5	2996401.5748	710356.1890	502+06.36	48.92 RT

BASELINE DATA					
NUMBER	BASELINE	LENGTH	DIRECTION	STARTING	ENDING
L1	TW E5	788.825	N6° 59' 14.72"E	N:2996202.6949 E:710282.5277	N:2996985.6611 E:710378.4894

BASELINE DATA					
NUMBER	BASELINE	LENGTH	DIRECTION	STARTING	ENDING
L4	TW M	638.818	S6° 59' 21.09"W	N:2997018.1253 E:710113.5886	N:2996384.0543 E:710035.8559

GEOMETRY POINTS - TW M PAVEMENT BOX					
POINT NAME	LOCATION	NORTHING	EASTING	STATION	OFFSET
25	TW M	2996930.1793	710215.0128	300+74.95	111.37 LT
26	TW M	2996926.3901	710185.2893	300+82.33	82.33 LT
28	TW M	2996837.4191	710150.7074	301+74.85	58.83 LT
27	TW M	2996841.1024	710120.6722	301+74.85	28.57 LT
28	TW M	2996837.4191	710150.7074	301+74.85	58.83 LT
29	TW M	2996794.6174	710134.0709	302+19.35	47.53 LT
30	TW M	2996531.0562	710092.7250	304+85.99	38.56 LT
31	TW M	2996532.2870	710082.8010	304+85.97	28.56 LT

**GENERAL ALIGNMENT NOTES**

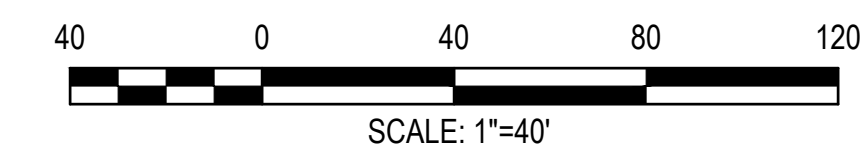
- COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983.
- ELEVATIONS SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88 MEAN SEA LEVEL DATUM.)
- ALIGNMENT COORDINATES AND SURVEY CONTROL DATA ARE REFERENCED FROM MASSPORT SURVEY PERFORMED IN FALL 2024.
- IF NECESSARY, DURING MOBILIZATION, MASSPORT SURVEY WILL ASSIST THE CONTRACTOR WITH RECOVERY OF PROJECT SURVEY CONTROL POINTS. ALL COORDINATION WILL BE DONE THROUGH MASSPORT CAPITAL PROGRAMS.
- MASSPORT SURVEY SHALL BE NOTIFIED OF ANY SURVEY CONTROL POINTS DESTROYED/DISTURBED DURING CONSTRUCTION.
- NORTHINGS AND EASTINGS FOR EXISTING EDGE OF SHOULDER ARE GIVEN FOR REFERENCE ONLY. CONTRACTOR SHALL SURVEY EXISTING EDGE OF PAVEMENT AND NOTIFY THE ENGINEER OF ANY INSTANCES WHERE IT IS LESS THAN MINIMUM WIDTH SPECIFIED.
- FOR EXISTING CONDITIONS PLANS AND SURVEY NOTES, REFER TO V-100 SERIES DRAWINGS.
- FOR GRADING AND PROFILES, REFER TO SHEETS C-211 AND C-212 DRAWINGS.

- FOR SPOT GRADES, REFER TO C- 300 SERIES DRAWINGS.
- FOR TYPICAL SECTIONS, REFER DRAWING ON SHEET C-401.
- FOR UTILITY STRUCTURE ADJUSTMENT PLAN AND STRUCTURE SCHEDULE, REFER TO C- 500 SERIES.
- FOR MARKINGS AND MARKING DETAILS, REFER TO C-700 SERIES DRAWINGS.
- IF STRUCTURE IS ABANDONED AND RESULTS IN UNSUITABLE RSA GRADING, THE RPR MAY DIRECT THE CONTRACTOR TO REMOVE THE STRUCTURE UNDER ITEM P-152.01.
- RELOCATE EXISTING CAMERA EQUIPMENT AND RUBBER FOUNDATION TO A LOCATION DIRECTED BY OPERATIONS AND THE AIRPORT. NEW LOCATION SHALL BE APPROVED BY THE AIRPORT, AND THE EQUIPMENT SHALL BE PLACED ON A STABLE FOUNDATION AS DETERMINED BY THE ENGINEER. ALL WORK ASSOCIATED WITH REMOVING AND RELOCATING THE CAMERA EQUIPMENT IS INCIDENTAL TO THE PROJECT.

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- ⊙ GEOMETRY POINTS - TAXIWAY

- ⊙ ELEVATED EDGE LIGHT
- ⊠ DRAIN INLET PROTECTION DEVICE
- ⊙ EXISTING DRAIN MANHOLE
- ⊠ EXISTING CATCH BASIN
- ⊙ ELECTRIC MANHOLE
- ⊠ SURVEY CONTROL POINT
- ⊙ BENCH MARK
- ⊙ GROUND ROD
- ⊙ CORE LOCATION
- ⊙ BASE CAN WITH RETRO-REFLECTIVE POST
- LIMIT OF WORK



MATCH LINE  
CONTINUED ON SHEET C-102



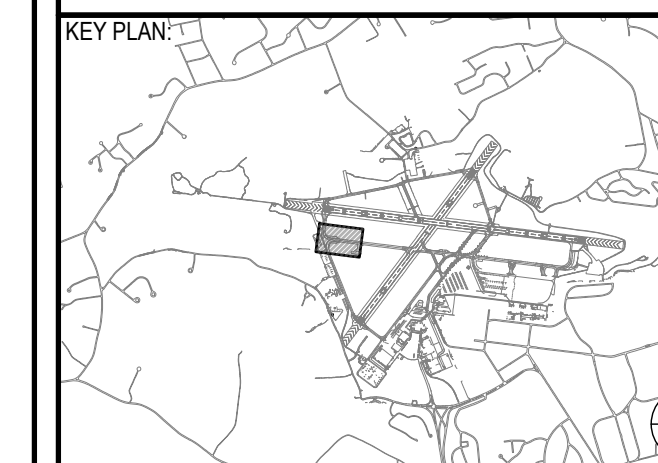
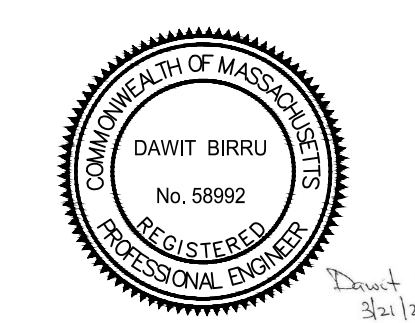
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
**BID SET**

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

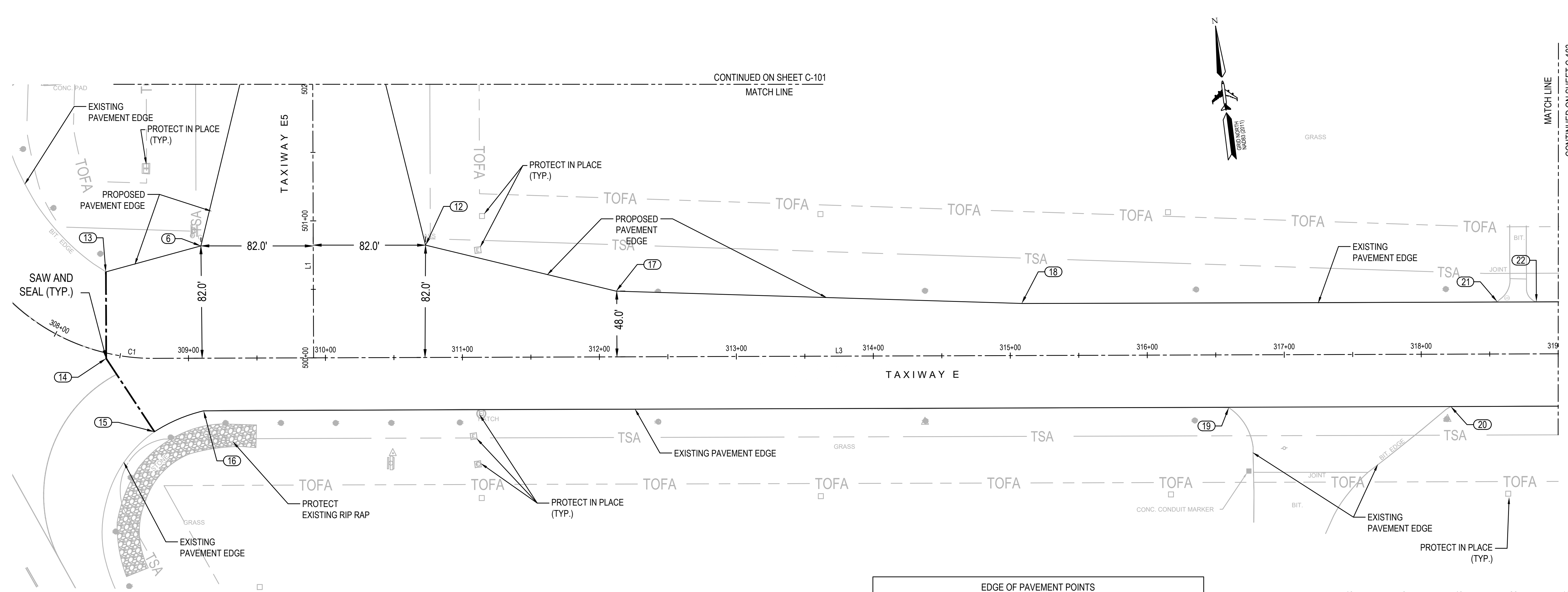
SHEET TITLE:  
**ALIGNMENT PLAN - 2**

DISCIPLINE:  
CIVIL

DRAWN BY: DB  
CHECKED BY: SD/SF  
APPROVED BY: RLL

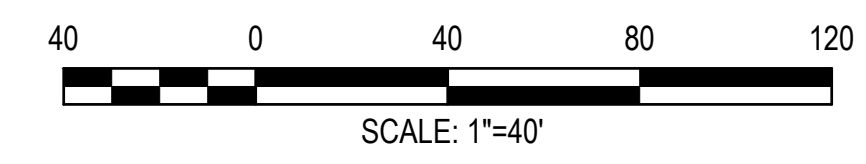
SCALE: 1" = 40'  
DATE: MARCH 2025

SHEET NUMBER: 15 OF 44  
DWG NUMBER: **C-102**



BASELINE DATA						
NUMBER	BASELINE	LENGTH	RADIUS	DIRECTION	STARTING	ENDING
C1	TW E	235.624	150.000	S38° 00' 42.22"E	N:2996384.0543 E:710035.8559	N:2996216.9161 E:710166.4937
L3	TW E	6218.080		S83° 00' 45.53"E	N:2996216.9161 E:710166.4937	N:2995460.4850 E:716338.3923
L1	TW E5	788.825		N6° 59' 14.72"E	N:2996202.6949 E:710282.5277	N:2996985.6611 E:710378.4894

EDGE OF PAVEMENT POINTS						
POINT NAME	BASELINE	NORTHING	EASTING	STATION	OFFSET	
5	TW E5	2996413.4345	710259.4282	502+06.36	48.56	LT
6	TW E5	2996293.6700	710211.7084	500+81.68	81.36	LT
11	TW E5	2996401.5748	710356.1890	502+06.36	48.92	RT
12	TW E5	2996273.8307	710373.5721	500+81.68	81.71	RT
13	TW E	2996283.9034	710139.9365	308+17.65	56.65	LT
14	TW E	2996221.1141	710132.2410	308+40.52	3.92	RT
15	TW E	2996163.6655	710160.5079	308+74.98	53.58	RT
16	TW E	2996174.3108	710197.9583	309+10.86	38.46	RT
17	TW E	2996226.1108	710493.3367	311+97.74	48.89	LT
18	TW E	2996178.5668	710791.9786	314+99.95	38.03	LT
19	TW E	2996083.0806	710941.0177	316+59.50	38.62	RT
20	TW E	2996063.7030	711101.7622	318+21.40	38.30	RT
21	TW E	2996135.4977	711145.1268	318+55.71	38.24	LT
22	TW E	2996131.8886	711173.4932	318+84.31	38.11	LT



**GENERAL ALIGNMENT NOTES**

- COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983.
- ELEVATIONS SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88 MEAN SEA LEVEL DATUM.)
- ALIGNMENT COORDINATES AND SURVEY CONTROL DATA ARE REFERENCED FROM MASSPORT SURVEY PERFORMED IN FALL 2024.
- IF NECESSARY, DURING MOBILIZATION, MASSPORT SURVEY WILL ASSIST THE CONTRACTOR WITH RECOVERY OF PROJECT SURVEY CONTROL POINTS. ALL COORDINATION WILL BE DONE THROUGH MASSPORT CAPITAL PROGRAMS.
- MASSPORT SURVEY SHALL BE NOTIFIED OF ANY SURVEY CONTROL POINTS DESTROYED/DISTURBED DURING CONSTRUCTION.
- NORTHINGS AND EASTINGS FOR EXISTING EDGE OF SHOULDER ARE GIVEN FOR REFERENCE ONLY. CONTRACTOR SHALL SURVEY EXISTING EDGE OF PAVEMENT AND NOTIFY THE ENGINEER OF ANY INSTANCES WHERE IT IS LESS THAN MINIMUM WIDTH SPECIFIED.
- FOR EXISTING CONDITIONS PLANS AND SURVEY NOTES, REFER TO V-100 SERIES DRAWINGS.
- FOR GRADING AND PROFILES, REFER TO SHEETS C-211 AND C-212 DRAWINGS.

- FOR SPOT GRADES, REFER TO C-300 SERIES DRAWINGS.
- FOR TYPICAL SECTIONS, REFER DRAWING ON SHEET C-401.
- FOR UTILITY STRUCTURE ADJUSTMENT PLAN AND STRUCTURE SCHEDULE, REFER TO C-500 SERIES.
- FOR MARKINGS AND MARKING DETAILS, REFER TO C-700 SERIES DRAWINGS.
- IF STRUCTURE IS ABANDONED AND RESULTS IN UNSUITABLE RSA GRADING, THE RPR MAY DIRECT THE CONTRACTOR TO REMOVE THE STRUCTURE UNDER ITEM P-152.01.

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- Ⓢ GEOMETRY POINTS - TAXIWAY
- ⬜ ELEVATED EDGE LIGHT
- Ⓚ DRAIN INLET PROTECTION DEVICE
- Ⓛ EXISTING DRAIN MANHOLE
- Ⓛ EXISTING CATCH BASIN
- Ⓛ ELECTRIC MANHOLE
- Ⓛ SURVEY CONTROL POINT
- Ⓛ BENCH MARK
- GROUND ROD
- Ⓚ CORE LOCATION
- Ⓛ BASE CAN WITH RETRO-REFLECTIVE POST
- LIMIT OF WORK



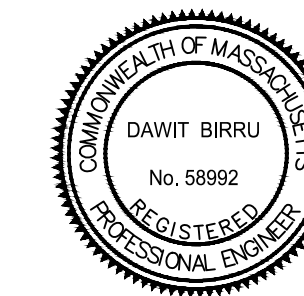
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

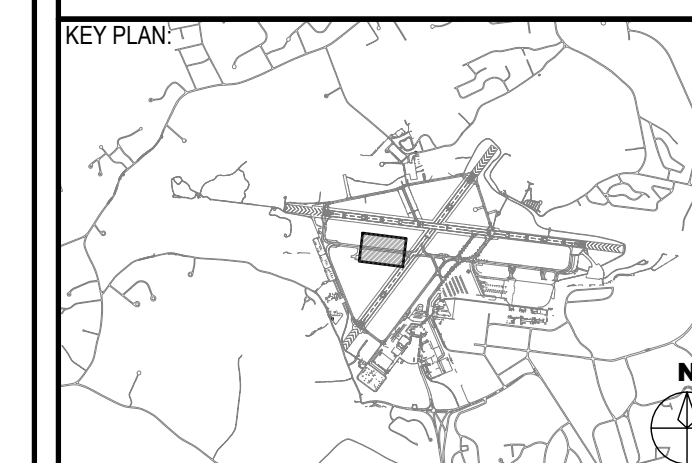
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:

CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

ALIGNMENT PLAN - 3

DISCIPLINE:

CIVIL

DRAWN BY: DB    CHECKED BY: SD/SF    APPROVED BY: RLL

SCALE:

1" = 40'

DATE:

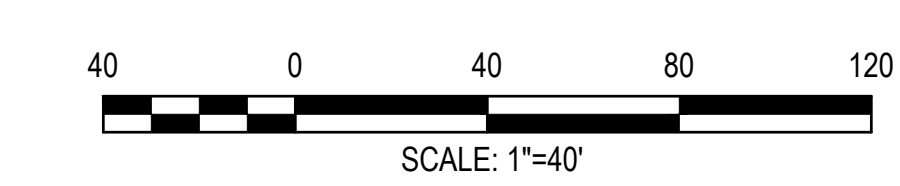
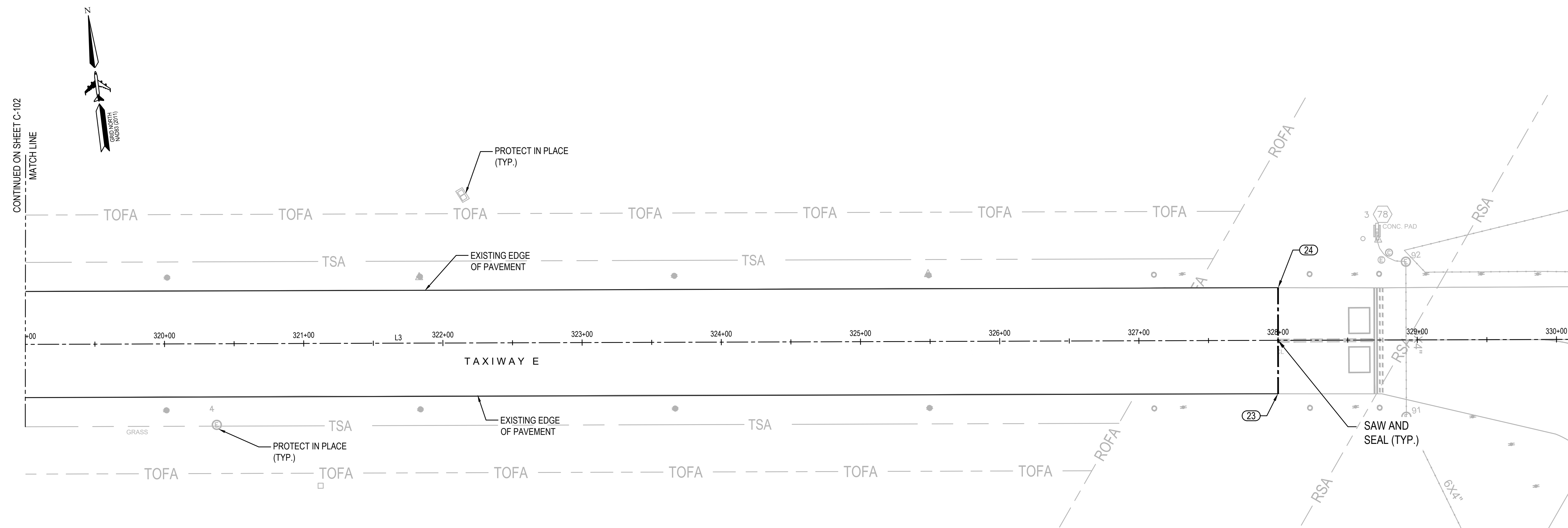
MARCH 2025

SHEET NUMBER:

16 OF 44

DWG NUMBER:

**C-103**



EDGE OF PAVEMENT POINTS					
POINT NAME	BASELINE	NORTHING	EASTING	STATION	OFFSET
22	TW E	2996131.8886	711173.4932	318+84.31	38.11 LT
23	TW E	2995944.6116	712072.9765	327+99.89	38.36 RT
24	TW E	2996020.1639	712082.4537	328+00.11	37.79 LT

BASELINE DATA					
NUMBER	BASELINE	LENGTH	DIRECTION	STARTING	ENDING
L3	TW E	6218.080	S83° 00' 45.53"E	N:2996216.9161 E:710166.4937	N:2995460.4850 E:716338.3923

**GENERAL ALIGNMENT NOTES**

- COORDINATES SHOWN HEREON REFER TO THE NORTH AMERICAN DATUM OF 1983.
- ELEVATIONS SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88 MEAN SEA LEVEL DATUM.)
- ALIGNMENT COORDINATES AND SURVEY CONTROL DATA ARE REFERENCED FROM MASSPORT SURVEY PERFORMED IN FALL 2024.
- IF NECESSARY, DURING MOBILIZATION, MASSPORT SURVEY WILL ASSIST THE CONTRACTOR WITH RECOVERY OF PROJECT SURVEY CONTROL POINTS. ALL COORDINATION WILL BE DONE THROUGH MASSPORT CAPITAL PROGRAMS.
- MASSPORT SURVEY SHALL BE NOTIFIED OF ANY SURVEY CONTROL POINTS DESTROYED/DISTURBED DURING CONSTRUCTION.
- NORTHINGS AND EASTINGS FOR EXISTING EDGE OF SHOULDER ARE GIVEN FOR REFERENCE ONLY. CONTRACTOR SHALL SURVEY EXISTING EDGE OF PAVEMENT AND NOTIFY THE ENGINEER OF ANY INSTANCES WHERE IT IS LESS THAN MINIMUM WIDTH SPECIFIED.
- FOR EXISTING CONDITIONS PLANS AND SURVEY NOTES, REFER TO V-100 SERIES DRAWINGS.
- FOR GRADING AND PROFILES, REFER TO SHEETS C- 211 AND C-212 DRAWINGS.

- FOR SPOT GRADES, REFER TO C- 300 SERIES DRAWINGS.
- FOR TYPICAL SECTIONS, REFER DRAWING ON SHEET C-401.
- FOR UTILITY STRUCTURE ADJUSTMENT PLAN AND STRUCTURE SCHEDULE, REFER TO C- 500 SERIES.
- FOR MARKINGS AND MARKING DETAILS, REFER TO C-700 SERIES DRAWINGS.
- IF STRUCTURE IS ABANDONED AND RESULTS IN UNSUITABLE RSA GRADING, THE RPR MAY DIRECT THE CONTRACTOR TO REMOVE THE STRUCTURE UNDER ITEM P-152.01.

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- GEOMETRY POINTS - TAXIWAY
- ELEVATED EDGE LIGHT
- DRAIN INLET PROTECTION DEVICE
- ⊕ EXISTING DRAIN MANHOLE
- EXISTING CATCH BASIN
- ⊕ ELECTRIC MANHOLE
- ⊕ SURVEY CONTROL POINT
- ◆ BENCH MARK
- GROUND ROD
- ⊕ CORE LOCATION
- ⊕ BASE CAN WITH RETRO-REFLECTIVE POST
- LIMIT OF WORK





MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

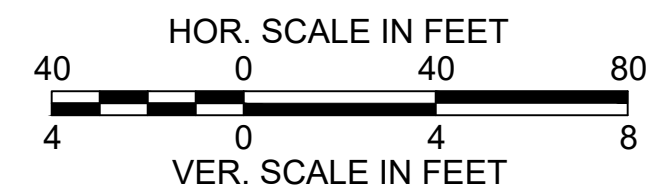
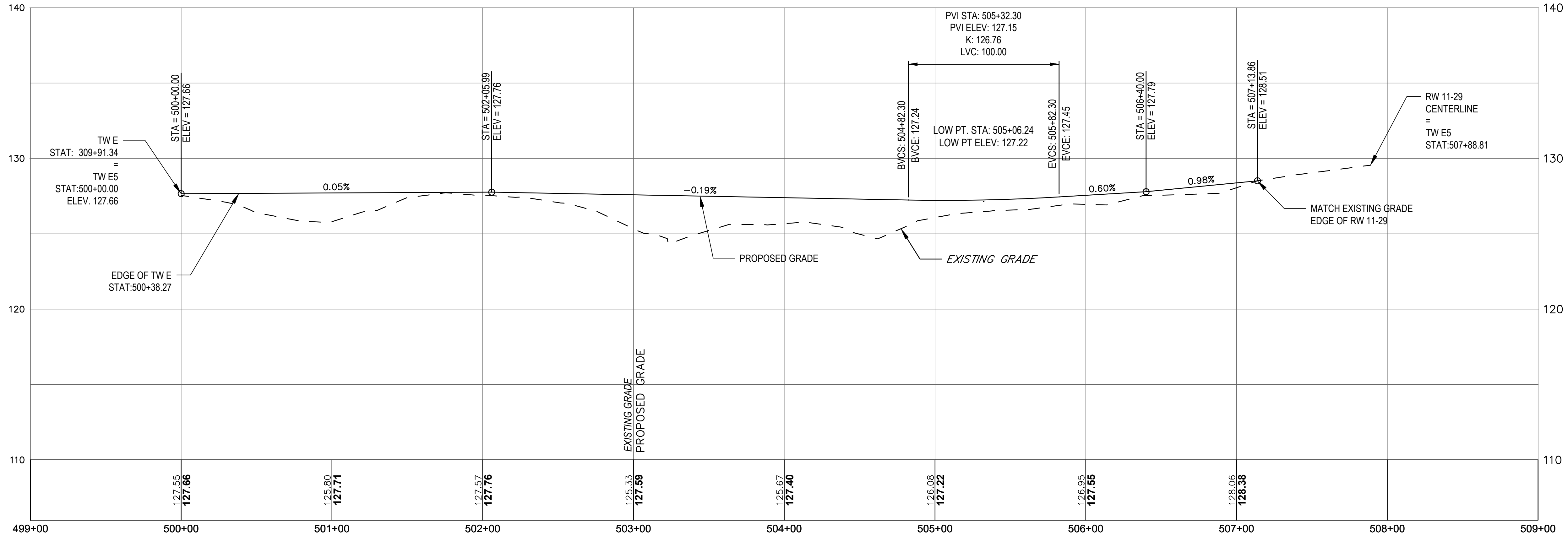
SHEET TITLE:  
**TAXIWAY E5 PROFILE PLAN  
STA 500+00 TO 507+16.86**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RLL
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SCALE: 1"=40' H 1"=4' V	DATE: MARCH 2025
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SHEET NUMBER: 17 OF 44	DWG NUMBER: <b>C-201</b>
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MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: **H296-C1** LOCATION CODE: **3540**

PROJECT SUBMISSION PHASE:  
**BID SET**

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**TAXIWAY E PROFILE PLAN  
STA 308+50 TO 328+00**

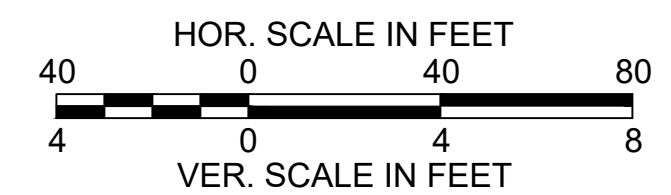
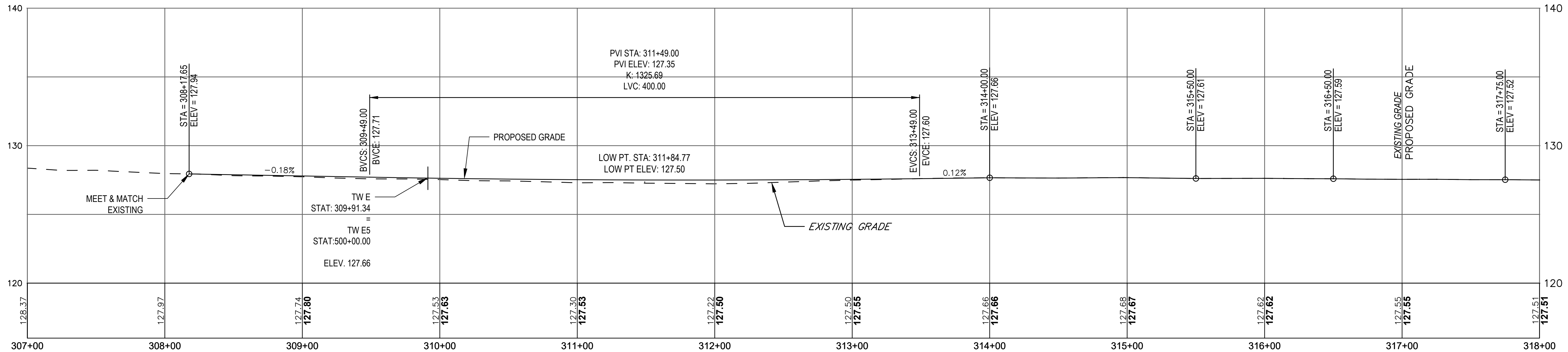
DISCIPLINE:  
CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
DB	SD/SF	RLI

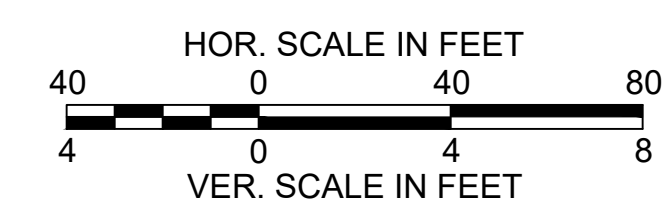
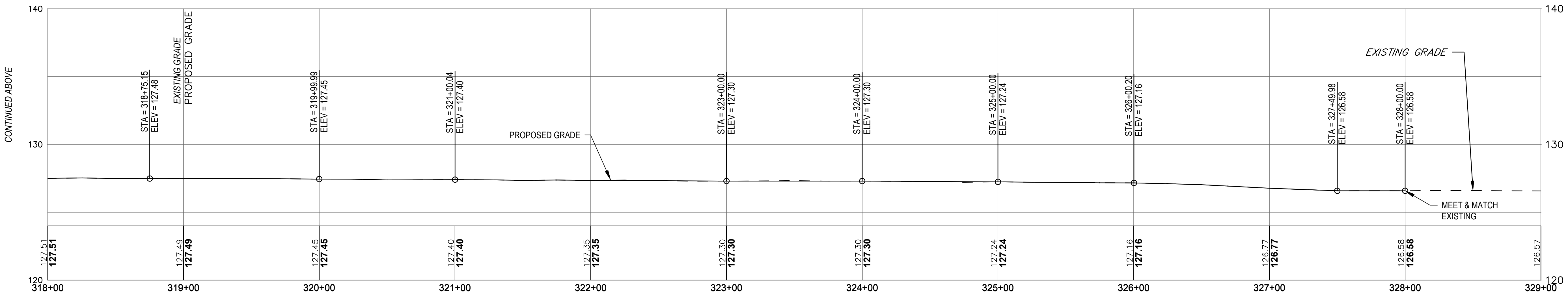
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1"=40' H 1"=4' V	MARCH 2025

SHEET NUMBER: 18 OF 44 DWG NUMBER:

**C-202**



CONTINUED BELOW



CONTINUED ABOVE



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

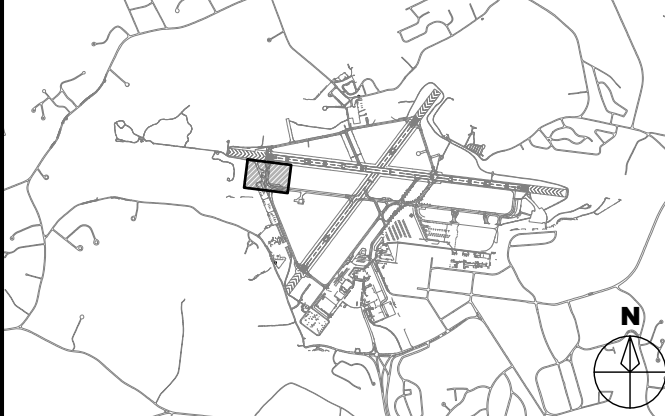
PROJECT SUBMISSION PHASE:

BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:

CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

GRADING PLAN - 1

DISCIPLINE:

CIVIL

DRAWN BY:

DB

CHECKED BY:

SD/SF

APPROVED BY:

RLI

SCALE:

1" = 40'

DATE:

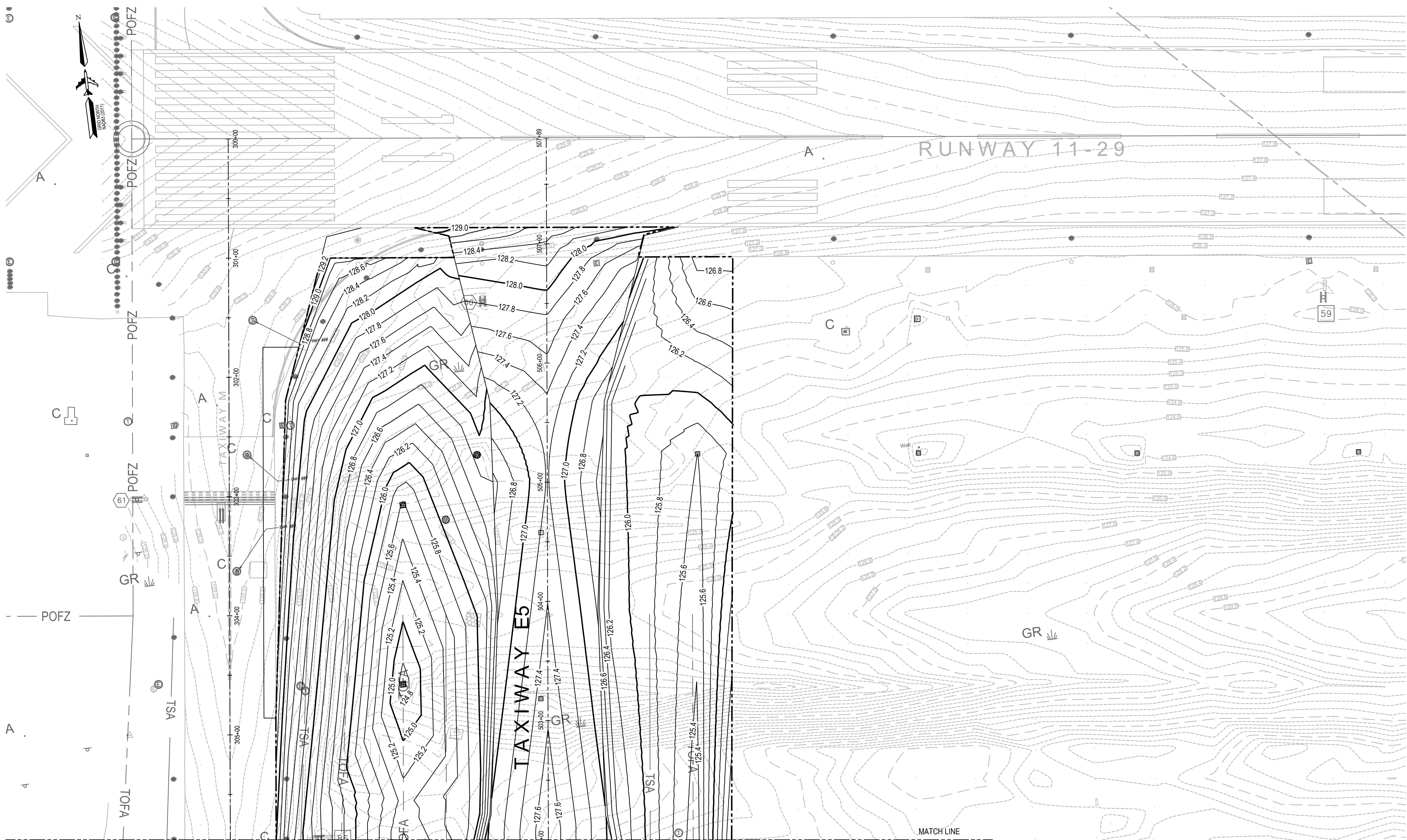
MARCH 2025

SHEET NUMBER:

19 OF 44

DWG NUMBER:

**C-211**



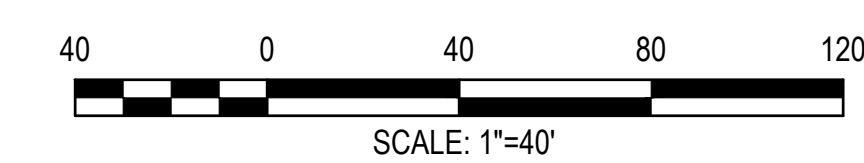
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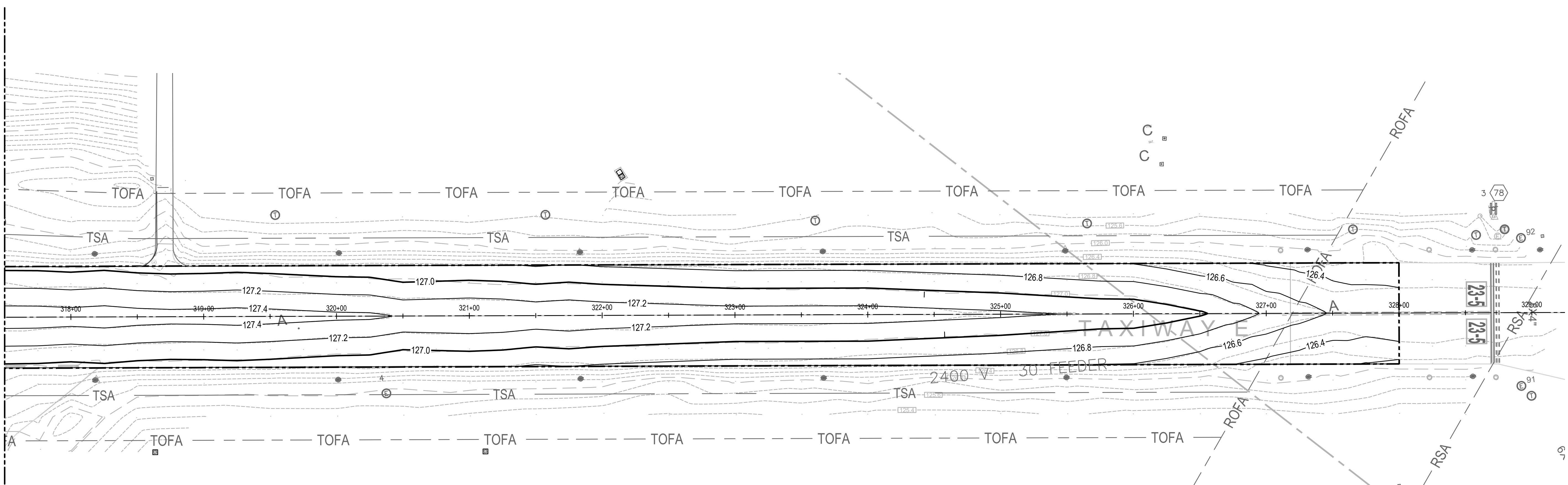
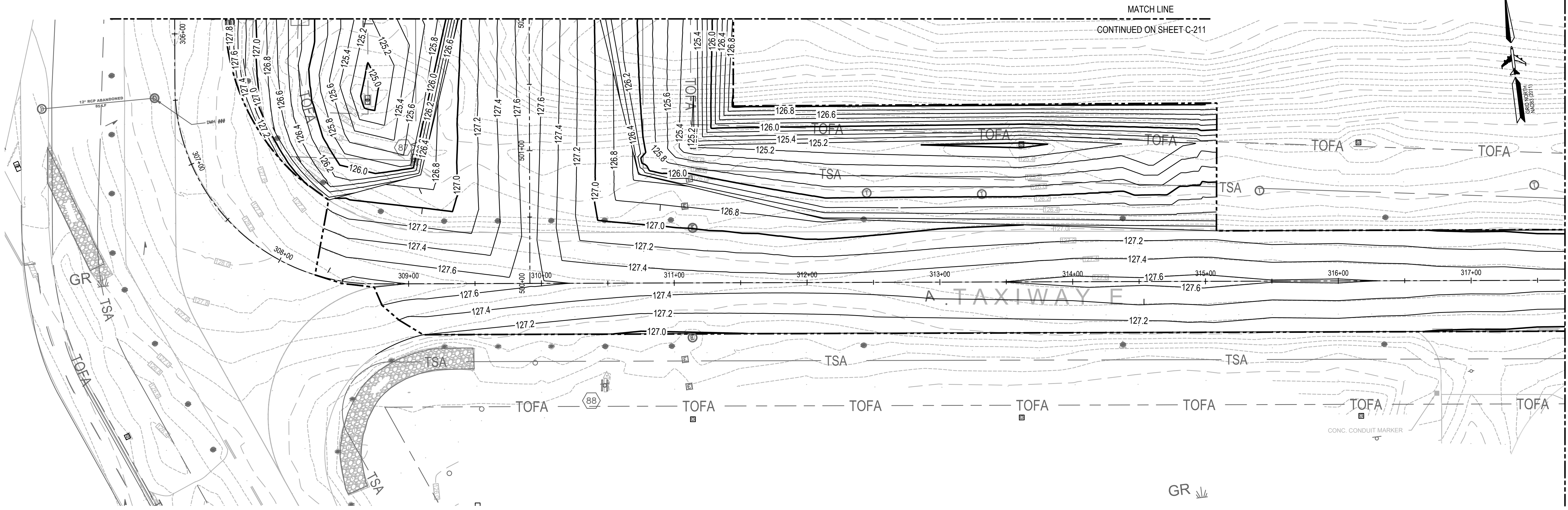
**LEGEND**

- 128.0 MAJOR CONTOUR
- 127.8 MINOR CONTOUR
- RSA RUNWAY SAFETY AREA (RSA)
- ROFA RUNWAY OBJECT FREE AREA (ROFA)
- TSA TAXIWAY SAFETY AREA (TSA)
- TOFA TAXIWAY OBJECT FREE AREA (TOFA)
- PROPOSED SURFACE BOUNDARY
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE

**NOTES**

- FOR GENERAL CONSTRUCTION SAFETY/PHASING NOTES, GENERAL CONSTRUCTION SAFETY/PHASING PLANS REFER TO THE G-100 DRAWINGS.
- FOR ALIGNMENT PLANS AND LAYOUT INFORMATION REFER TO THE C-100 DRAWINGS.
- FOR SPOT GRADE PLANS REFER TO THE C-300 SERIES DRAWINGS.
- FOR THE TYPICAL SECTIONS AND CONSTRUCTION DETAILS REFER TO C-401 DRAWING.

