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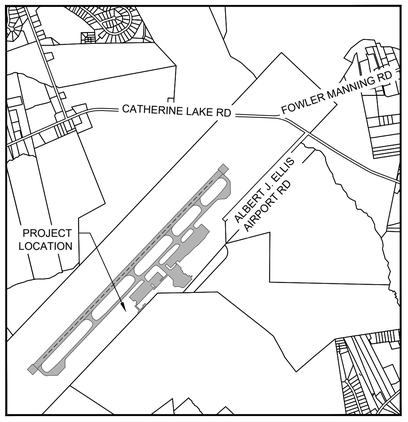
SOUTH GA EXPANSION
FOR THE
ALBERT J. ELLIS AIRPORT (OAJ)

RICHLANDS, NORTH CAROLINA

FEBRUARY 2025

WKDICKSON PROJECT NO. 20240074.00.WK

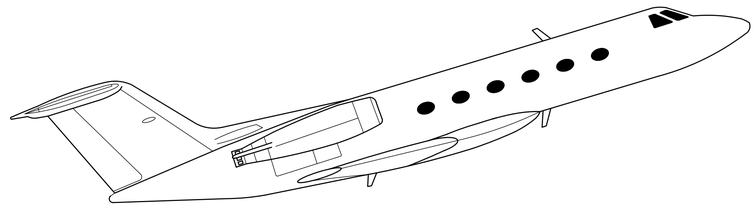
BID DOCUMENTS - NOT FOR CONSTRUCTION



VICINITY MAP

SCALE: 1" = 2,000'

ELLIS AIRPORT



NOTICE TO CONTRACTOR:

1. THE CONTRACTOR SHALL FIELD VERIFY THE ONSITE BENCHMARKS. THE CONTRACTOR SHALL IMMEDIATELY CONTACT W.K. DICKSON & CO., INC. @ 919.256.5616 IF ANY DISCREPANCIES ARE FOUND IN ELEVATIONS SHOWN.
2. PRIOR TO CONSTRUCTION, DIGGING, OR EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA(S) OF CONSTRUCTION, WHETHER INDICATED ON THE PLANS OR NOT. CALL "811" A MINIMUM OF 72 HOURS PRIOR TO DIGGING OR EXCAVATING. REPAIRS TO ANY UTILITY DAMAGED RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR PRIVATE UTILITY LOCATES AND THE ASSOCIATED COST IF 811 DOES NOT LOCATE ALL UTILITIES. NO ADDITIONAL PAYMENT WILL BE MADE FOR PRIVATE UTILITY LOCATES.

811 Know what's below. Call before you dig

WK DICKSON AN ARDURRA COMPANY

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ELLIS AIRPORT
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

WK DICKSON AN ARDURRA COMPANY
720 CORPORATE CENTER DRIVE
RALEIGH, NC 27607
(t)919-782-9672
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WWW.WKDICKSON.COM
NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD			
NO.	DATE	DESCRIPTION	BY

PROJECT NAME: SOUTH GA EXPANSION FOR ALBERT J. ELLIS AIRPORT (OAJ) RICHLANDS, NC

DRAWING TITLE: COVER

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER: G-000

WKD PROJ. NO.: 20240074.00.WK

BID DOCUMENTS - NOT FOR CONSTRUCTION

R:\2 PATH\2 PROJECTS\ONLOW COUNTY\2025\1958WK_OAJ TAXI - 90 GA EXPANSION\1 REL. DESIGN\CADD\PLAN SET\SHEETS\2025195B-WA C_001_COVER & GENERAL NOTES

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FILE PATH: Z:\PROJECTS\2024\JOH COUNTY\2024074.00\WORK - CAD FILES - SO - GA EXPANSION PHEL - DESIGN\CADD\PLAN SET\SHEETS\2025\SS\SS_PLAN_C - BAT_COVER & GENERAL NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR HAVING VISITED THE SITE AND HAVING FAMILIARIZED HIMSELF/ HERSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.

2. EXISTING FEATURES NOT SHOWN TO BE REMOVED SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES OR FACILITIES DAMAGED DURING THE PROJECT BY THE CONTRACTOR'S WORKERS OR EQUIPMENT SHALL BE PROMPTLY REPAIRED AT THE CONTRACTOR'S EXPENSE BY THE END OF THE WORKING DAY TO THE SATISFACTION OF THE ENGINEER AND OWNER.

3. 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 PLANS AND SPECIFICATIONS.

4. THE CONTRACTOR WILL BE REQUIRED TO TRANSPORT AND STORE ALL EQUIPMENT AND MATERIALS IN A MANNER WHICH WILL NOT DAMAGE ANY EXISTING PAVEMENT, BUILDINGS, SIGNS, LIGHTS, ETC. ANY DAMAGE WILL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE OWNER. THE CONTRACTOR SHALL KEEP ACCESS ROUTES CONTINUOUSLY CLEAN AND FREE OF LOOSE DEBRIS FROM CONSTRUCTION MATERIALS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CLEARING ALL PAVEMENTS TRAVERSED BY CONSTRUCTION EQUIPMENT OF DEBRIS DAILY.

5. THE CONTRACTOR AND THE PROJECT ENGINEER/AIRPORT REPRESENTATIVE SHALL HAVE A PRE-CONSTRUCTION WALK-THRU TO DOCUMENT EXISTING CONDITIONS OF AIRPORT FACILITIES.

6. NO DEBRIS OF ANY NATURE SHALL BE ALLOWED OUTSIDE OF THE CONSTRUCTION AREAS. ALL LOOSE MATERIALS (MILLINGS, DIRT, STONE, PAVEMENT, FORMING, ETC.) MUST BE KEPT WITHIN THE LIMITS OF CONSTRUCTION. WHEN THE CONSTRUCTION BARRIERS ARE MOVED DURING CONSTRUCTION, CLEANUP OF THE AREAS OUTSIDE THE BARRIERS SHALL OCCUR IMMEDIATELY. IN ADDITION, NO LOOSE MATERIALS THAT COULD BLOW INTO AIRCRAFT OPERATIONS AREA SHALL BE ALLOWED IN THE CONSTRUCTION AREA. CONTRACTOR MUST HAVE A POWER BROOM AND VACUUM TRUCK IN GOOD WORKING ORDER ONSITE AT ALL TIMES FOR DEBRIS REMOVAL.

7. THE CONTRACTOR SHALL PROVIDE FOR EMPLOYEE PARKING WITHIN HIS STAGING AREA. ONLY AUTHORIZED VEHICLES WILL BE ALLOWED INSIDE THE SECURITY FENCE. AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL POSITION ALL EQUIPMENT, TOOLS, MATERIAL, ETC. IN THE APPROVED STAGING AREA UNLESS OTHERWISE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER OR OWNER.

8. EQUIPMENT NOT IN USE SHALL BE PARKED IN THE CONTRACTOR'S STAGING AREA.

9. CONTRACTORS OPERATING CONSTRUCTION VEHICLES AND EQUIPMENT ON THE AIRPORT MUST BE PREPARED TO EXPEDITIOUSLY CONTAIN AND CLEAN-UP SPILLS RESULTING FROM FUEL OR HYDRAULIC FLUID LEAKS. TRANSPORT AND HANDLING OF OTHER HAZARDOUS MATERIALS ON AN AIRPORT ALSO REQUIRES SPECIAL PROCEDURES. SEE AC 150/5320-15, MANAGEMENT OF AIRPORT INDUSTRIAL WASTE.

10. 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 REQUESTED 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 SHALL BE MADE.

11. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL DESIGNATE A PRIMARY REPRESENTATIVE AND AN ALTERNATE TO BE AVAILABLE FOR CONTACT ON A 24 HOUR BASIS SHOULD THE NEED ARISE. THE CONTRACTOR SHALL PROVIDE THE PRIMARY REPRESENTATIVE FOR EACH SCHEDULE OF WORK WITH A PHONE/RADIO FOR COMMUNICATION WITH THE OWNER.

12. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, IDENTIFICATION, & PROTECTION OF ALL EXISTING UTILITIES (BOTH PUBLIC & PRIVATE) & NAVAIDS IN CONSTRUCTION AREA. ANY DAMAGES TO EXISTING UTILITIES OR NAVAIDS ON OR OFF AIRPORT PROPERTY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER. NO REIMBURSEMENT WILL BE ALL0WED FOR UTILITY/NAVAID LOCATION, REPAIR, OR REPLACEMENT. CONTRACTOR SHALL NOTIFY THE AIRPORT IMMEDIATELY OF ANY DAMAGES TO UTILITIES OR NAVAIDS DURING CONSTRUCTION. EXTENSION OF PROJECT SCHEDULE FOR DAMAGE AND REPAIR OF UTILITIES WILL NOT BE CONSIDERED.

13. THE CONTRACTOR & HIS/HER EMPLOYEES SHALL NOT BE ALLOWED INTO ANY EXISTING BUILDINGS. A PORT-A-JOHN SHALL BE ON SITE AT ALL TIMES AS DEFINED IN THE PLANS AND SPECIFICATIONS OR AGREED TO BY THE ENGINEER AND OWNER. CONTRACTOR SHALL SECURE PORT-A-JOHN TO PREVENT IT FROM MOVING.

SAFETY AND SECURITY NOTES:

THROUGHOUT THE CONSTRUCTION PROJECT, THE FOLLOWING SAFETY AND OPERATIONAL PRACTICES SHALL BE OBSERVED:

1. THE CONTRACTOR MUST HAVE AT LEAST ONE (1) WORKING AIRFIELD RADIO ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL ASSIGN RESPONSIBLE PERSONNEL TO CONTINUOUSLY MONITOR GROUND CONTROL ON FREQUENCY 125.4 MHZ DURING OPERATIONAL HOURS. USE COMMON TRAFFIC ADVISORY FREQUENCY (CTAF) 132.65 MHZ AT ALL TIMES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WALKING THE SITE TO ENSURE THAT THERE ARE NO OBSTRUCTIONS AND/OR FOREIGN OBJECT DEBRIS ON THE TAXILANES OR APRONS AT THE END OF EACH WORK DAY.

3. THE CONTRACTOR SHALL COMPLY WITH ALL AIRPORT RULES AND REGULATIONS, AND SAFETY AND SECURITY REQUIREMENTS.

4. CONTRACTOR SHALL BE AWARE OF THE PENALTY PROVISIONS FOR NON-COMPLIANCE WITH AIRPORT RULES AND REGULATIONS AND THESE SAFETY PLANS, INCLUDING RESCISSION OF DRIVING PRIVILEGES OR ACCESS TO THE AIRCRAFT OPERATIONS AREA.

5. ALL CONSTRUCTION VEHICLES TRAVERSING ANY PORTION OF THE AIRPORT OPERATIONS AREA (AOA), MUST BE PROVIDED WITH A FLAG ON A STAFF ATTACHED TO THE VEHICLE SO THAT THE FLAG WILL BE READILY VISIBLE. THE FLAG MUST BE AT LEAST 3 FEET BY 3 FEET SQUARE HAVING A CHECKERED PATTERN OF INTERNATIONAL ORANGE AND WHITE SQUARES AT LEAST 1 FOOT ON EACH SIDE. THE STANDARD FOR IDENTIFICATION LIGHTING FOR VEHICLES OPERATING IN THE AOA IS AN AMBER FLASHING LIGHT THAT IS MOUNTED ON THE UPPERMOST PART OF THE VEHICLE STRUCTURE. A STEADY AMBER LIGHT DESIGNATES VEHICLES LIMITED TO NON-MOVEMENT AREAS. ALL MARKING AND LIGHTING SHALL BE IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150/5210-5. ALL CONSTRUCTION VEHICLES MUST BE CLEARED FOR ACCESS BY OWNER. ALL CONSTRUCTION VEHICLES, WITH THE EXCEPTION OF EQUIPMENT, MUST BE MARKED WITH THE COMPANY NAME IN LETTERING A MINIMUM OF 4 INCHES HIGH.

6. CONSTRUCTION CONTRACTORS SHALL CONTROL AND CONTINUOUSLY REMOVE WASTE OR LOOSE MATERIALS THAT MIGHT ATTRACT WILDLIFE. VARIOUS CONTRACTOR OPERATIONS DURING CONSTRUCTION CAN DIRECTLY OR INDIRECTLY CREATE WILDLIFE HAZARDS AT AIRPORTS. ONE INDIRECT WILDLIFE HAZARD BY CONTRACTOR PERSONNEL ACTIVITY IS THE GENERATION OF TRASH. FOOD SCRAPS MUST BE COLLECTED FROM CONSTRUCTION PERSONNEL AND DISPOSED OF APPROPRIATELY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ARRANGEMENTS FOR TRASH REMOVAL FROM THE PROJECT SITE AS WELL AS THE CONTRACTOR'S STAGING AREA. TRASH SHALL BE REMOVED FROM THE SITE ON A WEEKLY BASIS AS A MINIMUM REQUIREMENT. SHOULD THIS PRACTICE PROVE TO BE INADEQUATE, THE CONTRACTOR SHALL INCREASE THE FREQUENCY OF TRASH REMOVAL. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE DURING CONSTRUCTION TO AVOID STANDING WATER.

7. THE CONTRACTOR SHALL PROVIDE AT LEAST 72 HOURS NOTICE TO THE OWNER BEFORE ACCESSING ANY WORK AREA UNLESS OTHERWISE NOTED.

8. NO WORK AREAS SHALL BE CLOSED TO AIRCRAFT UNTIL SO AUTHORIZED BY THE OWNER.

9. THE CONTRACTOR SHALL COORDINATE AND MANAGE INGRESS-EGRESS LOCATIONS WITH THE OWNER. ALL GATES TO SECURED AIRPORT AREAS SHALL BE MANNED/MONITORED CONTINUOUSLY BY THE CONTRACTOR TO CONTROL ACCESS IN ACCORDANCE WITH THE OWNERS REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL GATES AT ALL TIMES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/ HER STAFF AT ALL TIMES. NO PERSON SHALL HAVE DIRECT ACCESS TO ANY RUNWAY OR TAXIWAY WITHOUT APPROVAL OF THE OWNER. ANYONE FOUND IN RESTRICTED AREAS OR THE MOVEMENT AREA WITHOUT PERMISSION WILL BE IMMEDIATELY AND PERMANENTLY REMOVED FROM THE JOB SITE.

11. PERSONNEL, EQUIPMENT OR OTHER CONSTRUCTION-RELATED MATERIAL WILL NOT BE PERMITTED OUTSIDE OF DESIGNATED WORK AREAS.

12. COORDINATION AND PLACEMENT OF TEMPORARY BARRICADES SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER AND OWNER PRIOR TO CONSTRUCTION ACTIVITY.

13. BARRICADES, FLAGMEN AND GATE CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER, TO ENSURE THAT TRAFFIC IS MAINTAINED ON THE DESIGNATED ROUTE. FLAGMEN SHALL BE EQUIPPED WITH WORKING AIRFIELD RADIOS AND SHALL BE RESPONSIBLE FOR COORDINATING AND OBTAINING APPROVAL THE MOVEMENT OF PERSONNEL AND EQUIPMENT ACROSS ACTIVE TAXIWAYS WITH GROUND CONTROL.

14. PROJECT ACCESS LOCATIONS, HAUL ROUTES AND STAGING AREAS SHALL BE COORDINATED WITH THE OWNER. THESE AREAS SHALL BE AVAILABLE TO THE CONTRACTOR FOR THE DURATION OF THE PROJECT, UNLESS OTHERWISE NOTED.

15. IN ORDER TO CONSTRUCT THIS PROJECT WITH MINIMAL INTERFERENCE TO AIRPORT OPERATIONS, THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATIONS AS SHOWN ON THE CONSTRUCTION SEQUENCE AND SAFETY PHASING PLAN, & HIS APPROVED CONSTRUCTION PROGRESS SCHEDULE. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER TO MINIMIZE DISRUPTION TO AIRPORT OPERATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE COMPLIANCE WITH SAFETY REQUIREMENTS AND TO MINIMIZE INTERFERENCE TO AIRPORT OPERATIONS DURING CONSTRUCTION.

16. CONTRACTOR SHALL OBTAIN, HAVE KNOWLEDGE OF, & INCORPORATE THE FOLLOWING SAFETY PROVISIONS INTO THE CONSTRUCTION PROJECT:

    • OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION - AC 150/5370-2G.
    • AIRPORT SAFETY SELF-INSPECTION - AC 150/5200-18C.
    • SAFETY REQUIREMENTS OF THE SPECIFICATIONS.
    • SECURITY REQUIREMENTS OF THE SPECIFICATIONS.
    • CONSTRUCTION SAFETY AND PHASING PLAN
    • COMMERCIAL SERVICES AIRPORTS

20. CONTRACTOR WILL MAINTAIN SECURITY WITHIN THE PROJECT SITE AT ALL TIMES. NO UNAUTHORIZED PERSONNEL SHALL BE ALLOWED ON THE SITE.

21. CONTRACTOR PERSONNEL MUST BE BADGED PRIOR TO BEGINNING WORK.

22. CONTRACTOR MUST PROVIDE A BADGED GATE GUARD AT ALL TIMES WHILE GATES REMAIN OPEN.

HAUL ROUTES, STAGING AREAS & CONSTRUCTION ACTIVITIES:

1. ALL EQUIPMENT MUST BE RETURNED TO THE APPROPRIATE STAGING AREA AT THE END OF EACH WORK DAY & WHEN NOT ENGAGED IN THE CONSTRUCTION DURING NON-WORKING DAYS & NIGHTS UNLESS OTHERWISE APPROVED BY THE OWNER. PLANS AND SPECIFICATIONS DESIGNATE AREAS FOR CONTRACTOR'S EMPLOYEES AUTO PARKING.

2. THE PROVISION & MAINTENANCE OF HAUL ROADS, HAUL ROAD STONE, TEMPORARY HAUL SLABS & STEEL PLATES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL HAUL ROUTES IN USABLE CONDITION THROUGHOUT THE LIFE OF THE PROJECT. THIS MAINTENANCE COST SHALL BE INCIDENTAL TO THE PROJECT.

3. CONTRACTOR SHALL USE EXTREME CAUTION WHEN CONDUCTING CONSTRUCTION TRAFFIC AROUND THE AIRPORT TERMINALS. CONSTRUCTION VEHICLES ARE REQUIRED TO YIELD TO PEDESTRIANS AND TO OBSERVE THE POSTED SPEED LIMITS. DURING HIGH PEDESTRIAN TRAFFIC CONSTRUCTION VEHICLES SHALL BE LIMITED TO 10 MPH WHEN IN FRONT OF THE AIRPORT TERMINAL.

CONSTRUCTION MAINTENANCE & FACILITIES MAINTENANCE:

THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR MUST:

1. BE FAMILIAR WITH AND UNDERSTAND THE SAFETY PROBLEMS AND HAZARDS DESCRIBED IN THE MOST RECENT AC 150/5370-2, OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION.

2. CONDUCT ACTIVITIES SO AS NOT TO VIOLATE ANY SAFETY STANDARDS CONTAINED IN THE MOST RECENT AC 150/5370-2 OR ANY OF THE REFERENCES THEREIN.

3. INSPECT ALL CONSTRUCTION AND STORAGE AREAS AS OFTEN AS NECESSARY TO BE AWARE OF CONDITIONS.

4. PROMPTLY TAKE ALL ACTIONS NECESSARY TO PREVENT OR REMEDY ANY UNSAFE OR POTENTIALLY UNSAFE CONDITIONS AS SOON AS THEY ARE DISCOVERED.

NOTAMS:

NOTAM REQUESTS FROM THE CONTRACTOR TO THE OWNER SHALL BE MADE AT LEAST 72 HOURS IN ADVANCE OF THE NEED FOR THE NOTAM. THE OWNER WILL COORDINATE AND ISSUE THE NECESSARY NOTAMS TO REFLECT CONSTRUCTION RELATED IMPACTS. NOTAMS ARE TO BE KEPT CURRENT AND REFLECT THE ACTUAL CONDITIONS WITH RESPECT TO CONSTRUCTION SITUATIONS. ACTIVE NOTAMS SHALL BE REVIEWED PERIODICALLY AND REVISED TO REFLECT THE CURRENT CONDITIONS.

TAXIWAY SAFETY AREA (TSA):

A TAXIWAY MUST BE CLOSED IF CONSTRUCTION ACTIVITY WILL OCCUR WITHIN THE TAXIWAY SAFETY AREA (TSA) OR TAXIWAY OBJECT FREE AREA (TOFA) (SEE AC 150/5370-2G FOR EXCEPTIONS). SEE SHEET G-101 FOR DETAILED PHASING PLAN.

OPEN TRENCHES OR EXCAVATIONS ARE NOT PERMITTED WITHIN ACTIVE TAXIWAY SAFETY AREAS.

SEE SHEET G-101 FOR LAYOUT OF SAFETY AND OBJECT FREE AREAS.

SURVEY NOTES:

1. THE FOLLOWING INFORMATION WAS USED FOR THE EXISTING SURVEY: SURVEY SIGNED AND SEALED BY ANTHONY K. ALFORD, NC LICENSE NO. L-4372 OF WETHERILL ENGINEERING. SURVEY COMPLETED JUNE 27, 2024. BEARING ORIENTATION IS BASED ON NORTH CAROLINA STATE GRID NORTH NAD '83 (2011) ALL COORDINATES ON CONTROL POINTS ARE GROUND IN INTERNATIONAL FEET ELEVATIONS ARE BASED ON NAVD '88 BENCHMARKS SHOWN ON SHEET S-1 - OAJ AIRPORT SURVEY.

2. THE SIGNED AND SEALED WETHERILL ENGINEERING. SURVEY PLANS HAVE BEEN INCLUDED WITH THIS PROJECT PLAN SET.

3. NO DETERMINATION HAS BEEN MADE BY THE SURVEYOR AS TO THE FOLLOWING: FLOOD ZONES; WETLANDS; UNDERGROUND STORAGE FACILITIES; UNDERGROUND UTILITIES; GRAVES, CEMETERIES, PROPERTY BOUNDARIES, OR BURIAL GROUNDS; HAZARDOUS WASTE DEPOSITS OR MATERIALS.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ADDITIONAL CONTROLS THAT MAY BE NEEDED THROUGHOUT THE PROJECT.

5. ALL FIELD RUN SURVEY PERFORMED BY THE CONTRACTOR'S SURVEYOR SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSIONS OF AC-150/5300-16, AC-150/5300-17, AND AC-150/5300-18.

6. THE CONTRACTOR SHALL FIELD VERIFY THE ONSITE BENCHMARKS. THE CONTRACTOR SHALL IMMEDIATELY CONTACT W.K. DICKSON & CO., INC. @ 919-782-0495 IF ANY DISCREPANCIES ARE FOUND IN ELEVATIONS SHOWN.

7. PRIOR TO CONSTRUCTION, DIGGING, OR EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA(S) OF CONSTRUCTION, WHETHER INDICATED ON THE PLANS OR NOT. CALL "811" A MINIMUM OF 72 HOURS PRIOR TO DIGGING OR EXCAVATING. REPAIRS TO ANY UTILITY DAMAGED RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR PRIVATE UTILITY LOCATES AND THE ASSOCIATED COST IF 811 DOES NOT LOCATE ALL UTILITIES. NO ADDITIONAL PAYMENT WILL BE MADE FOR PRIVATE UTILITY LOCATES.

EROSION CONTROL NOTES:

1. TOTAL DISTURBED AREA FOR THIS PROJECT: 14.0 AC.

2. THE NCDEQ LAND DISTURBANCE PERMIT SHALL BE PROVIDED BY THE OWNER.

3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL FEATURES PER THE EROSION AND SEDIMENT CONTROL PERMIT.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS NECESSARY FOR REMOVAL OF WASTE OFF-SITE.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS NECESSARY FOR BORROW MATERIAL FROM OFF-SITE LOCATIONS.

6. THE CONTRACTOR SHALL APPOINT A CONTACT PERSON RESPONSIBLE FOR MAINTENANCE OF TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE BEGINNING OF CONSTRUCTION.

7. SEE SHEETS C-300 TO C-315 FOR ADDITIONAL NOTES & DETAILS ON EROSION CONTROL.

POINTS OF CONTACT:

AIRPORT OPERATIONS: COLEMAN CANNON.....910-989-3169 (OFFICE)
AIRPORT POLICE: CHIEF BEN JONES.....910-989-3164 (OFFICE)
AIRPORT DIRECTOR: MITCH SPRUNGER.....910-989-5796 (OFFICE)

WK DICKSON & COMPANY, LLC (RALEIGH).....919-782-0495 (OFFICE)
ELLIS TOWER GROUND CONTROL RADIO FREQUENCY: 125.4 MHZ
COMMON TRAFFIC ADVISORY FREQUENCY (CTAF): 132.65 MHZ

BID DOCUMENTS - NOT FOR CONSTRUCTION

ELLIS AIRPORT
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

WK DICKSON
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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
GENERAL NOTES

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
G-100

WKD PROJ. NO.:
20240074.00.WK

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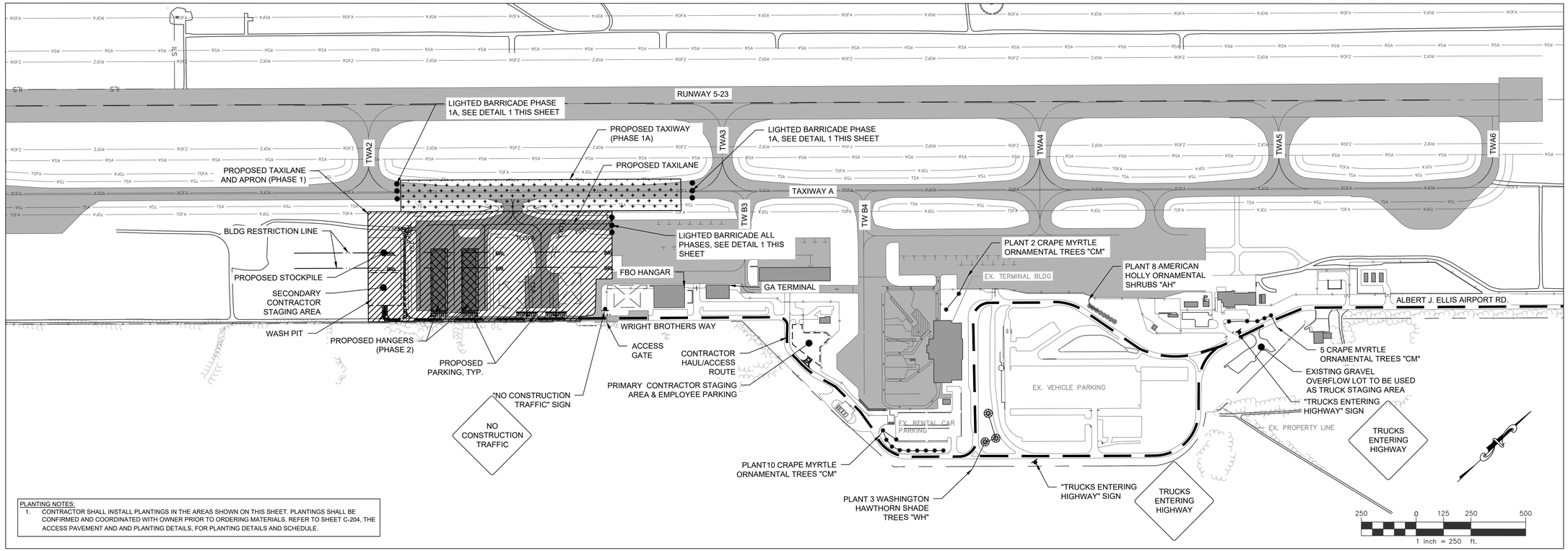
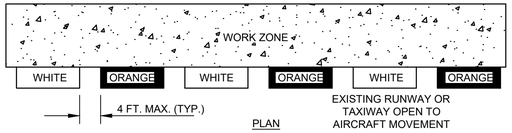
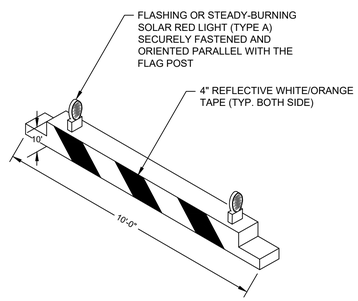


PLANTING NOTES:
1. CONTRACTOR SHALL INSTALL PLANTINGS IN THE AREAS SHOWN ON THIS SHEET. PLANTINGS SHALL BE CONFIRMED AND COORDINATED WITH OWNER PRIOR TO ORDERING MATERIALS. REFER TO SHEET C-204, THE ACCESS PAVEMENT AND AND PLANTING DETAILS, FOR PLANTING DETAILS AND SCHEDULE.

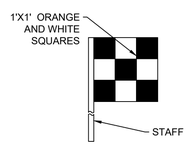


BARRICADE PLACEMENT DETAIL
NOT TO SCALE



NOTES:
1. BARRICADES SHALL BE WATER FILLED AND SPACED A MAXIMUM OF 4' APART
2. THE CONTRACTOR SHALL MAKE FREQUENT INSPECTION OF THE BARRICADES AND MAKE PROMPT REPAIRS AS NECESSARY. LIGHT SHALL BE OPERATING EVERY NIGHT.
3. BARRICADES SHALL BE ADEQUATELY SECURED WITH SAND BAGS AND FILLED WITH WATER TO WITHSTAND HIGH WINDS AND/OR JET BLAST.
4. CONTRACTOR SHALL PROVIDE AND INSTALL BARRICADES AND MAINTAIN LIGHTS AND FLAGS THROUGHOUT THE DURATION OF THE PROJECT, INCLUDING ANY MORATORIUM PERIOD.
5. THE PROPOSED BARRICADES ARE INCIDENTAL TO MOBILIZATION.

1 / G-101 LIGHTED BARRICADE DETAIL
NOT TO SCALE



NOTES:
1. ALL VEHICLES SHALL HAVE A FLAG ON A STAFF OR AMBER FLASHING LIGHT ATTACHED TO THE TOP OF VEHICLE SO THE FLAG OR LIGHT WILL BE READILY VISIBLE.
2. THE FLAG WILL BE A MIN OF 3 FOOT SQUARE WITH A CHECKERED PATTERN OF INTERNATIONAL ORANGE AND WHITE AT LEAST 1 FOOT ON EACH SIDE.

2 / G-101 VEHICLE FLAG DETAIL
NOT TO SCALE

LEGEND
- EXISTING FENCE
- ROFA — EXISTING RUNWAY OBJECT FREE AREA
- RSA — EXISTING RUNWAY SAFETY AREA
- TOFA — EXISTING TAXIWAY OBJECT FREE AREA
- TSA — EXISTING TAXIWAY SAFETY AREA
- PROPOSED CONTRACTOR HAUL ROUTE

PHASE LEGEND
PHASE 1: PHASE 1A: PHASE 2:

TAXIWAY PHASING PLAN

- INSTALL EROSION CONTROL MEASURES AND BARRICADES
- PERFORM WORK AS OUTLINED IN THE SECTIONS BELOW
- UPON COMPLETION OF WORK, REMOVE BARRICADES. EROSION CONTROL SHALL REMAIN IN PLACE UNTIL STABILIZATION HAS BEEN ACHIEVED
- THERE IS A TOTAL CONSTRUCTION SCHEDULE OF 270 CONSECUTIVE CALENDAR DAYS.

	WORK DESCRIPTION	PHASE NOTES	MAXIMUM DURATION (DAYS)
PHASE 1	APRON AND TAXILANE CONSTRUCTION • SITE EARTHWORK • GRAVEL ACCESS ROAD CONSTRUCTION • INSTALL PROPOSED DRAINAGE INFRASTRUCTURE • INSTALL PROPOSED UTILITIES • PROOF-ROLLING OF SUBGRADE PREPARATION AND SUBBASE INSTALLATION • APRON AND TAXILANE PAVING • CONSTRUCTION OF HANGAR BASE SLAB • LANDSIDE SITE WORK AND PAVING • AIRFIELD ELECTRICAL WORK • STABILIZATION OF WORK AREA • HANGAR BUILDING FOUNDATION	TAXIWAY A OPEN (TAXIWAY CLOSURE INCLUDED IN PH 1A)	180
PHASE 1A	TAXIWAY B2 CONSTRUCTION • INSTALL TAXIWAY BARRICADES • REMOVE AND REPLACE TAXIWAYS LIGHTING • MILLING TO REMOVE EXISTING ASPHALT PAVEMENT AT LOCATIONS NOTED ON PLANS • TAXIWAY PAVING • GRAVEL ACCESS ROAD REMOVAL • REMOVE BARRICADES AND OPEN TAXIWAY	WORK IN TOFA WHILE TAXIWAY A IS CLOSED (INCLUDED IN PHASE 1 DURATION)	40
PHASE 2	T-HANGAR CONSTRUCTION • COMPLETION OF HANGAR BUILDINGS • UTILITY CONNECTIONS • COMPLETE PAVEMENT MARKINGS	DAYTIME WORK	90

GENERAL PHASING NOTES
- LIQUIDATED DAMAGES FOR CONTRACT TIME OVERRUN: $2,000 PER CALENDAR DAY
- LIQUIDATED DAMAGES FOR PHASE 1A CONTRACT TIME OVERRUN: $2,000 PER CALENDAR DAY
- ALL WORK WITHIN THE TAXIWAY SAFETY AREA SHALL BE PERFORMED WITH THE BARRICADES INSTALLED
- CONTRACTOR SHALL MAINTAIN BARRIERS AT ALL TIMES SO AS NOT TO ALLOW ACCESS TO CLOSED AREAS

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME: SOUTH GA EXPANSION FOR ALBERT J. ELLIS AIRPORT (OAJ) RICHLANDS, NC

DRAWING TITLE: PROJECT LAYOUT AND PHASING PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER: G-101

WKD PROJ. NO.: 20240074.00.WK

R:\2024\2-PROJECTS\ONSLOW COUNTY\2024019\WORK - ONLY\04 - SD - GA EXPANSION PHEL DESIGN\CADD\PLAN SET\SHEETS\2024019-SD-PLN-G_001.DWG

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RUNWAY 5-23

PROPOSED TAXILANE

PROPOSED HANGAR ROOF ELEVATION 113.37'

PROPOSED HANGAR ROOF ELEVATION 113.48'

BLDG RESTRICTION LINE

PROPOSED STOCKPILE

SECONDARY CONTRACTOR STAGING AREA

PROPOSED HANGERS

PROPOSED PARKING LOT

CONTRACTOR HAUL/ACCESS ROUTE

PRIMARY CONTRACTOR STAGING AREA & EMPLOYEE PARKING

100 110 120 130 140 150 160 170 180 190 200 210 220 230 240

GENERAL PART 77 NOTES:

1. THE CONTOURS SHOWN REPRESENT MSL ELEVATION LIMITS FOR CONSTRUCTION EQUIPMENT AS DEFINED BY PART 77 OF THE FAA REGULATIONS. CONSTRUCTION CRANES, VEHICLES, AND OTHER EQUIPMENT PENETRATING THESE SURFACES ARE CONSIDERED OBSTRUCTIONS TO AIR NAVIGATION. PRIOR TO SUCH EQUIPMENT USE, FAA NOTIFICATIONS, APPROVALS, AND SPECIAL OPERATING CONDITIONS MUST BE ESTABLISHED. IF ELEMENTS OF THE CONSTRUCTION PROJECT REQUIRE PART 77 SURFACE PENETRATION, A FAA FORM 7460-1 MUST BE SUBMITTED BY THE CONTRACTOR AS SOON AS POSSIBLE BEFORE CONSTRUCTION BEGINS. FAA APPROVAL CAN TAKE SEVERAL WEEKS TO OCCUR. AFTER THE FORM HAS BEEN APPROVED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND CPM A MINIMUM OF 72 HOURS IN ADVANCE WHEN ANY OF THE PART 77 WILL BE PENETRATED. THE FAA AND AIRPORT OPERATIONS HAVE THE RIGHT TO REQUIRE ANY CONSTRUCTION EQUIPMENT PENETRATING THE PART 77 SURFACES TO BE REMOVED DUE TO WEATHER OR SPECIAL CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.

2. PART 77 AIRSPACE CONTOURS ARE BASED OFF OF PUBLISHED AIRPORT ELEVATIONS AND APPROACHES AND FAA PART 77 OBJECTS AFFECTING NAVIGABLE AIRSPACE.

LEGEND

- CONTRACTORS HAUL ROUTE
- STAGING AREA
- 420 PART 77 CONTOUR
- 420 PROPOSED CONTOUR
- RSA RUNWAY SAFETY AREA
- ROFZ RUNWAY OBJECT FREE AREA
- TSA TAXIWAY SAFETY AREA
- TOFA TOFA TAXIWAY OBJECT FREE AREA

200 0 100 200 400

1 inch = 200 ft.

