MANCHESTER - BOSTON REGIONAL AIRPORT (MHT)

MANCHESTER, NEW HAMPSHIRE

CONSTRUCTION PLANS FOR

REHABILITATE RUNWAY 17-35

AIP NO. 3-33-0011-TBD-2022
CITY BID NO. FY22-805-49

VOLUME 1 : REHABILITATE RUNWAY 17-35

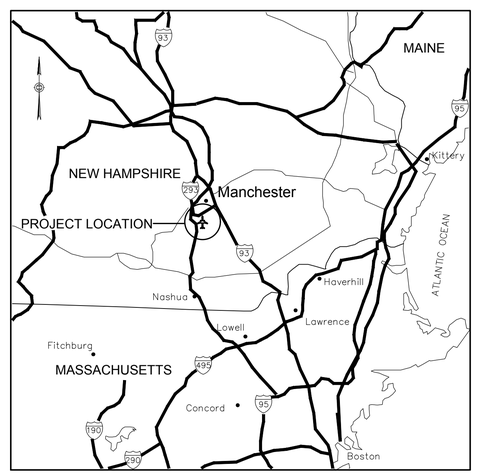
VOLUME 2 : REHABILITATE EXISTING MALS AND ALSF-2 LIGHTING SYSTEMS

VOLUME 3 : REHABILITATE MECHANICALLY STABILIZED EARTH RETAINING WALL AND RELATED IMPROVEMENTS

MANCHESTER • BOSTON
REGIONAL AIRPORT

One Airport Road, Suite 300
Manchester, New Hampshire 03103
www.flymanchester.com

AUTHORITY / OWNER



LOCATION MAP

Jacobs
2 Executive Park Drive, Suite 205
Bedford, NH 03110
(603) 666-7181 fax-(603) 666-7185

PROJECT DESIGNER

ISSUED FOR BID
MARCH 2022

MANCHESTER - BOSTON REGIONAL AIRPORT (MHT)

MANCHESTER, NEW HAMPSHIRE

CONSTRUCTION PLANS FOR

REHABILITATE RUNWAY 17-35

AIP NO. 3-33-0011-TBD-2022
CITY BID NO. FY22-805-49

VOLUME 1

REHABILITATE, LIGHT & MARK RUNWAY 17-35 9,250' X 150' WIDE (BASE BID);
REHABILITATE RUNWAY 17-35 SHOULDERS 9,250' x 25' WIDE (ADDITIVE ALTERNATE #1);
REHABILITATE RUNWAY 17-35 BLAST PADS 200' x 200' (ADDITIVE ALTERNATE #2)

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Bedford, NH 03110
(603) 666-7181 fax-(603) 666-7185

PROJECT DESIGNER

CIVIL ENGINEER OF RECORD
JOHN W. GORHAM
NEW HAMPSHIRE PE No. 12001

ELECTRICAL ENGINEER OF RECORD
JONATHAN P. HICKEY
NEW HAMPSHIRE PE No. 17058

ISSUED FOR BID
MARCH 2022

GENERAL PROJECT ABBREVIATIONS

A	AMPERES
AC	ASPHALT CONCRETE, ACRE
ALS	APPROACH LIGHTING SYSTEM
ALT	ALTERNATE
AOA	AIRCRAFT OPERATIONS AREA
ATPB	ASPHALT TREATED PERMEABLE BASE
AVI	AUTOMATED VEHICLE IDENTIFICATION
BC	BEGINNING OF CURVE
BIT	BITUMINOUS
BM	BENCH MARK
BRL	BUILDING RESTRICTION LIMIT
BVC	BEGINNING OF VERTICAL CURVE
C	CONDUIT
CAB	CRUSHED AGGREGATE BASE
CB	CATCH BASIN
CBR	CALIFORNIA BEARING RATIO
CDF	CONTROLLED DENSITY FILL
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CIP	CAST IRON PIPE
CL, ℄	CENTERLINE
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCT, CONSTRUCTION
CONT	GROUND CONTOUR
COORD	COORDINATE
CSP	CORRUGATED STEEL PIPE
CY	CUBIC YARD
DIA	DIAMETER
DWG	DRAWING
E	EAST, EASTING
EA	EACH
EC	END OF CURVE
(E)	EXISTING
EL	ELEVATION
ELEV	ELEVATION
ENG	ENGINEER, ENGINEERING
EOP	EDGE OF PAVEMENT
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
EV	ELECTRICAL VAULT
EVC	END OF VERTICAL CURVE
EQ	EQUAL
EX, EXIST	EXISTING
EXC	EXCAVATION
EXP JT	EXPANSION JOINT
FAA	FEDERAL AVIATION ADMINISTRATION
FAR	FEDERAL AVIATION REGULATION
FG	FINISHED GRADE
FL	FLOW LINE
FLR	FLOOR
FS	FINISHED SURFACE
GA	GENERAL AVIATION
GB	GRADE BREAK
GR	GRADE
GSE	GROUND SERVICE EQUIPMENT
HGL	HYDRAULIC GRADE LINE
HMAC	HOT MIX ASPHALT CONCRETE
HP	HIGH POINT
HOR	HORIZONTAL
HYD	HYDRAULIC
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
JB	JUNCTION BOX
JT	JOINT
L	LENGTH
LF	LINEAR FEET
LONG	LONGITUDINAL
LP	LOW POINT
LS	LUMP SUM
LT	LEFT
MALS	MEDIUM INTENSITY APPROACH LIGHT SYSTEM
MALSR	MEDIUM INTENSITY APPROACH LIGHT SYSTEM W/RAILS
MAX	MAXIMUM
MES	MITERED END SECTION
MH	MANHOLE
MIN	MINIMUM
MITL	MEDIUM INTENSITY TAXIWAY LIGHTS
MISC	MISCELLANEOUS
MON	MONUMENT
MULT	MULTIPLE
MSL	MEAN SEA LEVEL
N	NORTH, NORTHING
NIC	NOT IN CONTRACT
NO	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFSET
PAPI	PRECISION APPROACH PATH INDICATOR
PB	PULL BOX
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE, PORTLAND CEMENT CONCRETE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POC	POINT OF CURVE
POT	POINT OF TANGENT
PRC	POINT OF REVERSE CURVE
PRVC	POINT OF REVERSE VERTICAL CURVE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
PSI	POUNDS PER SQUARE INCH
Q	RATE OF FLOW IN CFS
R	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REIL	RUNWAY END IDENTIFIER LIGHTS
REINF	REINFORCED, REINFORCEMENT
RGRCP	RUBBER GASKET REINFORCED CONCRETE PIPE
RP	RADIUS POINT
RPMP	REINFORCED PLASTIC MORTAR PIPE
RPZ	RUNWAY PROTECTION ZONE
RSA	RUNWAY SAFETY AREA
RT	RIGHT
RVR	RUNWAY VISUAL RANGE
RWY, R/W	RUNWAY
S	SLOPE
SB	SUBBASE
SC	SPIRAL TO CURVE
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FEET
SHLD	SHOULDER
SPA	SPACES
SPEC	SPECIFICATIONS
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SY	SQUARE YARD
T, TAN	TANGENT TO CURVE
TG	TOP OF GRATE ELEV
TN	TRUE NORTH
TOPO	TOPOGRAPHY
TOW	TOP OF WALL
TSA	TAXIWAY SAFETY AREA/TRANSPORTATION SECURITY ADMINISTRATION
TWY,TW	TAXIWAY
TYP	TYPICAL
VAR	VARIES, VARIABLE
VASI	VISUAL APPROACH SLOPE INDICATOR
VC	VERTICAL CURVE
VER	VERIFY
VERT	VERTICAL
VOL	VOLUME
VOR	VHF OMNIDIRECTIONAL RANGE
W/	WITH

GENERAL PROJECT LEGEND

EXISTING

—— GS —— GS ——	GLIDE SLOPE CRITICAL AREA
—— ROFA —— ROFA ——	RUNWAY OBJECT FREE AREA
—— OFZ —— OFZ ——	PRECISION OBSTACLE FREE ZONE
—— RSA —— RSA ——	RUNWAY SAFETY AREA
—— TSA —— TSA ——	TAXIWAY SAFETY AREA
—x—x—x—	FENCE LINE
	BENCHMARK / CONTROL POINT LOCATION
	PAVEMENT CORE LOCATION

PROPOSED

- VARIABLE MILLING DEPTH (BASE BID)
- VARIABLE MILLING DEPTH (ADD ALT - 1)
- VARIABLE MILLING DEPTH (ADD ALT - 2)
- BITUMINOUS PAVEMENT RUNWAY OVERLAY LIMITS
- BITUMINOUS PAVEMENT SHOULDER/BLAST PAD OVERLAY LIMITS
- PROPOSED TOPSOIL/SEED LIMITS

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PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	DJA
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

G-002

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G002_Index of Drawings.dwg [G-002] March 10, 2022 - 8:35am [sagn]

PROJECT GENERAL NOTES:

THESE NOTES ARE INTENDED TO HIGHLIGHT THE REQUIREMENTS SET FORTH IN THE PROJECT SPECIFICATIONS. IN ALL CASES REQUIREMENTS OF THE PROJECT SPECIFICATIONS SHALL GOVERN.

WEEKLY AND DAILY SCHEDULES REQUIRED

1. THIS PROJECT IS LOCATED ADJACENT TO ACTIVE TAXIWAYS AND RUNWAYS, THEREFORE ALL CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED IN A MANNER ACCEPTABLE TO THE RESIDENT PROJECT REPRESENTATIVE (RPR), AIRPORT OPERATIONS AND THE FEDERAL AVIATION ADMINISTRATION (FAA) TO PROVIDE ACCEPTABLE LEVELS OF SAFETY FOR ALL AIRPORT OPERATIONS. PERIODIC MEETINGS WILL BE HELD TO COORDINATE THE ACTIVITIES OF THIS CONTRACT WITH OTHER AIRPORT OPERATIONS.

2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A WEEKLY SCHEDULE OF OPERATIONS FOR THE FOLLOWING WORK WEEK. THE SCHEDULE SHALL BE GIVEN TO THE RPR AT THE END OF THE WORK WEEK PRECEDING THE WORK WEEK COVERED BY THE SCHEDULE. THE WEEKLY SCHEDULES ARE SUBJECT TO APPROVAL OF THE RPR. THE CONTRACTOR SHALL UPDATE THE RPR PRIOR TO THE START OF WORK EACH DAY OF CONSTRUCTION ACTIVITIES FOR THE NEXT 24 HOUR PERIOD.

3. THE CONTRACTOR SHALL SUBMIT A SAFETY PHASING PLAN UPON NOTIFICATION OF AWARD. THE CONTRACTOR'S SAFETY PLAN SHALL BE IN CONFORMANCE WITH THE CONSTRUCTION SAFETY AND PHASING PLAN INCLUDED IN THE PROJECT MANUAL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THIS MANUAL.

ENVIRONMENTAL PROTECTION

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS CONTROLLING POLLUTION OF THE ENVIRONMENT. THE CONTRACTOR SHALL IMPLEMENT ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EROSION CONTROL MEASURES AT NO EXTRA COST WHEN INSTRUCTED BY THE RPR AND COMPLYING WITH EPA 2022 CONSTRUCTION GENERAL PERMIT, IF APPLICABLE, DURING CONSTRUCTION.

2. HAUL ROUTES AND ROADS USED BY THE CONTRACTOR FOR ACCESS OR HAULING SHALL BE KEPT CLEAN AND ACCESSIBLE TO ALL OTHER AIRPORT TRAFFIC FOR THE ENTIRE DURATION OF THE PROJECT. HAUL TRUCKS AND DUMP TRUCKS MUST USE LOAD COVERS AND MUST BE LOADED BY THE CONTRACTOR SUCH THAT NO SPILLAGE OCCURS DURING TRANSIT ON THE STATE, MUNICIPAL, OR AIRPORT ROADWAYS, RUNWAYS, TAXIWAYS, AND APRONS. NO SEPARATE PAYMENT SHALL BE MADE FOR KEEPING THE HAUL ROUTES AND ROADS CLEAR AND ACCESSIBLE.

3. THE CONTRACTOR SHALL CONTROL DUST AND DEBRIS FROM HIS OPERATION TO A LEVEL ACCEPTABLE TO THE RPR AND HAVE ON THE PROJECT SITE AT ALL TIMES TWO VACUUM SWEEPERS, WATERING TRUCKS, AND OTHER EQUIPMENT NECESSARY TO CONTROL DUST AT ALL TIMES. ALL METHODS FOR CONTROLLING DUST SHALL BE SUBJECT TO THE RPR APPROVAL. DUST CONTROL SHALL BE STRICTLY MONITORED DUE TO ITS IMPACT ON AIRCRAFT SAFETY. FAILURE TO PROPERLY CONTROL DUST OR RESPOND TO ANY REQUEST TO DO SO WILL RESULT IN CONSTRUCTION ACTIVITIES BEING STOPPED.

CONTRACTOR'S MATERIAL STAGING AREA

1. THE CONTRACTOR SHALL USE THE AREA SHOWN ON THE PLANS FOR THE MATERIAL AND EQUIPMENT STAGING AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL IMPROVEMENT OF THE DESIGNATED AREA, THAT IS NECESSARY FOR THE UTILIZATION OF THE AREA. THE CONTRACTOR SHALL BE PREPARED TO CONDUCT WEEKLY CLEANING OF THE STAGING AREA. THE CONTRACTOR SHALL CONTROL DUST IN THE STAGING AREA. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING TO ORIGINAL CONDITION ANY AREAS USED FOR THE CONTRACTOR'S OPERATION AND CONTROLLING DUST AT NO ADDITIONAL COST TO THE OWNER. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK. ALL WORK NECESSARY TO USE THE STAGING AREA SHALL BE DEEMED INCIDENTAL TO THE OVERALL PROJECT COST.

2. THE CONTRACTOR, WITH THE APPROVAL OF THE RPR AND AIRPORT OPERATIONS, SHALL ESTABLISH THE EXACT LIMITS OF THE CONTRACTOR'S STAGING AREAS AT THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS FOR MATERIAL STOCKPILING. ALL REQUIRED UTILITIES FOR THE CONTRACTOR'S STAGING AREA SHALL BE ARRANGED AND PROMPTLY PAID FOR BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY AGENCY. UTILITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE RPR. NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ITEM REQUIRED FOR THE CONTRACTOR TO ENCLOSE AND SET UP HIS OPERATIONAL AREAS. ADDITIONALLY, THE CONTRACTOR SHALL RESTORE THE SITES TO THE ORIGINAL CONDITIONS UPON COMPLETION OF THE CONTRACT WORK, TO THE SATISFACTION OF THE RPR AND AIRPORT OPERATIONS, AT NO ADDITIONAL COST TO THE OWNER.

3. ALL MATERIALS AND EQUIPMENT SHALL BE STORED AND PARKED, WHEN NOT IN USE, AT THE CONTRACTOR'S STORAGE AREAS SHOWN ON THE PLANS. TEMPORARY STOCKPILES SHALL BE CONTAINED WITH PERIMETER CONTROLS AND SEEDED, AS NEEDED. REFER TO DETAIL 5 ON SHEET C-621 FOR ADDITIONAL INFORMATION.

4. STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT ITS MOVEMENT BY WIND, JET BLAST, OR PROPELLER WASH.

5. THE MAXIMUM ALLOWABLE HEIGHT OF CONSTRUCTION EQUIPMENT IN STAGING AREA IS 20' ABOVE GROUND SURFACE. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE RPR FOR ANY EQUIPMENT THAT WILL EXCEED 20' IN HEIGHT AND IMPACT THE F.A.R. PART 77 SURFACE.

HAUL ROADS

1. THE CONTRACTOR'S ACCESS ROUTE TO THE PROJECT SITES LOCATED AT THE AIRPORT IS AS SHOWN ON SHEET G-004 CONSTRUCTION ACCESS PLAN AND NOTES.

2. ALL PAVED HAUL ROADS OR ACCESS ROADS SHALL BE KEPT CLEAN AT ALL TIMES TO PREVENT THE ACCUMULATION OF DIRT AND MUD AND THE GENERATION OF DUST BY VACUUMING, WASHING, WATERING OR OTHER METHODS DIRECTED BY THE AIRPORT OPERATIONS.

3. UNPAVED HAUL ROADS, IF ANY, SHALL BE MAINTAINED BY BLADING AND FILLING WHEN DIRECTED BY THE RPR. DUST SHALL BE CONTROLLED AT ALL TIMES.

4. ALL HAUL ROADS DISTURBED SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER BEFORE THE CONTRACT WILL BE CONSIDERED COMPLETE. ALL RESTORATION AND DUST CONTROL ON HAUL ROADS SHALL BE AT THE CONTRACTOR'S EXPENSE AND ARE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT COST.

FLAGGERS

1. THE USE OF AIRFIELD FLAGGERS WILL NOT BE REQUIRED ON THIS PROJECT. THE OWNER WILL PROVIDE ESCORTS ACROSS ACTIVE AIRPORT PAVEMENTS. CONTRACTOR RESPONSIBLE FOR PROVIDING ANY FLAGGERS REQUIRED FOR ENTERING OR EXITING ON PUBLIC ROADWAYS. NO ADDITIONAL PAYMENT WILL BE MADE FOR FLAGGERS RATHER IT SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT COST.

RADIO CONTROL

1. THE CONTRACTOR SHALL HAVE TWO-WAY RADIO COMMUNICATION BETWEEN THE RADIO CONTROL VEHICLE AND HIS/HER FIELD OFFICE, SUPERINTENDENT'S VEHICLE, RPR, FLAG PERSONS, AND AIRPORT OPERATIONS ESCORT VEHICLES. NO FAA FREQUENCY WILL BE USED FOR THIS PURPOSE. THESE RADIOS SHALL BE MAINTAINED AND OPERATED AT THE CONTRACTOR'S EXPENSE.

UNDERGROUND UTILITIES, CABLES, AND EXISTING STRUCTURES

1. THE APPROXIMATE LOCATIONS OF KNOWN UTILITIES AND UNDERGROUND CABLES ARE SHOWN ON THE DRAWINGS. PRIOR TO COMMENCEMENT OF ANY EXCAVATION THE CONTRACTOR SHALL COORDINATE ALL WORK ON AND IN THE VICINITY OF THE UNDERGROUND UTILITIES AND CABLES WITH THE FOLLOWING AGENCIES AS APPROPRIATE.
   - 1.1. DIG SAFE: 811 OR (888) 344-7233
   - 1.2. CONSOLIDATED COMMUNICATIONS: (844) 968-7224
   - 1.3. COMCAST: (603) 889-6718
   - 1.4. NATIONAL GRID: (800) 233-5325
   - 1.5. EVERSOURCE: (800) 362-7764
   - 1.6. THE FEDERAL AVIATION ADMINISTRATION - TECH OPS: (603) 621-1762
   - 1.7. AIRPORT - OPERATIONS AND MAINTENANCE: (603) 624-6349
   - 1.8. TOWN OF LONDONDERRY - WATER AND SEWER DEPARTMENTS:(603) 624-6494

2. THE CONTRACTOR SHALL SUBMIT THE DIG SAFE REFERENCE NUMBER TO THE RPR AFTER EACH DIG SAFE REQUEST. DIG SAFE REFERENCE NUMBERS SHALL BE UPDATED EVERY 30 DAYS. THE CONTRACTOR SHALL BE AWARE OF ALL PERMITS AND THEIR ASSOCIATED EXPIRATION DATE. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED PERMITS THROUGHOUT THE CONSTRUCTION DURATION.

3. CONTRACTOR SHALL HIRE A PRIVATE UTILITY LOCATION SERVICE TO MARK OUT ANY UTILITIES NOT COVERED BY DIGSAFE.

4. WORK AROUND THE EXISTING UNDERGROUND UTILITIES SHALL BE PERFORMED IN A MANNER THAT WILL AVOID DAMAGES TO THE UTILITIES. PRIOR TO COMMENCING WITH WORK, THE CONTRACTOR SHALL ACCURATELY LOCATE OR GET THE APPROPRIATE UTILITY COMPANY TO LOCATE ABOVE AND BELOW GROUND UTILITIES WHICH MAY BE AFFECTED BY THE WORK. THE CONTRACTOR SHALL PROTECT ALL UTILITIES NOT DESIGNATED FOR REMOVAL, RELOCATION, OR REPLACEMENT IN THE COURSE OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE 72 HOURS OF ADVANCED NOTICE TO THE UTILITY OWNER, THE RPR, AND FAA PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY OF THE EXISTING UTILITY LINE.

5. PRIOR TO THE CLOSE OF WORK EACH DAY, THE CONTRACTOR SHALL VERIFY THAT ALL LIGHTING CIRCUITS IN THE WORK AREA ARE OPERATIONAL.

6. THE CONTRACTOR SHALL REPAIR AT HIS/HER OWN EXPENSE, ANY UNDERGROUND CABLES OR UTILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS INCLUDING ANY DAMAGE DONE BY DRIVING HIS/HER EQUIPMENT OVER EXISTING UNDERGROUND CABLES OR UTILITIES. THE REPAIR OF FAA CABLES SHALL BE INSPECTED AND APPROVED BY THE FAA.

7. THE CONTRACTOR SHALL PROTECT ALL NAVAIDS, EDGE LIGHTS, ELECTRICAL MANHOLES, JUNCTION CANS, DRAINAGE INLETS AND MANHOLES DURING CONSTRUCTION. ANY DAMAGE TO THE EXISTING STRUCTURES DURING CONSTRUCTION MUST BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE

8. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WITH ANY FABRICATION, ORDERING OF MATERIAL, OR PERFORMING WORK. THE CONTRACTOR SHALL NOTIFY THE RPR IMMEDIATELY OF ANY CONDITIONS OR DIMENSIONS THAT WOULD HAMPER THE PERFORMANCE OF THE WORK, IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

9. INTERRUPTION TO EXISTING AIRFIELD UTILITIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR AT THE DIRECTION OF THE RPR.

MAINTENANCE OF THE CONSTRUCTION SITE

1. THE CONTRACTOR SHALL MAINTAIN THE PROJECT SITE TO PREVENT ATTRACTION OF WILDLIFE. THE CONTRACTOR SHALL KEEP ALL TRASH RECEPTACLES CLOSED AND ELIMINATE PONDING OF WATER TO ELIMINATE ATTRACTING BIRDS AND OTHER WILDLIFE.

2. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE FREE OF PAPER, BOXES, AND OTHER DEBRIS, WHICH COULD BE BLOWN ONTO THE RUNWAY AND TAXIWAYS.

3. ALL AIRPORT PAVEMENTS SHALL BE KEPT CLEAR AND CLEAN AT ALL TIMES. ALL ROCKS, MUD, AND OTHER DEBRIS CARRIED ONTO THE AIRPORT PAVEMENT BY THE CONTRACTOR'S EQUIPMENT MUST BE REPORTED TO THE RPR OR TO AIRPORT OPERATIONS. THE AIRPORT OPERATIONS WILL THEN CLOSE THE AFFECTED AREA TO AIR TRAFFIC AND THE CONTRACTOR WILL IMMEDIATELY SWEEP THE AREA TO THE SATISFACTION OF AIRPORT OPERATIONS OR RPR.

4. THE CONTRACTOR SHALL MAINTAIN, AT THE CONSTRUCTION SITE, THE EQUIPMENT FOR THE APPLICATION OF WATER TO CONTROL DUST WITHIN THE CONSTRUCTION SITE AND ON HAUL ROADS. THE EQUIPMENT SHALL BE EQUIPPED WITH A SHUTOFF CONTROL VALVE WHICH CAN BE OPERATED FROM THE CAB BY THE OPERATOR. THE CONTRACTOR SHALL APPLY WATER FOR DUST CONTROL AS NECESSARY TO PREVENT DUST FROM LEAVING THE CONSTRUCTION SITE AND/OR HAUL ROADS AND BEING A HAZARD TO AIRCRAFT AND THE PUBLIC. THE RPR MAY DIRECT THE IMPLEMENTATION OF DUST CONTROL. THE COST OF ALL WATER AND OTHER DUST CONTROL MEASURES WILL NOT BE PAID FOR SEPARATELY, RATHER IT SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT COST.

5. THE CONTRACTOR SHALL MAINTAIN AT THE JOB SITE AT ALL TIMES WHILE THE CONSTRUCTION UNDER THIS CONTRACT IS IN PROGRESS, A SELF-PROPELLED, SELF-CONTAINED SWEEPER WITH NOT LESS THAN A 10-FOOT BROOM WITH A 4 CUBIC YARD CAPACITY APPROVED BY THE RPR. THE SWEEPER SHALL OPERATE AS NECESSARY TO KEEP ACTIVE AIRCRAFT PAVEMENTS, ACCESS ROADS AND THE WORK AREAS CLEAN. AT THE CLOSE OF EACH WORKDAY, ALL ACTIVE AIRCRAFT PAVEMENTS AND THE AIRPORT PAVED ROADS USED OR SOILED BY THE CONTRACTOR SHALL BE SWEPT. ALL COSTS ASSOCIATED WITH THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

6. THE CONTRACTOR SHALL ESTABLISH A SYSTEM OF VISUAL AIDS FOR MARKING AND DELINEATING THE LIMITS OF REQUIRED CLEARANCES ADJACENT TO ACTIVE TAXIWAYS, RUNWAYS, AND NAVIGATIONAL AIDS DURING CONSTRUCTION. THE SYSTEM SHALL BE EASILY DISTINGUISHABLE DURING BOTH DAY AND NIGHTTIME WORK. A DETAILED PLAN OF MATERIALS AND PROCEDURES THAT THE CONTRACTOR PROPOSES TO USE SHALL BE SUBMITTED TO THE RPR FOR APPROVAL PRIOR TO THE START OF ANY WORK UNDER THIS CONTRACT COMPLIANCE WITH THE APPROVED PLAN WILL BE STRICTLY ENFORCED. THIS PLAN, ALONG WITH ALL TEMPORARY VISUAL AIDS AS NOTED, SHALL BE IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5370-2G, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION, DATED 12/13/17. THE RPR MAY REQUIRE CHANGES TO THE ESTABLISHED PLAN WHENEVER IT IS NECESSARY FOR THE PROTECTION OF AIRPORT OPERATIONS. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION REGARDING RESTRICTIONS AND PENALTIES.

DISPOSAL OF SURPLUS AND UNSUITABLE MATERIALS

1. UNLESS OTHERWISE STATED, ALL SURPLUS MATERIALS AND UNSUITABLE MATERIALS INCLUDING MILLINGS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND LEGALLY DISPOSED OF OFF AIRPORT PROPERTY. NO SEPARATE MEASUREMENT AND PAYMENT WILL BE MADE FOR THE DISPOSAL, BUT RATHER THE DISPOSAL SHALL BE INCIDENTAL TO THE ITEM WHICH PRODUCED THE SURPLUS MATERIAL.

2. ALL EQUIPMENT, MANPOWER, TRAFFIC CONTROL, SIGNS, BARRICADES, GATES AND OTHER ITEMS NECESSARY FOR THE SAFE AND EFFICIENT HAULING OF EXCESS MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE COST OF THE ITEM WHICH GENERATED THE MATERIAL TO BE DISPOSED OF.

3. ALL SURPLUS LOAM SHALL BE TURNED OVER TO THE AIRPORT AT A STOCKPILE LOCATION ON AIRPORT PROPERTY. FINAL LOCATION ON AIRPORT PROPERTY OF STOCKPILE TO BE DETERMINED DURING CONSTRUCTION.

4. ALL TAXIWAY LIGHT FIXTURES AND SIGN FIXTURES TEMPORARILY REMOVED SHALL BE STORED AT THE AIRPORT MAINTENANCE FACILITY, TO BE REINSTALLED BY THE CONTRACTOR.

5. THE CONTRACTOR SHALL HAUL ALL EXCAVATED / DEMOLISHED MATERIALS AND MILLED ASPHALT MATERIALS OFF AIRPORT PROPERTY FOR LEGAL DISPOSAL. THE CONTRACTOR MAY STOCKPILE ONE WORK SHIFT'S WORTH OF DEMOLISHED ASPHALT MATERIALS AND EXCAVATED MATERIAL IN THE STAGING AREA AT A TIME. THE DEMOLISHED ASPHALT MATERIALS AND EXCAVATED MATERIALS MUST BE HAULED OFFSITE THE FOLLOWING DAY PRIOR TO THE NEXT WORK SHIFT COMMENCING. THERE SHALL NOT BE MORE THAN ONE WORK SHIFT'S WORTH OF DEMOLISHED ASPHALT MATERIAL AND EXCAVATED MATERIAL STOCKPILED IN THE STAGING AREA UNLESS OTHERWISE APPROVED BY THE RPR.

OPEN TRENCHES OR EXCAVATIONS

1. ALL CONSTRUCTION ACTIVITIES WITHIN OR ADJACENT TO RUNWAYS, TAXIWAYS, APRONS, PROTECTED SURFACES AND NAVIGABLE AIRSPACE SHALL COMPLY WITH CURRENT 14 CFR PART 139 AND 14 CFR PART 77 REQUIREMENTS, ADVISORY CIRCULAR A/C NO. 150/5370-2 (CURRENT VERSION) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION", AND AIRPORT OPERATIONAL REQUIREMENTS.

2. OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIALS SHALL BE PROMINENTLY MARKED. THESE OBSTACLES SHALL BE PROMINENTLY LIGHTED DURING HOURS OF RESTRICTED VISIBILITY AND DARKNESS.

GENERAL PROJECT COORDINATION NOTES

1. UNLESS OTHERWISE NOTED, WORK WITHIN ANY AIRPORT SAFETY AREAS SHALL REQUIRE A TAXIWAY OR RUNWAY CLOSURE UNLESS OTHERWISE NOTED IN THE PLANS. THE CONTRACTOR, THROUGH THE RPR AND AIRPORT OPERATIONS, MUST REQUEST TAXIWAY AND RUNWAY CLOSURES. THESE REQUESTS MUST BE MADE 72 HOURS IN ADVANCE AND INDICATE THE AREAS NEEDED AND A SCHEDULE OF OPERATIONS AND TIME(S) REQUIRED FOR OPERATIONS WITHIN THE AREA. ALL TAXIWAY AND RUNWAY CLOSURE REQUESTS ARE CONTINGENT ON REVIEW AND APPROVAL BY THE RPR AND AIRPORT OPERATIONS. THE AIRPORT RESERVES THE RIGHT TO SHIFT ANY APPROVED SCHEDULED CLOSURE PERIODS TO ALLEVIATE AIRCRAFT CONGESTION WHEN WEATHER CONDITIONS DICTATE.

2. THE CONTRACTOR SHALL COOPERATE WITH OTHER CONTRACTORS WORKING IN THE AREA AND AT ALL TIMES WILL COORDINATE HIS OR HER EFFORTS TO MAINTAIN THE NECESSARY CONSTRUCTION ACCESS ROUTES AND TO ASSURE THAT ALL CONTRACTS CONTINUE ON A TIMELY BASIS.

3. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS THAT ARE PERTINENT TO THIS WORK. THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO OBTAIN AND PAY ALL COSTS ASSOCIATED WITH THE PERMITS AND LICENSES REQUIRED TO ACCOMPLISH THIS WORK.

4. OPEN FLAME WELDING OR TORCH CUTTING OPERATIONS ARE PROHIBITED UNLESS ADEQUATE FIRE SAFETY PRECAUTIONS ARE PROVIDED AND THESE OPERATIONS HAVE BEEN AUTHORIZED BY THE AIRPORT. IF THESE ACTIVITIES ARE REQUIRED, THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS IN ADVANCE SO THAT THE LIMITATIONS AND REQUIREMENTS CAN BE IDENTIFIED AS WELL AS ANY ADDITIONAL AIRPORT PROCEDURES COMPLETED.

5. THE CONTRACTOR SHALL COMPLY WITH ALL CURRENT VEHICLE OPERATIONAL ORDERS AND INSTRUCTIONS PROVIDED BY THE FAA AND ATCT. THE ORDERS AND INSTRUCTIONS ARE CONTAINED IN THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) IN THE PROJECT MANUAL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE SURE ALL THE SUBCONTRACTORS, SUPPLIERS, VENDORS, ETC. RECEIVE AND COMPLY WITH THE REQUIREMENTS IN THESE PUBLICATIONS.

6. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE RPR A NAME AND PHONE NUMBER OF TWO INDIVIDUALS WHO WILL BE AVAILABLE ON A 24 HOUR CALL BASIS FOR EMERGENCY BARRICADE AND BARRICADE LIGHTING MAINTENANCE. THESE INDIVIDUALS SHALL PROVIDE MAINTENANCE AND REPAIR OF TEMPORARY ELECTRICAL SYSTEMS AND WIRING.

GENERAL PROJECT SECURITY NOTES

1. ALL PERSONS ENTERING THE SECURITY IDENTIFICATION DISPLAY AREA (SIDA) ARE REQUIRED TO DISPLAY AN IDENTIFICATION BADGE ISSUED BY THE AIRPORT OR TO BE ESCORTED AT ALL TIMES BY AN APPROVED ESCORT DISPLAYING AN AIRPORT-ISSUED IDENTIFICATION BADGE. THE SIDA IS DEFINES AS ALL AREA INSIDE THE AIRPORT SECURITY FENCE.

2. VEHICLES ENTERING THE AOA ARE SUBJECT TO SEARCH AND INSPECTION PRIOR TO ENTERING. THE PROCEDURES WILL BE OUTLINED BY THE RPR AND AIRPORT OPERATIONS, AND CONTRACTORS ARE EXPECTED TO FAMILIARIZE THEMSELVES WITH AND COMPLY WITH THESE PROCEDURES.

3. VEHICLES ENTERING THE SIDA MUST DISPLAY ALL NECESSARY IDENTIFICATION AS OUTLINED IN FAA AC 150/537-2G OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION. ONLY PERSONS HOLDING A VALID SIDA DRIVER'S BADGE MAY DRIVE UNDER ESCORT WITHIN THE SIDA.

4. CONTRACTOR PERSONNEL MUST OBTAIN SECURITY BADGES FROM THE AIRPORT SECURITY OFFICE IN ORDER TO PERFORM THE WORK. THE CONTRACTOR WILL BE REQUIRED TO BADGE ALL EMPLOYEES EXPECTED TO WORK MORE THAN ONE DAY AT THE PROJECT SITE UNLESS OTHERWISE APPROVED BY THE AIRPORT. ONE (1) BADGED EMPLOYEE MAY ESCORT UP TO FIVE (5) UN-BADGED EMPLOYEES THAT WILL BE ON-SITE FOR ONE DAY OR LESS. ESCORTED EMPLOYEES MUST REMAIN IN CLOSE PROXIMITY TO THE BADGED EMPLOYEE AND CANNOT BE LEFT UNATTENDED ON THE AIRFIELD.

5. BEFORE RECEIVING A BADGE, EMPLOYEES MUST SUBMIT THEIR FINGER PRINTS AND COMPLETE A BADGE APPLICATION FORM. A CRIMINAL BACKGROUND CHECK WILL BE CONDUCTED FOR EACH APPLICANT. AFTER APPROVAL, THE APPLICANT MUST COMPLETE A COMPUTER-BASED TRAINING FOR SUBJECTS INCLUDING AIRPORT SECURITY AND AIRSIDE DRIVING REQUIREMENTS. THE BASIC TRAINING MODULES TAKE APPROXIMATELY 2 HOURS. UPON COMPLETION, A PHOTO IDENTIFICATION BADGE WILL BE ISSUED. THE BADGE MUST BE WORN ABOVE THE WAIST WHILE ON AIRPORT PROPERTY.

BASE BID, ADDITIVE ALTERNATE AND OPTION DESCRIPTION

THE PROJECT BID INCLUDES A BASE BID, 5 ALTERNATES AND AN OPTION. REFER TO THE BIDDING PROPOSAL FOR THE QUANTITIES ASSOCIATED WITH EACH. THE BELOW IS A SUMMARY OF THE BASE BID, ALTERNATE AND OPTION.

1. BASE BID (RUNWAY):
   - a. REFER TO PLAN VOLUMES 1 AND 2.REFER TO PHASES 1 THROUGH 7 FOR THE PHASING.
   - b. REHABILITATE THE PAVEMENTS 9,250-FOOT-LONG RUNWAY BY 150 FEET WIDE.
   - c. REHABILITATE ALL RUNWAY AND SHOULDER PAVEMENTS WITHIN THE RUNWAY-RUNWAY INTERSECTION.
   - d. FAA IN-PAVEMENT APPROACH LIGHT UPGRADES WITHIN THE 9,250-FOOT-LONG RUNWAY.
   - e. AIRPORT LIGHTING & SIGNAGE REPLACEMENTS & RELATED AIRFIELD ELECTRICAL.
   - f. RWIS UPGRADES AND SENSOR INSTALLATION.
   - g. REHABILITATE THE SOUTH TAXIWAY A RETAINING WALL AND DETENTION POND IMPROVEMENTS SHOWN IN PHASE 7 OF THE PHASING PLANS.
2. ALTERNATE #1 (RUNWAY SHOULDERS):
   - a. REFER TO PLAN VOLUMES 1 AND 2.
   - b. REFER TO PHASES 1 THROUGH 6 FOR THE PHASING.
   - c. REHABILITATE THE RUNWAY PAVEMENT SHOULDERS 9,250-FOOT-LONG BY 25 FEET WIDE ON BOTH SIDES.
   - d. FAA IN-PAVEMENT APPROACH LIGHT UPGRADES WITHIN THE SHOULDER PAVEMENT.
3. ALTERNATE #2 (RUNWAY BLAST PADS):
   - a. REFER TO PLAN VOLUMES 1 AND 2.
   - b. REFER TO PHASES 1 THROUGH 6 FOR THE PHASING.
   - c. REHABILITATE THE RUNWAY PAVEMENT BLAST PADS 200 FEET BY 200 FEET ON BOTH ENDS.
   - d. FAA IN-PAVEMENT APPROACH LIGHT UPGRADES WITHIN THE BLAST PAD PAVEMENT.
4. ALTERNATE #3 (REHABILITATE THE TAXIWAY A RETAINING WALL)
   - a. REFER TO VOLUME III OF THE PLANS.
   - b. REFER TO PHASE 8 FOR THE PHASING.
   - c. INSTALLS DRAINAGE BEHIND THE EXISTING WALL AND ENLARGES THE DOWNSTREAM OPEN CHANNEL CONVEYANCES.
5. ALTERNATE #4 (RWIS RPU UPGRADES NOT IN THE BASE BID)
   - a. REFER TO VOLUME 1 OF THE PLANS
   - b. REFER TO REFER TO PHASE 3 FOR THE PHASING.
   - c. UPGRADES RUNWAY WEATHER INFORMATION SYSTEM (RWIS) RPU COMPONENTS FOR RUNWAY 6-24, TAXIWAY M AND TERMINAL RPUS.
6. ALTERNATE #5 (ELECTRICAL MANHOLE DRAINAGE)
   - a. REFER TO VOLUME 1 OF THE PLANS.
   - b. REFER TO PHASE 9 OF THE PHASING PLANS.
   - c. INSTALLS DRAINAGE OUTLETS IN CERTAIN EXISTING ELECTRICAL MANHOLES TO THE EXISTING DRAINAGE NETWORK.
7. OPTION
   - a. IN LIEU OF ALTERNATES #1 AND #2, THE SHOULDERS AND BLAST PADS ARE SEALCOATED.
   - b. WORK WILL OCCUR AS SHOWN DURING PHASE 1 THROUGH 6.

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	DJA
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PROJECT GENERAL NOTES

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

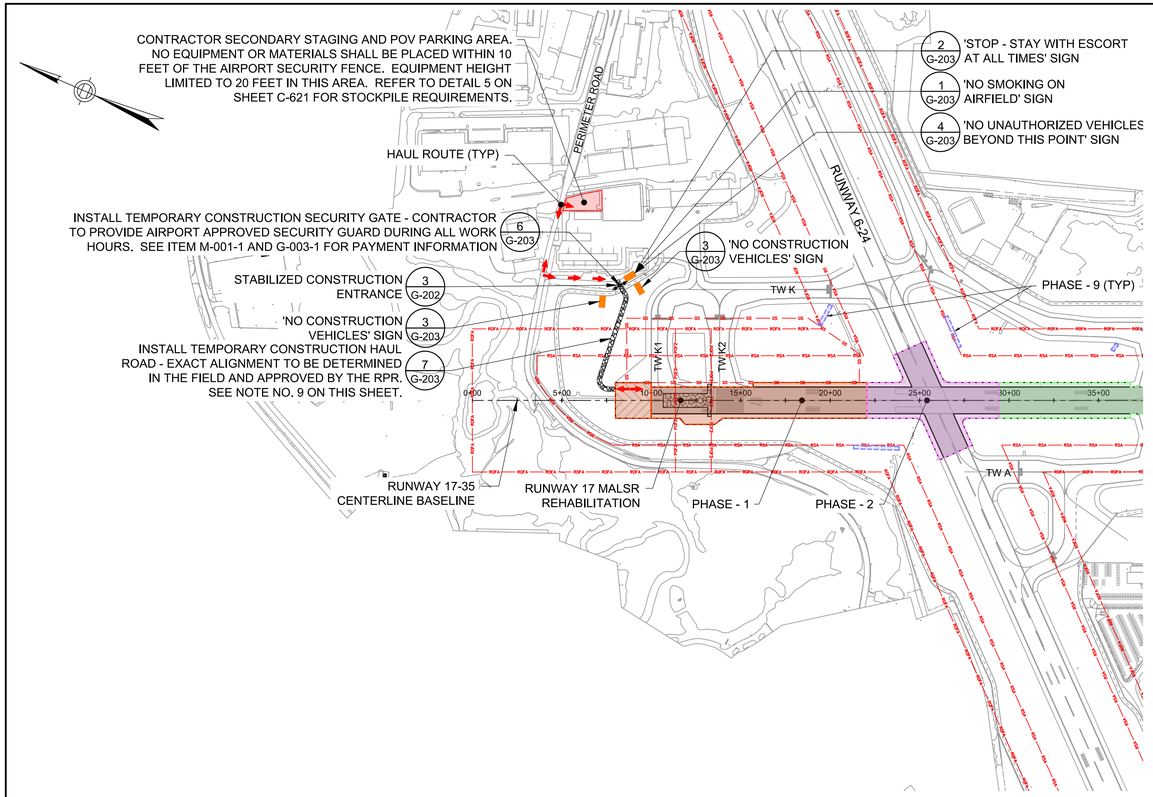
DRAWING NO.

G-003

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G003_General Notes.dwg [G-003] March 10, 2022 - 1:35pm [asign]



RUNWAY 17 END - CONSTRUCTION ACCESS PLAN - (FOR PHASES 1, 2, AND 9)

GENERAL CONSTRUCTION ACCESS NOTES

1. THE CONTRACTOR MUST ACCESS THE WORK SITES AS SHOWN ON THIS CONSTRUCTION ACCESS DRAWING. THE PRIMARY ACCESS GATE FOR EACH PHASE MUST BE APPROVED BY AIRPORT OPERATIONS PRIOR TO THE START OF EACH PHASE. ESCORTING TO THE CONSTRUCTION SITES WILL BE REQUIRED FOR ALL PHASES OF CONSTRUCTION AND SHALL BE PROVIDED BY THE AIRPORT OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL MATERIAL SUPPLIERS AND SUBCONTRACTORS OF ALL THE SECURITY AND ACCESS REQUIREMENTS.

2. THE CONTRACTOR SHALL COMPLY WITH ALL AIRPORT SECURITY REQUIREMENTS AS DIRECTED BY AIRPORT OPERATIONS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY PROVISIONS TO ACCESS THE WORK AREA AND FOR PROVIDING GATE SECURITY AT ALL TIMES. GATE SECURITY SHALL BE PROVIDED BY AN AIRPORT APPROVED SECURITY GUARD AND/OR SECURITY SERVICE COMPANY. REFER TO ALLOWANCE PAY ITEM. THIS APPROVED SECURITY GATE GUARD MUST PROPERLY IDENTIFY, REGULATE , AND DIRECT ALL CONSTRUCTION VEHICLES ENTERING THE AIR OPERATIONS AREA (AOA) OF THE AIRPORT. ALL VEHICLES MUST BE INSPECTED PRIOR TO ENTERING THE AOA. TEMPORARY CONSTRUCTION BADGES WILL BE ISSUED TO INDIVIDUALS THAT DO NOT HAVE AN AIRPORT SECURITY BADGE. INDIVIDUALS ENTERING THE AOA MUST BE IN A VEHICLE. WALKING THROUGH A VEHICLE GATE IS NOT PERMITTED.

3. PARKING OF PERSONAL VEHICLES (POV) AT THE WORK SITE WILL NOT BE PERMITTED. LOCATION FOR THE PARKING OF VEHICLES SHALL BE AS DESIGNATED ON THE CONSTRUCTION ACCESS PLAN. THE CONTRACTOR SHALL PROVIDE ADEQUATE AND SAFE TRANSPORTATION FROM THE AREA WHERE PERSONAL VEHICLES ARE PARKED AND THE WORK SITE. EMPLOYEES AND DRIVERS OF WORK VEHICLES WILL BE INSTRUCTED AS TO THE PROPER ACCESS ROADS. IN NO CASE WILL VEHICLES OR EQUIPMENT OPERATE ON PAVEMENT INTENDED FOR AIRCRAFT USE UNLESS APPROVED BY AIRPORT OPERATIONS. THE CONTRACTOR SHALL INSTRUCT MATERIAL SUPPLIERS, SUB-CONTRACTORS AND ALL PERSONS UNDER THEIR CONTROL AS TO THE PROCEDURES TO BE FOLLOWED WHEN DELIVERING MATERIALS AND/OR OPERATING ON THE AIRFIELD.

4. THE CONTRACTOR'S PERSONNEL AND VEHICLES WILL NOT HAVE ACCESS TO THE ENTIRE AIRPORT, BUT SHALL BE LIMITED TO THE SPECIFIED WORK AND STAGING AREAS. ALL SECURITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE AIRPORT. CONTRACTOR VEHICLES MUST BE READILY IDENTIFIABLE WITH COMPANY NAME AND LOGO ON BOTH SIDES OF VEHICLE. ALL CONTRACTOR'S MOTORIZED VEHICLES OPERATING IN THE AOA SHALL BE EQUIPPED WITH AN AMBER FLASHING LIGHT AND/OR A THREE FOOT SQUARE FLAG CONSISTING OF INTERNATIONAL ORANGE AND WHITE SQUARES (SEE DETAIL ON THE SAFETY DETAILS DRAWINGS) DISPLAYED IN FULL VIEW ABOVE THE VEHICLE.

5. THE CONTRACTOR SHALL FOLLOW THE AIRPORT OPERATIONS CONSTRUCTION TRAFFIC REQUIREMENTS AS THEY PERTAIN TO THE OPERATIONS AND ROUTES TAKEN BY EQUIPMENT TRAVELING ON AIRPORT PROPERTY. ANY AND ALL SIGNS, LIGHTS, SIGNALS, MARKINGS, OR TRAFFIC CONTROL TO ENSURE THAT PERSONNEL AND EQUIPMENT CAN SAFELY ACCESS/EGRESS THE WORK SITE SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT AT NO ADDITIONAL COST TO THE PROJECT, UNLESS SPECIFICALLY NOTED AS ELIGIBLE FOR PAYMENT.

6. ALL VEHICLES EXITING THE CONSTRUCTION WORK AREAS MUST BE CLEANED AND CLEAR FROM FOREIGN OBJECT DEBRIS (FOD) PRIOR TO LEAVING THE WORK SITE. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND OPERATE ONE VACUUM SWEEPER TRUCK WITH DEDICATED OPERATOR ON A FULL-TIME BASIS FOR THE DURATION OF THE PROJECT AND SHALL UTILIZE IT TO REMOVE PROJECT DEBRIS FROM THE ACCESS HAUL ROUTES AND WORK AREAS AS DIRECTED BY THE RPR OR AIRPORT OPERATIONS.

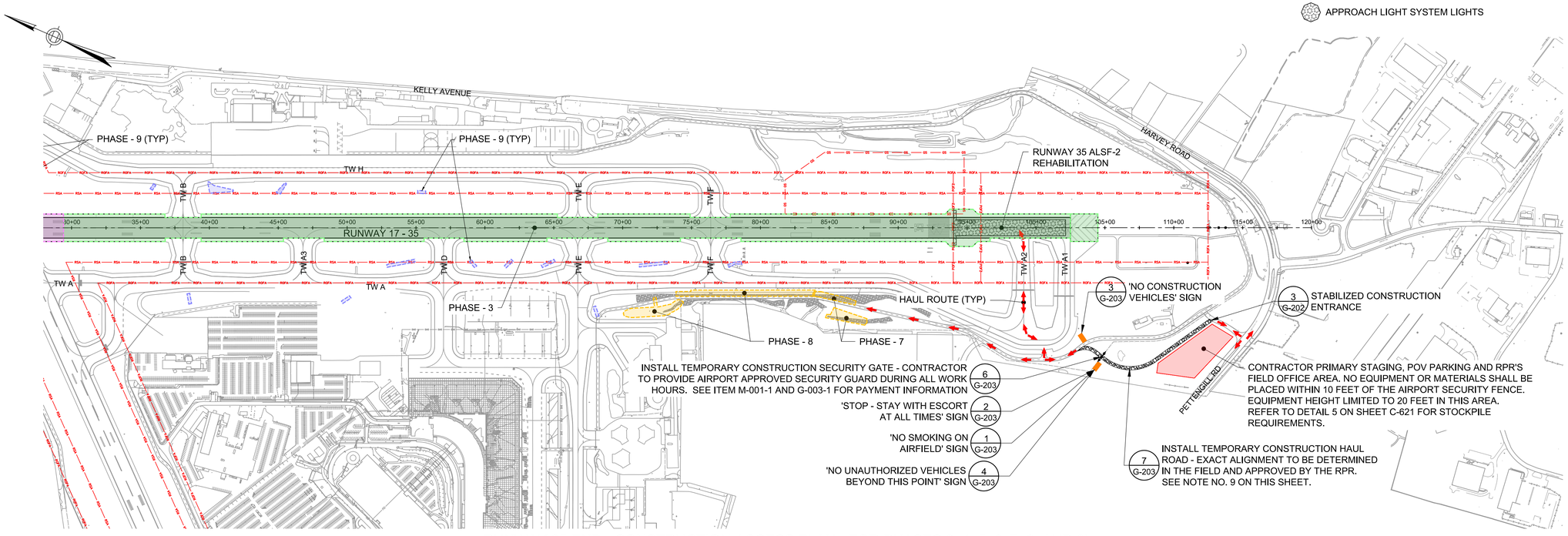
7. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO AFFORD COMPLETE UNRESTRICTED ACCESS BY EMERGENCY PERSONNEL AND EQUIPMENT AT ALL TIMES.

8. THE CONTRACTOR MUST MAINTAIN SECURITY FOR THE AIRPORT AT ALL TIMES. THE PERIMETER SECURITY FENCE MUST REMAIN CONTINUOUS AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.

9. THE CONTRACTOR MUST INSTALL AND MAINTAIN A SILT FENCE ON THE DOWNGRADIENT SIDE OF THE TEMPORARY CONSTRUCTION HAUL ROAD. THE CONTRACTOR MUST INSTALL AND MAINTAIN EROSION SOCK INLET PROTECTORS AT ALL DOWNGRADIENT INLETS ADJACENT TO THE TEMPORARY CONSTRUCTION HAUL ROAD. SEE SHEET C-621 FOR CORRESPONDING DETAILS.

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE



RUNWAY 35 END - CONSTRUCTION ACCESS PLAN - FOR PHASES 3, 4, 5, 6, 7, 8, AND 9)

HORIZONTAL SCALE
1"=400'
400 0 200 400 800

PROJECT DESIGNER: Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CONSTRUCTION ACCESS PLAN AND NOTES

REV. NO.	DATE	DESCRIPTION	BY

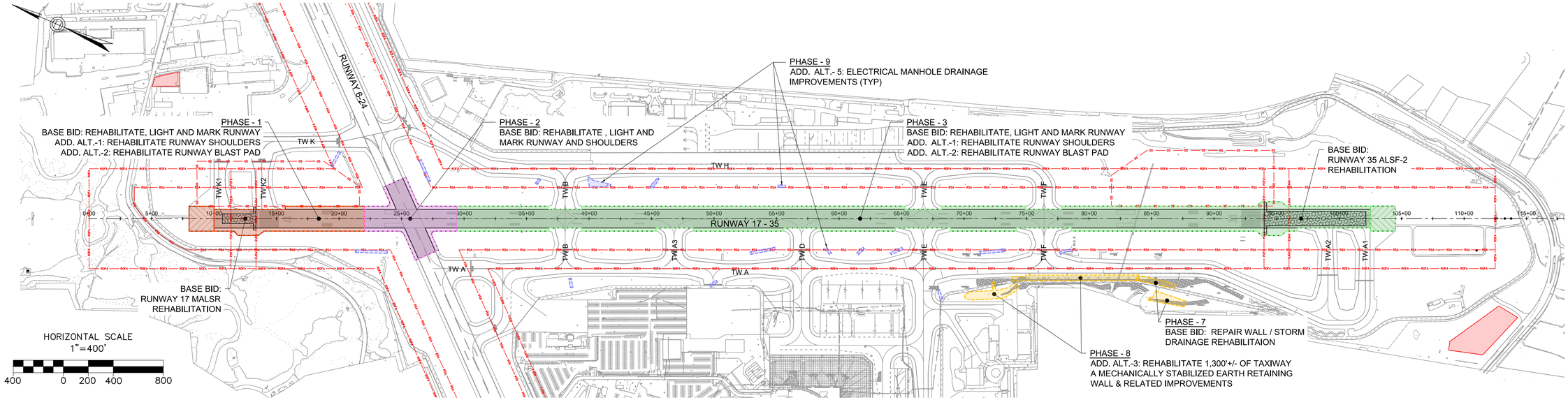
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-004
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\20211E2X89205 - MHT RW 17-35\700 CADD\G004 - Construction Access Plan and Notes.dwg [G-004] March 08, 2022 - 4:33pm [damorelli]



GENERAL CONSTRUCTION SAFETY AND PHASING PLAN

RUNWAY SAFETY AREA (RSA) AND TAXIWAY OBJECT FREE AREA (TOFA) NOTES:

1. THE RUNWAY SAFETY AREA (RSA) IS A DEFINED SURFACE SURROUNDING THE RUNWAY. THE RSA WIDTH IS 500 FEET AND THE ROFA WIDTH IS 800 FEET, CENTERED ON THE RUNWAY CENTERLINE. THE RSA EXTENDS BEYOND THE END OF THE RUNWAY. WORK WITHIN THE RSA SHALL BE COMPLETED WHEN THE RUNWAY IS CLOSED.

2. THE TAXIWAY OBJECT FREE AREA (TOFA) IS A DEFINED SURFACE SURROUNDING THE TAXIWAY. THE TOFA WIDTH IS 259 FEET, CENTERED ON THE TAXIWAY CENTERLINE. WORK WITHIN THE TOFA SHALL BE COMPLETED WHEN THE TAXIWAY IS CLOSED.

3. AT THE END OF EACH WORK SHIFT, PRIOR TO ANY AIRPORT MOVEMENT AREA RE-OPENING TO AIRCRAFT, THE ROFA AND TOFA SHALL BE:

   A. CLEARED AND GRADED AND HAVE NO RUTS, HUMPS, DEPRESSIONS, OR OTHER SURFACE VARIATIONS.

   B. DRAINED BY GRADING OR OTHER TEMPORARY MEASURES TO PREVENT WATER ACCUMULATION.

   C. CAPABLE, UNDER DRY CONDITIONS, OF SUPPORTING AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) EQUIPMENT, AND THE OCCASIONAL PASSAGE OF AN AIRCRAFT WITHOUT CAUSING STRUCTURAL DAMAGE TO THE AIRCRAFT.

   D. FREE OF OBJECTS, EXCEPT FOR OBJECTS THAT NEED TO BE IN THE TOFA DUE TO THEIR FUNCTION. IN NO CASE SHALL ANY OBJECTS EXCEED 3 INCHES ABOVE GRADE.

   E. SHOULDER TRANSVERSE GRADES AND THE FIRST 10 FEET OUTSIDE THE SHOULDER SHALL BE A MAXIMUM OF MINUS 5%. OUTSIDE OF THE FIRST 10 FEET OF THE SHOULDER SHALL BE A MAXIMUM OF MINUS 3%. TRANSITIONS BETWEEN DIFFERENT GRADIENTS SHALL BE WARPED SMOOTHLY.

   F. ANY STRUCTURES AND/OR DROP-OFFS IN EXCESS OF 3" SHALL BE RAMPED PRIOR TO THE END OF EACH WORK SHIFT. TEMPORARY RAMPING SHALL BE GRADED AS STATED IN NOTE E.

GENERAL CONSTRUCTION SAFETY AND PHASING NOTES:

1. THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND RPR A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) FOR APPROVAL. THE SPCD SHALL BE PREPARED IN ACCORDANCE WITH THE FAA APPROVED CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) INCLUDED IN THE CONTRACT SPECIFICATIONS. THE SPCD SHALL INCLUDE A WRITTEN METHOD OF OPERATIONS THAT DETAIL THE PRECAUTIONS PROPOSED FOR THE CONTROL OF VEHICLE TRAFFIC INCLUDING SIGNS, ESCORTS AND ANY OTHER MEASURES PROPOSED. THE CONTRACTOR SHALL FOLLOW THE APPROVED PLAN EXPLICITLY AFTER APPROVAL. THE OWNER MAY CLOSE THE WORK AT ANY TIME THE APPROVED PLAN IS VIOLATED SO AS NOT TO ENDANGER THE AIRPORT OR AIRCRAFT OPERATIONS. SUCH A CLOSURE SHALL NOT BE CONSIDERED A VALID REASON FOR EXTENDING THE CONTRACT TIME OR ANY CLAIM FOR EXTRAS BY THE CONTRACTOR. REFER TO ADVISORY CIRCULAR A/C NO. 150/5370-2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" FOR AIRFIELD CONSTRUCTION SAFETY REQUIREMENTS.
2. NO CONSTRUCTION MAY OCCUR WITHIN THE RUNWAY SAFETY AREA (RSA) AND TAXIWAY SAFETY AREA (TSA) WHILE RUNWAY 17-35, RUNWAY 6-24, AND TAXIWAYS ARE OPEN FOR AIRCRAFT OPERATIONS.
3. AT THE END OF EACH WORK PERIOD, THE TAXIWAYS WILL BE OPENED TO AIRCRAFT TRAFFIC UNLESS OTHERWISE NOTED IN THE PLANS.
4. THE CONTRACTOR SHALL ENSURE ADEQUATE TIME FOR THE ASPHALT MAT TO COOL AS STATED IN THIS PARAGRAPH TO ACCEPT AIRCRAFT TRAFFIC UPON OPENING. THE POTENTIAL FOR AIRCRAFT TRAFFIC TO CAUSE RUTTING OF THE NEWLY PLACED MAT IS A FUNCTION OF THE STABILITY OF THE MIX, WHICH VARIES WITH MAT SURFACE TEMPERATURE, MAT THICKNESS, AND ASPHALT CONTENT. AIRCRAFT TRAFFIC SHOULD NOT BE ALLOWED ON NEWLY PLACED MAT UNTIL IT COOLS TO 140 DEGREES F.
5. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO THE START OF ANY CONSTRUCTION.
6. THE CONTRACTOR SHALL COMPLETE ALL WORK ASSOCIATED WITH THIS PROJECT IN ALL PHASES WITHIN 99 CONSECUTIVE CALENDAR DAYS FROM ISSUANCE OF NOTICE TO PROCEED CONSTRUCTION. THE ANTICIPATED NOTICE TO PROCEED CONSTRUCTION IS APRIL 2023.
7. THE CONTRACTOR MUST SUBMIT A PAVING PLAN FOR APPROVAL BY THE RPR PRIOR TO BEGINNING ANY PAVING OPERATIONS.
8. THE CONTRACTOR MUST PLACE LOW PROFILE BARRICADES AND REQUIRED CONSTRUCTION SIGNS PRIOR TO EACH PHASE. MAINTAIN AND REMOVE THEM AT THE END OF EACH PHASE ACCORDINGLY UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR MUST INSTALL 'CONSTRUCTION AHEAD' SIGNS AT THE LOCATIONS SHOWN ON THE PHASING PLANS PRIOR TO ANY CONSTRUCTION ACTIVITIES. REFER TO THE G-200 SERIES FOR ALL CONSTRUCTION SAFETY DETAILS FOR 'CONSTRUCTION AHEAD' SIGN DETAIL. ALL CONSTRUCTION SIGNS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
10. AFTER EACH CONSTRUCTION PHASE, A PRE-OPENING INSPECTION IS REQUIRED AND WILL BE PERFORMED WITH THE CONTRACTOR, AIRPORT OPERATIONS, AND THE RPR. THIS INSPECTION IS TO ENSURE THAT ALL FAA STANDARDS ARE MET BEFORE THE RE-OPENING OF ANY RUNWAY, TAXIWAY, AND MOVEMENT AREA. ALL AREAS MUST BE CLEAR OF FOREIGN OBJECT DEBRIS (FOD). THE CONTRACTOR SHALL FOLLOW STANDARDS IN FAA AC 150/5370-2G, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION AND FAA AC 150/5370-13A, OFF-PEAK CONSTRUCTION OF AIRORT PAVEMENTS USING HOT-MIX ASPHALT. REFER TO RSA AND TOFA NOTES FOR REOPENING REQUIREMENTS.
11. THE CONTRACTOR SHALL APPLY THE PERMANENT PAVEMENT MARKINGS THIRTY DAYS AFTER THE COMPLETION OF THE PAVEMENT CONSTRUCTION. THE PAVEMENT SURFACE MUST BE PREPARED PRIOR TO PAVEMENT MARKING APPLICATION AS STATED IN THE P-620 SPECIFICATION. THE TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED IN ONE 50% APPLICATION COAT. THE PERMANENT PAVEMENT MARKINGS APPLICATION WILL USE A 100% APPLICATION RATE. THE TWO APPLICATIONS OF PAINT WILL BE PAID FOR ONCE UNDER THE ASSOCIATED PAY ITEMS.
12. THE CONTRACTOR MUST MAINTAIN SECURITY FOR THE AIRPORT AT ALL TIMES. THE PERIMETER SECURITY FENCE MUST REMAIN CONTINUOUS AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.

LEGEND

- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- POFZ — PRECISION OBSTACLE FREE ZONE
- GS — GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONTRACTOR STAGING AREA

PHASE	GENERAL PHASE CONSTRCUTION DESCRIPTION	PLAN LEGEND	DURATION CALENDAR DAYS	RUNWAY IMPACTS: RUNWAY 17 - 35 STATUS	RUNWAY 17 - 35 ILS	RUNWAY 6 - 24 STATUS	RUNWAY 6 - 24 ILS	CONSTRUCTION SCHEDULE - MONTHS: 1	2	3	4	5	6
1	RUNWAY 17 END REHABILITATION / RUNWAY 17 MALSR REHABILITATION		14	CLOSED	OFF	OPEN	ON				RUNWAY PAVEMENT CURING TIME WORK STOPAGE		
2	RUNWAY/RUNWAY INTERSECTION REHABILITATION		7	TEMPORARY RUNWAY	OFF	CLOSED	OFF						
3	REMAINING RUNWAY REHABILITATION / RUNWAY 35 ALSF-2 REHABILITATION		62	CLOSED	OFF	OPEN	ON						
4	TEMPORARY PAVEMENT MARKING OPERATIONS		3 NIGHT WORK	CLOSED	OFF	OPEN	ON						
RUNWAY 17-35 RE-OPENED / RUNWAY FLIGHT CHECK													
5	RUNWAY GROOVING OPERATIONS		10 NIGHT WORK	CLOSED DURING THE WORK SHIFT	OFF	OPEN	ON						
6	FINAL PAVEMENT MARKING OPERATIONS		3 NIGHT WORK	CLOSED DURING THE WORK SHIFT	OFF	OPEN	ON						
7	BASE BID REATINING WALL REHABILITAION WORK		21	CLOSED	OFF	OPEN	ON						
8	ADD. ALT.-3 RETAINING WALL REHABILITATION / DRAINAGE IMPROVEMENTS		65	CLOSED	OFF	OPEN	ON						

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

GENERAL CONSTRUCTION SAFETY AND PHASING PLAN AND NOTES

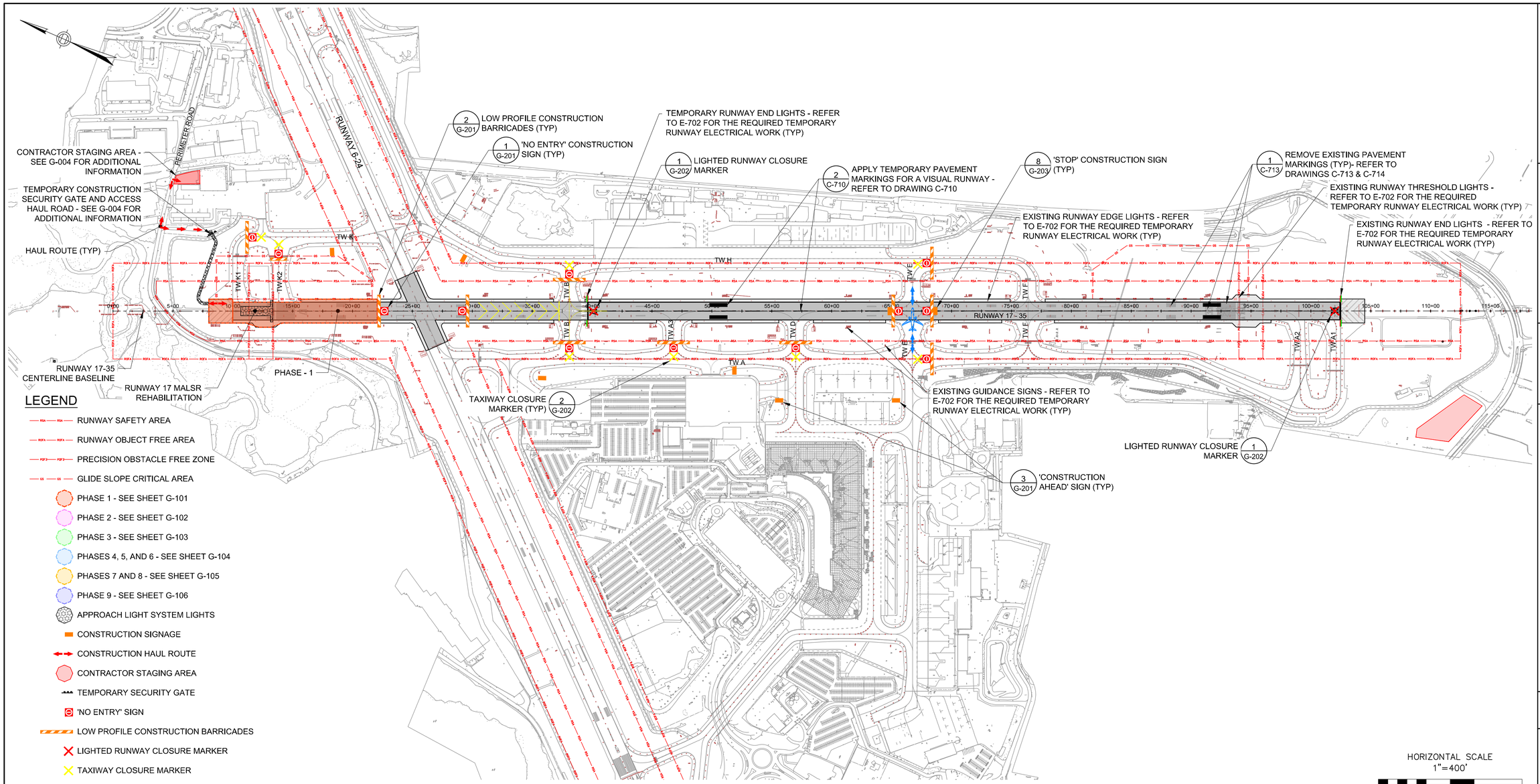
REVISIONS
REV. NO. | DATE | DESCRIPTION | BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-100
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\nhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\G100 - General Safety and Phasing Plan and Notes.dwg [G-100] March 08, 2022 - 4:13pm [damorelli]



LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE
- 'NO ENTRY' SIGN
- LOW PROFILE CONSTRUCTION BARRICADES
- LIGHTED RUNWAY CLOSURE MARKER
- TAXIWAY CLOSURE MARKER
- TEMPORARY RUNWAY END LIGHTS
- TAXI ROUTE

PHASE 1 CONSTRUCTION SAFETY AND PHASING PLAN

HORIZONTAL SCALE
1"=400'
400 0 200 400 800

PHASE 1 NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **14** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE WILL BE BROKEN INTO TWO SUB-PHASES THAT MAY RUN CONCURRENTLY. THE SUB-PHASES AND INDEPENDENT DURATIONS ARE AS FOLLOWS:
   - 2.1. PHASE 1A WILL CONSIST OF ALL THE REQUIRED WORK TO SET-UP THE TEMPORARY RUNWAY. DURING THIS PHASE RUNWAY 6-24 WILL BE OPEN AND WILL REQUIRE A 2 HOUR PPR FOR ANY WORK WITHIN THE RUNWAY SAFETY AREA. DURING THIS PHASE TAXIWAY E WILL BE UTILIZED FOR THE AIRPORT OPERATIONS OF CROSSING RUNWAY 17-35 AND MUST HAVE ALL THE NECESSARY SIGNS AND BARRICADES IN PLACE AT ALL TIMES. ANY ASSOCIATED WORK WITHIN THIS AREA WILL REQUIRE A 2 HOUR PPR. THE CONTRACTOR MUST START THIS SUB-PHASE UPON THE COMMENCEMENT OF THE PHASE AND COMPLETE THIS SUB-PHASE WITHIN **3** CONSECUTIVE CALENDAR DAYS.
   - 2.2. PHASE 1B WILL CONSIST OF ALL THE REQUIRED WORK WITHIN THE PHASE 1 LIMITS SHOWN ON THE PLANS. THE CONTRACTOR MUST COMPLETE THIS SUB-PHASE WITHIN **14** CONSECUTIVE CALENDAR DAYS.
3. THIS PHASE MUST BE COMPLETED PRIOR TO THE START OF ALL OTHER CONSTRUCTION PHASES. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES.
4. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH THE AIRPORT OPERATIONS DURING HAULING ACTIVITIES.
5. DURING THIS CONSTRUCTION PHASE, RUNWAY 6-24 WILL REMAIN OPEN. WORK WITHIN THE RSA OF RUNWAY 6-24 WILL REQUIRE COORDINATION WITH THE AIRPORT AND HAVE AN ASSOCIATED 2 HOUR PPR. THE CONTRACTOR MUST HAVE THE MATERIALS, EQUIPMENT AND MANPOWER TO CLEAN UP AND CLEAR THE RUNWAY SAFETY AREA TO SATISFY A 2 HOUR PPR AT ANY TIME DURING WORK WITHIN THE RSA.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CLOSURES:
   - RUNWAY 17-35 CLOSED
   - TAXIWAY K1 AND K2 CLOSED
   - TAXIWAY A CLOSED FROM TAXIWAY E TO TAXIWAY A1
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED
   - TAXIWAY H CLOSED FROM TAXIWAY E TO RUNWAY 17-35
   - TAXIWAY D CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY A3 CLOSED
   - TAXIWAY B CLOSED

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO SHEET G-200 SERIES FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES 24 HOURS A DAY.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.
7. THE RUNWAY 17-35 CENTERLINE LIGHTS AND TOUCHDOWN ZONE LIGHTS WILL NOT BE IN USE FOR THE TEMPORARY RUNWAY. REFER TO THE ELECTRICAL E-700 SERIES OF DRAWINGS FOR ADDITIONAL INFORMATION.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   - A. INSTALLATION OF A TEMPORARY SECURITY GATE IN THE EXISTING SECURITY FENCE TO ALLOW ACCESS TO THE PHASE 1 AND PHASE 2 WORK AREAS
   - B. CONSTRUCTION OF THE REQUIRED TEMPORARY ACCESS HAUL ROAD
   - C. INSTALLATION OF BARRICADES, 'NO ENTRY' SIGN, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   - D. SET UP THE REQUIRED LIGHTED RUNWAY CLOSURE MARKERS FOR RUNWAY 17-35
   - E. SET UP OF THE THE TEMPORARY RUNWAY 17-35
   - F. REMOVE EXISTING LIGHTS AND PLATE EXISTING EXTENSIONS
   - G. EXISTING PAVEMENT MILLING OPERATIONS
   - H. CRACK REPAIRS OF THE EXISTING MILLED SURFACE
   - I. REMOVE EXISTING BASE CAN EXTENSIONS TO BELOW GRADE AND PLATE
   - J. PAVING OPERATIONS FOR THE RUNWAY BASE COURSE
   - K. CORE / INSTALL NEW RISERS AND PLATE / CONCRETE
   - L. PAVING OPERATIONS FOR THE RUNWAY SURFACE COURSE
   - M. SAW AND SEAL REQUIRED PAVEMENT JOINTS
   - N. CORE / INSTALL FINAL RISERS AND EXISTING LIGHTS / GROUT AND SEAL
   - O. INSTALL RWIS PAVEMENT SENSORS AND CABLING

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781 890-1460
FAX: 8633 666-7785

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PHASE 1 CONSTRUCTION SAFETY AND PHASING PLAN AND NOTES

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-101
REV

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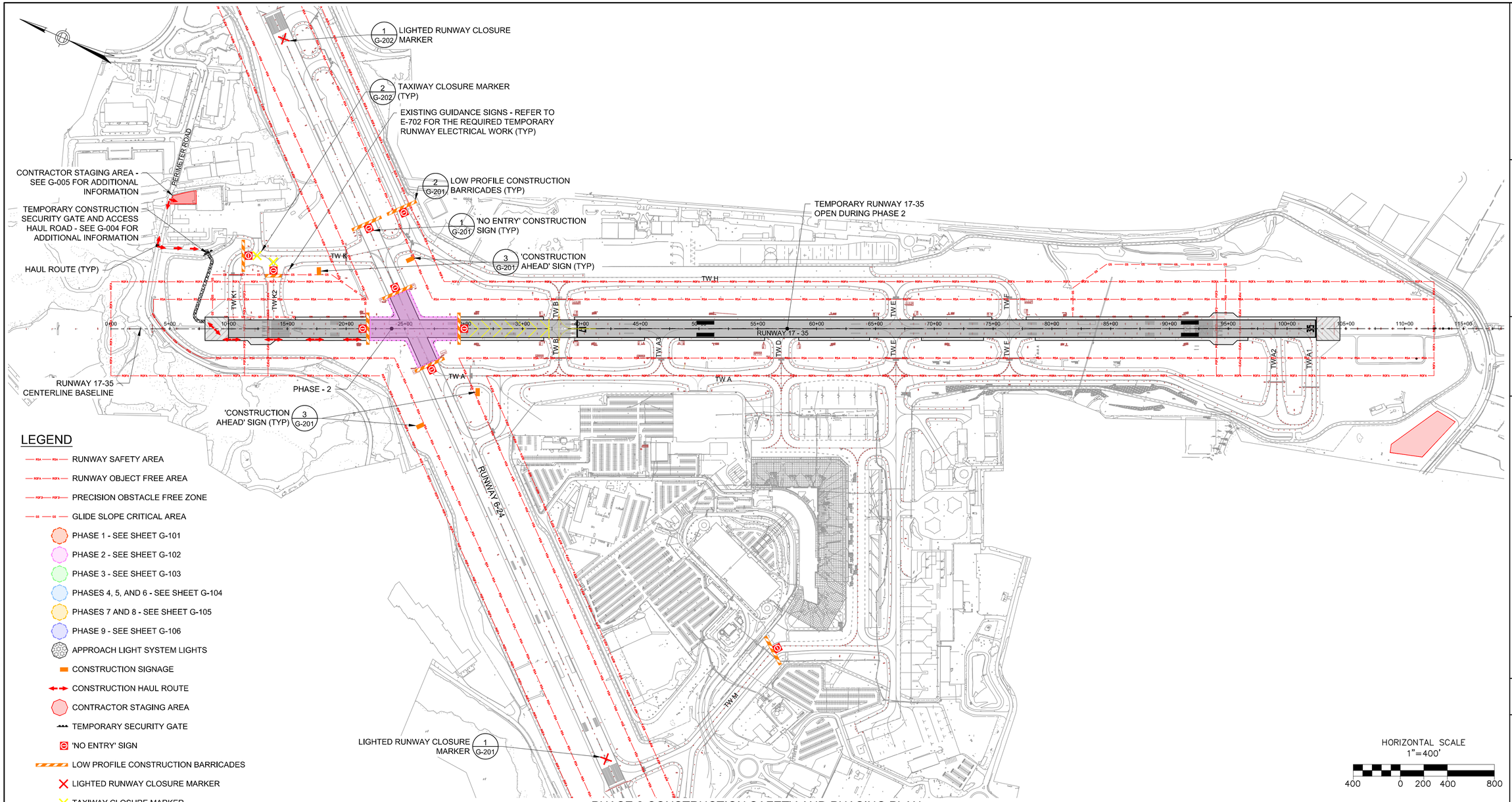
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G101 - Phase 1 CSPP.dwg [G-101] March 10, 2022 - 1:39pm [sagri]



LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE
- 'NO ENTRY' SIGN
- LOW PROFILE CONSTRUCTION BARRICADES
- LIGHTED RUNWAY CLOSURE MARKER
- TAXIWAY CLOSURE MARKER
- TEMPORARY RUNWAY END LIGHTS

HORIZONTAL SCALE
1"=400'
400 0 200 400 800

PHASE 2 CONSTRUCTION SAFETY AND PHASING PLAN

PHASE 2 NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN 7 CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES.
3. WORK ACTIVITIES FOR THIS PHASE MAY OCCUR 24 HOURS PER DAY. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS DURING HAULING ACTIVITIES.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CHANGES:
   - TEMPORARY RUNWAY 17-35 IN USE
2. MOVEMENT AREA CLOSURES:
   - RUNWAY 6-24 CLOSED
   - TAXIWAY K1 AND K2 CLOSED
   - TAXIWAY J CLOSED
   - TAXIWAY M CLOSED

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES 24 HOURS A DAY.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.

MAJOR WORK ITEMS

FOLLOWING:

A. INSTALLATION OF BARRICADES, 'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
B. SET UP THE REQUIRED LIGHTED RUNWAY CLOSURE MARKERS FOR RUNWAY 6-24
C. REMOVE EXISTING LIGHTS AND PLATE EXISTING EXTENSIONS
D. EXISTING PAVEMENT MILLING OPERATIONS
E. CRACK REPAIRS OF THE EXISTING MILLED SURFACE
F. REMOVE EXISTING BASE CAN EXTENSIONS TO BELOW GRADE AND PLATE
G. PAVING OPERATIONS FOR THE RUNWAY BASE COURSE
H. CORE / INSTALL NEW RISERS AND PLATE / CONCRETE
I. PAVING OPERATIONS FOR THE RUNWAY SURFACE COURSE
J. SAW AND SEAL REQUIRED PAVEMENT JOINTS
K. CORE / INSTALL FINAL RISERS AND EXISTING LIGHTS / GROUT AND SEAL
L. TEMPORARY PAVEMENT MARKING OPERATIONS FOR RUNWAY 6-24
M. INSTALL RWIS PAVEMENT SENSORS AND CABLING

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617 666-7781
FAX: 8633 666-7835

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PHASE 2 CONSTRUCTION SAFETY AND PHASING PLAN AND NOTES

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-102
REV

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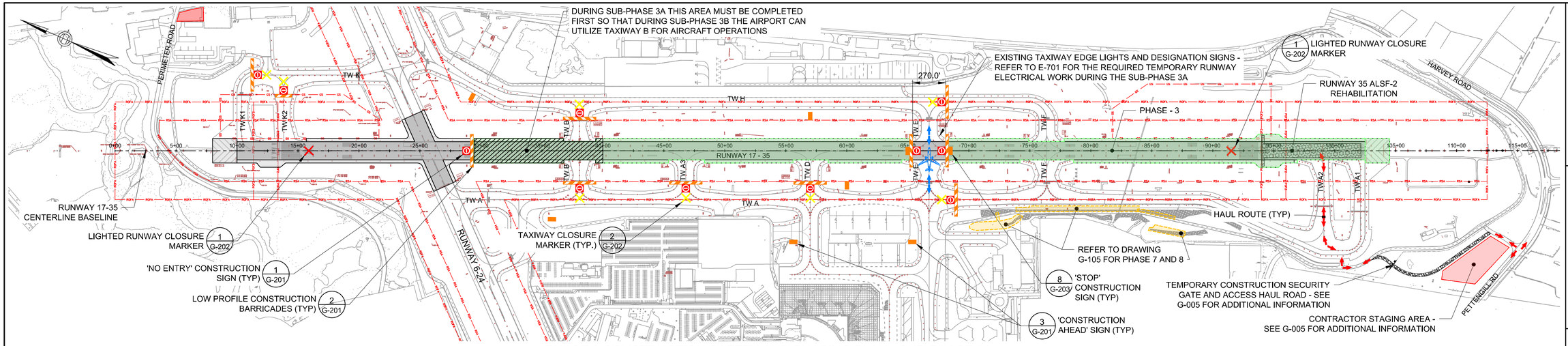
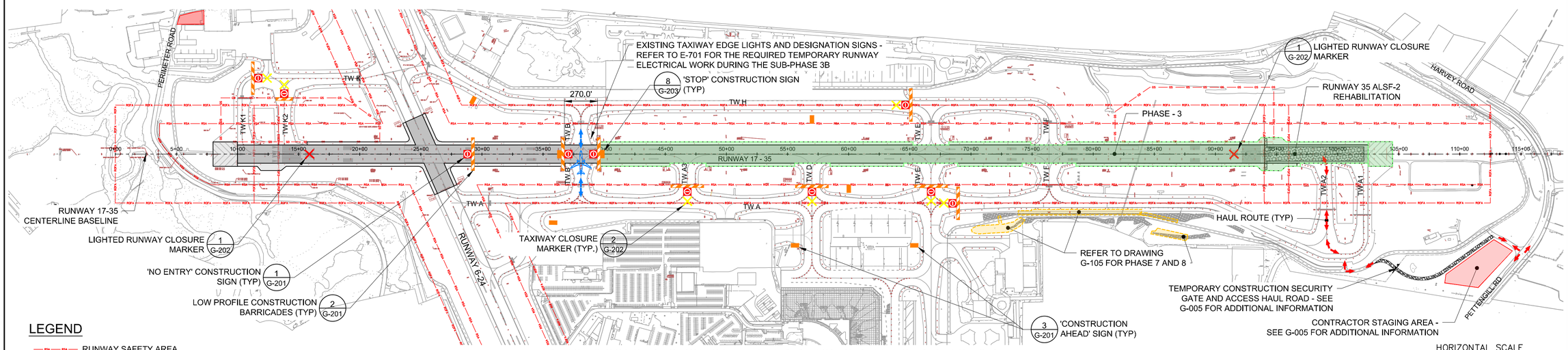


PHASE 3 CONSTRUCTION SAFETY AND PHASING PLAN - SUB-PHASE 3A



PHASE 3 CONSTRUCTION SAFETY AND PHASING PLAN - SUB-PHASE 3 B

HORIZONTAL SCALE
1"=400'
400 0 200 400 800

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE
- 'NO ENTRY' SIGN
- LOW PROFILE CONSTRUCTION BARRICADES
- LIGHTED RUNWAY CLOSURE MARKER
- TAXIWAY CLOSURE MARKER
- TEMPORARY STAKE MOUNTED RUNWAY END LIGHTS
- TAXI ROUTE

PHASE 3 NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **62** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES.
3. THIS PHASE WILL BE BROKEN INTO TWO SUB-PHASES THAT MUST RUN INDEPENDENTLY. THE TWO SUB-PHASES ARE INTENDED TO PROVIDE THE AIRPORT WITH AN AIRPORT OPERATIONS CROSSING OF RUNWAY 17-35 DURING THE CONSTRUCTION OF PHASE 3. THE TWO SUB-PHASES ARE AS FOLLOWS:

   3.1. PHASE 3 A WILL CONSIST OF ALL THE REQUIRED WORK WITHIN THE PHASE 3 LIMITS EXCEPT FOR THE 270' WIDE ACTIVE MOVEMENT AREA AT THE TAXIWAY ECHO RUNWAY CROSSING. DURING THIS SUB-PHASE TAXIWAY E WILL BE UTILIZED FOR THE AIRPORT OPERATIONS OF CROSSING RUNWAY 17-35 AND MUST HAVE ALL THE NECESSARY SIGNS AND BARRICADES IN PLACE AT ALL TIMES. DURING THIS SUB-PHASE THE CONTRACTOR MUST COMPLETE THE NORTHERN PORTION IDENTIFIED ON THE PLANS FIRST TO ALLOW THE PROPER SET-UP FOR THE FOLLOWING SUB-PHASE.

   3.2. PHASE 3 B WILL CONSIST OF ALL THE REQUIRED WORK WITHIN THE PHASE 3 LIMITS EXCEPT FOR THE 270' WIDE ACTIVE MOVEMENT AREA AT THE TAXIWAY BRAVO RUNWAY CROSSING. DURING THIS SUB-PHASE TAXIWAY B WILL BE UTILIZED FOR THE AIRPORT OPERATIONS OF CROSSING RUNWAY 17-35 AND MUST HAVE ALL THE NECESSARY SIGNS AND BARRICADES IN PLACE AT ALL TIMES.

4. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS DURING HAULING ACTIVITIES.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CLOSURES:
   - RUNWAY 17-35 CLOSED
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED
   - TAXIWAY H CLOSED FROM TAXIWAY E TO RUNWAY 17-35
   - TAXIWAY D CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY A3 CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED (DURING SUB-PHASE 3 B)
   - TAXIWAY B CLOSED (DURING SUB-PHASE 3 A)
   - TAXIWAYS K1 AND K2 CLOSED

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES 24 HOURS A DAY.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES,'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. SET UP THE REQUIRED LIGHTED RUNWAY CLOSURE MARKERS FOR RUNWAY 17-35
   C. REMOVE EXISTING LIGHTS AND PLATE EXISTING EXTENSIONS
   D. EXISTING PAVEMENT MILLING OPERATIONS
   E. CRACK REPAIRS OF THE EXISTING MILLED SURFACE
   F. REMOVE EXISTING BASE CAN EXTENSIONS TO BELOW GRADE AND PLATE
   G. PAVING OPERATIONS FOR THE RUNWAY BASE COURSE
   H. CORE / INSTALL NEW RISERS AND PLATE / CONCRETE
   I. PAVING OPERATIONS FOR THE RUNWAY SURFACE COURSE
   J. SAW AND SEAL REQUIRED PAVEMENT JOINTS
   K. CORE / INSTALL FINAL RISERS AND EXISTING LIGHTS / GROUT AND SEAL
   L. INSTALL RWIS PAVEMENT SENSORS AND CABLING
   M. UPGRADE AND TEST RWIS RPU'S (ALL LOCATIONS)

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781-687-7800
FAX: 781-687-7801

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PHASE 3 CONSTRUCTION SAFETY AND PHASING PLAN AND NOTES

REV. NO.	DATE	DESCRIPTION	BY

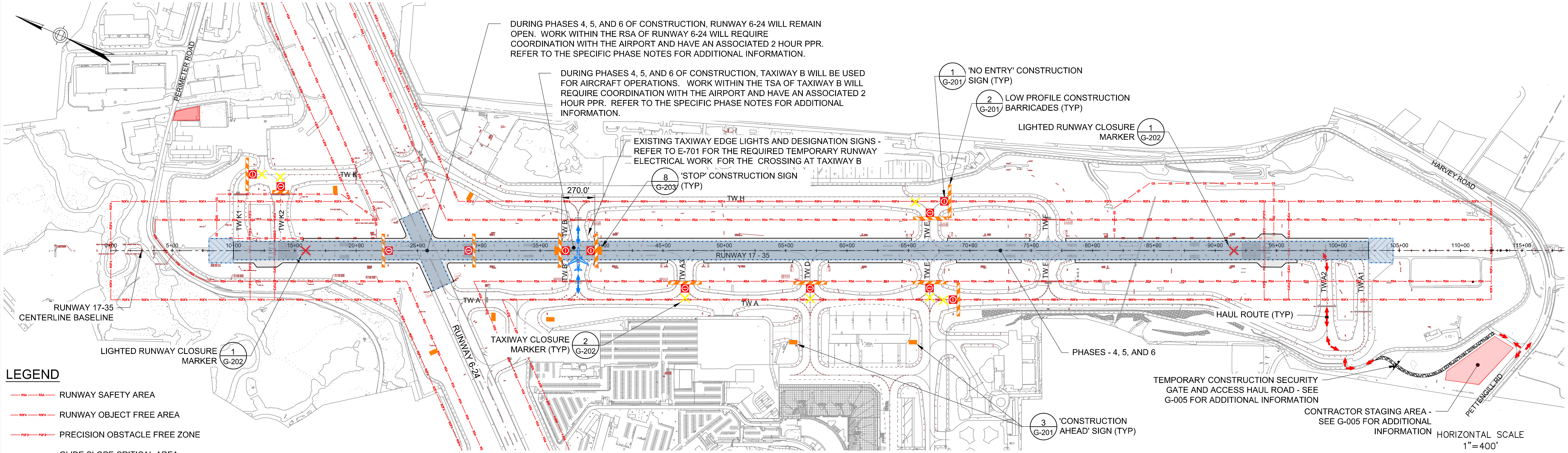
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-103
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G103 - Phase 3 CSPP.dwg [G-103] March 10, 2022 - 1:34pm [sagri]



PHASE 4, 5, AND 6 CONSTRUCTION SAFETY AND PHASING PLAN

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE
- 'NO ENTRY' SIGN
- LOW PROFILE CONSTRUCTION BARRICADES
- LIGHTED RUNWAY CLOSURE MARKER
- TAXIWAY CLOSURE MARKER
- TEMPORARY RUNWAY END LIGHTS

PHASE 4 (TEMPORARY PAVEMENT MARKINGS) NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **3** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES.
3. WORK ACTIVITIES FOR THIS PHASE MUST OCCUR OVERNIGHT. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS DURING HAULING ACTIVITIES.
4. DURING THIS CONSTRUCTION PHASE, RUNWAY 6-24 WILL REMAIN OPEN. WORK WITHIN THE RSA OF RUNWAY 6-24 WILL REQUIRE COORDINATION WITH THE AIRPORT AND HAVE AN ASSOCIATED 1 HOUR PPR. THE CONTRACTOR MUST HAVE THE MATERIALS, EQUIPMENT AND MANPOWER TO CLEAN UP AND CLEAR THE RUNWAY SAFETY AREA TO SATISFY A 1 HOUR PPR AT ANY TIME DURING WORK WITHIN THE RSA.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CLOSURES:
   - RUNWAY 17-35 CLOSED DURING WORK SHIFT
   - TAXIWAYS K1 AND K2 CLOSED
   - TAXIWAY B CLOSED
   - TAXIWAY A3 CLOSED
   - TAXIWAY D CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED FROM TAXIWAY H TO RUNWAY 17-35
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED
   - TAXIWAY H CLOSED FROM TAXIWAY E TO RUNWAY 17-35

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES DURING THE WORK SHIFT.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES, NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. SET UP THE REQUIRED LIGHTED RUNWAY CLOSURE MARKERS FOR RUNWAY 17-35
   C. TEMPORARY PAVEMENT MARKING OPERATIONS

PHASE 5 (RUNWAY GROOVING OPERATIONS) NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **10** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES.
3. WORK ACTIVITIES FOR THIS PHASE MUST OCCUR OVERNIGHT. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS DURING HAULING ACTIVITIES.
4. DURING THIS CONSTRUCTION PHASE, RUNWAY 6-24 WILL REMAIN OPEN. WORK WITHIN THE RSA OF RUNWAY 6-24 WILL REQUIRE COORDINATION WITH THE AIRPORT AND HAVE AN ASSOCIATED 1 HOUR PPR. THE CONTRACTOR MUST HAVE THE MATERIALS, EQUIPMENT AND MANPOWER TO CLEAN UP AND CLEAR THE RUNWAY SAFETY AREA TO SATISFY A 1 HOUR PPR AT ANY TIME DURING WORK WITHIN THE RSA.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CLOSURES:
   - RUNWAY 17-35 CLOSED DURING WORK SHIFT
   - TAXIWAYS K1 AND K2 CLOSED
   - TAXIWAY B CLOSED
   - TAXIWAY A3 CLOSED
   - TAXIWAY D CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED FROM TAXIWAY H TO RUNWAY 17-35
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED
   - TAXIWAY H CLOSED FROM TAXIWAY E TO RUNWAY 17-35

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES DURING THE WORK SHIFT.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES, 'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. SET UP THE REQUIRED LIGHTED RUNWAY CLOSURE MARKERS FOR RUNWAY 17-35
   C. RUNWAY GROOVING OPERATIONS

PHASE 6 (FINAL PAVEMENT MARKINGS) NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **3** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES AND AFTER PHASE 5 IS COMPLETED.
3. WORK ACTIVITIES FOR THIS PHASE MUST OCCUR OVERNIGHT. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS DURING HAULING ACTIVITIES.
4. DURING THIS CONSTRUCTION PHASE, RUNWAY 6-24 WILL REMAIN OPEN. WORK WITHIN THE RSA OF RUNWAY 6-24 WILL REQUIRE COORDINATION WITH THE AIRPORT AND HAVE AN ASSOCIATED 1 HOUR PPR. THE CONTRACTOR MUST HAVE THE MATERIALS, EQUIPMENT AND MANPOWER TO CLEAN UP AND CLEAR THE RUNWAY SAFETY AREA TO SATISFY A 1 HOUR PPR AT ANY TIME DURING WORK WITHIN THE RSA.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CLOSURES:
   - RUNWAY 17-35 CLOSED DURING WORK SHIFT
   - TAXIWAYS K1 AND K2 CLOSED
   - TAXIWAY B CLOSED
   - TAXIWAY A3 CLOSED
   - TAXIWAY D CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED FROM TAXIWAY H TO RUNWAY 17-35
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED
   - TAXIWAY H CLOSED FROM TAXIWAY E TO RUNWAY 17-35

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES DURING THE WORK SHIFT.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES, 'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. SET UP THE REQUIRED LIGHTED RUNWAY CLOSURE MARKERS FOR RUNWAY 17-35
   C. FINAL PAVEMENT MARKING OPERATIONS

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PHASES 4, 5, AND 6 CONSTRUCTION SAFETY AND PHASING PLAN & NOTES

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-104
REV

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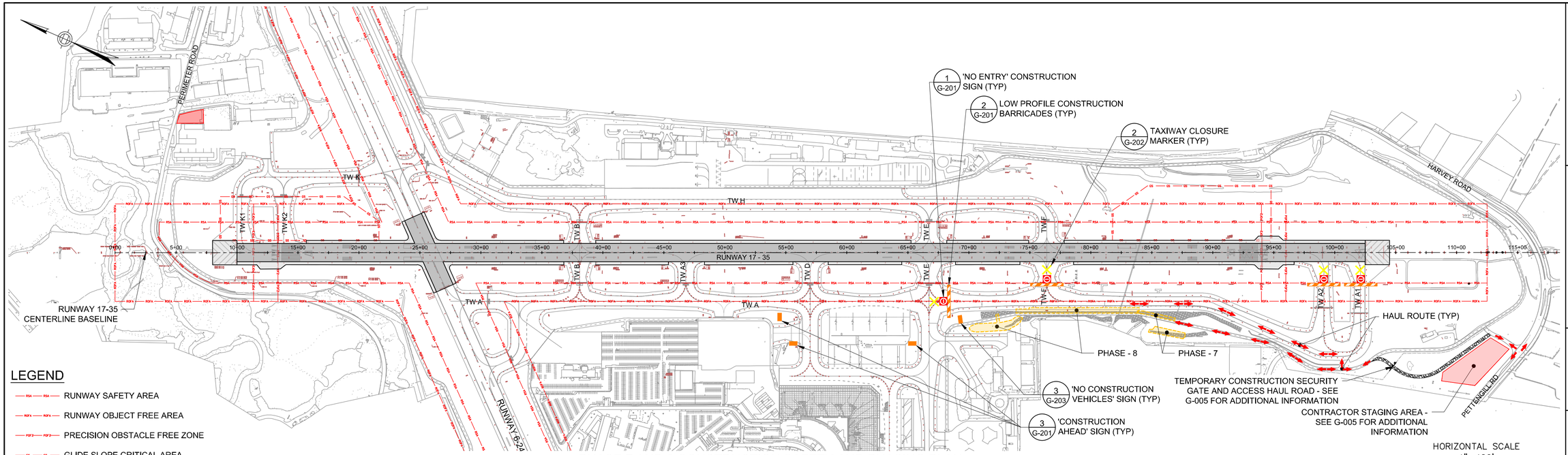
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G104 - Phases 4-5-6 CSPP.dvg [G-104] March 10, 2022 - 1:45pm [sagn]



PHASE 7 AND 8 CONSTRUCTION SAFETY AND PHASING PLAN

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE
- 'NO ENTRY' SIGN
- LOW PROFILE CONSTRUCTION BARRICADES
- LIGHTED RUNWAY CLOSURE MARKER
- TAXIWAY CLOSURE MARKER
- TEMPORARY RUNWAY END LIGHTS

PHASE 7 (BASE BID WALL/RIP-RAP REHABILITATION) NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **21** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN CONCURRENTLY WITH PHASE 3 OF THIS PROJECT.
4. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH THE AIRPORT OPERATIONS DURING HAULING ACTIVITIES.

IMPACTS TO OPERATIONS

1. WORK WITHIN THE TOFA WILL REQUIRE MOVEMENT AREA CLOSURES. MOVEMENT AREA CLOSURES:
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED FROM TAXIWAY A TO RUNWAY 17-35
2. WORK OUTSIDE OF THE TOFA DO NOT REQUIRE THE MOVEMENT ARE CLOSURES.

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES DURING THE WORK SHIFT.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.
7. FOR ADDITIONAL INFORMATION ON THE WORK ASSOCIATED WITH THIS PHASE REFER TO VOLUME 3 OF THIS PROJECT.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES, 'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. RIP-RAP REHABILITATION OPERATIONS
   C. EXISTING MECHANICALLY STABILIZED EARTH WALL REPAIRS

PHASE 8 (ADD. ALT.-3 WALL REHABILITATION / DRAINAGE IMPROVEMENTS NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **65** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN CONCURRENTLY WITH PHASE 3 OF THIS PROJECT.
4. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH THE AIRPORT OPERATIONS DURING HAULING ACTIVITIES.

IMPACTS TO OPERATIONS

1. WORK WITHIN THE TOFA WILL REQUIRE MOVEMENT AREA CLOSURES. MOVEMENT AREA CLOSURES:
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED FROM TAXIWAY A TO RUNWAY 17-35
2. WORK OUTSIDE OF THE TOFA DO NOT REQUIRE THE MOVEMENT ARE CLOSURES.

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES DURING THE WORK SHIFT.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.
7. FOR ADDITIONAL INFORMATION ON THE WORK ASSOCIATED WITH THIS PHASE REFER TO VOLUME 3 OF THIS PROJECT.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES, 'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. STORM DRAINAGE IMPROVEMENTS
   C. EXISTING MECHANICALLY STABILIZED EARTH WALL REPAIRS

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 6633 666-7835

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PHASES 7 AND 8 CONSTRUCTION SAFETY AND PHASING PLAN & NOTES

REVISIONS

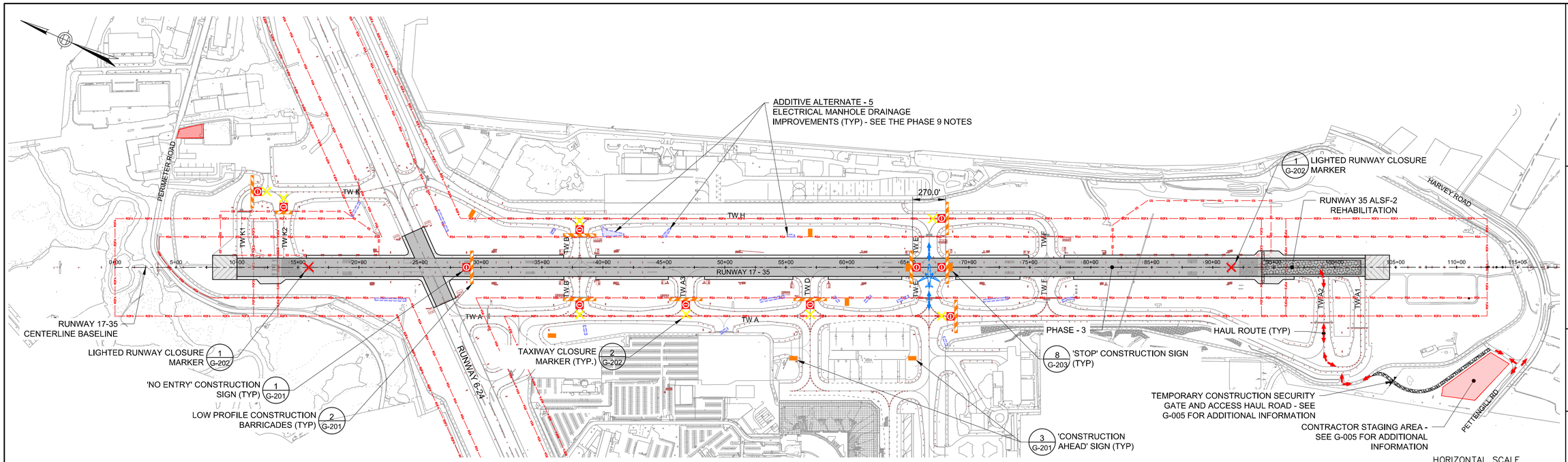
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-105
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G105 - Phases 7-8 CSPP.dwg [G-105] March 10, 2022 - 1:49pm [sagri]



PHASE 9 CONSTRUCTION SAFETY AND PHASING PLAN

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PHASE 1 - SEE SHEET G-101
- PHASE 2 - SEE SHEET G-102
- PHASE 3 - SEE SHEET G-103
- PHASES 4, 5, AND 6 - SEE SHEET G-104
- PHASES 7 AND 8 - SEE SHEET G-105
- PHASE 9 - SEE SHEET G-106
- APPROACH LIGHT SYSTEM LIGHTS
- CONSTRUCTION SIGNAGE
- CONSTRUCTION HAUL ROUTE
- CONTRACTOR STAGING AREA
- TEMPORARY SECURITY GATE
- 'NO ENTRY' SIGN
- LOW PROFILE CONSTRUCTION BARRICADES
- LIGHTED RUNWAY CLOSURE MARKER
- TAXIWAY CLOSURE MARKER
- TEMPORARY STAKE MOUNTED RUNWAY END LIGHTS
- TAXI ROUTE

PHASE 9 NOTES:

SCHEDULE

1. THE CONTRACTOR MUST COMPLETE ALL WORK ASSOCIATED WITH THIS CONSTRUCTION PHASE WITHIN **62** CONSECUTIVE CALENDAR DAYS.
2. THIS PHASE MUST RUN INDEPENDENTLY WITH ALL OTHER CONSTRUCTION PHASES.
3. THE CONTRACTOR MUST COORDINATE ALL ASSOCIATED WORK WITHIN THE AIRPORT PROPERTY LIMITS WITH THE AIRPORT. THE CONTRACTOR MUST COORDINATE WITH AIRPORT OPERATIONS DURING HAULING ACTIVITIES.
4. DURING THIS PHASE THE CONSTRUCTION SAFETY AND PHASING SET-UP FOR PHASE 3 OF CONSTRUCTION WILL BE IN PLACE FOR THE RUNWAY WORK. DURING THE WEEKLY CONSTRUCTION MEETING THE CONTRACTOR MUST PROVIDE A WEEKLY SCHEDULE THAT OUTLINES THE SPECIFIC ELECTRICAL MANHOLES THAT ARE INTENDED TO BE WORKED ON FOR THE FOLLOWING WEEK. DURING THE WEEKLY PROJECT MEETING THE EXACT ACCESS TO THE WORK AREAS WILL BE DISCUSSED SO THAT THE PROPER ESCORTING REQUIREMENTS CAN BE IDENTIFIED AND ESTABLISHED.
5. ANY WORK THAT IS INSIDE THE TOFA OF AN ACTIVE TAXIWAY WILL REQUIRE A MOVEMENT AREA CLOSURE FOR THAT WORK.
6. BARRICADES MUST BE PLACED AROUND EACH ACTIVE WORK AREA. THE EXACT POSITIONS OF THE BARRICADES MUST BE REVIEWED AND APPROVED BY THE RPR.
7. REFER TO THE 600 SERIES OF DRAWINGS FOR THE ELECTRICAL MANHOLE DRAINAGE IMPROVEMENTS.

IMPACTS TO OPERATIONS

1. MOVEMENT AREA CLOSURES:
   - RUNWAY 17-35 CLOSED
   - TAXIWAY A CLOSED FROM TAXIWAY E TO RUNWAY 35 END
   - TAXIWAY A1 AND A2 CLOSED
   - TAXIWAY F CLOSED
   - TAXIWAY H CLOSED FROM TAXIWAY E TO RUNWAY 17-35
   - TAXIWAY D CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY A3 CLOSED FROM TAXIWAY A TO RUNWAY 17-35
   - TAXIWAY E CLOSED (DURING SUB-PHASE 3 B)
   - TAXIWAY B CLOSED (DURING SUB-PHASE 3 A)
   - TAXIWAYS K1 AND K2 CLOSED

GENERAL NOTES

1. SEE SHEET G-100 FOR GENERAL SAFETY AND PHASING NOTES.
2. A 'NO ENTRY' SIGN MUST BE INSTALLED ON THE LOW PROFILE BARRICADES AT THE PAVEMENT LIMITS FOR THE CONSTRUCTION PHASE. REFER TO THE G-200 SERIES OF DRAWINGS FOR 'NO ENTRY' SIGN DETAIL AND INSTALLATION REQUIREMENTS.
3. WHILE THE CONSTRUCTION AREA IS CLOSED FOR THIS PHASE, THE BARRICADES AND 'NO ENTRY' SIGN MUST REMAIN IN POSITION IN THE PROPER LOCATION AT ALL TIMES 24 HOURS A DAY.
4. REFER TO RSA AND TOFA NOTES ON SHEET G-100 FOR THE MOVEMENT AREA REOPENING REQUIREMENTS.
5. ALL CONSTRUCTION BARRICADES, CONSTRUCTION SIGNS, AND LIGHTED RUNWAY CLOSURE MARKERS SHALL BE INCIDENTAL TO G-004-1 MAINTENANCE AND PROTECTION OF TRAFFIC.
6. THE CONTRACTOR MUST BLANK OUT EXISTING GUIDANCE SIGNS DURING THIS PHASE. REFER TO DRAWING E-710 FOR THE SIGNS TO BE BLANKED OUT AND THE REQUIREMENTS FOR THIS WORK.

MAJOR WORK ITEMS

1. MAJOR WORK ELEMENTS IN THIS PHASE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
   A. INSTALLATION OF BARRICADES,'NO ENTRY' SIGNS, AND TAXIWAY CLOSURE MARKERS AS SHOWN ON THIS SHEET
   B. INSTALL REQUIRED SEDIMENT AND EROSION CONTROL MEASURES
   C. CONDUCT THE ELECTRICAL MANHOLE DRAINAGE IMPROVEMENTS
   D. TOPSOIL AND SEED DISTURBED AREAS

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781-890-1460
FAX: 781-890-7781
FAX: 508/33 666-7835

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PHASE 9 CONSTRUCTION SAFETY AND PHASING PLAN AND NOTES

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205
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G-106
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Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\G106 - Phase 9 CSPP.dwg [G-106] March 10, 2022 - 1:57pm [sagri]

'NO ENTRY' SIGN DIMENSIONS:

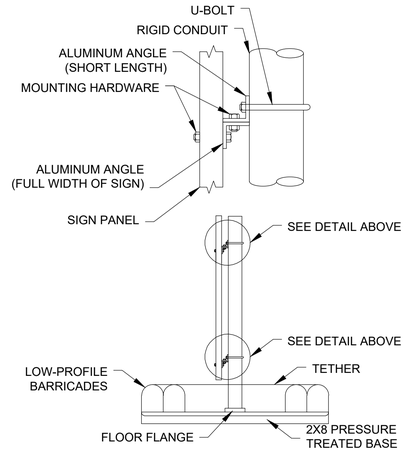
1. MINIMUM LEGEND PANEL LENGTH = 40.00"
2. OUTER RADIUS = 12.20"
3. INNER RADIUS = 10.00"
4. DASH LENGTH= 15.50"
5. DASH WIDTH= 3.30"

'NO ENTRY' SIGN NOTES:

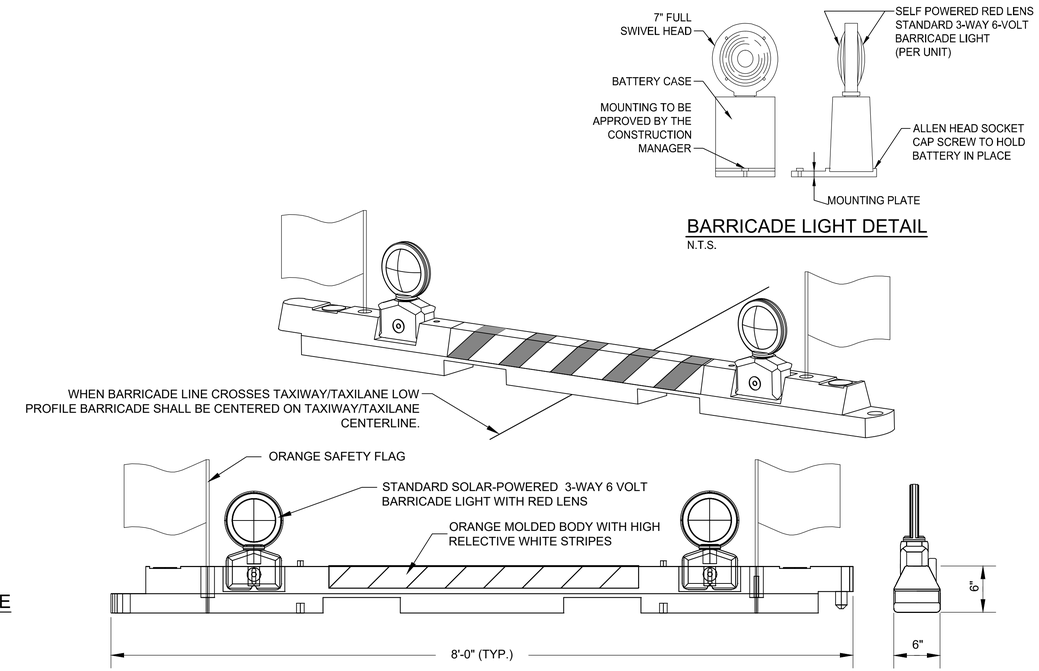
1. THE SYMBOL MUST BE CENTERED WITHIN THE VERTICAL VIEWABLE PANEL AREA.
2. THIS SYMBOL IS A TYPE L-858R LEGEND. ADD ¾" BLACK BORDERS.
3. "NO ENTRY" SIGNS SHALL BE MOUNTED TO THE BARRICADES IN ACCORDANCE WITH ENGINEERING BRIEF 93, GUIDANCE FOR THE ASSEMBLY AND INSTALLATION OF TEMPORARY CONSTRUCTION SIGNS.
4. SIGN PANELS MUST BE CONSTRUCTED OF MATERIALS OF DURABILITY APPROPRIATE FOR THE LENGTH OF TIME THE SIGN IS TO BE USED MEETING THE REQUIREMENTS OF THE MANUFACTURER OF THE RETROREFLECTIVE SHEETING TO BE USED.
5. LETTERING MUST BE APPLIED BY DIRECT APPLIED CHARACTER OR SCREEN PROCESS.
6. BACKGROUND COLOR OF SIGNS MUST BE RED, MEETING THE REQUIREMENTS OF ASTM D 4956, "SPECIFICATION FOR RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL", FOR TYPE III OR TYPE IV SHEETING.
7. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

1 'NO ENTRY' SIGN DETAIL

N.T.S.



'NO ENTRY' SIGN SECURED TO BARRICADE



BARRICADE LIGHT DETAIL

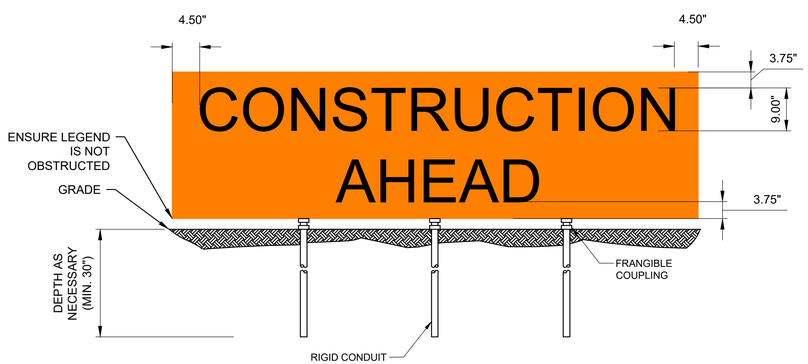
N.T.S.

LOW PROFILE BARRICADE NOTES:

1. MAXIMUM TOTAL HEIGHT OF BARRICADES SHALL NOT BE MORE THAN 18 INCHES.
2. TYPICAL BARRICADE SHALL BE PLACED AS SHOWN ON THE PHASING SHEETS TO DELINEATE THE CONTRACTOR'S WORK AREAS AND CLOSED RUNWAYS /TAXIWAYS /TAXILANES.
3. BARRICADES SHALL EITHER BE WATERFILLED OR WEIGHTED WITH SANDBAGS TO SECURE AGAINST JET BLAST. SANDBAGS SHALL BE A MINIMUM OF 25 LBS.
4. ALL BARRICADES AND SANDBAGS SHALL BE CHECKED VISUALLY FOR SIGNS OF WEAR AND TEAR ON A DAILY BASIS. BARRICADES SHALL BE REPAINTED AND SANDBAGS REPLACED BY THE CONTRACTOR WHEN DEEMED APPROPRIATE BY THE RPR. ALL LIGHT FIXTURES SHALL BE IN GOOD WORKING ORDER AND SHALL BE CHECKED BY THE CONTRACTOR ON A DAILY BASIS BEFORE THE CONTRACTOR CEASES OPERATIONS FOR THE DAY.
5. CAUTION LIGHTS SHALL BE RED IN COLOR AND FLASHING DURING HOURS OF DARKNESS. ALL LOW PROFILE BARRICADES ARE TO BE PLACED CONTINUOUSLY.
8. THE CONTRACTOR MAY SUBSTITUTE AN APPROVED EQUAL LOW PROFILE BARRICADE GENERALLY CONFORMING TO THE ABOVE DETAILS AND CONFORMING TO THE SPECIFICATIONS.
9. COST OF FURNISHING AND MAINTAINING BARRICADES SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

2 LOW-PROFILE BARRICADE DETAIL

N.T.S.

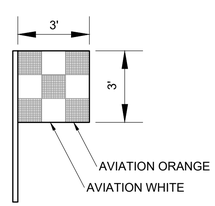


NOTES:

1. SIGN SHALL BE CONSTRUCTED IN ACCORDANCE WITH "ENGINEERING BRIEF #93 - GUIDANCE FOR THE ASSEMBLY AND INSTALLATION OF TEMPORARY ORANGE CONSTRUCTION SIGNS".
2. SIGN PANELS MUST BE CONSTRUCTED OF MATERIALS OF DURABILITY APPROPRIATE FOR THE LENGTH OF TIME THE SIGN IS TO BE USED, MEETING THE REQUIREMENTS OF THE MANUFACTURER OF THE RETROREFLECTIVE SHEETING TO BE USED.
3. LETTERING MUST BE BLACK, APPLIED BY DIRECT APPLIED CHARACTER OR SCREEN PROCESS.
4. BACKGROUND COLOR OF SIGNS MUST BE FLUORESCENT ORANGE, MEETING THE REQUIREMENTS OF ASTM D4956, "SPECIFICATION FOR RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL", FOR TYPE III OR TYPE IV SHEETING.
5. NO SIGN SHALL BE ANCHORED INTO AIRFIELD PAVEMENT.
6. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

3 'CONSTRUCTION AHEAD' SIGN DETAIL

N.T.S.



VEHICLE FLAG NOTES:

1. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

4 VEHICLE FLAG

N.T.S.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 781-666-7785

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	DJA
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CONSTRUCTION SAFETY AND PHASING DETAILS – 1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

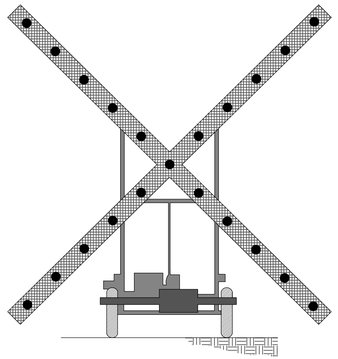
DRAWING NO.

G-201

REV

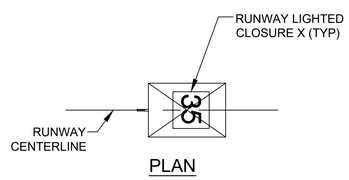
ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - - C:\Users\sagri\appdata\local\temp\AcPublish_17348\G201_G203 - CSPP Details.dwg [G-201] March 08, 2022 - 4:37pm [sagri]

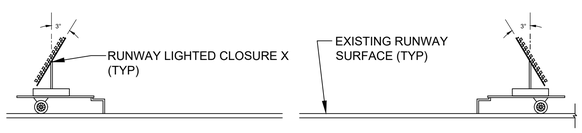


RUNWAY CLOSURE MARKER NOTES:

1. THE CONTRACTOR MUST PROVIDE THE FOUR LIGHTED X'S FOR USE ON THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MARKERS FOR THE DURATION OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PROVIDING FUEL, OIL, FUELING, OIL CHANGES, ETC. THE CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR THE TRANSPORTATION AND STORAGE OF THE LIGHTED RUNWAY CLOSURE MARKERS FOR THE DURATION OF THE PROJECT.
2. MARKERS SHALL BE PLACED ON BOTH ENDS OF THE RUNWAY DURING EACH CLOSURE AND SHALL COVER THE RUNWAY NUMERALS, AS SHOWN BELOW AND IN ACCORDANCE WITH FAA AC 150/5370-2G.
3. MARKERS SHALL BE PLACED IMMEDIATELY WHEN THE RUNWAY IS CLOSED BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE MARKERS WHEN DIRECTED BY THE RPR OR AIRPORT OPERATIONS, PRIOR TO REOPENING THE RUNWAY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FUEL COSTS AND BATTERY OPERATIONS AND HAVE ADDITIONAL FUEL AVAILABLE TO ENSURE NO INTERRUPTION IN PERFORMANCE. THE CONTRACTOR SHALL CHECK THE FUEL LEVEL EVERY DAY AND ADD FUEL AS NECESSARY.
5. ALL COSTS ASSOCIATED WITH SETTING UP, TRANSPORTING, AND MAINTAINING THE RUNWAY CLOSURE MARKERS SHALL BE INCLUDED IN THE LUMP SUM UNIT PRICE FOR ITEM G-004-1.

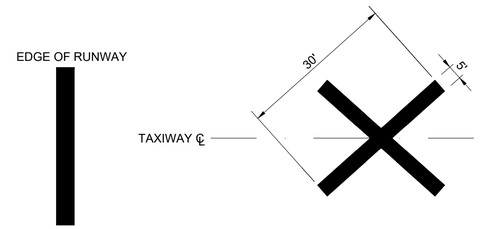


PLAN



PROFILE

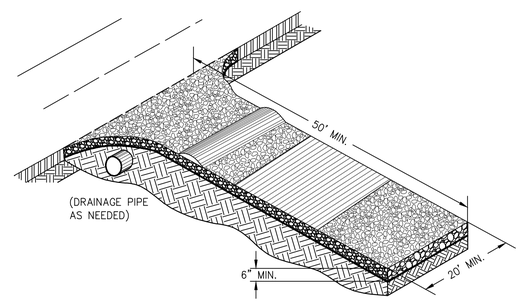
1 RUNWAY LIGHTED CLOSURE MARKER
N.T.S.



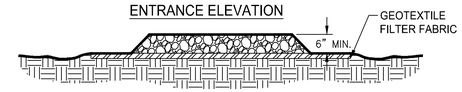
NOTES:

1. TAXIWAY CLOSURE MARKERS SHALL BE YELLOW IN COLOR AND CONSTRUCTED OF THE FOLLOWING MATERIALS: FABRIC, COLORED PLASTIC, OR SIMILAR MATERIALS. THEY SHALL BE PROPERLY CONFIGURED AND APPROPRIATELY SECURED TO PREVENT MOVEMENT BY PROP WASH, JET BLAST, OR OTHER WIND CURRENTS.
2. ACTUAL POSITION, LOCATION, AND ORIENTATION OF CLOSURE MARKERS SHALL BE APPROVED BY AIRPORT OPERATIONS AND THE RPR.

2 TAXIWAY CLOSURE 'X' MARKING
N.T.S.



ENTRANCE ELEVATION



NOTES:

1. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
2. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
3. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6", AND BE PLACED ON GEOTEXTILE FILTER FABRIC TO PROTECT UNDERLYING SURFACE.
4. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
5. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
6. CONTRACTOR TO PROVIDE A SEDIMENT TRAP ON THE DOWN GRADIENT SIDE OF THE CONSTRUCTION ENTRANCE. THE SEDIMENT TRAP MUST MEET THE REQUIREMENTS OF THE NHDES AND ASSOCIATED DETAILS.
7. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM M-001-1.

3 STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CONSTRUCTION SAFETY AND PHASING DETAILS – 2

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
G-202
REV

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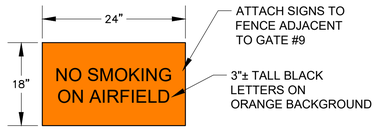
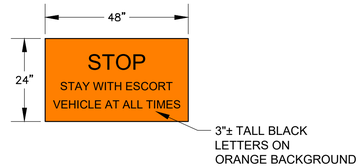


CONSTRUCTION SIGN GENERAL NOTES:

1. CONTRACTOR TO FURNISH, INSTALL, SECURE AND MAINTAIN SIGNS.
2. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

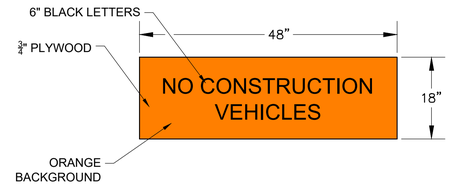
1 NO SMOKING SIGN DETAIL
N.T.S.



CONSTRUCTION SIGN GENERAL NOTES:

1. CONTRACTOR TO FURNISH, INSTALL, SECURE AND MAINTAIN SIGNS.
2. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

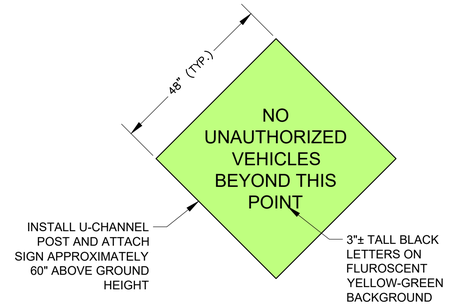
2 TEMPORARY HAUL ROAD STOP SIGN DETAIL
N.T.S.



CONSTRUCTION SIGN GENERAL NOTES:

1. CONTRACTOR TO FURNISH, INSTALL, SECURE AND MAINTAIN SIGNS.
2. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

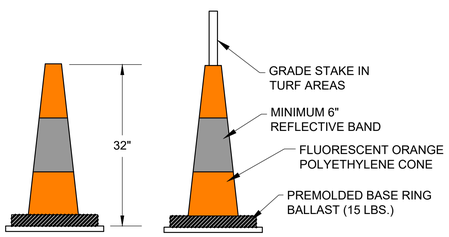
3 NO CONSTRUCTION VEHICLES SIGN DETAIL
N.T.S.