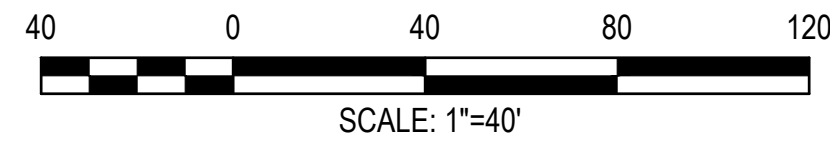




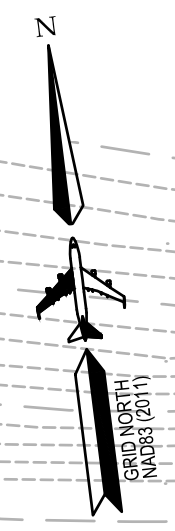
**LEGEND**

— 128.0 —	MAJOR CONTOUR
— 127.8 —	MINOR CONTOUR
— RSA —	RUNWAY SAFETY AREA (RSA)
— ROFA —	RUNWAY OBJECT FREE AREA (ROFA)
— TSA —	TAXIWAY SAFETY AREA (TSA)
— TOFA —	TAXIWAY OBJECT FREE AREA (TOFA)
- - - - -	PROPOSED SURFACE BOUNDARY

- NOTES**
- FOR GENERAL CONSTRUCTION SAFETY/PHASING NOTES, GENERAL CONSTRUCTION SAFETY/PHASING PLANS REFER TO THE G-100 DRAWINGS.
  - FOR ALIGNMENT PLANS AND LAYOUT INFORMATION REFER TO THE C-100 DRAWINGS.
  - FOR SPOT GRADE PLANS REFER TO THE C-300 SERIES DRAWINGS.
  - FOR THE TYPICAL SECTIONS AND CONSTRUCTION DETAILS REFER TO C-401 DRAWING.



MATCH LINE  
CONTINUED ON SHEET C-211



CONTINUED BELOW

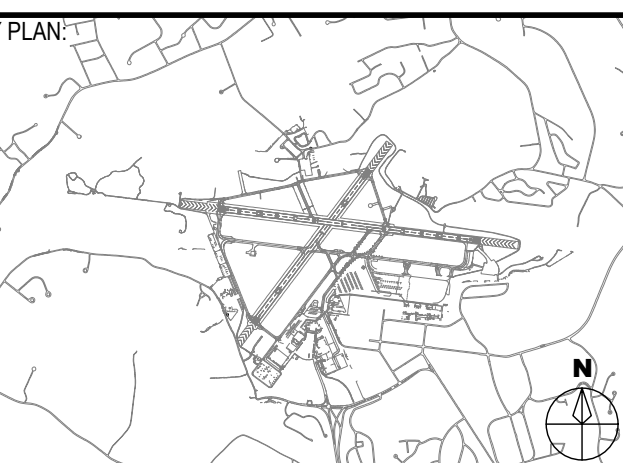
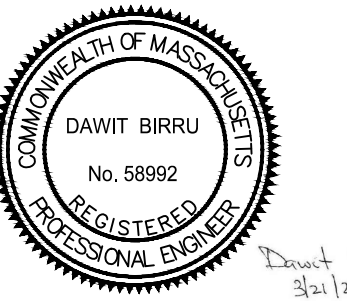


PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**GRADING PLAN - 2**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RL
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SCALE:  
1" = 40'

DATE:  
MARCH 2025

SHEET NUMBER:  
20 OF 44

DWG NUMBER:  
**C-212**





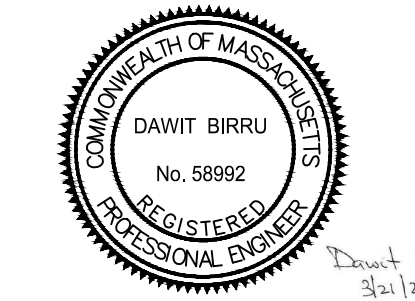
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

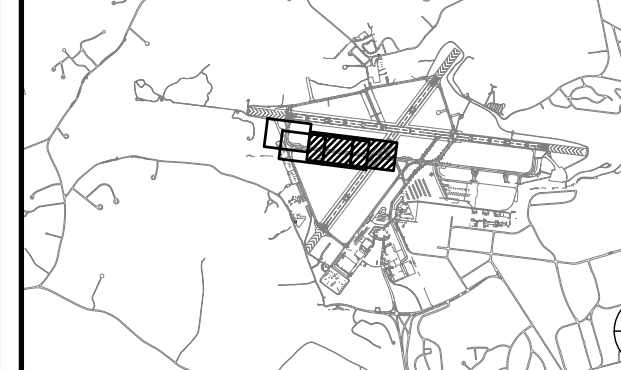
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

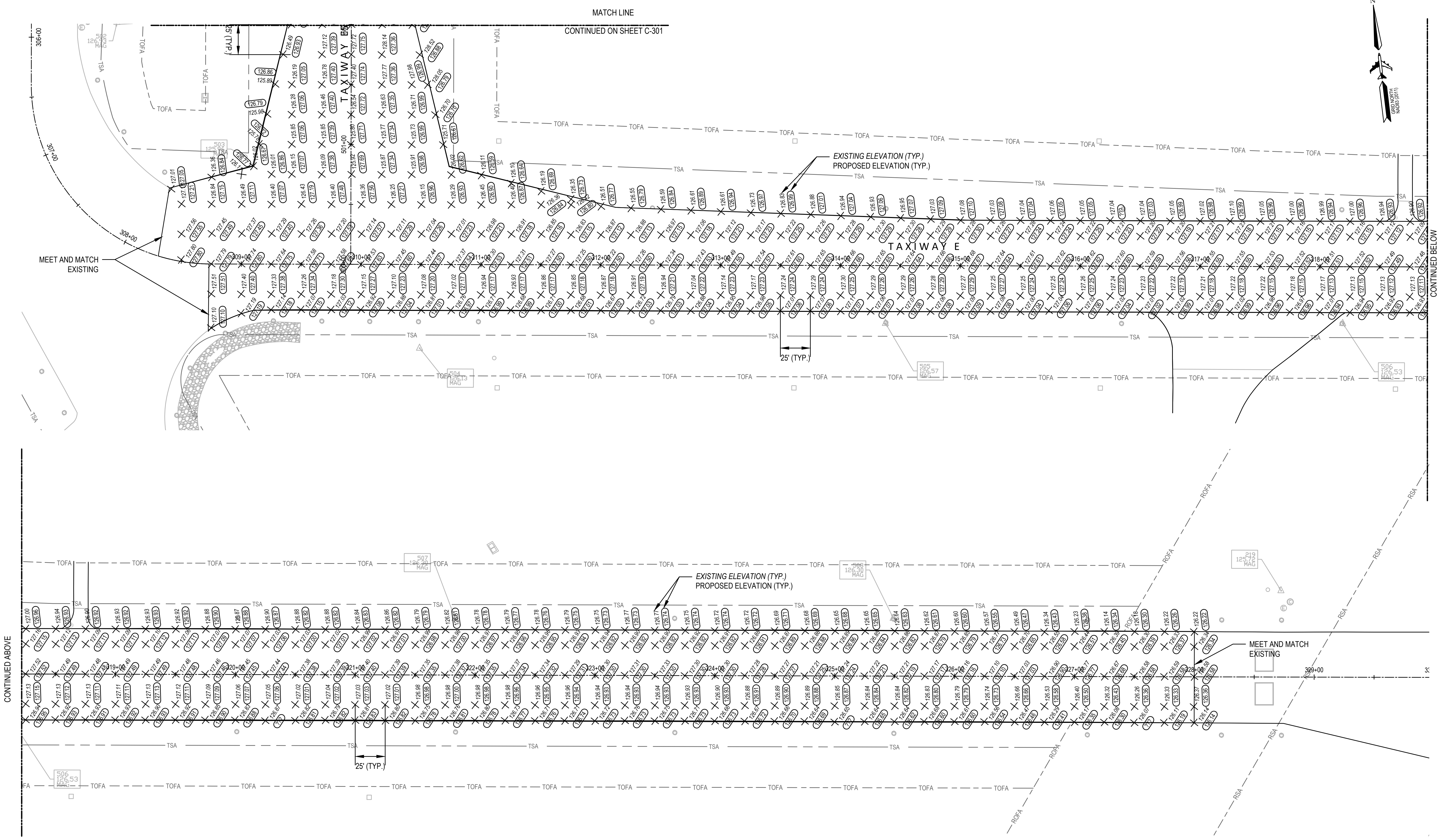
SHEET TITLE:  
**SPOT GARDE PLAN - 2**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RL
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SCALE: 1" = 40'  
DATE: MARCH 2025

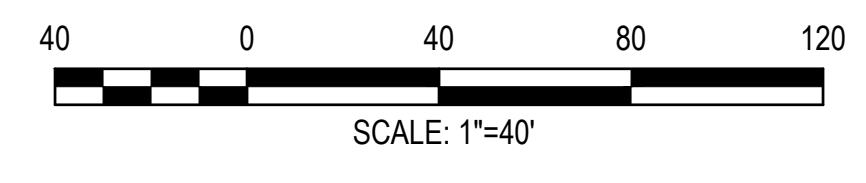
SHEET NUMBER: 22 OF 44  
DWG NUMBER: **C-302**



- NOTES**
- ELEVATIONS SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88 MEAN SEA LEVEL DATUM.)
  - EXISTING SPOT GRADES SHALL BE CONSIDERED APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY.
  - ALL EXISTING SPOT GRADES SHALL BE FIELD VERIFIED.
  - THE ENGINEER AND RESIDENT PROJECT REPRESENTATIVE SHALL BE NOTIFIED OF ALL SPOT GRADE DISCREPANCIES MORE THAN 0.02 FEET.
  - SPOT GRADES ARE LOCATED AT 25 FOOT STATION INTERVALS AT OFFSETS OF 25 FEET AND AT GEOMETRY POINTS AS NEEDED.
  - SEE ALIGNMENT PLANS C101 THROUGH C102 FOR LAYOUT OF PAVING LIMITS.
  - SEE GRADING PLANS C211 THROUGH C212.

**LEGEND**

- RSA — RUNWAY SAFETY AREA (RSA)
- ROFA — RUNWAY OBJECT FREE AREA (ROFA)
- TSA — TAXIWAY SAFETY AREA (TSA)
- TOFA — TAXIWAY OBJECT FREE AREA (TOFA)
- 100.00 EXISTING ELEVATION
- 100.00 PROPOSED ELEVATION





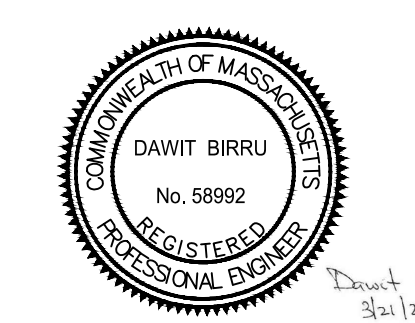
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

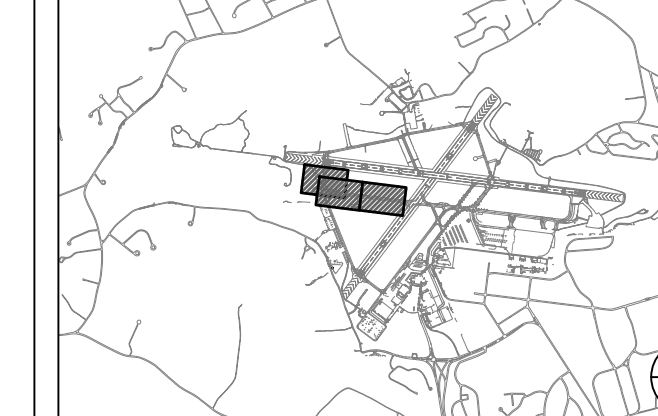
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540  
PROJECT SUBMISSION PHASE:

BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

TYPICAL SECTIONS

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RLL
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SCALE: NOT TO SCALE	DATE: MARCH 2025
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SHEET NUMBER: 23 OF 44      DWG NUMBER: C-401

**GENERAL PAVEMENT NOTES**

**PROPOSED PAVEMENT MILLING & INLAY**  
SURFACE: 2" P-401 HMA SURFACE COURSE  
2" P-401 HMA INTERMEDIATE COURSE OVER MILLED SURFACE  
4.00" MILLING DEPTH (VARIES, SEE NOTE 4)

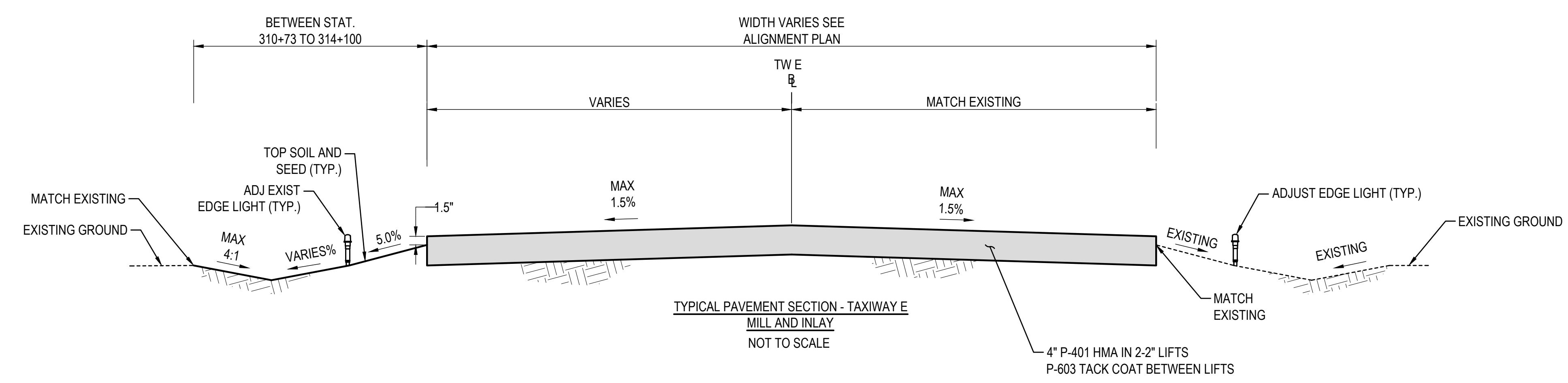
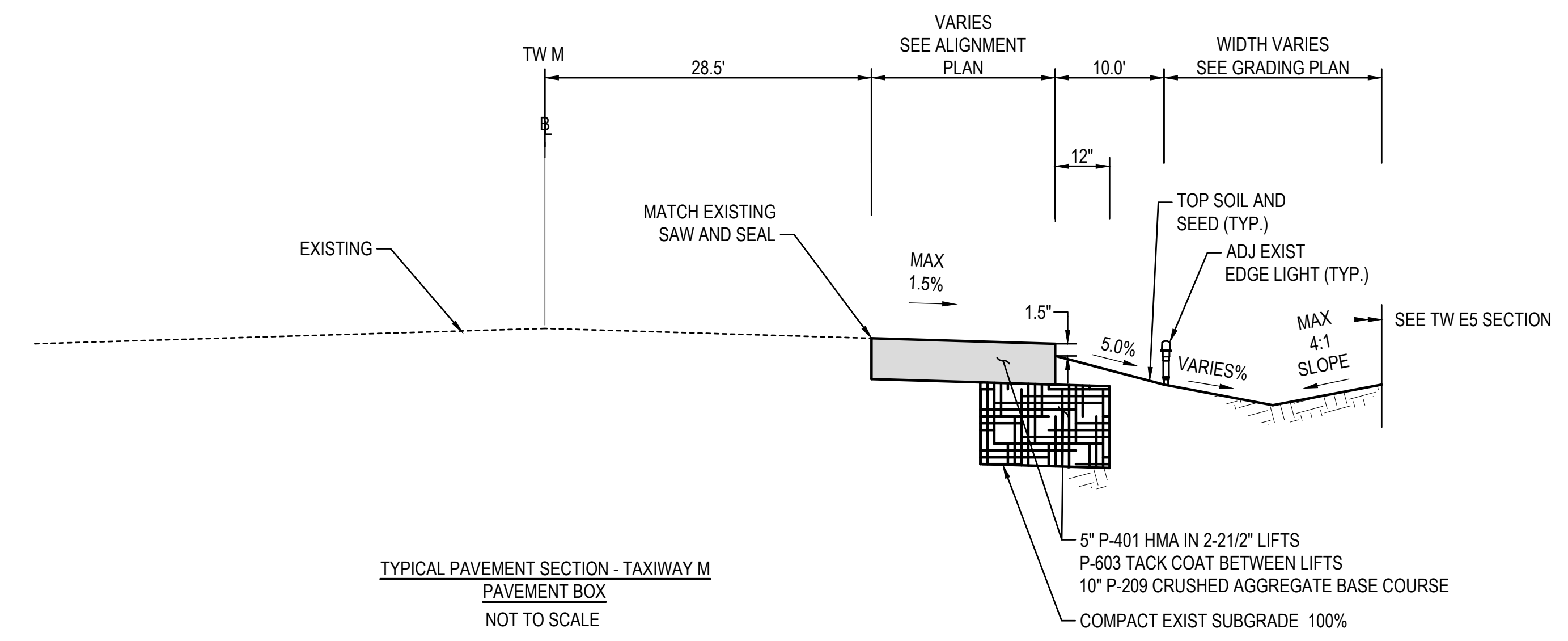
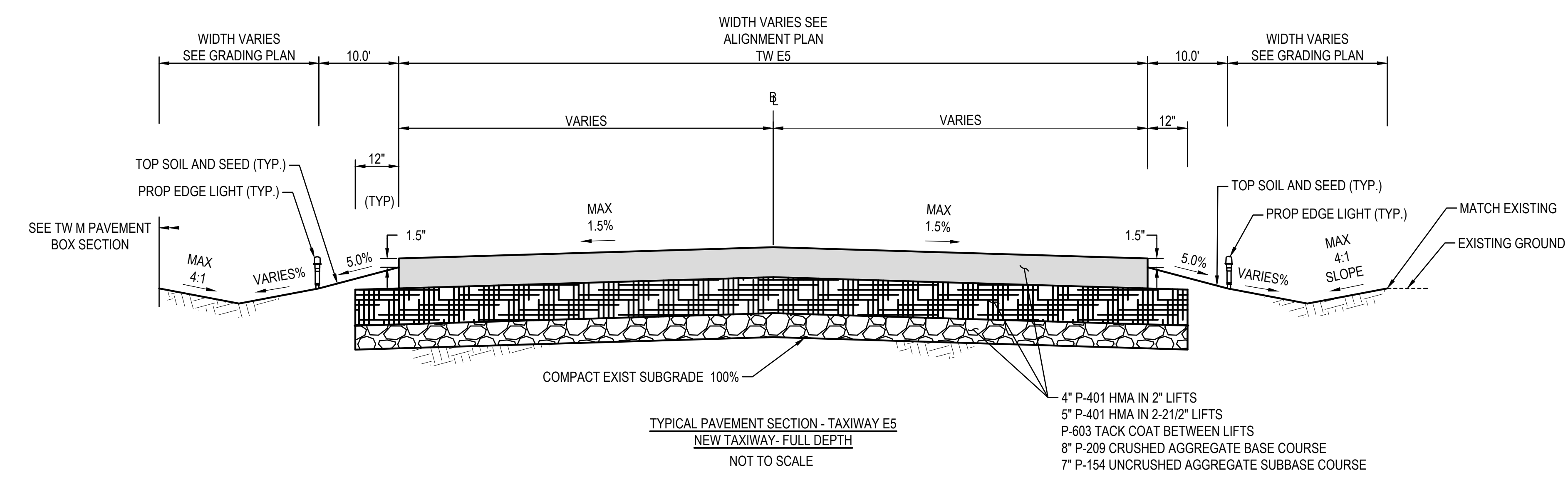
**PROPOSED FULL DEPTH PAVEMENT**  
SURFACE: 4" P-401 HMA SURFACE COURSE  
5" P-401 HMA INTERMEDIATE COURSE  
BASE: 8" P-209 CRUSHED AGGREGATE BASE COURSE  
SUBBASE: 7" P-154 UNCRUSHED AGGREGATE SUBBASE COURSE  
SUBGRADE: PREPPED AND COMPACTED TO 100%

**PROPOSED PAVEMENT BOX**  
SURFACE: 2.5" P-401 HMA SURFACE COURSE  
2.5" P-401 HMA INTERMEDIATE COURSE  
BASE: 10" P-209 CRUSHED AGGREGATE BASE COURSE  
SUBGRADE: PREPPED AND COMPACTED TO 100%

\*EXISTING TOP SOIL SHALL BE RE-USED WHERE POSSIBLE AND AS DETERMINED SUITABLE BY THE ENGINEER.

**NOTES:**

- ALL PAVING SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE FAA AC 150/5370-10H STANDARD SPECIFICATION FOR CONSTRUCTION OF AIRPORTS.
- ALL SURFACES SHALL BE TACKED WITH P - 603 TACK COAT PRIOR TO PAVING HMA. ALL JOINTS IN THE SURFACE COURSE SHALL BE SEALED WITH P - 605 JOINT SEALANT FOR PAVEMENTS.
- P -101-5.2 JOINT AND CRACK REPAIR SHALL BE USED TO REPAIR EXISTING PAVEMENT CRACK AS DETERMINED AND APPROVED BY THE ENGINEER.
- EXISTING MILLING DEPTH VARIES TO ESTABLISH THE PROPOSED GRADING AND A PROPOSED MAXIMUM 1.5% CROSS SLOPE, UNLESS OTHERWISE NOTED.
- FOR EXISTING PAVEMENT INFORMATION SEE PAVEMENT CORE LOGS ON V-200 SERIES AND BORING LOGS IN THE SPECIFICATION.





MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:

BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:

CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

PAVEMENT AND CRACK  
REPAIR DETAILS

DISCIPLINE:

CIVIL

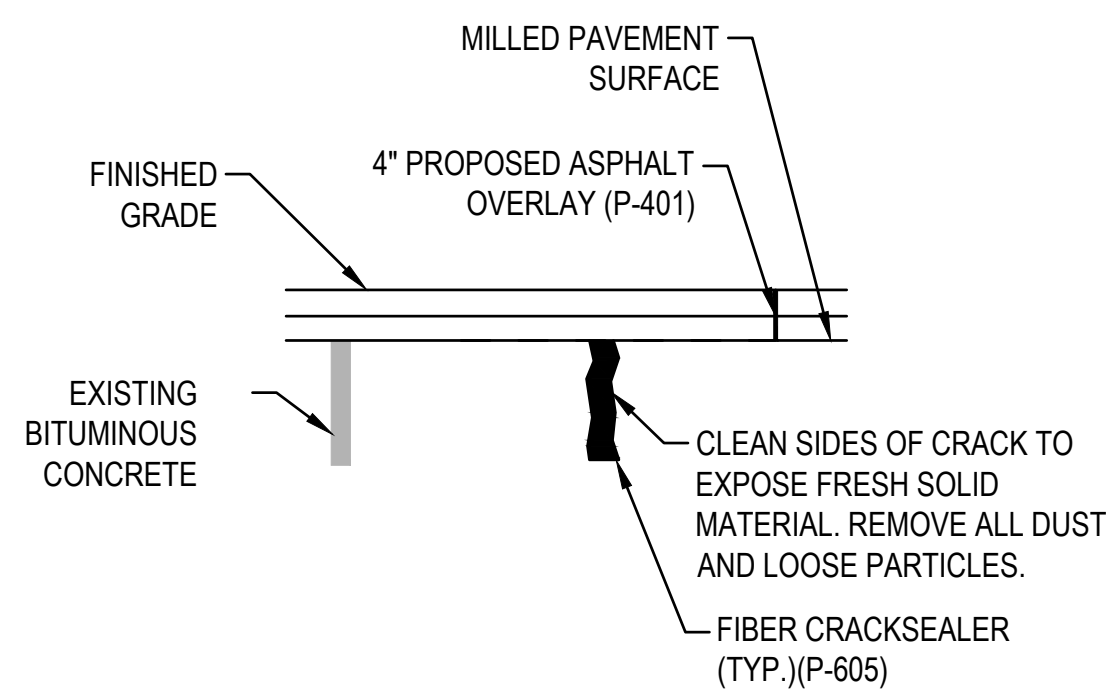
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DB SD/SF RLL

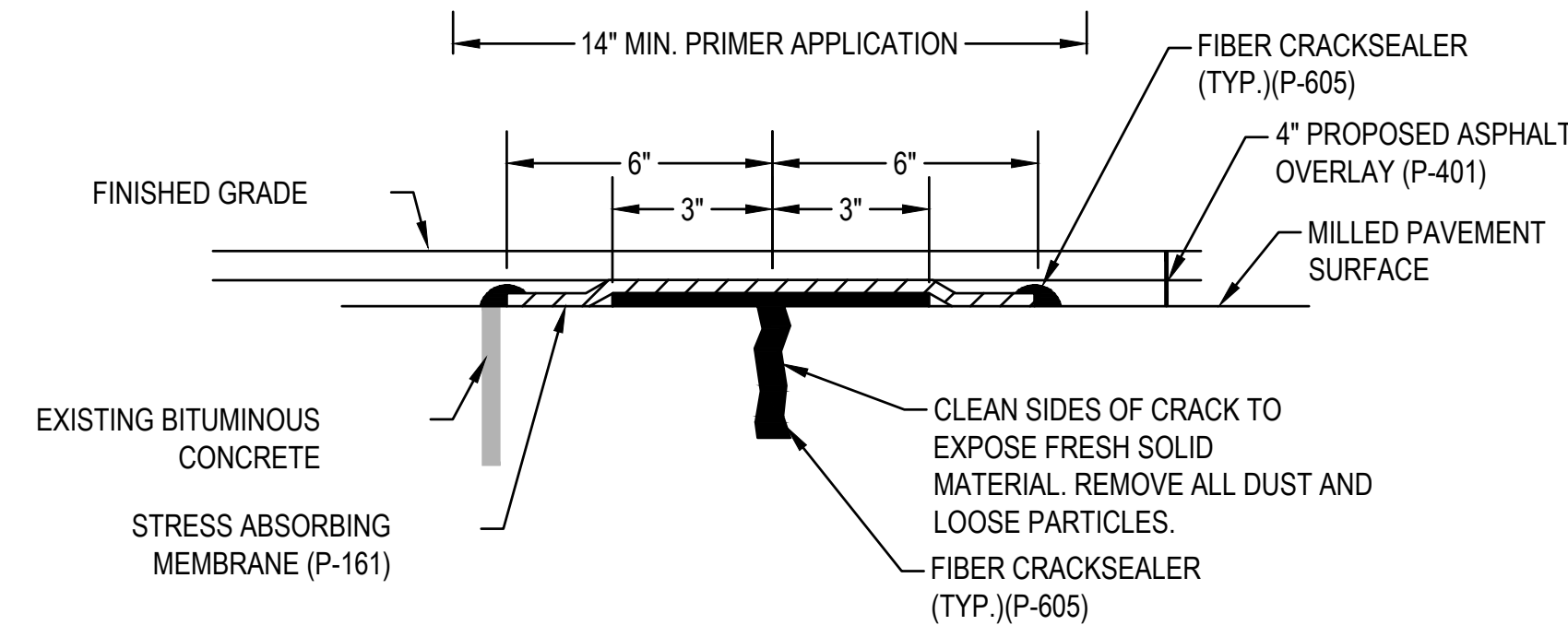
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DATE: MARCH 2025

SHEET NUMBER: DWG NUMBER:

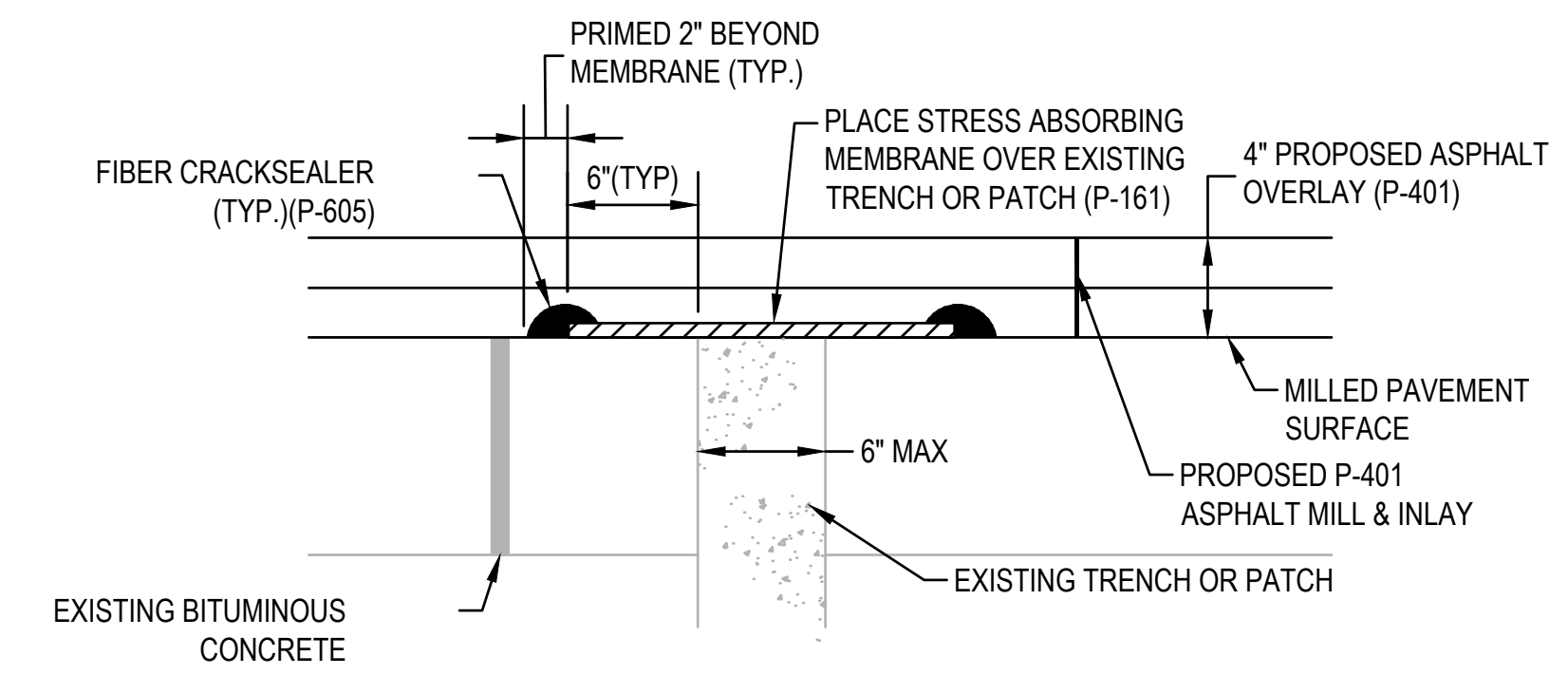
24 OF 44 **C-402**



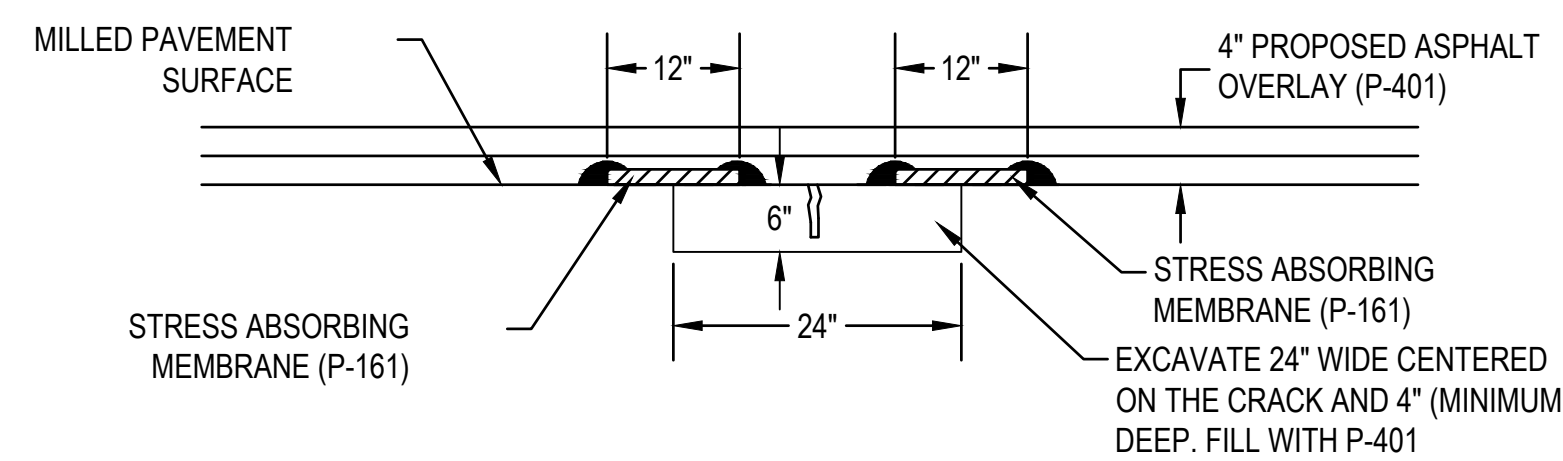
**TYPE 1A CRACK REPAIR FOR CRACK WIDTH  
LESS THAN 1"**  
NOT TO SCALE



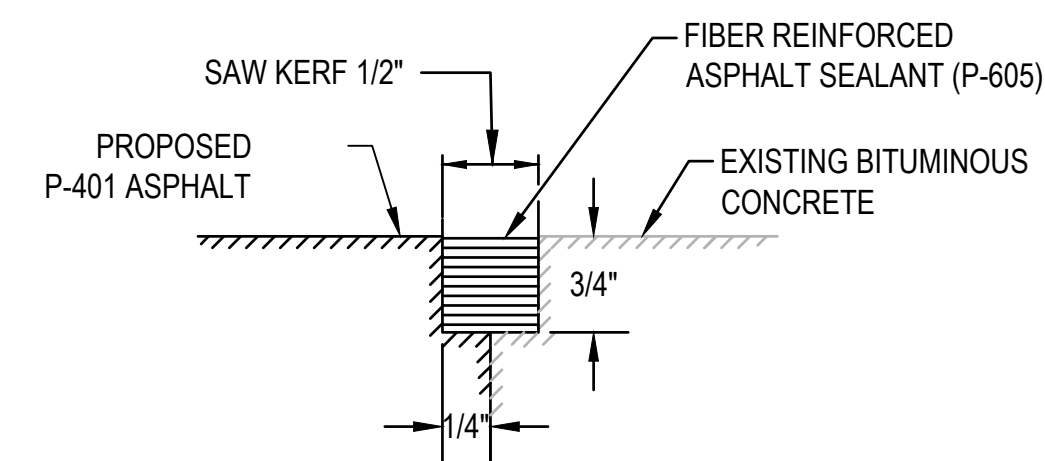
**TYPE 1B CRACK REPAIR FOR  
CRACK WIDTH > 1" BUT LESS THAN 2-1/4"**  
NOT TO SCALE



**TYPE 1C CRACK REPAIR WITH P-401 ASPHALT OVERLAY  
(CONCRETE ELECTRICAL TRENCH OR PATCH)**  
NOT TO SCALE

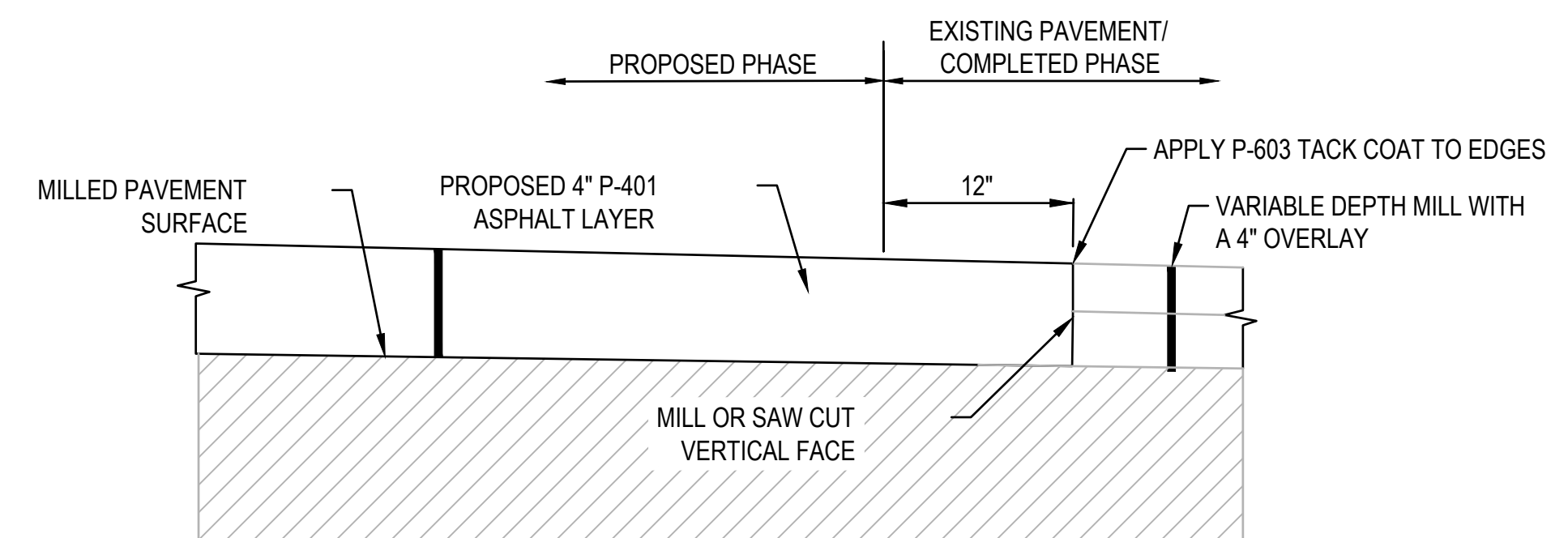


**TYPE 1D CRACK REPAIR - MILL AND INLAY REPAIR GREATER THAN 2-1/4" WIDE**  
NOT TO SCALE



NOTE:  
SEALANT SHALL BE ROLLED DOWN IMMEDIATELY  
FOLLOWING APPLICATION

**BITUMINOUS TO BITUMINOUS SAW AND SEAL DETAIL**  
NOT TO SCALE



**TYPICAL MILL JOINT DETAIL**  
NOT TO SCALE





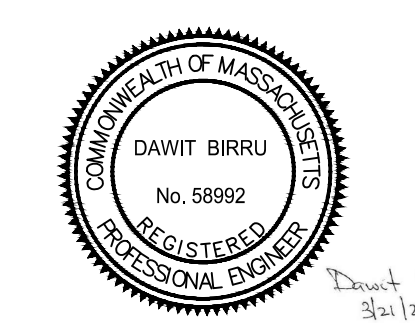
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

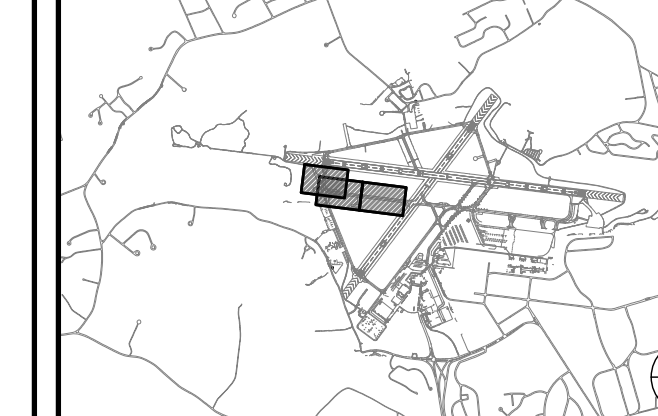
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
**BID SET**