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
RUNWAY 5-23 PART 77 AIRSPACE

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
G-102

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ONSLOW COUNTY\2023\20240074\... CAD\TOFA - SO. GA EXPANSION PREL. DESIGN\CAD\PLAN SET\SHEETS\20240074.00.WK_C SHT_PART 77 PLAN

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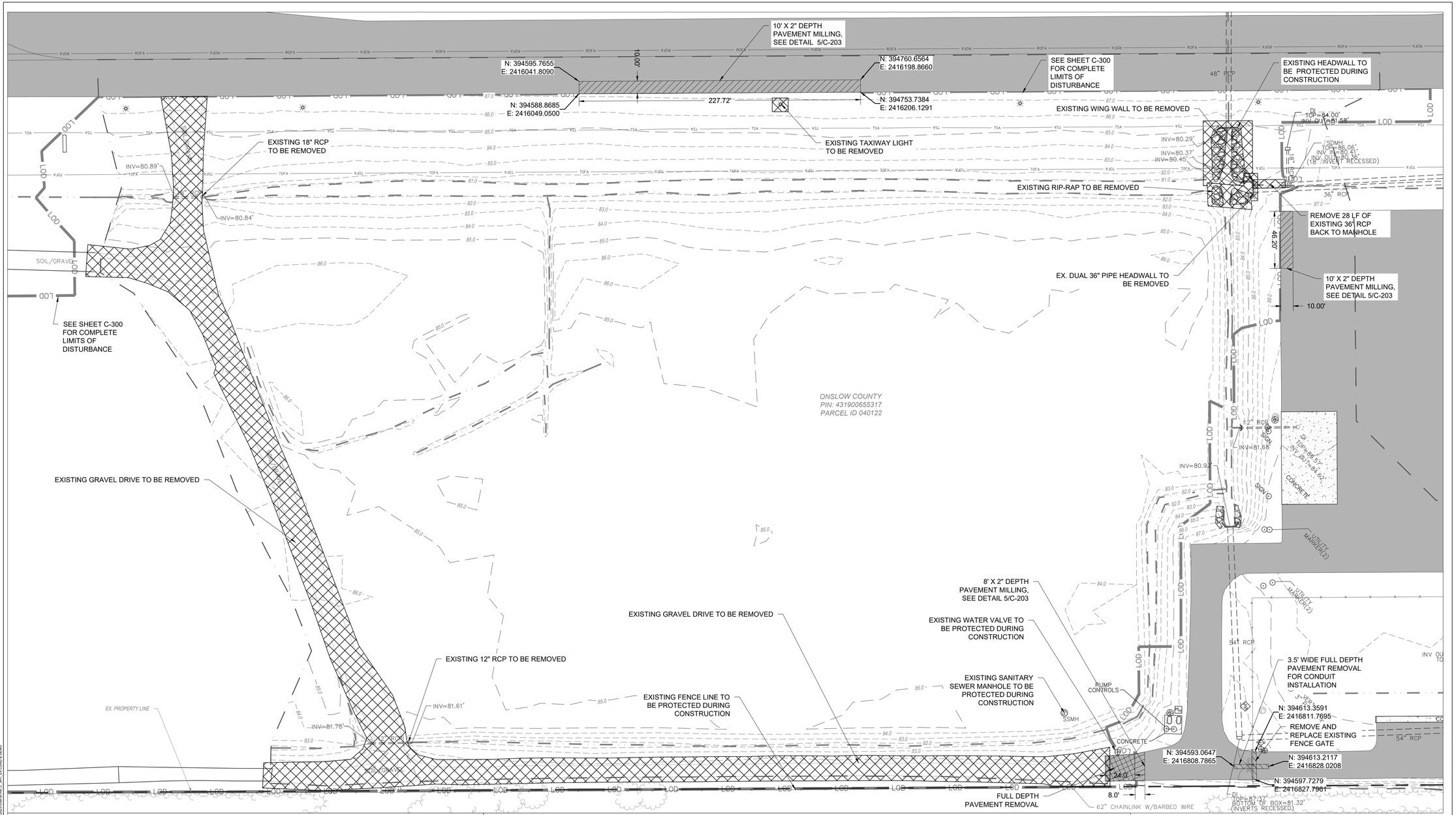


EXISTING CONDITIONS LEGEND:

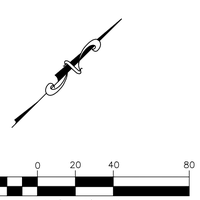
- AIRPORT PROPERTY LINE
- LOD — LOD — LIMITS OF DISTURBANCE
- EXISTING RIP-RAP
- EXISTING TREE LINE
- EXISTING TAXIWAY EDGE LIGHT
- EXISTING STORM MANHOLE
- EXISTING FENCE
- EXISTING STORM PIPE
- EXISTING WATER VALVE
- EXISTING WATER MANHOLE
- EXISTING COMMUNICATION HANDHOLE
- EXISTING UTILITY OBJECT
- EXISTING FIRE HYDRANT
- 70 / 69 — EXISTING CONTOURS

PROPOSED DEMOLITION LEGEND:

- PROPOSED DEMOLITION
- SURVEY LIMIT

EXISTING CONDITION & DEMOLITION NOTES:

1. THE SURVEY LIMIT LINE REPRESENTS THE END OF THE TOPOGRAPHIC SURVEY PROVIDED BY STEWART. CONTRACTOR SHALL ARRANGE FOR A SURVEY TO ESTABLISH EXISTING ELEVATIONS TO A DISTANCE 20 - FEET PAST THE SOUTHERN PROJECT LIMIT. COST FOR ADDITIONAL SURVEY SHALL BE INCLUDED IN THE PRICE BID FOR MOBILIZATION.
2. PRIOR TO CONSTRUCTION, DIGGING, OR EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA(S) OF CONSTRUCTION, WHETHER INDICATED ON THE PLANS OR NOT. CALL "811" A MINIMUM OF 72 HOURS PRIOR TO DIGGING OR EXCAVATING. REPAIRS TO ANY UTILITY DAMAGED RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL PAYMENT.
3. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR PRIVATE UTILITY LOCATES AND THE ASSOCIATED COST IF 811 DOES NOT LOCATE ALL UTILITIES.
4. EXISTING FEATURES NOT SHOWN TO BE REMOVED SHALL BE PROTECTED BY THE CONTRACTOR. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND OWNER, AT THE CONTRACTOR'S EXPENSE.
5. THIS PROJECT IS LOCATED IN FEMA "ZONE X", ON FIRM PANEL 3720430800K. ZONE X IS DESIGNATED AS AN AREA WITH MINIMAL FLOOD RISK.
6. THERE ARE NO WETLANDS OR SURFACE WATERS WITHIN THE PROJECT AREA AS DETERMINED IN THE ENVIRONMENTAL ASSESSMENT BY RS&H, DATED 6/26/24
7. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ITEMS SHOWN FOR DEMOLITION AND REMOVAL IN A SAFE AND LEGAL MANNER OFF AIRPORT PROPERTY, UNLESS ORDERED OTHERWISE.
8. ANY DAMAGE TO THE EXISTING STORM SEWER, ELECTRICAL LINES, OR UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER. CONTRACTOR SHALL INFORM THE AIRPORT IMMEDIATELY OF ANY DAMAGE DURING CONSTRUCTION.
9. CONTRACTOR SHALL PROTECT OR REMOVE, STORE, AND REINSTALL ALL EXISTING LIGHTS, SIGNS, AND NAVIGATIONAL AID FIXTURES IN THE PROXIMITY OF PROPOSED WORK AREA OR AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL REPLACE ALL DAMAGED FIXTURES AT NO ADDITIONAL COST TO THE OWNER.
10. THERE WILL BE NO ADDITIONAL PAYMENT FOR THE REMOVAL OF PAVEMENT MARKINGS WITHIN THE LIMITS OF THE PAVEMENT REMOVAL OR MILLING SECTIONS. EXISTING PAVEMENT MARKINGS TO BE REMOVED SHALL BE BID UNDER THE ASPHALT PAVEMENT REMOVAL OR MILLING 2" DEPTH PAY ITEM. PAVEMENT MARKINGS OUTSIDE OF PAVEMENT REMOVAL AREAS SHALL NOT BE REMOVED.
11. CONTRACTOR SHALL PREPARE TO STRIP AND STOCKPILE TOPSOIL AND ORGANIC SOILS WITHIN THE PROJECT AREA. TOPSOIL STRIPPING SHALL BE PAID FOR UNDER ITEM T-905-1.
12. CONTRACTOR SHALL UNDERCUT SOILS WITHIN THE PROJECT AREA, AS NEEDED, UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER. UNDERCUT SHALL BE PAID FOR UNDER ITEM P-152-4.
13. REFER TO P-101 TECHNICAL SPECIFICATION FOR DEMOLITION PAY ITEMS.
14. THE SURVEY LIMIT LINE REPRESENTS THE END OF THE TOPOGRAPHIC SURVEY PROVIDED BY STEWART. CONTRACTOR SHALL ARRANGE FOR A SURVEY TO ESTABLISH EXISTING ELEVATIONS TO A DISTANCE 20 - FEET PAST THE SOUTHERN PROJECT LIMIT. COST FOR ADDITIONAL SURVEY SHALL BE INCLUDED IN THE PRICE BID FOR MOBILIZATION.



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ALBERT J. ELLIS AIRPORT
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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	BY	DATE

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-100

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ONSLOW COUNTY\2024\074.00.WK\PLAN_OAJ_TAXI_B2_GA EXPANSION\PREL_DESIGN\CAD\PLAN SET\SHEETS\2024074.00 PLN_C_EXIST_EX COND & DEMO

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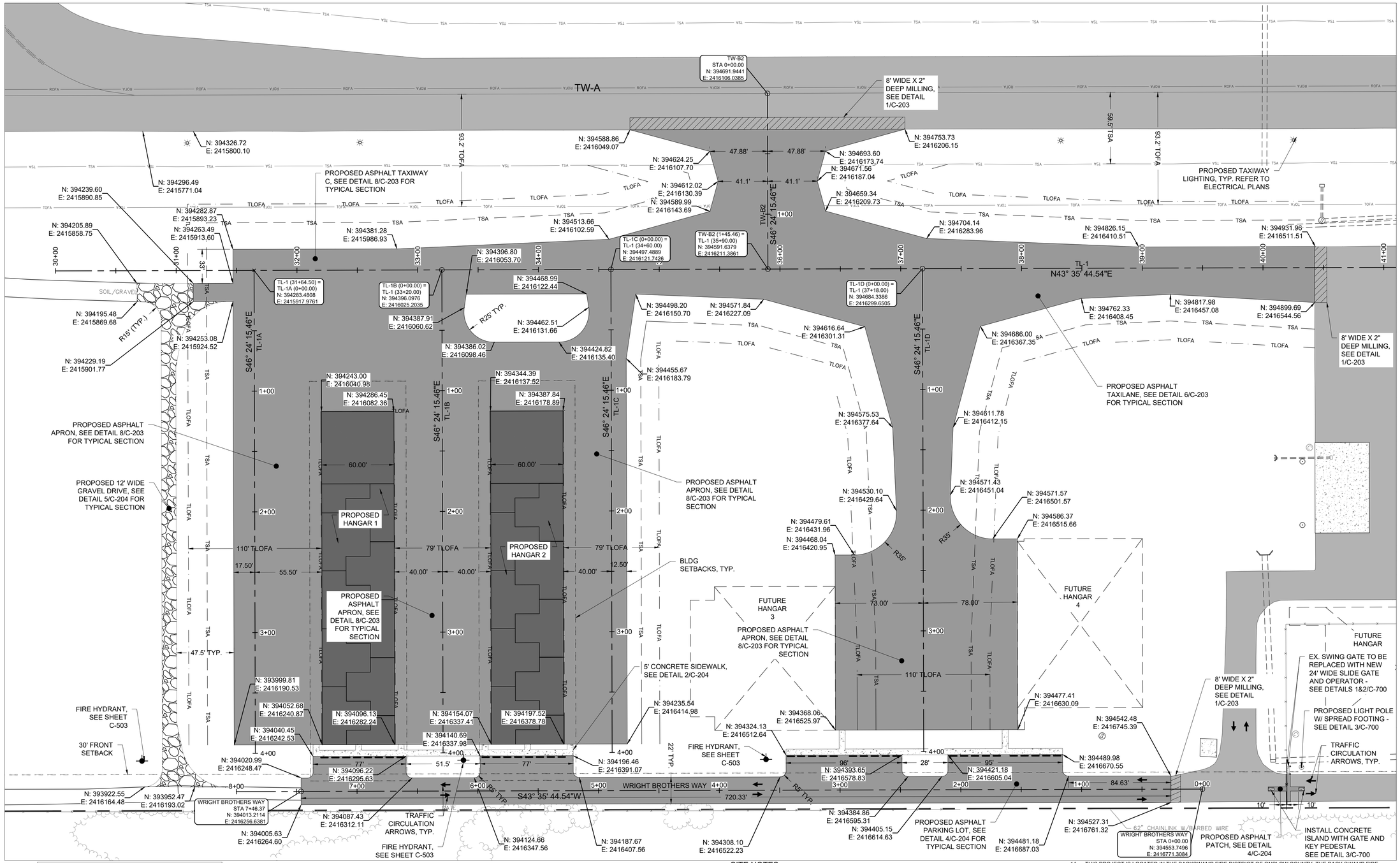

PROPOSED LEGEND:

- PROPOSED ASPHALT
- PROPOSED GRAVEL
- PROPOSED CONCRETE

SITE STATISTICS:

PARCEL:	040122
PARCEL PIN:	431900655317
DEED REFERENCE:	DB 452, PG 460
ZONING:	HB - HIGHWAY BUSINESS
ADJACENT ZONING:	RA - RURAL AGRICULTURE
EXISTING USE:	UNDEVELOPED AIRPORT AREA
PROPOSED USE:	AIRPORT HANGAR & OFFICE
EXISTING AREA:	654.2600 ACRES
PROPOSED BUILT-UPON-AREA:	6.19 ACRES

(CONT'D)

BUILDING AREA:	61,529 SF
BUILDING HEIGHT:	21.06'
SETBACKS REQUIRED	
FRONT:	30.0'
SIDE:	10.0'
REAR:	25.0'
PARKING SPACES:	32 TOTAL INCLUDING 4 ADA SPACES

SITE NOTES:

1. THE PROPOSED AIRPLANE HANGARS WILL BE USED FOR STORAGE ONLY.
2. THE SITE DESIGN WILL ADHERE TO ONSLOW COUNTY DEVELOPMENT DESIGN STANDARDS.
3. REFER TO C-600 FOR THE HANGAR BUILDING INFORMATION.
4. LIGHTING IS PROVIDED ON HANGAR BUILDINGS. HANGAR LIGHTING SHALL BE PAID FOR UNDER PAY ITEM 01 31 22-1.
5. CONTRACTOR TO COORDINATE WITH DUKE ENERGY FOR ELECTRICAL SERVICE CONNECTIONS TO THE HANGARS.
6. THIS PROJECT IS LOCATED IN FEMA "ZONE X", ON FIRM PANEL 3720430800K. ZONE X IS DESIGNATED AS AN AREA WITH MINIMAL FLOOD RISK.
7. THERE ARE NO WETLANDS OR SURFACE WATERS WITHIN THE PROJECT AREA AS DETERMINED IN THE ENVIRONMENTAL ASSESSMENT BY RSH, DATED 6/26/24.
8. THERE IS NO EVIDENCE OF ENDANGERED SPECIES OR HABITAT ON THE PROPERTY. THERE ARE NO STATE CULTURAL RESOURCES FOUND ON THE PROPERTY.
9. SAWCUT EXISTING PAVED SURFACES WHERE PROPOSED PAVEMENT AND SIDEWALK MEET EXISTING.
10. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR FENCE AND GATE MATERIALS PRIOR TO ORDERING.
11. THE PROPOSED HANGARS WILL UTILIZE THE EXISTING DISPOSAL SERVICES PROVIDED AT THE AIRPORT.
12. FULL DEPTH ASPHALT PAVEMENT SHALL BE INSTALLED AFTER CONDUIT INSTALLATION TO THE GATE ACCESS SYSTEM, KEYPAD AND OPERATOR.
13. PAVEMENT THAT IS IN AREAS OF UNDERCUT REQUIRE WOVEN SEPARATION GEOTEXTILE FABRIC. WOVEN SEPARATION GEOTEXTILE FABRIC UNDER PAVEMENT SHALL BE PAID UNDER ITEM 209-1.
14. THIS PROJECT IS LOCATED IN THE BACKSWAMP FIRE DISTRICT OF ONSLOW COUNTY. THE BACK SWAMP FIRE DISTRICT HAS AN ISO RATING OF 4.
15. BUILT UPON AREA (BUA) FOR THIS PROJECT IS ASSOCIATED WITH NCDEQ STORMWATER PERMIT NUMBER SW8 931005.
16. AIRPLANE HANGARS ARE ACCESSIBLE DAILY, AND OPERABLE 24 HOURS A DAY TO APPROVED TENANTS.
17. CONTRACTOR SHALL INSTALL PLANTINGS IN THE AREAS SHOWN ON THE PROJECT LAYOUT AND PHASING PLAN SHEET G-101. PLANTINGS SHALL BE CONFIRMED AND COORDINATED WITH OWNER PRIOR TO ORDERING MATERIALS. REFER TO SHEET C-204 FOR PLANTING DETAILS AND SCHEDULE.

40 0 20 40 80
1 inch = 40 ft.

BID DOCUMENTS - NOT FOR CONSTRUCTION

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME: SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: SITE LAYOUT PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER: C-200

WKD PROJ. NO.: 20240074.00.WK

RJE PATH:Z:\PROJECTS\ONSLOW COUNTY\2020199\WORK - CAD FILES - SO. GA EXPANSION PHS._DESIGN\CADD\PLAN SHEETS\2020199 PLAN & C. SHT. GEOMETRIC LAYOUT

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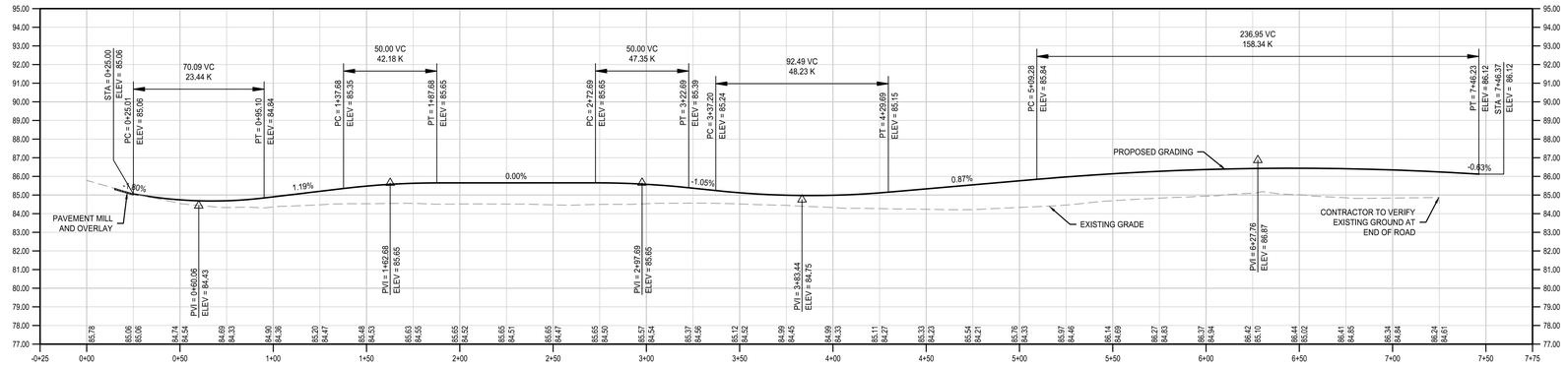
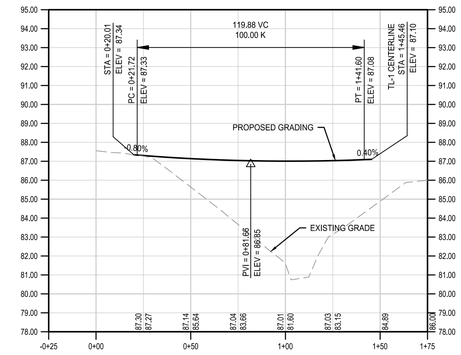
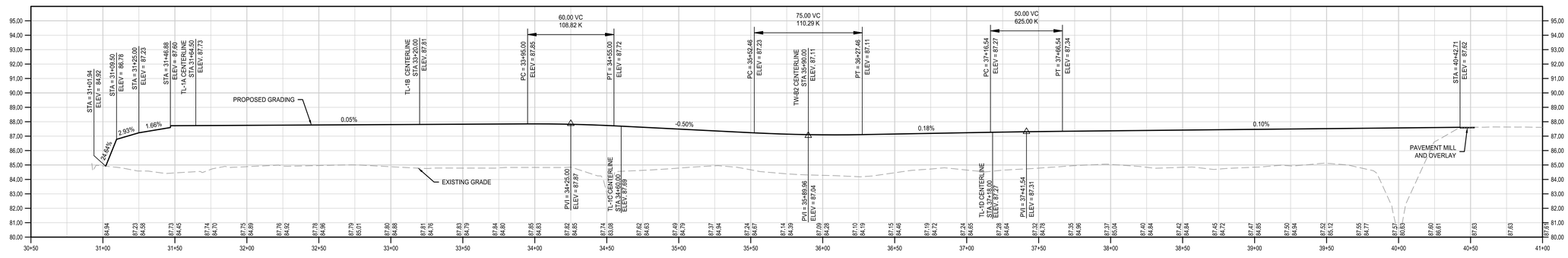
ROAD PROFILE
H: 1"=40' V: 1"=4'



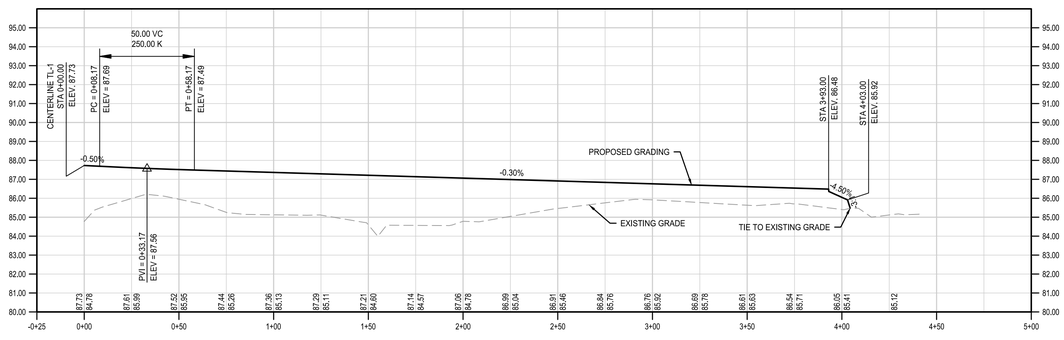
TW-B2 PROFILE
H: 1"=40' V: 1"=4'



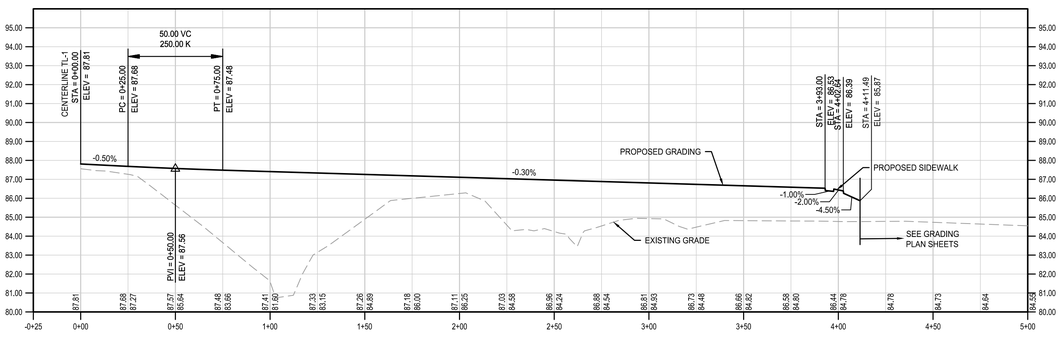
TL-1 PROFILE
H: 1"=40' V: 1"=4'



TL-1A PROFILE
H: 1"=40' V: 1"=4'



TL-1B PROFILE
H: 1"=40' V: 1"=4'



1 inch = 40 ft. HORIZONTAL

1 inch = 4 ft.

BID DOCUMENTS - NOT FOR CONSTRUCTION

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OAJ
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ALIGNMENT PROFILES 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-201

WKD PROJ. NO.:
20240074.00.WK

FILEPATH:Z:\PROJECTS\ONGOING\OAJ\20240074.00\WORK - CAD FILES - SOUTH GA EXPANSION\REL - DESIGN\CADD\PLAN SETS\SHEETS\20240074.00.WK - C-201 PROFILES

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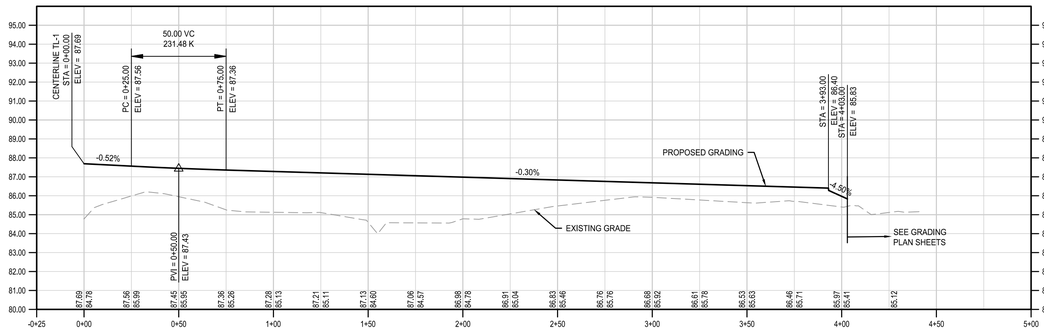
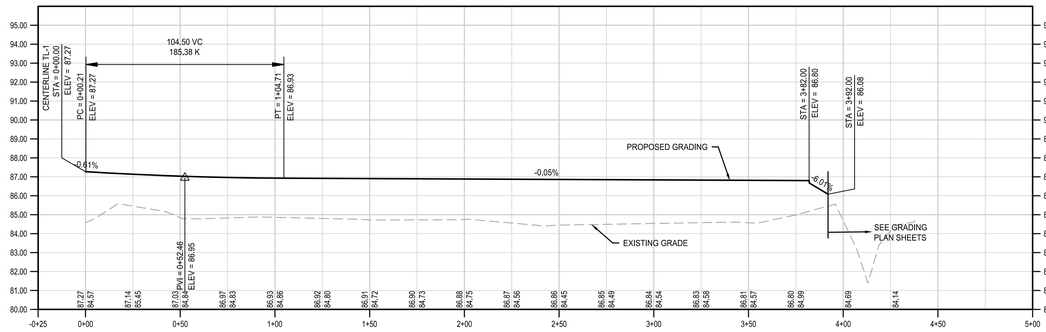
TL-1C PROFILE
H: 1"=40' V: 1"=4'



TL-1D PROFILE
H: 1"=40' V: 1"=4'



40 0 20 40 100
1 inch = 40 ft.
HORIZONTAL

4 0 2 4 8
1 inch = 4 ft.

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ALIGNMENT PROFILES 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-202

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ONSLOW COUNTY\20240074.00\WORK - CAD TOPO - SO. GA EXPANSION\REL. DESIGN\CADD\PLAN SET\SHEETS\20240074.00 WORK C-202 PROFILES

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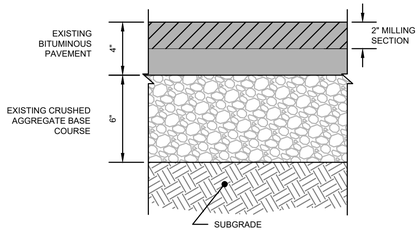
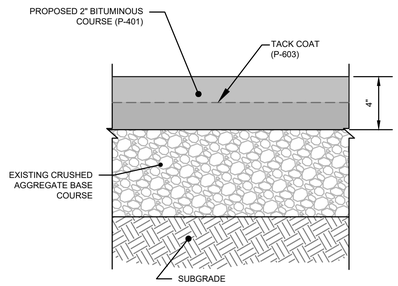
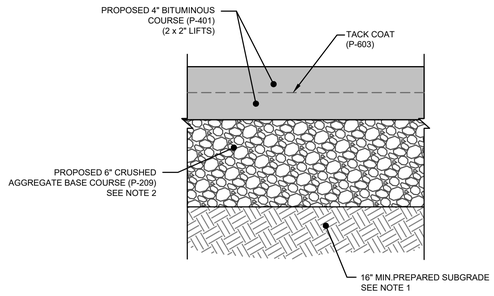


NOTE:
1. BASED ON PREVIOUS CONSTRUCTION, THE ESTIMATED THICKNESS OF EXISTING ASPHALT PAVEMENT OF TAXIWAY E IS 4-INCH DEPTH. THE CONTRACTOR SHALL MILL/REMOVE 2" OF THE EXISTING ASPHALT SURFACE.
2. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT THE LIMITS SHOWN ON THE DEMOLITION SHEETS.
3. CONTRACTOR SHALL MILL THE EXISTING ASPHALT PAVEMENT IN ACCORDANCE WITH SPECIFICATION ITEM P-101. THE MILLINGS SHALL BE DISPOSED OF OFFSITE IN A SAFE LEGAL MANNER.

1 / C-203 — 2" DEPTH MILLING SECTION
NTS

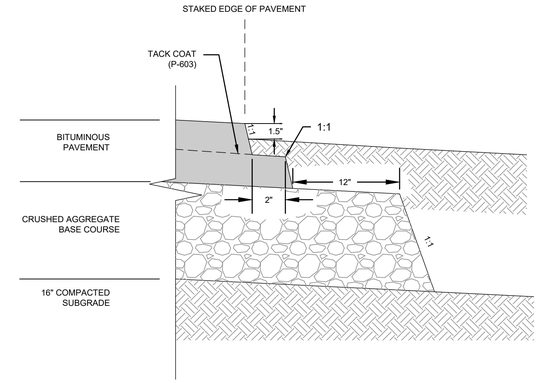


2 / C-203 — PROPOSED ASPHALT PAVEMENT OVERLAY SECTION
NTS

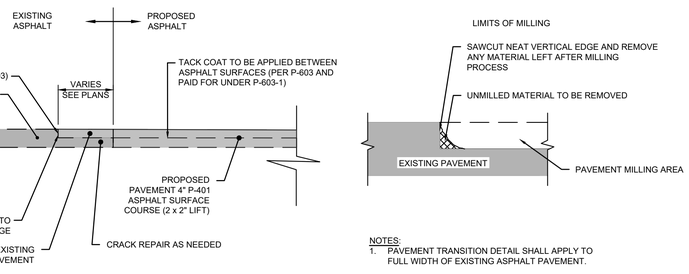


NOTES:
1. PROOFROLLING SHALL OCCUR IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR HIS/HER REPRESENTATIVE. PROOFROLLING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION ITEM P-152.
2. CONTRACTOR SHALL CONSTRUCT THE CRUSHED AGGREGATE BASE COURSE PER SPECIFICATION P-209. CRUSHED AGGREGATE BASE COURSE SHALL BE INSTALLED TO 4-INCH BELOW PROPOSED PAVEMENT SURFACE ELEVATION.

3 / C-203 — PROPOSED ASPHALT PAVEMENT FULL-DEPTH SECTION
NTS

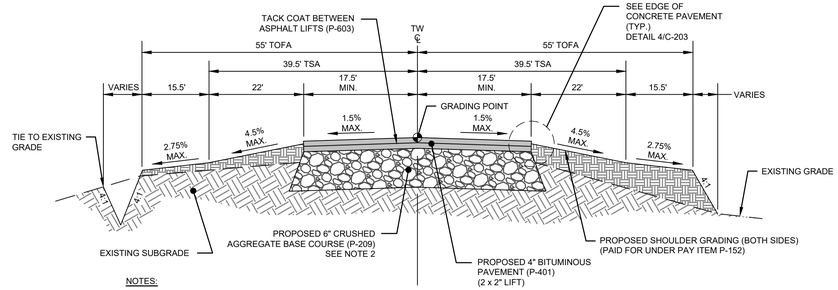


4 / C-203 — EDGE OF PAVEMENT DETAIL
NTS



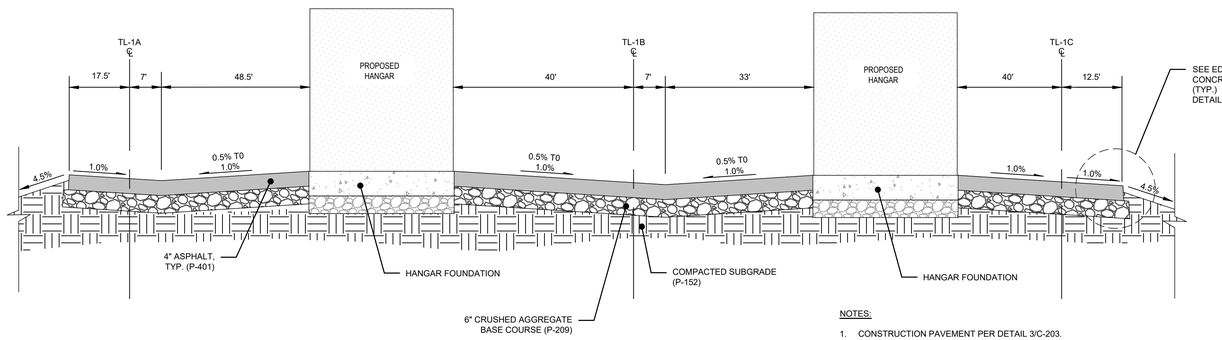
NOTES:
1. PAVEMENT TRANSITION DETAIL SHALL APPLY TO FULL WIDTH OF EXISTING ASPHALT PAVEMENT.

5 / C-203 — ASPHALT PAVEMENT TRANSITION DETAIL
NTS



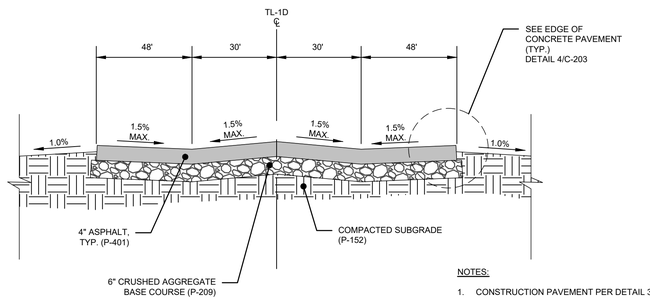
NOTES:
1. CONSTRUCTION PAVEMENT PER DETAIL 3/C-203.
2. CONTRACTOR SHALL CONSTRUCT THE CRUSHED AGGREGATE BASE COURSE PER SPECIFICATION P-209. CRUSHED AGGREGATE BASE COURSE SHALL BE INSTALLED TO 4-INCH BELOW PROPOSED PAVEMENT SURFACE ELEVATION.
3. SEE SPECIFICATION P-152 FOR COMPACTION REQUIREMENTS.
4. SEE SITE LAYOUT PLAN SHEET C-200 FOR WIDTHS OF PAVEMENT.

6 / C-203 — TYPICAL TAXIWAY/TAXILANE 1 SECTION
NTS



NOTES:
1. CONSTRUCTION PAVEMENT PER DETAIL 3/C-203.
2. CONTRACTOR SHALL CONSTRUCT THE CRUSHED AGGREGATE BASE COURSE PER SPECIFICATION P-209. CRUSHED AGGREGATE BASE COURSE SHALL BE INSTALLED TO 4-INCH BELOW PROPOSED PAVEMENT SURFACE ELEVATION.
3. SEE SPECIFICATION P-152 FOR COMPACTION REQUIREMENTS.
4. SEE SITE LAYOUT PLAN SHEET C-200 FOR WIDTHS OF PAVEMENT.

7 / C-203 — APRON TYPICAL SECTION A-A
NTS



NOTES:
1. CONSTRUCTION PAVEMENT PER DETAIL 3/C-203.
2. CONTRACTOR SHALL CONSTRUCT THE CRUSHED AGGREGATE BASE COURSE PER SPECIFICATION P-209. CRUSHED AGGREGATE BASE COURSE SHALL BE INSTALLED TO 4-INCH BELOW PROPOSED PAVEMENT SURFACE ELEVATION.
3. SEE SPECIFICATION P-152 FOR COMPACTION REQUIREMENTS.
4. SEE SITE LAYOUT PLAN SHEET C-200 FOR WIDTHS OF PAVEMENT.

8 / C-203 — APRON TYPICAL SECTION B-B
NTS

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NO.	DATE	DESCRIPTION	BY

REVISION RECORD

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: **AIRFIELD PAVEMENT DETAILS**

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-203
WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\2023\120600\08_CAD TOPO - SO. GA EXPANSION\PREL DESIGN\CAD\PLAN SET\SHEETS\2023120600 AIRFIELD_C_SHT_GEOMETRIC LAYOUT

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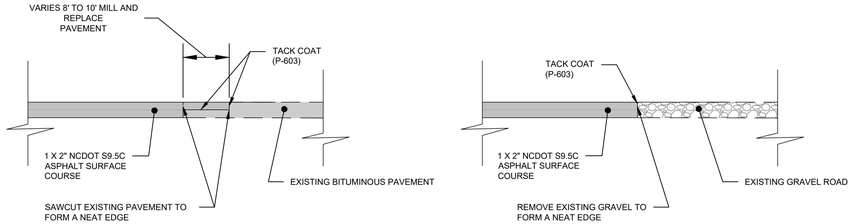
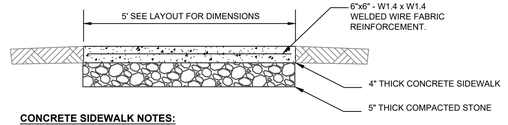


PAVEMENT TRANSITION ASPHALT TO ASPHALT

PAVEMENT TRANSITION ASPHALT TO GRAVEL

1 / C-204 DRIVEWAY PAVEMENT TRANSITION DETAIL

NTS

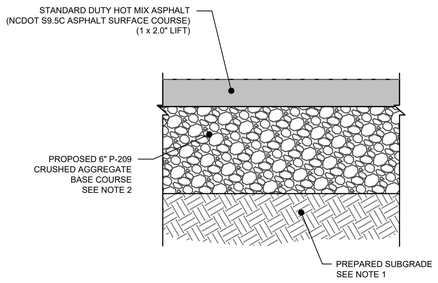


CONCRETE SIDEWALK NOTES:

1. A GROOVED JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 15' INTERVALS. A SEALED 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK JOINS ANY RIGID STRUCTURE OR CONCRETE PAVEMENT.
2. CONCRETE SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION P-610 WITH A COMPRESSIVE STRENGTH OF 3,000 PSI.
3. SEALANT SHALL BE SELF LEVELING AND COMPATIBLE WITH THE MATERIAL BEING SEALED

2 / C-204 4" THICK CONCRETE SIDEWALK DETAIL

NTS

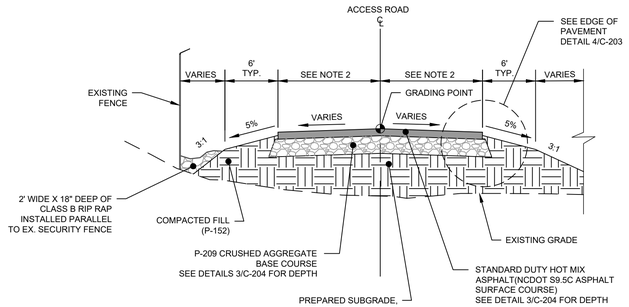


NOTES:

1. PROOFROLLING SHALL OCCUR IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR HIS/HER REPRESENTATIVE.
2. CONTRACTOR SHALL CONSTRUCT THE AGGREGATE BASE COURSE PER THE P-209 TECHNICAL SPECIFICATION SECTION "CRUSHED AGGREGATE BASE COURSE." CRUSHED AGGREGATE BASE COURSE SHALL BE INSTALLED TO 2" BELOW PROPOSED PAVEMENT SURFACE ELEVATION.
3. CONTRACTOR SHALL ENSURE THERE ARE NO LOOSE DEBRIS OR MATERIALS FROM CONSTRUCTION TRAFFIC ON THE AGGREGATE BASE PRIOR TO INSTALLATION OF THE ASPHALT SURFACE COURSE.