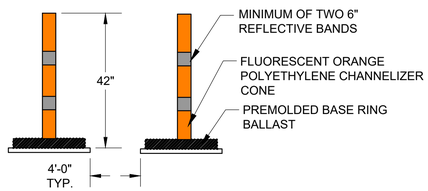
CONSTRUCTION SIGN GENERAL NOTES:

1. CONTRACTOR TO FURNISH, INSTALL, SECURE AND MAINTAIN SIGNS.
2. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

4 ENTRANCE SIGN DETAIL
N.T.S.



SAFETY CONE (FOR TURF AREAS)

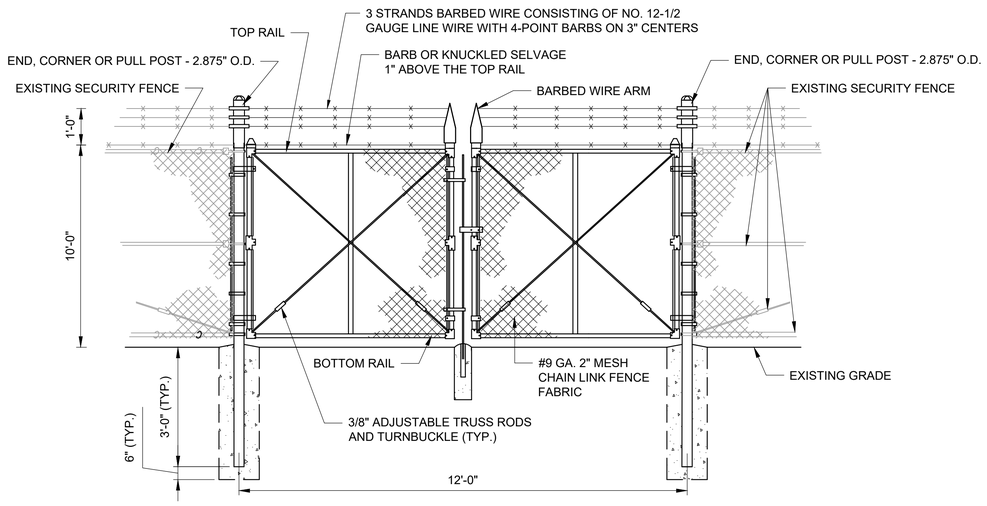


CHANNELIZER CONE (FOR PAVED AREAS)

TRAFFIC & SAFETY CONE NOTES:

1. CONTRACTOR TO SECURE AND MAINTAIN SAFETY & TRAFFIC CONES.
2. CONES & BALLAST TO BE PROVIDED BY CONTRACTOR AND WILL REMAIN PROPERTY OF THE CONTRACTOR AFTER THE PROJECT IS COMPLETED.
3. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

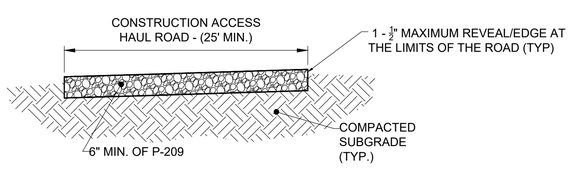
5 TRAFFIC & SAFETY CONE DETAIL
N.T.S.



GENERAL SECURITY FENCE NOTES:

1. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM M-001-1.
2. THE MAXIMUM OPENING BENEATH THE GATE IS 5 INCHES. THE MAXIMUM GAPS IN ANY PART OF THE THE FENCE GATE IS 4".

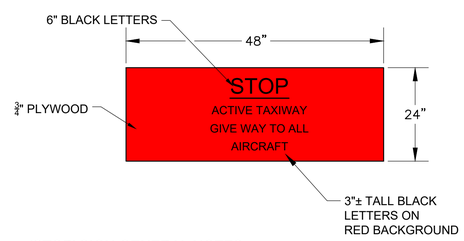
6 TEMPORARY 12' DOUBLE SWING SECURITY GATE
N.T.S.



NOTE:

1. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM M-001-1.

7 TEMPORARY CONSTRUCTION HAUL ROAD
N.T.S.



'STOP' SIGN GENERAL NOTES:

1. CONTRACTOR TO FURNISH, INSTALL, SECURE AND MAINTAIN SIGNS.
2. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1
3. 'STOP' SIGNS SHALL BE MOUNTED TO THE BARRICADES IN ACCORDANCE WITH ENGINEERING BRIEF 93, GUIDANCE FOR THE ASSEMBLY AND INSTALLATION OF TEMPORARY CONSTRUCTION SIGNS.

8 'STOP' SIGN AT RUNWAY CROSSINGS SIGN DETAIL
N.T.S.

GENERAL CONSTRUCTION SIGNAGE NOTES:

1. SIGN PANELS MUST BE CONSTRUCTED OF MATERIALS OF DURABILITY APPROPRIATE FOR THE LENGTH OF TIME THE SIGN IS TO BE USED MEETING THE REQUIREMENTS OF THE MANUFACTURER OF THE RETROREFLECTIVE SHEETING TO BE USED.
2. LETTERING MUST BE APPLIED BY DIRECT APPLIED CHARACTER OR SCREEN PROCESS.
3. BACKGROUND COLOR OF SIGNS MUST BE RED, MEETING THE REQUIREMENTS OF ASTM D 4956, "SPECIFICATION FOR RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL", FOR TYPE III OR TYPE IV SHEETING.
4. COST OF FURNISHING AND MAINTAINING THIS ITEM SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT COST FOR ITEM G-004-1.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, N.H. 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	DJA
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CONSTRUCTION SAFETY AND PHASING DETAILS – 3

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

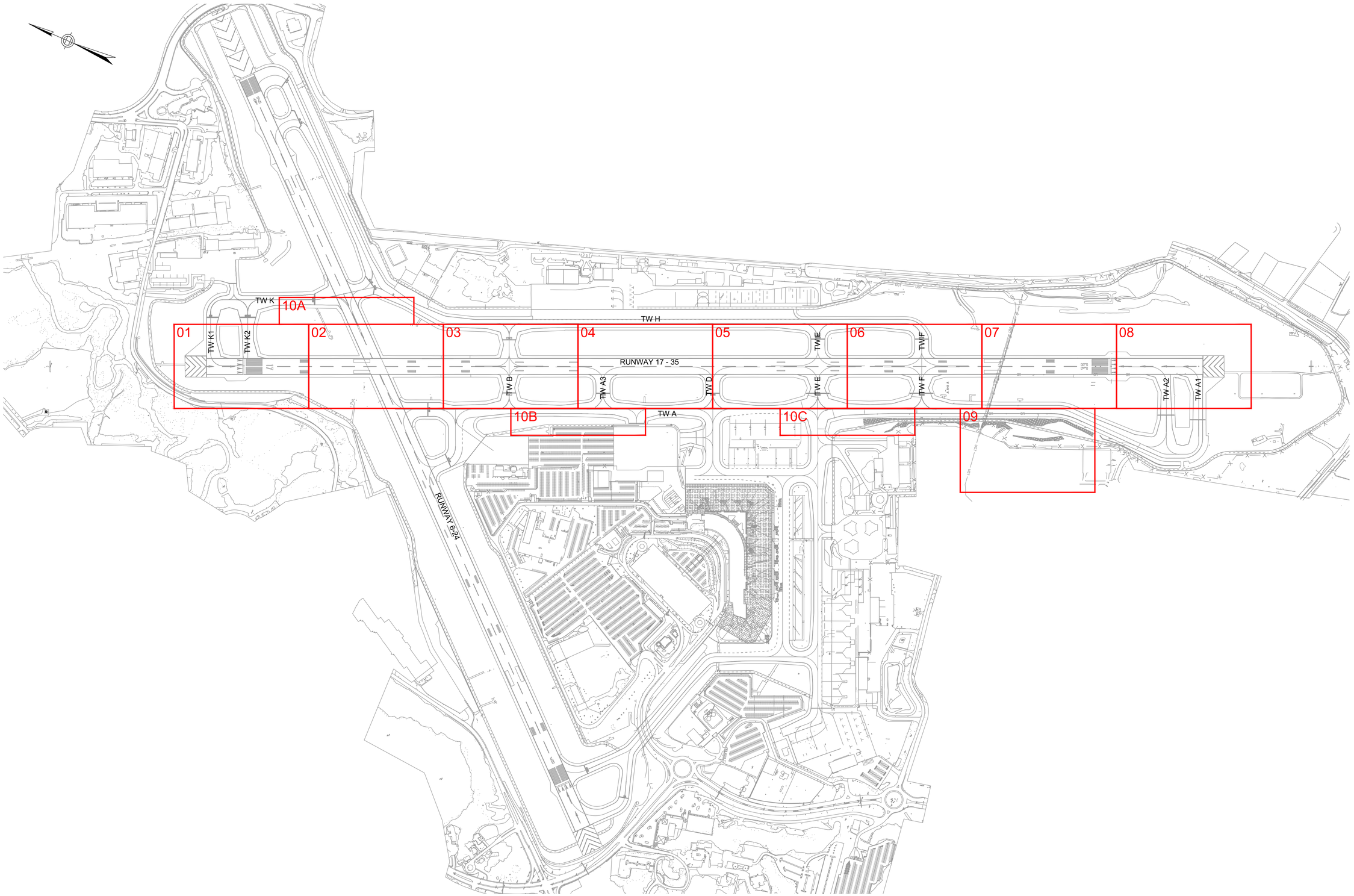
DRAWING NO.

G-203

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\G201_G203 - CSPP Details.dwg [G-203] March 08, 2022 - 4:37pm [sagri]



HORIZONTAL SCALE
1"=400'

400 0 200 400 800

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=400'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL KEY PLAN

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

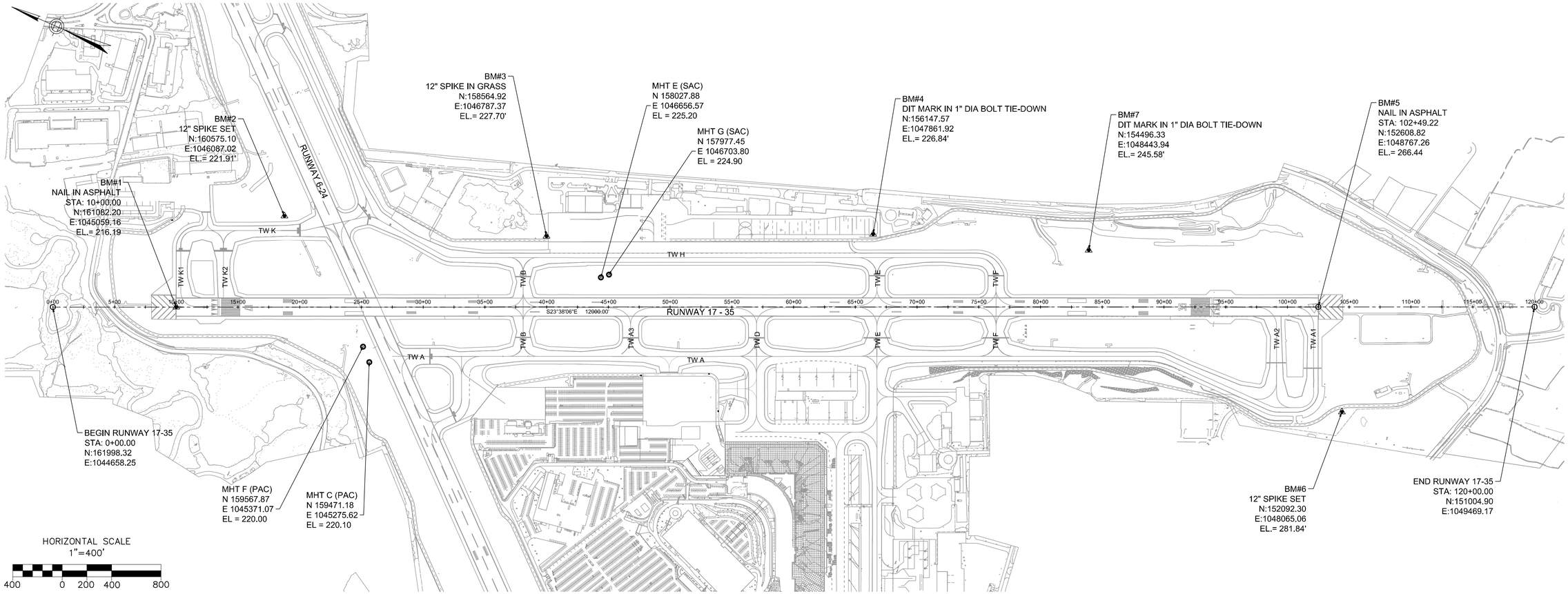
DRAWING NO.

C-001

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C001 - Civil Key Plan.dwg [C-001] March 08, 2022 - 5:46pm [damorelli]



SURVEY CONTROL PLAN

SURVEY CONTROL NOTES:

1. THE SURVEY BENCHMARKS ARE BASED ON THE TOPOGRAPHIC SURVEY PROVIDED BY HOLDEN ENGINEERING & SURVEYING INC. DATED FEBRUARY 2022.
2. LOCATION OF PACS AND SACS WERE TAKEN FROM PUBLISHED NATIONAL GEODETIC SURVEY INFORMATION.
3. SURVEY CONTROL POINTS FOR VERTICAL AND HORIZONTAL CONTROL WERE ESTABLISHED AT THE SITE USING GPS SURVEY EQUIPMENT USING STATIC GPS DATA COLLECTION PROCEDURES. THE DATA COLLECTOR WAS POST PROCESSED USING THE JAVAD DPOS POST PROCESSING SERVICES.
4. THE CONTROL POINTS WERE SHOWN ON THE TOPOGRAPHIC BASE PLAN AS:

Point	ID #	Description	Northing	Easting	Elevation
1	BM#3	12" Spike Set	158,564.92	1,046,787.37	227.70'
2	BM#2	12" Spike Set	160,575.10	1,046,087.02	221.91'
3	BM#6	12" Spike Set	152,092.33	1,048,065.03	281.74'
4	BM#7	Dit in tie down bolt	154,496.33	1,048,443.94	245.58'

5. HORIZONTAL DATA ARE WAS BASED UPON THE NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT, NH STATE PLANE COORDINATE SYSTEM.
6. VERTICAL DATA WAS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988.

LEGEND

- BENCHMARK LOCATION
- PACS/SACS LOCATION

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 6033 666-7785

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

SURVEY CONTROL PLAN

REVISIONS

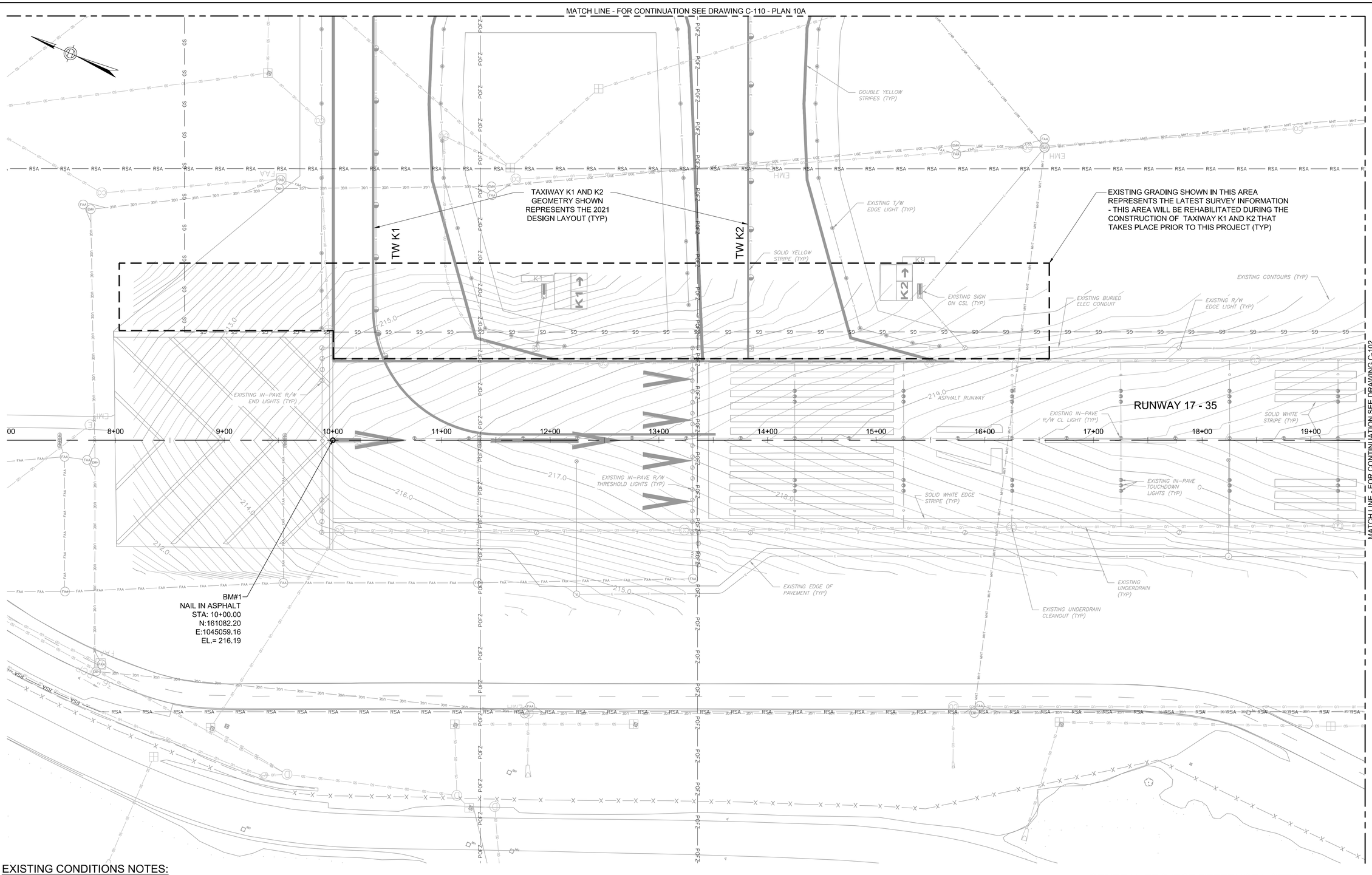
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-002
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C002 - Survey Control Plan.dwg [C-002] March 10, 2022 - 4:07pm [sagri]



EXISTING CONDITIONS NOTES:

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GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.

2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781-687-7800
FAX: 781-687-7781

SCALE: 1"= 40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 1

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

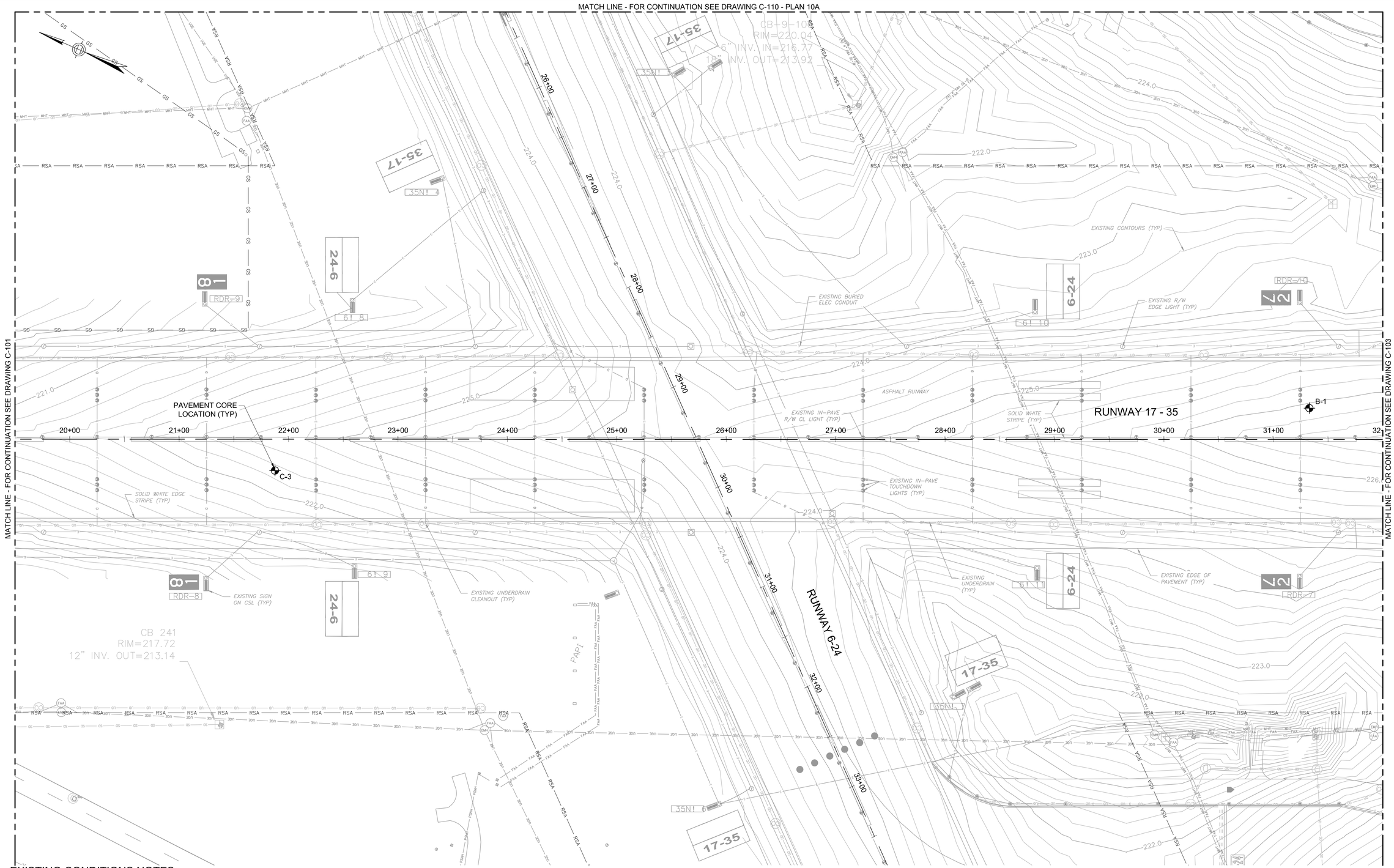
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-101
REV.

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-101] March 08, 2022 - 5:33pm [sagr]



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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: (603) 666-7985

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 2

REV. NO.	DATE	DESCRIPTION	BY

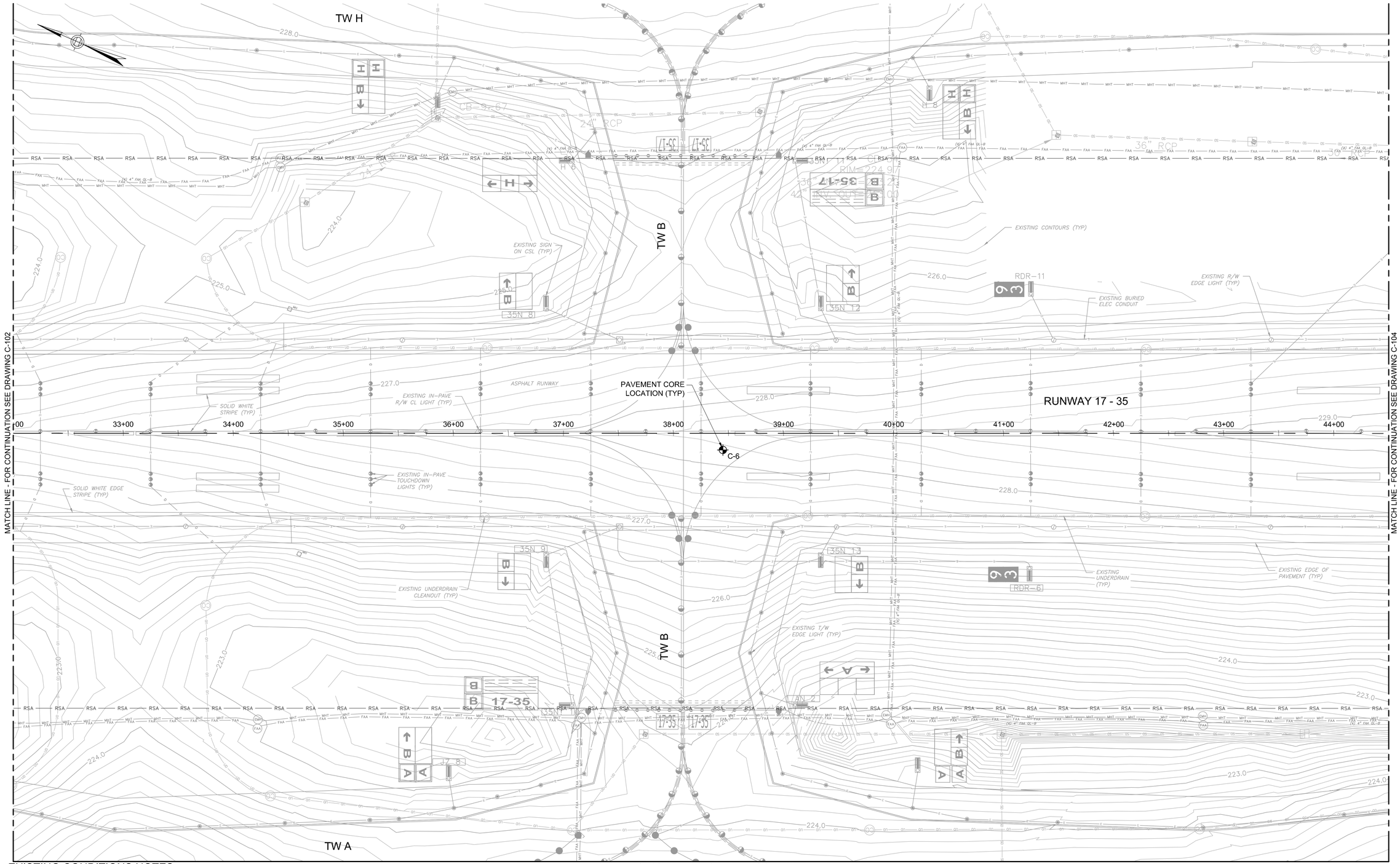
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-102
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-102] March 08, 2022 - 5:35pm [sagri]



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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: (603) 666-7985

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 3

REV. NO.	DATE	DESCRIPTION	BY

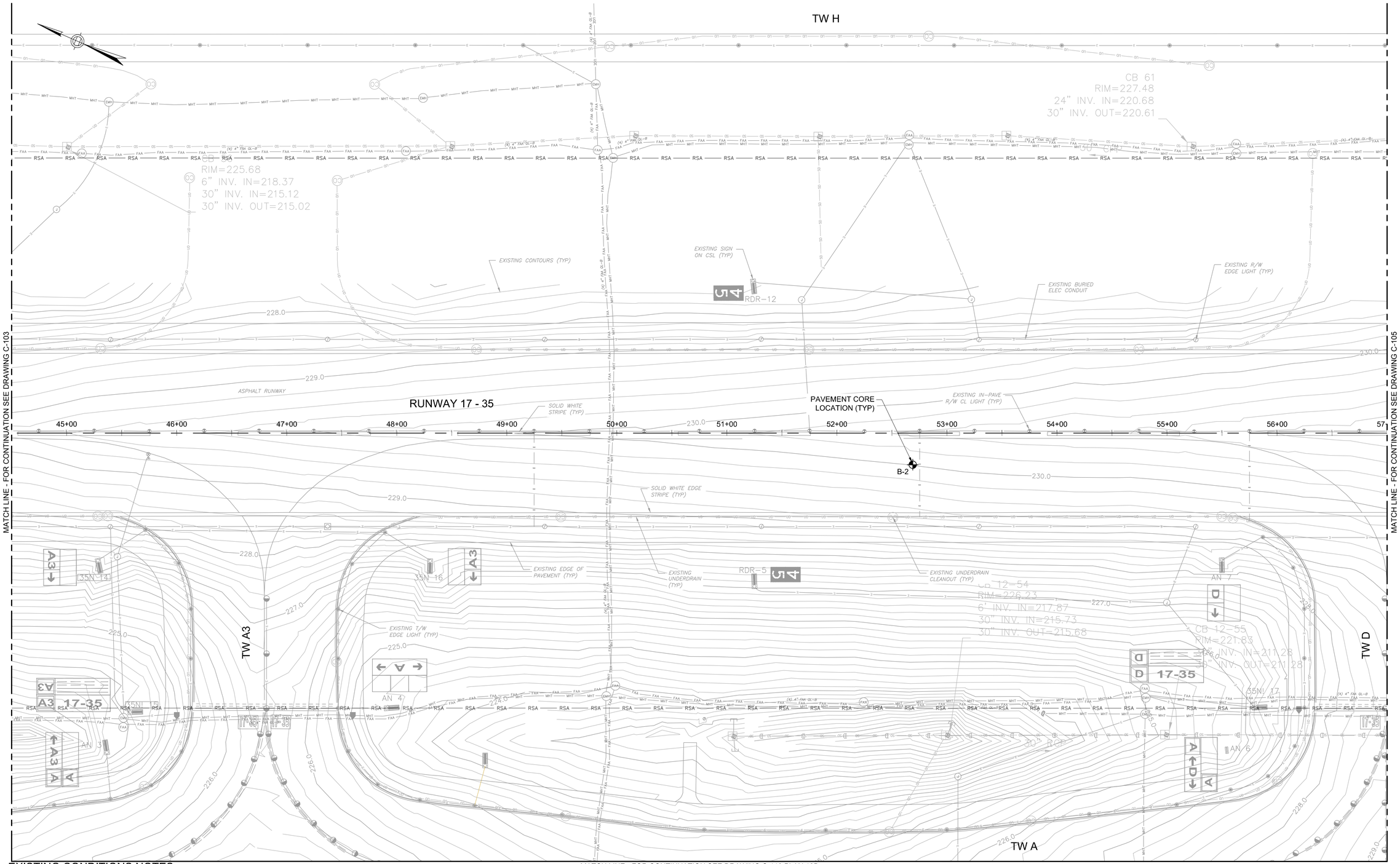
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-103
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-103] March 08, 2022 - 5:36pm [sagri]



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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-965-7700
FAX: (603) 666-7985

SCALE:	1"=40'
DATE: MARCH 2022	
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 4

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

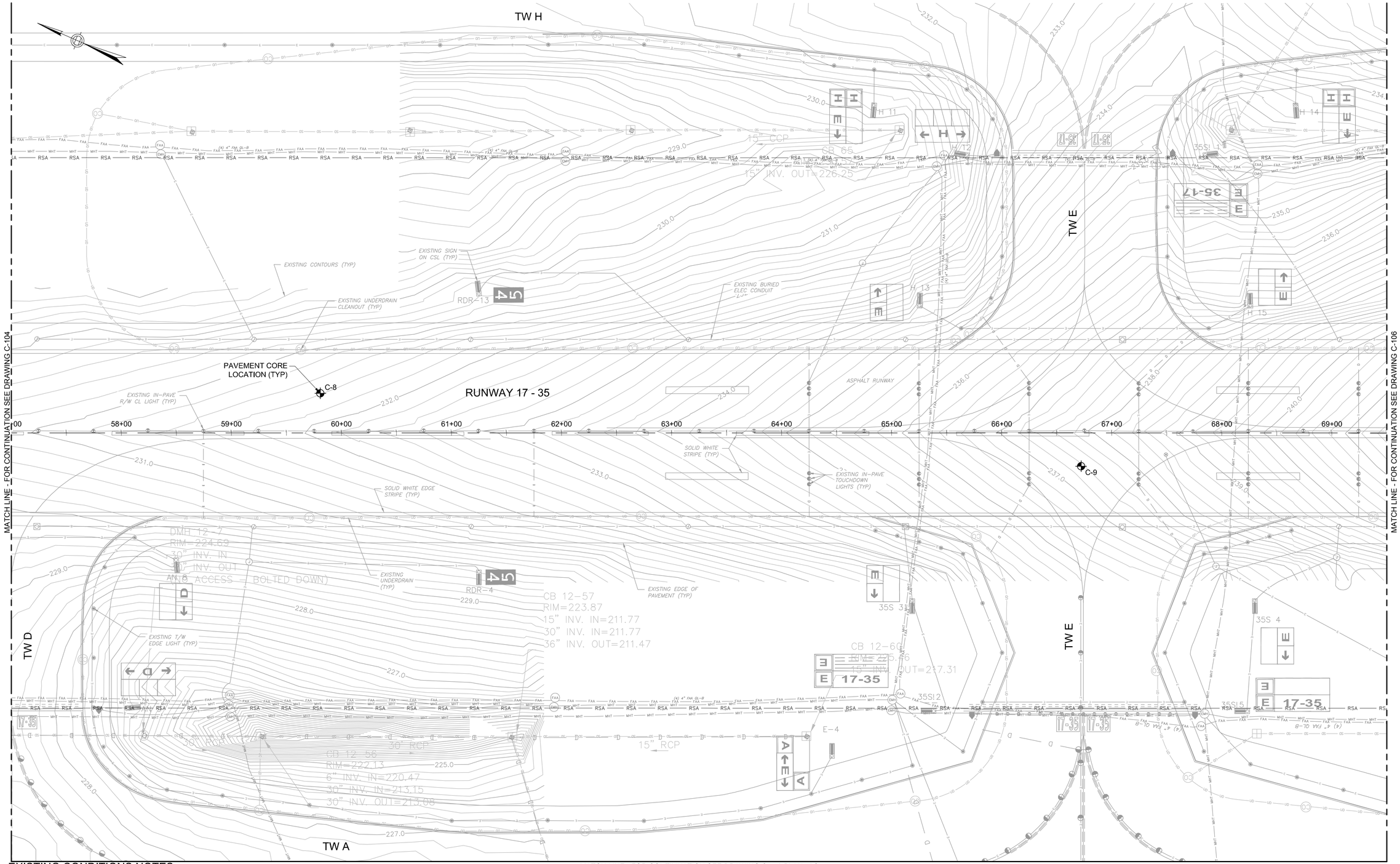
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-104
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-104] March 08, 2022 - 5:37pm [sagri]



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2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-657-7981
FAX: (603) 666-7985

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 5

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

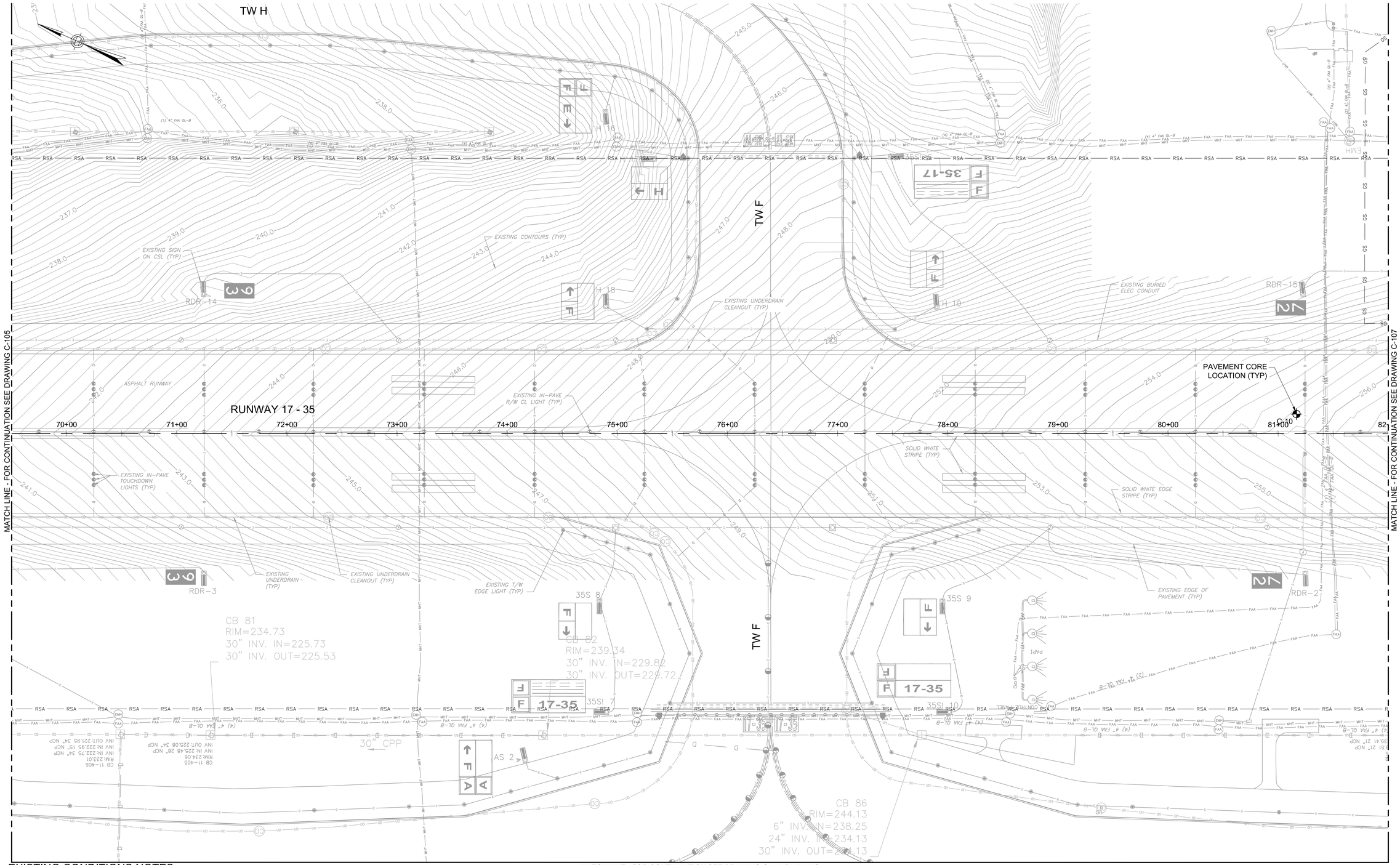
DRAWING NO.

C-105

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-105] March 08, 2022 - 5:38pm [sagri]



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2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-672-7781
FAX: (603) 666-7985

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
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APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 6

REVISIONS

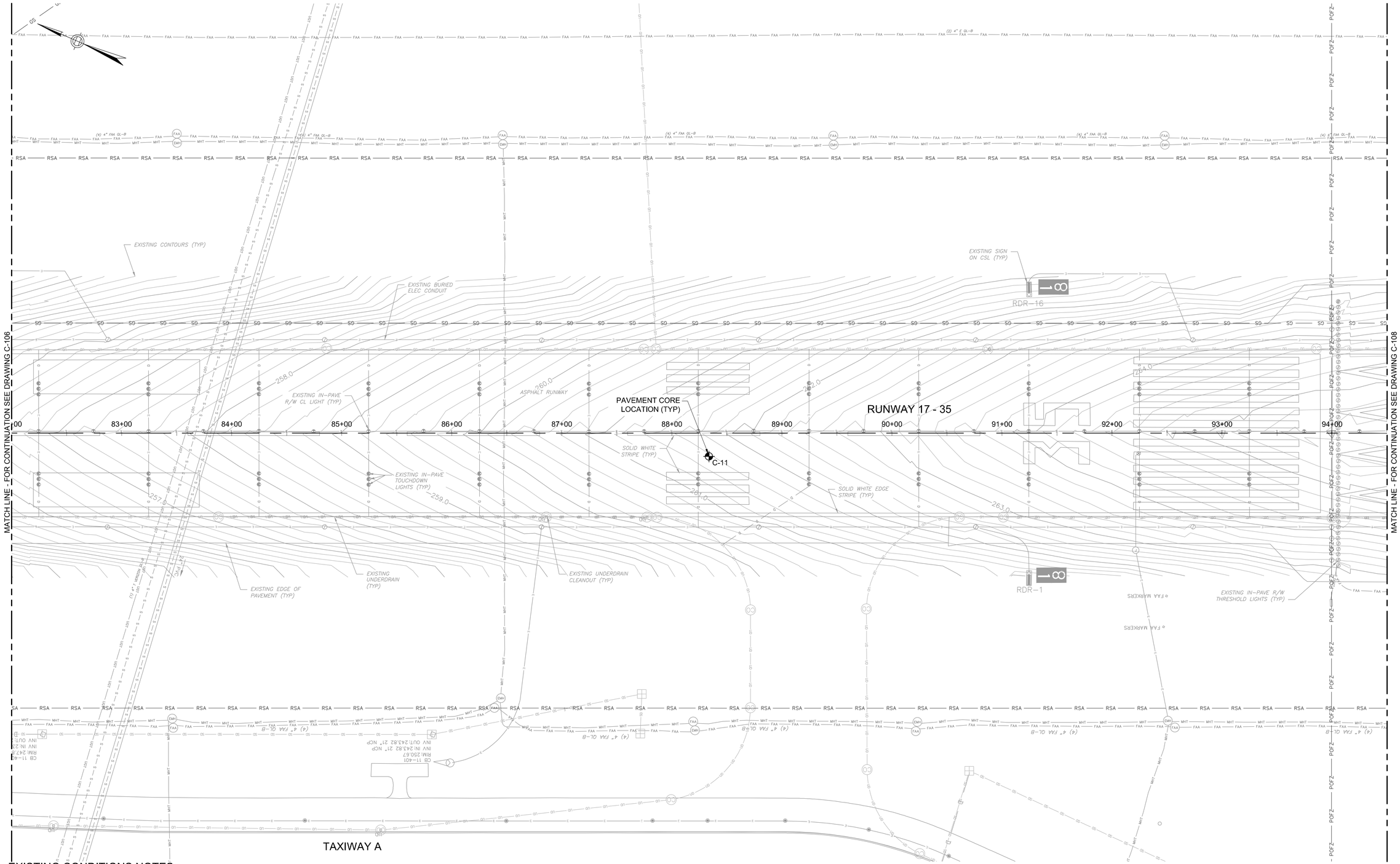
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-106
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-106] March 08, 2022 - 5:39pm [sagr]



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GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.

2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'

40 0 20 40 80

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617 666-7781
FAX: (603) 666-7985

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 7

REVISIONS

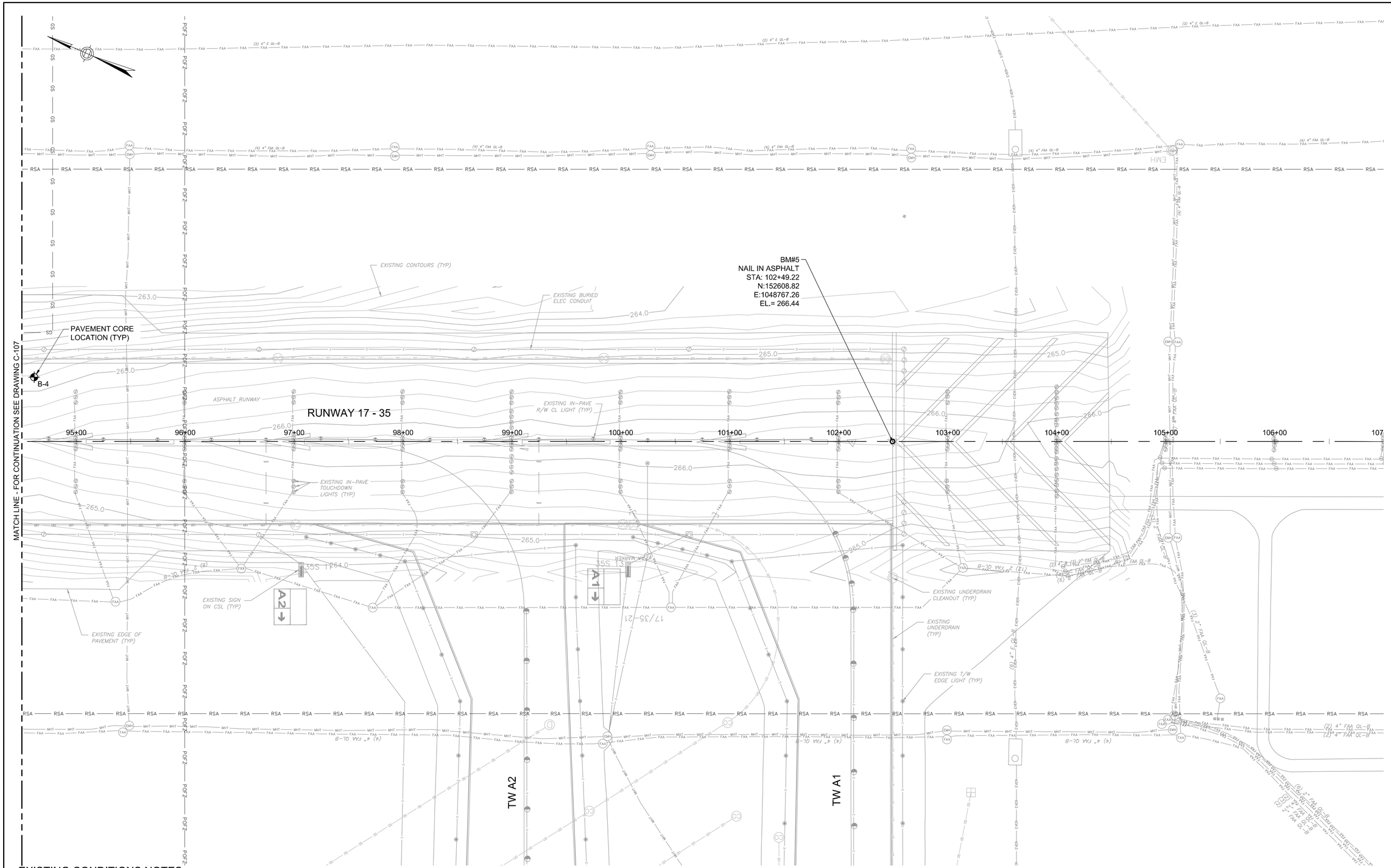
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-107
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-107] March 08, 2022 - 5:40pm [sagr]



EXISTING CONDITIONS NOTES:

1. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AIRPORT NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE MATERIALS, LOCATION, SIZE AND TYPE OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE RPR OF HIS OPERATIONAL PLANS. IN THE EVENT UNEXPECTED OR DIFFERING UTILITY CONDITIONS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RPR. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE RPR.

3. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING DRAINAGE SYSTEMS (PIPES, CATCH BASINS, SWELLS, ETC.,) WITHIN AND NEAR THE AREA OF WORK, WILL BE KEPT FREE FROM MATERIAL THAT WOULD HAMPER THE PERFORMANCE OF THE DRAINAGE SYSTEMS DURING CONSTRUCTION, TO THE SATISFACTION OF THE RPR.

4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS ADJACENT TO ACTIVE ELECTRICAL AND COMMUNICATION LINES TO PREVENT DAMAGES TO THESE LINES. THE CONTRACTOR SHALL HAND EXCAVATE IN THESE WORK AREAS. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ELECTRICAL OR COMMUNICATION INTERRUPTION AT THE EXPENSE OF THE CONTRACTOR AND AT NO EXTRA COST TO THE AIRPORT.

5. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR ALL UTILITIES THAT ARE EXPOSED DURING CONSTRUCTION TO PROTECT AGAINST DAMAGE. THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE RPR.

6. THE NUMBERING OF THE CORES SHOWN ON THE PLANS ARE NOT SEQUENTIAL. CORES TAKEN OUTSIDE THE PROJECT AREAS ARE NOT SHOWN. CORES WITH DATA REPRESENTATIVE OF THE PROJECT ARE SHOWN AND THE CORRESPOND TO THE NUMBERING OF THE ORIGINAL DATA OBTAINED IN THE FIELD.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.

2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
Phone: 781-687-7781
FAX: (603) 666-7985

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 8

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

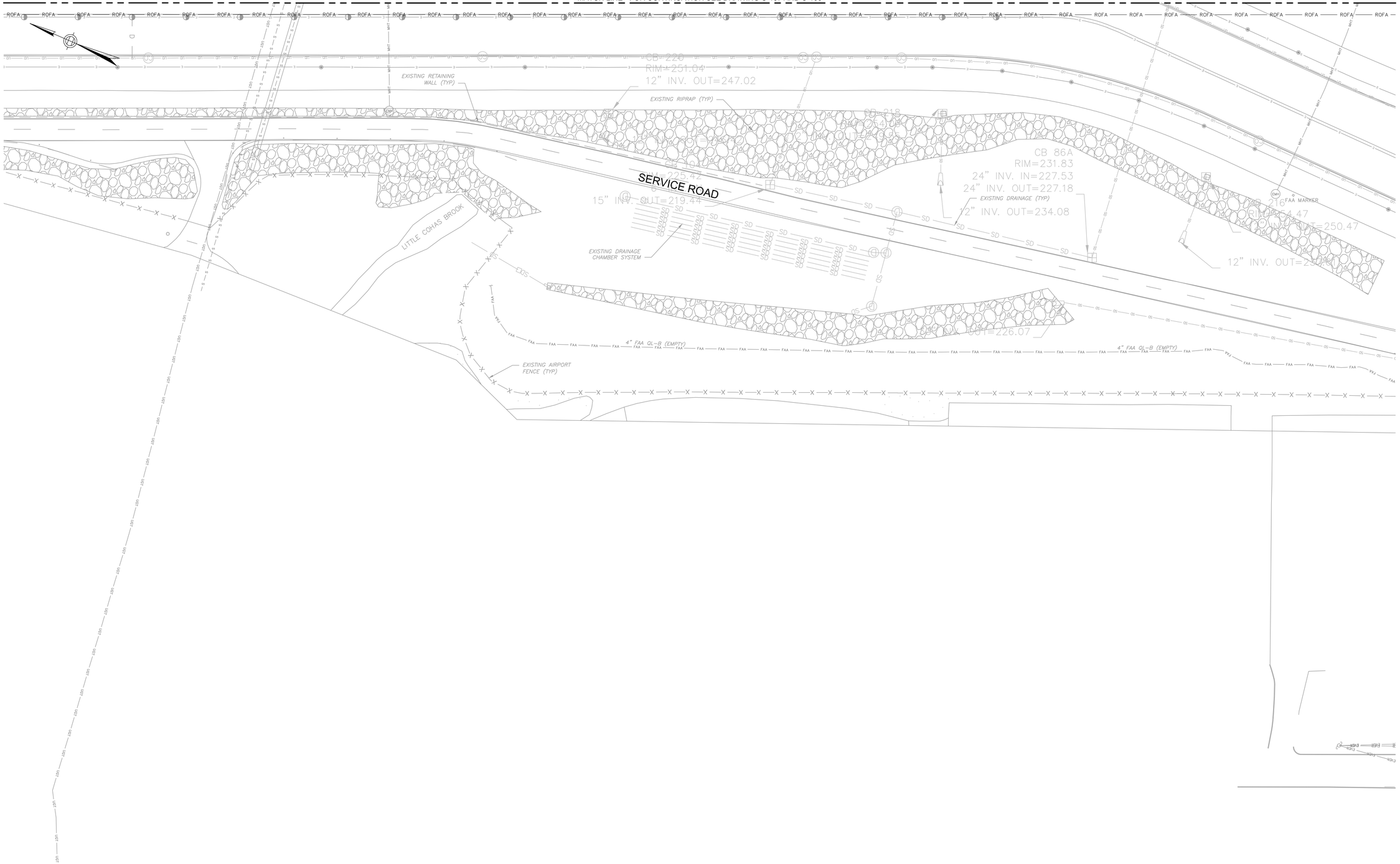
PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-108
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-108] March 08, 2022 - 5:41pm [sagri]

MATCH LINE - FOR CONTINUATION SEE DRAWING C-107 AND C-106



EXISTING CONDITIONS NOTES:

1. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AIRPORT NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE MATERIALS, LOCATION, SIZE AND TYPE OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION.

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3. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING DRAINAGE SYSTEMS (PIPES, CATCH BASINS, SWELLS, ETC.,) WITHIN AND NEAR THE AREA OF WORK, WILL BE KEPT FREE FROM MATERIAL THAT WOULD HAMPER THE PERFORMANCE OF THE DRAINAGE SYSTEMS DURING CONSTRUCTION, TO THE SATISFACTION OF THE RPR.

4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS ADJACENT TO ACTIVE ELECTRICAL AND COMMUNICATION LINES TO PREVENT DAMAGES TO THESE LINES. THE CONTRACTOR SHALL HAND EXCAVATE IN THESE WORK AREAS. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ELECTRICAL OR COMMUNICATION INTERRUPTION AT THE EXPENSE OF THE CONTRACTOR AND AT NO EXTRA COST TO THE AIRPORT.

5. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR ALL UTILITIES THAT ARE EXPOSED DURING CONSTRUCTION TO PROTECT AGAINST DAMAGE. THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE RPR.

6. THE NUMBERING OF THE CORES SHOWN ON THE PLANS ARE NOT SEQUENTIAL. CORES TAKEN OUTSIDE THE PROJECT AREAS ARE NOT SHOWN. CORES WITH DATA REPRESENTATIVE OF THE PROJECT ARE SHOWN AND THE CORRESPOND TO THE NUMBERING OF THE ORIGINAL DATA OBTAINED IN THE FIELD.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.

2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: (603) 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 9

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

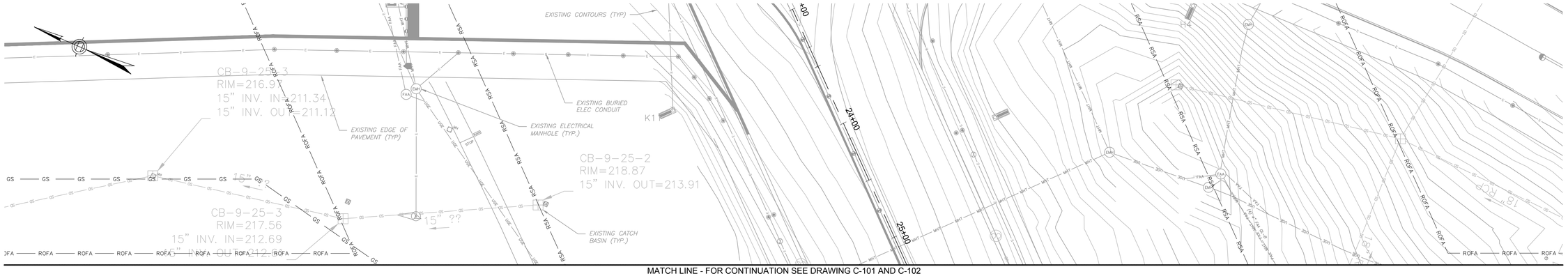
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-109
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

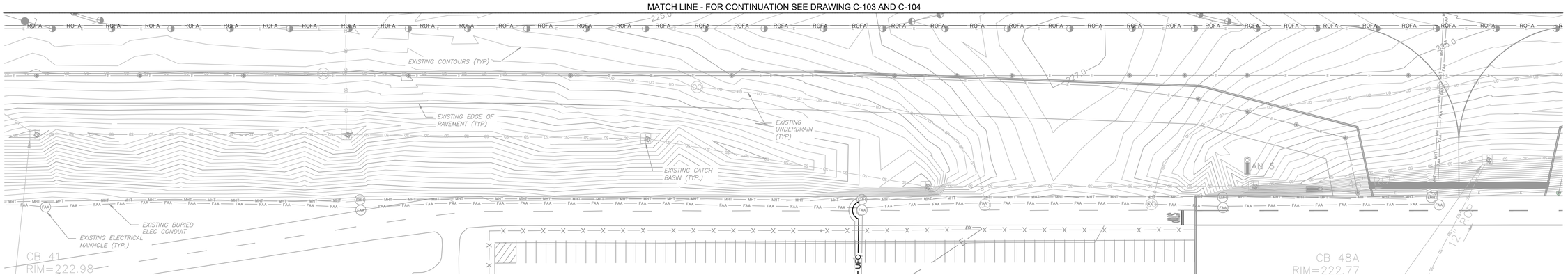
Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-109] March 08, 2022 - 5:41pm [sagri]



MATCH LINE - FOR CONTINUATION SEE DRAWING C-101 AND C-102

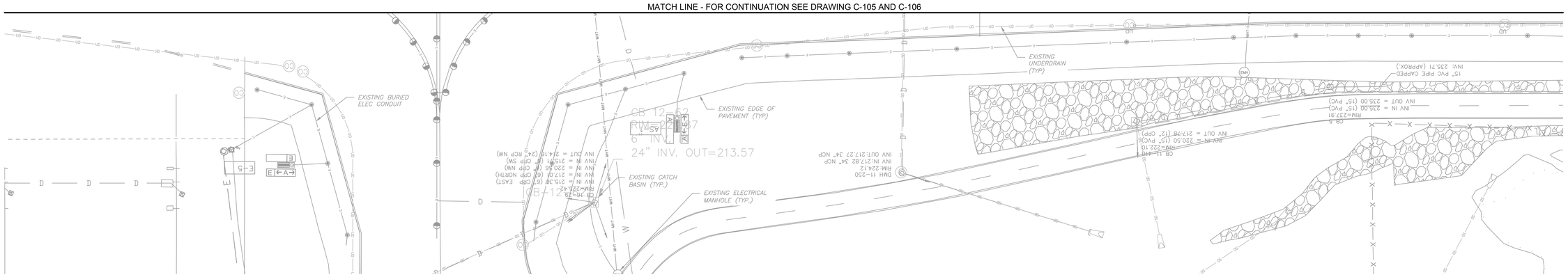
EXISTING CONDITIONS AND BORING LOCATIONS PLAN 10A

MATCH LINE - FOR CONTINUATION SEE DRAWING C-103 AND C-104



EXISTING CONDITIONS AND BORING LOCATIONS PLAN 10B

MATCH LINE - FOR CONTINUATION SEE DRAWING C-105 AND C-106



EXISTING CONDITIONS AND BORING LOCATIONS PLAN 10C

EXISTING CONDITIONS NOTES:

1. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AIRPORT NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE MATERIALS, LOCATION, SIZE AND TYPE OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION.

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4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS ADJACENT TO ACTIVE ELECTRICAL AND COMMUNICATION LINES TO PREVENT DAMAGES TO THESE LINES. THE CONTRACTOR SHALL HAND EXCAVATE IN THESE WORK AREAS. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY ELECTRICAL OR COMMUNICATION INTERRUPTION AT THE EXPENSE OF THE CONTRACTOR AND AT NO EXTRA COST TO THE AIRPORT.

5. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR ALL UTILITIES THAT ARE EXPOSED DURING CONSTRUCTION TO PROTECT AGAINST DAMAGE. THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE RPR.

6. THE NUMBERING OF THE CORES SHOWN ON THE PLANS ARE NOT SEQUENTIAL. CORES TAKEN OUTSIDE THE PROJECT AREAS ARE NOT SHOWN. CORES WITH DATA REPRESENTATIVE OF THE PROJECT ARE SHOWN AND THE CORRESPOND TO THE NUMBERING OF THE ORIGINAL DATA OBTAINED IN THE FIELD.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.

2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
Phone: 781-890-1460
FAX: (603) 666-7985

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS AND BORING LOCATIONS – 10

REV. NO.	DATE	DESCRIPTION	BY

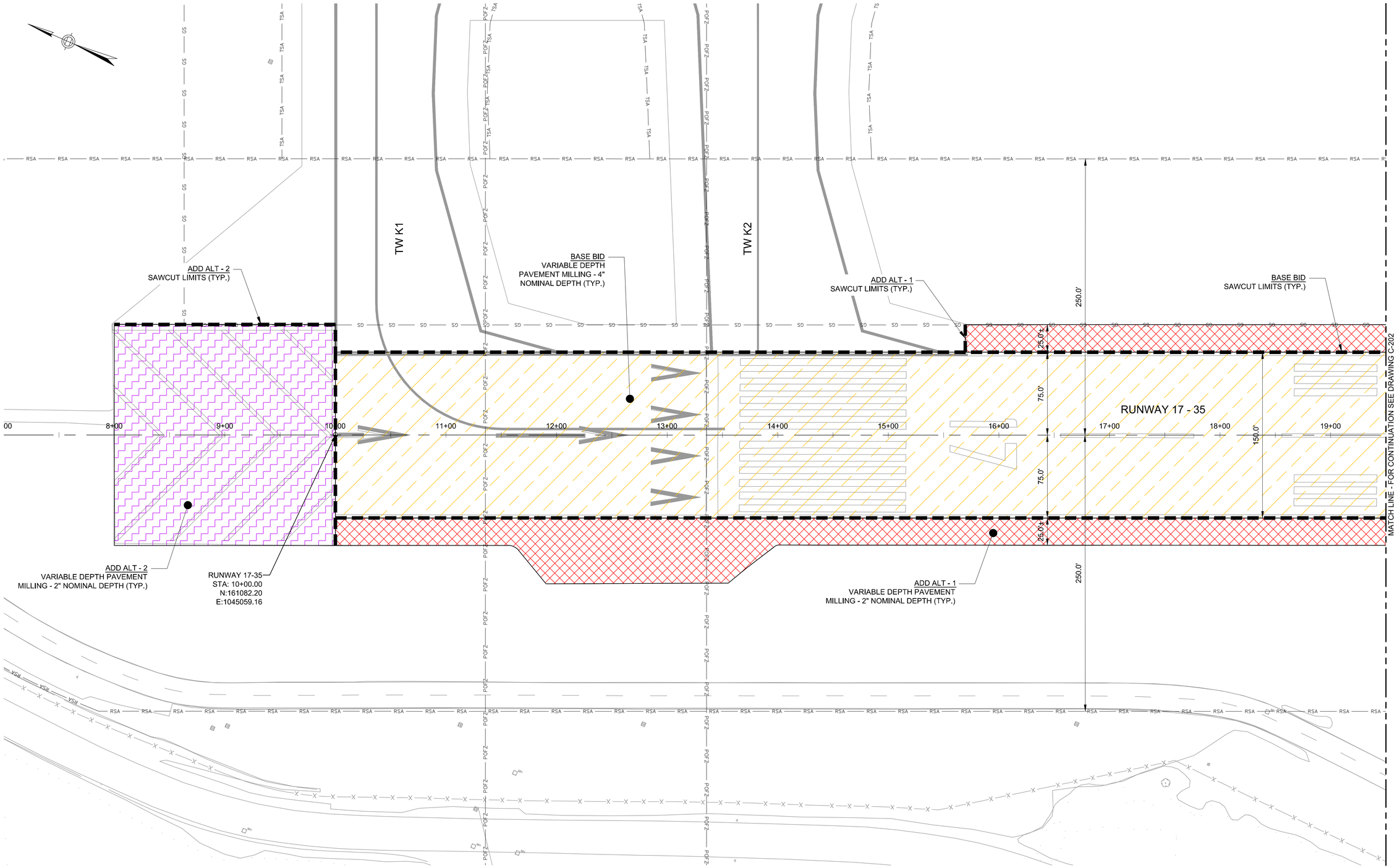
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-110
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C101_C110 - Existing Conditions.dwg [C-110] March 08, 2022 - 5:43pm [sagri]



LEGEND:

- VARIABLE MILLING DEPTH (BASE BID)
- VARIABLE MILLING DEPTH (ADD ALT 1)
- VARIABLE MILLING DEPTH (ADD ALT 2)
- RSA — RUNWAY SAFETY AREA
- POFZ — PRECISION OBJECT FREE ZONE
- GS — GLIDE SLOPE CRITICAL AREA
- SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-656-7781
FAX: 617-656-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 1

REV. NO.	DATE	DESCRIPTION	BY

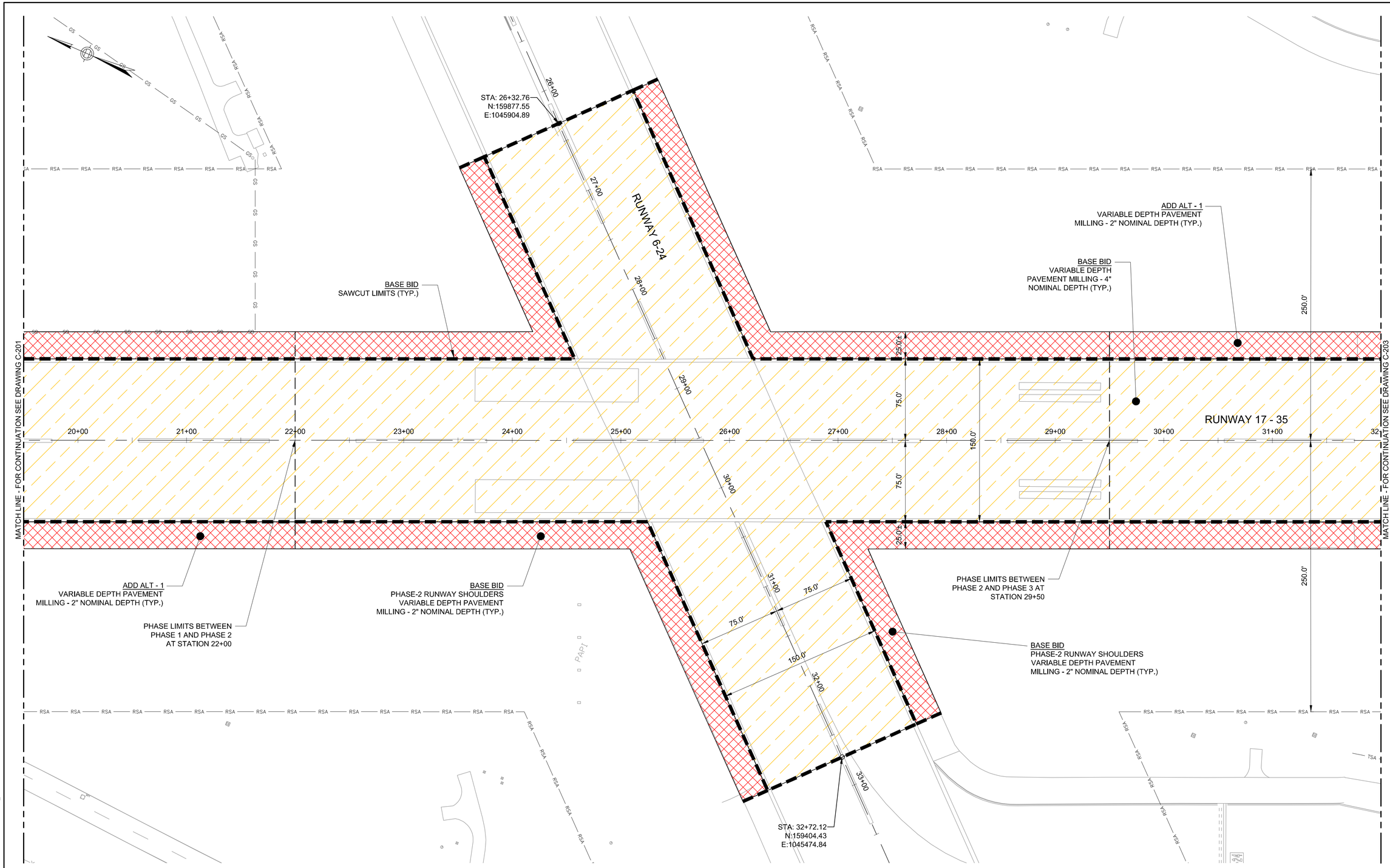
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-201
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-201] March 10, 2022 - 9:47am [sagri]



LEGEND:

- VARIABLE MILLING DEPTH (BASE BID)
- VARIABLE MILLING DEPTH (ADD ALT 1)
- VARIABLE MILLING DEPTH (ADD ALT 2)
- RSA — RUNWAY SAFETY AREA
- POFZ — PRECISION OBJECT FREE ZONE
- GS — GLIDE SLOPE CRITICAL AREA
- SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 617-666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 2

REV. NO.	DATE	DESCRIPTION	BY

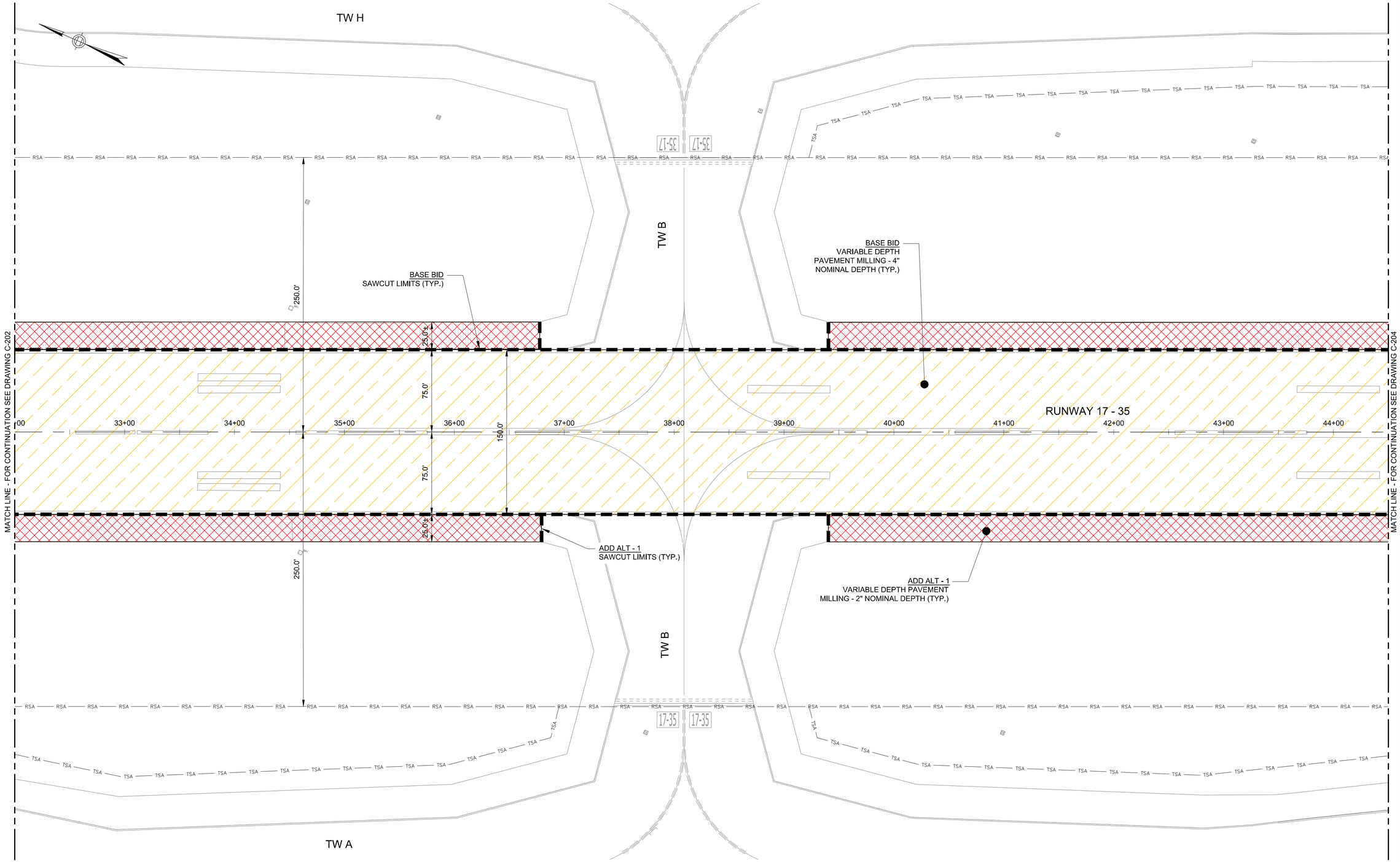
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-202
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-202] March 10, 2022 - 9:48am [sagri]



LEGEND:

	VARIABLE MILLING DEPTH (BASE BID)	— RSA —	RUNWAY SAFETY AREA
	VARIABLE MILLING DEPTH (ADD ALT 1)	— POFZ —	PRECISION OBJECT FREE ZONE
	VARIABLE MILLING DEPTH (ADD ALT 2)	— GS —	GLIDE SLOPE CRITICAL AREA
		▬ ▬ ▬	SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617 666-7781
FAX: (603) 666-7865

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 3

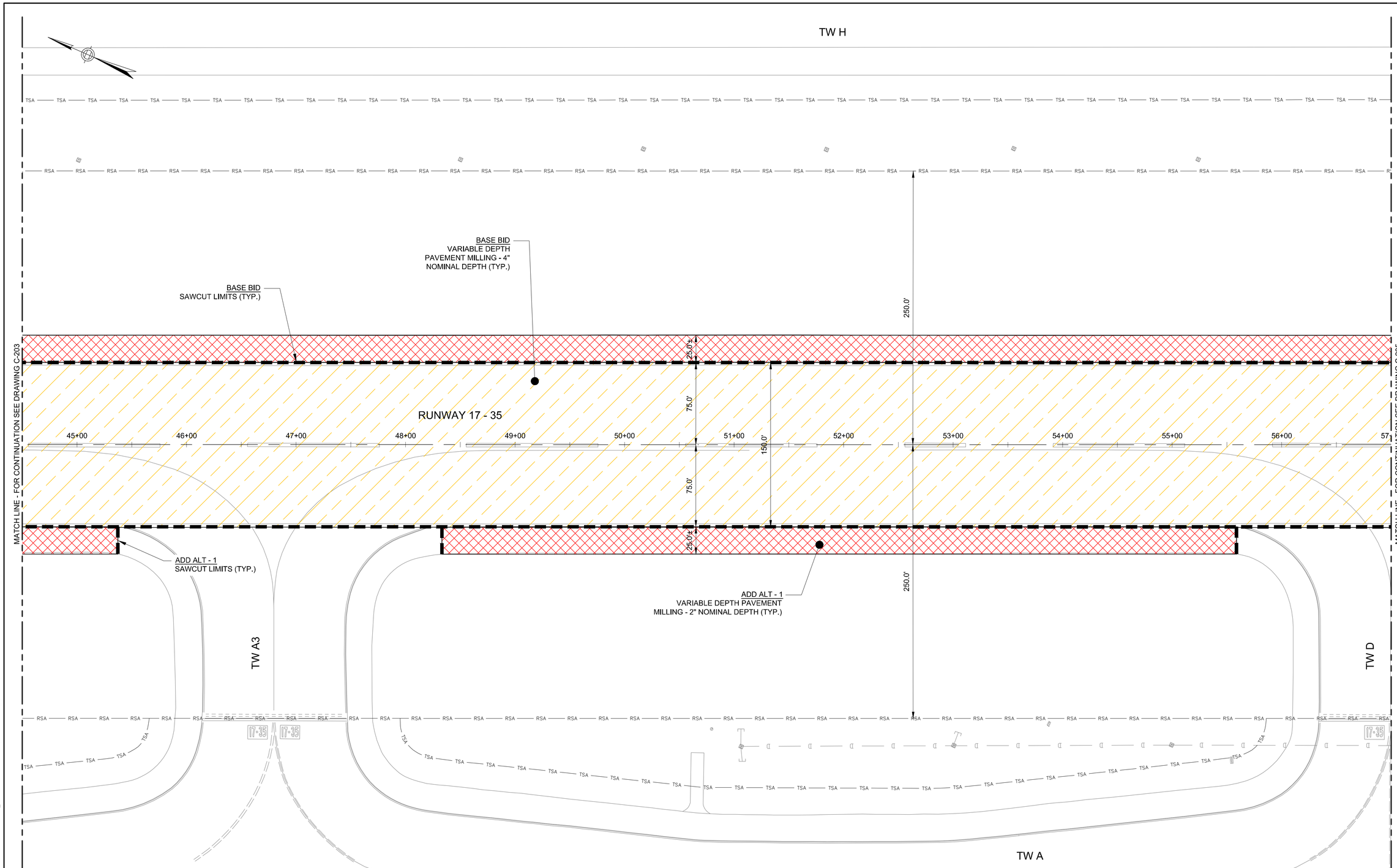
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-203
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-203] March 10, 2022 - 9:48am [sagri]



LEGEND:

	VARIABLE MILLING DEPTH (BASE BID)	RSA	RUNWAY SAFETY AREA
	VARIABLE MILLING DEPTH (ADD ALT 1)	POFZ	PRECISION OBJECT FREE ZONE
	VARIABLE MILLING DEPTH (ADD ALT 2)	GS	GLIDE SLOPE CRITICAL AREA
			SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 4

REVISIONS

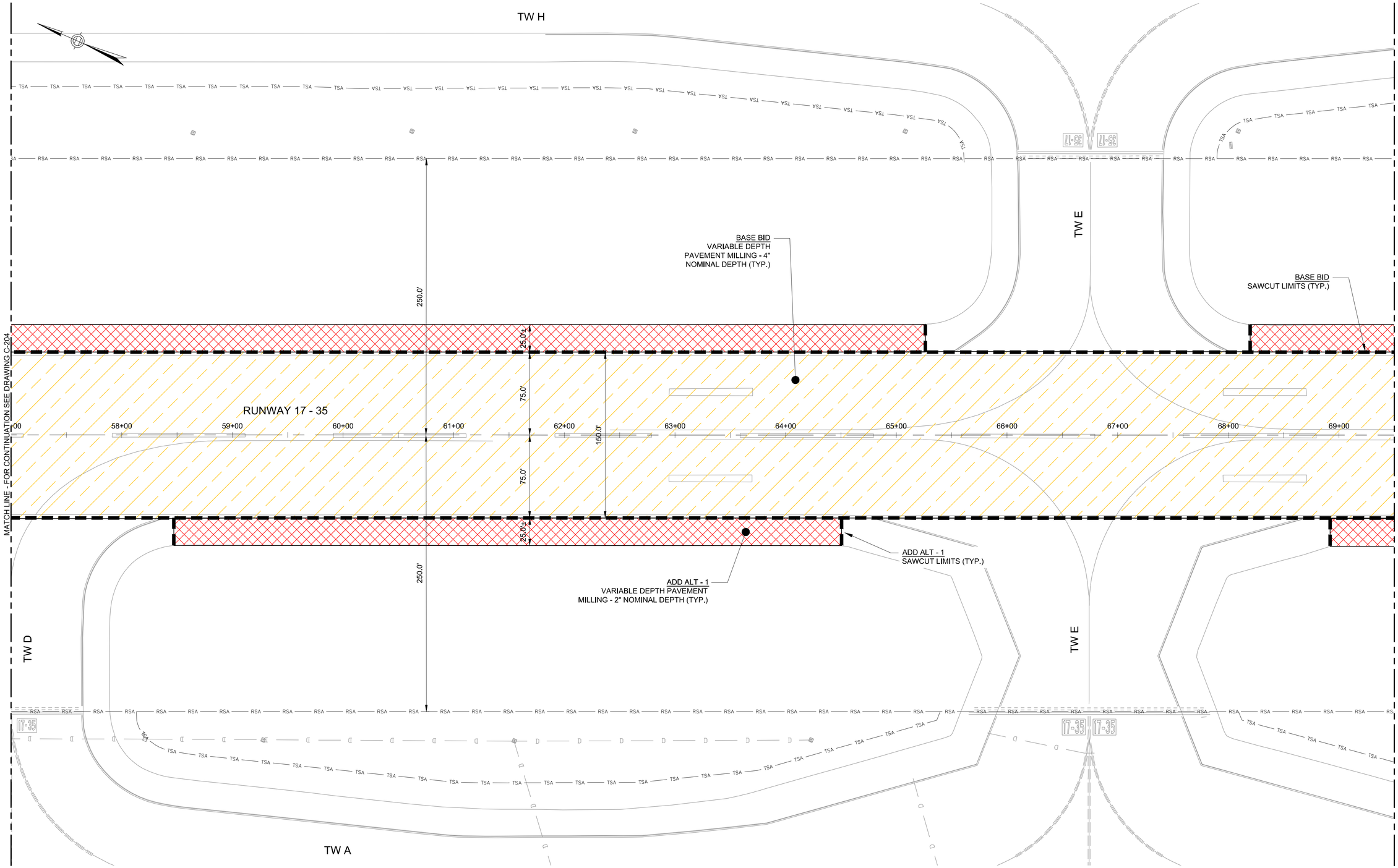
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-204
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-204] March 10, 2022 - 9:49am [sagri]



LEGEND:

	VARIABLE MILLING DEPTH (BASE BID)	— RSA —	RUNWAY SAFETY AREA
	VARIABLE MILLING DEPTH (ADD ALT 1)	— POFZ —	PRECISION OBJECT FREE ZONE
	VARIABLE MILLING DEPTH (ADD ALT 2)	— GS —	GLIDE SLOPE CRITICAL AREA
			SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 5

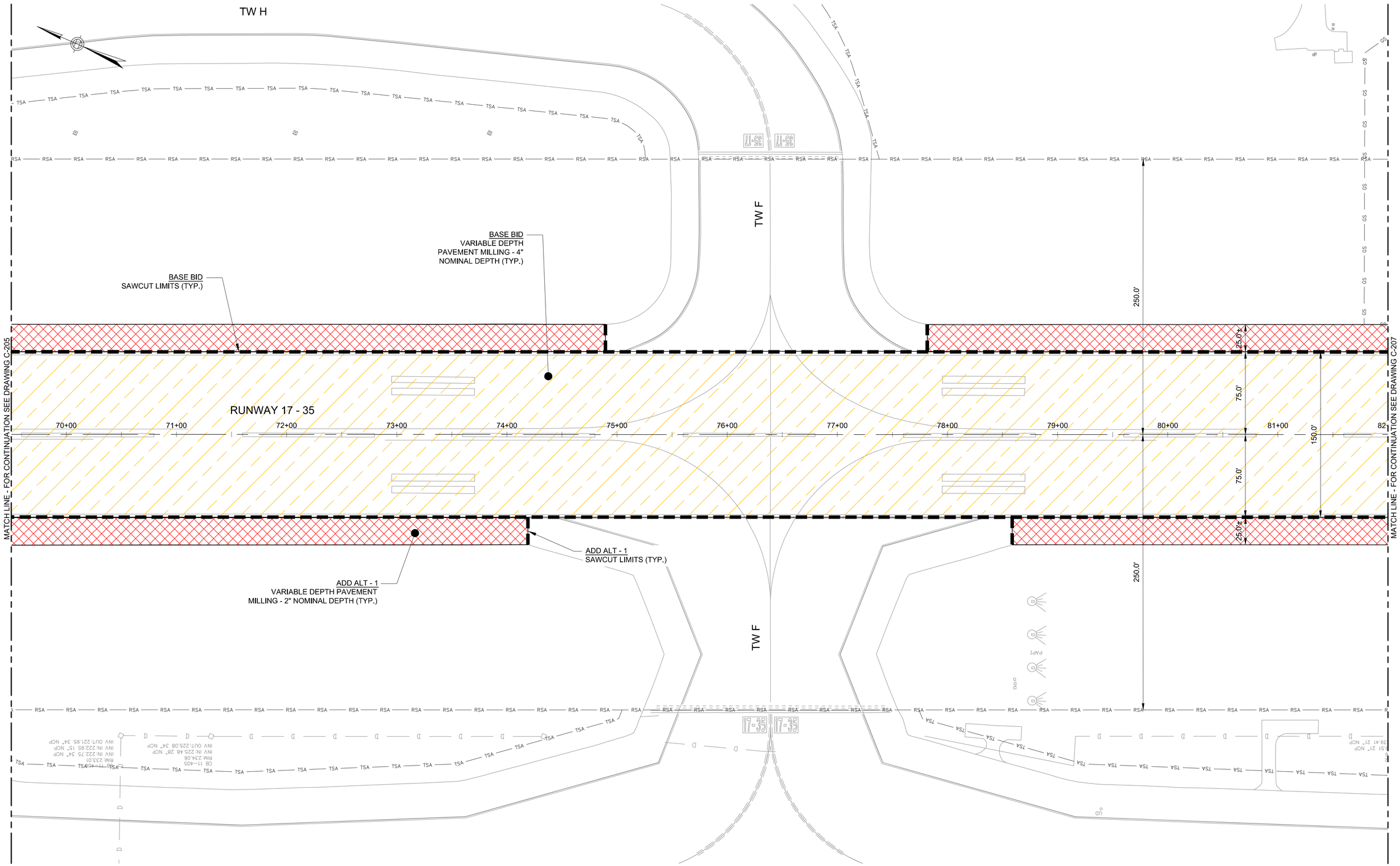
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-205
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-205] March 10, 2022 - 9:49am [sagri]



LEGEND:

	VARIABLE MILLING DEPTH (BASE BID)	RSA	RUNWAY SAFETY AREA
	VARIABLE MILLING DEPTH (ADD ALT 1)	POFZ	PRECISION OBJECT FREE ZONE
	VARIABLE MILLING DEPTH (ADD ALT 2)	GS	GLIDE SLOPE CRITICAL AREA
			SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 6

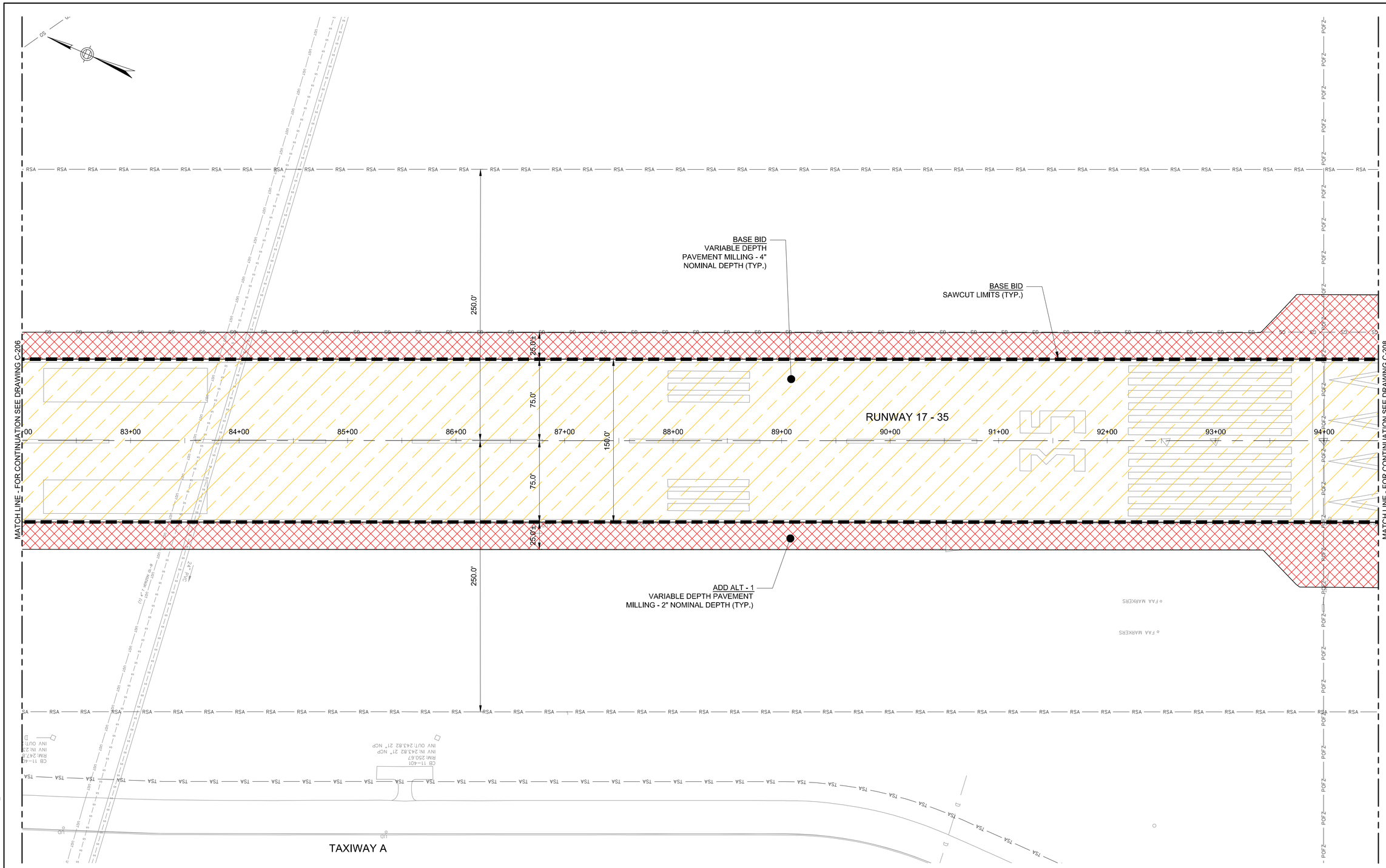
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-206
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-206] March 10, 2022 - 9:49am [sagri]



LEGEND:

	VARIABLE MILLING DEPTH (BASE BID)	— RSA —	RUNWAY SAFETY AREA
	VARIABLE MILLING DEPTH (ADD ALT 1)	— POFZ —	PRECISION OBJECT FREE ZONE
	VARIABLE MILLING DEPTH (ADD ALT 2)	— GS —	GLIDE SLOPE CRITICAL AREA
			SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

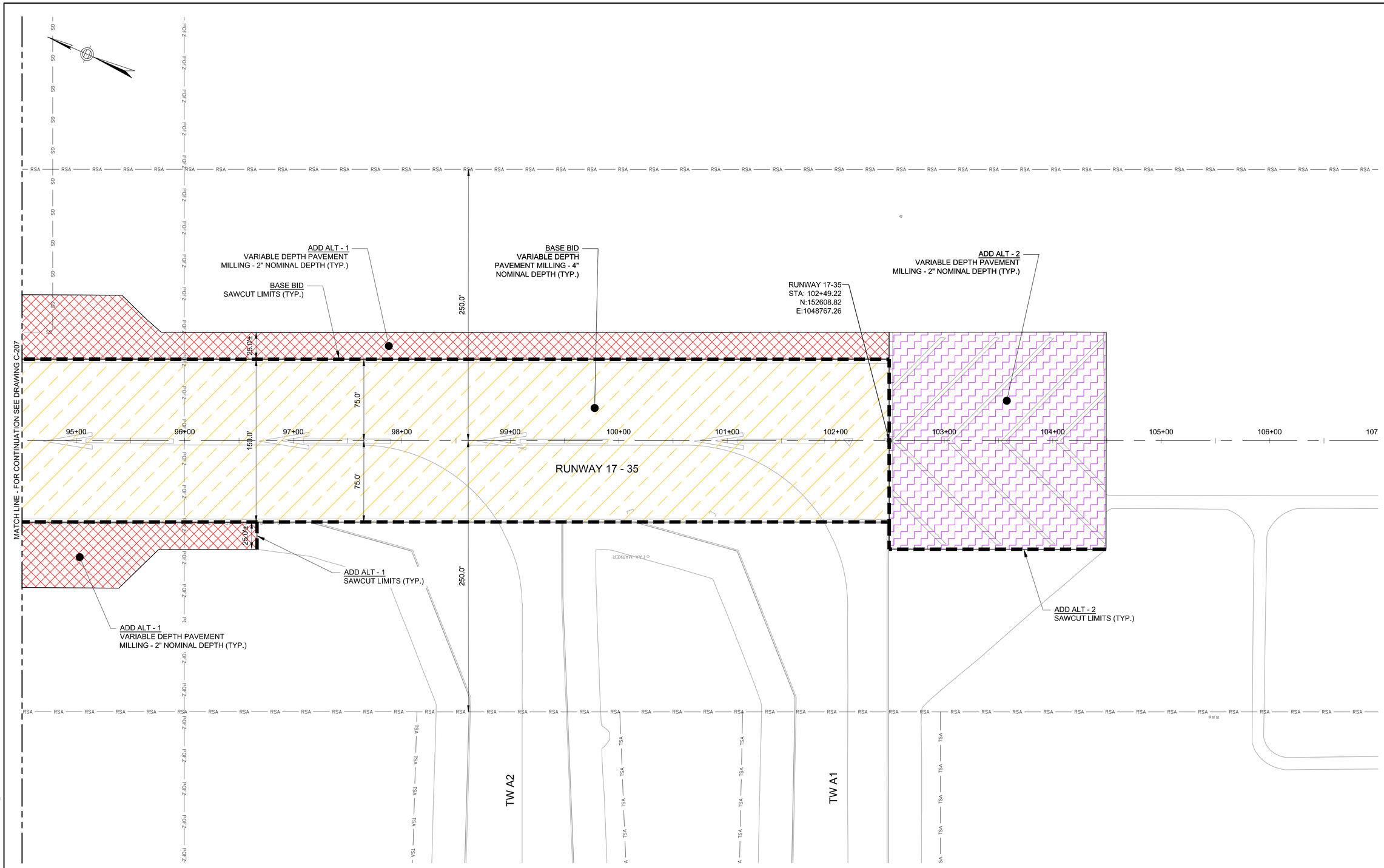
CIVIL SITE PREPARATION – 7

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:
DRAWING NO.
C-207
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-207] March 10, 2022 - 9:50am [sagri]



LEGEND:

- VARIABLE MILLING DEPTH (BASE BID)
- VARIABLE MILLING DEPTH (ADD ALT 1)
- VARIABLE MILLING DEPTH (ADD ALT 2)
- RSA — RUNWAY SAFETY AREA
- POFZ — PRECISION OBJECT FREE ZONE
- GS — GLIDE SLOPE CRITICAL AREA
- SAWCUT LIMITS

CIVIL SITE PREPARATION NOTES:

1. FOLLOWING THE COMPLETION OF MILLING OPERATIONS FOR EACH PHASE OF THE BASE BID, ADDITIVE ALTERNATE-1, AND ADDITIVE ALTERNATE-2, THE CONTRACTOR WILL PERFORM CRACK REPAIR ON THE EXISTING MILLED BITUMINOUS PAVEMENT SURFACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING OBSERVED CRACKING IN THE MILLED SURFACE AFTER MILLING OPERATIONS. THE CONTRACTOR SHALL REVIEW THE MARKED BITUMINOUS CRACK REPAIR LOCATIONS WITH THE RPR. THE RPR WILL THEN DETERMINE THE ACTUAL LOCATIONS AND TYPE OF CRACK REPAIR TO BE PERFORMED.
3. REFER TO THE CRACK REPAIR DETAILS ON SHEET C-502 FOR THE REQUIREMENTS OF THE DIFFERENT BITUMINOUS PAVEMENT CRACK REPAIR TYPES THAT MAY BE REQUIRED ON THIS PROJECT.
4. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL SAWCUTTING, CORING, TRENCHING, AND PAVEMENT REMOVAL.
5. THE CONTRACTOR SHALL FLUSH/CLEAN OUT EXISTING UNDERDRAINS ON BOTH SIDES AND FOR THE FULL LENGTH OF RUNWAY 17-35. REFER TO THE 600 SERIES OF DRAWINGS FOR THE LOCATION OF THE EXISTING UNDERDRAINS. THIS WORK WILL BE PAID FOR UNDER PROJECT LINE ITEM M-006-1.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-656-7700
FAX: 617-656-7785

SCALE: 1" = 40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 8

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

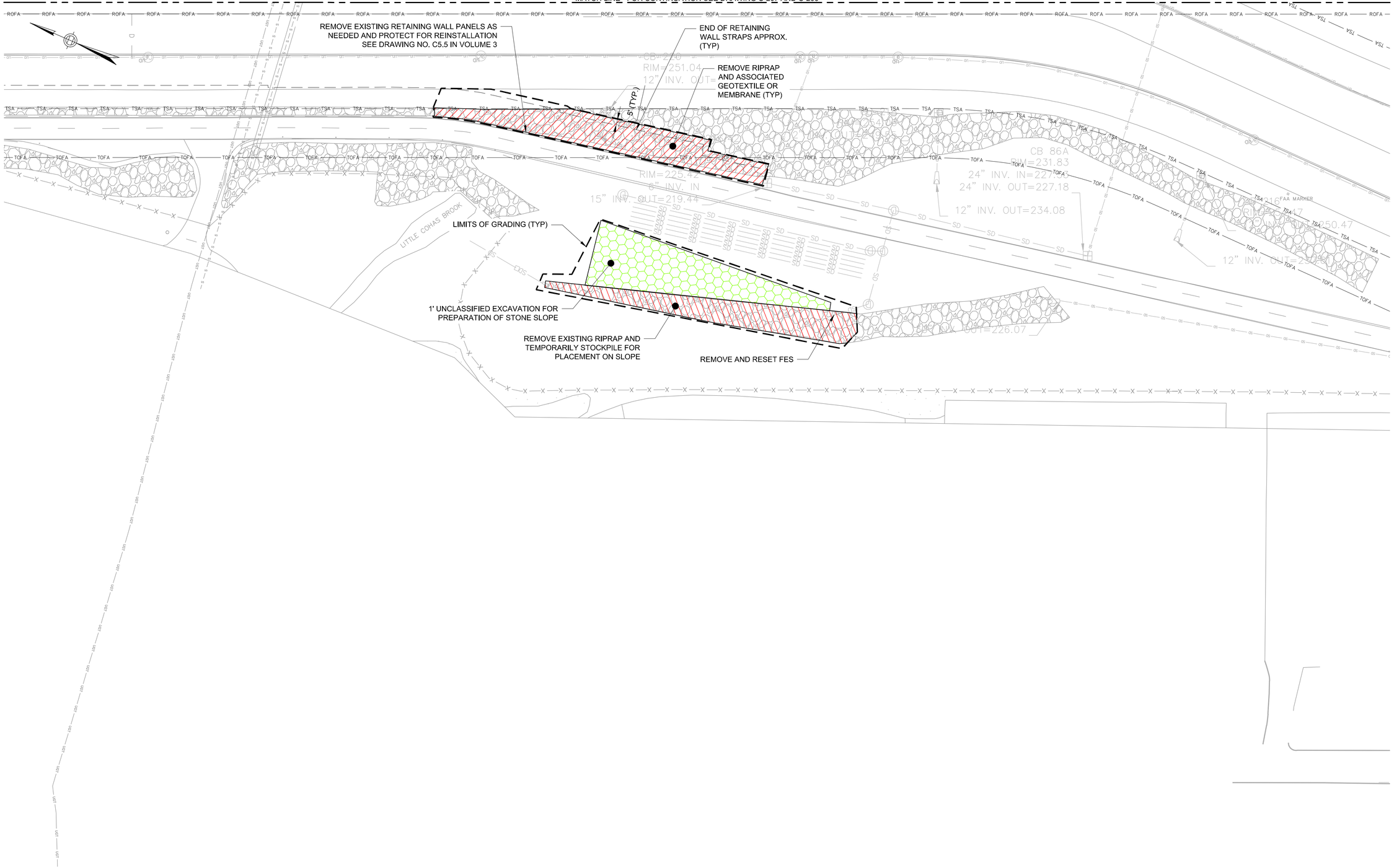
PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-208
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-208] March 10, 2022 - 9:50am [sagri]

MATCH LINE - FOR CONTINUATION SEE DRAWING C-207 AND C-206



LEGEND:

- REMOVE RIPRAP AND ASSOCIATED GEOTEXTILE OR MEMBRANE
- UNCLASSIFIED EXCAVATION
- LIMITS OF GRADING
- ROFA — RUNWAY OBJECT FREE AREA
- TSA — TAXIWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-657-7981
FAX: (603) 666-7765

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL SITE PREPARATION – 9

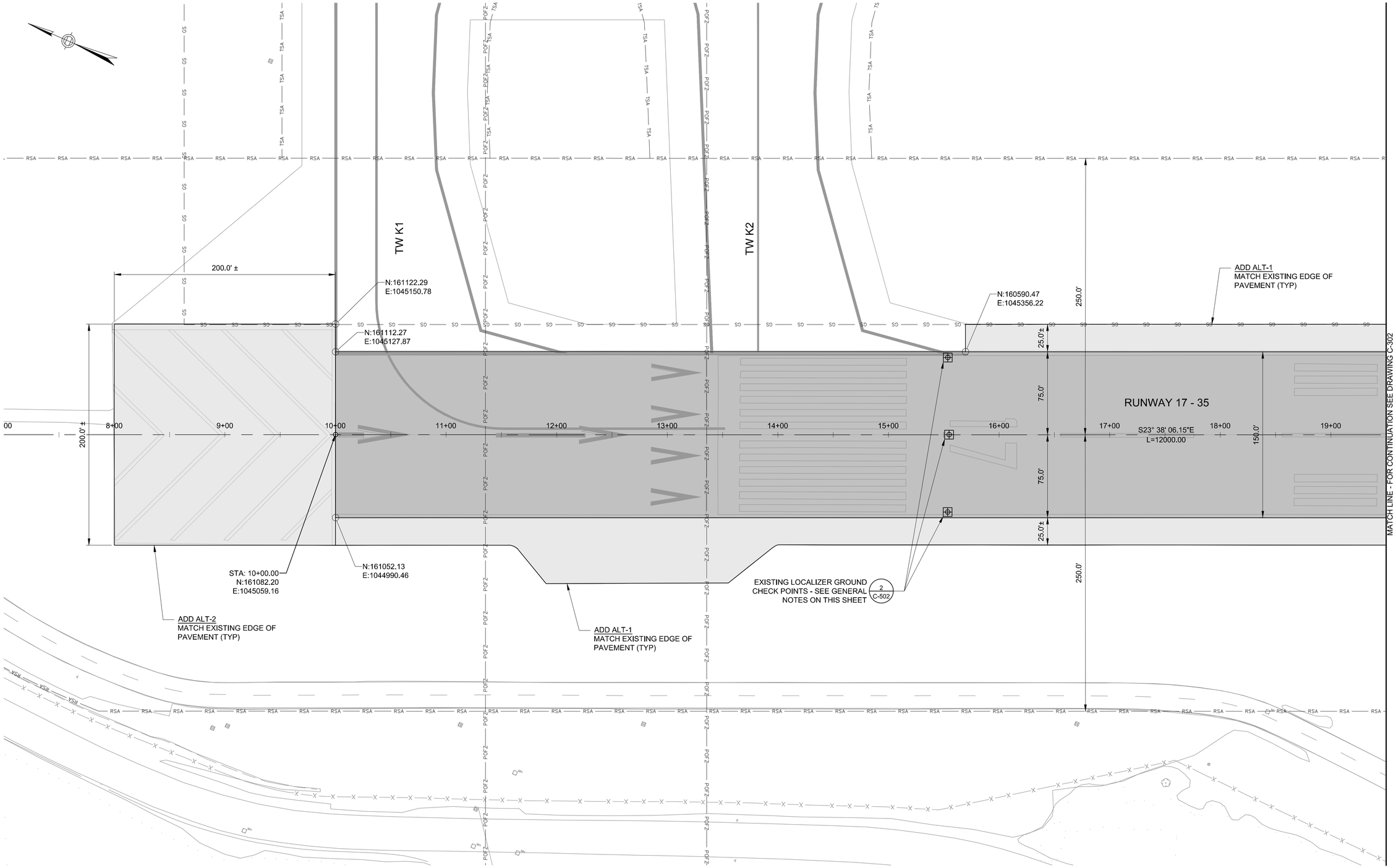
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-209
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C201_C209 - Civil Site Preparation.dwg [C-209] March 10, 2022 - 9:50am [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE
- APPROXIMATE LOCATION OF EXISTING LOCALIZER GROUND CHECK POINT

GENERAL LOCALIZER GROUND CHECK POINT NOTES:

1. LOCATIONS SHOWN ON PLAN REPRESENT THE APPROXIMATE CURRENT RECORD INFORMATION. CONTRACTOR SHALL LOCATE EXISTING LOCALIZER GROUND CHECK POINTS IN THE FIELD AND RECORD LOCATIONS.
2. REFER TO DETAIL 2 ON SHEET C-502 FOR ADDITIONAL REQUIREMENTS.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781-687-7800
FAX: 781-687-7801
FAX: 603) 666-7765

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

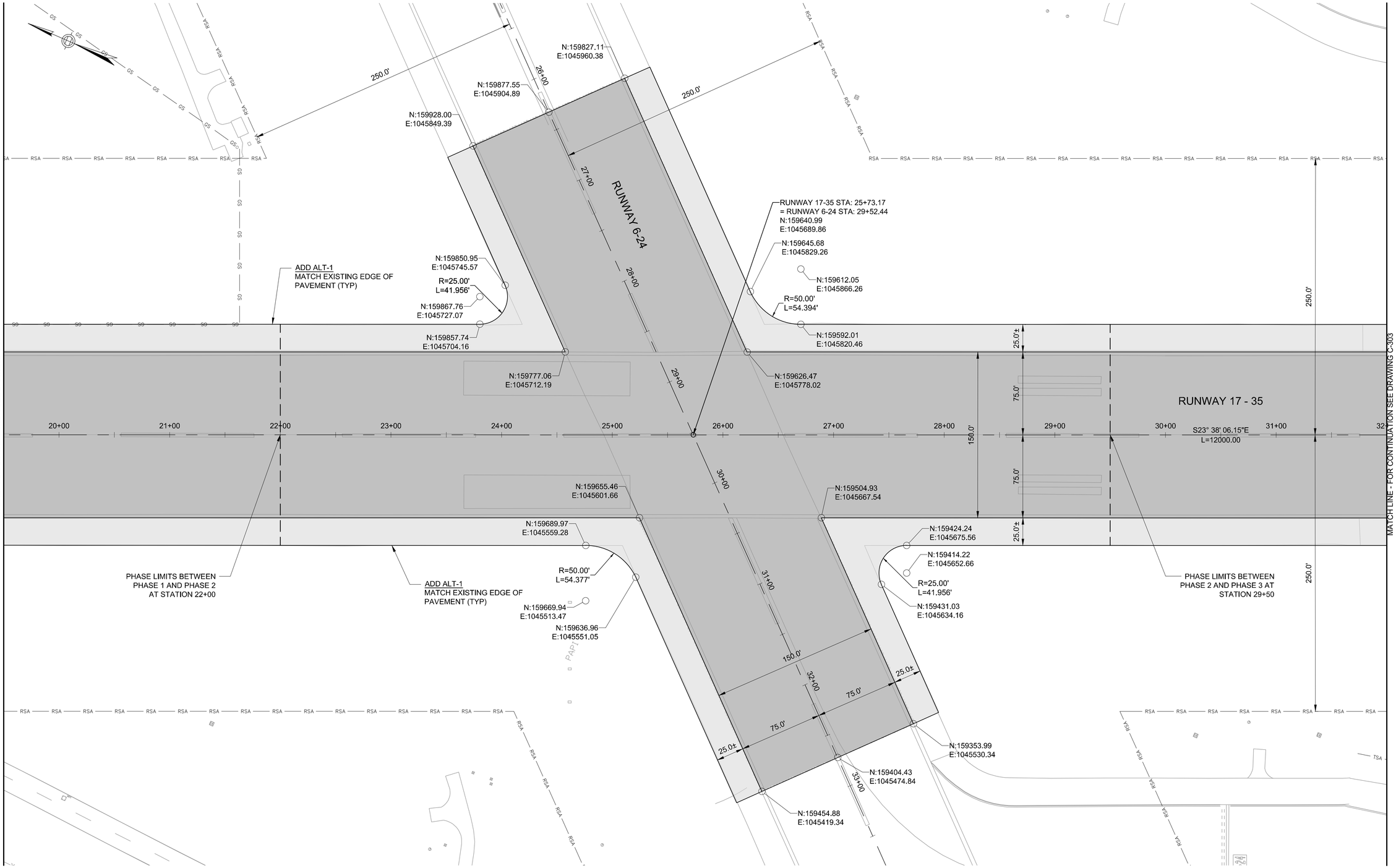
DRAWING NO.

C-301

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan - dwg [C-301] March 08, 2022 - 2:10pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-657-7981
FAX: 6033 666-7865

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 2

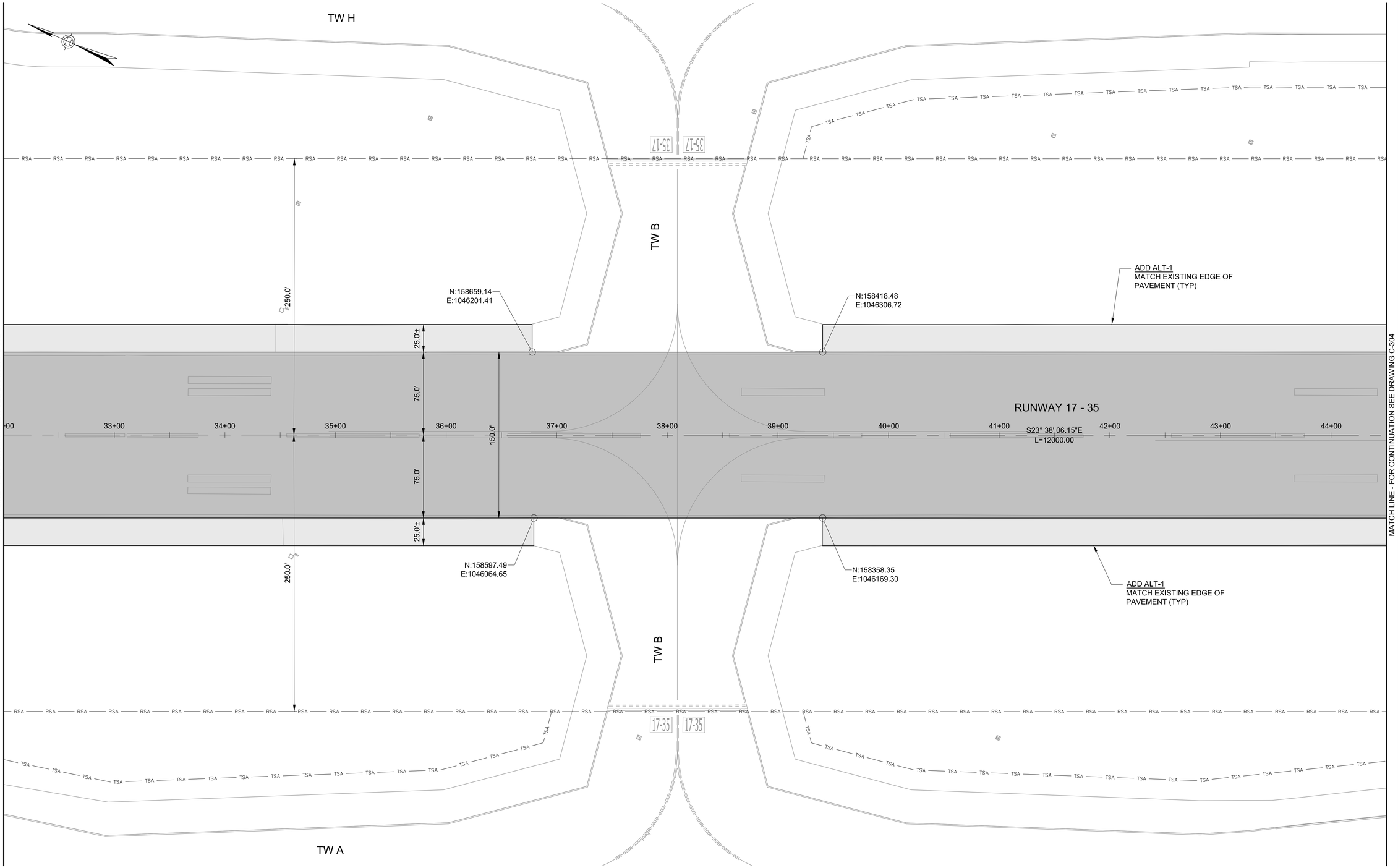
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-302
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- dwg [C-302] March 08, 2022 - 2:11 pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7881
FAX: (603) 666-7865

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 3

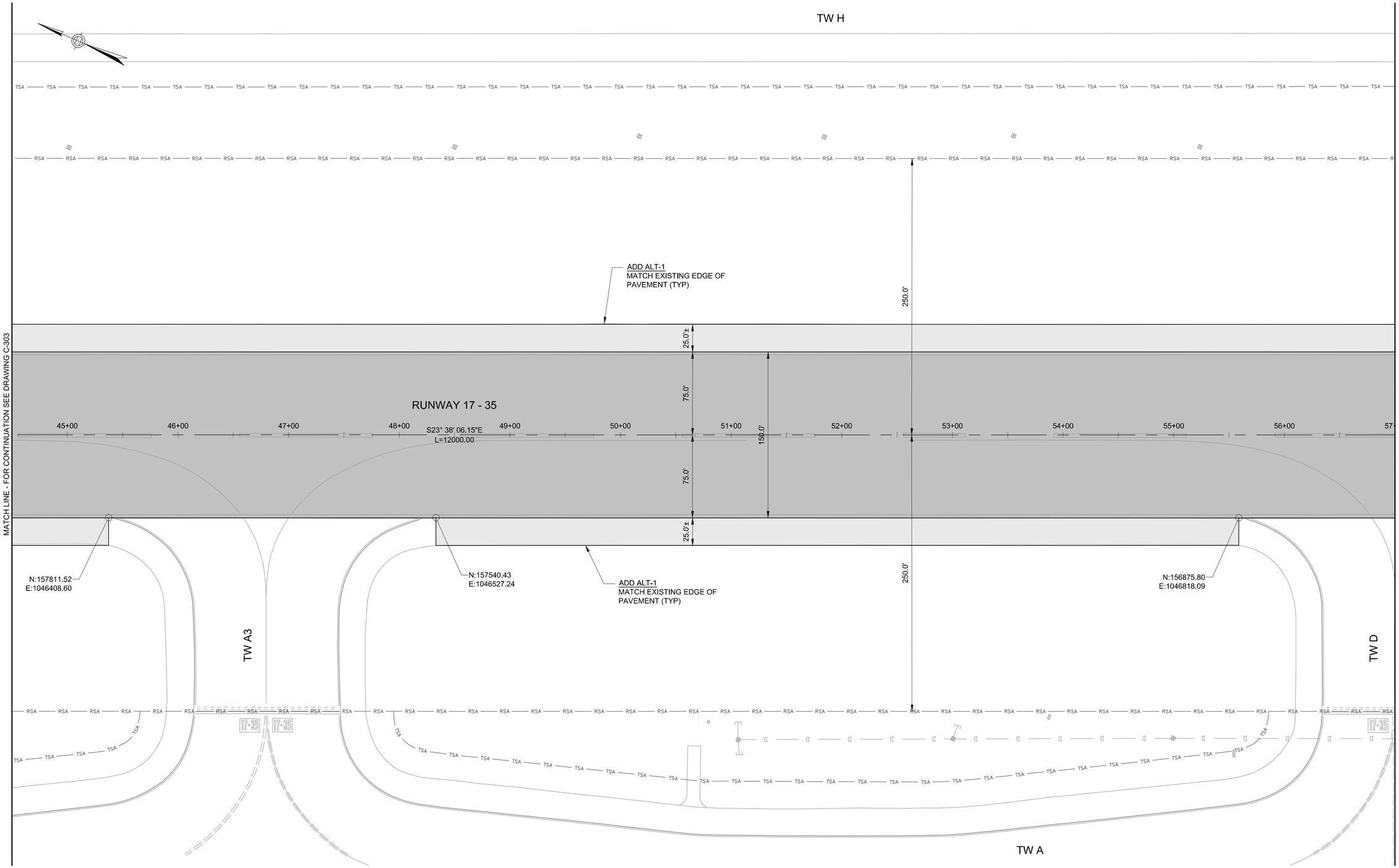
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-303
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- dwg [C-303] March 08, 2022 - 2:11pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'

40 0 20 40 80

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 6633 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 4

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

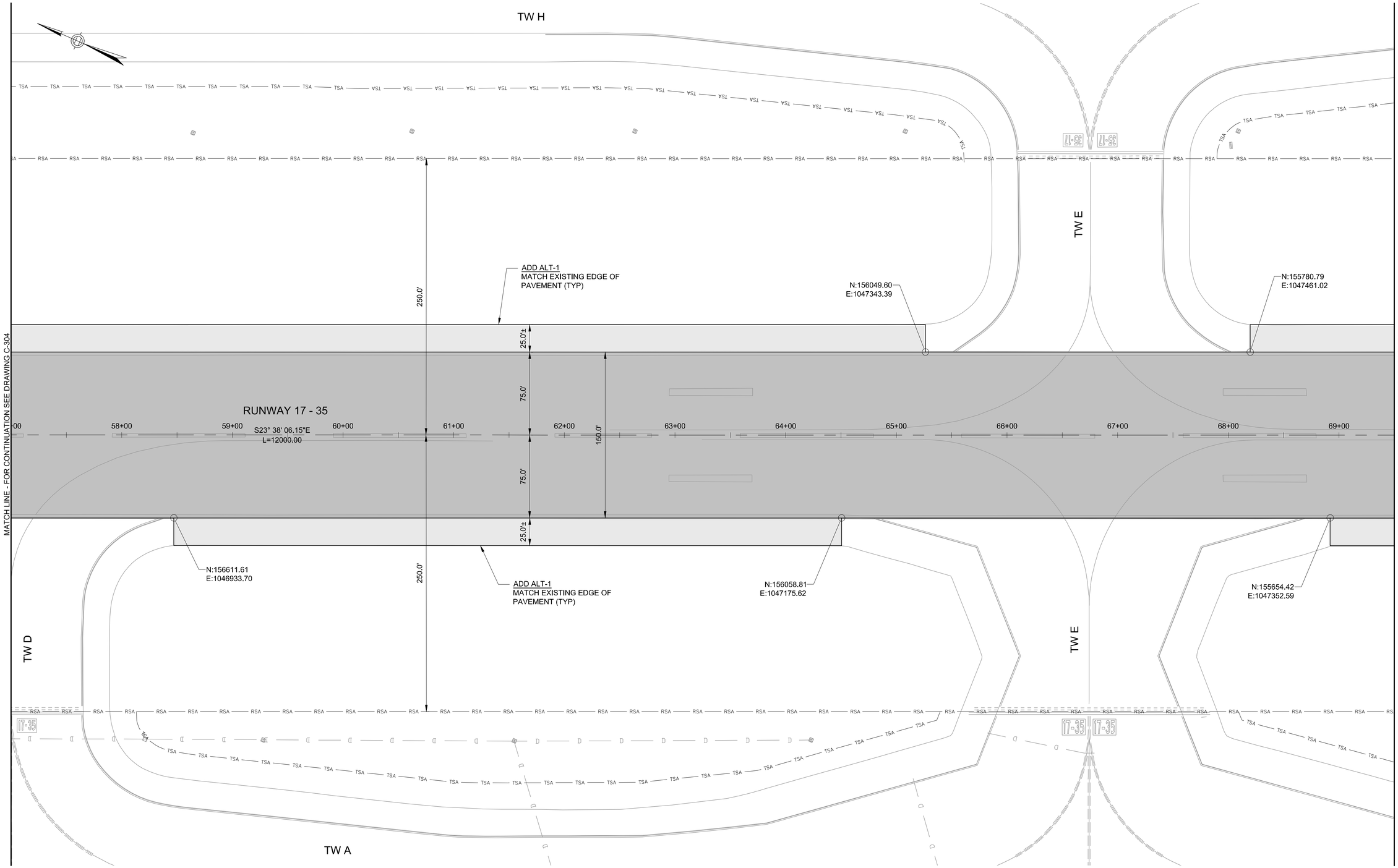
DRAWING NO.

C-304

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- dwg [C-304] March 08, 2022 - 2:12pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 5

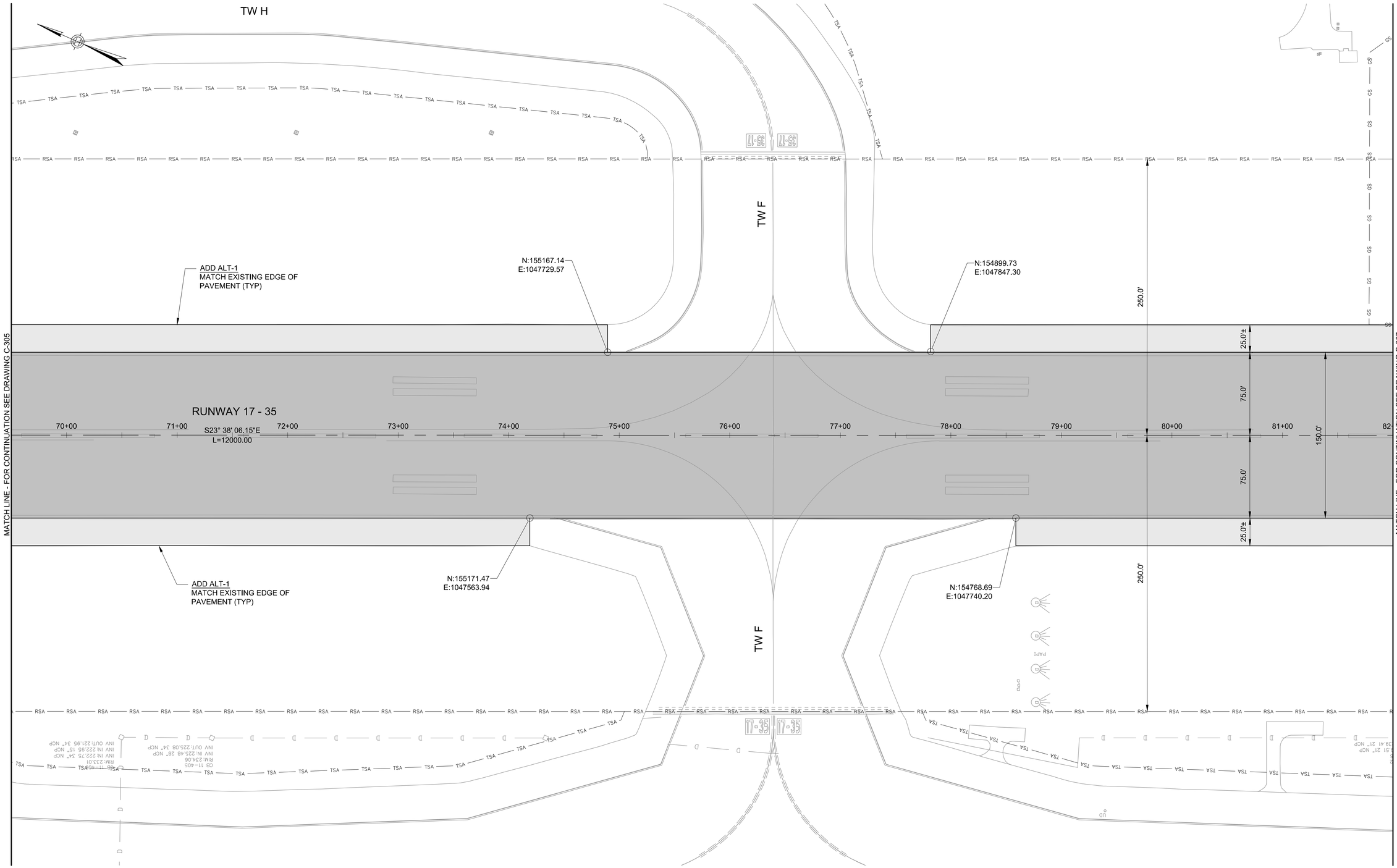
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-305
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan - dwg [C-305] March 08, 2022 - 2:12pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'

40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 6633 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 6

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

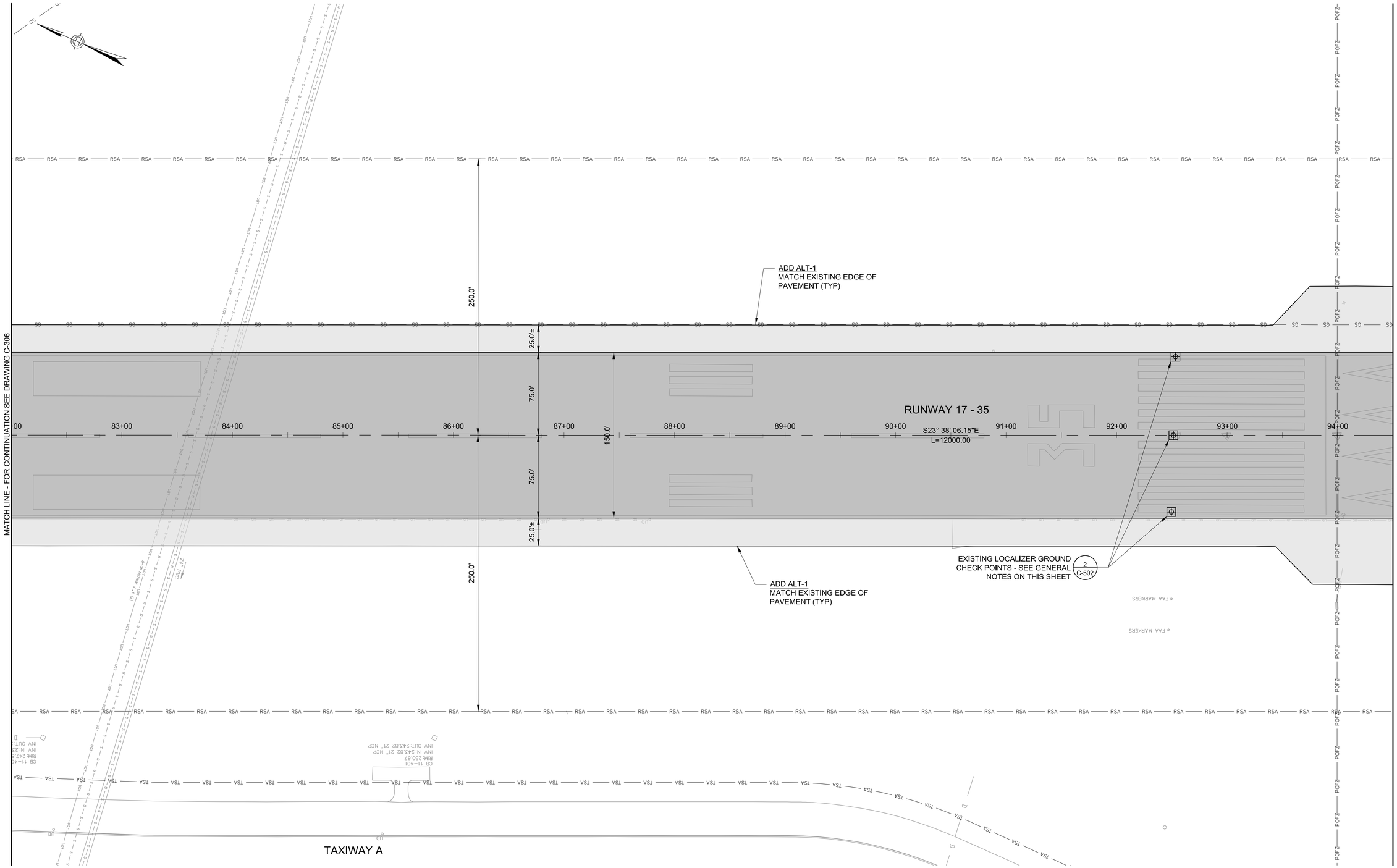
DRAWING NO.

