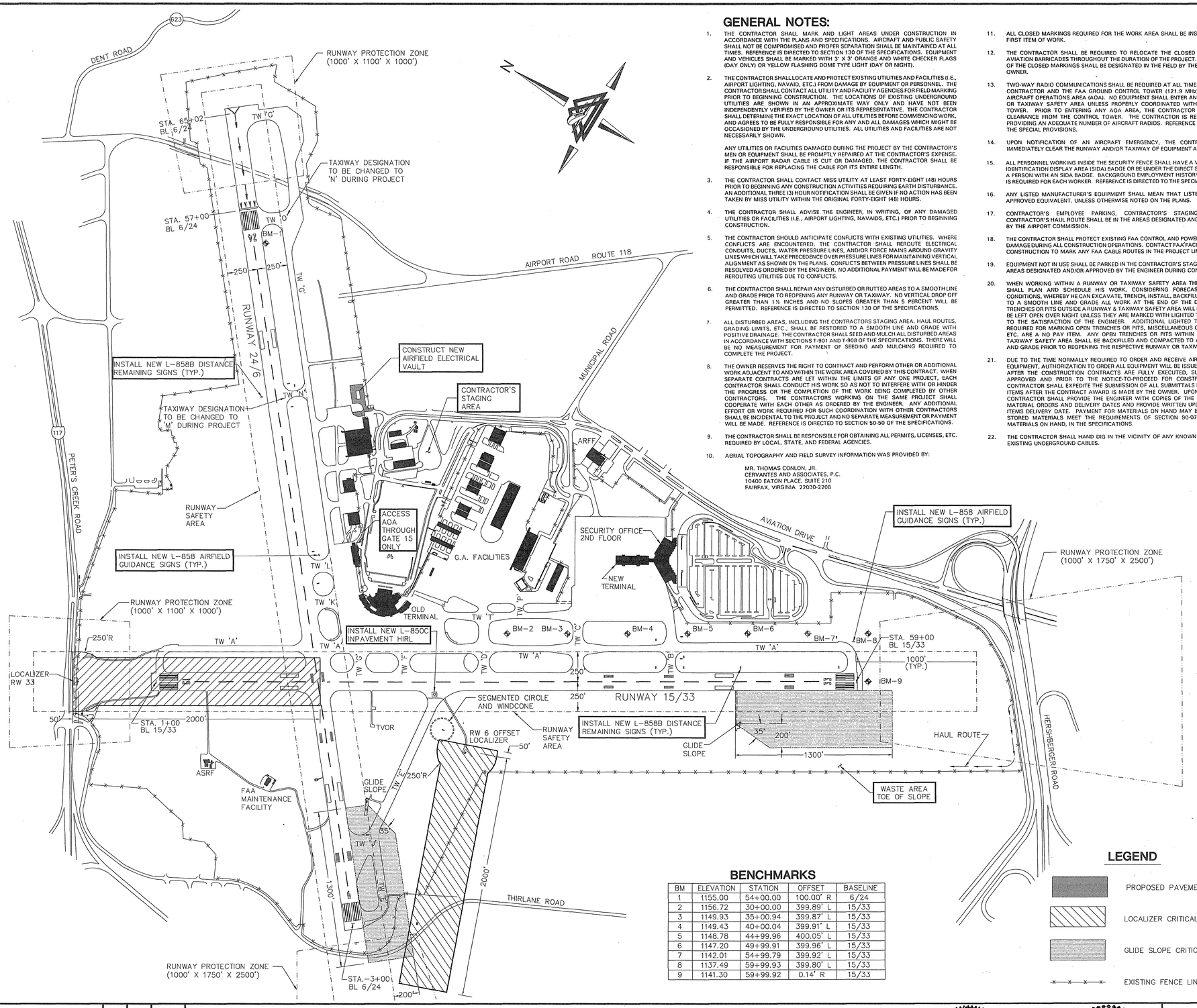

BENCHMARKS

BM	ELEVATION	STATION	OFFSET	BASELINE
1	1155.00	54+00.00	100.00' R	6/24
2	1156.72	30+00.00	399.89' L	15/33
3	1149.93	35+00.94	399.87' L	15/33
4	1149.43	40+00.04	399.91' L	15/33
5	1148.78	44+99.96	400.05' L	15/33
6	1147.20	49+99.91	399.96' L	15/33
7	1142.01	54+99.79	399.92' L	15/33
8	1137.49	59+99.93	399.80' L	15/33
9	1141.30	59+99.92	0.14' R	15/33