3 / C-204 PROPOSED ASPHALT PARKING LOT PAVEMENT SECTION

NTS

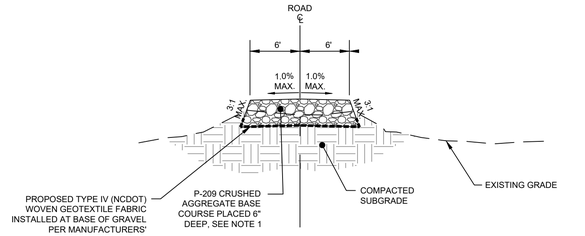


NOTES:

1. SEE SPECIFICATION P-152 FOR COMPACTION REQUIREMENTS.
2. SEE SITE LAYOUT PLAN SHEET C-200 FOR WIDTHS OF ASPHALT PAVEMENT.
3. CLASS B RIP-RAP PAID UNDER ITEM P-102-8.

4 / C-204 TYPICAL ROADWAY SECTION

NTS



NOTES:

1. CONTRACTOR SHALL PLACE AGGREGATE BASE COURSE 3" BELOW TO 3" ABOVE PROPOSED GRADING ALONG THE ACCESS ROUTE PER THIS DETAIL. SEE SHEET C-200 FOR PROPOSED ACCESS ROUTE LOCATION.
2. WOVEN GEOTEXTILE SHALL BE PAID UNDER WOVEN SEPARATION GEOTEXTILE FABRIC PAY ITEM.
3. PROPOSED ACCESS ROAD SHALL BE PAID FOR UNDER THE "PROPOSED GRAVEL ACCESS ROAD" PAY ITEM P-209-3. PAY ITEM SHALL INCLUDE COMPACTED SUBGRADE, PLACEMENT OF TYPE IV WOVEN GEOTEXTILE FABRIC, PLACEMENT AND COMPACTION OF AGGREGATE BASE COURSE WITH A 10-TON VIBRATORY ROLLER. PLACEMENT OF AGGREGATE BASE COURSE ON PROPOSED ACCESS ROAD (6" DEEP) SHALL BE PAID PER SQUARE YARD.

5 / C-204 PROPOSED ACCESS ROAD SECTION

NTS

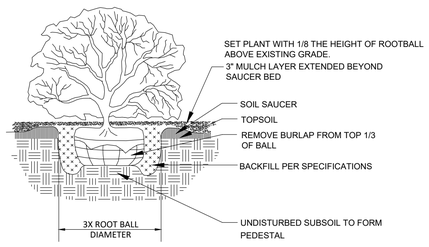
Plant List					
Symbol	**Common Name**	**Botanical Name**	**Size**	**Qty.**	**Notes**
WH	Washington Hawthorn	*Crataegus phaenopyrum*	3 Gallon	3	Shade Trees located as shown
CM	Crape Myrtle	*Lagerstroemia indica*	2 Gallon	17	Ornamental Trees located as shown
AH	American Holly	*Llex opaca*	1 Gallon	8	Ornamental Shrubs located as shown

NOTE:
1. REFER TO SHEET G-101, PROJECT LAYOUT AND PHASING PLAN FOR PROPOSED PLANTING LOCATIONS.
2. CONTRACTOR SHALL CONFIRM LOCATIONS OF PLANTINGS AND PROVIDE SUBMITTALS FOR PLANT QUALITY PRIOR TO ORDERING MATERIALS.

8 / C-204 PLANTING SCHEDULE

NTS

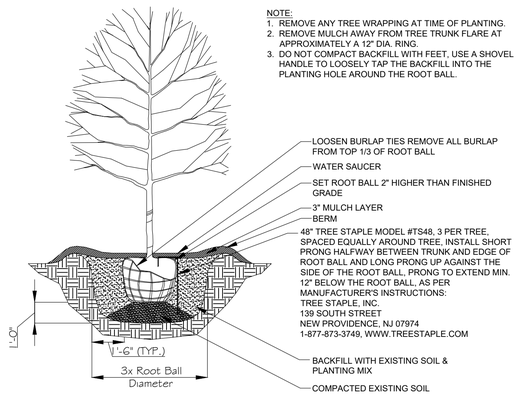
NOTE:
1. APPLY PRE-EMERGENT AROUND BASE OF PLANT AND SURROUNDING PLANTING BED ONLY. DO NOT APPLY TO FOLIAGE.



7 / C-204 SHRUB PLANTING DETAIL

NTS

NOTE:
1. REMOVE ANY TREE WRAPPING AT TIME OF PLANTING.
2. REMOVE MULCH AWAY FROM TREE TRUNK FLARE AT APPROXIMATELY A 12" DIA. RING.
3. DO NOT COMPACT BACKFILL WITH FEET, USE A SHOVEL HANDLE TO LOOSELY TAP THE BACKFILL INTO THE PLANTING HOLE AROUND THE ROOT BALL.



8 / C-204 TREE PLANTING DETAIL

NTS

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REVISION RECORD

NO.	DATE	DESCRIPTION	BY

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PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: **ACCESS PAVEMENT AND PLANTING DETAILS**

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-204
WKD PROJ. NO.:
20240074.00.WK

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C-303

C-302

C-304

C-305

WRIGHT BROTHERS WAY

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60 0 50 60 180

1 inch = 60 ft.

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OAJ

ALBERT J. ELLIS AIRPORT
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NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
OVERALL GRADING, DRAINAGE, EROSION CONTROL PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-300

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ENGLISH COUNTY\2023\19999WK - OAJ TCH21 - SO. GA EXPANSION PHEL CERTIFICATION\OAJ PLAN SET\SHEETS\20231099.00 MA_C_SHT_GRD_DRN_ESC

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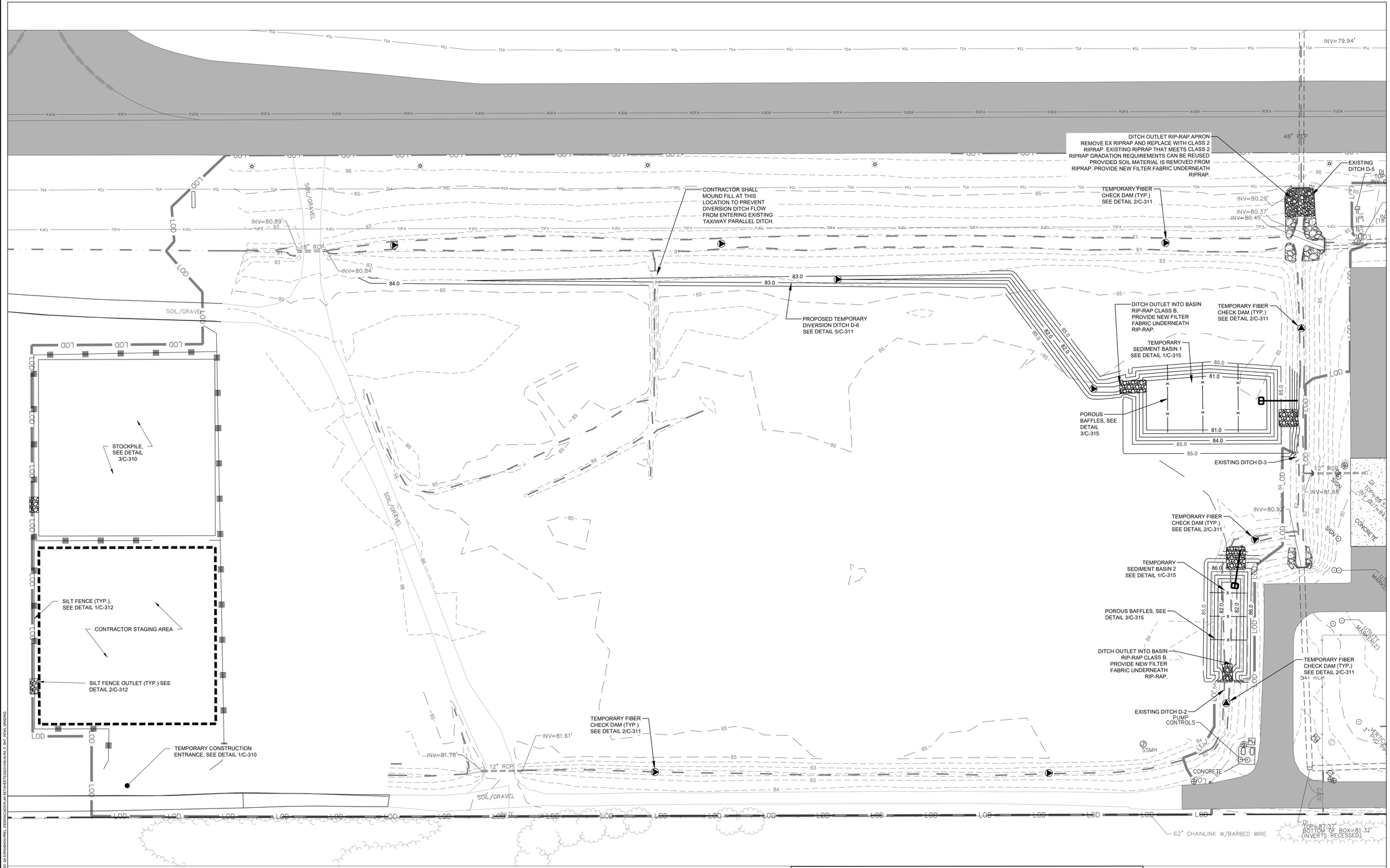

NOTES:
1. REFER TO C-309 TO C-315 FOR EC DETAILS NOTES, AND SEQUENCE.

LEGEND:

- PROPOSED CONCRETE SIDEWALK, SEE SHEET C-200 FOR DETAILS
- PROPOSED ASPHALT, SEE SHEET C-200 FOR DETAILS
- PROPOSED GRAVEL, SEE SHEET C-200 FOR DETAILS
- PROPOSED CONTOUR (69 / 70)
- EXISTING CONTOUR (69 / 70)
- PROPOSED SLOPE (1.50%)
- PROPOSED SPOT ELEVATION (89.50)
- DROP INLET PROTECTION, SEE DETAIL 3/C-312
- PROPOSED STORM SEWER PIPE
- PROPOSED TEMPORARY FIBER CHECK DAM, SEE DETAIL 2/C-311
- LOD — LIMITS OF DISTURBANCE 25.0 AC
- PROPOSED SILT FENCE, SEE DETAIL 2/C-312
- PROPOSED HEADWALL
- PROPOSED DROP INLET
- RIP-RAP CULVERT PROTECTION, SEE DETAILS 3/C-311

40 0 20 40 80
1 inch = 40 ft.

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FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
GRADING, DRAINAGE, EROSION CONTROL PLAN - PHASE 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-301
WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\OBLIQUE\CIVIL\CAD\PLOTS\2025\1995\PDF_CAL TO PLT - BD_GA EXPANSION PHS1_GRADING&DRN AN RETSHEETS 2025\1995.00 PH 1_C_SHT_INITIAL GRADING

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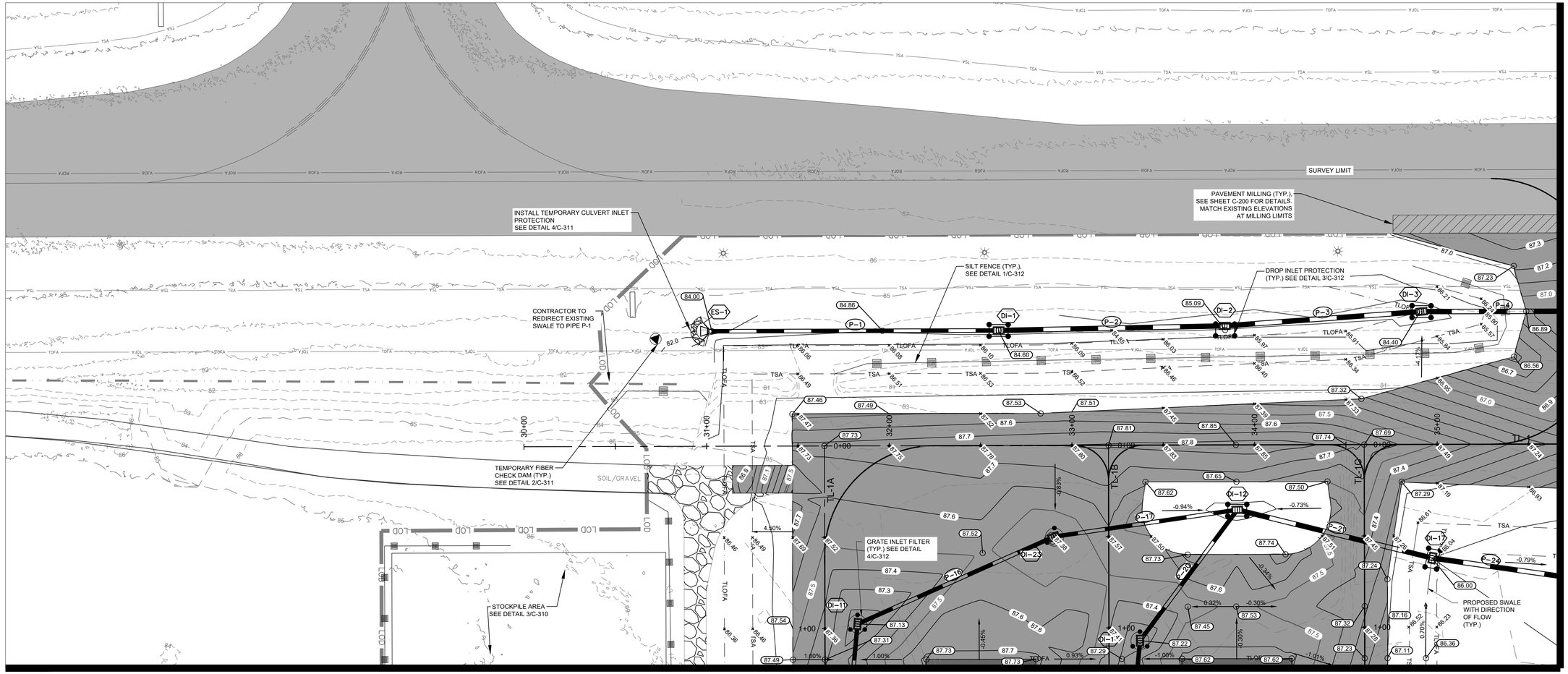
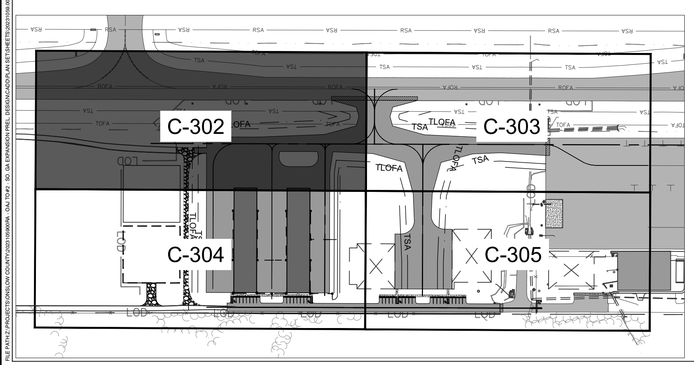


NOTES:
1. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR ENGINEERS REVIEW, ENGINEER MUST APPROVE STRUCTURE PRIOR TO MATERIAL PURCHASING. JUNCTION BOX SHALL FACILITATE AN INFLUENT 48" FROM THE SOUTH, TWO 36" INFLUENT RCP FROM THE EAST, AND A 54" EFFLUENT RCP TO THE NORTH.
2. REFER TO C-312 TO C-313 FOR DRAINAGE STRUCTURE DETAILS.



DRAINAGE PIPE TABLE

PIPE NAME	SIZE	TYPE	LENGTH	INVERTS	SLOPE
P-1	24"	RCP CLASS IV	157'	INV IN=81.18 INV OUT=81.15	0.0%
P-2	30"	RCP CLASS III	124'	INV IN=81.03 INV OUT=80.90	0.1%
P-3	30"	RCP CLASS III	108'	INV IN=80.90 INV OUT=80.79	0.1%
P-16	24"	RCP CLASS IV	118'	INV IN=83.06 INV OUT=82.84	0.2%
P-17	24"	RCP CLASS IV	101'	INV IN=82.84 INV OUT=82.64	0.2%
P-20	24"	RCP CLASS IV	89'	INV IN=82.81 INV OUT=82.64	0.2%
P-21	30"	RCP CLASS IV	110'	INV IN=82.64 INV OUT=82.31	0.3%
P-24	30"	RCP CLASS III	140'	INV IN=82.31 INV OUT=81.82	0.4%

DRAINAGE STRUCTURE TABLE

STRUCTURE NAME	TYPE	NORTHING EASTING	RIM ELEV.	STRUCTURE DETAIL
DI-1	DROP INLET	N=394396.10 E=2415938.21	84.60'	5/C-312
DI-2	DROP INLET	N=394487.24 E=2416021.99	84.54'	5/C-312
DI-3	DROP INLET	N=394570.51 E=2416090.84	84.43'	5/C-312
DI-11	DROP INLET	N=394229.18 E=2416000.92	87.13'	5/C-312
DI-12	DROP INLET	N=394422.62 E=2416099.50	86.85'	5/C-312
DI-14	DROP INLET	N=394334.63 E=2416114.42	87.22'	5/C-312
DI-17	DROP INLET	N=394481.50 E=2416192.42	86.00'	5/C-312
ES-1	FES	N=394282.37 E=2415829.98		2/C-314

LEGEND:

- PROPOSED CONCRETE SIDEWALK, SEE SHEET C-200 FOR DETAILS
- PROPOSED ASPHALT, SEE SHEET C-200 FOR DETAILS
- PROPOSED GRAVEL, SEE SHEET C-200 FOR DETAILS
- PROPOSED CONTOUR (70 / 69)
- EXISTING CONTOUR (70 / 69)
- PROPOSED SLOPE (1.50%)
- PROPOSED SPOT ELEVATION (69.50)
- DROP INLET PROTECTION, SEE DETAIL 3/C-312
- PROPOSED STORM SEWER PIPE
- PROPOSED TEMPORARY FIBER CHECK DAM, SEE DETAIL 2/C-311
- LOD — LIMITS OF DISTURBANCE 14.0 AC
- GRATE INLET FILTER, SEE DETAIL 4/C-312
- PROPOSED HEADWALL
- PROPOSED DROP INLET
- RIP-RAP CULVERT PROTECTION, SEE DETAILS 3/C-311
- PROPOSED SILT FENCE, SEE DETAIL 2/C-312

NORTH (GRID)

30 0 15 30 60
1 inch = 30 ft.

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ELLIS AIRPORT
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

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PROFESSIONAL SEAL

REVISION RECORD

NO	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
GRADING, DRAINAGE, EROSION CONTROL PLAN 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-302

WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\2001199\ARWA_OAJ TOPO_SD_GA EXPANSION (PHEL, DEBONO)\DWG\AN SET\SHEETS\2001199 ARWA_C_SHT_GRD DRN.DWG

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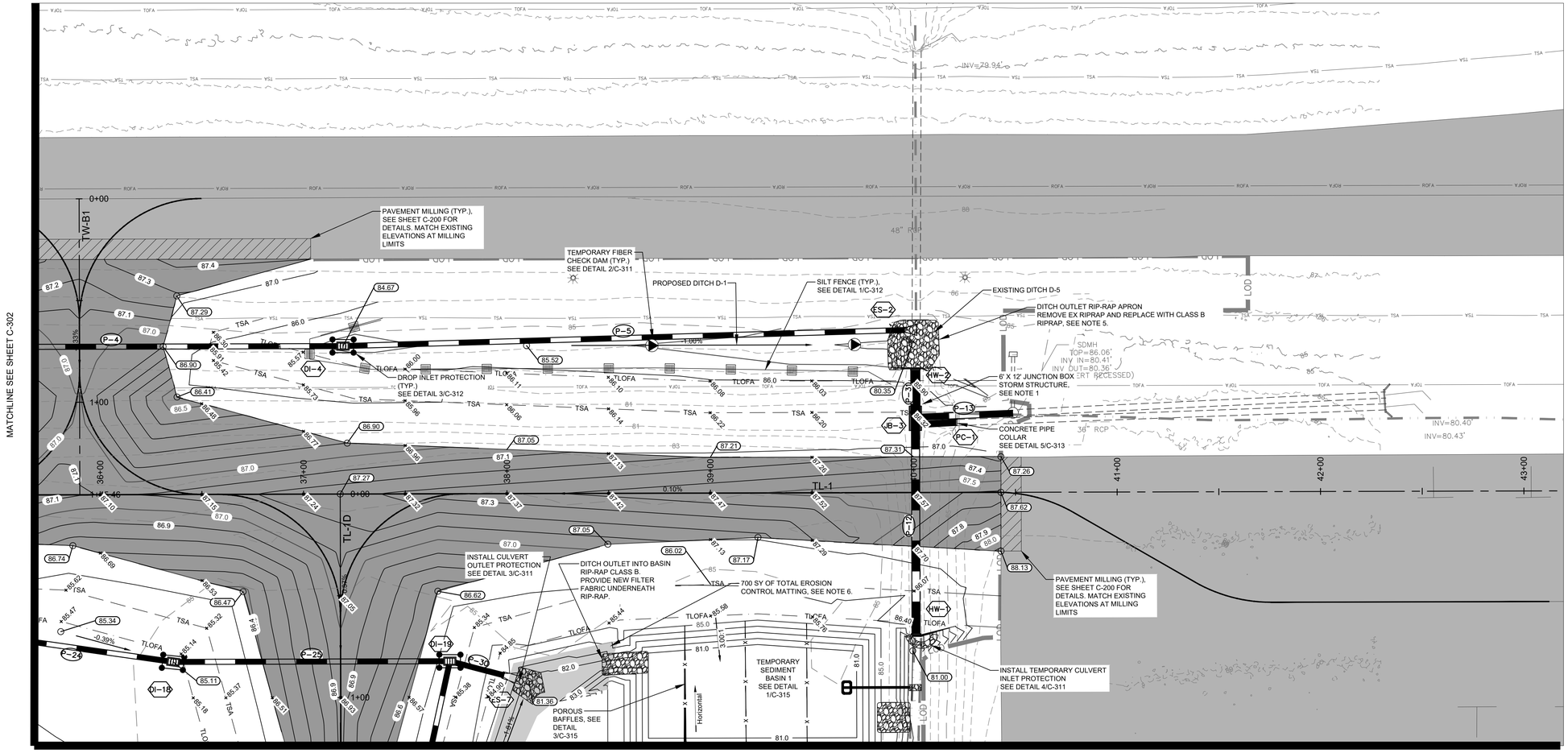
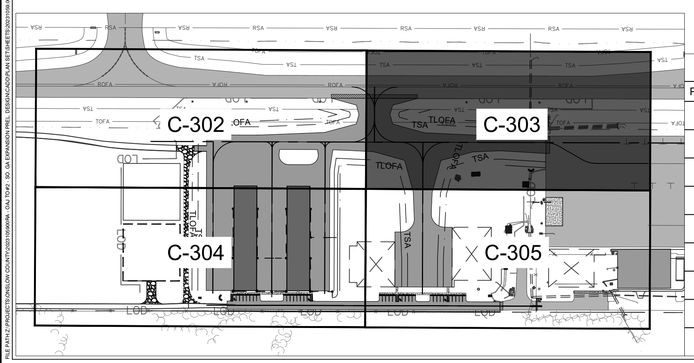


NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR ENGINEERS REVIEW, ENGINEER MUST APPROVE STRUCTURE PRIOR TO MATERIAL PURCHASING. JUNCTION BOX SHALL FACILITATE AN INFLUENT 48" FROM THE SOUTH, TWO 36" INFLUENT RCP FROM THE EAST, AND A 54" EFFLUENT RCP TO THE NORTH.
2. THE SURVEY LIMIT LINE REPRESENTS THE END OF THE TOPOGRAPHIC SURVEY PROVIDED BY STEWART. CONTRACTOR SHALL ARRANGE FOR A SURVEY TO ESTABLISH EXISTING ELEVATIONS TO A DISTANCE 20 - FEET PAST THE SOUTHERN PROJECT LIMIT. COST FOR ADDITIONAL SURVEY SHALL BE INCLUDED IN THE PRICE BID FOR MOBILIZATION.
3. CONCRETE COLLAR SHALL BE PAID UNDER "36" CONCRETE PIPE COLLAR" PAY ITEM.
4. REFER TO C-312 TO C-313 FOR DRAINAGE STRUCTURE DETAILS.
5. EXISTING RIPRAP THAT MEETS CLASS B RIPRAP GRADATION REQUIREMENTS CAN BE REUSED PROVIDED SOIL MATERIAL IS REMOVED FROM RIPRAP. PROVIDE NEW FILTER FABRIC UNDERNEATH RIPRAP.
6. CONTRACTOR TO LINE PROPOSED DITCH UP TO BASIN 1. AFTER THE REMOVAL OF BASIN 1, CONTRACTOR TO LINE REMAINING PROPOSED FINAL DITCH WITH EROSION CONTROL MATTING SEE DETAIL 1/C-311

LEGEND:

- PROPOSED CONCRETE SIDEWALK, SEE SHEET C-200 FOR DETAILS
- PROPOSED ASPHALT, SEE SHEET C-200 FOR DETAILS
- PROPOSED GRAVEL, SEE SHEET C-200 FOR DETAILS
- PROPOSED CONTOUR (70 / 69)
- EXISTING CONTOUR (70 / 69)
- PROPOSED SLOPE (1.50%)
- PROPOSED SPOT ELEVATION (@89.50)
- DROP INLET PROTECTION, SEE DETAIL 3/C-312
- PROPOSED STORM SEWER PIPE
- PROPOSED TEMPORARY FIBER CHECK DAM, SEE DETAIL 2/C-311
- LOD — LIMITS OF DISTURBANCE 14.0 AC
- GRATE INLET FILTER, SEE DETAIL 4/C-312
- PROPOSED HEADWALL
- PROPOSED DROP INLET
- RIP-RAP CULVERT PROTECTION, SEE DETAILS 3/C-311
- PROPOSED SILT FENCE, SEE DETAIL 2/C-312

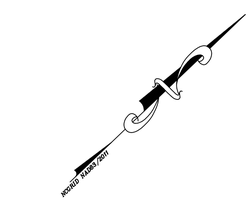


DRAINAGE PIPE TABLE

PIPE NAME	SIZE	TYPE	LENGTH	INVERTS	SLOPE
P-4	30"	RCP CLASS IV	228'	INV IN=80.79 INV OUT=80.57	0.1%
P-5	30"	RCP CLASS IV	276'	INV IN=80.57 INV OUT=80.29	0.1%
P-12	48"	RCP CLASS IV	107'	INV IN=80.60 INV OUT=80.35	0.2%
P-13	36"	RCP CLASS III	48'	INV IN=80.36 INV OUT=80.29	0.1%
P-13 (2)	36"	RCP CLASS III	17'	INV IN=80.36 INV OUT=80.29	0.4%
P-24	30"	RCP CLASS III	140'	INV IN=82.31 INV OUT=81.82	0.4%
P-25	30"	RCP CLASS IV	136'	INV IN=81.82 INV OUT=81.48	0.2%
P-30	30"	RCP CLASS III	27'	INV IN=81.48 INV OUT=81.40	0.3%
P-31	54"	RCP CLASS III	23'	INV IN=80.35 INV OUT=80.29	0.3%

DRAINAGE STRUCTURE TABLE

STRUCTURE NAME	TYPE	NORTHING EASTING	RIM ELEV.	STRUCTURE DETAIL
DI-4	DROP INLET	N=394735.63 E=2416248.06	84.67'	5/C-312
DI-18	DROP INLET	N=394567.97 E=2416302.52	85.11'	5/C-312
DI-19	DROP INLET	N=394666.47 E=2416396.30	85.71'	5/C-312
ES-2	FES	N=394940.38 E=2416433.14		2/C-314
ES-7	FES	N=394680.88 E=2416419.68		2/C-314
HW-1	HEADWALL	N=394841.24 E=2416545.17		3/C-314
HW-2	HEADWALL	N=394930.89 E=2416451.02		5/C-314
JB-3	JUNCTION BOX	N=394914.76 E=2416467.97	86.42'	4/C-313



30 0 15 30 60
1 inch = 30 ft.

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REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: **GRADING, DRAINAGE, EROSION CONTROL PLAN 2**

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER: C-303

WKD PROJ. NO.: 20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\2021\01\WORK_ONLY\PLANS_BID_GA EXPANSION.PREL_DESIGN\CADD\PLAN SHEETS\2023\03\03 AM N_C_SHT_GRD.DWN.ESC

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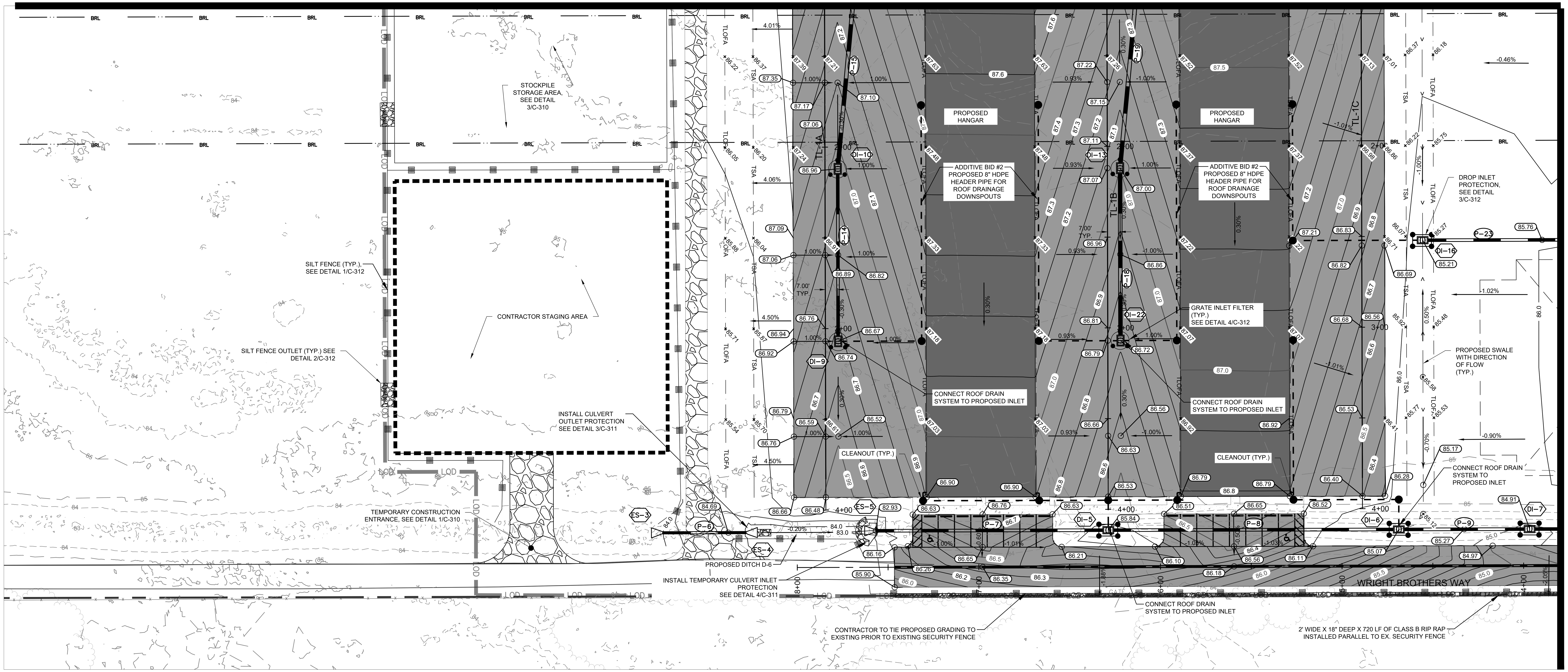
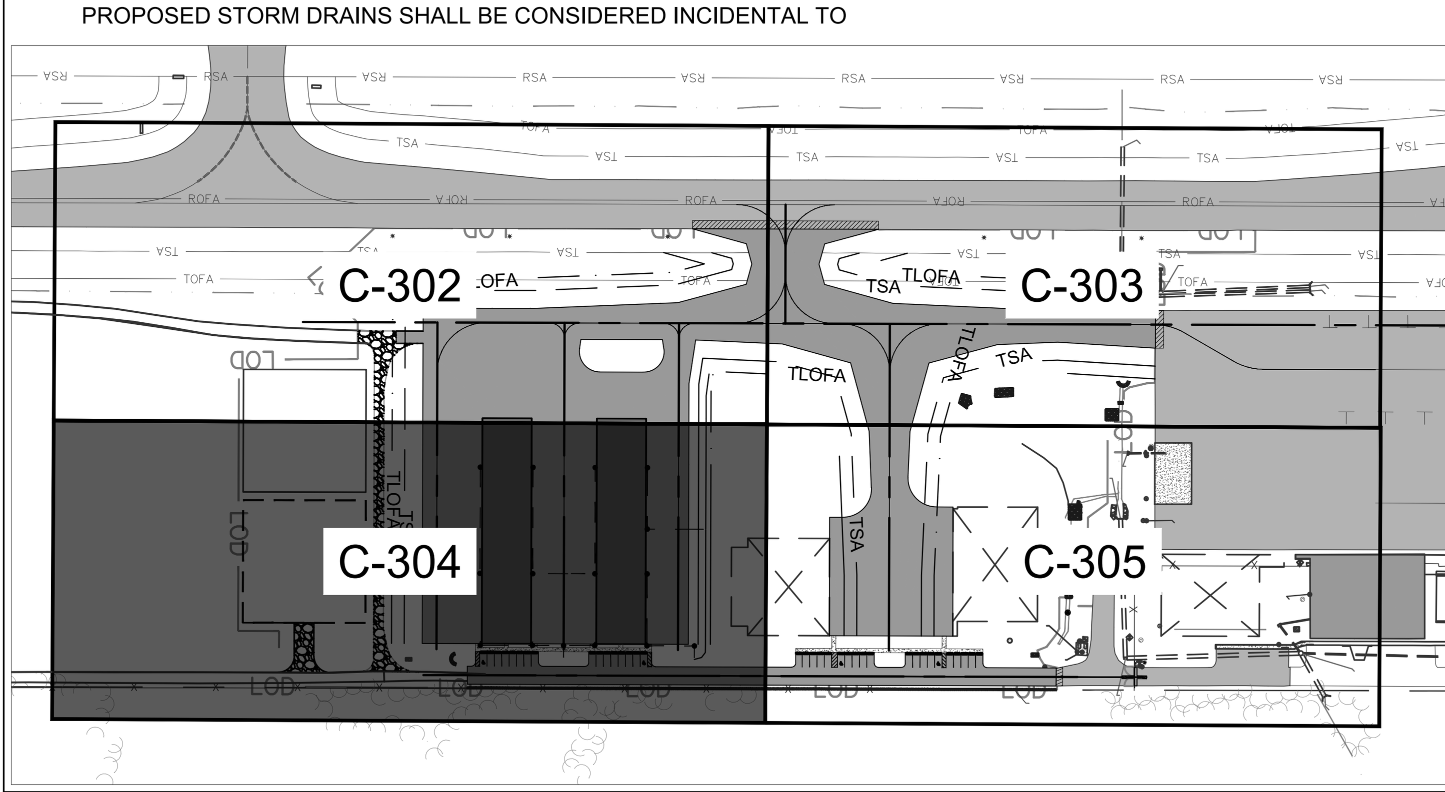


NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR ENGINEERS REVIEW, ENGINEER MUST APPROVE STRUCTURE PRIOR TO MATERIAL PURCHASING. JUNCTION BOX SHALL FACILITATE AN INFLUENT 48" RCP FROM THE SOUTH, TWO 36" INFLUENT RCP FROM THE EAST, AND A 54" EFFLUENT RCP TO THE NORTH.
2. INSTALL A ROOF DRAIN HEADER PIPE SYSTEM ALONG THE HANGAR BUILDINGS AS SHOWN IN PLANS. HEADER PIPE SHALL BE 8" DIA. SINGLE WALL HDPE INSTALLED WITH A MINIMUM OF 0.50% SLOPE WITH POSITIVE DRAINAGE AWAY FROM THE BUILDING. CONNECT HDPE DRAIN TO THE DRAINAGE STRUCTURES SHOWN.
3. CONNECT ROOF DOWNSPOUTS TO THE HEADER PIPE DRAINAGE SYSTEMS PER DETAIL 4/C-700.
4. ROOF DRAIN HEADER PIPES, DRAIN BASINS, AND CONNECTIONS TO THE PROPOSED STORM DRAINS SHALL BE CONSIDERED INCIDENTAL TO T-HANGAR BUILDING CONSTRUCTION.
5. REFER TO C-312 TO C-313 FOR DRAINAGE STRUCTURE DETAILS.