C-306

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- dwg [C-306] March 08, 2022 - 2:12pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE
- APPROXIMATE LOCATION OF EXISTING LOCALIZER GROUND CHECK POINT

GENERAL LOCALIZER GROUND CHECK POINT NOTES:

1. LOCATIONS SHOWN ON PLAN REPRESENT THE APPROXIMATE CURRENT RECORD INFORMATION. CONTRACTOR SHALL LOCATE EXISTING LOCALIZER GROUND CHECK POINTS IN THE FIELD AND RECORD LOCATIONS.
2. REFER TO DETAIL 2 ON SHEET C-502 FOR ADDITIONAL REQUIREMENTS.

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 7

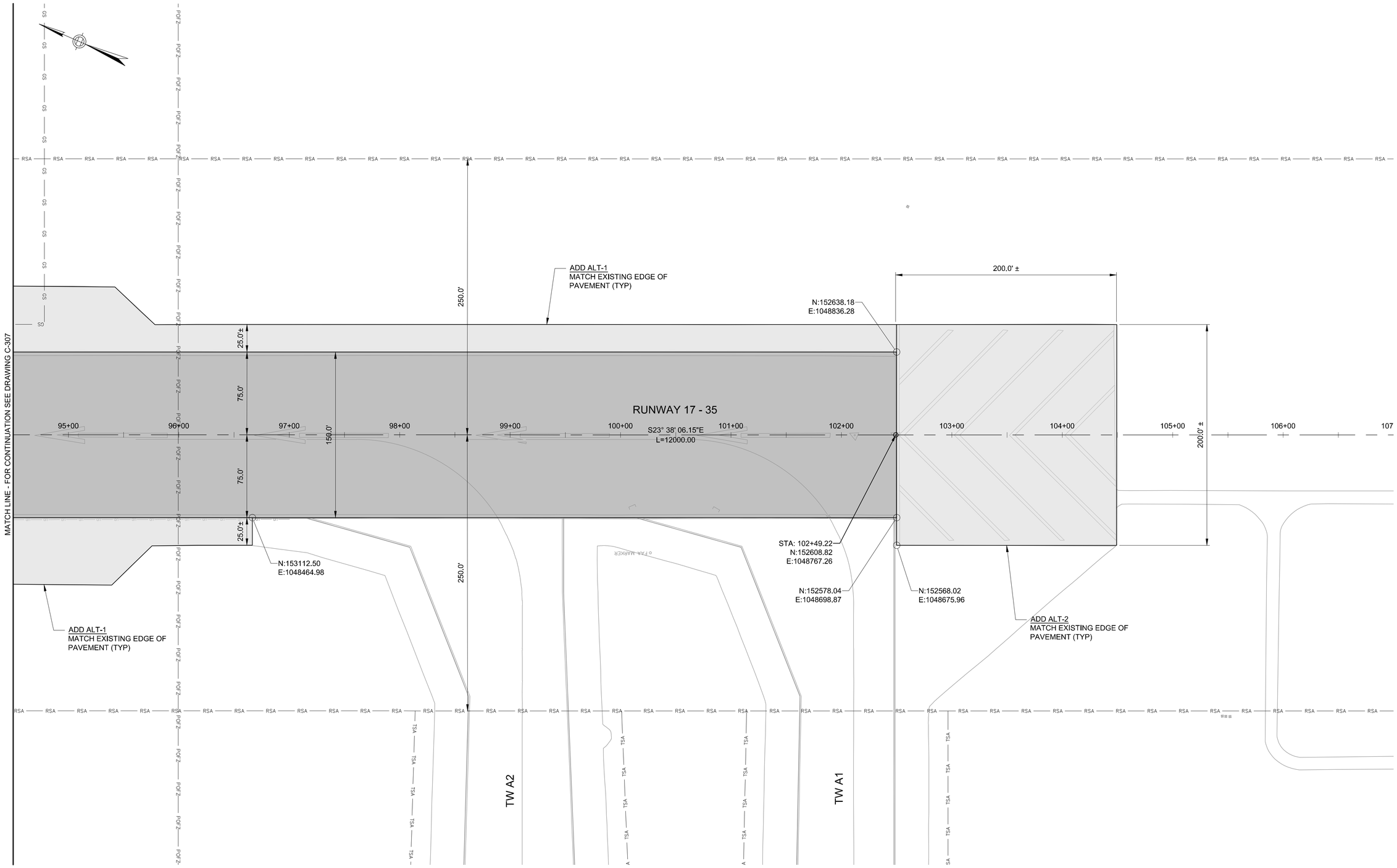
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-307
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- .dwg [C-307] March 08, 2022 - 2:13pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 8

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

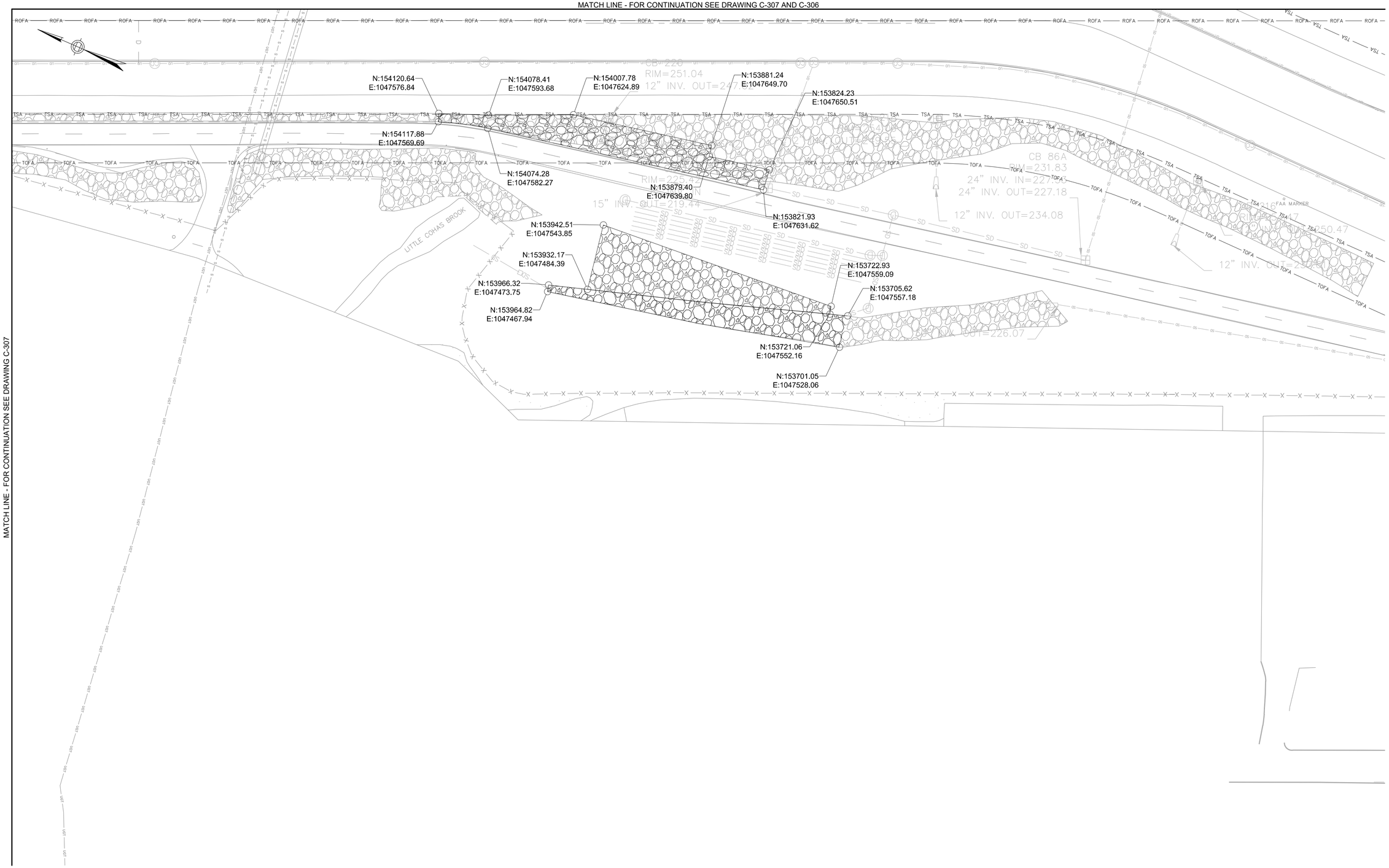
PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-308
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- .dwg [C-308] March 08, 2022 - 2:13pm [sagri]

MATCH LINE - FOR CONTINUATION SEE DRAWING C-307 AND C-306



MATCH LINE - FOR CONTINUATION SEE DRAWING C-307

LEGEND:

- PROPOSED RIPRAP OR STONE
- —ROFA— RUNWAY OBJECT FREE AREA
- — TSA — TAXIWAY SAFETY AREA
- —TOFA— TAXIWAY OBJECT FREE AREA

GENERAL PROJECT REFERNCE NOTES:

1. FOR INDEX OF DRAWINGS, GENERAL PROJECT ABBREVIATIONS AND LEGEND SEE DRAWING NO. G-002.
2. FOR PROJECT GENERAL NOTES SEE DRAWING NO. G-003.

HORIZONTAL SCALE
1"=40'

40 0 20 40 80

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781.687.8000
FAX: (603) 666-7765

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN – 9

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

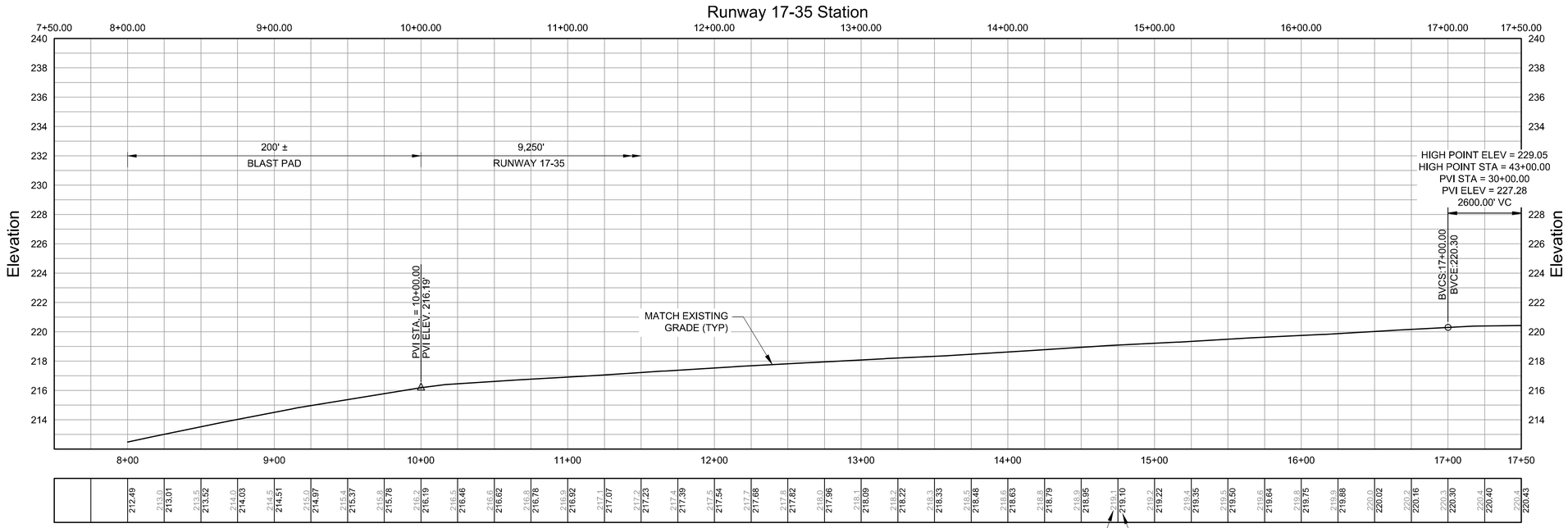
DRAWING NO.

C-309

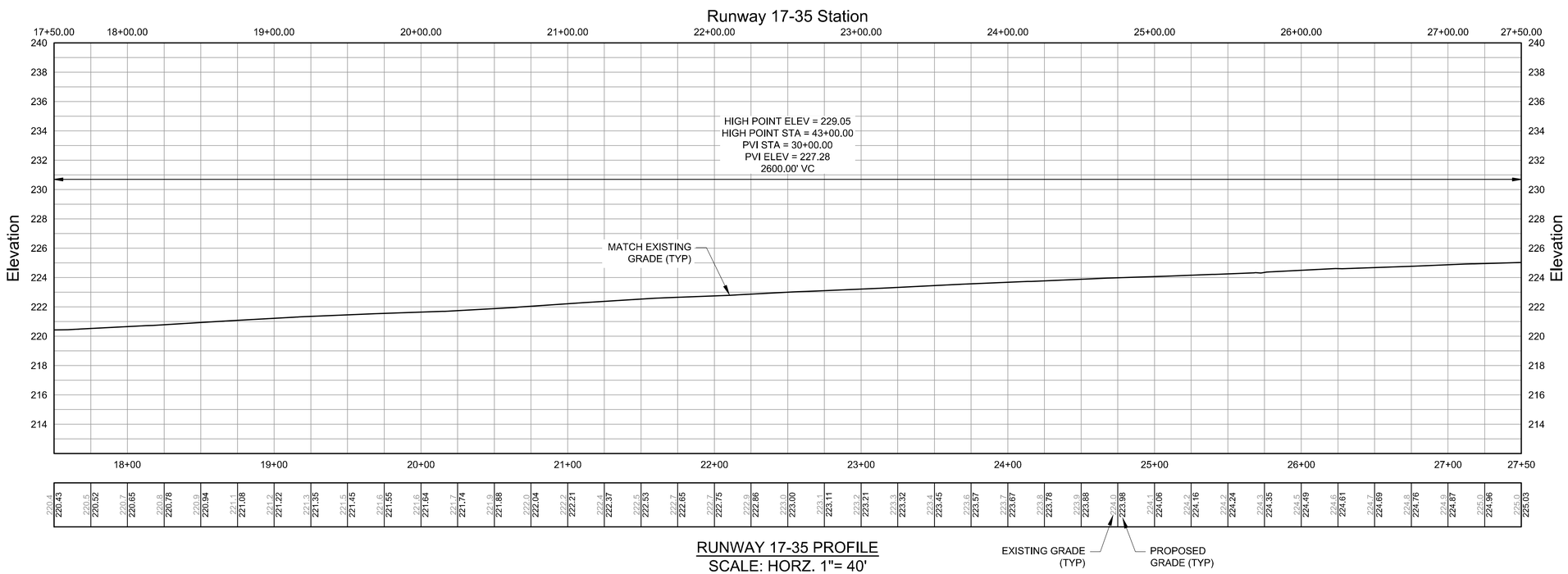
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C301_C309 - Geometry Plan- dwg [C-309] March 08, 2022 - 2:13pm [sagri]



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
2. SEE THE 900 SERIES OF DRAWINGS FOR THE CROSS SECTIONS ASSOCIATED WITH THE PROFILES ON THIS SHEET.
3. THE INTENT OF THIS PROJECT IS TO MATCH THE EXISTING GRADES OF THE RUNWAY. THE PROFILE GEOMETRY SHOWN IS FOR GENERAL INFORMATION ONLY. THE PROFILE GEOMETRY ON THE PROFILES REPRESENT THE RECORD INFORMATION AVAILABLE AS WELL AS BEST-FIT GEOMETRY.
4. THE EXISTING GRADING INFORMATION HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AIRPORT NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THE CONTRACTOR TO VERIFY THE EXISTING CONDITION GRADING PRIOR TO THE START OF ANY SITE PREPARATION ACTIVITIES.

0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781 687-7700
FAX: 781 687-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17–35 PROFILE – STATION 8+00 TO 27+50

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

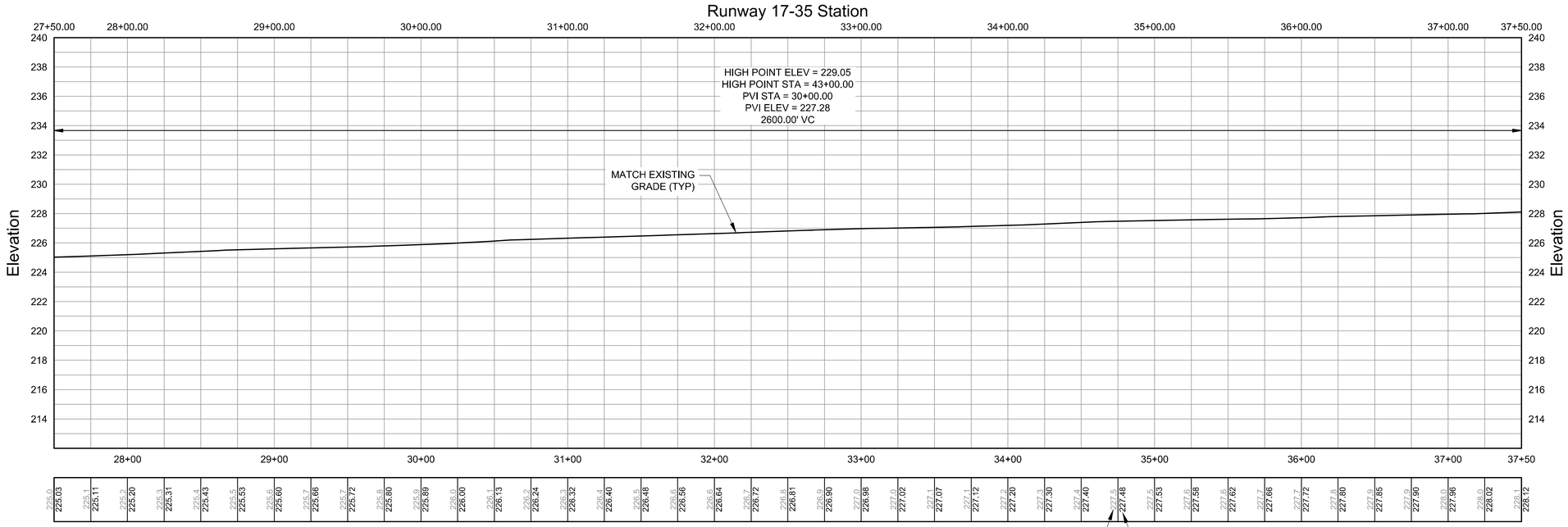
DRAWING NO.

C–401

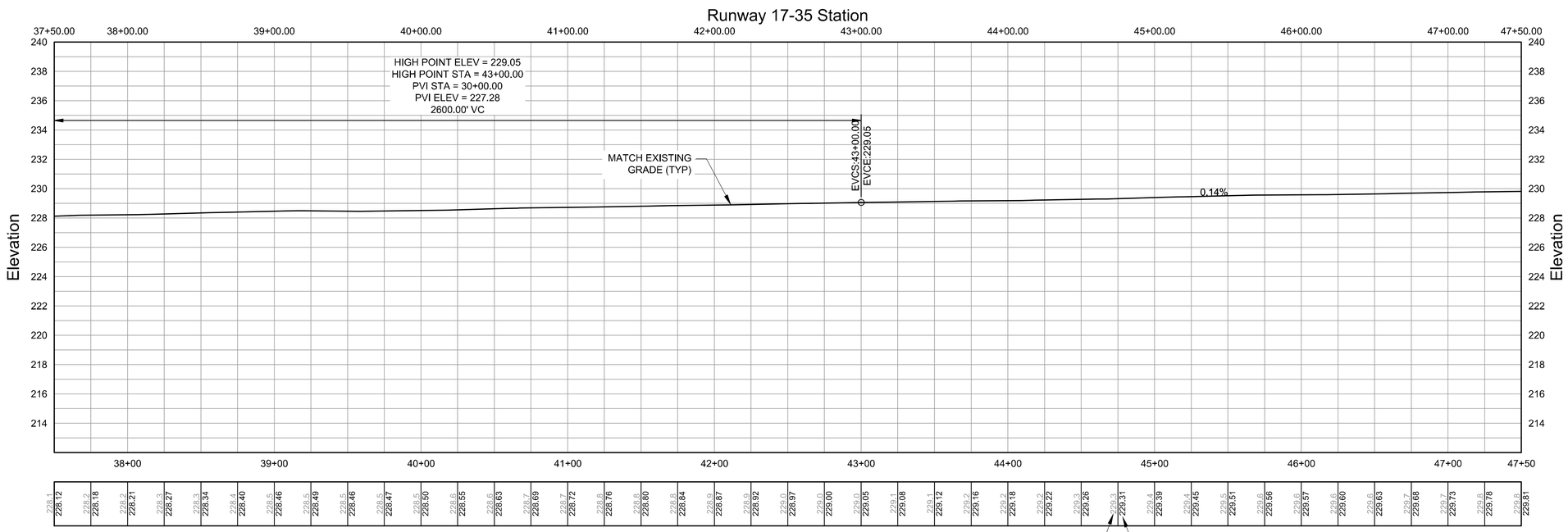
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C401_C405 -Runway Profiles.dwg [C-401] March 10, 2022 - 8:40am [sagri]



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
2. SEE THE 900 SERIES OF DRAWINGS FOR THE CROSS SECTIONS ASSOCIATED WITH THE PROFILES ON THIS SHEET.
3. THE INTENT OF THIS PROJECT IS TO MATCH THE EXISTING GRADES OF THE RUNWAY. THE PROFILE GEOMETRY SHOWN IS FOR GENERAL INFORMATION ONLY. THE PROFILE GEOMETRY ON THE PROFILES REPRESENT THE RECORD INFORMATION AVAILABLE AS WELL AS BEST-FIT GEOMETRY.
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0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 781-666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17-35 PROFILE – STATION 27+50 TO 47+50

REV. NO.	DATE	DESCRIPTION	BY

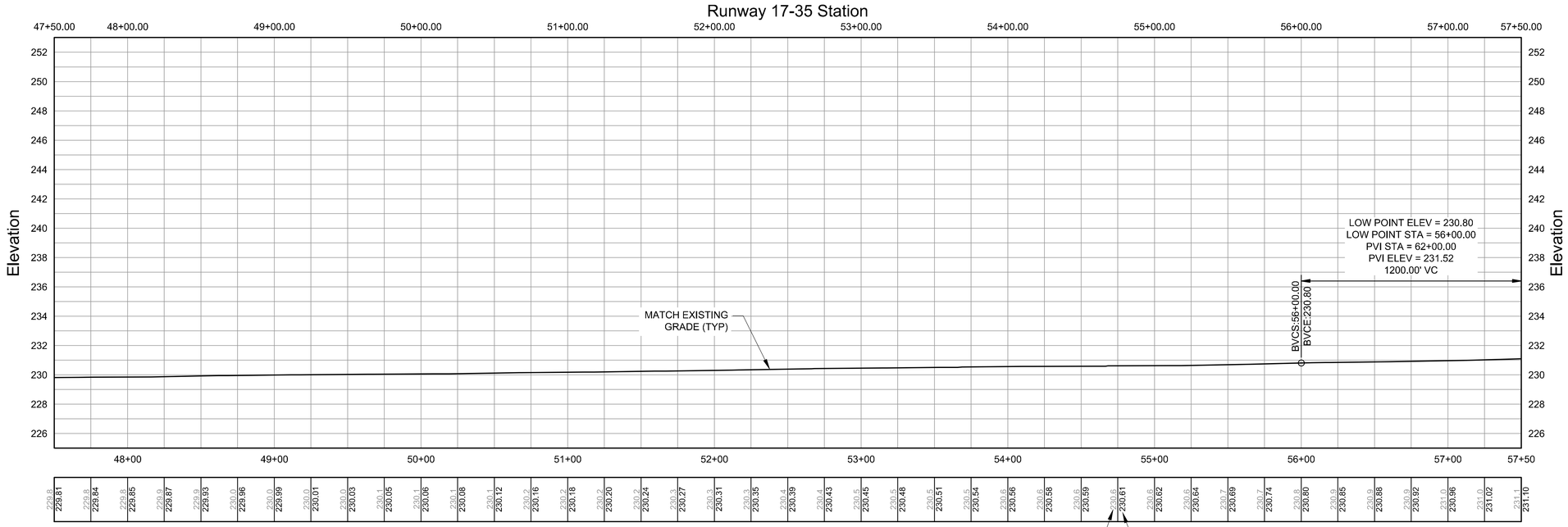
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

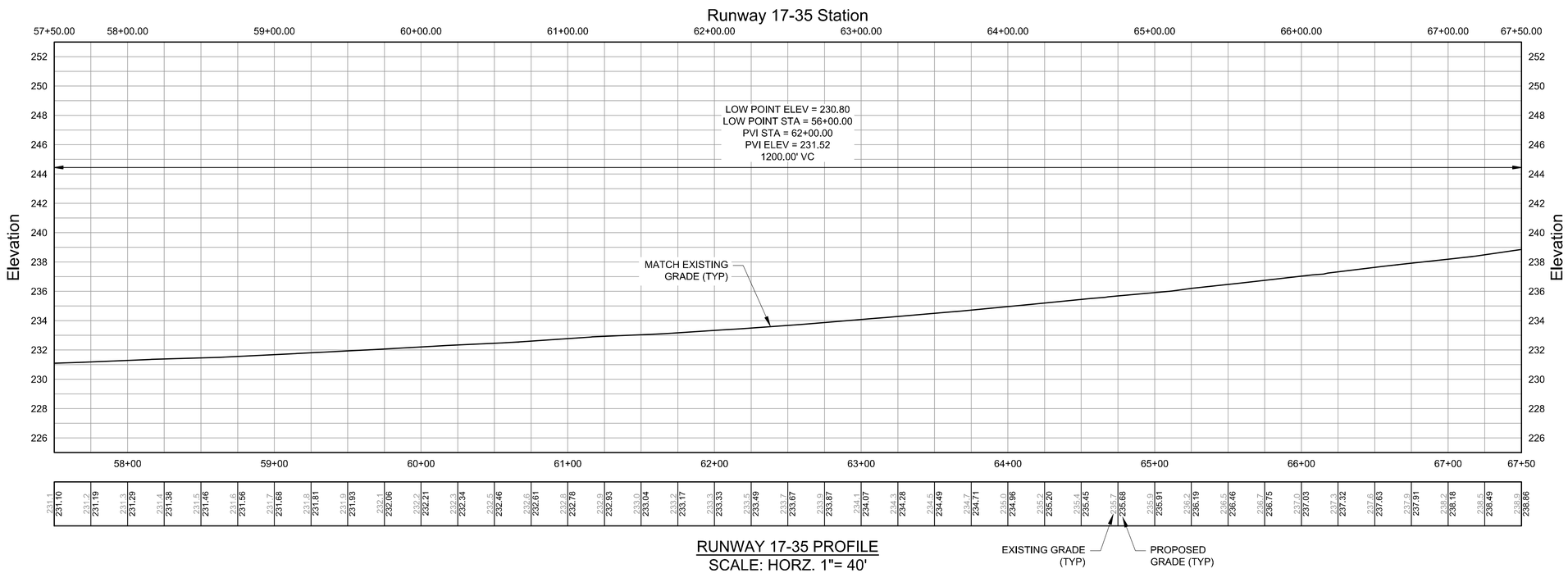
DRAWING NO.
C-402
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C401_C405 -Runway Profiles.dwg [C-402] March 10, 2022 - 8:40am [sagri]



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
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0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617 666-7781
FAX: 6633 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17-35 PROFILE – STATION 47+50 TO 67+50

REV. NO.	DATE	DESCRIPTION	BY

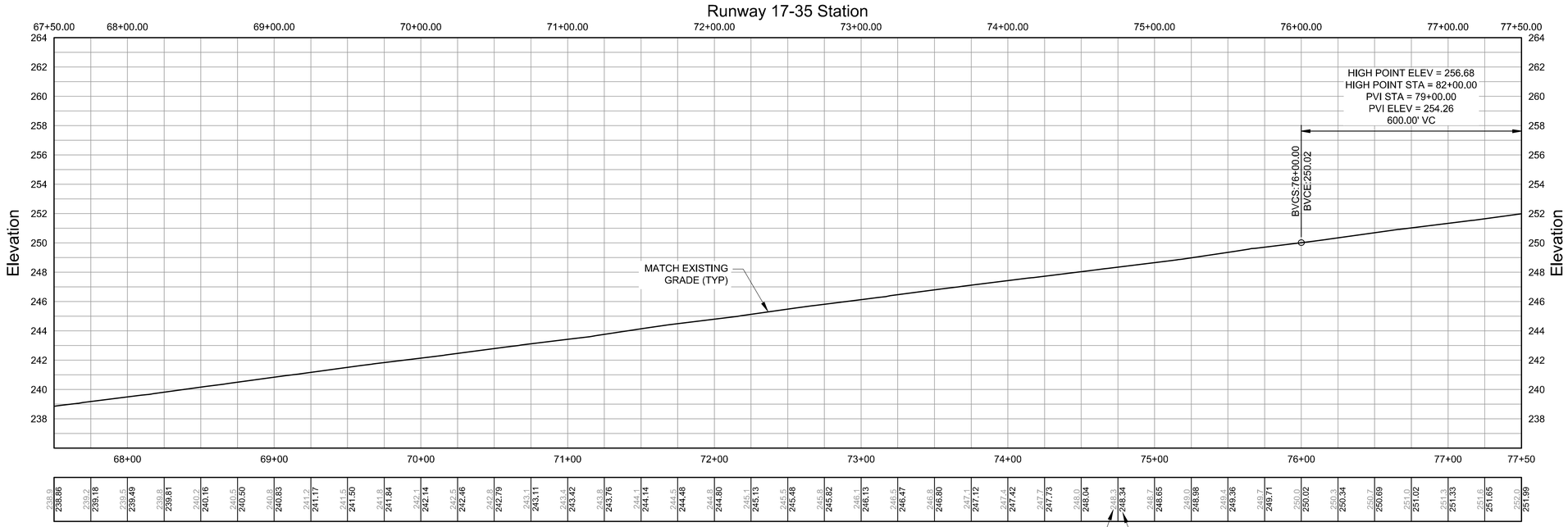
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

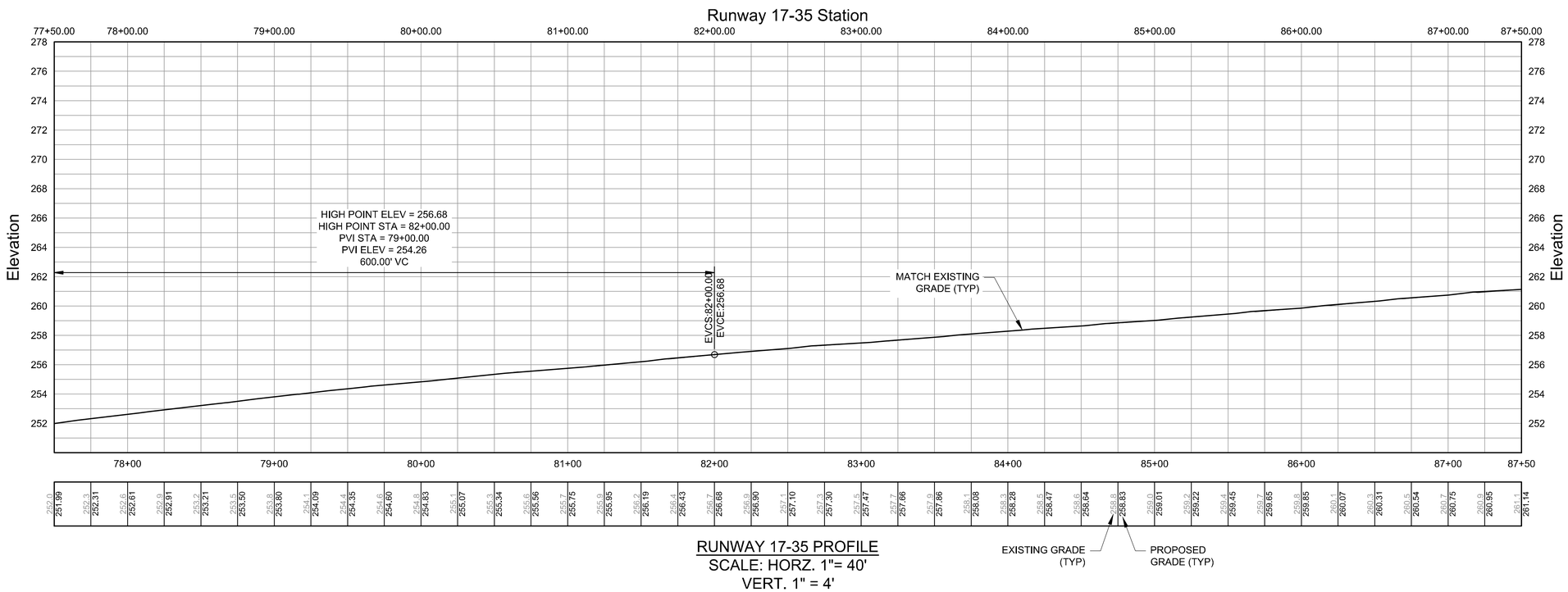
DRAWING NO.
C-403
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C401_C405 -Runway Profiles.dwg [C-403] March 10, 2022 - 8:40am [sagri]



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
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0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603) 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

RUNWAY 17–35 PROFILE – STATION 67+50 TO 87+50

REV. NO.	DATE	DESCRIPTION	BY

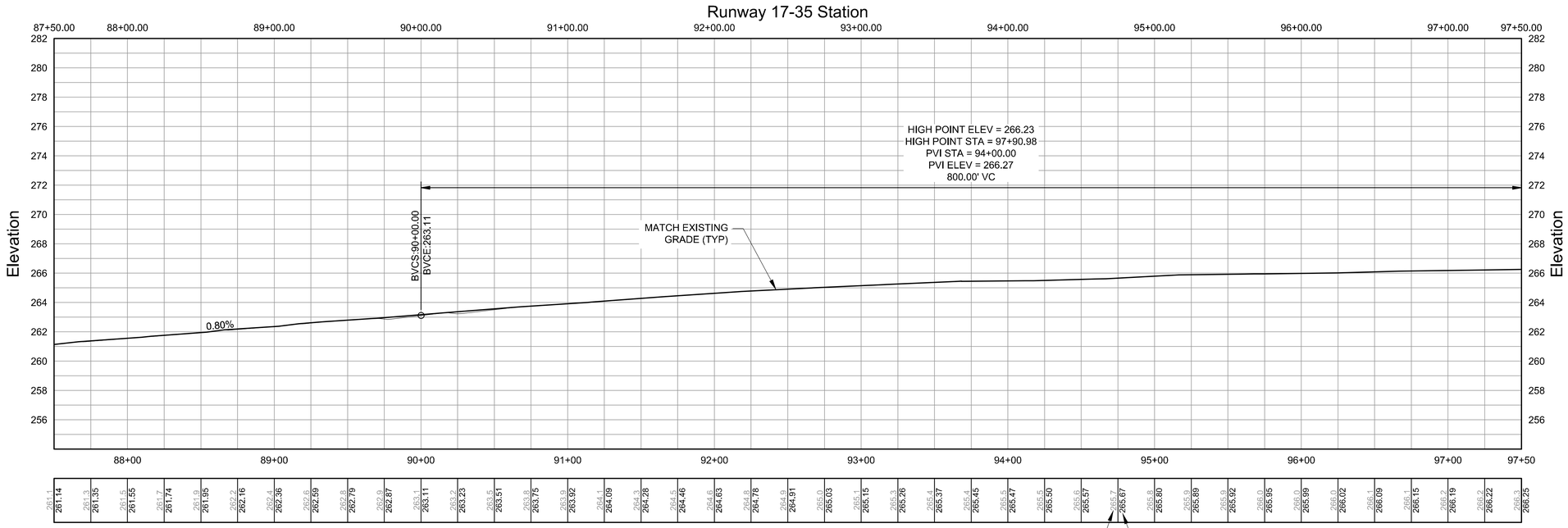
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

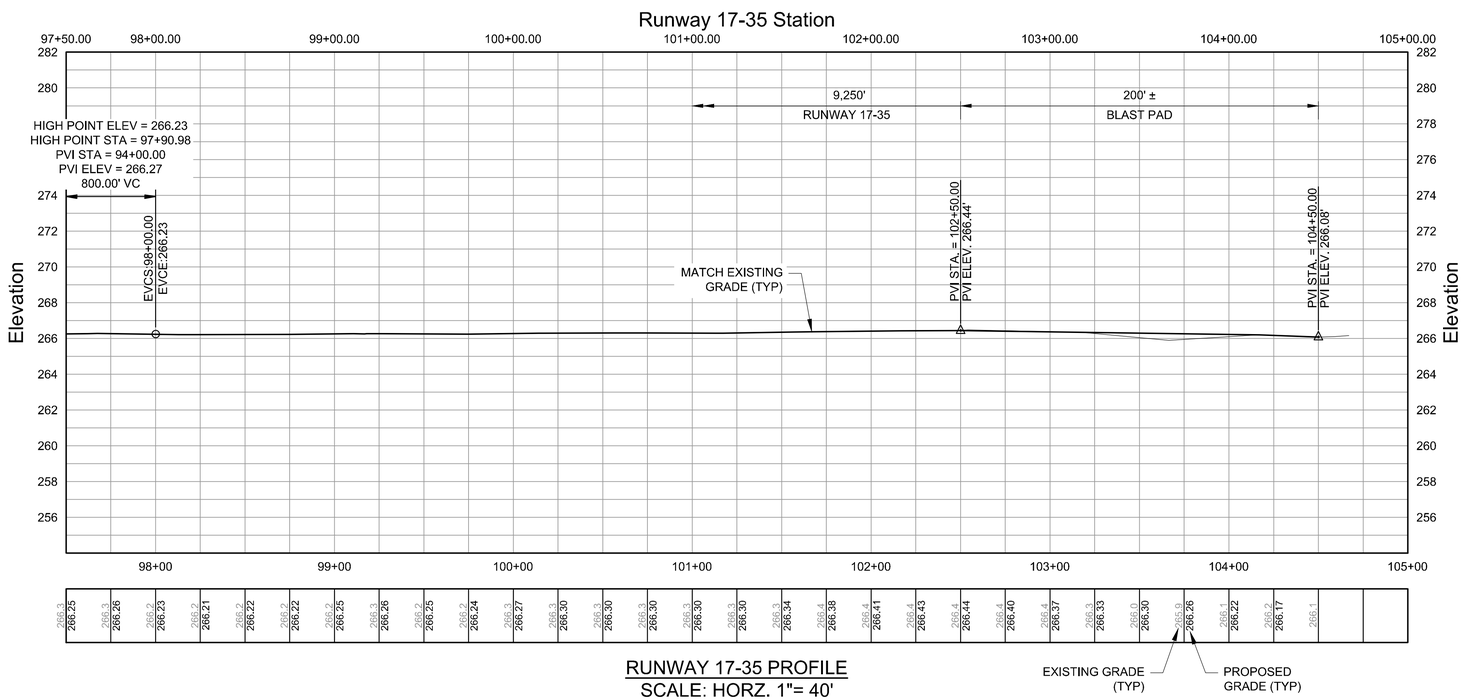
DRAWING NO.
C-404
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C401_C405 -Runway Profiles.dwg [C-404] March 10, 2022 - 8:40am [ssgri]



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'



RUNWAY 17-35 PROFILE
SCALE: HORZ. 1"= 40'
VERT. 1" = 4'

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
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0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, N.H. 03110
PHONE: 603-666-7781
FAX: 603) 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17–35 PROFILE – STATION 87+50 TO 104+50

REV. NO.	DATE	DESCRIPTION	BY

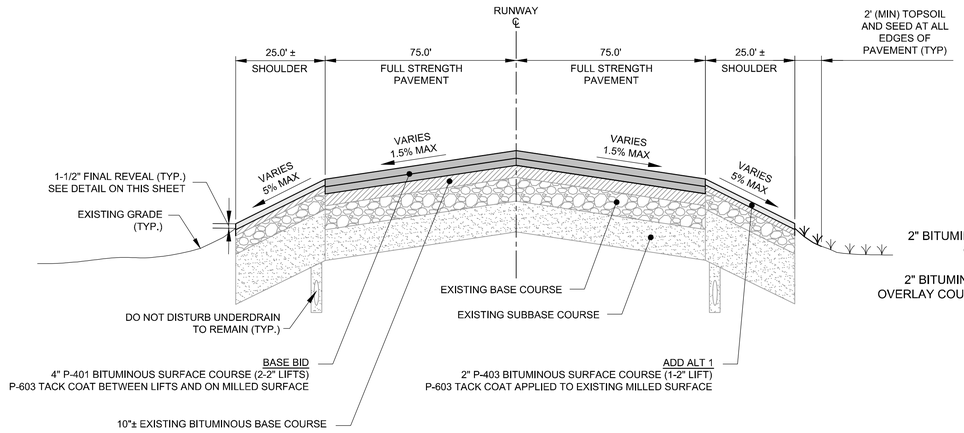
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

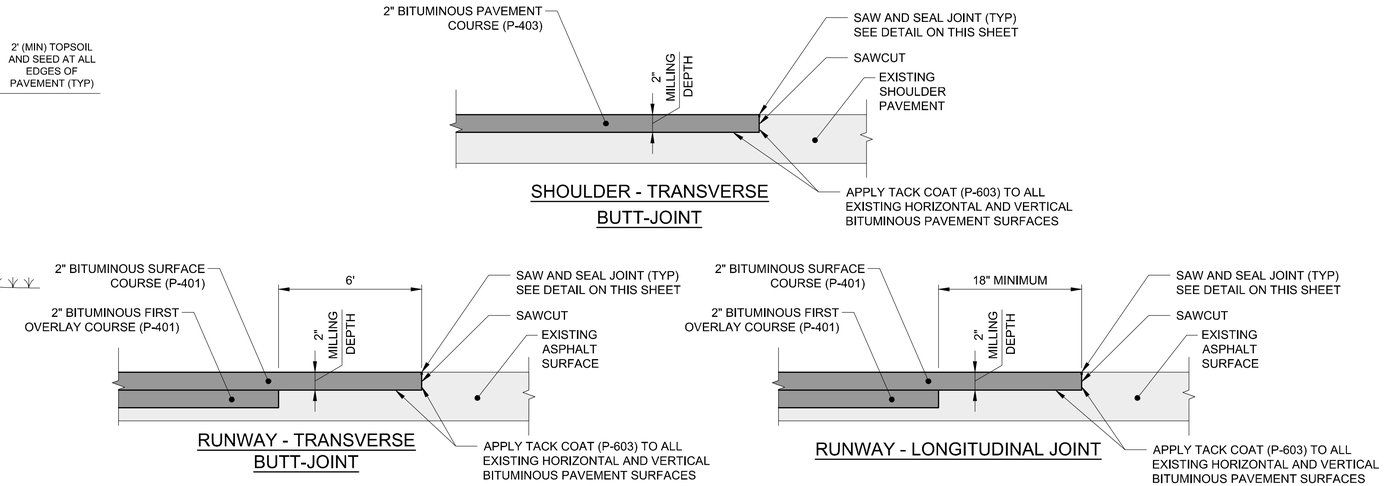
DRAWING NO.
C-405
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

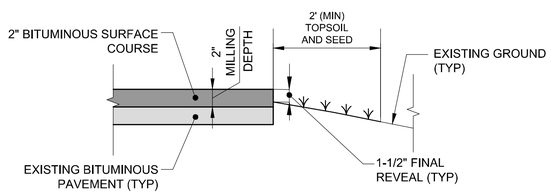
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C401_C405 -Runway Profiles.dwg [C-405] March 10, 2022 - 8:41am [sagri]



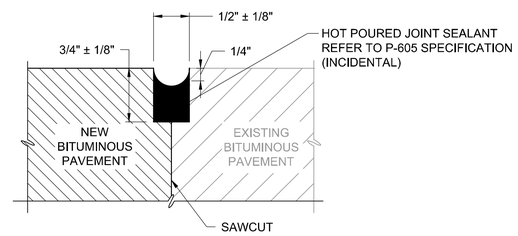
1 TYPICAL RUNWAY AND SHOULDER MILL AND OVERLAY SECTION
SCALE: NTS



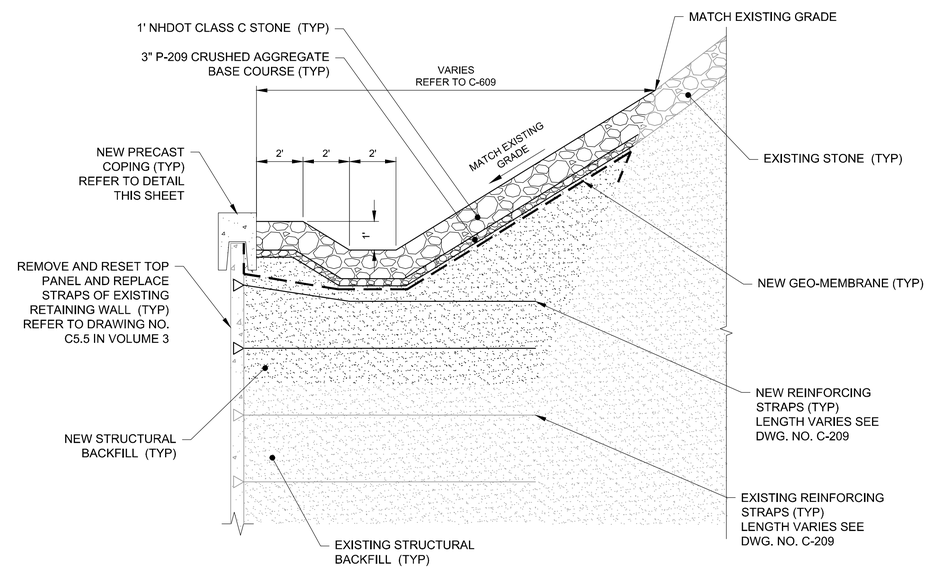
2 OVERLAY TRANSITION TO EXISTING BITUMINOUS PAVEMENT
SCALE: NTS



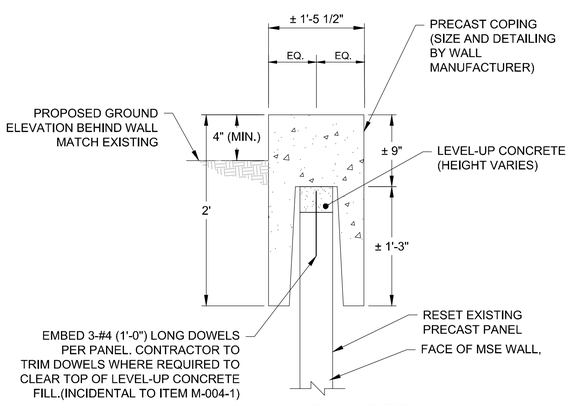
3 OVERLAY TO THE EXISTING EDGE OF PAVEMENT
SCALE: NTS



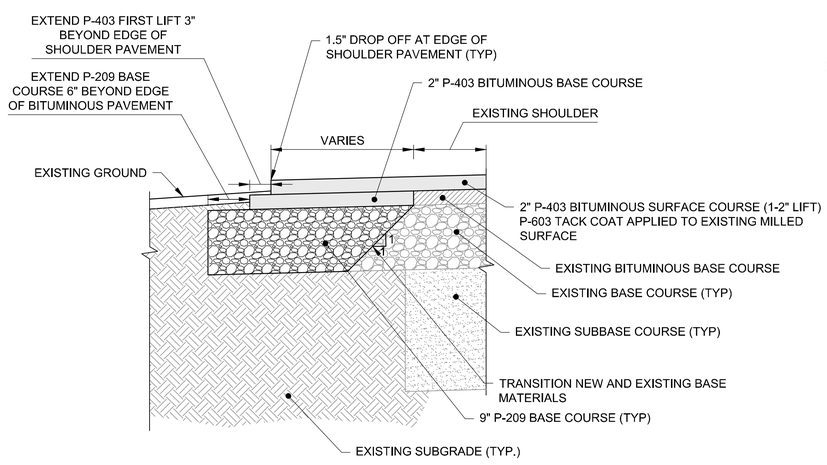
4 SAW AND SEAL BITUMINOUS JOINT DETAIL
SCALE: NTS



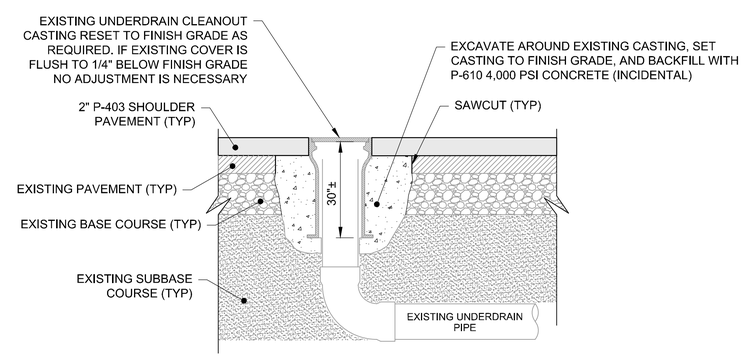
5 TYPICAL STONE CHANNEL BEHIND RETAINING WALL SECTION
SCALE: NTS



6 WALL COPING DETAIL
SCALE: NTS



7 TYPICAL SHOULDER PAVEMENT WIDENING SECTION DETAIL
SCALE: NTS



8 ADJUST EXISTING CLEANOUT TO GRADE DETAIL
SCALE: NTS

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603 666-7785

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

TYPICAL SECTIONS AND PAVEMENT DETAILS – 1

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

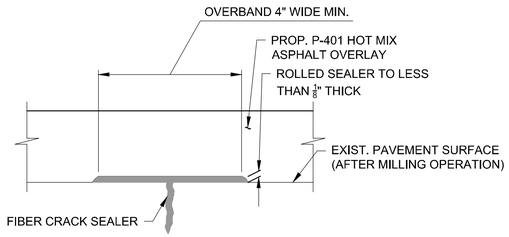
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-501
REV

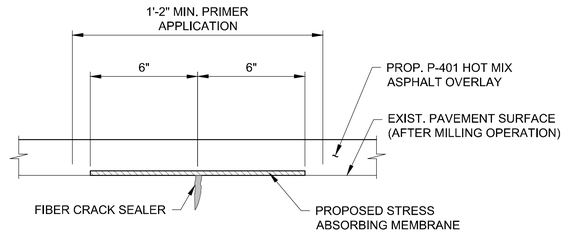
ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16356\C501_C502 - Typical Sections and Pavement Details.dwg [C-501] March 10, 2022 - 9:08am [sagri]



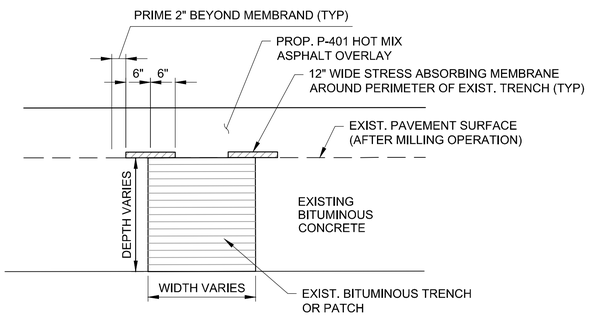
1. THE TYPE 1A METHOD OF CRACK REPAIR SHALL BE PERFORMED ON CRACKS NARROWER THAN 3/4".

TYPE 1A - CRACK REPAIR



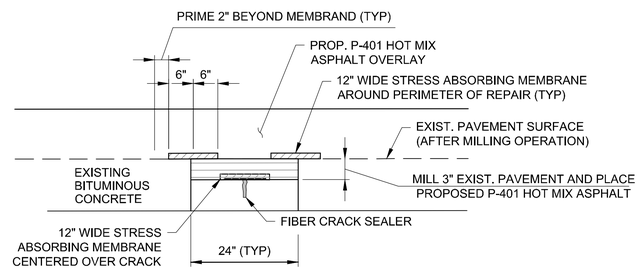
1. THE TYPE 1B METHOD OF CRACK REPAIR SHALL BE PERFORMED ON CRACKS WIDER THAN 3/4" AND NARROWER THAN 1-1/4".

TYPE 1B - CRACK REPAIR



1. THE TYPE 1C METHOD OF CRACK REPAIR SHALL BE PERFORMED ON CRACKS WIDER THAN 1-1/4" AND NARROWER THAN 2".

TYPE 1C - CRACK REPAIR



1. THE TYPE 1D METHOD OF CRACK REPAIR SHALL BE PERFORMED ON CRACKS WIDER THAN 2".

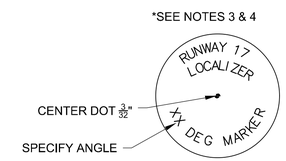
TYPE 1D - CRACK REPAIR MILL AND OVERLAY REPAIR

GENERAL CRACK REPAIR NOTES

1. CRACK REPAIR SHALL BE PERFORMED ON ALL EXISTING PAVEMENTS WITHIN THE LIMIT OF WORK AS DIRECTED BY THE RPR.
2. THE TYPE AND LENGTH OF CRACK REPAIR TO BE PERFORMED SHALL BE DETERMINED BY THE RPR.

1 BITUMINOUS PAVEMENT CRACK REPAIR DETAILS

SCALE: NTS



DETAIL A

NOT TO SCALE

GENERAL MARKER NOTES:

1. ALL GROUND CHECK POINTS ARE TO BE SURVEYED AND MARKED PER THE FOLLOWING GUIDELINES:
2. GROUND CHECK POINTS SHALL BE TEMPORARILY MARKED (WITH STAKE OR NAIL IN PAVEMENT) AS SHOWN AND REPOSITIONED AS REQUIRED AFTER FLIGHT CHECK. (IF REQUIRED)
3. GROUND CHECK MONUMENTS SHALL NOT BE PERMANENTLY MARKED OR INSTALLED UNTIL LOCATIONS HAVE BEEN VERIFIED AFTER FLIGHT CHECK BY ILS INSTALLATION ENGINEERS.
4. LOCATION OF LOW CLEARANCE CHECKPOINTS ARE APPROXIMATE. MONUMENTS SHALL BE PERMANENTLY MARKED BY FAA AFTER SYSTEM TUNE-UP AND FLIGHT CHECK.

ON PAVEMENT MARKER NOTES:

1. BOND A 2" ROUND METAL PLATE FLUSH WITH ADJACENT PAVEMENT, ENGRAVED WITH THE APPROPRIATE ANGLE.
2. INSTALLATION OF ON-PAVEMENT MARKERS SHALL BE PERFORMED AFTER GROOVING AND PERMANENT MARKING OPERATIONS.

2 LOCALIZER ANTENNA GROUND CHECKPOINT MARKER DETAILS

SCALE: NTS

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603 666-7785

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

TYPICAL SECTIONS AND PAVEMENT DETAILS – 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

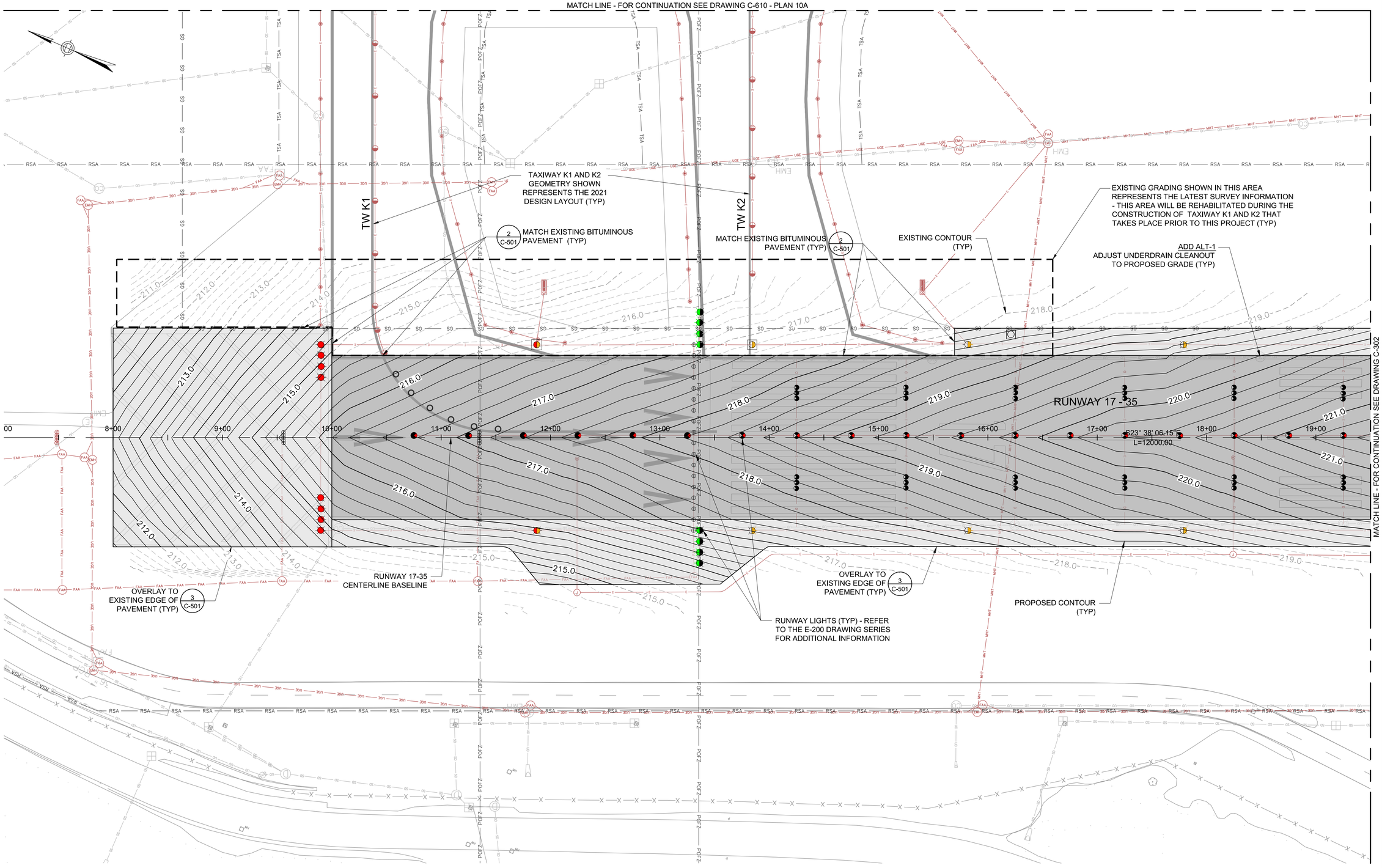
DRAWING NO.

C-502

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16356\C501_C502 - Typical Sections and Pavement Details.dwg [C-502] March 10, 2022 - 9:08am [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
3. THE CONTRACTOR MUST ASSUME THAT GROUNDWATER WILL BE ENCOUNTERED AND MUST PROPERLY DE-WATER WHEN NECESSARY.
4. ALL PUMPING OF STRUCTURES IS INCIDENTAL TO THE COST OF THE INSTALLATION OF THE DRAINAGE WORK.
5. REFER TO DRAWING NO. G-003 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS FOR STOCKPILES WITHIN ALL STAGING AREAS.
6. REFER TO DRAWING NO. G-004 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS ASSOCIATED WITH THE TEMPORARY CONSTRUCTION HAUL ROADS.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

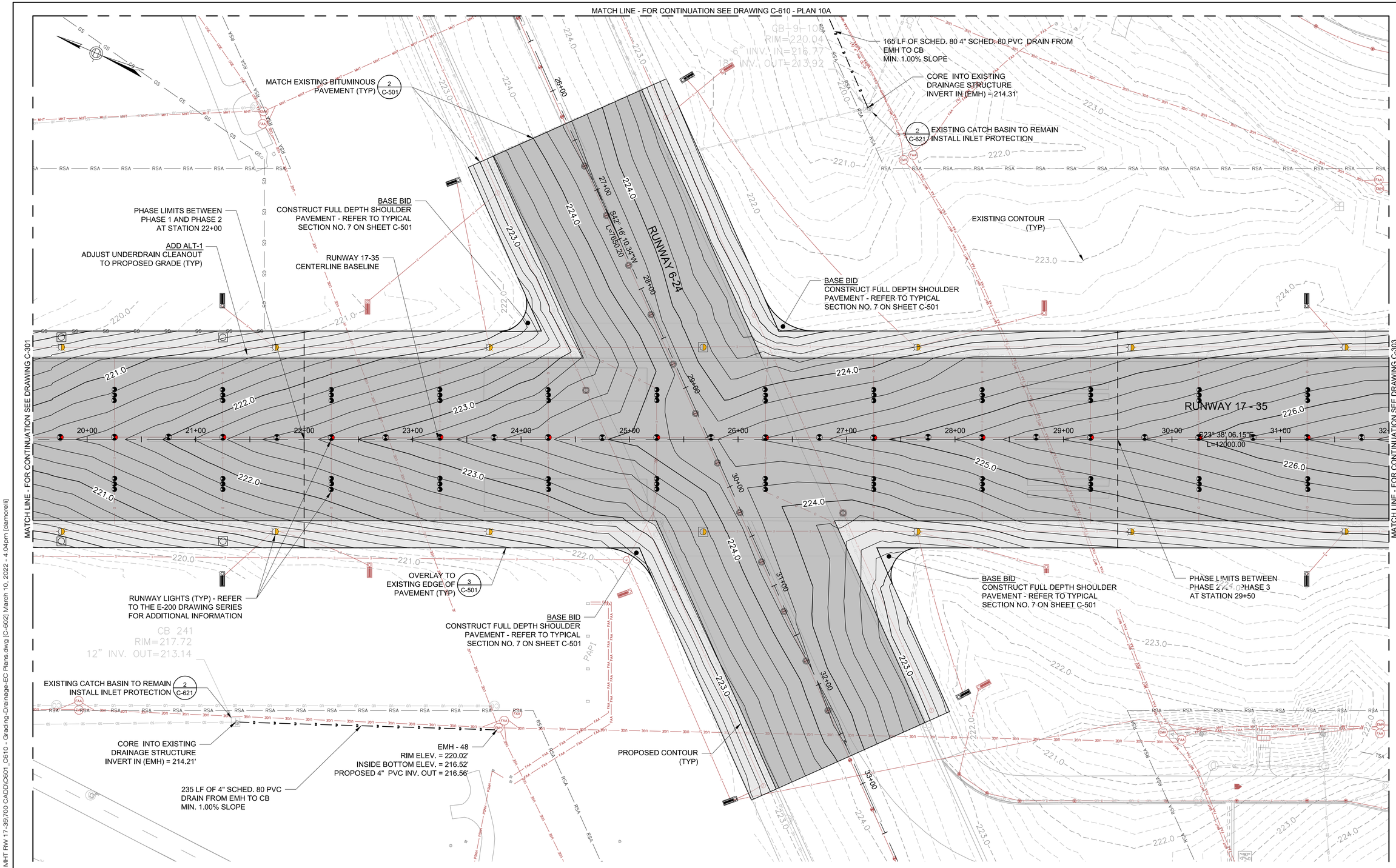
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-601
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35/700 CADD/C601_C610 - Grading-Drainage-EC Plans.dwg [C-601] March 10, 2022 - 4:03pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
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6. REFER TO DRAWING NO. G-004 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS ASSOCIATED WITH THE TEMPORARY CONSTRUCTION HAUL ROADS.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE: MARCH 2022	
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 2

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-602
REV

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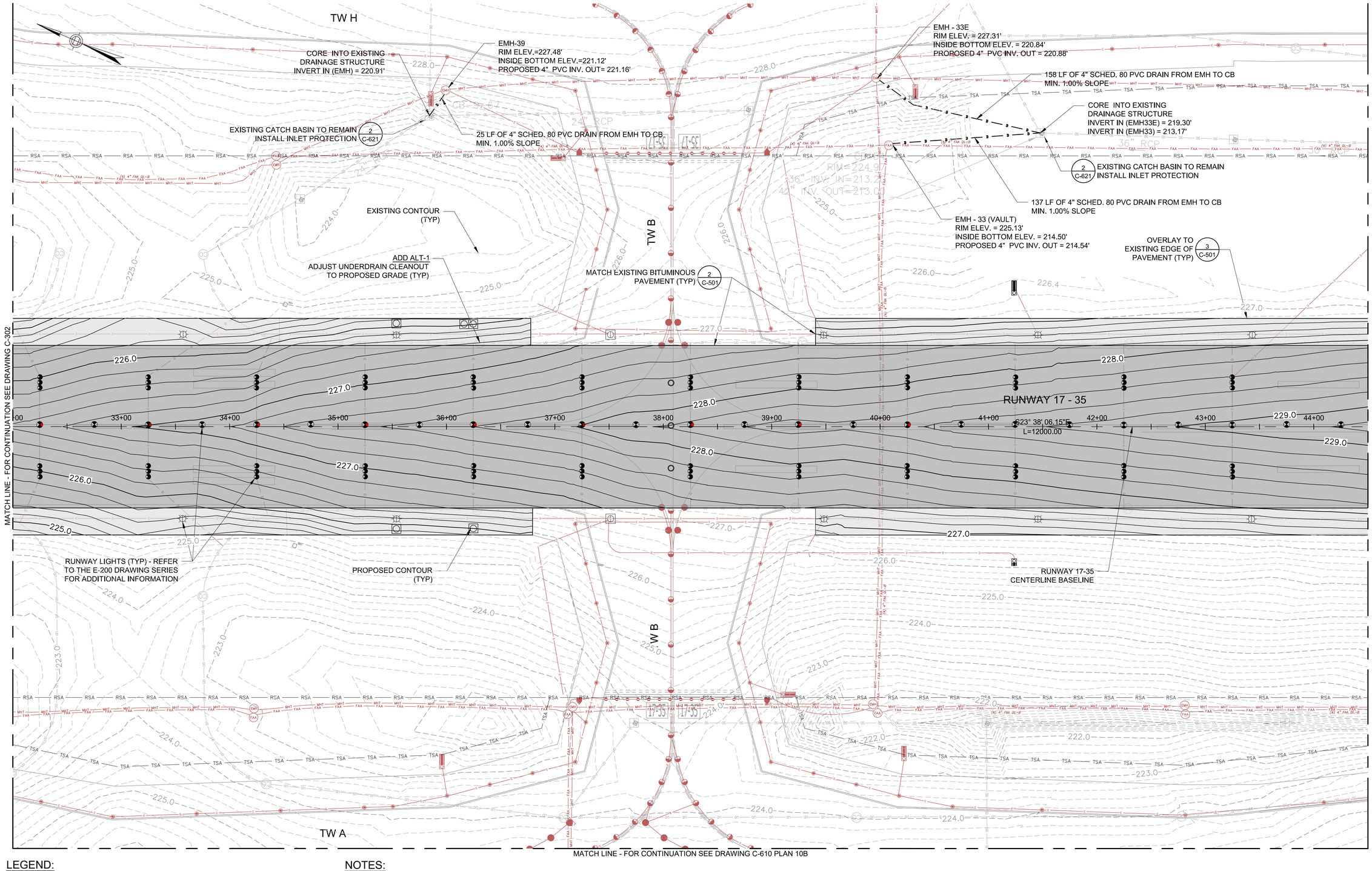
Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35/700 CADD/C601_C610 - Grading-Drainage-EC Plans.dwg [C-602] March 10, 2022 - 4:04pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- — RSA — RUNWAY SAFETY AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
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6. REFER TO DRAWING NO. G-004 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS ASSOCIATED WITH THE TEMPORARY CONSTRUCTION HAUL ROADS.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE: MARCH 2022	
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 3

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

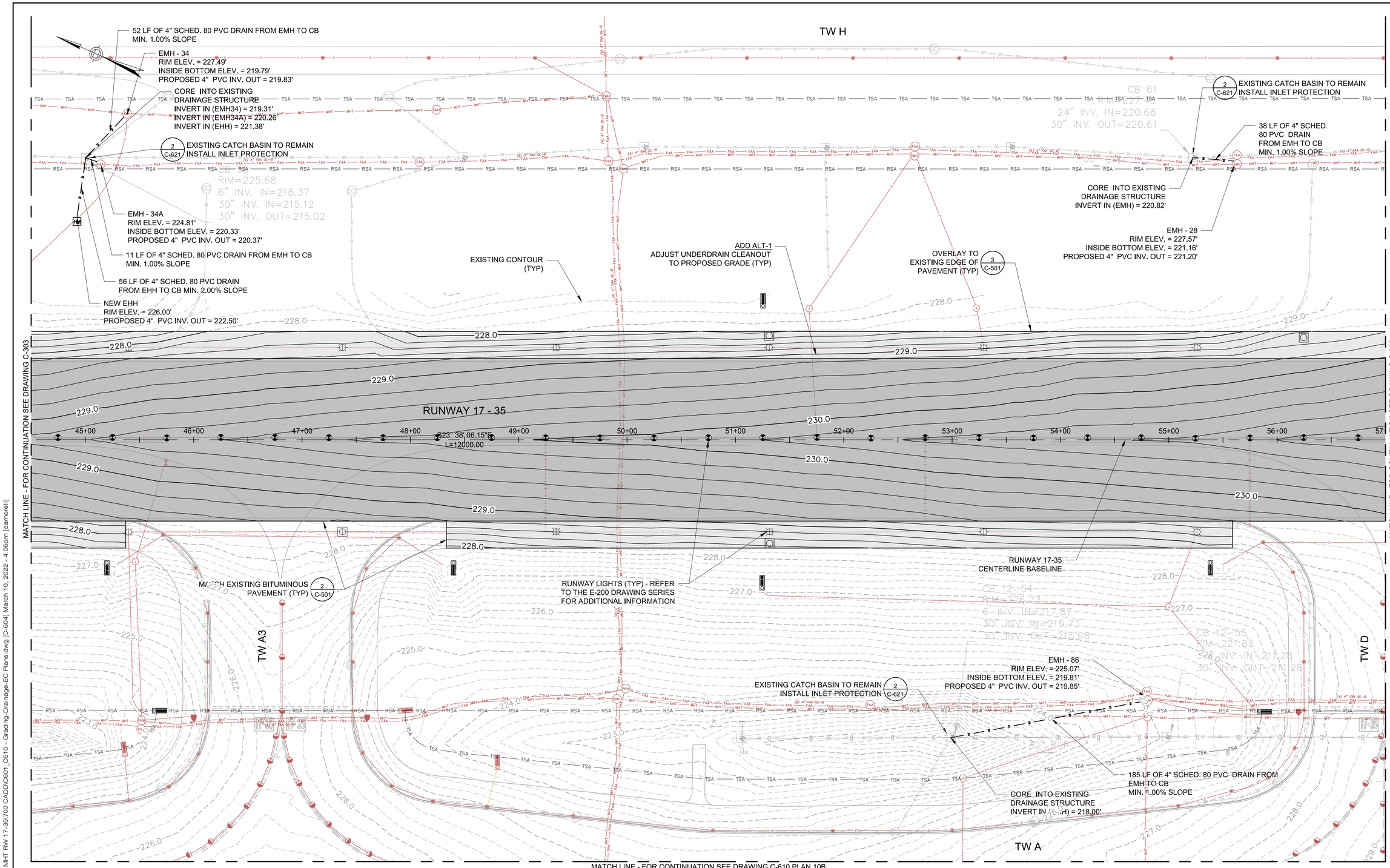
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-603
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\nhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-603] March 10, 2022 - 4:05pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- — RSA — RUNWAY SAFETY AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
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6. REFER TO DRAWING NO. G-004 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS ASSOCIATED WITH THE TEMPORARY CONSTRUCTION HAUL ROADS.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 4

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

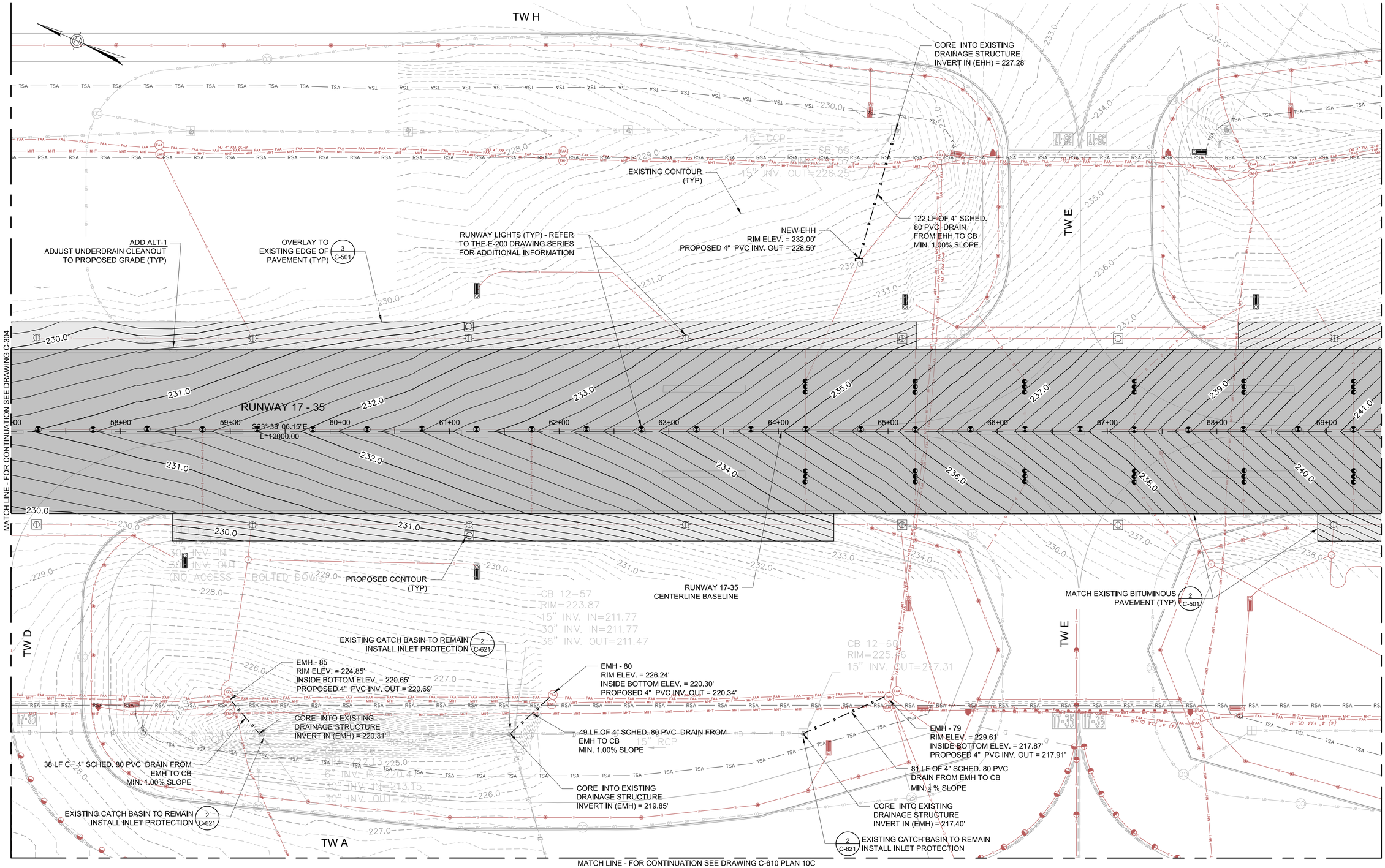
DRAWING NO.

C-604

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-604] March 10, 2022 - 4:06pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- — RSA — RUNWAY SAFETY AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
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HORIZONTAL SCALE 1"=40'

40 0 20 40 80

PROJECT DESIGNER: Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE: MARCH 2022	
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 5

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

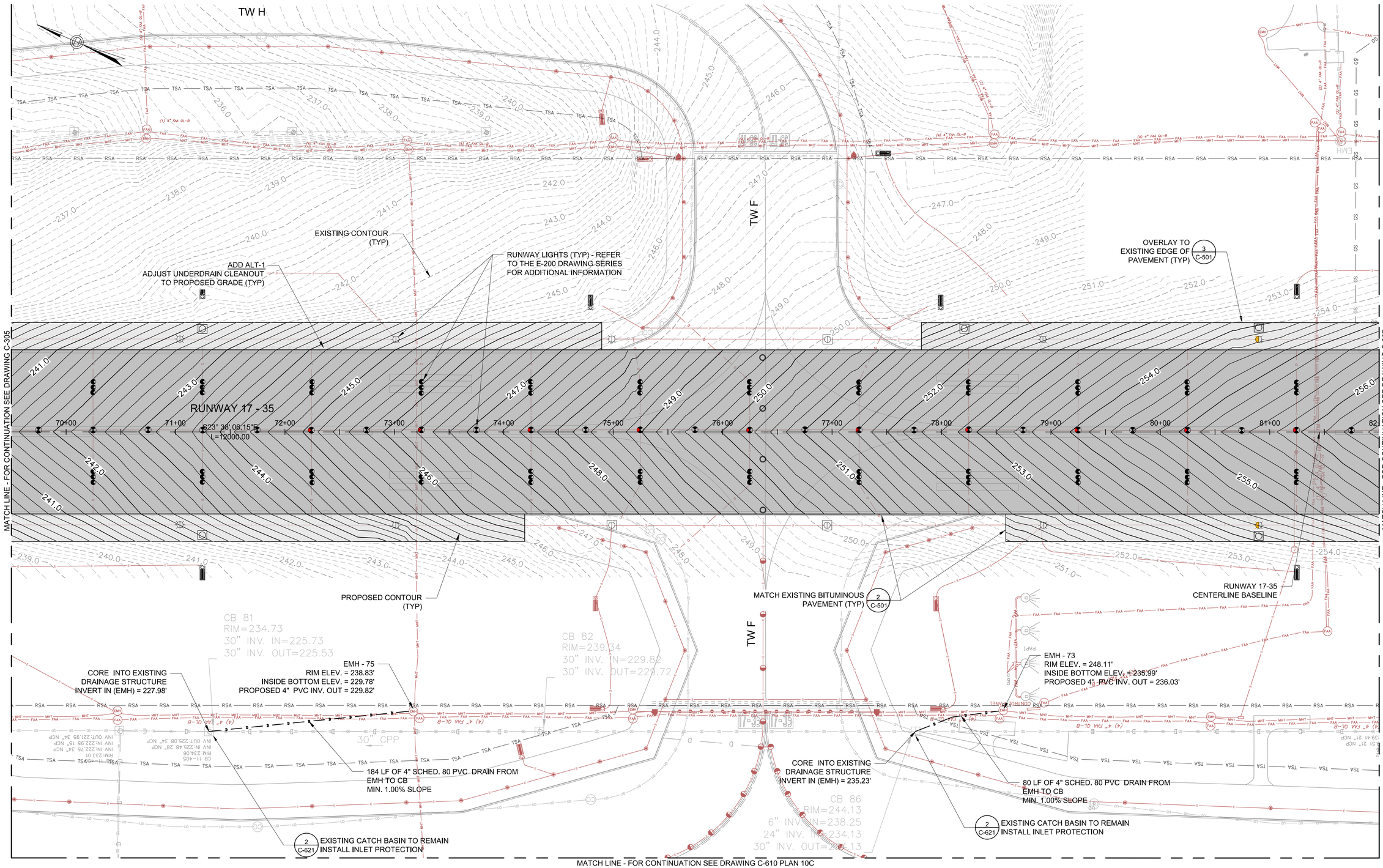
DRAWING NO.

C-605

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\jobs\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-605] March 10, 2022 - 4:06pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
3. THE CONTRACTOR MUST ASSUME THAT GROUNDWATER WILL BE ENCOUNTERED AND MUST PROPERLY DE-WATER WHEN NECESSARY.
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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE: MARCH 2022	
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 6

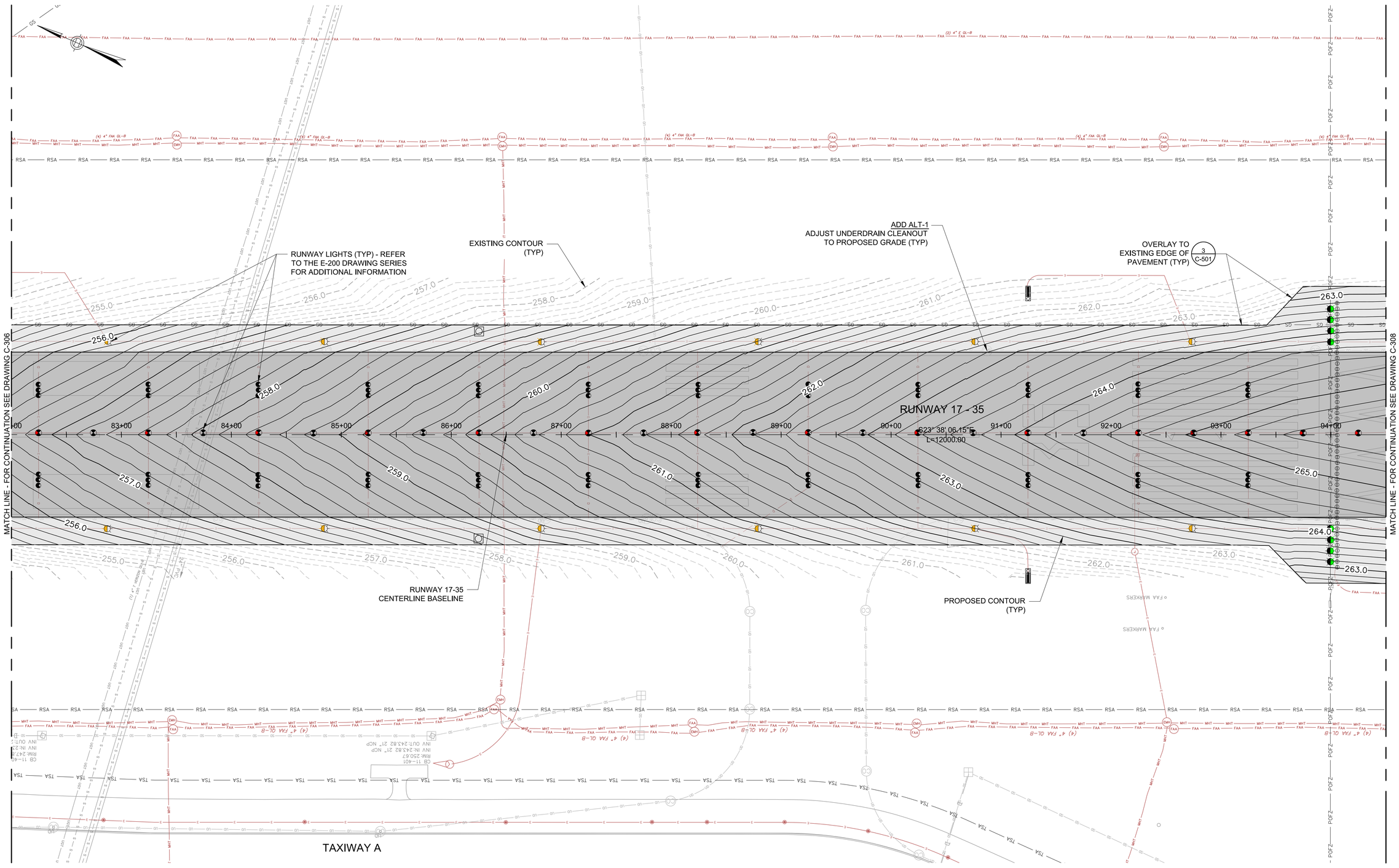
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-606
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\jobs\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-606] March 10, 2022 - 4:07pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 7

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

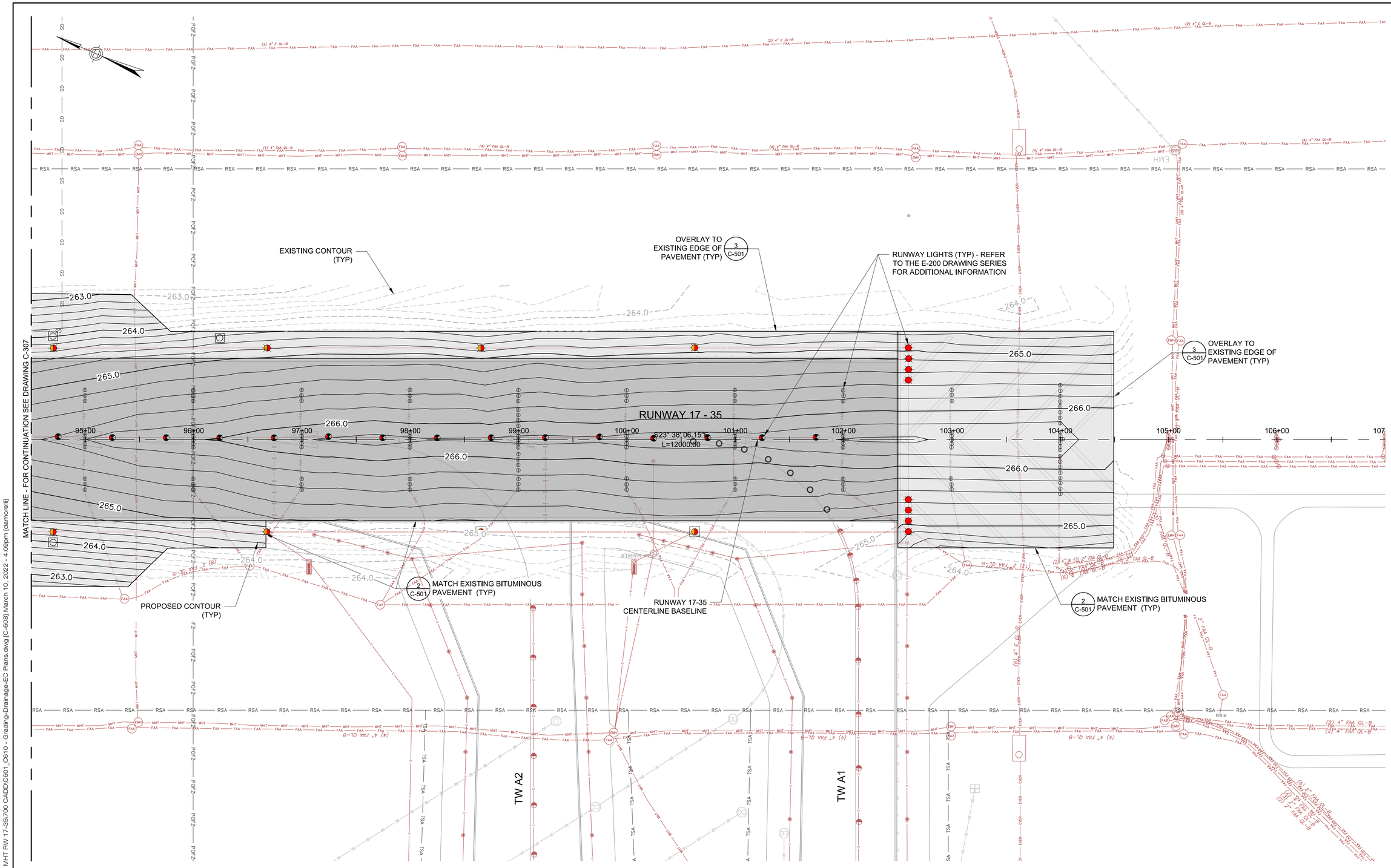
DRAWING NO.

C-607

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35/700 CADD/C601_C610 - Grading-Drainage-EC Plans.dwg [C-607] March 10, 2022 - 4:08pm [damorelli]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
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NOTES:

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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 8

REV NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

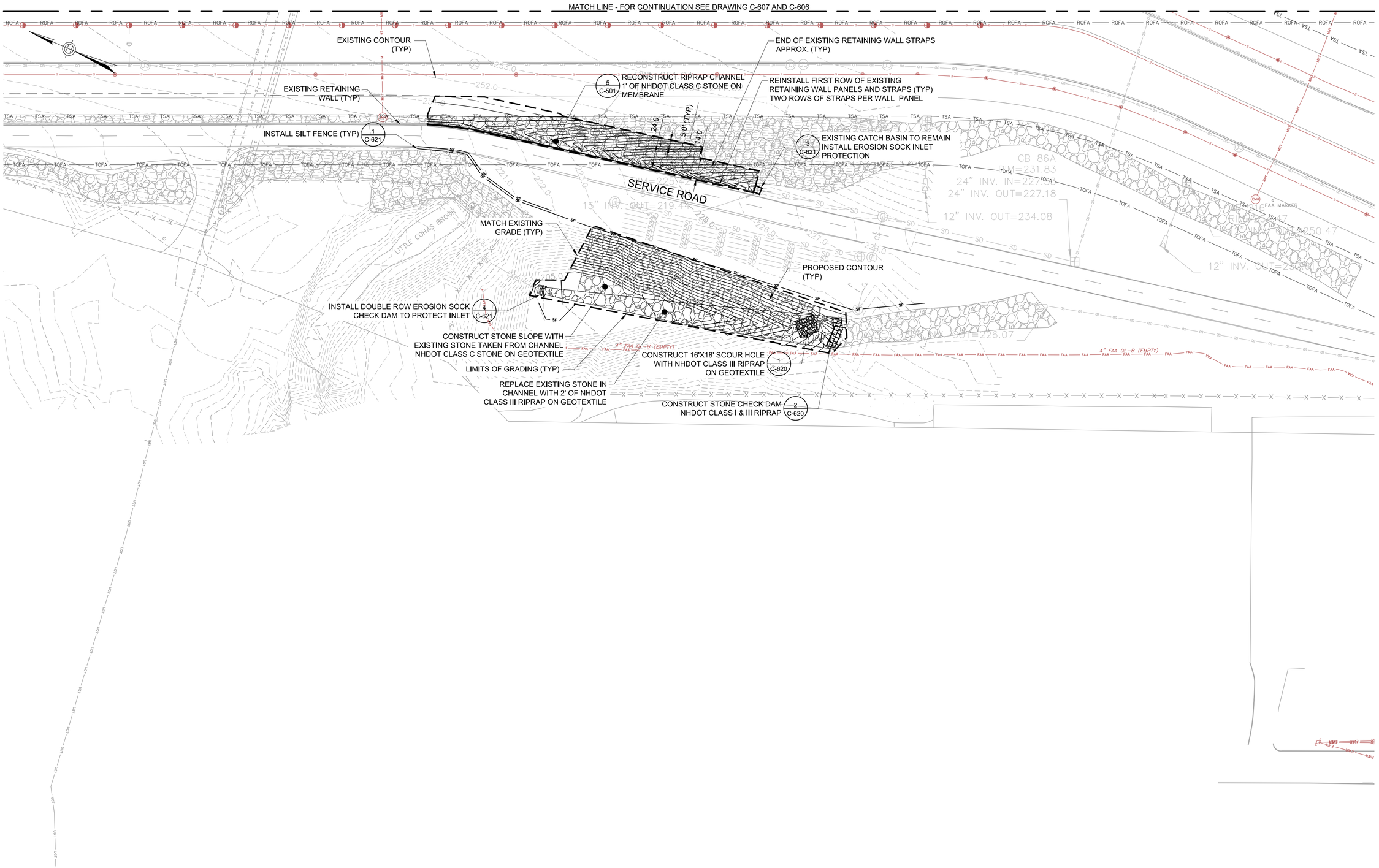
DRAWING NO.

C-608

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\jobs\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-608] March 10, 2022 - 4:09pm [damorelli]



LEGEND:

- PROPOSED RIPRAP OR STONE
- —ROFA— RUNWAY OBJECT FREE AREA
- — TSA — TAXIWAY SAFETY AREA
- —TOFA— TAXIWAY OBJECT FREE AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
3. REFER TO MISCELLANEOUS DETAILS DRAWINGS IN VOLUME 3 OF THIS PROJECT FOR ALL WALL DETAILS.

NH DEPT. OF ENV. SERVICES ALTERATION OF TERRAIN PERMIT NOTES:

1. ACTIVITIES SHALL NOT CAUSE OR CONTRIBUTE TO ANY VIOLATIONS OF THE SURFACE WATER QUALITY STANDARDS ESTABLISHED IN ADMINISTRATIVE RULE ENV-WQ 1700.
2. THE CONTRACTOR MUST SUBMIT REVISED PLANS FOR PERMIT AMENDMENT PRIOR TO ANY CHANGES IN CONSTRUCTION DETAILS OR SEQUENCES. THE CONTRACTOR MUST NOTIFY NHDES IN WRITING WITHIN TEN DAYS OF A CHANGE IN OWNERSHIP.
3. THE CONTRACTOR MUST NOTIFY NHDES IN WRITING PRIOR TO THE START OF CONSTRUCTION AND UPON COMPLETION OF CONSTRUCTION.
4. ALL STORMWATER PRACTICES SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH ENV-WQ 1507.07.
5. THIS PROJECT HAS BEEN SCREENED FOR POTENTIAL IMPACT TO KNOWN OCCURRENCES OF PROTECTED SPECIES AND EXEMPLARY NATURAL COMMUNITIES IN THE IMMEDIATE AREA.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 9

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-609
REV

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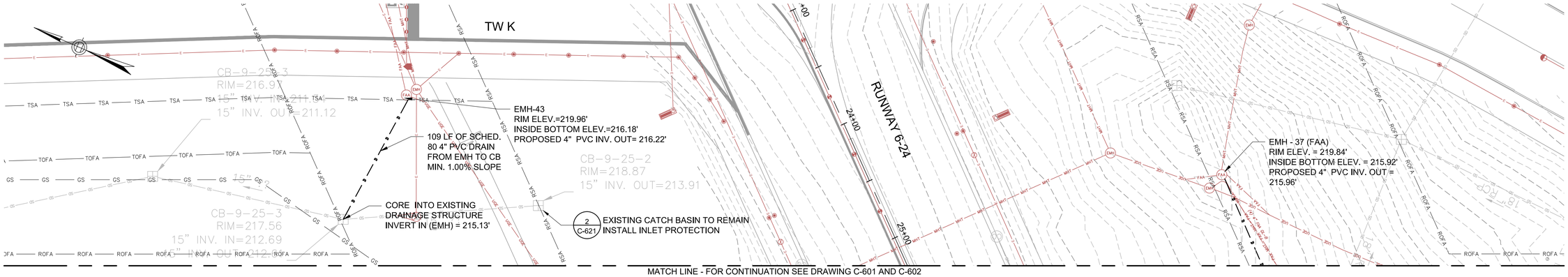
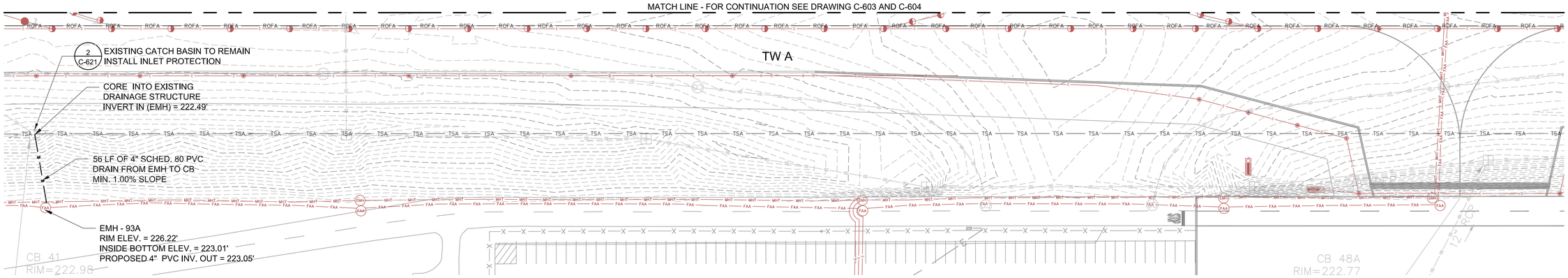
Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-609] March 10, 2022 - 4:10pm [damorelli]



MATCH LINE - FOR CONTINUATION SEE DRAWING C-601 AND C-602

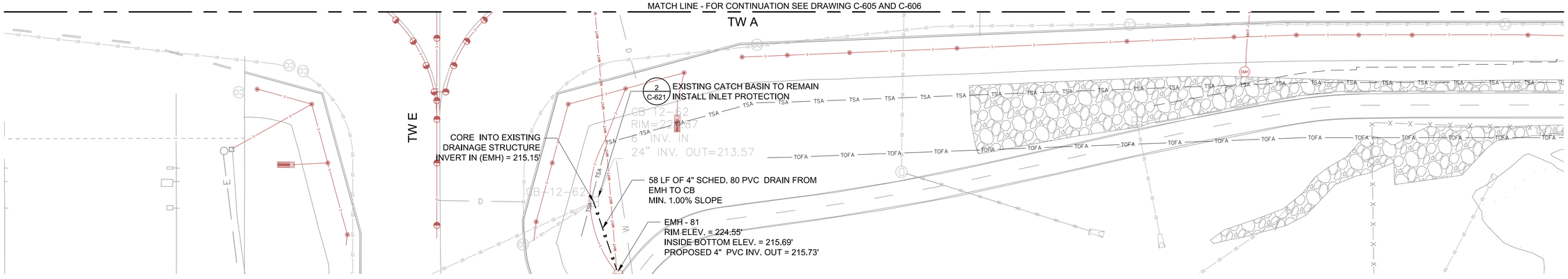
GRADING, DRAINAGE, AND EROSION CONTROL - 10A

MATCH LINE - FOR CONTINUATION SEE DRAWING C-603 AND C-604



GRADING, DRAINAGE, AND EROSION CONTROL - 10B

MATCH LINE - FOR CONTINUATION SEE DRAWING C-605 AND C-606



GRADING, DRAINAGE, AND EROSION CONTROL - 10C

LEGEND:

- PROPOSED RIPRAP OR STONE
- RSA — RUNWAY SAFETY AREA
- TSA — TAXIWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA

NOTES:

1. THE CONTRACTOR MUST RESTORE ALL DISTURBED AREAS ADJACENT TO WORK AREAS.
2. REFER TO DRAWING NO. C-621 FOR DETAILED EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.
3. THE CONTRACTOR MUST ASSUME THAT GROUNDWATER WILL BE ENCOUNTERED AND MUST PROPERLY DE-WATER WHEN NECESSARY.
4. ALL PUMPING OF STRUCTURES IS INCIDENTAL TO THE COST OF THE INSTALLATION OF THE DRAINAGE WORK.
5. REFER TO DRAWING NO. G-003 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS FOR STOCKPILES WITHIN ALL STAGING AREAS.
6. REFER TO DRAWING NO. G-004 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL REQUIREMENTS ASSOCIATED WITH THE TEMPORARY CONSTRUCTION HAUL ROADS.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	TAD
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING, DRAINAGE, AND EROSION CONTROL – 10

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

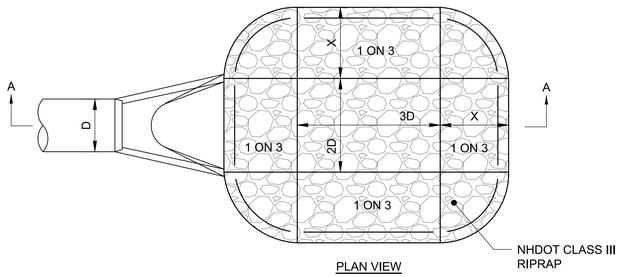
DRAWING NO.

C-610

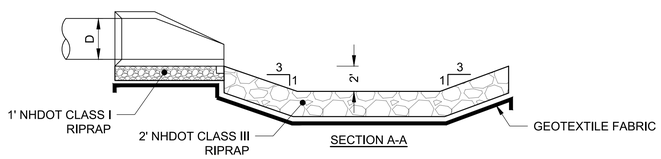
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\nhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C601_C610 - Grading-Drainage-EC Plans.dwg [C-610] March 10, 2022 - 4:12pm [damorelli]



PLAN VIEW

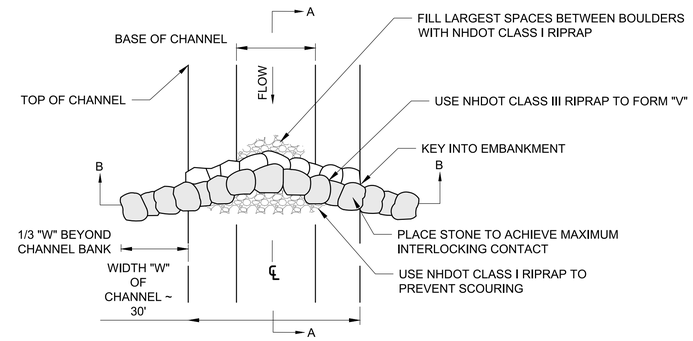


SECTION A-A

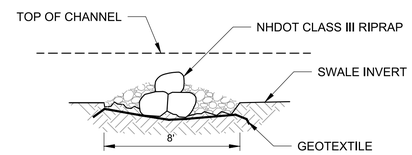
PIPE DIA.(D)	BASE WIDTH (2D)	BASE LENGTH (3D)	SIDE WIDTH (X)
24"	48"	72"	72"
34"	68"	102"	72"

1 SCOUR HOLE DETAIL

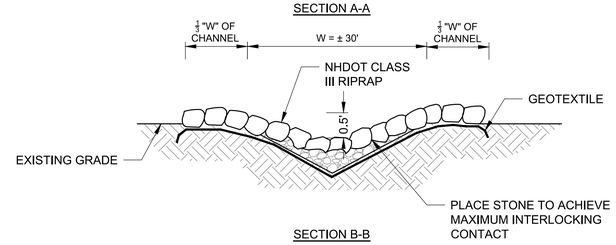
SCALE: NTS



PLAN VIEW



SECTION A-A



SECTION B-B

2 CHECK DAM DETAIL

SCALE: NTS

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
Phone: (603) 666-7181
FAX: (603) 666-7185

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	SBB
CHECKED BY:	JAM
APPROVED:	JWG

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REHABILITATE RUNWAY 17-35

DRAINAGE DETAILS

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

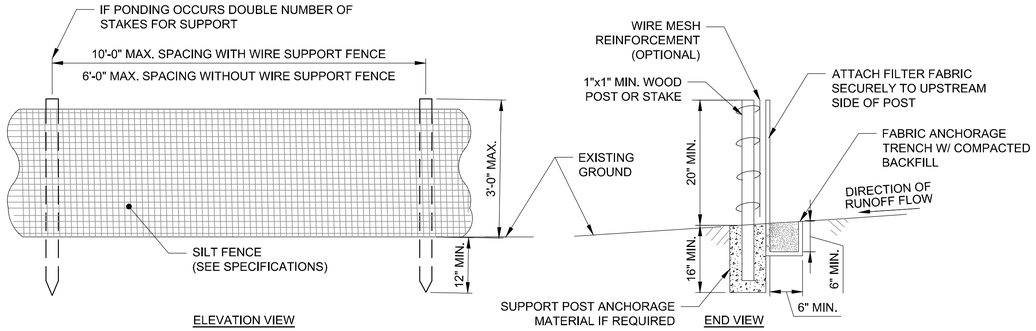
DRAWING NO.

C-620

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C620 - Drainage Details.dwg [C-620] March 10, 2022 - 2:53pm [damorelli]

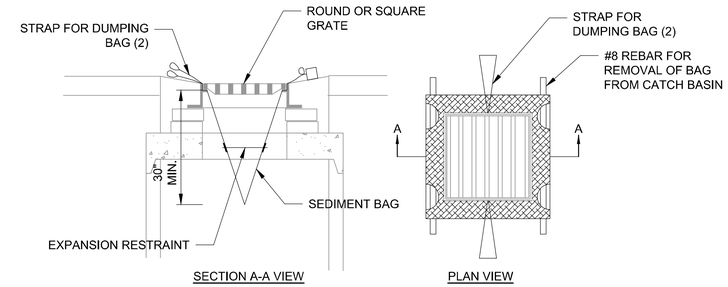


SILT FENCE NOTES:

1. SILT FENCE SHALL BE INSTALLED BEFORE ANY EXCAVATION OR OTHER WORK BEGINS.
2. PRE-FABRICATED SILT FENCE MUST BE ASSEMBLED IN THE FIELD ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. WIRE MESH REINFORCEMENT AND/OR CLOSER POST SPACING MAY BE ORDERED BY THE RPR IN AREAS WHERE HIGH RUNOFF VOLUMES ARE ANTICIPATED, OR IN LOW SPOTS WHERE SEDIMENT WILL COLLECT.
3. INSPECT AND REPAIR FENCE WEEKLY AND AFTER EACH STORM EVENT OF ½" OR GREATER OF PRECIPITATION AND REMOVE SEDIMENT WHEN NECESSARY. (9" MAXIMUM STORAGE HEIGHT)
4. IN ADDITION, MAINTENANCE OF SILT FENCE SHALL BE AS NEEDED AND AS ORDERED BY THE RPR. MATERIALS WILL BE REMOVED WHEN BULGES DEVELOP AND THE FENCE REPLACED AS NECESSARY. REMOVED MATERIALS SHALL NOT BE DISCARDED NEAR WETLANDS OR WATERCOURSES AND SHALL BE REMOVED FROM THE JOB SITE. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT CAN BE PERMANENTLY STABILIZED.
5. WOVEN WIRE FENCE SHALL BE SECURELY FASTENED TO POSTS/STAKES WITH WIRE TIES OR STAPLES AT TOP, MIDPOINT AND BOTTOM AT A MINIMUM.
6. MAINTENANCE AND REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT RATHER WILL BE CONSIDERED INCIDENTAL TO THE INITIAL INSTALLATION.

1 SEDIMENT BARRIER DETAIL - SILT FENCE

SCALE: NTS

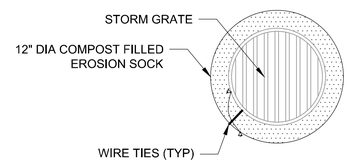


2 INLET PROTECTION DETAIL

SCALE: NTS

EROSION SOCK NOTES:

1. MATERIAL TO MEET MANUFACTURER SPECIFICATIONS.
2. SEDIMENT SHOULD BE REMOVED FROM BEHIND EROSION SOCK ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE SOCK OR CHECK DAM.
3. THE CONTRACTOR IS REQUIRED TO COMPLY WITH ALL MANUFACTURER REQUIREMENTS.
4. SOCKS TO BE DEGRADABLE COMPOST SOCKS AND SHALL BE MESH TUBE OVAL TO ROUND IN CROSS-SECTION. COMPOSED OF A KNITTED BIODEGRADABLE OR PHOTODEGRADABLE MATERIAL WITH ½ TO ¾ INCH OPENINGS. FABRIC MUST BE CLEAN; EVENLY WOVEN; FREE OF ENCRUSTED CONCRETE OR OTHER CONTAMINATED MATERIALS; FREE FROM CUTS, TEARS, BROKEN OR MISSING YARNS AND THIN, OPEN OR WEAK PIECES.
5. COMPOST MAY BE DERIVED FROM GREEN MATERIAL CONSISTING OF CHIPPED, SHREDDED, OR GROUND VEGETATION; OR CLEAN RECYCLED WOOD PRODUCTS. COMPOST MUST NOT BE DERIVED FROM MIXED MUNICIPAL SOLID WASTE AND BE REASONABLY FREE OF VISIBLE CONTAMINATES.
   COMPOST MUST NOT CONTAIN PLANT, PETROLEUM PRODUCTS, PESTICIDES OR OTHER CHEMICAL RESIDUES, HARMFUL TO ANIMAL LIFE OR PLANT GROWTH. COMPOST MUST NOT POSSES OBJECTIONABLE ODORS.
6. COMPOST FILLED EROSION SOCK TO BE REMOVED AND LEGALLY DISPOSED OF OFF AIRPORT PROPERTY.



3 EROSION SOCK INLET PROTECTION DETAIL

SCALE: NTS

EROSION AND SEDIMENT CONTROL NOTES:

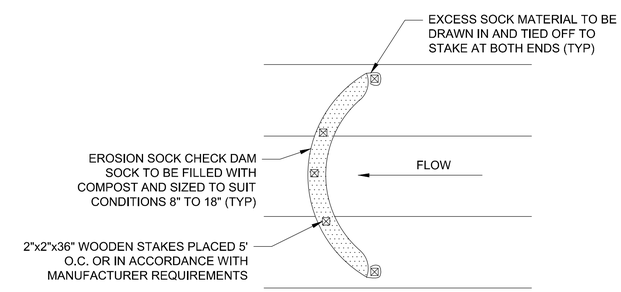
1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING ANY GROUND DISTURBING ACTIVITIES.
2. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
3. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
4. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION.
5. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
6. PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING OF THE SITE).
7. THE CONTRACTOR SHALL UTILIZE A CERTIFIED ENVIRONMENTAL MONITOR TO INSPECT THE PROJECT SITE ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF ¼" OR GREATER OF PRECIPITATION. THE ENVIRONMENTAL MONITOR SHALL SUBMIT AN INSPECTION REPORT TO THE RESIDENT RPR AND THE NHDES WITHIN 24 HOURS. THE REPORT SHALL INCLUDE DESCRIPTION OF PROJECT PROGRESS, EXPLANATION OF CORRECTIVE ACTION(S) THAT ARE BEING TAKEN TO BRING THE PROJECT INTO COMPLIANCE, IMPLEMENTATION DEADLINES, AND SITE PHOTOGRAPHS.
8. AN AREA SHALL BE CONSIDERED "STABLE" IF ONE OF THE FOLLOWING HAS OCCURRED:
   - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   - A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
   - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED.
   - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
   - TEMPORARY STOCKPILES HAVE BEEN CONTAINED WITH PERIMETER CONTROLS AND COVERED WITH TARPS OR POLYETHYLENE SHEETS.
9. ALL AREAS OF UNSTABILIZED SOIL SHALL BE STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS OF INITIAL DISTURBANCE.
10. THE PROJECT WILL BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
11. VEGETATION MANAGEMENT ON THE SITE SHOULD OCCUR AFTER OCTOBER 15TH AND BEFORE APRIL 15TH IN ORDER TO LIMIT IMPACTS TO NESTING BIRDS. MIGRATORY BIRD NESTS ARE PROTECTED UNDER NH AND FEDERAL LAW.
12. IF CONSTRUCTION IS NOT COMPLETED BY APRIL 15TH, THE PROJECT SITE SHALL BE KEPT MOWED DURING CONSTRUCTION ACTIVITIES UNTIL SEPTEMBER 1ST TO DETER BREEDING BIRD ACTIVITY.
13. IF BIRDS ARE OBSERVED TO DISPLAY NESTING BEHAVIOR (FOR EXAMPLE: CALLING, SWOOPING, AGITATED/TERRITORIAL BEHAVIOR), NHFG ENCOURAGES CONTACTING THE WILDLIFE DIVISION AT 603-271-2461 OR NHFGREVIEW@WILDLIFE.NH.GOV. PROVIDE NHB NUMBER AND PROJECT NAME.
14. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENTATION TRAPS SHOULD NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH.
15. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHOULD BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHBXX-XXXX, PROJECT NAME, WILDLIFE SPECIES OBSERVATION. PHOTOGRAPHS SHOULD BE PROVIDED FOR VERIFICATION AS FEASIBLE.
16. THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT SHOULD HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.
17. WINTER NOTES:
    a. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHOR NETTING ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

    b. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM 85% VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN CONDITIONS.

    c. NO SEPARATE MEASUREMENT FOR PAYMENT WILL MADE FOR TEMPORARY SEEDING OR MULCHING RATHER IT WILL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT COST.

GENERAL CONSTRUCTION SEQUENCE - PHASE 7

1. INSTALL EROSION CONTROL MEASURES TO PROTECT EXISTING GROUND FEATURES AND EXISTING DRAINAGE SYSTEMS.
2. WHERE CALLED FOR, REMOVE EXISTING STONE, RIPRAP OR VEGETATION.
3. ROUGH GRADE SITE.
4. PLACE REQUIRED MATERIALS AND REHABILITATE EXISTING MSE WALL.
5. RESTORE DISTURBED AREAS ADJACENT TO WORK AREAS.
6. REMOVE EROSION CONTROL MEASURES AFTER ESTABLISHMENT OF ANY RESTORED AREAS AND WHEN DIRECTED BY THE RPR.

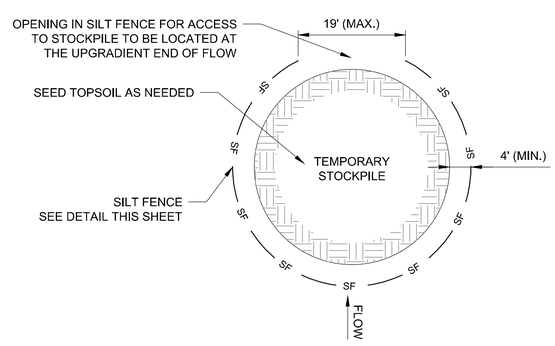


EROSION SOCK CHECK DAM NOTES:

1. ALL MATERIALS TO MEET MANUFACTURER SPECIFICATIONS.
2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 10 ACRES OR LESS.

4 EROSION SOCK CHECK DAM

SCALE: NTS



5 STOCKPILE CONTAINMENT DETAIL

SCALE: NTS

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603) 666-7785

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	SBB
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EROSION CONTROL GENERAL NOTES AND DETAILS

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

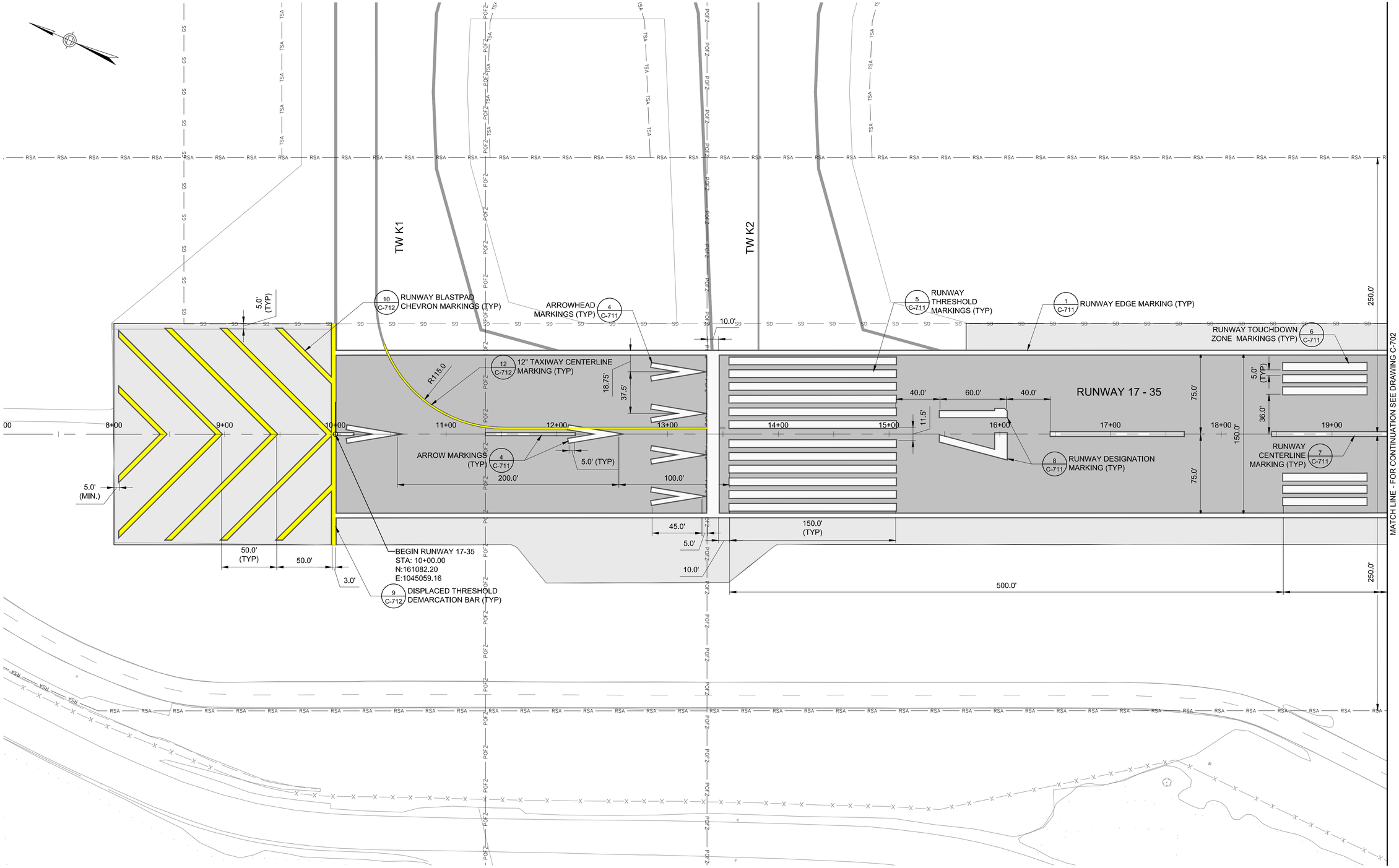
DRAWING NO.