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

**UTILITY STRUCTURE  
ADJUSTMENT AND  
SCHEDULE PLAN**

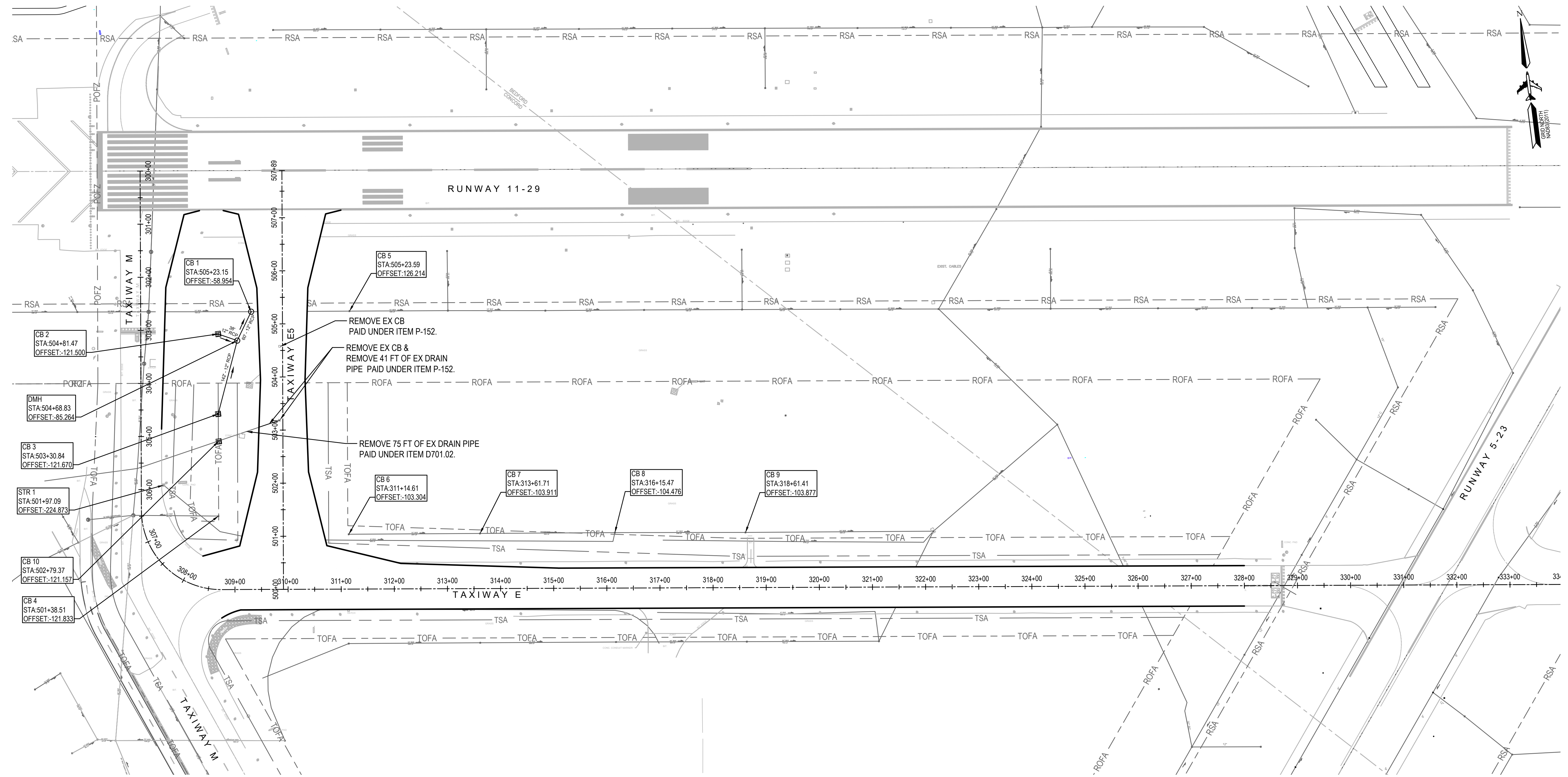
DISCIPLINE:  
CIVIL

DRAWN BY:	CHECKED BY:	APPROVED BY:
DB	SD/SF	RL

SCALE:	DATE:
1" = 100'	MARCH 2025

SHEET NUMBER: DWG NUMBER:

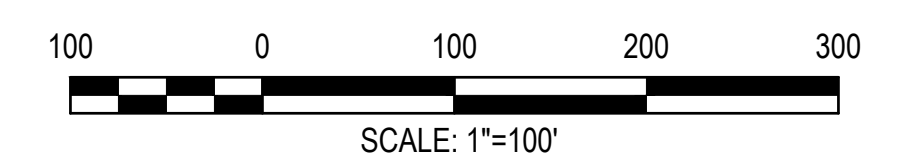
25 OF 44 **C-501**

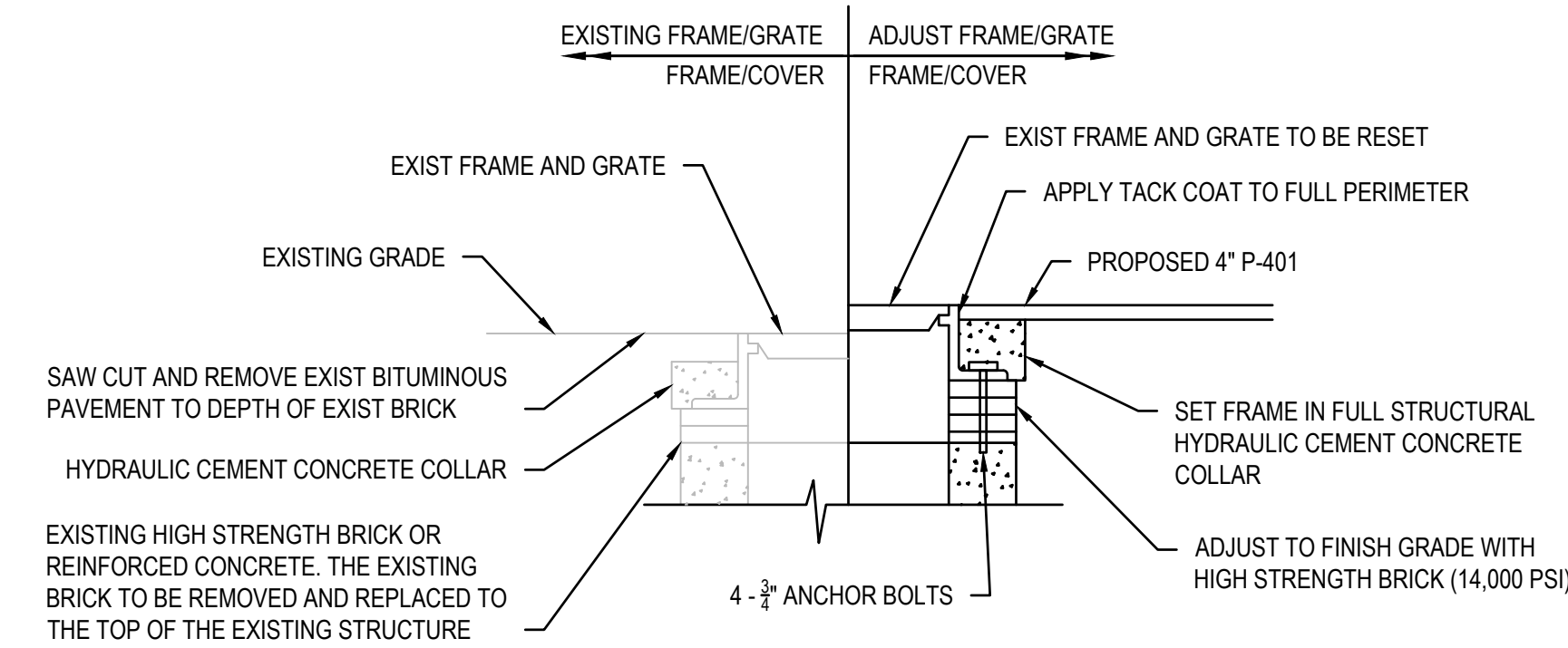


STRUCTURE ADJUSTMENT SCHEDULE							
STR. ID	BASELINE	STATION	OFFSET	EXISTING ELEV.	FINISH ELEV.	DIFF IN ELEV.	DESCRIPTION
CB 1	TW E5	505+23.15	58.95 LT	126.88	126.42	-0.46	EXISTING CATCH BASIN TO BE CHANGED TO MANHOLE
CB 2	TW E5	504+81.47	121.50 LT	125.98	125.57	-0.41	PROPOSED CATCH BASIN
CB 3	TW E5	503+30.84	121.67 LT	125.57	124.71	-0.86	PROPOSED CATCH BASIN
CB 4	TW E5	501+38.51	121.83 LT	124.86	124.87	+0.01	EXISTING CATCH BASIN
CB 5	TW E5	505+23.59	126.21 RT	125.77	125.60	-0.17	EXISTING CATCH BASIN TO BE ADJUSTED
CB 6	TW E	311+14.61	103.30 LT	125.33	125.16	-0.17	EXISTING CATCH BASIN TO BE ADJUSTED
CB 7	TW E	313+61.71	103.91 LT	125.09	124.95	-0.14	EXISTING CATCH BASIN TO BE ADJUSTED
CB 8	TW E	316+15.47	104.48 LT	125.11	125.11	-	EXISTING CATCH BASIN TO BE ADJUSTED
CB 9	TW E	318+61.41	103.88 LT	125.92	125.92	-	EXISTING CATCH BASIN
DMH	TW E5	504+68.83	85.26 LT	125.52	125.96	+0.44	PROPOSED DRAIN MANHOLE
STR 1	TW E5	501+97.09	224.87 LT	127.84	127.69	-0.15	UNKNOWN STRUCTURE TO BE VERIFIED STRUCTURE TO BE ADJUSTED
CB 10	TW E5	502+79.37	121.16 LT	126.02	125.03	-0.99	PROPOSED CATCH BASIN

STRUCTURE SCHEDULE  
NOT TO SCALE

- NOTES:
- ALL EXISTING STRUCTURES SHALL BE ADJUSTED TO PROPOSED SURFACE GRADE AND SHALL BE FLUSH WITH PAVEMENT OR LOAM (AS APPLICABLE).
  - A MINIMUM OF 1% INVERT SLOPE IS REQUIRED FOR DRAINAGE IN THE REINFORCED CONCRETE PIPES BETWEEN CONNECTIONS.
  - SEE SHEET C502 FOR STRUCTURE ADJUSTMENT DETAILS.

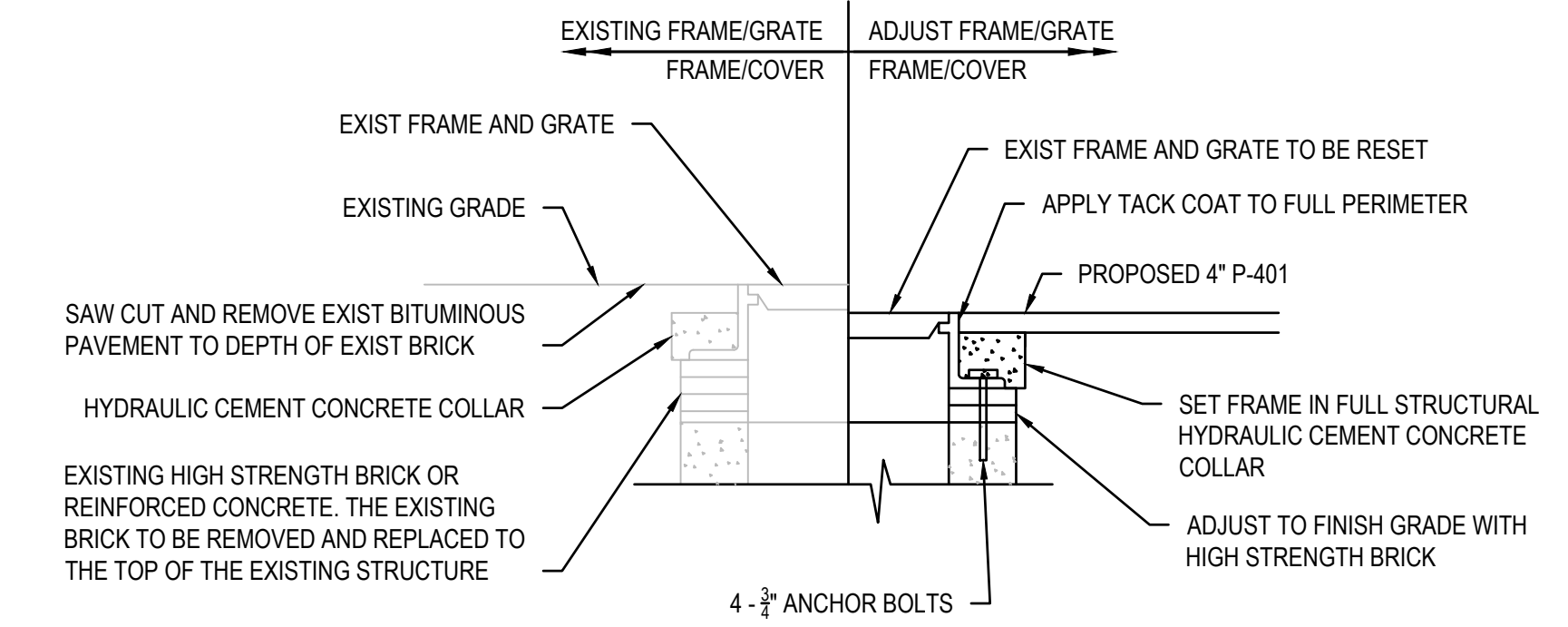




**NOTES:**

1. DURING THE PROCESS OF ADJUSTING THE FRAME, GRATE AND COVERS, THE CONTRACTOR SHALL REMOVE ALL BRICK, CONCRETE AND OTHER MATERIALS TO THE TOP OF THE ORIGINAL STRUCTURE AND REBUILD THE RISER USING NEW MATERIALS TO THE LINE AND GRADE AS DETERMINED ON THE CONTRACT DRAWINGS.
2. THE CONTRACTOR SHALL DISPOSE OF ALL SURPLUS MATERIALS, DIRT, RUBBISH, SILT AND OTHER MATERIALS GENERATED DURING THE REMOVAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS AND RESET ALL FRAME, GRATES AND COVERS.
3. INTERIOR OF UTILITY STRUCTURE SHALL BE CLEANED OF ALL DEBRIS PRIOR TO INSTALLING LASTING COVER.
4. THE QUANTITY OF P-209 FOR STRUCTURAL ADJUSTMENT SHALL BE INCIDENTAL TO ITEM D-910.01

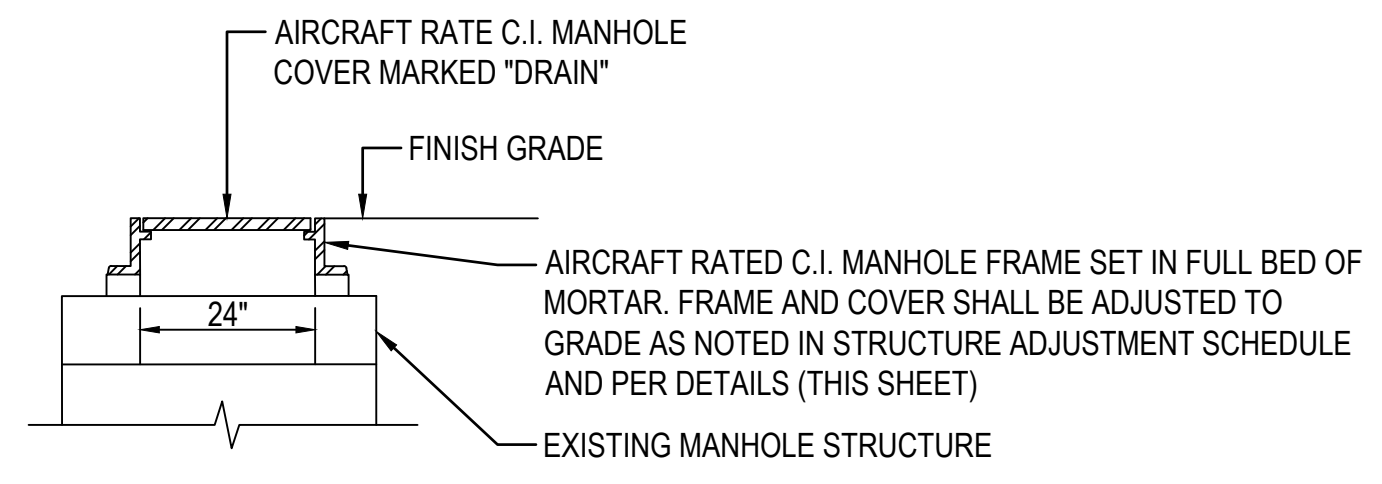
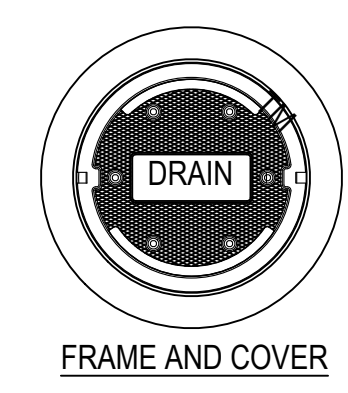
**STRUCTURE ADJUSTMENT- RAISE EXISTING CATCH BASIN/ MANHOLE/HANDHOLE**  
NOT TO SCALE



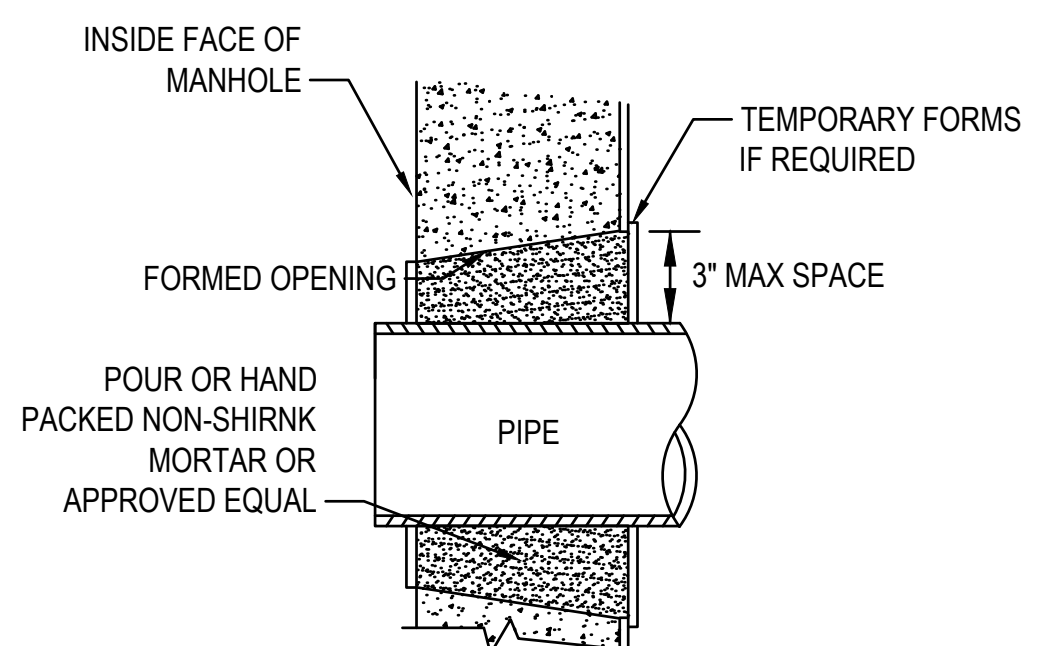
**NOTES:**

1. DURING THE PROCESS OF ADJUSTING THE FRAME, GRATE AND COVERS, THE CONTRACTOR SHALL REMOVE ALL BRICK, CONCRETE AND OTHER MATERIALS TO THE TOP OF THE ORIGINAL STRUCTURE AND REBUILD THE RISER USING NEW MATERIALS TO THE LINE AND GRADE AS DETERMINED ON THE CONTRACT DRAWINGS.
2. THE CONTRACTOR SHALL DISPOSE OF ALL SURPLUS MATERIALS, DIRT, RUBBISH, SILT AND OTHER MATERIALS GENERATED DURING THE REMOVAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS AND RESET ALL FRAME, GRATES AND COVERS.
3. STRUCTURES REQUIRING NO ADJUSTMENT SHALL BE REBUILT WITH NEW MATERIALS AND SET TO ORIGINAL GRADE AS DIRECTED/APPROVED BY THE ENGINEER. WORK ASSOCIATED WITH REBUILD WILL BE PAID FOR AS A TYPE II ADJUSTMENT.
4. INTERIOR OF UTILITY STRUCTURE SHALL BE CLEANED OF ALL DEBRIS PRIOR TO INSTALLING LASTING COVER.

**STRUCTURE ADJUSTMENT- LOWER EXISTING CATCH BASIN/ MANHOLE/HANDHOLE**  
NOT TO SCALE



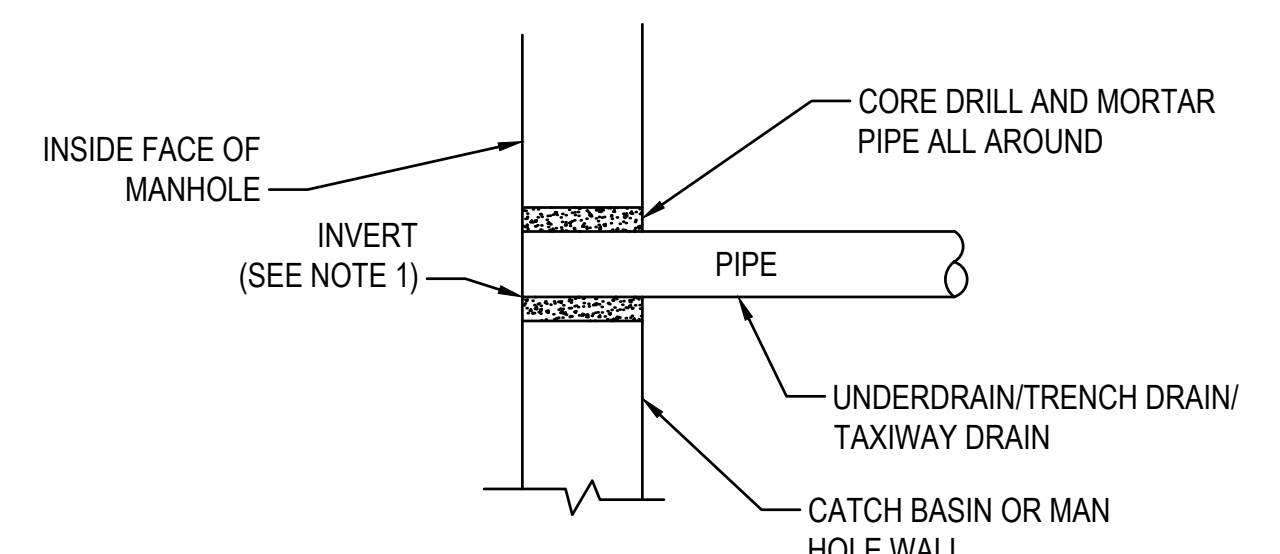
**MANHOLE COVER DETAIL FOR CATCH BASIN CONVERSION TO MANHOLE**  
NOT TO SCALE



**MORTAR PIPE CONNECTION AT NEW DRAIN STRUCTURE**  
NOT TO SCALE

**MORTAR PIPE CONNECTION NOTES:**

1. INVERT OF UNDERDRAIN/TAXIWAY DRAIN/TRENCH DRAIN/LIGHT DRAIN SHALL BE SET A MINIMUM OF 3\"/>
- 2. CONNECTIONS AT EXISTING AND PROPOSED DRAIN STRUCTURES ARE INCIDENTAL TO THE RESPECTIVE PAY ITEM.



**CORE DRILL CONNECTION AT EXISTING DRAIN STRUCTURE**  
NOT TO SCALE



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**UTILITY STRUCTURE  
ADJUSTMENT DETAILS - 1**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RLL
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SCALE: NOT TO SCALE	DATE: MARCH 2025
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SHEET NUMBER: 26 OF 44  
DWG NUMBER: **C-502**



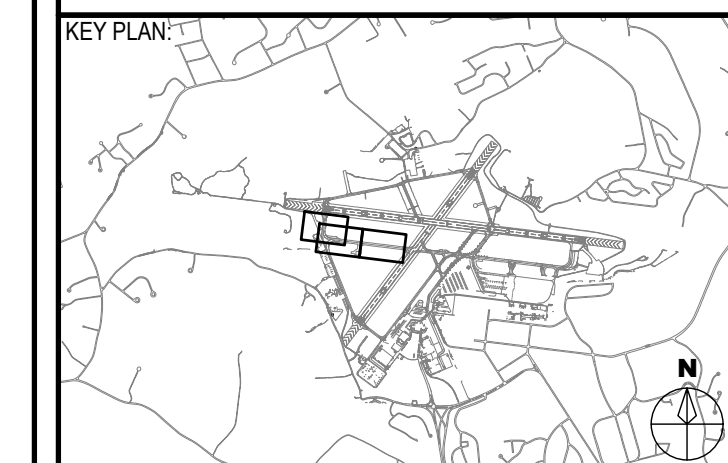
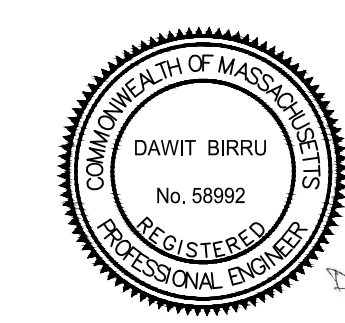
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

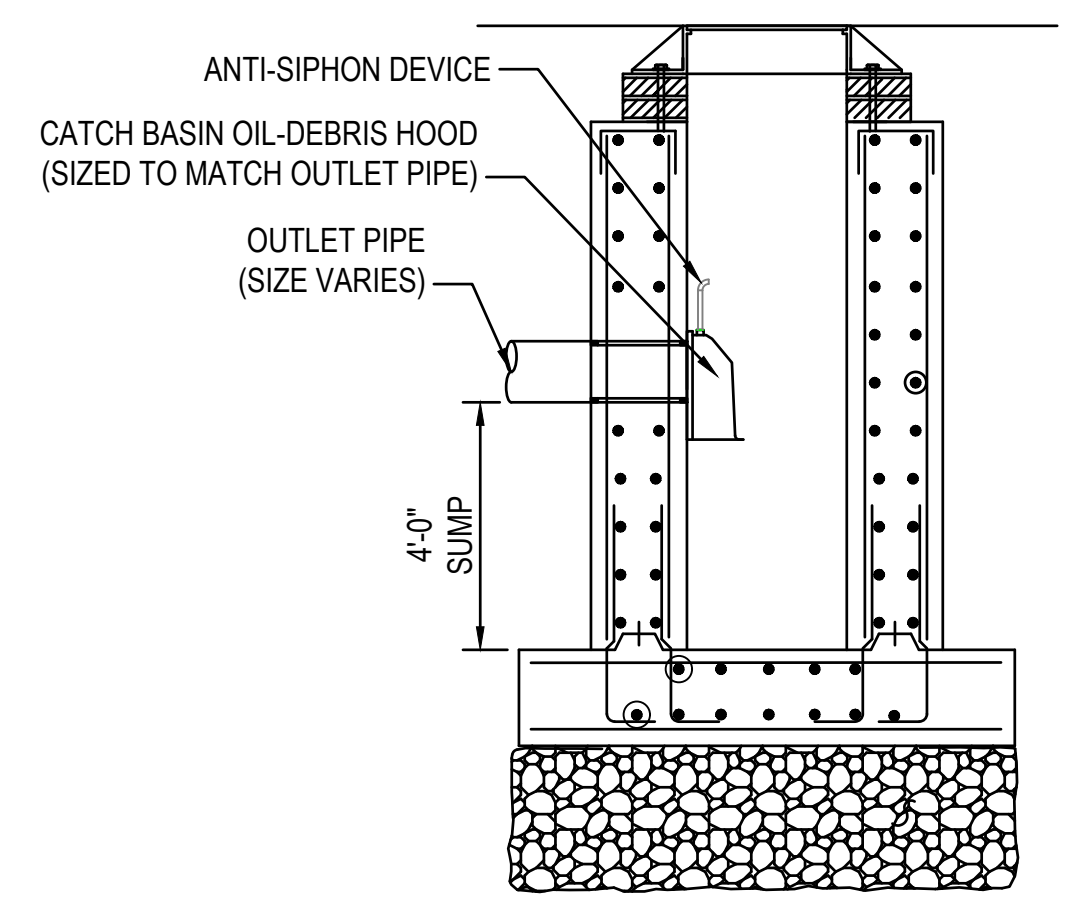
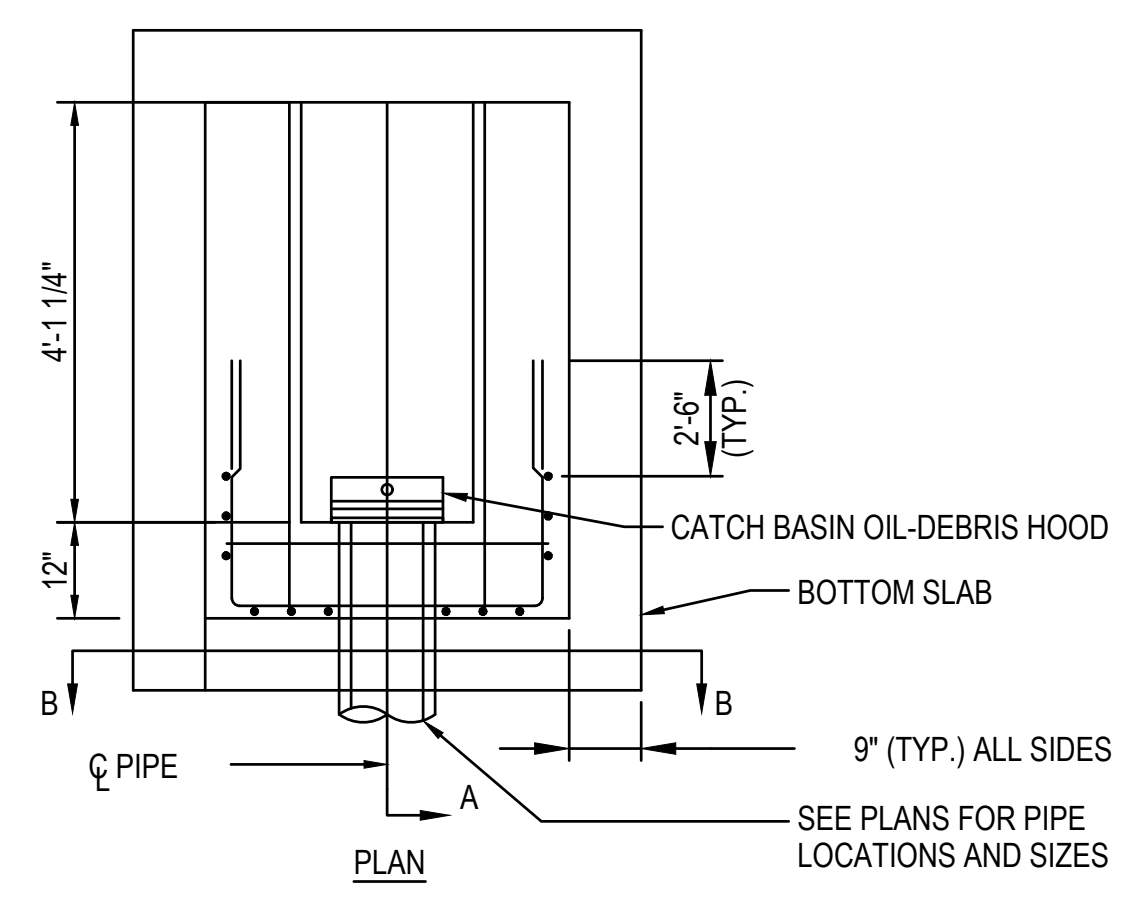
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**UTILITY STRUCTURE  
ADJUSTMENT DETAILS - 2**

DISCIPLINE:  
CIVIL

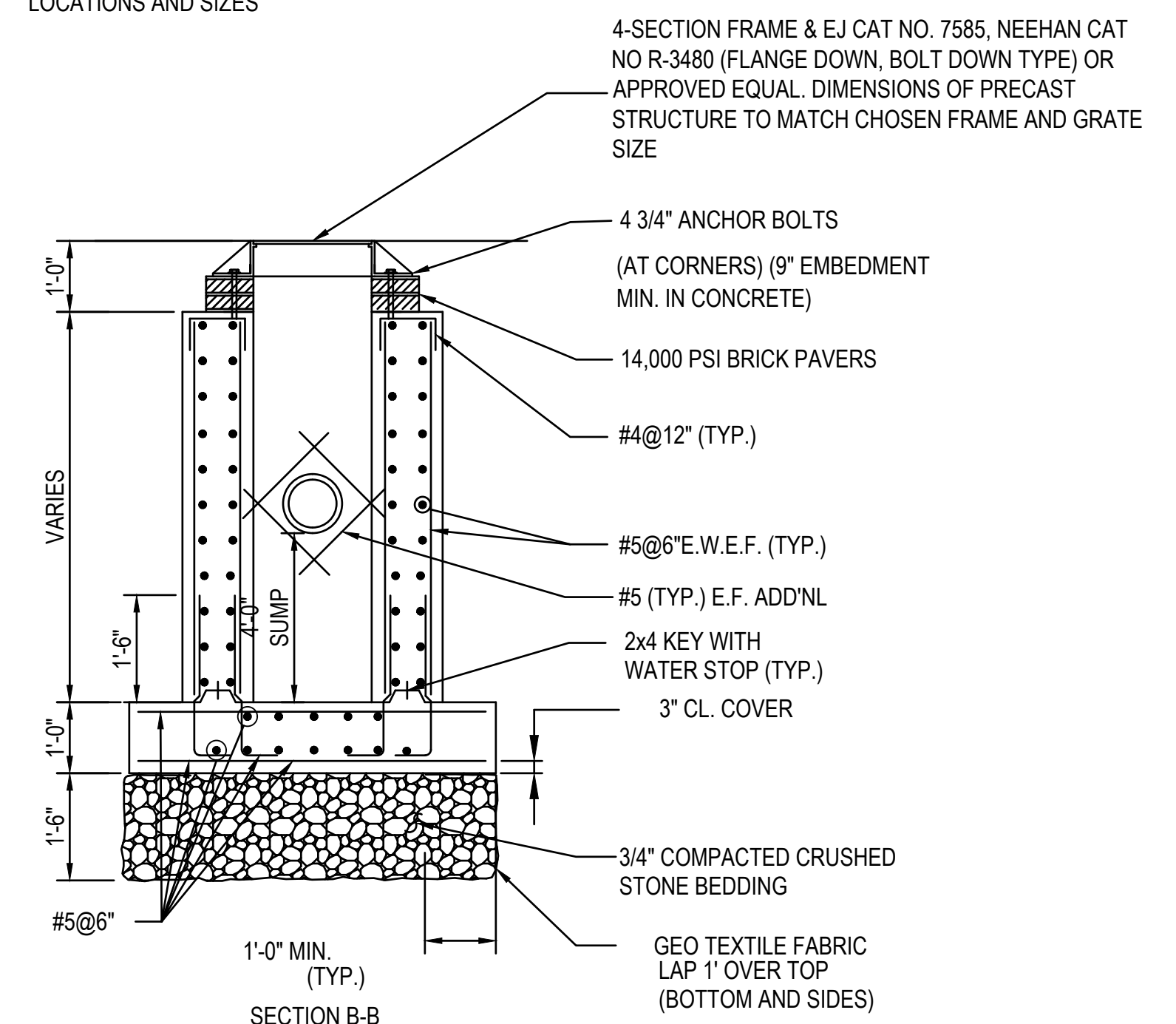
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SCALE: NOT TO SCALE	DATE: MARCH 2025
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SHEET NUMBER: 27 OF 44	DWG NUMBER: <b>C-503</b>
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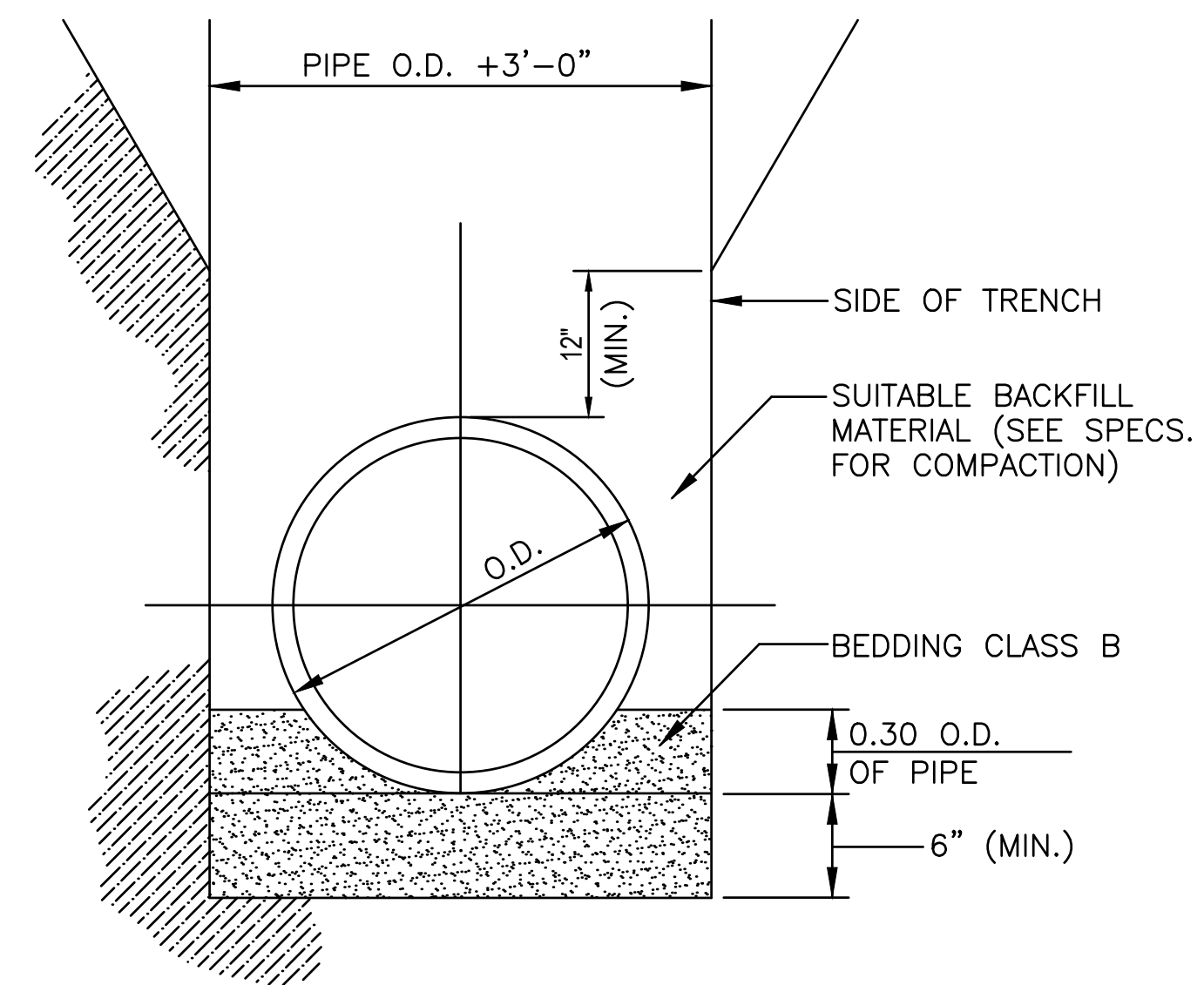


SECTION A-A  
**CATCH BASIN DETAIL**  
NOT TO SCALE



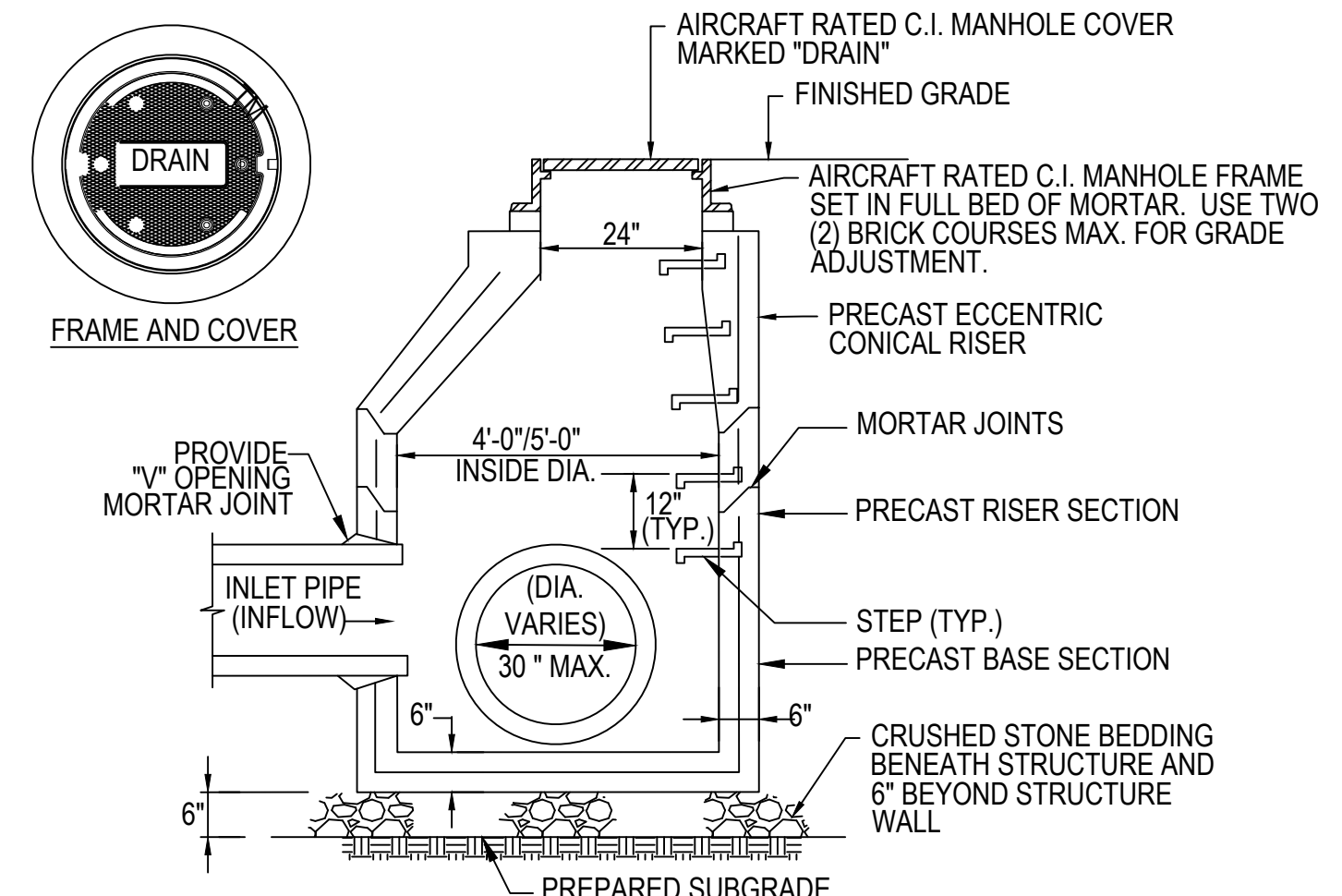
SECTION B-B  
**CATCH BASIN DETAIL**  
NOT TO SCALE

- CATCH BASIN/DRAIN MANHOLE NOTES:**
- THE DESIGN CONFORMS TO THE FEDERAL AVIATION CIRCULARS, FAA AC 150/5300, 5320, 5360 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996, 16TH EDITION WITH THE LATEST INTERIMS.
  - ALL DRAINAGE STRUCTURES AND MANHOLES SHALL BE AIRCRAFT RATED (WITH A MINIMUM WHEEL LOADING EQUIVALENT TO A BOEING 767-300).
  - ALL DRAINAGE STRUCTURES SHALL BE DESIGNED FOR ALLOWABLE SOIL BEARING PRESSURE OF 2 TSF MINIMUM. THE ENGINEER SHALL BE NOTIFIED IF CONDITIONS ENCOUNTERED OTHERWISE.
  - DRAINAGE AND MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND GROUNDWATER PRESSURE UNDER FLOOD CONDITION.
  - THE REINFORCING STEEL SHALL CONFORM TO AASHTO M31, GRADE 60. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
  - THE CONCRETE SHALL HAVE AN ULTIMATE STRENGTH,  $f_c = 4,000$  PSI AT 28 DAYS UNLESS OTHERWISE NOTED.
  - THE MINIMUM CLEAR COVER TO REINFORCING BARS SHALL BE 2" UNLESS OTHERWISE NOTED.
  - REGARDLESS OF THE METHOD OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF EACH INDIVIDUAL STRUCTURE TO THE ENGINEER FOR REVIEW AND APPROVAL. SHOP DRAWINGS SHALL BEAR THE STAMP OF A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS.
  - ALL NEW OR ADJUSTED CATCH BASINS CONSTRUCTED WITHIN GRASSED INFIELD AREAS ARE TO HAVE A CONCRETE APRON INSTALLED.