DRAINAGE STRUCTURE TABLE

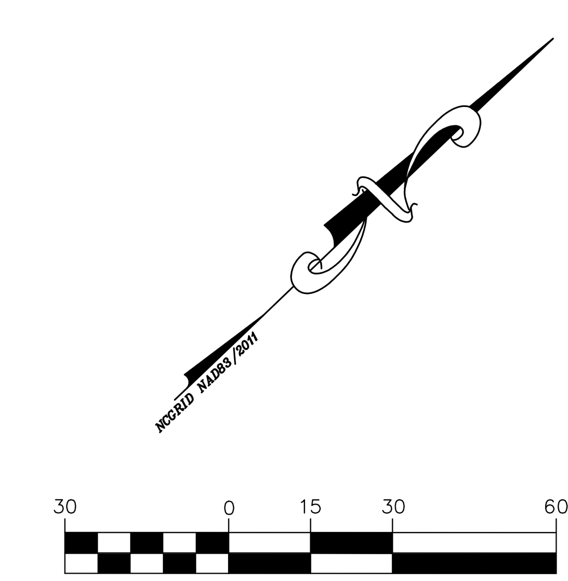
STRUCTURE NAME	TYPE	NORTHING EASTING	RIM ELEV.	STRUCTURE DETAIL
DI-5	DROP INLET	N=394112.35 E=2416323.21	85.84'	1/C-313
DI-6	DROP INLET	N=394228.21 E=2416433.56	85.07'	1/C-313
DI-7	DROP INLET	N=394280.37 E=2416483.19	84.91'	1/C-313
DI-9	DROP INLET	N=394076.85 E=2416145.14	86.67'	5/C-312
DI-10	DROP INLET	N=394142.36 E=2416076.34	86.96'	5/C-312
DI-13	DROP INLET	N=394254.98 E=2416183.57	87.00'	5/C-312
DI-16	DROP INLET	N=394347.89 E=2416327.44	87.42'	1/C-313
DI-22	DROP INLET	N=394189.47 E=2416252.37	86.72'	5/C-312
ES-3	FES	N=393934.02 E=2416154.57		1/C-314
ES-4	FES	N=393967.34 E=2416186.28		1/C-314
ES-5	FES	N=394019.65 E=2416234.94		2/C-314
ES-6	FES	N=394526.52 E=2416708.86		2/C-314

DRAINAGE PIPE TABLE

PIPE NAME	SIZE	TYPE	LENGTH	INVERTS	SLOPE
P–6	15"	RCP CLASS III	46'	INV IN=83.16 INV OUT=83.07	0.2%
P–7	18"	RCP CLASS III	128'	INV IN=82.93 INV OUT=82.67	0.2%
P–8	18"	RCP CLASS III	160'	INV IN=82.67 INV OUT=82.36	0.2%
P–9	18"	RCP CLASS III	72'	INV IN=82.36 INV OUT=82.21	0.2%
P–14	18"	RCP CLASS IV	95'	INV IN=83.52 INV OUT=83.33	0.2%
P–15	24"	RCP CLASS IV	115'	INV IN=83.33 INV OUT=83.06	0.2%
P–18	24"	RCP CLASS IV	95'	INV IN=83.19 INV OUT=83.01	0.2%
P–19	24"	RCP CLASS IV	105'	INV IN=83.01 INV OUT=82.81	0.2%
P–22	24"	RCP CLASS IV	89'	INV IN=82.39 INV OUT=81.99	0.5%
P–23	18"	RCP CLASS IV	131'	INV IN=82.88 INV OUT=82.39	0.4%

LEGEND:

- PROPOSED CONCRETE SIDEWALK, SEE SHEET C-200 FOR DETAILS
- PROPOSED ASPHALT, SEE SHEET C-200 FOR DETAILS
- PROPOSED GRAVEL, SEE SHEET C-200 FOR DETAILS
- 70 / 69 PROPOSED CONTOUR
- 70 / 69 EXISTING CONTOUR
- 1.50% PROPOSED SLOPE
- 69.50 PROPOSED SPOT ELEVATION
- DROP INLET PROTECTION, SEE DETAIL 3/C-312
- PROPOSED STORM SEWER PIPE
- PROPOSED TEMPORARY FIBER CHECK DAM, SEE DETAIL 2/C-311
- LOD LIMITS OF DISTURBANCE 14.0 AC
- GRATE INLET FILTER, SEE DETAIL 4/C-312
- PROPOSED HEADWALL
- PROPOSED DROP INLET
- RIP-RAP CULVERT PROTECTION, SEE DETAILS 3/C-311
- PROPOSED SILT FENCE, SEE DETAIL 2/C-312



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ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
GRADING, DRAINAGE, EROSION CONTROL PLAN 3

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-304

WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\20231059\00RA - OAJ TO#2 - SO. GA EXPANSION PREL. DESIGN\CADD\PLAN SET\SHEETS\20231059.00.RA_C_SHT_GRD-DRN-ESC

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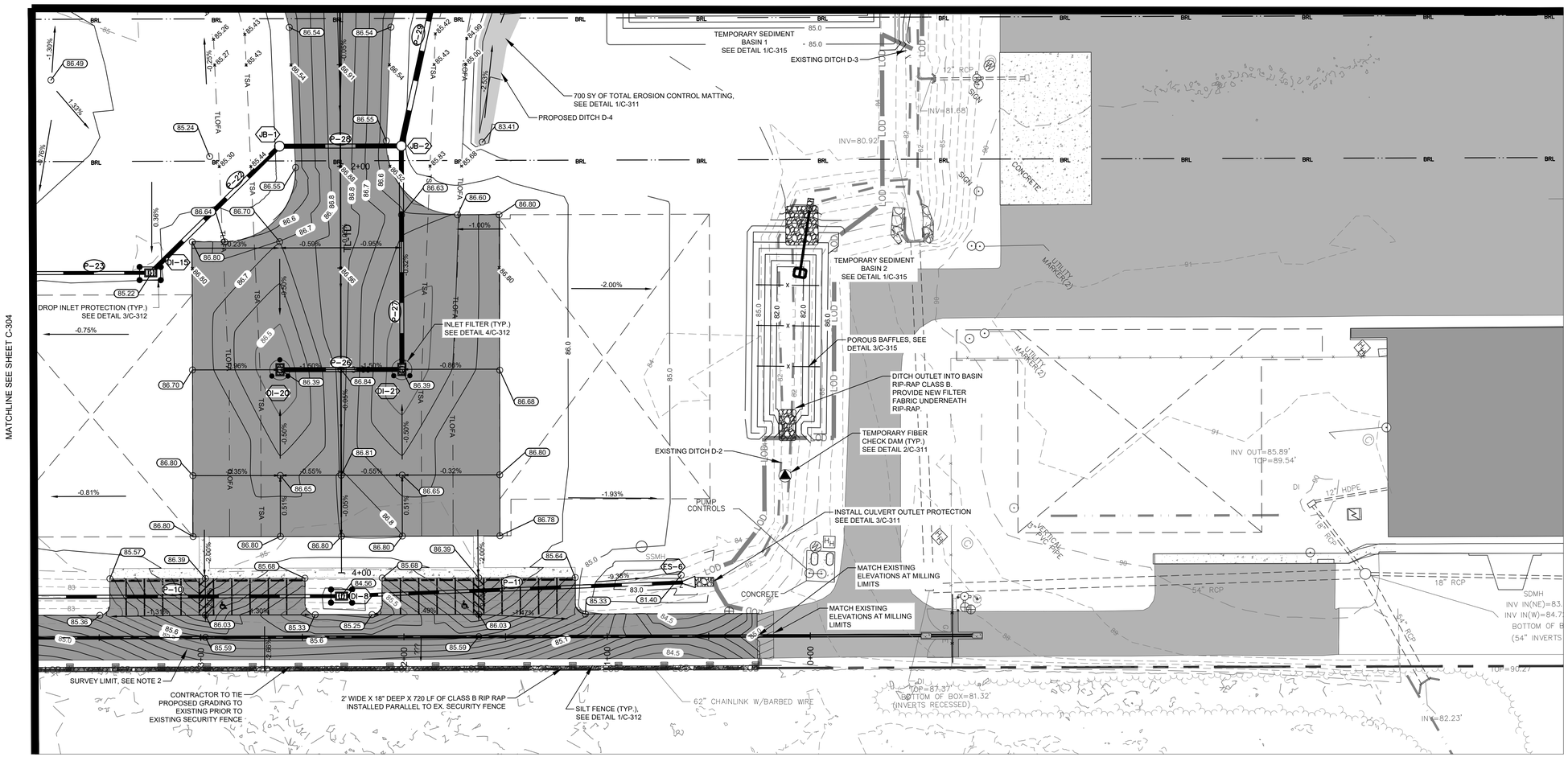
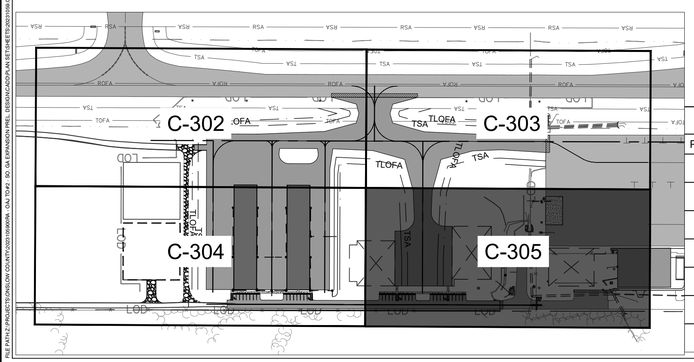




NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR ENGINEERS REVIEW, ENGINEER MUST APPROVE STRUCTURE PRIOR TO MATERIAL PURCHASING. JUNCTION BOX SHALL FACILITATE AN INFLUENT 48" FROM THE SOUTH, TWO 36" INFLUENT RCP FROM THE EAST, AND A 54" EFFLUENT RCP TO THE NORTH.
2. REFER TO C-312 TO C-313 FOR DRAINAGE STRUCTURE DETAILS.

LEGEND:

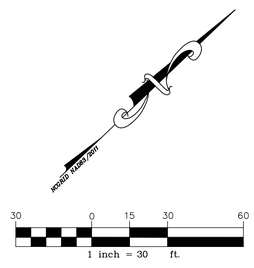
- PROPOSED CONCRETE SIDEWALK, SEE SHEET C-200 FOR DETAILS
- PROPOSED ASPHALT, SEE SHEET C-200 FOR DETAILS
- PROPOSED GRAVEL, SEE SHEET C-200 FOR DETAILS
- PROPOSED CONTOUR (70 / 69)
- EXISTING CONTOUR (70 / 69)
- PROPOSED SLOPE (1.50%)
- PROPOSED SPOT ELEVATION (69.50)
- DROP INLET PROTECTION, SEE DETAIL 3/C-312
- PROPOSED STORM SEWER PIPE
- PROPOSED TEMPORARY FIBER CHECK DAM, SEE DETAIL 2/C-311
- LOD — LIMITS OF DISTURBANCE 14.0 AC
- GRATE INLET FILTER, SEE DETAIL 4/C-312
- PROPOSED HEADWALL
- PROPOSED DROP INLET
- RIP-RAP CULVERT PROTECTION, SEE DETAILS 3/C-311
- PROPOSED SILT FENCE, SEE DETAIL 2/C-312

DRAINAGE PIPE TABLE

PIPE NAME	SIZE	TYPE	LENGTH	INVERTS	SLOPE
P–10	18"	RCP CLASS III	166'	INV IN=82.21 INV OUT=81.88	0.2%
P–11	18"	RCP CLASS III	168'	INV IN=81.88 INV OUT=81.54	0.2%
P–22	24"	RCP CLASS IV	89'	INV IN=82.39 INV OUT=81.99	0.5%
P–26	24"	RCP CLASS IV	60'	INV IN=82.32 INV OUT=82.14	0.3%
P–27	24"	RCP CLASS IV	110'	INV IN=82.14 INV OUT=81.81	0.3%
P–28	24"	RCP CLASS IV	60'	INV IN=81.99 INV OUT=81.81	0.3%
P–29	30"	RCP CLASS III	110'	INV IN=81.81 INV OUT=81.48	0.3%

DRAINAGE STRUCTURE TABLE

STRUCTURE NAME	TYPE	NORTHING EASTING	RIM ELEV.	STRUCTURE DETAIL
DI-8	DROP INLET	N=394400.59 E=2416597.66	84.57'	1/C-313
DI-15	DROP INLET	N=394442.76 E=2416417.78	85.22'	1/C-313
DI-20	DROP INLET	N=394455.74 E=2416496.23	86.39'	5/C-312
DI-21	DROP INLET	N=394499.20 E=2416537.60	86.39'	5/C-312
ES-6	FES	N=394526.52 E=2416708.86		2/C-314
JB-1	JUNCTION BOX	N=394531.59 E=2416416.57	86.09'	4/C-313
JB-2	JUNCTION BOX	N=394575.05 E=2416457.94	86.10'	4/C-313



30 0 15 30 60
1 inch = 30 ft.

BID DOCUMENTS - NOT FOR CONSTRUCTION

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ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

WK DICKSON
AN ARDURRA COMPANY
720 CORPORATE CENTER DRIVE
RALEIGH, NC 27607
(t)919-782-9672
(f)919-782-0495
WWW.WKDICKSON.COM
NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
GRADING, DRAINAGE, EROSION CONTROL PLAN 4

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-305
WKD PROJ. NO.:
20240074.00.WK

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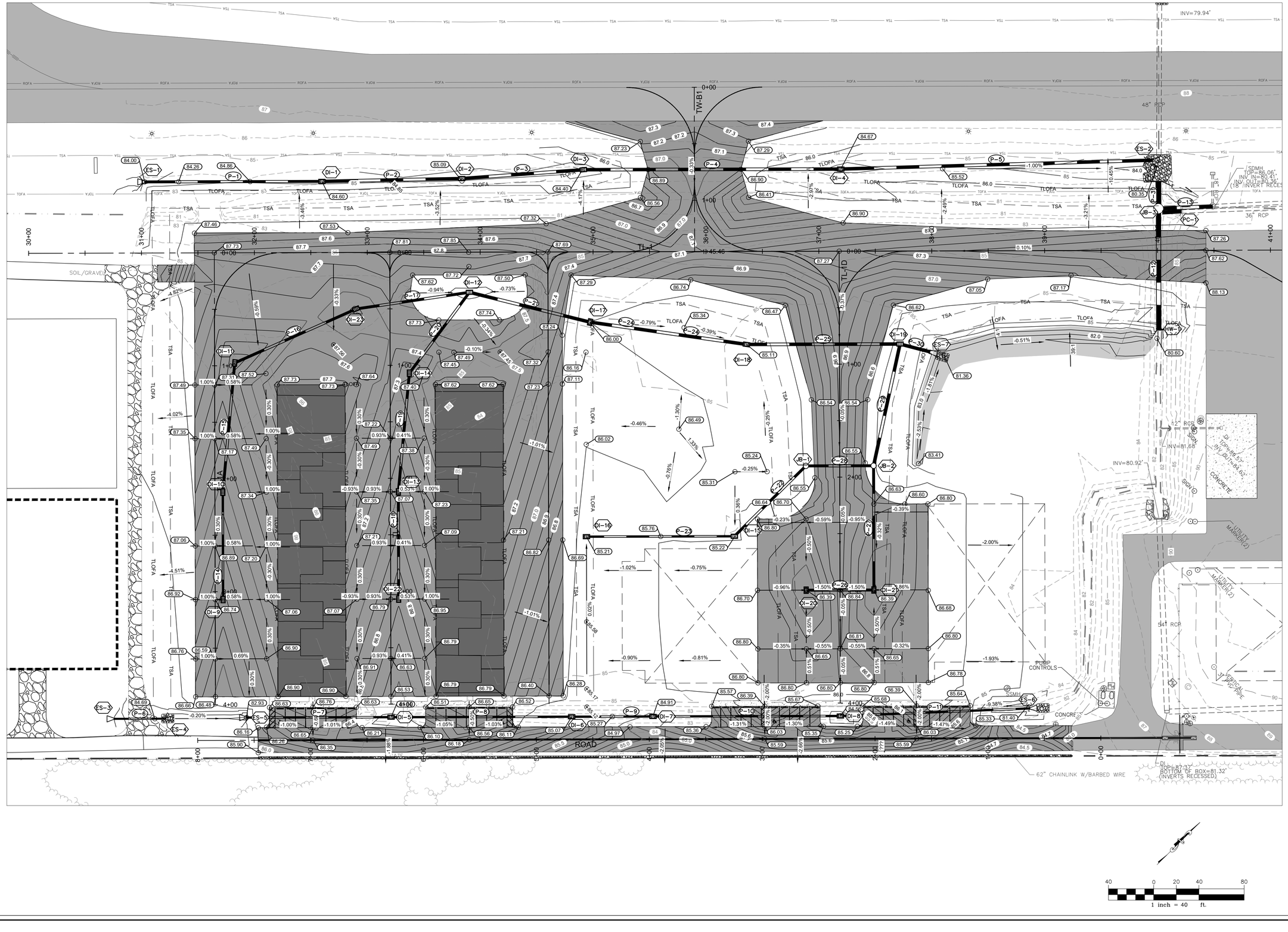

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NO.	DATE	DESCRIPTION	BY

REVISION RECORD

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
FINAL GRADES PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-306

WKD PROJ. NO.:
20240074.00.WK

1 inch = 40 ft.

FILE PATH: Z:\PROJECTS\RICHLOW COUNTY\2023\20230063\PRL - GA\TOP 2 - SO. GA EXPANSION\PREL DESIGN\CAD\PLAN SET\SHEETS\20230063-WKA-C_GHT FINAL GRADING

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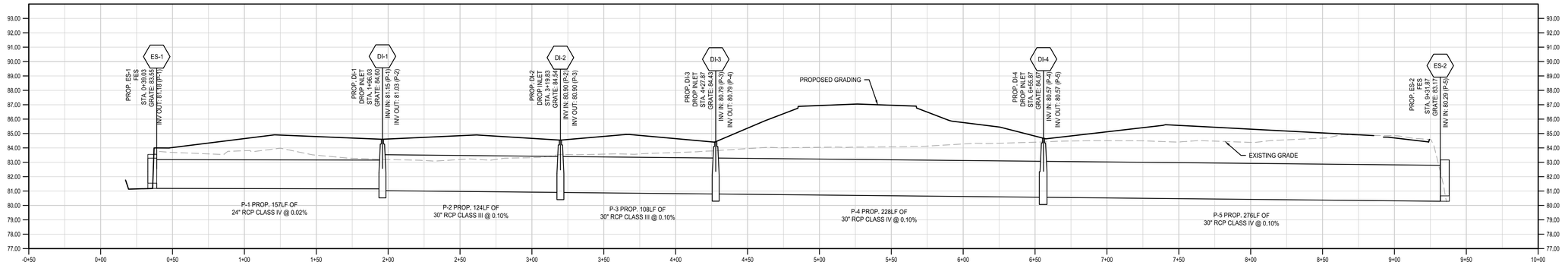

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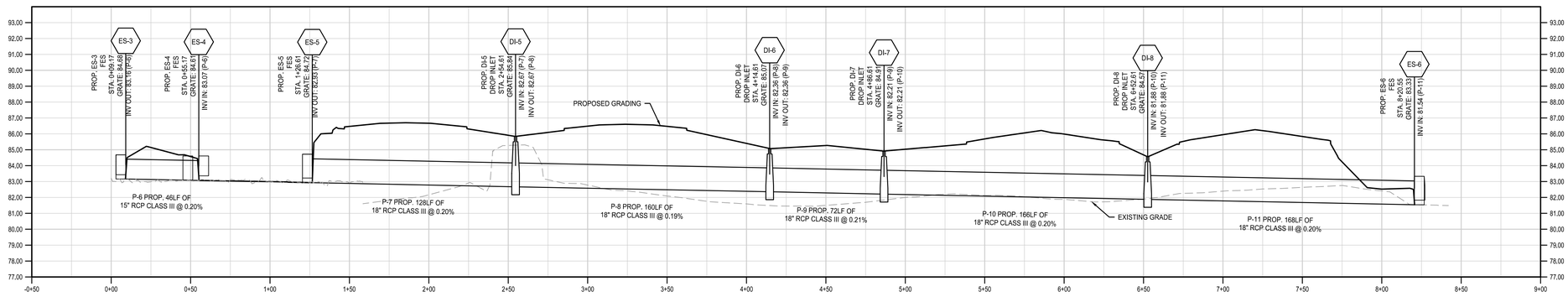

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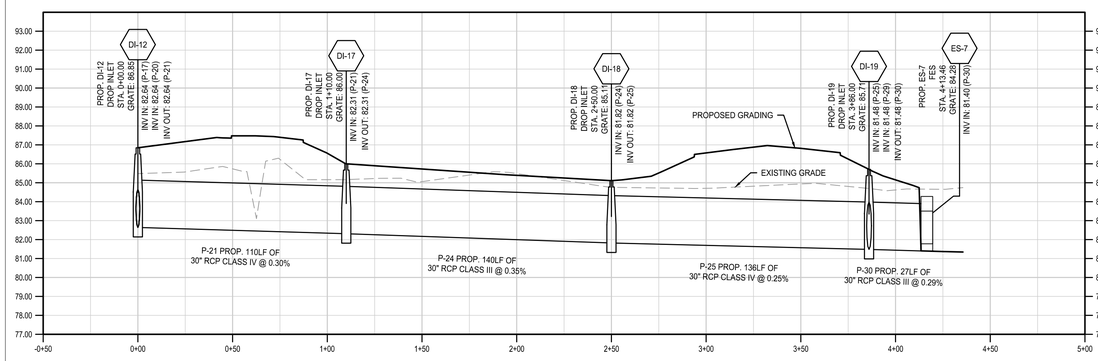

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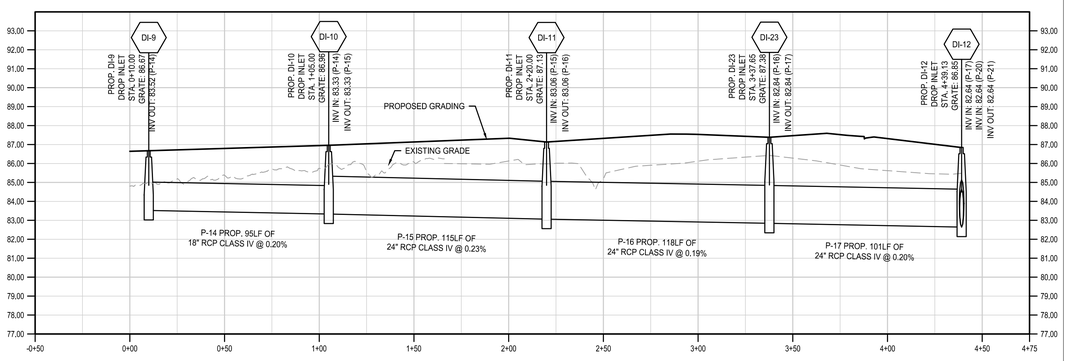

40 0 20 40 100
1 inch = 40 ft.
HORIZONTAL

4 0 2 4 8
1 inch = 4 ft.

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
STORM PIPE PROFILES 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-307

WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONGOING PROJECTS\2020\20240074.00\WORK - DWG FILES - SD - GA EXPANSION PHEL DESIGN\ADVPLAN SET\SHEETS\2025\C307 STORM PIPE PROFILES 1.DWG

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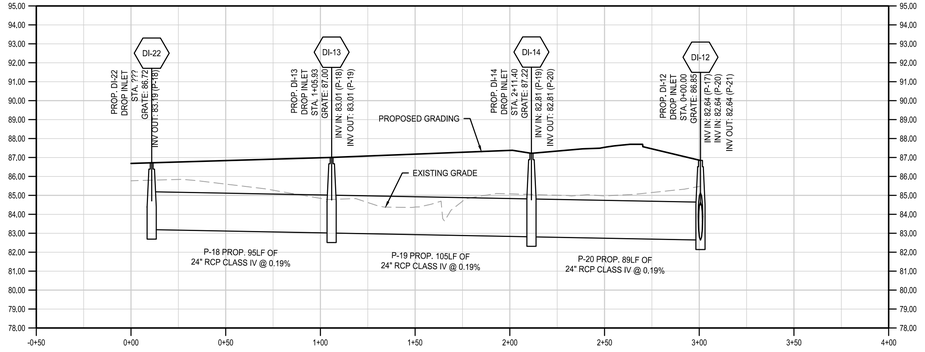

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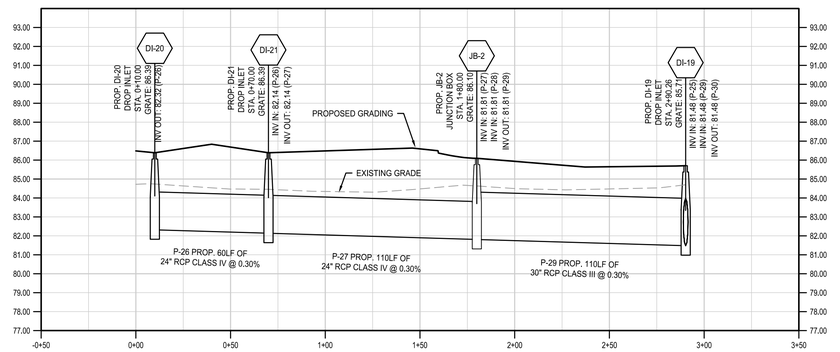

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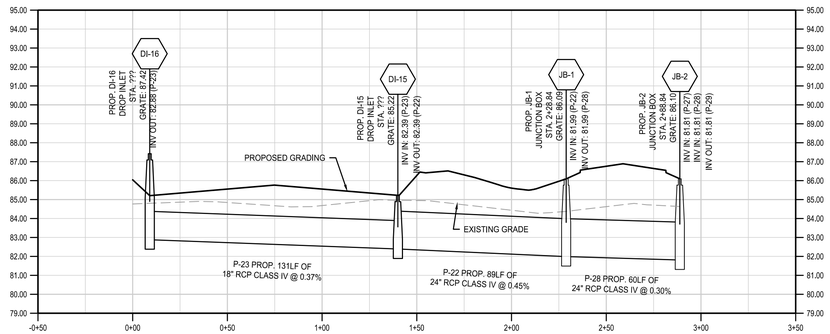

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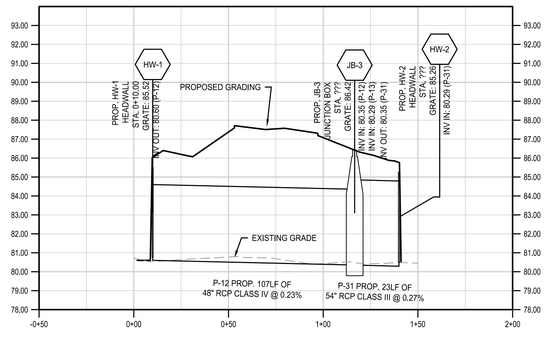

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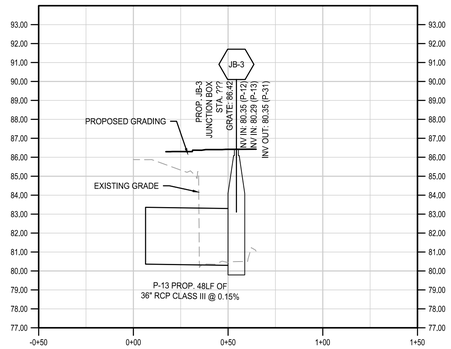

1 inch = 40 ft. HORIZONTAL

1 inch = 4 ft.

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
STORM PIPE PROFILES 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-308

WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\2020\74\00\WORK\04 TOPO - 2D\04 GA EXPANSION\PREL DESIGN\CADD\PLAN SETS\SETS\2025\08 BW_5 SHT PROFILES

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GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

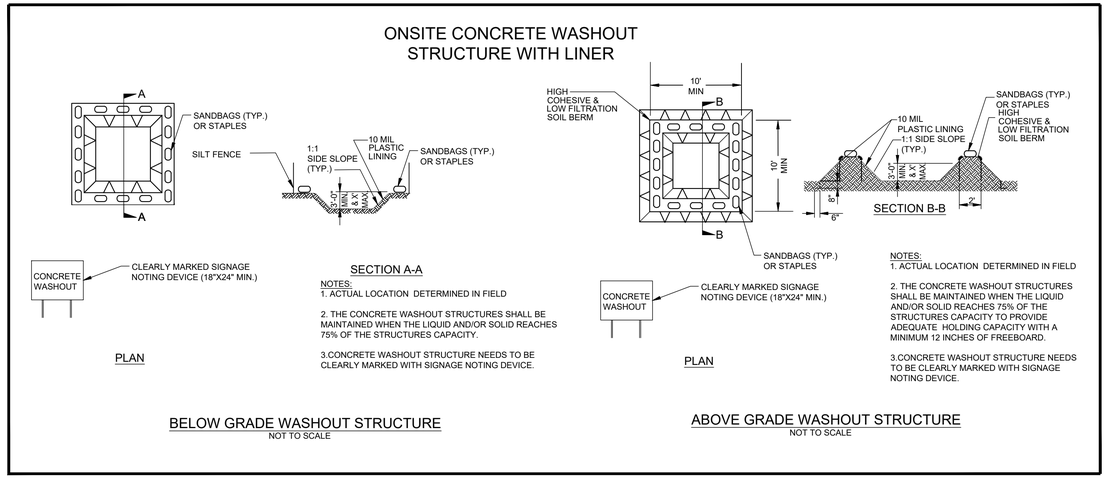
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal
shall not commence until the E&SC plan authority has approved these items,

(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,

(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include
properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,

(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,

(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and

(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

ELLIS AIRPORT
OAJ
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

WK DICKSON
AN ARDURRA COMPANY
720 CORPORATE CENTER DRIVE
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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	BY	DATE

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
DRAINAGE, EROSION & SEDIMENT CONTROL DETAILS 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-309
WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ZONE\OAJ\PT\2023\1900\06 - CAD TO PE - SDC GA EXPANSION PHS1, 1500\DWG\ACDPS #4 SETS\HEET\0-2023\1900 06 WRA_C_SHT_DETAILS

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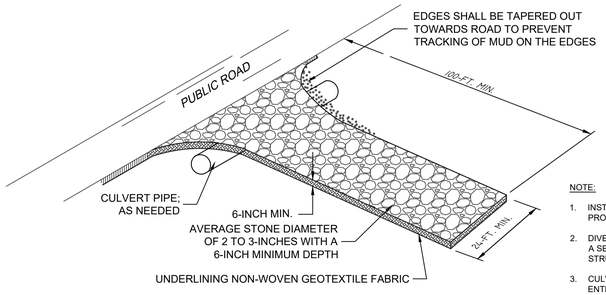


PLAN SYMBOL

NOTE:

1. INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.
2. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING STRUCTURE.
3. CULVERT PIPE IS INCIDENTAL TO TEMPORARY CONSTRUCTION ENTRANCE PAY ITEM.

WHEN AND WHERE TO USE IT

STABILIZED CONSTRUCTION ENTRANCES SHOULD BE USED AT ALL POINTS WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD.

IMPORTANT CONSIDERATIONS

1. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFFSITE.
2. CONSTRUCTION ENTRANCES SHOULD BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PICKED UP BY VEHICLES.

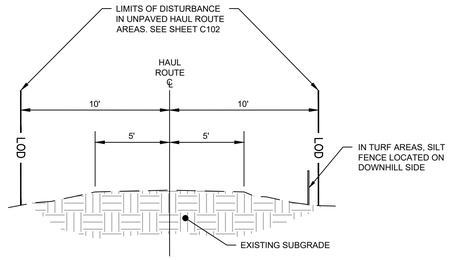
INSTALLATION:

1. REMOVE ALL VEGETATION AND ANY OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.
2. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM STONES.
3. INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.
4. INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE. CULVERT PIPE WILL BE CONSIDERED INCIDENTAL TO "CONSTRUCTION ENTRANCE" PAY ITEM.
5. THE ENTRANCE SHALL CONSIST OF 1-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES. MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 24-FEET WIDE BY 100-FEET LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS.
6. THE EDGES OF THE ENTRANCE SHALL BE TAPERED OUT TOWARDS THE ROAD TO PREVENT TRACKING OF MUD AT THE EDGE OF THE ENTRANCE.

INSPECTION AND MAINTENANCE:

1. INSPECT ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
2. CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY.
3. MAKE DAILY INSPECTIONS DURING PERIODS OF WET WEATHER. MAINTENANCE IS REQUIRED MORE FREQUENTLY IN WET WEATHER CONDITIONS.
4. RESHAPE THE STONE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY THE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE.
6. IMMEDIATELY REMOVING MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING.
7. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.
8. REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

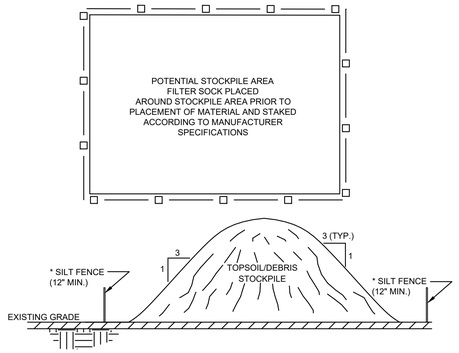
1 / C-310 — CONSTRUCTION ENTRANCE DETAIL
NTS



NOTES:

1. CONTRACTOR SHALL BE REQUIRED TO KEEP ALL EQUIPMENT WITHIN THE DESIGNATED LIMITS OF DISTURBANCE.
2. CONTRACTOR SHALL MAINTAIN/REPAIR HAUL ROUTE AS NEEDED OR DIRECTED BY THE ENGINEER DURING CONSTRUCTION.
3. AFTER COMPLETION OF THE PROJECT, CONTRACTOR SHALL RESTORE HAUL ROUTES TO PRE-CONSTRUCTION CONDITIONS. CONTRACTOR SHALL ALSO SEED AND MULCH HAUL ROUTES PER DETAIL 4/C704
4. ALL EQUIPMENT MUST BE RETURNED TO THE APPROPRIATE STAGING AREA (TRACK VERSUS NON-TRACK VEHICLES) AT THE END OF EACH WORK DAY & WHEN NOT ENGAGED IN THE CONSTRUCTION DURING NON-WORKING DAYS & NIGHTS UNLESS OTHERWISE APPROVED BY THE OWNER. PLANS AND SPECIFICATIONS DESIGNATE AREAS FOR CONTRACTOR'S EMPLOYEES AUTO PARKING.
5. THE PROVISION & MAINTENANCE OF HAUL ROADS, HAUL ROAD STONE, TEMPORARY HAUL SLABS & STEEL PLATES SHALL BE CONSIDERED INCIDENTAL TO PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL HAUL ROUTES IN USABLE CONDITION THROUGHOUT THE LIFE OF THE PROJECT. THE HAUL ROUTE AND ASSOCIATED FILTER SOCK COST SHALL BE INCIDENTAL TO THE PROJECT MOBILIZATION.
6. SILT FENCE REQUIRED TO PROTECT SEDIMENT FROM LEAVING THE HAUL ROUTE. SILT FENCE SHALL BE CONSIDERED INCIDENTAL TO THE MOBILIZATION PAY ITEM.

2 / C-310 — CONTRACTOR'S HAUL ROUTE
NTS



* SEE DETAIL 2/C705 FOR INSTALLATION & MAINTENANCE OF FILTER SOCK
NOTE: STOCKPILE HEIGHTS SHALL NOT EXCEED 25 FEET. STOCKPILE SLOPES SHALL BE 3:1 OR FLATTER.

INSTALLATION AND MAINTENANCE NOTES:

1. FILTER SOCK TO EXTEND AROUND THE ENTIRE PERIMETER OF STOCKPILE, OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOPE THE FILTER SOCK IS TO EXTEND ALONG CONTOURS OF THE DOWN-GRADIENT AREA.
2. IF STOCKPILE IT TO REMAIN FOR MORE THAN 14 DAYS, TEMPORARY STABILIZATION MEASURES MUST BE IMPLEMENTED.
3. FILTER SOCK SHALL BE MAINTAINED UNTIL STOCKPILE AREA HAS EITHER BEEN REMOVED OR PERMANENTLY STABILIZED.
4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
5. STOCKPILE AREA SHALL BE INCIDENTAL TO MOBILIZATION.
6. SILT FENCE ASSOCIATED WITH STOCKPILE AREAS TO MAINTAIN SEDIMENT AND EROSION CONTROL SHALL BE CONSIDERED INCIDENTAL TO THE MOBILIZATION PAY ITEM.

3 / C-310 — TYPICAL STOCKPILE DETAIL
NTS

TEMPORARY SEEDING - LATE WINTER/EARLY SPRING

SEEDING MIXTURE

SPECIES (LB/ACRE)	RATE
RYE (GRAIN)	120

SEEDING DATES
COASTAL PLAIN - DEC.1-APR. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR LIME APPLICATION MINIMUM 2 TONS/ACRE W/ 3 TONS PER ACRE IN CLAY SOILS AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. PROVIDE ASPHALT EMULSION TO STABILIZE MULCH/SEEDED AREAS WITHIN TAXIWAY SHOULDERS.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING SCHEDULE - FALL

SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120

SEEDING DATES
COASTAL PLAIN —AUG. 15 – DEC. 30

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR LIME APPLICATION MINIMUM 2 TONS/ACRE W/ 3 TONS PER ACRE IN CLAY SOILS AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. PROVIDE ASPHALT EMULSION TO STABILIZE MULCH/SEEDED AREAS WITHIN TAXIWAY SHOULDERS.

MAINTENANCE
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50
LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY
COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE

TEMPORARY SEEDING SCHEDULE - SUMMER

SEEDING MIXTURE

SPECIES (LB/ACRE)	RATE
ANNUAL RYE	120

SEEDING DATES
COASTAL PLAIN - APR. 15-AUG. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR LIME APPLICATION MINIMUM 2 TONS/ACRE W/ 3 TONS PER ACRE IN CLAY SOILS AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. PROVIDE ASPHALT EMULSION TO STABILIZE MULCH/SEEDED AREAS WITHIN TAXIWAY SHOULDERS.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE. CONTRACTOR SHALL ANTICIPATE REGULAR WATERING DURING THE SUMMER TO ESTABLISH AND MAINTAIN GROUND COVER.