C-621

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C621 - EC General Notes and Details.dwg [C-621] March 10, 2022 - 9:55am [sagrl]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

PAVEMENT MARKING NOTES:

1. RUNWAY 17-35 AND ITS BLAST PADS HAVE A LARGE NUMBER OF EXISTING IN-PAVEMENT LIGHTING FIXTURES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN AREAS ADJACENT TO THESE FIXTURES AND SHALL PROTECT AND AVOID THESE FIXTURES WHEN APPLYING PAVEMENT MARKINGS. NO SEPARATE OR ADDITIONAL PAYMENT WILL BE MADE FOR PROTECTING AND AVOIDING IN-PAVEMENT LIGHTING FIXTURES. ANY LIGHTING FIXTURES HAVING PAINT OVER-SPRAY ON THEM SHALL BE IMMEDIATELY CLEANED TO THE SATISFACTION OF AIRPORT OPERATIONS AND THE RPR.
2. ALL PAVEMENT MARKINGS SHALL RECEIVE A NON-REFLECTIVE BLACK BORDER. RUNWAY ASSOCIATED MARKINGS SHALL RECEIVE A 12" BORDER, WHILE TAXIWAY ASSOCIATED MARKINGS SHALL RECEIVE A 6" BORDER. ALL NON-REFLECTIVE BLACK BORDERS SHALL BE PAID FOR UNDER ITEM P-620-2, RUNWAY AND TAXIWAY MARKING - PERMANENT BLACK BORDER.
2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

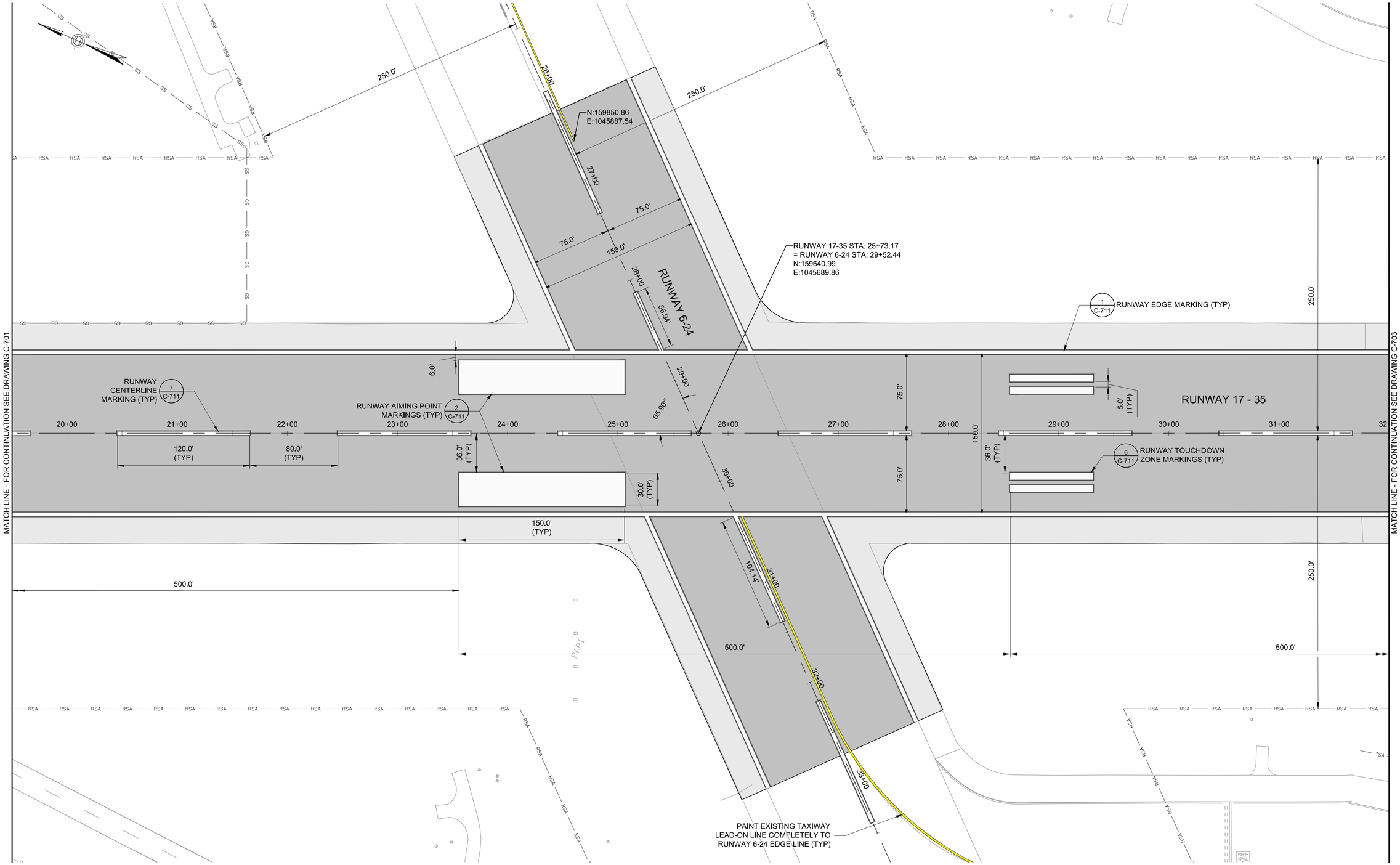
PAVEMENT MARKINGS – 1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:
DRAWING NO.
C-701
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-701] March 08, 2022 - 5:47pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

PAVEMENT MARKING NOTES:

1. RUNWAY 17-35 AND ITS BLAST PADS HAVE A LARGE NUMBER OF EXISTING IN-PAVEMENT LIGHTING FIXTURES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN AREAS ADJACENT TO THESE FIXTURES AND SHALL PROTECT AND AVOID THESE FIXTURES WHEN APPLYING PAVEMENT MARKINGS. NO SEPARATE OR ADDITIONAL PAYMENT WILL BE MADE FOR PROTECTING AND AVOIDING IN-PAVEMENT LIGHTING FIXTURES. ANY LIGHTING FIXTURES HAVING PAINT OVER-SPRAY ON THEM SHALL BE IMMEDIATELY CLEANED TO THE SATISFACTION OF AIRPORT OPERATIONS AND THE RPR.
2. ALL PAVEMENT MARKINGS SHALL RECEIVE A NON-REFLECTIVE BLACK BORDER. RUNWAY ASSOCIATED MARKINGS SHALL RECEIVE A 12" BORDER, WHILE TAXIWAY ASSOCIATED MARKINGS SHALL RECEIVE A 6" BORDER. ALL NON-REFLECTIVE BLACK BORDERS SHALL BE PAID FOR UNDER ITEM P-620-2, RUNWAY AND TAXIWAY MARKING - PERMANENT BLACK BORDER.
2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKINGS – 2

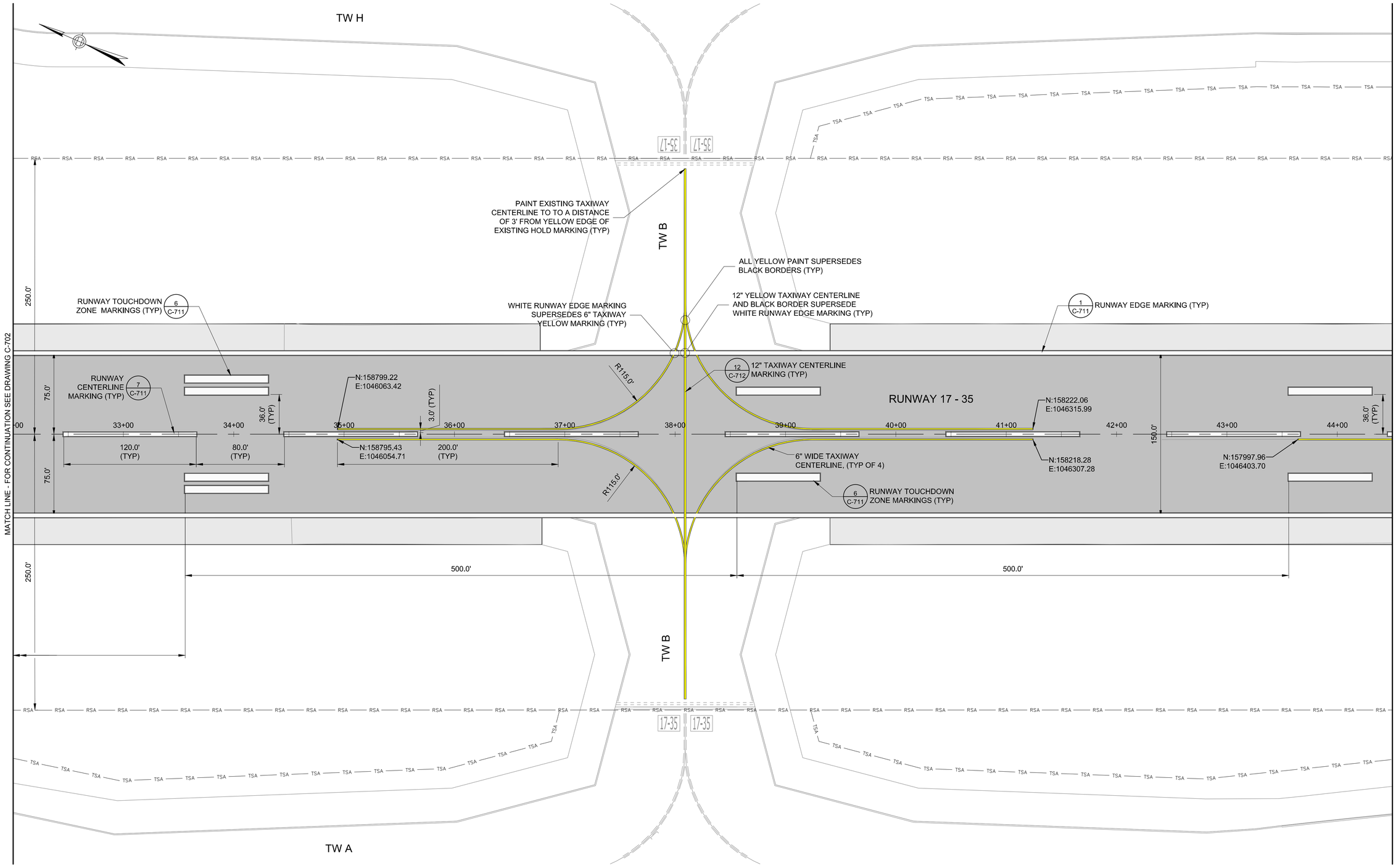
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-702
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-702] March 08, 2022 - 5:48pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

PAVEMENT MARKING NOTES:

1. RUNWAY 17-35 AND ITS BLAST PADS HAVE A LARGE NUMBER OF EXISTING IN-PAVEMENT LIGHTING FIXTURES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN AREAS ADJACENT TO THESE FIXTURES AND SHALL PROTECT AND AVOID THESE FIXTURES WHEN APPLYING PAVEMENT MARKINGS. NO SEPARATE OR ADDITIONAL PAYMENT WILL BE MADE FOR PROTECTING AND AVOIDING IN-PAVEMENT LIGHTING FIXTURES. ANY LIGHTING FIXTURES HAVING PAINT OVER-SPRAY ON THEM SHALL BE IMMEDIATELY CLEANED TO THE SATISFACTION OF AIRPORT OPERATIONS AND THE RPR.
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2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKINGS – 3

REVISIONS

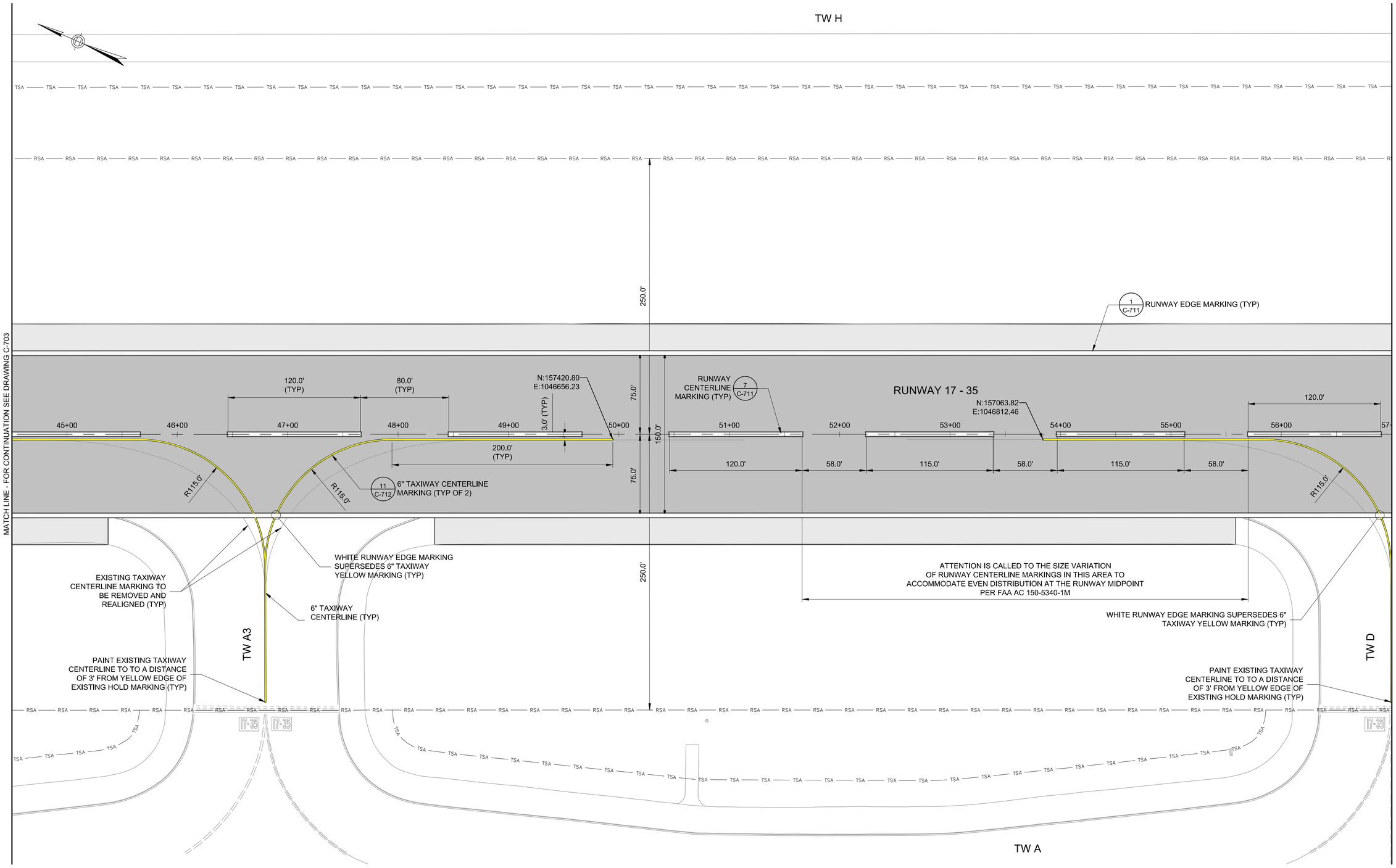
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-703
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-703] March 08, 2022 - 5:49pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

PAVEMENT MARKING NOTES:

1. RUNWAY 17-35 AND ITS BLAST PADS HAVE A LARGE NUMBER OF EXISTING IN-PAVEMENT LIGHTING FIXTURES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN AREAS ADJACENT TO THESE FIXTURES AND SHALL PROTECT AND AVOID THESE FIXTURES WHEN APPLYING PAVEMENT MARKINGS. NO SEPARATE OR ADDITIONAL PAYMENT WILL BE MADE FOR PROTECTING AND AVOIDING IN-PAVEMENT LIGHTING FIXTURES. ANY LIGHTING FIXTURES HAVING PAINT OVER-SPRAY ON THEM SHALL BE IMMEDIATELY CLEANED TO THE SATISFACTION OF AIRPORT OPERATIONS AND THE RPR.
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2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603 666-7781
FAX: 603 666-7785

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKINGS – 4

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

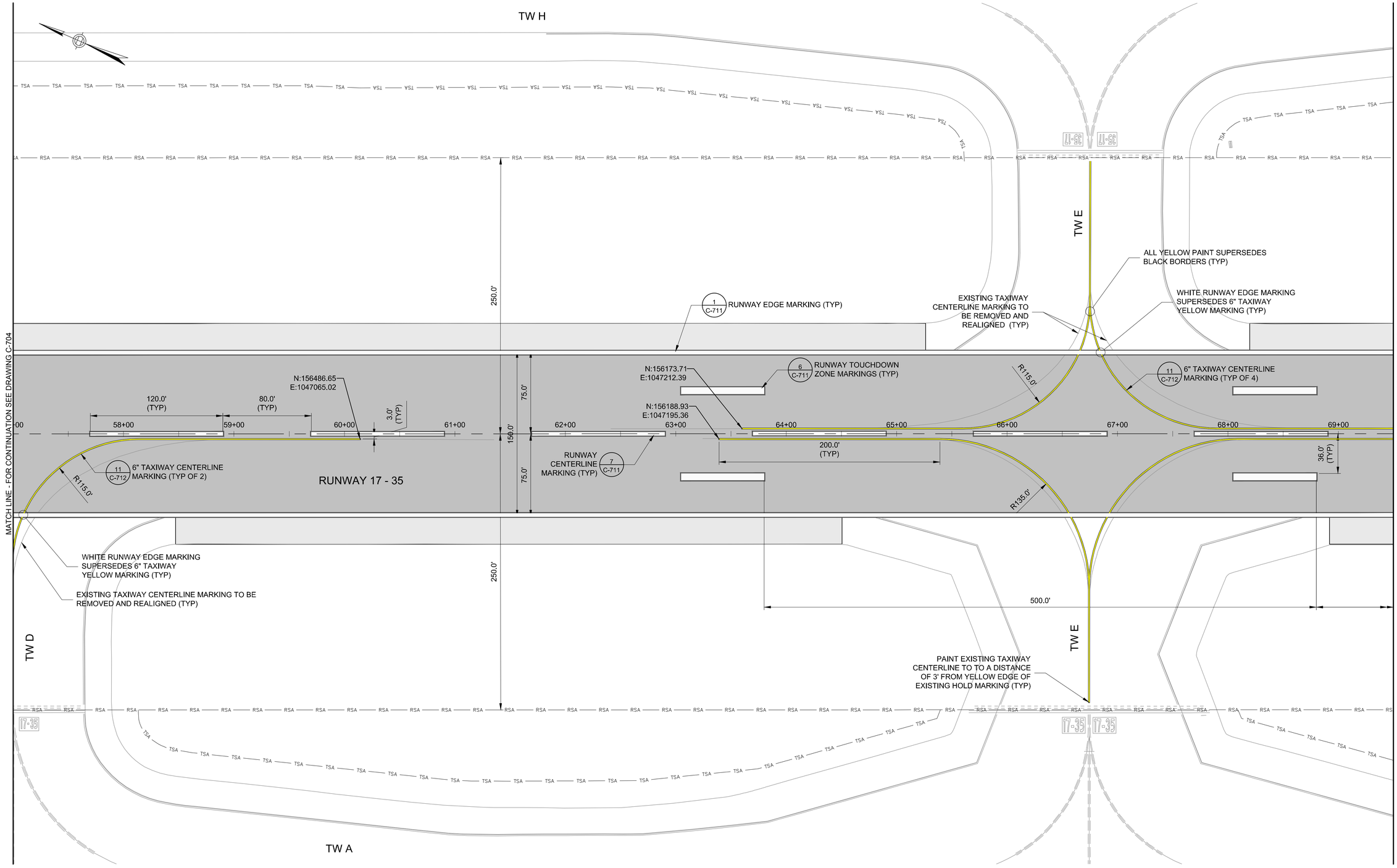
DRAWING NO.

C-704

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-704] March 08, 2022 - 5:49pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

PAVEMENT MARKING NOTES:

1. RUNWAY 17-35 AND ITS BLAST PADS HAVE A LARGE NUMBER OF EXISTING IN-PAVEMENT LIGHTING FIXTURES. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN AREAS ADJACENT TO THESE FIXTURES AND SHALL PROTECT AND AVOID THESE FIXTURES WHEN APPLYING PAVEMENT MARKINGS. NO SEPARATE OR ADDITIONAL PAYMENT WILL BE MADE FOR PROTECTING AND AVOIDING IN-PAVEMENT LIGHTING FIXTURES. ANY LIGHTING FIXTURES HAVING PAINT OVER-SPRAY ON THEM SHALL BE IMMEDIATELY CLEANED TO THE SATISFACTION OF AIRPORT OPERATIONS AND THE RPR.
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2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: (603) 666-7765

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	JKS
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKINGS – 5

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

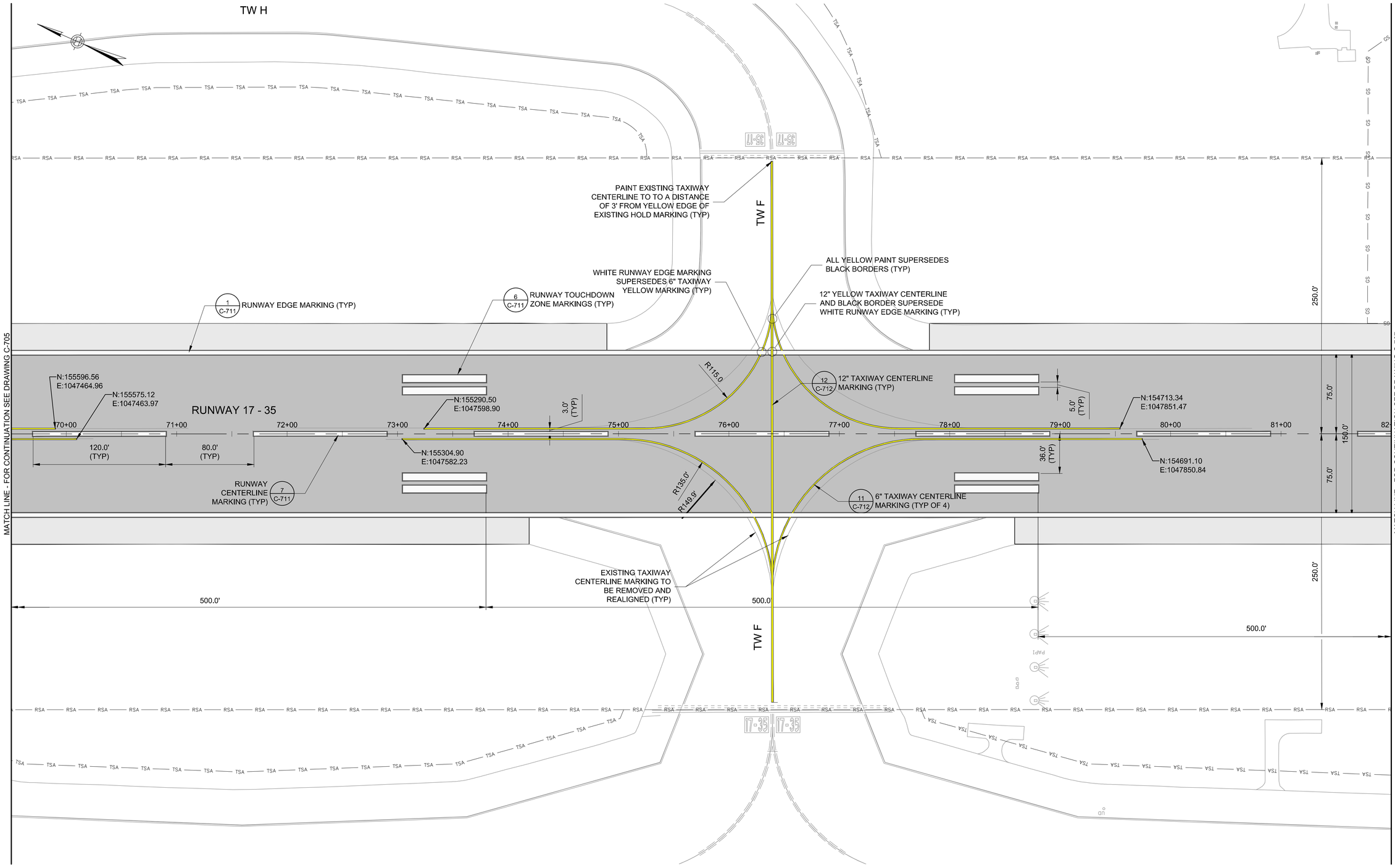
PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.
C-705
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\20211E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-705] March 08, 2022 - 5:50pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 781-666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKINGS – 6

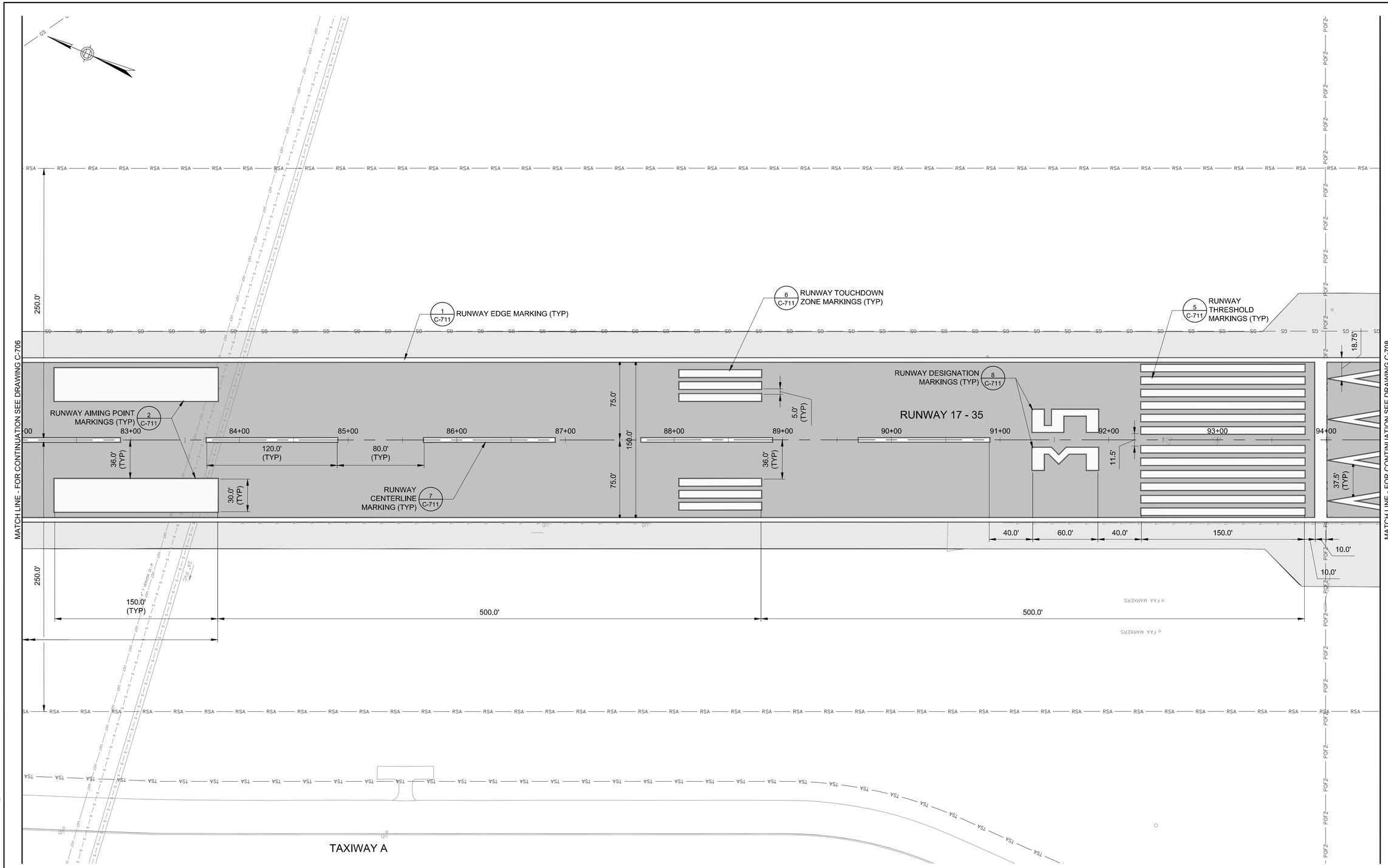
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-706
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-706] March 08, 2022 - 5:51 pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
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HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

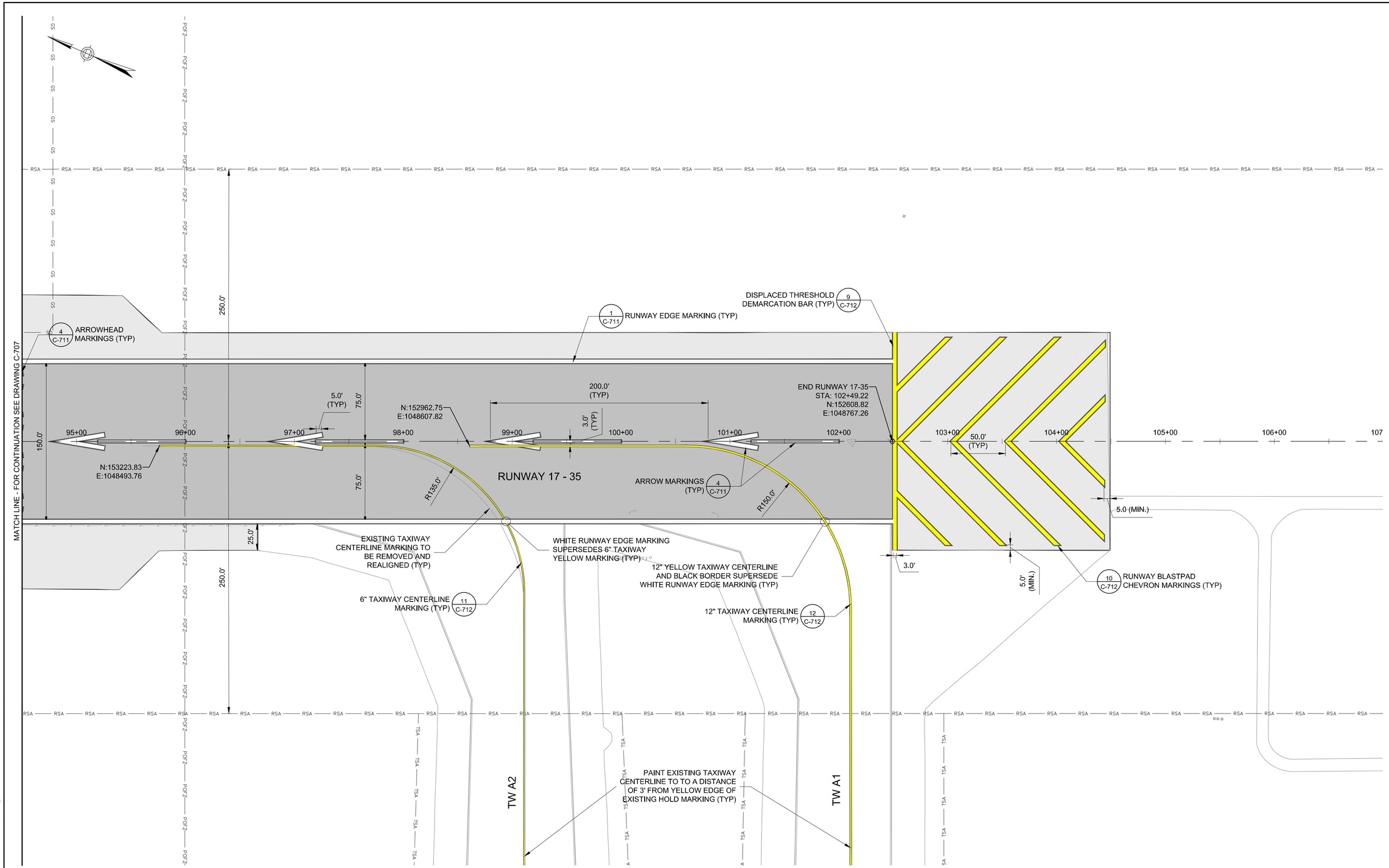
PAVEMENT MARKINGS – 7

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:
DRAWING NO.
C-707
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-707] March 08, 2022 - 5:51pm [sagri]



LEGEND:

- BASE BID: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- ADD ALT-1 & 2: BITUMINOUS PAVEMENT MILL AND OVERLAY LIMITS
- RSA — RUNWAY SAFETY AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBJECT FREE ZONE

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2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

HORIZONTAL SCALE
1"=40'
40 0 20 40 80

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: JKS
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

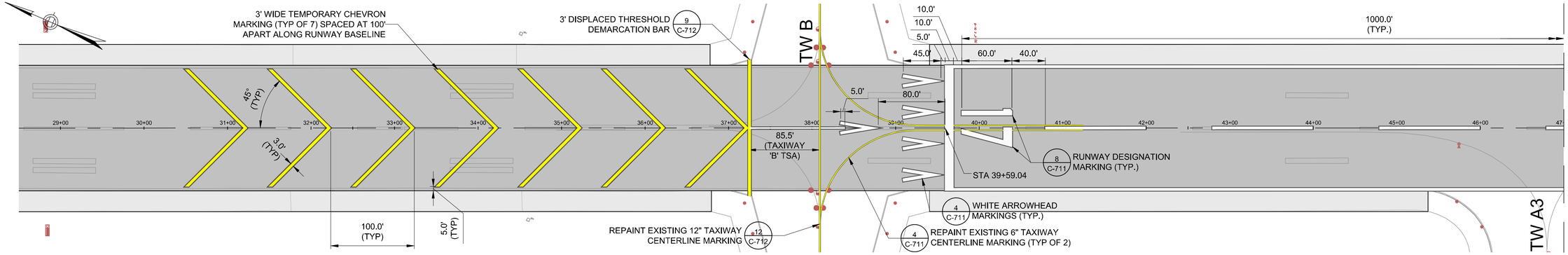
PAVEMENT MARKINGS – 8

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

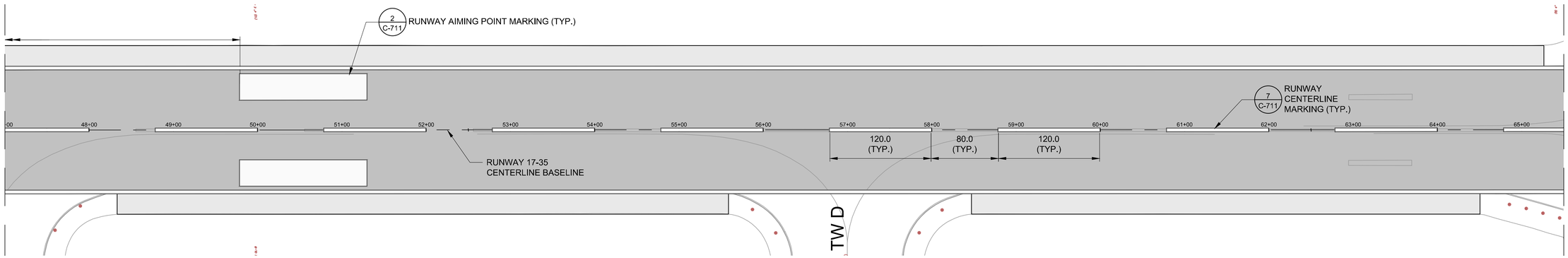
PROJ. NO.: E2X89205
JE FILE:
DRAWING NO.
C-708
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

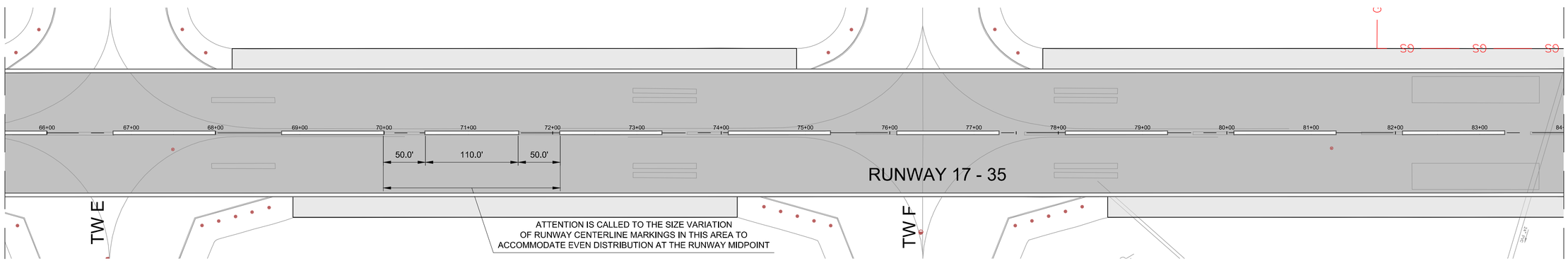
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C701_C708 - Pavement Markings.dwg [C-708] March 08, 2022 - 5:52pm [sagri]



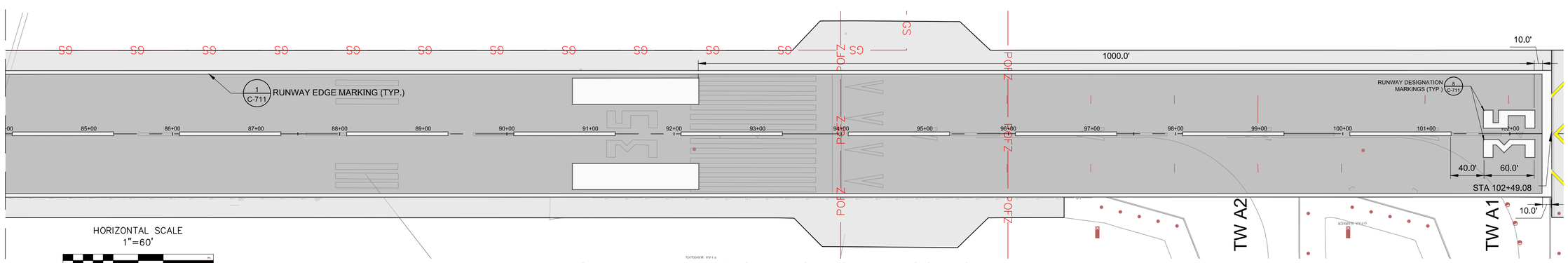
TEMPORARY RUNWAY MARKING PLAN - STATION 27+50 TO STATION 47+00



TEMPORARY RUNWAY MARKING PLAN - STATION 47+00 TO STATION 65+50



TEMPORARY RUNWAY MARKING PLAN - STATION 65+50 TO STATION 84+00



TEMPORARY RUNWAY MARKING PLAN - STATION 84+00 TO STATION 102+50

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=60'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

TEMPORARY RUNWAY MARKING LAYOUT

REV. NO.	DATE	DESCRIPTION	BY

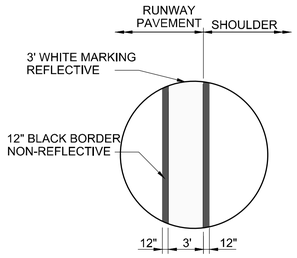
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

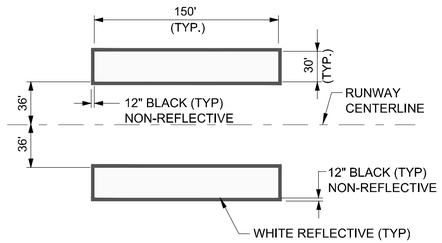
DRAWING NO.
C-710
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

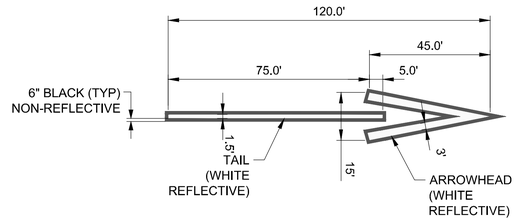
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\C710 - Temporary Runway Marking Layout.dwg [C-710] March 08, 2022 - 4:00pm [sagri]



1 RUNWAY EDGE MARKING
NTS



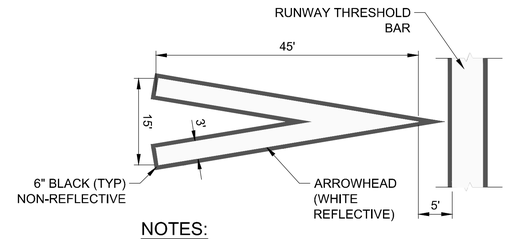
2 RUNWAY AIMING POINT MARKINGS
NTS



NOTE:

FOR ARROWHEAD INFO AND PLACEMENT, REFER TO FIGURE A-7 OF FAA ADVISORY CIRCULAR 150/5340-1L.

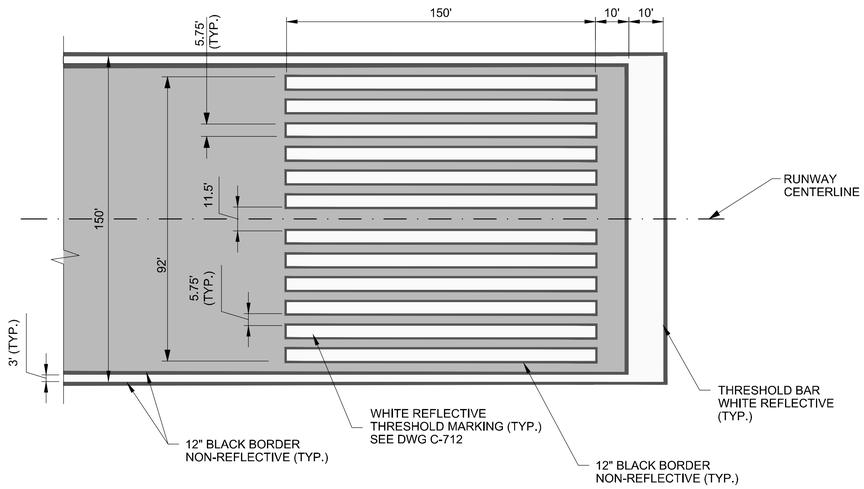
3 DISPLACED THRESHOLD ARROW MARKINGS
NTS



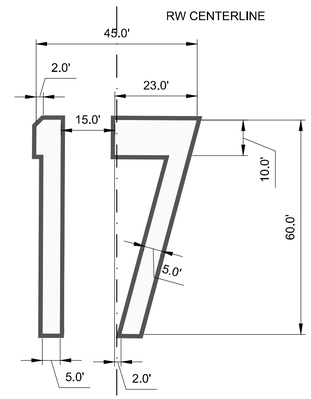
NOTES:

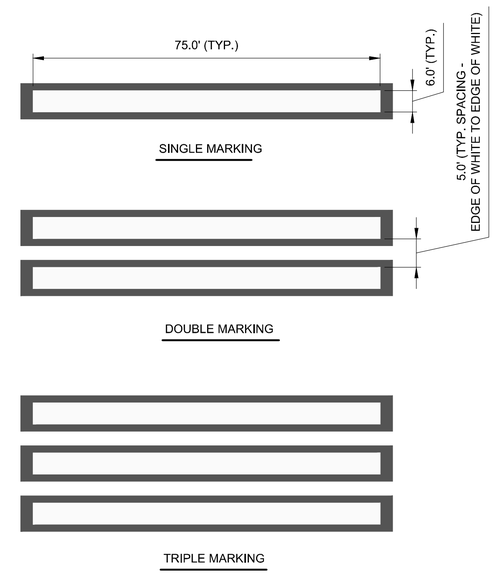
1. SPACING BETWEEN ARROWHEADS = 25.0'
2. SPACING TO RUNWAY EDGE = 12.5'

4 ARROWHEAD MARKINGS
NTS



5 RUNWAY THRESHOLD MARKINGS
NTS

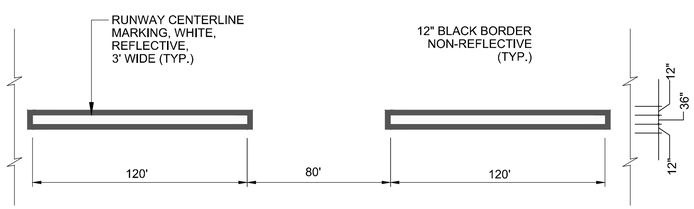




NOTES:

1. ALL RUNWAY TOUCHDOWN ZONE MARKINGS WILL BE WHITE (REFLECTIVE) WITH 12" NON-REFLECTIVE BLACK BORDER.
2. SEE SHEETS C-701 THROUGH C-708 FOR LOCATIONS OF SINGLE, DOUBLE AND TRIPLE MARKINGS.
3. SEE DWG C-701 THROUGH C-708 FOR OFFSET FROM RUNWAY CENTERLINE.

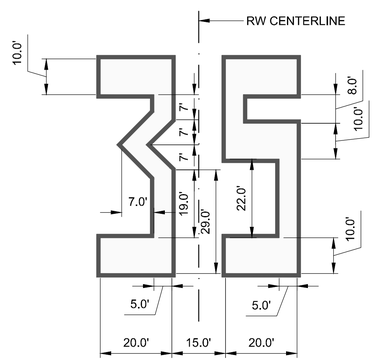
6 RUNWAY TOUCHDOWN ZONE MARKINGS
NTS



7 RUNWAY CENTERLINE MARKINGS
NTS

NOTE:

1. REFER TO DWG C-704 FOR INFORMATION AND DIMENSIONS REGARDING THE LOCATION, SIZING AND SPACING OF THE TWO RUNWAY CENTERLINE DASHES AT THE MIDPOINT OF RUNWAY 17-35 FINAL CONFIGURATION, AND DWG C-710 FOR TEMPORARY RUNWAY 17-35 CONFIGURATION.
2. BLACK BORDERS NOT REQUIRED FOR TEMPORARY RUNWAY MARKINGS.
3. FOR THE TEMPORARY RUNWAY THE FULL LENGTH OF THE RUNWAY CENTERLINE STRIPE MARKING MUST BE PAINTED.



NOTE:

ALL RUNWAY DESIGNATOR MARKINGS WILL BE WHITE (REFLECTIVE) WITH 12" BLACK NON-REFLECTIVE BORDER

8 RUNWAY DESIGNATION MARKINGS
NTS

NOTES:

1. ALL PAVEMENT MARKINGS SHALL RECEIVE A NON-REFLECTIVE BLACK BORDER. RUNWAY ASSOCIATED MARKINGS SHALL RECEIVE A 12" BORDER, WHILE TAXIWAY ASSOCIATED MARKINGS SHALL RECEIVE A 6" BORDER. ALL NON-REFLECTIVE BLACK BORDERS SHALL BE PAID FOR UNDER ITEM P-620-2, RUNWAY AND TAXIWAY MARKING - PERMANENT BLACK BORDER.
2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-657-7781
FAX: 8633 666-7835

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKING DETAILS – 1

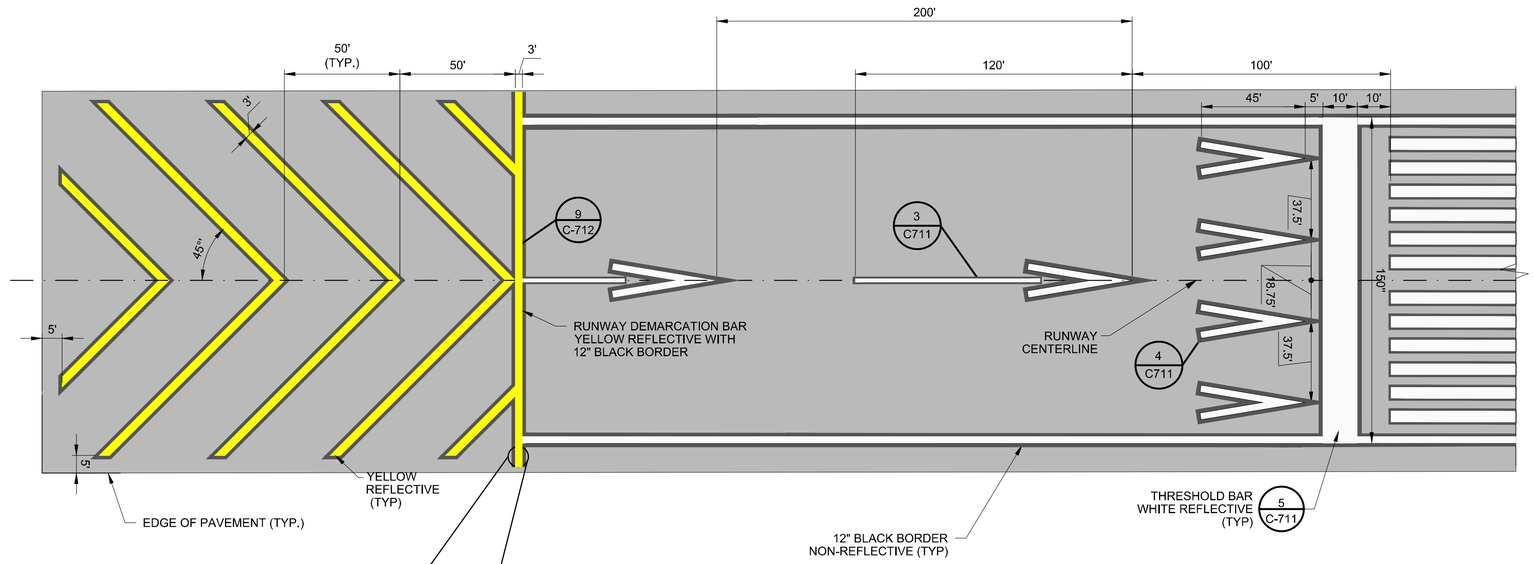
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-711
REV

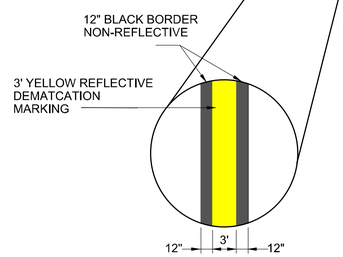
ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_17348\C711_C712 - Pavement Marking Details.dwg [C-711] March 08, 2022 - 4:01pm [sagr]



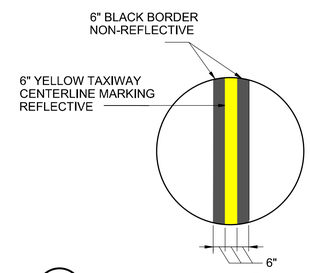
10 DISPLACED RUNWAY THRESHOLD MARKINGS AND BLAST PAD CHEVRONS

NTS



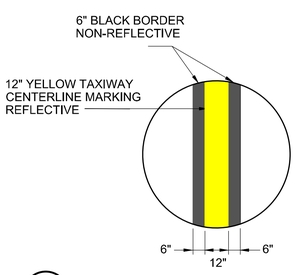
9 DISPLACED RUNWAY THRESHOLD DEMARCATION BAR

NTS



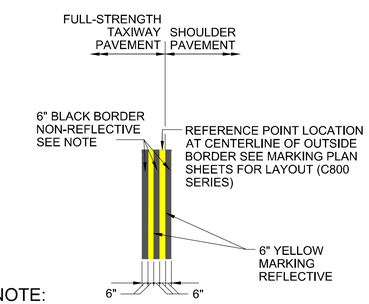
11 6" WIDE TAXIWAY CENTERLINE MARKING

NTS



12 12" WIDE TAXIWAY CENTERLINE MARKING

NTS



NOTE:

ALL TAXIWAY MARKINGS SHALL BE BORDERED WITH A 6 INCH WIDE NON-REFLECTIVE BLACK BORDER

13 TAXIWAY EDGE MARKING

NTS

NOTES:

1. ALL PAVEMENT MARKINGS SHALL RECEIVE A NON-REFLECTIVE BLACK BORDER. RUNWAY ASSOCIATED MARKINGS SHALL RECEIVE A 12" BORDER, WHILE TAXIWAY ASSOCIATED MARKINGS SHALL RECEIVE A 6" BORDER. ALL NON-REFLECTIVE BLACK BORDERS SHALL BE PAID FOR UNDER ITEM P-620-2, RUNWAY AND TAXIWAY MARKING - PERMANENT BLACK BORDER.
2. ALL DISTANCES GIVEN ARE FROM WHITE AND YELLOW MARKING EDGES AND CENTERS AS DIMENSIONED, BLACK BORDERS ARE NOT USED DURING MARKING LAYOUT.

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	DJA
DRAWN BY:	DJA
CHECKED BY:	JAM
APPROVED:	JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

PAVEMENT MARKING DETAILS – 2

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

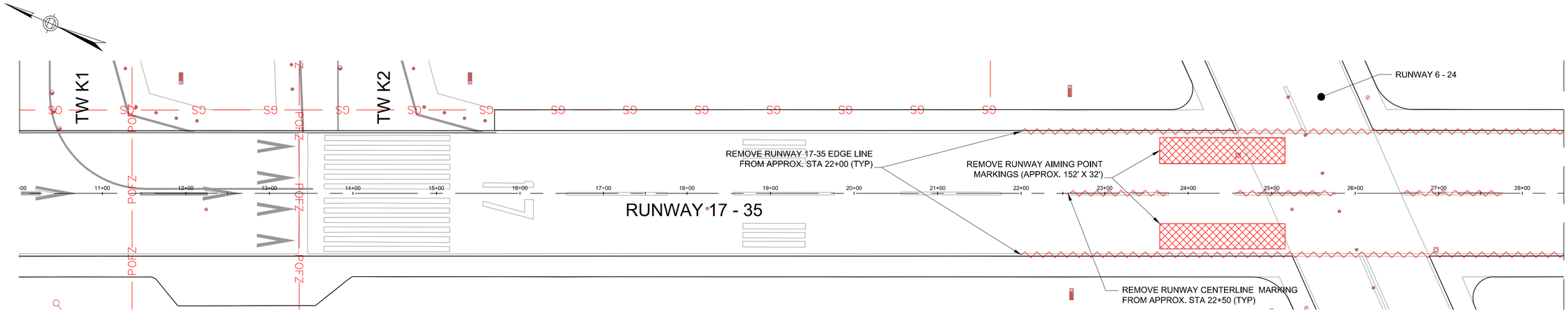
DRAWING NO.

C-712

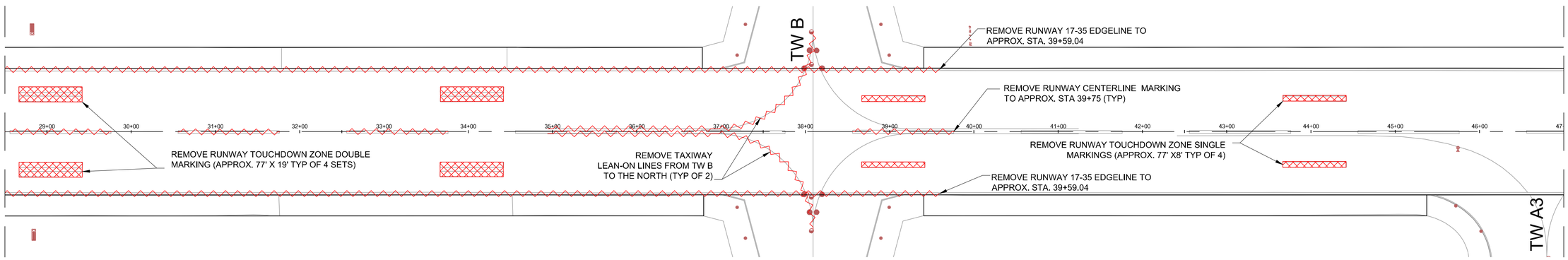
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

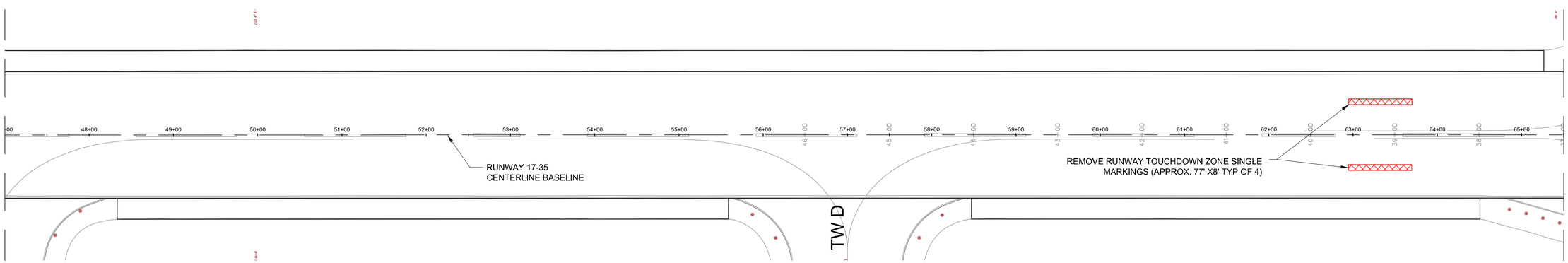
Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C711_C712 - Pavement Marking Details.dwg [C-712] March 08, 2022 - 4:01pm [sagri]



RUNWAY MARKING REMOVAL PLAN - STATION 10+00 TO STATION 28+50



RUNWAY MARKING REMOVAL PLAN - STATION 28+50 TO STATION 47+00



RUNWAY MARKING REMOVAL PLAN - STATION 47+00 TO STATION 65+50

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- EXISTING MARKING REMOVAL
- EXISTING RUNWAY MARKING REMOVAL

NOTE:

1. RUNWAY CENTERLINE STRIPES TO BE ADJUSTED FOR SPACING REQUIREMENTS OF TEMPORARY LAYOUT. THE EXACT LIMITS OF REMOVAL OF THE EXISTING CENTERLINE STRIPES WILL BE SET WITH THE TEMPORARY RUNWAY LAYOUT. THESE LIMITS WILL BE DETERMINED IN THE FIELD. FOR THE TEMPORARY RUNWAY THE FULL LENGTH OF THE RUNWAY CENTERLINE STRIPE MARKINGS MUST BE PAINTED. REFER TO LAYOUT AND DETAILS ON DWGS. C-710 THROUGH C-712.

HORIZONTAL SCALE
1"=60'
60 0 30 60 120

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: (617) 666-7781
FAX: (603) 666-7835

SCALE: 1"=60'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35
RUNWAY MARKING REMOVAL PLAN – 1

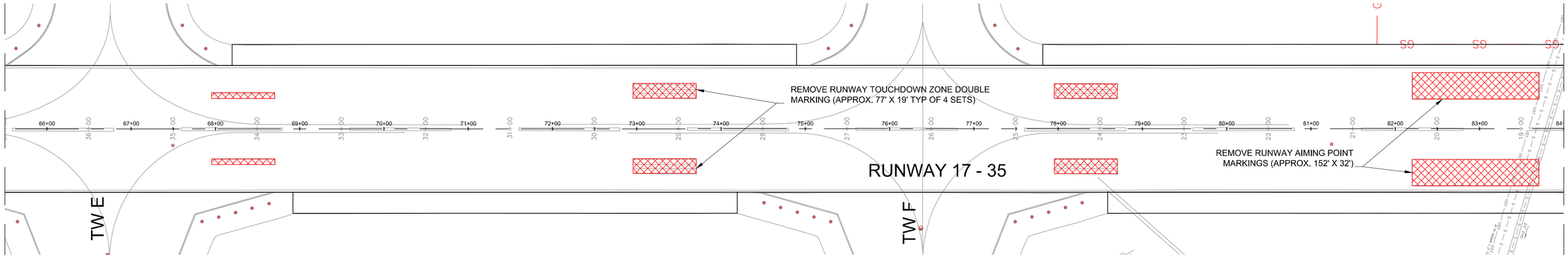
REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

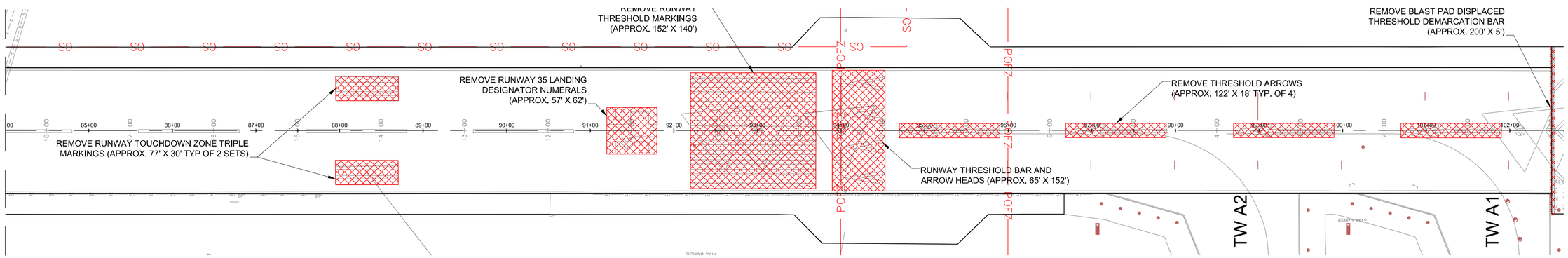
PROJ. NO.: E2X89205
JE FILE:
DRAWING NO.
C-713
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_17348\C713_C-714 - Runway Marking Removal Layout.dwg [C-713] March 08, 2022 - 4:05pm [sagri]



RUNWAY MARKING REMOVAL PLAN - STATION 65+50 TO STATION 84+00



RUNWAY MARKING REMOVAL PLAN - STATION 84+00 TO STATION 102+50

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- EXISTING MARKING REMOVAL
- EXISTING RUNWAY MARKING REMOVAL

NOTE:

1. RUNWAY CENTERLINE STRIPES TO BE ADJUSTED FOR SPACING REQUIREMENTS OF TEMPORARY LAYOUT. THE EXACT LIMITS OF REMOVAL OF THE EXISTING CENTERLINE STRIPES WILL BE SET WITH THE TEMPORARY RUNWAY LAYOUT. THESE LIMITS WILL BE DETERMINED IN THE FIELD. FOR THE TEMPORARY RUNWAY THE FULL LENGTH OF THE RUNWAY CENTERLINE STRIPE MARKINGS MUST BE PAINTED. REFER TO LAYOUT AND DETAILS ON DWGS. C-710 THROUGH C-712.

HORIZONTAL SCALE
1"=60'
60 0 30 60 120

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=60'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY MARKING REMOVAL PLAN – 2

REVISIONS

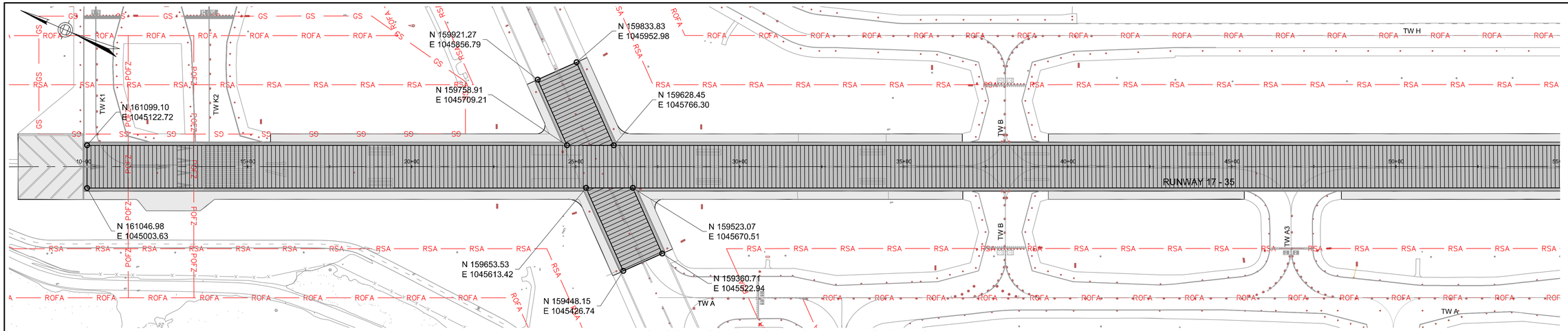
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

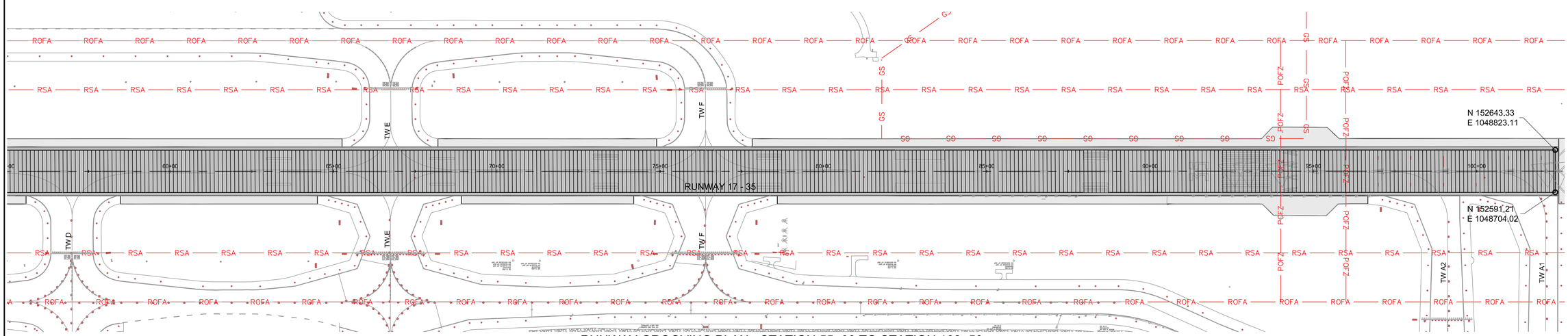
DRAWING NO.
C-714
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

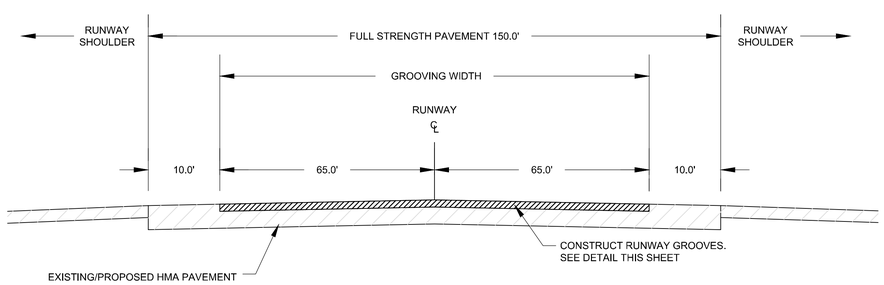
Jacobs - C:\Users\sagn\appdata\local\temp\AcPublish_17348\C713_C-714 - Runway Marking Removal Layout.dwg [C-714] March 08, 2022 - 4:06pm [sagn]



RUNWAY GROOVING PLAN - STATION 10+00 TO STATION 55+00

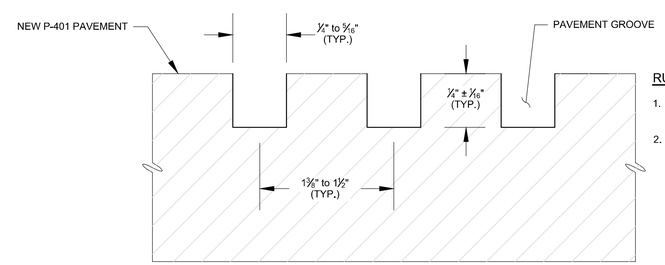


RUNWAY GROOVING PLAN - STATION 55+00 TO STATION 102+50



RUNWAY GROOVING DETAIL

NOT TO SCALE



GROOVING DETAIL

NOT TO SCALE

RUNWAY GROOVING NOTES:

1. RUNWAY GROOVES SHALL BE CONSTRUCTED PERPENDICULAR TO RUNWAY CENTERLINE.
2. CONTRACTOR IS RESPONSIBLE FOR CONTAINING ALL SLURRY RESULTING FROM SAW-CUTTING RUNWAY GROOVING AND LEGALLY DISPOSING OF ALL MATERIALS OFF AIRPORT PROPERTY.

LEGEND

- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- PRECISION OBSTACLE FREE ZONE
- GLIDE SLOPE CRITICAL AREA
- PROPOSED FULL-STRENGTH PAVEMENT
- PROPOSED SHOULDER PAVEMENT
- SAW-CUT GROOVING

HORIZONTAL SCALE
1"=150'

150 0 75 150 300

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617 686-7700
FAX: 6033 666-7835

SCALE: 1"=150'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: DJA
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY GROOVING PLAN AND DETAILS

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

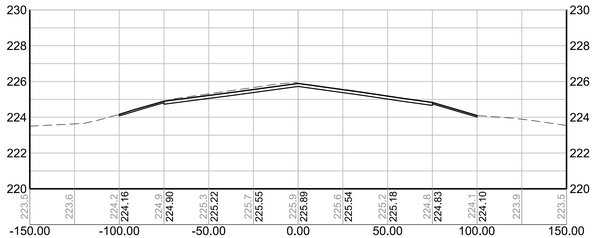
DRAWING NO.

C-801

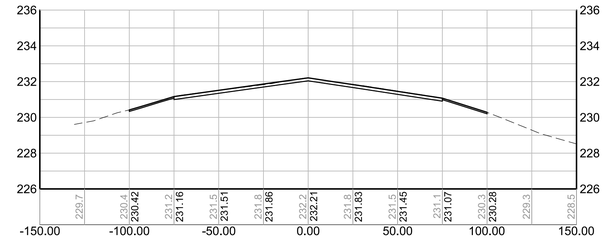
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

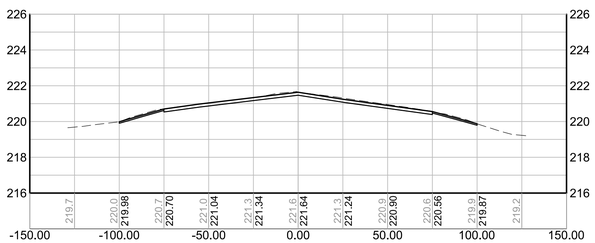
Jacobs - P:\20211\E2X89205 - MHT RW 17-35\700 CADD\C801 - Runway Grooving Plan and Details.dwg [C-801] March 08, 2022 - 5:28pm [sagri]



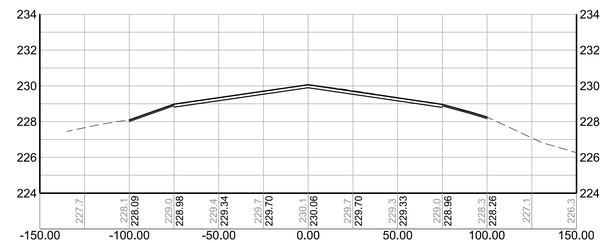
STA. 30+00



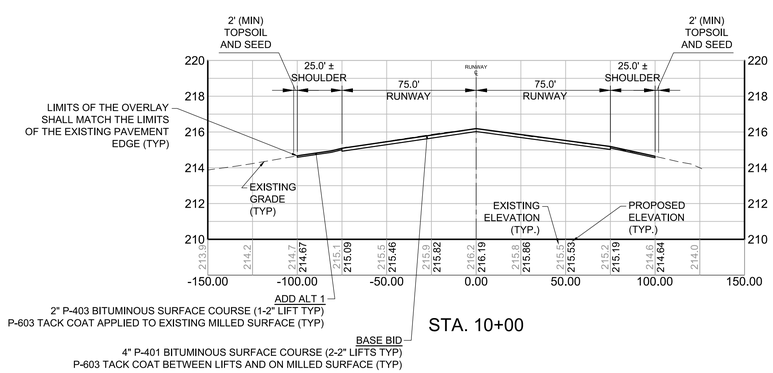
STA. 60+00



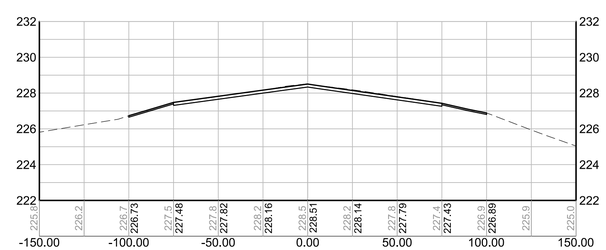
STA. 20+00



STA. 50+00



STA. 10+00



STA. 40+00

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
2. SEE THE 400 SERIES OF DRAWINGS FOR THE PROFILES ASSOCIATED WITH THE CROSS SECTIONS ON THIS SHEET.
3. THE INTENT OF THIS PROJECT IS TO MATCH THE EXISTING GRADES OF THE RUNWAY.
4. THE EXISTING GRADING INFORMATION HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AIRPORT NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THE CONTRACTOR TO VERIFY THE EXISTING CONDITION GRADING PRIOR TO THE START OF ANY SITE PREPARATION ACTIVITIES.

0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17-35 CROSS SECTIONS – STATION 10+00 TO 60+00

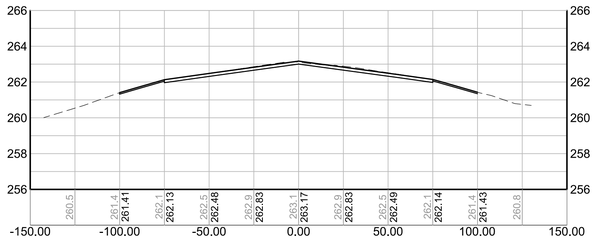
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

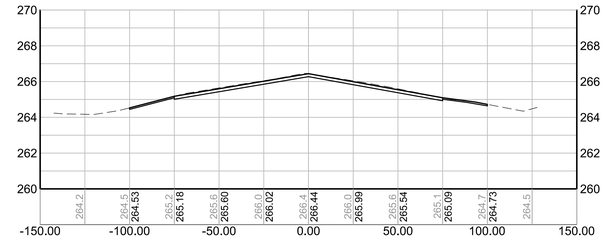
DRAWING NO.
C-901
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

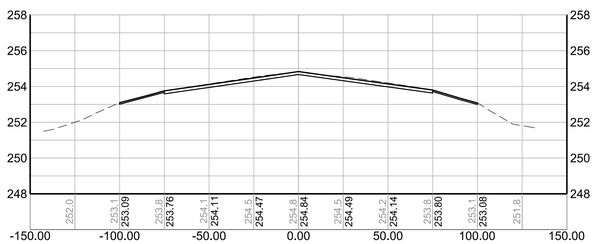
Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C901_C902 -Runway Cross Sections.dwg [C-901] March 08, 2022 - 6:58pm [damorelli]



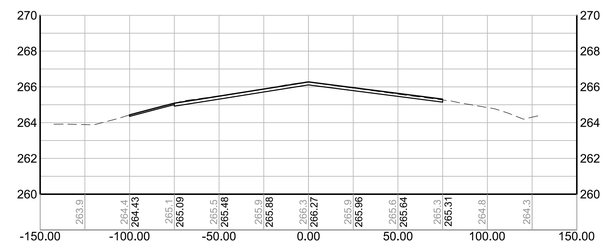
STA. 90+00



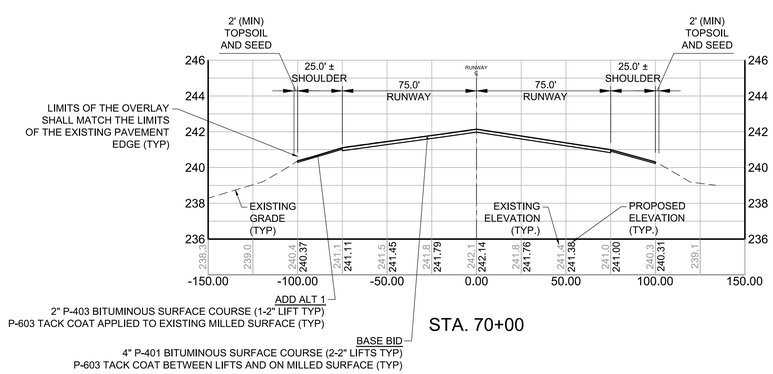
STA. 102+50



STA. 80+00



STA. 100+00



STA. 70+00

NOTES:

1. SEE THE 600 SERIES OF DRAWINGS FOR THE GRADING PLANS AND THE LOCATION OF RUNWAY BASELINE THESE PROFILES REFER TO.
2. SEE THE 400 SERIES OF DRAWINGS FOR THE PROFILES ASSOCIATED WITH THE CROSS SECTIONS ON THIS SHEET.
3. THE INTENT OF THIS PROJECT IS TO MATCH THE EXISTING GRADES OF THE RUNWAY.
4. THE EXISTING GRADING INFORMATION HAS BEEN OBTAINED FROM EXISTING RECORDS AND FIELD SURVEYS. NEITHER THE AIRPORT NOR THE RPR NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THE CONTRACTOR TO VERIFY THE EXISTING CONDITION GRADING PRIOR TO THE START OF ANY SITE PREPARATION ACTIVITIES.

0 2 4 8
VERT. SCALE: 1" = 4'
0 20 40 80
HORZ. SCALE: 1" = 40'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 40'
DATE: MARCH 2022
DESIGNED BY: DJA
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17-35 CROSS SECTIONS – STATION 70+00 TO 102+50

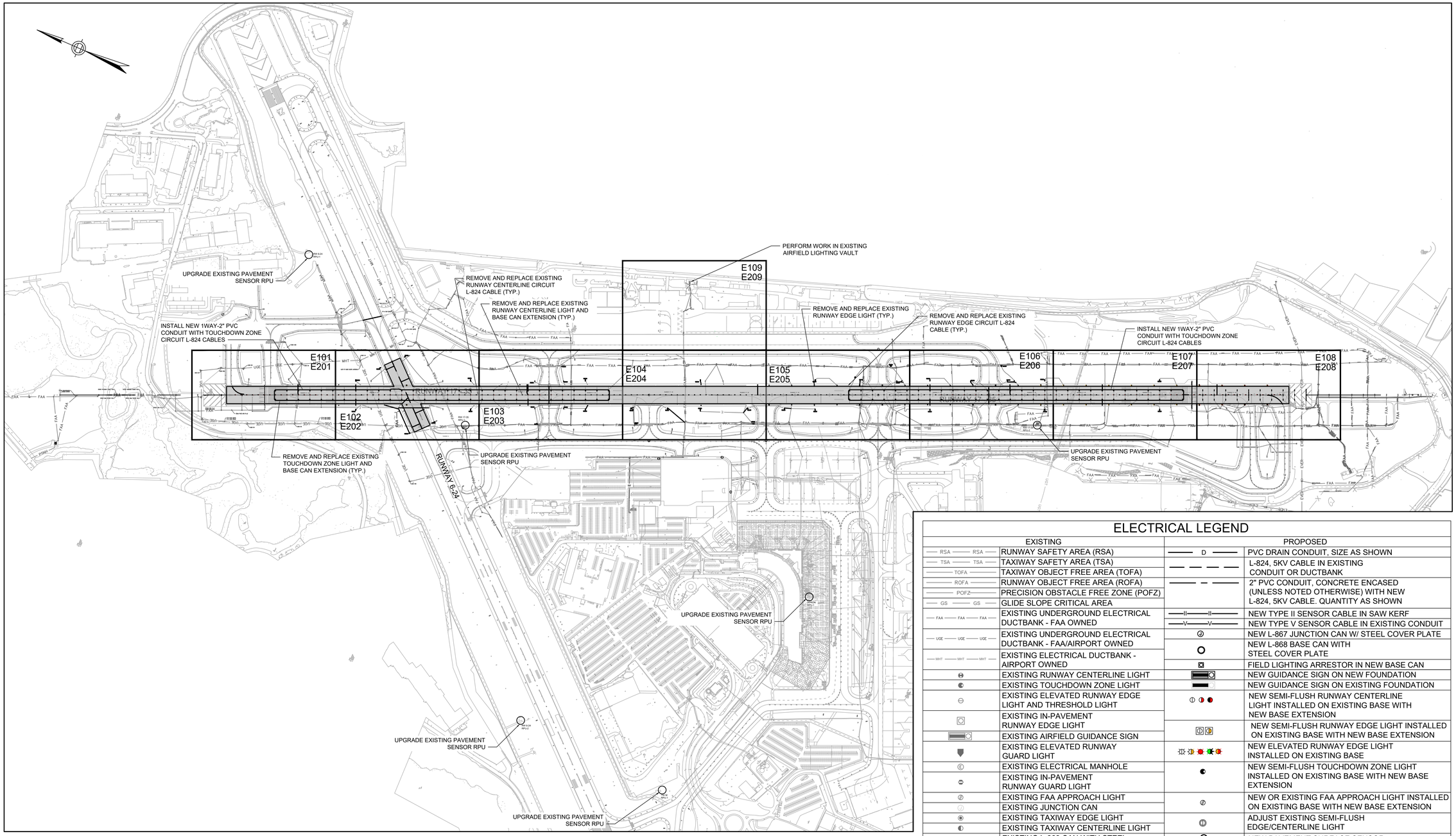
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
C-902
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\job\2021\E2X89205 - MHT RW 17-35\700 CADD\C901_C902 -Runway Cross Sections.dwg [C-902] March 08, 2022 - 7:00pm [damorelli]



ELECTRICAL KEY PLAN

SCALE: 1"=400'

0 400' 800'

GENERAL ELECTRICAL NOTES:

1. FOR GUIDANCE SIGN SCHEDULE REFER TO DRAWING E505.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. ALL CONNECTIONS TO EXISTING CIRCUITS SHALL OCCUR IN JUNCTION CANS, LIGHT BASES, OR HANDHOLES.
7. CONTRACTOR SHALL COORDINATE WITH FAA TO MARK EXISTING UTILITIES 30 DAYS PRIOR TO CONSTRUCTION.
8. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
9. PROVIDE NEW ISOLATION TRANSFORMERS WITH ALL NEW LIGHT FIXTURES AND GUIDANCE SIGNS.

ELECTRICAL LEGEND

EXISTING		PROPOSED	
RSA — RSA	RUNWAY SAFETY AREA (RSA)	D	PVC DRAIN CONDUIT, SIZE AS SHOWN
TSA — TSA	TAXIWAY SAFETY AREA (TSA)		L-824, 5KV CABLE IN EXISTING CONDUIT OR DUCTBANK
TOFA	TAXIWAY OBJECT FREE AREA (TOFA)		
ROFA	RUNWAY OBJECT FREE AREA (ROFA)		2" PVC CONDUIT, CONCRETE ENCASED (UNLESS NOTED OTHERWISE) WITH NEW L-824, 5KV CABLE. QUANTITY AS SHOWN
POFZ	PRECISION OBSTACLE FREE ZONE (POFZ)		
GS — GS	GLIDE SLOPE CRITICAL AREA		
FAA — FAA — FAA	EXISTING UNDERGROUND ELECTRICAL DUCTBANK - FAA OWNED	II	NEW TYPE II SENSOR CABLE IN SAW KERF
		V	NEW TYPE V SENSOR CABLE IN EXISTING CONDUIT
UGE — UGE — UGE	EXISTING UNDERGROUND ELECTRICAL DUCTBANK - FAA/AIRPORT OWNED		NEW L-867 JUNCTION CAN W/ STEEL COVER PLATE
MHT — MHT — MHT	EXISTING ELECTRICAL DUCTBANK - AIRPORT OWNED		NEW L-868 BASE CAN WITH STEEL COVER PLATE
			FIELD LIGHTING ARRESTOR IN NEW BASE CAN
	EXISTING RUNWAY CENTERLINE LIGHT		NEW GUIDANCE SIGN ON NEW FOUNDATION
	EXISTING TOUCHDOWN ZONE LIGHT		NEW GUIDANCE SIGN ON EXISTING FOUNDATION
	EXISTING ELEVATED RUNWAY EDGE LIGHT AND THRESHOLD LIGHT		NEW SEMI-FLUSH RUNWAY CENTERLINE LIGHT INSTALLED ON EXISTING BASE WITH NEW BASE EXTENSION
	EXISTING IN-PAVEMENT RUNWAY EDGE LIGHT		NEW SEMI-FLUSH RUNWAY EDGE LIGHT INSTALLED ON EXISTING BASE WITH NEW BASE EXTENSION
	EXISTING AIRFIELD GUIDANCE SIGN		
	EXISTING ELEVATED RUNWAY GUARD LIGHT		NEW ELEVATED RUNWAY EDGE LIGHT INSTALLED ON EXISTING BASE
	EXISTING ELECTRICAL MANHOLE		NEW SEMI-FLUSH TOUCHDOWN ZONE LIGHT INSTALLED ON EXISTING BASE WITH NEW BASE EXTENSION
	EXISTING IN-PAVEMENT RUNWAY GUARD LIGHT		
	EXISTING FAA APPROACH LIGHT		NEW OR EXISTING FAA APPROACH LIGHT INSTALLED ON EXISTING BASE WITH NEW BASE EXTENSION
	EXISTING JUNCTION CAN		
	EXISTING TAXIWAY EDGE LIGHT		ADJUST EXISTING SEMI-FLUSH EDGE/CENTERLINE LIGHT
	EXISTING TAXIWAY CENTERLINE LIGHT		
	EXISTING L-868 CAN WITH STEEL COVER PLATE		NEW PAVEMENT SURFACE SENSOR
			NEW SUB-SURFACE TEMPERATURE PROBE
D	EXISTING DRAIN CONDUIT	HH	NEW 4' X 4' ELECTRICAL HANDHOLE
	EXISTING PAVEMENT SURFACE SENSOR		
	EXISTING WIND CONE		NEW CONCRETE ENCASED PVC DUCTBANK

ELECTRICAL DEMOLITION LEGEND

R	REMOVE EXISTING LIGHTING FIXTURE, SIGN AND BASE, OR PAVEMENT SENSOR
ADJ	ADJUST EXISTING LIGHTING FIXTURE
X	REMOVE EXISTING CABLE FROM EXISTING CONDUIT

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=400'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: SNA
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL KEY PLAN

REVISIONS

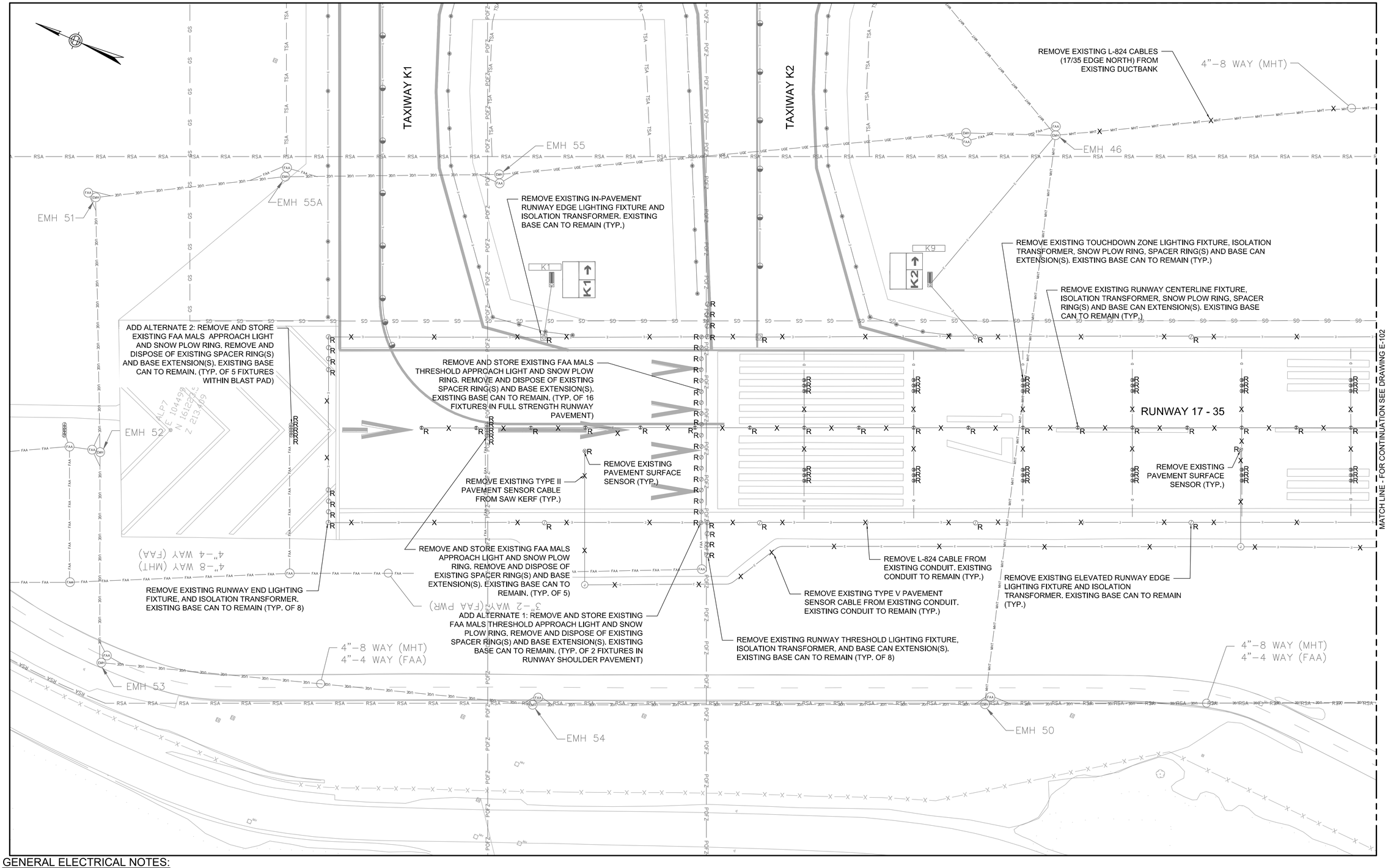
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-001
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E001_Electrical KeyPlan.dwg [E001] March 09, 2022 - 3:01pm [panasub]



GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. REMOVED CABLES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND LEGALLY DISPOSED OF OFF SITE.
8. ALL REMOVED EQUIPMENT SHALL BE PRESENTED TO THE AIRPORT FOR SALVAGE. ALL ITEMS NOT SELECTED FOR SALVAGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE LEGALLY DISPOSED OF OFF SITE. ALL ITEMS SELECTED FOR SALVAGE SHALL BE TRANSPORTED BY THE CONTRACTOR TO A DESIGNATED LOCATION ON THE AIRPORT FOR STORAGE.
9. AFTER REMOVAL OF EXISTING LIGHT FIXTURES, INSTALL TEMPORARY PAVING PLATES PRIOR TO MILLING AND PAVING OPERATIONS.
10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

ELECTRICAL SITE PREPARATION - 1

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781 687-7800
FAX: 781 687-7781

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	SNA
CHECKED BY:	JAM
APPROVED:	JPH

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REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION - 1

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-101

REV

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MATCH LINE - FOR CONTINUATION SEE INSET THIS SHEET

REMOVE EXISTING L-824 CABLES (17/35 EDGE NORTH) FROM EXISTING DUCTBANK

EMH 44

R/W 17 GLIDE SLOPE ANTENNA

EXISTING IN-PAVEMENT LIGHT FIXTURE TO BE ADJUSTED TO NEW GRADE. REMOVE AND STORE FIXTURE AND SNOW PLOW RING FOR REINSTALLATION. REMOVE AND DISPOSE OF EXISTING SPACER RING(S) AND BASE CAN EXTENSION(S) (TYP.)

REMOVE EXISTING TOUCHDOWN ZONE LIGHTING FIXTURE, ISOLATION TRANSFORMER, SNOW PLOW RING, SPACER RING(S) AND BASE CAN EXTENSION(S). EXISTING BASE CAN TO REMAIN (TYP.)

REMOVE AND DISPOSE OF EXISTING LIGHT BASE, BASE CAN EXTENSION(S), SPACER RING(S) AND HARDWARE. REMOVE AND STORE EXISTING FIXTURE AND SNOW PLOW RING FOR REINSTALLATION.

REMOVE EXISTING IN-PAVEMENT RUNWAY EDGE LIGHTING FIXTURE, ISOLATION TRANSFORMER, SNOW PLOW RING, SPACER RING(S) AND BASE CAN EXTENSION. EXISTING BASE CAN TO REMAIN (TYP.)

REMOVE EXISTING RUNWAY CENTERLINE FIXTURE, ISOLATION TRANSFORMER, SNOW PLOW RING, SPACER RING(S) AND BASE CAN EXTENSION(S). EXISTING BASE CAN TO REMAIN (TYP.)

RUNWAY 17 - 35

RUNWAY 17 - 35

RUNWAY 24-6

REMOVE EXISTING PAVEMENT SURFACE SENSOR (TYP.)

REMOVE EXISTING TYPE II PAVEMENT SENSOR CABLE FROM SAW KERF (TYP.)

REMOVE EXISTING TYPE V PAVEMENT SENSOR CABLES FROM EXISTING CONDUIT. EXISTING CONDUIT TO REMAIN (TYP.)

REMOVE AND DISPOSE OF EXISTING LIGHT BASE, BASE CAN EXTENSION(S), SPACER RING(S) AND HARDWARE. REMOVE AND STORE EXISTING FIXTURE AND SNOW PLOW RING FOR REINSTALLATION.

REMOVE EXISTING ELEVATED RUNWAY EDGE LIGHTING FIXTURE, AND ISOLATION TRANSFORMER. EXISTING BASE CAN TO REMAIN (TYP.)

REMOVE L-824 CABLE FROM EXISTING CONDUIT. EXISTING CONDUIT TO REMAIN (TYP.)

REMOVE EXISTING LIGHTED GUIDANCE SIGN AND FOUNDATION (TYP.)

4"-8 WAY (MHT)
4"-4 WAY (FAA)

REMOVE EXISTING TYPE V PAVEMENT SENSOR CABLES FROM EXISTING CONDUIT. EXISTING CONDUIT TO REMAIN (TYP.)

REMOVE EXISTING TYPE V PAVEMENT SENSOR CABLES FROM EXISTING DUCTBANK. EXISTING DUCTBANK TO REMAIN

WEATHER MONITORING STATION (RPU-B)

DISCONNECT PAVEMENT SENSOR CABLES FROM EXISTING RPU

REMOVE EXISTING COVER PLATE, SPACER(S) AND BASE CAN EXTENSION(S) FROM EXISTING UNUSED LAHSO LIGHT BASES. FILL CANS WITH CONCRETE AND PAVE OVER. SEE DETAIL ON SHEET E-408 (TYP. OF 6).

MATCH LINE - FOR CONTINUATION SEE DRAWING E-101

MATCH LINE - FOR CONTINUATION SEE DRAWING E-103

TAXIWAY K

EXISTING SUPPLEMENTAL WINDCONE TO REMAIN

MATCH LINE - FOR CONTINUATION SEE ABOVE

INSET

SCALE: 1"=40'

ELECTRICAL SITE PREPARATION - 2

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. REMOVED CABLES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND LEGALLY DISPOSED OF OFF SITE.
8. ALL REMOVED EQUIPMENT SHALL BE PRESENTED TO THE AIRPORT FOR SALVAGE. ALL ITEMS NOT SELECTED FOR SALVAGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE LEGALLY DISPOSED OF OFF SITE. ALL ITEMS SELECTED FOR SALVAGE SHALL BE TRANSPORTED BY THE CONTRACTOR TO A DESIGNATED LOCATION ON THE AIRPORT FOR STORAGE.
9. AFTER REMOVAL OF EXISTING LIGHT FIXTURES, INSTALL TEMPORARY PAVING PLATES PRIOR TO MILLING AND PAVING OPERATIONS.
10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	SNA
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION - 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-102

REV

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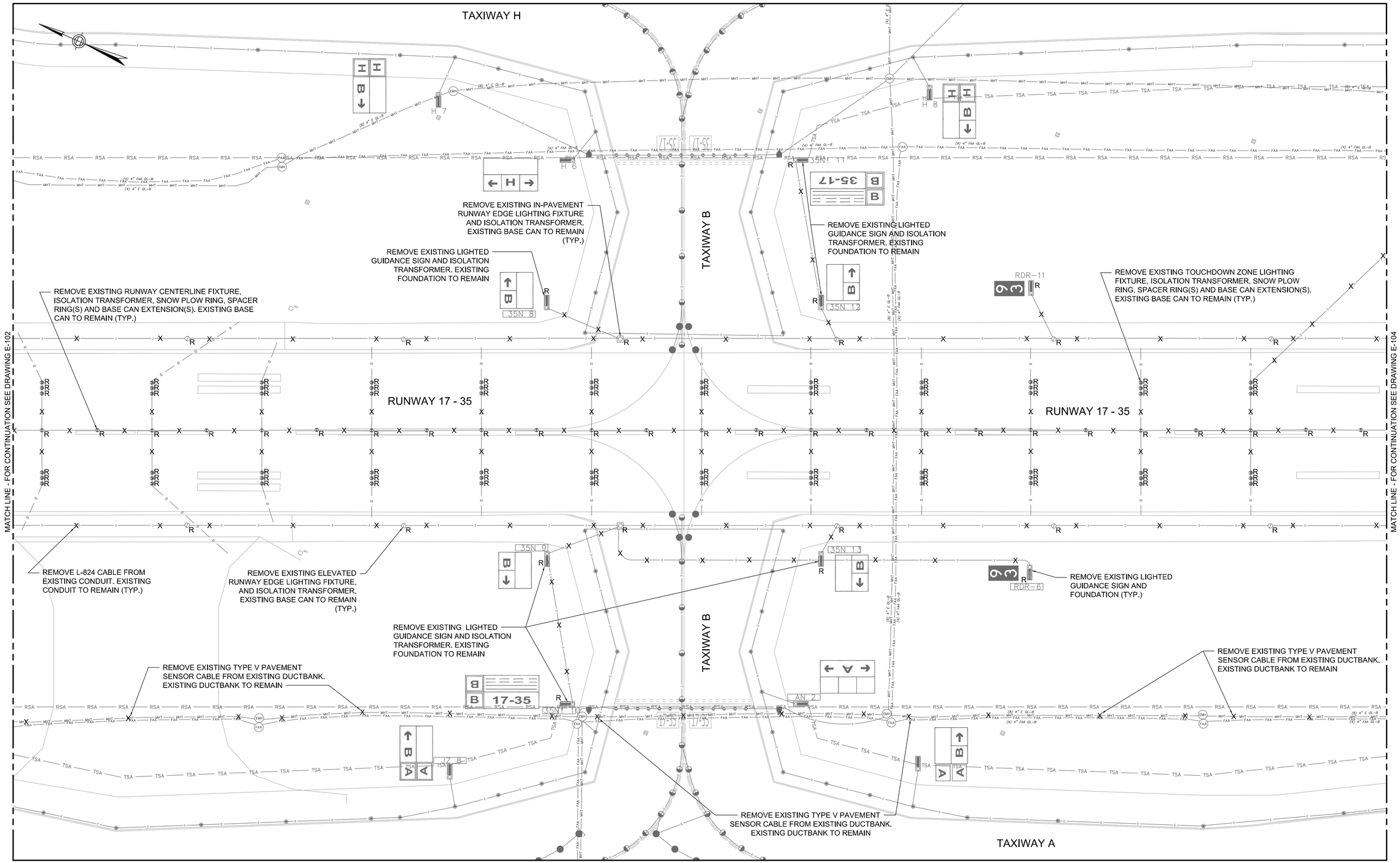

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
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ELECTRICAL SITE PREPARATION -3

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: SNA
CHECKED BY: JAM
APPROVED: JPH

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REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -3

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-103

REV

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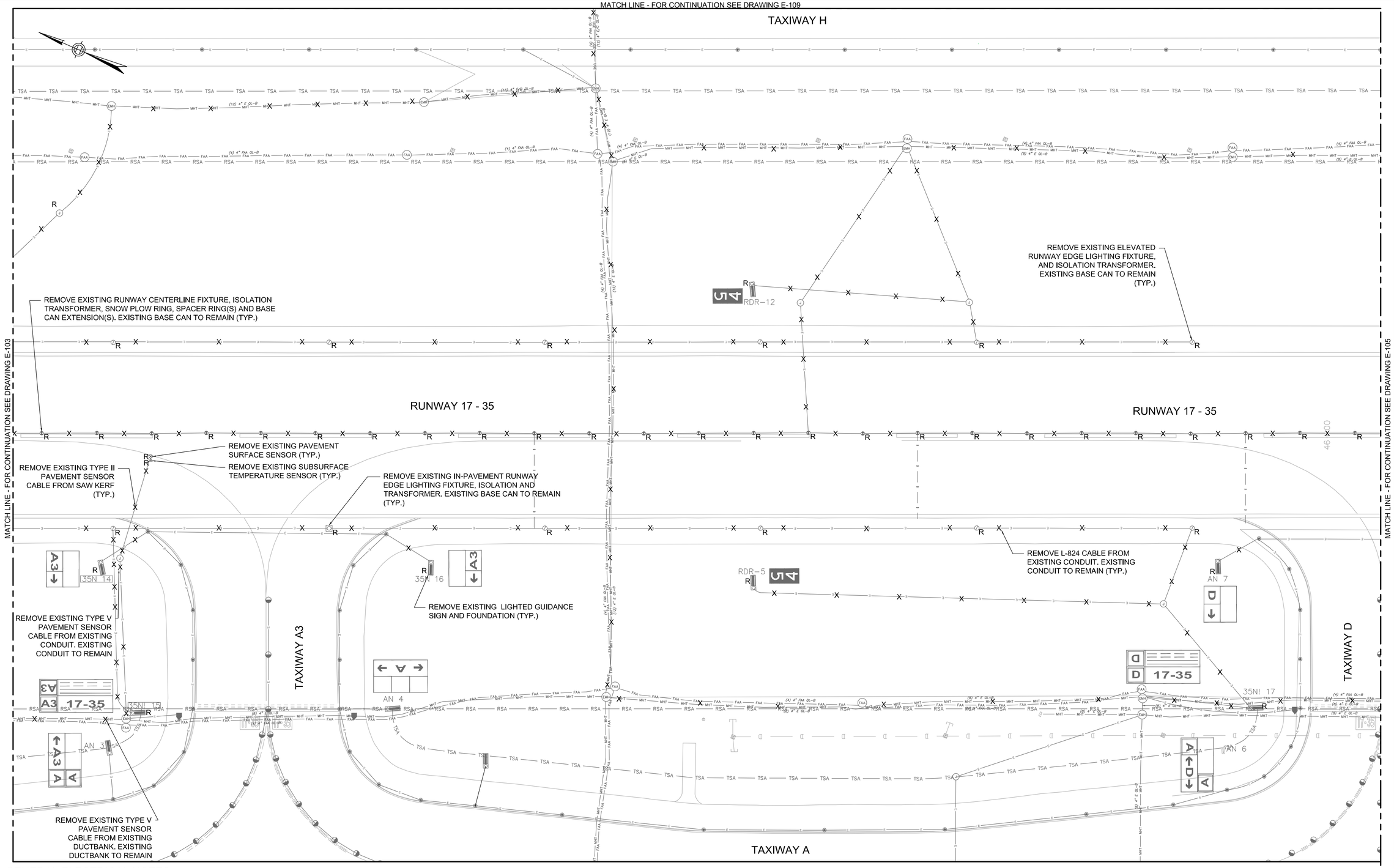

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
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10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

ELECTRICAL SITE PREPARATION -4

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603 666-7781
FAX: 603 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: SNA
CHECKED BY: JAM
APPROVED: JPH

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REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -4

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-104

REV

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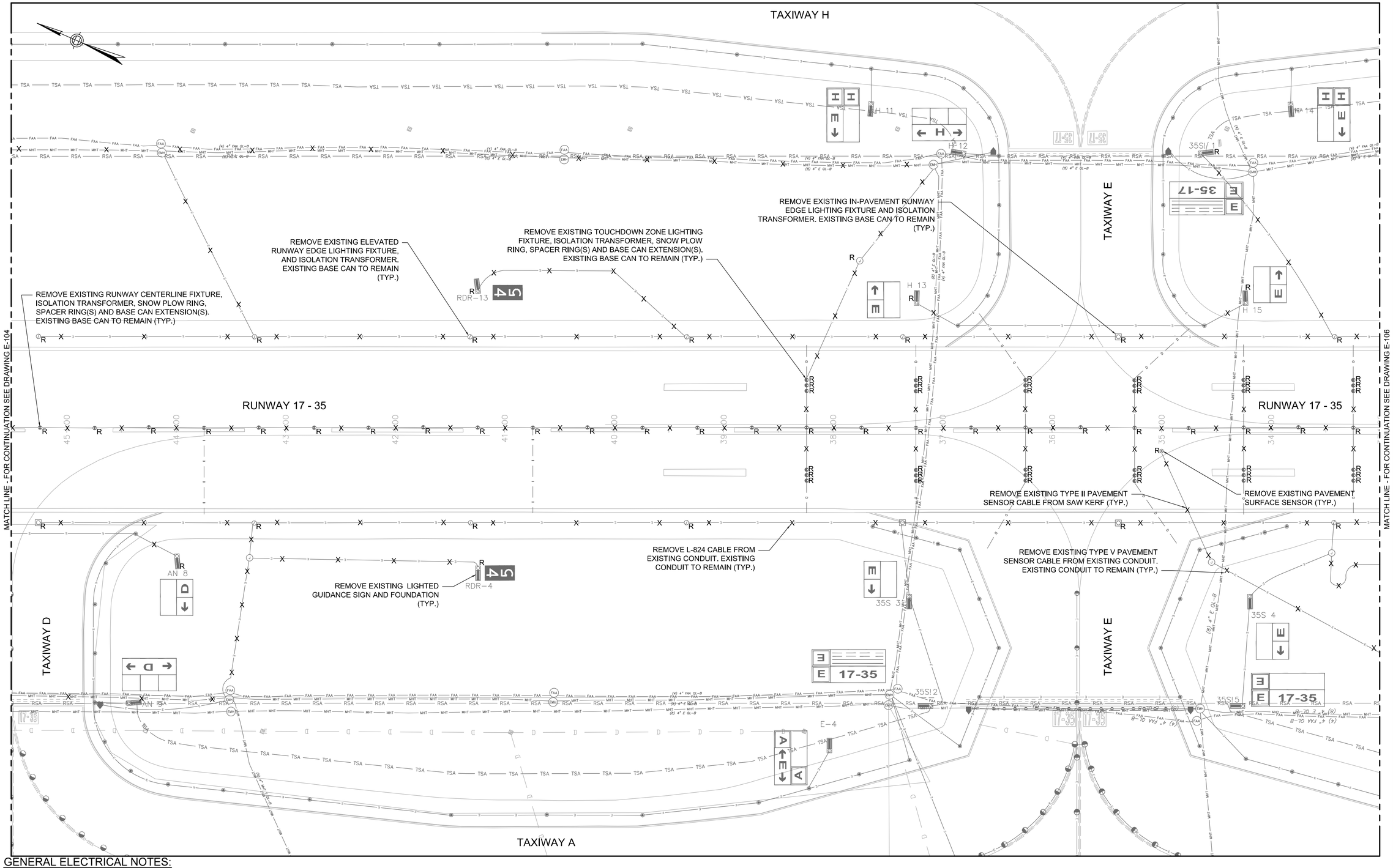

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
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10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

ELECTRICAL SITE PREPARATION -5

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: SNA
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER - BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -5

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-105

REV

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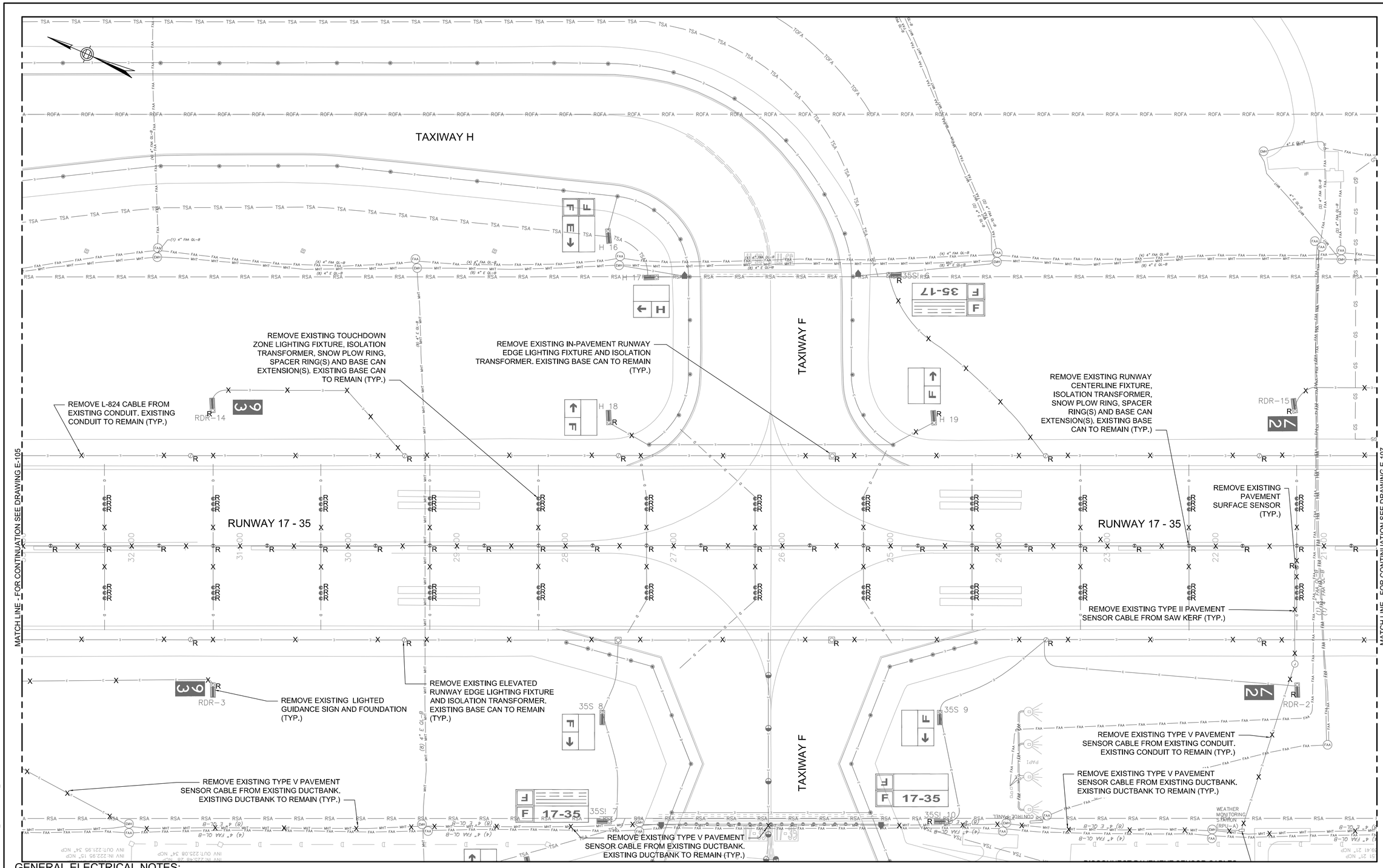

ELECTRICAL SITE PREPARATION -6

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
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10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: SNA
CHECKED BY: JAM
APPROVED: JPH

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REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -6

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

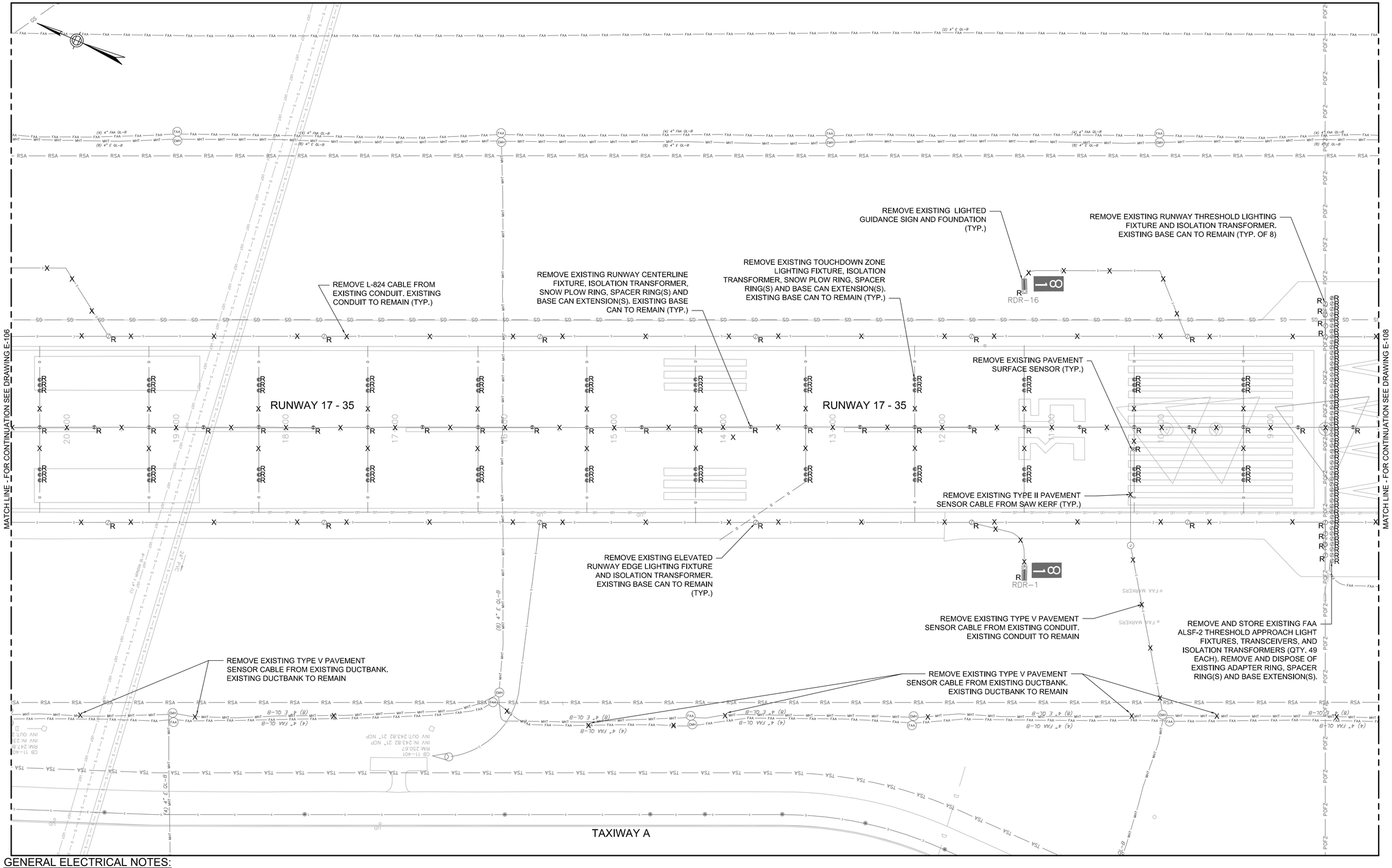
DRAWING NO.

E-106

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16508\E101_E109 Electrical Site Prep Plans.dwg [E 106] March 08, 2022 - 1:17pm [sagri]



GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
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10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

ELECTRICAL SITE PREPARATION -7

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	SNA
CHECKED BY:	JAM
APPROVED:	JPH

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REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -7

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-107

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

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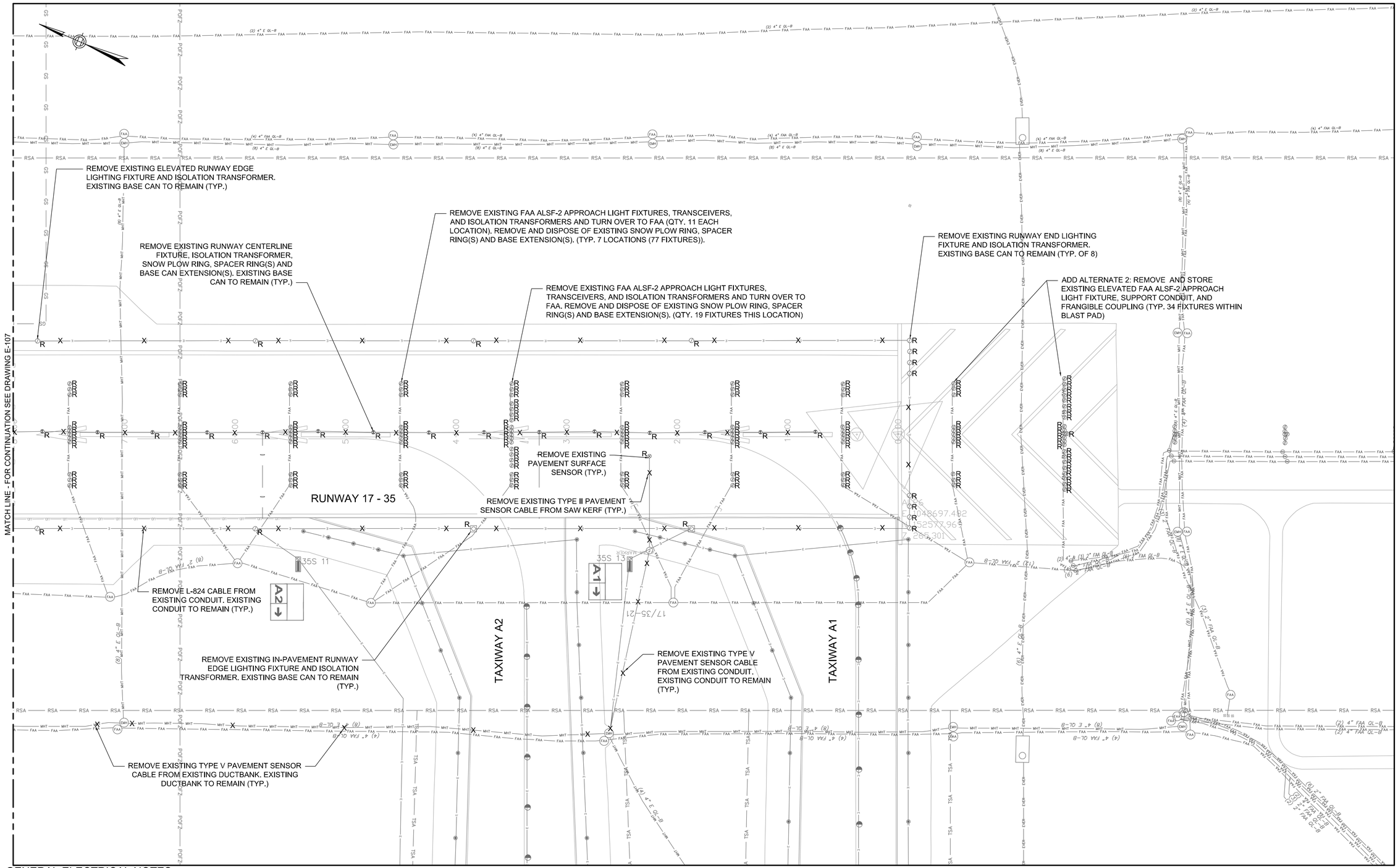


GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. REMOVED CABLES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND LEGALLY DISPOSED OF OFF SITE.
8. ALL REMOVED EQUIPMENT SHALL BE PRESENTED TO THE AIRPORT FOR SALVAGE. ALL ITEMS NOT SELECTED FOR SALVAGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE LEGALLY DISPOSED OF OFF SITE. ALL ITEMS SELECTED FOR SALVAGE SHALL BE TRANSPORTED BY THE CONTRACTOR TO A DESIGNATED LOCATION ON THE AIRPORT FOR STORAGE.
9. AFTER REMOVAL OF EXISTING LIGHT FIXTURES, INSTALL TEMPORARY PAVING PLATES PRIOR TO MILLING AND PAVING OPERATIONS.
10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

ELECTRICAL SITE PREPARATION -8

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: SNA
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -8

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

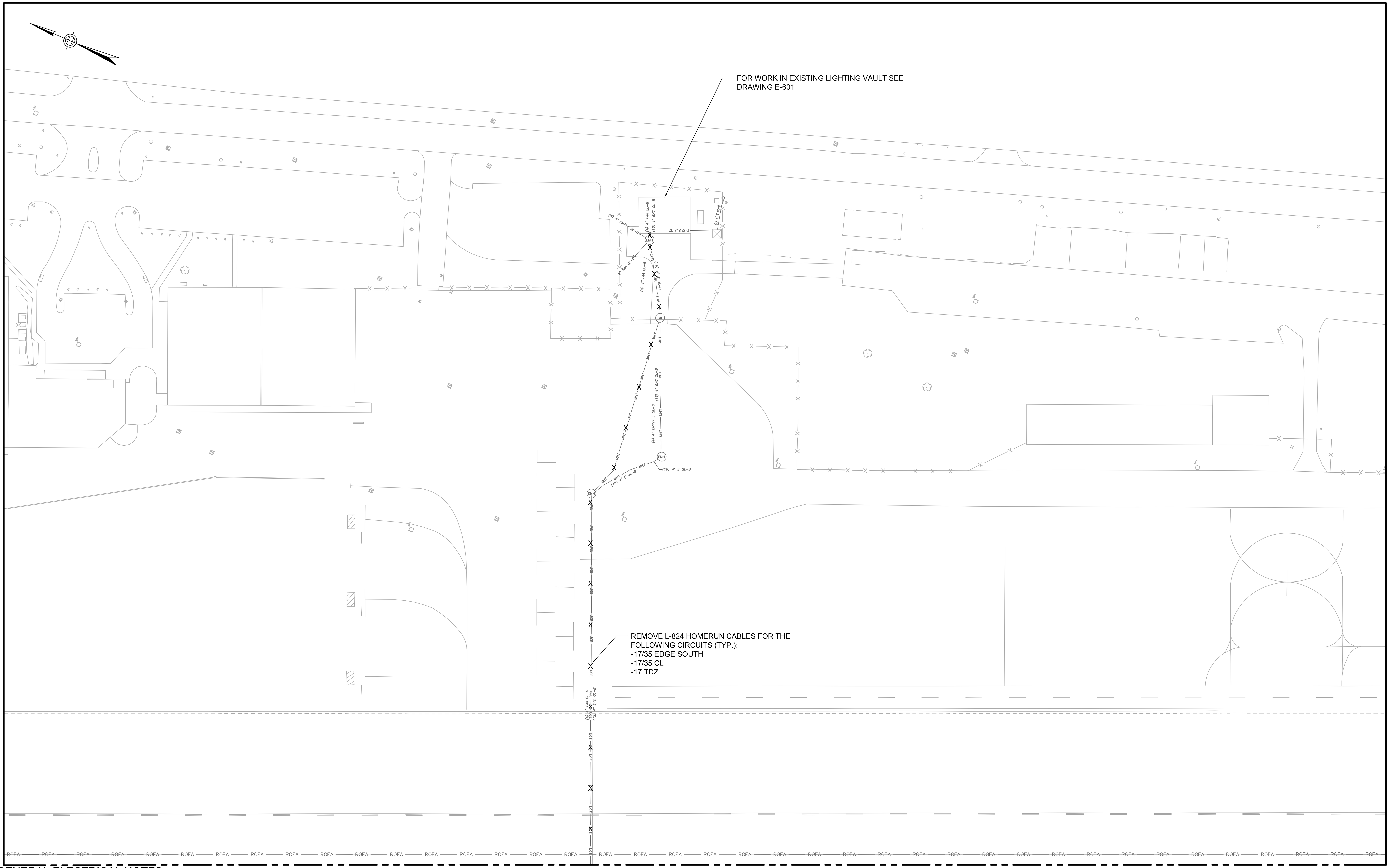
DRAWING NO.

E-108

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16508\E101_E109 Electrical Site Prep Plans.dwg [E 108] March 08, 2022 - 1:17pm [sagri]



MATCH LINE - FOR CONTINUATION SEE DRAWING E-104

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001.
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. REMOVED CABLES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND LEGALLY DISPOSED OF OFF SITE.
8. ALL REMOVED EQUIPMENT SHALL BE PRESENTED TO THE AIRPORT FOR SALVAGE. ALL ITEMS NOT SELECTED FOR SALVAGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE LEGALLY DISPOSED OF OFF SITE. ALL ITEMS SELECTED FOR SALVAGE SHALL BE TRANSPORTED BY THE CONTRACTOR TO A DESIGNATED LOCATION ON THE AIRPORT FOR STORAGE.
9. AFTER REMOVAL OF EXISTING LIGHT FIXTURES, INSTALL TEMPORARY PAVING PLATES PRIOR TO MILLING AND PAVING OPERATIONS.
10. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.

ELECTRICAL SITE PREPARATION -9

SCALE: 1"=40'

0 40' 80'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	SNA
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL SITE PREPARATION -9

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

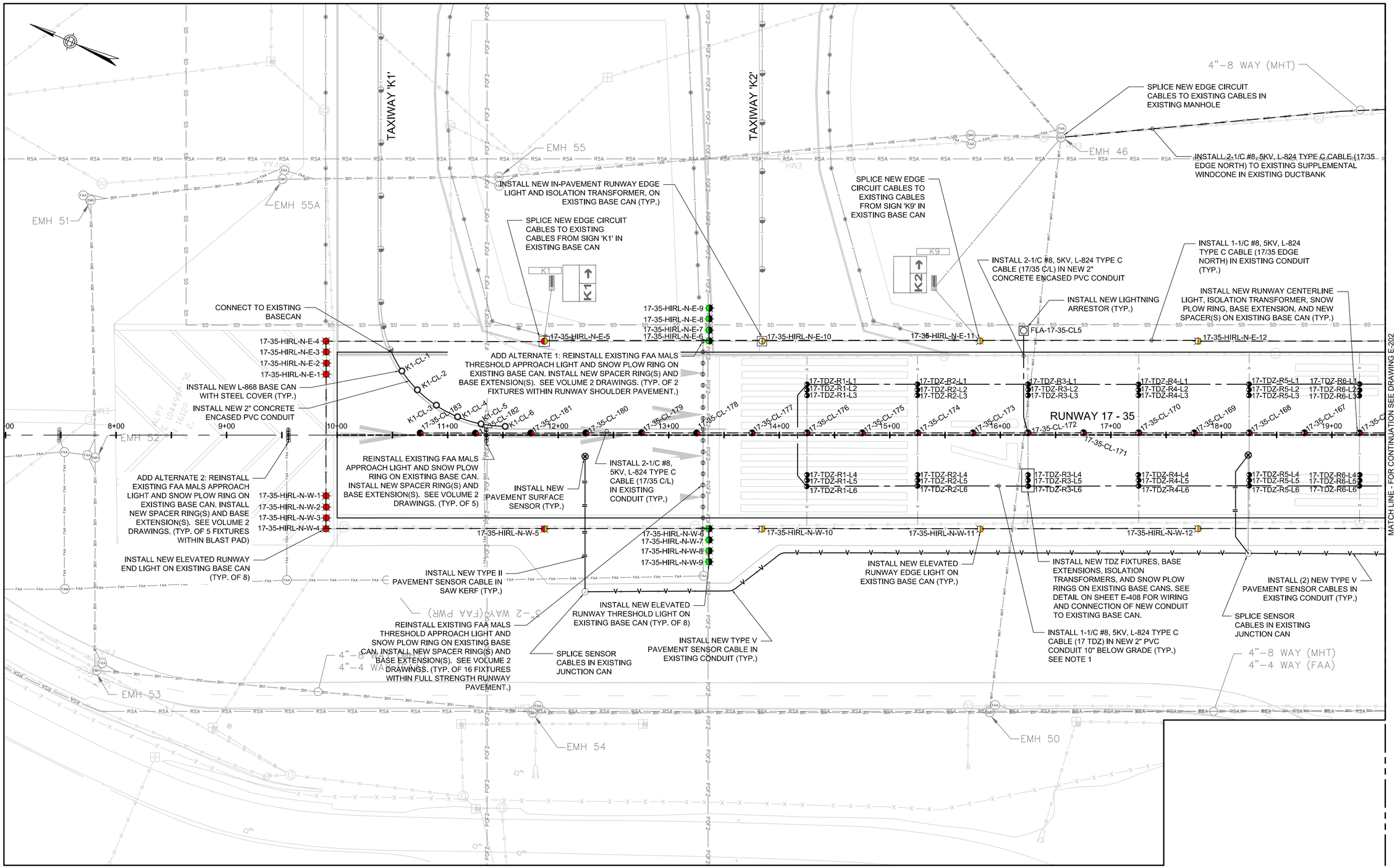
DRAWING NO.