**STORM DRAINAGE BELOW GRASS TRENCH DETAIL**  
NOT TO SCALE

- STORM DRAIN NOTES:**
- THE DESIGN CONFORMS TO THE FEDERAL AVIATION CIRCULARS, FAA AC 150/5300, 5320, 5360 AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996, 16TH EDITION WITH THE LATEST INTERIMS.
  - THE DRAIN LINE SHALL BE BE CONSTRUCTED FROM THE DOWNSTREAM END TO THE UPSTREAM END.
  - THE CLMS MATERIAL SHALL BE USED UNDERNEATH THE TAXIWAY ONLY.
  - A TRENCH BOX SHALL BE USED TO MAINTAIN THE SIDES OF THE TRENCH.
  - THE TRENCH SHALL BE A MINIMUM OF 6' IN WIDTH.
  - THE CONCRETE SHALL HAVE AN ULTIMATE STRENGTH,  $f_c = 4,000$  PSI AT 28 DAYS UNLESS OTHERWISE NOTED.
  - THE CLSM FLOWFILL SHALL BE PLACED AT THE BOTTOM OF THE TRENCH UP TO THE BINDER CORSE.
  - A MINIMUM OF A 12' SECTION OF EXISTING PAVEMENT SHALL BE SAWCUT AND REMOVED TO CONSTRUCT THE TRENCH.
  - CONSTRUCT DURING LOW TIDE.
  - CONTRACTOR SHALL PROVIDE A TRENCH SHORING OR SHIELDING SYSTEM WITHIN TAXIWAY FOOTPRINT TO MINIMIZE LIMITS OF EXCAVATION AND MINIMIZE RESTORATION TIME. TRENCH SHORING OR SHIELDING SYSTEM SHALL BE IN COMPLIANCE WITH OSHA REQUIREMENTS, STAMPED BY A REGISTERED MASSACHUSETTS PROFESSIONAL ENGINEER AND MUST BE SUBMITTED AND APPROVED VIA THE SUBMITTAL PROCESS.



- NOTES:**
- PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478
  - STEEL REINFORCING SHALL CONFORM TO ASTM A185
  - MANHOLE STEPS SHALL BE 14" WIDE AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST MANHOLE MANUFACTURER.

**MANHOLE DETAIL**  
NOT TO SCALE



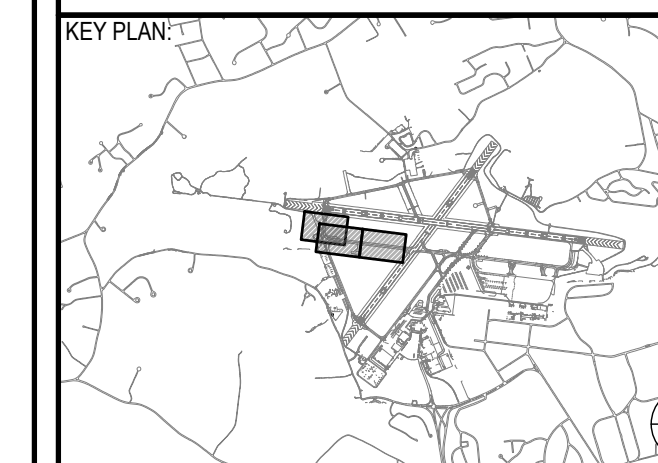
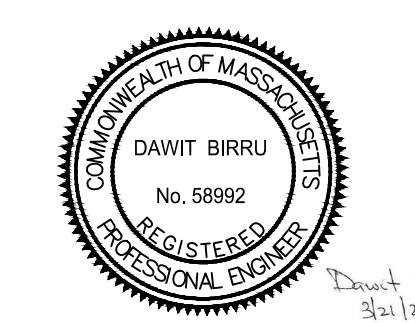
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
**BID SET**

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

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CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:

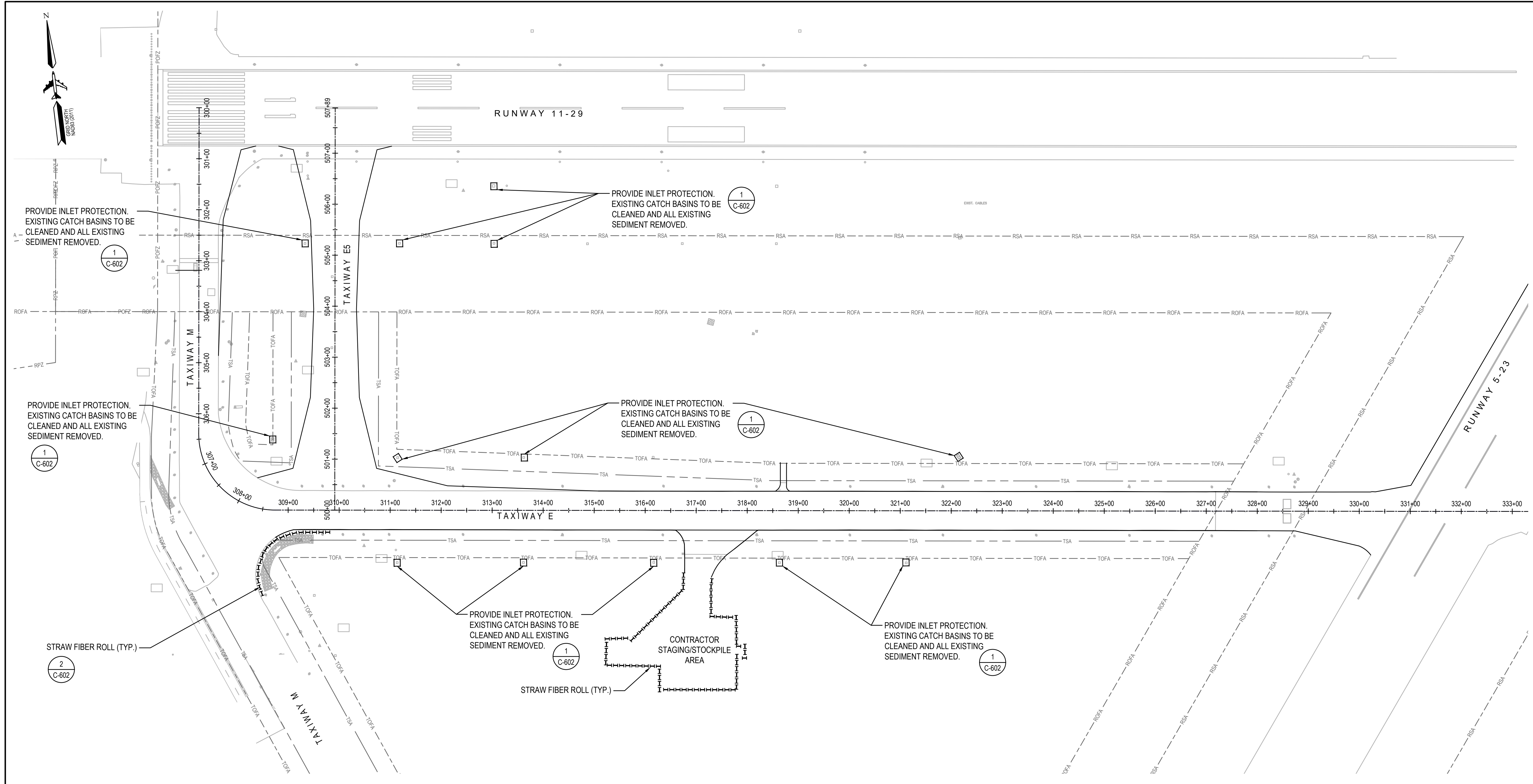
**EROSION CONTROL PLAN**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RL
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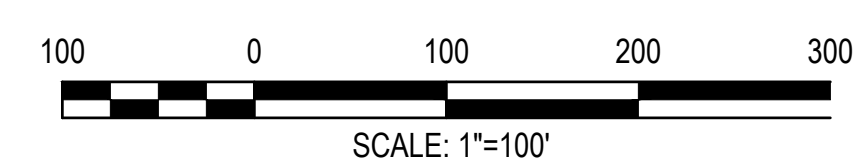
SCALE: 1" = 100'  
DATE: MARCH 2025

SHEET NUMBER: 28 OF 44  
DWG NUMBER: C-601



**NOTES**

1. THE CONTRACTORS SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS CONTROLLING POLLUTION OF ENVIRONMENT. THE CONTRACTOR SHALL IMPLEMENT ALL SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS DOCUMENT.
2. PRIOR TO ANY WORK STARTING, THE CONTRACTOR SHALL INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES. PRIOR TO REOPENING A TAXIWAY OR RUNWAY, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS ALL SEDIMENT AND EROSION CONTROL MEASURES FROM THE RUNWAY AND THE TAXIWAY SAFETY AREA.
3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SEDIMENT AND EROSION CONTROL MEASURES WHEN THE PROJECT IS SUBSTANTIALLY COMPLETED WITH THE DIRECTION OF THE ENGINEER. THE REMOVAL OF ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE COMPLETED WITH NO EXTRA COST TO THE PROJECT. CONTRACTOR WILL DISPOSE OF IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.
4. THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT THE AREA OF UNPROTECTED ERODIBLE EARTH EXPOSED AT ANY ONE TIME IS NOT LARGER THAN THE MINIMUM AREA NECESSARY FOR EFFICIENT CONSTRUCTION OPERATIONS, AND THE DURATION OF EXPOSED, UNCOMPLETED CONSTRUCTION TO THE ELEMENTS SHALL BE AS SHORT AS PRACTICABLE. CLEARING AND GRUBBING SHALL BE SO SCHEDULED AND PERFORMED THAT GRADING OPERATIONS CAN FOLLOW IMMEDIATELY THEREAFTER, AND GRADING OPERATIONS SHALL BE SCHEDULED AND PERFORMED THAT PERMANENT EROSION CONTROL FEATURES CAN FOLLOW IMMEDIATELY THEREAFTER IF CONDITIONS ON THE PROJECT PERMIT.
5. ALL WATER PUMPED OUT OF CONSTRUCTION AREAS SHALL BE DISCHARGED THROUGH A PORTABLE SEDIMENT REMOVAL/FILTRATION SYSTEM (DEWATERING BAG) PRIOR TO DISCHARGE BACK INTO SAME WATER SHED AREA. AT NO TIME SHALL WATER BE DISCHARGED DIRECTLY INTO ANY STORM WATER FEATURE. WATER MUST BE RE-FILTERATED INTO GROUND.
6. DURING TRENCHING OPERATION, SOIL SHALL BE PLACED ON THE UP GRADIENT SIDE OF ALL TRENCHES.
7. CONTRACTOR TO INSPECT ALL INLET PROTECTORS AFTER STORM EVENTS TO ASSURE PROPER FUNCTION AND CLEAN OUT WHEN NECESSARY AT NO EXTRA COST TO THE PROJECT.
8. CATCH BASIN CLEANING AND DISPOSAL OF SEDIMENT IS INCIDENTAL TO THE VARIOUS PROJECT ITEMS AND WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.



- LEGEND:**
- ||||| FIBER ROLLS
  - DRAIN INLET PROTECTION



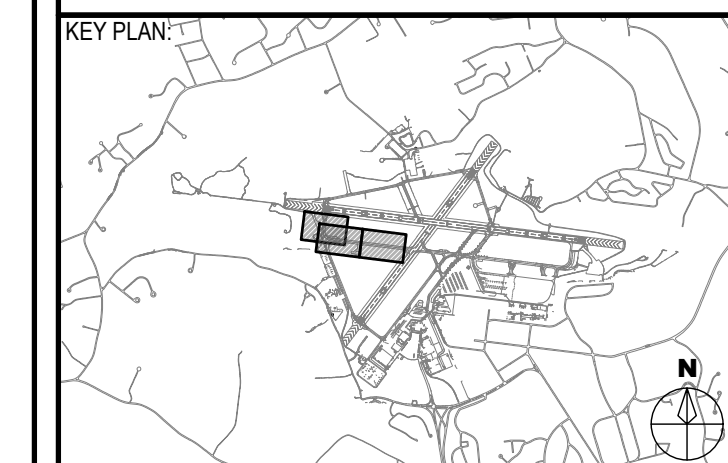
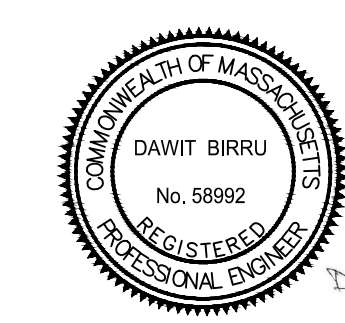
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

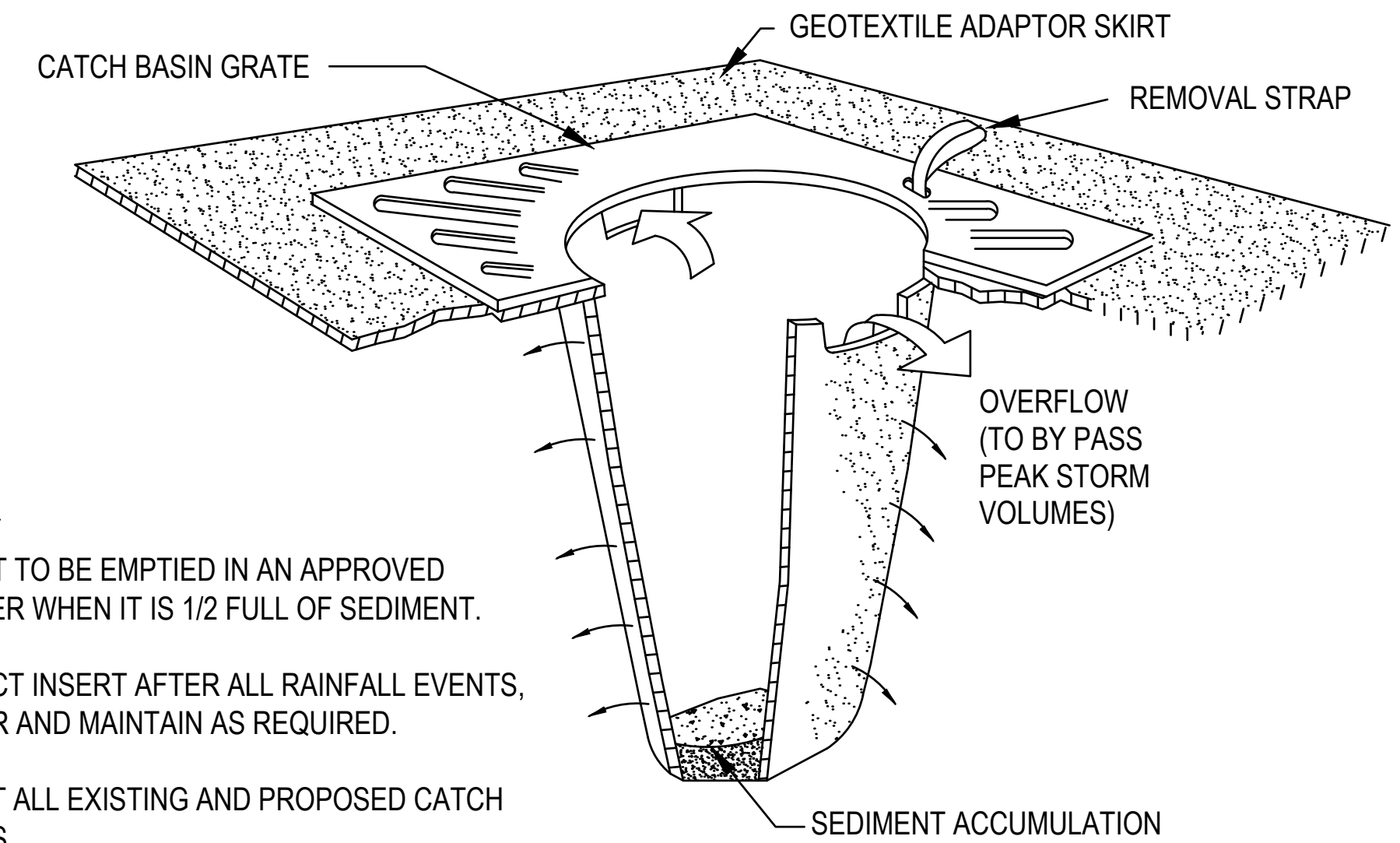
SHEET TITLE:  
**EROSION CONTROL DETAILS**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RLL
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SCALE: NOT TO SCALE  
DATE: MARCH 2025

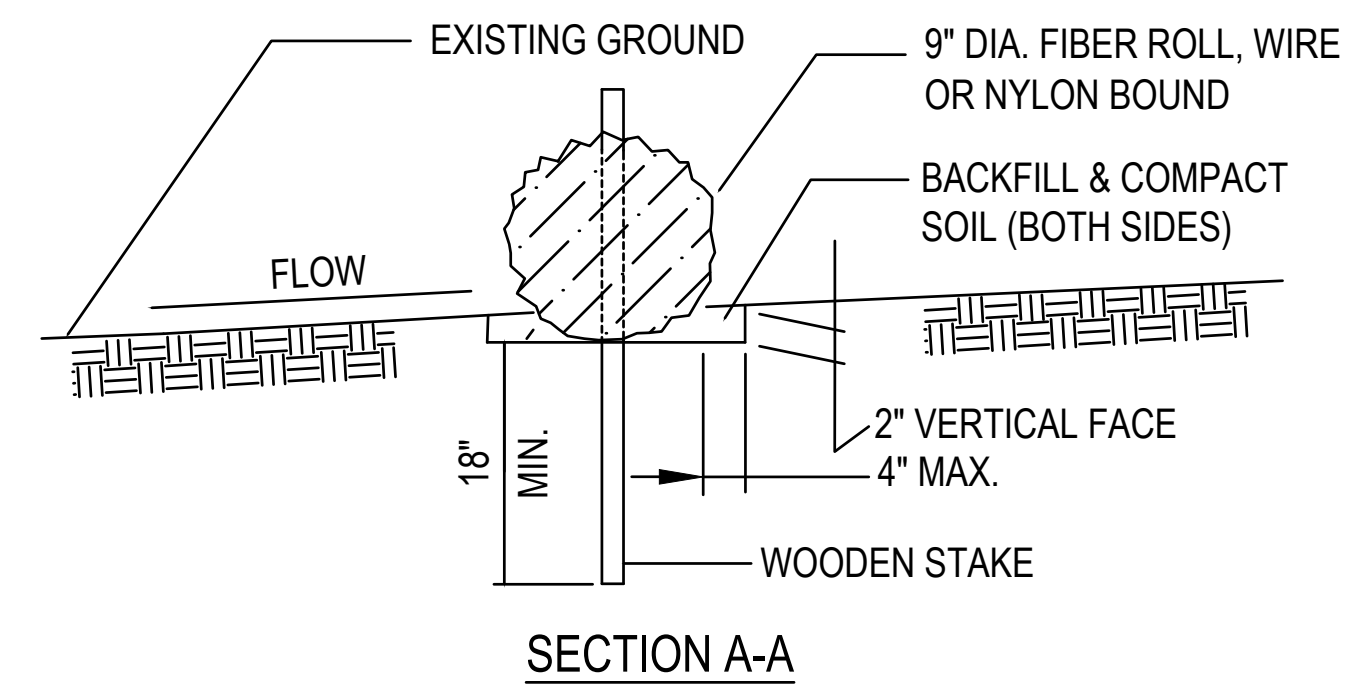
SHEET NUMBER: 29 OF 44  
DWG NUMBER: **C-602**



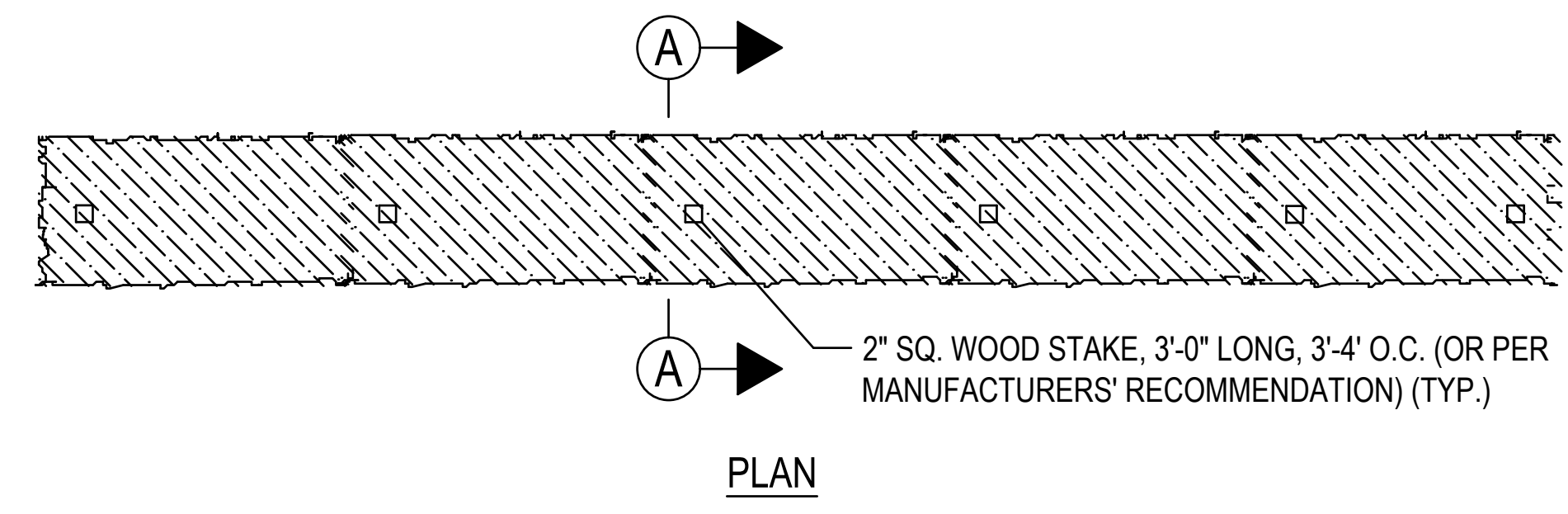
**NOTES**

1. INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.
2. INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.
3. USE AT ALL EXISTING AND PROPOSED CATCH BASINS.

**1 DRAIN INLET PROTECTION**  
SCALE: NTS

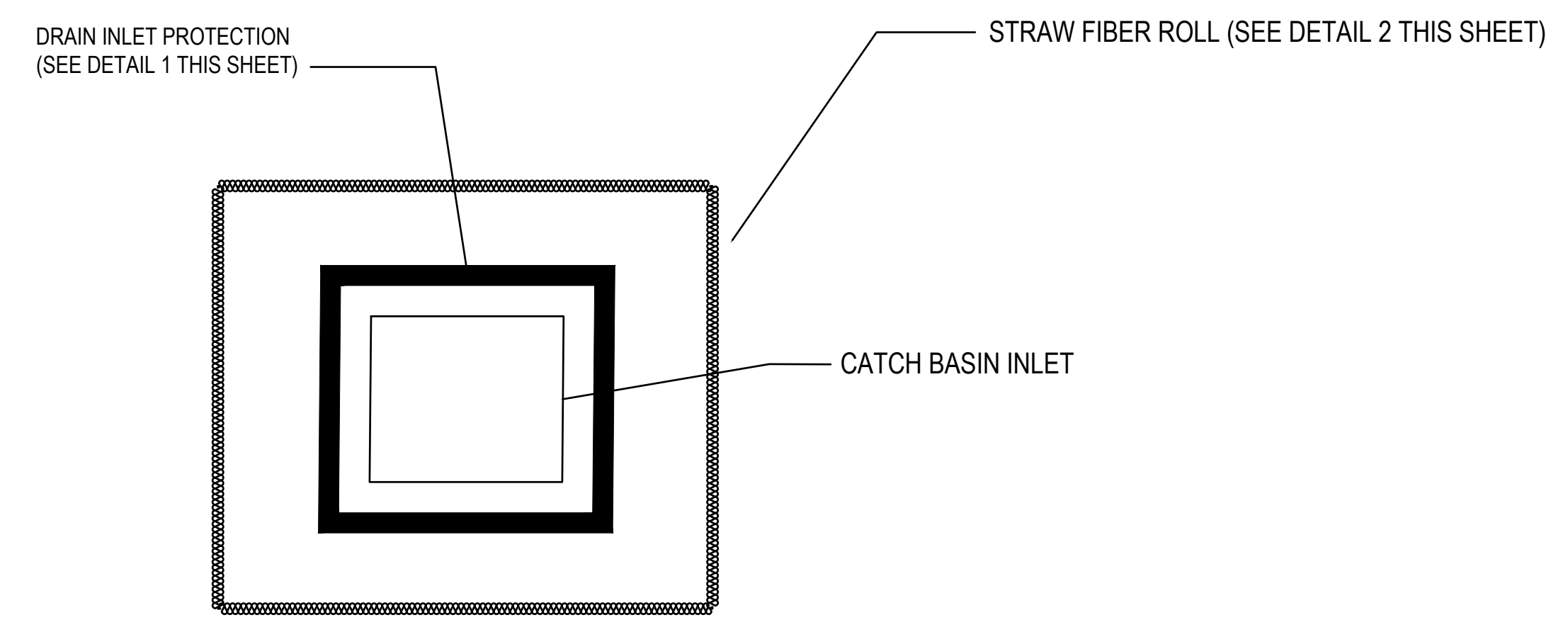


**2 STRAW FIBER ROLL DETAIL**  
SCALE: NTS

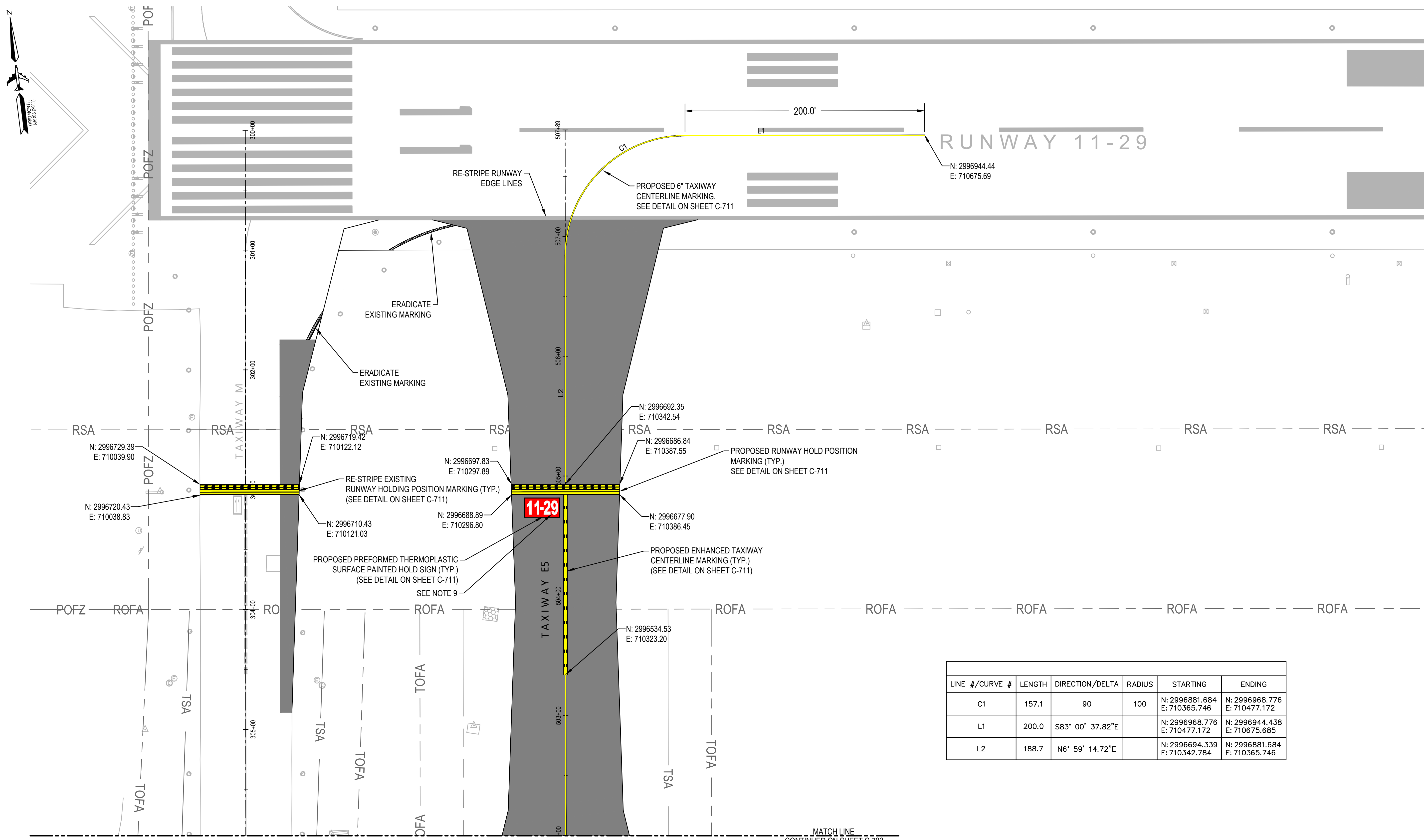


**NOTE:**

1. AREAS DISTURBED BY EROSION BARRIERS SHALL BE RESTORED AND STABILIZED AFTER REMOVAL TO THE SATISFACTION OF THE ENGINEER AND AIRPORT.
2. STRAW FIBER ROLLS SHALL BE PLACED AROUND ALL SIDES OF DRAINAGE STRUCTURES IN GRASS AREAS.
3. OVERLAP ENDS OF STRAW FIBER ROLLS BY 2 FEET.



**3 CATCH BASIN INLET PROTECTION DETAIL**  
SCALE: NTS



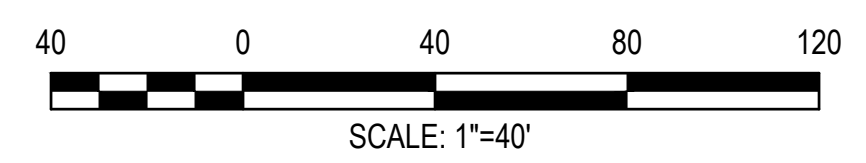
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L1	200.0	S83° 00' 37.82"E		N: 2996968.776 E: 710477.172	N: 2996944.438 E: 710675.685
L2	188.7	N6° 59' 14.72"E		N: 2996694.339 E: 710342.784	N: 2996881.684 E: 710365.746

**NOTES:**

- REFER TO DRAWING C711 FOR PAVEMENT MARKING DETAILS.
- MARKING LAYOUT SHALL BE APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE (RPR) AND HANSCOM OPERATIONS PRIOR TO PAINT APPLICATION.
- A MINIMUM OF TWO PAINT APPLICATIONS ARE REQUIRED AT EACH LOCATION ON NEW PAVEMENT.
- INITIAL MARKINGS SHALL BE APPLIED AT THE COMPLETION OF EACH PHASE/SHIFT OR AS DIRECTED BY THE RPR.
- FINAL MARKINGS SHALL BE APPLIED WITHIN THE ENTIRE PROJECT AREA AFTER 30 DAYS OF INSTALL, UNLESS OTHERWISE DIRECTED BY THE RPR.
- GLASS SPHERES SHALL BE APPLIED TO ALL NEW MARKINGS, WITH THE EXCEPTION OF BLACK, FOR BOTH INITIAL AND FINAL APPLICATIONS.
- ANY SURVEY/LAYOUT REQUIRED FOR APPLICATION OF MARKINGS SHALL BE INCIDENTAL TO PAINT MARKING PAY ITEMS.
- TEMPORARY AND PERMANENT PAINT SHALL BE WATERBORNE, TYPE III, CONFORMING TO FEDERAL SPECIFICATION TT-P-1952F. GLASS SPHERES SHALL CONFORM TO FEDERAL SPECIFICATION TT-B-1325D.
- ALL SURFACE PAINTED HOLD SIGNS ARE PREFORMED THERMOPLASTIC MARKING, CAN BE APPLIED TEMPORARILY WITH WATERBORNE PAINT IF THERMOPLASTIC NOT ON HAND.
- REFER TO C711 FOR DETAILS AND PAINT COLOR. SEE NOTE 13 FOR MORE INFORMATION.
- CONTRACTOR IS RESPONSIBLE TO REQUEST HANSCOM FACILITIES TO BORROW AND SUBSEQUENTLY RETURN SPHPS STENCILS IN A TIMELY FASHION TO HANSCOM. STENCIL SHALL BE CLEANED PRIOR TO RETURNING. WITH NO DAMAGE TO THE STENCIL. BORROW TIME SHALL NOT EXCEED 24 HOURS. DAMAGED STENCILS SHALL BE REPLACED AT NO COST TO HANSCOM OR THE PROJECT. DAMAGED STENCILS REQUIRING REPLACEMENT WILL REQUIRE SHOP DRAWING SUBMITTAL AND APPROVAL PRIOR TO ORDERING AT NO ADDITIONAL COST TO MASSPORT.
- MASSPORT SURVEY SHALL RE-ESTABLISH RUNWAY START, END, AND THRESHOLD POINTS WITH ASSISTANCE FROM CONTRACTOR AS REQUIRED.
- THE CONTRACTOR IS RESPONSIBLE FOR RE-MARKING ANY EXISTING PAVEMENT MARKINGS THAT HAVE BEEN OBLISCURED OR DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO HANSCOM OR THE PROJECT.
- 6" BLACK BORDERS, UNLESS OTHERWISE NOTED, ARE REQUIRED FOR ALL MARKINGS. BLACK BORDERS SHALL BE IN ACCORDANCE TO ADVISORY CIRCULAR 150/5340-1, CURRENT EDITION.
- SEE DETAIL SHEET C711 FOR ADDITIONAL NOTES.