PERMANENT SEEDING SCHEDULE

GENTLE SLOPES, SOILS WITH AVERAGE OR BETTER MOISTURE, COOL SITES

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	BLEND OF TWO TURF-TYPE TALL FESCUES (90%) AND TWO OR MORE KENTUCKY BLUEGRASS VARIETIES (10%)	200 - 250 LB/ACRE

GENTLE SLOPES, DRIER SOILS, PHYSICAL LIMITATIONS

DATES	TYPE	RATE
AUG. 25 - SEPT. 15	BLEND OF 50% KY-31 TALL FESCUE AND 50% MIXTURE OF TWO OR MORE TURF TYPE TALL FESCUES	200 - 250 LB/ACRE
APRIL 15 - JUNE 30	COMMON BERMUDA GRASS	40 - 80 LB/ACRE OR 1 - 2 LB/1000 SF

AMENDMENTS SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE OF GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE OF 10-10-10 FERTILIZER. DRY SOIL, GRASS-LINED CHANNELS SHALL USE 3000 LB/ACRE OF GROUND AGRICULTURAL LIMESTONE AND 500 LB/ACRE OF 10-10-10 FERTILIZER. MULCH SHALL BE APPLIED AT THE RATE OF 4000 LB/ACRE OF STRAW. STRAW SHALL BE ANCHORED BY TACKING WITH ASPHALT. NETTING OR MULCH ANCHORING TOOL. JUTE OR EXCELSIOR MATTING SHALL BE USED IN GRASS LINED CHANNELS TO CALCULATED HIGH WATER DEPTH.

PERMANENT SODDING

SODDING GRASS TYPE TO BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. SOD SELECTED SHALL BE NC STATE CERTIFIED. SOD SHALL BE INSTALLED PER SPECIFICATION SECTION T-904.

GROUND COVER SCHEDULE		
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

NOTE:
1. THE USE OF MILLET, LESPEDEZA, OR BAHIA GRASS IS PROHIBITED.
2. ALL SEEDING AND MULCHING SHALL BE APPLIED VIA HYDROSEEDING/ HYDROMULCHING METHODS.
3. FINAL PAVEMENT FOR SEEDED AREAS WILL ONLY BE RECOMMENDED ONCE GRASS IS ESTABLISHED AS DETERMINED BY THE ENGINEER.

4 / C-310 — SEEDING SCHEDULE
NTS

GENERAL NOTES AND CONSTRUCTION SEQUENCE:

GENERAL NOTES:

1. INSTALLATION OF EROSION CONTROL DEVICES SHALL COINCIDE WITH THE CONSTRUCTION PHASING PLAN AND AS SHOWN ON PLAN SHEET G-101. E&S CONTROLS SHALL BE INSTALLED DOWNSLOPE OF THE PROPOSED DISTURBANCE AS SHOWN ON THE PLANS AND SHALL BE PROPERLY FUNCTIONING BEFORE ANY LAND DISTURBANCE TAKES PLACE.
2. EACH PHASE IS TO BE WORKED UNTIL COMPLETION PER THE PHASING PLAN AND NOTES. EACH PHASE MUST BE COMPLETED BEFORE PROCEEDING TO THE NEXT PHASE.
3. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD AT LEAST SEVEN-DAYS PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL CONTACT THE DEMLR WILMINGTON REGIONAL OFFICE AT 910-796-7215 FOR NOTIFICATION OF PLANNED CONSTRUCTION ACTIVITIES. THE NOTIFICATION SHALL BE AT LEAST 72 HOURS PRIOR TO LAND DISTURBING ACTIVITIES.
5. A COPY OF THE APPROVAL LETTER AND COPIES OF THE SELF-INSPECTION REPORTS SHALL ALWAYS BE KEPT ON SITE. THE CONTRACTOR SHALL KEEP RECORDS CURRENT UNTIL THE SITE IS RELEASED BY THE WILMINGTON REGIONAL OFFICE.
6. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR. THE COC CAN BE OBTAINED BY FILLING OUT THE ELECTRONIC NOTICE OF INTENT (E-NOI) FORM AT DEQ.NC.GOV/NCGO1. PLEASE NOTE, THE E-NOI FORM MAY ONLY BE FILLED OUT ONCE THE PLANS HAVE BEEN APPROVED. A COPY OF THE E&SC PERMIT, THE COC, AND A HARD COPY OF THE PLAN MUST BE KEPT ON SITE, IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION.
7. EXISTING TOPOLOGY REPRESENTS SITE CONDITIONS AT TIME OF SURVEY. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES BETWEEN WHAT IS FOUND IN THE FIELD AND WHAT IS SHOWN ON THE PLANS TO THE OWNER PRIOR TO CONSTRUCTION. REWORK DUE TO CONTRACTORS FAILURE TO VERIFY EXISTING CONDITIONS WILL BE COMPLETED AT THE EXPENSES OF THE CONTRACTOR.
8. ALL SEEDING AND MULCHING SHALL BE APPLIED VIA HYDROSEEDING/HYDROMULCHING METHODS.
9. A GRASS STAND SHALL BE CONSIDERED ADEQUATE WHEN BARE SPOTS ARE ONE SQUARE FOOT OR LESS, RANDOMLY DISPERSED, AND DO NOT EXCEED 3% OF THE AREA SEEDED.
10. AREAS THAT WASHOUT DUE TO STORM EVENTS WILL NOT RECEIVE MULTIPLE PAYMENTS FOR RE-SEEDING THESE AREAS. THE CONTRACTOR SHALL REPAIR WASHED OUT AREAS AT NO ADDITIONAL COST TO THE OWNER.
11. CONTRACTOR SHALL MAINTAIN A COPY OF THE CERTIFICATE OF COVERAGE FOR LAND DISTURBANCE AND EROSION CONTROL PERMIT APPROVAL ONSITE THROUGHOUT CONSTRUCTION. CONSTRUCTION SHALL BE GENERALLY SEQUENCED AS NOTED BELOW.

CONSTRUCTION SEQUENCE

1. MOBILIZE ON SITE, ESTABLISH LIMITS OF DISTURBANCE AND SET UP STAGING AREAS.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCES.
3. INSTALL PHASE 1 EROSION CONTROL DEVICES, PERIMETER CONTROLS, DIVERSION DITCHES, AND BASINS AS SHOWN ON THE PLAN SHEETS AND IN ACCORDANCE WITH THE PHASING PLAN SEQUENCE. THE EROSION CONTROL DEVICES SHALL BE INSTALLED AND PROPERLY FUNCTIONING PRIOR TO LAND DISTURBANCE ACTIVITIES. REFER TO THE GRADING AND EROSION CONTROL PLAN - PHASE 1 FOR PROPOSED EROSION CONTROL MEASURES (PLAN SHEET C-301). THE CONTRACTOR SHALL ENSURE THAT THE PIPE PROTECTION DEVICES ARE INSTALLED AS SHOWN ON THE PLANS.
4. ONCE THE EROSION CONTROL DEVICES ARE INSTALLED FOR THE INITIAL GRADING AND EROSION CONTROL PLANS, PER PLAN SHEETS C-301 IN ACCORDANCE WITH THE APPROVED PLAN DRAWINGS, THE CONTRACTOR MAY PROCEED WITH PHASE 1 WORK OUTSIDE OF THE TOFA.
5. AS CONSTRUCTION PROGRESSES THE CONTRACTOR SHALL INSTALL EROSION CONTROL DEVISE AS SHOWN ON SHEETS C-301-C-306. THE CONTRACTOR SHALL ENSURE ALL DEVICE ARE WORKING PROPERLY AND FOLLOW MAINTENANCE MEASURES. EROSION CONTROL DEVICES SHALL BE INSPECTED AND MAINTAINED PER THE APPROVED PLANS AND DETAILS.

CONSTRUCTION SEQUENCE (CONT'D):

6. CONTRACTOR SHALL MODIFY AND REARRANGE EROSION AND SEDIMENT CONTROL DEVICES TO CORRESPOND TO PROJECT PHASING NOTED ON THE PHASING PLAN, SHEET G-101.
7. AS CONSTRUCTION PROGRESSES THE CONTRACTOR SHALL ENSURE ALL AREAS ARE STABILIZED PER THE SEEDING SCHEDULE SHOWN ON PLAN SHEET C-310.
8. UPON THE COMPLETION OF PHASE 1, CONTRACTOR SHALL STABILIZE THE SITE AND PROGRESS TO PHASE 2 WORK ON THE HANGARS AND FINAL PAVEMENT MARKINGS. MAINTAIN ALL EROSION CONTROL PRACTICES THROUGH PROJECT STABILIZATION.
9. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE-OUT VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT DEQ.NC.GOV/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A $100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT. FOR FINAL SITE CONDITIONS REFER TO THE FINAL GRADING AND EROSION CONTROL PLANS (SHEET C-306). THESE PLANS DEPICT FINAL SITE CONDITIONS.
10. UPON APPROVAL FROM THE NCDEQ INSPECTOR AND THE ENGINEER, REMOVE TEMPORARY EROSION CONTROL MEASURES AND RE-STABILIZE ANY DISTURBED AREAS PER THE SEEDING SCHEDULE SHOWN ON THIS SHEET DETAIL 4.
11. CONFIRM APPROVAL OF STABILIZATION FROM NCDEQ AND OWNER PRIOR TO CLOSEOUT OR EROSION CONTROL PERMIT.
12. DEMOBILIZE FROM SITE.

EROSION CONTROL MAINTENANCE MEASURES

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CHECKED FOR STABILITY AND FUNCTIONALITY FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE, LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY BY THE CONTRACTOR TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. GROUND COVER SHALL BE IN ACCORDANCE WITH THE CONDITIONS OF THE NPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES. SEE THE GROUND COVER SCHEDULE FOUND IN DETAIL 4 OF SHEET C-310 OF THE PLANS.
3. ALL EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED BY THE CONTRACTOR THROUGHOUT THE COURSE OF THE PROJECT AND UNTIL A VIGOROUS STAND OF PERMANENT GRASS GROUNDCOVER HAS BEEN ESTABLISHED AND ACCEPTED. REFER TO THE PLAN SHEETS FOR DETAILED MAINTENANCE OF EACH PLANNED EROSION CONTROL MEASURES.
4. ONCE IT HAS BEEN DETERMINED BY THE ENGINEER OR NCDEQ THAT CONSTRUCTION IS COMPLETE AND ADEQUATE PERMANENT GRASS GROUNDCOVER HAS BEEN ESTABLISHED, ALL TEMPORARY EROSION CONTROL FEATURES SHALL BE REMOVED, AND THE AREAS AFFECTED BY THE REMOVAL SHALL BE SEEDED AND MULCHED.
5. TOTAL DISTURBED AREA FOR THIS PROJECT: 14 Acres.

NOTIFICATION OF LAND RESOURCES SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1ST, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH THE NPDES GROUNDCOVER TIMETABLE. THE SELF-INSPECTION AND SELF-MONITORING COMBINED FORM IS AVAILABLE AS A PDF FROM: HTTPS://DEQ.NC.GOV/ABOUT/DIVISIONS/ENERGY-MINERAL-LAND-RESOURCES/EROSION-SEDIMENT-CONTROL/FORMS. IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT THE WILMINGTON REGIONAL OFFICE AT 910-796-7215.

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ELLIS AIRPORT
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REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: **DRAINAGE, EROSION & SEDIMENT CONTROL DETAILS 2**

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER: C-310
WKD PROJ. NO.: 20240074.00.WK

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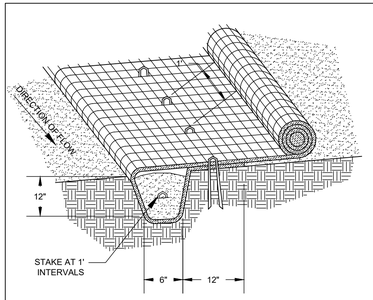


FIGURE 1
TOE SLOPE ANCHOR TRENCH

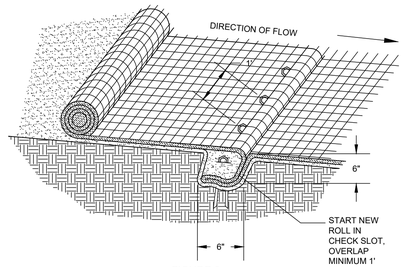


FIGURE 2
INTERMITTENT CHECK SLOT/ BEGINNING OF NEW ROLL

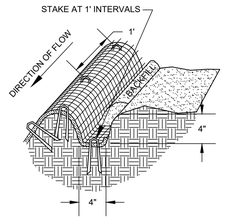


FIGURE 3
TOP OF EMBANKMENT/ BANK TERMINATION

EROSION CONTROL MATTING MUST MEET OR EXCEED THE FOLLOWING REQUIREMENTS:

- 100 % NATURAL MATERIALS WOVEN INTO A HIGH STRENGTH MATRIX.
- MATTING MUST BE NET FREE AND BIODEGRADABLE OR CONTAIN A RAPID DEGRADING NETTING.
- SHEAR STRESS – 2.4 LBS/SQFT
- FLOW VELOCITY- OBSERVED 6 FT/SEC

MAINTENANCE:

1. INSPECT ROLLED EROSION CONTROL PRODUCTS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAIN FALL EVENT REPAIR IMMEDIATELY.
2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE RECP.
3. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
5. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

INSTALLATION NOTES:

SITE PREPARATION

GRADE AND COMPACT AREA.

REMOVE ALL ROCKS, CLODS, VEGETATION, AND OBSTRUCTIONS SO THAT MATTING WILL HAVE DIRECT CONTACT WITH THE SOIL.

PREPARE SEEDBED BY LOOSENING 3 TO 4 INCHES OF TOPSOIL ABOVE FINAL GRADE.

TEST SOILS FOR ANY NUTRIENT DEFICIENCIES AND SUBMIT SOIL TEST RESULTS TO THE ENGINEER. APPLY ANY TREATMENT SUCH AS LIME OR FERTILIZERS TO THE SOIL IF NEEDED.

DO NOT MULCH AREAS WHERE MAT IS TO BE INSTALLED.

SEEDING

SEE DETAIL 4/C44 FOR SEEDING REQUIREMENTS.

APPLY SEED TO SOIL BEFORE PLACING MATTING.

INSTALLATION - CHANNEL BANK

OVERLAP ADJACENT MATS 3" AND ANCHOR EVERY 12" ACROSS THE OVERLAP. THE HIGHER ELEVATION MAT SHOULD BE PLACED OVER THE LOWER ELEVATION MAT.

EDGES SHOULD BE SHINGLED AWAY FROM THE FLOW OF WATER.

LAY MAT LOOSE TO ALLOW CONTACT WITH SOIL. DO NOT STRETCH TIGHT.

ANCHOR MAT USING BIODEGRADABLE STAKES OR PINS.

EXCAVATE INITIAL ANCHOR TRENCH 12"X6" ACROSS TOE OF BANK AT THE LOWER END OF EACH AREA TO RECEIVE EROSION CONTROL MATTING. ANCHOR TRENCH TO BE A MINIMUM OF 1' OFF OF TOE OF BANK. SEE FIGURE 1 FOR TOE SLOPE ANCHOR TRENCH.

PLACE 6" x 6" CHECK SLOTS AT 30' INTERVALS ALONG THE BANK. SEE FIGURE 2.

CUT 4" x 4" TRENCH ALONG TOP OF BANK FOR MAT TERMINATION AS SHOWN IN FIGURE 3. EXTEND MAT 3 FEET PAST TOP OF BANK.

BEGINNING AT THE DOWNSTREAM END OF THE AREA TO BE LINED, PLACE THE END OF THE ROLL IN TOE SLOPE ANCHOR TRENCH AND SECURE WITH BIODEGRADABLE STAKES OR PINS. SEE FIGURE 1.

PLACE ADJACENT ROLLS IN THE ANCHOR TRENCH WITH A MINIMUM OF 3" OVERLAP. SECURE WITH BIODEGRADABLE STAKES OR PINES, BACKFILL ANCHOR TRENCH, AND COMPACT SOIL.

UNROLL MAT OVER COMPACTED ANCHOR TRENCH, STOP AT NEXT CHECK SLOT OR TERMINAL ANCHOR.

UNROLL ADJACENT ROLLS IN SAME MANNER, WITH A MINIMUM OF 3" OF OVERLAP.

STAPLE AT 12" INTERVALS ALONG OVERLAP.

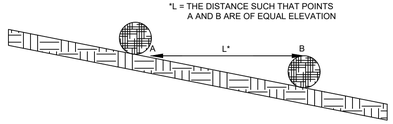
FOLD AND SECURE MAT ROLLS TIGHTLY INTO CHECK SLOTS. LAY MAT IN CHECK SLOT, FOLD BACK AGAINST ITSELF, ANCHOR THROUGH BOTH LAYERS, BACKFILL AND COMPACT SOIL, CONTINUE ROLLING MAT UPSTREAM. SEE FIGURE 2.

BEGIN NEW ROLLS IN CHECK SLOT, AND OVERLAP ENDS MINIMUM OF 1'.

STREAM BANK MATTING TO BE INSTALLED FROM TOE OF BANK TO TOP OF BANK. SEE FIGURE 3 FOR TERMINATION AT TOP OF BANK AND FIGURE 1 FOR INITIAL ANCHOR TRENCH AT TOE OF BANK.

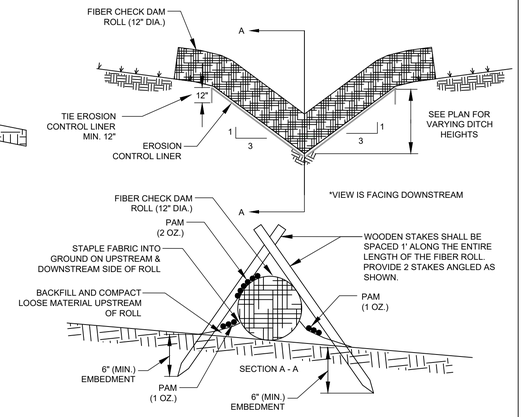
SEE FIGURE 3 FOR TERMINATION AT UPSTREAM END.

1 / C-311 EROSION CONTROL MATTING
NTS



MAINTENANCE:

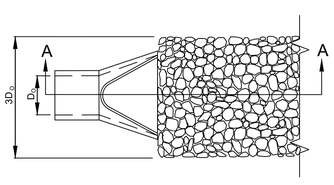
INSPECT CHECK DAMS AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT. ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A PROTECTIVE RIP-RAP LINER IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE FIBER CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. FIBER CHECK DAM SHALL BE CLEANED OUT WHEN 50% OF STORAGE CAPACITY HAS BEEN FILLED IN WITH SEDIMENT. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.5 INCH.



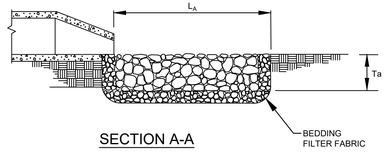
NOTES:

1. TEMPORARY FIBER CHECK DAMS SHALL BE LOCATED AS SHOWN ON THE PLANS.
2. BEFORE INSTALLATION OF FIBER ROLL, SMOOTH AND SHAPE EARTH SURFACE AND REMOVE ALL STONES, ROOTS, OR OTHER DEBRIS GREATER THAN 2 INCHES IN DIAMETER.
3. EXCAVATE A TRENCH 3 INCHES DEEP FOR PLACEMENT OF EACH ROLL.
4. STAKES SHALL BE 24" IN LENGTH SPACED 1 FOOT ON CENTER ON THE UPSTREAM & DOWNSTREAM SIDE OF THE FIBER ROLL.
5. FABRIC OF FIBER ROLL SHALL BE STAPLED INTO THE GROUND APPROXIMATELY 1 INCH UPSTREAM OF THE EDGE OF THE ROLL.
6. PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM THE PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH FIBER CHECK DAM ROLL.
7. INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER FIBER CHECK DAM WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF FIBER CHECK DAM.

2 / C-311 TEMPORARY FIBER ROLL CHECK DAM
NTS



PLAN VIEW



SECTION A-A

MAINTENANCE:

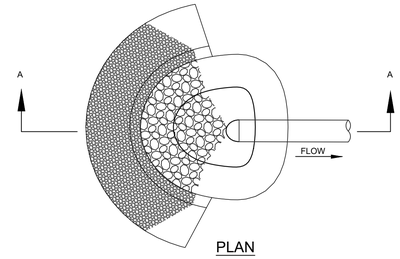
INSPECT RIPRAP OUTLET STRUCTURES WEEKLY AND AFTER SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE, OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

NOTES:

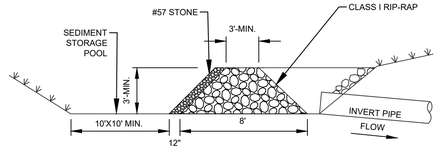
1. L_A IS LENGTH OF RIPRAP APRON.
2. FILTER FABRIC SHALL BE INSTALLED BETWEEN RIP-RAP & IN-SITU SOILS. FABRIC IS INCIDENTAL TO THE RIP RAP PAY ITEM
3. IN A WELL DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION 6" ABOVE MAXIMUM TAILWATER DEPTH OR TO TOP OF BANK, WHICHEVER IS LESS.

STRUCTURE OR LINE	DIAMETER OF PIPE (IN.)	APRON LENGTH (FT.)	APRON WIDTH 3Do (FT.)	APRON THICKNESS (IN.)	RIP-RAP CLASS	REMARKS
SEDIMENT BASIN 1	12	6	3	18	B	LOCATED AT 12" PIPE OUTLET
SEDIMENT BASIN 2	6	3	1.5	18	B	LOCATED AT 6" PIPE OUTLET
PIPE P-5	30	15	7.5	18	B	LOCATED AT 30" PIPE OUTLET
PIPE P-6	15	7.5	3.75	18	B	LOCATED AT 15" PIPE OUTLET
PIPE P-11	18	9	4.5	18	B	LOCATED AT 18" PIPE OUTLET
PIPE P-30	30	15	7.5	18	B	LOCATED AT 30" PIPE OUTLET
PIPE P-31	54	27	13.5	18	B	LOCATED AT 54" PIPE OUTLET

3 / C-311 RIP-RAP APRON AT PIPE OUTLETS
NTS



PLAN



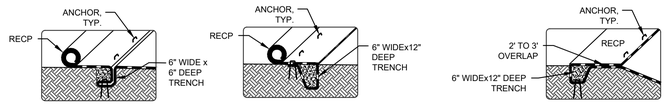
SECTION A-A

MAINTENANCE:

INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING. CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY. AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND PROVIDE PERMANENT GROUND COVER.

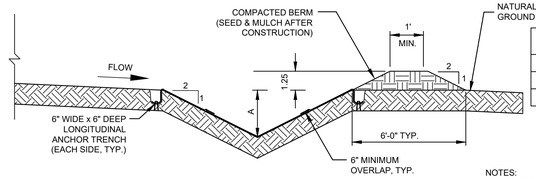
NOTE:
ALL ITEMS AND LABOR NECCESSARY FOR INSTALLATION, MAINTENANCE, REMOVAL, AND RESTORATION OF TEMPORARY ROCK PIPE INLETPROTECTION SHALL BE PAID FOR UNDER ITEM C-102-13.

4 / C-311 ROCK PIPE INLET PROTECTION
NTS



INTERMITTENT CHECK SLOT | INITIAL CHANNEL ANCHOR TRENCH | TERMINAL CHANNEL ANCHOR TRENCH

* CHANNEL SLOPES SHOWN IN THE TABLE ARE AN AVERAGE. SEE PLAN SHEETS FOR SPOT ELEVATIONS AND SLOPE LOCATIONS.



DITCH DIMENSIONS			
	A	CHANNEL SLOPE*	SHEET LOCATION
DITCH D-6	1.0'	0.3%	C-301

1. OVERCUT CHANNEL 2 INCHES TO ALLOW BULKING DURING SEEDBED PREPARATION.
2. ANCHOR DOWNSTREAM END OF ROLLED EROSION CONTROL PRODUCT (RECP) IN INITIAL ANCHOR TRENCH, AS SHOWN, AT 1-FOOT INTERVALS.
3. UNROLL RECP UPSTREAM. AT 25-FOOT INTERVALS ALONG THE CHANNEL, ANCHOR THE RECP ACROSS THE CHANNEL EITHER IN INTERMITTENT CHECK SLOTS, AS SHOWN, OR INSTALLING 2 CLOSELY SPACED ROWS OF ANCHORS.
4. ROLL ENDS MAY BE SPLICED BY OVERLAPPING 1 FOOT (IN THE DIRECTION OF WATER FLOW), WITH THE UPSTREAM/UPSLOPE RECP PLACED ON TOP OF THE DOWNSTREAM/DOWNSLOPE RECP. ANCHOR SPLICE EVERY 1 FOOT ACROSS CHANNEL WIDTH.
5. ANCHOR UPSTREAM END OF RECP IN TERMINAL ANCHOR TRENCH, AS SHOWN, AT 1-FOOT INTERVALS.
6. IF CHANNEL IS WIDER THAN RECP WIDTH, OVERLAP ADJACENT ROLLS A MINIMUM 6 INCHES, AS SHOWN, AND ANCHOR EVERY 3 FEET.
7. ANCHOR OUTER EDGE OF RECP IN LONGITUDINAL ANCHOR TRENCH ON EACH SIDE OF CHANNEL, AS SHOWN, AT 1-FOOT INTERVALS.
8. BACKFILL AND COMPACT ALL ANCHOR TRENCHES AFTER RECP IS INSTALLED IN TRENCH.
9. ANCHORS SHALL BE MINIMUM 11-GAUGE, 6-INCH LONG, 1-INCH WIDE. ANCHOR RECP AT 3 TO 5-FOOT INTERVALS OR AS RECOMMENDED BY MANUFACTURER.

NOTES:
1. ALL DITCHES LISTED WILL BE LINED PER DETAIL 1 ON THIS SHEET.
2. EROSION CONTROL MATTING ASSOCIATED WITH DIVERSION DITCHES SHALL BE INCIDENTAL TO THE DIVERSION DITCH PAY ITEM.
3. TEMPORARY DIVERSION DITCHES WILL ONLY BE PAID PER LINEAR FOOT AT INITIAL INSTALLATION PER PLANS.

5 / C-311 TEMPORARY LINED DIVERSION DITCH
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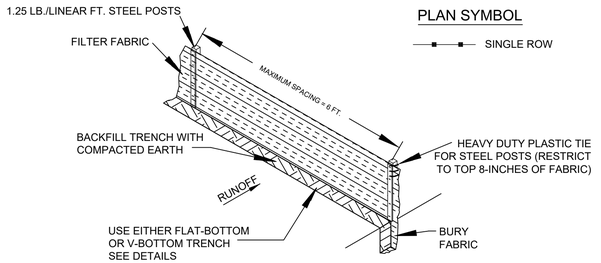
SILT FENCE INSTALLATION



PLAN SYMBOL

SINGLE ROW

SILT FENCE - POST REQUIREMENTS

1. SILT FENCE POSTS MUST BE 48-INCH LONG STEEL POSTS THAT MEET, AT A MINIMUM, THE FOLLOWING PHYSICAL CHARACTERISTICS.
   - COMPOSED OF A HIGH STRENGTH STEEL WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
   - INCLUDE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND A NOMINAL "T" LENGTH OF 1.48-INCHES.
   - WEIGH 1.25 POUNDS PER FOOT (± 8%)
2. POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF FILTER FABRIC.
3. STEEL POSTS MAY NEED TO HAVE A METAL SOIL STABILIZATION PLATE WELDED NEAR THE BOTTOM WHEN INSTALLED ALONG STEEP SLOPES OR INSTALLED IN LOOSE SOILS. THE PLATE SHOULD HAVE A MINIMUM CROSS SECTION OF 17-SQUARE INCHES AND BE COMPOSED OF 15 GAUGE STEEL, AT A MINIMUM. THE METAL SOIL STABILIZATION PLATE SHOULD BE COMPLETELY BURIED.
4. INSTALL POSTS TO A MINIMUM OF 24-INCHES. A MINIMUM HEIGHT OF 1- TO 2- INCHES ABOVE THE FABRIC SHALL BE MAINTAINED, AND A MAXIMUM HEIGHT OF 3 FEET SHALL BE MAINTAINED ABOVE THE GROUND.
5. POST SPACING SHALL BE AT A MAXIMUM OF 6-FEET ON CENTER.

SILT FENCE - FABRIC REQUIREMENTS

1. SILT FENCE MUST BE COMPOSED OF WOVEN GEOTEXTILE FILTER FABRIC THAT CONSISTS OF THE FOLLOWING REQUIREMENTS:
   - COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES THAT ARE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER;
   - FREE OF ANY TREATMENT OR COATING WHICH MIGHT ADVERSELY ALTER ITS PHYSICAL PROPERTIES AFTER INSTALLATION;
   - FREE OF ANY DEFECTS OR FLAWS THAT SIGNIFICANTLY AFFECT ITS PHYSICAL AND/OR FILTERING PROPERTIES; AND,
   - HAVE A MINIMUM WIDTH OF 36-INCHES.
2. USE ONLY FABRIC APPEARING ON SC DOT'S QUALIFIED PRODUCTS LISTING (QPL), APPROVAL SHEET #34, MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE SC DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
3. 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN EXCAVATED TRENCH AND TOED IN WHEN THE TRENCH IS BACKFILLED.
4. FILTER FABRIC SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS.
5. FILTER FABRIC SHALL BE INSTALLED AT A MINIMUM OF 24-INCHES ABOVE THE GROUND.

1 / C-312 — TEMPORARY SINGLE-ROW SILT FENCE

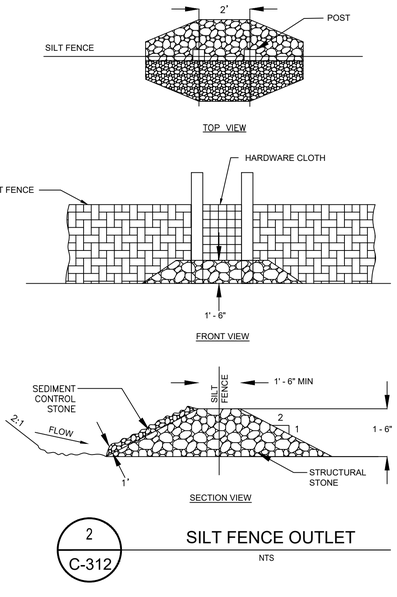
NTS

SILT FENCE - INSPECTION & MAINTENANCE

1. THE KEY TO FUNCTIONAL SILT FENCE IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF SILT FENCE SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS ALONG THE SILT FENCE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SILT FENCE.
5. REMOVED SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
6. CHECK FOR AREAS WHERE STORMWATER RUNOFF HAS ERODED A CHANNEL BENEATH THE SILT FENCE, OR WHERE THE FENCE HAS SAGGED OR COLLAPSED DUE TO RUNOFF OVERTOPPING THE SILT FENCE. INSTALL CHECKS/TIE-BACKS AND/OR REINSTALL SILT FENCE, AS NECESSARY.
7. CHECK FOR TEARS WITHIN THE SILT FENCE, AREAS WHERE SILT FENCE HAS BEGUN TO DECOMPOSE, AND FOR ANY OTHER CIRCUMSTANCE THAT MAY RENDER THE SILT FENCE INEFFECTIVE. REMOVED DAMAGED SILT FENCE AND REINSTALL NEW SILT FENCE IMMEDIATELY.
8. SILT FENCE SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED AND ONCE IT IS REMOVED, THE RESULTING DISTURBED AREA SHALL BE PERMANENTLY STABILIZED.

SILT FENCE - GENERAL NOTES

1. DO NOT PLACE SILT FENCE ACROSS CHANNELS OR IN OTHER AREAS SUBJECT TO CONCENTRATED FLOWS. SILT FENCE SHOULD NOT BE USED AS A VELOCITY CONTROL BMP. CONCENTRATED FLOWS ARE ANY FLOWS GREATER THAN 0.5 CFS.
2. MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE SILT FENCE SHALL BE 100-FEET.
3. MAXIMUM SLOPE STEEPNESS (NORMAL [PERPENDICULAR] TO THE FENCE LINE) SHALL BE 2:1.
4. SILT FENCE JOINTS, WHEN NECESSARY, SHALL BE COMPLETED BY ONE OF THE FOLLOWING OPTIONS:
   - WRAP EACH FABRIC TOGETHER AT A SUPPORT POST WITH BOTH ENDS FASTENED TO THE POST, WITH A 1-FOOT MINIMUM OVERLAP;
   - OVERLAP SILT FENCE BY INSTALLING 3-FEET PASSED THE SUPPORT POST TO WHICH THE NEW SILT FENCE ROLL IS ATTACHED. ATTACH OLD ROLL TO NEW ROLL WITH HEAVY-DUTY PLASTIC TIES; OR,
   - OVERLAP ENTIRE WIDTH OF EACH SILT FENCE ROLL FROM ONE SUPPORT POST TO THE NEXT SUPPORT POST.
5. ATTACH FILTER FABRIC TO THE STEEL POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED WITHIN THE TOP 8-INCHES OF THE FABRIC.
6. INSTALL THE SILT FENCE PERPENDICULAR TO THE DIRECTION OF THE STORMWATER FLOW AND PLACE THE SILT FENCE THE PROPER DISTANCE FROM THE TOE OF STEEP SLOPES TO PROVIDE SEDIMENT STORAGE AND ACCESS FOR MAINTENANCE AND CLEANOUT.
7. INSTALL SILT FENCE CHECKS (TIE-BACKS) EVERY 50-100 FEET, DEPENDENT ON SLOPE, ALONG SILT FENCE THAT IS INSTALLED WITH SLOPE AND WHERE CONCENTRATED FLOWS ARE EXPECTED OR ARE DOCUMENTED ALONG THE PROPOSED/INSTALLED SILT FENCE.



2 / C-312 — SILT FENCE OUTLET

NTS

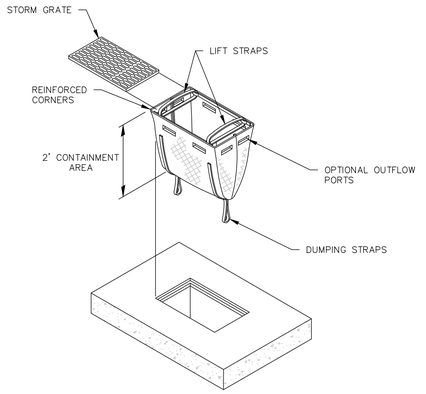
NOTE:
STRUCTURAL STONE SHALL BE CLASS B RIP RAP STONE FOR EROSION CONTROL PURPOSES.

SEDIMENT CONTROL STONE IN STONE OUTLETS SHALL BE NO. 5 OR NO. 57 STONE.

LOCATIONS OF STONE OUTLETS HAVE BEEN INDICATED AT MAJOR LOW LYING AREAS. CONTRACTOR RESPONSIBLE FOR LOCATING AND INSTALLING OUTLETS AT THESE AREAS AS WELL AS LOCAL LOW LYING SPOTS.

MAINTENANCE:
INSPECT THE SILT FENCE OUTFALL AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR ANY DAMAGE IMMEDIATELY. ADD STONES AS NEEDED TO MAINTAIN THE DESIGN HEIGHT AND CROSS-SECTION OF THE OVERFLOW DAM.

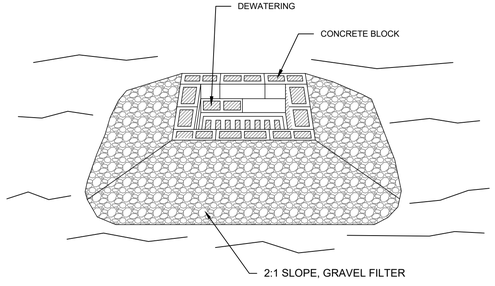
GRATE INLET FILTER SCHEMATIC PLAN



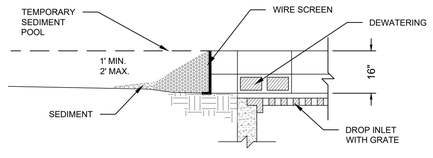
NOTE:
1. INSTALL MANUFACTURED INLET PROTECTION PRODUCT PER PLANS AND MANUFACTURER'S RECOMMENDATIONS.
2. ACCEPTABLE MANUFACTURERS:
   ACF ENVIRONMENTAL - GRATE GATOR
   DANDY PRODUCTS - DANDY CURB SACK
   ADS - FLEXSTORM CATCH-IT: TEMPORARY INLET PROTECTION
3. EQUIVALENT PRODUCTS WILL BE ACCEPTED WITH APPROVAL BY THE ENGINEER. LOOSE FILTER SOCKS WILL NOT BE ALLOWED FOR INLET PROTECTION.

4 / C-312 — GRATE INLET FILTER DETAIL

NTS

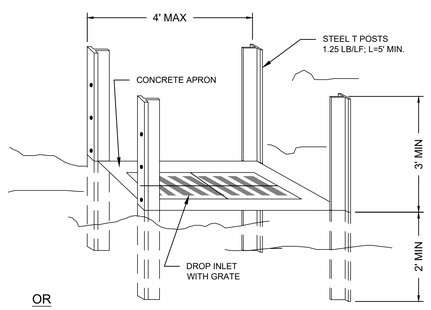


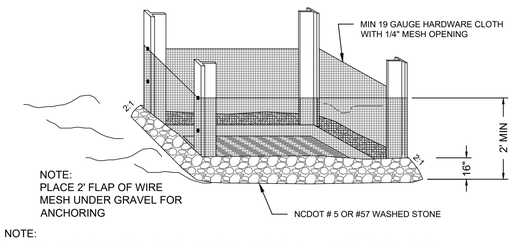
ISOMETRIC VIEW



SECTION VIEW

OR





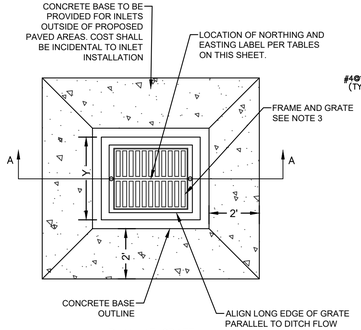
NOTE:
PLACE 2' FLAP OF WIRE MESH UNDER GRAVEL FOR ANCHORING

NOTE:
1. CONTRACTOR HAS OPTION ON WHICH METHOD OF INLET PROTECTION TO USE.
2. INLET PROTECTION SHALL BE INSPECTED AT LEAST ONCE PER WEEK AND AFTER EVERY SIGNIFICANT RAINFALL.
3. IF HARDWARE CLOTH & GRAVEL INLET PROTECTION IS USED, WIRE MESH SHALL BE CLEARED OF ANY DEBRIS OR ACCUMULATED SEDIMENT DURING INSPECTION. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.
4. IF BLOCK & GRAVEL INLET PROTECTION IS USED, REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS. REPLACE STONE AS NEEDED.