E-109

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16508\E101_E109 Electrical Site Prep Plans.dwg [E 109] March 08, 2022 - 1:18pm [sagri]



GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

ELECTRICAL PLAN - 1

SCALE: 1"=40'

0 40' 80'

NOTE:

1. PVC CONDUIT INSTALLED 10" BELOW FINISH GRADE SHALL BE SCHEDULE 80. SEE DETAIL ON DRAWING NO. E-401.

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
Bedford, MA 01730-2261
FAX: (603) 668-7785

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN - 1

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-201

REV

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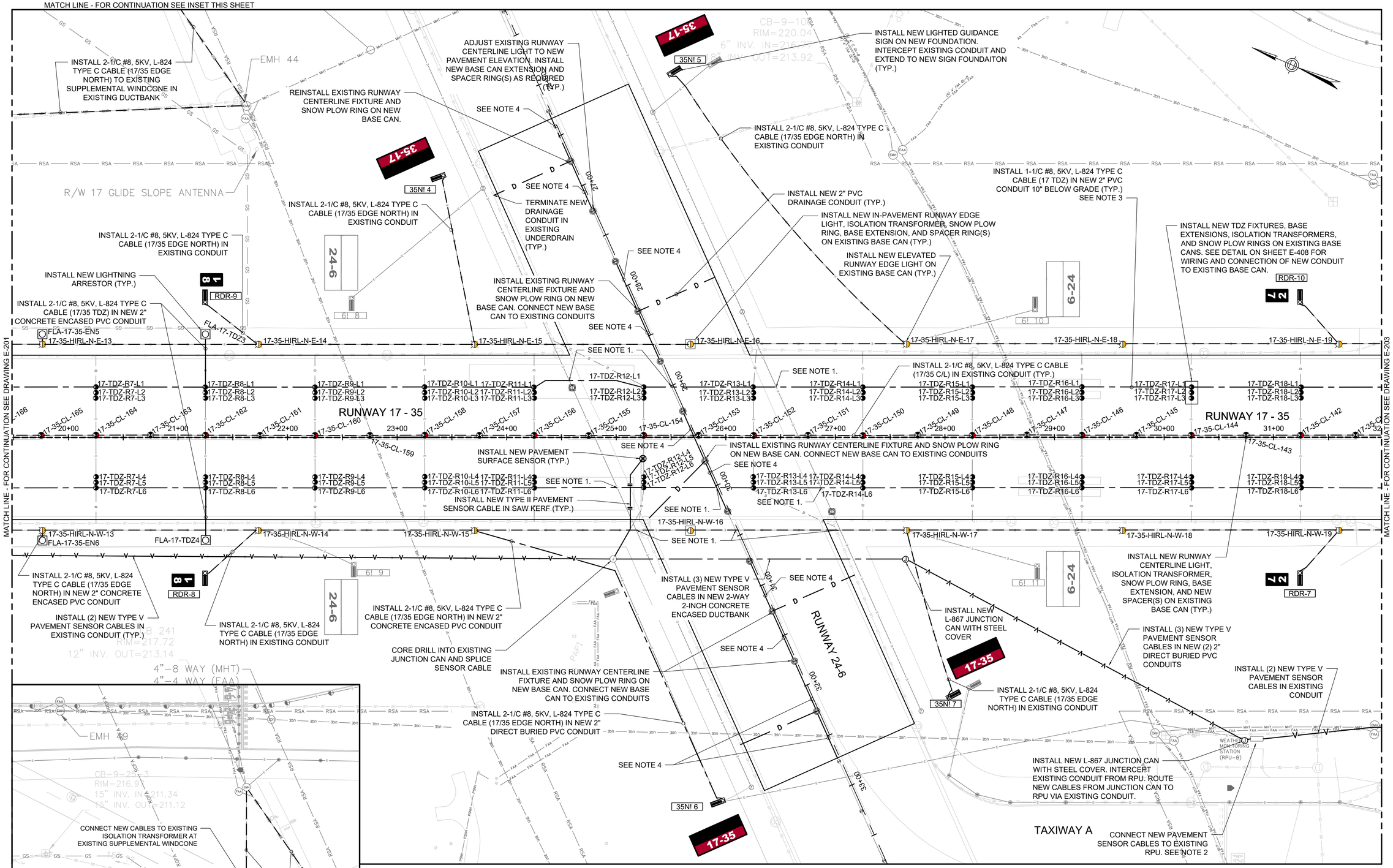
Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 201] March 08, 2022 - 1:34pm [sagri]



MATCH LINE - FOR CONTINUATION SEE ABOVE

INSET
SCALE: 1"=40'

ELECTRICAL PLAN - 2
SCALE: 1"=40'
0 40' 80'

NOTES:

1. CONTRACTOR SHALL USE CAUTION WHEN EXCAVATING IN THIS AREA TO AVOID DAMAGE TO THE EXISTING RW 6-24 EDGE AND CENTERLINE CIRCUITS. ANY DAMAGE TO THE EXISTING CONDUITS/DUCTBANKS, COUNTERPOISE AND CABLES SHALL BE REPAIRED TO THE SATISFACTION OF THE RPR AT THE CONTRACTOR'S EXPENSE.
2. THE CONTRACTOR SHALL HIRE THE PAVEMENT SENSOR SYSTEM MANUFACTURER (VAISALA) TO SPLICE AND TERMINATE THE PAVEMENT SENSOR CABLES, PERFORM UPGRADES TO THE RPU EQUIPMENT, AND COMMISSION THE NEW PAVEMENT SENSOR SYSTEM AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS. INTERCEPT EXISTING 2"C ENTERING RPU FOUNDATION AND EXTEND TO NEW L-867 JUNCTION CAN.
3. PVC CONDUIT INSTALLED 10" BELOW FINISH GRADE SHALL BE SCHEDULE 80. SEE DETAIL ON DRAWING NO. E-401.
4. INSTALL 2-1/C #8, 5KV, L-824 TYPE C CABLES (6/24 CENTERLINE) IN EXISTING CONDUIT.

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN - 2

REVISIONS

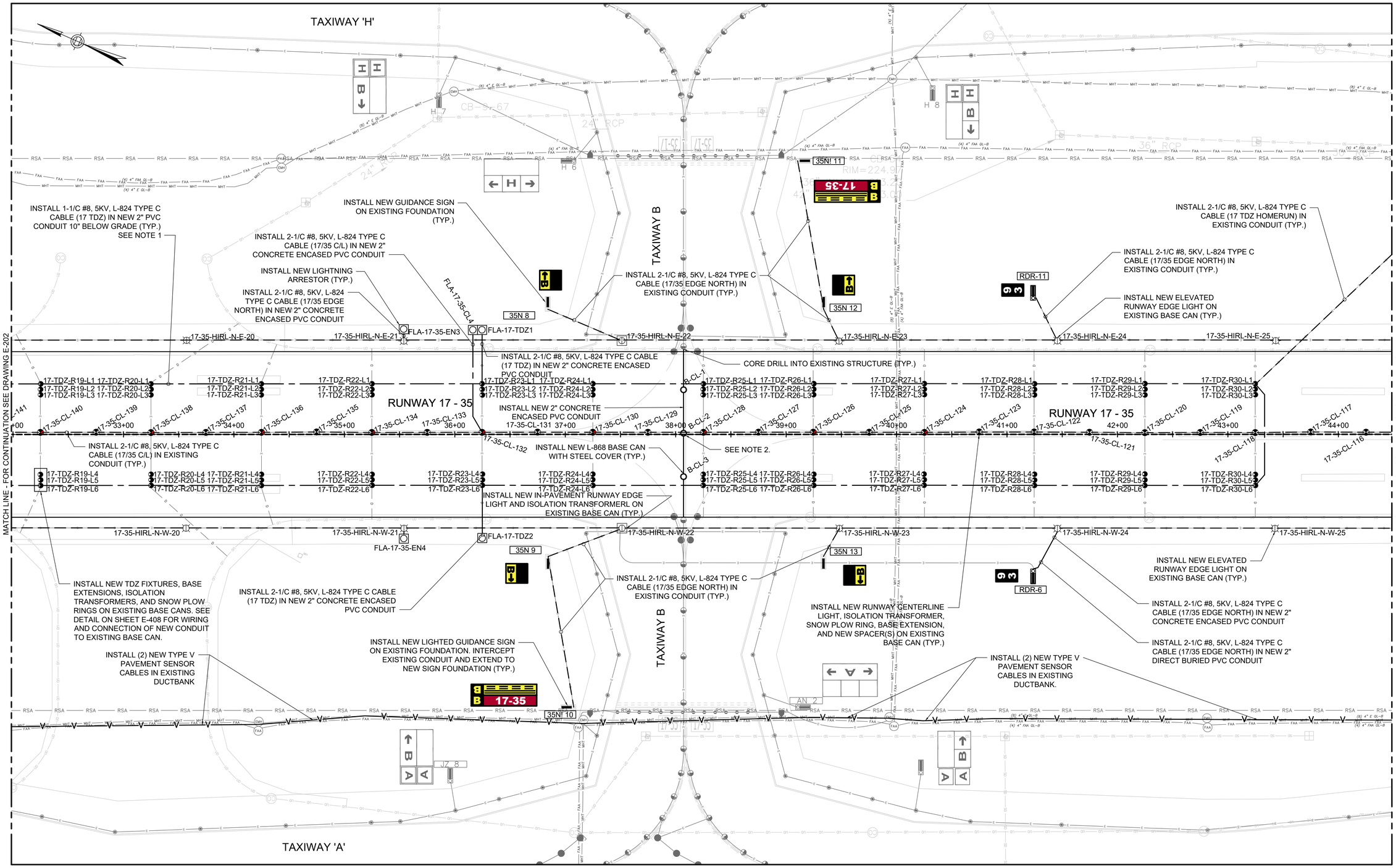
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-202
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E201_E209 Electrical Plans.dwg [E 202] March 08, 2022 - 3:34pm [panasub]



NOTES:

1. PVC CONDUIT INSTALLED 10" BELOW FINISH GRADE SHALL BE SCHEDULE 80. SEE DETAIL ON DRAWING NO. E-401.
2. INSTALLATION OF LIGHT BASE MAY CONFLICT WITH EXISTING RUNWAY CENTERLINE LIGHT CONDUIT AT THIS LOCATION. IF EXISTING CONDUIT IS DAMAGED DURING EXCAVATION FOR NEW LIGHT BASE, INTERCEPT CONDUIT AT EACH SIDE OF EXCAVATION AND ROUTE NEW 2" SCH. 40 PVC CONDUIT BELOW NEW LIGHT BASE TO COMPLETE RUNWAY CENTERLINE CONDUIT.

ELECTRICAL PLAN - 3

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN - 3

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-203
REV

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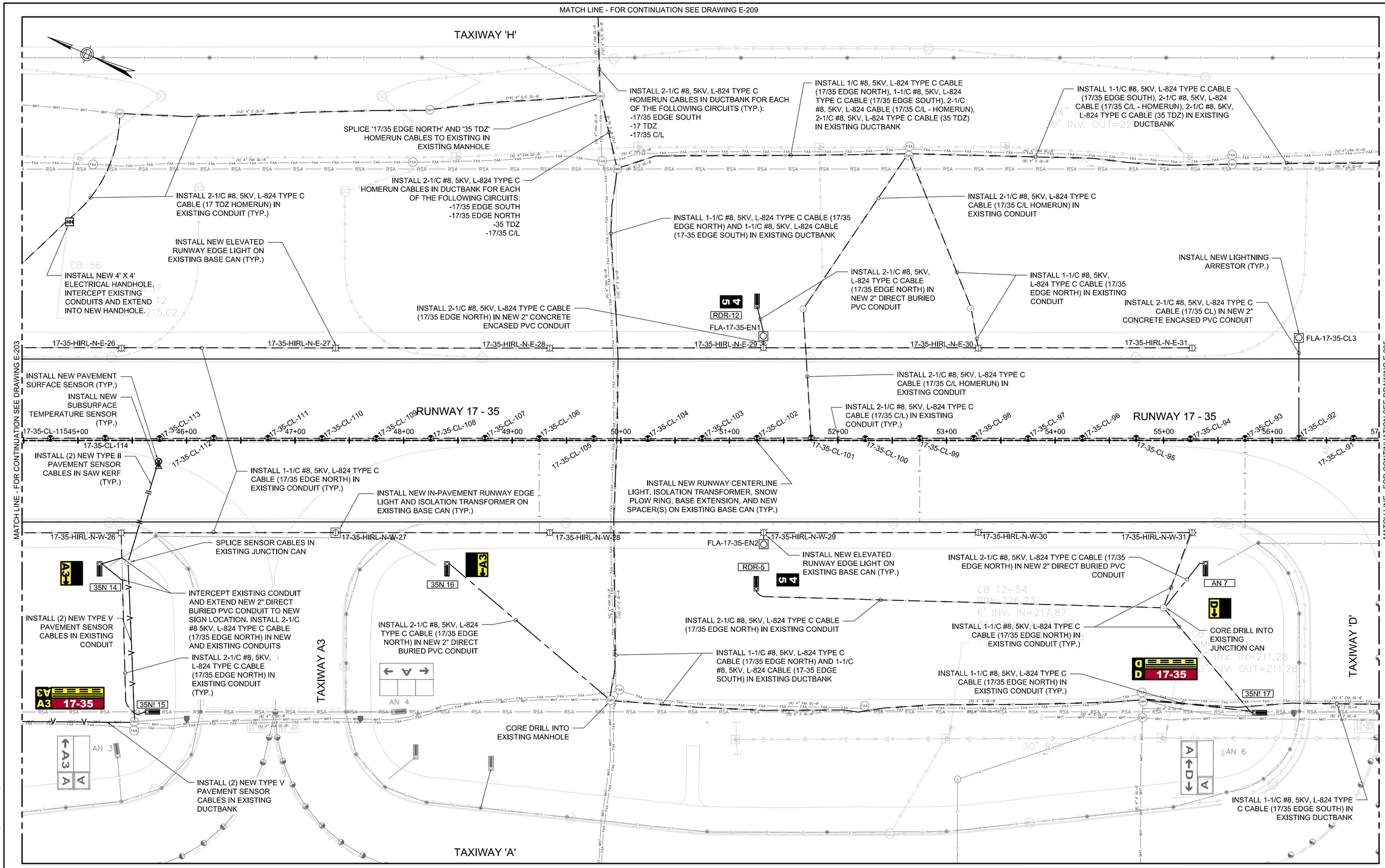
Jacobs - - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E201_E209 Electrical Plans.dwg [E203] March 09, 2022 - 9:28am [panasub]



ELECTRICAL PLAN - 4

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN - 4

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-204
REV

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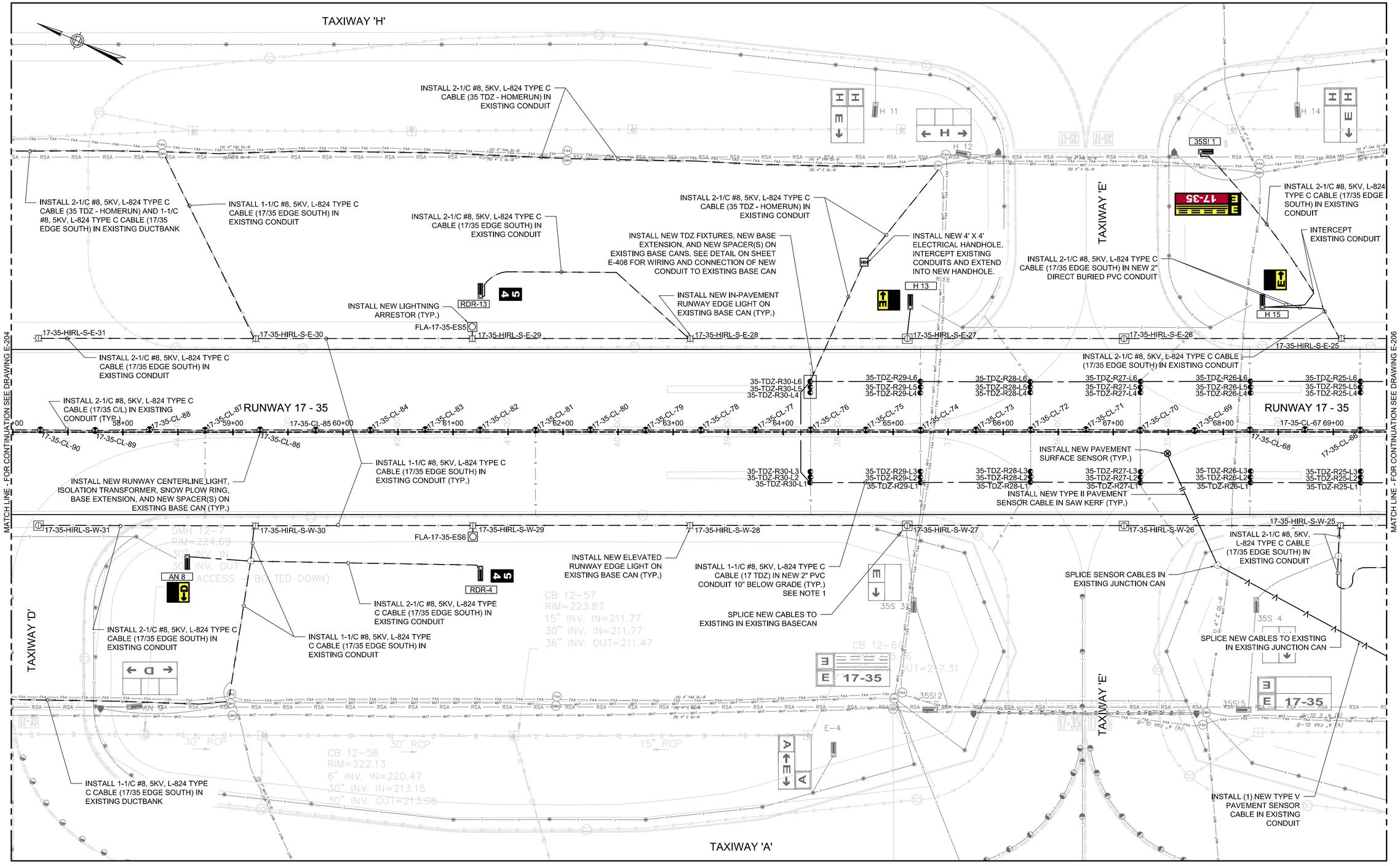
Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 204] March 08, 2022 - 1:36pm [sagri]



ELECTRICAL PLAN -5

SCALE: 1"=40'

0 40' 80'

NOTE:

1. PVC CONDUIT INSTALLED 10" BELOW FINISH GRADE SHALL BE SCHEDULE 80. SEE DETAIL ON DRAWING NO. E-401.

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-656-7800
FAX: 8633 656-7865

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN -5

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

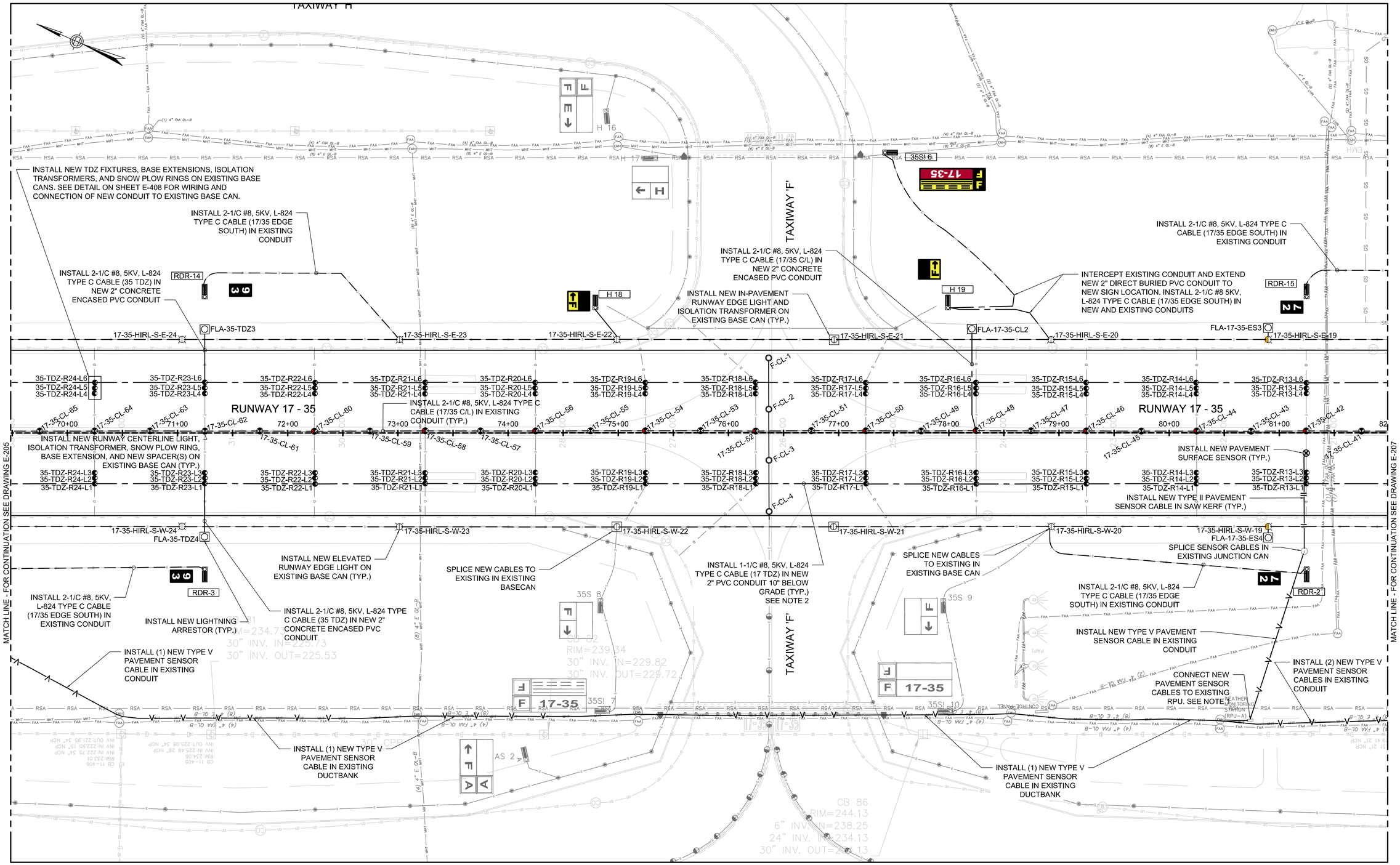
DRAWING NO.

E-205

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 205] March 08, 2022 - 1:36pm [sagr]



ELECTRICAL PLAN -6

SCALE: 1"=40'

0 40' 80'

NOTES:

1. THE CONTRACTOR SHALL HIRE THE PAVEMENT SENSOR SYSTEM MANUFACTURER (VAISALA) TO SPLICE AND TERMINATE THE PAVEMENT SENSOR CABLES, PERFORM UPGRADES TO THE RPU EQUIPMENT, AND COMMISSION THE NEW PAVEMENT SENSOR SYSTEM AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS
2. PVC CONDUIT INSTALLED 10" BELOW FINISH GRADE SHALL BE SCHEDULE 80. SEE DETAIL ON DRAWING NO. E-401.

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-672-7981
FAX: 508/ 668-7865

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN -6

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-206

REV

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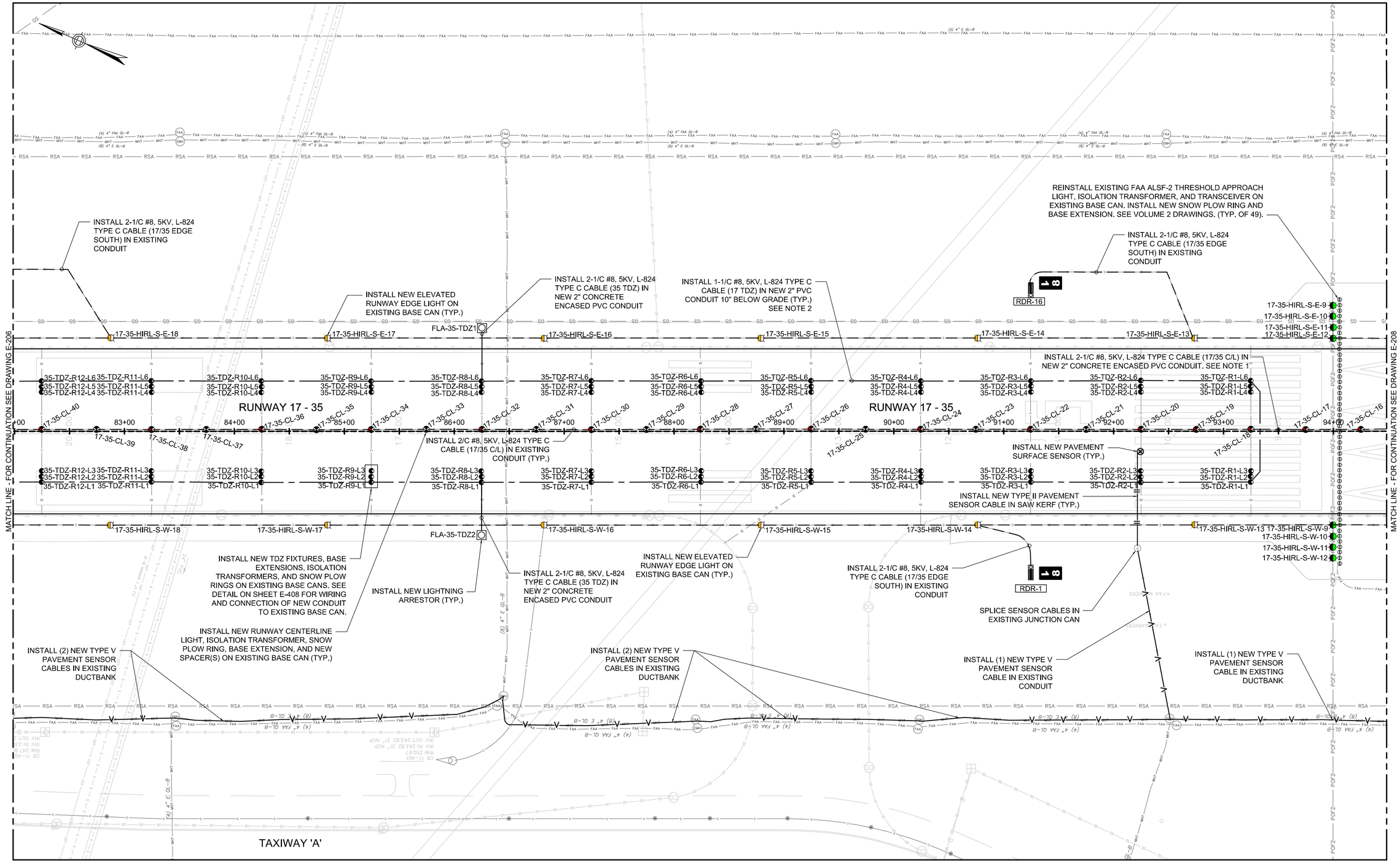
Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 206] March 08, 2022 - 1:37pm [sagr]



NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE CRUSHED CONDUIT SECTION BETWEEN CENTERLINE LIGHTS NEAR THE RUNWAY 35 THRESHOLD. INSTALL NEW CONDUIT BETWEEN CENTERLINE LIGHTS AT THE FIELD VERIFIED LOCATION OF THE EXISTING CRUSHED CONDUIT SECTION ONLY.
2. PVC CONDUIT INSTALLED 10" BELOW FINISH GRADE SHALL BE SCHEDULE 80. SEE DETAIL ON DRAWING NO. E-401.

ELECTRICAL PLAN -7

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE:	1"=40'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN -7

REVISIONS		
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-207

REV

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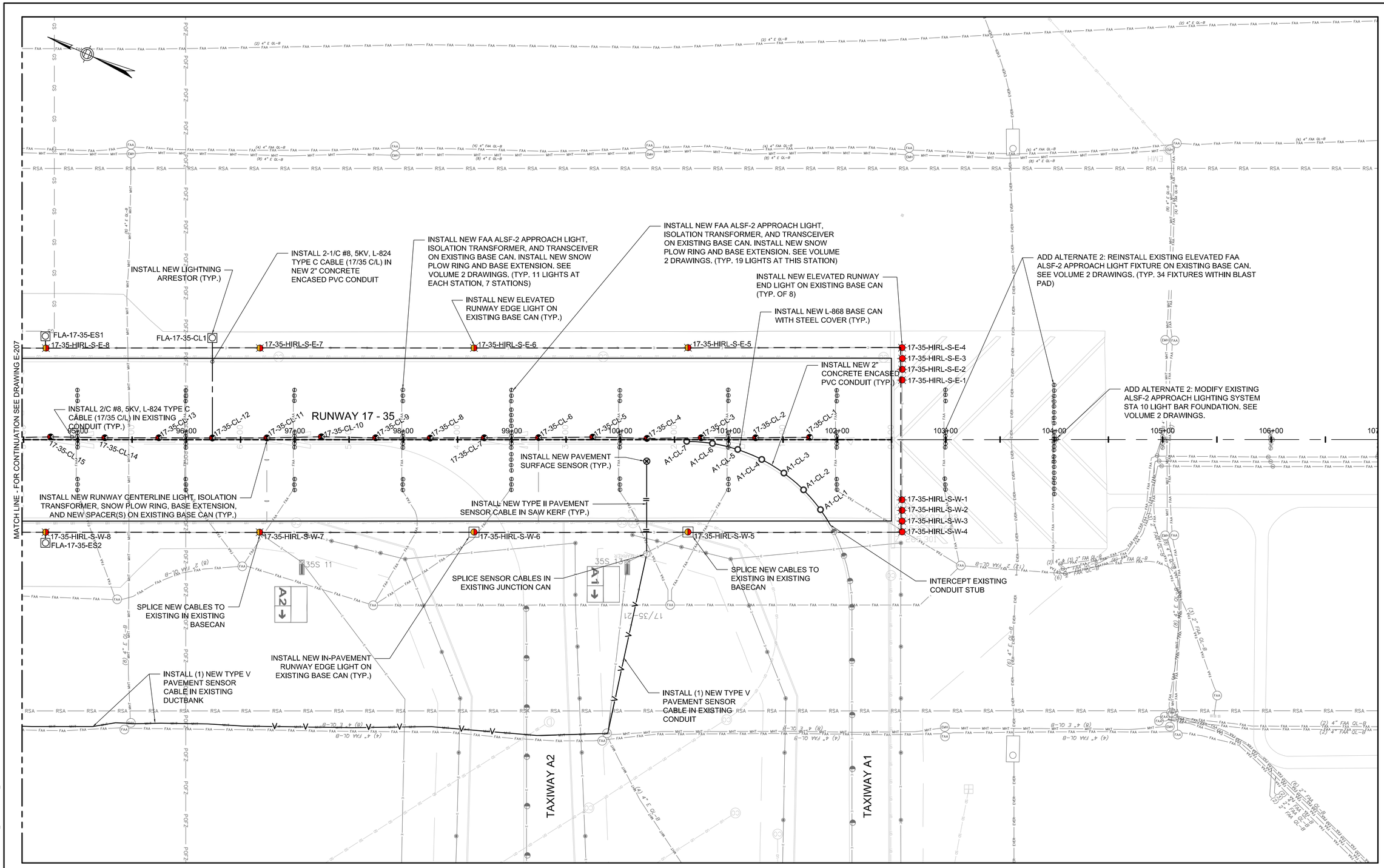
Jacobs - C:\Users\sagr\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 207] March 08, 2022 - 1:37pm [sagr]



ELECTRICAL PLAN -8

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603) 666-7785

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN -8

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

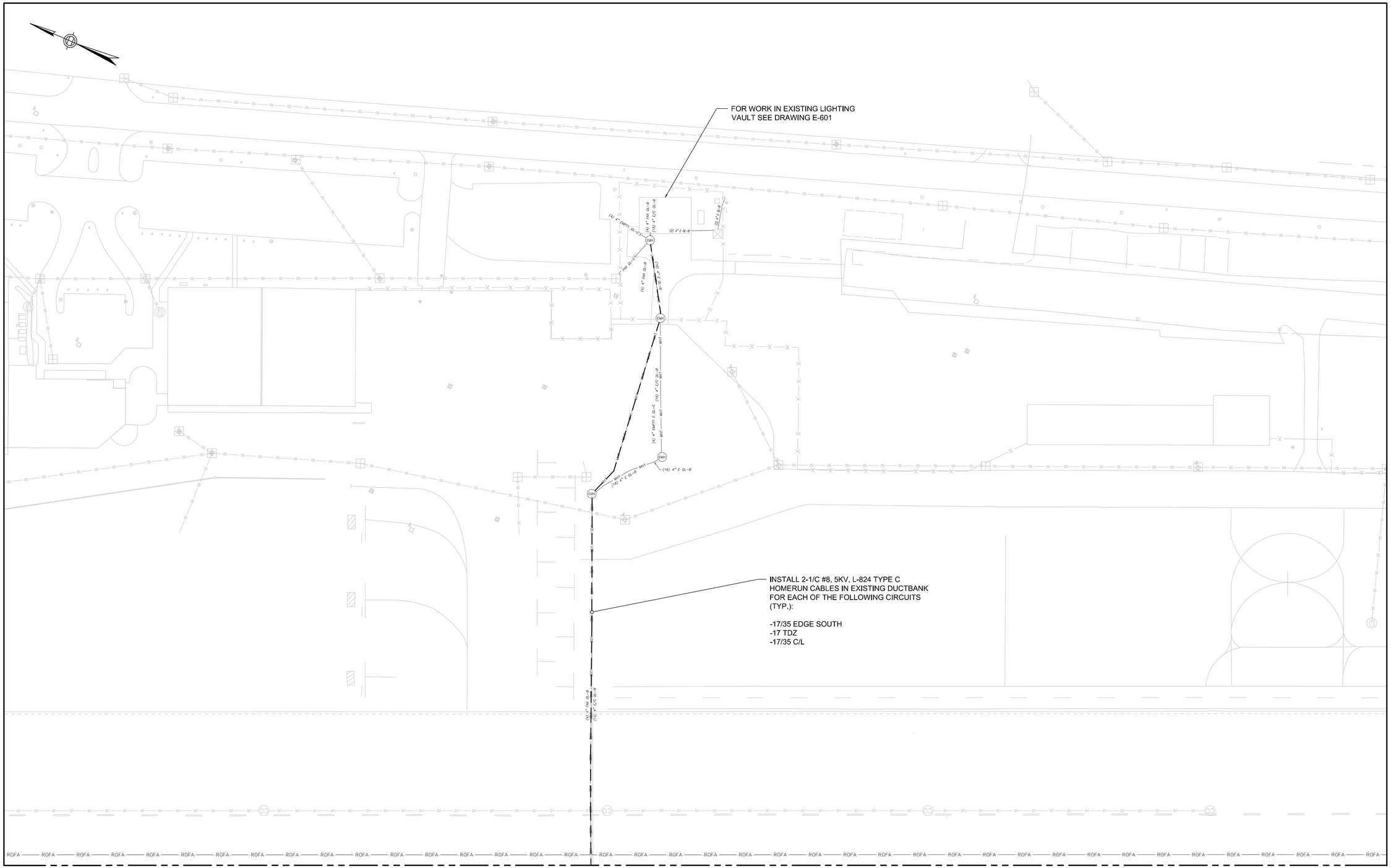
DRAWING NO.

E-208

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagh\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 208] March 08, 2022 - 1:38pm [sagrl]



NOTES:

1. NEW CABLE TO BE INSTALLED IN (1) EMPTY 4" CONDUIT WITHIN DUCTBANK. IF NO EMPTY CONDUITS ARE AVAILABLE, NOTIFY RPR. RPR WILL DIRECT CONTRACTOR TO REMOVE AND REPLACE OTHER EXISTING CIRCUIT CABLES AS REQUIRED TO CREATE EMPTY CONDUIT FOR INSTALLATION OF NEW CABLES. CABLES REMOVED AND INSTALLED FOR THIS REASON SHALL BE PAID FOR WITHIN THE CORRESPONDING LINEAR FOOT PAY ITEMS.

ELECTRICAL PLAN - 9

SCALE: 1"=40'

0 40' 80'

GENERAL ELECTRICAL NOTES:

1. FOR ELECTRICAL LEGEND SEE SHEET E001
2. FOR ELECTRICAL SITE PREPARATION PLANS REFER TO E-1XX SERIES OF DRAWINGS.
3. FOR ELECTRICAL PLANS REFER TO TO E-2XX SERIES OF DRAWINGS.
4. FOR ELECTRICAL CIRCUITING PLANS REFER TO E-3XX SERIES OF DRAWINGS.
5. FOR ELECTRICAL DETAILS REFER TO E-4XX SERIES OF DRAWINGS.
6. FOR LIGHT SCHEDULES REFER TO E-5XX SERIES OF DRAWINGS.
7. FOR TEMPORARY WIRING REQUIREMENTS REFER TO E-7XX SERIES OF DRAWINGS.
8. SEE CIVIL DRAWINGS FOR PAVING LIMITS.

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=40'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL PLAN - 9

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

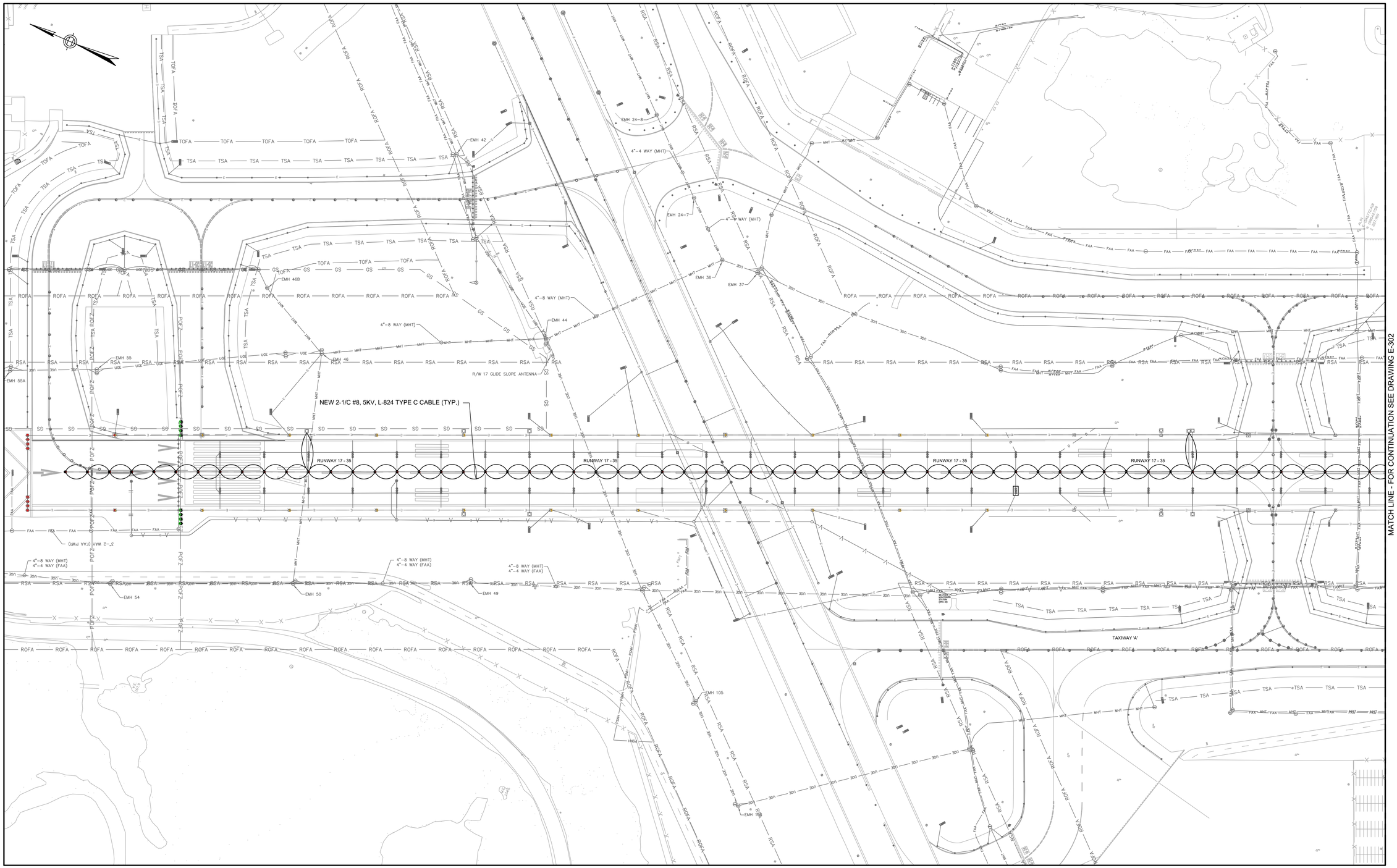
DRAWING NO.

E-209

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - C:\Users\sagri\appdata\local\temp\AcPublish_16508\E201_E209 Electrical Plans.dwg [E 209] March 08, 2022 - 1:38pm [sagri]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. ALL CENTERLINE FIXTURE ISOLATION TRANSFORMERS SHALL BE WIRED TO THE SAME CABLE. THE RETURN CABLE SHALL BE RUN CONTINUOUSLY BETWEEN THE LAST ISOLATION TRANSFORMERS AT EACH END OF THE RUNWAY WITH THE MINIMAL NUMBER OF SPLICES REQUIRED FOR INSTALLATION. THE FIXTURE CABLE INSULATION COLOR SHALL BE PURPLE AND THE RETURN CABLE SHALL BE BLACK WITH PURPLE TRACER. BOTH HOMERUN CABLES SHALL BE PURPLE.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 CENTERLINE CIRCUIT PLAN - 1

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-965-7781
FAX: 6039 666-7785

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 C/L CIRCUIT PLAN - 1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

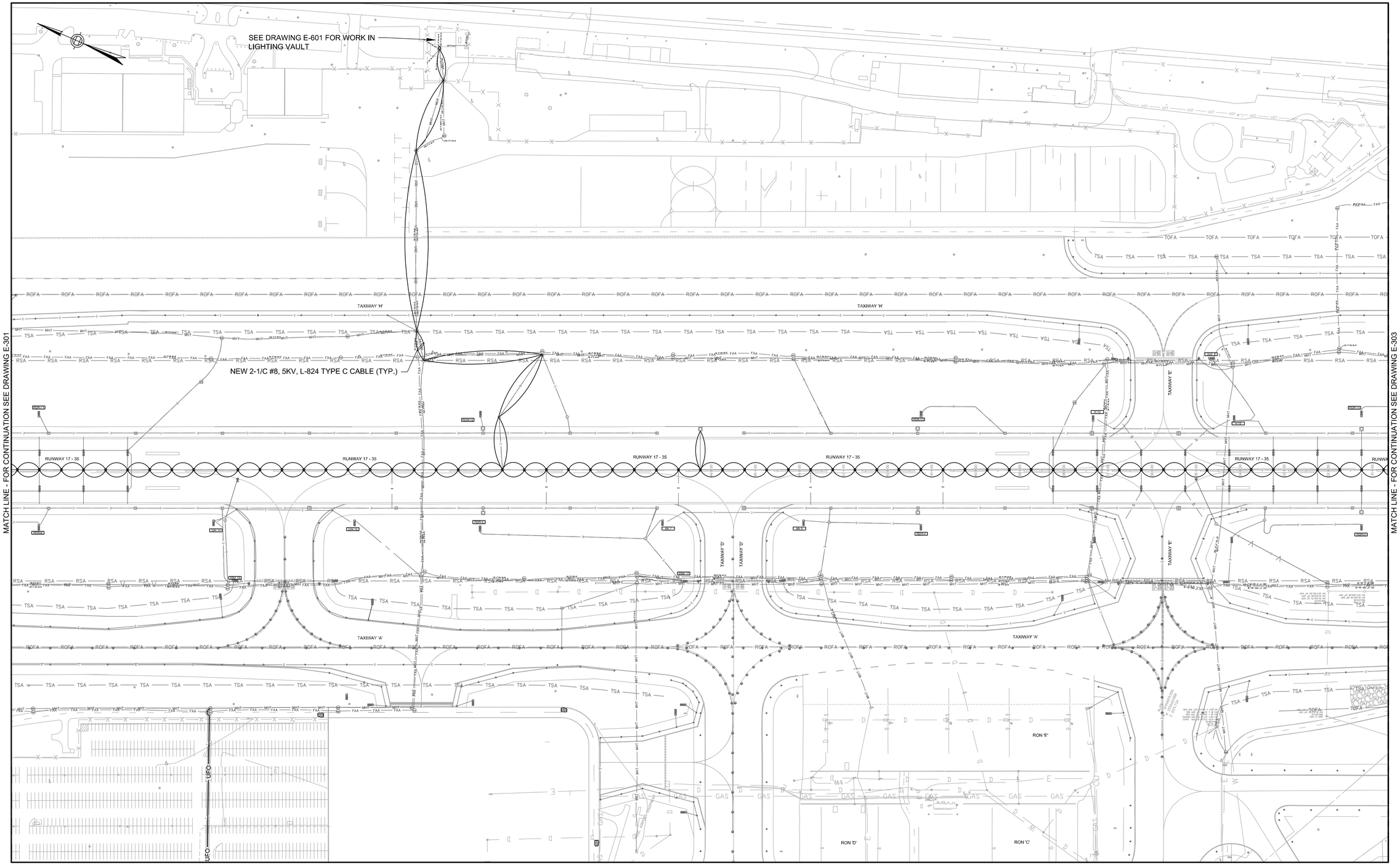
DRAWING NO.

E-301

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\20211\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 301] March 08, 2022 - 1.46pm [sagr]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. ALL CENTERLINE FIXTURE ISOLATION TRANSFORMERS SHALL BE WIRED TO THE SAME CABLE. THE RETURN CABLE SHALL BE RUN CONTINUOUSLY BETWEEN THE LAST ISOLATION TRANSFORMERS AT EACH END OF THE RUNWAY WITH THE MINIMAL NUMBER OF SPLICES REQUIRED FOR INSTALLATION. THE FIXTURE CABLE INSULATION COLOR SHALL BE PURPLE AND THE RETURN CABLE SHALL BE BLACK WITH PURPLE TRACER. BOTH HOMERUN CABLES SHALL BE PURPLE.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 CENTERLINE CIRCUIT PLAN - 2

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 C/L
CIRCUIT PLAN - 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

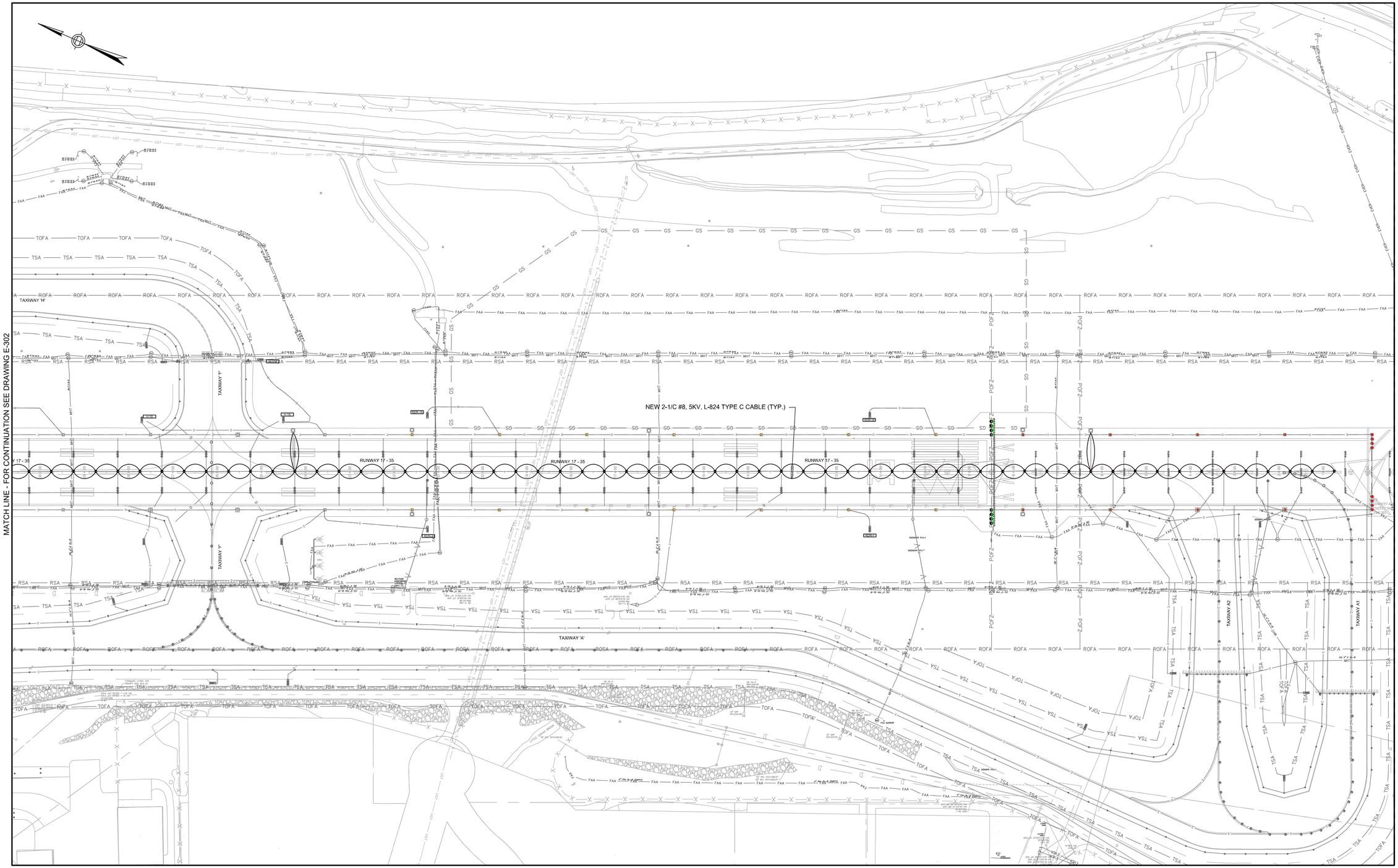
DRAWING NO.

E-302

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 302] March 08, 2022 - 1:47pm [sagri]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. ALL CENTERLINE FIXTURE ISOLATION TRANSFORMERS SHALL BE WIRED TO THE SAME CABLE. THE RETURN CABLE SHALL BE RUN CONTINUOUSLY BETWEEN THE LAST ISOLATION TRANSFORMERS AT EACH END OF THE RUNWAY WITH THE MINIMAL NUMBER OF SPLICES REQUIRED FOR INSTALLATION. THE FIXTURE CABLE INSULATION COLOR SHALL BE PURPLE AND THE RETURN CABLE SHALL BE BLACK WITH PURPLE TRACER. BOTH HOMERUN CABLES SHALL BE PURPLE.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 CENTERLINE CIRCUIT PLAN - 3

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-656-7781
FAX: 6033 656-7785

SCALE:	1"=100'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 C/L CIRCUIT PLAN - 3

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

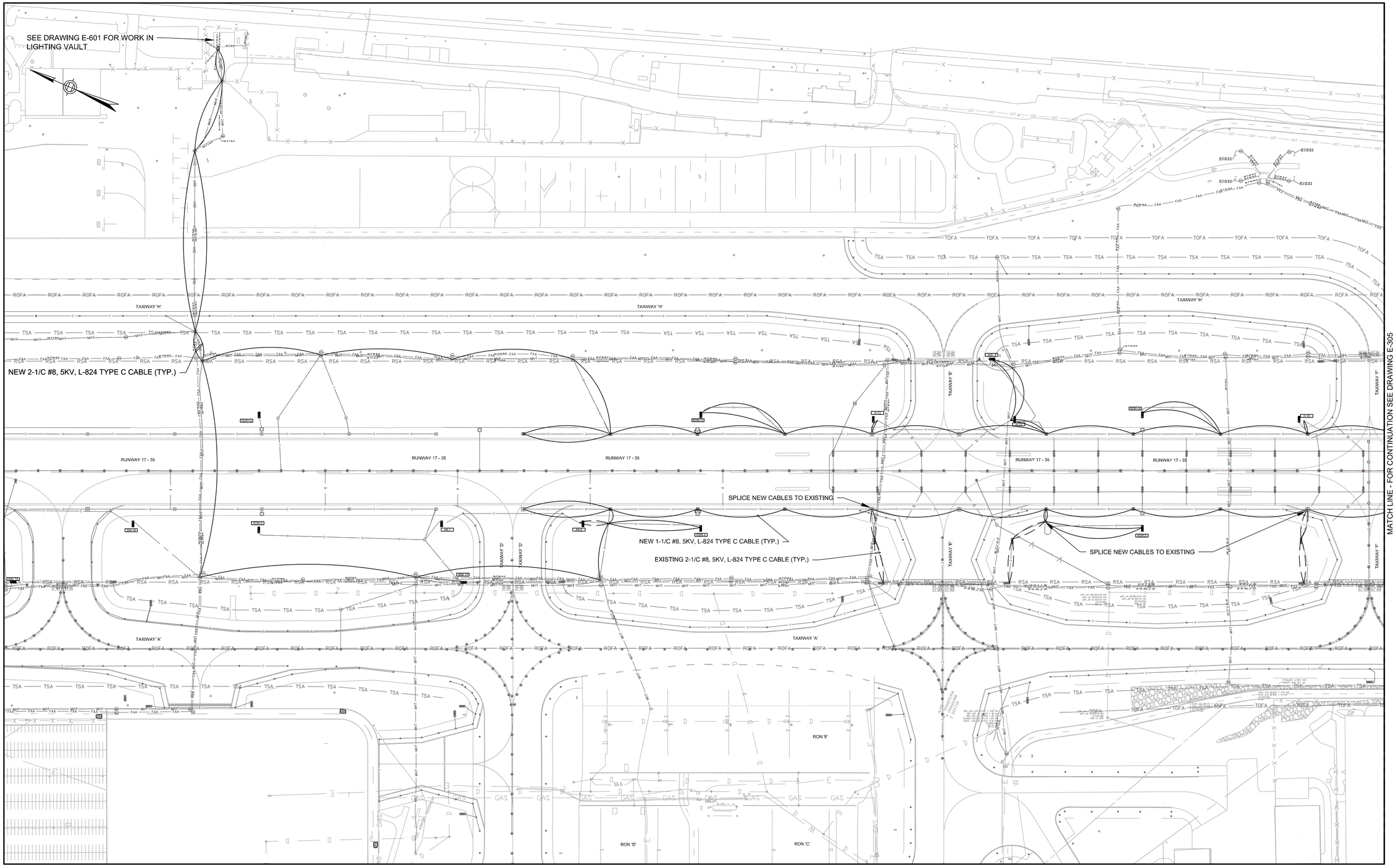
DRAWING NO.

E-303

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 303] March 08, 2022 - 1:47pm [sagrj]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 17/35 EDGE SOUTH CIRCUIT CABLE INSULATION COLOR SHALL BE BLACK W/ ORANGE TRACER.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 EDGE LIGHTS SOUTH CIRCUIT PLAN - 1

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 EDGE SOUTH CIRCUIT PLAN - 1

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

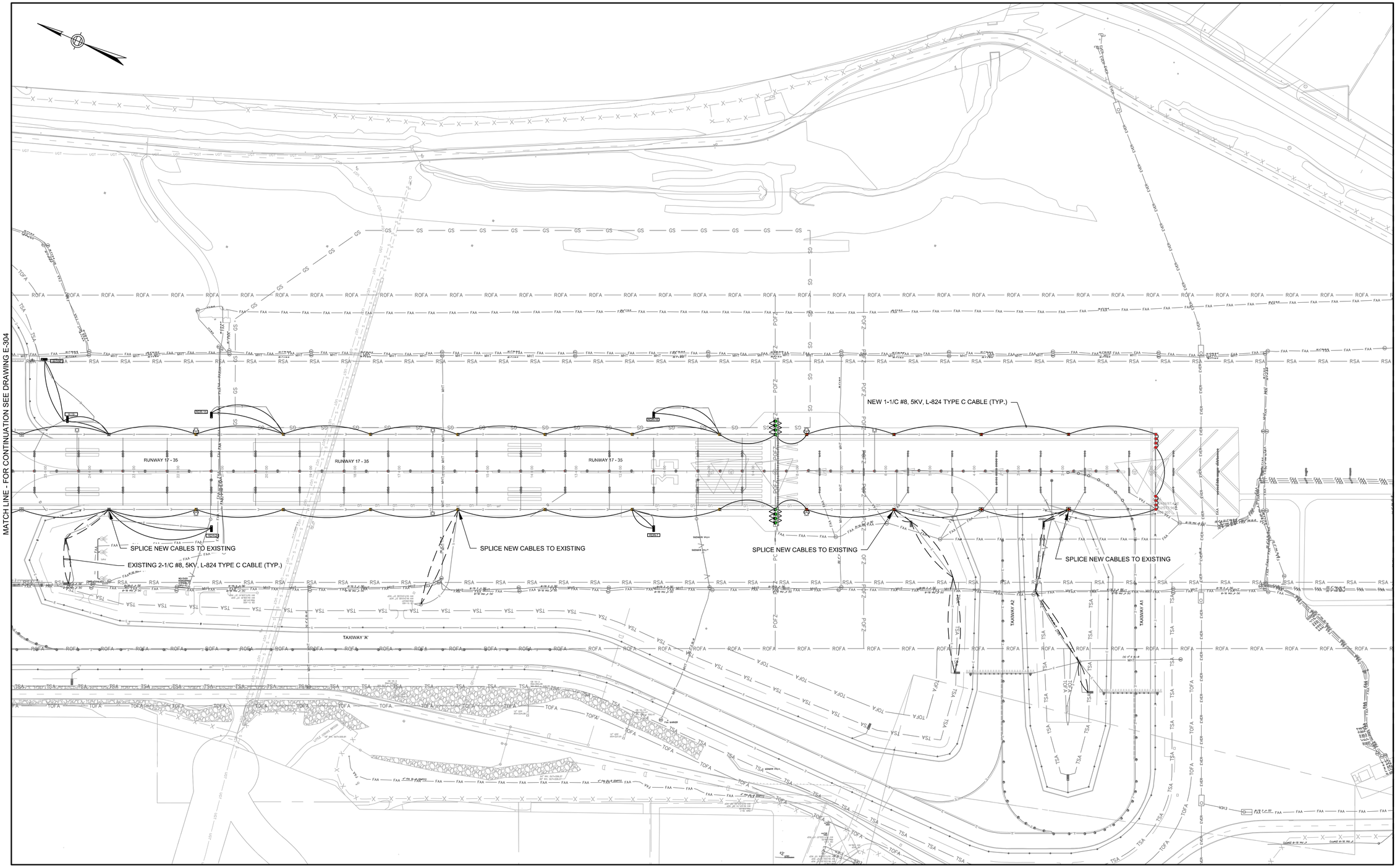
DRAWING NO.

E-304

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 304] March 08, 2022 - 1:47pm [sagri]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 17/35 EDGE SOUTH CIRCUIT CABLE INSULATION COLOR SHALL BE BLACK W/ ORANGE TRACER.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 EDGE LIGHTS SOUTH CIRCUIT PLAN - 2

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 EDGE SOUTH CIRCUIT PLAN - 2
SOUTH CIRCUIT PLAN - 2

REVISIONS

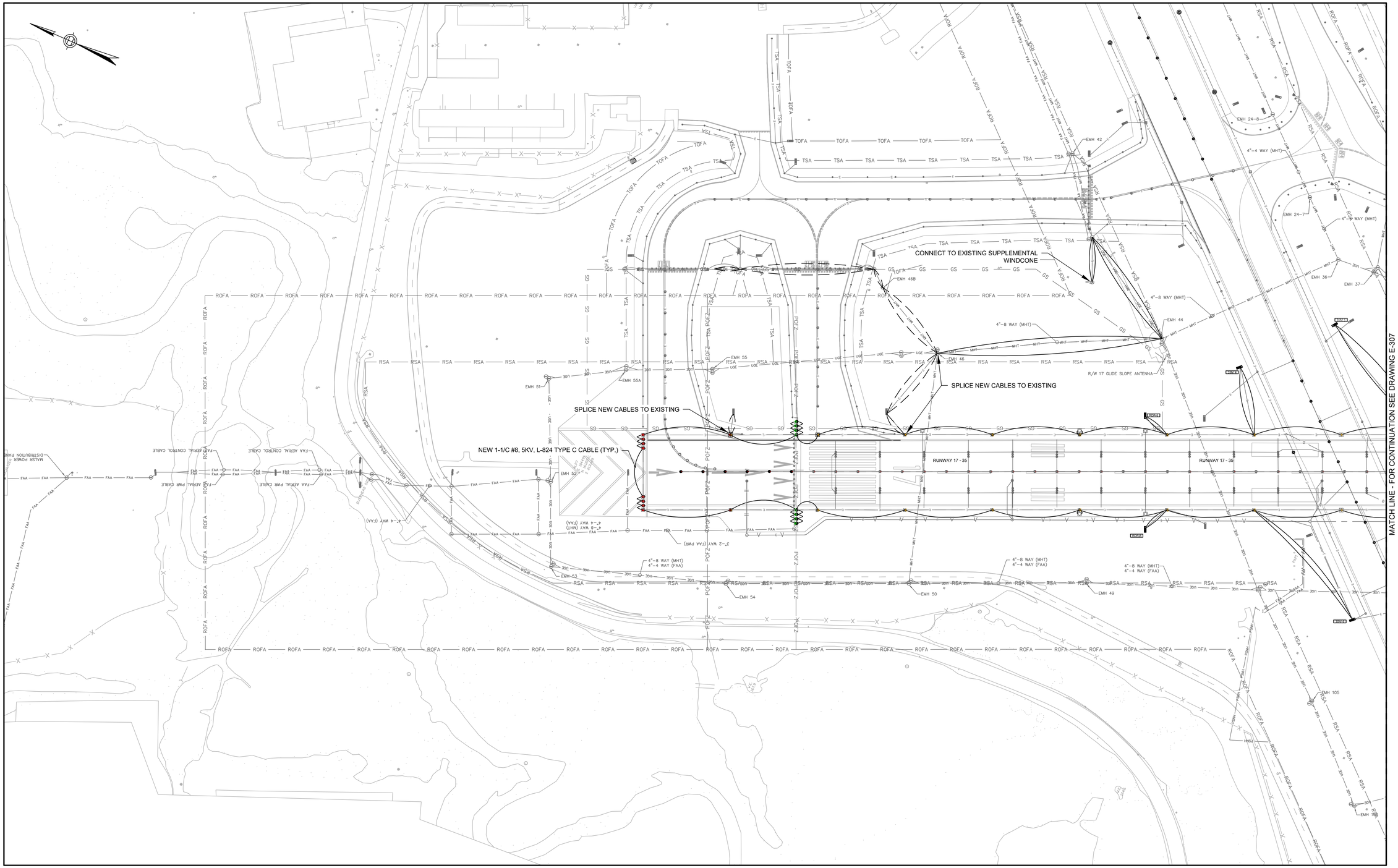
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-305
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 305] March 08, 2022 - 1:48pm [sagrj]



MATCH LINE - FOR CONTINUATION SEE DRAWING E-307

NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 17/35 EDGE NORTH CIRCUIT CABLE INSULATION COLOR SHALL BE TERRACOTTA.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 EDGE LIGHTS NORTH CIRCUIT PLAN - 1

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617 666-7781
FAX: 6033 666-7835

SCALE:	1"=100'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 EDGE NORTH CIRCUIT PLAN - 1

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

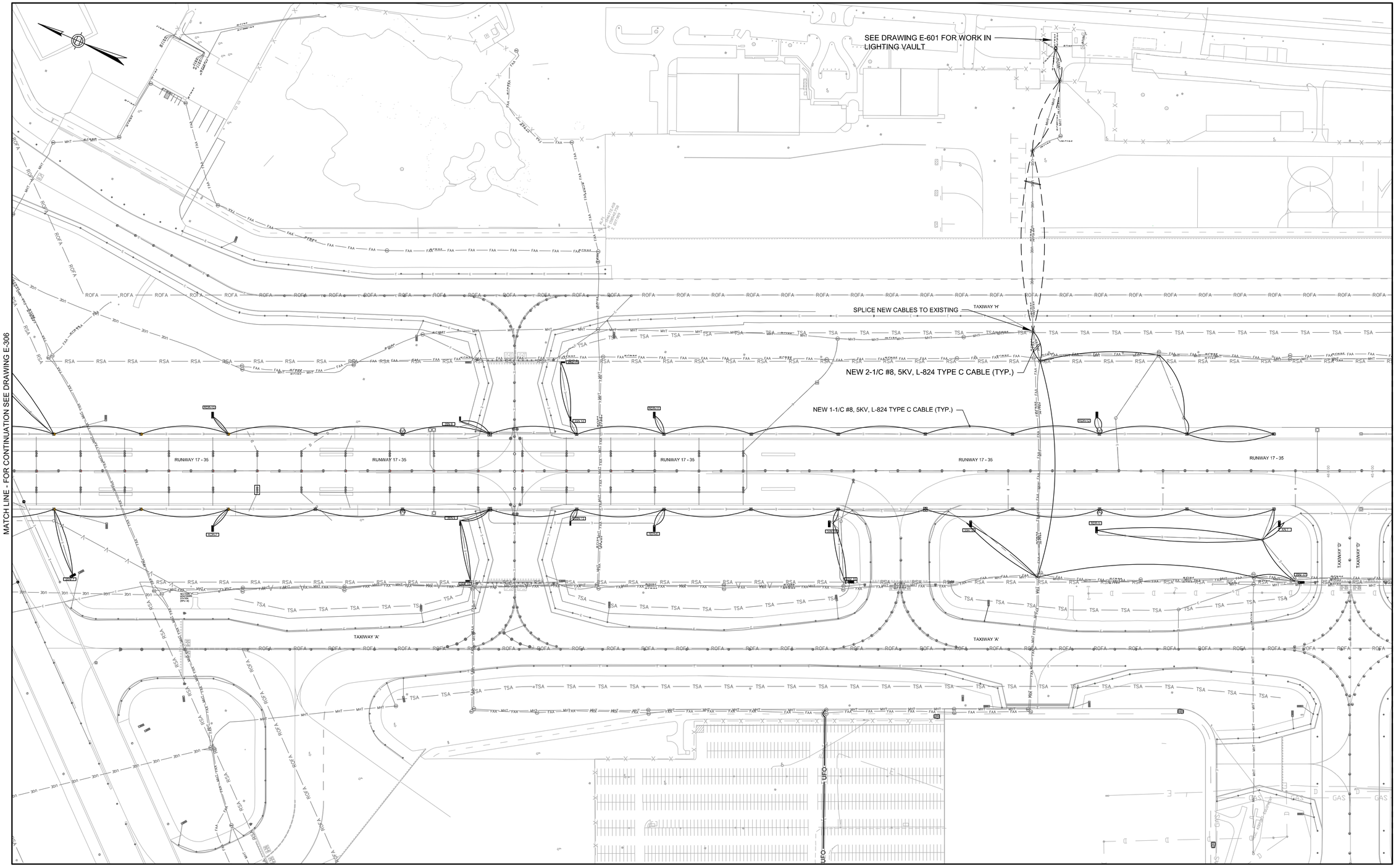
DRAWING NO.

E-306

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 306] March 08, 2022 - 1:48pm [sagri]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 17/35 EDGE NORTH CIRCUIT CABLE INSULATION COLOR SHALL BE TERRACOTTA.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17-35 EDGE LIGHTS NORTH CIRCUIT PLAN - 2

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 02730
PHONE: 781-687-7800
FAX: 781-687-7801

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17-35 EDGE NORTH CIRCUIT PLAN - 2

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

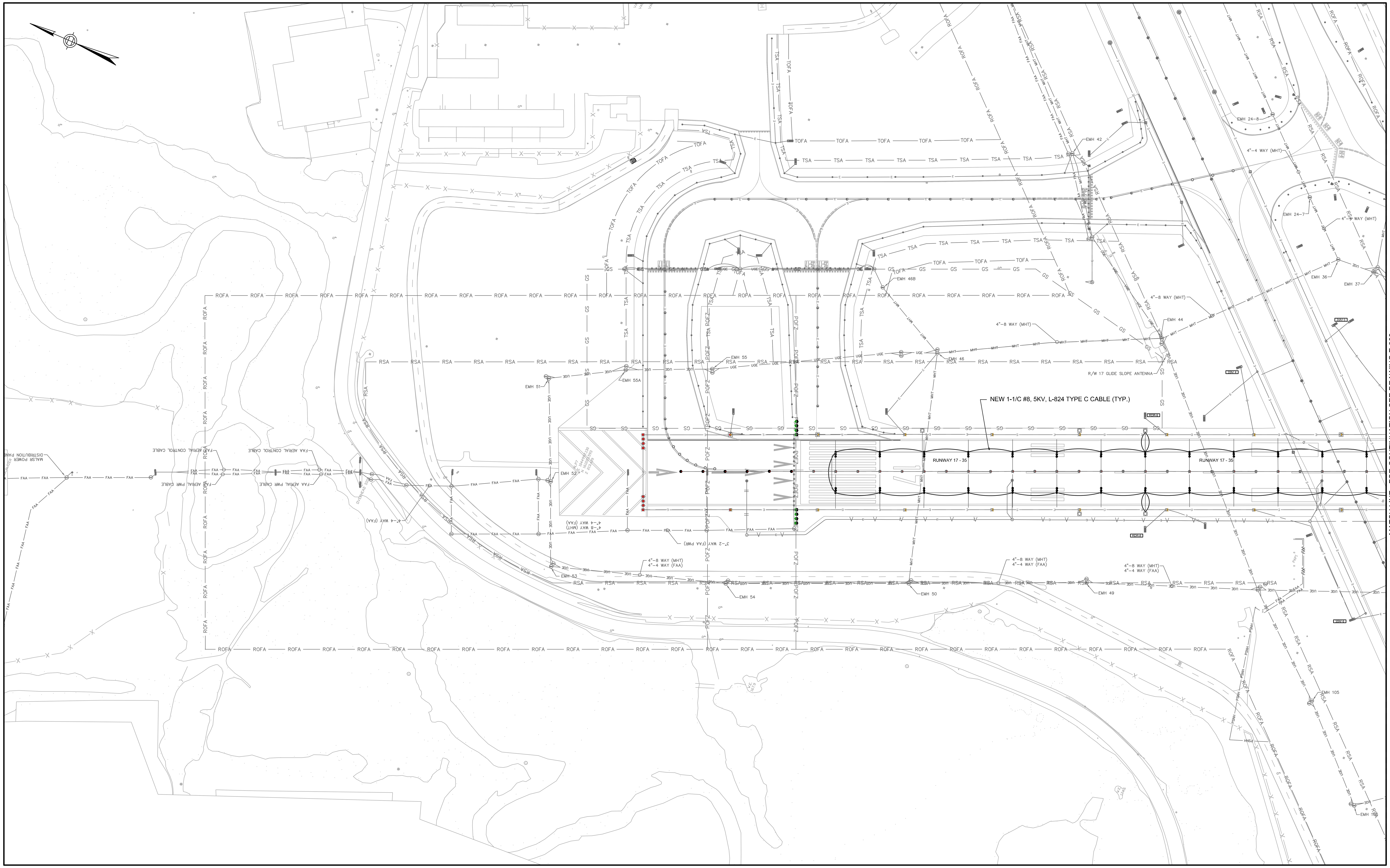
DRAWING NO.

E-307

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 307] March 08, 2022 - 1:49pm [sagri]



MATCH LINE - FOR CONTINUATION SEE DRAWING E-309

NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 17 TDZ CIRCUIT CABLE INSULATION COLOR SHALL BE BLACK W/ YELLOW TRACER.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17 TDZ CIRCUIT PLAN - 1

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	1"=100'
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17 TDZ
CIRCUIT PLAN - 1

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

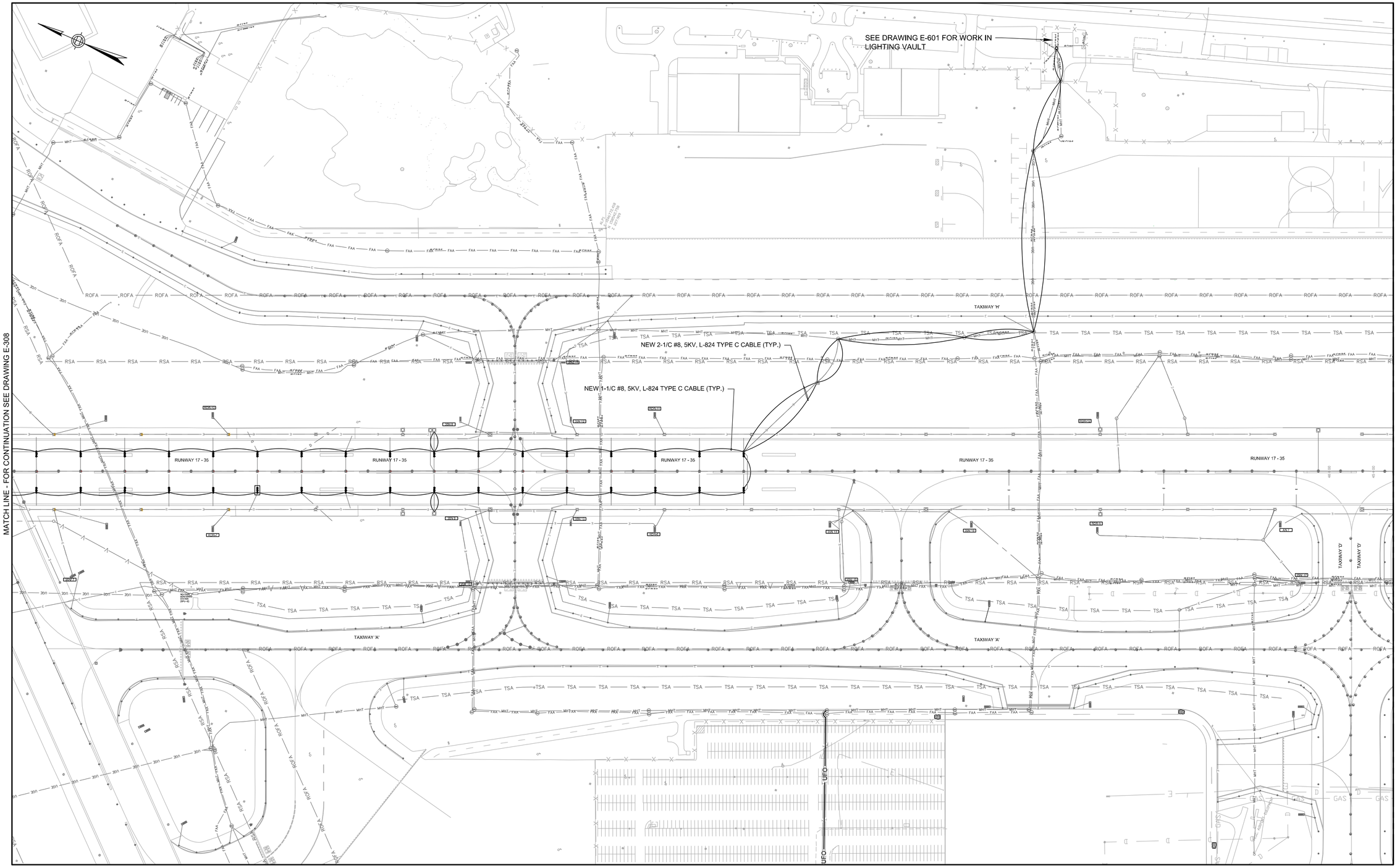
DRAWING NO.

E-308

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 308] March 08, 2022 - 1:49pm [sagn]



MATCH LINE - FOR CONTINUATION SEE DRAWING E-308

NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 17 TDZ CIRCUIT CABLE INSULATION COLOR SHALL BE BLACK W/ YELLOW TRACER.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 17 TDZ CIRCUIT PLAN - 2

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

17 TDZ
CIRCUIT PLAN - 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

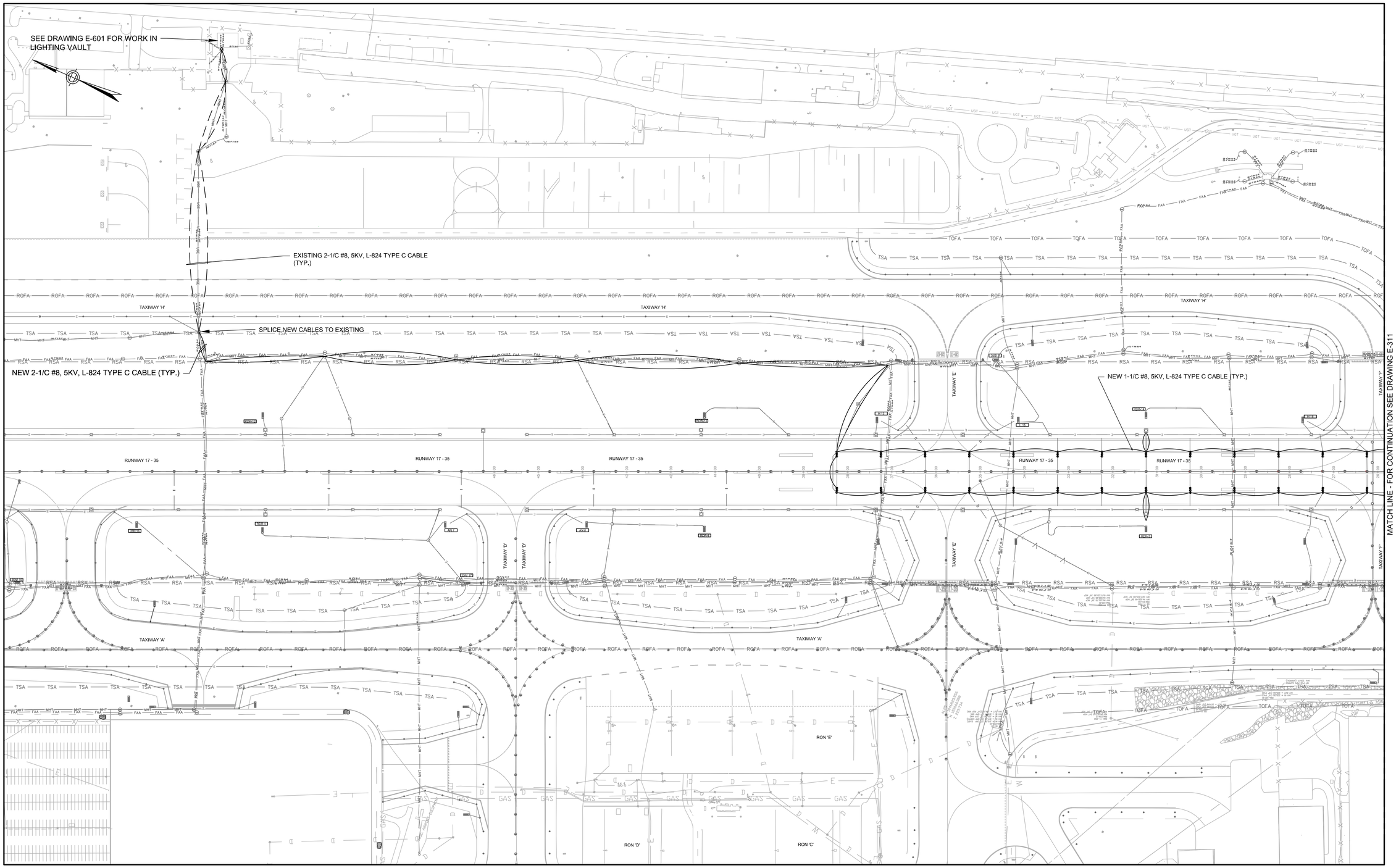
DRAWING NO.

E-309

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 309] March 08, 2022 - 1:50pm [sagri]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 35 TDZ CIRCUIT CABLE INSULATION COLOR SHALL BE BLACK W/ BLUE TRACER.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 35 TDZ CIRCUIT PLAN - 1

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-657-7981
FAX: 6603 666-7805

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

35 TDZ
CIRCUIT PLAN - 1

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

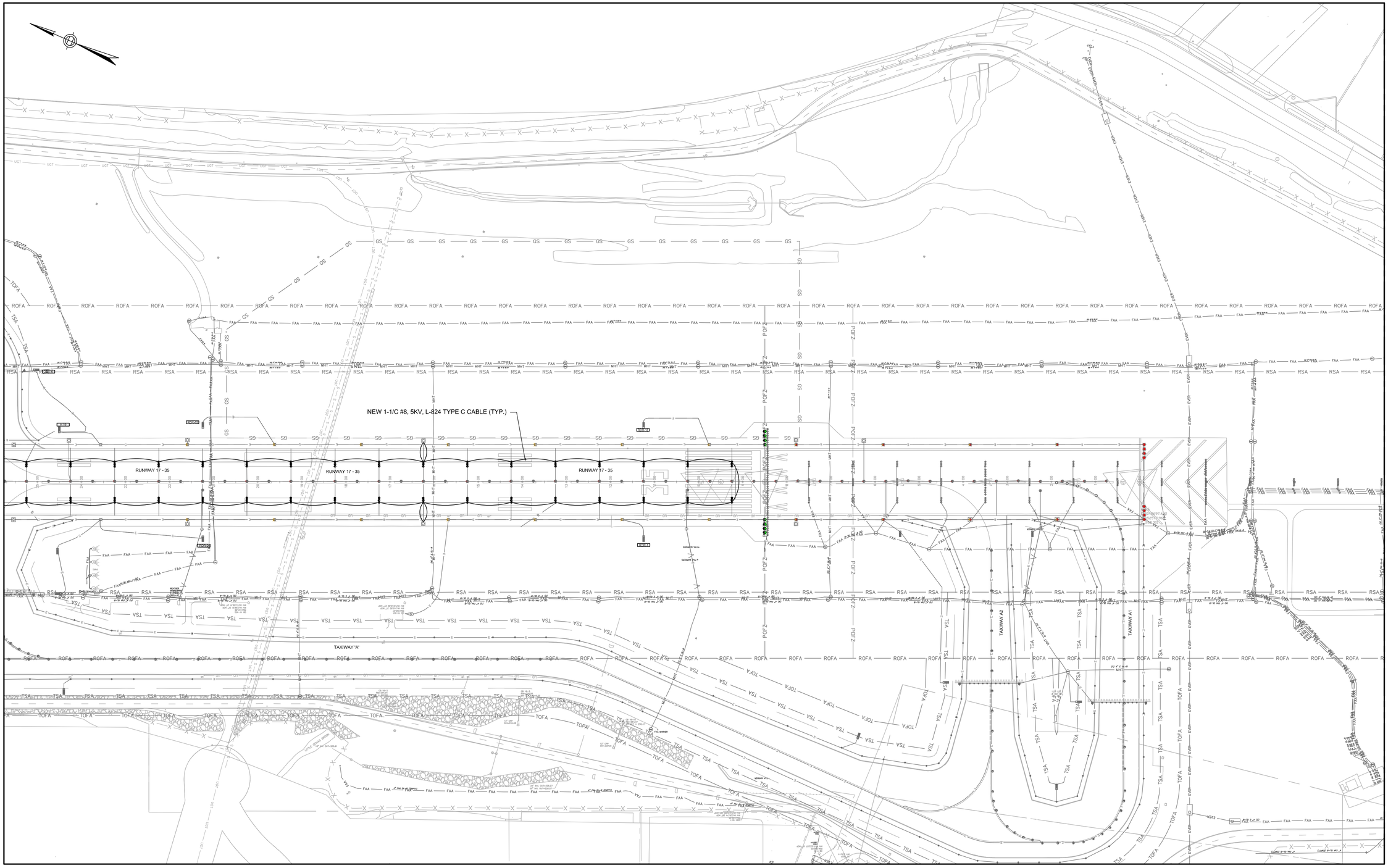
DRAWING NO.

E-310

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 310] March 08, 2022 - 1:50pm [sagri]



NOTES:

1. FOR GENERAL ELECTRICAL NOTES AND LEGEND SEE SHEET E001
2. DE-ENERGIZE APPROPRIATE CONSTANT CURRENT REGULATOR IN LIGHTING VAULT PRIOR TO COMMENCING REMOVAL OF CABLE. CONTRACTOR SHALL IMPLEMENT LOCKOUT/TAG OUT PROCEDURE WHEN DE-ENERGIZING CCR.
3. PROVIDE CIRCUIT IDENTIFICATION TAGS AS REQUIRED PER SPECIFICATION.
4. 35 TDZ CIRCUIT CABLE INSULATION COLOR SHALL BE BLACK W/ BLUE TRACER.
5. CABLE ROUTING SHOWN IS DIAGRAMMATICAL IN NATURE. SEE ELECTRICAL PLAN SERIES E-2XX FOR EXACT CABLE/CONDUIT LOCATION AND ROUTING.

RUNWAY 35 TDZ CIRCUIT PLAN - 2

SCALE: 1"=100'

0 100' 200'

PROJECT DESIGNER:

Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781-687-7861
FAX: 781-687-7865

SCALE: 1"=100'
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

35 TDZ CIRCUIT PLAN - 2

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

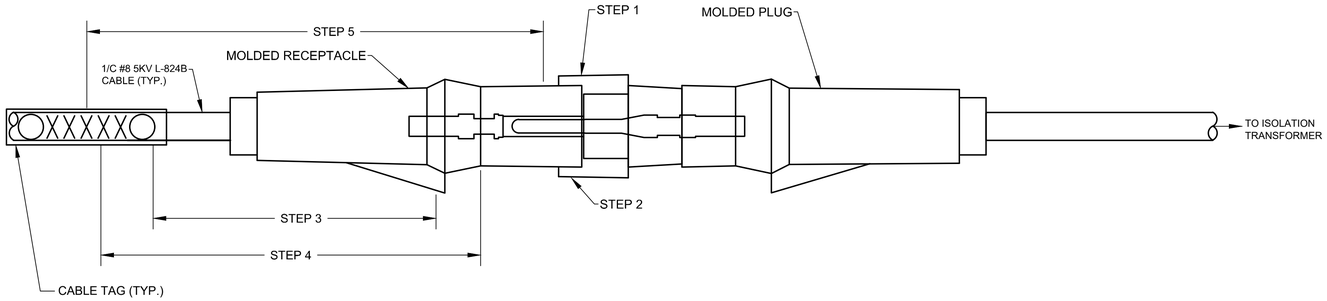
DRAWING NO.

E-311

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E301_E311 Circuit Plans.dwg [E 311] March 08, 2022 - 1:51pm [sagri]



L-823 PRIMARY CONNECTOR KIT INSTALLATION AT ISOLATION TRANSFORMER

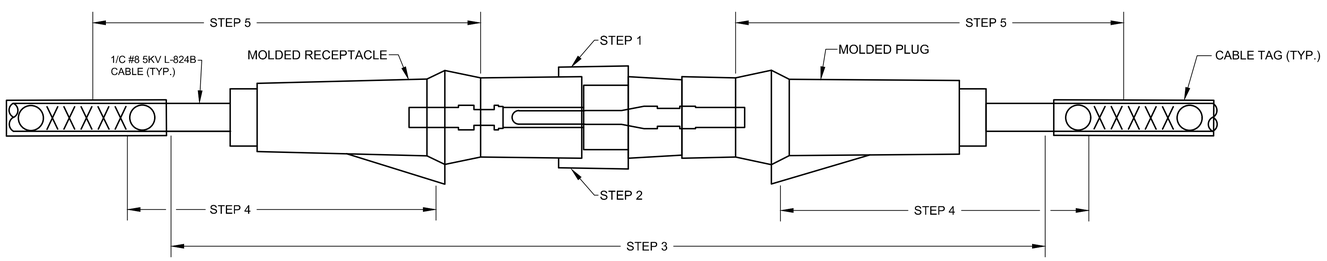
NOT TO SCALE

SPLICE KIT INSTALLATION PROCEDURE:

1. CLEAN SPLICE SURFACE THEN PULL OVER INTERFACE SLEEVE.
2. APPLY SCOTCH "SUPER 88" TAPE OAE AND EXTEND IT BY A MINIMUM OF 2" IN EACH DIRECTION CENTERED AT THE SPLICE.
3. INSTALL HEAT SHRINK OVER FIELD SIDE OF CONNECTOR KIT.
4. TAPE FIELD SIDE OF THE CONNECTOR USING SCOTCH "130C" TAPE OAE.
   4.A. APPLY TAPE WITH TACKY SIDE UP.
   4.B. EXTEND THE TAPE BY A MINIMUM OF 1½" OR TWICE THE WIDTH OF THE TAPE, WHICHEVER IS GREATER, IN BOTH DIRECTIONS FROM THE CABLE ENTRY POINT INTO THE SPLICE KIT.
   4.C. STRETCH TAPE AND APPLY HALF LAPPED TO FORM A SMOOTH VOID FREE WRAP.
5. TAPE OVER THE INSULATING RUBBER TAPE USING SCOTCH "SUPER 88" TAPE OAE.
   5.A. STRETCH TAPE FOR TIGHT FIT.
   5.B. EXTEND THE TAPE BY A MINIMUM OF 1" OR TWICE THE WIDTH OF THE TAPE, WHICHEVER IS GREATER, IN BOTH DIRECTIONS PAST THE "SCOTCH 130C" TAPE OAE.
   5.C. PROGRESSIVELY OVERLAP HALF OF THE TAPE WIDTH.
   5.D. WRAP FINAL WRAP WITHOUT TENSION.
   5.E. AT THE END OF TAPING, EXTEND TAPE 2 EXTRA WRAPS AND FOLD OVER 1/2" OF TAPE TO AID IN FUTURE REMOVAL.

SPLICING NOTES:

1. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF THE CABLE.
2. USE PENCILING TOOL WHEN REMOVING CABLE INSULATION TO PREVENT NICKING.
3. USE CRIMPING TOOL (THOMAS & BETTS 45S OR EQUAL) WHEN INSTALLING SERIES CIRCUIT PINS.
4. ALL FIELD INSTALLED SPLICES SHALL BE FACTORY MOLDED COLD SHRINK CONNECTOR KITS OF THE TYPE SHOWN. INTEGRO COMPLETE KIT, AMERACE SUPERKIT OR EQUAL
5. CONTRACTOR SHALL DEMONSTRATE SPLICING METHOD BY CONSTRUCTING MOCK-UP SPLICE IN THE PRESENCE OF AIRPORT MAINTENANCE DEPT. AND RPR PRIOR TO BEGINNING ANY SPLICING ACTIVITIES.



L-823 PRIMARY CONNECTOR KIT INSTALLATION (MANHOLE AND HANDHOLE)

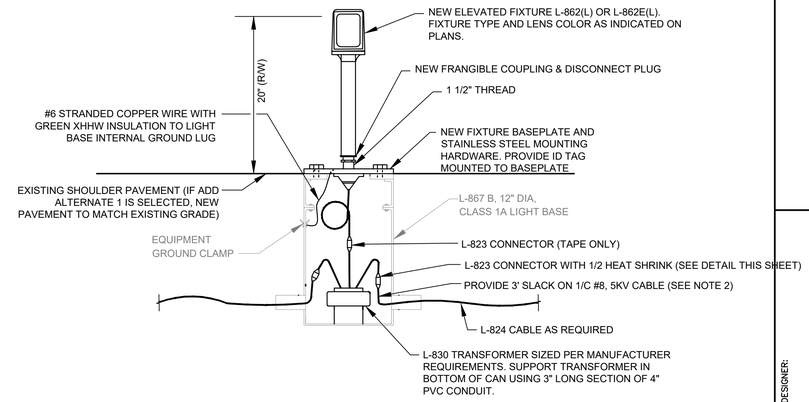
NOT TO SCALE

SPLICE KIT INSTALLATION PROCEDURE:

1. CLEAN SPLICE SURFACE THEN PULL OVER INTERFACE SLEEVE.
2. APPLY SCOTCH "SUPER 88" TAPE OAE AND EXTEND IT BY A MINIMUM OF 2" IN EACH DIRECTION CENTERED AT THE SPLICE.
3. INSTALL HEAT SHRINK OVER ENTIRE ASSEMBLY
4. TAPE EACH END OF THE CONNECTOR USING SCOTCH "130C" TAPE OAE.
   4.A. APPLY TAPE WITH TACKY SIDE UP.
   4.B. EXTEND THE TAPE BY A MINIMUM OF 1½" OR TWICE THE WIDTH OF THE TAPE, WHICHEVER IS GREATER, IN BOTH DIRECTIONS FROM THE CABLE ENTRY POINT INTO THE SPLICE KIT.
   4.C. STRETCH TAPE AND APPLY HALF LAPPED TO FORM A SMOOTH VOID FREE WRAP.
5. TAPE OVER THE INSULATING RUBBER TAPE AT EACH END USING SCOTCH "SUPER 88" TAPE OAE.
   5.A. STRETCH TAPE FOR TIGHT FIT.
   5.B. EXTEND THE TAPE BY A MINIMUM OF 1" OR TWICE THE WIDTH OF THE TAPE, WHICHEVER IS GREATER, IN BOTH DIRECTIONS PAST THE "SCOTCH 130C" TAPE OAE.
   5.C. PROGRESSIVELY OVERLAP HALF OF THE TAPE WIDTH.
   5.D. WRAP FINAL WRAP WITHOUT TENSION.
   5.E. AT THE END OF TAPING, EXTEND TAPE 2 EXTRA WRAPS AND FOLD OVER 1/2" OF TAPE TO AID IN FUTURE REMOVAL.

SPLICING NOTES:

1. INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF THE CABLE.
2. USE PENCILING TOOL WHEN REMOVING CABLE INSULATION TO PREVENT NICKING.
3. USE CRIMPING TOOL (THOMAS & BETTS 45S OR EQUAL) WHEN INSTALLING SERIES CIRCUIT PINS.
4. ALL FIELD INSTALLED SPLICES SHALL BE FACTORY MOLDED COLD SHRINK CONNECTOR KITS OF THE TYPE SHOWN. INTEGRO COMPLETE KIT, AMERACE SUPERKIT OR EQUAL
5. CONTRACTOR SHALL DEMONSTRATE SPLICING METHOD BY CONSTRUCTING MOCK-UP SPLICE IN THE PRESENCE OF AIRPORT MAINTENANCE DEPT. AND RPR PRIOR TO BEGINNING ANY SPLICING ACTIVITIES.

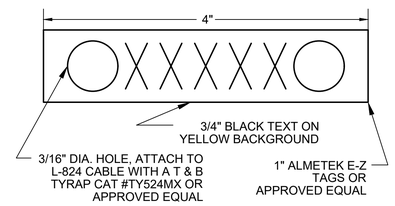


NOTES:

1. A CONDUCTOR WITHOUT A L-823 CONNECTOR SHALL HAVE SIX (6) FEET OF SLACK COILED IN THE BASE CAN
2. APPLY ANTI-SEIZE COMPOUND (LOCITE LB8023 OR EQUAL) TO ALL STAINLESS STEEL BOLTS

NEW ELEVATED RUNWAY EDGE LIGHT MOUNTED ON EXISTING BASE

NOT TO SCALE

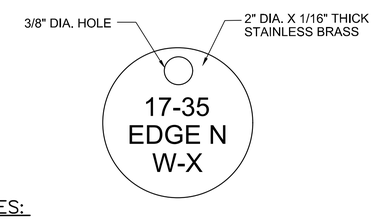


TYPICAL L-824 CABLE TAG

NOT TO SCALE

NOTES:

1. ALL L-824 CABLES SHALL BE IDENTIFIED WITH A TAG WITH ITS RESPECTIVE CIRCUIT/LOOP NUMBER AT ALL ACCESSIBLE LOCATIONS. LOCATIONS INCLUDE ALL MANHOLES/HANDHOLES AND IN-PAVEMENT FIXTURE BASE CAN. ATTACH THE ID TAG 12" FROM THE L-823 CONNECTORS. THE LOOPS SHALL BE IDENTIFIED ON EACH SIDE OF THE CONNECTORS. IN MANHOLE/HANDHOLES.
2. PRINT EACH TAG WITH THE CIRCUIT ID AS INDICATED ON THE FIXTURE SCHEDULE OR CIRCUIT IDENTIFICATION SCHEDULE.
3. TAGS SHALL BE PLASTIC WITH BLACK TEXT ON YELLOW BACKGROUND.
4. TY WRAP SHALL BE T&B CAT #TY-524MX, 30LB TEST.

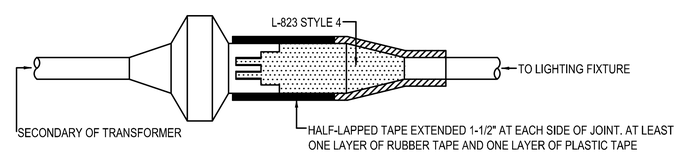


NOTES:

1. ALL ELEVATED EDGE LIGHTS SHALL BE IDENTIFIED WITH AN ID TAG PER THE LIGHT ID SHOWN ON THE LIGHTING SCHEDULES. ENGRAVE EACH TAG WITH THE LIGHT FIXTURE ID AS ORDERED BY THE ENGINEER.
2. TAG SHALL BE SECURELY ATTACHED TO THE LIGHT BASE PLATE UTILIZING ONE OF THE BASE PLATE MOUNTING BOLTS.

TYPICAL FIXTURE ID TAG

NOT TO SCALE



TYPICAL SECONDARY TRANSFORMER SPLICE

NOT TO SCALE

PROJECT DESIGNER: Jacobs
2 Executive Park Drive Suite 205 Bedford, MA 01730 PHONE: 617-657-7781 FAX: 8639 665-7865

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 1

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-401

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

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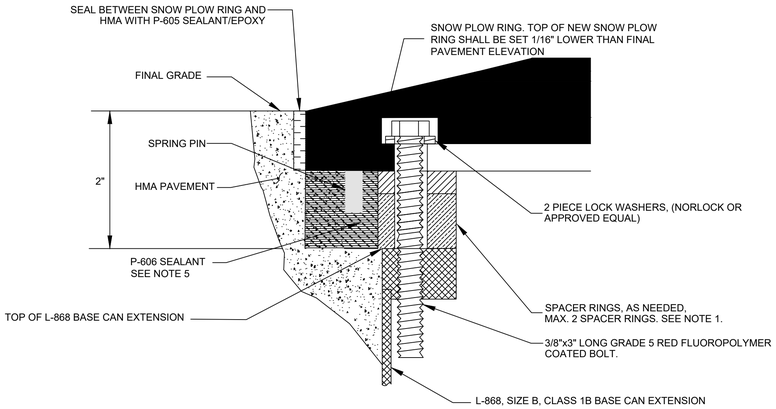
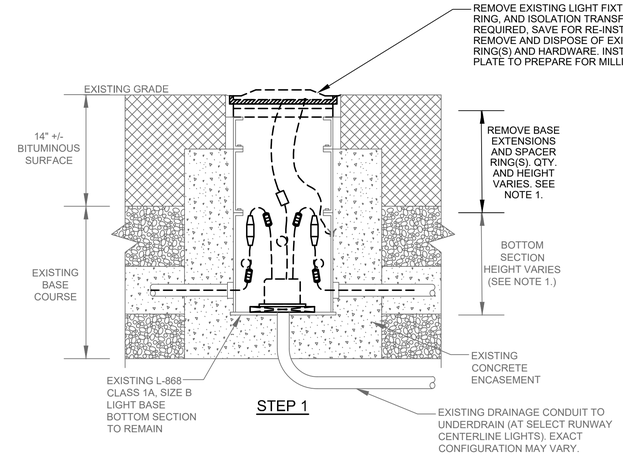


FIXTURE MOUNTING DETAIL

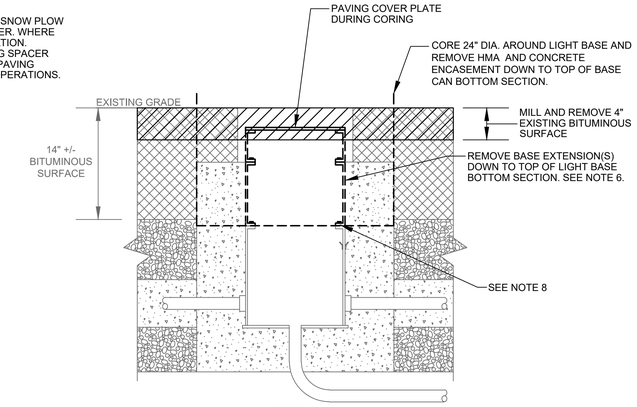
NOT TO SCALE

NOTES:

1. UTILIZE 2-PIECE BEVELED SPACER RING TO ENSURE SNOW PLOW RING SITS FLUSH IN ALL DIRECTIONS.
2. LIGHT FIXTURE MOUNTING BOLTS SHALL BE 3/8" DIA. RED FLUOROPOLYMER COATED, GRADE 5 CARBON STEEL, 137,000 YIELD STRENGTH, TENSILE STRENGTH OF 143,000 IN ACCORDANCE WITH AC 150/5345-42 LATEST EDITION, AND FAA ENGINEERING BRIEF (EB) NO. 83A.
3. INSTALL BOLTS ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS. TORQUE BOLTS TO 330 IN. LBS. IN ACCORDANCE WITH FAA ENGINEERING BRIEF (EB) NO. 83A.
4. DO NOT USE ANTI-SIEZE COMPOUND WITH COATED BOLTS.
5. INSTALL P-606 SEALANT PRIOR TO INSTALLING SNOW RING. ALIGN SNOW RING AND SECURELY SET PINS INTO P-606.



STEP 1



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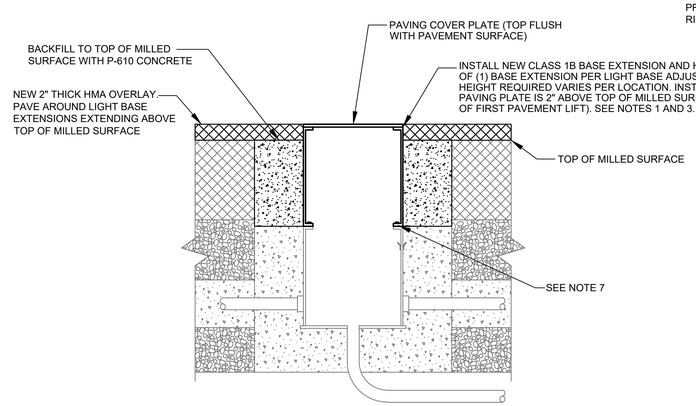
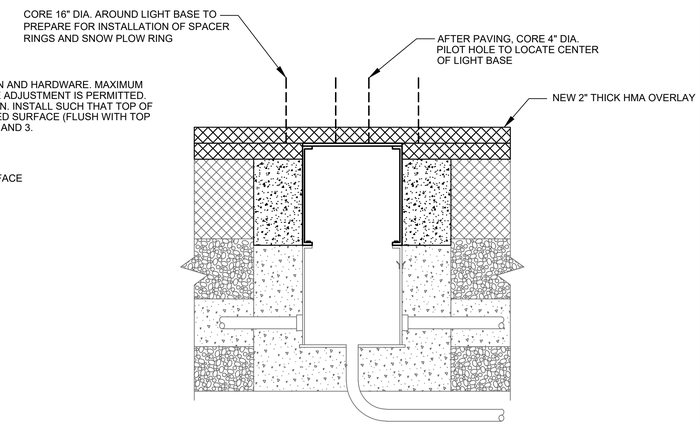


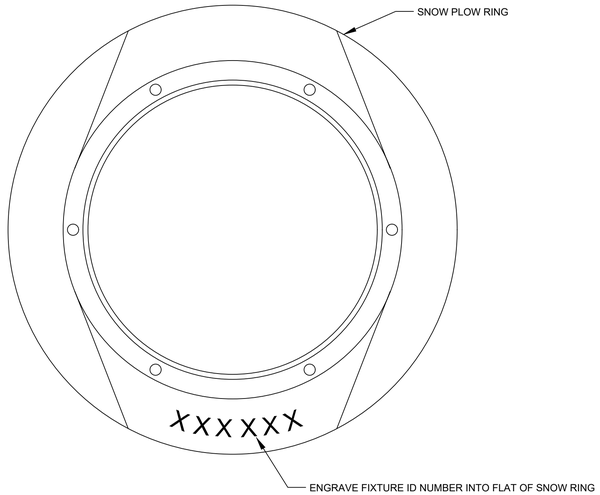
STEP 3



STEP 4

NOTES:

1. THE INSTALLATION DEPTH OF EXISTING BASE CANS BELOW GRADE, NUMBER, AND HEIGHT OF EXISTING BASE EXTENSION(S), SPACER RING(S), AND SNOW PLOW RINGS VARIES AT EACH FIXTURE LOCATION. THE CONTRACTOR SHALL BE REQUIRED TO MEASURE EACH BASE CAN WHERE ADJUSTMENTS WILL TAKE PLACE PRIOR TO ORDERING MATERIALS FOR THE NEW INSTALLATION. SEE SPECIFICATION L-125 FOR MORE INFORMATION. FOR THE PURPOSES OF BIDDING, THE CONTRACTOR SHALL ASSUME EACH EXISTING INSTALLATION CONSISTS OF A 12" TALL BOTTOM SECTION, WITH THE BASE CAN BOTTOM SET AT 30" BELOW EXISTING GRADE.
2. AT EXISTING LIGHT LOCATIONS WHERE ADJUSTMENTS ARE REQUIRED AND EXISTING FIXTURES ARE TO BE REINSTALLED, REINSTALLATION OF EXISTING FIXTURES, SNOW PLOW RINGS, AND ISOLATION TRANSFORMERS ARE INCIDENTAL TO THE LIGHT BASE ADJUSTMENTS.
3. THE BASE CAN EXTENSION SHALL BE INSTALLED IN SUCH A MANNER THAT THE FIXTURE MOUNTING HEIGHT SHALL BE IN ACCORDANCE WITH AC 150/5340-30, PARAGRAPH 11.2. ELEVATION OF THE BASE WITH RESPECT TO THE RUNWAY SURFACE AND AZIMUTH WITH RESPECT TO THE EDGE LIGHTS ARE TWO PARAMETERS THAT MUST BE MET. IT IS ABSOLUTELY NECESSARY THAT THE ELEVATION OF THE LIGHT BASE TOP FLANGE BE AT LEAST THE THICKNESS OF THE LIGHT FITTING PLUS THE THICKNESS OF TYPICAL PAVING TOLERANCES OF ±1/2 INCH (13 MM) BELOW THE PAVEMENT FINISHED SURFACE. IF LESS THAN THAT REMAINS AFTER PAVING, THE LIGHTING FIXTURE WILL BE UNACCEPTABLY HIGH. IF MORE THAN 3/4 INCH (19 MM) IS LEFT, SPACER RINGS CAN BE USED TO BRING THE LIGHTING FIXTURES UP TO THE CORRECT ELEVATION. IN ORDER TO PRESERVE THE BASE INTEGRITY AND PROPER BOLT TORQUE, A MAXIMUM OF TWO SPACER RINGS MAY BE STACKED TOGETHER.
4. END OF SNOW PLOW RING MUST BE SET ¼" BELOW PAVEMENT IN ALL DIRECTIONS. SEE FIXTURE MOUNTING DETAIL, THIS SHEET.
5. UTILIZE 2-PIECE BEVELED SPACER RING TO ENSURE SNOW RING FITS FLUSH IN ALL DIRECTIONS.
6. AFTER BASE CAN BOTTOM SECTION IS EXPOSED, THE CONTRACTOR SHALL NOTIFY THE RPR AND ALLOW THEM TO INSPECT THE CONDITION OF THE BASE CAN BOTTOM SECTION PRIOR TO CONTINUING WITH ADJUSTMENT WORK. THE CONTRACTOR SHALL ALSO NOTIFY THE RPR OF ANY OBVIOUS OR EXTREME DAMAGE TO BASE CAN BOTTOM SECTIONS ESPECIALLY INCLUDING DAMAGED TOP FLANGES, STRIPPED TOP FLANGE BOLT HOLE THREADS, OR ADVANCED CORROSION. IN THE CASE OF A DAMAGED LIGHT BASE THE RPR MAY DIRECT THE CONTRACTOR TO REMOVE AND REPLACE THE LIGHT BASE UTILIZING THE PROCEDURE DETAILED ON SHEET E-407. A QTY. OF NEW LIGHT BASE INSTALLATIONS HAS BEEN INCLUDED IN THE BID FORM FOR THIS PURPOSE.
7. PROVIDE 3/8" DIA. STAINLESS STEEL BOLTS AND HARDWARE FOR CONNECTION OF BASE EXTENSION TO BASE CAN. BOLT LENGTH SHALL ALLOW FOR 3/4" PROTRUSION BELOW BASE CAN BOTTOM SECTION TOP FLANGE. APPLY ANTI-SIEZE COMPOUND (LOCTITE LB8023 OR EQUAL) TO ALL STAINLESS STEEL BOLTS.
8. DRILL AND TAP IF REQUIRED FOR REMOVAL OF EXISTING LIGHT BASE EXTENSION BOLTS. SEE SPECIFICATIONS FOR MORE INFORMATION.

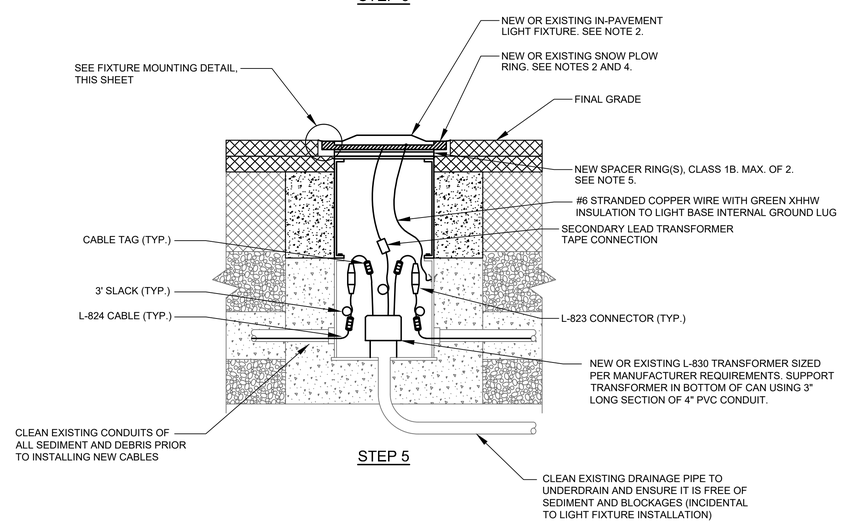


IN-PAVEMENT FIXTURE IDENTIFICATION

NOT TO SCALE

NOTES:

1. ENGRAVING OF THE FIXTURE ID NUMBERS IN SNOW PLOW RINGS SHALL BE PERFORMED BY SNOW PLOW RING MANUFACTURER AT THE FACTORY. SNOW PLOW RINGS ENGRAVED BY THE CONTRACTOR ARE NOT ACCEPTABLE. SUBMIT DRAWING SHOWING EXAMPLE OF FIXTURE ID ON SNOW PLOW RING FOR EACH TYPE OF IN-PAVEMENT LIGHT FIXTURE FOR APPROVAL PRIOR TO ORDERING.
2. SEE FIXTURE SCHEDULES ON DRAWINGS E-501 TO E-504 FOR FIXTURE ID NUMBER REQUIREMENTS.



STEP 5

IN-PAVEMENT LIGHT FIXTURE BASE ADJUSTMENTS WITH NEW OR EXISTING FIXTURE

NOT TO SCALE

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 8603 666-7785

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: JPH
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

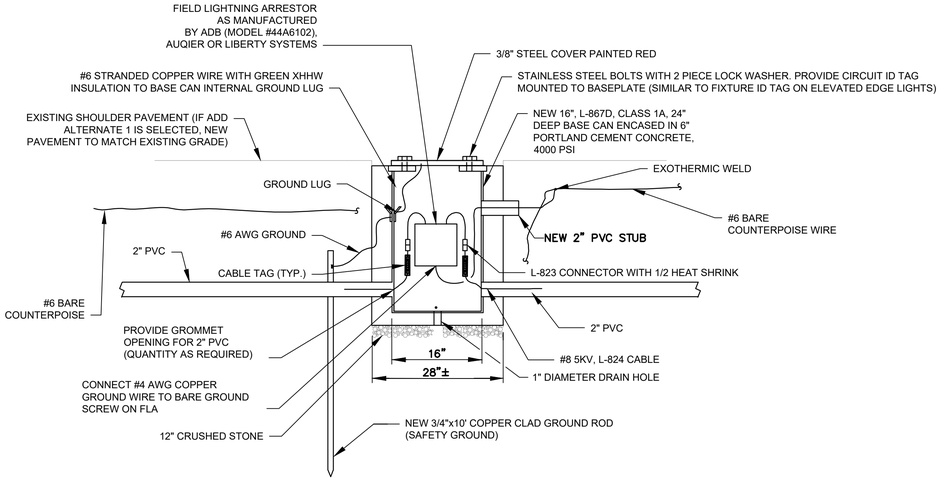
DRAWING NO.

E-402

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E408 - Electrical Details.dwg [E402] March 08, 2022 - 1:54pm [sagri]



FIELD LIGHTNING ARRESTOR IN NEW BASE CAN

NOT TO SCALE

NOTES:

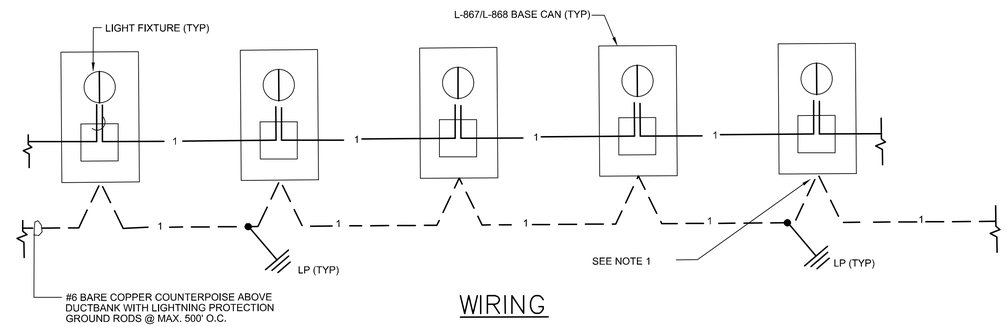
1. BOND EACH BASE CAN TO COUNTERPOISE CABLE / GUARD WIRE VIA EXTERNAL GROUND LUG.
2. INSTALL LIGHT BASE SO TOP OF COVER PLATE IS FLUSH WITH EXISTING GRADE.
3. APPLY ANTI-SEIZE COMPOUND (LOCTITE LB8023 OR EQUAL) TO ALL STAINLESS STEEL BOLTS.
4. SEE DRAWING E-405 FOR GROUND TEST PROCEDURE APPLICABLE TO ALL GROUND ROD INSTALLATIONS.

LEGEND:

1 #8 AWG, 5KV, PER CIRCUIT, EDGE LIGHTING CABLES, CONTINUES FOR LENGTH OF CIRCUIT (TYP)

1 #6 BARE COPPER COUNTERPOISE WIRE ABOVE DUCTBANK WITH LIGHTNING PROTECTION GROUND RODS @ MAX. 500' O.C.

LP — GROUND ROD (LP = LIGHTNING PROTECTION GROUND ROD FOR COUNTERPOISE WIRE ABOVE DUCTBANK)



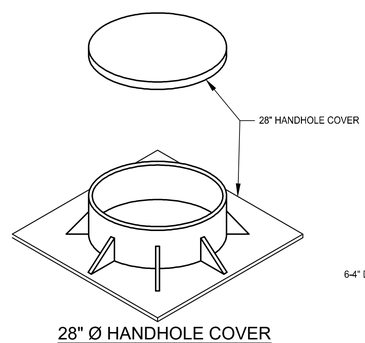
WIRING

NOTES:

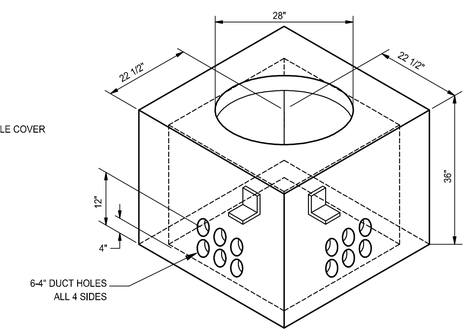
1. BOND EACH BASE CAN TO COUNTERPOISE CABLE / GUARD WIRE VIA EXTERNAL GROUND LUG.
2. SEE DRAWING E-405 FOR GROUND TEST PROCEDURE APPLICABLE TO ALL GROUND ROD INSTALLATIONS.

LIGHTING CONDUIT/WIRING CONFIGURATION

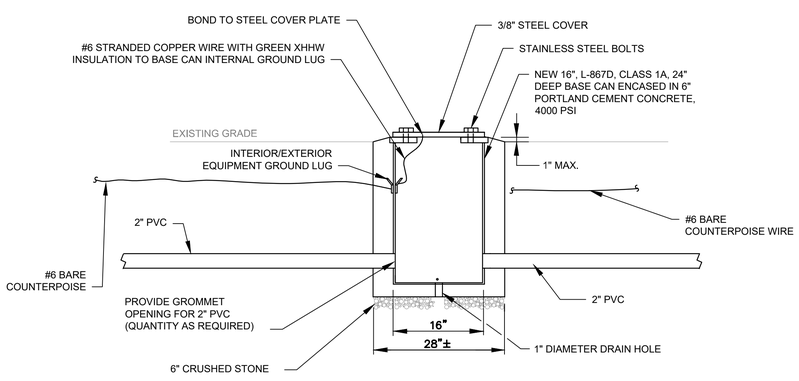
NOT TO SCALE



28" Ø HANDHOLE COVER



STANDARD HANDHOLE DETAIL



L-867 JUNCTION CAN IN TURF

NOT TO SCALE

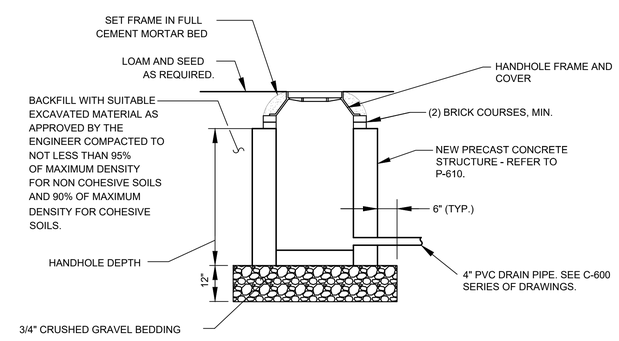
NOTES:

1. BOND EACH JUNCTION CAN TO COUNTERPOISE CABLE VIA EXTERNAL GROUND LUG.
2. APPLY ANTI-SEIZE COMPOUND (LOCTITE LB8023 OR EQUAL) TO ALL STAINLESS STEEL BOLTS.

PRECAST ELECTRIC HANDHOLE DETAIL

NOT TO SCALE

1. PROVIDE FIBERGLASS CABLE SADDLE RACKS/SUPPORTS - ALL 4 SIDES. UNDERGROUND DEVICES #35R3 OR EQUAL. PROVIDE 2 ARMS PER SUPPORT.
2. HANDHOLE COVERS AND FRAMES SHALL NOT EXTEND MORE THAN 1 INCH ABOVE GRADE. USE BRICKS TO ELEVATE COVER AS NECESSARY. MINIMUM 1 COURSE OF BRICKS, MAXIMUM 2 COURSE OF BRICKS.
3. PROVIDE 3/4" DIAMETER, 10'-0" LONG COPPER CLAD GROUND ROD. BOND ALL NON-CURRENT CARRYING METALLIC OBJECTS WITHIN HANDHOLE TO GROUND ROD VIA A GREEN INSULATED CONDUCTOR AND MECHANICAL CONNECTOR. GROUND ROD TO BE LOCATED 6'-0" FROM HANDHOLE. SEE DRAWING E-405 FOR GROUND ROD TEST PROCEDURE APPLICABLE TO ALL GROUND ROD INSTALLATIONS.
4. INSTALL 12" OF CRUSHED STONE BELOW ALL HANDHOLES
5. IMPRINT COVER WITH THE WORD 'ELECTRIC'
6. ALL CONCRETE HANDHOLES SHALL BE PRECAST WITH 5000 PSI (MINIMUM) CONCRETE AND ASTM A615, GRADE 60 REINFORCEMENT, REFER TO P-610. ALL HANDHOLES SHALL MEET OR EXCEED AIRPORT LOADING CRITERIA.
7. HANDHOLE COVERS AND FRAMES SHALL MEET OR EXCEED AIRPORT LOADING CRITERIA.
8. PROVIDE A 3% SLOPE AWAY FROM COVER TO ALLOW FOR POSITIVE DRAINAGE AWAY FROM HANDHOLE (APPROXIMATELY 20 FEET).
9. STANDARD HANDHOLES SHALL BE CAST WITH BOTTOM.
10. ALL PENETRATIONS FOR CONDUITS SHALL BE GROUTED WATERTIGHT AFTER CONDUIT INSTALLATION.



SECTION

HANDHOLE 4'X4' INSTALLED IN INFIELD

NOT TO SCALE

HANDHOLE NOTES:

1. HANDHOLE COVERS AND FRAMES SHALL NOT EXTEND MORE THAN 1 INCH ABOVE GRADE. USE BRICKS TO ELEVATE COVER AS NECESSARY. MINIMUM 1 COURSE OF BRICKS, MAXIMUM 2 COURSE OF BRICKS.
2. PROVIDE 3/4" DIAMETER, 10'-0" LONG COPPER CLAD GROUND ROD. BOND ALL NON-CURRENT CARRYING METALLIC OBJECTS WITHIN HANDHOLE TO GROUND ROD VIA A GREEN INSULATED CONDUCTOR AND MECHANICAL CONNECTOR.
3. INSTALL 12" OF CRUSHED STONE BELOW ALL HANDHOLES.
4. ALL PENETRATIONS FOR CONDUITS SHALL BE GROUTED WATERTIGHT AFTER CONDUIT INSTALLATION.
5. INSTALL ASTM C32 GRADE SW BRICKS.
6. STRUCTURES SHALL BE DESIGNED TO WITHSTAND BOEING 737-700W / A319NEO WHEEL LOADS AT TYPICAL TIRE PRESSURES FOR EACH AIRCRAFT. THE CONTRACTOR SHALL SUBMIT STRUCTURE SHOP DRAWINGS AND CALCULATIONS FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO ORDERING ALL STRUCTURES.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 3

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

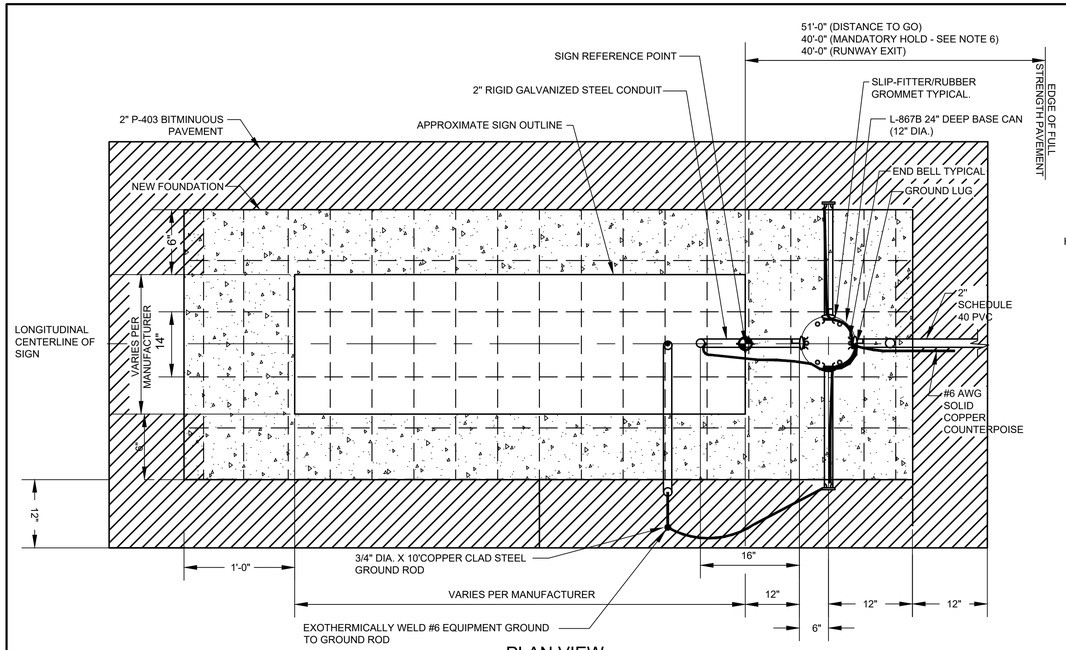
DRAWING NO.