**LEGEND**

- PROPOSED PAVEMENT
- EXISTING PAVEMENT
- PROPOSED MARKING
- MARKING REMOVAL
- BORDER

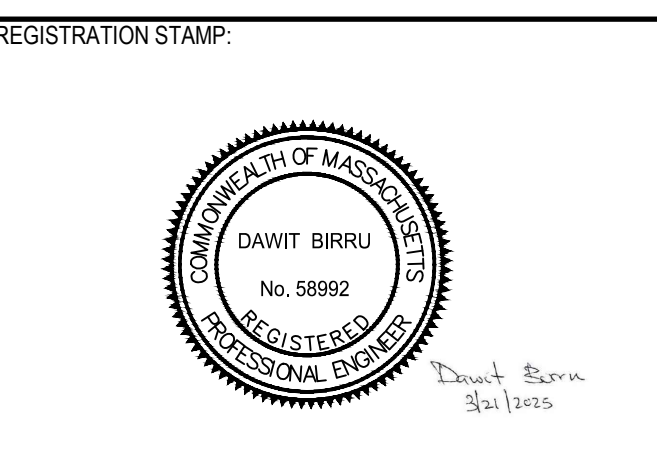


MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: **H296-C1** LOCATION CODE: **3540**

PROJECT SUBMISSION PHASE:  
**BID SET**



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**PAVEMENT MARKING  
PLAN -1**

DISCIPLINE:  
**CIVIL**

DRAWN BY: **DB** CHECKED BY: **SD/SF** APPROVED BY: **RLL**

SCALE: **1" = 40'** DATE: **MARCH 2025**

SHEET NUMBER: **30 OF 44** DWG NUMBER: **C-701**



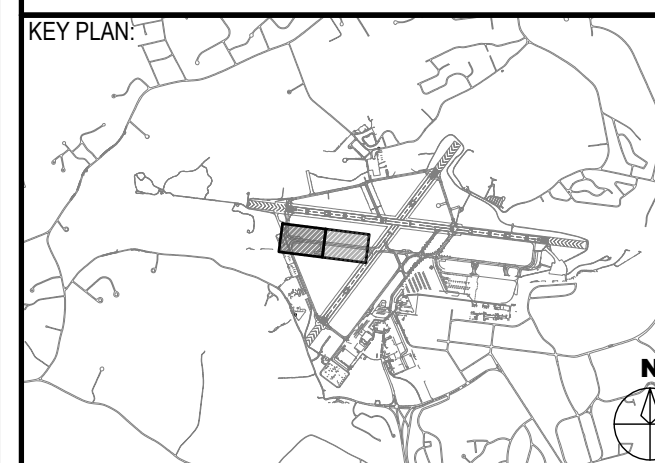
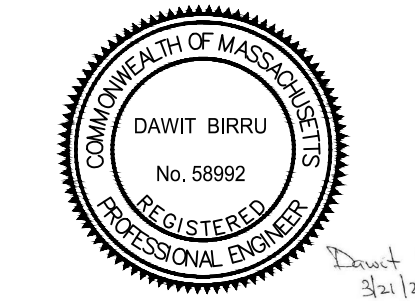
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**PAVEMENT MARKING  
PLAN - 2**

DISCIPLINE:  
CIVIL

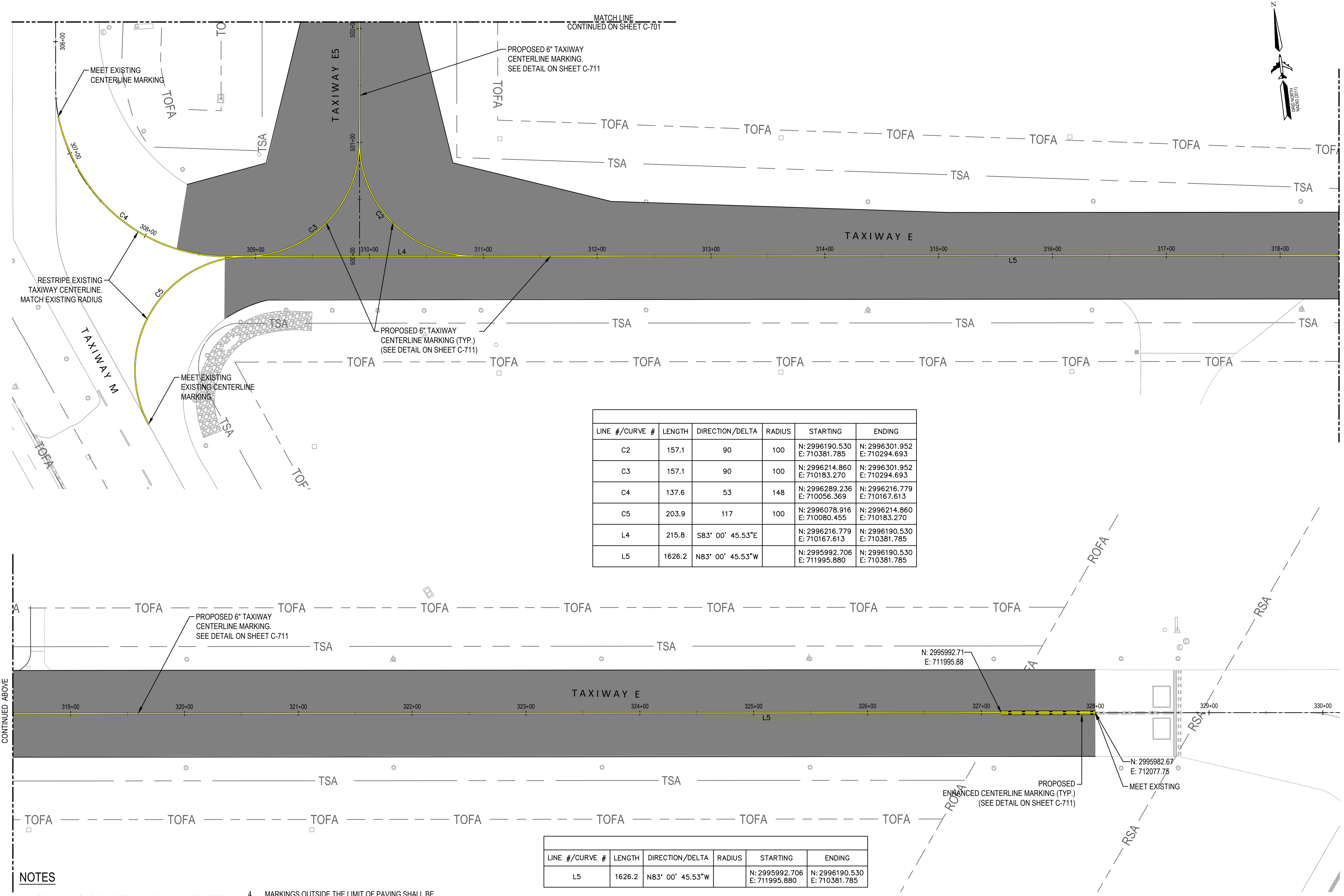
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SCALE:  
1" = 40'

DATE:  
MARCH 2025

SHEET NUMBER:  
31 of 44

DWG NUMBER:  
**C-702**



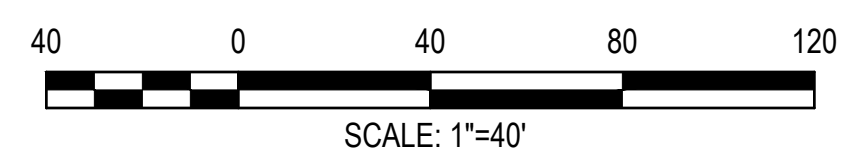
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C3	157.1	90	100	N: 2996214.860 E: 710183.270	N: 2996301.952 E: 710294.693
C4	137.6	53	148	N: 2996289.236 E: 710056.369	N: 2996216.779 E: 710167.613
C5	203.9	117	100	N: 2996078.916 E: 710080.455	N: 2996214.860 E: 710183.270
L4	215.8	S83° 00' 45.53"E		N: 2996216.779 E: 710167.613	N: 2996190.530 E: 710381.785
L5	1626.2	N83° 00' 45.53"W		N: 2995992.706 E: 711995.880	N: 2996190.530 E: 710381.785

LINE #/CURVE #	LENGTH	DIRECTION/DELTA	RADIUS	STARTING	ENDING
L5	1626.2	N83° 00' 45.53"W		N: 2995992.706 E: 711995.880	N: 2996190.530 E: 710381.785

- NOTES**
- SEE DRAWING NO. C701 FOR PAVEMENT MARKING NOTES.
  - MATCH EXISTING RADII UNLESS OTHERWISE NOTED.
  - PROTECT EXISTING MARKINGS AT LIMITS OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGES AT NO COST TO THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MATERIALS REQUIRED TO PROTECT EXISTING AIRFIELD MARKINGS IN PLACE, INCLUDING BUT NOT LIMITED TO PLYWOOD TO PROTECT EXISTING RUNWAY HOLD POSITION MARKINGS.
  - MARKINGS OUTSIDE THE LIMIT OF PAVING SHALL BE REPAINTED IN THEIR EXISTING LOCATION, EXCEPT AS SHOWN. (FINAL MARKINGS ONLY)

**LEGEND**

- PROPOSED PAVEMENT
- EXISTING PAVEMENT
- PROPOSED MARKING
- MARKING REMOVAL
- BORDER





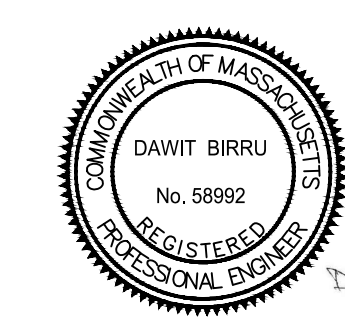
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

IN-HOUSE DESIGN:  
CAPITALS PROGRAM &  
ENVIRONMENTAL AFFAIRS  
HORIZONTAL PROJECTS  
ONE HARBORSIDE DRIVE, SUITE 200S  
EAST BOSTON, MA 02128-2909

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TAXIWAY E  
FROM TAXIWAY M TO  
RUNWAY 11-29 &  
CONSTRUCT TAXIWAY E5

SHEET TITLE:  
**MARKING DETAILS - I**

DISCIPLINE:  
CIVIL

DRAWN BY: DB	CHECKED BY: SD/SF	APPROVED BY: RLL
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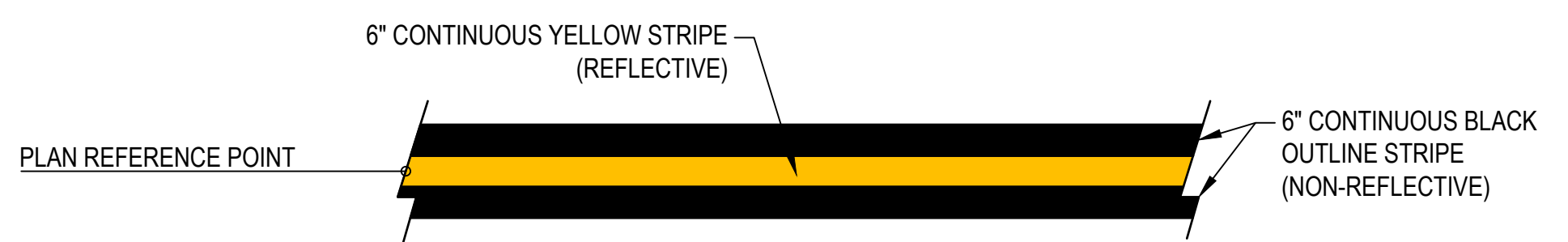
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DATE: MARCH 2025

SHEET NUMBER: 32 OF 44  
DWG NUMBER: C-711

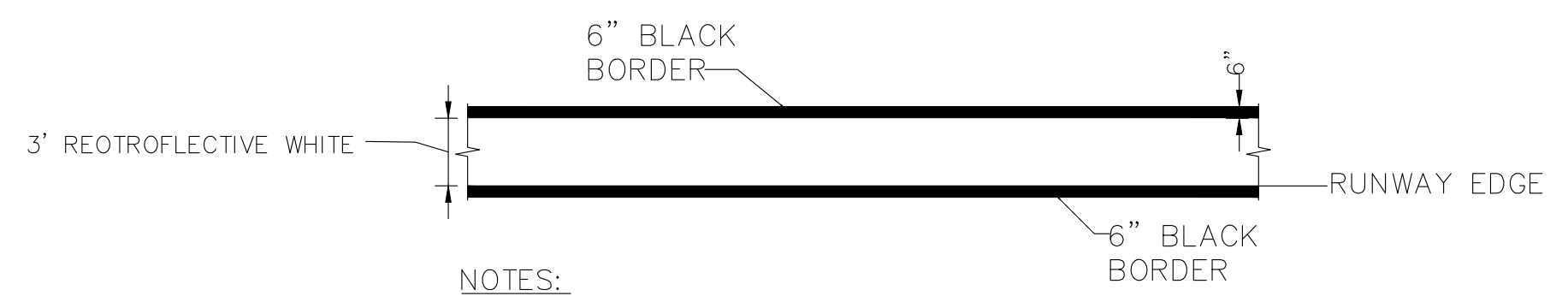


NOTE:  
TAXIWAY EDGE MARKINGS SHALL BE INSTALLED AS DIRECTED BY THE RPR.

**TAXIWAY EDGE MARKING**  
NOT TO SCALE

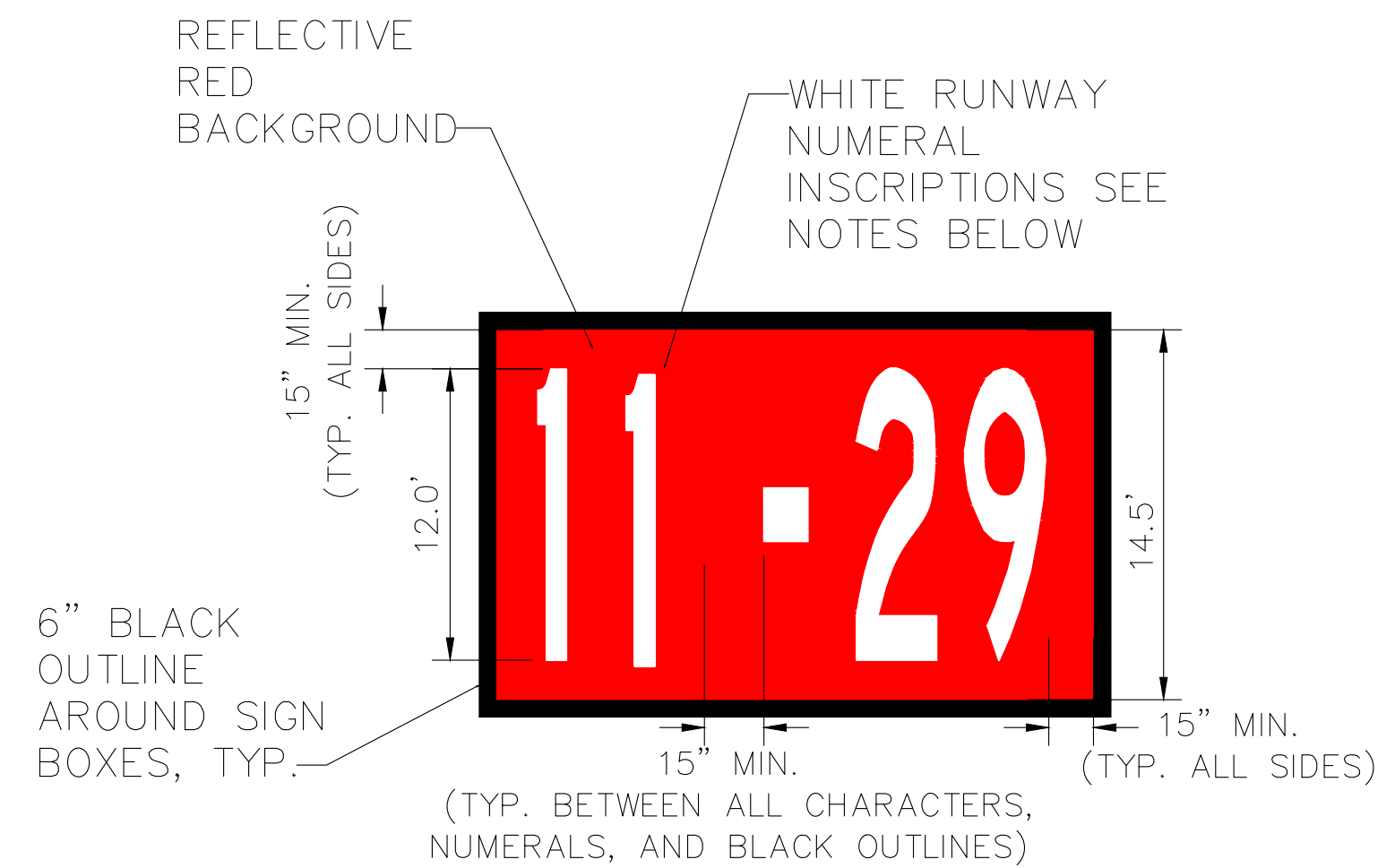


**TAXIWAY CENTERLINE MARKING (YELLOW)**  
NOT TO SCALE



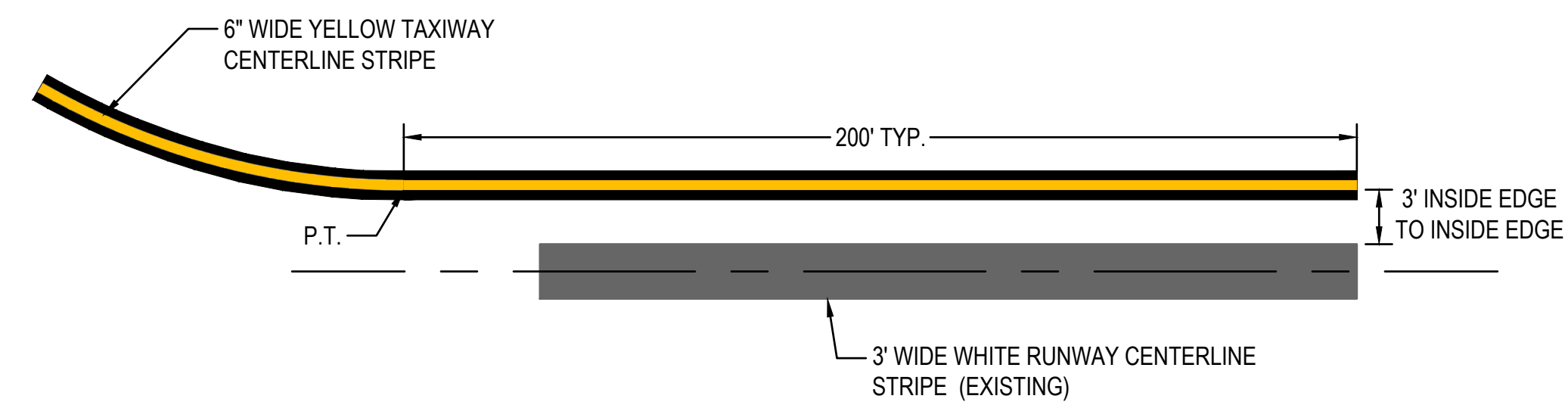
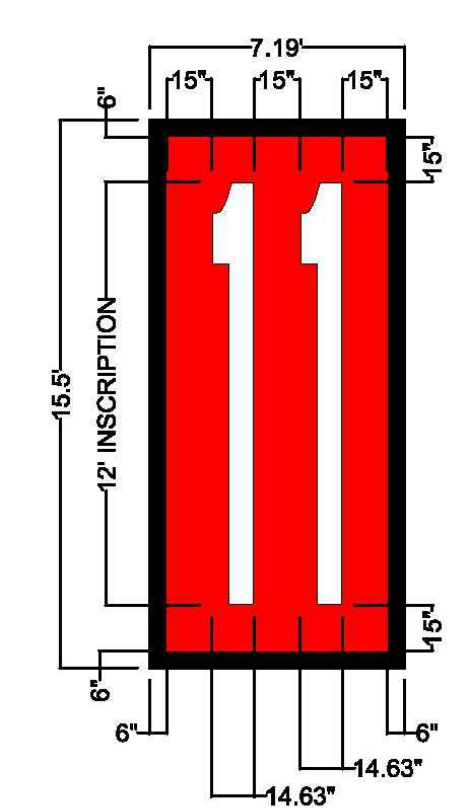
NOTES:  
1. RUNWAY EDGE MARKING IS CONTINUOUS, UNLESS OTHERWISE INDICATED ON MARKING PLAN.

**RUNWAY EDGE MARKING**  
NOT TO SCALE

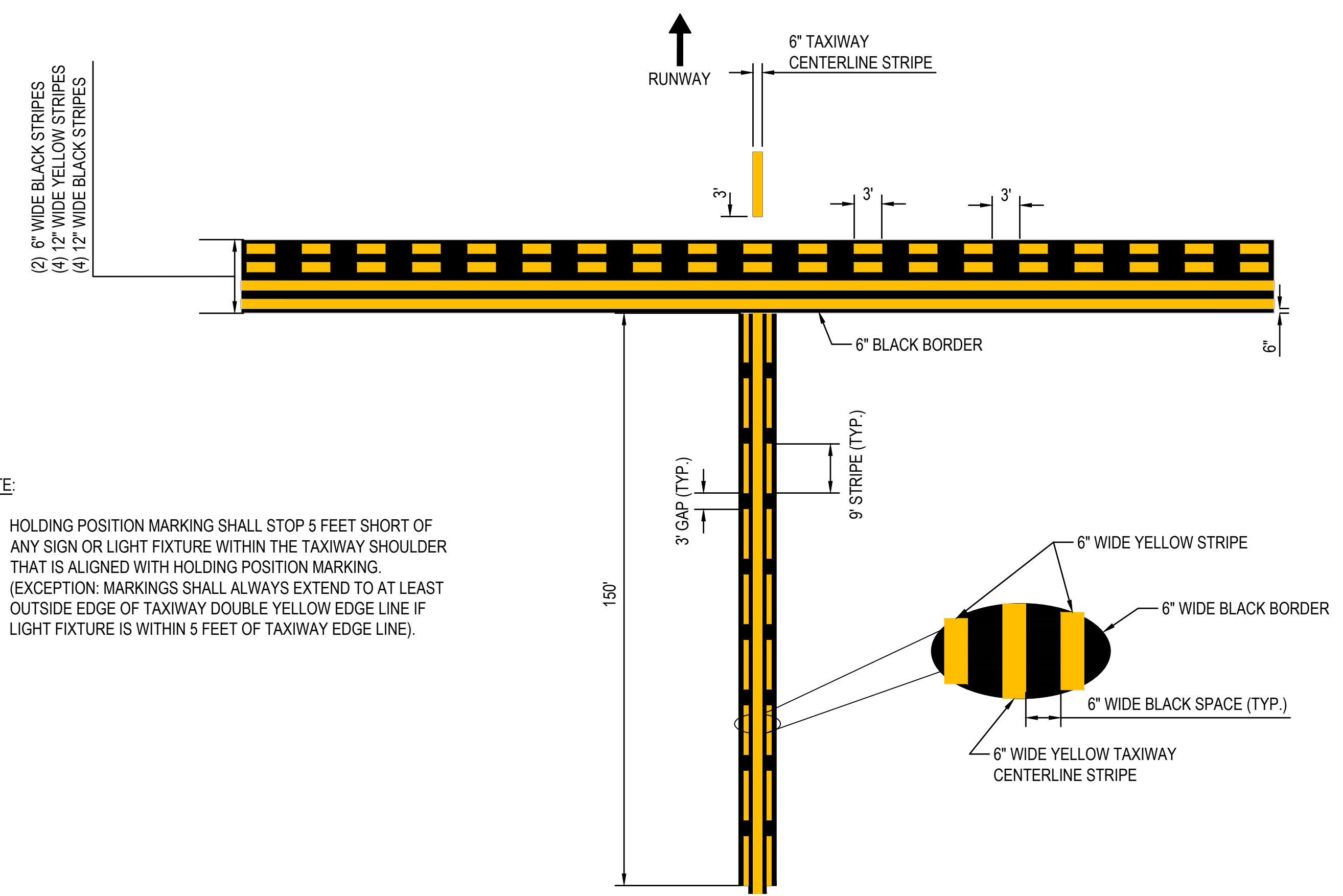


NOTES: RUNWAY NUMERAL INSCRIPTIONS SHALL HAVE A HEIGHT OF 12 FEET. EXACT DIMENSIONS SHALL BE IN ACCORDANCE WITH APPENDIX B OF FAA AC 150 5340-1M OR LATEST VERSION.

**TAXIWAY HOLDING MARKINGS**  
NOT TO SCALE



**TAXIWAY CENTERLINE MARKING (YELLOW)**  
NOT TO SCALE



NOTE:  
1. HOLDING POSITION MARKING SHALL STOP 5 FEET SHORT OF ANY SIGN OR LIGHT FIXTURE WITHIN THE TAXIWAY SHOULDER THAT IS ALIGNED WITH HOLDING POSITION MARKING. (EXCEPTION: MARKINGS SHALL ALWAYS EXTEND TO AT LEAST OUTSIDE EDGE OF TAXIWAY DOUBLE YELLOW EDGE LINE IF LIGHT FIXTURE IS WITHIN 5 FEET OF TAXIWAY EDGE LINE).

**RUNWAY HOLDING POSITION MARKING (YELLOW) ON TAXIWAY WITH ENHANCED TAXIWAY CENTERLINE**  
NOT TO SCALE

**GENERAL MARKING NOTES:**

- SURFACE PAINTED HOLD POSITION SIGNS (SPHPS) SHALL BE PERFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS (UNLESS OTHERWISE NOTED) MEETING CONTRACT SPECIFICATION P-620 WITH GLASS BEADS MEETING FEDERAL SPECIFICATION TT-B-1325D. THERMOPLASTIC SPHS SHOP DRAWINGS SHALL BE SUBMITTED TO RPR IMMEDIATELY AFTER THE CONTRACT HAS BEEN EXECUTED. UPON APPROVAL OF SHOP DRAWINGS THE CONTRACTOR SHALL IMMEDIATELY ORDER THERMOPLASTIC MARKINGS DUE TO LONG LEAD TIME. IF THERMOPLASTIC MARKINGS CANNOT BE INSTALLED ON TIME, THE CONTRACTOR IS TO APPLY PAINT TEMPORARILY.

**SPHS NOTES:**

- CONTRACTOR SHALL CONFIRM DIMENSIONS OF SURFACE PAINTED SIGNS WITH MASSPORT MAINTENANCE. SURFACE PAINTED SIGNS SHALL MATCH EXISTING DIMENSIONS USED BY MASSPORT.
- DIMENSIONS TYPICAL FOR RUNWAY 15R-33L SURFACE PAINTED HOLDING POSITION SIGN.
- SURFACE PAINTED HOLDING POSITION SIGNS SHALL BE PERFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS (UNLESS OTHERWISE NOTED).



**A. ELECTRICAL SAFETY PLAN:**

1. HEAVY LINE WORK INDICATES ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED, MODIFIED, ADJUSTED OR REINSTALLED AS SHOWN ON THE CONTRACT DRAWINGS.
2. SCREENED LINE WORK INDICATES EXISTING ELECTRICAL MATERIALS AND EQUIPMENT TO REMAIN. ALL OTHER NON-ELECTRICAL MATERIALS AND EQUIPMENT, WHETHER EXISTING OR TO BE FURNISHED AND/OR INSTALLED UNDER THIS CONTRACT, INDICATED ON OTHER THAN ELECTRICAL DRAWINGS, ARE ALSO SHOWN IN SCREENED LINES.
3. THERE ARE AIRPORT UTILITIES, PUBLIC UTILITIES, FAA LIGHTING, COMMUNICATIONS, UNDERGROUND CONDUIT, DUCT BANKS, AND CIRCUITING TRAVERSING THE AIRFIELD. THE ENGINEER HAS MADE EVERY ATTEMPT TO SHOW THE APPROXIMATE LOCATION OF ALL ITEMS BASED ON AIRPORT "AS BUILT" AND "RECORD" DRAWINGS. HOWEVER, THE ENGINEER IS NOT RESPONSIBLE FOR SHOWING OR LOCATING EVERY ITEM CURRENTLY IN PLACE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE EVERY ITEM LOCATED, FLAGGED AND IDENTIFIED PRIOR TO START OF CONSTRUCTION. PRIOR TO STARTING WORK, THE CONTRACTOR SHALL CONTACT ALL LOCAL UTILITIES TO ALLOW THEM TIME TO PROPERLY LOCATE ALL UTILITIES. ANY DAMAGE DONE TO ANY OF THE EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY ITEM DAMAGED, CAUSED BY HIS ACTIONS, WITH NO ADDITIONAL COMPENSATION.
4. CAUTION: HIGH VOLTAGE LINES EXIST WITHIN THE PROJECT LIMITS. PERFORM ALL WORK IN CONFORMANCE WITH ALL STATE, FEDERAL, UTILITY AND CONTRACT REQUIREMENTS. SEQUENCING OF WORK AND SAFETY PRACTICES USED IN, ON, OR AROUND HIGH VOLTAGE LINES OR OTHER UTILITY STRUCTURES ARE THE RESPONSIBILITY OF THE PARTIES PHYSICALLY PERFORMING OR CONTROLLING THE PERFORMANCE OF THE WORK. EXCEPT WHERE ELECTRICAL DISTRIBUTION AND TRANSMISSION LINES HAVE BEEN DE-ENERGIZED AND VISIBLY GROUNDED AT THE POINT OF WORK, ASSUME THAT ALL SUCH LINES ARE ENERGIZED AND CONFORM OPERATIONS TO AMONG OTHER THINGS TITLE 29 OF THE CODE OF FEDERAL REGULATIONS, SECTION 1926.550(A)(19).
5. NO RELIABLE INFORMATION EXISTS REGARDING ACTIVE OR ABANDONED UTILITIES WITHIN THE CONTRACTOR'S LAYDOWN AND PROJECT STAGING AREA. THE CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO STARTING ANY WORK IN THIS AREA. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL RESTORE THE STAGING AREA TO ITS ORIGINAL CONDITION WHICH WILL INCLUDE SEEDING OF THE DISTURBED AREAS. RESTORATION OF THE AREA IS CONSIDERED INCIDENTAL TO MOBILIZATION. A SEPARATE PAYMENT WILL NOT BE MADE FOR RESTORATION.
6. ALL WORK SHOWN ON THE DRAWINGS IS BASED ON FIELD OBSERVATION OF THE ACTUAL EXISTING CONDITIONS AND ON EXISTING RECORD DRAWINGS OF THE AFFECTED AREAS. THEY ARE THEREFORE CONSIDERED TO BE SCHEMATIC. CONTRACTOR SHALL VISIT THE SITE, CAREFULLY EXAMINE EXISTING CONDITIONS AND SHALL PERFORM ALL REMOVAL REQUIRED TO ACHIEVE THE FINAL DESIGN INTENT AS REQUIRED BY THE CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT TO ENSURE THAT ALL LIGHTING THAT IS REQUIRED FOR THE OPERATION OF THE AIRPORT IS FUNCTIONAL BY NIGHTFALL. SHOULD ANY REQUIRED RUNWAY OR TAXIWAY LIGHTING SYSTEM BE INOPERABLE DUE TO CONTRACTOR'S WORK, AND THE CONTRACTOR IS UNABLE TO RESTORE THE SYSTEM BY NIGHTFALL WITH PERMANENT REPAIRS, THE CONTRACTOR SHALL AT HIS OWN EXPENSE TAKE THE NECESSARY MEASURES TO ENSURE THE OPERATION OF THE SYSTEM DURING NIGHT HOURS. TEMPORARY WORK SHALL BE SUBJECT TO THE RESIDENT PROJECT REPRESENTATIVE'S APPROVAL. IF THE SYSTEM CANNOT BE RESTORED BY NIGHTFALL, THE CONTRACTOR SHALL CONTACT THE RESIDENT PROJECT REPRESENTATIVE TWO HOURS PRIOR TO THE END OF SHIFT. AIRPORT PERSONNEL MAY BE CALLED IN TO MAKE REPAIRS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRS MADE BY AIRPORT PERSONNEL.
8. ALL 5KV CIRCUIT ISOLATION OR LOCKOUT & TAGOUT PROCEDURES MUST COMPLY WITH OSHA 1910 AND NFPA 70E GUIDELINES. CONTRACTOR TO PROVIDE LOCKOUT/TAGOUT PROCEDURE FOR REVIEW AND APPROVAL BY THE RESIDENT PROJECT REPRESENTATIVE AS PART OF THE CONTRACTOR CONSTRUCTION PHASING/SAFETY PLAN. CONSTRUCTION SHALL NOT COMMENCE UNTIL THE CONSTRUCTION PHASING/SAFETY PLAN IS REVIEWED AND APPROVED.
9. PROTECTION OF ALL PERSONS SHALL BE PROVIDED THROUGHOUT THE PROJECT. THE WORK SHALL PROCEED IN SUCH A MANNER AS TO PROVIDE SAFE CONDITIONS FOR ALL WORKERS AND AIRPORT PERSONNEL. PRIOR TO EACH WORK PERIOD A SAFETY JOB BRIEFING SHALL BE CONDUCTED TO DISCUSS CONSTRUCTION DURING THE WORK PERIOD. COORDINATE WITH RESIDENT PROJECT REPRESENTATIVE AND AIRPORT OPERATIONS FOR SWITCHING AND LOCK-OUT/TAG OUT OF AIRFIELD LIGHTING CIRCUITS. ELECTRICAL EQUIPMENT SHALL BE DE-ENERGIZED PRIOR TO WORK PROCEDURES AND THOSE BEING DE-ENERGIZED OR SWITCHED SHOULD BE LOGGED AND DOCUMENTED.
10. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE SAFETY AND PHASING PLANS.
11. ELECTRICAL WORK SHALL BE LIMITED TO THE AREAS AND SCHEDULES IDENTIFIED IN THE PLANS.
12. ALL MATERIALS SCHEDULED FOR REMOVAL SUCH AS EXISTING TAXIWAY LIGHTS, CABLES, ETC., WHICH ARE DEEMED SALVAGEABLE BY THE AIRPORT SHALL BE DELIVERED TO THE LOCATION ON AIRPORT PROPERTY AS INDICATED BY THE MASSACHUSETTS PORT AUTHORITY ELECTRICAL DEPARTMENT. ALL NON-SALVAGABLE MATERIALS INDICATED TO BE REMOVED SUCH AS CONCRETE FOUNDATIONS, CONDUIT, LIGHT BASES, ISOLATION TRANSFORMERS ETC. SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND LEGALLY DISPOSED OF OFF SITE BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS. UNWANTED CABLES WILL BE DISPOSED OF BY THE CONTRACTOR AT NO COST.
13. AT THE DIRECTION OF THE RESIDENT PROJECT REPRESENTATIVE, THE CONTRACTOR SHALL OVER EXCAVATE ANY UNSUITABLE SOIL AND BACKFILL WITH SUITABLE MATERIALS FROM OTHER AREAS ON THE PROJECT.
14. STOCKPILING OF MATERIAL WITHIN THE AOA SHALL BE LIMITED TO DESIGNATED AREAS APPROVED BY THE RESIDENT PROJECT REPRESENTATIVE.
15. PRIOR TO DEMOLITION OF ELECTRICAL EQUIPMENT, ELECTRICAL CONTRACTOR SHALL DISCONNECT ALL CABLING AND ASSOCIATED EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CIRCUITING IS DISCONNECTED AT ITS SOURCE PRIOR TO DEMOLITION.
16. AIRFIELD LIGHTING SYSTEMS AND UTILITY SOURCES ARE TO BE OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE TEMPORARY SERVICES AND LIGHTING AS REQUIRED TO MAINTAIN ALL LIGHTING SYSTEMS AT ALL TIMES.
17. THE CONTRACTOR SHALL NOTIFY MASSPORT AUTHORITY 48 HOURS PRIOR TO ANY EARTH DISTURBANCE ACTIVITIES.
18. ALL BEARINGS, COORDINATES AND NORTH ARROWS SHOWN ARE BASED ON NORTH DATUM 1983, AND MASSACHUSETTS STATE PLANE COORDINATE SYSTEM.
19. MAINTAIN EXISTING AIRFIELD SIGNAGE OR PROVIDE TEMPORARY SIGNAGE DURING DURATION OF PROJECT. AS WORK PROGRESSES, COVER ANY NEW OR EXISTING MESSAGES THAT DO NOT APPLY OR LEAD INTO NEW WORK AREAS. PRIOR TO DISCONNECTING OR COVERING AIRFIELD GUIDANCE SIGNAGE, SUBMIT TO THE RESIDENT PROJECT REPRESENTATIVE A LIST OR DIAGRAM OF THE INTENDED SIGNS. NO SIGNAGE MAY BE DISCONNECTED OR COVERED WITHOUT APPROVAL BY THE RESIDENT PROJECT REPRESENTATIVE. ALL SIGNS TO BE REMOVED STORED WITHIN THE CONSTRUCTION LIMITS.
20. ALL EXISTING LIGHTING FIXTURES REMOVED FOR RE-INSTALLATION SHALL BE INVENTORIED AND CAREFULLY WRAPPED AND DELIVERED TO THE AIRPORT. EQUIPMENT DAMAGED DURING REMOVAL SHALL BE REPLACED AT THE CONTRACTOR'S OWN EXPENSE.
21. PRIOR TO INSTALLING LIGHT FIXTURES ON EXISTING LIGHT BASE, CLEAN INTERIOR OF LIGHT BASE BY REMOVING DIRT, DEBRIS AND SITTING WATER. TO REMOVE DIRT AND DEBRIS USE A WIRE BRUSH AND WET/DRY VACUUM. TO CLEAN A LIGHT BASE OF SITTING WATER, USE A WET/DRY VACUUM.
22. PRIOR TO WORK AND PRIOR TO THE AREA BEING RELEASED AT THE END OF THE WORK SHIFT, ENERGIZE ASSOCIATED 5KV CIRCUITS AND FUNCTIONALLY DEMONSTRATE ALL THREE STEPS (OR FIVE STEPS IF HIGH INTENSITY) AT THE CONSTANT CURRENT REGULATORS. NOTE ALL NON-ENERGIZED IN PAVEMENT CENTERLINE FIXTURES ON CONTRACT DRAWINGS AND INFORM THE RESIDENT PROJECT REPRESENTATIVE. THE CONTRACTOR SHALL DC MEGGER TEST ALL EXISTING AND NEW 5KV CABLING AFFECTED DURING WORK PER FAA STANDARDS. ALL DC MEGGER TESTS SHALL BE RECORDED ON A TEST FORM AND SUBMITTED TO THE RESIDENT PROJECT REPRESENTATIVE AS A RECORD SET.

23. THE CONTRACTOR SHALL CONDUCT GROUND INSULATION RESISTANCE TESTS (MEGGER) ON EACH CIRCUIT AFFECTED BY THIS WORK **BEFORE** COMMENCING WORK ON THAT CIRCUIT. CONTRACTOR SHALL PREPARE AND FORWARD TO THE RESIDENT PROJECT REPRESENTATIVE A WRITTEN REPORT, BY CIRCUIT, OF THESE RESULTS. THE CONTRACTOR SHALL REPEAT THIS TEST ON EACH AFFECTED CIRCUIT AFTER COMPLETION OF THE WORK. RESULTS OF BOTH TESTS SHALL BE PROVIDED TO THE RESIDENT PROJECT REPRESENTATIVE. REFER TO SPECIFICATION "L-108 UNDERGROUND POWER CABLE FOR AIRPORTS" FOR ADDITIONAL INSULATION RESISTANCE REQUIREMENTS.
24. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE AIRPORT OPERATIONS, CAPITAL PROGRAMS, FEDERAL AVIATION ADMINISTRATION AND RESIDENT PROJECT REPRESENTATIVE PRIOR TO AND DURING CONSTRUCTION TO ENSURE THAT ALL ELECTRICAL CIRCUITS AND FACILITIES HAVE BEEN LOCATED, FLAGGED AND ACCOUNTED FOR AND THAT ALL NECESSARY CIRCUITS HAVE BEEN DETERMINED PRIOR TO INITIATING CONSTRUCTION IN ANY LOCATION.
25. CLOSE COORDINATION AND COOPERATION BETWEEN THE TRADES SHALL BE REQUIRED IF ADDITIONAL CONTRACTORS FROM OTHER TRADES ARE WORKING IN THE PROXIMITY OF THIS PROJECT AND WILL SHARE COMMON HAUL ROUTES AND GATE ACCESS. WORK CLOSELY WITH THE RESIDENT PROJECT REPRESENTATIVE AND AIRPORT OPERATIONS IN COORDINATING SCHEDULES IN ORDER TO MINIMIZE CONFLICTS.
26. ALL UTILITIES TO REMAIN SHALL BE PROTECTED FROM DAMAGE. REPLACEMENT OF ANY DAMAGED EXISTING SYSTEMS/UTILITIES SHALL BE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED ELECTRICAL SYSTEMS AND SHALL MAKE REPAIRS IMMEDIATELY, AT THEIR OWN COST, IN ACCORDANCE WITH APPLICABLE FAA SPECIFICATIONS. DAMAGED ELECTRICAL SYSTEMS SHALL BE IMMEDIATELY REPORTED TO THE RESIDENT PROJECT REPRESENTATIVE.
27. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO RELOCATE, MODIFY AND INSTALL THE AIRFIELD ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
28. WHERE THE FRANGIBLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICONE RUBBER SEAL MUST BE APPLIED COMPLETELY AROUND THE LIGHT STEM OR WIREWAY AT THE FRANGIBLE COUPLING TO PROVIDE A WATERTIGHT SEAL.
29. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL SAFETY CODE, NATIONAL ELECTRICAL CODE, FEDERAL AVIATION ADMINISTRATION SPECIFICATIONS, APPLICABLE LOCAL BUILDING CODES AND LATEST VERSIONS OF THE FAA ADVISORY CIRCULARS.
30. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS.
31. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THAT ALL AIRFIELD LIGHTING CIRCUITS, EXCEPT THOSE THAT ARE SERVING CLOSED TAXIWAYS OR RUNWAYS, ARE OPERATIONAL AND FULLY FUNCTIONAL AT THE END OF EACH WORK DAY AND SHALL SO CERTIFY TO THE RESIDENT PROJECT REPRESENTATIVE BEFORE LEAVING THE SITE EACH DAY.
32. CIVIL DATA IS SHOWN ON ELECTRICAL DRAWINGS FOR REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR DRAINAGE, PAVING DETAILS, PAVEMENT MARKING PLANS, ETC.
33. FURNISH AND INSTALL SHEETING AND SHORING IN ALL TRENCHES AND EXCAVATIONS AS NECESSARY IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE LAWS AND STANDARDS.
34. FURNISH DEWATERING SERVICE, GAS-FREE TESTING, AND PROVIDING SAFETY EQUIPMENT FOR CONFINED SPACE OPERATIONS WHEN ENTERING ALL AFFECTED MANHOLES AND HANDHOLES AT NO ADDITIONAL COST TO MASSPORT. COMPLY WITH LOCAL AND OSHA SAFETY REQUIREMENTS FOR ENTERING CONFINED SPACES AND OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEWATERING.
35. PROJECT PAY ITEMS: THE PROJECT PAY ITEMS ARE PROVIDED TO BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THESE PLANS. ALL WORK TO BE IDENTIFIED WITH A SPECIFIC PAY ITEM IS TO BE CONSIDERED REQUIRED WORK TO COMPLETE THE PROJECT AND IS TO BE SUBSIDIARY TO THE COST OF PROJECT PAY ITEMS PROVIDED.
36. THE CONTRACTOR SHALL KEEP A COPY OF THE CURRENT SET OF CONTRACT DOCUMENTS WITH AS-BUILT INFORMATION AT THE JOB SITE AT ALL TIMES.
37. VERIFY BY FIELD MEASUREMENTS ALL DIMENSIONS, ELEVATIONS AND CONDITIONS THAT MAY BE REQUIRED TO LOCATE, ALIGN, DIMENSION AND DETAIL THE CONSTRUCTION WITHIN SPECIFIED TOLERANCES. THE FIELD MEASUREMENTS SHALL BE PERFORMED PRIOR TO THE PREPARATION OF SHOP DRAWINGS AND THE MANUFACTURING, FABRICATION AND INSTALLATION OF ALL ITEMS OF CONSTRUCTION. ALL VARIATIONS FROM THE CONTRACT DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT PROJECT REPRESENTATIVE PRIOR TO THE PREPARATION OF SHOP DRAWINGS.
38. WHENEVER, IN THE CONTRACT DOCUMENTS, THE WORDS "PROVIDE", "FURNISH", "INSTALL", "FURNISH AND INSTALL", OR OTHER WORDS OF LIKE IMPORT ARE USED, IT SHALL BE UNDERSTOOD THAT THE INTENT OF THE CONTRACT DOCUMENTS IS TO PROVIDE FOR THE CONSTRUCTION AND COMPLETION IN EVERY DETAIL OF THE WORK DESCRIBED. IT IS FURTHER INTENDED THAT THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, SUPPLIES, TESTING AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS (PLANS), SPECIFICATIONS AND TERMS OF THE CONTRACT.
39. ACTIVE 5kv LIGHTING CIRCUITS ARE IN THE MANHOLES ALONGSIDE THE CIRCUITS THAT ARE BEING REPLACED. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THESE CIRCUITS IN PROPER WORKING ORDER.