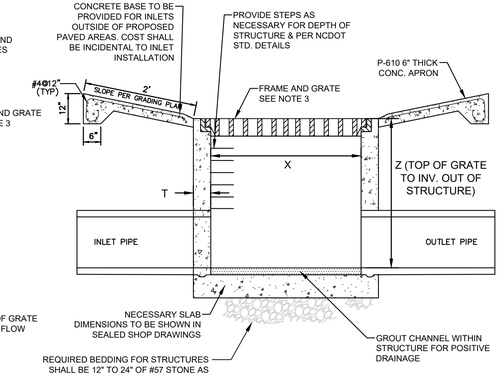
MAINTENANCE:
INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

3 / C-312 — DROP INLET PROTECTION IN GRASSED SHOULDER AREAS

NTS



PLAN AT GRATE



SECTION A–A

NOTES FOR PRE-CAST STRUCTURE:

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE STRUCTURES INDICATED IN THIS DETAIL. THE SHOP DRAWINGS SHALL BE SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA.
2. THE STRUCTURES AND GRATES MUST BE CAPABLE OF SUPPORTING AIRCRAFT LOADING AS DETERMINED IN APPENDIX B OF AC150/5320-6G, ASSUMING A B717-200 FOR LOADING. A STATEMENT ON THE SEALED SUBMITTAL MUST INDICATE THAT APPENDIX B CRITERIA HAS BEEN ADHERED TO.
3. THE INLETS SHALL BE DESIGNED TO ACCOMMODATE A NEENAH INLET FRAME AND GRATE OF TYPE R-3475, OR APPROVED EQUAL PRODUCT IN QUALITY AND DESIGN.
4. BACKFILL AROUND STRUCTURE SHALL BE PER P-152 SPECIFICATION. BACKFILL SHALL BE INCIDENTAL TO THE STRUCTURE PAY ITEM.
5. OPENINGS IN THE WALLS FOR PIPE CONNECTIONS (TYPE AS CALLED OUT ON PLAN SHEETS) SHALL BE CAST-IN OR CUT CLEANLY TO A MAXIMUM DIAMETER OF OUTER DIAMETER OF THE PIPE PLUS 3". VOIDS AT PIPE CONNECTIONS SHALL BE MADE WATERTIGHT WITH THE USE OF A FAST SETTING HYDRAULIC CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AFTER A 24 HOUR CURE TIME. ONLY THE LARGEST INVERT IN AND OUT IS SHOWN IN THE PIPE TABLE IN THIS DETAIL. SHOP DRAWINGS MUST SHOW ALL PIPE CONNECTIONS IF THOSE OPENINGS ARE PROPOSED TO BE PRE-CAST. UNDERDRAIN CONNECTIONS SHALL BE INCIDENTAL TO THE STRUCTURE PAY ITEMS.
6. THE CONCRETE APRON SHALL BE CAST-IN-PLACE PER THIS DETAIL AND CONSIST OF P-610 CONCRETE. APRON SHALL BE INCIDENTAL TO THE STRUCTURE PAY ITEM.
7. CONTRACTOR SHALL CONFIRM PIPE DIAMETERS AND INVERTS OF PIPES BEFORE SHOP DRAWING SUBMISSION.
8. JUNCTION BOXES (JB) SHALL INCLUDE AN AIRCRAFT RATED ACCESS OPENING AND RISER
9. AIRCRAFT RATED DRAINAGE STRUCTURES SHALL BE PAID FOR UNDER ITEM D-751-1.

AIRCRAFT RATED STRUCTURE TABLE

STRUCTURE NAME	TYPE	RIM ELEV.	SUMP / INV ELEV.
DI–1	DROP INLET	84.60'	81.03
DI–2	DROP INLET	84.54'	80.90
DI–3	DROP INLET	84.43'	80.79
DI–4	DROP INLET	84.67'	80.57
DI–9	DROP INLET	86.67'	83.52
DI–10	DROP INLET	86.96'	83.33
DI–11	DROP INLET	87.13'	83.06
DI–12	DROP INLET	86.85'	82.64
DI–13	DROP INLET	87.00'	83.01
DI–14	DROP INLET	87.22'	82.81

AIRCRAFT RATED STRUCTURE TABLE

STRUCTURE NAME	TYPE	RIM ELEV.	SUMP / INV ELEV.
DI–17	DROP INLET	86.00'	82.31
DI–18	DROP INLET	85.11'	81.82
DI–19	DROP INLET	85.71'	81.48
DI–20	DROP INLET	86.39'	82.32
DI–21	DROP INLET	86.39'	82.14
DI–22	DROP INLET	86.72'	83.19
DI–23	DROP INLET	87.38'	82.84
JB–1	JUNCTION BOX	86.09'	81.99
JB–2	JUNCTION BOX	86.10'	81.81
JB–3	JUNCTION BOX	86.42'	80.29

5 / C-312 — PRE-CAST STORM INLET (AIRCRAFT RATED)

NTS

BID DOCUMENTS - NOT FOR CONSTRUCTION

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OAJ
ALBERT J. ELLIS AIRPORT
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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	BY	DATE

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
DRAINAGE, EROSION & SEDIMENT CONTROL DETAILS 4

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-312
WKD PROJ. NO.:
20240074.00.WK

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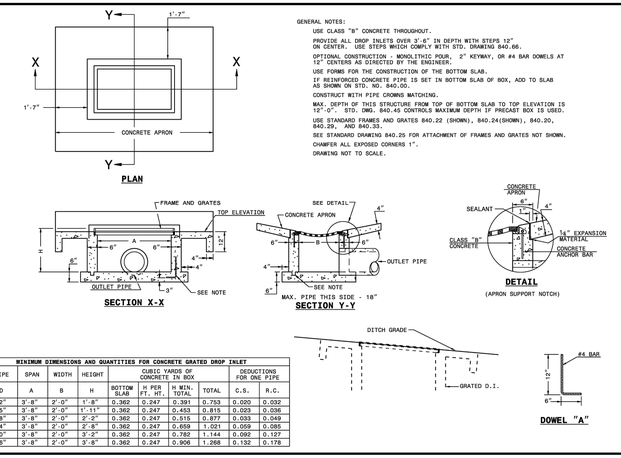


GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12'-0". STD. DWG. 840.45 CONTROLS MAXIMUM DEPTH IF PRECAST BOX IS USED.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET

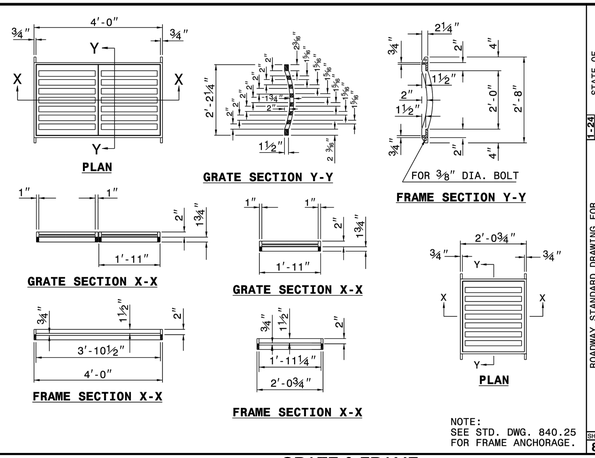
PIPE	SPAN	WIDTH	HEIGHT	CUBIC YARDS OF CONCRETE IN BOX			DEDUCTIONS FOR ONE PIPE	
D	A	B	H	BOTTOM SLAB	H PER FT. HT.	H MIN. TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	1'-8"	0.362	0.247	0.391	0.020	0.032
15"	3'-8"	2'-0"	1'-11"	0.362	0.247	0.453	0.023	0.036
18"	3'-8"	2'-0"	2'-2"	0.362	0.247	0.515	0.033	0.049
24"	3'-8"	2'-0"	2'-8"	0.362	0.247	0.659	0.059	0.085
30"	3'-8"	2'-0"	3'-2"	0.362	0.247	0.782	0.092	0.127
36"	3'-8"	2'-0"	3'-8"	0.362	0.247	0.906	0.132	0.178

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'D'
12" THRU 36" PIPE

SHEET 1 OF 1
840.19



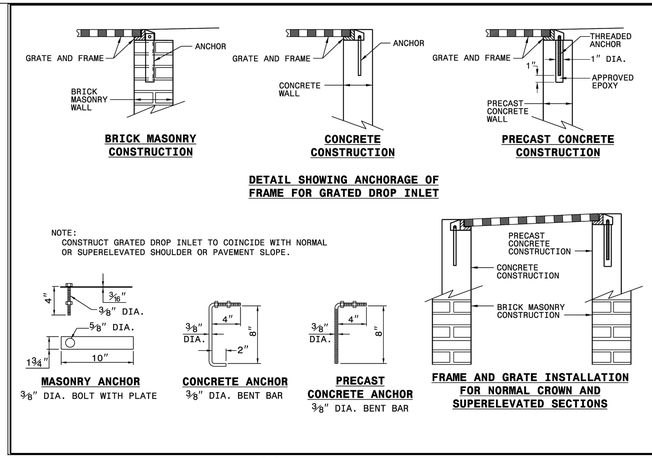
NOTE:
SEE STD. DWG. 840.25 FOR FRAME ANCHORAGE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
FRAMES AND NARROW SLOT SAG GRATES

SHEET 1 OF 1
840.24



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

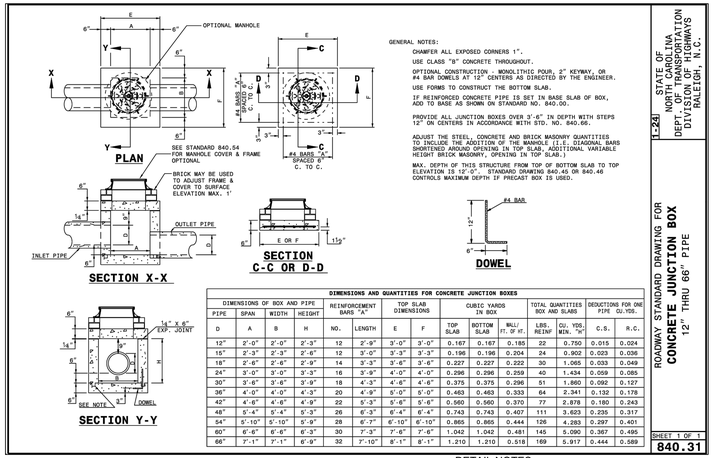
SHEET 1 OF 1
840.25

1 / C-313 — CONCRETE CATCH BASIN
NTS

DETAIL NOTES:
1. DETAIL FOR STRUCTURES DI-5, DI-6, DI-7, DI-8, DI-15, & DI-16 ONLY.
2. DROP INLETS SHALL BE PAID FOR UNDER PAY ITEM D-751-1.

2 / C-313 — GRATE & FRAME DETAILS
NTS

3 / C-313 — NC DOT 840.25
NTS



GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1".

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS TO CONSTRUCT THE BOTTOM SLABS.

IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12'-0". STANDARD DRAWING 840.45 OR 840.46 CONTROLS MAXIMUM DEPTH IF PRECAST BOX IS USED.

DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES

DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU.YDS.	
PIPE	SPAN	WIDTH	HEIGHT	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF.	CU. YDS. MIN. "A"	C.S.	R.C.
D	A	B	H											
12"	2'-0"	2'-0"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.167	0.167	0.185	22	0.750	0.015	0.024
15"	2'-3"	2'-3"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.196	0.196	0.204	24	0.902	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.222	30	1.065	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	16	3'-9"	4'-0"	4'-0"	0.296	0.296	0.259	40	1.434	0.059	0.085
30"	3'-6"	3'-6"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	0.092	0.127
36"	4'-0"	4'-0"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.341	0.132	0.178
42"	4'-6"	4'-6"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	0.180	0.243
48"	5'-4"	5'-4"	5'-3"	26	6'-3"	6'-4"	6'-4"	0.743	0.743	0.407	111	3.623	0.235	0.317
54"	5'-10"	5'-10"	5'-9"	28	6'-7"	6'-10"	6'-10"	0.865	0.865	0.444	126	4.283	0.297	0.401
60"	6'-6"	6'-6"	6'-3"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.481	145	5.090	0.367	0.495
66"	7'-1"	7'-1"	6'-9"	32	7'-10"	8'-1"	8'-1"	1.210	1.210	0.518	169	5.917	0.444	0.588

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

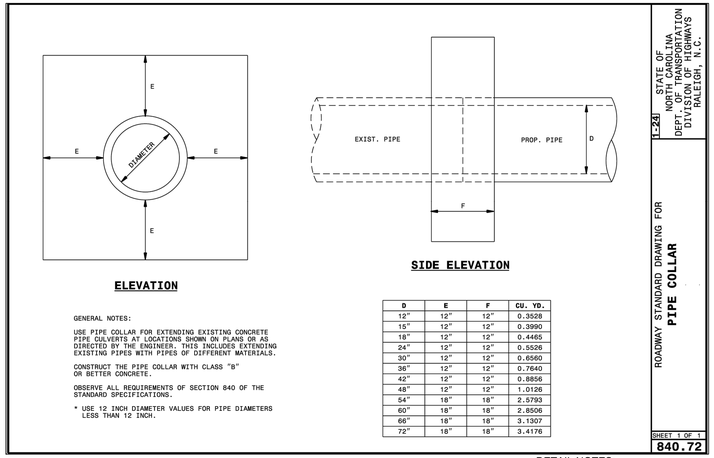
1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
12" THRU 66" PIPE

SHEET 1 OF 1
840.31

4 / C-313 — CONCRETE JUNCTION BOX DETAIL
NTS

DETAIL NOTES:
1. DETAIL FOR STRUCTURES JB-1, JB-2, & JB-3 ONLY.
2. JUNCTION BOXES SHALL BE PAID FOR UNDER PAY ITEM 751-10.
3. 6'X12' JUNCTION BOX SHALL BE PAID FOR UNDER PAY ITEM D-751-9.



GENERAL NOTES:

USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. THIS INCLUDES EXTENDING EXISTING PIPES WITH PIPES OF DIFFERENT MATERIALS.

CONSTRUCT THE PIPE COLLAR WITH CLASS "B" OR BETTER CONCRETE.

OBSERVE ALL REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

* USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.

D	E	F	CU. YD.
12"	12"	12"	0.3528
15"	12"	12"	0.3990
18"	12"	12"	0.4465
24"	12"	12"	0.5526
30"	12"	12"	0.6560
36"	12"	12"	0.7640
42"	12"	12"	0.8856
48"	12"	12"	1.0126
54"	18"	18"	2.5793
60"	18"	18"	2.8506
66"	18"	18"	3.1307
72"	18"	18"	3.4176

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PIPE COLLAR

SHEET 1 OF 1
840.72

5 / C-313 — CONCRETE PIPE COLLAR DETAIL
NTS

DETAIL NOTES:
1. PIPE COLLARS SHALL BE PAID FOR PER EACH UNIT INSTALLED ACCEPTABLY. COLLARS SHALL BE PAID UNDER THE "36 CONCRETE PIPE COLLAR" PAY ITEM.

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6 / C-313 — METHOD OF PIPE INSTALLATION
NTS

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Sheet: 2

7 / C-313 — METHOD OF PIPE INSTALLATION
NTS

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RICHLANDS, NC

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
DRAINAGE, EROSION & SEDIMENT CONTROL DETAILS 5

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-313

WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\2023\20240074\DWG\SHEETS\20231108 SWPPP\20240074.00 WK_C SHT DETAILS

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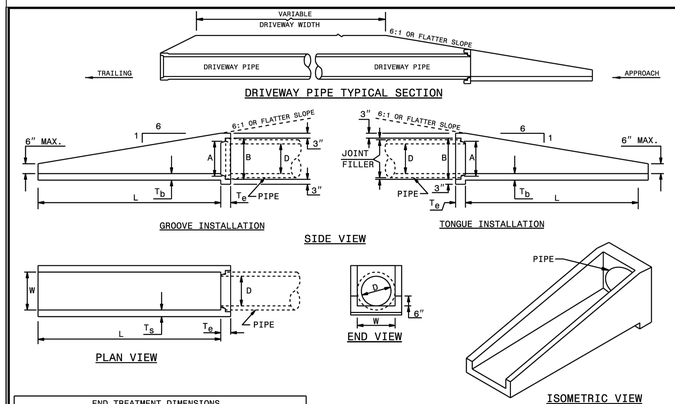


END TREATMENT DIMENSIONS							
D	L	W	T_S	T_b	T_e	A	B
15"	7'-6"	19"	4"	4"	6"	$17\frac{3}{4}$"	$20\frac{7}{8}$"
18"	9'-0"	23"	4"	4"	6"	$21\frac{1}{4}$"	25"
24"	12'-0"	30"	4"	4"	6"	$27\frac{7}{8}$"	32"

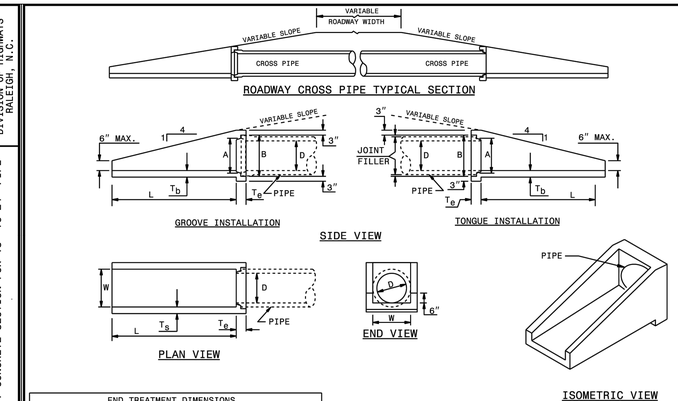
NOTES:
1. CONSTRUCT PIPE END SECTION USING #4 REBAR SPACED 9" EACH WAY AND MEET ALL REQUIREMENTS OF STD. SPEC. 310.
2. CHAMFER ALL EXPOSED CORNERS $\frac{3}{4}$".

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PARALLEL PIPE END SECTION
PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE

SHEET 1 OF 1
310.02



END TREATMENT DIMENSIONS							
D	L	W	T_S	T_b	T_e	A	B
18"	6'-0"	23"	4"	4"	6"	$21\frac{1}{4}$"	25"
24"	8'-2"	30"	4"	4"	6"	$27\frac{7}{8}$"	32"
30"	10'-4"	37"	4"	4"	6"	$33\frac{5}{8}$"	39"

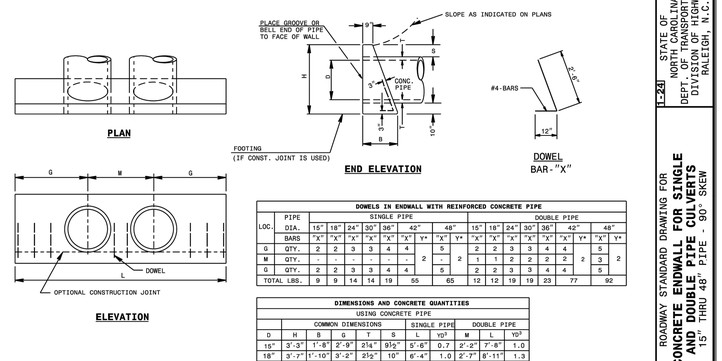
NOTES:
1. CONSTRUCT PIPE END SECTION USING #4 REBAR SPACED 9" EACH WAY AND MEET ALL REQUIREMENTS OF STD. SPEC. 310.
2. CHAMFER ALL EXPOSED CORNERS $\frac{3}{4}$".

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CROSS PIPE END SECTION
PRECAST CONCRETE SECTION FOR 18" TO 30" PIPE

SHEET 1 OF 1
310.03



DOWELS IN ENDWALL WITH REINFORCED CONCRETE PIPE																	
LOC.	PIPE	SINGLE PIPE						DOUBLE PIPE									
	DIA.	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"		
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"X"	"X"	"X"	"X"	"X"	"Y"	"X"	"Y"
G	QTY.	2	2	3	3	4	4		5		2	2	3	3	4	4		5	
M	QTY.	-	-	-	-	-	-	2	-	2	1	1	2	2	2	2	2	3	2
G	QTY.	2	2	3	3	4	4		5		2	2	3	3	4	4		5	
TOTAL LBS.		9	9	14	14	19	55		65		12	12	19	19	23	77		92	

DIMENSIONS AND CONCRETE QUANTITIES										
USING CONCRETE PIPE										
	COMMON DIMENSIONS					SINGLE PIPE		DOUBLE PIPE		
D	H	B	G	T	S	L	YD^3	M	L	YD^3
15"	3'-3"	1'-8"	2'-9"	$2\frac{1}{4}$"	$9\frac{1}{2}$"	5'-6"	0.7	2'-2"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	$2\frac{1}{2}$"	10"	6'-4"	1.0	2'-7"	8'-11"	1.3
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5	3'-5"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	$4\frac{1}{4}$"	$11\frac{1}{2}$"	9'-2"	2.3	4'-3"	13'-5"	3.1
36"	5'-8"	2'-8"	5'-6"	$4\frac{3}{4}$"	$11\frac{1}{2}$"	11'-0"	3.4	5'-0"	16'-0"	4.5
42"	6'-2"	3'-1"	6'-4"	$5\frac{1}{4}$"	$11\frac{1}{2}$"	12'-8"	4.5	5'-10"	18'-6"	6.0
48"	6'-9"	3'-5"	7'-2"	$5\frac{3}{4}$"	$11\frac{1}{2}$"	14'-4"	6.0	6'-8"	21'-0"	8.0

*SEE SHEET 3

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3
838.01

1 / C-314 — FLARED END SECTION TYPE 1
NTS

DETAIL NOTES:
1. DETAIL FOR STRUCTURES ES-3 & ES-4 ONLY.
2. 15" RCP FLARED END SECTION SHALL BE PAID FOR UNDER PAY ITEM D-751-4.

DETAIL NOTES:
1. DETAIL FOR STRUCTURES ES-1, ES-2, ES-5, ES-6 & ES-7 ONLY.
2. 24" RCP FLARED END SECTION SHALL BE PAID FOR UNDER PAY ITEM D-751-6.
3. 30" RCP FLARED END SECTION SHALL BE PAID FOR UNDER PAY ITEM D-751-7.

2 / C-314 — FLARED END SECTION TYPE 2
NTS

DETAIL NOTES:
1. DETAIL FOR STRUCTURES HW-1 ONLY.
2. 48" CONCRETE ENDWALL SHALL BE PAID FOR UNDER PAY ITEM D-751-2.

3 / C-314 — ENDWALL SECTION - PART 1
NTS

GENERAL NOTES:

CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

PLACE 2 #6 "Y" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.

CONSTRUCT BOTTOM SLAB WITH FORMS.

DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.

USE CLASS "B" CONCRETE.

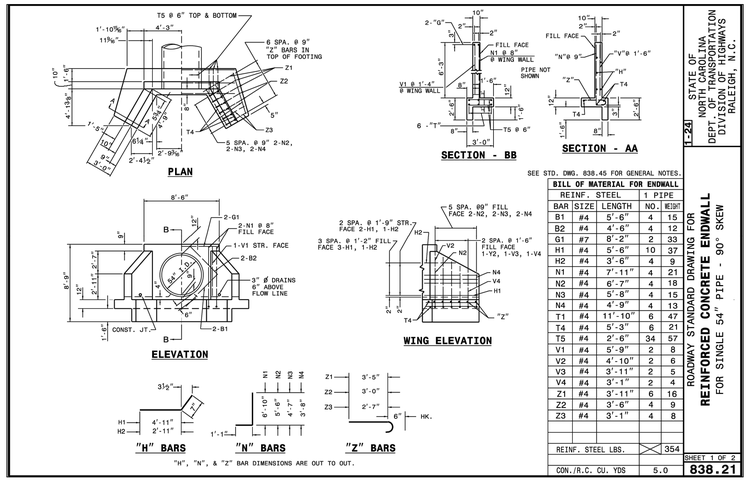
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE - 90° SKEW

SHEET 3 OF 3
838.01

4 / C-314 — ENDWALL SECTION - PART 2
NTS



BILL OF MATERIAL FOR ENDWALL				
	REINF. STEEL		1 PIPE	
BAR	SIZE	LENGTH	NO.	WEIGHT
B1	#4	5'-6"	4	15
B2	#4	4'-6"	4	12
G1	#7	8'-2"	2	33
H1	#4	5'-6"	10	37
H2	#4	3'-6"	4	9
N1	#4	7'-11"	4	21
N2	#4	6'-7"	4	18
N3	#4	5'-8"	4	15
N4	#4	4'-9"	4	13
T1	#4	11'-10"	6	47
T4	#4	5'-3"	6	21
T5	#4	2'-6"	34	57
V1	#4	5'-9"	2	8
V2	#4	4'-10"	2	6
V3	#4	3'-11"	2	5
V4	#4	3'-1"	2	4
Z1	#4	3'-11"	6	16
Z2	#4	3'-6"	4	9
Z3	#4	3'-1"	4	8
REINF. STEEL LBS.				354
CON./R.C. CU. YDS				5.0

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
REINFORCED CONCRETE ENDWALL
FOR SINGLE 54" PIPE - 90° SKEW

SHEET 1 OF 2
838.21

5 / C-314 — REINFORCED ENDWALL SECTION
NTS

DETAIL NOTES:
1. DETAIL FOR STRUCTURES HW-2 ONLY.
2. 54" CONCRETE ENDWALL SHALL BE PAID FOR UNDER PAY ITEM D-751-3.

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OAJ
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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
DRAINAGE, EROSION & SEDIMENT CONTROL DETAILS 6

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-314
WKD PROJ. NO.:
20240074.00.WK

FILEPATH:Z:\PROJECTS\ONSLOW COUNTY\2001\1900\WORK ONLY\CAD_SD GA EXPANSION\PREL DESIGN\CADD\PLAN SET\SHEETS\2001900-W.WK C-314.DWG

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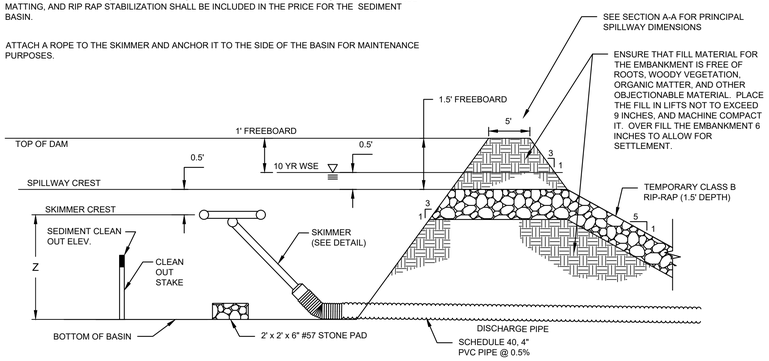
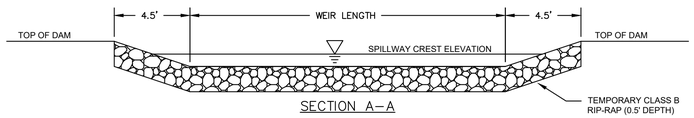
NOTES:

1. THE FLOATING SKIMMER, DISCHARGE PIPE, EMERGENCY SPILLWAY BAFFLES, EROSION CONTROL MATTING, AND RIP RAP STABILIZATION SHALL BE INCLUDED IN THE PRICE FOR THE SEDIMENT BASIN.
2. ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN FOR MAINTENANCE PURPOSES.





SECTION A–A

NOTES:

1. THE TEMPORARY SEDIMENT BASINS SHALL REMAIN IN PLACE UNTIL ALL UPSTREAM DENUDED AREAS HAVE ESTABLISHED PERMANENT VEGETATION AS DEFINED BY THE ENGINEER.
2. FINAL GRADES ARE SHOWN ON GRADING, DRAINAGE, AND EROSION CONTROL PLAN SHEETS.
3. PAYMENT FOR THE TEMPORARY SKIMMER SEDIMENT BASIN (INSTALLATION AND MAINTENANCE), WILL BE PER PAY TEMPORARY SEDIMENT BASIN PAY ITEMS.
4. ALL EXCAVATION AND EMBANKMENT REQUIRED FOR THE INSTALLATION OF THE TEMPORARY SKIMMER SEDIMENT BASIN AND TEMPORARY SEDIMENT BASIN SHALL BE INCLUDED IN THE PRICE FOR THE ASSOCIATED BASIN.
5. REMOVAL AND RESTORATION OF SEDIMENT BASINS SHALL BE PAID FOR UNDER THE SEDIMENT BASIN REMOVAL PAY ITEM C-102-12.

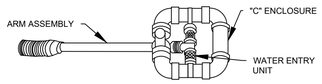
MAINTENANCE:

1. INSPECT SKIMMER SEDIMENT BASINS AT LEASE WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.
2. REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.
3. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE THE DEBRIS.
4. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.
5. CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.
6. FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

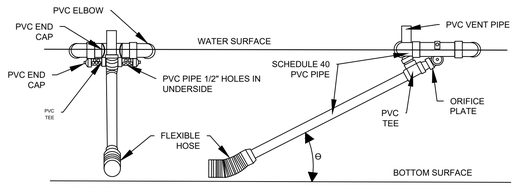
BASIN	DISTURBED AREA (AC)	Q 10 YR STORM (CFS)	REQUIRED STORAGE CAPACITY (FT 3)	ACTUAL STORAGE CAPACITY (FT 3)	TOP WIDTH (FT)	TOP LENGTH (FT)	BOTTOM WIDTH (FT)	BOTTOM LENGTH (FT)	WEIR LENGTH (FT)	REQUIRED SURFACE AREA (SF)	PROVIDED SURFACE AREA (SF)	SKIMMER SIZE (IN)	ORIFICE SIZE * (IN)	TOP OF DAM (ELEV.)	BOT. OF BASIN (ELEV.)	SPILLWAY CREST (ELEV.)	SKIMMER CREST (ELEV.)	SEDIMENT CLEANOUT (ELEV.)	DISCHARGE PIPE (INCHES)	DRAINAGE AREA (AC)	Z (FT)
1	5.60	22.55	10,080	17,829	60	125	42	107	10	7,329	7,500	3	1.75	85.00	81.00	84.50	84.00	82.70	12	5.60	3
2	2.12	7.01	3,816	4,413	28	85	10	67	10	2,278	2,380	3	1.0	86.00	81.50	85.00	84.50	83.20	6	3.15	3

(*) ORIFICE SIZE APPLIES TO PVC PIPE FROM SKIMMER TO EXITING ORIFICE.

1 / C-315 SKIMMER SEDIMENT BASIN
NTS



PERSPECTIVE VIEW



END VIEW FRONT VIEW

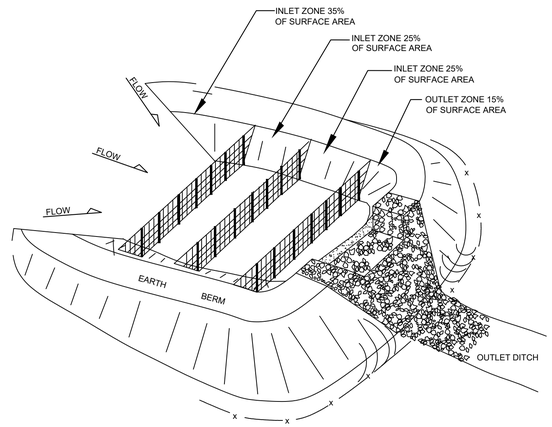
SKIMMER SIZING CHART

BASIN	SKIMMER SIZE	ORIFICE SIZE
1	3.0"	1.75"
2	3.0"	1.0"

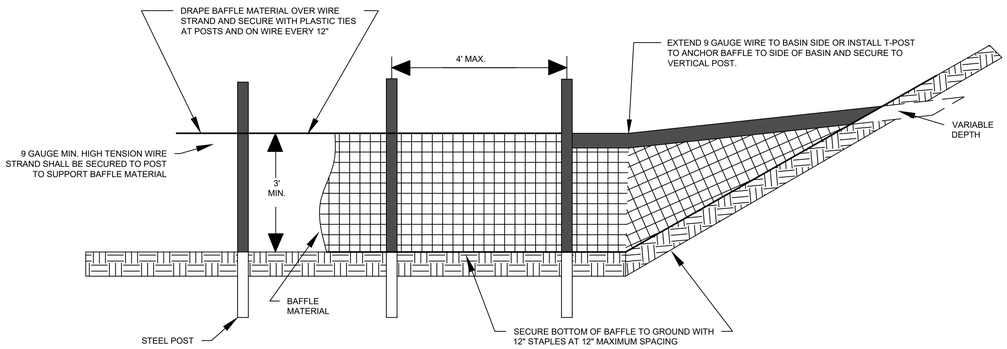
* BASIN SHALL DRAIN IN 72 HOURS.

NOTE: USE FAIRCLOTH SKIMMER OR APPROVED EQUAL. IF THE CONTRACTOR CHOOSES TO USE A MANUFACTURER OTHER THAN FAIRCLOTH SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

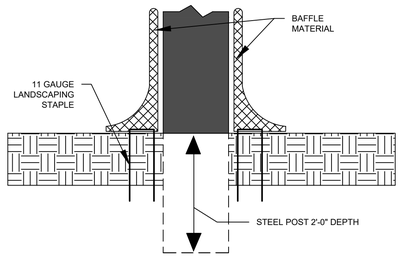
2 / C-315 SKIMMER
NTS



BAFFLE INSTALLATION



FRONT VIEW



BAFFLE MATERIAL SHOULD BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

END VIEW

BASIN	TOP WIDTH (FT)	TOP LENGTH (FT)	L1 (25%) (FT)	L2 (25%) (FT)	L3 (25%) (FT)	L4 (25%) (FT)
1	60	125	31.25	31.25	31.25	31.25
2	28	85	21.25	21.25	21.25	21.25

3 / C-315 POROUS BAFFLES
NTS

MAINTENANCE:
1. INSPECT ALL MEASURES AT LEAST WEEKLY AND AFTER EACH RAINFALL OF 1.0 INCH OR GREATER AND REPAIR IMMEDIATELY.
2. MAINTAIN ACCESS TO BAFFLES. IF THE FABRIC COLLAPSES, TEARS, DECOMPOSES, OR BECOMES INEFFECTIVE, REPLACE IMMEDIATELY.
3. REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL. REPLACE IF BAFFLE FABRIC IS DAMAGED DURING CLEAN-OUT OPERATIONS. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH.

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
SEDIMENT BASIN DETAILS

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-315
WKD PROJ. NO.:
20240074.00.WK

FILE PATH Z:\PROJECTS\OAJ\CIVIL\CONSTRUCTION\20231999\PR_GRADING\ACAD\PLAN SETS\SHEETS\20231999-PR-SHT_DETAILS.DWG, C-315, 2025-02-14 08:49:38, CHU, TO PLT - 3D - GA EXPANSION PREL GRADING

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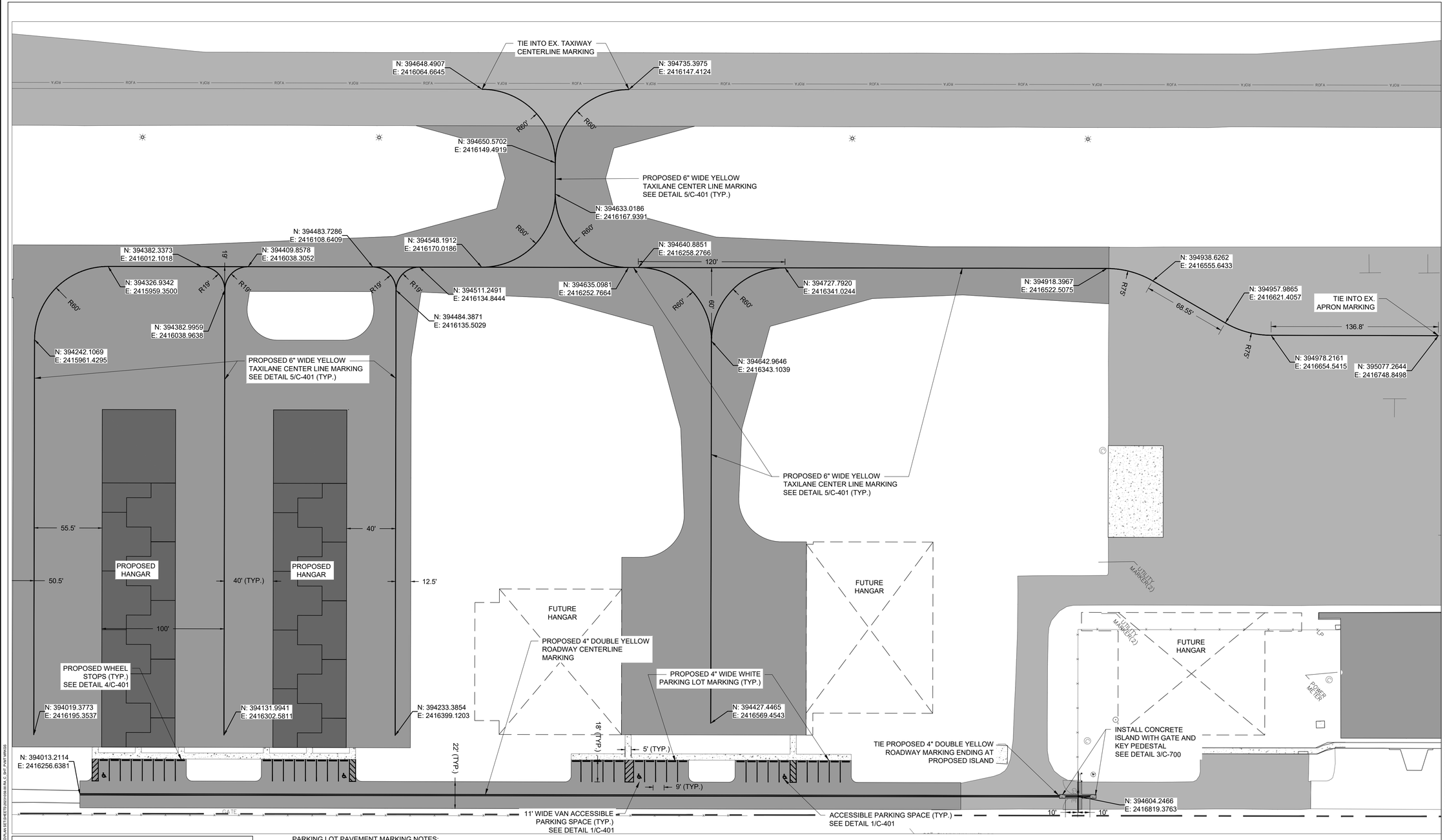

PARKING INFORMATION	
	PROPOSED
TOTAL PARKING COUNT	32
TOTAL ADA SPACES	4
VAN ACCESSIBLE SPACES	1

TAXILANE & APRON PAVEMENT MARKING NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE 6" WIDE YELLOW MARKINGS WITH BLACK BORDERS, UNLESS OTHERWISE NOTED.
2. ALL PAVEMENT MARKING ARE TO RECEIVE TYPE 1, GRADATION A GLASS BEADS PER AC 150/5340-1M. STANDARDS FOR AIRPORT MARKINGS.
3. PROTECT ALL PAVEMENT MARKINGS UNTIL THEY HAVE SUITABLY DRIED. ANY MARKINGS DAMAGED BY CONSTRUCTION TRAFFIC SHALL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

PARKING LOT PAVEMENT MARKING NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING ALL PAVEMENT MARKINGS AT THE SITE IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS, PARKING STALLS, STOP BARS, TRANSVERSE STRIPING, ETC. SHALL BE INSTALLED IN THE SIZES AND AT THE LOCATIONS SHOWN ON THE PROJECT MARKING PLAN AND DETAILS. INSTALLATION OF THE PAVEMENT MARKINGS SHALL NOT RESULT IN MORE OR LESS PARKING STALLS.
3. ALL PAVEMENT MARKINGS SHALL COMPLY WITH THE MOST RECENT VERSION OF THE AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN OR SUPERSEDING LOCAL CODES AND ORDINANCES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IF IT IS DETERMINED THAT THE MARKING PLAN DOES NOT MEET THESE REQUIREMENTS PRIOR TO THE START OF WORK.
4. LINE STRIPING, TEXT AND MARKINGS SHALL BE INSTALLED IN THE COLORS, WIDTHS AND DIMENSIONS PROVIDED ON THE MARKING DRAWING.
5. ALL PARKING LOT AND PERIMETER ROADWAY MARKINGS WILL BE DONE IN ACCORDANCE WITH NCDOT TECHNICAL SPECIFICATIONS AND STANDARDS AND PAID FOR UNDER THE NCDOT TECHNICAL SPECIFICATION SECTION 1205

PARKING LOT MARKING COLOR SCHEDULE:

1. PARKING STALL: WHITE
2. ADA SYMBOLS: BLUE W/ WHITE SYMBOL
3. ADA LOADING: BLUE

TAXILANE MARKING COLOR SCHEDULE:

1. TAXILANE CENTER LINE: YELLOW

ROADWAY MARKING COLOR SCHEDULE:

1. ROADWAY DOUBLE CENTER LINE: YELLOW

40 0 20 40 80
1 inch = 40 ft.