E-403

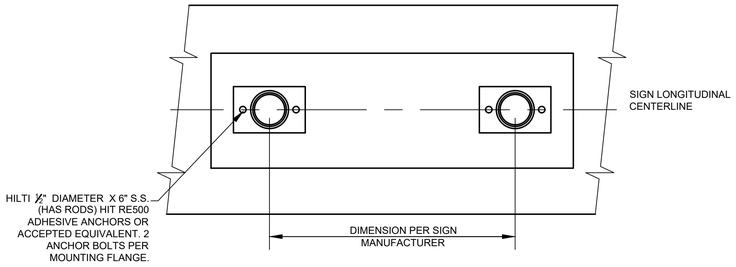
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E408 - Electrical Details.dwg [E403] March 08, 2022 - 1:54pm [sagri]

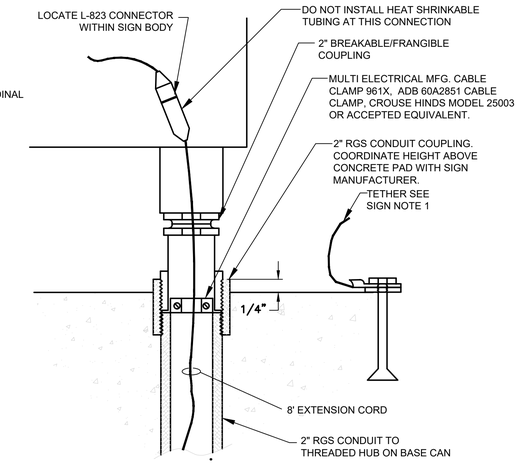


PLAN VIEW



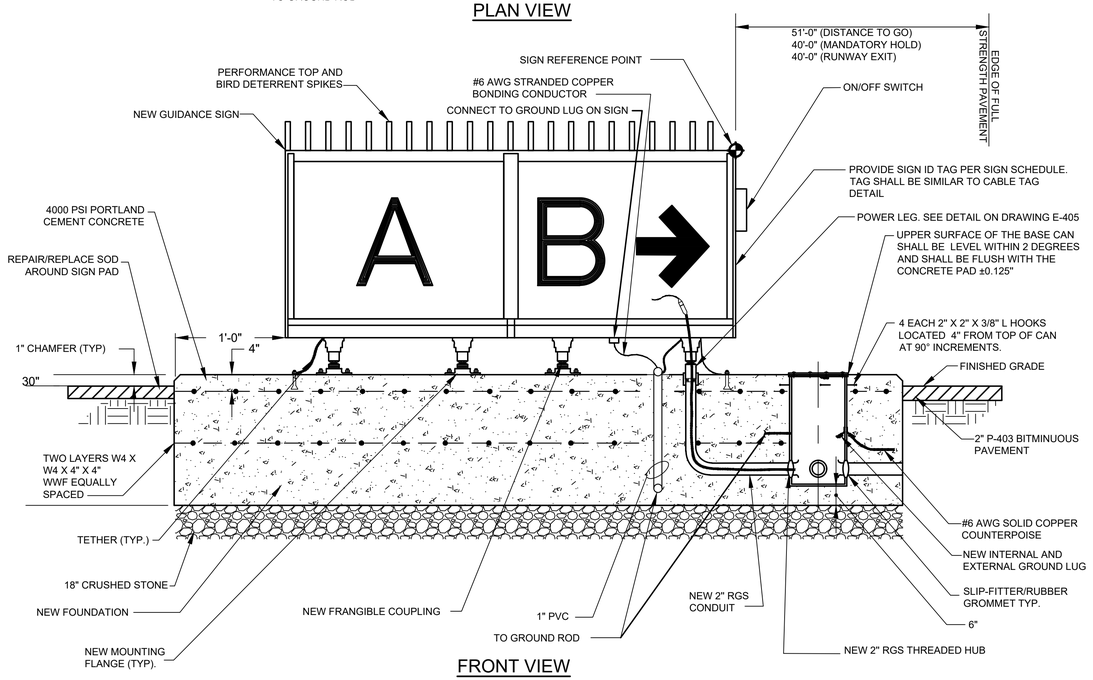
BASE PLATE

NOT TO SCALE



POWER LEG

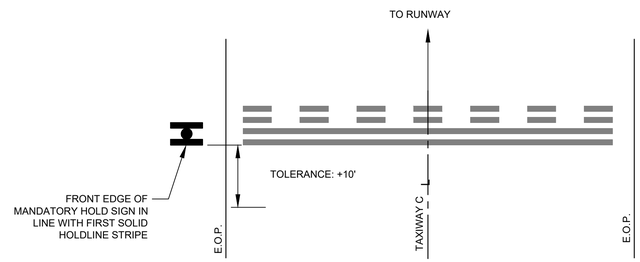
NOT TO SCALE



FRONT VIEW

NEW GUIDANCE SIGN ON NEW FOUNDATION

NOT TO SCALE

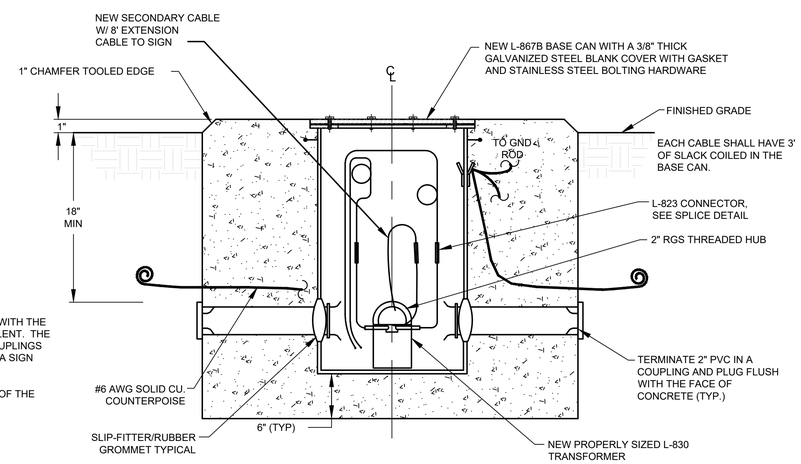


NOTES:

1. THE PROPOSED OFFSET OF THE GUIDANCE SIGN FROM THE RUNWAY CENTERLINE HAS A TOLERANCE OF +10'-0". THE FINAL LOCATION OF THE GUIDANCE SIGN LOCATION SHALL BE APPROVED BY THE ENGINEER BEFORE THE CONTRACTOR COMMENCES ANY WORK.

GUIDANCE SIGN LAYOUT AT HOLDLINE

NOT TO SCALE



L-867B 24" DEEP BASE CAN

NOT TO SCALE

SIGN NOTES:

1. ALL SIGNS SHALL BE FURNISHED WITH ONE TETHER PER MODULE. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN HARD POINT IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND TO THE CONCRETE BASE BY BEING SANDWICHED BETWEEN TWO STAINLESS STEEL FENDER WASHERS, WITH A 1/2" X 6" STAINLESS STEEL (HAS RODS) HIT RE500 ADHESIVE ANCHOR OR ACCEPTED EQUIVALENT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN BASE. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER. THE SIGN ANCHOR BOLTS SHALL NOT BE USED FOR THE TETHER ANCHOR. IN ADDITION TO INSTALLING ONE TETHER PER MODULE A SIGN ARRAY SHALL BE EQUIPPED WITH A TETHER ON EACH END. ONE MODULE SIGNS SHALL BE EQUIPPED WITH TWO TETHERS.
2. FOR LOCATION AND ORIENTATION OF SIGNS AND FOUNDATIONS, SEE PLANS. THE LOCATION SHOWN ON THE PLANS IS THE PERPENDICULAR DISTANCE FROM THE DEFINED TAXIWAY/RUNWAY EDGE OF FULL STRENGTH PAVEMENT, TO THE NEAR SIDE OF THE SIGN ON THE SIGN'S LONGITUDINAL CENTERLINE SIGN REFERENCE POINT (SEE PLAN VIEW).
3. ALL SIGNS SHALL BE ORIENTED SUCH THAT THE LONGITUDINAL CENTERLINE OF THE SIGN IS PERPENDICULAR TO THE RESPECTIVE TAXIWAY/RUNWAY CENTERLINE, UNLESS NOTED OTHERWISE.
4. THE ACTUAL SIGN DIMENSIONS WILL VARY PER MANUFACTURER. THE BASE SIZE AS SHOWN SHALL BE ADJUSTED TO MATCH THE SIGN SUBMITTED. THE SUBMITTAL SHALL INCLUDE NEW BASE DIMENSIONS, LAYOUT, ETC.
5. INCLUDE 20 LF OF DIRECT BURIED 2" PVC CONDUIT INCIDENTAL TO EACH NEW SIGN ON NEW FOUNDATION INSTALLATION TO REACH POINT TO INTERCEPT EXISTING UNDERGROUND CONDUITS WHERE EXACT LOCATION OF NEW SIGNS VARIES FROM EXISTING SIGN LOCATION.
6. APPLY ANTI-SEIZE COMPOUND (LOCTITE LB8023 OR EQUAL) TO ALL STAINLESS STEEL BOLTS.
7. SEE DRAWING E-405 FOR GROUND TEST PROCEDURE APPLICABLE TO ALL GROUND ROD INSTALLATIONS.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-666-7781
FAX: 603-666-7785

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 4

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

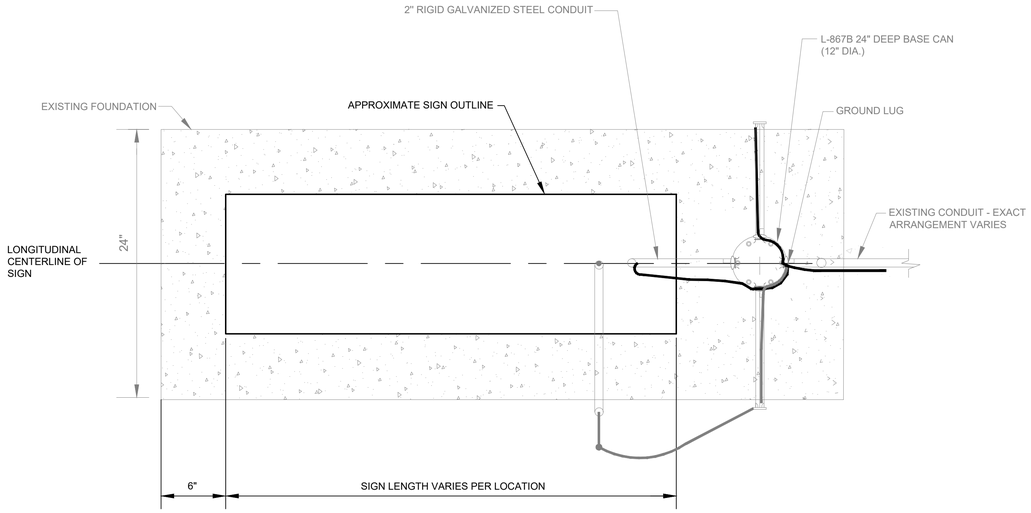
DRAWING NO.

E-404

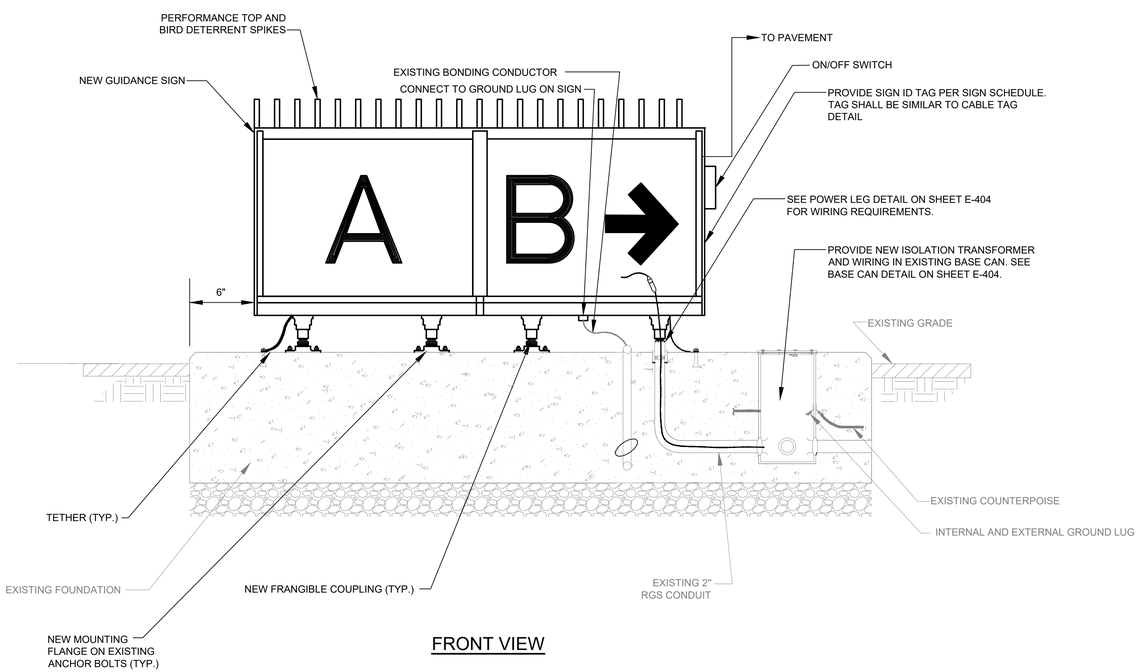
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E408 - Electrical Details.dwg [E404] March 08, 2022 - 1:54pm [sagrl]



PLAN VIEW



FRONT VIEW

NEW GUIDANCE SIGN ON EXISTING FOUNDATION

NOT TO SCALE

SIGN NOTES:

1. ALL SIGNS SHALL BE FURNISHED WITH ONE TETHER PER MODULE. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN HARD POINT IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND TO THE CONCRETE BASE BY BEING SANDWICHED BETWEEN TWO STAINLESS STEEL FENDER WASHERS, WITH A 1/2" X 6" STAINLESS STEEL (HAS RODS) HIT RE500 ADHESIVE ANCHOR OR ACCEPTED EQUIVALENT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN BASE. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER. THE SIGN ANCHOR BOLTS SHALL NOT BE USED FOR THE TETHER ANCHOR. IN ADDITION TO INSTALLING ONE TETHER PER MODULE A SIGN ARRAY SHALL BE EQUIPPED WITH A TETHER ON EACH END. ONE MODULE SIGNS SHALL BE EQUIPPED WITH TWO TETHERS.

2. FOR LOCATION OF EXISTING SIGN FOUNDATIONS TO BE RE-USED, SEE PLANS.

FAA GROUND RESISTANCE TESTING PROCEDURE:

THE PROCEDURE AND MATERIALS LISTED MEET ALL APPLICABLE CODE REQUIREMENTS LISTED BELOW.

1. NFPA 70 NATIONAL ELECTRICAL CODE 2020, SECTION 250 PART III
2. MASSACHUSETTS ELECTRICAL CODE AMENDMENTS DO NOT AMEND THE APPLICABLE SECTIONS OF NEC 250 AS STATED ABOVE.
3. FAA-STD-19F

GROUND RESISTANCE TESTING PROCEDURE FOR CLAMP-ON METER

1. INSTALL ALL COUNTERPOISE CABLE AND ASSOCIATED GROUND RODS AS SHOWN ON CONTRACT DOCUMENTS. EXOTHERMICALLY WELD EACH GROUND ROD TO CABLE. EACH GROUND ROD SHALL BE MINIMUM 10FT LONG BY 3/4" MINIMUM COPPER CLAD GROUND ROD AS SHOWN ON CONTRACT DOCUMENTS. DOCUMENT LOCATION OF EACH ROD AND PROVIDE UNIQUE NUMBER FOR EACH ROD. MEASURE RESISTANCE TO EARTH FOR EACH ROD BY ATTACHING CLAMP ON METER ON ROD BELOW COUNTERPOISE WIRE. DOCUMENT RESULTS ON APPROVED TESTING FORM IN THE PRESENCE OF THE RESIDENT ENGINEER OR AIRPORT REPRESENTATIVE. IF VALUE IS HIGHER THAN 25 OHMS FOR ANY ROD CONFIRM RESULTS WITH RESIDENT ENGINEER AND PROCEED TO STEP 2.
2. FOR ANY GROUND ROD NOT MEETING A MAXIMUM VALUE OF 25 OHMS, INSTALL A 10FT LONG X ¾" COPPER CLAD SECTIONAL GROUND ROD AT A DISTANCE OF 20' FROM ORIGINAL GROUND ROD. EXOTHERMICALLY WELD NEW ROD WITH ORIGINAL USING BARE #6 AWG COPPER COUNTERPOISE WIRE. MEASURE RESISTANCE TO EARTH OF NEW SECTIONAL GROUND ROD BY ATTACHING CLAMP ON METER ON ROD BELOW COUNTERPOISE WIRE. IF VALUE IS HIGHER THAN 25 OHMS, DISCONNECT COUNTERPOISE WIRE, ATTACH A COUPLING TO TOP OF ROD, ATTACH A NEW 10FT SECTION OF ROD AND DRIVE INTO EARTH. EXOTHERMICALLY WELD NEW ROD TO ORIGINAL USING BARE #6 AWG COPPER COUNTERPOISE WIRE. MEASURE RESISTANCE TO EARTH OF NEW 20' SECTIONAL GROUND ROD BY ATTACHING CLAMP ON METER ON ROD BELOW COUNTERPOISE WIRE. IF RESULTS ARE UNSATISFACTORY, REPEAT PROCEDURE UNTIL ROCK IS ENCOUNTERED, EQUIPMENT IS UNABLE TO DRIVE THE ROD, OR A TOTAL DEPTH OF 40FT IS ACHIEVED. PROCEED TO STEP 3.
3. INSTALL ANOTHER 10FT LONG BY 3/4" GROUND ROD IN A 6" AUGERED HOLE. LOCATE NEW ROD 20' FROM OTHER GROUND RODS. SURROUND GROUND ROD WITH AN APPROVED EARTHING ENHANCEMENT MATERIAL UP TO WITHIN 6" OF TOP OF ROD. CONNECT THE RODS WITH A BARE #6 AWG COPPER CONDUCTOR VIA EXOTHERMIC WELD. MEASURE RESISTANCE TO EARTH OF NEW GROUND ROD AND DOCUMENT RESULTS.

GROUND RESISTANCE TESTING PROCEDURE FOR 3 POINT METER FALL OF POTENTIAL METHOD

1. INSTALL GROUND ROD AS SHOWN ON CONTRACT DOCUMENTS. EACH GROUND ROD SHALL BE MINIMUM 10FT LONG BY 3/4" MINIMUM COPPER CLAD GROUND ROD AS SHOWN ON CONTRACT DOCUMENTS. DOCUMENT LOCATION OF EACH ROD AND PROVIDE UNIQUE NUMBER FOR EACH ROD. DO NOT CONNECT COUNTERPOISE CABLE TO ROD. MEASURE RESISTANCE TO EARTH FOR EACH ROD AND DOCUMENT RESULTS ON APPROVED TESTING FORM IN THE PRESENCE OF THE RESIDENT ENGINEER OR AIRPORT REPRESENTATIVE. IF VALUE IS HIGHER THAN 25 OHMS FOR ANY ROD CONFIRM RESULTS WITH RESIDENT ENGINEER AND PROCEED TO STEP 2.
2. FOR ANY GROUND ROD NOT MEETING A MAXIMUM VALUE OF 25 OHMS, INSTALL A 10FT LONG X ¾" COPPER CLAD SECTIONAL GROUND ROD AT A DISTANCE OF 20' FROM ORIGINAL GROUND ROD. MEASURE RESISTANCE TO EARTH OF NEW SECTIONAL GROUND ROD. IF VALUE IS HIGHER THAN 25 OHMS, ATTACH A COUPLING TO TOP OF ROD, ATTACH A NEW 10FT SECTION OF ROD AND DRIVE INTO EARTH. MEASURE RESISTANCE TO EARTH OF NEW 20' SECTIONAL GROUND ROD. IF RESULTS ARE UNSATISFACTORY, REPEAT PROCEDURE UNTIL ROCK IS ENCOUNTERED, EQUIPMENT IS UNABLE TO DRIVE THE ROD, OR A TOTAL DEPTH OF 40FT IS ACHIEVED. MEASURE RESISTANCE TO EARTH OF NEW GROUND ROD AND DOCUMENT RESULTS. EXOTHERMICALLY WELD NEW ROD TO ORIGINAL USING BARE #6 AWG COPPER COUNTERPOISE WIRE. PROCEED TO STEP 3.
3. INSTALL ANOTHER 10FT LONG BY 3/4" GROUND ROD IN A 6" AUGERED HOLE. LOCATE NEW ROD 20' FROM OTHER GROUND RODS. SURROUND GROUND ROD WITH AN APPROVED EARTHING ENHANCEMENT MATERIAL UP TO WITHIN 6" OF TOP OF ROD. MEASURE RESISTANCE TO EARTH OF NEW GROUND ROD AND DOCUMENT RESULTS. CONNECT THE RODS WITH A BARE #6 AWG BARE COPPER CONDUCTOR VIA EXOTHERMIC WELD.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-966-7281
FAX: 8603 666-7865

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 5

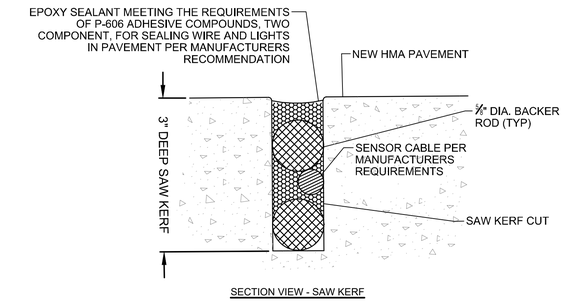
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

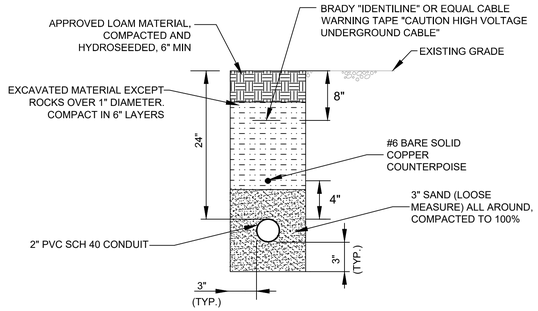
DRAWING NO.
E-405
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

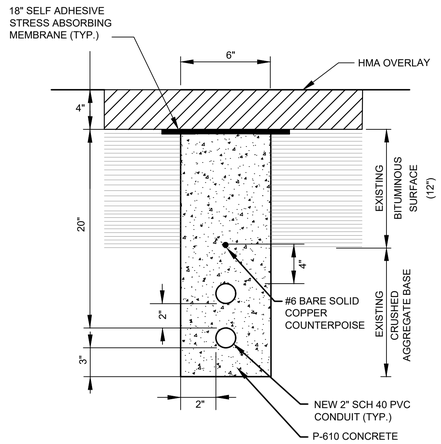
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E408 - Electrical Details.dwg [E405] March 08, 2022 - 1:54pm [sagri]



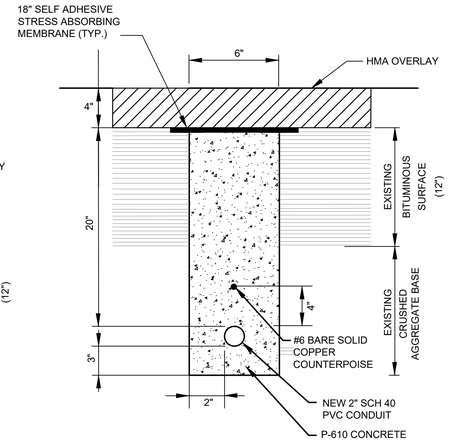
SENSOR CABLE INSTALLATION DETAIL
NOT TO SCALE



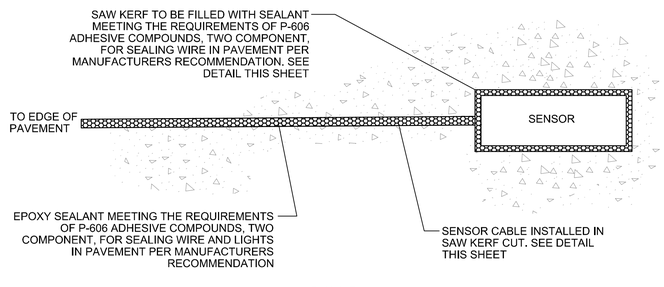
DIRECT BURIED 2" PVC CONDUIT IN TURF
NOT TO SCALE

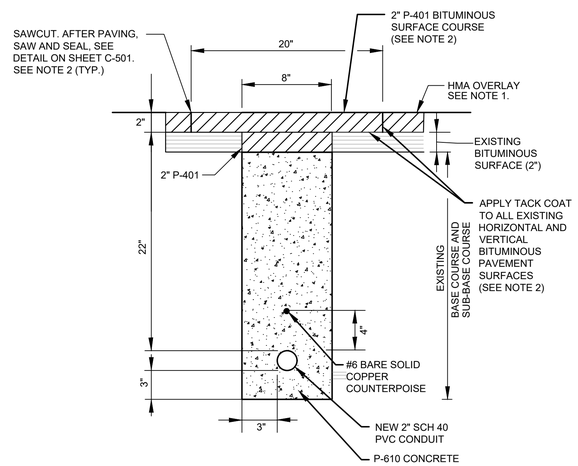


2-WAY 2-INCH CONCRETE ENCASED DUCTBANK (24" DEEP)
NOT TO SCALE

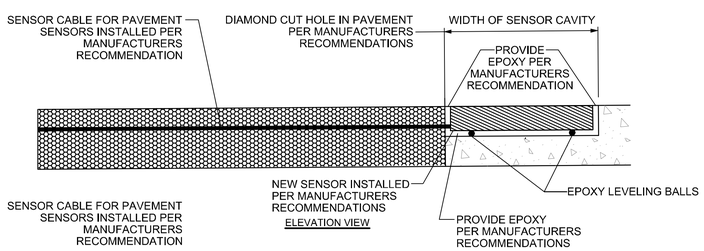


1-WAY 2-INCH PVC CONDUIT IN EXISTING RUNWAY PAVEMENT (24" DEEP)
NOT TO SCALE





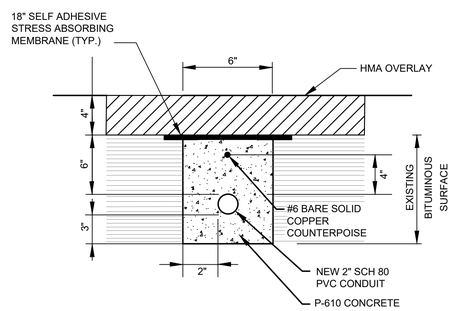
1-WAY 2-INCH PVC CONDUIT IN EXISTING SHOULDER PAVEMENT (24" DEEP)
NOT TO SCALE



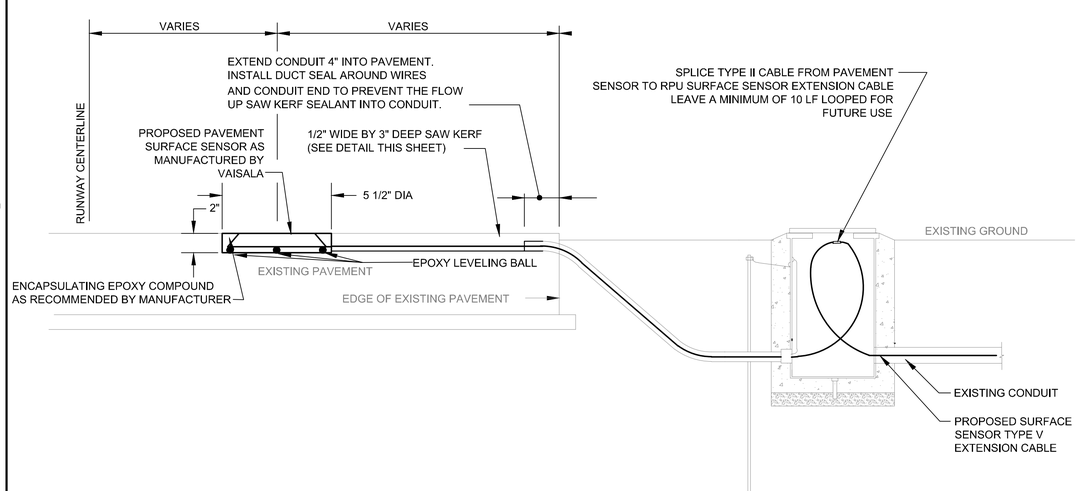
SURFACE PAVEMENT SENSOR DETAILS
NOT TO SCALE

NOTES:

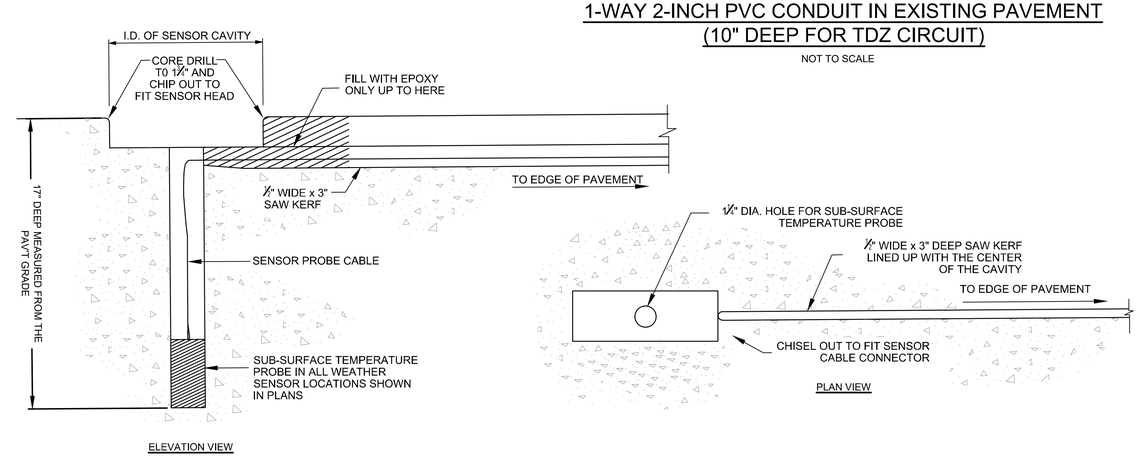
1. IF ADD ALTERNATE 1 IS AWARDED, PAVE 2" HMA OVERLAY, ENTIRE RUNWAY SHOULDER. SEE CIVIL PLANS.
2. BASE BID: SAWCUT AND REMOVE 20" WIDE, 2" DEEP OF EXISTING RUNWAY SHOULDER PAVEMENT PRIOR TO TRENCHING. AFTER CONCRETE BACKFILL AND 8" WIDE 2" THICK P-401 IS COMPLETED, PAVE 20" WIDE P-401 FLUSH WITH EXISTING GRADE, THEN SAW AND SEAL EDGES.
3. PAYMENT FOR CONDUIT INSTALLATION WILL BE THE SAME REGARDLESS OF WHETHER OR NOT ADD ALTERNATE 1 IS AWARDED.



1-WAY 2-INCH PVC CONDUIT IN EXISTING PAVEMENT (10" DEEP FOR TDZ CIRCUIT)
NOT TO SCALE



PROPOSED PAVEMENT SURFACE SENSOR INSTALLATION DETAIL
NOT TO SCALE



SUBSURFACE PAVEMENT SENSOR INSTALLATION DETAILS
NOT TO SCALE

PROJECT DESIGNER: Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603 666-7781
FAX: 603 666-7785

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 6

REV. NO.	DATE	DESCRIPTION	BY

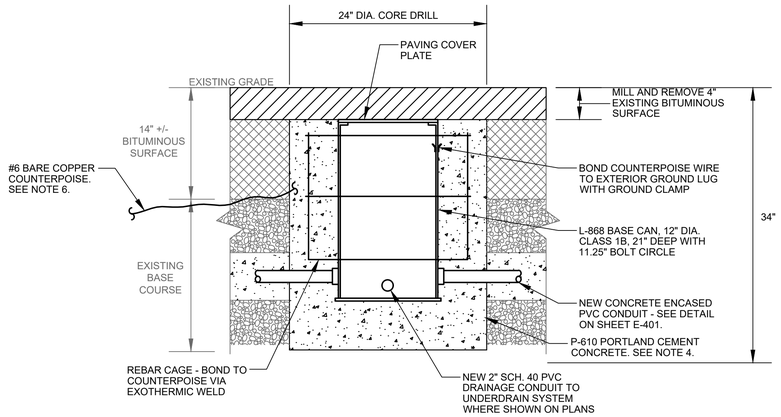
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

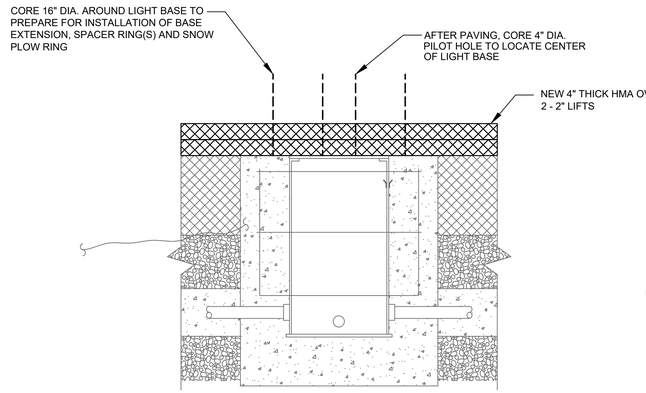
DRAWING NO.
E-406
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

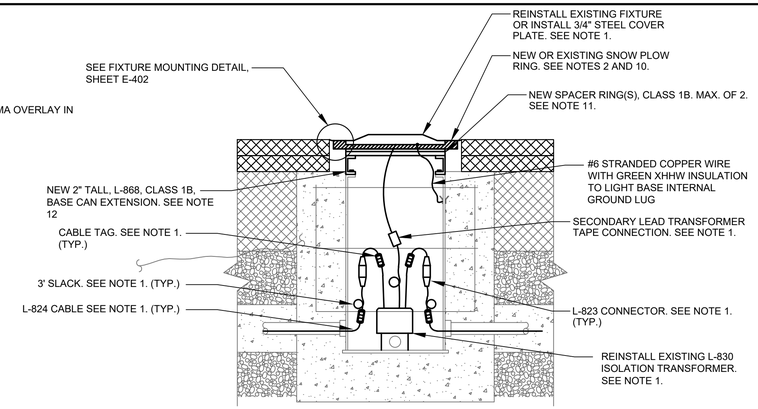
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E406 - Electrical Details.dwg [E406] March 08, 2022 - 1:54pm [sagrl]



STEP 1 - INSTALL BASE CAN



STEP 2



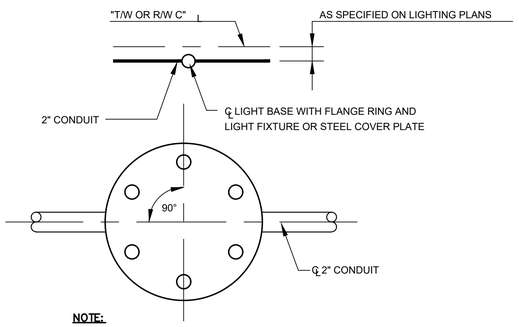
STEP 3

NEW LIGHT BASE INSTALLATION IN MILL & OVERLAY PAVEMENT

NOT TO SCALE

NOTES:

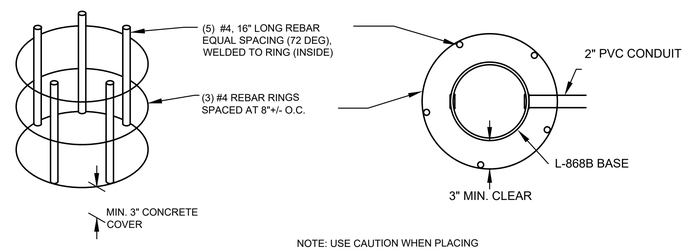
1. ISOLATION TRANSFORMERS, WIRING, CONNECTORS, AND CABLE TAGS ARE NOT REQUIRED AT LOCATIONS WHERE BASE CANS ARE TO BE LEFT WITHOUT FIXTURES INSTALLED. AT EXISTING LIGHT LOCATIONS WHERE BASE CANS ARE INDICATED TO BE REPLACED ON THE PLANS, REINSTALL THE EXISTING EQUIPMENT AS SHOWN. REINSTALLATION OF EXISTING FIXTURES, SNOW PLOW RINGS, AND ISOLATION TRANSFORMERS ARE INCIDENTAL TO THE NEW LIGHT BASE INSTALLATION IN THESE LOCATIONS.
2. PROVIDE NEW SNOW PLOW RINGS AT LOCATIONS WHERE NO LIGHT FIXTURE WILL BE INSTALLED.
3. WHERE THE RPR HAS REQUESTED THE REPLACEMENT OF AN EXISTING BASE CAN DUE TO POOR CONDITION, THE REMOVAL AND DISPOSAL OF THE EXISTING BASE AND INCIDENTALS SHALL BE INCIDENTAL TO THE INSTALLATION OF THE NEW BASE CAN. INSTALLATION OF THE NEW FIXTURE SHALL BE PAID FOR UNDER THE PAYMENT ITEM FOR NEW LIGHT FIXTURE INSTALLATIONS. SEE NOTE 6 ON DRAWING E-402.
4. CONCRETE AROUND BASE CAN AND CONDUIT. PLACE CONCRETE ANCHOR USING CARE THAT NEITHER JIG NOR LIGHT BASE ALIGNMENT IS DISTURBED (TYP.). FOR EXPEDIENCY, CONTRACTOR MAY USE HIGH EARLY CONCRETE.
6. COUNTERPOISE MUST BE INSTALLED A MINIMUM OF 4" ABOVE CONDUIT. CONNECT COUNTERPOISE TO EXTERIOR GROUND LUG. BOND TO REBAR CAGE.
7. THE CAN SHALL BE INSTALLED SUCH THAT THE LIGHT BEAM (CENTER OF LIGHT BASE) IS ALIGNED AS DESCRIBED PER AC 150/5340-30, PARAGRAPH 11.1. THE LIGHT BEAM MUST BE ALIGNED AS DESCRIBED IN THE LIGHTING SYSTEM MANUAL WITH A TOLERANCE ±-1 DEGREE. THE LIGHTING FIXTURE MUST BE LEVEL, AND THE TOP OF THE SNOW RING EDGE MUST BE BETWEEN +0 INCH AND -1/16 INCH FROM THE PAVEMENT TOP.
8. THE CAN SHALL BE INSTALLED IN SUCH A MANNER THAT THE MOUNTING HEIGHT SHALL BE IN ACCORDANCE WITH AC 150/5340-30, PARAGRAPH 11.2 ELEVATION OF THE BASE WITH RESPECT TO THE TAXIWAY OR RUNWAY SURFACE AND AZIMUTH WITH RESPECT TO THE EDGE LIGHTS ARE TWO PARAMETERS THAT MUST BE MET. IT IS ABSOLUTELY NECESSARY THAT THE ELEVATION OF THE LIGHT BASE TOP FLANGE BE AT LEAST THE THICKNESS OF THE LIGHT FITTING PLUS THE THICKNESS OF TYPICAL PAVING TOLERANCES OF ±1/2 INCH (13 MM) BELOW THE PAVEMENT FINISHED SURFACE. IF LESS THAN THAT REMAINS AFTER PAVING, THE LIGHTING FIXTURE WILL BE UNACCEPTABLY HIGH. IF MORE THAN 3/4 INCH (19 MM) IS LEFT, FLAT SPACER RINGS CAN BE USED TO BRING THE LIGHTING FIXTURES UP TO THE CORRECT ELEVATION. IN ORDER TO PRESERVE THE BASE INTEGRITY AND PROPER BOLT TORQUE, A MAXIMUM OF TWO SPACER RINGS MAY BE STACKED TOGETHER.
9. THE LIGHT BASE CAN SHALL HAVE AN INTEGRAL ANCHOR RING TO DISSIPATE AIRCRAFT/LARGE VEHICULAR WHEEL LOADS.
10. END OF SNOW PLOW RING MUST BE SET 1/8" BELOW PAVEMENT IN ALL DIRECTIONS. SEE FIXTURE MOUNTING DETAIL, DRAWING E-402
11. UTILIZE 2-PIECE BEVELED SPACER RING TO ENSURE SNOW RING FITS FLUSH IN ALL DIRECTIONS
12. PROVIDE 3/8" DIA. STAINLESS STEEL BOLTS AND HARDWARE FOR CONNECTION OF BASE EXTENSION TO BASE CAN. BOLT LENGTH SHALL ALLOW FOR 3/4" PROTRUSION BELOW BASE CAN BOTTOM SECTION TOP FLANGE. APPLY ANTI-SEIZE COMPOUND (LOCTITE LB8023 OR EQUAL) TO ALL STAINLESS STEEL BOLTS.



NOTE:
ALL FLANGE RING BOLT CIRCLES MATCH THE ORIENTATION OF THE DETAIL AS SHOWN.

OFFSET AND CENTERLINE LIGHT BOLT CIRCLE ORIENTATION

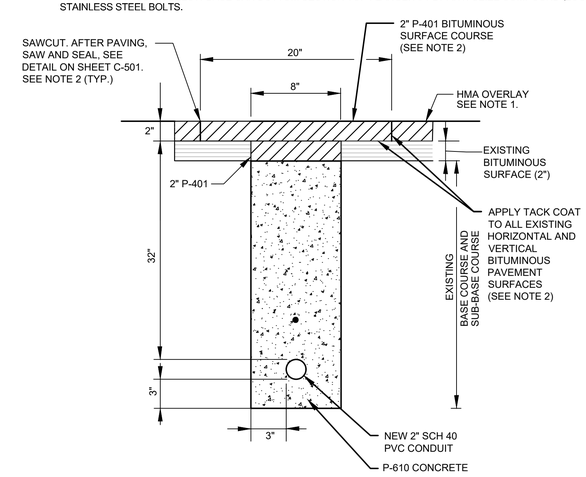
NOT TO SCALE



NOTE: USE CAUTION WHEN PLACING CONCRETE SO AS NOT TO DISPLACE THE REBAR CAGE

REINFORCING STEEL (REBAR CAGE)

NOT TO SCALE

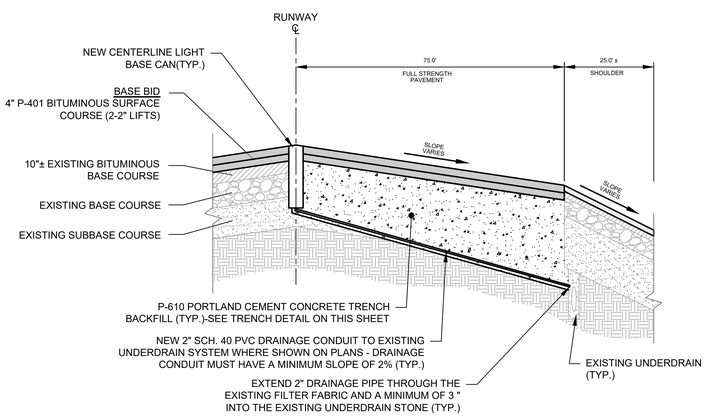


2-INCH PVC DRAINAGE CONDUIT IN EXISTING SHOULDER PAVEMENT (34" DEEP)

NOT TO SCALE

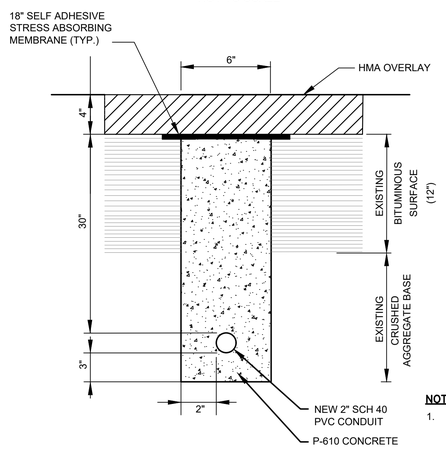
NOTES:

1. IF ADD ALTERNATE 1 IS AWARDED, PAVE 2" HMA OVERLAY, ENTIRE RUNWAY SHOULDER. SEE CIVIL PLANS.
2. BASE BID: SAWCUT AND REMOVE 20" WIDE, 2" DEEP OF EXISTING RUNWAY SHOULDER PAVEMENT PRIOR TO TRENCHING. AFTER CONCRETE BACKFILL AND 8" WIDE 2" THICK P-401 IS COMPLETED, PAVE 20" WIDE P-401 FLUSH WITH EXISTING GRADE, THEN SAW AND SEAL EDGES.
3. PAYMENT FOR CONDUIT INSTALLATION WILL BE THE SAME REGARDLESS OF WHETHER OR NOT ADD ALTERNATE 1 IS AWARDED.



NEW DRAINAGE CONDUIT TERMINATION IN EXISTING UNDERDRAIN

NOT TO SCALE



NOTE:
1. CONDUIT SHALL MAINTAIN 1% MIN. SLOPE FROM BASE CAN TO EDGE OF RUNWAY PAVEMENT.

2-INCH PVC DRAINAGE CONDUIT IN EXISTING RUNWAY PAVEMENT (34" DEEP)

NOT TO SCALE

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
Phone: 617-966-7781
FAX: 508/ 668-7765

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	JPH
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 7

REV. NO.	DATE	DESCRIPTION	BY

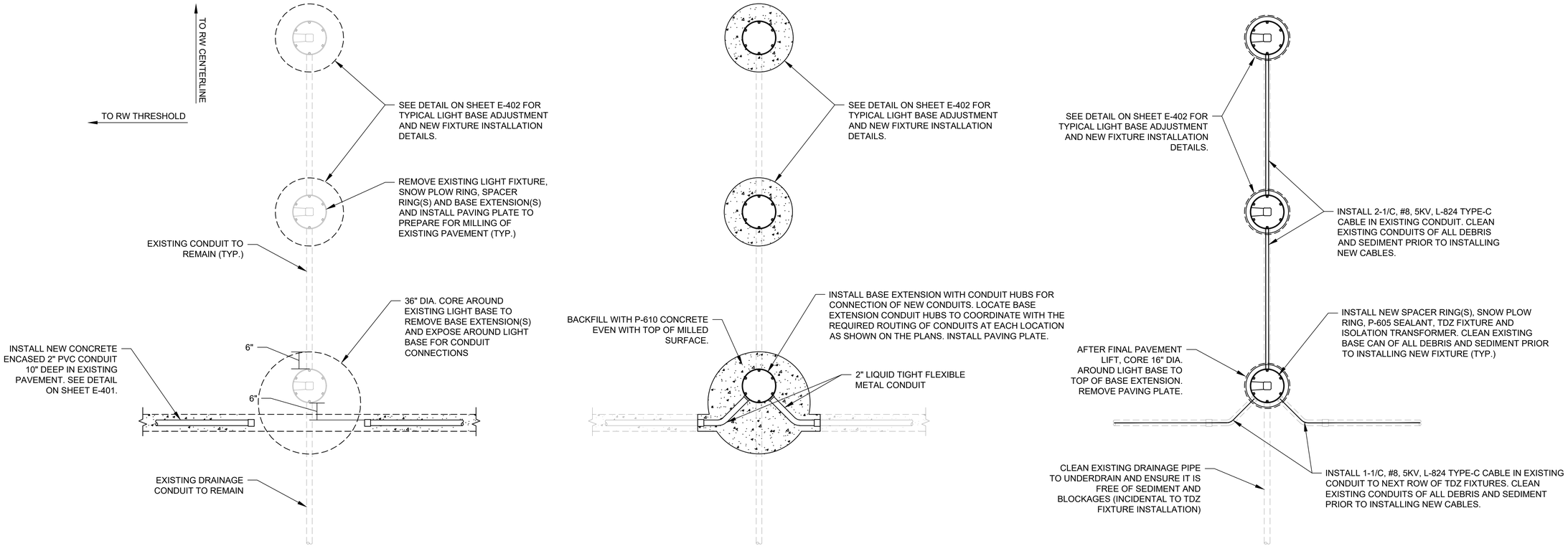
REVISIONS

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-407
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E408 - Electrical Details.dwg [E407] March 08, 2022 - 1:54pm [sagrl]

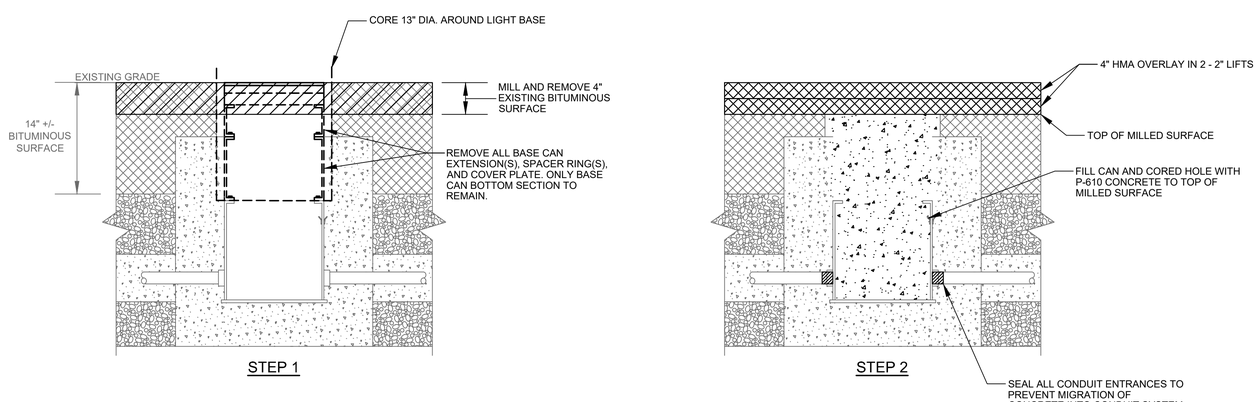


TDZ LIGHT CONDUIT CONNECTION

NOT TO SCALE

NOTES:

1. REFER TO LIGHT BASE ADJUSTMENT DETAILS AND FIXTURE INSTALLATION DETAIL ON E-402. LIGHT BASE ADJUSTMENT PROCEDURE FOR OUTBOARD TDZ FIXTURE IS SIMILAR TO DETAIL ON E-402 WITH LARGER DIAMETER CORE AND BASE CAN EXTENSION WITH PREINSTALLED HUBS FOR CONDUIT CONNECTIONS. NOTES FROM THESE DETAILS ARE APPLICABLE TO THE ADJUSTMENTS AND CONDUIT CONNECTIONS AT THE TDZ LIGHT BASES.



EMPTY LAHSO BASE CAN DEMOLITON

NOT TO SCALE

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: 603-647-7781
FAX: 603-666-7865

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	JPH
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

ELECTRICAL DETAILS - 8

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-408

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E401_E408 - Electrical Details.dwg [E408] March 08, 2022 - 1:54pm [sagrl]

R/W 17-35 CENTERLINE LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-35-CL-1	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-2	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-3	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-4	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-5	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-6	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-7	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-8	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-9	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-10	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-11	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-12	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-13	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-14	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-15	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-16	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-17	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-18	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-19	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-20	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-21	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-22	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-23	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-24	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-25	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-26	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-27	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-28	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-29	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-30	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-31	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-32	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-33	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-34	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-35	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-36	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-37	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-38	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-39	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-40	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-41	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-42	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-43	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-44	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-45	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-46	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-47	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-48	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-49	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-50	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-51	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-52	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-53	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-54	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-55	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-56	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-57	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-58	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-59	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-60	17/35 C/L	L-850A(L)	L-868	R/W	1,2,3,4,5,6
17-35-CL-61	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-62	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-63	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-64	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-65	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-66	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-67	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-68	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-69	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-70	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-71	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-72	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-73	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-74	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-75	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6

R/W 17-35 CENTERLINE LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-35-CL-76	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-77	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-78	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-79	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-80	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-81	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-82	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-83	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-84	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-85	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-86	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-87	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-88	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-89	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-90	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-91	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-92	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-93	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-94	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-95	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-96	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-97	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-98	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-99	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-100	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-101	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-102	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-103	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-104	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-105	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-106	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-107	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-108	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-109	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-110	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-111	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-112	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-113	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-114	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-115	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-116	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-117	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-118	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-119	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-120	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-121	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-122	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-123	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-124	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-125	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-126	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-127	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-128	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-129	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-130	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-131	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-132	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-133	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-134	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-135	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-136	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-137	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-138	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-139	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-140	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-141	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-142	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-143	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-144	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-145	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-146	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-147	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-148	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-149	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-150	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6

R/W 17-35 CENTERLINE LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-35-CL-151	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-152	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-153	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-154	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-155	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-156	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-157	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-158	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-159	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-160	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-161	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-162	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-163	17/35 C/L	L-850A(L)	L-868	W/W	1,2,3,4,5,6
17-35-CL-164	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-165	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-166	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-167	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-168	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-169	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-170	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-171	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-172	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-173	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-174	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-175	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-176	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-177	17/35 C/L	L-850A(L)	L-868	W/R	1,2,3,4,5,6
17-35-CL-178	17/35 C/L	L-850A(L)	L-868	O/R	1,2,3,4,5,6
17-35-CL-179	17/35 C/L	L-850A(L)	L-868	O/R	1,2,3,4,5,6
17-35-CL-180	17/35 C/L	L-850A(L)	L-868	O/R	1,2,3,4,5,6
17-35-CL-181	17/35 C/L	L-850A(L)	L-868	O/R	1,2,3,4,5,6
17-35-CL-182	17/35 C/L	L-850A(L)	L-868	O/R	1,2,3,4,5,6
17-35-CL-183	17/35 C/L	L-850A(L)	L-868	O/R	1,2,3,4,5,6

NOTES:

1. ALL NEW FIXTURES WILL BE INSTALLED AT THE SAME LOCATIONS AS EXISTING FIXTURES BEING REPLACED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING FIXTURES PRIOR TO REMOVAL.
2. ALL NEW SEMI-FLUSH IN-PAVEMENT FIXTURES SHALL BE PROVIDED WITH A NEW SNOW PLOW RING.
3. LIGHT FIXTURES SHALL BE PROVIDED WITH FIXTURE IDENTIFICATION PER THE DETAILS ON SHEET E-401.
4. PROVIDE NEW L-830 ISOLATION TRANSFORMERS FOR ALL NEW FIXTURES. SIZE SHALL BE PER MANUFACTURER RECOMMENDATIONS.
5. ALL NEW SEMI-FLUSH IN-PAVEMENT LIGHT FIXTURES SHALL INCLUDE HEATERS.
6. PROVIDE ENGRAVED FIXTURE ID NUMBERS ON ALL SEMI-FLUSH LIGHT FIXTURE SNOW PLOW RINGS. SEE DETAIL ON DRAWING E-402.

LENS COLOR LEGEND	
W	WHITE/CLEAR
Y	YELLOW/AMBER
R	RED
G	GREEN
O	OBSCURED

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17-35 CENTERLINE LIGHT FIXTURE SCHEDULE

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-501
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT R/W 17-35\700 CADD\E501_E505 - Light Fixture Schedules.dwg [E501] March 09, 2022 - 10:19am [panasub]

R/W 17-35 EDGE LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-35-HIRL-S-E-1	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-E-2	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-E-3	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-E-4	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-E-5	17/35 EDGE SOUTH	L-862(L)	L-867	Y/R	1,3,4
17-35-HIRL-S-E-6	17/35 EDGE SOUTH	L-862(L)	L-867	Y/R	1,3,4
17-35-HIRL-S-E-7	17/35 EDGE SOUTH	L-862(L)	L-867	Y/R	1,3,4
17-35-HIRL-S-E-8	17/35 EDGE SOUTH	L-862(L)	L-867	Y/R	1,3,4
17-35-HIRL-S-E-9	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-E-10	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-E-11	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-E-12	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-E-13	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-14	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-15	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-16	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-17	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-18	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-19	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-E-20	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-21	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-E-22	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-23	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-24	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-25	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-26	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-E-27	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-E-28	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-29	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-30	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-E-31	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-1	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-W-2	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-W-3	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-W-4	17/35 EDGE SOUTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-S-W-5	17/35 EDGE SOUTH	L-850C(L)	L-868	Y/R	1,2,3,4,5,8
17-35-HIRL-S-W-6	17/35 EDGE SOUTH	L-850C(L)	L-868	Y/R	1,2,3,4,5,8
17-35-HIRL-S-W-7	17/35 EDGE SOUTH	L-862(L)	L-867	Y/R	1,3,4
17-35-HIRL-S-W-8	17/35 EDGE SOUTH	L-862(L)	L-867	Y/R	1,3,4
17-35-HIRL-S-W-9	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-W-10	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-W-11	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-W-12	17/35 EDGE SOUTH	L-862E(L)	L-867	R/G	1,3,4
17-35-HIRL-S-W-13	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-14	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-15	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-16	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-17	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-18	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-19	17/35 EDGE SOUTH	L-862(L)	L-867	Y/W	1,3,4
17-35-HIRL-S-W-20	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-21	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-W-22	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-W-23	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-24	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-25	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-26	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-W-27	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-S-W-28	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-29	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-30	17/35 EDGE SOUTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-S-W-31	17/35 EDGE SOUTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8

R/W 17-35 EDGE LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-35-HIRL-N-E-1	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-E-2	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-E-3	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-E-4	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-E-5	17/35 EDGE NORTH	L-850C(L)	L-868	R/Y	1,2,3,4,5,8
17-35-HIRL-N-E-6	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-E-7	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-E-8	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-E-9	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-E-10	17/35 EDGE NORTH	L-850C(L)	L-868	W/Y	1,2,3,4,5,8
17-35-HIRL-N-E-11	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-12	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-13	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-14	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-15	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-16	17/35 EDGE NORTH	L-850C(L)	L-868	W/Y	1,2,3,4,5,8
17-35-HIRL-N-E-17	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-18	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-19	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-E-20	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-21	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-22	17/35 EDGE NORTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-N-E-23	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-24	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-25	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-26	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-27	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-28	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-29	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-30	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-E-31	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-1	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-W-2	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-W-3	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-W-4	17/35 EDGE NORTH	L-862E(L)	L-867	R/R	1,3,4
17-35-HIRL-N-W-5	17/35 EDGE NORTH	L-862(L)	L-867	R/Y	1,3,4
17-35-HIRL-N-W-6	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-W-7	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-W-8	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-W-9	17/35 EDGE NORTH	L-862E(L)	L-867	G/R	1,3,4
17-35-HIRL-N-W-10	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-11	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-12	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-13	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-14	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-15	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-16	17/35 EDGE NORTH	L-850C(L)	L-868	W/Y	1,2,3,4,5,8
17-35-HIRL-N-W-17	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-18	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-19	17/35 EDGE NORTH	L-862(L)	L-867	W/Y	1,3,4
17-35-HIRL-N-W-20	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-21	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-22	17/35 EDGE NORTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-N-W-23	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-24	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-25	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-26	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-27	17/35 EDGE NORTH	L-850C(L)	L-868	W/W	1,2,3,4,5,8
17-35-HIRL-N-W-28	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-29	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-30	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4
17-35-HIRL-N-W-31	17/35 EDGE NORTH	L-862(L)	L-867	W/W	1,3,4

TAXIWAY CENTERLINE BASE CAN SCHEDULE

LIGHT ID	STATION	OFFSET	MOUNTING TYPE	SEE NOTE
K1-CL-1	10+58.57	57.961 LT	L-868	2,6,7
K1-CL-2	10+72.53	40.921 LT	L-868	2,6,7
K1-CL-3	10+89.66	27.105 LT	L-868	2,6,7
K1-CL-4	11+08.97	16.499 LT	L-868	2,6,7
K1-CL-5	11+30.07	10.105 LT	L-868	2,6,7
K1-CL-6	11+52.00	7.801 LT	L-868	2,6,7
A1-CL-1	101+84.43	64.549 RT	L-868	2,6,7
A1-CL-2	101+68.89	46.351 RT	L-868	2,6,7
A1-CL-3	101+50.70	30.808 RT	L-868	2,6,7
A1-CL-4	101+30.29	18.303 RT	L-868	2,6,7
A1-CL-5	101+08.19	9.143 RT	L-868	2,6,7
A1-CL-6	100+84.92	3.555 RT	L-868	2,6,7
A1-CL-7	100+61.06	1.675 RT	L-868	2,6,7
B-CL-1	38+07.09	40.397 LT	L-868	2,6,7
B-CL-2	38+07.08	1.064 LT	L-868	2,6,7
B-CL-3	38+07.08	38.269 RT	L-868	2,6,7
F-CL-1	76+36.57	68.000 LT	L-868	2,6,7
F-CL-2	76+36.70	21.542 LT	L-868	2,6,7
F-CL-3	76+36.82	24.909 RT	L-868	2,6,7
F-CL-4	76+36.95	71.367 RT	L-868	2,6,7

FIELD LIGHTNING ARRESTOR SCHEDULE

FLA ID	STATION	OFFSET	CIRCUIT	SEE NOTE
FLA-17-35-CL1	96+23.97	-90' LT	17/35 C/L	6
FLA-17-35-CL2	78+20.96	-90' LT	17/35 C/L	6
FLA-17-35-CL3	56+24.50	-90' LT	17/35 C/L	6
FLA-17-35-CL4	36+16.33	-90' LT	17/35 C/L	6
FLA-17-35-CL5	16+21.16	-90' LT	17/35 C/L	6
FLA-17-35-ES1	94+70.13	-90' LT	17/35 EDGE SOUTH	6
FLA-17-35-ES2	94+70.13	90' RT	17/35 EDGE SOUTH	6
FLA-17-35-ES3	80+88.89	-90' LT	17/35 EDGE SOUTH	6
FLA-17-35-ES4	80+88.89	90' RT	17/35 EDGE SOUTH	6
FLA-17-35-ES5	61+17.51	-90' LT	17/35 EDGE SOUTH	6
FLA-17-35-ES6	61+17.51	90' RT	17/35 EDGE SOUTH	6
FLA-17-35-EN1	51+31.26	-90' LT	17/35 EDGE NORTH	6
FLA-17-35-EN2	51+31.26	90' RT	17/35 EDGE NORTH	6
FLA-17-35-EN3	35+53.77	-90' LT	17/35 EDGE NORTH	6
FLA-17-35-EN4	35+53.77	90' RT	17/35 EDGE NORTH	6
FLA-17-35-EN5	19+76.28	-90' LT	17/35 EDGE NORTH	6
FLA-17-35-EN6	19+76.28	90' RT	17/35 EDGE NORTH	6
FLA-17-TDZ1	36+24.65	-90' LT	17 TDZ	6
FLA-17-TDZ2	36+24.65	90' RT	17 TDZ	6
FLA-17-TDZ3	21+25.07	-90' LT	17 TDZ	6
FLA-17-TDZ4	21+25.07	90' RT	17 TDZ	6
FLA-35-TDZ1	86+24.81	-90' LT	35 TDZ	6
FLA-35-TDZ2	86+24.81	90' RT	35 TDZ	6
FLA-35-TDZ3	71+24.49	-90' LT	35 TDZ	6
FLA-35-TDZ4	71+24.49	90' RT	35 TDZ	6

LENS COLOR LEGEND

W	WHITE/CLEAR
Y	YELLOW/AMBER
R	RED
G	GREEN

NOTES:

1. ALL NEW FIXTURES WILL BE INSTALLED AT THE SAME LOCATIONS AS EXISTING FIXTURES BEING REPLACED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING FIXTURES PRIOR TO REMOVAL.
2. ALL NEW SEMI-FLUSH IN-PAVEMENT FIXTURES SHALL BE PROVIDED WITH A NEW SNOW PLOW RING.
3. LIGHT FIXTURES SHALL BE PROVIDED WITH FIXTURE IDENTIFICATION PER THE DETAILS ON SHEET E-401.
4. PROVIDE NEW L-830 ISOLATION TRANSFORMERS FOR ALL NEW FIXTURES. SIZE SHALL BE PER MANUFACTURER RECOMMENDATIONS.
5. ALL NEW SEMI-FLUSH IN-PAVEMENT LIGHT FIXTURES SHALL INCLUDE HEATERS.
6. STATION AND OFFSET ARE TAKEN FROM RUNWAY 17-35 CENTERLINE
7. PROVIDE 3/4" STEEL COVER
8. PROVIDE ENGRAVED FIXTURE ID NUMBERS ON ALL SEMI-FLUSH LIGHT FIXTURE SNOW PLOW RINGS. SEE DETAIL ON DRAWING E-402.
9. FINAL LAYOUT OF ALL NEW BLANK BASE CANS FOR FUTURE TAXIWAY CENTERLINE LIGHT FIXTURES SHALL BE APPROVED BY THE RPR PRIOR TO INSTALLATION.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

RUNWAY 17-35 EDGE LIGHT FIXTURE SCHEDULE

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-502
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E501_E505 - Light Fixture Schedules.dwg [E502] March 09, 2022 - 10:33am [panasub]

R/W 17 TDZ LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-TDZ-R1-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R1-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R1-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R1-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R1-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R1-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R2-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R2-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R2-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R2-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R2-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R2-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R3-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R3-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R3-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R3-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R3-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R3-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R4-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R4-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R4-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R4-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R4-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R4-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R5-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R5-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R5-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R5-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R5-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R5-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R6-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R6-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R6-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R6-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R6-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R6-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R7-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R7-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R7-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R7-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R7-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R7-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R8-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R8-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R8-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R8-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R8-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R8-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R9-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R9-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R9-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R9-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R9-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R9-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R10-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R10-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R10-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R10-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R10-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R10-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R11-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R11-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R11-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R11-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R11-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R11-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R12-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R12-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R12-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R12-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R12-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R12-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R13-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R13-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R13-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6

R/W 17 TDZ LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-TDZ-R13-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R13-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R13-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R14-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R14-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R14-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R14-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R14-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R14-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R15-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R15-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R15-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R15-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R15-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R15-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R16-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R16-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R16-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R16-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R16-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R16-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R17-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R17-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R17-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R17-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R17-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R17-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R18-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R18-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R18-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R18-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R18-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R18-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R19-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R19-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R19-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R19-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R19-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R19-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R20-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R20-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R20-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R20-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R20-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R20-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R21-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R21-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R21-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R21-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R21-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R21-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R22-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R22-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R22-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R22-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R22-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R22-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R23-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R23-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R23-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R23-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R23-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R23-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R24-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R24-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R24-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R24-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R24-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R24-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R25-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R25-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R25-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R25-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R25-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R25-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6

R/W 17 TDZ LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
17-TDZ-R26-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R26-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R26-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R26-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R26-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R26-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R27-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R27-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R27-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R27-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R27-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R27-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R28-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R28-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R28-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R28-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R28-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R28-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R29-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R29-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R29-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R29-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R29-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R29-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R30-L1	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R30-L2	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R30-L3	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R30-L4	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R30-L5	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
17-TDZ-R30-L6	17 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6

NOTES:

1. ALL NEW FIXTURES WILL BE INSTALLED AT THE SAME LOCATIONS AS EXISTING FIXTURES BEING REPLACED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING FIXTURES PRIOR TO REMOVAL.
2. ALL NEW SEMI-FLUSH IN-PAVEMENT FIXTURES SHALL BE PROVIDED WITH A NEW SNOW PLOW RING.
3. LIGHT FIXTURES SHALL BE PROVIDED WITH FIXTURE IDENTIFICATION PER THE DETAILS ON SHEET E-401.
4. PROVIDE NEW L-830 ISOLATION TRANSFORMERS FOR ALL NEW FIXTURES. SIZE SHALL BE PER MANUFACTURER RECOMMENDATIONS.
5. ALL NEW SEMI-FLUSH IN-PAVEMENT LIGHT FIXTURES SHALL INCLUDE HEATERS.
6. PROVIDE ENGRAVED FIXTURE ID NUMBERS ON ALL SEMI-FLUSH LIGHT FIXTURE SNOW PLOW RINGS. SEE DETAIL ON DRAWING E-402.

LENS COLOR LEGEND

W	WHITE/CLEAR
Y	YELLOW/AMBER
R	RED
G	GREEN

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 17 TDZ
LIGHT FIXTURE SCHEDULE

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-503
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E501_E505 - Light Fixture Schedules.dwg [E503] March 08, 2022 - 1:57pm [saign]

R/W 35 TDZ LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
35-TDZ-R1-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R1-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R1-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R1-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R1-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R1-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R2-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R2-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R2-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R2-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R2-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R2-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R3-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R3-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R3-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R3-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R3-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R3-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R4-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R4-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R4-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R4-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R4-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R4-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R5-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R5-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R5-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R5-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R5-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R5-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R6-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R6-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R6-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R6-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R6-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R6-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R7-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R7-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R7-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R7-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R7-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R7-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R8-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R8-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R8-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R8-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R8-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R8-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R9-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R9-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R9-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R9-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R9-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R9-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R10-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R10-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R10-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R10-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R10-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R10-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R11-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R11-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R11-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R11-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R11-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R11-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R12-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R12-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R12-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R12-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R12-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R12-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R13-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R13-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R13-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6

R/W 35 TDZ LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
35-TDZ-R13-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R13-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R13-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R14-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R14-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R14-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R14-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R14-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R14-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R15-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R15-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R15-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R15-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R15-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R15-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R16-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R16-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R16-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R16-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R16-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R16-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R35-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R35-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R35-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R35-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R35-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R35-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R18-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R18-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R18-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R18-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R18-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R18-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R19-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R19-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R19-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R19-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R19-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R19-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R20-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R20-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R20-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R20-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R20-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R20-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R21-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R21-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R21-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R21-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R21-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R21-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R22-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R22-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R22-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R22-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R22-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R22-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R23-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R23-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R23-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R23-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R23-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R23-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R24-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R24-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R24-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R24-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R24-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R24-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R25-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R25-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R25-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R25-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R25-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R25-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6

R/W 35 TDZ LIGHT FIXTURE SCHEDULE

LIGHT ID	CIRCUIT	FIXTURE TYPE	MOUNTING TYPE	LENS	SEE NOTE
35-TDZ-R26-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R26-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R26-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R26-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R26-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R26-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R27-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R27-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R27-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R27-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R27-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R27-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R28-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R28-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R28-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R28-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R28-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R28-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R29-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R29-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R29-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R29-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R29-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R29-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R30-L1	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R30-L2	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R30-L3	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R30-L4	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R30-L5	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6
35-TDZ-R30-L6	35 TDZ	L-850B(L)	L-868	W	1,2,3,4,5,6

NOTES:

1. ALL NEW FIXTURES WILL BE INSTALLED AT THE SAME LOCATIONS AS EXISTING FIXTURES BEING REPLACED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING FIXTURES PRIOR TO REMOVAL.
2. ALL NEW SEMI-FLUSH IN-PAVEMENT FIXTURES SHALL BE PROVIDED WITH A NEW SNOW PLOW RING.
3. LIGHT FIXTURES SHALL BE PROVIDED WITH FIXTURE IDENTIFICATION PER THE DETAILS ON SHEET E-401.
4. PROVIDE NEW L-830 ISOLATION TRANSFORMERS FOR ALL NEW FIXTURES. SIZE SHALL BE PER MANUFACTURER RECOMMENDATIONS.
5. ALL NEW SEMI-FLUSH IN-PAVEMENT LIGHT FIXTURES SHALL INCLUDE HEATERS.
6. PROVIDE ENGRAVED ID NUMBERS ON ALL SEMI-FLUSH LIGHT FIXTURE SNOW PLOW RINGS. SEE DETAIL ON DRAWING E-402.

LENS COLOR LEGEND

W	WHITE/CLEAR
Y	YELLOW/AMBER
R	RED
G	GREEN

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE:	NTS
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	BTP
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

RUNWAY 35 TDZ
LIGHT FIXTURE SCHEDULE

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-504
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E501_E505 - Light Fixture Schedules.dwg [E504] March 08, 2022 - 1:57pm [saign]

GUIDANCE SIGN SCHEDULE

SIGN NO.	SIGN MESSAGE	PANEL(S) COLOR (LETTERING/BACKGROUND)	ARROW ORIENTATION	SIGN SIZE	SIGN STYLE	SIGN CIRCUIT	ISOLATION XFMR. SIZE	NO. OF MODULES	SHEET REF.	RW 17-35 BASELINE STATION	OFFSET	NOTES
35N! 4	35-17	W/R	-	3	3	17/35 EDGE N	100W	2	E-202	23+40.30	-238.51' L	
35N! 5	35-17	W/R	-	3	3	17/35 EDGE N	100W	2	E-202	25+50.63	-332.54' L	
35N! 6	17-35	W/R	-	3	3	17/35 EDGE N	100W	2	E-202	25+95.47	332.35' R	
35N! 7	17-35	W/R	-	3	3	17/35 EDGE N	100W	2	E-202	28+5.15	236.81' R	
35N! 10	B 17-35 B	Y/B:B/Y Y/B:W/R	-	3	3	17/35 EDGE N	100W	3	E-203	N/A	N/A	1
35N! 11	B 17-35 B	W/R:Y/B B/Y:Y/B	-	3	3	17/35 EDGE N	100W	3	E-203	N/A	N/A	1
35N! 15	A3 17-35 A3	Y/B:B/Y Y/B:W/R	-	3	3	17/35 EDGE N	100W	3	E-204	45+74.71	251' R	
35N! 17	D 17-35 D	Y/B:B/Y Y/B:W/R	-	3	3	17/35 EDGE N	100W	3	E-204	55+94.97	251' R	
35N 8	B	B/Y	90° LT	3	3	17/35 EDGE N	100W	1	E-203	N/A	N/A	1
35N 9	B	B/Y	90° RT	3	3	17/35 EDGE N	100W	1	E-203	N/A	N/A	1
35N 12	B	B/Y	90° RT	3	3	17/35 EDGE N	100W	1	E-203	N/A	N/A	1
35N 13	B	B/Y	90° LT	3	3	17/35 EDGE N	100W	1	E-203	N/A	N/A	1
35N 14	A3	B/Y	90° RT	3	3	17/35 EDGE N	100W	2	E-204	45+19.86	115' R	
35N 16	A3	B/Y	90° LT	3	3	17/35 EDGE N	100W	2	E-204	48+39.88	115' R	
35S! 1	E 17-35 E	B/Y:Y/B W/R:Y/B	-	3	3	17/35 EDGE S	100W	3	E-205	67+81.29	-251' L	
35S! 6	F 17-35 F	B/Y:Y/B W/R:Y/B	-	3	3	17/35 EDGE S	100W	3	E-206	77+43.92	-251' L	
AN 7	D	B/Y	90° RT	3	3	17/35 EDGE N	100W	1	E-204	55+38.46	115' R	
AN 8	D	B/Y	90° LT	3	3	17/35 EDGE S	100W	1	E-205	58+58.45	115' R	
H 13	E	B/Y	90° LT	3	3	17/35 EDGE S	100W	1	E-205	65+15.53	-115' L	
H 15	E	B/Y	90° RT	3	3	17/35 EDGE S	100W	1	E-205	68+35.53	-115' L	
H 18	F	B/Y	90° LT	3	3	17/35 EDGE S	100W	1	E-206	74+79.23	-115' L	
H 19	F	B/Y	90° RT	3	3	17/35 EDGE S	100W	1	E-206	77+99.22	-115' L	

GUIDANCE SIGN SCHEDULE

SIGN NO.	SIGN MESSAGE	PANEL(S) COLOR (LETTERING/BACKGROUND)	ARROW ORIENTATION	SIGN SIZE	SIGN STYLE	SIGN CIRCUIT	ISOLATION XFMR. SIZE	NO. OF MODULES	SHEET REF.	RW 17-35 BASELINE STATION	OFFSET	NOTES
RDR-1	8 1	W/B	-	4	3	17/35 EDGE S	100W	1	E-207	91+24.57	126' R	
RDR-2	7 2	W/B	-	4	3	17/35 EDGE S	100W	1	E-206	81+24.74	126' R	
RDR-3	9 3	W/B	-	4	3	17/35 EDGE S	100W	1	E-206	71+24.58	126' R	
RDR-4	5 4	W/B	-	4	3	17/35 EDGE S	100W	1	E-205	61+24.91	126' R	
RDR-5	4 5	W/B	-	4	3	17/35 EDGE N	100W	1	E-204	51+25.52	126' R	
RDR-6	3 9	W/B	-	4	3	17/35 EDGE N	100W	1	E-203	41+23.59	126' R	
RDR-7	2 7	W/B	-	4	3	17/35 EDGE N	100W	1	E-202	31+24.11	126' R	
RDR-8	1 8	W/B	-	4	3	17/35 EDGE N	100W	1	E-202	21+24.64	126' R	
RDR-9	1 8	W/B	-	4	3	17/35 EDGE N	100W	1	E-202	21+24.64	-126' L	
RDR-10	2 7	W/B	-	4	3	17/35 EDGE N	100W	1	E-202	31+24.11	-126' L	
RDR-11	3 9	W/B	-	4	3	17/35 EDGE N	100W	1	E-203	41+23.59	-126' L	
RDR-12	4 5	W/B	-	4	3	17/35 EDGE N	100W	1	E-204	51+25.52	-126' L	
RDR-13	5 4	W/B	-	4	3	17/35 EDGE S	100W	1	E-205	61+24.91	-126' L	
RDR-14	9 3	W/B	-	4	3	17/35 EDGE S	100W	1	E-206	71+24.58	-126' L	
RDR-15	7 2	W/B	-	4	3	17/35 EDGE S	100W	1	E-206	81+24.74	-126' L	
RDR-16	8 1	W/B	-	4	3	17/35 EDGE S	100W	1	E-207	91+24.57	-126' L	

SIGN GENERAL NOTES:

1. PROVIDE NEW L-830 6.6A/6.6A ISOLATION TRANSFORMERS FOR ALL NEW SIGNS. SIZE TRANSFORMER PER MANUFACTURER RECOMMENDATIONS.
2. PROVIDE SIGN OPTIONS AS SHOWN IN SPECIFICATIONS.
3. FINAL QUANTITY OF MODULES PER MANUFACTURER'S REQUIREMENT.
4. ARROWS INDICATE THE DIRECTION OF TAXIWAYS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE DIRECTIONAL ARROWS ON ANGLED TAXIWAYS MATCHES THE CENTERLINE OF THE REFERENCED TAXIWAY.
5. STATION/OFFSET COORDINATES ARE PROVIDED FOR GENERAL GUIDANCE ON SIGN PLACEMENT. SIGN REFERENCE POINT LOCATION SHALL BE PLACED AT THE DISTANCE FROM EDGE OF PAVEMENT AS INDICATED ON THE DETAILS OR AS MODIFIED IN THE NOTES BELOW. SIGN LOCATIONS SHALL BE APPROVED BY THE RPR PRIOR TO CONSTRUCTION.

SIGN NOTES:

1. INSTALL NEW SIGN ON EXISTING FOUNDATION.

SIGN COLOR LEGEND

W - WHITE
R - RED
B - BLACK
Y - YELLOW

W/R
CHARACTER COLOR — BACKGROUND COLOR

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 781/687-7800
FAX: 603/ 668-7865

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: JPH
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35
GUIDANCE SIGN SCHEDULE

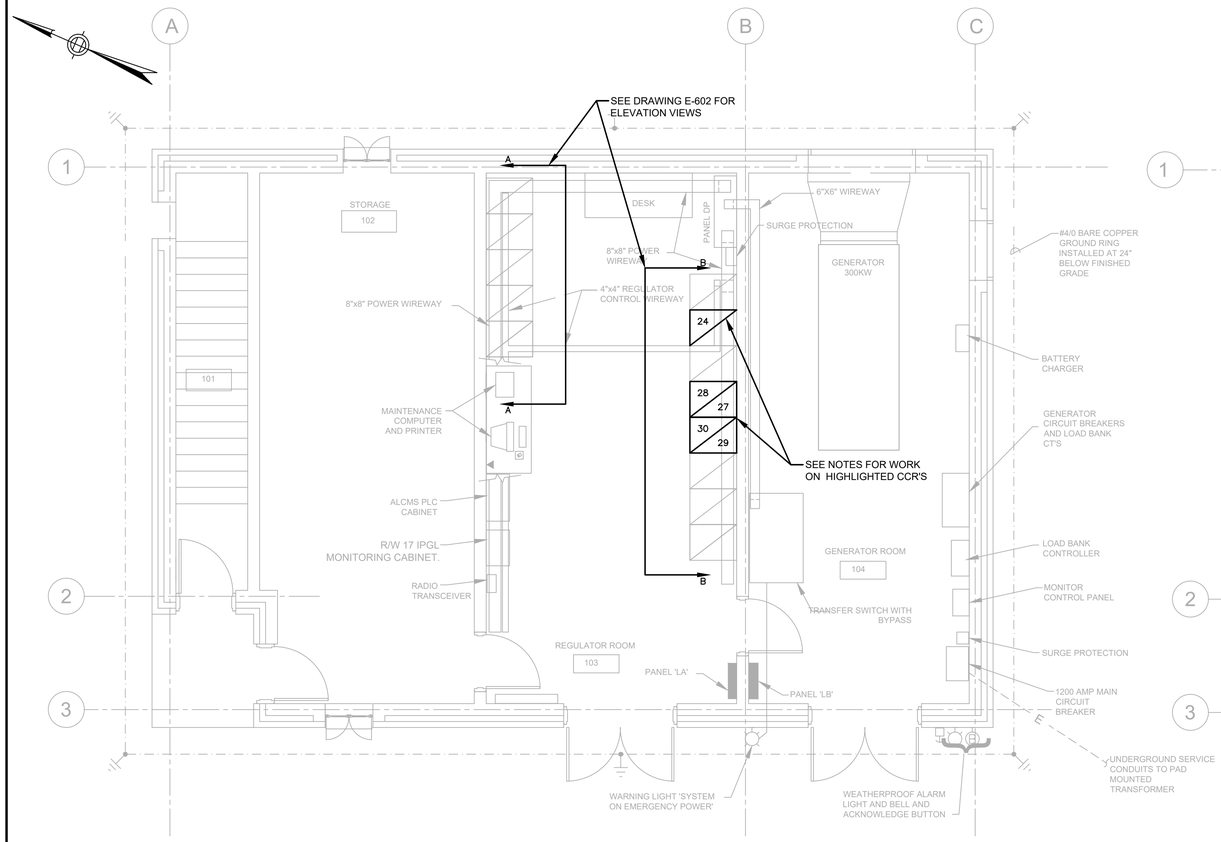
REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:
DRAWING NO.
E-505
REV

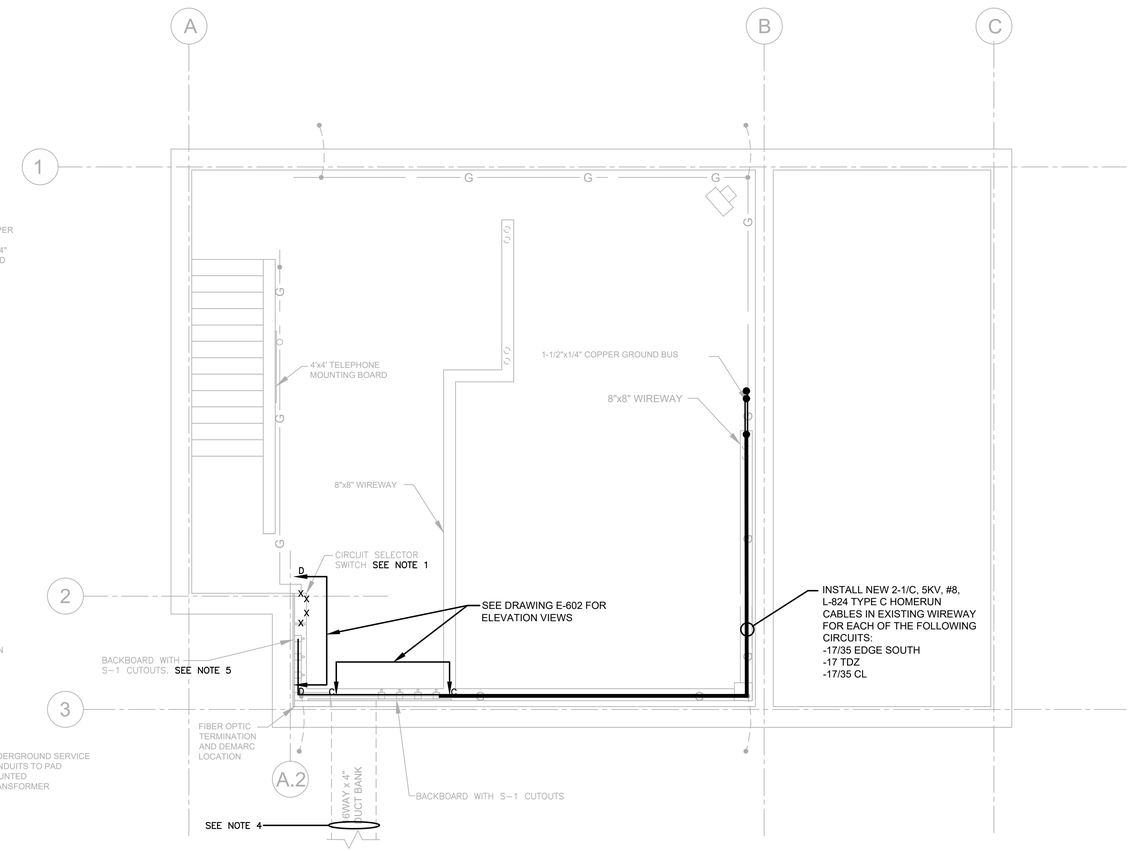
ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E501_E505 - Light Fixture Schedules.dwg [E505] March 08, 2022 - 1:57pm [sagrl]



GRADE LEVEL ELECTRICAL PLAN

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



BASEMENT LEVEL ELECTRICAL PLAN

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

NOTES:

1. DISCONNECT AND REMOVE EXISTING CIRCUIT SELECTOR SWITCH
2. LOCKOUT/TAGOUT THE APPROPRIATE CONSTANT CURRENT REGULATOR PRIOR TO PERFORMING WORK ON ANY CIRCUIT.
3. NEW L-824 CABLES SHALL CONFORM TO THE CABLE COLOR SCHEDULE ON THIS DRAWING.
4. NEW HOMERUN CABLES SHALL BE INSTALLED IN (1) EMPTY 4"C.
5. CONTRACTOR SHALL REPLACE L-824 CABLE BACK TO S-1 CUTOUT. SEE DETAILS ON DRAWING E-602.
6. ADJUST THE OUTPUT TAPS ON THE RW 17/35 EDGE NORTH AND RW 17/35 EDGE SOUTH CONSTANT CURRENT REGULATORS TO ACCOUNT FOR THE DECREASED LOAD REQUIREMENTS OF THE NEW LED FIXTURES. CONSULT THE MANUFACTURER (ADB SAFEGATE) FOR THE PROPER PROCEDURE FOR ADJUSTING THE OUTPUT TAPS. PROVIDE PLACARD STATING CCR OUTPUT CAPACITY AFTER TAPPING IS COMPLETE. MOUNT PLACARD TO FRONT FACE OF CCR.

REPLACEMENT CABLE COLOR SCHEDULE	
CIRCUIT	COLOR
RUNWAY 17/35 CENTERLINE	FEED: PURPLE, RETURN: BLACK W/ PURPLE TRACER
RUNWAY 17/35 EDGE SOUTH	BLACK W/ ORANGE TRACER
RUNWAY 17 TDZ	BLACK W/ YELLOW TRACER

CONSTANT CURRENT REGULATOR INDEX

CCR NO.	CCR DESCRIPTION	SIZE (KW)	CONTROL POWER (INT)	OUTPUT CURRENT (AMP)	STEPS USED B1 (B10)	B2 (B30)	B3 (B100)	B4	B5	OUTPUT STEPS	MANUFACTURER	TYPE	NOTES	INPUT VOLTAGE	MONITORING
1	ETHERNET CABINET	N/A													
2	RUNWAY 06/24 EDGE	30	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	-	208	L-829
3	TAXIWAY J/Z	20	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
4	TAXIWAY A NORTH	15	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
5	TAXIWAY G CENTERLINE	20	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
6	TAXIWAY M EDGE & CENTERLINE	15	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
7	RUNWAY 06/24 RGL	7.5	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
8	TAXIWAY H,L EDGE	10	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
9	LOADBANK EQUIPMENT	N/A	120 VAC	6.6	X	X	X	X	X	5	ADB	L-829	-	208	L-829
10	RUNWAY 06/24 CENTERLINE	20	120 VAC	6.6	X	X	X	X	X	3	LIBERTY	L-829	-	208	L-829
21	ETHERNET CABINET	N/A													
22	BATTERY UPS	N/A													
23	TAXIWAY E EDGE	15	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
24	35 TDZ	15	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	NOTE 2	208	L-829
25	TAXIWAY H EDGE	15	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
26	TAXIWAY A CENTERLINE NORTH	15	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	-	208	L-829
27	17 TDZ	15	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	NOTE 2	208	L-829
28	RUNWAY 17/35 CENTERLINE	30	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	NOTE 2	208	L-829
29	RUNWAY 17/35 EDGE SOUTH	20	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	NOTE 2	208	L-829
30	RUNWAY 17/35 EDGE NORTH	20	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	NOTE 2	208	L-829
31	SPARE	30	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	-	208	L-829
32	TAXIWAY A SOUTH	15	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
33	RUNWAY 17/35 ERGL	10	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
34	SPARE	20	120 VAC	6.6	X	X	X	X	X	5	LIBERTY	L-829	-	208	L-829
35	IPRGL MONITORING	N/A													
36	RUNWAY 17 IPGL	7.5	120 VAC	6.6	X	X	X			3	ADB	L-829	3,8	208	L-829
37	TAXIWAY A SOUTH/HOTEL CENTERLINE	30	120 VAC	6.6	X	X	X			3	LIBERTY	L-829	-	208	L-829
38	RUNWAY 35 IPGL	30													

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-666-7781
FAX: 6639 666-7785

SCALE: AS SHOWN
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

AIRFIELD LIGHTING VAULT PLAN

REVISIONS

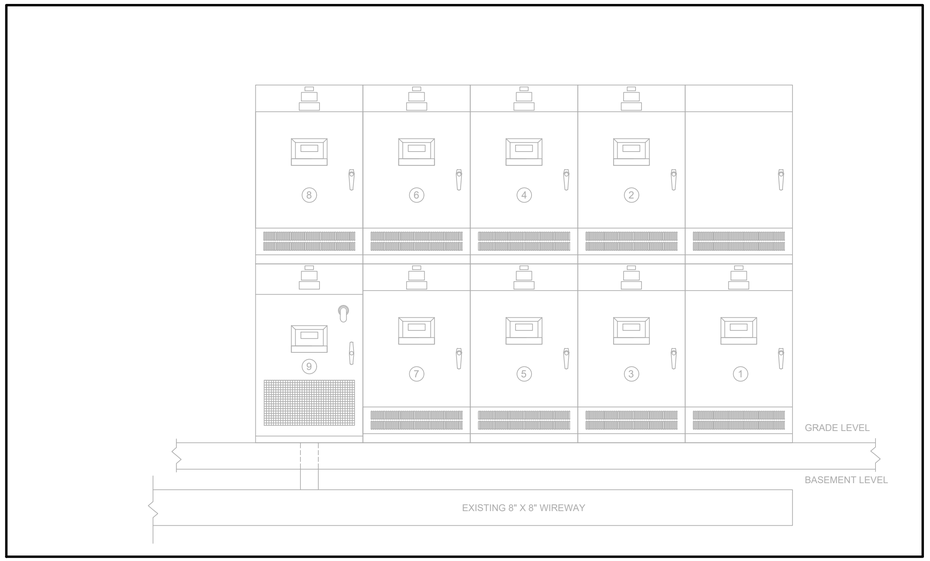
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

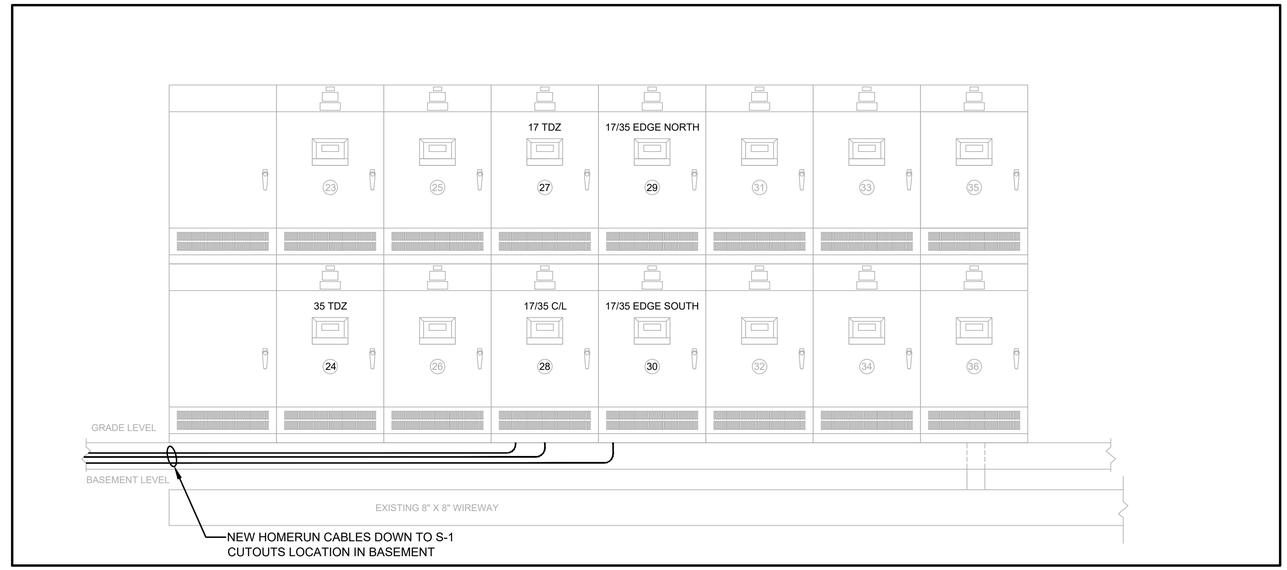
DRAWING NO.
E-601
REV X

ISSUED FOR BID - NOT FOR CONSTRUCTION

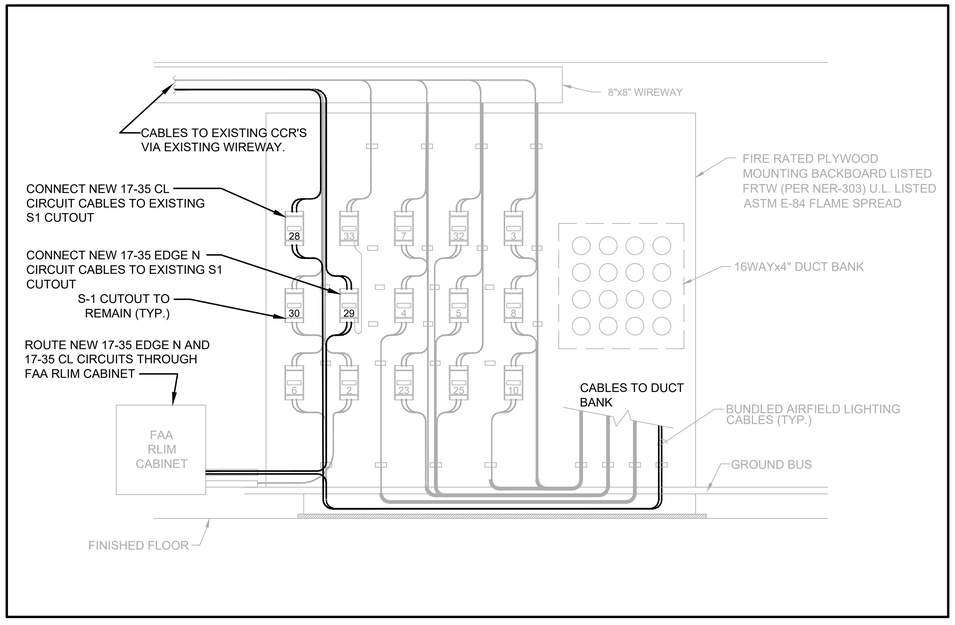
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E601_E602 Electrical Vault Plan.dwg [E601] March 08, 2022 - 1:58pm [sagri]



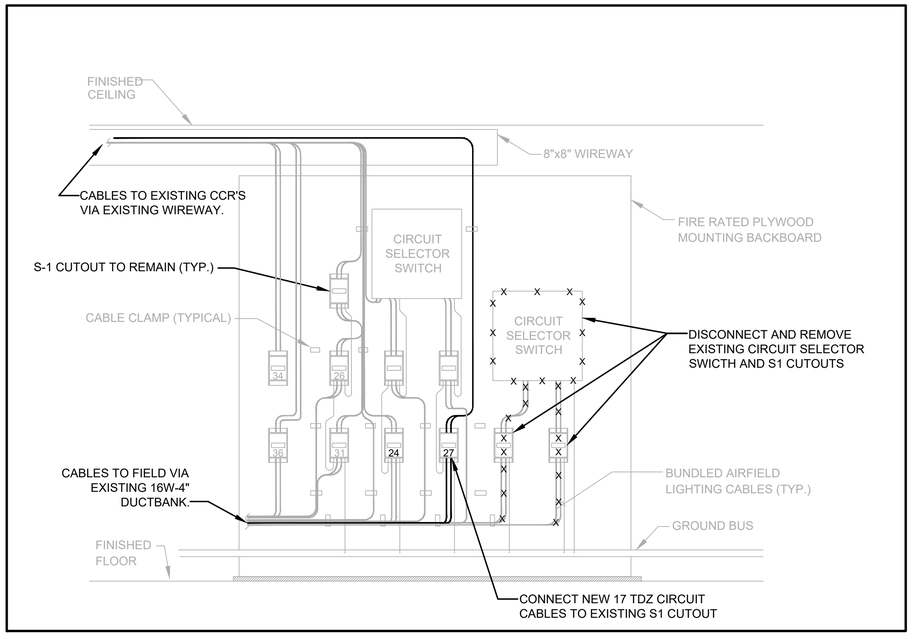
ELEVATION A-A
NOT TO SCALE



ELEVATION B-B
NOT TO SCALE



ELEVATION C-C
NOT TO SCALE



ELEVATION D-D
BASEMENT S-1 CUTOUT BACKBOARD DETAIL
NOT TO SCALE

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: BTP
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON
REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

AIRFIELD LIGHTING VAULT PLAN
VAULT DETAILS

REVISIONS

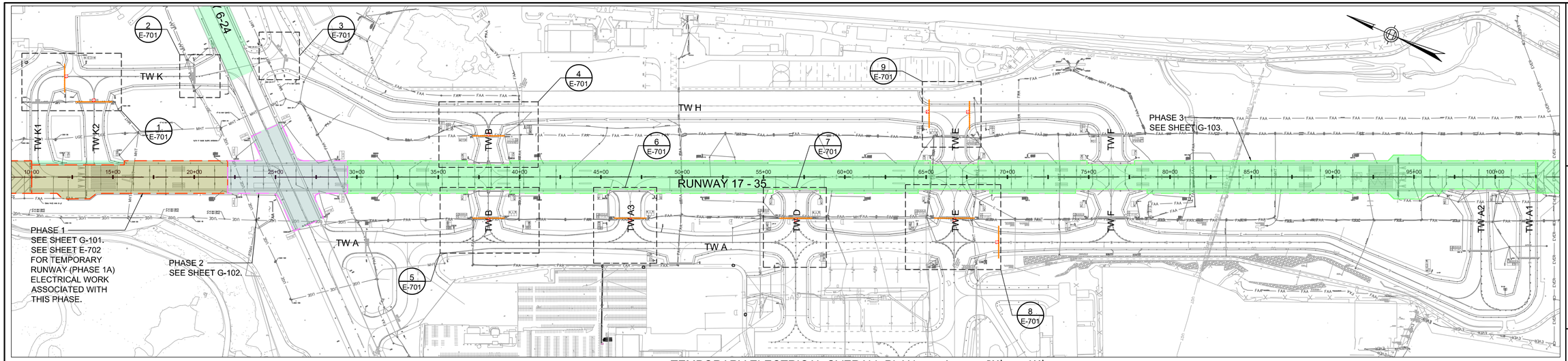
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205
JE FILE:

DRAWING NO.
E-602
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

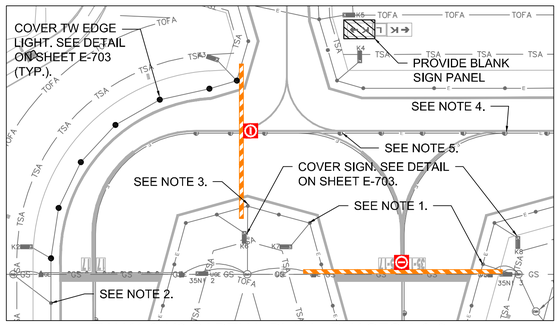
Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E601_E602 Electrical Vault Plan.dwg [E602] March 08, 2022 - 1:59pm [sagri]



TEMPORARY ELECTRICAL OVERALL PLAN

SCALE: 1"=300'

0 300' 600'

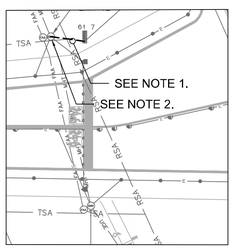


1 TW K1 & K2 PARTIAL PLAN - PHASES 1 & 2

SCALE: 1"=80'

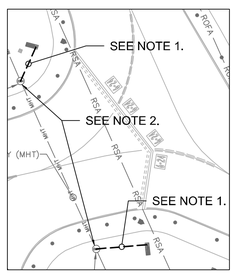
NOTES: (APPLICABLE TO PARTIAL PLAN 1)

1. DISCONNECT TW K EDGE LIGHT CIRCUIT CABLES SERVING FIXTURES ON TW K2 FROM THIS POINT TO RW 17-35.
2. DISCONNECT TW K EDGE LIGHT CIRCUIT CABLES SERVING FIXTURES ON NORTH SIDE OF TW K1 FROM THIS POINT TO RW 17-35.
3. DISCONNECT TW K EDGE LIGHT CIRCUIT CABLES SERVING FIXTURES ON SOUTH SIDE OF TW K1.
4. DISCONNECT TW K CENTERLINE LIGHT CIRCUIT CABLES SERVING FIXTURES ON TW K2 FROM THIS POINT TOWARD RW 17-35.
5. DISCONNECT TW K CENTERLINE LIGHT CIRCUIT CABLES SERVING FIXTURES ON TW K & TW K1 FROM THIS POINT TOWARD RW 17-35.



2 TW K PARTIAL PLAN - PHASE 2

SCALE: 1"=80'

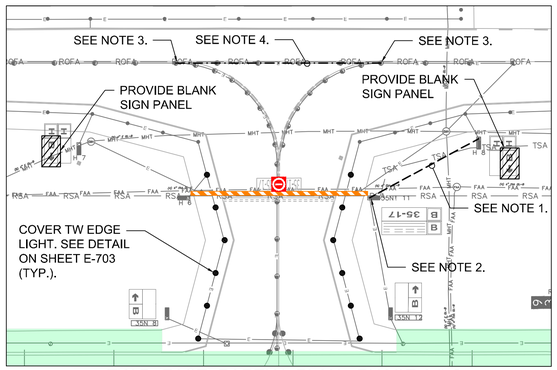


3 TW K PARTIAL PLAN - PHASE 2

SCALE: 1"=80'

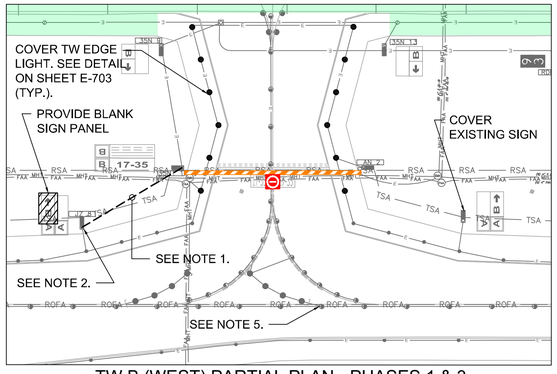
NOTES (APPLICABLE TO PARTIAL PLANS 2 & 3):

1. INSTALL 2-1/C, #8, 5KV, L-824, TYPE C CABLE - DIRECT BURIED
2. CONNECT TEMPORARY CABLES TO EXISTING TW K EDGE CIRCUIT IN EXISTING MANHOLE TO TEMPORARILY POWER MANDATORY HOLD SIGN WHILE RW 6-24 EDGE CIRCUIT IS OUT OF SERVICE.



4 TW B (EAST) PARTIAL PLAN - PHASE 1 & 3

SCALE: 1"=80'

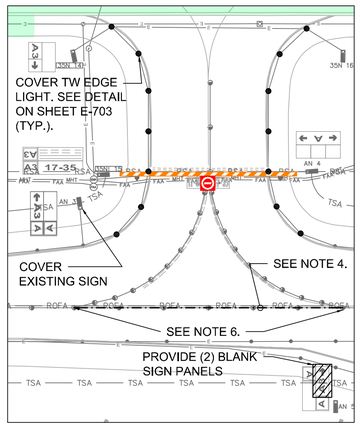


5 TW B (WEST) PARTIAL PLAN - PHASES 1 & 3

SCALE: 1"=80'

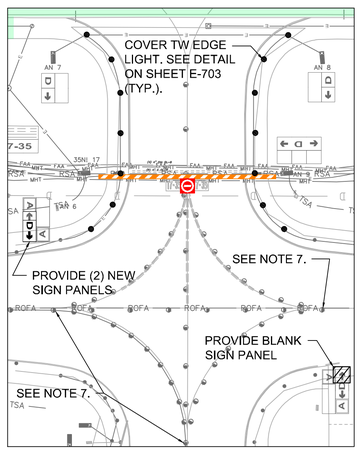
NOTES (APPLICABLE TO PARTIAL PLANS 4, 5, 6, & 7):

1. INSTALL 2-1/C, #8, 5KV, L-824, TYPE C CABLE - DIRECT BURIED (INSTALL IN PHASE 1).
2. CONNECT TEMPORARY CABLES TO EXISTING TW EDGE CIRCUIT IN EXISTING SIGN BASE TO TEMPORARILY POWER MANDATORY HOLD SIGN WHILE RW 17-35 EDGE CIRCUIT IS OUT OF SERVICE (PHASES 1 & 3B).
3. DISCONNECT CABLE TO TW B (EAST) CENTERLINE LIGHTS AT THIS POINT AND CONNECT TEMPORARY CABLES TO BYPASS TW B (EAST) CENTERLINE LIGHTS (PHASES 1 & 3A).
4. REMOVE (1) EXISTING CABLE AND INSTALL 2-1/C, #8, 5KV, L-824, TYPE C CABLE IN EXISTING CONDUIT. CONNECT TO EXISTING CENTERLINE LIGHTS WHERE NEW CABLE IS INSTALLED (INSTALL IN PHASE 1).
5. DISCONNECT CABLES TO TW B (WEST) CENTERLINE LIGHTS IN EXISTING BASE CAN (PHASES 1 & 3A)



6 TW A3 PARTIAL PLAN - PHASE 1 & 3

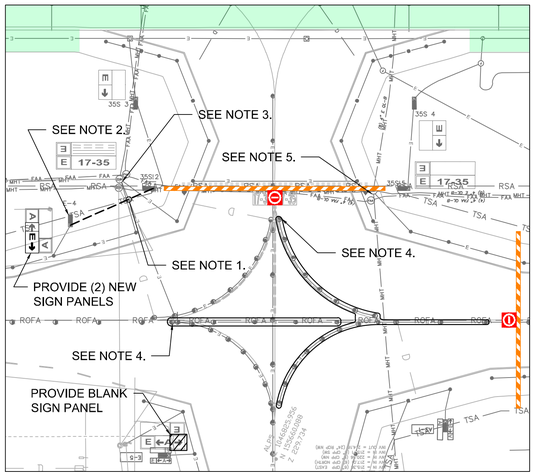
SCALE: 1"=80'



7 TW D PARTIAL PLAN - PHASES 1 & 3

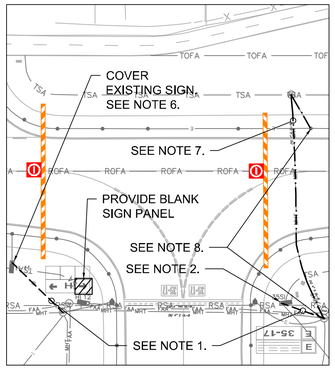
SCALE: 1"=80'

6. DISCONNECT CABLE TO TW A3 CENTERLINE LIGHTS AT THIS POINT AND CONNECT TEMPORARY CABLES TO BYPASS TW A3 CENTERLINE LIGHTS (PHASES 1 & 3).
7. DISCONNECT CABLES TO TW D CENTERLINE LIGHTS FROM THIS POINT TOWARD RW 17-35. MAINTAIN OPERATION OF CENTERLINE LIGHTS ON TW A AND TW D WEST OF TW A (PHASES 1 & 3).



8 TW A & E PARTIAL PLAN - PHASES 1 & 3

SCALE: 1"=80'



9 TW E & H PARTIAL PLAN - PHASES 1 & 3

SCALE: 1"=80'

NOTES (APPLICABLE TO PARTIAL PLANS 8 & 9):

1. INSTALL 2-1/C, #8, 5KV, L-824, TYPE C CABLE - DIRECT BURIED (INSTALL IN PHASE 1).
2. CONNECT TEMPORARY CABLES TO EXISTING TW EDGE CIRCUIT IN EXISTING SIGN BASE TO TEMPORARILY POWER MANDATORY HOLD SIGN WHILE RW 17-35 EDGE CIRCUIT IS OUT OF SERVICE (PHASES 1 & 3A).
3. IN EXISTING MANHOLE, DISCONNECT CABLES TO TW As EDGE LIGHT CIRCUIT SERVING TW E (WEST) AND TW A SOUTH OF TW E (PHASES 1 & 3B).
4. IN EXISTING LIGHT BASE, DISCONNECT CABLES SERVING THE CIRCLED LIGHT FIXTURES (PHASES 1 & 3E). DURING PHASE 3B, THE ENTIRE As CENTERLINE CIRCUIT SHALL BE OUT OF SERVICE.
5. IN EXISTING MANHOLE DISCONNECT CABLES TO TW As EDGE LIGHT CIRCUIT SERVING TW A SOUTH OF TW E. (PHASES 1 & 3A).
6. IN EXISTING SIGN BASE, CONNECT TO EXISTING CABLES. IN ADJACENT LIGHT BASE, DISCONNECT CABLES SERVING TW EDGE LIGHTING ON TW H CIRCUIT SOUTH OF THIS POINT (PHASE 3B ONLY).
7. INSTALL 1-1/C #8, 5KV, L-824, TYPE C CABLE IN EXISTING DUCTBANK/CONDUIT (INSTALL IN PHASE 1).
8. CONNECT CABLE TO CIRCUIT IN EXISTING MANHOLE AND BASE CAN TO BYPASS TW H AND F EDGE LIGHTING SOUTH OF TW E (PHASES 1 & 3A).

0 80' 160'

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 02730
Bedford, MA 01730
FAX: 6039 666-7785

SCALE:	AS SHOWN
DATE:	MARCH 2022
DESIGNED BY:	JPH
DRAWN BY:	JPH
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

TEMPORARY ELECTRICAL OVERALL & PARTIAL PLANS

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89205

JE FILE:

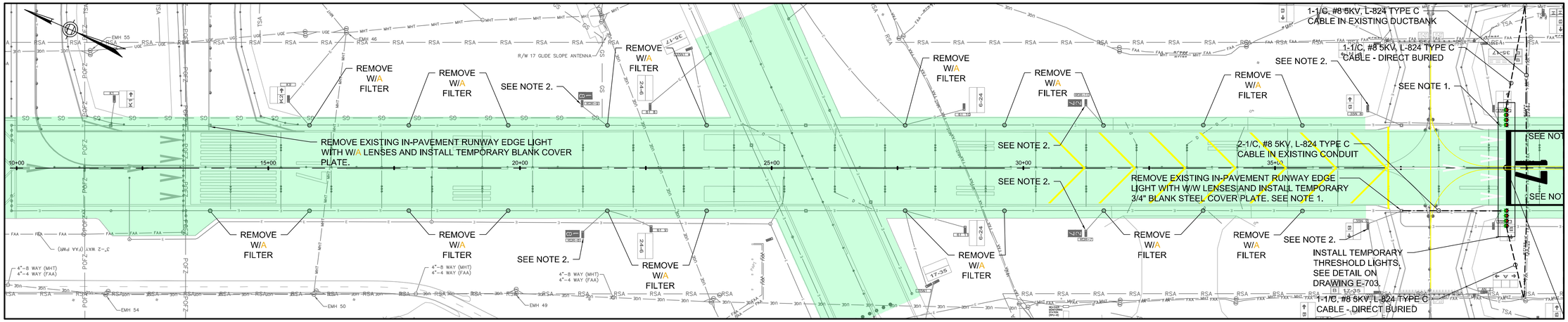
DRAWING NO.

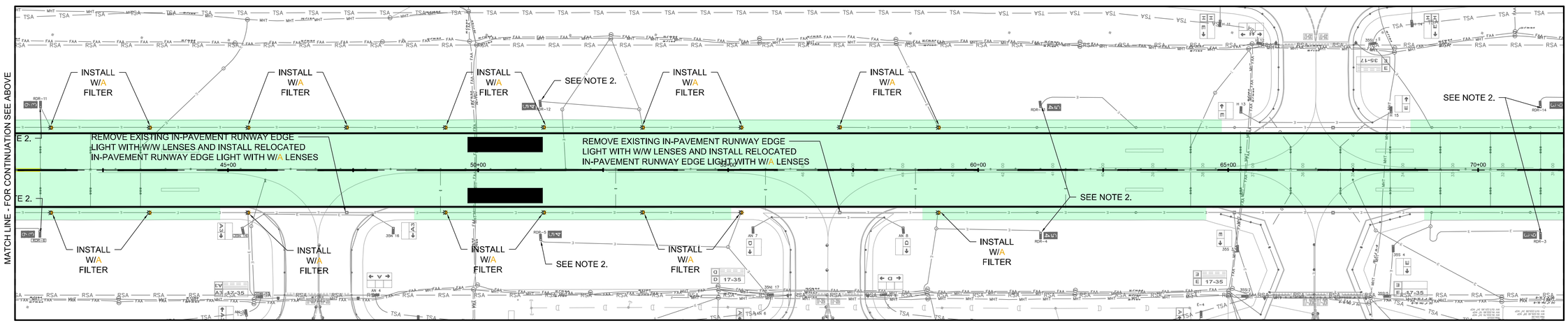
E-701

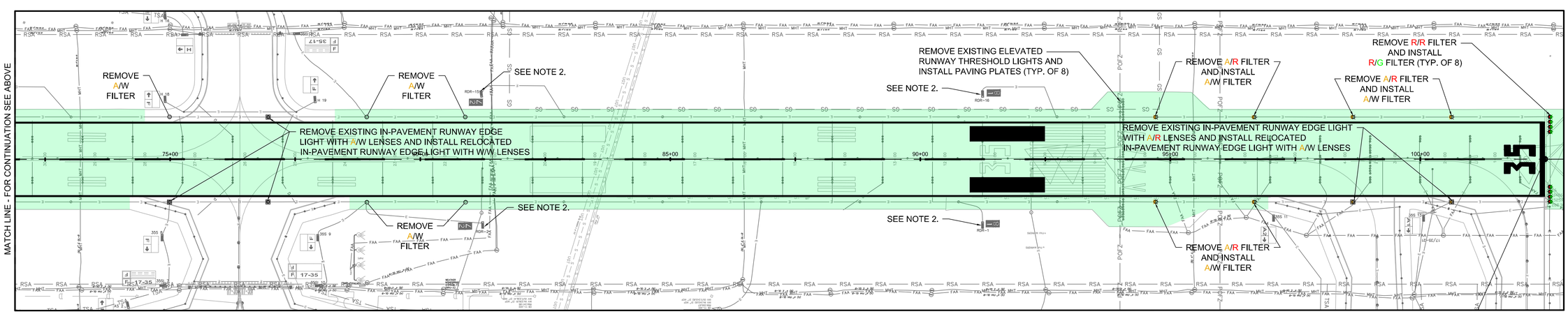
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E701 - Temporary Electrical Overall & Partial Plans.dwg [E 701] March 08, 2022 - 2:23pm [sagri]







GENERAL NOTES:

1. SEE DRAWING G-101 FOR PHASE 1 CONSTRUCTION SAFETY AND PHASING PLAN.
2. SEE DRAWING E-703 FOR TEMPORARY ELECTRICAL DETAILS.
3. COORDINATE WITH FAA TECHNICAL OPERATIONS 45 DAYS IN ADVANCE OF BEGINNING OF PHASE 1 TO COORDINATE SHUTDOWN OF ALL FAA APPROACH LIGHTING AND NAVIGATIONAL AIDS SERVING RUNWAY 17-35.
4. THE CONTRACTOR SHALL REMOVE, RELOCATE, AND INSTALL THE COLORED LENS FILTERS IN THE EXISTING ELEVATED RUNWAY EDGE LIGHTS AS INDICATED ON THE PLAN TO ACCOMMODATE THE TEMPORARY RUNWAY CONFIGURATION. SIMILARLY, THE CONTRACTOR SHALL REMOVE, RELOCATE AND INSTALL IN-PAVEMENT RUNWAY EDGE LIGHT FIXTURES AT THE LOCATIONS INDICATED ON THE PLAN. THERE ARE SUFFICIENT QUANTITIES OF EXISTING A/W FILTERS, A/W IN-PAVEMENT FIXTURES, AND W/W IN-PAVEMENT FIXTURES TO BE RELOCATED AS SHOWN WITHOUT PROVIDING NEW EQUIPMENT. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE NEW R/G FILTERS COMPATIBLE WITH THE EXISTING RW 35 END LIGHTS AS SHOWN.

TEMPORARY ELECTRICAL PLAN - PHASE 1

SCALE: 1"=100'

0 100' 200'

5. LENS FILTER COLOR LEGEND:
   W = WHITE
   A = AMBER
   G = GREEN
   R = RED
6. ALL WORK SHOWN ON THIS PLAN SHALL BE PAID FOR UNDER THE LUMP SUM PAY ITEM FOR PHASE 1A TEMPORARY ELECTRICAL WORK.
7. THE CONTRACTOR SHALL LOCKOUT/TAGOUT THE 17-35 C/L, 17 TDZ, AND 35 TDZ CIRCUITS AT THE AIRFIELD LIGHTING VAULT AT THE BEGINNING OF PHASE 1A. THE CONTRACTOR SHALL LOCKOUT/TAGOUT THE 17-35 EDGE N AND EDGE S CIRCUITS IN ORDER TO PERFORM TEMPORARY ELECTRICAL WORK DURING PHASE 1A, AND SHALL PUT THESE CIRCUITS BACK INTO SERVICE AT THE COMPLETION OF PHASE 1A.

NOTES:

1. DISCONNECT 17-35 EDGE NORTH CIRCUIT NORTH OF THIS BASE CAN. CONNECT TEMPORARY CABLES TO EXISTING CABLES SERVING TW B MANDATORY HOLD SIGN.
2. DISCONNECT AND REMOVE EXISTING GUIDANCE SIGN AND ISOLATION TRANSFORMER FROM FOUNDATION. CONNECT INCOMING AND OUTGOING PRIMARY CABLES IN BASE CAN TO MAINTAIN EDGE LIGHT CIRCUIT OPERATION WHERE REQUIRED (SOUTH OF TW B). PAYMENT FOR SIGN REMOVAL IS INCLUDED IN THE SIGN DEMOLITION PAY ITEM.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, MA 02730
Phone: 781-890-1460
FAX: 781-890-7781
FAX: 508-668-7865

SCALE:	1"=100'
DATE: MARCH 2022	
DESIGNED BY:	JPH
DRAWN BY:	JPH
CHECKED BY:	JAM
APPROVED:	JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

TEMPORARY ELECTRICAL PLAN - PHASE 1A

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

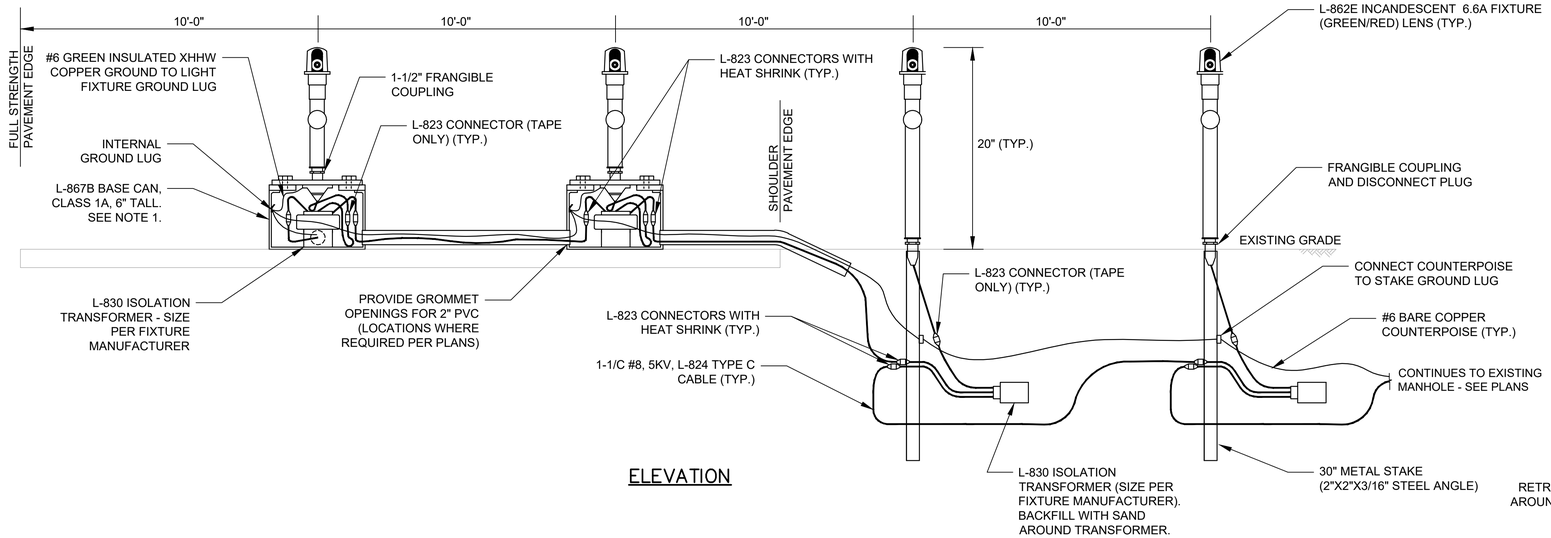
DRAWING NO.

E-702

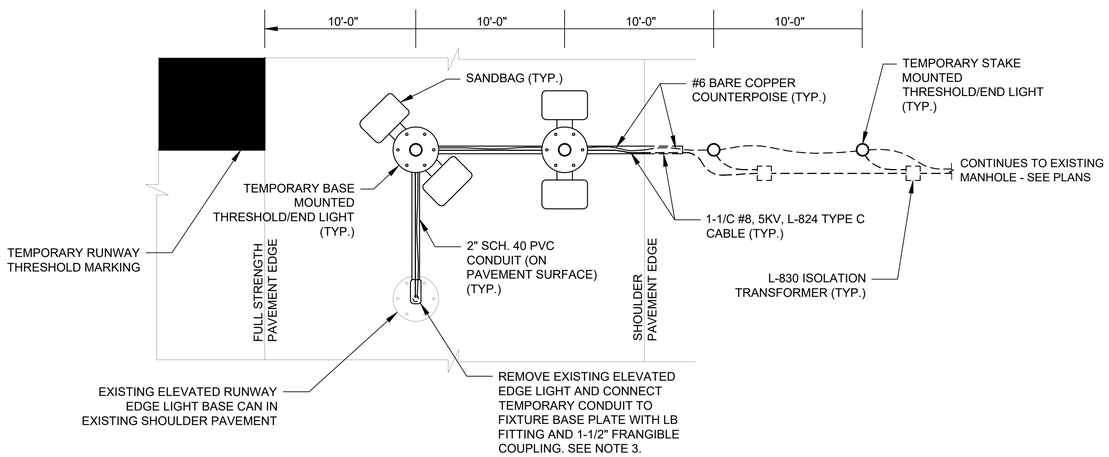
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E702 - Temporary Electrical Plan - Phase 1A.dwg [E 702] March 08, 2022 - 2:18pm [sagri]



ELEVATION



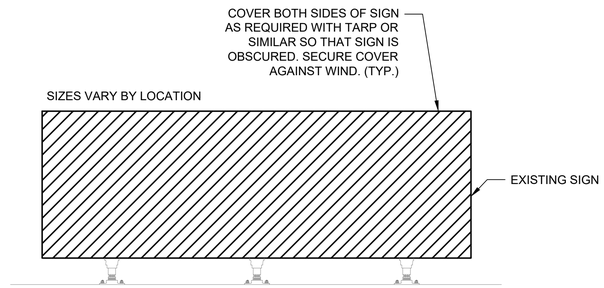
PLAN

NOTES:

1. SECURE BASE CANS TO PAVEMENT USING HEAVY DUTY PLASTIC STRAPS AND SAND BAGS OR EQUAL AS APPROVED BY THE RPR.
2. THE CONTRACTOR SHALL INSPECT THE TEMPORARY THRESHOLD LIGHT INSTALLATION DAILY AND ENSURE THAT ALL FIXTURES, CONDUIT, ETC. ARE SECURE AND IN THE CORRECT LOCATIONS. PROVIDE ADDITIONAL SAND BAGS OR OTHER APPROVED SECURING MEANS AS REQUIRED TO PREVENT MOVEMENT OF THE INSTALLATION.
3. IN EXISTING LIGHT BASE, DISCONNECT CABLE SERVING RW 17-35 EDGE LIGHTING NORTH OF THIS POINT AND CONNECT TEMPORARY CABLE TO EXISTING CIRCUIT CABLE FROM LIGHTING SOUTH OF THIS POINT. TERMINATE TEMPORARY COUNTERPOISE WIRE ON EXISTING LIGHT BASE GROUND LUG.
4. INSTALLATION SHOWN FOR WEST SIDE OF RW 17 TEMPORARY THRESHOLD. INSTALLATION ON EAST SIDE IS SIMILAR BUT MIRRORED ACROSS RW CENTERLINE.