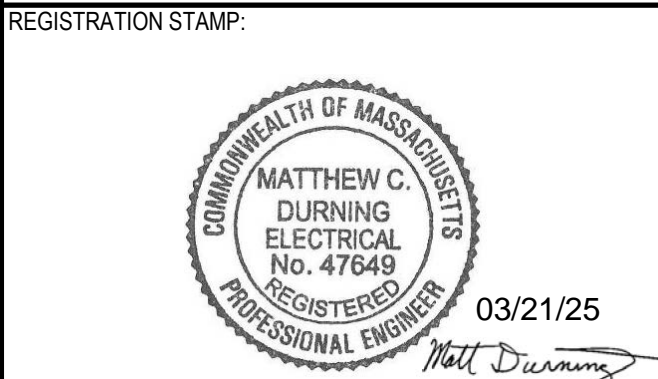


MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.:	LOCATION CODE:
H296-C1	3540

PROJECT SUBMISSION PHASE:  
**BID SET**



REVISIONS:

REV NO.	DATE:	DESCRIPTION:	BY:

PRIMARY:

**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:  
**ELECTRICAL NOTES**

DISCIPLINE:  
**ELECTRICAL**

DRAWN BY:	CHECKED BY:	APPROVED BY:
KH	RD/AN	MD

SCALE:	DATE:
NO SCALE	MARCH 2025

SHEET NUMBER:	DWG NUMBER:
33 OF 44	<b>E-101</b>

**ELECTRICAL ABBREVIATIONS:**

Ø	PHASE	(E)	EXISTING	MISC	MISCELLANEOUS	SCH	SCHEDULE
1/C	ONE CONDUCTOR	EC	EMPTY CONDUIT	N	NORTH AMERICAN DATUM	SS	STAINLESS STEEL OR SAFETY SWITCH
A	AMPERE(S) / ADJUSTED	EES	EARTH ELECTRODE SYSTEM	N/A	NOT AVAILABLE	STA.	STATION
ABAN	ABANDONED	EL, ELEV	ELEVATION	NAD	NORTH AMERICAN DATUM	STD	STANDARD
AC	ADVISORY CIRCULAR OR ALTERNATING CURRENT	ELEC	ELECTRICAL	NAVAIDS	NAVIGATIONAL AIDS	SW	SWITCH
ACP	ASPHALTIC CONCRETE PAVEMENT	EMP	EMERGENCY MAIN PANELBOARD	NEC	NATIONAL ELECTRIC CODE	T/L	TAXILANE
AF	AMPERE FRAME	EMT	ELECTRICAL METALLIC TUBING	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	TELCO	TELECOMMUNICATIONS
ALV	AIRFIELD LIGHTING VAULT	EOP	EDGE OF PAVEMENT	NGVD	NATIONAL GEODETIC VERTICAL DATUM	T.O.	TOP OF
AOA	AIRCRAFT OPERATIONS AREA	ES	EQUAL SPACES	#NO.	NUMBER	TOC	TOP OF CONCRETE
ALCS	AIRFIELD LIGHTING CONTROL SYSTEM	EQUIP	EQUIPMENT	NOTAM	NOTICE TO AIRMEN	TOD	TOP OF DUCT
ALCMS	AIRFIELD LIGHTING CONTROL AND MONITOR SYSTEM	EXIST	EXISTING	NTS	NOT TO SCALE	TOFA	TAXIWAY OBJECT FREE AREA
APPROX.	APPROXIMATE	FAA	FEDERAL AVIATION ADMINISTRATION	OC	ON CENTER	TP	TAPER POINT
AR	AMPERAGE RATING	F/O, FO	FIBER OPTIC	O.C.B.W	ON CENTER BOTH WAYS	TW	TAXIWAY
ARFF	AIRCRAFT RESCUE AND FIREFIGHTING	FOD	FOREIGN OBJECT DEBRIS	OD	OUTER DIAMETER	TDZ	TOUCHDOWN ZONE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	G, GND	GROUND	OFA	OBJECT FREE AREA	TSA	TAXIWAY SAFETY AREA
AT	AMPERE TRIP	GALV	GALVANIZED	OPP	OPPOSITE POINT PERPENDICULAR	TVSS	TRANSIENT VOLTAGE SURGE PROTECTORS
ATS	AUTOMATIC TRANSFER SWITCH	GR	GROUND ROD	P.	POLE	TYP.(TYP)	TYPICAL
AUX.	AUXILIARY	GRS	GALVANIZED RIGID STEEL CONDUIT	PAPI	PRECISION APPROACH PATH INDICATOR	UE	UNDERGROUND ELECTRICAL UTILITY FEEDER
AWG	AMERICAN WIRE GAUGE	GS	GLIDE SLOPE ANTENNA	PC	POINT OF CURVATURE	UG	UNDERGROUND ELECTRICAL DUCT
BIT	BITUMINIOUS	HH	HANDHOLE	PCC	PORTLAND CEMENT CONCRETE	UON	UNLESS OTHERWISE NOTED
BLDG	BUILDING	I/C	NUMBER OF CONDUCTORS/CONDUCTOR	PG	PROPOSED GRADE	UPS	UNINTERRUPTIBLE POWER SUPPLY
BKR	BREAKER	IE/INV	INVERT ELEVATION / INVERT	PI	POINT OF INTERSECTION	V	VOLTS
BSD	BARE SOFT DRAWN SOLID COPPER	ID	IDENTIFICATION NUMBER	PPE	PERSONAL PROTECTIVE EQUIPMENT	VA	VOLT AMPERES
C/CDT	CONDUIT	ILC	INDIVIDUAL LOGIC CONTROLLER	PSSS	PAVEMENT SURFACE SENSOR SYSTEM	W	WATT(S)
CCR	CONSTANT CURRENT REGULATOR	ILS	INSTRUMENT LANDING SYSTEM	PT	POINT OF TANGENCY	W/	WITH
CMH, CHH	COMMUNICATION HANDHOLE/MANHOLE	JB	JUNCTION BOX	PWR	POWER	XFMR	TRANSFORMER
CONC	CONCRETE	kV	KILOVOLT	R	TO BE REMOVED		
CIR, CKT	CIRCUIT	KW	KILOWATT	REF, REFER	REFERENCE		
ε	CENTERLINE	KVA	KILOVOLT-AMPERE(S)	REL	RELOCATED		
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LED	LIGHT-EMITTING DIODE	REQ/REQ'D	REQUIRED		
COMM	COMMUNICATION	LF	LINEAR FEET	RGL	RUNWAY GUARD LIGHTS		
CP	COUNTERPOISE	LFMC	LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT	RGS	RIGID GALVANIZED STEEL		
CPT	CURRENT POWER TRANSFORMER	LS	LUMP SUM	RLIM	RUNWAY LOW INTENSITY MONITOR		
CU	COPPER	LT	LIGHT	ROFA	RUNWAY OBJECT FREE AREA		
C/B	CIRCUIT BREAKER	MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS	RPL	REPLACE		
C/N	CATALOG NUMBER	MAX	MAXIMUM	RPR	RESIDENT PROJECT REPRESENTATIVE		
DEB	DIRECT EARTH BURIED	MCB	MAIN CIRCUIT BREAKER	RPU	REMOTE PROCESSING UNIT		
DDC	DIRECT DIGITAL CONTROL	MH	MANHOLE	RPZ	RUNWAY PROTECTION ZONE		
Ø, DIA	DIAMETER	MIN	MINIMUM	RSA	RUNWAY SAFETY AREA		
DIST	DISTRIBUTION	MOD	MODULE	RT	RIGHT		
DWG(S)	DRAWING(S)	MODS	MODULES	RVR	RUNWAY VISUAL RANGE		
DS	DISCONNECT SWITCH			RW, RW	RUNWAY		

**ELECTRICAL LEGEND:**

EXISTING	ITEM	DEMO	ITEM	PROPOSED	ITEM
	RUNWAY EDGE LIGHT, ELEVATED		RUNWAY EDGE LIGHT, ELEVATED, REMOVED AND STORE FOR RELOCATION, REMOVE BASE CAN		RUNWAY EDGE LIGHT, ELEVATED, RELOCATE EXISTING LIGHT ON NEW BASE CAN
	RUNWAY EDGE LIGHT, SEMI-FLUSH		RUNWAY EDGE LIGHT, SEMI-FLUSH, REMOVED AND STORE FOR RELOCATION, REMOVE BASE CAN		RUNWAY EDGE LIGHT, SEMI-FLUSH, RELOCATE EXISTING LIGHT ON NEW BASE CAN
	RUNWAY THRESHOLD LIGHT		TAXIWAY EDGE LIGHT, ELEVATED, REMOVE AND STORE FOR RELOCATION		TAXIWAY EDGE LIGHT, ELEVATED, EXISTING LIGHT INSTALLED IN NEW LOCATION
	TAXIWAY EDGE LIGHT		TAXIWAY EDGE LIGHT, ELEVATED, REMOVE LIGHT AND BASE CAN		TAXIWAY EDGE LIGHT, ELEVATED, ADJUST EXISTING LIGHT AND BASE CAN TO NEW GRADE
	ELECTRIC HANDHOLE		TAXIWAY EDGE LIGHT, ELEVATED, REMOVE AND STORE FOR ELEVATION ADJUSTMENT		TAXIWAY EDGE LIGHT, ELEVATED, REPLACE QUARTZ FIXTURE WITH LED FIXTURE (REPLACE TRANSFORMER)
	ELECTRIC MANHOLE		TAXIWAY EDGE LIGHT, ELEVATED, REMOVE LIGHT FIXTURE AND TRANSFORMER, BASE CAN TO REMAIN		TAXIWAY EDGE LIGHT, ELEVATED, INSTALL NEW LED FIXTURE AND BASE CAN
	DUCTBANK		ELECTRIC HANDHOLE, REMOVE		TAXIWAY EDGE LIGHT, ELEVATED, INSTALL NEW QUARTZ FIXTURE AND BASE CAN
	CONDUIT		ELECTRIC MANHOLE, REMOVE		ELECTRIC HANDHOLE
	EXISTING HANDHOLE		JUNCTION CAN, REMOVE		ELECTRIC MANHOLE
	EXISTING AIRFIELD GUIDANCE SIGN		DUCTBANK, REMOVE		DUCTBANK, CONCRETE ENCASED
			CONDUIT, REMOVE		CONDUIT, CONCRETE ENCASED
					CONDUIT, NON-ENCASED
					INSTALL CABLE IN EXISTING CONDUIT OR DUCT
					CIRCUIT CALLOUT
					INSTALL OWNER SUPPLIED L-858(L) B.Y.R.L AIRFIELD GUIDANCE SIGN WITH 6.6A LED, INSTALLED ON A CONCRETE BASE WITH L-867B, 24" DEEP BASE CAN(S), PROPERLY SIZED L-830 TRANSFORMER AND L-823 CONNECTORS.
					RELOCATED EXISTING AIRFIELD GUIDANCE SIGN. CONVERT SIGN TO LED TYPE (LED CONVERSION KIT) WITH NEW ISOLATION TRANSFORMER.
					REMOVE EXISTING GUIDANCE SIGN AND FOUNDATION.
					REMOVE AND STORE SIGN FOR RELOCATION, DISPOSE OF EXISTING FOUNDATION.



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:

BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY:

PRIMARY:



HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:

ELECTRICAL LEGENDS  
AND ABBREVIATIONS

DISCIPLINE:

ELECTRICAL

DRAWN BY: CHECKED BY: APPROVED BY:

KH RD/AN MD

SCALE: NO SCALE DATE: MARCH 2025

SHEET NUMBER: DWG NUMBER:

34 OF 44

**E-102**



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

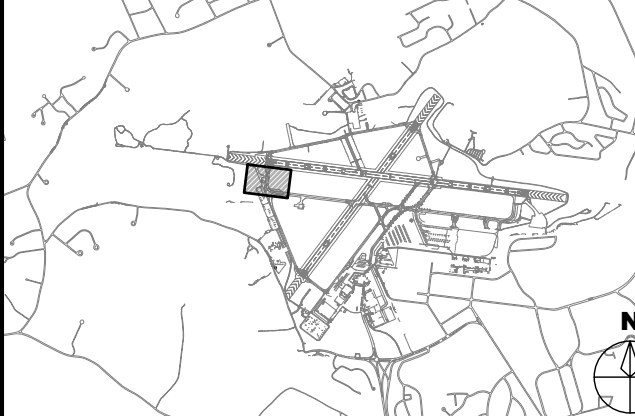
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:  
**H296-C1**

REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:

**ELECTRICAL DEMOLITION  
PLAN - 1**

DISCIPLINE:

**ELECTRICAL**

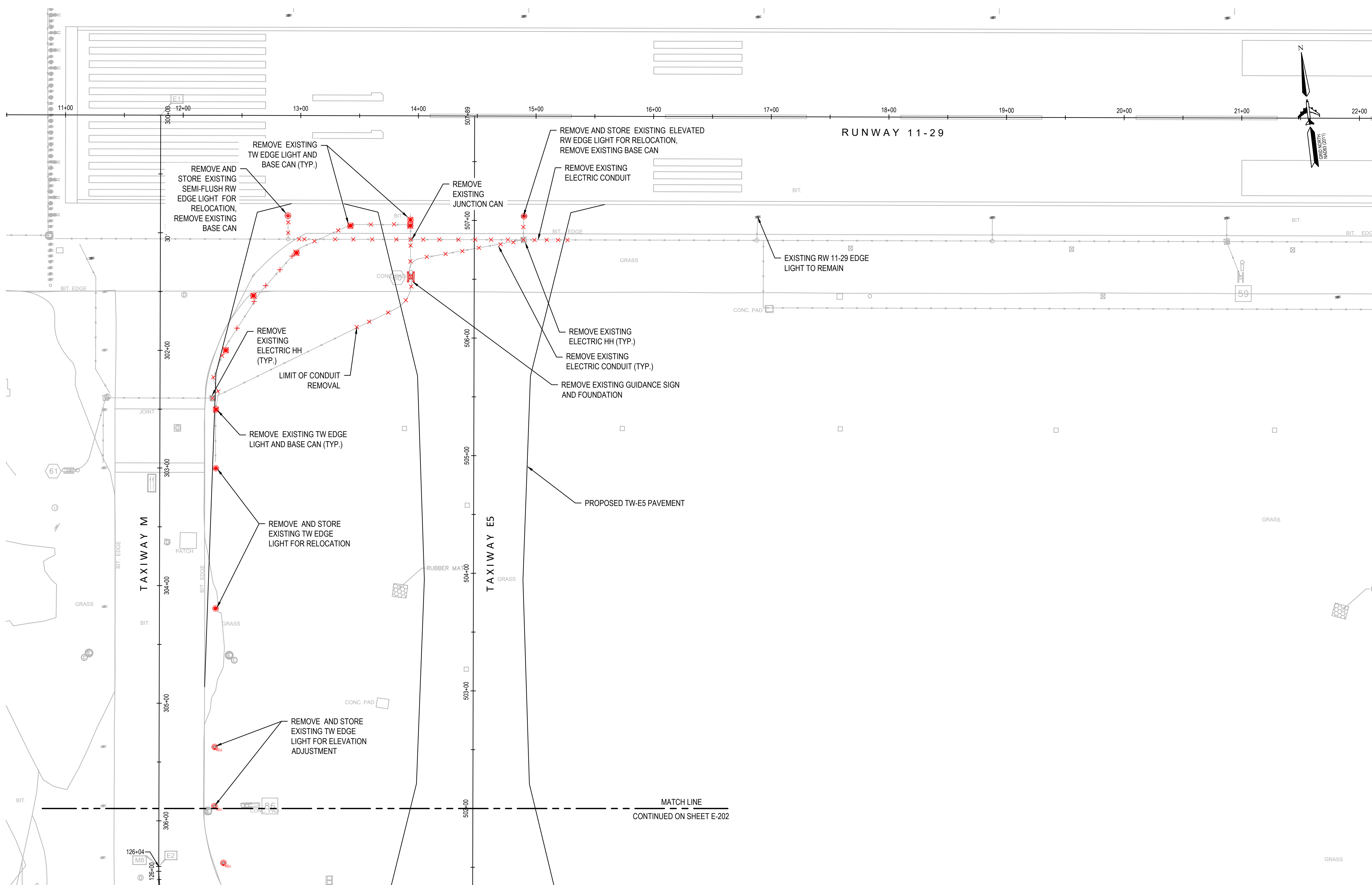
DRAWN BY: CHECKED BY: APPROVED BY:

KH RD/AN MD

SCALE: 1" = 40'  
DATE: MARCH 2025

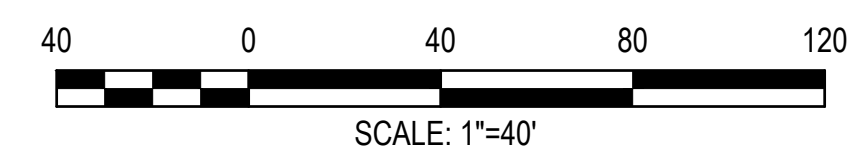
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35 OF 44 **E-201**



**NOTES:**

- FOR ELECTRICAL LEGEND, GENERAL ELECTRICAL NOTES, AND ELECTRICAL ABBREVIATIONS, SEE DWGS. E101 AND E102.
- FOR ELECTRICAL DETAILS, SEE DWGS. E401 THROUGH E403 AND E501.
- FOR AIRFIELD LIGHTING SCHEDULES SEE DWG. E301.
- ALL LIGHTS WITHIN THE LIMITS OF REGRADING SHALL BE INSTALLED TO FINAL GRADES. REFER TO THE LIGHT ADJUSTMENT SCHEDULE DRAWING.
- SEE PHASING AND SAFETY PLAN - PHASE 1 (DWG G101) FOR SEQUENCE OF CONSTRUCTION AND ELECTRICAL WORK.
- CARE SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING PARTS. INSTALL LIGHT TO PROPOSED FINISH GRADE WITH NEW BOLTS. EXISTING BOLTS REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE NUMBER AND SIZE OF LIGHT BASE RISERS AND SHIMS FOR SEMI-FLUSH LIGHTS. THE CONTRACTOR WILL ORDER RISERS AND SHIMS. PROCUREMENT OF MATERIAL AND INSTALLATION OF RISERS AND SHIMS SHALL BE CONSIDERED INCIDENTAL TO ITEM L-125.5.3.







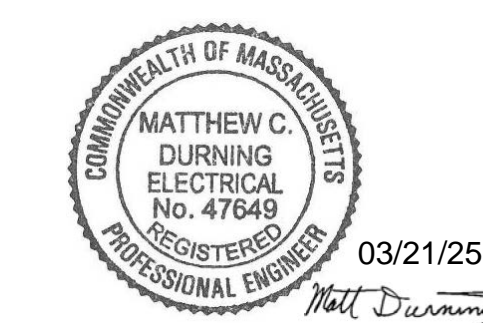
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

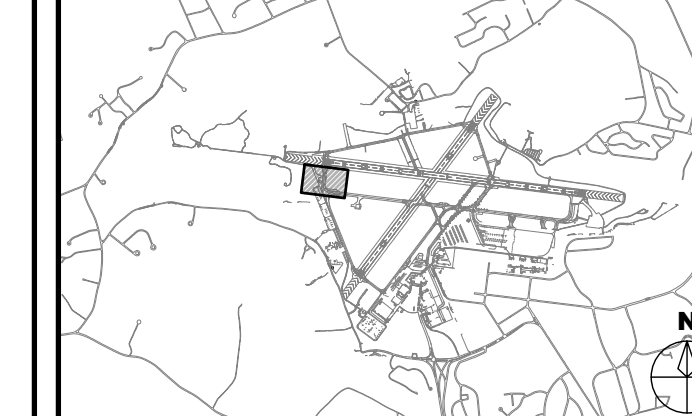
MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:

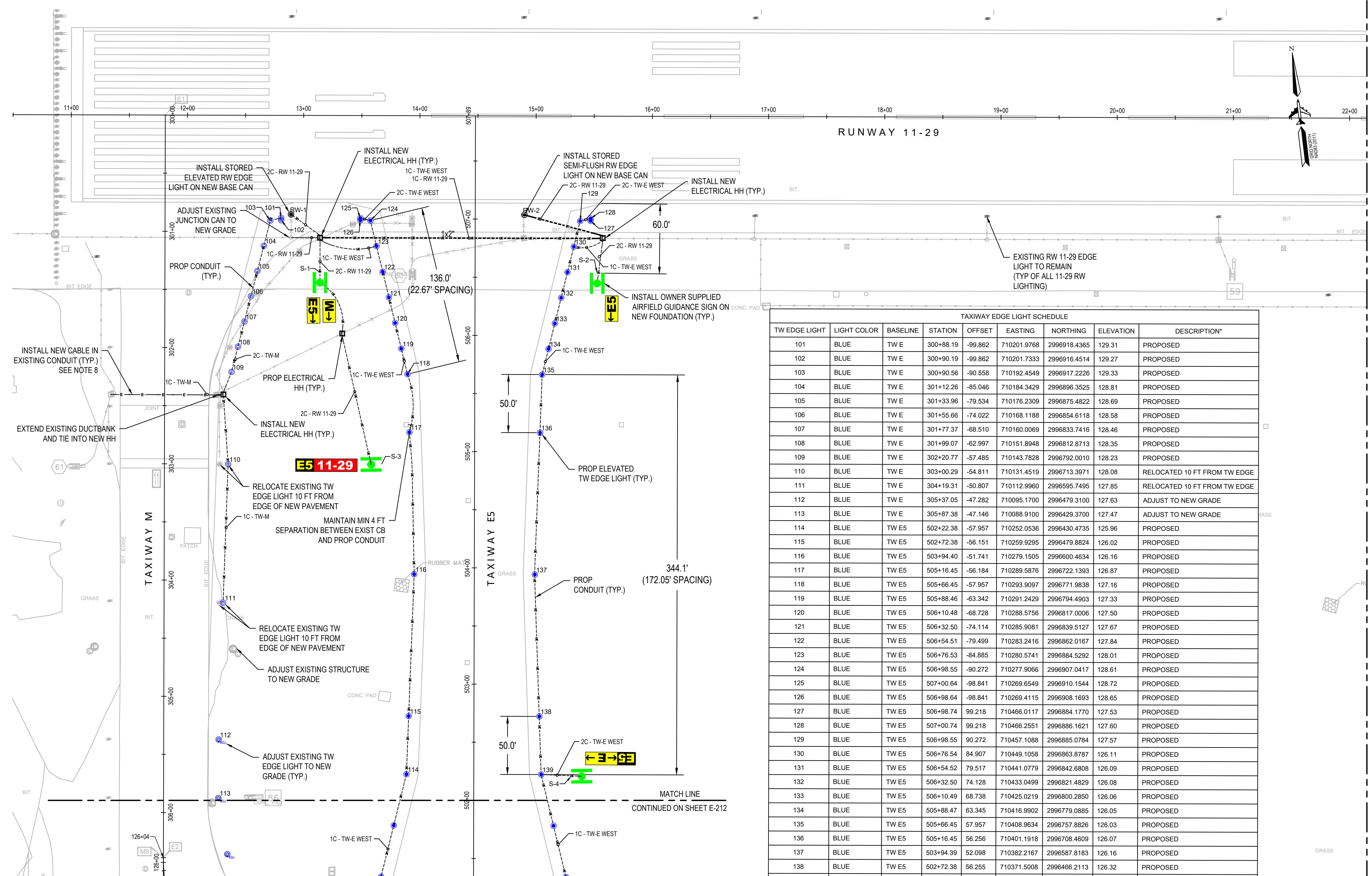
**ELECTRICAL PLAN - 1**

DISCIPLINE:  
ELECTRICAL

DRAWN BY: KH  
CHECKED BY: AN/RD  
APPROVED BY: MD

SCALE: 1" = 40'  
DATE: MARCH 2025

SHEET NUMBER: 37 OF 44  
DWG NUMBER: E-211

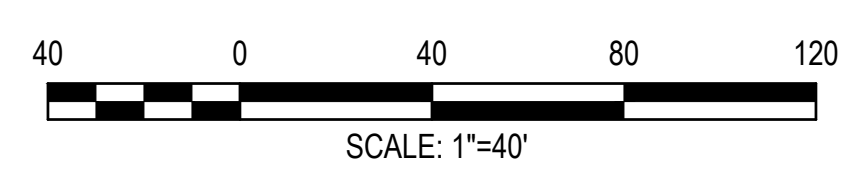


- NOTES:**
- FOR ELECTRICAL LEGEND, GENERAL ELECTRICAL NOTES, AND ELECTRICAL ABBREVIATIONS, SEE DWGS. E101 AND E102.
  - FOR ELECTRICAL DETAILS, SEE DWGS. E401 THROUGH E403 AND E501.
  - FOR AIRFIELD LIGHTING SCHEDULES SEE DWG. E301. IF MASSPORT DOES NOT WANT THE EQUIPMENT, IT SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST.
  - ALL LIGHTS WITHIN THE LIMITS OF REGRADING SHALL BE INSTALLED TO FINAL GRADES. REFER TO THE LIGHT ADJUSTMENT SCHEDULE DRAWING.
  - SEE PHASING AND SAFETY PLAN - PHASE 1 (DWG G101) FOR SEQUENCE OF CONSTRUCTION AND ELECTRICAL WORK.
  - CARE SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING PARTS. INSTALL LIGHT TO PROPOSED FINISH GRADE WITH NEW BOLTS. EXISTING BOLTS REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
  - THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE NUMBER AND SIZE OF LIGHT BASE RISERS AND SHIMS FOR SEMI-FLUSH LIGHTS. THE CONTRACTOR WILL ORDER RISERS AND SHIMS. PROCUREMENT OF MATERIAL AND INSTALLATION OF RISERS AND SHIMS SHALL BE CONSIDERED INCIDENTAL TO ITEM L-125.5.3.
  - REMOVE EXISTING TAXIWAY M SERIES LIGHTING CABLES. CARE SHALL BE TAKEN TO AVOID DISRUPTING OTHER CIRCUITS IN THE EXISTING CONDUIT. REPLACE WITH NEW L-108 5KV SERIES LIGHTING CABLES. NEW SERIES LIGHTING CABLE SHALL BE LABELED AND FIVE FEET OF SLACK SHALL BE COILED IN EACH HANDHOLE.
  - SEE EXISTING VAULT PLAN ON DWG E-401.

TAXIWAY EDGE LIGHT SCHEDULE								
TW EDGE LIGHT	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
101	BLUE	TW E	300+88.19	-99.862	710201.9768	2996918.4365	129.31	PROPOSED
102	BLUE	TW E	300+90.19	-99.862	710201.7333	2996916.4514	129.27	PROPOSED
103	BLUE	TW E	300+90.56	-90.558	710192.4549	2996917.2226	129.33	PROPOSED
104	BLUE	TW E	301+12.26	-85.046	710184.3429	2996896.3525	128.81	PROPOSED
105	BLUE	TW E	301+33.96	-79.534	710176.2309	2996875.4822	128.69	PROPOSED
106	BLUE	TW E	301+55.66	-74.022	710168.1188	2996854.6118	128.58	PROPOSED
107	BLUE	TW E	301+77.37	-68.510	710160.0069	2996833.7416	128.46	PROPOSED
108	BLUE	TW E	301+99.07	-62.997	710151.8948	2996812.8713	128.35	PROPOSED
109	BLUE	TW E	302+20.77	-57.485	710143.7828	2996792.0010	128.23	PROPOSED
110	BLUE	TW E	303+00.29	-54.811	710131.4519	2996713.3971	128.08	RELOCATED 10 FT FROM TW EDGE
111	BLUE	TW E	304+19.31	-50.807	710112.9960	2996595.7495	127.85	RELOCATED 10 FT FROM TW EDGE
112	BLUE	TW E	305+37.05	-47.282	710095.1700	2996479.3100	127.63	ADJUST TO NEW GRADE
113	BLUE	TW E	305+87.38	-47.146	710088.9100	2996429.3700	127.47	ADJUST TO NEW GRADE
114	BLUE	TW E5	502+22.38	-57.957	710252.0536	2996430.4735	125.96	PROPOSED
115	BLUE	TW E5	502+72.38	-56.151	710259.9295	2996479.8824	126.02	PROPOSED
116	BLUE	TW E5	503+94.40	-51.741	710279.1505	2996600.4634	126.16	PROPOSED
117	BLUE	TW E5	505+16.45	-56.184	710289.5876	2996722.1393	126.87	PROPOSED
118	BLUE	TW E5	505+66.45	-57.957	710293.9097	2996771.9838	127.16	PROPOSED
119	BLUE	TW E5	505+88.46	-63.342	710291.2429	2996794.4903	127.33	PROPOSED
120	BLUE	TW E5	506+10.48	-68.728	710288.5756	2996817.0006	127.50	PROPOSED
121	BLUE	TW E5	506+32.50	-74.114	710285.9081	2996839.5127	127.67	PROPOSED
122	BLUE	TW E5	506+54.51	-79.499	710283.2416	2996862.0167	127.84	PROPOSED
123	BLUE	TW E5	506+76.53	-84.885	710280.5741	2996884.5292	128.01	PROPOSED
124	BLUE	TW E5	506+98.55	-90.272	710277.9066	2996907.0417	128.61	PROPOSED
125	BLUE	TW E5	507+00.64	-98.841	710269.6549	2996910.1544	128.72	PROPOSED
126	BLUE	TW E5	506+98.64	-98.841	710269.4115	2996908.1693	128.65	PROPOSED
127	BLUE	TW E5	506+98.74	99.218	710466.0117	2996884.1770	127.53	PROPOSED
128	BLUE	TW E5	507+00.74	99.218	710466.2551	2996886.1621	127.60	PROPOSED
129	BLUE	TW E5	506+98.55	90.272	710457.1088	2996885.0784	127.57	PROPOSED
130	BLUE	TW E5	506+76.54	84.907	710449.1058	2996863.8787	126.11	PROPOSED
131	BLUE	TW E5	506+54.52	79.517	710441.0779	2996842.6808	126.09	PROPOSED
132	BLUE	TW E5	506+32.50	74.128	710433.0499	2996821.4829	126.08	PROPOSED
133	BLUE	TW E5	506+10.49	68.738	710425.0219	2996800.2850	126.06	PROPOSED
134	BLUE	TW E5	505+88.47	63.345	710416.9902	2996779.0885	126.05	PROPOSED
135	BLUE	TW E5	505+66.45	57.957	710408.9634	2996757.8826	126.03	PROPOSED
136	BLUE	TW E5	505+16.45	56.256	710401.1918	2996708.4609	126.07	PROPOSED
137	BLUE	TW E5	503+94.39	52.098	710382.2167	2996587.8183	126.16	PROPOSED
138	BLUE	TW E5	502+72.38	56.255	710371.5008	2996466.2113	126.32	PROPOSED
139	BLUE	TW E5	502+22.38	57.957	710367.1074	2996416.3723	126.38	PROPOSED

RUNWAY EDGE LIGHT SCHEDULE								
RW EDGE LIGHT	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
RW-1	YELLOW/WHITE	TW E	300+85.19	-108.391	710210.8079	2996920.3803	129.32	RELOCATED ELEVATED RW EDGE LIGHT
RW-2	YELLOW/WHITE	TW E5	507+03.72	42.297	710410.1182	2996896.0400	128.05	RELOCATED SEMI-FLUSH RW EDGE LIGHT

GUIDANCE SIGN SCHEDULE								
GUIDANCE SIGN	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
S-1	N/A	TW E5	506+53.86	-133.462	710229.6007	2996867.9372	128.03	NEW SIGN
S-2	N/A	TW E5	506+53.85	105.073	710466.3618	2996838.9030	126.36	NEW SIGN
S-3	N/A	TW E5	504+88.82	-80.220	710262.3701	2996697.6481	126.29	NEW SIGN
S-4	N/A	TW E5	502+20.95	84.044	710392.8263	2996411.7805	125.95	NEW SIGN





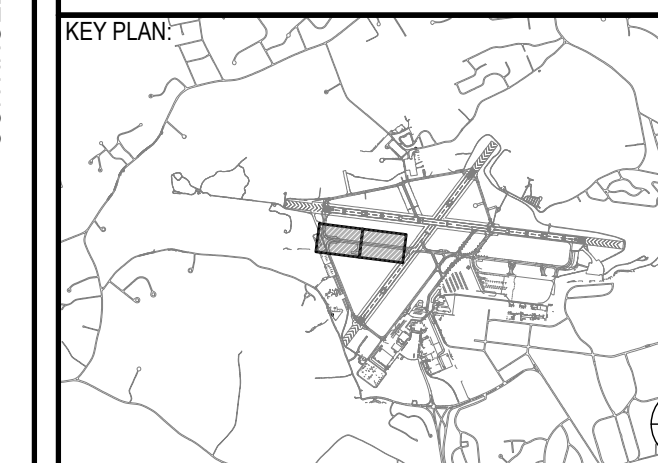
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:  
**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

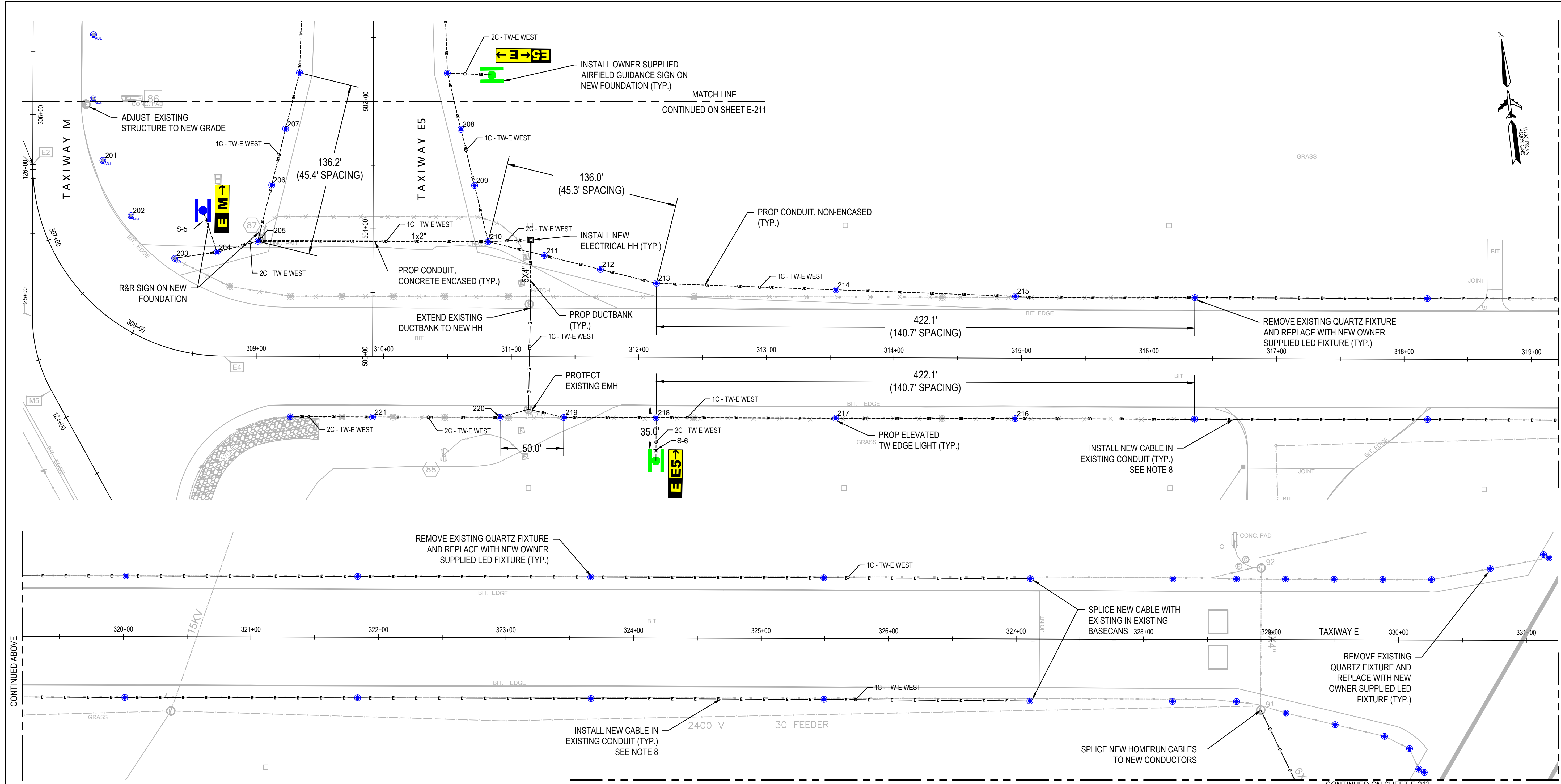
SHEET TITLE:  
**ELECTRICAL PLAN - 2**

DISCIPLINE:  
ELECTRICAL

DRAWN BY: KH  
CHECKED BY: AN/RD  
APPROVED BY: MD

SCALE: 1" = 40'  
DATE: MARCH 2025

SHEET NUMBER: 38 OF 44  
DWG NUMBER: **E-212**



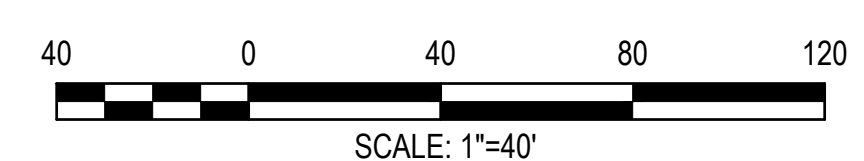
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TW EDGE LIGHT	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
201	BLUE	TW E	306+35.64	-54.946	710090.7800	2996380.5200	127.16	ADJUST TO NEW GRADE
202	BLUE	TW E	307+14.28	-66.828	710107.5360	2996334.8664	126.84	ADJUST TO NEW GRADE
203	BLUE	TW E	308+01.98	-67.025	710137.5460	2996297.5564	126.48	ADJUST TO NEW GRADE
204	BLUE	TW E	308+62.94	-81.312	710171.1872	2996298.4647	126.07	PROPOSED
205	BLUE	TW E5	500+90.11	-90.310	710203.8508	2996303.1262	125.72	PROPOSED
206	BLUE	TW E5	501+34.20	-79.526	710219.9188	2996345.5763	125.80	PROPOSED
207	BLUE	TW E5	501+78.29	-68.741	710235.9867	2996388.0264	125.88	PROPOSED
208	BLUE	TW E5	501+78.34	68.729	710372.4417	2996371.3530	126.23	PROPOSED
209	BLUE	TW E5	501+34.30	79.518	710377.7935	2996326.3267	126.08	PROPOSED