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REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
PAVEMENT MARKING PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-400

WKD PROJ. NO.:
20240074.00.WK

R:\EXHIL2-PROJECTS\ONSLOW COUNTY\2001\99\WORK - OAJ TAXI - SO. GA EXPANSION\REL. DESIGN\CADD\ALAN SET\SHEETS\2001599.WIN_C-SHT_PVMT.MARKS

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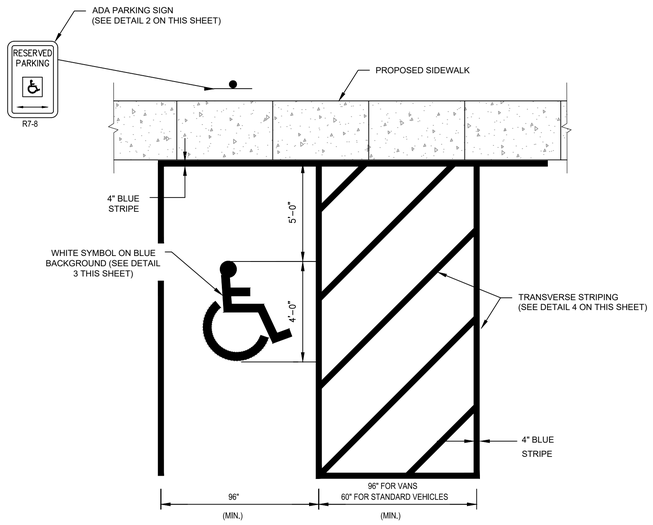
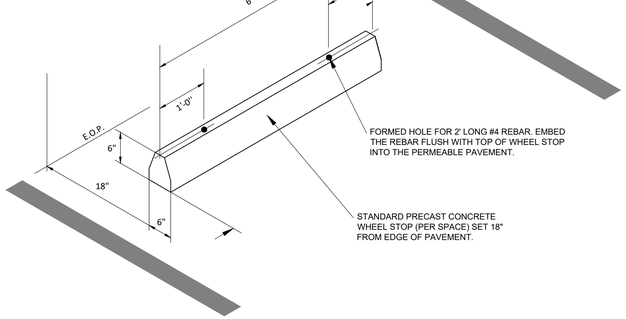


NOTES:

1. PAVEMENT MARKING SYMBOLS FOR ADA PARKING SPACES SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE PLANS. SYMBOLS SHALL BE PAID PER EACH UNDER THE "PAVEMENT SYMBOLS" PAY ITEM.
2. PARKING SPACE LINES SHALL BE PAID PER SQUARE FOOT UNDER THE "PAVEMENT MARKING" PAY ITEM.

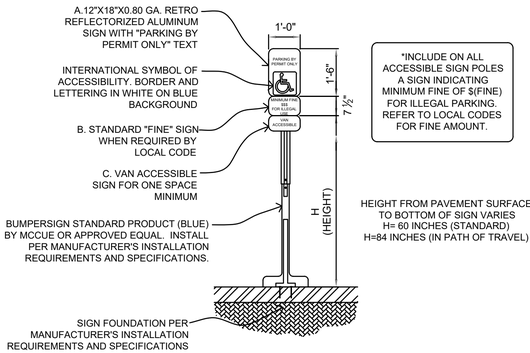
1 / C-401 HANDICAPPED PARKING MARKING
NOT TO SCALE



NOTES:

CONTRACTOR SHALL FURNISH AND INSTALL WHEEL STOPS AS SHOWN ON THE PLANS. WHEEL STOPS SHALL BE PAID PER EACH UNDER THE CONCRETE WHEEL STOP PAY ITEMS.

4 / C-401 WHEEL STOP
NOT TO SCALE



"INCLUDE ON ALL ACCESSIBLE SIGN POLES A SIGN INDICATING MINIMUM FINE OF $(FINE) FOR ILLEGAL PARKING. REFER TO LOCAL CODES FOR FINE AMOUNT.

ACCESSIBILITY PARKING SIGN NOTES

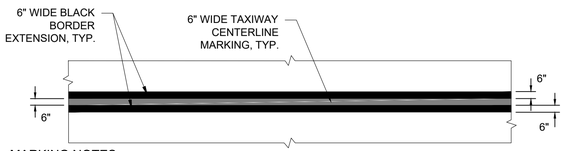
A. ACCESSIBLE PARKING SPACES SHALL BE IN ACCORDANCE WITH THE REGULATIONS SET FORTH BY THE AMERICANS WITH DISABILITIES ACT (ADA), THE NC DEPARTMENT OF TRANSPORTATION, THE NC DIVISION OF MOTOR VEHICLES ADA REQUIREMENTS, THE NC STATE BUILDING CODE, AND ICC A 117.1. ALL ACCESSIBLE SPACES SHALL BE IDENTIFIED BY PAVEMENT MARKINGS AND BY APPROPRIATE SIGNAGE APPROVED BY THE NC DEPARTMENT OF TRANSPORTATION. ACCESSIBLE PARKING SHALL BE REQUIRED ON ALL MULTI-FAMILY AND NONRESIDENTIAL SITES.

B. PROVIDE TWO (2) (SIGNS "A" & "B") AT EACH ACCESSIBLE SPACE, SEE SHEET C-400 FOR LOCATIONS.

C. INCLUDE ONE (1) (SIGN "C") VAN ACCESSIBLE SIGN WHERE NEEDED. SEE SHEET C-400 FOR LOCATIONS.

D. HANDICAP SIGNAGE PAID FOR UNDER THE "PARKING LOT SIGNAGE" PAY ITEM.

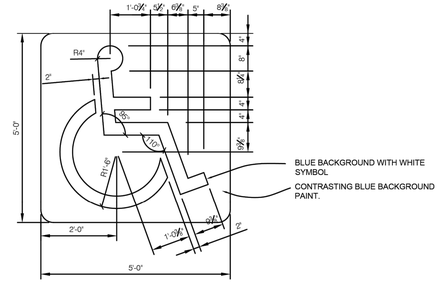
2 / C-401 ADA PARKING SIGN DETAIL
NOT TO SCALE



MARKING NOTES

1. PROPOSED TAXIWAY CENTERLINE PAVEMENT MARKINGS SHALL CONFORM TO FAA SPECIFICATION P-620.
2. TAXIWAY CENTERLINE AND HANGAR LEAD-IN LINE MARKINGS SHALL BE 6" WIDE REFLECTIVE AVIATION YELLOW WITH GLASS BEADS.
3. TAXIWAY CENTERLINE PAVEMENT MARKINGS ON NEW AND EXISTING TAXILANE PAVEMENT SHALL HAVE A BLACK BORDER THAT EXTENDS 6" EITHER SIDE BEYOND YELLOW MARKING. GLASS BEADS SHALL NOT BE USED IN BLACK PAINT. BLACK BORDERS FOR TAXIWAY CENTERLINE MARKINGS ARE INCIDENTAL TO THE "PAVEMENT MARKING, PERMANENT, YELLOW, REFLECTIVE" PAY ITEMS.
4. PAVEMENT MARKINGS SHALL BE APPLIED A MINIMUM OF 30 DAYS AFTER PAVEMENT HAS BEEN INSTALLED.

5 / C-401 TAXIWAY CENTERLINE DETAIL
NOT TO SCALE



INTERNATIONAL SYMBOL OF ACCESSIBILITY NOTES

1. A. SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL.
2. B. BOTTOM OF SYMBOL TO BE LOCATED 2'-6" FROM ACCESS DRIVE, INTO PARKING SPACE.
3. C. SYMBOL IS REQUIRED TO HAVE A WHITE SYMBOL WITH BLUE BACKGROUND.
4. ADA PARKING SPACE SIGNAGE PAID FOR UNDER THE "PAVEMENT SYMBOLS" PAY ITEM.

3 / C-401 ADA STRIPING
NOT TO SCALE

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
PAVEMENT MARKING DETAILS

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-401
WKD PROJ. NO.:
20240074.00.WK

FILE PATH:Z:\PROJECTS\ONSLOW COUNTY\2023\15SNWPA - OAJ TCH'S - SO. GA EXPANSION, PREL. DESIGN\CAD\PLAN SETS\SHEETS\2023150SS-00 PA_C_001.PMT MARKS

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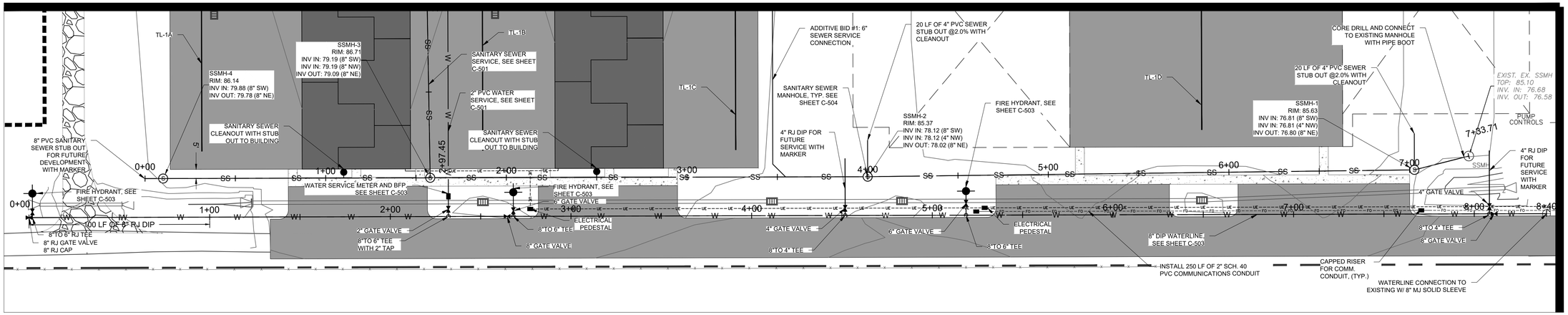
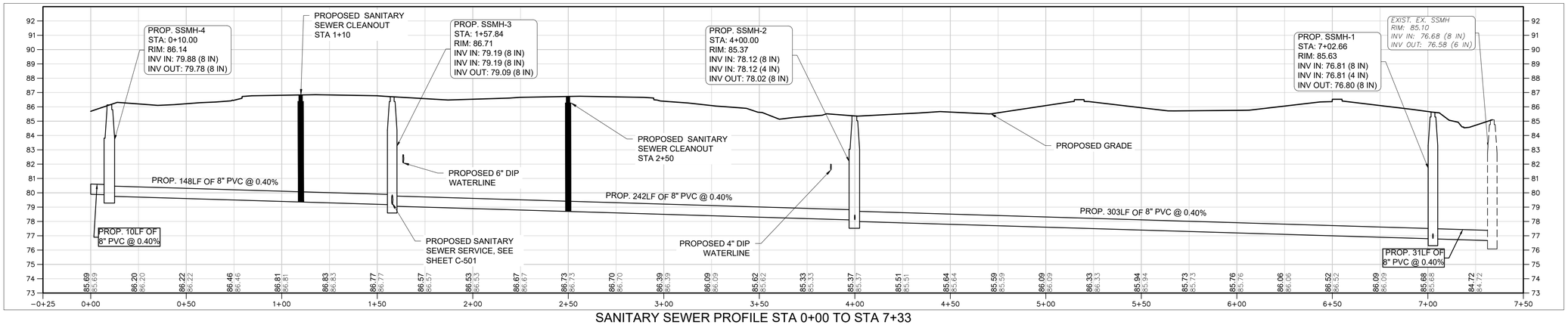
MATCHLINE 1, SEE SHEET C-501



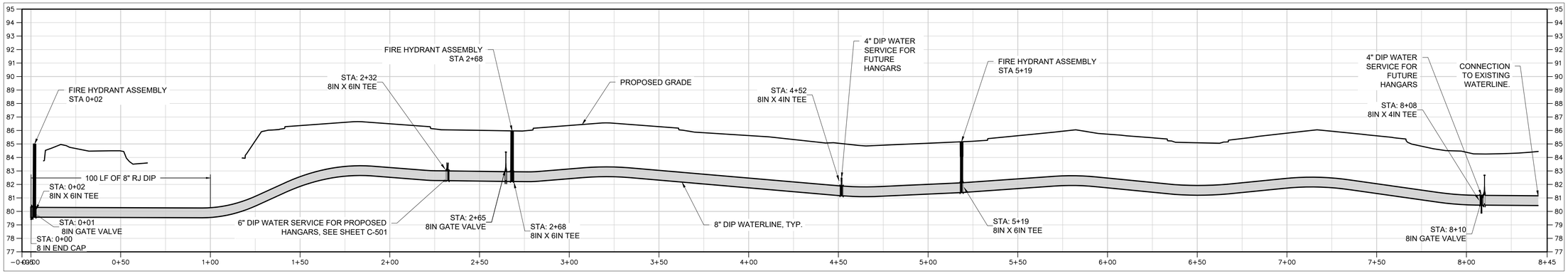
MATCHLINE 2, SEE SHEET C-501 GATE INSET

SANITARY SEWER & WATERLINE PLAN



SANITARY SEWER PROFILE STA 0+00 TO STA 7+33

HORIZONTAL: 1" = 30' VERTICAL: 1" = 4'

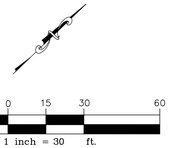


WATERLINE PROFILE STA 0+00 TO STA 8+40

HORIZONTAL: 1" = 30' VERTICAL: 1" = 4'

NOTES:

1. THE EXISTING LOW WATER PRESSURES REQUIRE INSTALLATION OF AN ELEVATED TANK OR A BOOSTER PUMP TO PROVIDE ADEQUATE FIRE FLOW TO HANGARS.
2. GATE VALVES SHALL BE INSTALLED PER ONWASA DETAIL ON SHEET C-504.
3. ALL GATE VALVES SHALL HAVE A VALVE MARKER PER DETAIL 2/C-503.
4. ELECTRICAL AND COMMUNICATIONS SERVICES AND FINAL LOCATIONS OF PEDESTALS SHALL BE COORDINATED WITH THE UTILITY PROVIDER.
5. BOTH JET POD HANGAR UNITS SHALL BE SERVED BY A SINGLE 1,000 GALLON AIRCRAFT RATED OIL TRAP. REFER TO DETAIL FOR DIMENSIONS. COST FOR OIL TRAP SHALL BE INCLUDED IN THE PRICE BID FOR ADDITIVE BID NO. 1.
6. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED AIRCRAFT RATED STRUCTURE SUBMITTAL FOR SSMH-5. SSMH-5 SHALL BE AN AIRCRAFT RATED MANHOLE PAID UNDER ITEM D-751-10.
7. CONTRACTOR SHALL COORDINATE WITH DUKE ENERGY FOR THE CONNECTION OF THE TWO NEW HANGAR BUILDINGS TO THE EXISTING ELECTRICAL SERVICE AVAILABLE ON SITE. ALL ABOVE GROUND AND UNDERGROUND MATERIALS AND EQUIPMENT NEEDED TO COMPLETE CONNECTIONS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ELECTRICAL EQUIPMENT CONNECTION. BID COST SHALL INCLUDE FURNISHING AND INSTALLING CONDUIT, WIRING AND COORDINATION WITH DUKE ENERGY.
8. CONTRACTOR SHALL FURNISH AND INSTALL A SINGLE EMPTY CONDUIT PRIOR TO PLACEMENT OF ASPHALT FOR FUTURE UNDERGROUND COMMUNICATIONS CABLE. CONTRACTOR SHALL CAP AND MARK THE ENDS OF THE BURIED CONDUIT FOR FUTURE USE. THIS PAY ITEM IS MEASURED AND PAID PER LINEAR FOOT.
9. THE COST FOR FURNISHING AND INSTALLING THE REQUIRED SECURITY SYSTEM IMPROVEMENTS AT THE GATE SHALL BE INCLUDED IN THE BID ALLOWANCE FOR SECURITY SYSTEM IMPROVEMENTS.
10. CONTRACTOR'S PRICE BID FOR GATE ACCESS CONTROL SHALL INCLUDE ALL CONDUIT CABLE AND EQUIPMENT NECESSARY TO CONNECT TO THE EXISTING GATE CONTROL SYSTEM AT THE GENERAL AVIATION TERMINAL. THIS WORK SHALL INCLUDE APPROXIMATELY 100 LF OF DIRECTIONAL DRILLING OF 2" PVC. CONTRACTOR SHALL COORDINATE WITH SECURITY PROVIDER TO OBTAIN ALL NECESSARY REQUIREMENTS FOR RUNNING WIRE TO THE PROPOSED GATE LOCATION.



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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
UTILITY PLAN 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-500
WKD PROJ. NO.:
20240074.00.WK

FILEPATH:Z:\PROJECTS\ONSLOW COUNTY\2020\19990WK - OAJ TCH-2 - SO. GA EXPANSION PHS1, DESIGN\CADD\PLAN SET\SHEETS\20251009 SW PLAN_C_SHT_UTILITY PLAN

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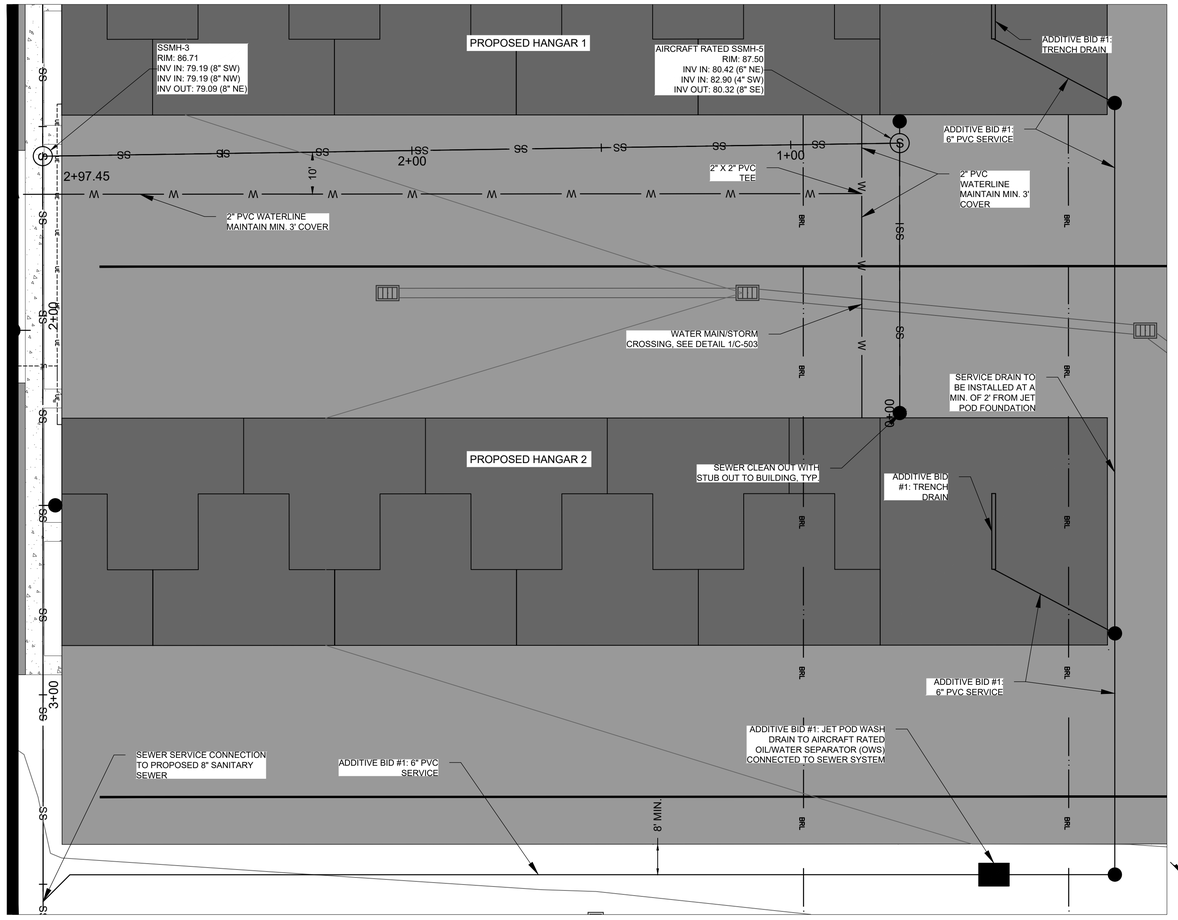
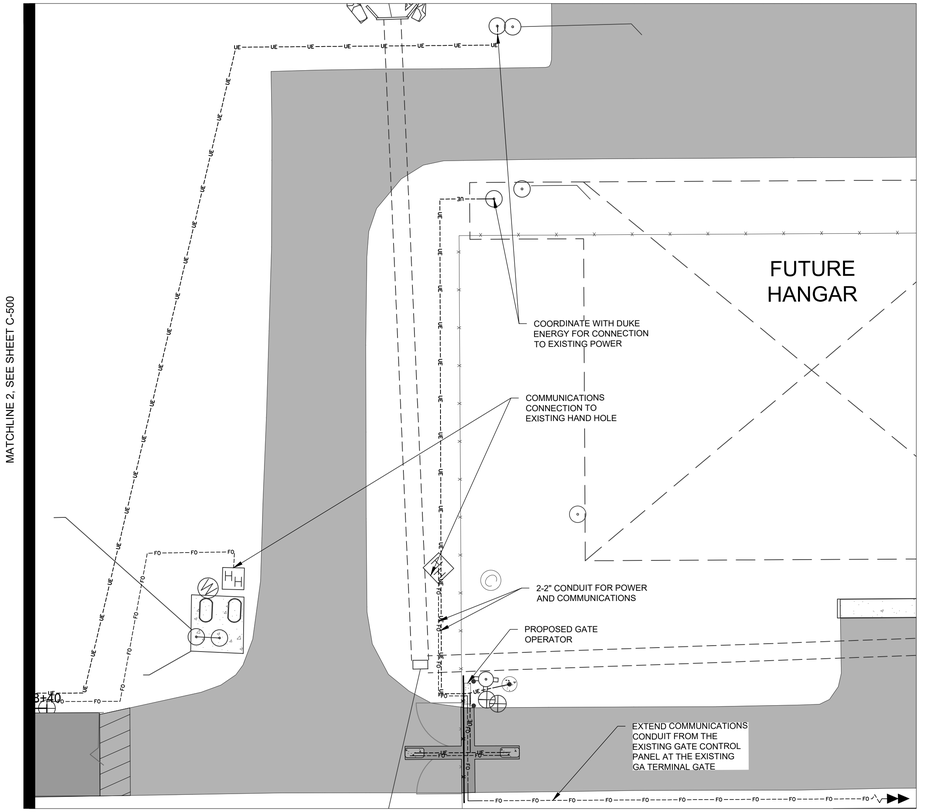
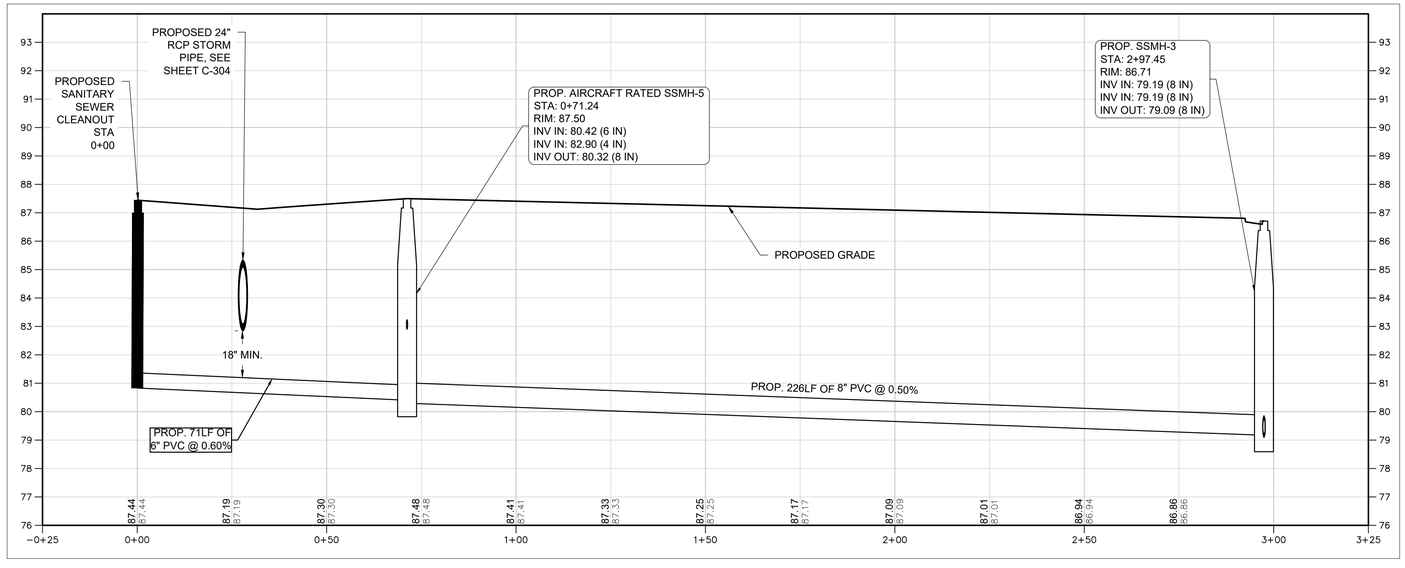


PLAN



PLAN GATE INSET



SANITARY SEWER SERVICE PROFILE STA 0+00 TO STA 2+99

HORIZONTAL: 1" = 20' VERTICAL: 1" = 4'

NOTES:

1. THE EXISTING LOW WATER PRESSURES REQUIRE INSTALLATION OF AN ELEVATED TANK OR A BOOSTER PUMP TO PROVIDE ADEQUATE FIRE FLOW TO HANGARS.
2. GATE VALVES SHALL BE INSTALLED PER ONWASA DETAIL ON SHEET C-504.
3. ALL GATE VALVES SHALL HAVE A VALVE MARKER PER DETAIL 2/C-503.
4. ELECTRICAL AND COMMUNICATIONS SERVICES AND FINAL LOCATIONS OF PEDESTALS SHALL BE COORDINATED WITH THE UTILITY PROVIDER.
5. BOTH JET POD HANGAR UNITS SHALL BE SERVED BY A SINGLE 1,000 GALLON AIRCRAFT RATED OIL TRAP. REFER TO DETAIL FOR DIMENSIONS. COST FOR OIL TRAP SHALL BE INCLUDED IN THE PRICE BID FOR ADDITIVE BID NO. 1.
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7. CONTRACTOR SHALL COORDINATE WITH DUKE ENERGY FOR THE CONNECTION OF THE TWO NEW HANGAR BUILDINGS TO THE EXISTING ELECTRICAL SERVICE AVAILABLE ON SITE. ALL ABOVE GROUND AND UNDERGROUND MATERIALS AND EQUIPMENT NEEDED TO COMPLETE CONNECTIONS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ELECTRICAL EQUIPMENT CONNECTION. BID COST SHALL INCLUDE FURNISHING AND INSTALLING CONDUIT, WIRING AND COORDINATION WITH DUKE ENERGY.
8. CONTRACTOR SHALL FURNISH AND INSTALL A SINGLE EMPTY CONDUIT PRIOR TO PLACEMENT OF ASPHALT FOR FUTURE UNDERGROUND COMMUNICATIONS CABLE. CONTRACTOR SHALL CAP AND MARK THE ENDS OF THE BURIED CONDUIT FOR FUTURE USE. THIS PAY ITEM IS MEASURED AND PAID PER LINEAR FOOT.
9. THE COST FOR FURNISHING AND INSTALLING THE REQUIRED SECURITY SYSTEM IMPROVEMENTS AT THE GATE SHALL BE INCLUDED IN THE BID ALLOWANCE FOR SECURITY SYSTEM IMPROVEMENTS.
10. CONTRACTOR'S PRICE BID FOR GATE ACCESS CONTROL SHALL INCLUDE ALL CONDUIT CABLE AND EQUIPMENT NECESSARY TO CONNECT TO THE EXISTING GATE CONTROL SYSTEM AT THE GENERAL AVIATION TERMINAL. THIS WORK SHALL INCLUDE APPROXIMATELY 100 LF OF DIRECTIONAL DRILLING OF 2" PVC. CONTRACTOR SHALL COORDINATE WITH SECURITY PROVIDER TO OBTAIN ALL NECESSARY REQUIREMENTS FOR RUNNING WIRE TO THE PROPOSED GATE LOCATION.

20 0 10 20 40

1 inch = 20 ft.

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REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
UTILITY PLAN 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-501

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ONSLOW COUNTY\2020199\90MA - OAJ THIS 2 - SO. GA EXPANSION PHS1, DESIGN\CAD\PLAN SET\SHEETS\2020199.90 MA_C_SHT_UTILITY PLAN

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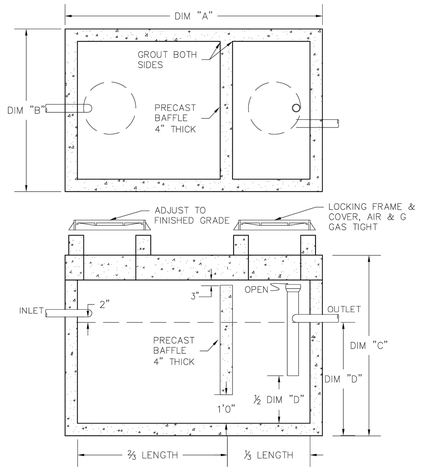


THE OIL AND GREASE TRAP DIMENSIONAL DETAIL CONTAINS THE DIMENSION CHART FOR THE OIL/GREASE TRAP

NOTE: GREASE TRAPS SHALL BE A MINIMUM OF 1,000 GAL.

ONWASA

Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

OIL AND GREASE TRAP SIZING

SCALE: Not To Scale | DETAIL # SS_OG
REVISION DATE: May, 2016 | SHEET # 1 of 2

OIL AND GREASE TRAP DIMENSION CHART

CAP (GAL.)	DIM "A"	DIM "B"	DIM "C"	DIM "D"
1000	9'0"	5'0"	7'2"	4'2"
1250	9'0"	5'0"	7'2"	5'2"
1500	11'2"	5'8"	7'2"	4'4"
1750	11'2"	5'8"	7'2"	4'11"
2000	12'8"	6'8"	8'0"	4'7"
2500	12'8"	6'8"	8'0"	5'6"
2750	12'8"	6'8"	8'0"	6'0"
3000	15'7"	9'7"	8'6.5"	5'0"
4000	15'7"	9'7"	8'6.5"	6'3"
5000	19'11"	9'11"	8'11"	6'2"
6000	19'11"	9'11"	10'5"	7'2"

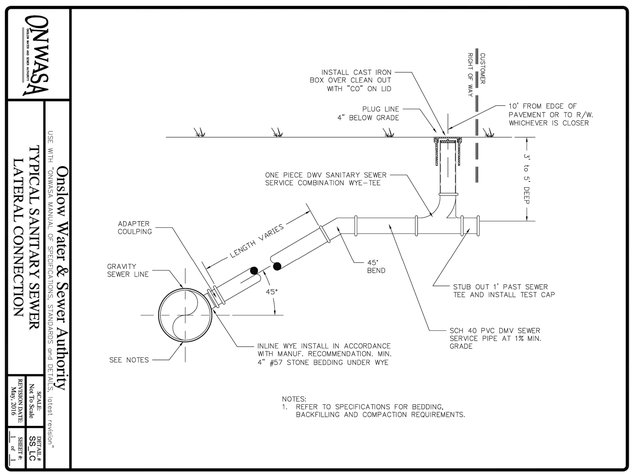
NOTES:
1. CONCRETE: 28 DAY f_c=4500 psi
2. REBAR: ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN: ACI 318-83 BUILDING CODE ASTM C-857 MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES
5. LOADS: H-20 TRUCK WHEEL WITH 30% IMPACT PER AASHTO
6. FILL WITH CLEAN WATER PRIOR TO START UP OF SYSTEM
7. CONTRACTOR TO SUPPLY AND INSTALL ALL PIPING, SANITARY TEE's, AND 4" DUAL SWEEP CLEAN OUTS (FOR CLEANING TOWARD AND AWAY FROM TRAP ON BOTH THE INLET AND OUTLET SIDE).
8. GRAY WATER ONLY, BLACK WATER SHALL BE CARRIED BY SEPARATE SEWER.
9. ALL PIPE PENETRATIONS SHALL BE THROUGH A FLEXIBLE CONNECTOR AND SEALED WATERTIGHT WITH GROUT.

ONWASA

Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

OIL AND GREASE TRAP DIMENSIONS TABLE

SCALE: Not To Scale | DETAIL # SS_OGS
REVISION DATE: May, 2016 | SHEET # 2 of 2



NOTES:
1. REFER TO SPECIFICATIONS FOR BEDDING, BACKFILLING AND COMPACTION REQUIREMENTS.

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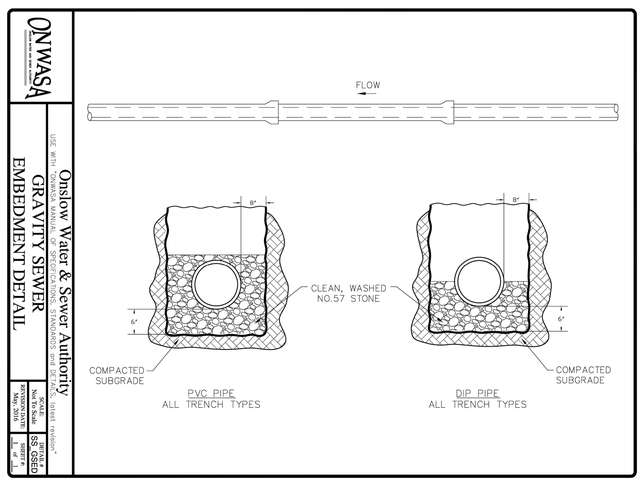
Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

TYPICAL SANITARY SEWER LATERAL CONNECTION

SCALE: Not To Scale | DETAIL # SS_LC
REVISION DATE: May, 2016 | SHEET # 1 of 1



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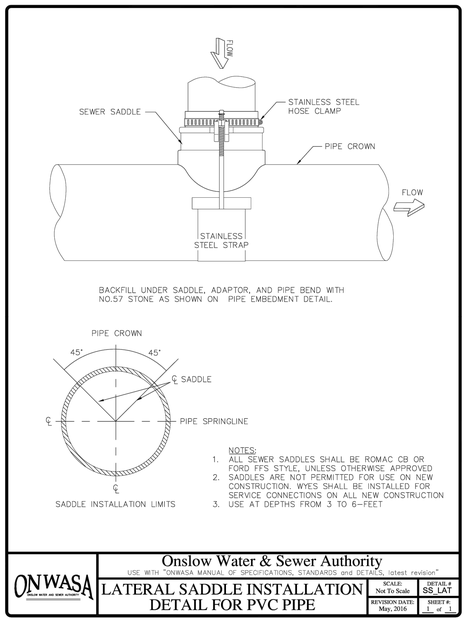
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

GRAVITY SEWER EMBEDMENT DETAIL

SCALE: Not To Scale | DETAIL # SS_GSED
REVISION DATE: May, 2016 | SHEET # 1 of 1



BACKFILL UNDER SADDLE, ADAPTOR, AND PIPE BEND WITH NO.57 STONE AS SHOWN ON PIPE EMBEDMENT DETAIL.