TEMPORARY RUNWAY THRESHOLD/END LIGHT INSTALLATION

NOT TO SCALE

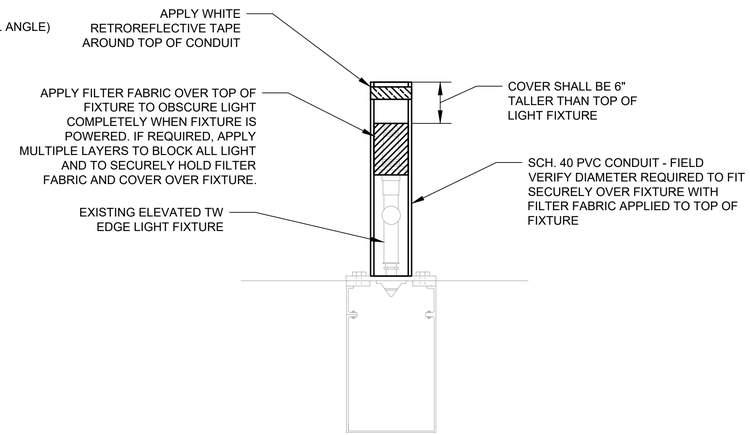


NOTE:

1. METHOD OF COVERING SIGN AND SECURING COVER SHALL BE APPROVED BY THE RPR.

TEMPORARY SIGN COVER

NOT TO SCALE

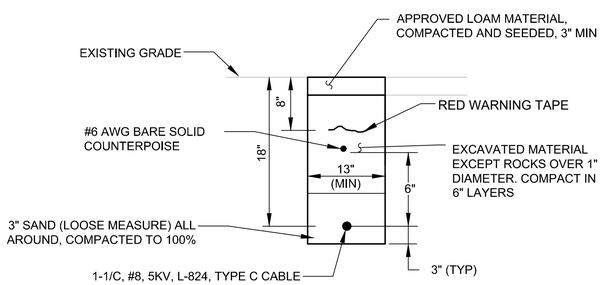


NOTES:

1. NO LIGHT SHALL BE VISIBLE FROM ANY VIEWING ANGLE WHEN FIXTURE IS ENERGIZED AND TEMPORARY COVER IS INSTALLED.
2. THE CONTRACTOR SHALL DEMONSTRATE TO THE RPR THAT THE METHOD OF COVERING FIXTURES COMPLETELY OBSCURES ALL LIGHT AND IS HELD SECURELY IN PLACE PRIOR TO APPLYING TEMPORARY COVER TO ALL FIXTURES.

TEMPORARY COVER FOR ELEVATED TW EDGE LIGHT FIXTURE

NOT TO SCALE



TEMPORARY DIRECT BURIED CABLE

NOT TO SCALE

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, MA 01730
PHONE: 617-966-7781
FAX: 8639 666-7785

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPH
DRAWN BY: JPH
CHECKED BY: JAM
APPROVED: JPH

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

TEMPORARY ELECTRICAL DETAILS

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89205

JE FILE:

DRAWING NO.

E-703

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89205 - MHT RW 17-35\700 CADD\E703 - Temporary Electrical Details.dwg [E703] March 08, 2022 - 2:25pm [sagri]

MANCHESTER - BOSTON REGIONAL AIRPORT (MHT)

MANCHESTER, NEW HAMPSHIRE

CONSTRUCTION PLANS FOR

REHABILITATE RUNWAY 17-35

AIP NO. 3-33-0011-TBD-2022
CITY BID NO. FY22-805-49

VOLUME 2

ADJUST OR INSTALL 161 NEW OR EXISTING MALS AND ALSF2 IN-PAVEMENT APPROACH LIGHTS (BASE BID); ADJUST 2 EXISTING ALSF-2 IN-PAVEMENT APPROACH LIGHTS (ADDITIVE ALTERNATE #1); ADJUST 5 EXISTING IN-PAVEMENT MALS APPROACH LIGHTS; REMOVE & REINSTALL 34 EXISTING IN-PAVEMENT ALSF2 APPROACH LIGHTS AND MODIFY EXISTING ALSF APPROACH LIGHT FOUNDATION STA 10+00 (ADDITIVE ALTERNATE #2)

MANCHESTER • BOSTON REGIONAL AIRPORT

One Airport Road, Suite 300
Manchester, New Hampshire 03103
www.flymanchester.com

AUTHORITY / OWNER

INDEX OF SHEETS			90% SUBMISSION INCLUDED
PLAN NO.	SHEET	DRAWING TITLE	
		GENERAL PLANS	
1	MHT-21980090-G001	ALS RUNWAY 35 ALSF-2 IN PAVEMENT LIGHTS COVER SHEET	✓
2	MHT-21980090-G002	ALS RUNWAY 35 ALSF-2 IN PAVEMENT LIGHTS INDEX AND ABREVIATIONS	✓
3	MHT-21980090-G003	ALS RUNWAY 35 ALSF-2 IN PAVEMENT LIGHTS GENERAL NOTES	✓
4	MHT-21980090-G004	ALS RUNWAY 35 ALSF-2 IN PAVEMENT LIGHTS AIRPORT LAYOUT	✓
5	MHT-21980090-C001	ALS RUNWAY 35 ALSF-2 IN PAVEMENT LIGHTS SECTIONS	✓
6	MHT-21980090-C002	ALS RUNWAY 35 ALSF-2 IN PAVEMENT LIGHTS SECTIONS	✓
7	MHT-21980090-C003	ALS RUNWAY 35 ALSF-2 STATION 10 RSA VIOLATION	✓
8	NE-D-26997-E005	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM W/RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR) RUNWAY 17 STA. 168+64 THRESHOLD SEMI-FLUSH LIGHT BAR EQUIPMENT INSTALLATION	✓
9	NE-D-26997-S002	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM W/RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR) RUNWAY 17 STA. 168+65 FOUNDATION DETAILS (MALS SEMI-FLUSH LIGHT BAR)	✓
10	MHT-D-ALS35-C109	ALS RUNWAY 35 ALSF-2/SSALR STATION 1+00 THRU 8+00 FOUNDATIONS SECTIONS AND DETAILS	✓
11	MHT-D-ALS35-C110	ALS RUNWAY 35 ALSF-2/SSALR SEMI-FLUSH LIGHT BASES	✓
12	MHT-D-ALS35-C112	ALS RUNWAY 35 ALSF-2/SSALR STATION 10+00 FOUNDATIONS SECTIONS AND DETAILS	✓
13	MHT-D-ALS35-E101	ALS RUNWAY 35 ALSF-2/SSALR STATION 0+06 THRU 10+50 DUAL MODE FIELD LIGHTING LOOP CONFIG	✓
14	MHT-D-ALS35-E103	ALS RUNWAY 35 ALSF-2/SSALR SEMI-FLUSH LIGHT WIRING DIAGRAMS	✓

FEDERAL AVIATION ADMINISTRATION

PROJECT DESIGNER

ISSUED FOR BID

MARCH 2022

REPLACEMENT OF
ALSF-2 IN PAVEMENT LIGHTS
SERVING RUNWAY 35
AT MANCHESTER-BOSTON REGIONAL AIRPORT
MANCHESTER, NH
(VOLUME 2)

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
IN PAVEMENT LIGHTS
COVER SHEET

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	KYLE J JANCO — Digitally signed by KYLE J JANCO Date: 2022.03.09 08:57:25 -05'00'	STEVEN J FINNERTY — Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:38:57 -05'00'
	PROJECT ENGINEER	MGR: ENGINEERING CENTER

DESIGNED	KJ	ISSUED BY	DATE 03/08/2022	JCN 1898299	
DRAWN	KJ	ENGINEERING SERVICES NAVAIDS	DRAWING NO MHT-21980090-G001		REV
CHECKED	CP				

ISSUED FOR CONSTRUCTION

mht-21980090-g001.dwg 03/09/2022 8:17:59 AM Plotted by: SRVC-CAEG-EDMS-COORD

EDM: mht-21980090-g001.dwg

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

DRAWING LIST

DRAWING NUMBER	DRAWING TITLE
MHT-21980090-G001	COVER SHEET
MHT-21980090-G002	INDEX AND ABBREVIATIONS
MHT-21980090-G003	GENERAL NOTES
MHT-21980090-G004	AIRPORT LAYOUT
MHT-21980090-C001	THRESHOLD TO STA 8 IN PAVEMENT LIGHT SECTIONS
MHT-21980090-C002	MALSR IN PAVEMENT LIGHT SECTIONS
MHT-21980090-C003	STATION 10 RSA VIOLATION

FOR REFERENCE ONLY

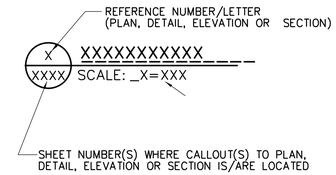
DRAWING NUMBER	DRAWING TITLE
MHT-D-ALS35-C109	STATION 1+00 THRU 8+00 FOUNDATIONS SECTIONS AND DETAILS
MHT-D-ALS35-C110	SEMI-FLUSH LIGHT BASES
MHT-D-ALS35-C112	STATION 10+00 FOUNDATIONS SECTIONS AND DETAILS
MHT-D-ALS35-E101	STATION 0+06 THRU 10+50 DUAL MODE FIELD LIGHTING LOOP
MHT-D-ALS35-E103	SEMI-FLUSH LIGHT WIRING DIAGRAMS
MHT26997E005	STA 168+64 THRESHOLD SEMI-FLUSH LIGHT BAR EQUIPMENT INSTALLATION
MHT26997S002	STA 168+65 FOUNDATION DETAILS (MALS SEMI-FLUSH LIGHT BAR)

ABBREVIATIONS

A - AMP
A-G - AIR TO GROUND
AGL - ABOVE GROUND/GRADE LEVEL
ALS - APPROACH LIGHT SYSTEM
AOA - AIR OPERATIONS AREA
ARP - AIRPORT REFERENCE POINT
ASOS - AUTOMATED SURFACE OBSERVATION SYSTEM (NWS)
AT - AIR TRAFFIC
AWG - AMERICAN WIRE GAUGE
BCPS - BATTERY CHARGING POWER SUPPLY (ILS/LCU)
BGL - BELOW GROUND/GRADE LEVEL
BLD - BUILDING
BSCU - BARE SOLID COPPER
C - CONTROL
CFW - CENTERFIELD WIND
CKT - CIRCUIT
CND - CONDUIT (DUCT)
CO - CONTRACTING OFFICER (FAA)
COR - CONTRACTING OFFICER'S REPRESENTATIVE (FAA)
CW - COURSE WIDTH (LOCALIZER)
DEB - DIRECT EARTH BURIAL
DIA - DIAMETER
DISC - DISCONNECT
DME - DISTANCE MEASURING EQUIPMENT
DME CO - DME CORPORATION
DPU - DATA PROCESSING UNIT
DU - DISTRIBUTION UNIT
DWG - DRAWING
EL - ELEVATION
EMT - ELECTRIC METALLIC TUBING
EOR - END OF RUNWAY
FAA - FEDERAL AVIATION ADMINISTRATION
FBO - FIXED BASE OPERATOR
FDN - FOUNDATION
FOD - FOREIGN OBJECT DEBRIS
FT - FEET
GA - GENERAL AVIATION
GALV - GALVANIZED
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
G-G - GROUND TO GROUND
GFM - GOVERNMENT FURNISHED MATERIAL
GND - GROUND
GRSC - GALVANIZED RIGID STEEL CONDUIT
GS - GLIDE SLOPE (ILS)
HZ - HERTZ
ILS - INSTRUMENT LANDING SYSTEM
IN - INCH
INSUL - INSULATED
KHZ - KILOHERTZ
KV - KILOVOLT
KVA - KILOVOLT AMPERE
LCU - LINK CONTROL UNIT (RMMS/RMS)
LHA - LAMP HOUSING ASSEMBLY (PAPI)
LIR - LOW IMPACT RESISTANCE
LOC - LOCALIZER (ILS)
LOM - LOCATOR OUTER MARKER (NDB & OM)
MALS - MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
MALSF - MALS WITH SEQUENCED FLASHERS
MALSR - MALS WITH RUNWAY ALIGNMENT INDICATOR LIGHTS (MALS-RAIL)
MAX - MAXIMUM
MG - MAST-ON-GROUND (LIR)
MHZ - MEGAHERTZ
MIN - MINIMUM
MP - MULTI-POINT (GROUND)
MS - MAST-ON-STAND (LIR)
MSL - MEAN SEA LEVEL
N - NEUTRAL
N/A - NOT APPLICABLE
NAS - NATIONAL AIRSPACE SYSTEM
NDB - NON-DIRECTIONAL BEACON
NEC - NATIONAL ELECTRIC CODE
NOTAM - NOTICE TO AIRMEN
NWS - NATIONAL WEATHER SERVICE
OB - OBSTRUCTION
OFA - OBJECT FREE AREA
OM - OUTER MARKER (ILS)
P - POWER
PARSONS - PARSONS CORPORATION (TSSC)
PAPI - PRECISION APPROACH PATH INDICATOR
PCA - POWER AND CONTROL ASSEMBLY
PCU - POWER AND CONTROL UNIT
PNL - PANEL
PR - PAIR
PRIM - PRIMARY
R/W - RUNWAY
RAIL - RUNWAY ALIGNMENT INDICATOR LIGHTS
RE - RESIDENT ENGINEER (FAA/TSSC)
REIL - RUNWAY END IDENTIFIER LIGHTS
REL - RUNWAY EDGE LIGHTS
REQ - REQUIRED
RF - RADIO FREQUENCY
RMM - REMOTE MAINTENANCE MONITORING
RMMS - REMOTE MAINTENANCE MONITORING SYSTEM
RMS - REMOTE MONITORING SUBSYSTEM
RRCS - REMOTE RADIO CONTROL SYSTEM
RSA - RUNWAY SAFETY AREA
RVR - RUNWAY VISUAL RANGE
RT - REMOTE TRANSMITTER
SAWS - STAND ALONE WEATHER SENSOR
SCH - SCHEDULE
SEC - SECONDARY
SMO - SYSTEM MANAGEMENT OFFICE (FAA)
SP - SINGLE-POINT (GROUND)
SS - STAINLESS STEEL
SSC - SYSTEM SUPPORT CENTER (FAA)
STA - STATION
T - TELEPHONE
T/W - TAXIWAY
TEL - TAXIWAY EDGE LIGHTS
TELCO - TELEPHONE COMPANY
TH - THRESHOLD
TSA - TAXIWAY SAFETY AREA
TSSC - FAA TECHNICAL SUPPORT SERVICE CONTACT (PARSONS)
TYP - TYPICAL
UPS - UNINTERRUPTIBLE POWER SOURCE/SUPPLY
V - VOLT
VASI - VISUAL APPROACH SLOPE INDICATOR
VHF - VERY HIGH FREQUENCY
W/ - WITH
WS - WIND SOCK
XFMR - TRANSFORMER
XMTR - TRANSMITTER

SYMBOLS LEGEND

SUBTITLE REFERENCE



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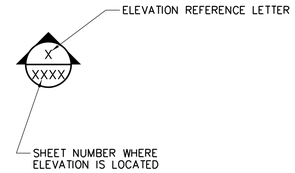
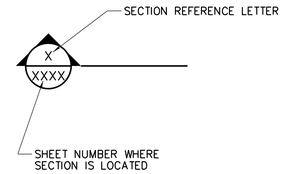
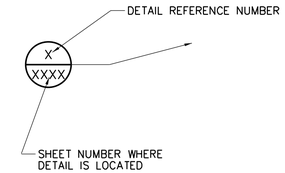


SECTION CALLOUT REFERENCE



DETAIL CALLOUT REFERENCE



DRAWING PREFIXES

CXXX - CIVIL
EXXX - ELECTRICAL/ELECTRONIC
GXXX - GENERAL
QXXX - EQUIPMENT
SXXX - STRUCTURAL

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
IN PAVEMENT LIGHTS
INDEX AND ABBREVIATIONS

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

REVIEWED BY

SUBMITTED BY: KYLE J JANCO — Digitally signed by KYLE J JANCO Date: 2022.03.09 08:57:35 -05'00'
PROJECT ENGINEER

APPROVED BY: STEVEN J FINNERTY — Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:39:28 -05'00'
MGR: ENGINEERING CENTER

DESIGNED KJ
DRAWN KJ
CHECKED CP
ISSUED BY: ENGINEERING SERVICES NAVAIDS
DATE 03/08/2022
JCN 1898299
DRAWING NO MHT-21980090-G002
REV

ISSUED FOR CONSTRUCTION

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03/09/2022 9:15:19 AM
Plotted by: SRV/C-CAE/C-EDMS-COORD

EDMs: mht-21980090-g002.dwg

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

GENERAL NOTES:

1. THIS DRAWING PACKAGE INDICATES WORK REQUIRED FOR THE REPLACEMENT AND ESTABLISHMENT OF IN PAVEMENT LIGHTS FOR THE ALSF-2 TO SERVE RUNWAY 35 MANCHESTER INTERNATIONAL AIRPORT IN MANCHESTER, NEW HAMPSHIRE.
2. WORK ASSOCIATED WITH THE ALSF AND RELATED FACILITIES IS LOCATED ON MANCHESTER INTERNATIONAL AIRPORT. NO MOVEMENT BY CONTRACTOR, SUBCONTRACTORS, OR DELIVERY VEHICLES SHALL BE MADE ON THE ACTIVE AIR OPERATIONS AREA (AOA) OR AIRCRAFT MOVEMENT AREA WITHOUT ESCORT BY THE FAA CONTRACTING OFFICER'S REPRESENTATIVE (COR), THE RESIDENT ENGINEER (RE), OR DESIGNATED CONTRACTOR ESCORT VEHICLE. THE CONTRACTOR SHALL CERTIFY IN WRITING THAT ALL DRIVING EMPLOYEES, SUBCONTRACTOR EMPLOYEES, AND DELIVERY EMPLOYEES HAVE READ AND UNDERSTAND THE FAA AIRPORT GROUND VEHICLE OPERATIONS GUIDE (DOT/FAA/ASY-300 98/001) PER FAA ORDER 5200.7A.
3. THE CONTRACTOR SHALL ARRANGE FOR AND ABIDE BY ALL SECURITY BADGING AND ACCESS REQUIREMENTS AT MANCHESTER INTERNATIONAL AIRPORT TO WORK ON THE AIRFIELD. SECURITY BADGING MAY BE REQUIRED, AND SHALL BE ON DISPLAY AT ALL TIMES WHILE ON THE AIRFIELD.
4. CONTRACTOR ACCESS ROUTES, STAGING AREAS, AND EMPLOYEE PARKING AREAS SHALL BE APPROVED IN ADVANCE BY MANCHESTER INTERNATIONAL AIRPORT.
5. CONTRACTOR'S VEHICLES SHALL BE EQUIPPED WITH A YELLOW ROTATING BEACON AND/OR AN APPROVED ORANGE AND WHITE FLAG.
6. CONTRACTOR'S CREW SHALL BE EQUIPPED WITH A RADIO AND SHALL MONITOR MHT GROUND AT 121.9.
7. WORK ON THE AOA AND WITHIN 120 FEET OF RUNWAY 35 CENTERLINE AND 500 FEET FROM THE RUNWAY THRESHOLD (DEFINED AS THE RUNWAY CONSTRUCTION SAFETY AREA) WILL REQUIRE A RUNWAY SHUTDOWN. ANY ACTIVITIES INVOLVING CRANES OR OTHER EQUIPMENT EXCEEDING 15 FEET IN HEIGHT MAY ALSO REQUIRE A RUNWAY SHUTDOWN OR OTHER PROVISIONS. COORDINATE ALL SUCH ACTIVITIES AND REQUIRED SHUTDOWNS WITH THE COR/RE, AND AIRPORT MANAGEMENT AT LEAST 48 HOURS IN ADVANCE.
8. WORK ASSOCIATED WITH ANY FAA FACILITY MAY REQUIRE A SHUTDOWN. COORDINATE ALL RELATED ACTIVITIES AND REQUIRED SHUTDOWNS WITH THE COR, RE, AND MHT SSC AT LEAST 48 HOURS IN ADVANCE.
9. THE CONTRACTOR SHALL MAINTAIN A CLEAN WORK SITE. EQUIPMENT AND MATERIAL SHALL BE REMOVED FROM THE WORK SITE AT THE END OF EACH WORK SHIFT. THE CONTRACTOR SHALL KEEP THE WORK SITE FREE OF CONSTRUCTION DEBRIS AND OTHER FOREIGN OBJECT DEBRIS (FOD) AT ALL TIMES. THE CONTRACTOR SHALL CONDUCT FOD INSPECTIONS OF ALL VEHICLES PRIOR TO DRIVING ON THE AOA. THE CONTRACTOR SHALL BE PREPARED TO REMOVE ANY DUST, DIRT, MUD, OR OTHER FOD TRACKED OR OTHERWISE LEFT ON THE AOA AT ALL TIMES.
10. THE CONTRACTOR SHALL STRICTLY COMPLY WITH ALL OSHA REGULATIONS AT ALL TIMES. THE COR AND/OR RE RESERVES THE RIGHT TO SUSPEND THE PROJECT SHOULD HE OR SHE DETERMINE THAT AN UNSAFE CONDITION EXISTS.
11. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIAL UNLESS OTHERWISE INDICATED. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND REQUIRED TEMPORARY POWER UNLESS OTHERWISE INDICATED.
12. ALL MATERIAL FURNISHED FOR THIS PROJECT IS INDICATED AS "GOVERNMENT FURNISHED MATERIAL (GFM)". THE GFM LIST INCLUDES SPARES FOR SOME ITEMS. ALL SPARES SHALL BE RETURNED TO THE FAA, IN WORKING ORDER, AT THE CONCLUSION OF THE CONSTRUCTION. GFM WILL BE DELIVERED TO THE AIRPORT BY THE GOVERNMENT.
13. THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL MATERIAL AND EQUIPMENT NOT RETURNED TO OR RETAINED BY THE FAA.
14. THE CONTRACTOR SHALL FOLLOW ALL LATEST REVISIONS OF ORDERS AND SPECIFICATIONS.

SITE WORK:

1. ALL DIMENSIONS, ELEVATIONS, CONTOURS, AND HEIGHTS INDICATED ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
2. ALL TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED AND COMPACTED TO MATCH THE EXISTING GRADE BEFORE LEAVING THE SITE EVERYDAY. STEEL PLATES MAY BE USED AS AN ALTERNATIVE WITH WRITTEN PERMISSION FROM THE COR AND AIRPORT AUTHORITY/ AIRPORT OPERATIONS.
3. EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. OTHER UTILITIES MAY NOT BE SHOWN. THE CONTRACTOR SHALL FIELD LOCATED ALL SUBSURFACE UTILITIES PRIOR TO ANY EXCAVATION OR DIRECTIONAL BORING OPERATIONS. DIRECT EARTH BURIED (DEB) RUNWAY AND TAXIWAY LIGHTING POWER CABLES AND OTHER FAA FACILITY POWER CABLES ARE HIGH VOLTAGE. FORTY-EIGHT (48) HOUR (MINIMUM) NOTICE BY THE CONTRACTOR TO THE COR, THE AIRPORT AUTHORITY, AND THE FAA SSC IS REQUIRED FOR ALL UTILITY MARKING AND/OR FACILITY SHUTDOWNS.
4. THE CONTRACTOR SHALL BE PREPARED TO IMMEDIATELY REPAIR ANY UTILITIES DAMAGED DURING EXCAVATION OPERATIONS AND SHALL PERFORM ALL SUCH REPAIRS AT CONTRACTOR EXPENSE.
5. ALL UNDERGROUND CABLE SHALL BE IN CONDUIT EXCEPT FOR BARE COPPER GROUND WIRE, GUARD WIRE, COUNTERPOISE, AND WHERE OTHERWISE INDICATED. UNDERGROUND CONDUIT SHALL BE 24 INCHES (MINIMUM) BELOW GRADE EXCEPT WHEN INTERFACING HANDHOLE ENTRANCES OR EXISTING CONDUIT AT OTHER DEPTHS OR WHERE OTHERWISE INDICATED. UNDERGROUND CONDUIT SHALL BE GALVANIZED RIGID STEEL CONDUIT (GRSC) EXCEPT WHERE OTHERWISE INDICATED. GRSC FITTINGS SHALL BE THREADED TYPE. EXPOSED THREADS SHALL BE SEALED WITH APPROVED SEALANT TO PREVENT CORROSION PRIOR TO BACKFILL OPERATIONS. CONDUIT SHALL BE CLEANED OF DEBRIS, AND A NYLON PULL STRING SHALL BE INSTALLED IN ALL CONDUITS.
6. ALL EXTERIOR CONDUITS ENTERING BUILDINGS (EXCEPT THOSE WITH GROUNDING CONDUCTORS ONLY) SHALL HAVE EXPANSION COUPLINGS. AN APPROVED GROUND JUMPER SHALL BE INSTALLED BETWEEN METALLIC CONDUIT ON EACH SIDE OF COUPLING UNLESS COUPLING IS INTERNALLY GROUNDED.
7. FABRICATE AND INSTALL CONCRETE DUCT MARKERS IN ACCORDANCE WITH FAA-C-1391. DUCT MARKERS SHALL BE DYED ORANGE AND INSTALLED AT THE MIDPOINT OF DUCT RUNS LONGER THAN 200 FEET, AT DUCT CHANGE OF DIRECTION, EACH SIDE OF RUNWAY, TAXIWAY OR ROAD CROSSING, WHERE INDICATED ON THE DRAWINGS, AND AS DIRECTED BY THE FAA RESIDENT ENGINEER OR COR. TOP OF DUCT MARKERS SHALL EXTEND NO MORE THAN 1 INCH ABOVE FINISH GRADE. DUCT MARKERS ARE ONLY REQUIRED WHERE SERVICES IN CONDUIT CROSS RUNWAYS OR TAXIWAYS.
8. BACKFILL FOR CABLE OR DUCT TRENCHES OR FOR OTHER EXCAVATIONS SHALL BE PLACED IN LAYERS NOT EXCEEDING 8 INCHES, AND EACH LAYER SHALL BE THOROUGHLY COMPACTED TO WITHIN 95% OF MAXIMUM DENSITY OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AASHTO T-180. WHERE FILL IS REQUIRED IN THE RUNWAY/TAXIWAY SAFETY AREA, WORK SHALL COMPLY WITH FAA AC 150/5370-10. IF REQUIRED, THE CONTRACTOR SHALL ARRANGE FOR AN INDEPENDENT FIELD TEST TO VERIFY PROPER COMPACTION.
9. THE EXISTING GRADE SURROUNDING THE FOUNDATION OR TRENCH WORK SHALL BE STABILIZED AND PROTECTED FROM EROSION DURING AND IMMEDIATELY AFTER COMPLETION OF THE FOUNDATION OR CONDUIT INSTALLATION AND ALL REQUIRED EXCAVATION AND BACKFILL.
10. ALL DISTURBED AREAS SHALL BE RESTORED TO PRIOR CONDITION AT A MINIMUM. FINAL CONDITION SHALL BE APPROVED BY THE FAA AND THE AIRPORT AUTHORITY.
11. ANY WORK WITHIN 5 FEET OF FAA OR AIRPORT FACILITY SHALL BE HAND DUG.

DEMOLITION:

1. THE CONTRACTOR SHALL REMOVE LIGHT BASES AND PREP FOR MILLING OF PAVEMENT (SEE VOLUME 1).
2. THE CONTRACTOR SHALL BACKFILL AND COMPACT ALL AREAS WHERE FOUNDATIONS HAVE BEEN REMOVED. ALL DISTURBED AREAS SHALL BE LOAMED, SEEDED AND THE FINISH GRADE SHALL MATCH THE SURROUNDING AREA.

FOUNDATION WORK:

1. ALL CONCRETE WORK SHALL COMPLY WITH ACI-304, "RECOMMENDED PRACTICE FOR MEASURING, MIXING, AND PLACING CONCRETE", ACI-308, "STANDARD PRACTICE FOR CURING CONCRETE", AND ACI-347, "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK".
2. CONCRETE SHALL DEVELOP 3000 PSI COMPRESSIVE STRENGTH IN 28 DAYS WITH A MAXIMUM SLUMP OF 3 INCHES AND A MAXIMUM AGGREGATE SIZE OF 3/4 INCHES.
3. ALL REINFORCEMENT STEEL SHALL COMPLY WITH ASTM A615, GRADE 60.
4. ALL ANCHOR BOLTS AND OTHER HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE INDICATED.
5. EXPANSION ANCHORS, IF USED, SHALL BE HILTI HSL HEAVY DUTY ANCHORS OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

EQUIPMENT INSTALLATION:

1. ASSEMBLE AND INSTALL LIGHT BASES AND ASSOCIATED EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
2. USE ANTI-SEIZE COMPOUND ON ALL THREADED PARTS.
3. ALL CHANNEL SHALL BE GALVANIZED STEEL METAL STRUT, UNLESS OTHERWISE INDICATED.
4. ALL HARDWARE SHALL BE GALVANIZED STEEL, UNLESS OTHERWISE INDICATED.

ELECTRICAL WORK:

1. ALL ELECTRICAL WORK SHALL CONFORM TO FAA-C-1217 AND FAA-C-1391 SPECIFICATIONS AND IN NO CASE SHALL VIOLATE THE NATIONAL ELECTRIC CODE (NFPA 70, NEC).
2. THE CONTRACTOR SHALL MAKE ALL POWER SERVICE, CONTROL, AND GROUND TERMINATIONS.
3. ALL FLEXIBLE LIQUIDTIGHT CONDUIT SHALL HAVE A INTERNAL EQUIPMENT GROUNDING CONDUCTOR.
4. ALL CONTROL/DATA CABLE SHALL BE TWISTED, SHIELDED UNLESS OTHERWISE INDICATED.
5. ALL CIRCUITS SHALL HAVE INDIVIDUAL NEUTRAL AND GROUNDING CONDUCTORS. NO SHARED NEUTRALS OR GROUNDS WILL BE PERMITTED, EXCEPT AS REQUIRED BY THE NEC.
6. NEUTRAL CONDUCTORS SHALL REMAIN ISOLATED FROM GROUND IN ALL LOCATIONS EXCEPT AT POWER SERVICE ENTRANCE.
7. WHERE POSSIBLE, POWER CABLES AND CONTROL/DATA CABLES SHALL RUN IN CONDUIT INDEPENDENT OF EACH OTHER. SEPARATE POWER AND CONTROL/DATA CABLES IN COMMON HANDHOLES, ENCLOSURES, AND SHELTER SQUARE DUCT WIREWAY.
8. ALL CABLES SHALL BE PROPERLY COLOR CODED AND PERMANENTLY LABELED AT EACH END AND IN EACH HANDHOLE. ALL CABLES IN HANDHOLES SHALL BE LOOPED AROUND SEVERAL TIMES.
9. A DYNAMOMETER GRADUATED TO ACTUALLY INDICATE THE PROPER TENSION FOR ANY CABLE PULLED THROUGH UNDERGROUND CONDUIT OR DUCT SHALL BE USED UNLESS THE CONTRACTOR ADAPTS A HARNESS OF THE PROPER SIZED ROPE THAT WILL LIMIT THE TENSION OF THE PULL. ANY COMBINATION OF CABLES PULLED IN CONDUIT OR DUCT SHALL NOT EXCEED THE SUM OF THE INDIVIDUAL ALLOWABLE TENSION OF EACH CABLE PLUS 15%.
10. SPLICES SHALL BE AVOIDED TO THE MAXIMUM EXTENT POSSIBLE. HIGH VOLTAGE (5KV) SPLICES SHALL BE MADE ONLY WITH WRITTEN APPROVAL FROM THE COR. ALL OTHER UNDERGROUND SPLICES SHALL BE LOCATED IN HANDHOLES ONLY AND AS APPROVED BY THE COR.
11. PVC CONDUIT SHALL BE SCH 80 UNLESS OTHERWISE NOTED.
12. NO CONDUCTORS SMALLER THEN #6 AWG SHALL BE RE-COLORED WITH TAPE TO DESIGNATE NEUTRAL (WHITE) OR (GROUND) WIRE SHALL BE COLORED APPROPRIATELY AS MANUFACTURED PER NEC.
13. CONTRACTOR SHALL SUPPLY TWO SPARE FUSES FOR EACH FUSE INSTALLED.

ELECTRICAL GROUNDING:

1. ALL ELECTRICAL AND ELECTRONICS GROUNDING SHALL MEET OR EXCEED ALL PROVISIONS OF THE LATEST EDITION OF: FAA-STD-019. LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT. NATIONAL ELECTRICAL CODE (NEC): NFPA 780. STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS.
2. ALL GROUND RODS SHALL BE COPPER CLAD STEEL, 3/4 INCH DIAMETER AND 10 FEET LONG. GROUND RODS SHALL BE DRIVEN SUCH THAT THE TOP OF ROD IS NO LESS THAN 12 INCHES BELOW GRADE.
3. ALL UNDERGROUND GROUND CONNECTIONS SHALL BE EXOTHERMICALLY WELDED UNLESS OTHERWISE INDICATED; WELD INTEGRITY SHALL BE VERIFIED BY A HAMMER TEST.
4. ALL UNDERGROUND GRSC SHALL BE GROUNDED BY A 2 AWG BARE COPPER GROUND EXOTHERMICALLY WELDED TO THE GRSC AND THE COUNTERPOISE.
5. UNDERGROUND GROUNDING CONDUCTORS SHALL BE 24 INCHES (MINIMUM) BELOW GRADE EXCEPT AT GROUND RODS AND AS OTHERWISE INDICATED.
6. ALL CABLE ARMOR SHALL BE GROUNDED AT PCA CABINET, USING A METHOD APPROVED BY THE COR/RE.
7. ALL MULTI-PAIR CONTROL/DATA CABLE SHIELDS SHALL BE GROUNDED AT ONE END.
8. ALL UNUSED MULTI-PAIR CONTROL/DATA CABLES SHALL BE GROUNDED AT BOTH ENDS.
9. WHEN INSTALLING MULTIPLE GROUND CONDUCTORS TO ONE GROUND LUG, THE CONTRACTOR SHALL PROVIDE A BUSBAR.
10. A 1/0 AWG BARE COPPER STRANDED GUARD WIRE SHALL BE INSTALLED OVER ALL BURIED CABLES AND CONDUCTORS NOT ROUTED IN GALVANIZED RIGID STEEL CONDUIT. THE GUARD WIRE SHALL BE EMBEDDED IN THE SOIL, A MINIMUM OF 10 INCHES ABOVE THE CABLE TO BE PROTECTED, AND LOCATED DIRECTLY ABOVE AND PARALLEL TO THE LINES OR CABLES BEING PROTECTED. THE GUARD WIRE SHALL BE BONDED TO THE EARTH ELECTRODE SYSTEM (EES) AT EACH END AND TO GROUND RODS AT APPROXIMATELY 90-FOOT INTERVALS USING EXOTHERMIC WELDS. THE SPACING BETWEEN GROUND RODS SHALL VARY BY 10% TO 20% TO PREVENT RESONANCE. GROUND RODS SHALL BE INSTALLED APPROXIMATELY 6 FEET ON EITHER SIDE OF THE TRENCH. WHERE CABLES RUN ADJACENT TO THE EDGE OF A RUNWAY, THEY SHALL BE LOCATED 10 FEET FROM THE RUNWAY EDGE LIGHTS ON THE OUTSIDE OF THE EDGE LIGHTS.

TESTING:

1. THE CONTRACTOR SHALL TEST ALL EQUIPMENT, CABLES AND THE EARTH ELECTRODE SYSTEM IN COORDINATION WITH ON SITE FAA PERSONNEL.
2. CONTRACTOR SHALL PERFORM INSULATION RESISTANCE TESTS ON ALL WIRES INSTALLED. CONTROL CABLE SHALL BE TESTED PER FAA ORDER 6000.204, CHAPTER 3 PARAGRAPH 10 SECTIONS A,B, and C. POWER CABLE SHALL BE TESTED PER FAA ORDER 6950.22A, CHAPTER 3 PARAGRAPHS 3-2, 3-4, and 3-4 AS APPLICABLE. THE CORRECT TESTING VOLTAGE MUST BE SELECTED USING THE GUIDANCE PROVIDED IN THE ORDERS TO PREVENT DAMAGE TO CABLE INSULATION.
3. CONTRACTOR SHALL TEST EACH EARTH ELECTRODE GROUNDING SYSTEM PER FAA HANDBOOK 010, CHAPTER 4 PARAGRAPH 2 SECTION 3. IF THE TEST RESULTS IN A READING HIGHER THAN 10 OHMS, THE CONTRACTOR SHALL REFER TO THE COR OR RE FOR FURTHER GUIDANCE. SUBMIT DETAILED DATA AND GRAPHS AS SHOWN IN THIS STANDARD FOR EACH FACILITY.
4. ALL TESTS TO CABLE, EQUIPMENT AND EARTH ELECTRODE SYSTEMS MUST BE PERFORMED IN THE PRESENCE OF THE COR OR RE. TESTS CONDUCTED WITHOUT THE COR OR RE PRESENT WILL BE REJECTED.

GFM:

1. 53 (48+5 SPARES) WHITE FA-23000/1 ALSF MULTI ELECTRIC LIGHT FIXTURES LCSS# 015490803
2. 53 (48+5 SPARES) RED FA-23000/3 MULTI ELECTRIC LIGHT FIXTURES LCSS# 015491858
3. 106 (96+10 SPARES) 6.6A TRANSCEIVER SHORTING DEVICE NSN# 6030-01-481-8075
4. 106 (96+10 SPARES) 300W, 20A PRIMARY, 6.6A SECONDARY AMERACE ISOLATION TRANSFORMERS NSN# 8200-00-003-1155
5. 150 (145+5 SPARES) LOAD TRASNFER RINGS - MULTI ELECTRIC P/N 3950-142

CONTRACTOR SHALL PROVIDE STORAGE FOR GFM.

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
IN PAVEMENT LIGHTS
GENERAL NOTES

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

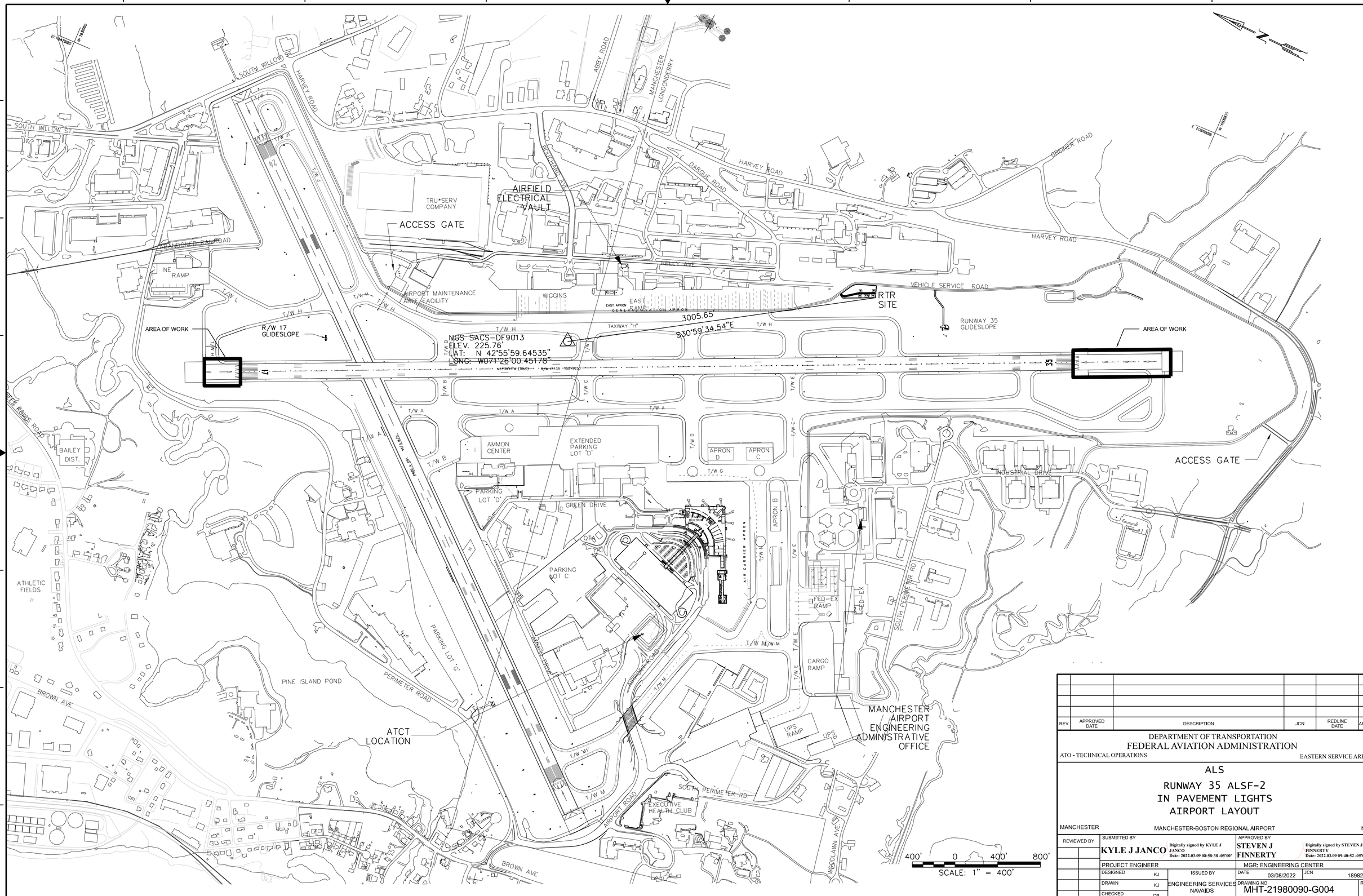
REVIEWED BY	SUBMITTED BY		APPROVED BY	
	KYLE J JANCO (Digitally signed by KYLE J JANCO Date: 2022.03.09 08:58:01 -05'00')		STEVEN J FINNERTY (Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:39:54 -05'00')	
	PROJECT ENGINEER		MGR: ENGINEERING CENTER	
	DESIGNED KJ	ISSUED BY	DATE 03/08/2022	JCN 1898299
	DRAWN KJ	ENGINEERING SERVICES NAVAIDS	DRAWING NO MHT-21980090-G003	REV
	CHECKED CP			

ISSUED FOR CONSTRUCTION

EDM: mht-21980090-g003.dwg

mht-21980090-g003.dwg 03/09/2022 8:18:38 AM Plotted by: SRVC-CAEO-EDMS-COORD

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM



REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
IN PAVEMENT LIGHTS
AIRPORT LAYOUT

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

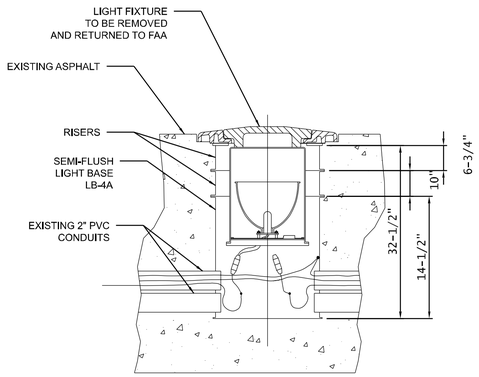
REVIEWED BY	SUBMITTED BY	APPROVED BY
	KYLE J JANCO — Digitally signed by KYLE J JANCO Date: 2022.03.09 08:58:38 -05'00'	STEVEN J FINNERTY — Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:40:52 -05'00'
	PROJECT ENGINEER	MGR: ENGINEERING CENTER

DESIGNED	KJ	ISSUED BY	DATE 03/08/2022	JCN 1898299
DRAWN	KJ	ENGINEERING SERVICES NAVAIDS	DRAWING NO MHT-21980090-G004	REV
CHECKED	CP			

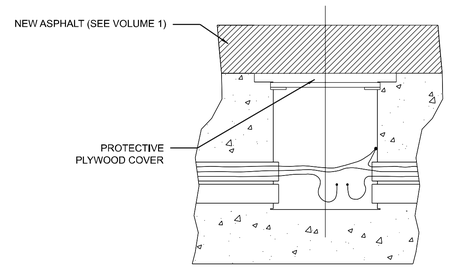
ISSUED FOR CONSTRUCTION

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

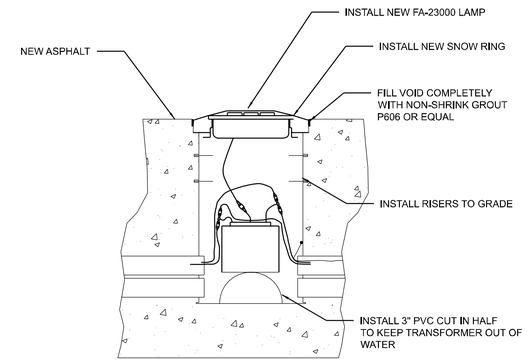
mht-21980090-g004.dwg 03/09/2022 8:18:58 AM Plotted by: SRVC-CAEG-EDMS-COORD



STEP 1:
-LIGHT FIXTURE SHALL BE RETURNED TO FAA
-CONTRACTOR SHALL PROVIDE PLYWOOD COVERS
-CANS SHALL NOT BE LEFT OPEN OVER NIGHT
-CONTRACTOR SHALL SURVEY CENETER OF EACH CAN TO LOCATE AFTER NEW ASPHALT
-ALL CONDUCTORS SHALL BE PROTECTED WITH TWO LAYERS OF SCOTCH 88.

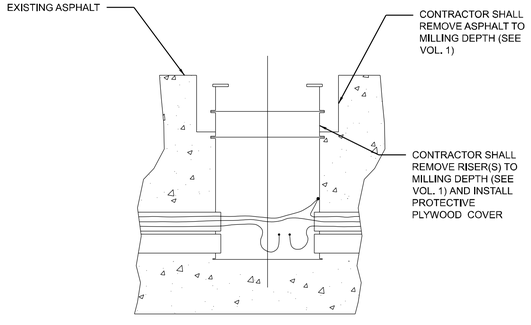


STEP 3:
-CONTRACTOR SHALL MILL AND PAVE OVER EXISTING BASES (SEE VOLUME 1)

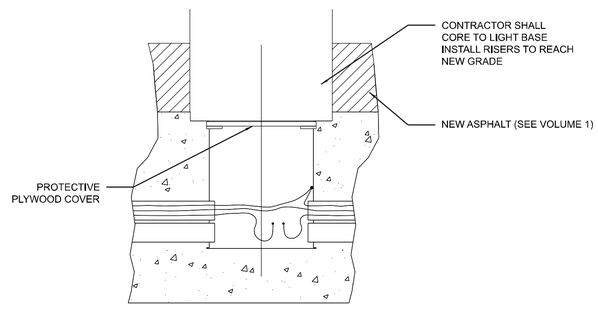


STEP 5:
-CONTRACTOR SHALL TERMINATE CONDUCTORS AND INSTALL NEW LAMPS
-RISERS AND SHIMS SHALL BE FIELD DETERMINED TO GRADE BY CONTRACTOR

*LAMPS, TRANSCIEVERS, AND TRANSFORMERS AT ALSF THRESHOLD HAVE BEEN REPLACED FROM A PREVIOUS PROJECT.
CONTRACTOR SHALL FOLLOW STEPS 1-5 AT THRESHOLD.
BUT REPLACE WITH EXISTING LAMPS, TRANSCEIVERS AND TRANSFORMERS AT THRESHOLD ONLY.



STEP 2:
-CONTRACTOR SHALL REMOVE ASPHALT TO BELOW MILLING DEPTH AROUND THE CAN. (SEE VOLUME 1)
-CONTRACTOR SHALL REMOVE EXISTING RISER(S) AS NECESSARY
-CONTRACTOR SHALL PROVIDE COVER PLATES, NO OPEN EXCAVATIONS OVER NIGHT



STEP 4:
-CONTRACTOR SHALL USE A PILOT HOLE TO FIND CENTER OF CAN.
-CONTRACTOR SHALL CORE TO EXISTING CAN DEPTH AND INSTALL NEW RISERS AND SHIMS TO NEW ASPHALT GRADE.

NOTES:

1. THE INSTALLATION DEPTH OF EXISTING BASE CANS BELOW GRADE, NUMBER, AND HEIGHT OF EXISTING BASE EXTENSION(S), SPACER RING(S), AND SNOW PLOW RINGS VARIES AT EACH FIXTURE LOCATION. THE CONTRACTOR SHALL BE REQUIRED TO MEASURE EACH BASE CAN WHERE ADJUSTMENTS WILL TAKE PLACE PRIOR TO ORDERING MATERIALS FOR THE NEW INSTALLATION. SEE SPECIFICATION L-125 FOR MORE INFORMATION. FOR THE PURPOSES OF BIDDING, THE CONTRACTOR SHALL ASSUME EACH EXISTING INSTALLATION CONSISTS OF AS SEEN IN STEP 1.

2. AT EXISTING LIGHT LOCATIONS WHERE ADJUSTMENTS ARE REQUIRED AND EXISTING FIXTURES ARE TO BE REINSTALLED, REINSTALLATION OF EXISTING FIXTURES, SNOW PLOW RINGS, AND ISOLATION TRANSFORMERS ARE INCIDENTAL TO THE LIGHT BASE ADJUSTMENTS.

3. THE BASE CAN EXTENSION SHALL BE INSTALLED IN SUCH A MANNER THAT THE FIXTURE MOUNTING HEIGHT SHALL BE IN ACCORDANCE WITH AC 150/5340-30, PARAGRAPH 11.2. ELEVATION OF THE BASE WITH RESPECT TO THE RUNWAY SURFACE AND AZIMUTH WITH RESPECT TO THE EDGE LIGHTS ARE TWO PARAMETERS THAT MUST BE MET. IT IS ABSOLUTELY NECESSARY THAT THE ELEVATION OF THE LIGHT BASE TOP FLANGE BE AT LEAST THE THICKNESS OF THE LIGHT FITTING PLUS THE THICKNESS OF TYPICAL PAVING TOLERANCES OF ±1/2 INCH (13 MM) BELOW THE PAVEMENT FINISHED SURFACE. IF LESS THAN THAT REMAINS AFTER PAVING, THE LIGHTING FIXTURE WILL BE UNACCEPTABLY HIGH. IF MORE THAN 3/4 INCH (19 MM) IS LEFT, SPACER RINGS CAN BE USED TO BRING THE LIGHTING FIXTURES UP TO THE CORRECT ELEVATION. IN ORDER TO PRESERVE THE BASE INTEGRITY AND PROPER BOLT TORQUE, A MAXIMUM OF TWO SPACER RINGS MAY BE STACKED TOGETHER.

4. END OF SNOW PLOW RING MUST BE SET ⅛" BELOW PAVEMENT IN ALL DIRECTIONS.

5. UTILIZE 2-PIECE BEVELED SPACER RING TO ENSURE SNOW RING FITS FLUSH IN ALL DIRECTIONS.

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
THRESHOLD TO STA 8
IN PAVEMENT LIGHT SECTIONS

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	KYLE J JANCO — Digitally signed by KYLE J JANCO Date: 2022.03.09 08:58:53 -05'00'	STEVEN J FINNERTY — Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:41:39 -05'00'

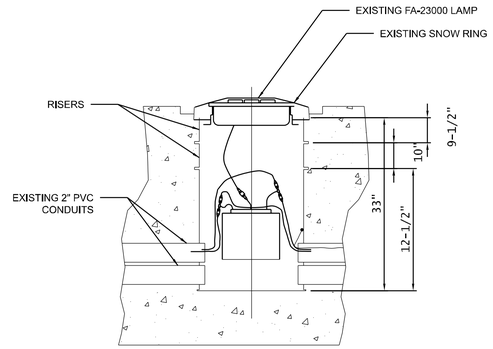
PROJECT ENGINEER		ISSUED BY	MGR: ENGINEERING CENTER	
DESIGNED	KJ	ENGINEERING SERVICES NAVAIDS	DATE 03/08/2022	JCN 1898299
DRAWN	KJ		DRAWING NO	REV
CHECKED	CP			

ISSUED FOR CONSTRUCTION

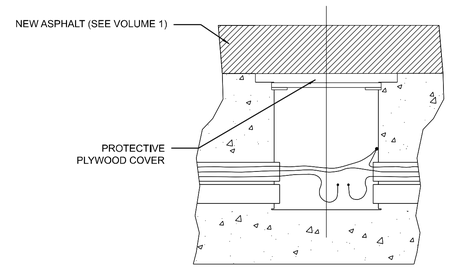
mis2:2168000/k-0067.dwg 03/09/2022 8:19:21 AM Plotted by: SRVC-CAEG-EDMS-COORD

EDMS: mis-2:2168000/k-0011.dwg

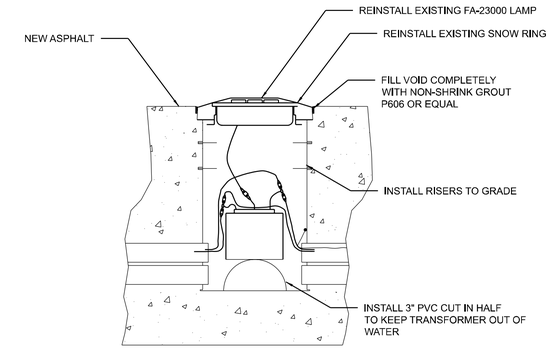
THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM



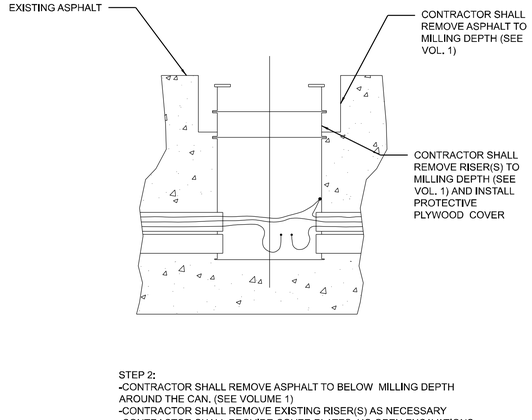
STEP 1:
-LIGHT FIXTURE SHALL BE STORED BY CONTRACTOR AND REUSED
-CONTRACTOR SHALL PROVIDE PLYWOOD COVERS
-CANS SHALL NOT BE LEFT OPEN OVER NIGHT
-CONTRACTOR SHALL SURVEY CENETER OF EACH CAN TO LOCATE AFTER NEW ASPHALT
-ALL CONDUCTORS SHALL BE PROTECTED WITH TWO LAYERS OF SCOTCH 88.



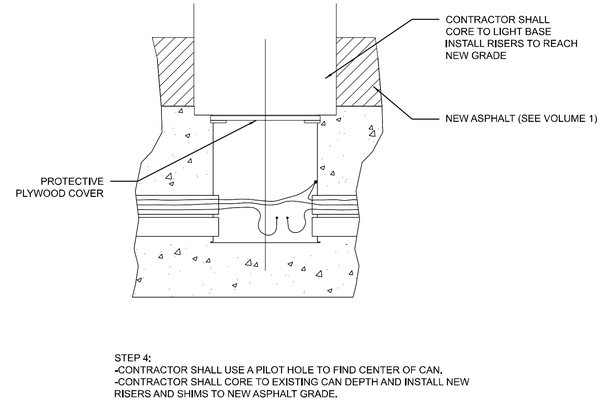
STEP 3:
-CONTRACTOR SHALL MILL AND PAVE OVER EXISTING BASES (SEE VOLUME 1)



STEP 5:
-CONTRACTOR SHALL EXISTING LAMPS
-RISERS AND SHIMS SHALL BE FIELD DETERMINED TO GRADE BY CONTRACTOR



STEP 2:
-CONTRACTOR SHALL REMOVE ASPHALT TO BELOW MILLING DEPTH AROUND THE CAN. (SEE VOLUME 1)
-CONTRACTOR SHALL REMOVE EXISTING RISER(S) AS NECESSARY
-CONTRACTOR SHALL PROVIDE COVER PLATES, NO OPEN EXCAVATIONS OVER NIGHT



STEP 4:
-CONTRACTOR SHALL USE A PILOT HOLE TO FIND CENTER OF CAN.
-CONTRACTOR SHALL CORE TO EXISTING CAN DEPTH AND INSTALL NEW RISERS AND SHIMS TO NEW ASPHALT GRADE.

NOTES:

1. THE INSTALLATION DEPTH OF EXISTING BASE CANS BELOW GRADE, NUMBER, AND HEIGHT OF EXISTING BASE EXTENSION(S), SPACER RING(S), AND SNOW PLOW RINGS VARIES AT EACH FIXTURE LOCATION. THE CONTRACTOR SHALL BE REQUIRED TO MEASURE EACH BASE CAN WHERE ADJUSTMENTS WILL TAKE PLACE PRIOR TO ORDERING MATERIALS FOR THE NEW INSTALLATION. SEE SPECIFICATION L-125 FOR MORE INFORMATION. FOR THE PURPOSES OF BIDDING, THE CONTRACTOR SHALL ASSUME EACH EXISTING INSTALLATION CONSISTS OF AS SEEN IN STEP 1.
2. AT EXISTING LIGHT LOCATIONS WHERE ADJUSTMENTS ARE REQUIRED AND EXISTING FIXTURES ARE TO BE REINSTALLED, REINSTALLATION OF EXISTING FIXTURES, SNOW PLOW RINGS, AND ISOLATION TRANSFORMERS ARE INCIDENTAL TO THE LIGHT BASE ADJUSTMENTS.
3. THE BASE CAN EXTENSION SHALL BE INSTALLED IN SUCH A MANNER THAT THE FIXTURE MOUNTING HEIGHT SHALL BE IN ACCORDANCE WITH AC 150/5340-30, PARAGRAPH 11.2. ELEVATION OF THE BASE WITH RESPECT TO THE RUNWAY SURFACE AND AZIMUTH WITH RESPECT TO THE EDGE LIGHTS ARE TWO PARAMETERS THAT MUST BE MET. IT IS ABSOLUTELY NECESSARY THAT THE ELEVATION OF THE LIGHT BASE TOP FLANGE BE AT LEAST THE THICKNESS OF THE LIGHT FITTING PLUS THE THICKNESS OF TYPICAL PAVING TOLERANCES OF ±1/2 INCH (13 MM) BELOW THE PAVEMENT FINISHED SURFACE. IF LESS THAN THAT REMAINS AFTER PAVING, THE LIGHTING FIXTURE WILL BE UNACCEPTABLY HIGH. IF MORE THAN 3/4 INCH (19 MM) IS LEFT, SPACER RINGS CAN BE USED TO BRING THE LIGHTING FIXTURES UP TO THE CORRECT ELEVATION. IN ORDER TO PRESERVE THE BASE INTEGRITY AND PROPER BOLT TORQUE, A MAXIMUM OF TWO SPACER RINGS MAY BE STACKED TOGETHER.
4. END OF SNOW PLOW RING MUST BE SET 1/16" BELOW PAVEMENT IN ALL DIRECTIONS.
5. UTILIZE 2-PIECE BEVELED SPACER RING TO ENSURE SNOW RING FITS FLUSH IN ALL DIRECTIONS.

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
MALSR IN PAVEMENT LIGHTS
SECTIONS

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	KYLE J JANCO — Digitally signed by KYLE J JANCO Date: 2022.03.09 08:59:04 -05'00'	STEVEN J FINNERTY — Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:42:36 -05'00'
	PROJECT ENGINEER	MGR: ENGINEERING CENTER

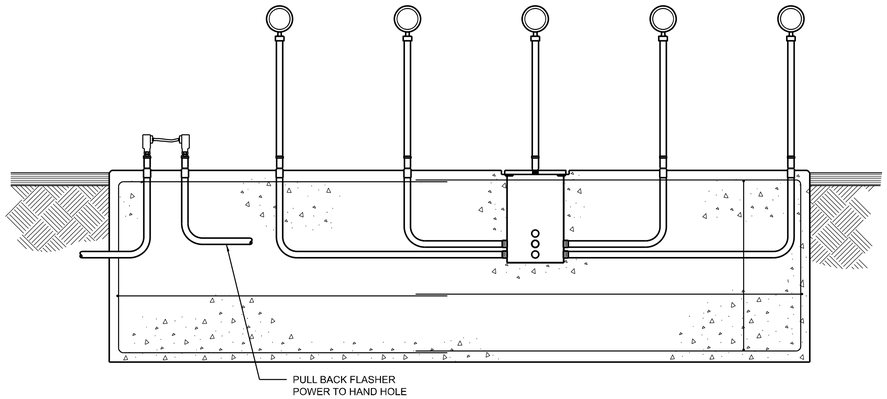
DESIGNED	KJ	ISSUED BY	DATE 03/08/2022	JCN	1898299
DRAWN	KJ	ENGINEERING SERVICES NAVAIDS	DRAWING NO MHT-21980090-C002		REV
CHECKED	CP				

ISSUED FOR CONSTRUCTION

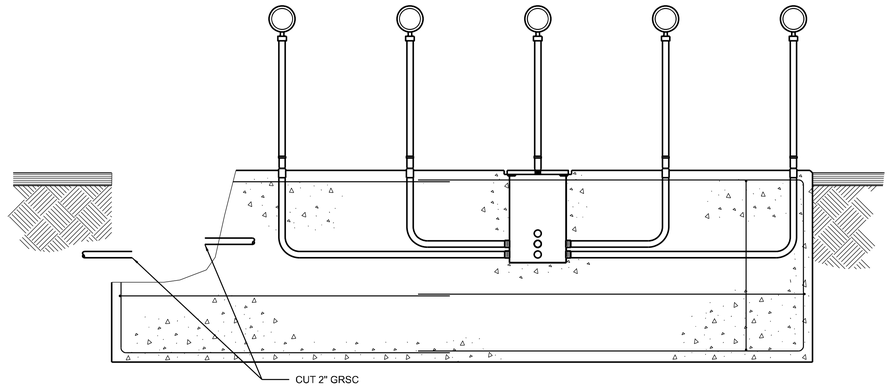
Plotted by: SRVCCAEG-EDMS-COORD
mht-21980090-c002.dwg 03/09/2022 8:59:47 AM

EDMS mht-21980090-c002.dwg

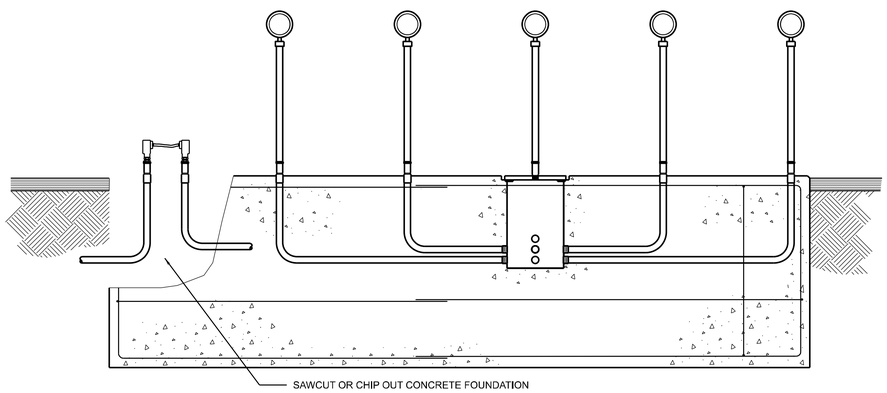
THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM



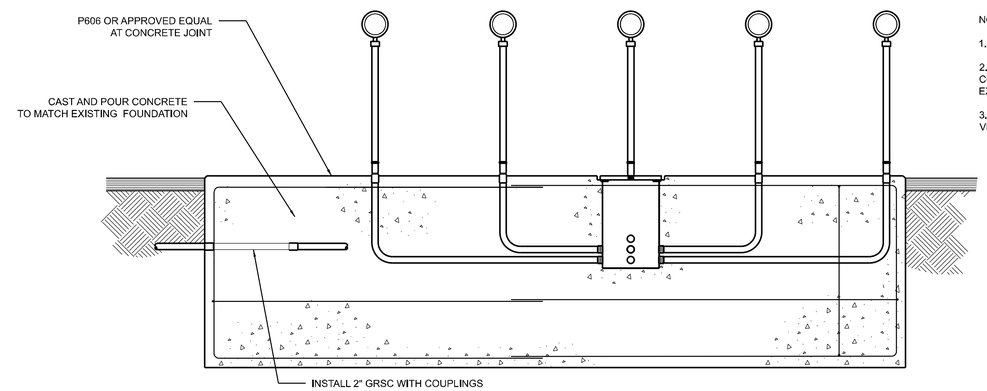
STEP 1:
-PULL BACK POWER CABLES TO HANDHOLE (SEE REFERENCE SHEET MHT-D-ALS35-C112) FOR SITE LAYOUT



STEP 3:
-CONTRACTOR SHALL CUT CONDUIT



STEP 2:
-CONTRACTOR CAREFULLY CHIP OUT FOUNDATION, PROTECTING REBAR TO EXPOSE 2" GRSC



STEP 4:
-CONTRACTOR SHALL INSTALL 2" GRSC WITH TWO COUPLINGS
-CONTRACT SHALL POUR CONCRETE TO MATCH EXISTING FOUNDATION WITH 3/4" CHAMFERED EDGE.

NOTES:

1. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY CONTRACTOR AND FAA RE.

2. CONTRACTOR MAY CUT REBAR FOR WORKABLIITY. IF REBAR IS CUT CONTRACTOR SHALL DRILL DOWELS 12" IN TO FOUNDATION AND 12" EXPOSED TO NEW CONCRETE AND THEN EPOXY.

3. DEPTH TO EXISTING GRSC IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY DEPTH OF CONDUIT.

1' 0 1' 2' 3' 4' 5'
SCALE: 1/2" = 1'-0"

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

ALS
RUNWAY 35 ALSF-2
STATION 10
RSA VIOLATION

MANCHESTER — MANCHESTER-BOSTON REGIONAL AIRPORT — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	KYLE J JANCO — Digitally signed by KYLE J JANCO Date: 2022.03.09 08:59:19 -05'00'	STEVEN J FINNERTY — Digitally signed by STEVEN J FINNERTY Date: 2022.03.09 09:42:08 -05'00'
	PROJECT ENGINEER	MGR: ENGINEERING CENTER

DESIGNED	KJ	ISSUED BY	DATE 03/08/2022	JCN 1898299	
DRAWN	KJ	ENGINEERING SERVICES NAVAIDS	DRAWING NO MHT-21980090-C003		REV
CHECKED	CP				

ISSUED FOR CONSTRUCTION

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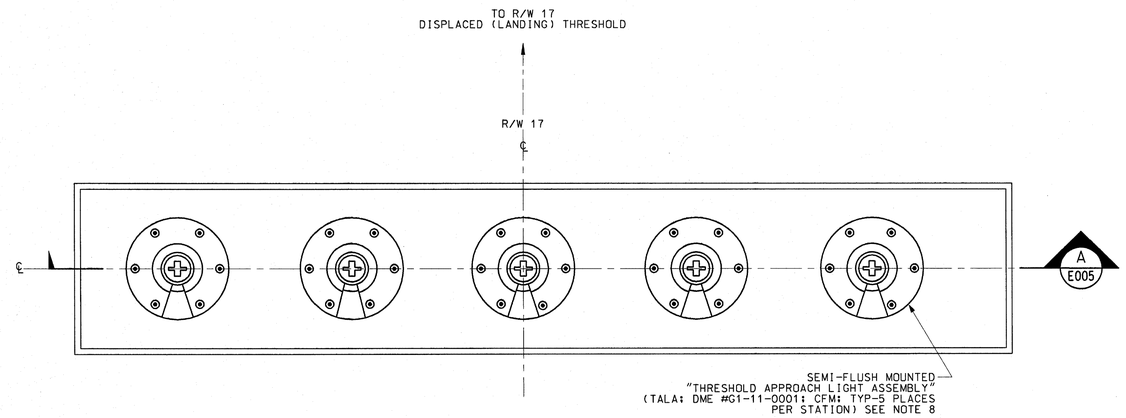
03/09/2022 8:17:38 AM
Plotted by: SRVC-CAEG-EDMS-COORD

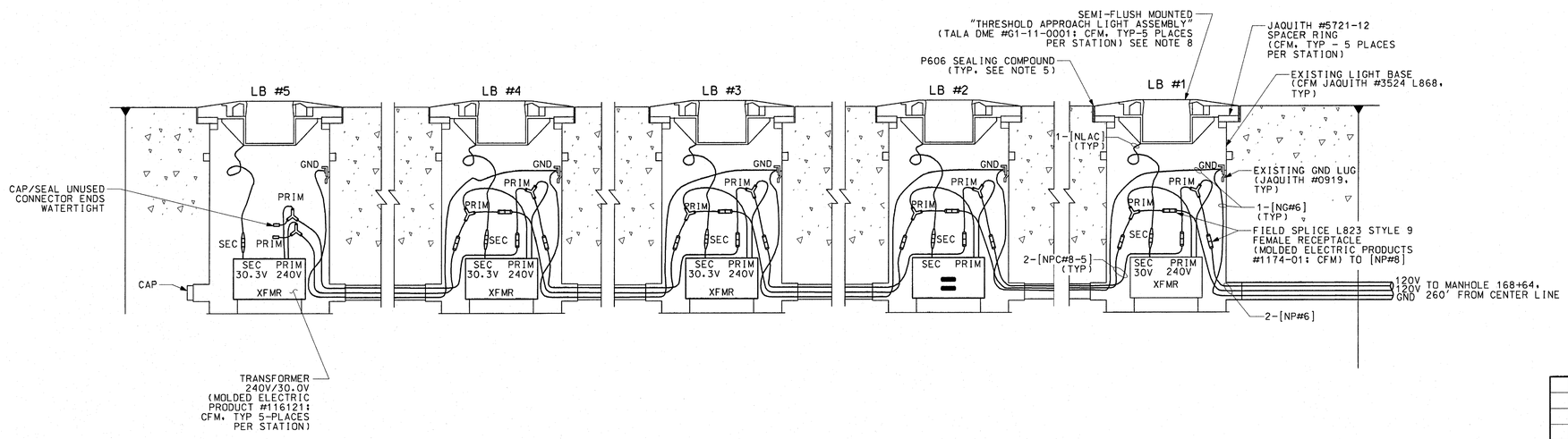
EDM: mht-21980090-c003.dwg

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

THIS DRAWING PRODUCED ON THE NEW ENGLAND REGION MICROSTATION SYSTEM



PLAN
SEMI-FLUSH MOUNTED LIGHT BAR
STA 168+64
SCALE: 1"=1'-0"



A
E005
SEMI-FLUSH MOUNTED LIGHT INSTALLATION SECTION - STA 168+64 (MALS)
SCALE: 1 1/2"=1'-0"

NOTES:

1. ALL IN PAVEMENT LIGHTS CFM.
2. NOT USED
3. NOT USED
4. REMOVE TEMPORARY 1 1/4" PLYWOOD COVERS AND 1/4" THICK FOAM STRIPS PRIOR TO INSTALLING LIGHT ASSEMBLIES. ALL LIGHT BASES SHALL HAVE LIGHT ASSEMBLIES OR 1 1/4" STEEL COVERS SECURED IN PLACE PRIOR TO RE-OPENING THE RUNWAY TO AIR TRAFFIC.
5. APPLY AN APPROVED P606 SEALING COMPOUND AROUND ALL LIGHT ASSEMBLIES TO PREVENT WATER INCURSION.
6. USE ANTI-SEIZE COMPOUND ON ALL LIGHT ASSEMBLY BOLTS.
7. STRIP ENOUGH INSULATION OFF #6 GROUND CABLE [NG#6] TO ATTACH EXPOSED COPPER TO GROUND CLAMP IN EACH LIGHT BASE. #6 GROUND [NG#6] SHALL REMAIN CONTINUOUS THROUGHOUT ENTIRE LIGHT BAR.
8. GREEN FILTERS, IF PRESENT, SHALL BE REMOVED FROM EACH MALS TALA LIGHT FIXTURE.

1' 9" 6" 3" 0 1'
SCALE: 1 1/2" = 1'-0"

1' 0 1' 2'
SCALE: 1" = 1'-0"

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
	04/22/2003	PROPOSED, WR* 6995 (lef/zjb/sjp/eks)	9902522	02/25/2002	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER BURLINGTON, MA 01803

MEDIUM INTENSITY APPROACH LIGHTING SYSTEM W/ RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR)
RUNWAY 17
STA. 168+64 THRESHOLD SEMI-FLUSH LIGHT BAR EQUIPMENT INSTALLATION

MANCHESTER MANCHESTER AIRPORT NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
EKS 4/22/03	D. Daudier	P. Kirby
9R 4/22/03	D. DAUDIER, ANI-180	P. KIRBY, ANI-180

DESIGNED	DD	ISSUED BY	DATE	04/22/2003	JCN	9902522
DRAWN	aea/kec	NAS IMPLEMENTATION ANI-100	DRAWING NO	NE-D-26997-E005		REV
CHECKED						

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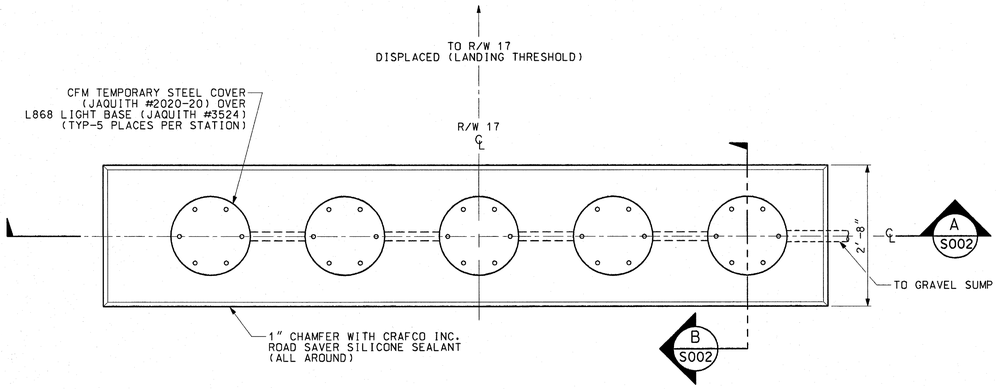
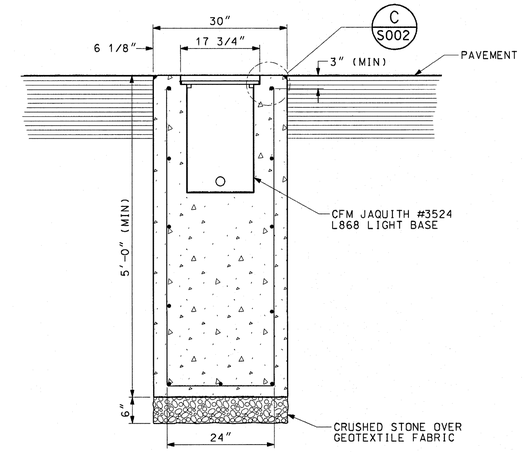


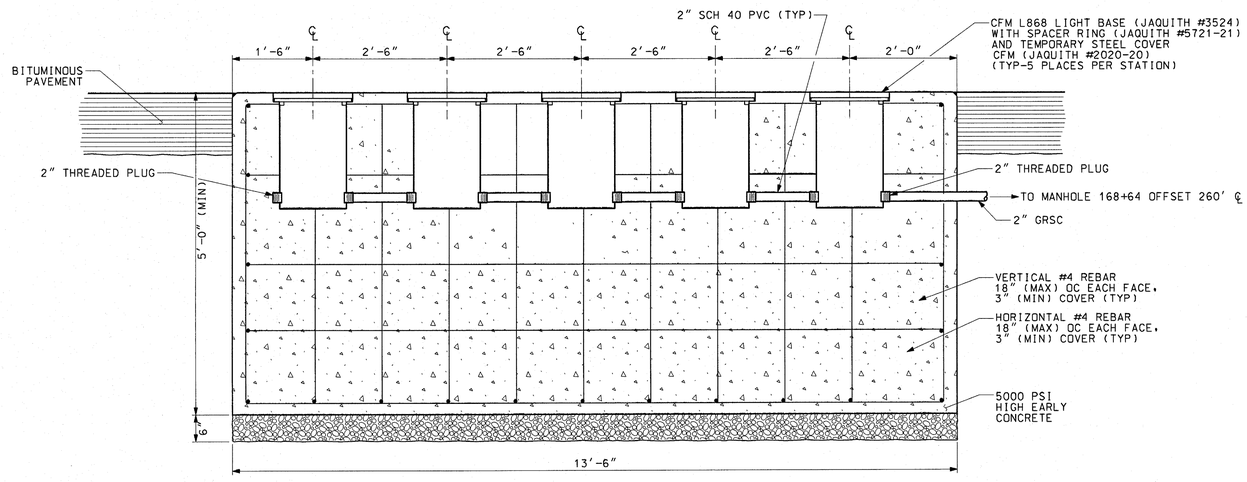
SEMI-FLUSH LIGHT BAR FOUNDATION PLAN STA 168+64

SCALE: 3/4"=1'-0"



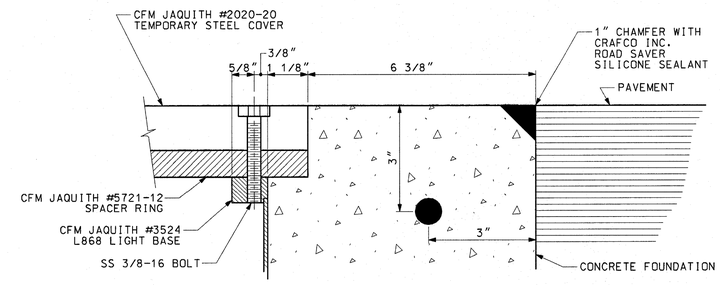
B S002 FOUNDATION SECTION

SCALE: 3/4"=1'-0"



A S002 SEMI-FLUSH LIGHT BAR FOUNDATION
AT STA 168+64

SCALE: 3/4"=1'-0"



C S002 LIGHT BASE & FOUNDATION
(HALF SIZE)

1' 0 1' 2' 5'
SCALE: 1/2" = 1'-0"

1' 0 1' 2' 3'
SCALE: 3/4" = 1'-0"

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
	04/22/2003	PROPOSED, WR* 6995 (lef/zjb/eks)	9902522	02/25/2002	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER BURLINGTON, MA 01803

MEDIUM INTENSITY APPROACH LIGHTING SYSTEM W/
RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR)
RUNWAY 17
STATION 168+65 FOUNDATION DETAILS
(MALS SEMI-FLUSH LIGHT BAR)

MANCHESTER MANCHESTER AIRPORT NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
EKS 4/22/03	D. Daudier	P. Kirby
9/22/03	D. DAUDIER, ANI-180	P. KIRBY, ANI-180

DESIGNED DD	ISSUED BY NAS IMPLEMENTATION ANI-100	DATE 04/22/2003	JCN 9902522
DRAWN eks		DRAWING NO NE-D-26997-S002	REV
CHECKED			

THIS DRAWING PRODUCED ON THE NEW ENGLAND REGION MICROSTATION SYSTEM

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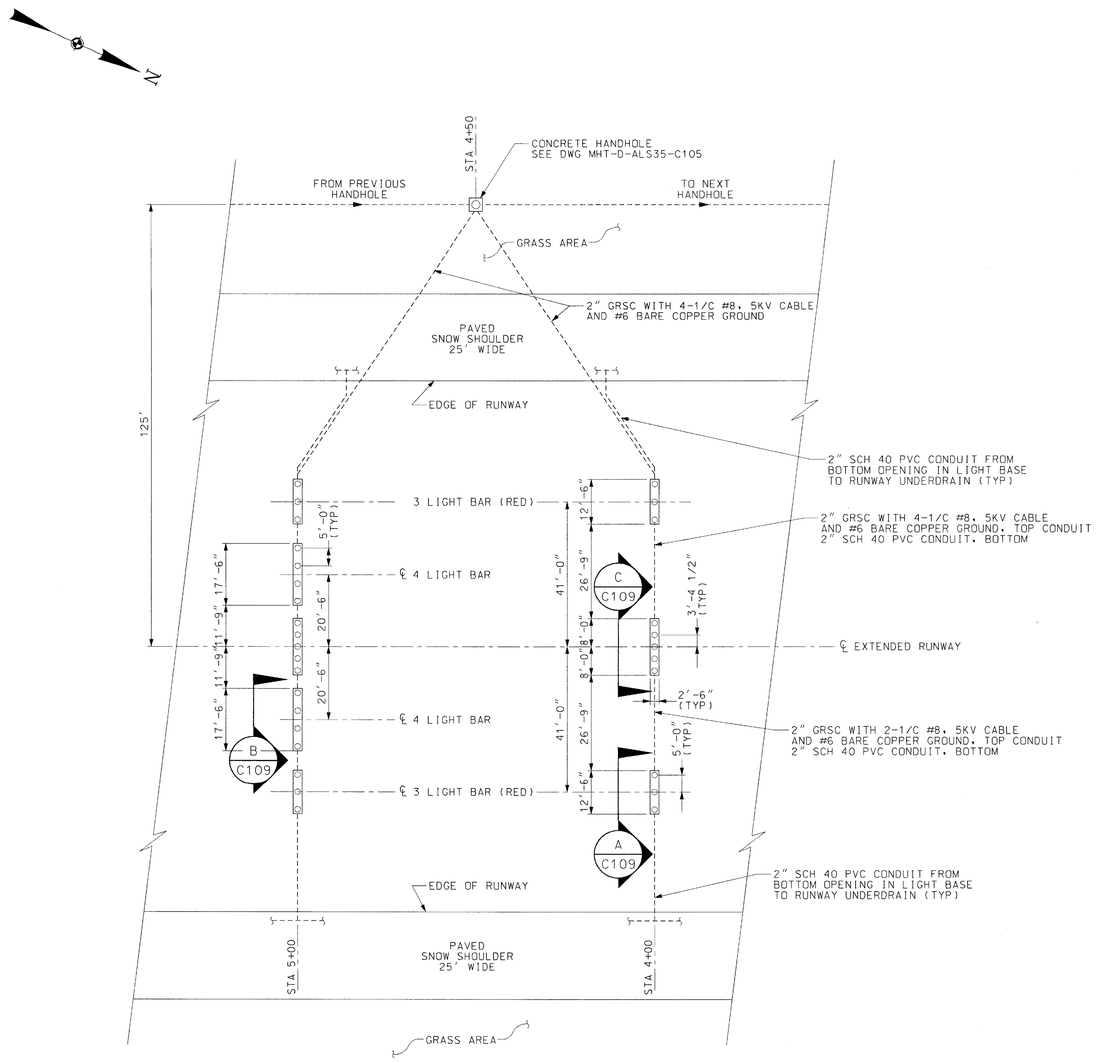
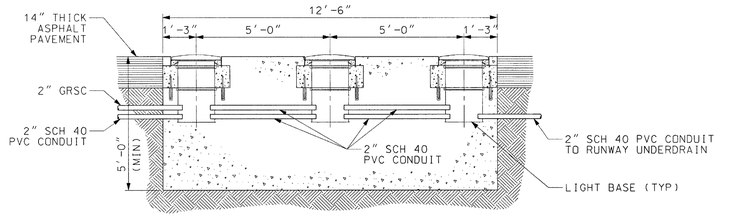
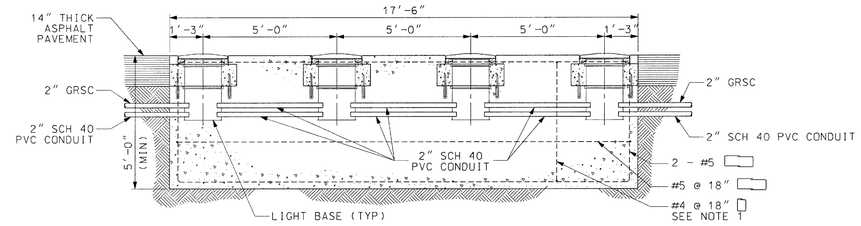
04/22/2003 9:25 AM estevens



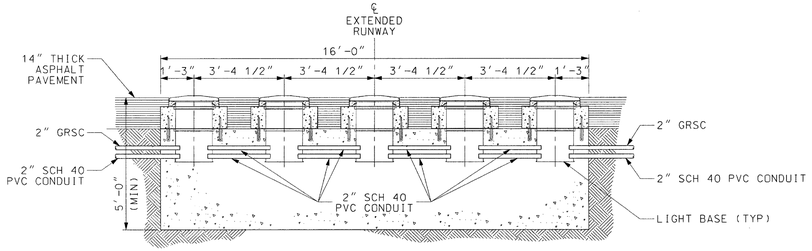
1 C107 IN-PAVEMENT LIGHTS - STA 1+00 THROUGH 8+00
SCALE: 1" = 20'-0"



A C109 3 LIGHT BAR - LOOKING TOWARD THRESHOLD
SCALE: 3/8" = 1'-0"



B C109 4 LIGHT BAR - LOOKING TOWARD THRESHOLD
SCALE: 3/8" = 1'-0"



C C109 5 LIGHT BAR - LOOKING TOWARD THRESHOLD
SCALE: 3/8" = 1'-0"

THIS DRAWING SUPERSEDES DRAWING NE-D-27656-C009, REV -, DATED 12/03/2001

NOTES

1. REINFORCING SHOWN TYPICAL FOR ALL FOUNDATIONS.

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
A	06/07/2005	AS-BUILT, WR #7315 (DG)	3315	01/12/2004	
	12/03/2001	PROPOSED, WR #6726 (EKS)	9902522	01/22/2001	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER BURLINGTON, MA

ALS

RUNWAY 35 ALSF-2/SSALR
STATION 1+00 THRU 8+00 FOUNDATIONS
SECTIONS AND DETAILS

MANCHESTER MANCHESTER NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	D.L.WYER David L Wyer	P.KIRBY Paul Kirby
	PROJECT ENGINEER, ANI-180	PLATFORM MANAGER, ANI-180
	DESIGNED DLW	DATE 12/03/2001 JCN 9902522
	DRAWN EKS	DRAWING NO MHT-D-ALS35-C109 REV A
	CHECKED	

ISSUED BY NAS IMPLEMENTATION ANI-100

2' 0 2' 4' 6'
SCALE: 3/8" = 1'-0"

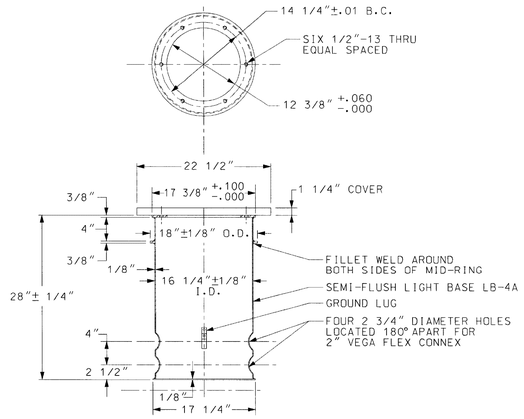
20' 0 20' 40'
SCALE: 1" = 20'

ISSUED FOR: AS-BUILT

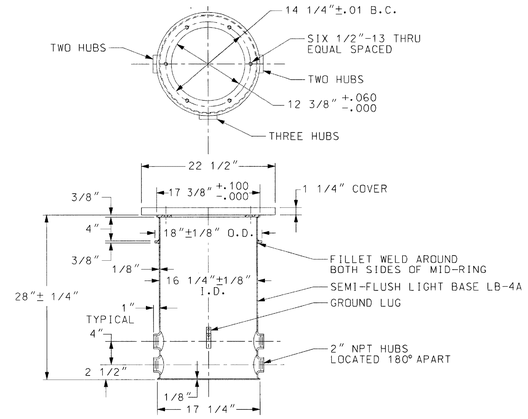
EDM: mht-d-als35-c109.dgn

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

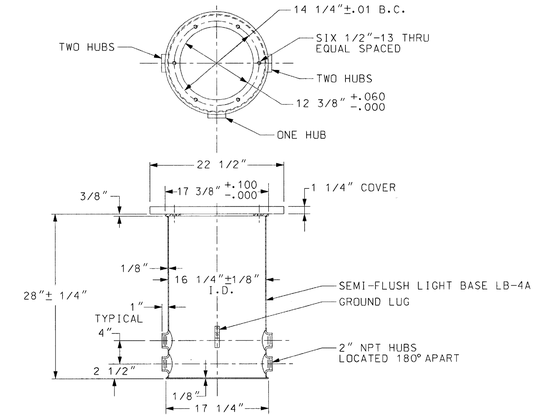
6/3/2005 9:46:23 AMgoenner



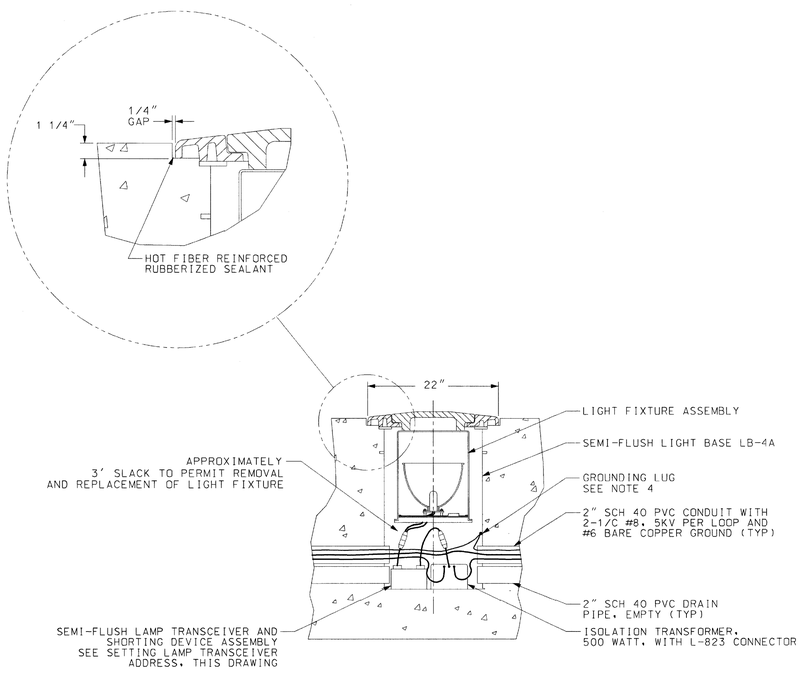
A C108 SEMI-FLUSH LIGHT BASE WITH FOUR GROMMETS - #6309
SCALE: 1"= 1'-0"



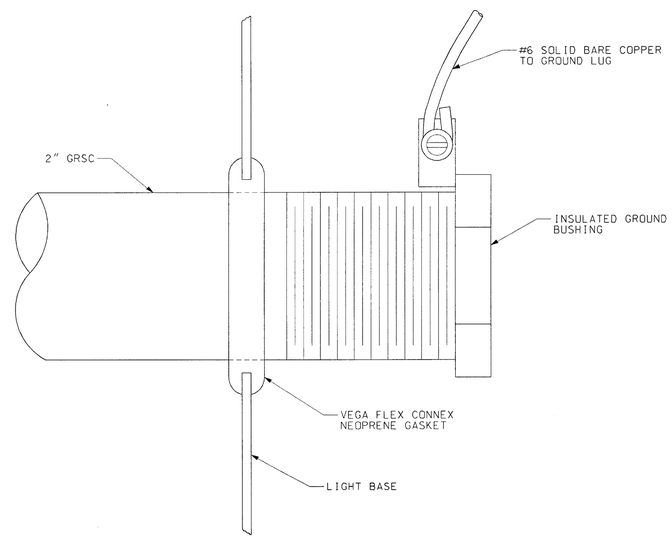
B C108 SEMI-FLUSH LIGHT BASE WITH SEVEN HUBS - #6309
SCALE: 1"= 1'-0"



C C113 LIGHT BASE WITH FIVE HUBS - #6309
SCALE: 1"= 1'-0"



D C110 TYPICAL SEMI-FLUSH, STEADY-BURN LIGHT
SCALE: NONE



E C110 GRSC TO LIGHT BASE GROUNDING DETAIL
SCALE: FULL

1" 0 1" 2"
SCALE: 1" = 1"

1' 0 1' 2'
SCALE: 1" = 1'-0"

THIS DRAWING SUPERSEDES DRAWING
NE-D-27656-C010 , REV -, DATED 12/03/2001

SETTING LAMP TRANSCEIVER ADDRESS

1. THE LAMP NUMBER DETERMINES THE TRANSCEIVER NUMBER FOR THAT LOOP (SEE DRAWING MHT-D-ALS35-E101 AND E102).
2. WIRE VALUES: VIOLET IS 64, BLUE IS 32, GREEN IS 16, YELLOW IS 8, ORANGE IS 4, RED IS 2, BROWN IS 1.
3. THE BROWN WIRE IS THE LEAST SIGNIFICANT BIT (LSB) AND IS IDENTIFIED WITH A DOT NEXT TO IT. REFER TO SECTION 9, PAGES 33-37 OF TI MANUAL 6850.87.

NOTES

1. ALL GROUNDING IN ACCORDANCE WITH FAA-STD-019C.
2. SEMI-FLUSH LIGHT BASES ARE A JAQUITH INDUSTRIES, P/N VEGA 6309 OR EQUAL WITH MODIFICATION PER DRAWING ABOVE. NEW P/N ARE VEGA 6309S-4, 6309S-7 AND 6309-5.
3. JAQUITH INDUSTRIES, INC. P.O. BOX 780, SYRACUSE, N.Y. 13205, 315-478-5700 OR EQUAL.
4. ALL LIGHT BASES GROUNDED AS SHOWN. THE #6 BARE COPPER GROUND WIRE IS RUN THROUGH EACH BASE IN THE LIGHT BAR AND GROUNDED AT EACH CAN.
5. ANTI-SEIZE COMPOUND APPLIED TO ALL THREADS ON BOLTS.

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
A	06/07/2005	AS-BUILT, WR #7315 (DG)	3315	01/12/2004	
	12/03/2001	PROPOSED, WR #6726 (EKS)	9902522	01/22/2001	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER — BURLINGTON, MA

ALS
RUNWAY 35 ALSF-2/SSALR
SEMI-FLUSH LIGHT BASES

MANCHESTER — MANCHESTER — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	D.L.WYER (PROJECT ENGINEER, ANI-180)	P.KIRBY (PLATFORM MANAGER, ANI-180)

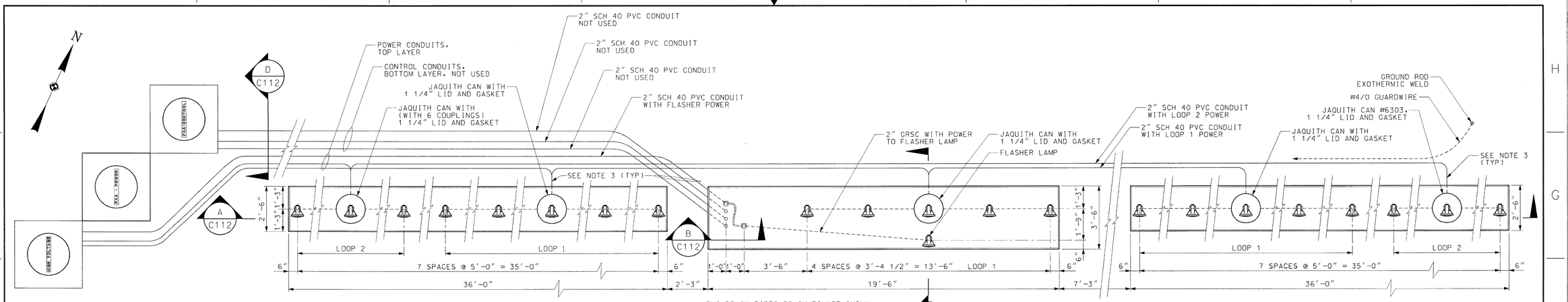
DESIGNED DLW
DRAWN EKS
CHECKED
ISSUED BY NAS IMPLEMENTATION ANI-100
DATE 12/03/2001 JCN 9902522
DRAWING NO MHT-D-ALS35-C110 REV A

ISSUED FOR: AS-BUILT

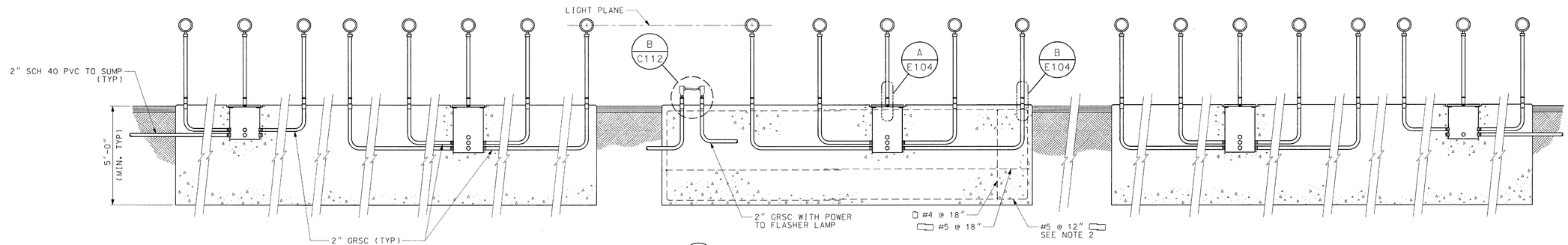
EDM: mht-d-als35-c110.dgn

6/3/2005 9:48:18 AMdgpenner

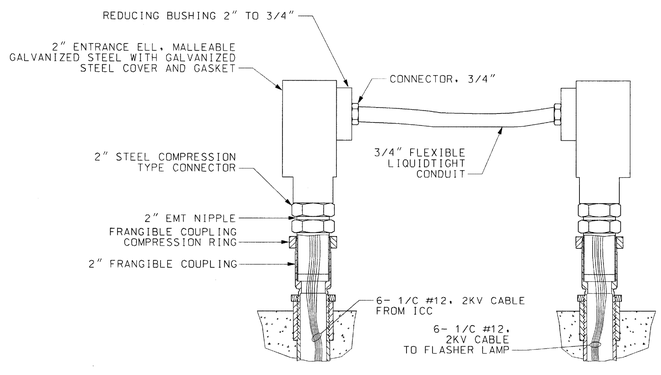
THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM



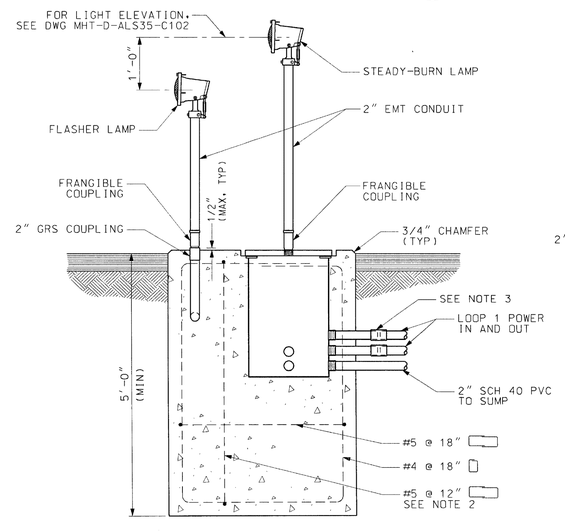
1 C112 PLAN - STATION 10+00
SCALE: 3/8" = 1'-0"



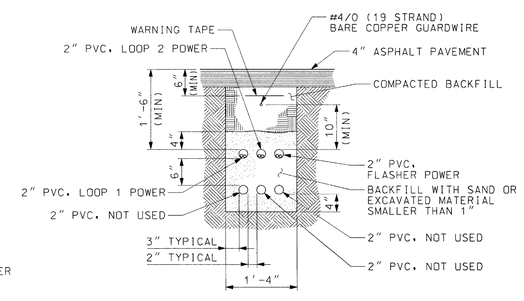
A C112 ELEVATION - LOOKING TOWARD THRESHOLD
SCALE: 3/8" = 1'-0"



B C112 C113 FLASHER CABLE ROUTING
SCALE: NONE



C C112 FLASHER CABLE ROUTING
SCALE: 3/4" = 1'-0"



D C112 TRENCH SECTION
SCALE: NONE

2' 0 2' 4' 6'
SCALE: 3/8" = 1'-0"

1' 0 1' 2' 3'
SCALE: 3/4" = 1'-0"

THIS DRAWING SUPERSEDES DRAWING NE-D-27656-C012 , REV -, DATED 12/03/2001

NOTES

1. PLUG UNUSED COUPLINGS IN JAQUITH CANS.
2. REINFORCING SHOWN TYPICAL FOR ALL THREE FOUNDATIONS.
3. CONDUIT WITH POWER AND CONTROL CABLES TRANSITION FROM PVC TO GRSC BEFORE ENTERING FOUNDATIONS.
4. AT STATION 10 ONLY, NEMA 4X, 20"x20"x6" JUNCTION BOX WITH MOUNTING PANEL, SIGNAL TERMINAL BLOCK, GROUND LUG, AND POWER TERMINAL BLOCK TO REDUCE POWER CONDUCTORS FROM #1/0 TO #2.

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
A	06/07/2005	AS-BUILT, WR #7315 (DG)	3315	01/12/2004	
	12/03/2001	PROPOSED, WR #6726 (EKS/LEF)	9902522	01/22/2001	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER — BURLINGTON, MA

ALS
RUNWAY 35 ALSF-2/SSALR
STATION 10+00 FOUNDATIONS
SECTIONS AND DETAILS

MANCHESTER — MANCHESTER — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	D.L.WYER	P.KIRBY
	PROJECT ENGINEER, ANI-180	PLATFORM MANAGER, ANI-180

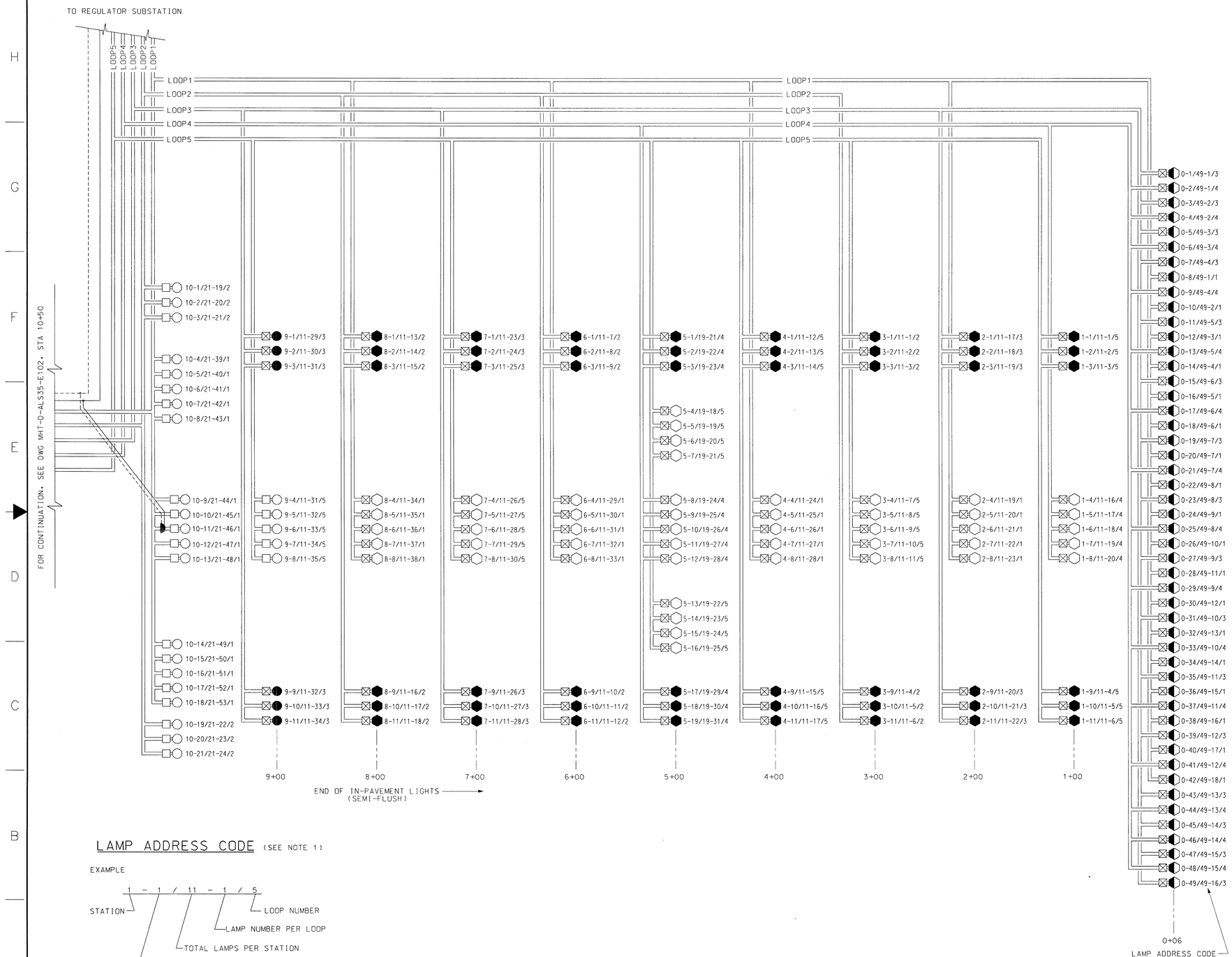
DESIGNED DLW — DRAWN EKS — CHECKED
ISSUED BY NAS IMPLEMENTATION ANI-100
DATE 12/03/2001 — JCN 9902522
DRAWING NO MHT-D-ALS35-C112 — REV A

ISSUED FOR: AS-BUILT

EDM: mht-d-als35-c112.dgn

6/3/2005 9:54:52 AMgpenner

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM



LAMP ADDRESS CODE (SEE NOTE 1)

EXAMPLE

1 - 1 / 11 - 1 / 5

- STATION
- LAMP NUMBER
- TOTAL LAMPS PER STATION
- LAMP NUMBER PER LOOP
- LOOP NUMBER

THIS DRAWING SUPERSEDES DRAWING NE-D-27656-E001, REV -, DATED 12/03/2001

LEGEND

- IN-PAVEMENT THRESHOLD LIGHT WITH GREEN LENS (500 WATT)
- IN-PAVEMENT LIGHT WITH CLEAR LENS (500 WATT)
- IN-PAVEMENT LIGHT WITH RED LENS (500 WATT)
- PAR 56 LAMP, CLEAR (300 WATT)
- PAR 56 LAMP, WITH RED FILTER (500 WATT)
- ISOLATION TRANSFORMER (300 WATT)
- ISOLATION TRANSFORMER (500 WATT)
- SEQUENCED FLASHER
- LOOP 1 — SYSTEM LOOPS FOR STEADY-BURN LIGHTS
- POWER LINES FOR FLASHER
- SIGNAL LINES FOR FLASHER

NOTES

1. LAMP ADDRESS CODE USED IN SYSTEM INITIALIZATION PROCESS. SEE INSTRUCTION BOOK TI-6850.87, SECTION 9 AND SETTING NOTE 1 ON DWG MHT-D-ALS35-C110.
2. LIGHTING LOOPS INFORMATION AS FOLLOWED:
   LOOP1, REG 1, SSALR, RED/BLUE
   LOOP2, REG 2, ALSF-2, RED/GREEN
   LOOP3, REG 3, ALSF-2, RED/GRAY
   LOOP4, REG 4, ALSF-2, RED/BROWN
   LOOP5, REG 5, ALSF-2, RED/YELLOW

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
A	06/07/2005	AS-BUILT, WR #7315 (DG)	3315	01/12/2004	
	12/03/2001	PROPOSED, WR #6726 (LEF/ZJB/EKS)	9902522	01/22/2001	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER — BURLINGTON, MA

ALS
RUNWAY 35 ALSF-2/SSALR
STATION 0+06 THRU 10+50
DUAL MODE FIELD LIGHTING LOOP CONFIG

MANCHESTER — MANCHESTER — NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	D.L.WYER	P.KIRBY
	PROJECT ENGINEER, ANI-180	PLATFORM MANAGER, ANI-180

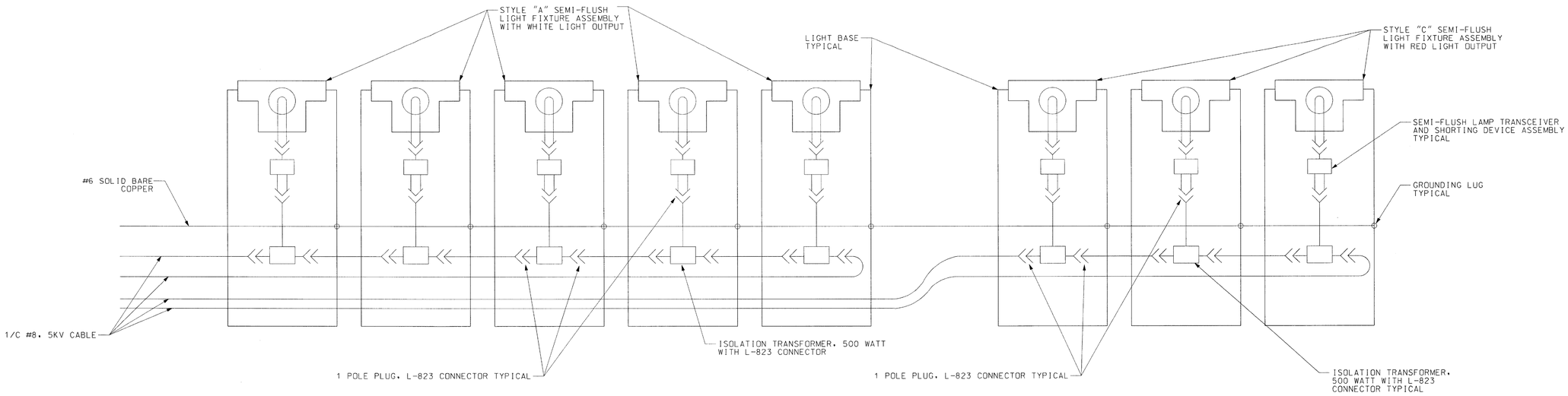
DESIGNED DLW — DRAWN EKS — CHECKED — ISSUED BY NAS IMPLEMENTATION ANI-100 — DATE 12/03/2001 — JCN 9902522 — DRAWING NO MHT-D-ALS35-E101 — REV A

ISSUED FOR: AS-BUILT

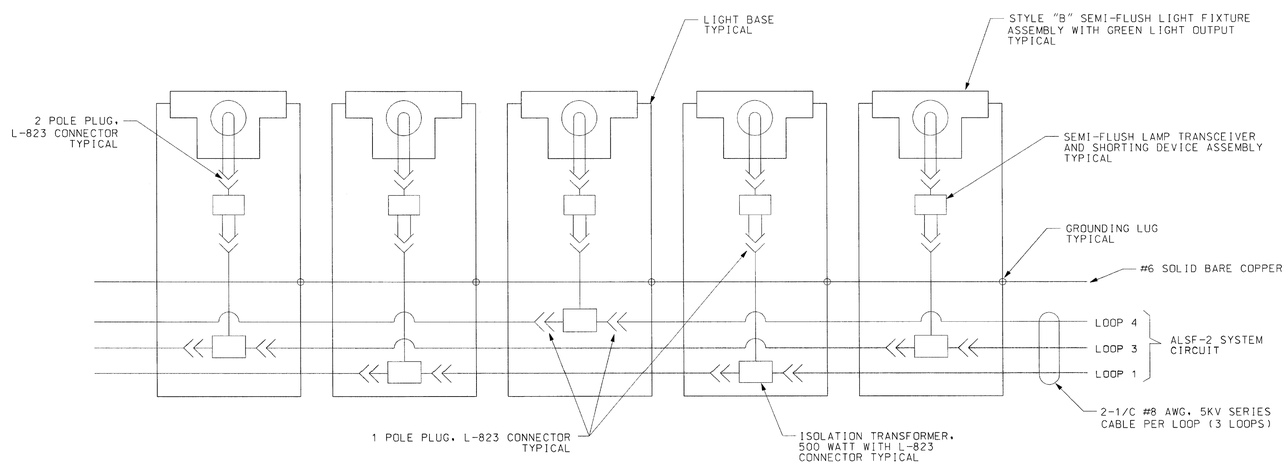
EDM: mht-d-als35-e01.dgn

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

6/2/2005 3:22:52 PM pjenner



1 / E103 STATION 1+00 THRU 8+00 SEMI-FLUSH STEADY-BURN LIGHTS
SCALE: NONE
GROUP LEFT OF CENTER NOT SHOWN



2 / E103 THRESHOLD BAR SEMI-FLUSH STEADY-BURN LIGHTS
SCALE: NONE

THIS DRAWING SUPERSEDES DRAWING
NE-D-27656-E003 , REV -, DATED 12/03/2001

NOTES

1. ALL GROUNDING IN ACCORDANCE WITH FAA-STD-019C AND FAA-C-1391.
2. POWER CABLES, #8-5KV, INSTALLED IN SEPARATE CONDUITS AND COLOR CODED AT ENTRANCE, EXIT, AND ALL TERMINATION POINTS. COLOR CODE WIRING LOOPS AS FOLLOW:
   LOOP 1, REG 1, SSALR, RED / BLUE
   LOOP 2, REG 2, ALSF-2, RED / GREEN
   LOOP 3, REG 3, ALSF-2, RED / GRAY
   LOOP 4, REG 4, ALSF-2, RED / BROWN
   LOOP 5, REG 5, ALSF-2, RED / YELLOW
3. ALL LIGHT BASES GROUNDED AS SHOWN. THE #6 BARE COPPER GROUND WIRE RUN THROUGH EACH BASE IN THE LIGHT BAR AND GROUNDED AT EACH CAN.
4. SEMI-FLUSH APPROACH LIGHTS: FAA-E-2491, TYPE I
   STYLE "A" - WITH WHITE LIGHT OUTPUT
   STYLE "B" - WITH GREEN LIGHT OUTPUT
   STYLE "C" - WITH RED LIGHT OUTPUT

REV	DATE	DESCRIPTION	JCN	REDLINE DATE	APVD
A	06/07/2005	AS-BUILT, WR #7315 (DG)	3315	01/12/2004	
	12/03/2001	PROPOSED, WR #6726 (EKS)	9902522	01/22/2001	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
BOSTON IMPLEMENTATION CENTER BURLINGTON, MA

ALS
RUNWAY 35 ALSF-2/SSALR
SEMI-FLUSH LIGHT
WIRING DIAGRAMS

MANCHESTER MANCHESTER NH

REVIEWED BY	SUBMITTED BY	APPROVED BY
	D.L.WYER	P.KIRBY
	PROJECT ENGINEER, ANI-180	PLATFORM MANAGER, ANI-180
	DESIGNED DLW	DATE 12/03/2001 JCN 9902522
	DRAWN LEF	DRAWING NO MHT-D-ALS35-E103 REV A
	CHECKED	

ISSUED BY NAS IMPLEMENTATION ANI-100

ISSUED FOR: AS-BUILT

EDM: mht-d-als35-e103.dgn

THIS DRAWING PRODUCED ON NEW ENGLAND REGION MICROSTATION SYSTEM

6/2/2005 3:27:33 PM gpenner

MANCHESTER - BOSTON REGIONAL AIRPORT (MHT)

MANCHESTER, NEW HAMPSHIRE

CONSTRUCTION PLANS FOR

REHABILITATE RUNWAY 17-35

AIP NO. 3-33-0011-TBD-2022

CITY BID NO. FY22-805-49

VOLUME 3

REHABILITATE 1,300'+/- OF TAXIWAY A MECHANICALLY STABILIZED EARTH RETAINING WALL & RELATED IMPROVEMENTS (ADDITIVE ALTERNATE #3)

MANCHESTER • BOSTON REGIONAL AIRPORT

One Airport Road, Suite 300
Manchester, New Hampshire 03103
www.flymanchester.com

AUTHORITY / OWNER

INDEX OF SHEETS

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		GENERAL PLANS
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2	G2.1	SAFETY & PHASING PLAN
3	G2.2	CIVIL KEY PLAN
4	D1.1	EXISTING CONDITIONS, SITE PREP, & DEMOLITION PLAN - SHEET 1 OF 2
5	D1.2	EXISTING CONDITIONS, SITE PREP, & DEMOLITION PLAN - SHEET 2 OF 2
6	ES1.1	EROSION & SEDIMENT CONTROL PLAN - SHEET 1 OF 2
7	ES1.2	EROSION & SEDIMENT CONTROL PLAN - SHEET 2 OF 2
8	ES2.1	EROSION CONTROL DETAILS
9	C1.1	GEOMETRY PLAN - SHEET 1 OF 2
10	C1.2	GEOMETRY PLAN - SHEET 2 OF 2
11	C2.1	GRADING & DRAINAGE PLAN - SHEET 1 OF 2
12	C2.2	GRADING & DRAINAGE PLAN - SHEET 2 OF 2
13	C3.1	DRAINAGE PROFILE
14	C4.1	TYPICAL SECTIONS
15	C4.2	DRAINAGE AND SITE DETAILS - SHEET 1 OF 2
16	C4.3	DRAINAGE AND SITE DETAILS - SHEET 2 OF 2
17	C5.1	MISCELLANEOUS DETAILS - SHEET 1 OF 8
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19	C5.3	MISCELLANEOUS DETAILS - SHEET 3 OF 8
20	C5.4	MISCELLANEOUS DETAILS - SHEET 4 OF 8
21	C5.5	MISCELLANEOUS DETAILS - SHEET 5 OF 8
22	C5.6	MISCELLANEOUS DETAILS - SHEET 6 OF 8
23	C5.7	MISCELLANEOUS DETAILS - SHEET 7 OF 8
24	C5.8	MISCELLANEOUS DETAILS - SHEET 8 OF 8
25	X1.1	CROSS SECTIONS

Jacobs

2 Executive Park Drive, Suite 205
Bedford, NH 03110
(603) 666-7181 fax-(603) 666-7185

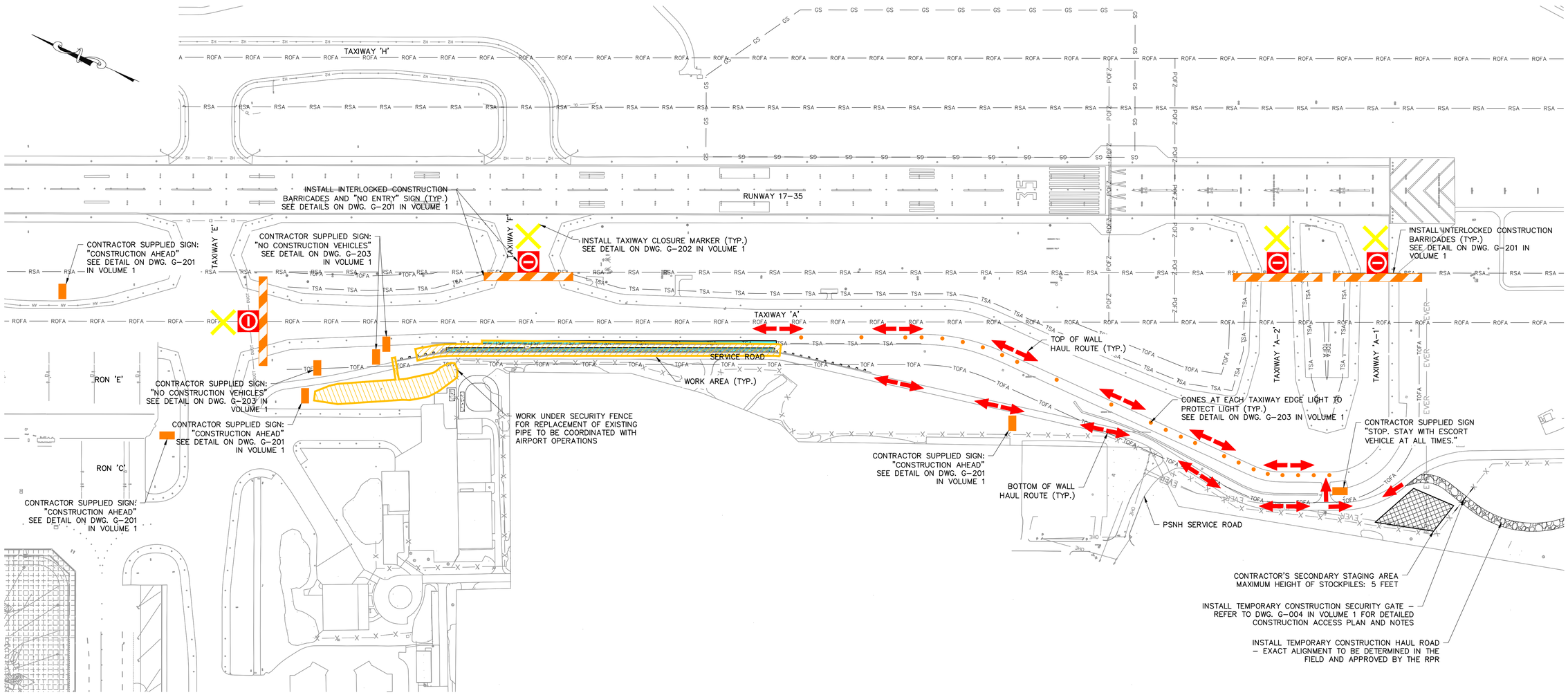
PROJECT DESIGNER

STATE OF NEW HAMPSHIRE
JOHN W. GORHAM
No. 12001
LICENSED
PROFESSIONAL ENGINEER
5-10-22

CIVIL ENGINEER OF RECORD
JOHN W. GORHAM
NEW HAMPSHIRE PE No. 12001

ISSUED FOR BID

MARCH 2022



PHASING PLAN

SCALE: 1"=150'

LEGEND

- PAVED SWALE AND TAXIWAY SHOULDER
- WORK AREA
- STAGING AREA
- HAUL ROUTE
- CONSTRUCTION BARRICADES
- "NO ENTRY" SIGN
- CONSTRUCTION SIGN

- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- TSA — TAXIWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA
- GS — GLIDE SLOPE CRITICAL AREA
- POFZ — PRECISION OBSTACLE FREE ZONE

NOTES

1. TAXIWAYS 'A', 'A–1', 'A–2', AND 'F' SHALL BE CLOSED FOR THE DURATION OF CONSTRUCTION. THE OVERALL DURATION OF WORK SHALL BE 65 CALENDAR DAYS.
2. CONTRACTOR SHALL MAINTAIN UNOBSTRUCTED SERVICE ROAD ACCESS FOR THE DURATION OF CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES FOR THE DURATION OF CONSTRUCTION INCLUDING SIGNAGE, TEMPORARY CONNECTIONS, FLAGGERS, ETC.
3. BLANK PANELS SHALL BE INSTALLED ON ANY AIRFIELD SIGNS LEADING TO CLOSED AREAS. ALL SIGNS, BARRICADES AND GATES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL SAFETY AND PHASING NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL AIRPORT SECURITY REQUIREMENTS AS DIRECTED BY AIRPORT OPERATIONS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY PROVISIONS TO ACCESS THE WORK AREA AND FOR PROVIDING GATE SECURITY AT ALL TIMES. GATE SECURITY SHALL BE PROVIDED BY AN AIRPORT APPROVED SECURITY GUARD AND/OR SECURITY SERVICE COMPANY. REFER TO ALLOWANCE PAY ITEM.
2. PARKING OF PERSONAL VEHICLES (POV) AT THE WORK SITE WILL NOT BE PERMITTED. LOCATION FOR THE PARKING OF VEHICLES SHALL BE AS DESIGNATED ON THE GENERAL PLAN. THE CONTRACTOR SHALL PROVIDE ADEQUATE AND SAFE TRANSPORTATION FROM THE AREA WHERE PERSONAL VEHICLES ARE PARKED AND THE WORK SITE. EMPLOYEES AND DRIVERS OF WORK VEHICLES WILL BE INSTRUCTED AS TO THE PROPER ACCESS ROADS. IN NO CASE WILL VEHICLES OR EQUIPMENT OPERATE ON PAVEMENT INTENDED FOR AIRCRAFT USE UNLESS APPROVED BY AIRPORT OPERATIONS.
3. THE CONTRACTOR'S PERSONNEL AND VEHICLES WILL NOT HAVE ACCESS TO THE ENTIRE AIRPORT, BUT SHALL BE LIMITED TO THE SPECIFIED WORK AND STAGING AREAS. ALL SECURITY ARRANGEMENTS SHALL BE SUBJECT TO THE APPROVAL OF THE AIRPORT. CONTRACTOR VEHICLES MUST BE READILY IDENTIFIABLE WITH COMPANY NAME AND LOGO ON BOTH SIDES OF VEHICLE. THE CONTRACTOR SHALL INSTRUCT MATERIAL SUPPLIER THE PROCEDURES TO BE FOLLOWED WHEN MATERIALS ARE DELIVERED. ALL OPERATORS OF VEHICLES MAKING DELIVERIES ON THE AIRFIELD SHALL BE INSTRUCTED BY THE CONTRACTOR AS TO THE PROCEDURES TO BE FOLLOWED WHILE ON THE AIRFIELD.
4. THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND RPR A SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) FOR APPROVAL. THE SPCD SHALL BE PREPARED IN ACCORDANCE WITH THE FAA APPROVED CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) INCLUDED IN THE CONTRACT SPECIFICATIONS. THE SPCD SHALL INCLUDE A WRITTEN METHOD OF OPERATIONS THAT DETAIL THE PRECAUTIONS PROPOSED FOR THE CONTROL OF VEHICLE TRAFFIC INCLUDING SIGNS, ESCORTS AND ANY OTHER MEASURES PROPOSED. THE CONTRACTOR SHALL FOLLOW THE APPROVED PLAN EXPLICITLY AFTER APPROVAL. THE OWNER MAY CLOSE THE WORK AT ANY TIME THE APPROVED PLAN IS VIOLATED SO AS NOT TO ENDANGER THE AIRPORT OR AIRCRAFT OPERATIONS. SUCH A CLOSURE SHALL NOT BE CONSIDERED A VALID REASON FOR EXTENDING THE CONTRACT TIME OR ANY CLAIM FOR EXTRAS BY THE CONTRACTOR. REFER TO ADVISORY CIRCULAR A/C NO. 150/5370–2G "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" FOR AIRFIELD CONSTRUCTION SAFETY REQUIREMENTS.