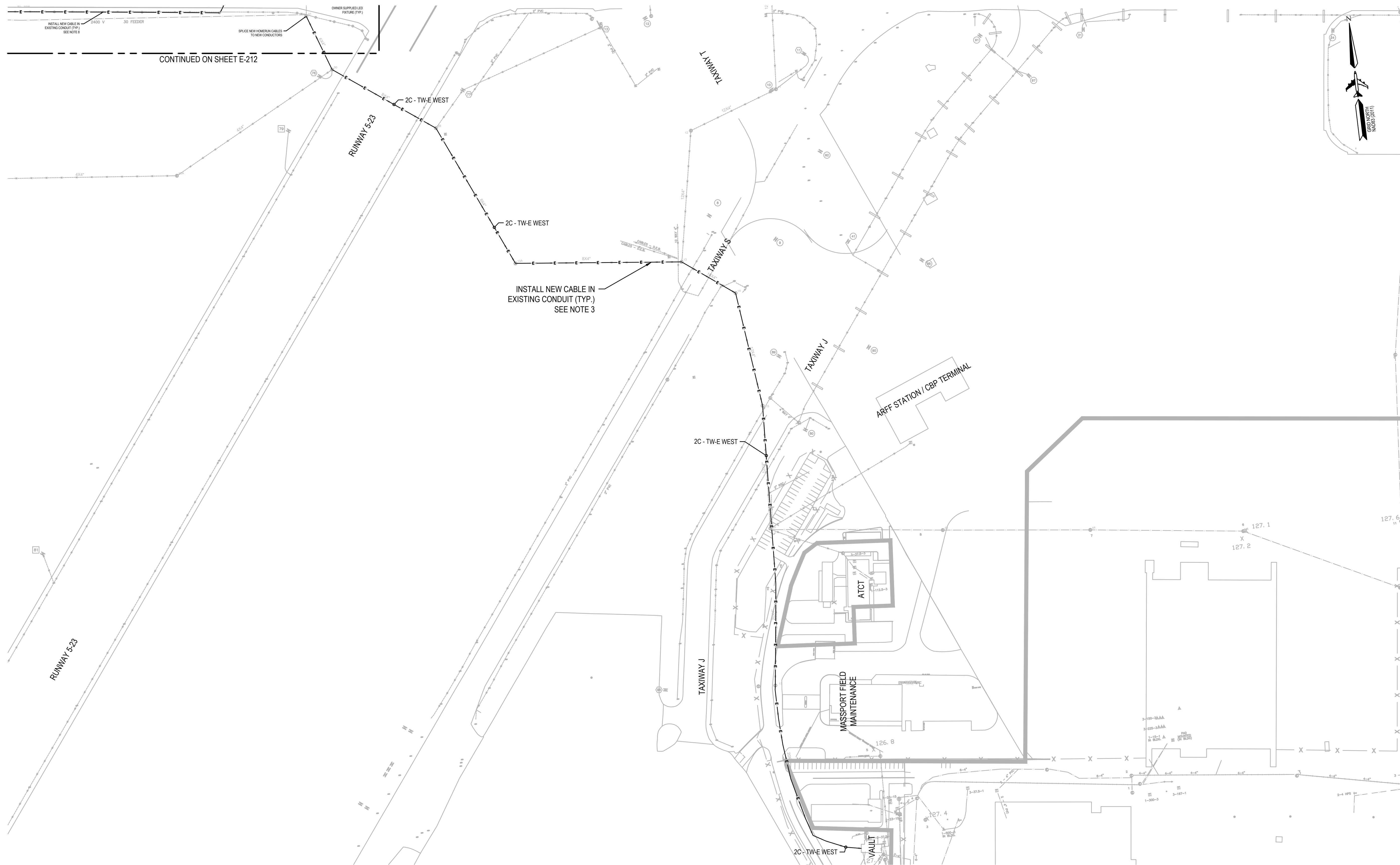
TAXIWAY EDGE LIGHT SCHEDULE								
TW EDGE LIGHT	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
210	BLUE	TW E5	500+90.27	90.272	710383.1104	2996281.3144	125.93	PROPOSED
211	BLUE	TW E	311+25.65	-79.500	710425.5090	2996265.2660	126.00	PROPOSED
212	BLUE	TW E	311+69.68	-68.730	710467.9020	2996249.2198	126.07	PROPOSED
213	BLUE	TW E	312+13.72	-57.957	710510.3062	2996233.1692	126.13	PROPOSED
214	BLUE	TW E	313+54.44	-53.222	710649.4059	2996211.3506	126.30	PROPOSED
215	BLUE	TW E	314+95.17	-48.485	710788.5141	2996189.5287	126.46	PROPOSED
216	BLUE	TW E	314+95.17	47.500	710776.8375	2996094.2566	126.54	PROPOSED
217	BLUE	TW E	313+54.44	47.486	710637.1547	2996111.3902	126.66	PROPOSED
218	BLUE	TW E	312+13.72	47.565	710497.4695	2996128.4303	126.60	PROPOSED

TAXIWAY EDGE LIGHT SCHEDULE								
TW EDGE LIGHT	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
219	BLUE	TW E	311+41.34	47.500	710425.6353	2996137.3001	126.62	PROPOSED
220	BLUE	TW E	310+91.34	47.500	710376.0067	2996143.3826	126.57	PROPOSED
221	BLUE	TW E	309+91.34	47.500	710276.7493	2996155.5477	126.76	PROPOSED

GUIDANCE SIGN SCHEDULE								
GUIDANCE SIGN	LIGHT COLOR	BASELINE	STATION	OFFSET	EASTING	NORTHING	ELEVATION	DESCRIPTION*
S-5	N/A	TW E	308+21.16	-102.486	710162.9192	2996323.5959	125.62	RELOCATED SIGN
S-6	N/A	TW E	312+13.72	72.500	710494.4361	2996103.8808	126.19	NEW SIGN

- NOTES:
- FOR ELECTRICAL LEGEND, GENERAL ELECTRICAL NOTES, AND ELECTRICAL ABBREVIATIONS, SEE DWGS. E101 AND E102.
  - FOR ELECTRICAL DETAILS, SEE DWGS. E401 THROUGH E403 AND E501.
  - FOR AIRFIELD LIGHTING SCHEDULES SEE DWG. E301. IF MASSPORT DOES NOT WANT THE EQUIPMENT, IT SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST.
  - ALL LIGHTS WITHIN THE LIMITS OF REGRADING SHALL BE INSTALLED TO FINAL GRADES. REFER TO THE LIGHT ADJUSTMENT SCHEDULE DRAWING.
  - SEE PHASING AND SAFETY PLAN - PHASE 1 (DWG G101) FOR SEQUENCE OF CONSTRUCTION AND ELECTRICAL WORK.
  - CARE SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING PARTS. INSTALL LIGHT TO PROPOSED FINISH GRADE WITH NEW BOLTS. EXISTING BOLTS REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
  - THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE NUMBER AND SIZE OF LIGHT BASE RISERS AND SHIMS FOR SEMI-FLUSH LIGHTS. THE CONTRACTOR WILL ORDER RISERS AND SHIMS. PROCUREMENT OF MATERIAL AND INSTALLATION OF RISERS AND SHIMS SHALL BE CONSIDERED INCIDENTAL TO ITEM L-125.5.3.
  - REMOVE EXISTING TAXIWAY E WEST SERIES LIGHTING CABLES. CARE SHALL BE TAKEN TO AVOID DISRUPTING OTHER CIRCUITS IN THE EXISTING CONDUIT. REPLACE WITH NEW L-108 5KV SERIES LIGHTING CABLES. NEW SERIES LIGHTING CABLE SHALL BE LABELED AND FIVE FEET OF SLACH SHALL BE COILED IN EACH HANDHOLE.
  - SEE EXISTING VAULT PLAN ON DWG E-401.





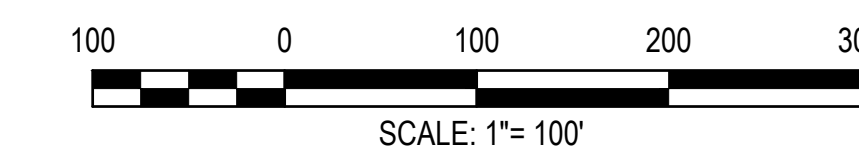
**AIRFIELD ELECTRICAL CIRCUIT TW E WEST SCHEMATIC DIAGRAM**

**NOTES:**

1. FOR ELECTRICAL LEGEND, GENERAL ELECTRICAL NOTES, AND ELECTRICAL ABBREVIATIONS, SEE DWGS. E101 AND E102.
2. FOR ELECTRICAL DETAILS, SEE DWGS. E231, E301 THROUGH E303, AND E401.
3. REMOVE EXISTING TAXIWAY E SERIES LIGHTING CABLES. CARE SHALL BE TAKEN TO AVOID DISRUPTING OTHER CIRCUITS IN THE EXISTING CONDUIT.
4. INSTALL NEW L-108 KV SERIES LIGHTING CABLES IN EMPTY SPARE CONDUIT, IF PRESENT. IF SPACE CONDUIT IS AVAILABLE, MANDREL CONDUIT PRIOR TO CABLE INSTALLATION. ENSURE THE NEW SERIES LIGHTING CABLE IS LABELED, AND COIL FIVE FEET OF SLACK IN EACH HANDHOLE.
5. SEE EXISTING VAULT PLAN ON DWG E-401.

**ELECTRICAL LEGEND:**

- ⊕ EXISTING HANDHOLE
- E — NEW 2-1/C NO. 8 AWG, 5KV, L-824C CABLE IN EXISTING DUCT



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

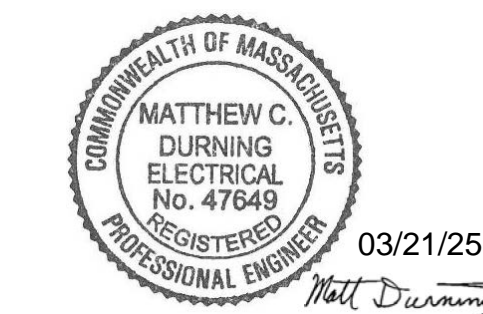
PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

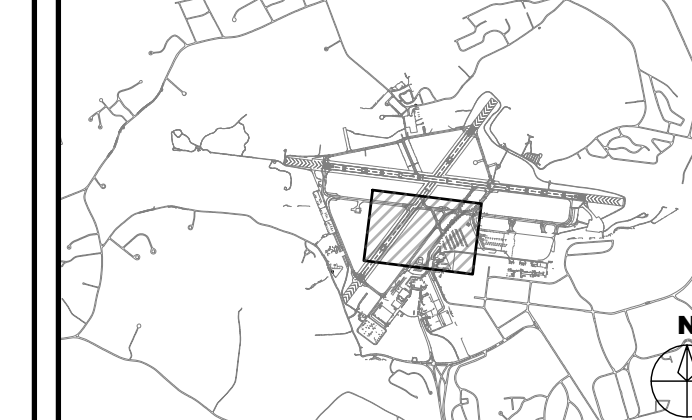
PROJECT SUBMISSION PHASE:

BID SET

REGISTRATION STAMP:



KEY PLAN:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:

**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:

**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:

ELECTRICAL PLAN - 3

DISCIPLINE:

ELECTRICAL

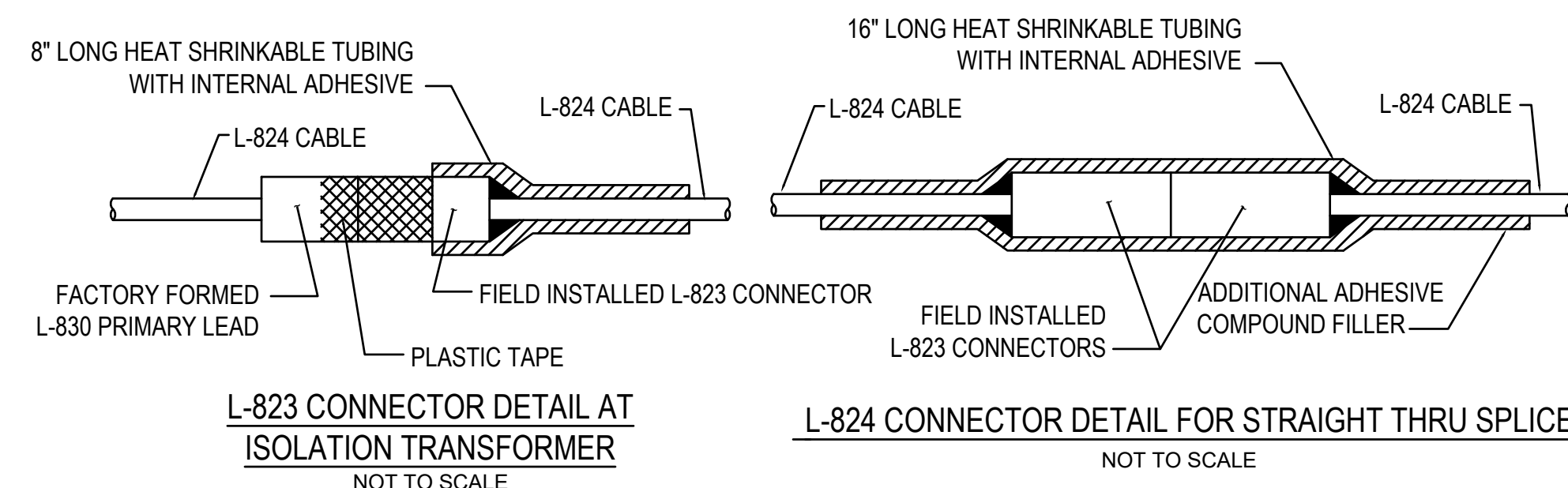
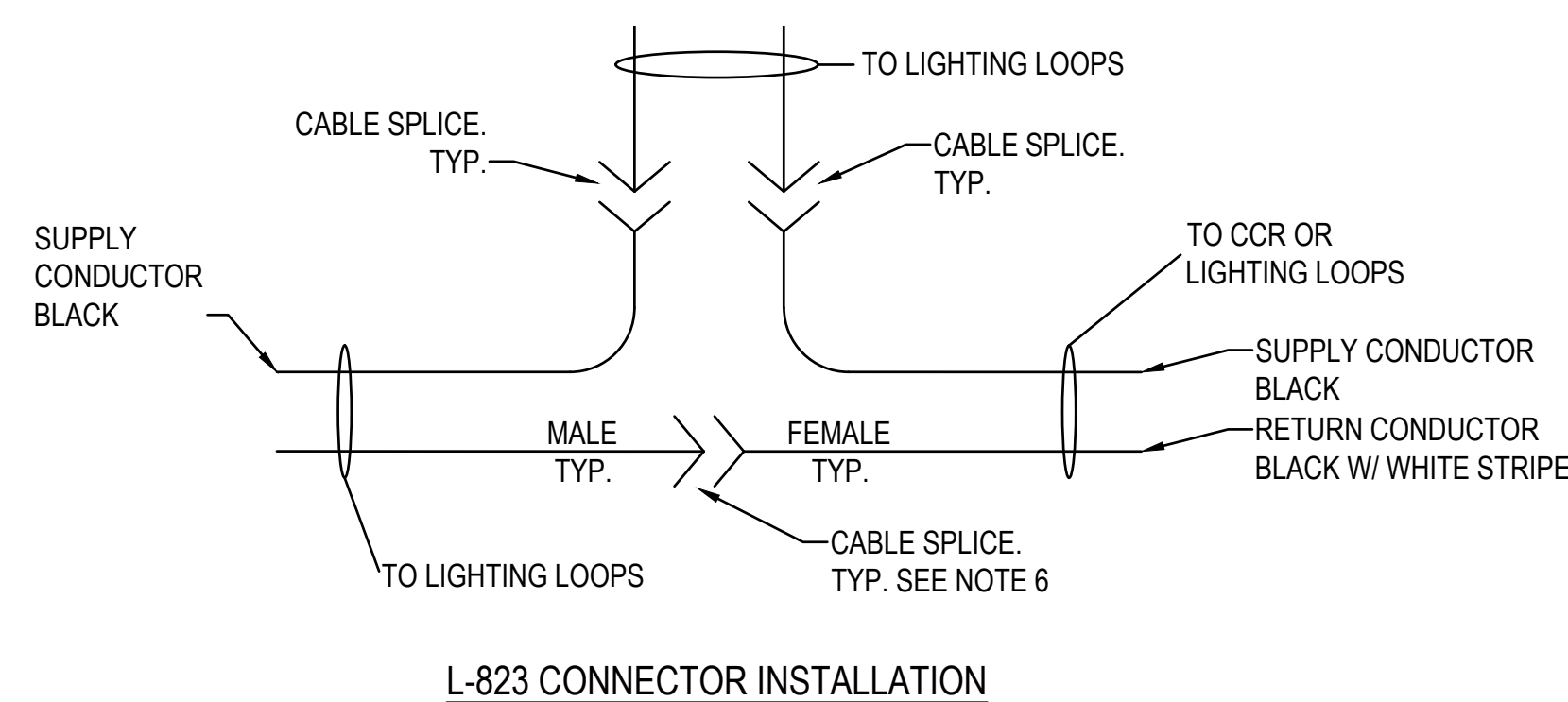
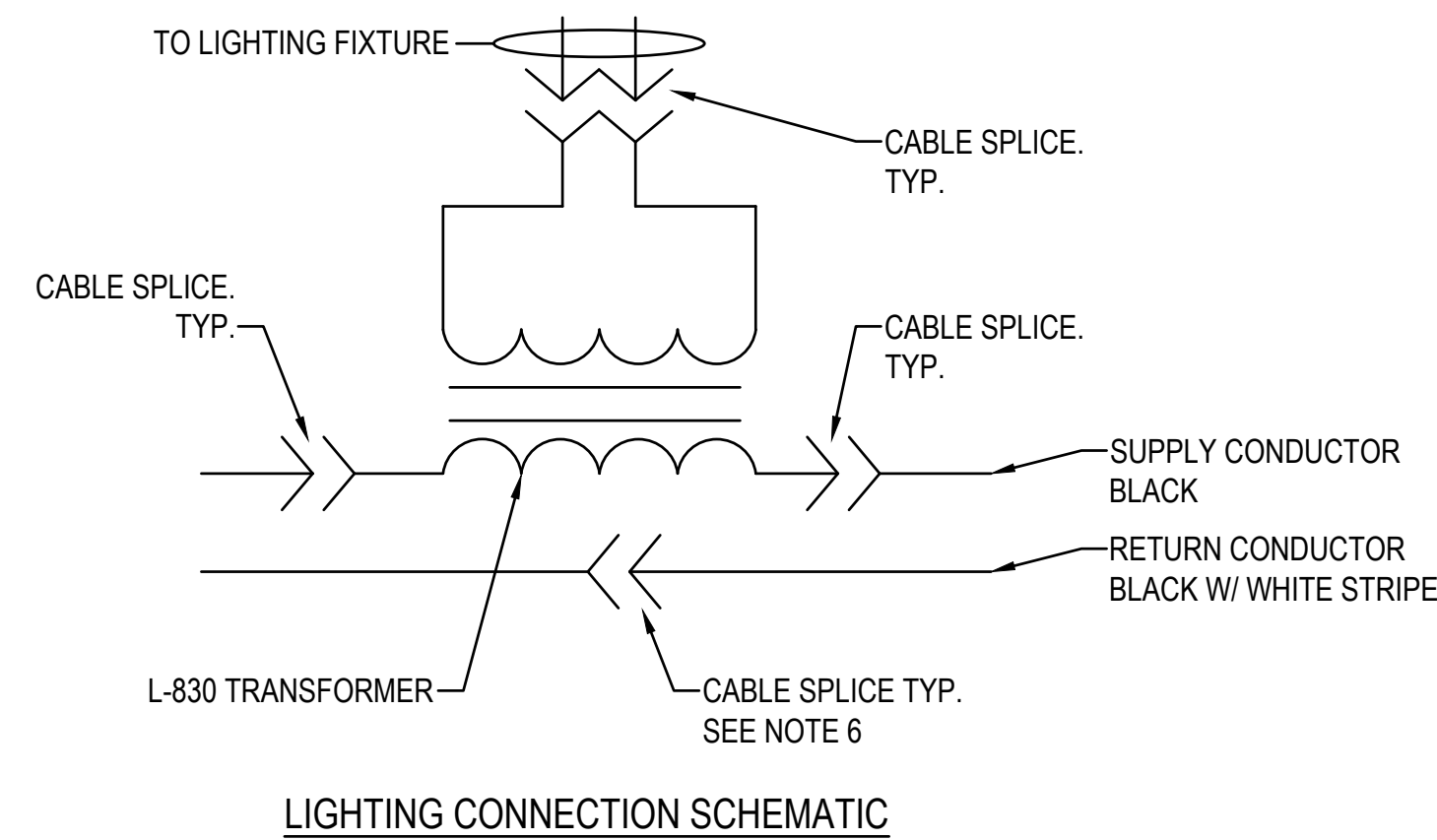
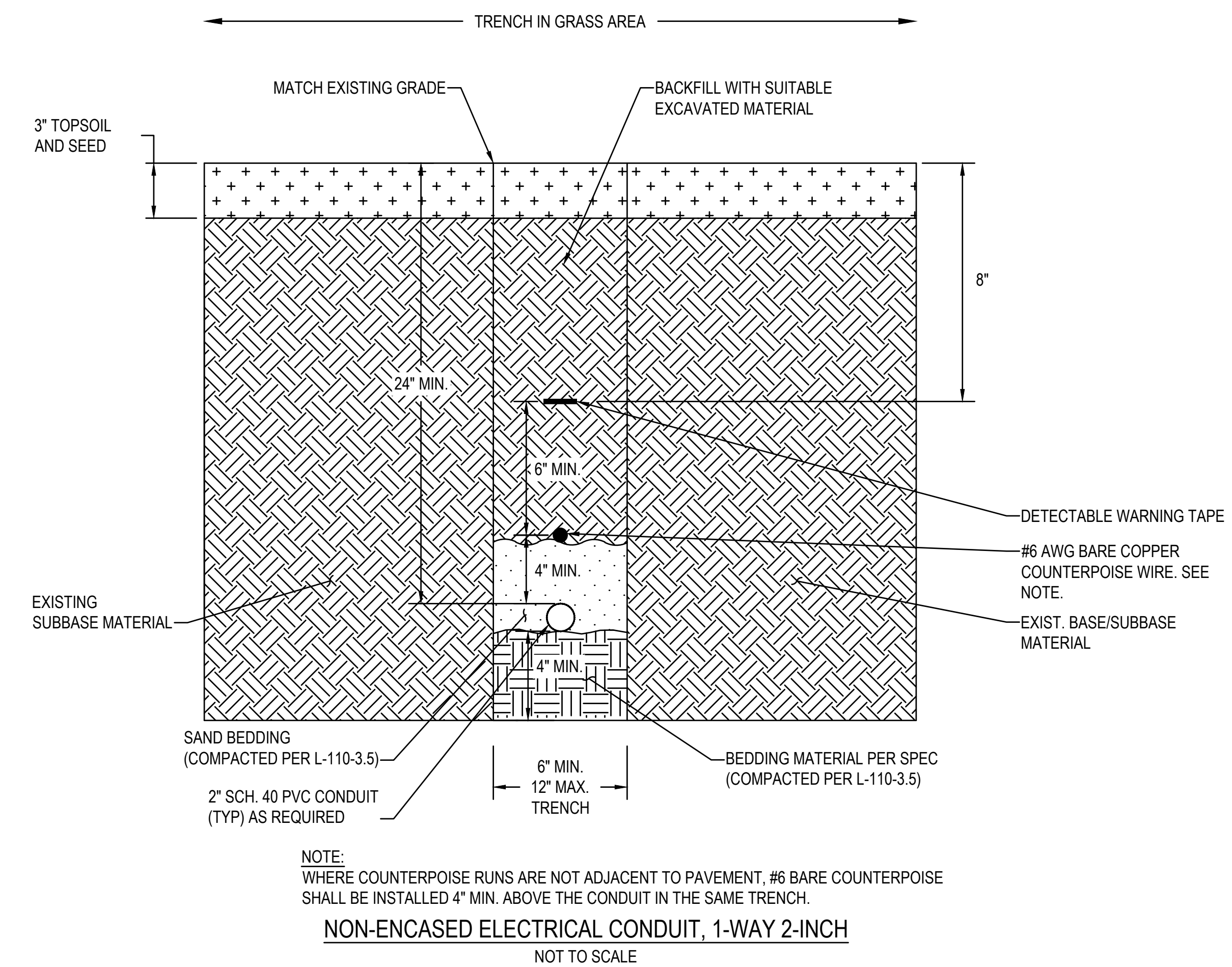
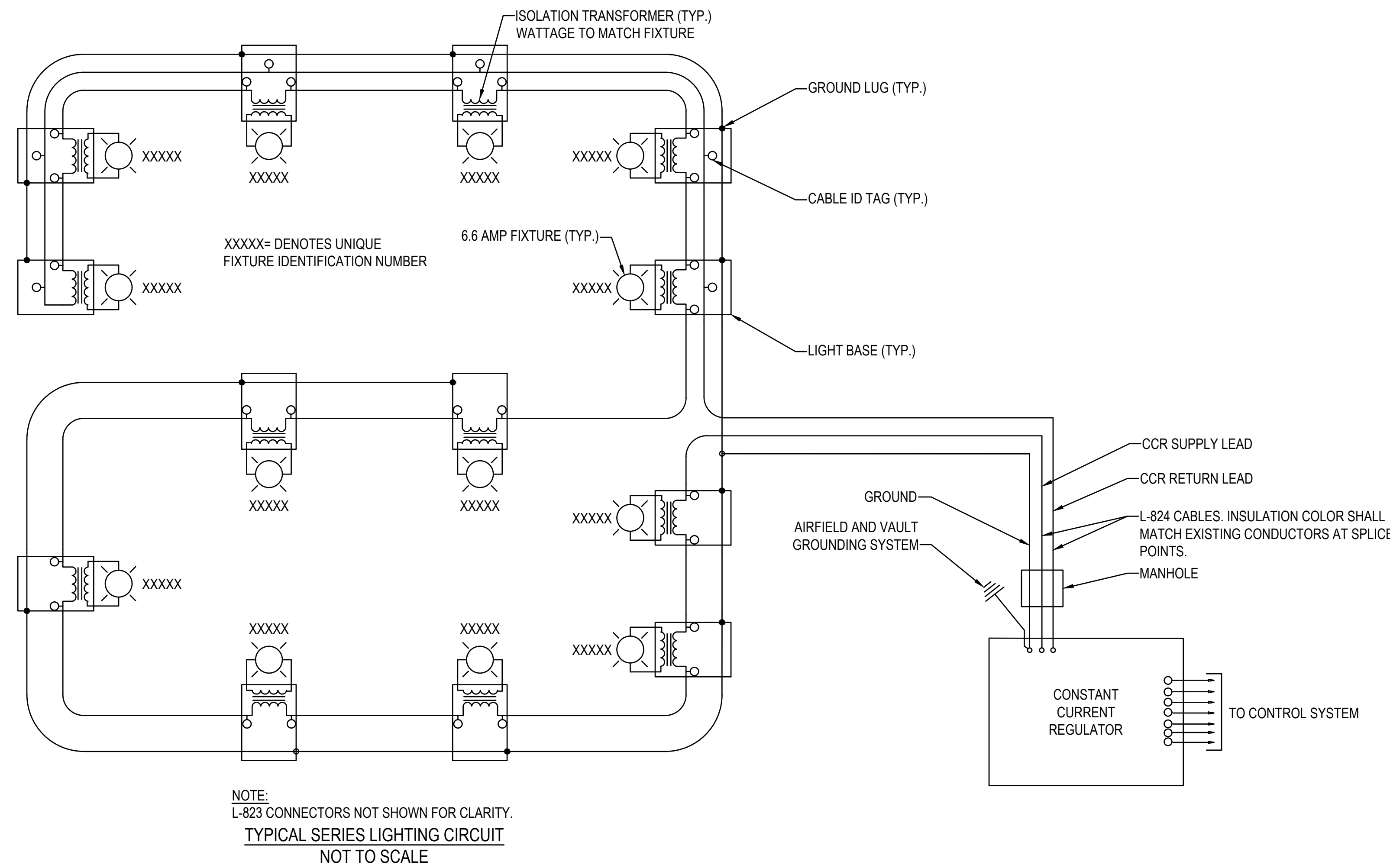
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KH AN/RD MD

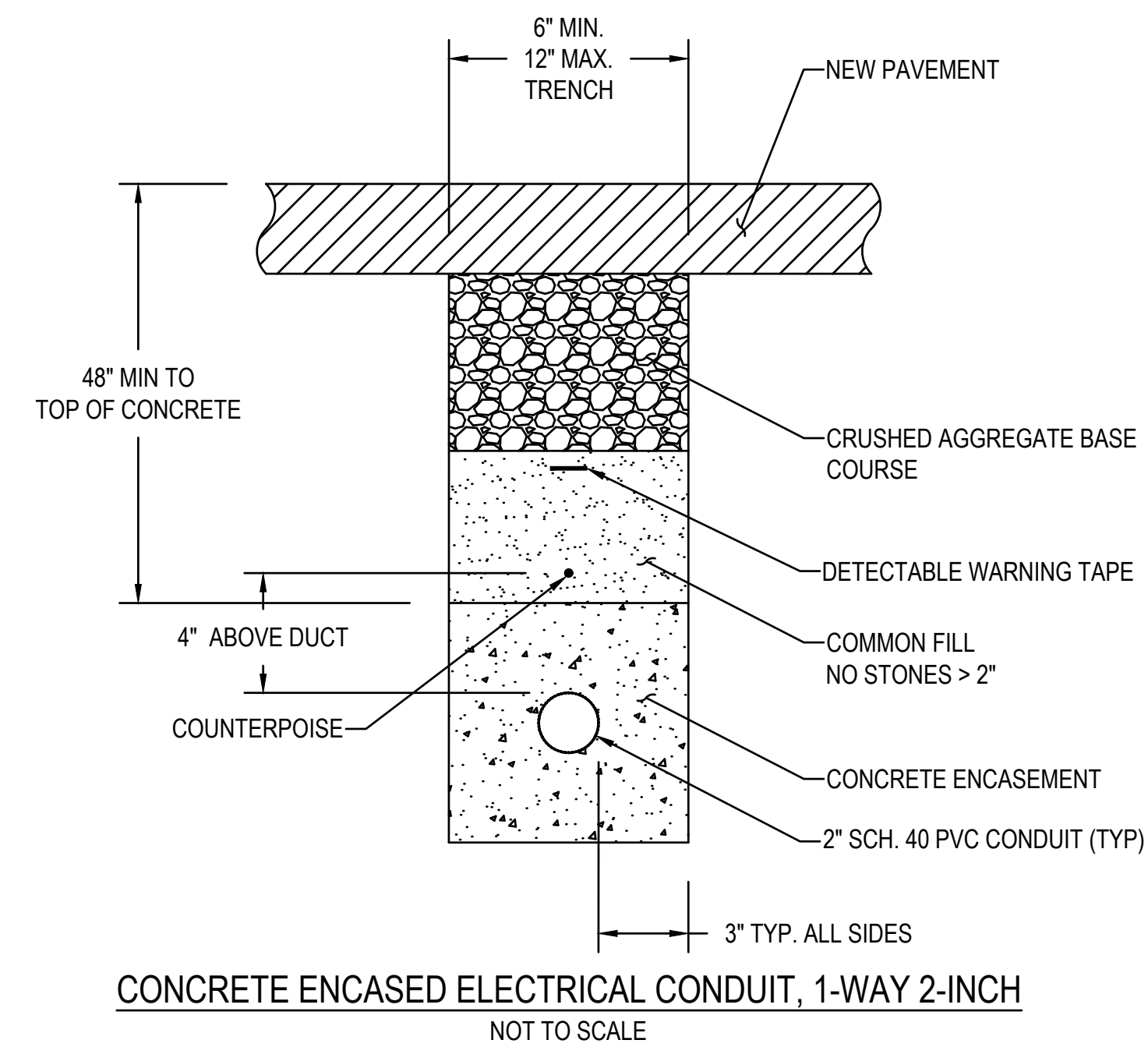
SCALE: 1" = 100' DATE: MARCH 2025

SHEET NUMBER: DWG NUMBER:

39 OF 44 **E-213**



- NOTES:**
- INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.
  - HEAT SHRINK TUBING SHALL BE USED ON ALL FIELD INSTALLED L-823 CONNECTORS EXCEPT FOR SECONDARY CONNECTIONS ON ISOLATION TRANSFORMERS.
  - USE PENCILING TOOL WHEN REMOVING CABLE INSULATION TO PREVENT NICKING.
  - USE CRIMPING TOOL (THOMAS & BETTS TBM 45S OR EQUAL) WHEN INSTALLING SERIES CIRCUIT PINS. EACH PIN SHALL BE CRIMPED TWICE (CRIMPS SHALL BE 90° APART).
  - ALL FIELD INSTALLED SPLICES SHALL BE OF THE TYPE SHOWN.
  - CONTRACTOR SHALL MINIMIZE SPLICE POINTS TO THE GREATEST EXTENT POSSIBLE ON THE RETURN LEAD CONDUCTOR.



- NOTES:**
- L-823 CONNECTOR DETAILS SHOWN FOR REFERENCE. L-823 CONNECTORS ARE INSTALLED ON ALL CABLES, IN EACH MANHOLE, BASE CAN, OR OTHER ACCESSIBLE LOCATION. L-823 CONNECTORS ARE INSTALLED SO A PORTION OF THE LOOP CAN BE BYPASSED. SEE CONNECTOR DETAILS.
  - ALL AIRFIELD LIGHTING FIXTURES SHALL BE NUMBERED PER DESIGNATION PROVIDED BY MASSPORT.
  - CONTINUOUS HEAT SHRINK TUBING SHALL BE PLACED OVER THE ENTIRE L-823 CONNECTOR(S) BOTH MALE AND FEMALE AT ALL SKV JUNCTIONS. THE HEAT SHRINK TUBING SHALL BE APPROXIMATELY 18" IN LENGTH WITH 6 INCHES OF MASTIC ON BOTH ENDS AND VOID OF MASTIC IN THE MIDDLE OF THE TUBE RATED FOR SKV. FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT AND FOR SPLICES IN HOMERUNS WITH EXISTING CIRCUITS.
  - AT LEAST ONE LAYER OF RUBBER/SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE HALF-LAPPED EXTENDED 1 1/2 INCHES AT EACH SIDE OF JOINT (OMIT TAPE FOR ELEVATED LIGHT FIXTURES).
  - ALL MATERIALS SHALL BE CONTRACTOR SUPPLIED.



MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:  
**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:  
**ELECTRICAL DETAILS**