GENERAL NOTES:

1. THE CONTRACTOR SHALL MARK AND LIGHT AREAS UNDER CONSTRUCTION IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. AIRCRAFT AND PUBLIC SAFETY SHALL NOT BE COMPROMISED AND PROPER SEPARATION SHALL BE MAINTAINED AT ALL TIMES. REFERENCE IS DIRECTED TO SECTION 130 OF THE SPECIFICATIONS. EQUIPMENT AND VEHICLES SHALL BE MARKED WITH 3' X 3' ORANGE AND WHITE CHECKER FLAGS (DAY ONLY) OR YELLOW FLASHING DOME TYPE LIGHT (DAY OR NIGHT).
2. THE CONTRACTOR SHALL LOCATE AND PROTECT EXISTING UTILITIES AND FACILITIES (I.E., AIRPORT LIGHTING, NAVAID, ETC.) FROM DAMAGE BY EQUIPMENT OR PERSONNEL. THE CONTRACTOR SHALL CONTACT ALL UTILITY AND FACILITY AGENCIES FOR FIELD MARKING PRIOR TO BEGINNING CONSTRUCTION. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE UNDERGROUND UTILITIES. ALL UTILITIES AND FACILITIES ARE NOT NECESSARILY SHOWN.

   ANY UTILITIES OR FACILITIES DAMAGED DURING THE PROJECT BY THE CONTRACTOR'S MEN OR EQUIPMENT SHALL BE PROMPTLY REPAIRED AT THE CONTRACTOR'S EXPENSE. IF THE AIRPORT RADAR CABLE IS CUT OR DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE CABLE FOR ITS ENTIRE LENGTH.
3. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES REQUIRING EARTH DISTURBANCE. AN ADDITIONAL THREE (3) HOUR NOTIFICATION SHALL BE GIVEN IF NO ACTION HAS BEEN TAKEN BY MISS UTILITY WITHIN THE ORIGINAL FORTY-EIGHT (48) HOURS.
4. THE CONTRACTOR SHALL ADVISE THE ENGINEER, IN WRITING, OF ANY DAMAGED UTILITIES OR FACILITIES (I.E., AIRPORT LIGHTING, NAVAIDS, ETC.) PRIOR TO BEGINNING CONSTRUCTION.
5. THE CONTRACTOR SHOULD ANTICIPATE CONFLICTS WITH EXISTING UTILITIES. WHERE CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL REROUTE ELECTRICAL CONDUITS, DUCTS, WATER PRESSURE LINES, AND/OR FORCE MAINS AROUND GRAVITY LINES WHICH WILL TAKE PRECEDENCE OVER PRESSURE LINES FOR MAINTAINING VERTICAL ALIGNMENT AS SHOWN ON THE PLANS. CONFLICTS BETWEEN PRESSURE LINES SHALL BE RESOLVED AS ORDERED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR REROUTING UTILITIES DUE TO CONFLICTS.
6. THE CONTRACTOR SHALL REPAIR ANY DISTURBED OR RUTTED AREAS TO A SMOOTH LINE AND GRADE PRIOR TO REOPENING ANY RUNWAY OR TAXIWAY. NO VERTICAL DROP OFF GREATER THAN 1½ INCHES AND NO SLOPES GREATER THAN 5 PERCENT WILL BE PERMITTED. REFERENCE IS DIRECTED TO SECTION 130 OF THE SPECIFICATIONS.
7. ALL DISTURBED AREAS, INCLUDING THE CONTRACTORS STAGING AREA, HAUL ROUTES, GRADING LIMITS, ETC., SHALL BE RESTORED TO A SMOOTH LINE AND GRADE WITH POSITIVE DRAINAGE. THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH SECTIONS T-901 AND T-908 OF THE SPECIFICATIONS. THERE WILL BE NO MEASUREMENT FOR PAYMENT OF SEEDING AND MULCHING REQUIRED TO COMPLETE THE PROJECT.
8. THE OWNER RESERVES THE RIGHT TO CONTRACT AND PERFORM OTHER OR ADDITIONAL WORK ADJACENT TO AND WITHIN THE WORK AREA COVERED BY THIS CONTRACT. WHEN SEPARATE CONTRACTS ARE LET WITHIN THE LIMITS OF ANY ONE PROJECT, EACH CONTRACTOR SHALL CONDUCT HIS WORK SO AS NOT TO INTERFERE WITH OR HINDER THE PROGRESS OR THE COMPLETION OF THE WORK BEING COMPLETED BY OTHER CONTRACTORS. THE CONTRACTORS WORKING ON THE SAME PROJECT SHALL COOPERATE WITH EACH OTHER AS ORDERED BY THE ENGINEER. ANY ADDITIONAL EFFORT OR WORK REQUIRED FOR SUCH COORDINATION WITH OTHER CONTRACTORS SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE. REFERENCE IS DIRECTED TO SECTION 50-50 OF THE SPECIFICATIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, LICENSES, ETC. REQUIRED BY LOCAL, STATE, AND FEDERAL AGENCIES.
10. AERIAL TOPOGRAPHY AND FIELD SURVEY INFORMATION WAS PROVIDED BY:

    MR. THOMAS CONLON, JR.
    CERVANTES AND ASSOCIATES, P.C.
    10400 EATON PLACE, SUITE 210
    FAIRFAX, VIRGINIA 22030-2208
11. ALL CLOSED MARKINGS REQUIRED FOR THE WORK AREA SHALL BE INSTALLED AS THE FIRST ITEM OF WORK.
12. THE CONTRACTOR SHALL BE REQUIRED TO RELOCATE THE CLOSED MARKERS AND AVIATION BARRICADES THROUGHOUT THE DURATION OF THE PROJECT. THE LOCATION OF THE CLOSED MARKINGS SHALL BE DESIGNATED IN THE FIELD BY THE ENGINEER AND OWNER.
13. TWO-WAY RADIO COMMUNICATIONS SHALL BE REQUIRED AT ALL TIMES BETWEEN THE CONTRACTOR AND THE FAA GROUND CONTROL TOWER (121.9 MHz) WHILE IN THE AIRCRAFT OPERATIONS AREA (AOA). NO EQUIPMENT SHALL ENTER AN OPEN RUNWAY OR TAXIWAY SAFETY AREA UNLESS PROPERLY COORDINATED WITH THE CONTROL TOWER. PRIOR TO ENTERING ANY AOA AREA, THE CONTRACTOR SHALL OBTAIN CLEARANCE FROM THE CONTROL TOWER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN ADEQUATE NUMBER OF AIRCRAFT RADIOS. REFERENCE IS DIRECTED TO THE SPECIAL PROVISIONS.
14. UPON NOTIFICATION OF AN AIRCRAFT EMERGENCY, THE CONTRACTOR SHALL IMMEDIATELY CLEAR THE RUNWAY AND/OR TAXIWAY OF EQUIPMENT AND PERSONNEL.
15. ALL PERSONNEL WORKING INSIDE THE SECURITY FENCE SHALL HAVE A VALID SECURITY IDENTIFICATION DISPLAY AREA (SIDA) BADGE OR BE UNDER THE DIRECT SUPERVISION OF A PERSON WITH AN SIDA BADGE. BACKGROUND EMPLOYMENT HISTORY INFORMATION IS REQUIRED FOR EACH WORKER. REFERENCE IS DIRECTED TO THE SPECIAL PROVISIONS.
16. ANY LISTED MANUFACTURER'S EQUIPMENT SHALL MEAN THAT LISTED ITEM OR AN APPROVED EQUIVALENT. UNLESS OTHERWISE NOTED ON THE PLANS.
17. CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S STAGING AREA AND CONTRACTOR'S HAUL ROUTE SHALL BE IN THE AREAS DESIGNATED AND/OR APPROVED BY THE AIRPORT COMMISSION.
18. THE CONTRACTOR SHALL PROTECT EXISTING FAA CONTROL AND POWER CABLES FROM DAMAGE DURING ALL CONSTRUCTION OPERATIONS. CONTACT FAA FACILITIES PRIOR TO CONSTRUCTION TO MARK ANY FAA CABLE ROUTES IN THE PROJECT LIMITS.
19. EQUIPMENT NOT IN USE SHALL BE PARKED IN THE CONTRACTOR'S STAGING AREA OR IN AREAS DESIGNATED AND/OR APPROVED BY THE ENGINEER DURING CONSTRUCTION.
20. WHEN WORKING WITHIN A RUNWAY OR TAXIWAY SAFETY AREA THE CONTRACTOR SHALL PLAN AND SCHEDULE HIS WORK, CONSIDERING FORECASTED WEATHER CONDITIONS, WHEREBY HE CAN EXCAVATE, TRENCH, INSTALL, BACKFILL AND COMPACT TO A SMOOTH LINE AND GRADE ALL WORK AT THE END OF THE DAY. NO OPEN TRENCHES OR PITS OUTSIDE A RUNWAY & TAXIWAY SAFETY AREA WILL BE ALLOWED TO BE LEFT OPEN OVER NIGHT UNLESS THEY ARE MARKED WITH LIGHTED TRAFFIC DRUMS TO THE SATISFACTION OF THE ENGINEER. ADDITIONAL LIGHTED TRAFFIC DRUMS REQUIRED FOR MARKING OPEN TRENCHES OR PITS, MISCELLANEOUS CONSTRUCTION, ETC. ARE A NO PAY ITEM. ANY OPEN TRENCHES OR PITS WITHIN A RUNWAY OR TAXIWAY SAFETY AREA SHALL BE BACKFILLED AND COMPACTED TO A SMOOTH LINE AND GRADE PRIOR TO REOPENING THE RESPECTIVE RUNWAY OR TAXIWAY.
21. DUE TO THE TIME NORMALLY REQUIRED TO ORDER AND RECEIVE AIRPORT LIGHTING EQUIPMENT, AUTHORIZATION TO ORDER ALL EQUIPMENT WILL BE ISSUED IMMEDIATELY AFTER THE CONSTRUCTION CONTRACTS ARE FULLY EXECUTED, SUBMITTALS ARE APPROVED AND PRIOR TO THE NOTICE-TO-PROCEED FOR CONSTRUCTION. THE CONTRACTOR SHALL EXPEDITE THE SUBMISSION OF ALL SUBMITTALS FOR LONG LEAD ITEMS AFTER THE CONTRACT AWARD IS MADE BY THE OWNER. UPON REQUEST, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COPIES OF THE CONTRACTOR'S MATERIAL ORDERS AND DELIVERY DATES AND PROVIDE WRITTEN UPDATES OF EACH ITEMS DELIVERY DATE. PAYMENT FOR MATERIALS ON HAND MAY BE MADE IF THE STORED MATERIALS MEET THE REQUIREMENTS OF SECTION 90-07, PAYMENT OF MATERIALS ON HAND, IN THE SPECIFICATIONS.
22. THE CONTRACTOR SHALL HAND DIG IN THE VICINITY OF ANY KNOWN OR SUSPECTED EXISTING UNDERGROUND CABLES.
23. ALL SIGNS INSTALLED AS PART OF THIS PROJECT SHALL NOT EXCEED THE FOLLOWING LOADS:

NO. OF MODULES	MEASURED LOAD (VA)
1	200 WATTS
2	360 WATTS
3	500 WATTS
4	650 WATTS

24. NO DEBRIS OF ANY NATURE SHALL BE ALLOWED IN ACTIVE AIRCRAFT OPERATIONS AREAS. ALL LOOSE MATERIALS (DIRT, STONE, PAVEMENT, FORMING, ETC.) MUST BE KEPT WITHIN THE LIMITS OF CONSTRUCTION. WHEN THE CONSTRUCTION BARRIERS ARE MOVED DURING CONSTRUCTION, THE CLEANUP OF AREAS OUTSIDE THE BARRIERS SHALL OCCUR IMMEDIATELY. IN ADDITION, NO LOOSE MATERIALS THAT COULD BLOW INTO AIRCRAFT OPERATIONS AREAS SHALL BE ALLOWED IN THE CONSTRUCTION AREA.
25. THE CONTRACTOR SHALL HAVE OPERABLE AND AVAILABLE AT ALL TIMES DURING CONSTRUCTION OR HAULING ON THE TAXIWAYS, RUNWAYS, OR APRONS, A VACUUM/SWEEPER UNIT THAT IS CAPABLE OF REMOVING ALL LOOSE MATERIALS. THE BRUSHES ON THIS VACUUM/SWEEPER SHALL NOT HAVE METAL BRISTLES. IF AN OPERABLE VACUUM/SWEEPER IS NOT AVAILABLE ON-SITE UNDER THE ABOVE CONDITIONS, THE ENGINEER RESERVES THE RIGHT TO HALT ALL WORK IN TAXIWAY, RUNWAY, AND APRON AREAS. IF THE AIRPORT IS REQUIRED TO VACUUM CONTRACTOR'S DEBRIS, THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE.
26. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A MARKED SET OF AS-BUILT PRINTS. TWO (2) COPIES OF ALL MANUFACTURERS' LITERATURE SHALL BE PROVIDED UNLESS OTHERWISE NOTED.
27. ALL AIRPORT LIGHTING SYSTEMS SHALL REMAIN OPERATIONAL WHEN NEEDED THROUGHOUT THE DURATION OF THE PROJECT UNLESS OTHERWISE APPROVED BY THE ENGINEER. PROVIDE TEMPORARY CABLES AND CONNECTIONS AS REQUIRED (NO PAY ITEM).
28. CONSTRUCTION DURING NIGHTTIME WORK PERIODS SHALL REQUIRE THE FOLLOWING:

    (A) ALL TRENCHING MACHINES, BACKHOES, TRUCKS, AND OTHER VEHICLES REQUIRED BY THE CONTRACTOR FOR HIS OPERATIONS SHALL BE EQUIPPED WITH ARTIFICIAL ILLUMINATION SUFFICIENT TO SAFELY COMPLETE THE WORK.

    (B) AS PARTIAL FULFILLMENT OF THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL FURNISH AND USE COMPLETE ARTIFICIAL LIGHTING UNITS WITH A MINIMUM CAPACITY OF 2,000 WATTS ELECTRIC BEAM, AFFIXED TO ALL EQUIPMENT IN SUCH A WAY TO DIRECT ILLUMINATION ON THE AREA UNDER CONSTRUCTION.

    (C) IN ADDITION, THE CONTRACTOR SHALL FURNISH AND USE FIVE (5) MINIMUM PORTABLE FLOODLIGHT UNITS SIMILAR AND EQUAL TO "HI-LITE MODEL NO. 25" AS MANUFACTURED BY INTERCONTINENTAL ENGINEERING MANUFACTURING CORPORATION, KANSAS CITY, MISSOURI, OR "26 MTV SERIES-MAXI LIGHTS" AS MANUFACTURED BY ALLMAUND BROTHER, INC., HOLDREDGE, NEBRASKA.
29. THE CONTRACTOR SHALL PROVIDE O-RING JOINTS FOR ALL REINFORCED CONCRETE PIPE INSTALLED UNDER THIS PROJECT. THE CONTRACTOR SHALL INSTALL STANDARD STEPS IN ALL MANHOLES AND DROP INLETS. THE CONTRACTOR SHALL INSTALL INLET SHAPING IN ALL DRAINAGE MANHOLES AND DROP INLETS. NO SEPARATE MEASUREMENT WILL BE MADE FOR THE ABOVE REFERENCED ITEMS.
30. ALL MANHOLE AND DROP INLET LOCATIONS AND TOP ELEVATIONS ARE GIVEN TO THE CENTER OF THE MANHOLE SECTION UNLESS OTHERWISE NOTED.
31. LENGTHS OF PIPES ON THE PLANS ARE GIVEN FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
32. THE CONTRACTOR IS ADVISED THAT AIRCRAFT MAINTENANCE OPERATIONS ARE CONDUCTED ADJACENT TO THE PROJECT. SPECIAL ATTENTION TO DUST CONTROL WILL BE REQUIRED DURING THE COURSE OF THE PROJECT. THE USE OF WATER AND CALCIUM CHLORIDE SHALL BE ANTICIPATED. THE ENGINEER RESERVES THE RIGHT TO HALT WORK OR HAULING IF CORRECTIVE ACTIONS ARE NOT PROMPTLY TAKEN BY THE CONTRACTOR TO CONTROL DUST.
33. THE WASTE AREA FOR ALL CLEAN SELECT MATERIAL IS SHOWN ON THE PLANS. ALL BROKEN CONCRETE, ASPHALT, FENCE MATERIAL, ETC. SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR.