HORIZONTAL SCALE
1" = 150'
150 0 75 150 300

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666–7181
FAX: (603) 666–7185

SCALE: 1" = 150'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

SAFETY & PHASING PLAN

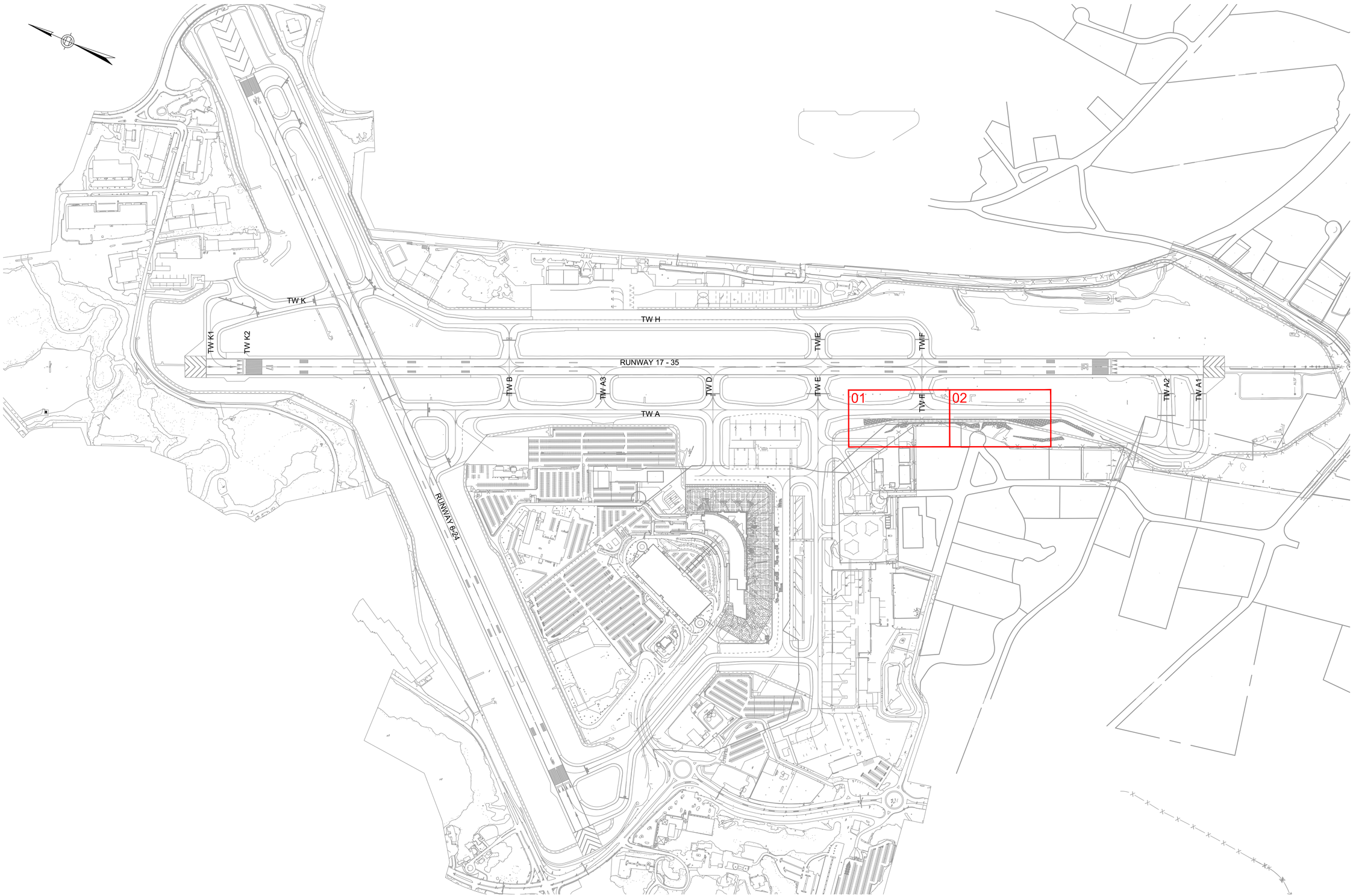
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
G2.1
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\nhtfil01\JOB\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\02 - Safety and Phasing Plans- G2.1.dwg [G2.1] March 07, 2022 - 4:35pm [BaumanS]



HORIZONTAL SCALE
1"=400'

400 0 200 400 800

PROJECT DESIGNER:

Jacobs

2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 400'
DATE: MARCH 2022
DESIGNED BY: SBB
DRAWN BY: SBB
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON
REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CIVIL KEY PLAN

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206

JE FILE:

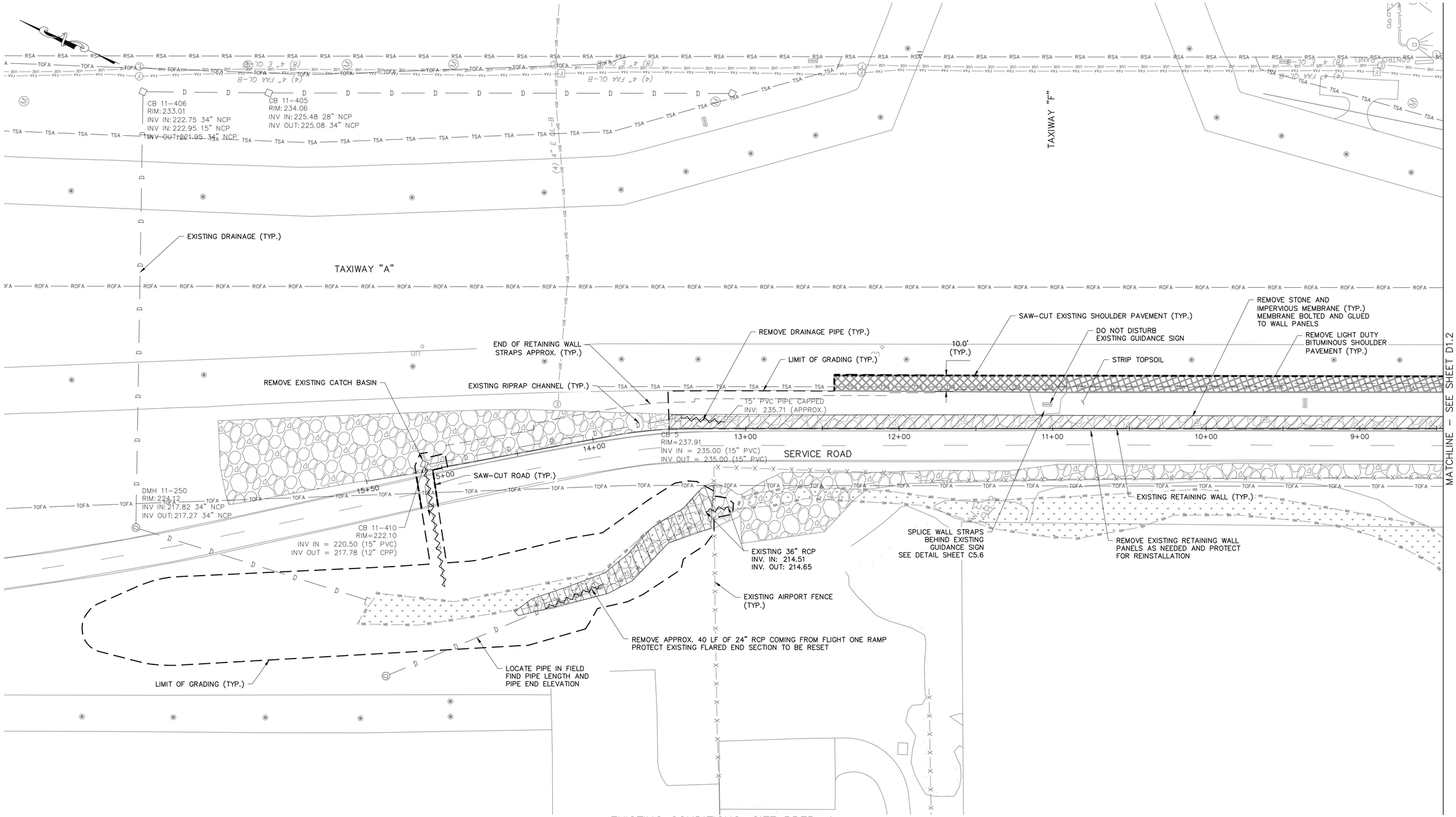
DRAWING NO.

G2.2

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\JOB\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\03 - Civil Key Plan.dwg [G2.2] March 07, 2022 - 4:36pm [BaumanS]



EXISTING CONDITIONS, SITE PREP, & DEMOLITION PLAN PLAN (1 OF 2)

SCALE: 1"=30'

NOTES:

1. THE SURVEY HAS BEEN PREPARED BY HOLDEN ENGINEERING & SURVEYING IN NOVEMBER AND DECEMBER 2021. HORIZONTAL DATUM IS BASED ON N.G.S. 1983 AND VERTICAL DATUM IS BASED ON N.A.V.D. 1988.
2. THE TYPE OF SURVEY IS A LIMITED TOPOGRAPHIC SURVEY. IT IS DEPENDENT IN NATURE AND BASED UPON HISTORICAL AIRPORT MAPPING DATA.
3. WETLANDS WERE DELINEATED BY JENNIFER RIORDAN (CWS #269) OF GM2 ASSOCIATES, INC. ON 9/22/2021 IN ACCORDANCE WITH US ARMY CORPS OF ENGINEERS (ACOE) 1987 METHODOLOGY AND ACOE NORTHCENTRAL AND NORTHEAST REGIONAL SUPPLEMENT (2012).

LEGEND

- REMOVE DRAINAGE PIPE
- REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)
- SAWCUT BITUMINOUS PAVEMENT
- ADJUST STRUCTURE/COVER TO GRADE
- REMOVE EXISTING RIPRAP

HORIZONTAL SCALE
1" = 30'
30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS, SITE PREP, & DEMOLITION PLAN – SHEET 1 OF 2

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
D1.1
REV

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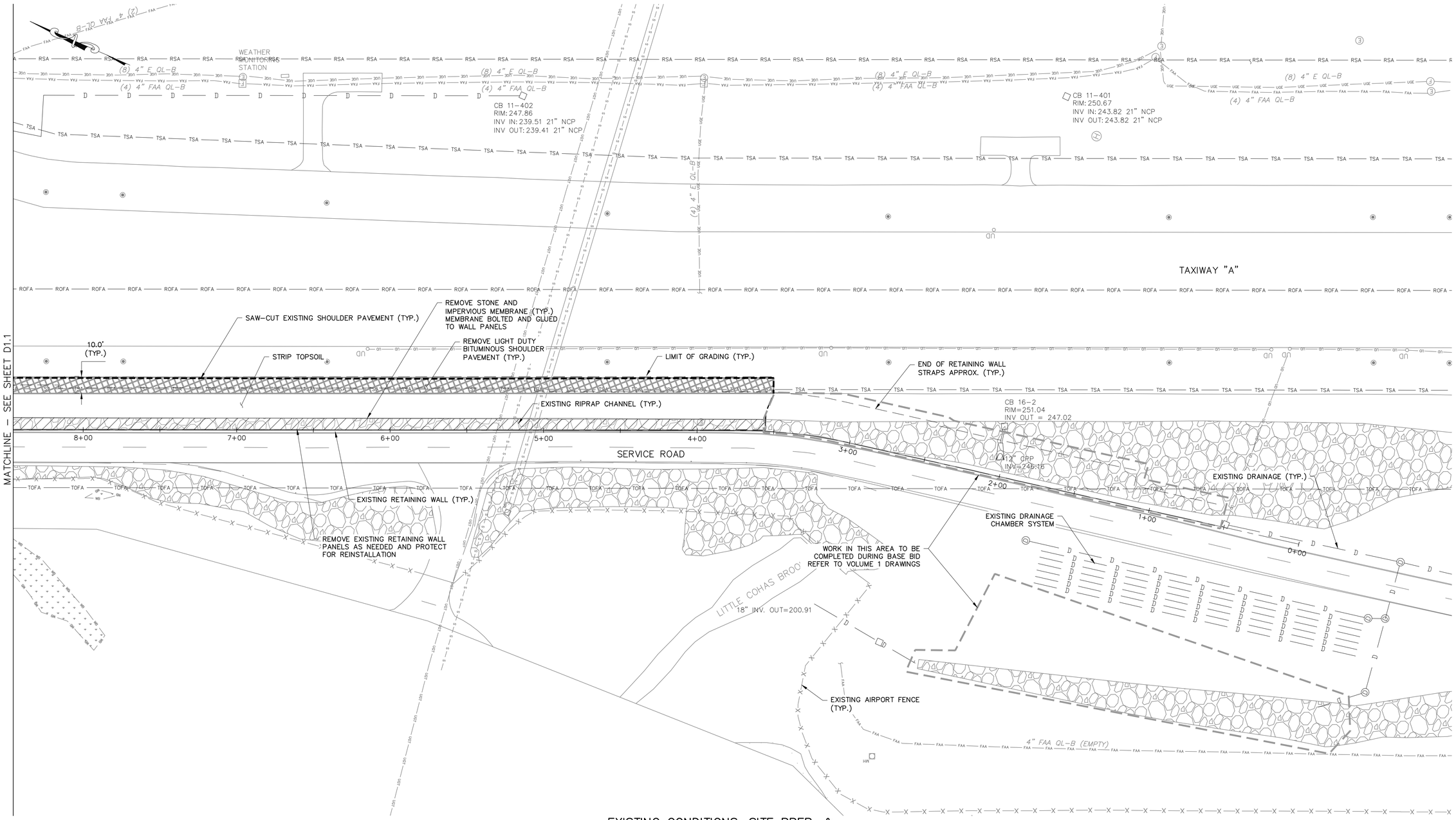
Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\04 - Existing Conditions Plans.dwg [D1.1] March 07, 2022 - 6:57pm [BaumanS]



EXISTING CONDITIONS, SITE PREP, & DEMOLITION PLAN PLAN (2 OF 2)

SCALE: 1"=30'

NOTES:

1. THE SURVEY HAS BEEN PREPARED BY HOLDEN ENGINEERING & SURVEYING IN NOVEMBER AND DECEMBER 2021. HORIZONTAL DATUM IS BASED ON N.G.S. 1983 AND VERTICAL DATUM IS BASED ON N.A.V.D. 1988.
2. THE TYPE OF SURVEY IS A LIMITED TOPOGRAPHIC SURVEY. IT IS DEPENDENT IN NATURE AND BASED UPON HISTORICAL AIRPORT MAPPING DATA.
3. WETLANDS WERE DELINEATED BY JENNIFER RIORDAN (CWS #269) OF GM2 ASSOCIATES, INC. ON 9/22/2021 IN ACCORDANCE WITH US ARMY CORPS OF ENGINEERS (ACOE) 1987 METHODOLOGY AND ACOE NORTHCENTRAL AND NORTHEAST REGIONAL SUPPLEMENT (2012).

LEGEND

- REMOVE DRAINAGE PIPE
- REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)
- SAWCUT BITUMINOUS PAVEMENT
- ADJUST STRUCTURE/COVER TO GRADE
- REMOVE EXISTING RIPRAP

HORIZONTAL SCALE
1" = 30'
30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

EXISTING CONDITIONS, SITE PREP, & DEMOLITION PLAN – SHEET 2 OF 2

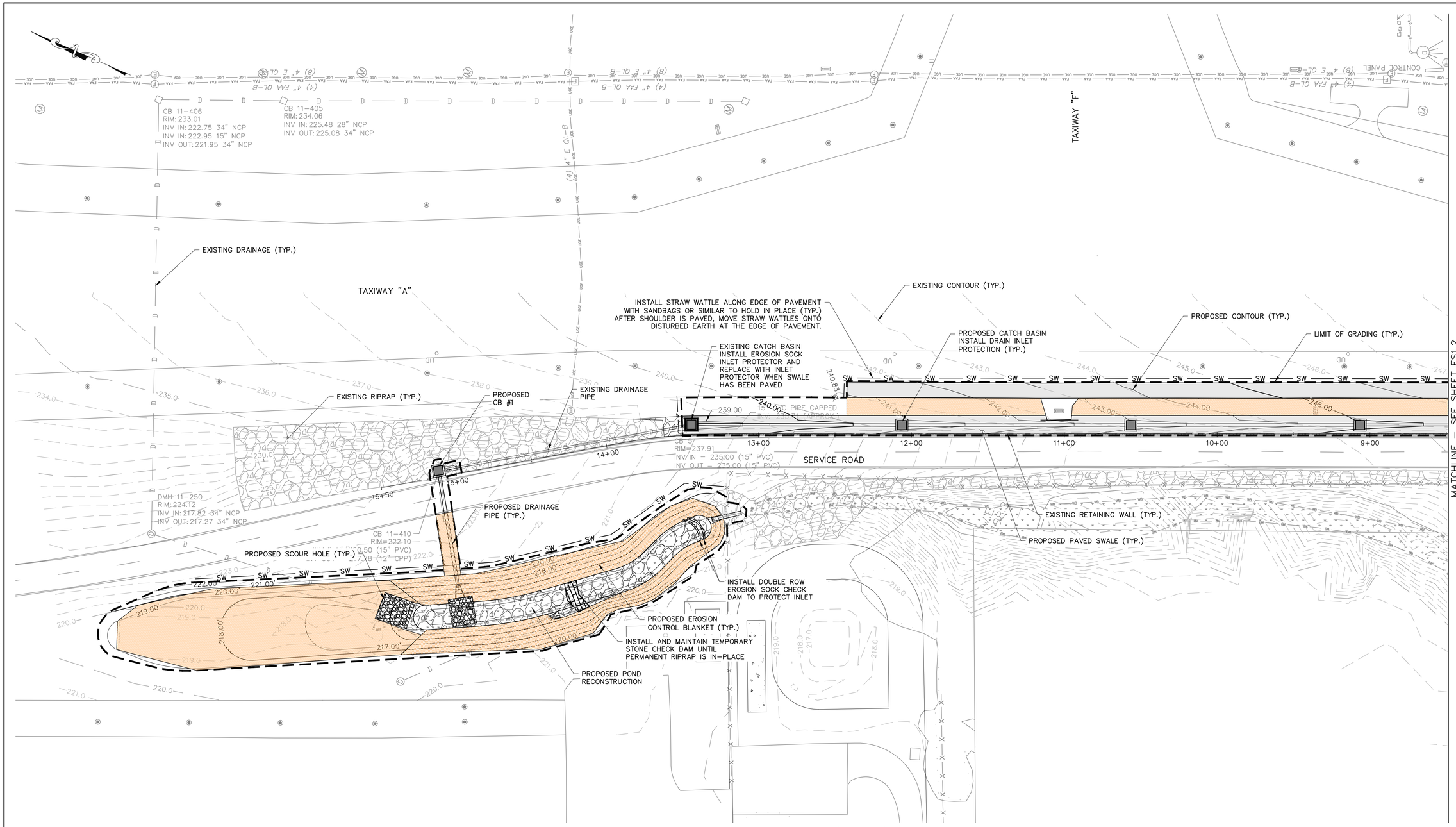
REV. NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
D1.2
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\04 - Existing Conditions Plans.dwg [D1.2] March 07, 2022 - 6:59pm [BaumanS]



ERIOSION AND SEDIMENT CONTROL PLAN (1 OF 2)

SCALE: 1"=30'

LEGEND

SF	PROPOSED SILT FENCE
SW SW	PROPOSED STRAW WATTLES
	INLET PROTECTION (PROPOSED & EXISTING)
	EROSION SOCK INLET PROTECTION
	PROPOSED EROSION CONTROL BLANKET
	PROPOSED RIPRAP
	PROPOSED LIMIT OF DISTURBANCE

NOTES

1. REFER TO DRAWING NO. ES2.1 FOR CONSTRUCTION SEQUENCE NOTES.
2. CONTRACTOR TO INSTALL INLET PROTECTION FOR ALL NEW CATCH BASINS INSTALLED AS PART OF THIS PROJECT.
3. CONTRACTOR TO INSTALL SILT FENCE PERIMETER WITH INLET PROTECTION AT EXISTING INLETS LOCATED IN TURF AREAS.
4. REFER TO DRAWING NO. C-621 IN VOLUME 1 FOR EROSION CONTROL GENERAL NOTES.
5. REFER TO DRAWING NO. ES2.1 AND C-621 IN VOLUME 1 FOR ALL EROSION CONTROL DETAILS.
6. REFER TO DRAWING NO. C-609 IN VOLUME 1 FOR ALL NH DEPT. OF ENV. SERVICES ALTERATION OF TERRAIN PERMIT NOTES.

HORIZONTAL SCALE
1" = 30'
30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EROSION & SEDIMENT CONTROL PLAN SHEET 1 OF 2

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
ES1.1
REV

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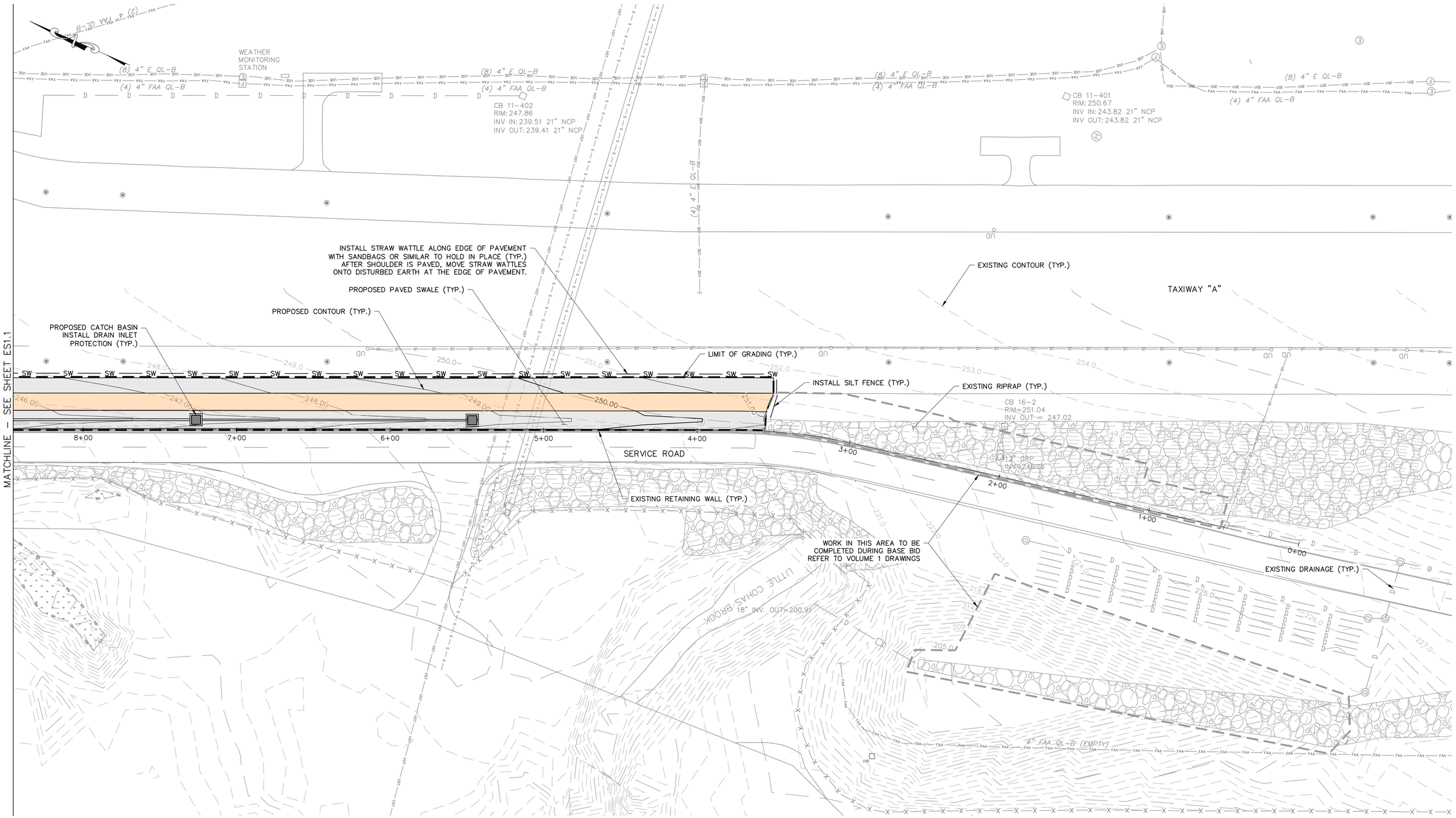
Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\05 - Erosion and Sediment Control Plans.dwg [ES1.1] March 07, 2022 - 6:43pm [BaumanS]



EROSION AND SEDIMENT CONTROL PLAN (2 OF 2)

SCALE: 1"=30'

LEGEND

SF	PROPOSED SILT FENCE
SW SW	PROPOSED STRAW WATTLES
	INLET PROTECTION (PROPOSED & EXISTING)
	EROSION SOCK INLET PROTECTION
	PROPOSED EROSION CONTROL BLANKET
	PROPOSED RIPRAP
	PROPOSED LIMIT OF DISTURBANCE

NOTES

1. REFER TO DRAWING NO. ES2.1 FOR CONSTRUCTION SEQUENCE NOTES.
2. CONTRACTOR TO INSTALL INLET PROTECTION FOR ALL NEW CATCH BASINS INSTALLED AS PART OF THIS PROJECT.
3. CONTRACTOR TO INSTALL SILT FENCE PERIMETER WITH INLET PROTECTION AT EXISTING INLETS LOCATED IN TURF AREAS.
4. REFER TO DRAWING NO. C–621 IN VOLUME 1 FOR EROSION CONTROL GENERAL NOTES.
5. REFER TO DRAWING NO. ES2.1 AND C–621 IN VOLUME 1 FOR ALL EROSION CONTROL DETAILS.
6. REFER TO DRAWING NO. C–609 IN VOLUME 1 FOR ALL NH DEPT. OF ENV. SERVICES ALTERATION OF TERRAIN PERMIT NOTES.

HORIZONTAL SCALE
1" = 30'
30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666–7181
FAX: (603) 666–7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

EROSION & SEDIMENT CONTROL PLAN SHEET 2 OF 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
ES1.2
REV

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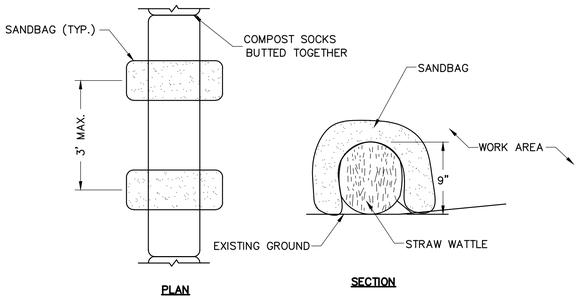
Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\05 - Erosion and Sediment Control Plans.dwg [ES1.2] March 07, 2022 - 6:52pm [BaumanS]

EROSION AND SEDIMENT CONTROL NOTES:

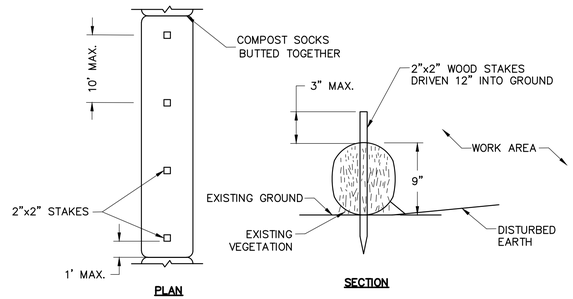
1. REFER TO DWG. C-621 IN VOLUME 1 FOR ALL EROSION AND SEDIMENT CONTROL NOTES.

GENERAL CONSTRUCTION SEQUENCE – PHASE 8

1. INSTALL EROSION CONTROL MEASURES TO PROTECT NEW AND EXISTING DRAINAGE SYSTEMS..
2. CONSTRUCT AND STABILIZE DITCHES AND SWALES.
3. WHERE CALLED FOR, REMOVE EXISTING PAVEMENT OR VEGETATION.
4. ROUGH GRADE SITE.
5. INSTALL SITE UTILITIES AND EROSION CONTROL FOR NEW DRAINAGE SYSTEMS.
6. CONSTRUCT SUB-BASE COURSE, BASE COURSE AND PAVEMENT.
7. TOPSOIL AND SEED FOR TURF ESTABLISHMENT.
6. REMOVE EROSION CONTROL MEASURES AFTER ESTABLISHMENT OF NEW TURF AND WHEN DIRECTED BY THE RPR.



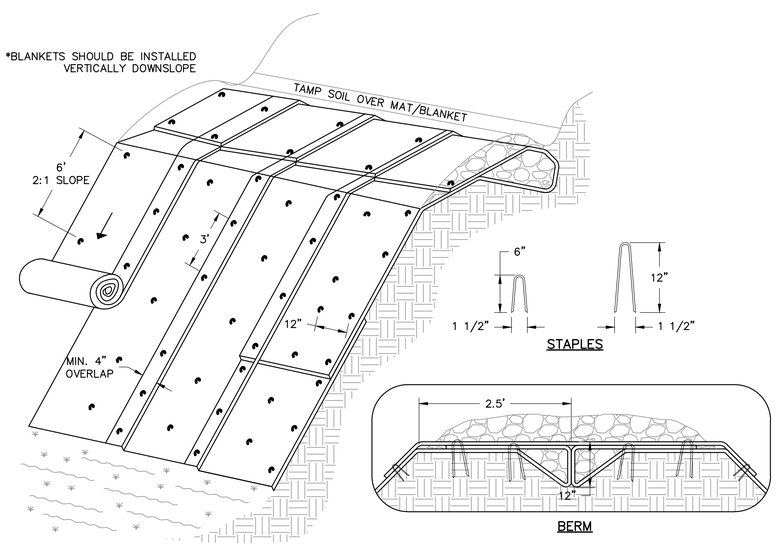
STRAW WATTLE – ON PAVEMENT
NOT TO SCALE



STRAW WATTLE – ON TURF
NOT TO SCALE

STRAW WATTLE NOTES:

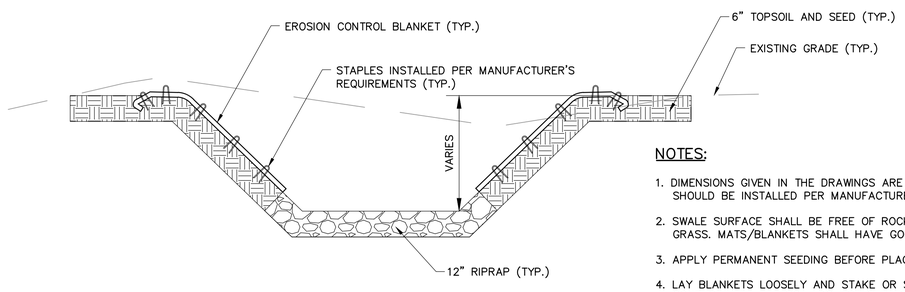
1. STRAW WATTLES SHALL BE INSTALLED BEFORE ANY EXCAVATION OR OTHER WORK BEGINS.
2. PRE-FABRICATED STRAW WATTLES MUST BE ASSEMBLED IN THE FIELD ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
3. INSPECT AND REPAIR STRAW WATTLES WEEKLY AND AFTER EACH STORM EVENT OF ¼" OR GREATER OF PRECIPITATION AND REMOVE SEDIMENT WHEN NECESSARY. (4" MAXIMUM STORAGE HEIGHT)
4. IN ADDITION, MAINTENANCE OF STRAW WATTLES SHALL BE AS NEEDED AND AS ORDERED BY THE RPR. REMOVE MATERIALS AS NECESSARY FROM BLOCKING THE STRAW WATTLES. REMOVED MATERIALS SHALL NOT BE DISCARDED NEAR WETLANDS OR WATERCOURSES AND SHALL BE REMOVED FROM THE JOB SITE. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT CAN BE PERMANENTLY STABILIZED.
5. CONTRACTOR SHALL REMOVE AND DISPOSE OF STRAW WATTLES FROM THE SITE ONCE PERMANENT STABILIZATION HAS BEEN ACHIEVED.
6. MAINTENANCE AND REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT RATHER WILL BE CONSIDERED INCIDENTAL TO THE INITIAL INSTALLATION.



EROSION CONTROL BLANKET – SLOPE INSTALLATION DETAIL
NOT TO SCALE

NOTES:

1. DIMENSIONS GIVEN IN THE DRAWINGS ARE EXAMPLES; DEVICES AND STAPLES SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
5. BLANKETS MUST BE 100% FREE OF WEEDS AND SEEDS.
6. BLANKETS AND STAPLES SHALL BE BIODEGRADEABLE.



EROSION CONTROL BLANKET – SWALE INSTALLATION DETAIL
NOT TO SCALE

NOTES:

1. DIMENSIONS GIVEN IN THE DRAWINGS ARE EXAMPLES; DEVICES SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
2. SWALE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
5. BLANKETS MUST BE 100% FREE OF WEEDS AND SEEDS.
6. OVERLAP BLANKETS A MINIMUM OF 4 INCHES.
7. BLANKETS AND STAPLES SHALL BE BIODEGRADEABLE.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: NTS
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT
REHABILITATE RUNWAY 17-35

EROSION CONTROL DETAILS

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
ES2.1
REV

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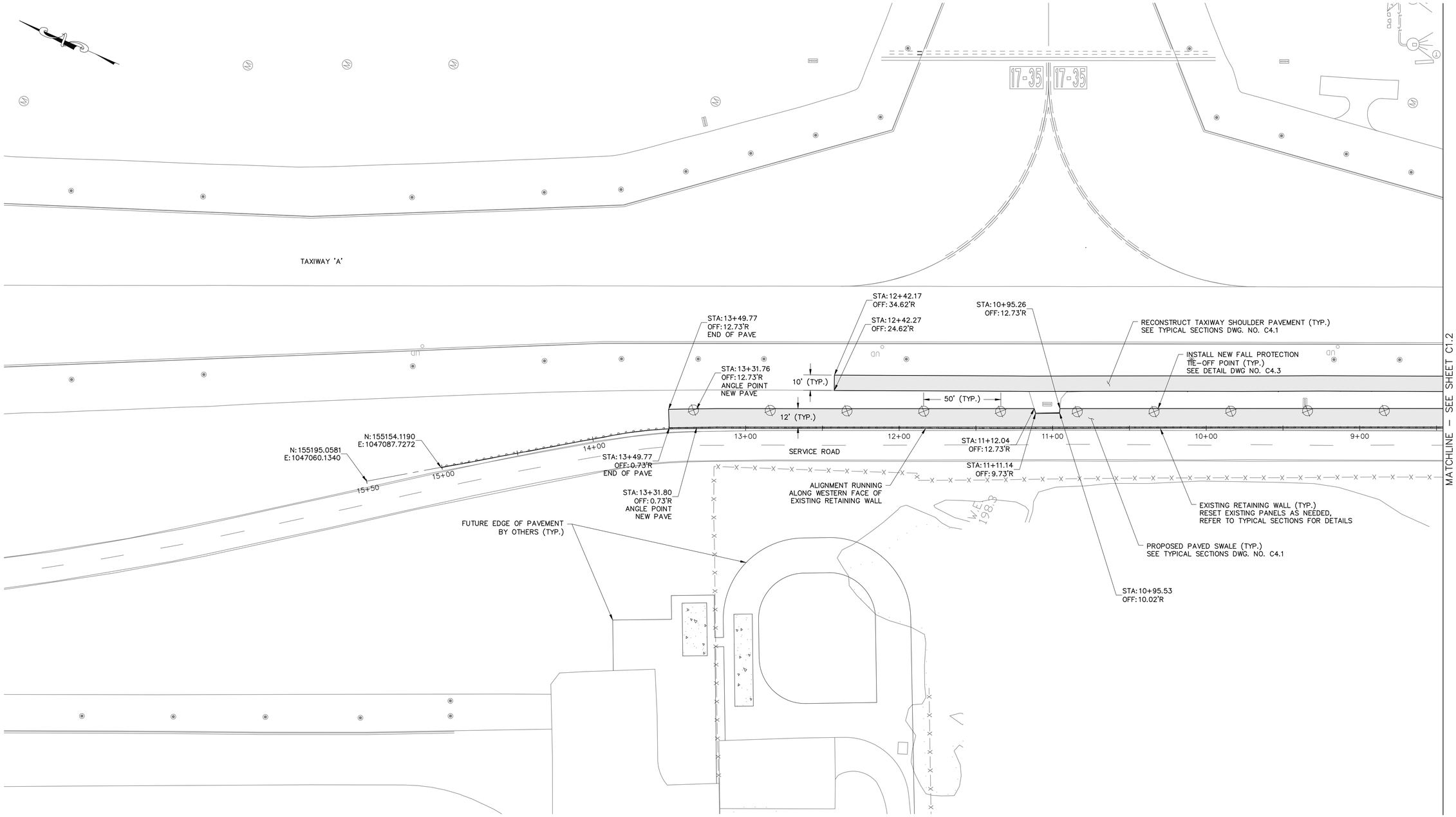
Jacobs - P:\20211\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\06 - Erosion and Sediment Control Details.dwg [ES2.1] March 07, 2022 - 6:08pm [BaumannS]



GEOMETRY PLAN (1 OF 2)

SCALE: 1"=30'

LEGEND

- PROPOSED HMA PAVEMENT
- EXISTING RETAINING WALL
- EXISTING EDGE OF TAXIWAY SHOULDER PAVEMENT
- PROPOSED FALL PROTECTION TIE-OFF

HORIZONTAL SCALE
1" = 30'
30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: LMO
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GEOMETRY PLAN SHEET 1 OF 2

REV NO.	DATE	REVISIONS DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C1.1
REV

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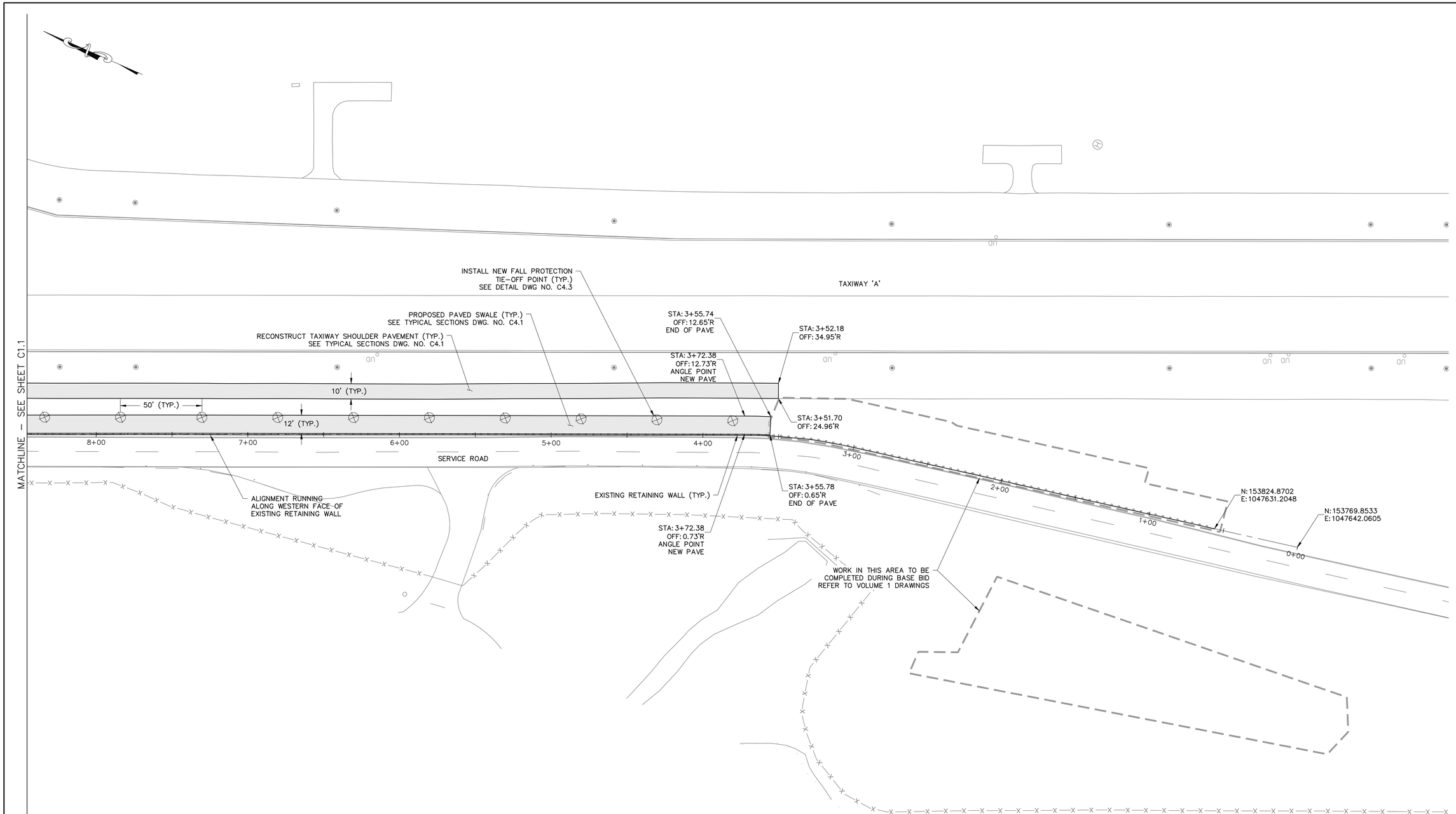
Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\07 - Geometry Plans.dwg [C1.1] March 07, 2022 - 6:21pm [BaumanS]



GEOMETRY PLAN (2 OF 2)

SCALE: 1"=30'

LEGEND

- PROPOSED HMA PAVEMENT
- EXISTING RETAINING WALL
- EXISTING EDGE OF TAXIWAY SHOULDER PAVEME
- PROPOSED FALL PROTECTION TIE–OFF

HORIZONTAL SCALE
1" = 30'

30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666–7181
FAX: (603) 666–7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: LMO
CHECKED BY: JAM
APPROVED: JWG

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REHABILITATE RUNWAY 17-35

GEOMETRY PLAN SHEET 2 OF 2

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C1.2
REV

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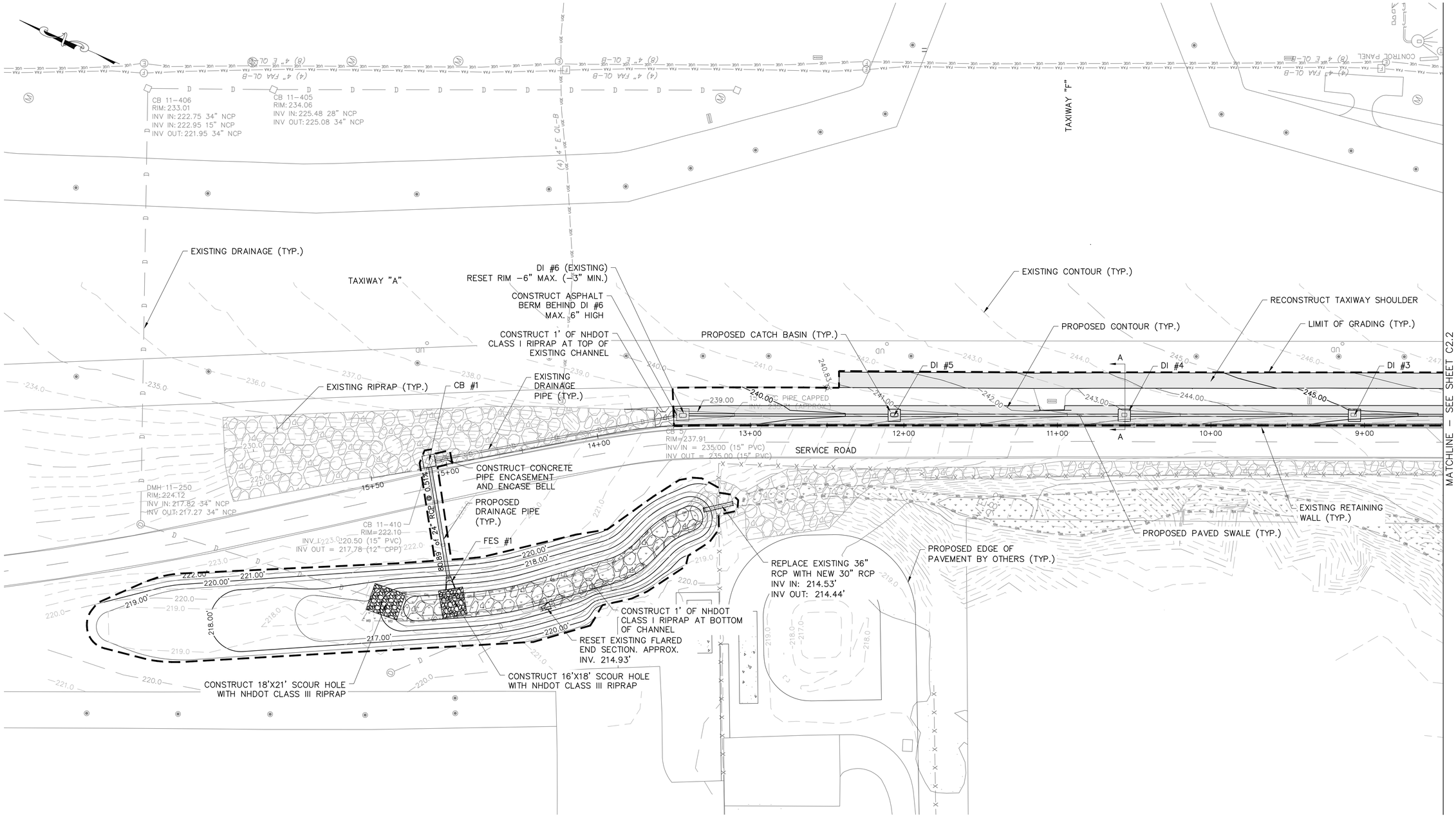
Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\07 - Geometry Plans.dwg [C1.2] March 07, 2022 - 6:21pm [BaumannS]



GRADING & DRAINAGE PLAN (1 OF 2)

SCALE: 1"=30'

LEGEND

- LIMIT OF GRADING
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED DRAINAGE PIPE
- PROPOSED CATCH BASIN
- PROPOSED FLARED END SECTION
- PROPOSED RIPRAP
- PROPOSED SCOUR HOLE

NOTE:

1. SEE SHEET C4.1 TYPICAL SECTIONS FOR SECTION A–A DETAIL.
2. SEE SHEET C3.1 DRAINAGE PROFILE FOR DRAINAGE STRUCTURE STATION AND OFFSETS.
3. SEE SHEET C4.2 & C4.3 DRAINAGE AND SITE DETAILS FOR ALL DRAINAGE DETAILS.
4. SEE SHEET C–620 IN VOLUME 1 FOR SCOUR HOLE DETAIL.

HORIZONTAL SCALE
1" = 30'
30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
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Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: JPP
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING & DRAINAGE PLAN
SHEET 1 OF 2

REV. NO.	DATE	DESCRIPTION	BY

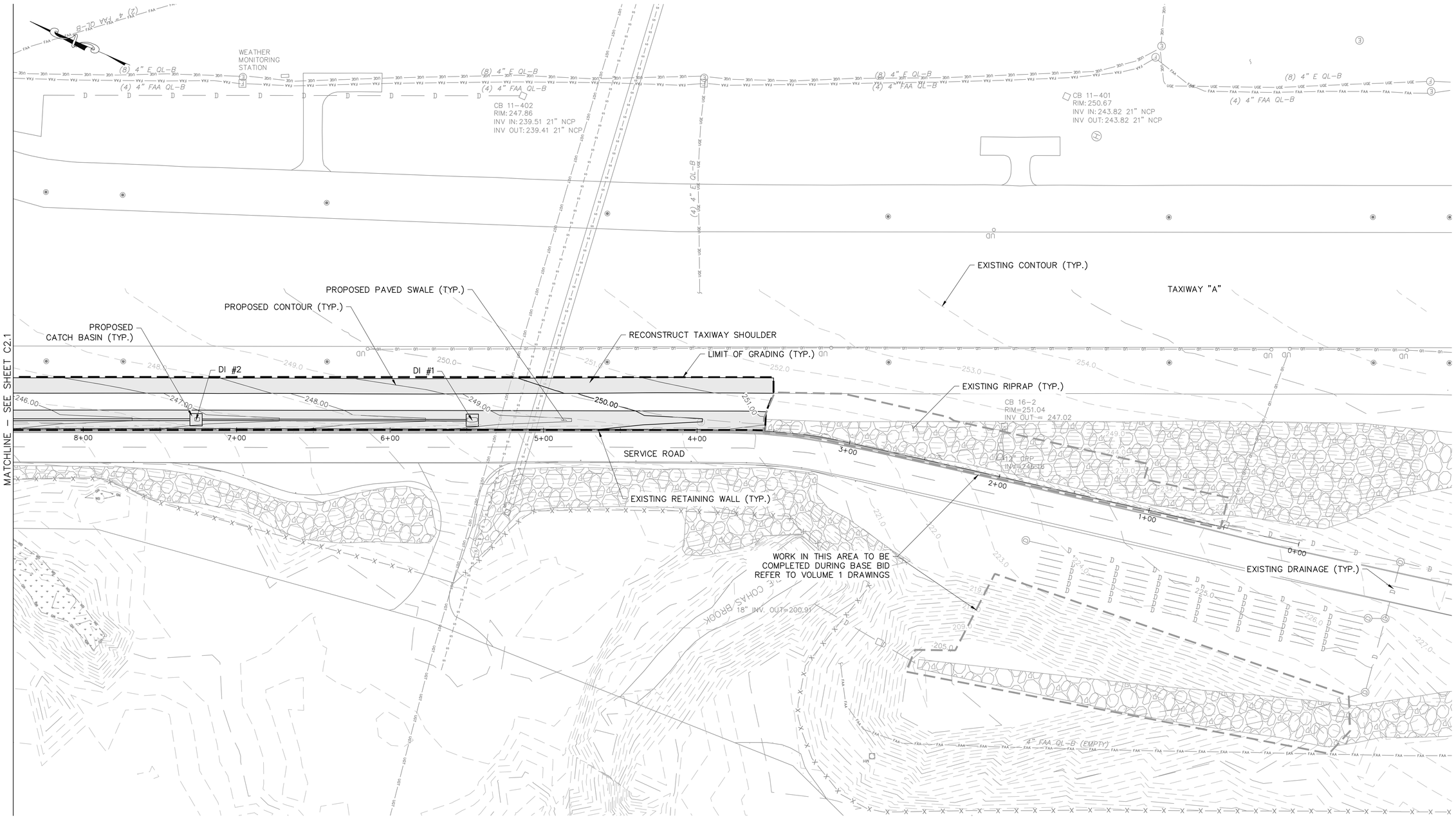
REVISIONS

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C2.1
REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\nhtfil01\JOB\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\08 - Grading Plans.dwg [C2.1] March 07, 2022 - 4:50pm [BaumanS]



GRADING & DRAINAGE PLAN (2 OF 2)

SCALE: 1"=30'

LEGEND

- LIMIT OF GRADING
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED DRAINAGE PIPE
- PROPOSED CATCH BASIN
- PROPOSED FLARED END SECTION
- PROPOSED RIPRAP
- PROPOSED SCOUR HOLE

NOTE:

1. SEE SHEET C3.1 DRAINAGE PROFILE FOR DRAINAGE STRUCTURE STATION AND OFFSETS.
2. SEE SHEET C4.2 & C4.3 DRAINAGE AND SITE DETAILS FOR ALL DRAINAGE DETAILS.

HORIZONTAL SCALE
1" = 30'

30 0 15 30 60

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: 1" = 30'
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: JPP
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

GRADING & DRAINAGE PLAN
SHEET 2 OF 2

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C2.2
REV

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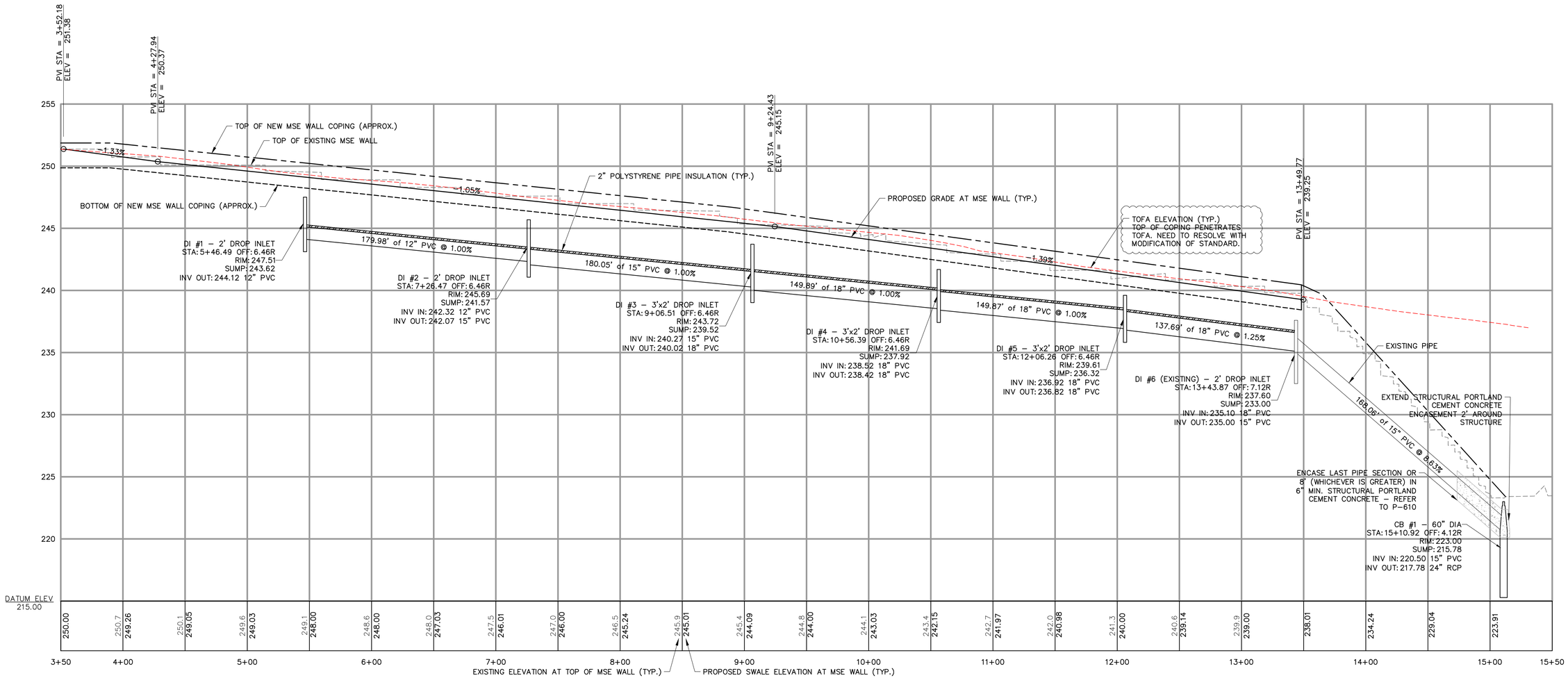
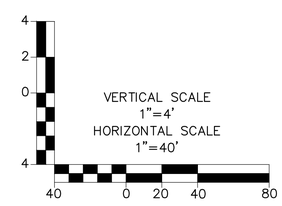
Jacobs - P:\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\08 - Grading Plans.dwg [C2.2] March 07, 2022 - 7:04pm [BaumanS]



DRAINAGE PROFILE

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=4'



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Bedford, NH 03110
PHONE: (603) 666–7181
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REHABILITATE RUNWAY 17-35

DRAINAGE

REV. NO.	DATE	DESCRIPTION	BY

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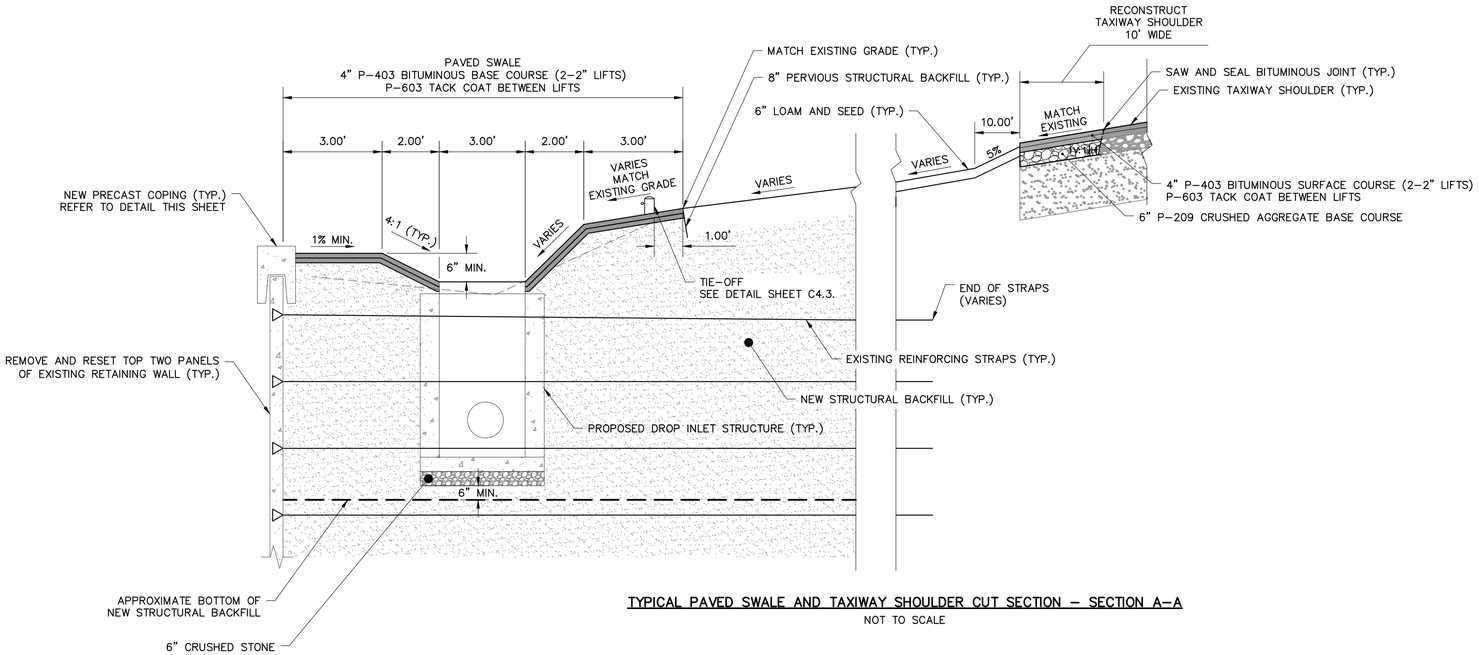
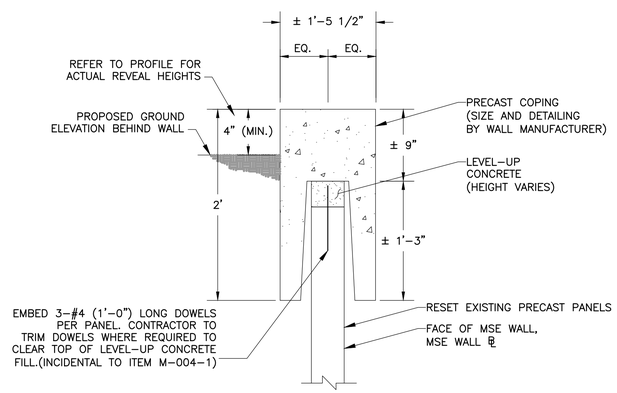


TYPICAL PAVED SWALE AND TAXIWAY SHOULDER CUT SECTION – SECTION A–A

NOT TO SCALE



WALL COPING DETAIL

NOT TO SCALE

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Jacobs

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Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: AS SHOWN
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REHABILITATE RUNWAY 17-35

TYPICAL SECTIONS

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89206

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C4.1

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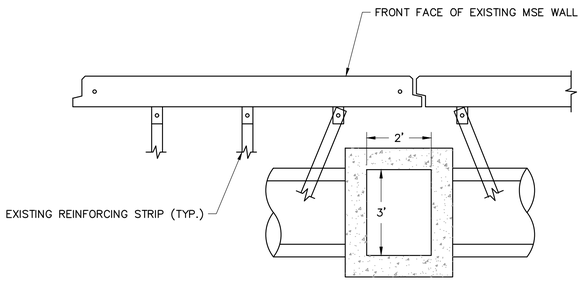
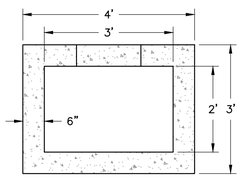


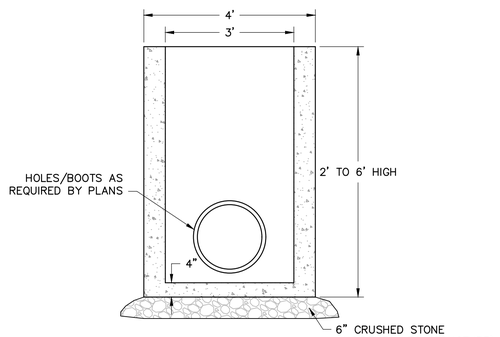
DROP INLET BEHIND WALL DETAIL

NOT TO SCALE



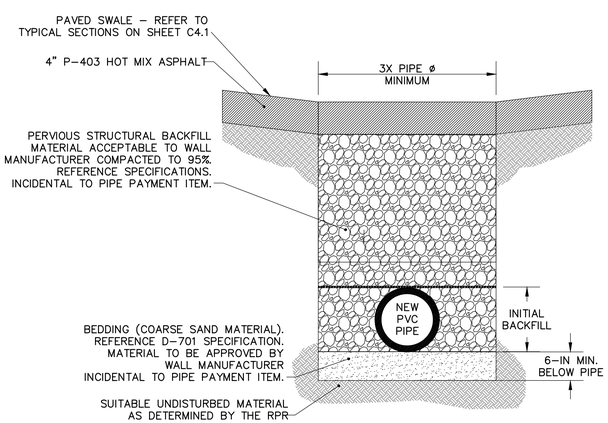
DROP INLET NOTES:

1. 4,000 PSI CONCRETE AT 28 DAYS.
2. DESIGNED FOR H-20 WHEEL LOADING.
3. MUST CONFORM TO ASTM C-478 AND NHDOT SPECIFICATIONS.
4. REINFORCED TO 0.12 IN.SQ./LF



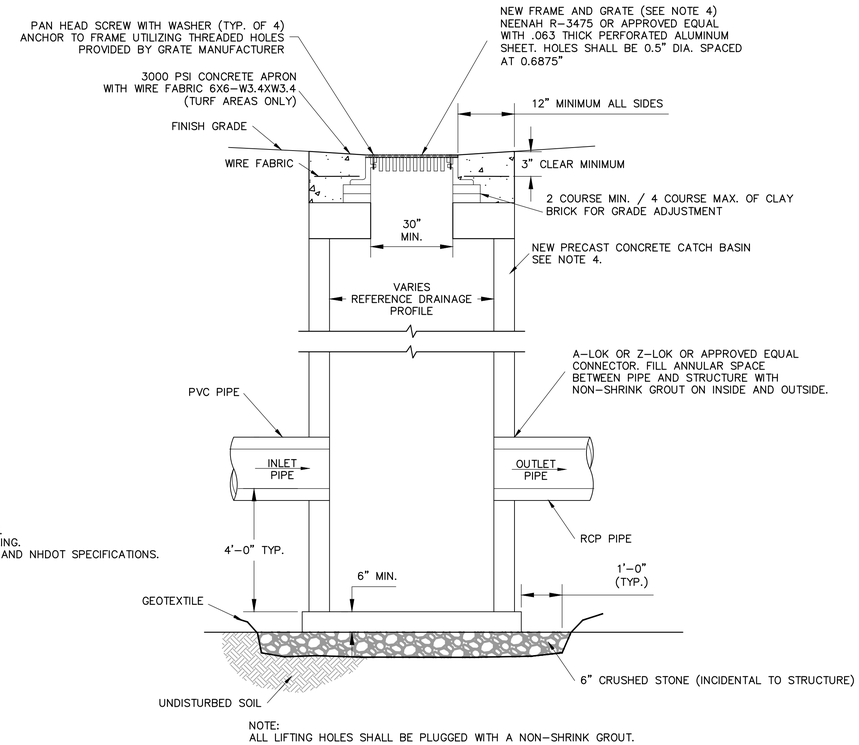
DROP INLET DETAIL

NOT TO SCALE



PVC PIPE TRENCH DETAIL BEHIND WALL

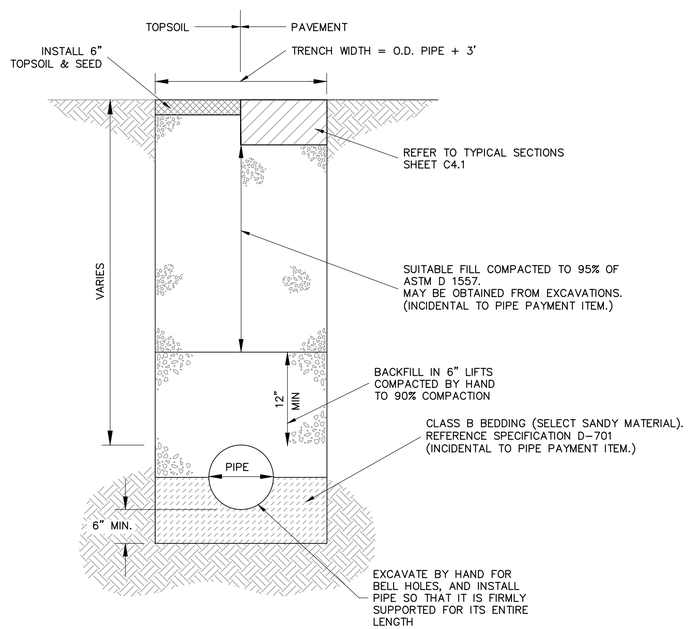
NOT TO SCALE



NOTE:
ALL LIFTING HOLES SHALL BE PLUGGED WITH A NON-SHRINK GROUT.

TYPICAL CATCH BASIN

NOT TO SCALE

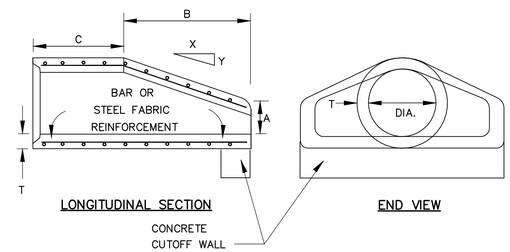


TRENCH DETAIL FOR RCP

NOT TO SCALE

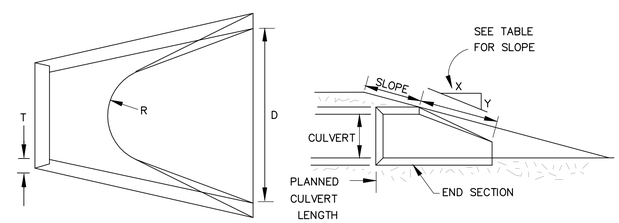
DRAINAGE STRUCTURE NOTES:

1. STRUCTURE JOINTS SHALL BE SEALED WITH MASTIC GASKET PER FED. SPEC. SSS-SS-210 TYPE 1, 1 1/4"ø.
2. ADJUST NEW STRUCTURES TO GRADE WITH 2 BRICK COURSES MIN., 4 BRICK COURSES MAX.
3. ALL STRUCTURES SHALL BE PRECAST CONCRETE CONSTRUCTION.
4. STRUCTURES TO BE H20 LOADING.
5. ALL LIFTING HOLES SHALL BE PLUGGED WITH A NON-SHRINK GROUT.
6. FRAMES, GRATES/COVERS, PIPE-MANHOLE CONNECTORS, BRICK, MORTAR, GROUT, SEALANT, EXCAVATION, BACKFILL, GEOTEXTILE, PIPE HOODS, CONCRETE APRONS, AND STONE BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL STRUCTURE.
7. REFER TO SPECIFICATION SECTION D-751 FOR STRUCTURE LOADING REQUIREMENTS.
8. ALL CATCH BASINS SHALL HAVE HOODED OUTLETS. HOODS FOR RCP PIPE SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS INC. OR APPROVED EQUAL. HOODS SHALL BE CONSIDERED INCIDENTAL TO CATCH BASINS.



LONGITUDINAL SECTION

END VIEW



PLAN

SLOPE DETAIL

GROOVED END ON OUTLET END SECTION
TONGUE END ON INLET END SECTION (OR END SECTION TO FIT PIPE USED)

PIPE DIA.	APPROX. SLOPE X to Y	A	B	C	D	R	T
24"	3 TO 1	9.5"	43.5"	30"	48"	14"	3"

NOTES:

1. DESIGN OF END SECTION SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE.
2. CUT OFF WALL TO BE POURED IN FIELD, IF NECESSARY, AS DIRECTED BY THE RPR.
3. PAYMENT FOR THE CUT OFF WALL WILL BE MADE UNDER THE APPROPRIATE CONTRACT ITEMS.

FLARED END SECTION DETAIL

NOT TO SCALE

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: AS SHOWN
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

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REHABILITATE RUNWAY 17-35

DRAINAGE AND SITE DETAILS SHEET 1 OF 2

REV. NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C4.2
REV

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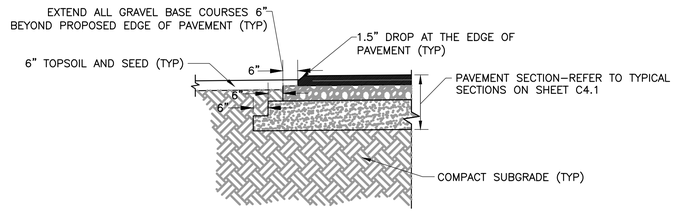
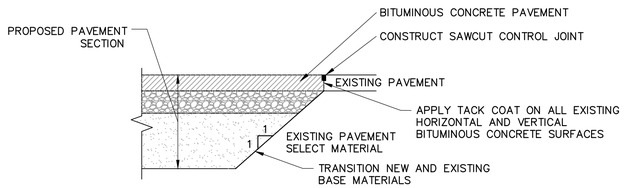
Jacobs - \\nhtfil01\JOB\2021\E2X89206 - NHT Retaining Wall Rehabilitation\700 CAD\Plans\10 - Civil Details.dwg [C4.2] March 07, 2022 - 4:54pm [BaumanS]



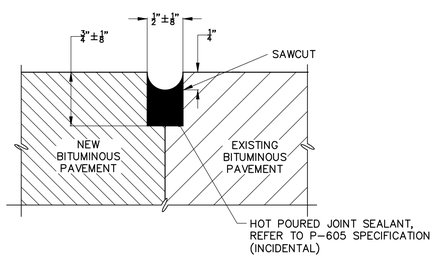
TAXIWAY EDGE OF PAVEMENT DETAIL

NOT TO SCALE



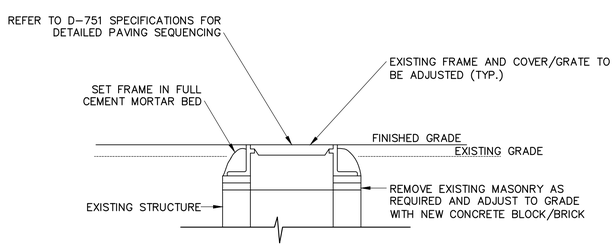
MATCH EXISTING BITUMINOUS PAVEMENT

NOT TO SCALE



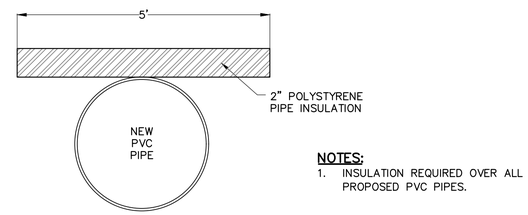
SAW & SEAL JOINT DETAILS

NOT TO SCALE



ADJUST STRUCTURE CASTING DETAIL

NOT TO SCALE

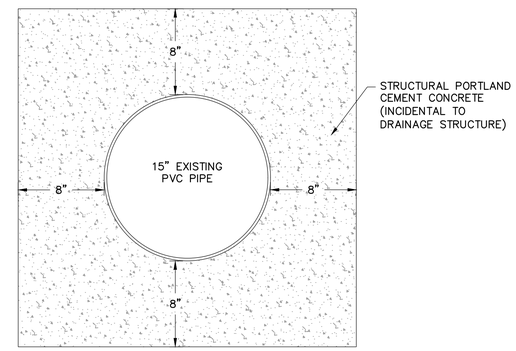


NOTES:

1. INSULATION REQUIRED OVER ALL PROPOSED PVC PIPES.

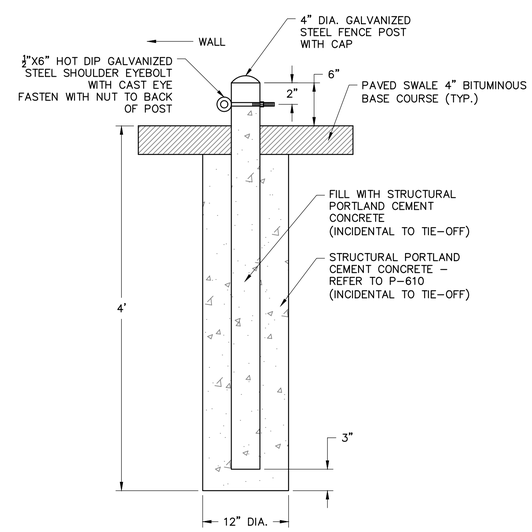
PVC PIPE INSULATION DETAIL

NOT TO SCALE



CONCRETE PIPE ENCASEMENT DETAIL

NOT TO SCALE



TIE–OFF DETAIL

NOT TO SCALE

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666–7181
FAX: (603) 666–7185

SCALE: NOT TO SCALE
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

DRAINAGE AND SITE DETAILS SHEET 2 OF 2

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206

JE FILE:

DRAWING NO.

C4.3

REV

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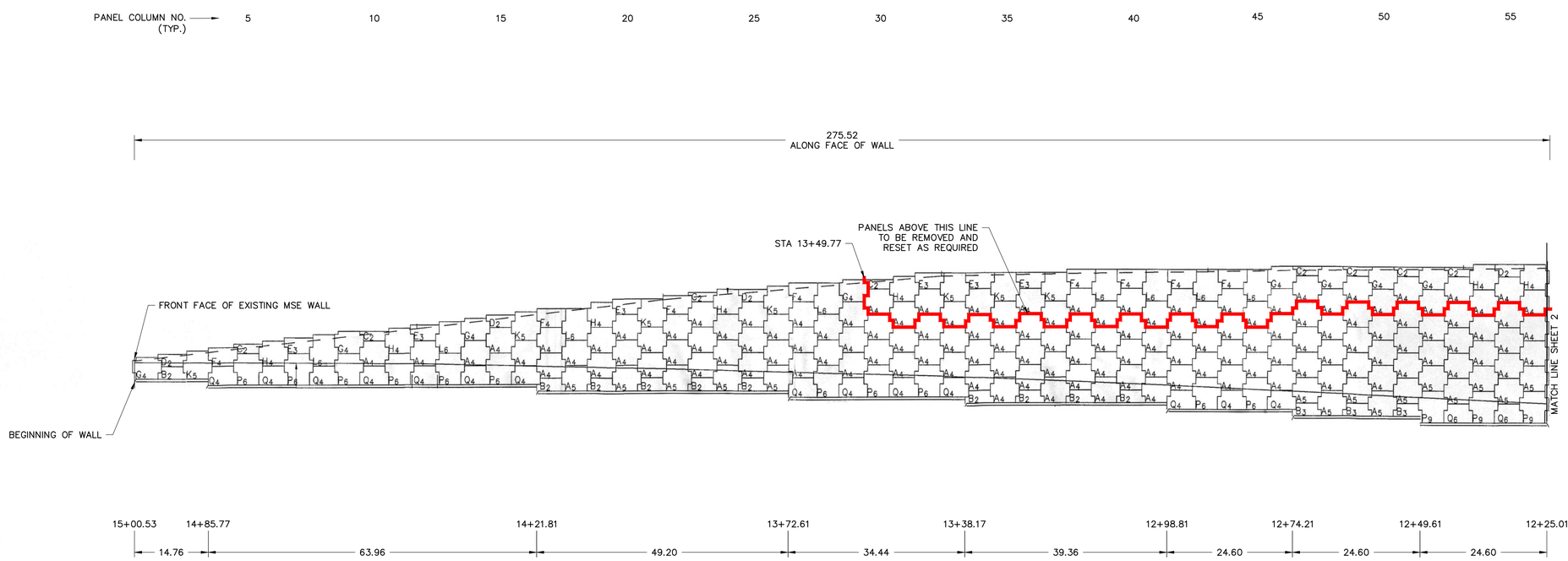

ELEVATION – FRONT FACE – RETAINING. WALL

NOT TO SCALE

NOTES:

1. THE WALL PANEL ELEVATION VIEW SHOWN IS FROM THE APPROVED SUBMITTAL INFORMATION AVAILABLE FROM THE ORIGINAL CONSTRUCTION OF THE TAXIWAY 'A' RETAINING WALL DATED 04–29–2002.
2. DRAWINGS IN THE ABOVE SUBMITTAL WERE PROVIDED BY "THE REINFORCED EARTH COMPANY" AND ARE DATED 04–11–2002.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666–7181
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MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS SHEET 1 OF 8

REVISIONS		
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C5.1
REV

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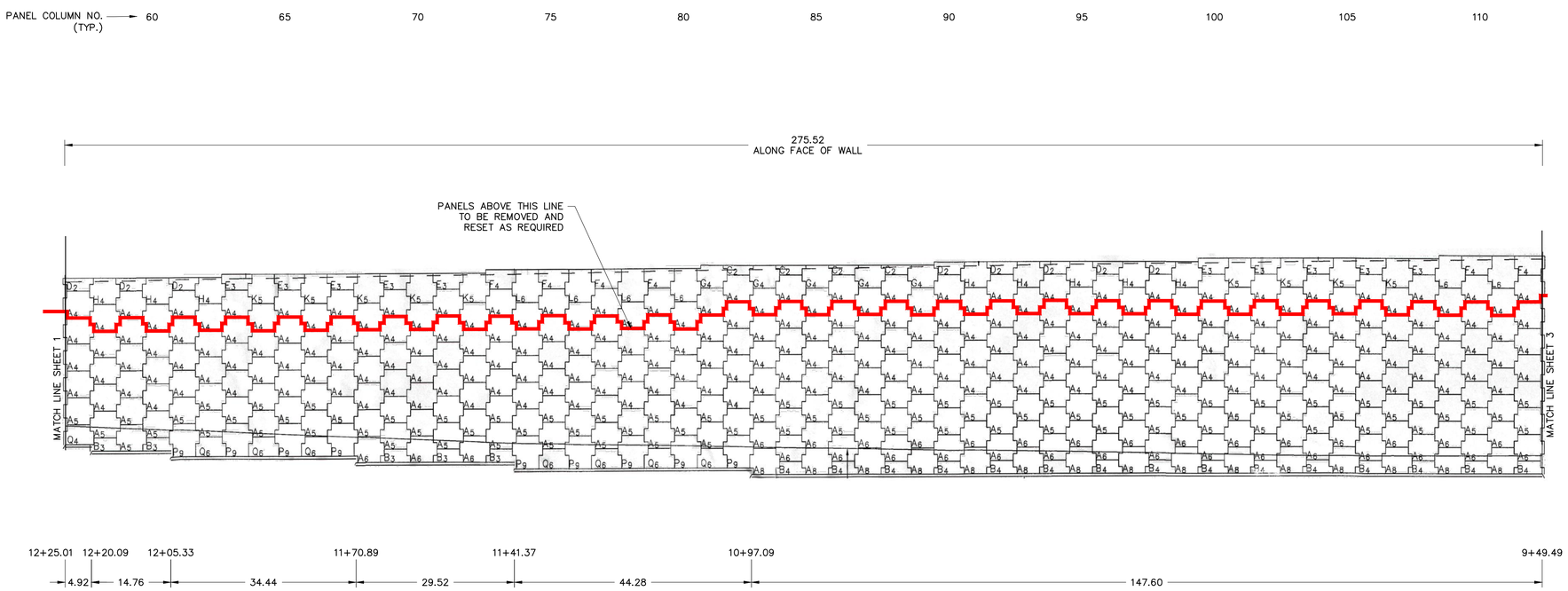
Jacobs - \\nhtfil01\JOB\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\11 - Miscellaneous Details.dwg [C5.1] March 07, 2022 - 4:55pm [BaumanS]



ELEVATION – FRONT FACE – RETAINING WALL

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REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS SHEET 2 OF 8

REVISIONS		
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206

JE FILE:

DRAWING NO.

C5.2

REV

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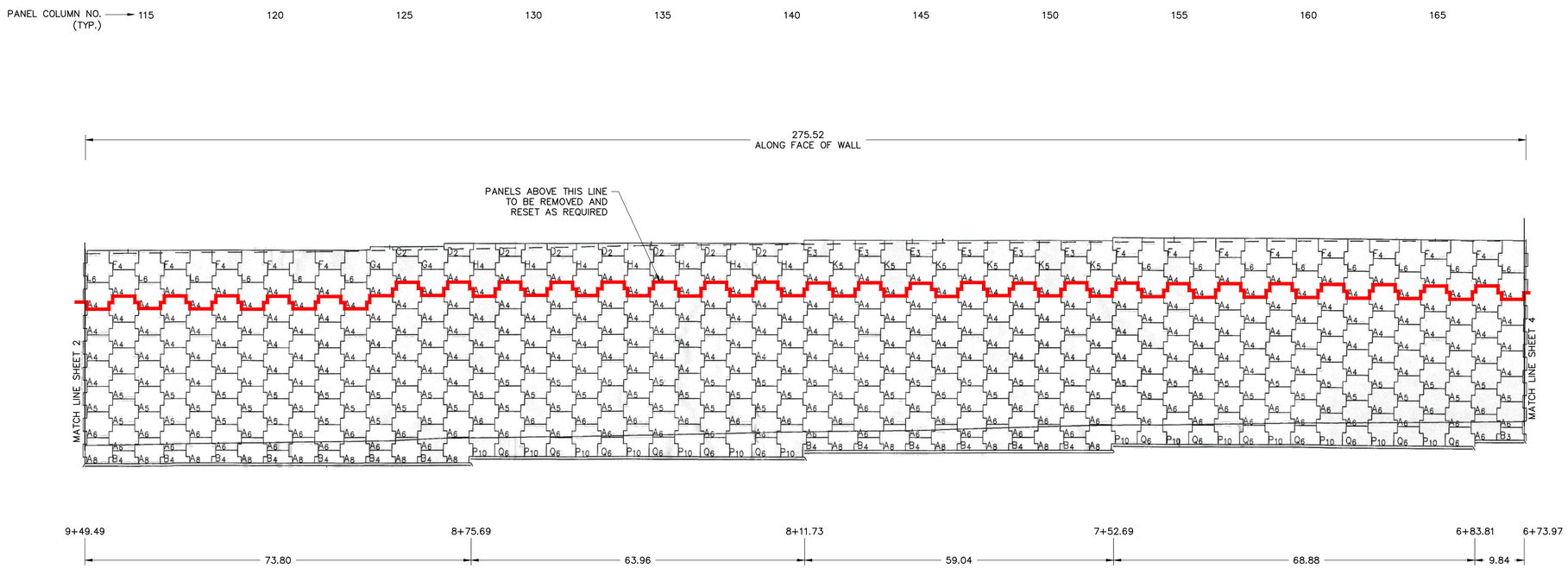

ELEVATION – FRONT FACE – RETAINING WALL

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REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS SHEET 3 OF 8

REVISIONS		
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206

JE FILE:

DRAWING NO.

C5.3

REV

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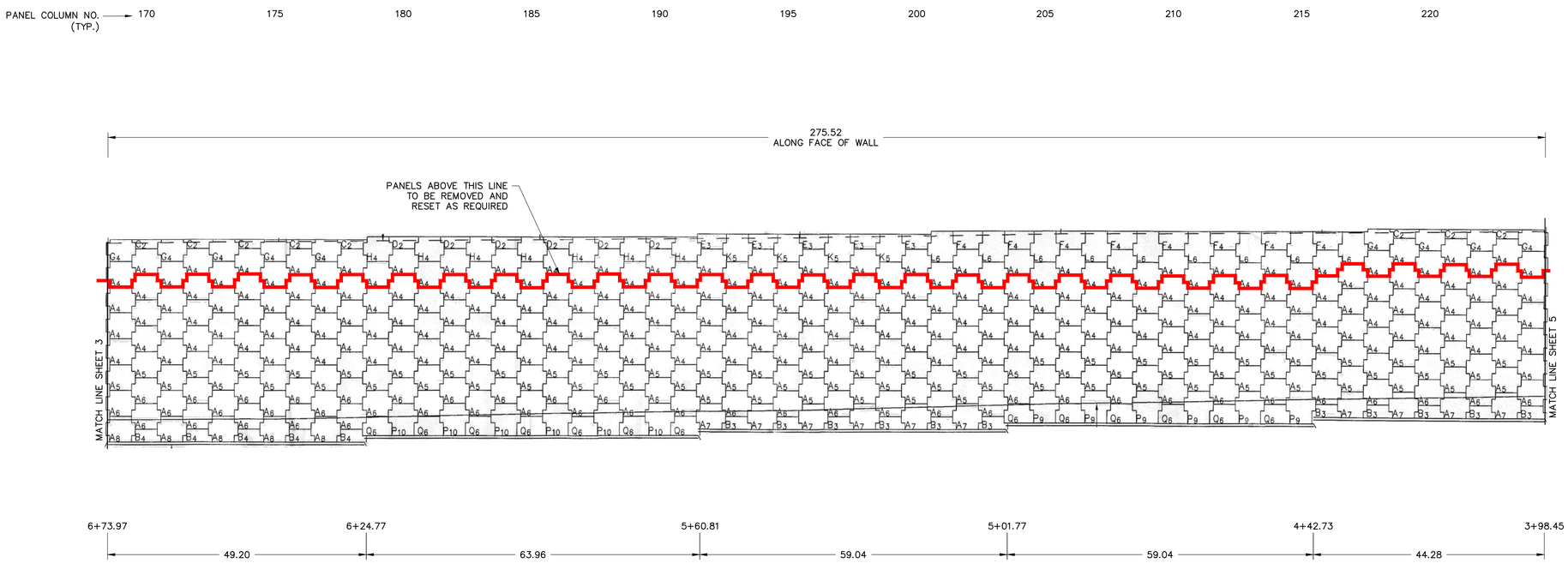
Jacobs - \\nhtfil01\JOB\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\11 - Miscellaneous Details.dwg [C5.3] March 07, 2022 - 4:56pm [BaumanS]



ELEVATION – FRONT FACE – RETAINING WALL

NOT TO SCALE

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APPROVED: JMG

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REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS
SHEET 4 OF 8

REVISIONS		
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206

JE FILE:

DRAWING NO.

C5.4

REV

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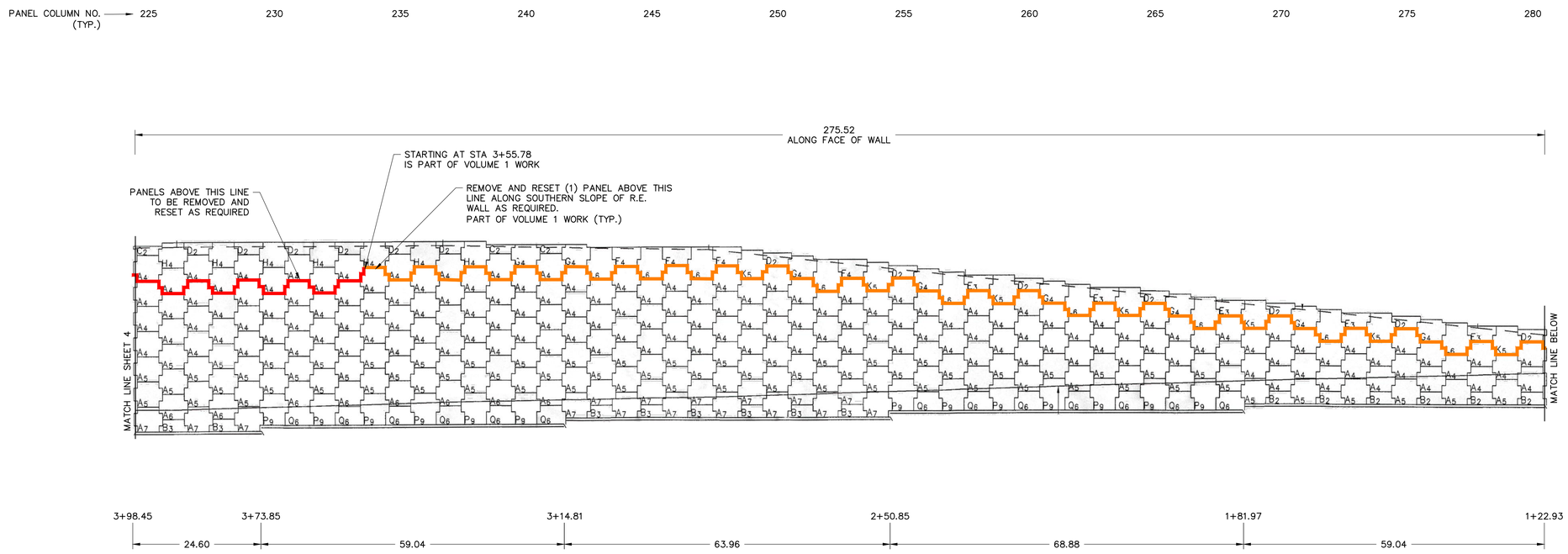
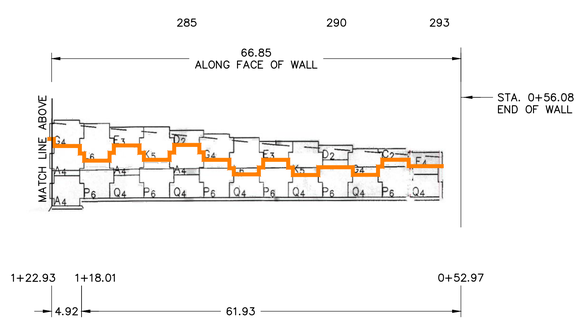


ELEVATION – FRONT FACE – RETAINING WALL

NOT TO SCALE



ELEVATION – FRONT FACE – RETAINING WALL

NOT TO SCALE

NOTES:

1. THE WALL PANEL ELEVATION VIEW SHOWN IS FROM THE APPROVED SUBMITTAL INFORMATION AVAILABLE FROM THE ORIGINAL CONSTRUCTION OF THE TAXIWAY 'A' RETAINING WALL DATED 04–29–2002.
2. DRAWINGS IN THE ABOVE SUBMITTAL WERE PROVIDED BY "THE REINFORCED EARTH COMPANY" AND ARE DATED 04–11–2002.

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666–7181
FAX: (603) 666–7185

SCALE: AS SHOWN
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: TAD
CHECKED BY: JAM
APPROVED: JWG

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REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS
SHEET 5 OF 8

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

PROJ. NO.: E2X89206
JE FILE:

DRAWING NO.
C5.5
REV

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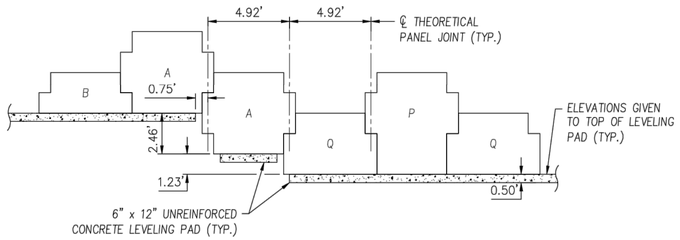
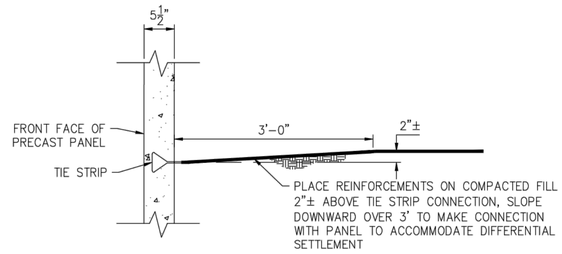


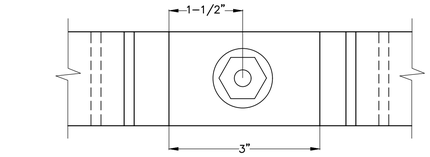
PARTIAL ELEVATION – TYPICAL LEVELING PAD STEP DETAIL

SCALE: ¼" = 1'–0"

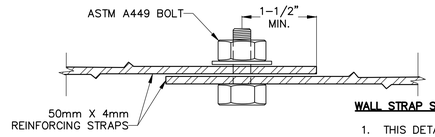


STANDARD STRIP PLACEMENT DETAIL

SCALE: 1" = 1'–0"



PLAN VIEW



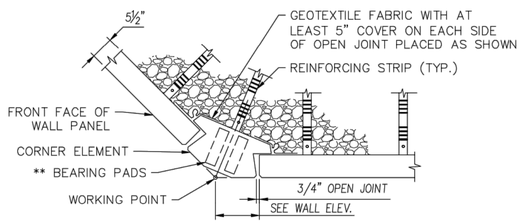
WALL STRAP SPLICE NOTE:

1. THIS DETAIL IS NOT PART OF THE APPROVED SUBMITTAL FROM THE ORIGINAL CONSTRUCTION OF THE TAXIWAY 'A' RETAINING WALL DATED 04–29–2002.

WALL STRAP SPLICE DETAIL

NOT TO SCALE

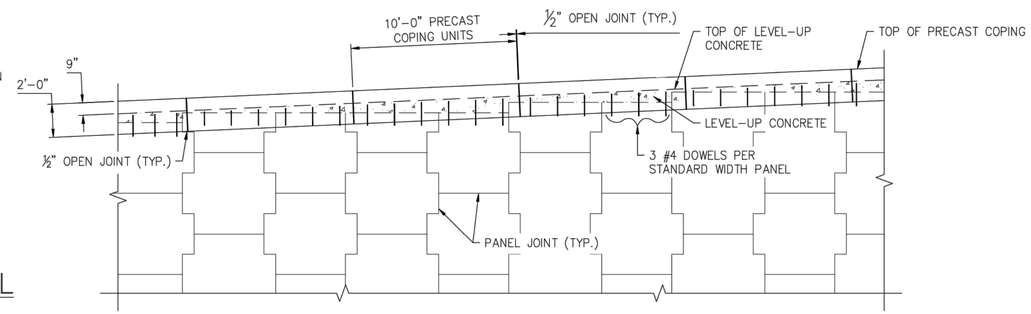
NOTE:
DRILLED HOLES SHALL BE CLEANED WITH COMPRESSED AIR AS PER HILTI SPECIFICATIONS. THIS DETAIL IS PROVIDED FOR USE IN THE EVENT A TIE STRIP CONNECTION NEEDS TO BE REPLACED OR ADDED TO THE MSE FACING PANELS. CONTACT THE REINFORCED EARTH COMPANY FOR PANEL SPECIFIC PLACEMENT REQUIREMENTS PRIOR TO THE USE OF THIS DETAIL.



OBTUSE CORNER ELEMENT DETAIL

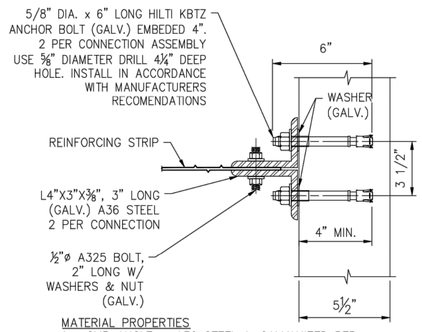
SCALE ¾" = 1'–0"

** NOTE: TWO BEARING PADS PER UNIT, PLACED FLAT ON TOP OF CORNER ELEMENT. BEARING PADS SHALL BE PLACED ON INSIDE EDGE OF LIP.

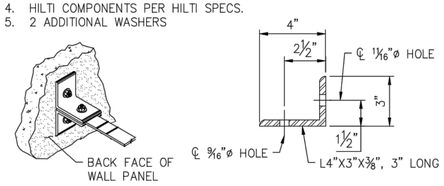


PARTIAL ELEVATION – PRECAST COPING

SCALE: ¼" = 1'–0"

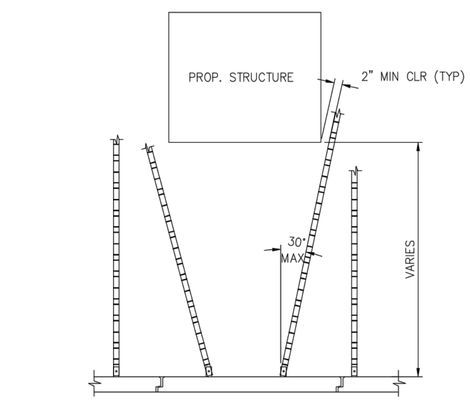


MATERIAL PROPERTIES
1. CLIP ANGLE – A36 STEEL 1. GALVANIZED PER ASTM A–123 OR AASHTO M111
2. 1/2"ø BOLTS – A325 – GALVANIZED 2. PER ASTM F2329 (INCORPORATES ASTM A–153)
3. 50mm x 4mm R.S. – A–572 GRADE 65 3. GALVANIZED PER ASTM A–123 OR AASHTO M111
4. HILTI COMPONENTS PER HILTI SPECS.
5. 2 ADDITIONAL WASHERS



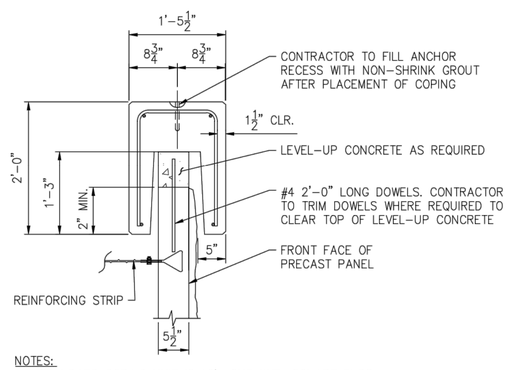
CLIP ANGLE DETAIL (IF REQUIRED)

SCALE: 3" = 1'–0"



TYPICAL REINFORCING STRIP HORIZONTAL DEFLECTION DETAIL AT PROPOSED STRUCTURES

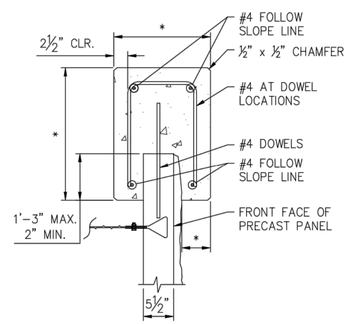
SCALE: ½" = 1'–0"



NOTES:
1. STANDARD COPING UNIT IS 10' LONG WITH SQUARE ENDS.
2. ALL REBAR IN COPING & DOWEL SHALL BE EPOXY COATED

PRECAST COPING SECTION

SCALE: 1" = 1'–0"



* MATCH PRECAST COPING DIMENSIONS

NOTES:
1. CONCRETE TO BE CLASS AA
2. ALL REBARS SHALL BE GRADE 60 STEEL, EPOXY COATED
3. ALL LONGITUDINAL BARS ARE #4

C.I.P. COPING SECTION (IF REQUIRED)

SCALE: 1" = 1'–0"

NOTES:

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REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS
SHEET 6 OF 8

REV. NO.	DATE	DESCRIPTION	BY

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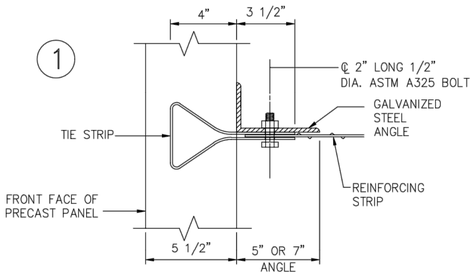
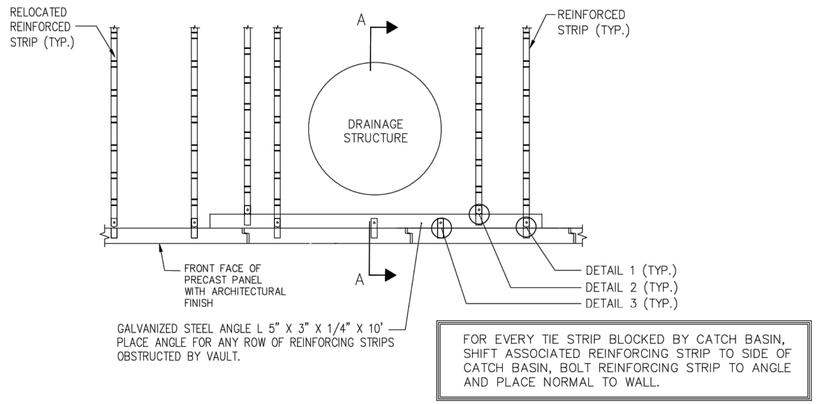


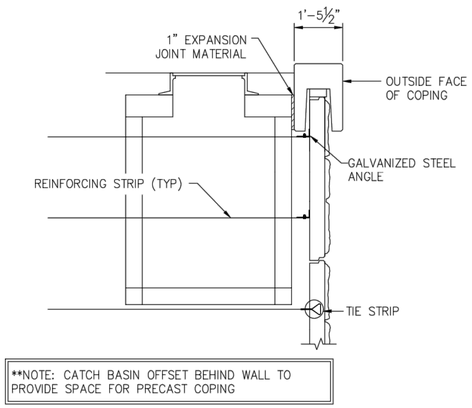
ANGLE BOLTED TO TIE STRIP

SCALE: 3" = 1'



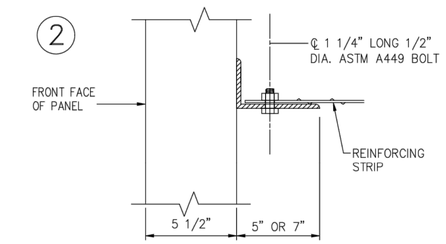
PARTIAL PLAN: REINF. STRIP RELOCATION WITH GALVANIZED STEEL ANGLE

SCALE: 1" : 2'



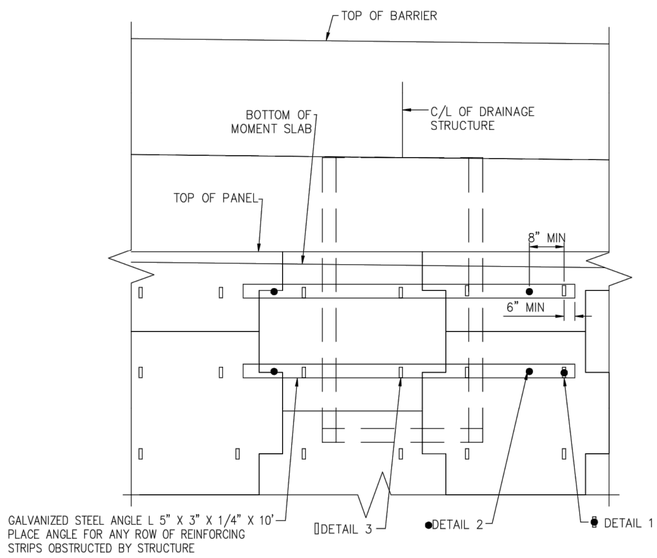
SECTION A–A – REINFORCING STRIP RELOCATION WITH GALVANIZED STEEL ANGLES

SCALE: ½" = 1'–0"



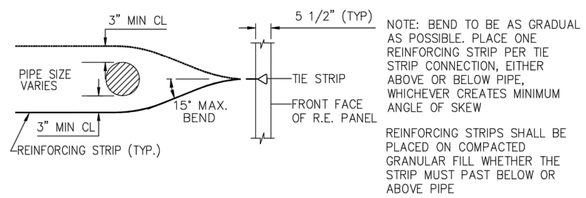
REINF. STRIP BOLTED TO ANGLE

SCALE: 3" = 1'



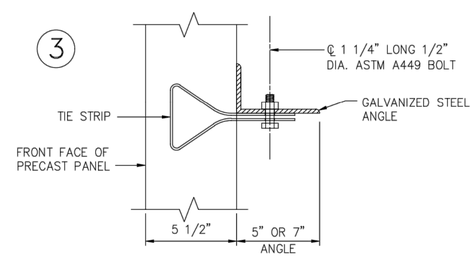
PARTIAL ELEVATION: REINF. STRIP RELOCATION WITH GALVANIZED STEEL ANGLE

SCALE: 1" = 2'



TYPICAL REINFORCING STRIP DEFLECTION DETAIL AT PROPOSED PIPES OR OTHER UTILITIES

SCALE: ½" = 1'–0"



ANGLE BOLTED TO TIE STRIP WITHOUT REINF. STRIP

SCALE: 3" = 1'

NOTES:

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REHABILITATE RUNWAY 17-35

MISCELLANEOUS DETAILS
SHEET 7 OF 8

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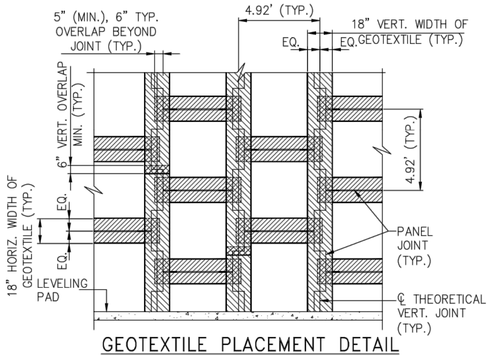
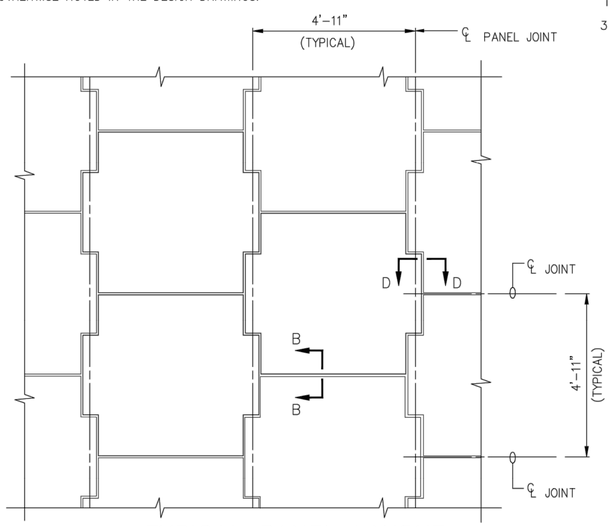


GEOTEXTILE PLACEMENT DETAIL
BACK FACE – CRUCIFORM PANELS

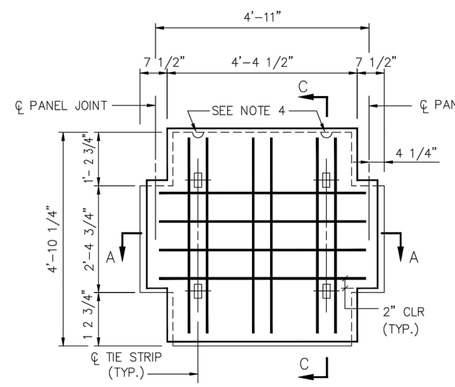
PROPER INSTALLATION OF GEOTEXTILE AT PANEL JOINTS IS IMPERATIVE IN PREVENTING LOSS OF BACKFILL MATERIAL.

GEOTEXTILE PLACEMENT RECOMMENDATIONS:

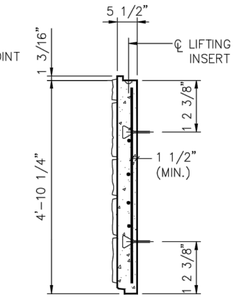
- PANEL GEOTEXTILE SHALL BE FIRMLY AFFIXED TO BACK OF PANEL AS SHOWN USING ADHESIVE SUPPLIED BY THE REINFORCED EARTH CO. APPLY ADHESIVE ON BACK FACE OF PANELS AND NOT ON GEOTEXTILE. DO NOT APPLY ADHESIVE WITHIN 2" OF PANEL JOINTS.
- PANEL GEOTEXTILE SHALL BE APPROXIMATELY CENTERED ON JOINTS.
- PANEL GEOTEXTILE SHALL HAVE A 6" MIN. OVERLAP. VERTICAL GEOTEXTILE SHALL OVERLAP HORIZONTAL GEOTEXTILE. WHEN TWO VERTICAL GEOTEXTILES OVERLAP, THE UPPER PIECE SHALL OVERLAP THE LOWER. PANEL GEOTEXTILE IS NOT REQUIRED AT THE INTERFACE BETWEEN PANEL AND LEVELING PAD UNLESS OTHERWISE NOTED IN THE DESIGN DRAWINGS.



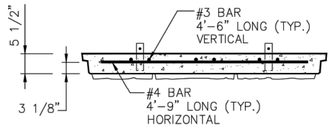
TYPICAL PANEL LAYOUT
PARTIAL ELEVATION – FRONT FACE
SCALE: 1/2"=1'–0"



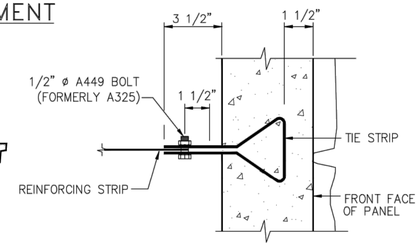
PANEL TYPE "A"
WITH R6 REINFORCEMENT
FRONT FACE
SCALE: 3/4"=1'–0"



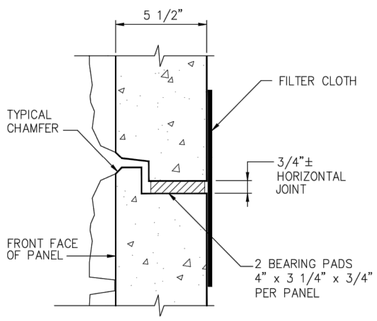
SECTION C–C
SCALE: 3/4"=1'–0"



SECTION A–A
SCALE: 3/4"=1'–0"



CONNECTION DETAIL
SCALE: 3"=1'–0"



SECTION B–B
SCALE: 3"=1'–0"

PANEL THICKNESS	REINFORCEMENT DESIGNATION	PANEL REINFORCEMENT	MAXIMUM FACTORED HORIZONTAL STRESS AT FACING (KSF)
5 1/2"	R6	6–#3 VERTICAL 4–#4 HORIZONTAL	2.20

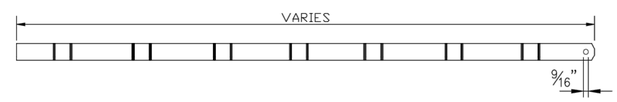
NOTES:

PRECAST PANELS PER PROJECT SPECIFICATIONS SECTION M–006

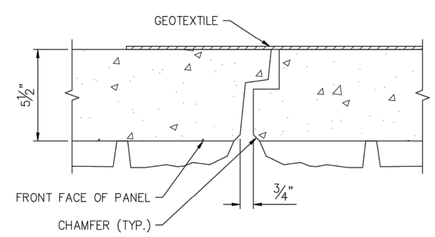
1. ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH ASTM A775.
2. 28 DAY COMPRESSIVE STRENGTH OF CONCRETE = 5,000 psi. CLASS A, TYPE II CONCRETE PER SECTION 520.
3. 3/8" x 3/8" CHAMFER SHALL BE PROVIDED ON ALL EXPOSED EDGES (FRONT FACE ONLY), CHAMFER IS OPTIONAL FOR THE BOTTOM OF BOTTOM PANELS.
4. ALL PANEL TYPES AND OTHER RELATED ELEMENTS WILL BE DETAILED ON PANEL FABRICATION DRAWINGS.
5. ALL PANELS SHALL HAVE TWO LIFTING INSERTS OF ONE – TON CAPACITY EACH.
6. PANEL DESIGN THICKNESS IS 5 1/2"
7. THE PRECAST PANELS FOR THIS PROJECT SHALL HAVE AN ASHLAR STONE FINISH.

SOIL REINFORCEMENT AND ACCESORIES

1. REINFORCING STRIPS SHALL BE RIBBED 50mm WIDE AND 4mm THICK, AND SHALL CONFORM TO THE PHYSICAL AND MECHANICAL PROPERTIES OF ASTM A–572 GRADE 65. GALVANIZATION SHALL BE APPLIED IN ACCORDANCE WITH ASTM A–123 OR AASHTO M111 (2 oz/ft 2).
2. BOLTS SHALL BE ASTM A449 (FORMERLY A325). GALVANIZED PER ASTM F2329 (INCORPORATED IN ASTM A–153).
3. BEARING BLOCKS SHALL BE EPDM RUBBER PADS WITH DUROMETER HARDNESS OF 80±5, CONFORMING TO ASTM D2000.
4. SHIMS SHALL BE EPDM RUBBER PADS WITH DUROMETER HARDNESS OF 80±5, CONFORMING TO ASTM D2000. NOMINAL DIMENSION OF SHIM IS 2" x 3 1/2" x 3/16" THICK.
5. GEOTEXTILE FOR PANEL JOINTS SHALL CONFORM TO AASHTO M288 SUBSURFACE DRAINAGE, CLASS 3 OR BETTER. MINIMUM LAP SHALL BE 4".
6. TIE STRIPS SHALL BE ASTM A1011 (FORMERLY A–570) GRADE 50, GALVANIZED AS PER ASTM A–123 OR A–153. SEE PANEL FABRICATION DRAWINGS – DETAIL J – SHEET S3



TYPICAL 50mmX4mm REINFORCING STRIP
NO SCALE



SECTION D–D
SCALE: 3"=1'–0"

NOTES:

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SHEET 8 OF 8

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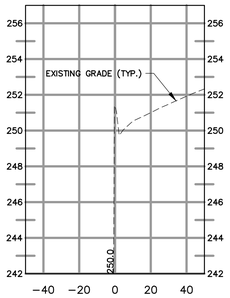
3+50.00



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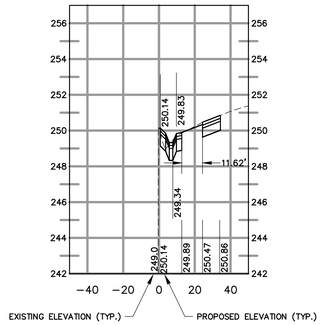

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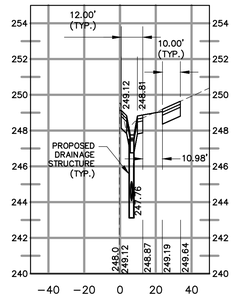
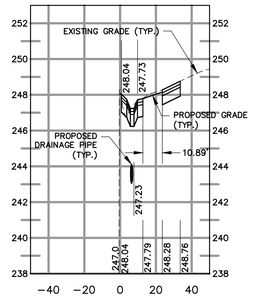
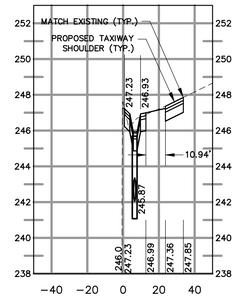


6+50.00



7+26.47



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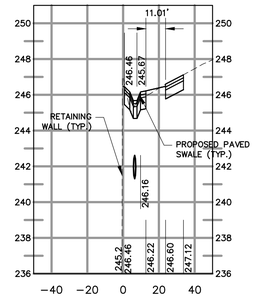

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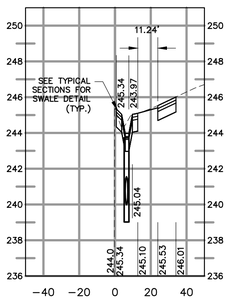

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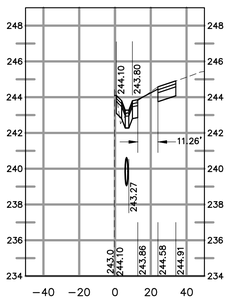

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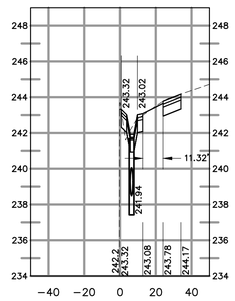

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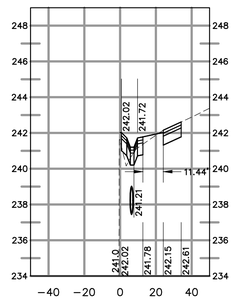

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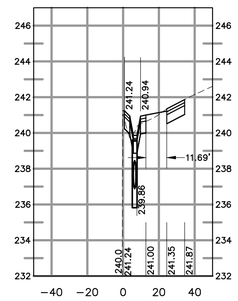

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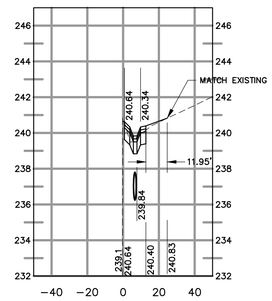

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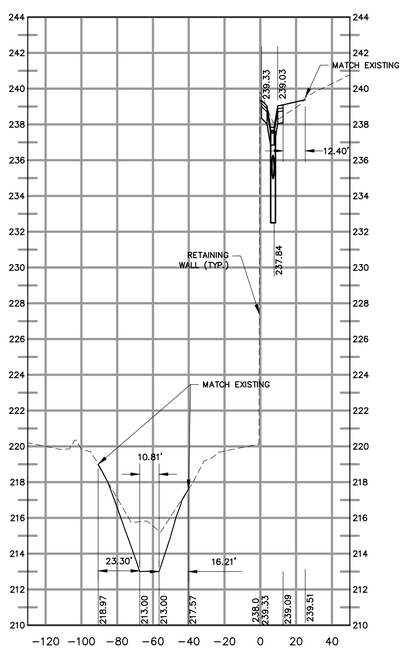

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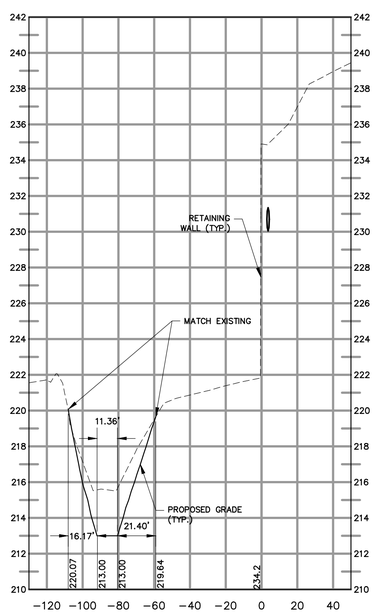

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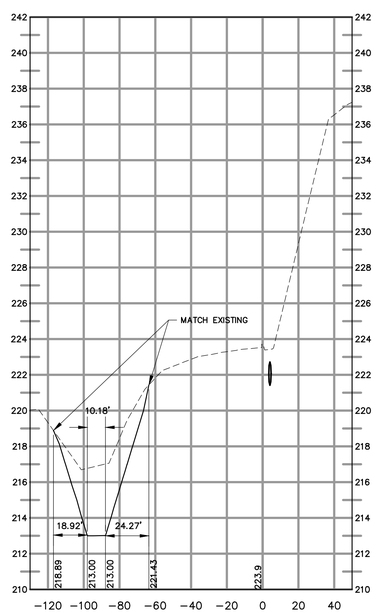

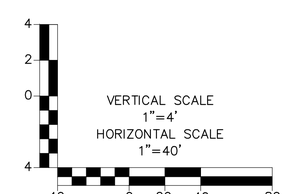

PROJECT DESIGNER:
Jacobs
2 Executive Park Drive
Suite 205
Bedford, NH 03110
PHONE: (603) 666-7181
FAX: (603) 666-7185

SCALE: AS SHOWN
DATE: MARCH 2022
DESIGNED BY: JPP
DRAWN BY: SBB
CHECKED BY: JAM
APPROVED: JWG

MANCHESTER • BOSTON REGIONAL AIRPORT

REHABILITATE RUNWAY 17-35

CROSS SECTIONS

REV NO.	DATE	DESCRIPTION	BY

REVISIONS

PROJ. NO.: E2X89206

JE FILE:

DRAWING NO.

X1.1

REV

ISSUED FOR BID - NOT FOR CONSTRUCTION

Jacobs - \\mhtfil01\JOB\2021\E2X89206 - MHT Retaining Wall Rehabilitation\700 CAD\Plans\12 - Cross Sections.dwg [X1.1] March 07, 2022 - 5:00pm [BaumanS]