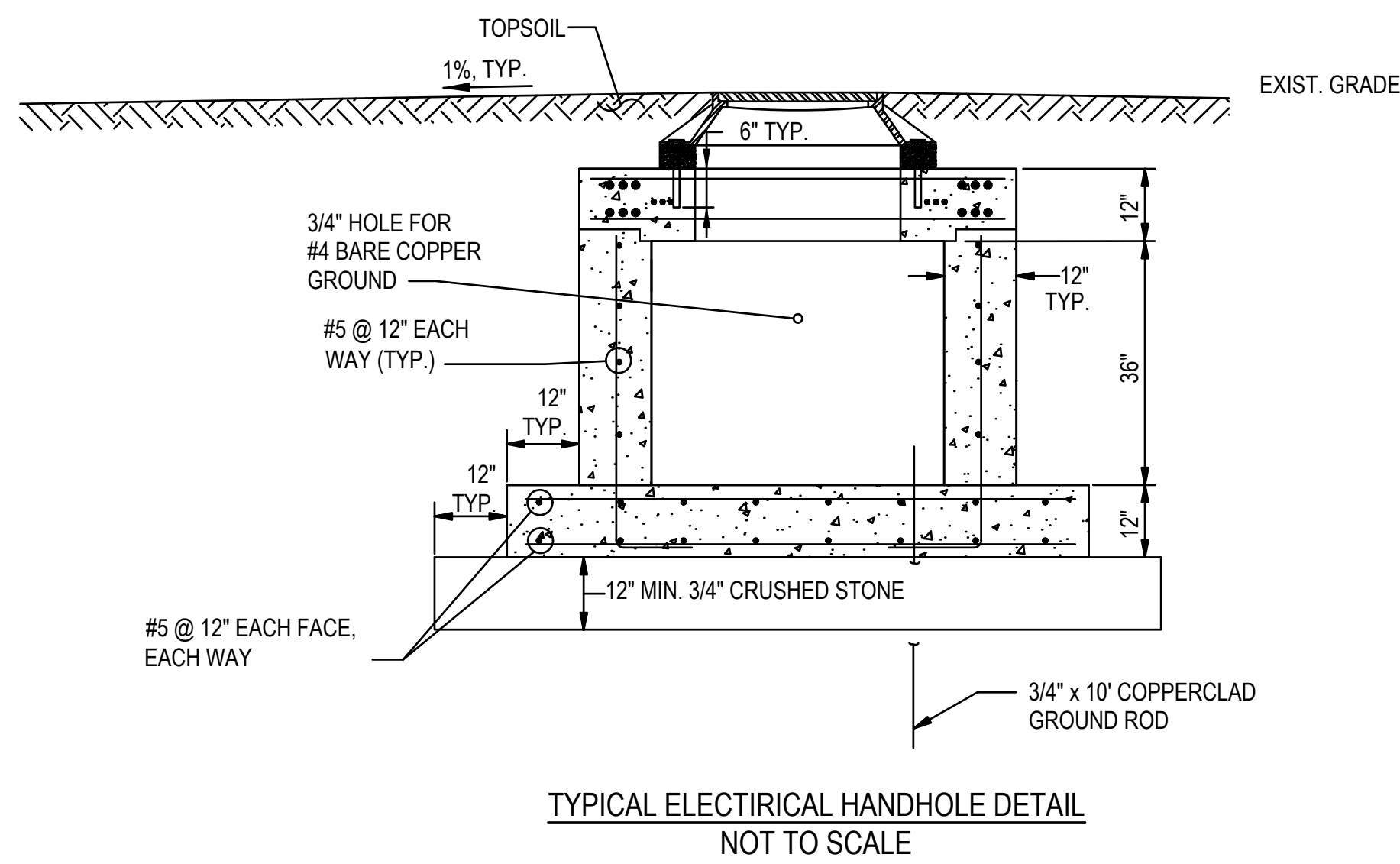
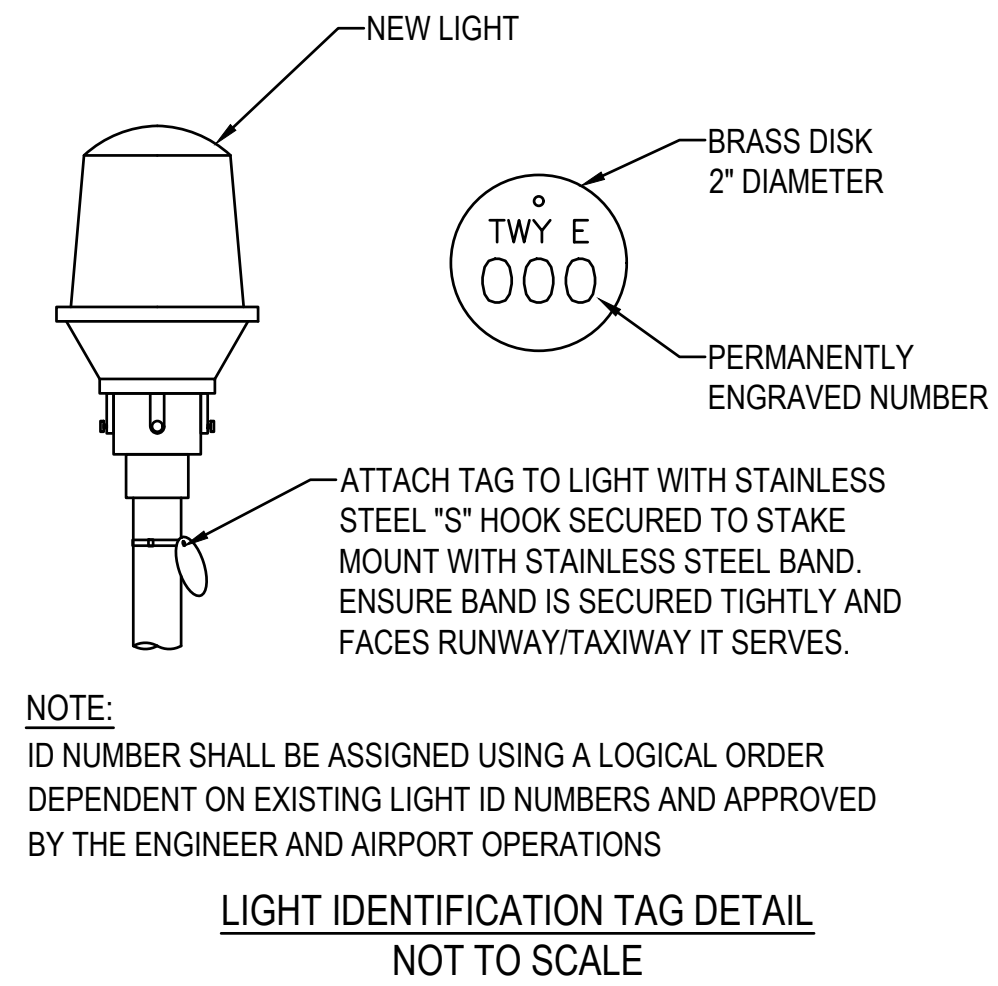
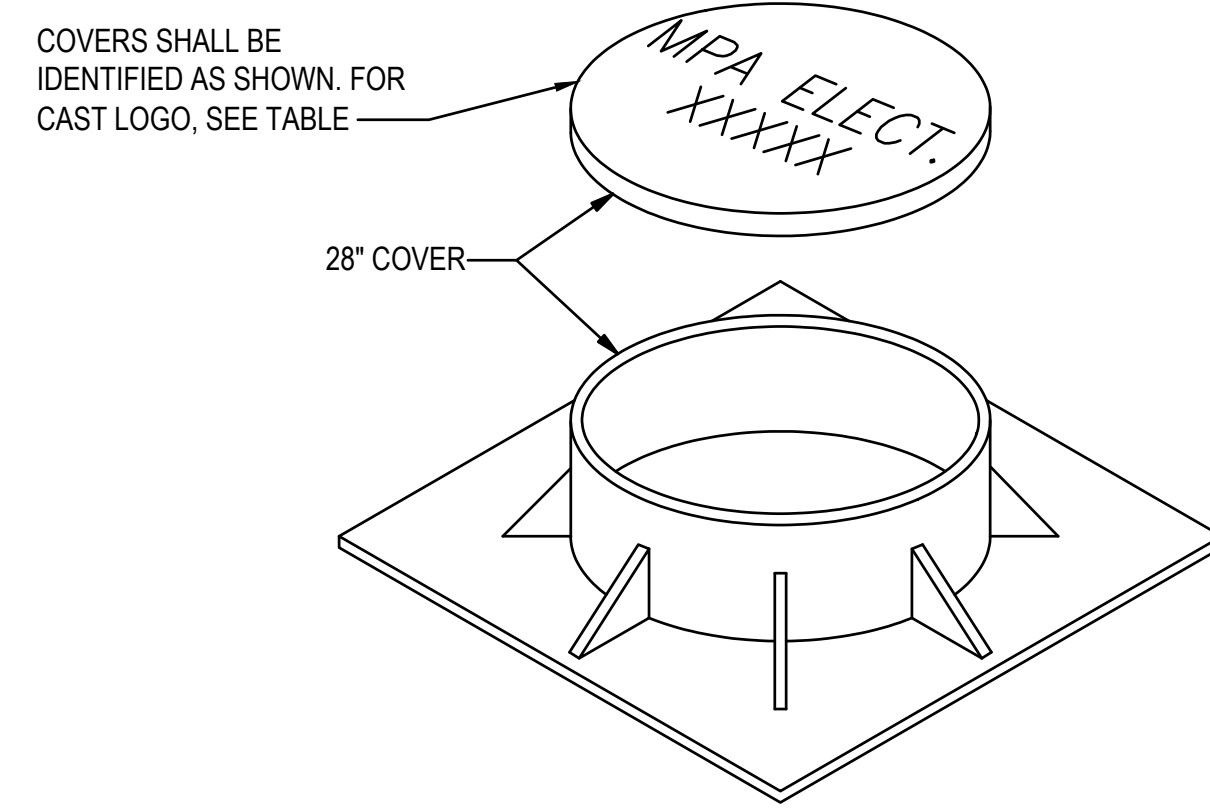
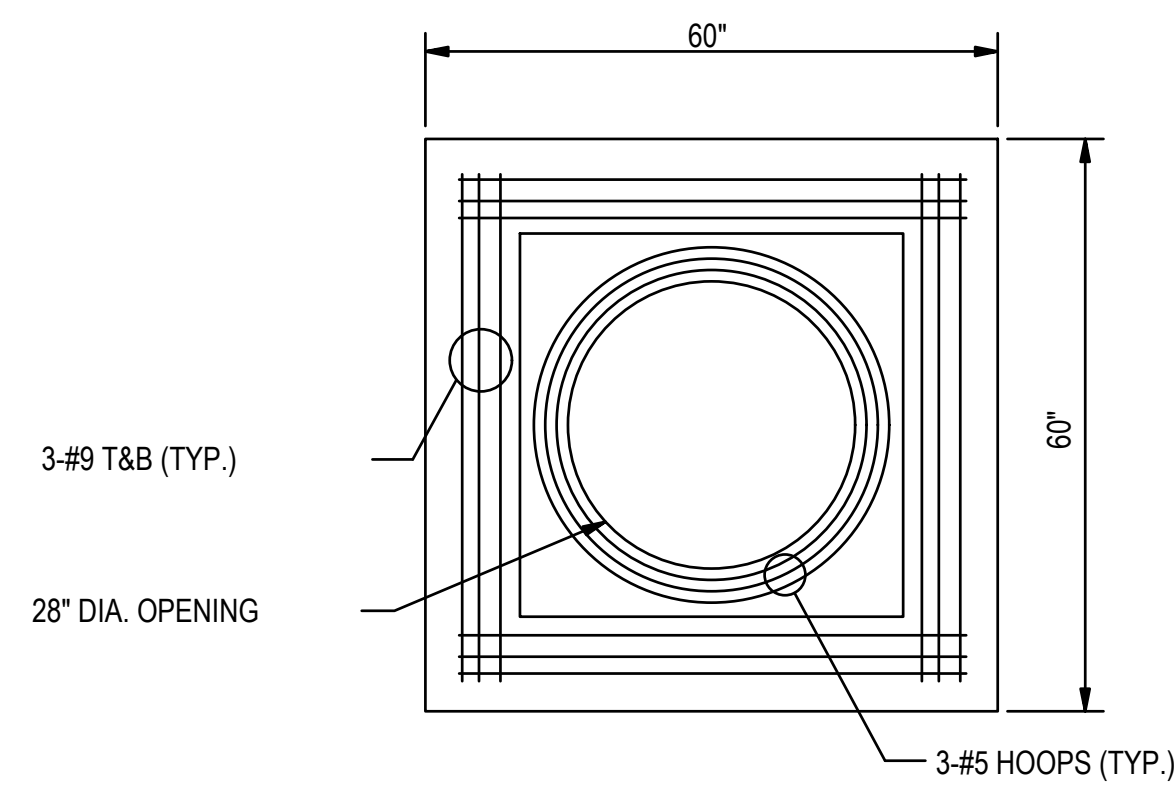
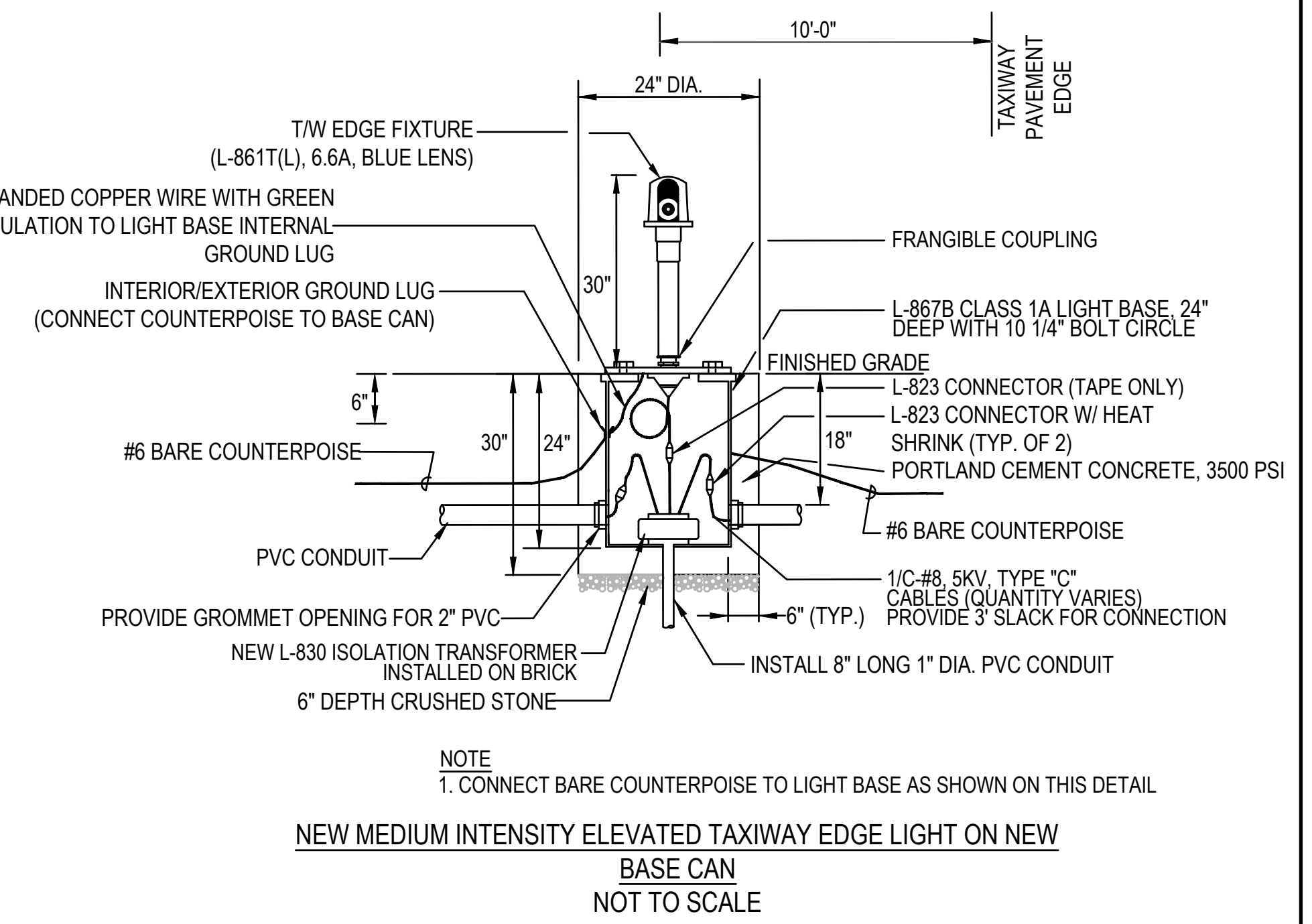
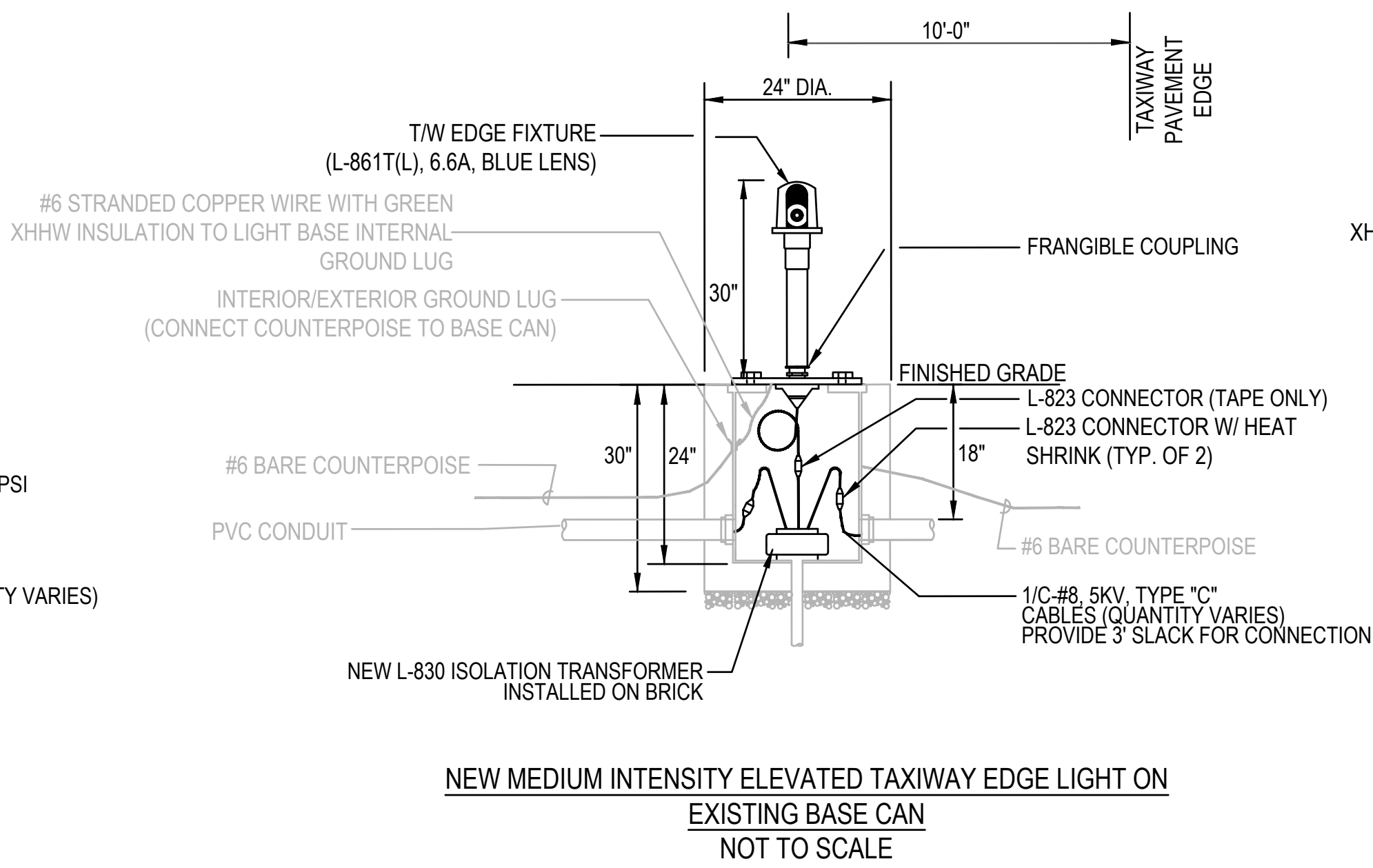
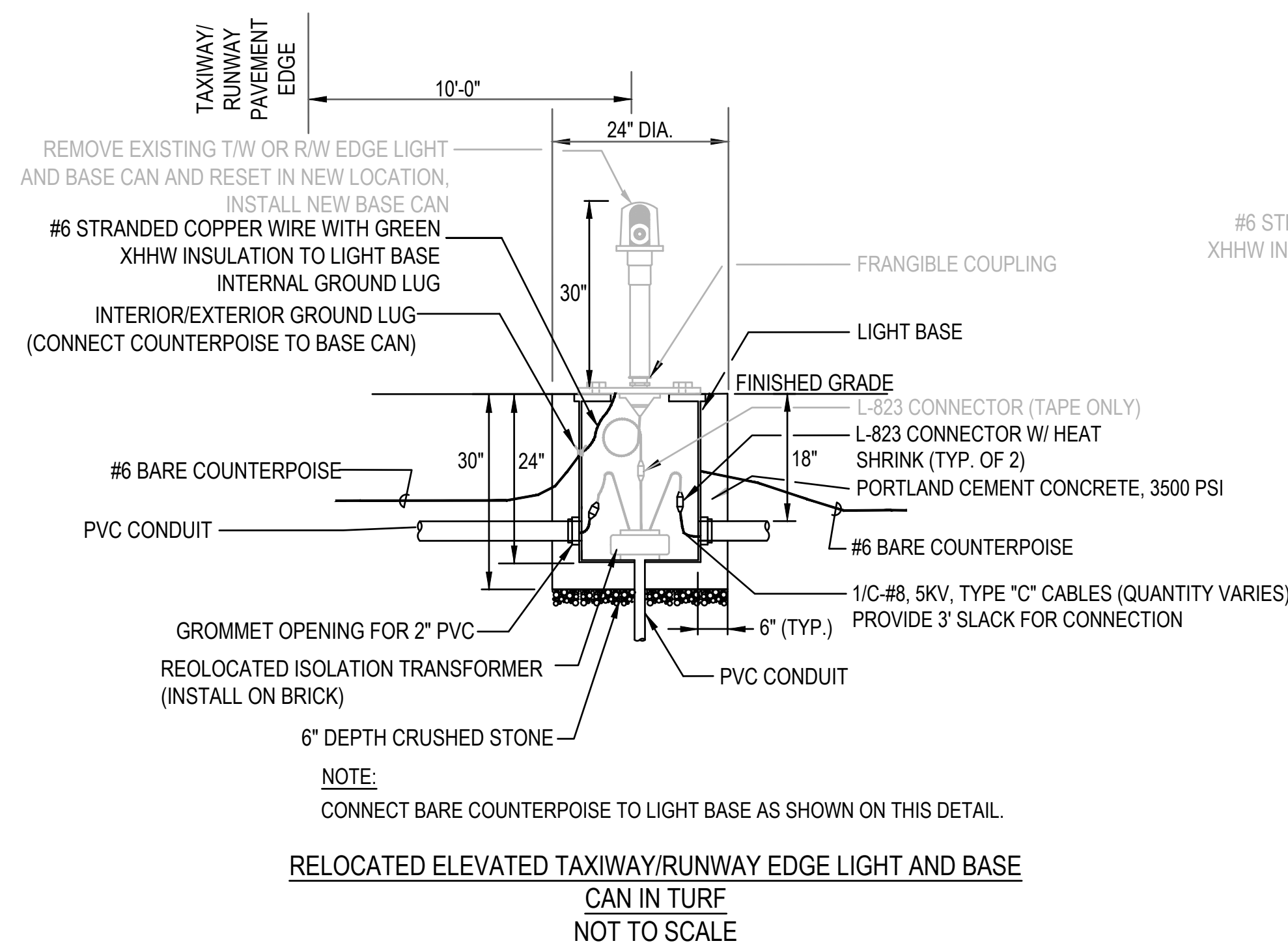
DISCIPLINE:  
ELECTRICAL

DRAWN BY: KH  
CHECKED BY: AN/RD  
APPROVED BY: MD

SCALE: NO SCALE  
DATE: MARCH 2025

SHEET NUMBER: 40 OF 44  
DWG NUMBER: **E-231**

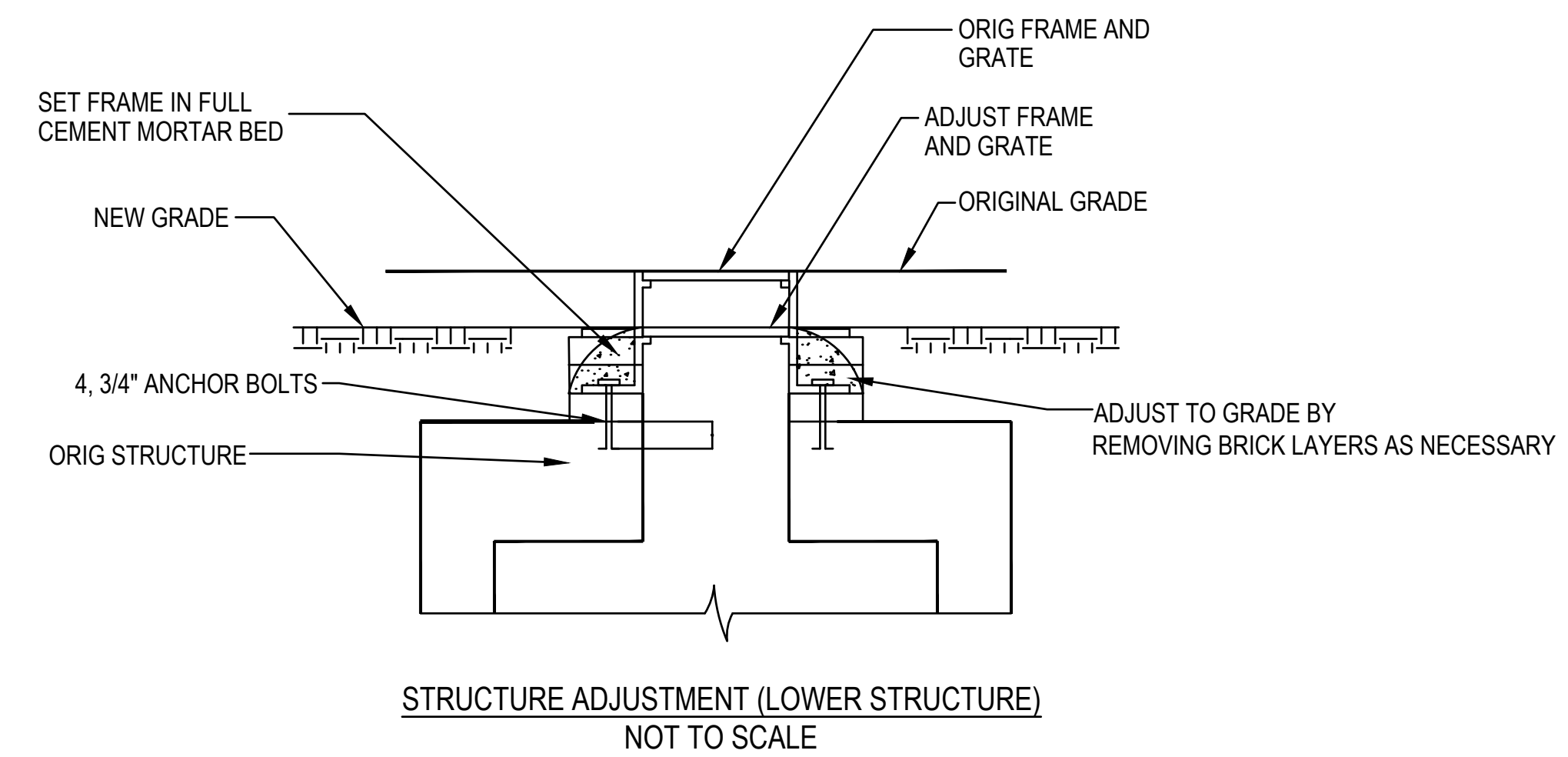




**TYPICAL ELECTRICAL HANDHOLE FRAME AND COVER DETAIL  
NOT TO SCALE**

**HANDHOLE NOTES**

1. CONCRETE COMPRESSIVE STRENGTH - 5,000 PSI MINIMUM.
2. STEEL REINFORCEMENT - ASTM A615, GRADE 60, 2" MINIMUM COVER.
3. CAST IRON HANDHOLE FRAME AND COVER SHALL BE LEBARON LBB 328 OR APPROVED EQUAL.
4. INSTALL A CRUSHED STONE SUMP UNDER ALL HANDHOLES. TOP, SIDES AND BOTTOM OF SUMP SHALL BE LINED WITH A WATER PERMEABLE ENGINEERING FABRIC.
5. AFTER INSTALLATION OF DUCTS THROUGH SIDEWALL, GROUT AROUND DUCTS.
6. INSTALL ONE NO. 25R3 SADDLE RACK ON EACH OF THE FOUR INTERIOR WALLS.
7. INSTALL 3/4" x 10" GROUND ROD 6" FROM EACH HAND HOLE. TOP OF ROD SHALL BE 1'-0" BELOW GRADE. BARE COPPER WIRE TO BE EXOTHERMICALLY WELDED TO GROUND ROD.
8. HANDHOLE FRAME SHALL BE SUPPORTED WITH MINIMUM 2 COURSE AIRPORT STRENGTH BRICK AND MORTAR. FRAME SHALL BE SET IN FULL BED OF MORTAR.
9. BIT. CONC. PAD SHALL BE 10' BY 10' SQUARE, WITH STRUCTURE FRAME AND COVER CENTERED.

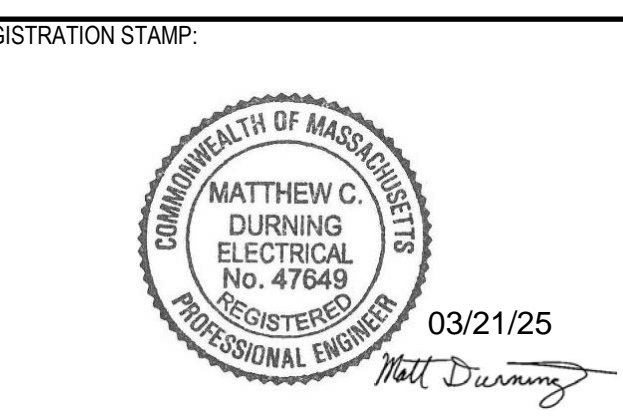


MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
**BID SET**



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

SHEET TITLE:  
**LIGHT INSTALLATION &  
ADJUSTMENT DETAILS - 1**

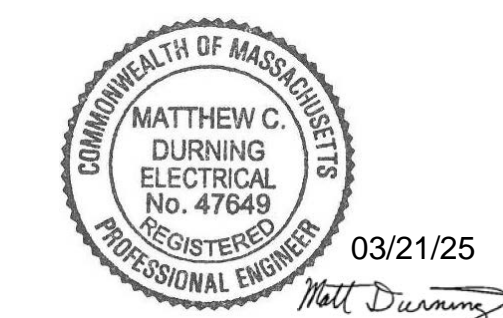
DISCIPLINE:  
**ELECTRICAL**

DRAWN BY: KH  
CHECKED BY: AN/RD  
APPROVED BY: MD

SCALE: NO SCALE  
DATE: MARCH 2025

SHEET NUMBER: 41 OF 44  
DWG NUMBER: **E-301**





REV NO.	DATE	DESCRIPTION	BY

**HNTB**

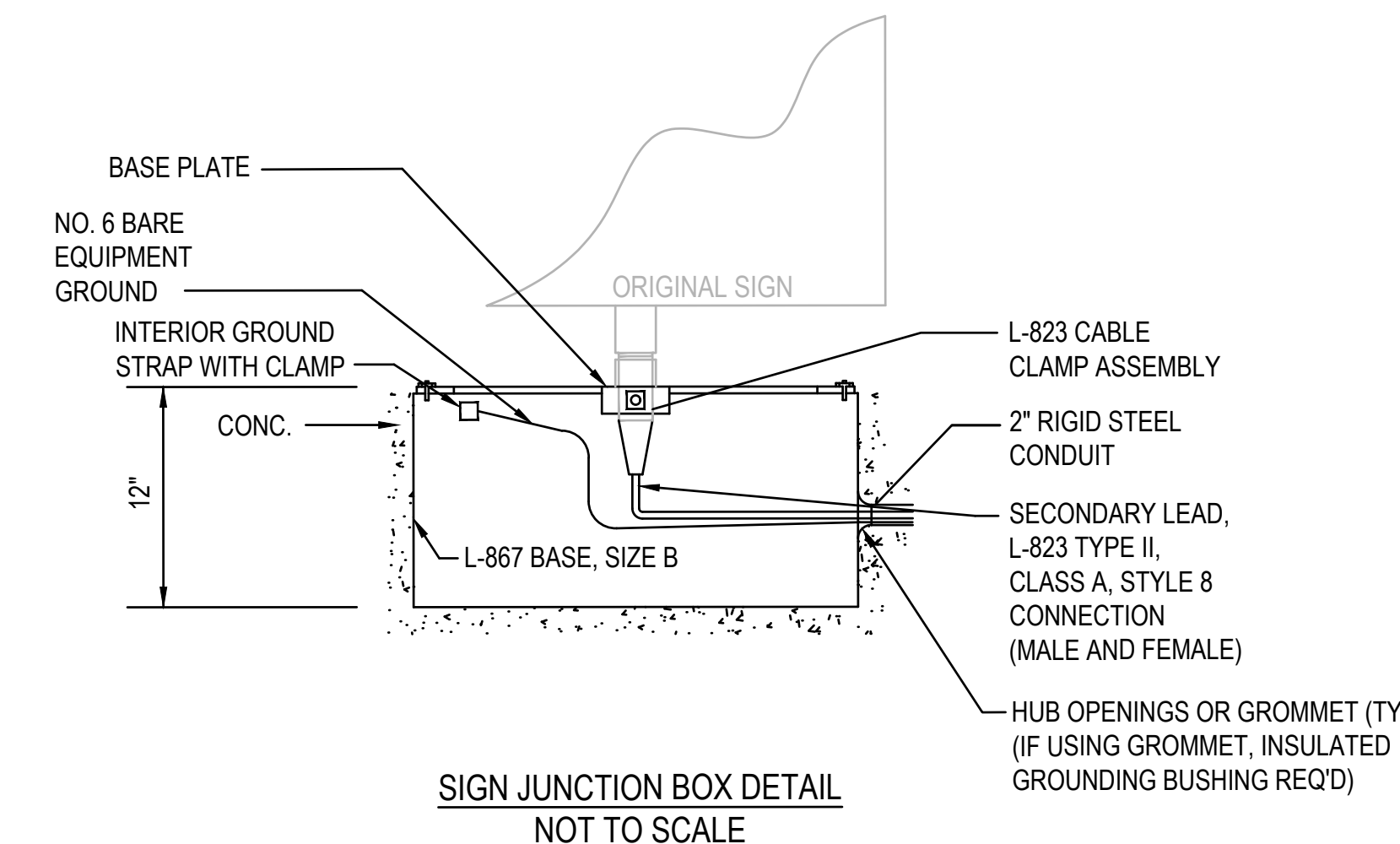
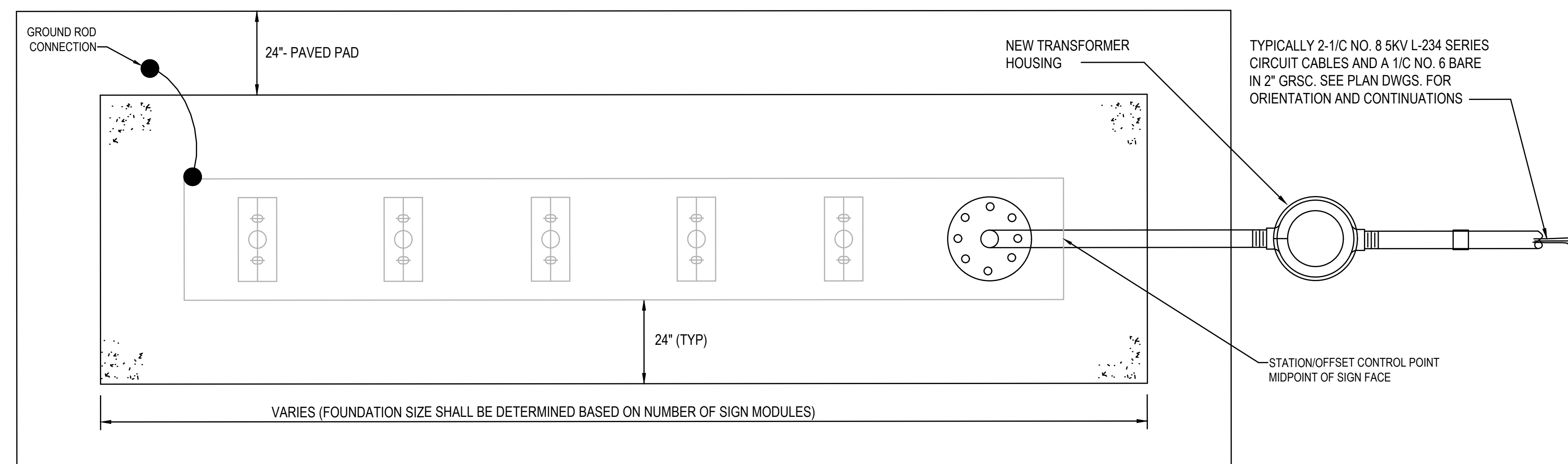
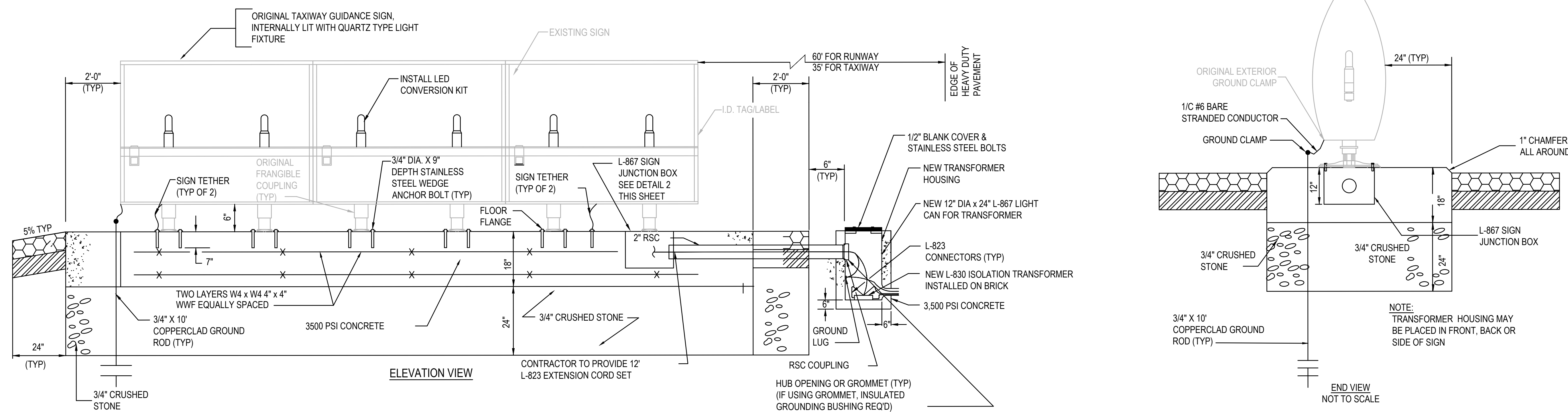
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

LIGHT INSTALLATION &  
ADJUSTMENT DETAILS - 3

DRAWN BY:	CHECKED BY:	APPROVED BY:
KH	AN/RD	MD

SCALE:	DATE:
NO SCALE	MARCH 2025



NO.	AIRFIELD GUIDANCE SIGN SCHEDULE																							
	SIDE 1												SIDE 2											
	MODULE 1			MODULE 2			MODULE 3			MODULE 4			MODULE 1			MODULE 2			MODULE 3			MODULE 4		
MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	MESS.	TYPE	ANG.	
S-1	←	Y	270	M	Y							E5	Y		→	Y	90	BLANK	B					
S-2	←	Y	270	E5	Y							BLANK	B		BLANK	B								
S-3	E5	L		11	R		-	R		29	R				BLANK	B		BLANK	B		BLANK	B		
S-4	E5	L		←E	Y	270	→	Y	90						BLANK	B		BLANK	B		BLANK	B		
S-5*	E	L		M→	Y	90									BLANK	B		BLANK	B					
S-6	E	L		E5	Y		→	Y	90						BLANK	B		BLANK	B		BLANK	B		

\*DENOTES EXISTING RELOCATED SIGN  
Y: DIRECTIONAL MESSAGE, BLACK CHARACTERS ON YELLOW BACKGROUND  
R: MANDATORY MESSAGE, WHITE CHARACTERS WITH A BLACK OUTLINE ON A RED BACKGROUND  
L: LOCATION MESSAGE, YELLOW CHARACTERS ON BLACK BACKGROUND  
B: BLANK PANEL



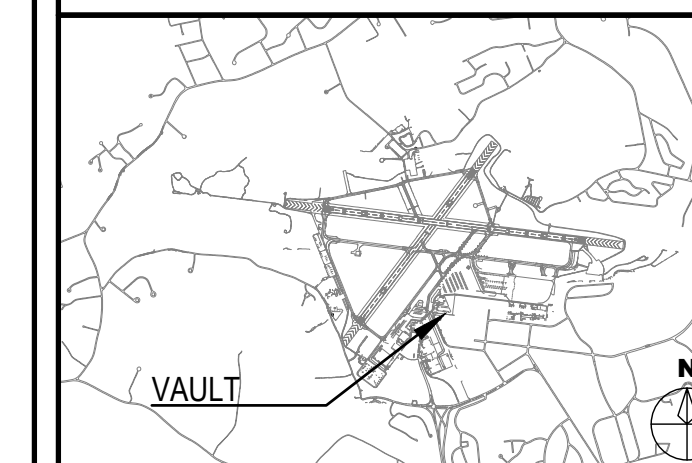
MASSACHUSETTS PORT AUTHORITY  
EAST BOSTON, MASSACHUSETTS 02128

PROJECT LOCATION:  
LAURENCE G. HANSCOM FIELD  
BEDFORD, MASSACHUSETTS

MPA CONTRACT NO.: H296-C1  
LOCATION CODE: 3540

PROJECT SUBMISSION PHASE:  
BID SET

REGISTRATION STAMP:



REVISIONS:

REV NO.	DATE	DESCRIPTION	BY

PRIMARY:  
**HNTB**  
HNTB CORPORATION  
31 SAINT JAMES AVENUE  
BOSTON, MA 02116  
(617) 542-6900, WWW.HNTB.COM

PROJECT NUMBER AND TITLE:  
**H296-C1**  
REHABILITATE TW E FROM  
TW M TO RW 11-29 &  
CONSTRUCT TW E5

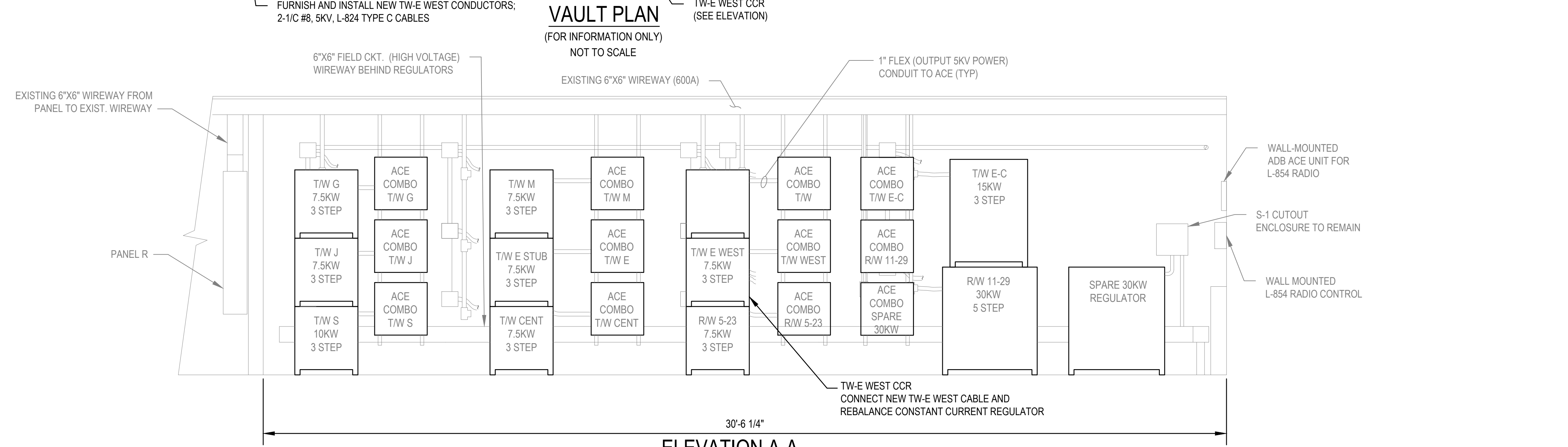
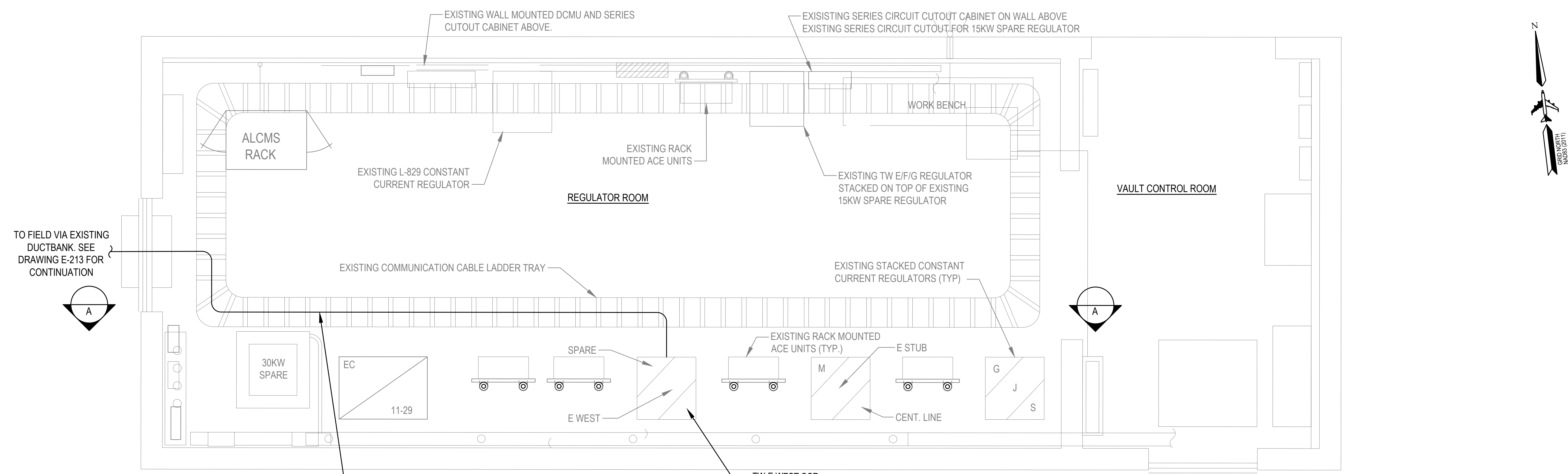
SHEET TITLE:  
**VAULT PLAN**

DISCIPLINE:  
ELECTRICAL

DRAWN BY: KH	CHECKED BY: AN/RD	APPROVED BY: MD
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SCALE: NO SCALE	DATE: MARCH 2025
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SHEET NUMBER: 44 OF 44	DWG NUMBER: <b>E-401</b>
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- NOTES:
- FOR ELECTRICAL LEGEND GENERAL ELECTRICAL NOTES, AND ELECTRICAL ABBREVIATIONS, SEE DWGS. E-101 AND E-102.
  - FOR ELECTRICAL DETAILS, SEE DWGS E-301 THROUGH E-403.
  - FOR AIRFIELD LIGHTING SCHEDULES SEE DWG E-211.