SECURITY NOTES:

1. ALL PERSONNEL WORKING INSIDE THE SECURITY FENCE SHALL HAVE A VALID SECURITY IDENTIFICATION DISPLAY AREA (SIDA) BADGE OR BE UNDER THE DIRECT SUPERVISION OF A PERSON WITH A SIDA BADGE. BACKGROUND EMPLOYMENT HISTORY INFORMATION IS REQUIRED FOR EACH WORKER. REFERENCE IS DIRECTED TO THE SPECIAL PROVISION CONCERNING SECURITY FOR THE PROJECT.
2. THE CONTRACTOR SHALL ONLY USE THE HAUL ROUTE DESIGNATED BY THE OWNER. THE OWNER WILL PROVIDE ACCESS TO THE CONTRACTOR ONLY AFTER THE CONTRACTOR HAS RECEIVED SECURITY TRAINING AND SECURITY CLEARANCE FROM THE OWNER. ALL CONTRACTOR PERSONNEL THAT WILL RECEIVE BADGES SHALL BE REQUIRED TO COMPLETE SAFETY AND SECURITY TRAINING AND DRIVER TRAINING PRIOR TO ISSUANCE OF SIDA BADGES. TRAINING SESSIONS ARE APPROXIMATELY THREE (3) HOURS IN DURATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL EMPLOYEES OF THE CONTRACTOR AND SUBCONTRACTORS USE ONLY THE AUTHORIZED ACCESS POINT TO THE SIDA AND VERIFYING THAT THE ACCESS POINT IS SECURE IMMEDIATELY AFTER USE. GATES THAT FAIL TO SECURE MUST BE IMMEDIATELY REPORTED TO THE AIRPORT POLICE DEPARTMENT. THE AIRPORT IS SUBJECT TO FAA SECURITY REQUIREMENTS AND RIGID ADHERENCE IS MANDATORY. ANY FINES FOR UNAUTHORIZED PERSONNEL ENTERING THROUGH THE CONTRACTOR'S ACCESS POINT WILL BE DEDUCTED FROM MONEY DUE TO THE CONTRACTOR.
4. THE CONTRACTOR SHALL MAINTAIN THE PERIMETER FENCE ON A CONTINUOUS BASIS WITH ANY TEMPORARY OPENING BEING CONTINUOUSLY OBSERVED BY THE CONTRACTOR'S DESIGNATED EMPLOYEE. ALL TEMPORARY OPENINGS SHALL BE SECURED AT THE COMPLETION OF EACH DAY'S WORK.
5. THE CONTRACTOR SHALL DELINEATE LIMITS OF CONSTRUCTION PRIOR TO BEGINNING WORK EACH DAY. NONE OF THE CONTRACTOR'S PERSONNEL SHOULD BE BEYOND THE LIMITS OF CONSTRUCTION WITHOUT AUTHORIZATION FROM AIRPORT PERSONNEL. VIOLATORS ARE SUBJECT TO REMOVAL FROM THE JOBSITE AND LOSS OF SIDA BADGE AND/OR SIDA WORKING PRIVILEGES.
6. ALL CONTRACTOR VEHICLES OPERATING IN THE AIRCRAFT OPERATIONS AREA (AOA) SHALL BE CLEARLY LABELED WITH THE CONTRACTOR'S COMPANY NAME VISIBLE FROM 200 FEET.
7. THE CONTRACTOR SHALL SUBMIT A SECURITY PLAN AT THE PRECONSTRUCTION CONFERENCE. THE SECURITY PLAN SHALL OUTLINE THE METHODS THAT THE CONTRACTOR INTENDS TO APPLY IN ORDER TO MAINTAIN AIRPORT SECURITY.

LEGEND

- PROPOSED PAVEMENT
- LOCALIZER CRITICAL AREA
- GLIDE SLOPE CRITICAL AREA
- EXISTING FENCE LINE

400 0 400 800
scale: 1"=400' feet
9403GLSP.DWG
SHT1

NO.	REVISIONS	BY	APP.	DATE

DELTA AIRPORT CONSULTANTS, INC.
engineers - planners
Richmond, Virginia Charlotte, North Carolina

COMMONWEALTH OF VIRGINIA — HARRY S. KEYES — No. 024527 — 4/15/94 — PROFESSIONAL ENGINEER

COMMONWEALTH OF VIRGINIA — KENNETH W. MOODY — NO. 020032 — 5/4/94 — PROFESSIONAL ENGINEER

GENERAL LAYOUT & SAFETY PLAN

ROANOKE REGIONAL AIRPORT

DRAWN BY: JAF	JOB NO. VA 9403
DESIGNED BY: CBS	SHEET 3
SCALE: 1"=400'	OF 56
DATE: APRIL 1994	