NOTES:
1. ALL SEWER SADDLES SHALL BE ROMAC CB OR FORD FFS STYLE, UNLESS OTHERWISE APPROVED
2. SADDLES ARE NOT PERMITTED FOR USE ON NEW CONSTRUCTION. WYES SHALL BE INSTALLED FOR SERVICE CONNECTIONS ON ALL NEW CONSTRUCTION
3. USE AT DEPTHS FROM 3 TO 6-FEET

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LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE

SCALE: Not To Scale | DETAIL # SS_LAT
REVISION DATE: May, 2016 | SHEET # 1 of 1

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
UTILITY DETAILS 1

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-502

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ONSLOW COUNTY\2020199\GRAPH_CAD FILES_SO_GA EXPANSION PHS1_DESIGN\CADD PLAN SHEETS\20201999.00 PAVE_C_SHT_UTILITY DETAILS

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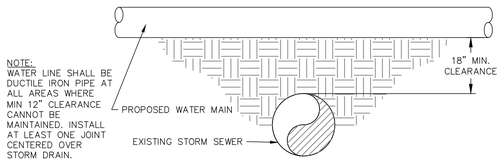
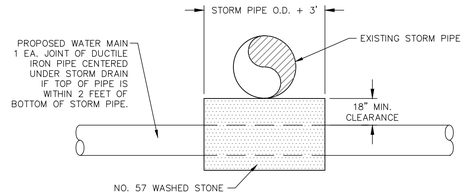
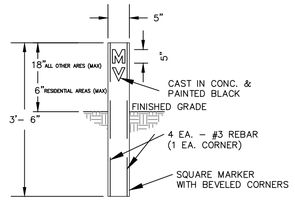




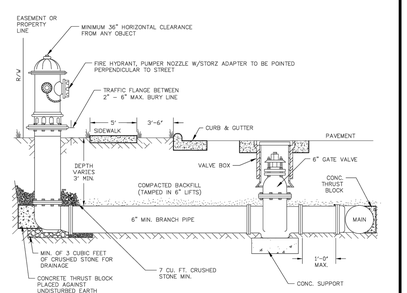
NOTE:
1. DIP AND NO. 57 WASHED STONE BRIDGING SHALL BE CONSIDERED INCIDENTAL TO THE WATER LINE PAY ITEM.

1 / C-503 WATER MAIN/STORM CROSSING DETAIL
NTS



NOTES:
1. VALVE MARKERS SHALL BE PLACED AT R/W.
2. LETTERS "MV" SHALL FACE TOWARDS VALVE.
3. MARKER SHALL HAVE BRASS OR BRONZE EMBED ON TOP OR SIDE
4. CONTRACTOR SHALL STAMP DISTANCE TO CENTER OF VALVE INTO EMBED.
5. BLOW-OFF ASSEMBLY SHALL INCLUDE 1 EA. MARKER W/ "BO" OR "MV" CAST.
6. MARKER INSTALLATION SHALL BE INCIDENTAL TO WATER LINE INSTALLATION.

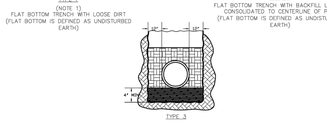
2 / C-503 VALVE MARKER DETAIL
NTS



NOTES:
1. FIRE HYDRANT MANUFACTURER SHALL BE AS REQUIRED BY PROJECT SPECIFICATIONS.
2. FIRE HYDRANT SHALL BE INSTALLED USING HYDRANT TEE.
3. BRANCH PIPE SHALL BE DUCTILE IRON.
4. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
5. ALL JOINTS ON FIRE HYDRANT ASSEMBLIES SHALL BE RESTRAINED.
6. ALL FIRE HYDRANTS SHALL BE LOCATED WITHIN DEDICATED STREET RIGHT-OF-WAY OR A 20-FOOT PUBLICLY DEDICATED PERMANENT UTILITY EASEMENT TO ONWASA.
7. INSTALL BOLLARD GUARD POST AS PER DRAWINGS OR CONDITIONS MANDATE.
8. HYDRANT SHALL NOT BE INSTALLED SO THAT THE FINISHED ELEVATION OF SURROUNDING AREA (NCLUDING LANDSCAPING, MULCH, GRAVEL, ETC.) IS ABOVE THE MAXIMUM BURY LINE OF THE HYDRANT.
9. MAXIMUM PERMISSIBLE EXTENSION LENGTH IS 2-FEET.
10. IF HYDRANT LEG IS LESS THAN 10-FEET LONG, THE HYDRANT SHALL BE RODDED BACK TO THE VALVE.

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
FIRE HYDRANT ASSEMBLY CURB AND GUTTER SECTION
SCALE: Not To Scale | DETAIL #: WS_FHC
REVISION DATE: May, 2016 | SHEET #: 1 of 1



NOTES:
1. FOR NORMAL PIPE SIZES 14 INCH AND LARGER, CONSIDERATION SHOULD BE GIVEN TO THE USE OF LAYING CONDITIONS OTHER THAN TYPE 1.
2. CONSIDERATION OF THE PIPE-ZONE EMBEDMENT CONDITIONS INCLUDED IN THIS FIGURE MAY BE INFLUENCED BY FACTORS OTHER THAN PIPE STRENGTH. FOR ADDITIONAL INFORMATION ON PIPE BEDDING AND BACKFILL, SEE ANSI/AWWA C600.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
WATER MAIN EMBEDMENT DETAILS
SCALE: Not To Scale | DETAIL #: WS_ED
REVISION DATE: May, 2016 | SHEET #: 1 of 1

TEST PRESSURE = 150 PSI

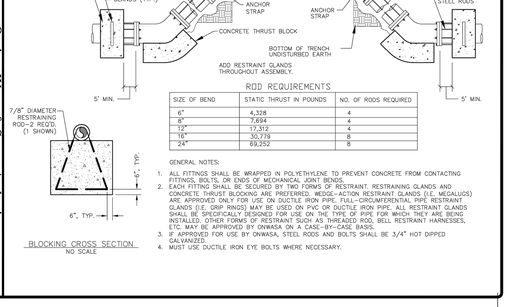
PIPE SIZE	TYPE FITTING	DIMENSIONS (FT) "L"	"W"	"T"	VOLUME CONCRETE CU. YD.
4 INCHES	11 1/4°	----	----	----	----
	22 1/2°	1.00	1.00	1.50	0.06
	45°	1.00	1.00	1.50	0.06
	90°	1.00	1.00	2.50	0.09
	TEE	1.00	1.00	2.00	0.07
6 INCHES	11 1/4°	1.00	1.00	2.50	0.09
	22 1/2°	1.00	1.00	2.50	0.09
	45°	1.00	1.00	2.50	0.09
	90°	1.50	1.50	2.50	0.15
	TEE	1.50	1.50	2.00	0.12
8 INCHES	11 1/4°	1.50	1.50	2.50	0.15
	22 1/2°	1.50	1.50	2.50	0.15
	45°	1.50	1.50	2.50	0.15
	90°	2.00	2.00	3.00	0.28
	TEE	2.00	2.00	2.50	0.23
10 INCHES	11 1/4°	2.00	2.00	2.50	0.23
	22 1/2°	2.00	2.00	2.50	0.23
	45°	2.00	2.00	2.75	0.25
	90°	3.00	2.00	3.00	0.39
	TEE	3.00	2.00	2.50	0.32
12 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	2.00	2.00	3.00	0.28
	45°	3.00	2.50	3.00	0.47
	90°	4.50	3.00	3.50	0.94
	TEE	4.50	3.00	3.00	0.85
16 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	3.00	2.00	3.00	0.39
	45°	4.00	3.00	3.50	0.84
	90°	6.50	3.50	3.50	1.54
	TEE	6.50	3.50	3.00	1.32

TEST PRESSURE = 200 PSI

PIPE SIZE	TYPE FITTING	DIMENSIONS (FT) "L"	"W"	"T"	VOLUME CONCRETE CU. YD.
4 INCHES	11 1/4°	1.00	1.00	1.00	0.04
	22 1/2°	1.00	1.00	1.50	0.06
	45°	1.00	1.00	1.50	0.06
	90°	1.50	1.50	2.50	0.15
	TEE	1.50	1.50	2.00	0.12
6 INCHES	11 1/4°	1.00	1.00	2.50	0.09
	22 1/2°	1.00	1.00	2.50	0.09
	45°	1.50	1.50	2.50	0.15
	90°	1.50	1.50	2.50	0.15
	TEE	1.50	1.50	2.00	0.12
8 INCHES	11 1/4°	1.50	1.50	2.50	0.15
	22 1/2°	1.50	1.50	2.50	0.15
	45°	1.50	1.50	2.50	0.15
	90°	2.50	2.00	3.00	0.33
	TEE	2.50	2.00	2.50	0.28
10 INCHES	11 1/4°	2.00	2.00	2.50	0.23
	22 1/2°	2.00	2.00	2.50	0.23
	45°	2.00	2.00	2.75	0.25
	90°	4.00	2.00	3.00	0.50
	TEE	4.00	2.00	2.50	0.42
12 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	3.00	2.00	3.00	0.39
	45°	4.00	2.50	3.00	0.61
	90°	5.50	3.00	3.50	1.13
	TEE	5.50	3.00	3.00	0.97
16 INCHES	11 1/4°	2.00	2.00	3.00	0.28
	22 1/2°	4.00	2.00	3.00	0.50
	45°	5.50	3.00	3.50	1.13
	90°	7.50	4.00	3.50	2.01
	TEE	7.50	4.00	3.00	1.72

CHART NOTES:
1. IF BLOCKING EXCAVATION IS IN LIGHTLY COMPACTED FILL AREAS, OR IN AREAS WHERE BOULDERS OR STUMPS HAVE BEEN REMOVED, BLOCKING SIZE MUST BE RE-SIZED FOR THE SPECIFIC LOCATION/CIRCUMSTANCE BY A NC LICENSED PROFESSIONAL ENGINEER.
2. BLOCKING SIZES SHOWN IN THESE TABLES ASSUME THE FOLLOWING:
   a. BLOCKING IS CONSTRUCTED IN RESIDUAL SOILS AS SHOWN IN DETAIL
   b. SOIL BEARING PRESSURE = 2000 PSF
   c. VELOCITY OF FLOW = 15 FPS
3. THIS DETAIL NOT APPLICABLE TO REDUCING BENDS.
4. NEITHER THE WEIGHT OF THE CONCRETE BLOCKING NOR FRICTION BETWEEN CONCRETE BLOCKING AND SOIL WAS ADDED INTO BLOCKING SIZES COMPUTATION. THEREFORE, BLOCKING SIZE IS CONSERVATIVE.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
THRUST BLOCKING
SCALE: Not To Scale | DETAIL #: WS_TB2
REVISION DATE: May, 2016 | SHEET #: 1 of 4



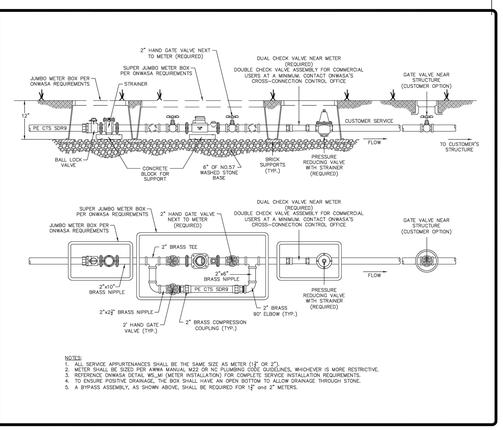
ROD REQUIREMENTS

SIZE OF BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	4
8"	7,694	4
12"	17,312	4
16"	30,779	8
24"	69,252	8

BLOCKING CROSS SECTION
NO SCALE

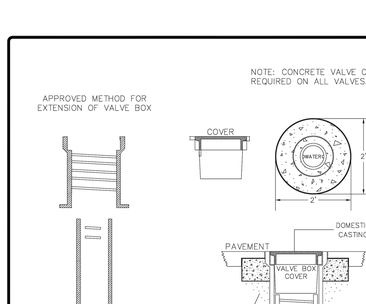
GENERAL NOTES:
1. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE TO PREVENT CONCRETE FROM CONTACTING FITTINGS, BOLTS, OR ENDS OF MECHANICAL JOINT BENDS.
2. EACH FITTING SHALL BE SECURED BY TWO FORMS OF RESTRAINT. RESTRAINING GLANDS AND CONCRETE THRUST BLOCKING ARE PREFERRED. MEGS-ACTION RESTRAINT GLANDS (I.E. MEGALUGS) ARE APPROVED ONLY FOR USE ON DUCTILE IRON PIPE. FULL-CIRCUMFERENTIAL PIPE RESTRAINT GLANDS (I.E. GRIP RINGS) MAY BE USED ON PVC OR DUCTILE IRON PIPE. ALL RESTRAINT GLANDS SHALL BE SPECIFICALLY DESIGNED FOR USE ON THE TYPE OF PIPE FOR WHICH THEY ARE BEING INSTALLED. OTHER FORMS OF RESTRAINT SUCH AS THREADED ROD, BELL RESTRAINT HARNESSES, ETC. MAY BE APPROVED BY ONWASA ON A CASE-BY-CASE BASIS.
3. IF APPROVED FOR USE BY ONWASA, STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
4. MUST USE DUCTILE IRON EYE BOLTS WHERE NECESSARY.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
THRUST BLOCKING
SCALE: Not To Scale | DETAIL #: WS_TB1
REVISION DATE: May, 2016 | SHEET #: 2 of 4



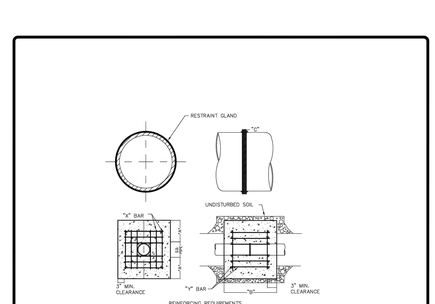
NOTES:
1. ALL SERVICE APPURTENANCES SHALL BE THE SAME SIZE AS METER (1" OR 2").
2. METER SHALL BE SIZED PER AWWA MANUAL M22 OR NC PLUMBING CODE GUIDELINES, WHICHEVER IS MORE RESTRICTIVE.
3. REFERENCE ONWASA DETAIL WS_MI (METER INSTALLATION) FOR COMPLETE SERVICE INSTALLATION REQUIREMENTS.
4. TO ENSURE POSITIVE DRAINAGE, THE BOX SHALL HAVE AN OPEN BOTTOM TO ALLOW DRAINAGE THROUGH STONE.
5. A BYPASS ASSEMBLY, AS SHOWN ABOVE, SHALL BE REQUIRED FOR 1½" and 2" METERS.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
1½" AND 2" SERVICE CONNECTION (TYP.)
SCALE: Not To Scale | DETAIL #: WS_SC1&2
REVISION DATE: May, 2016 | SHEET #: 3 of 4



NOTE:
VALVE BOX SHALL BE PER ONWASA'S SPECIFICATIONS

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
VALVE BOX INSTALLATION
SCALE: Not To Scale | DETAIL #: WS_VB
REVISION DATE: May, 2016 | SHEET #: 1 of 1



REINFORCING REQUIREMENTS

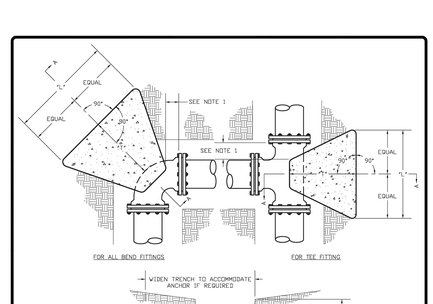
I.D. PIPE	REBAR SIZE	"X" BAR LENGTH	"X" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6" - 36"	#5	2'-2"± O.D. PIPE	1.043 LBS/FT	1'-1"	1.1 LBS. EACH	X-24, Y-12
48" & greater	#6	3'-0"± O.D. PIPE	1.502 LBS/FT	1'-3"	1.9 LBS. EACH	X-24, Y-12

THRUST COLLAR AND THRUST SCHEDULE

I.D. PIPE	"A"	"B"	"C"-6"-16", 20"-24", 30"-36", 48"
6" - 36"	1'-4"	1'-7"	3" 3" 4"
48" & greater	1'-8"	1'-9"	6"

NOTES:
1. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
2. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
3. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD EMBEDMENT DETAIL.
4. BACKFILL TAMPED IN 6" LIFTS PER STANDARD EMBEDMENT DETAIL.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
THRUST BLOCKING
SCALE: Not To Scale | DETAIL #: WS_TB4
REVISION DATE: May, 2016 | SHEET #: 4 of 4



NOTES:
1. CONCRETE BLOCKING IS TO BE FORMED TO ENSURE ACCESSIBILITY TO FITTINGS AND POURED AGAINST UNDISTURBED EARTH.
2. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE TO PREVENT CONCRETE FROM CONTACTING FITTINGS, BOLTS, OR ENDS OF MECHANICAL JOINT BENDS.
3. CONCRETE TO BE MINIMUM 3,000 PSI @ 28 DAYS.
4. WHEN SACKCRETE IS TO BE USED, IT SHALL BE PROPERLY MIXED PER MANUFACTURER SPECIFICATIONS.
5. FOR REQUIRED DIMENSIONS, SEE WS_TB2

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"
THRUST BLOCKING
SCALE: Not To Scale | DETAIL #: WS_TB1
REVISION DATE: May, 2016 | SHEET #: 3 of 4

BID DOCUMENTS - NOT FOR CONSTRUCTION

ELLIS AIRPORT
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

WK DICKSON
AN ARDURRA COMPANY
720 CORPORATE CENTER DRIVE
RALEIGH, NC 27607
(t)919-782-9672
(f)919-782-0495
WWW.WKDICKSON.COM
NC LICENSE NO.F-0374

PROFESSIONAL SEAL

NO.	DATE	DESCRIPTION	BY

REVISION RECORD

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
UTILITY DETAILS 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-503
WKD PROJ. NO.:
20240074.00.WK

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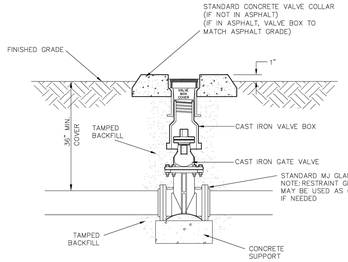


ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

INLINE VALVE DETAIL	SCALE: Not To Scale	DETAIL #: WS_ILV
	REVISION DATE: May, 2016	SHEET #: 1 of 1

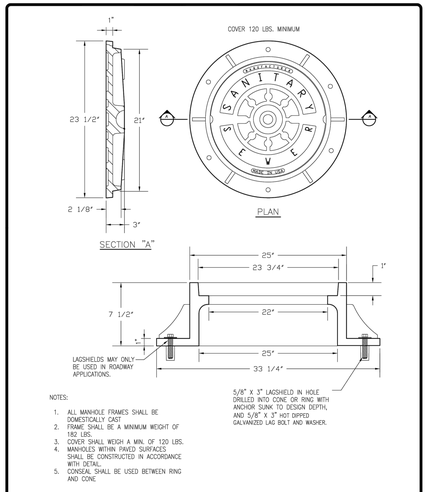
REQUIREMENTS FOR ABOVE GROUND INSTALLATIONS OF REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE ASSEMBLIES

1. The backflow preventer must be installed a Maximum distance of five (5) feet from the meter service or before any wyes, tees, or bypasses. Installation of backflow preventers within the DOT right-of-way will not be accepted, it must be installed on the customers property.
2. Reduced pressure principle assemblies must be installed in a horizontal position and so located in which no portion of the assembly can become submerged under any circumstances.
3. Double check valves can be installed in a vertical position provided the water flows in an upward direction.
4. All backflow preventers must be installed above ground. Backflow preventers installed inside must be a minimum of twelve (12) inches above the floor, and no higher than four (4) feet above the floor. Customer must maintain adequate clearance around the assembly for testing, and/or repair of the assembly. Wherever a reduced pressure principle backflow preventer is installed inside a building an air gap drain of adequate size must be installed. Below ground installations are prohibited for RP's. Surface or Sub-surface obstacles which prohibit the installation of the device in accordance with the specifications shall be subject to the review and approval of the Engineering Director for alternative locations.
5. Backflow prevention assemblies installed outside must be protected with a ASSE 1060 approved enclosure. The assembly must maintain a minimum distance of twelve (12) inches and a maximum distance of thirty (30) inches above the ground. Landscaping is allowed around any assembly provided it does not interfere with the testing and/or repairing of the assembly.
6. Protective enclosures must be used to prevent freezing or vandalism for backflow prevention assemblies installed outside above ground. Freeze proof enclosures that meet of exceed North Carolina Plumbing Code Standards are acceptable provided that the insulation is at least 7.05 R factor, and have the 1060 ASSE approval plate. Adequate drainage shall be provided by a hinged door or drain ports along the bottom walls of the protective enclosure. The enclosure will require to be mounted to the ground or existing grade. If the structure is not removable it must be accessible doors large enough for entrance and repair.
7. Backflow prevention assemblies two and one half (2 ½) inches or larger must be supported to allow for the weight of the backflow prevention assembly. Support construction can consist of concrete block, brick or steel. Supports must have a proper footing to rest on. Supports should be spaced so they do not cause interference with the testing and/or repair of the assemblies.
8. All piping must be of ductile iron, pvc, copper, or brass.
9. All backflow prevention assembly installations shall be inspected by the Onslow Water and Sewer Authority Technical Operations Section or an authorized representative prior to initial connection to the potable water system.
10. Before installation of any backflow preventer, contact the Backflow Cross Connection ORC at 910-455-0722 to assist in proper selection and installation.

Note: Appendices within these regulations are subject to change periodically or as required by the State of North Carolina.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

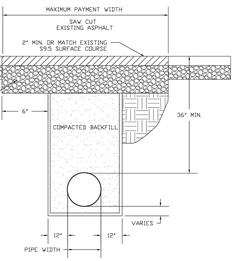
3/4" to 2" Meter RP / DCVA / PRV Assembly	SCALE: Not To Scale	DETAIL #: WS_PRV
	REVISION DATE: May, 2016	SHEET #: 1 of 1



NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS.
3. COVER SHALL WEIGH A MIN. OF 120 LBS.
4. MANHOLES WITHIN PAVED SURFACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL.
5. CONSEAL SHALL BE USED BETWEEN RING AND CONE.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

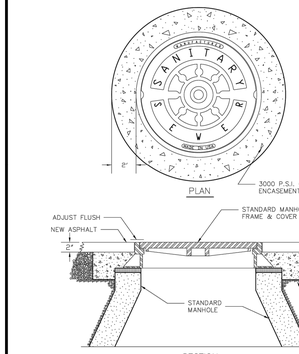
STANDARD MANHOLE COVER & FRAME	SCALE: Not To Scale	DETAIL #: SS_MHC
	REVISION DATE: May, 2016	SHEET #: 1 of 1



NOTES:
1. THE PAVEMENT SHALL BE DEFINED BY A STRAIGHT EDGE, PREFERABLY A MACHINED SAW CUT.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH DRY SOIL OR ABC STONE TO THE BOTTOM OF THE PROPOSED SUBGRADE. THE BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. WITHIN ROADS MAINTAINED BY NCDOT, THE TRENCH SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH NCDOT STANDARDS.
4. THE ENTIRE THICKNESS/VERTICAL EDGE OF THE CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 2" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY TO ACHIEVE A SMOOTH LEVEL PATCH.

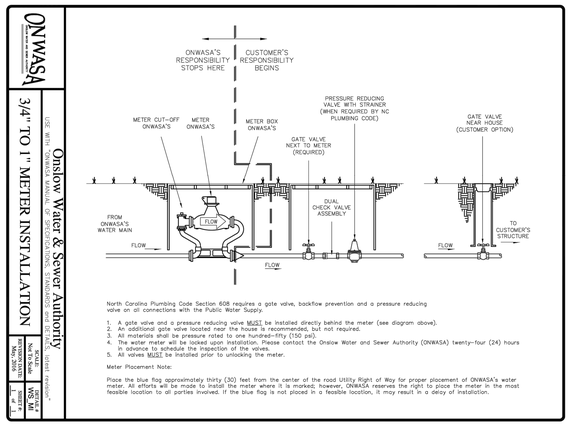
ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

STANDARD PAVEMENT CUT AND PATCH DETAILS	SCALE: Not To Scale	DETAIL #: WS_AP
	REVISION DATE: May, 2016	SHEET #: 1 of 1



ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

STD. MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES	SCALE: Not To Scale	DETAIL #: SS_MHF
	REVISION DATE: May, 2016	SHEET #: 1 of 1



North Carolina Plumbing Code Section 608 requires a gate valve, backflow prevention and a pressure reducing valve on all connections with the Public Water Supply.

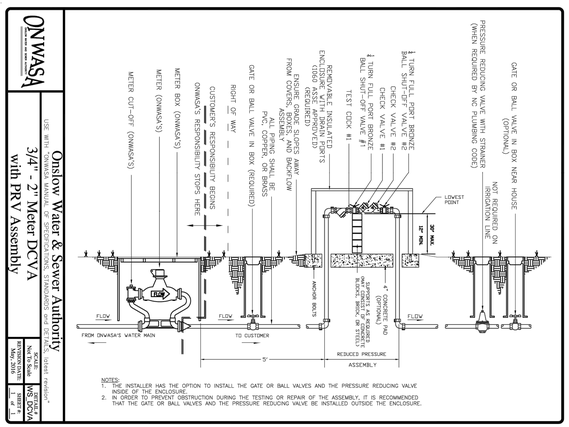
1. A gate valve and a pressure reducing valve MUST be installed directly behind the meter (see diagram above).
2. An additional gate valve located near the house is recommended, but not required.
3. All materials shall be pressure rated to one hundred-fifty (150 psi).
4. The water meter will be locked upon installation. Please contact the Onslow Water and Sewer Authority (ONWASA) twenty-four (24) hours in advance to schedule the inspection of the valves.
5. All valves MUST be installed prior to unlocking the meter.

Meter Placement Note:

Place the blue flag approximately thirty (30) feet from the center of the road Utility Right of Way for proper placement of ONWASA's water meter. All efforts will be made to install the meter where it is marked; however, ONWASA reserves the right to place the meter in the most feasible location to all parties involved. If the blue flag is not placed in a feasible location, it may result in a delay of installation.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

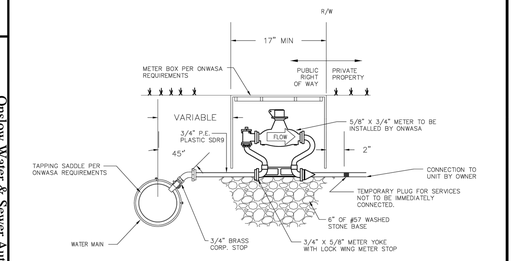
3/4" TO 1" METER INSTALLATION	SCALE: Not To Scale	DETAIL #: WS_3/4"-1"
	REVISION DATE: May, 2016	SHEET #: 1 of 1



NOTES:
1. THE INSTALLER HAS THE OPTION TO INSTALL THE GATE OR BALL VALVES AND THE PRESSURE REDUCING VALVE INSIDE OF THE ENCLOSURE.
2. IN ORDER TO PREVENT OBSTRUCTION DURING THE TESTING OR REPAIR OF THE ASSEMBLY, IT IS RECOMMENDED THAT THE GATE OR BALL VALVES AND THE PRESSURE REDUCING VALVE BE INSTALLED OUTSIDE THE ENCLOSURE.

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

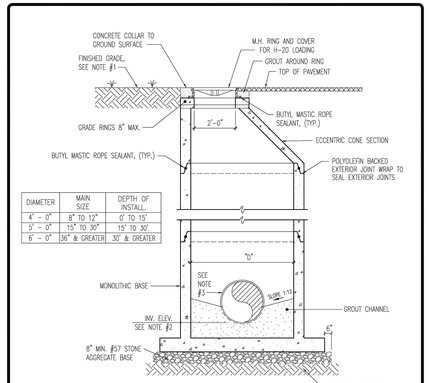
3/4" - 2" Meter DCVA with PRV Assembly	SCALE: Not To Scale	DETAIL #: WS_DCVA
	REVISION DATE: May, 2016	SHEET #: 1 of 1



NOTE: METER BOX TO BE SUPPORTED ON BRICK OR BLOCK

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

3/4" TO 1" SERVICE CONNECTION AND METER	SCALE: Not To Scale	DETAIL #: WS_SCM
	REVISION DATE: May, 2016	SHEET #: 1 of 1



DIAMETER	MAIN SIZE	DEPTH OF INSTALL.
4' – 0"	8" TO 12"	0' TO 15'
5' – 0"	15" TO 30"	15' TO 30'
6' – 0"	36" & GREATER	30' & GREATER

NOTES:
1. THE DISTANCE FROM THE TOP OF M.H. RING AND COVER MAY VARY WIDELY. SEE GRADING PLAN, AND/OR MANHOLE SCHEDULE
2. INVERT ELEV. SHOWN ON THE PLANS OR MANHOLE SCHEDULE ARE AT THE INLET AND OUTLET OF MANHOLE UNLESS OTHERWISE NOTED
3. CARRIER PIPE TO MANHOLE CONNECTIONS SHALL BE RUBBER SLEEVE WITH DUAL S.S. BANDS
4. ALL MANHOLES ARE TO BE EXTENDED BASE.
5. ALL INTERIOR JOINTS AND LIFTING POINTS SHALL BE SEALED WITH GROUT
6. MANHOLES SHALL NOT HAVE STEPS

ONWASA — Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

STANDARD PRECAST SANITARY SEWER MANHOLE (ECCENTRIC)	SCALE: Not To Scale	DETAIL #: SS_MHE
	REVISION DATE: May, 2016	SHEET #: 1 of 1

ELLIS AIRPORT
OAJ
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

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RALEIGH, NC 27607
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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

NO.	DESCRIPTION	DATE	BY

REVISION RECORD

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
UTILITY DETAILS 3

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-504

WKD PROJ. NO.:
20240074.00.WK

I:\E FAT\2-PROJECTS\ONSLOW COUNTY\2023\7\20240074.00 - OAJ TCP2 - SO. GA EXPANSION\PRELIMINARY\ACAD\SHEETS\20240074.00 PA_C SHT 7 UTILITY DETAILS

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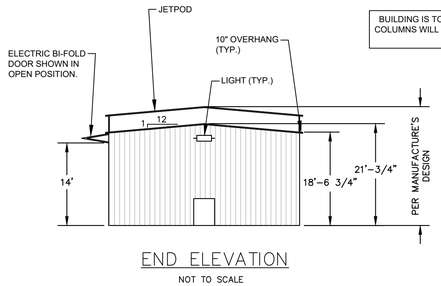
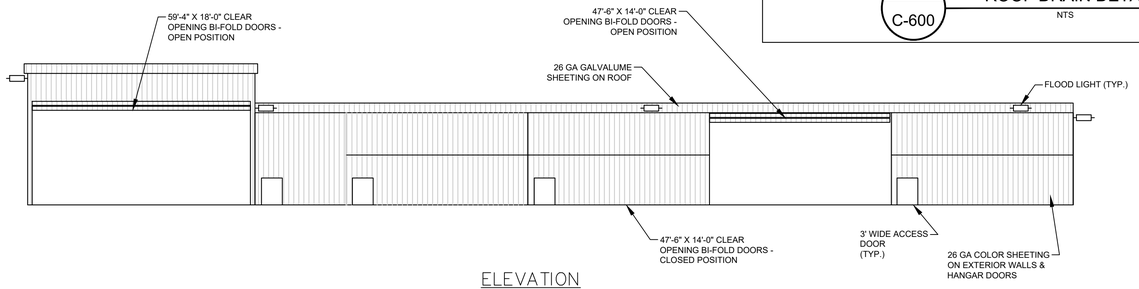


BUILDING IS TO BE ERECTED PERPENDICULAR TO SLAB. ALL COLUMNS WILL BE ERECTED PLUMB TO SLAB AND NOT PLUMB TO THE WORLD.

END ELEVATION

NOT TO SCALE



ELEVATION

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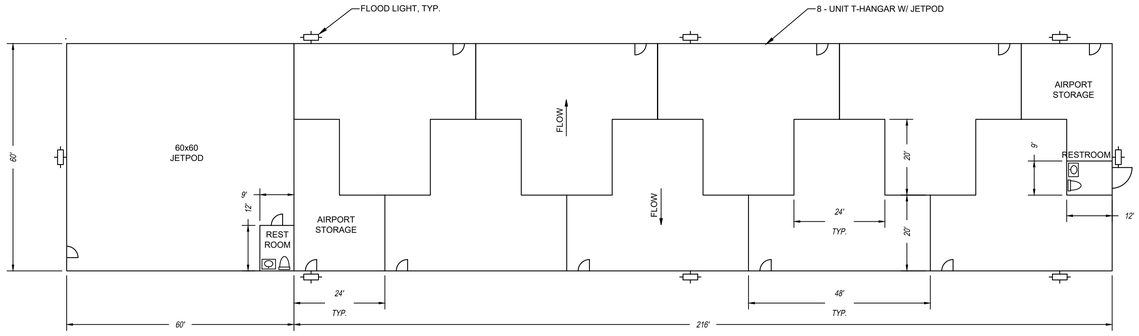
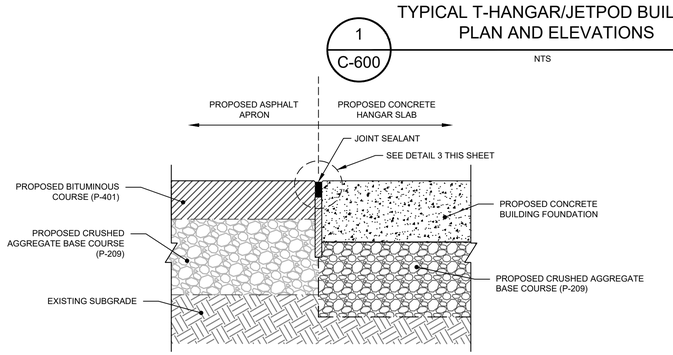


8 UNIT HANGAR

NOT TO SCALE



TYPICAL T-HANGAR/JETPOD BUILDING PLAN AND ELEVATIONS

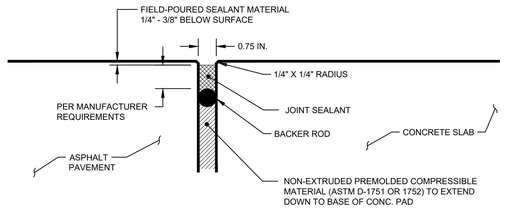
1 / C-600

NTS

CONCRETE/ASPHALT CONSTRUCTION JOINT DETAIL

2 / C-600

NTS

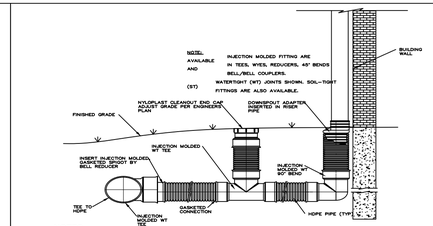


NOTES:
1. ASPHALT TO CONCRETE JOINT TO EXTEND DOWN 6 IN. TO THE BASE OF THE CONCRETE PAD.
2. ASPHALT TO CONCRETE JOINT SHALL BE INCIDENTAL TO NCDOT 610 COST. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS ITEM.

CONSTRUCTION JOINT DETAIL

3 / C-600

NTS

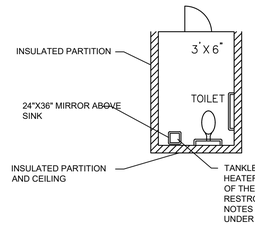


NOTES:
1. DRAINAGE HEADER PIPES DOWNSPOUT CONNECTIONS AND ASSOCIATED FITTINGS AND CONNECTION TO THE EXISTING DRAINAGE STRUCTURES SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR 8-UNIT T-HANGAR WITH JET POD.

ROOF DRAIN DETAIL

4 / C-600

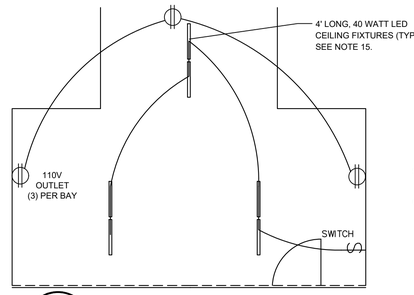
NTS



MIN. RESTROOM FIXTURE REQUIREMENTS

5 / C-600

NTS



TYPICAL T-HANGAR STALL

6 / C-600

NTS

HANGAR DESIGN AND PERMITTING NOTES:

1. CONTRACTOR SHALL PROVIDE DETAILED DESIGN (ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL) THAT CONFORMS TO ALL APPLICABLE LOCAL AND FEDERAL CODES FOR HANGAR FACILITIES. DESIGN SHALL BE PROVIDED TO THE OWNER FOR REVIEW PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER DURING DESIGN OF T-HANGAR FACILITIES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS AND APPROVALS TO CONSTRUCT ALL HANGAR UNITS ON THESE PLANS. CONTRACTOR SHALL CONFIRM HANGAR BUILDINGS CONFORM TO THE WIND AND LOADING REQUIREMENTS OF THE MOST RECENT EDITION OF THE NORTH CAROLINA BUILDING CODE.
2. CONTRACTOR SHALL PROVIDE ALL DRAWINGS AND SPECIFICATIONS FOR BUILDING AND UTILITY COMPONENTS (SEALED BY A NORTH CAROLINA LICENSED ENGINEER) NECESSARY TO OBTAIN REQUIRED PERMITS.
3. THE COST TO COMPLETE THE CONSTRUCTION OF ONE (1) 8-UNIT T-HANGAR AND A SINGLE JET POD IS CONSIDERED ONE LUMP SUM. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS AND PAY ALL ASSOCIATED FEES. COSTS ASSOCIATED WITH UTILITY COORDINATION SHALL BE INCIDENTAL TO 8 - UNIT T-HANGAR BUILDING WITH JETPOD.
4. CONTRACTOR SHALL PERFORM REQUIRED TESTING FOR EMERGENCY RESPONDER RADIO COVERAGE PER NCFC SECTION 510 AND DETERMINE THE NEED FOR RADIO SIGNAL BOOSTER EQUIPMENT PRIOR TO ERECTING BOTH HANGAR BUILDING(S). COORDINATE TESTING AND TIMING WITH THE OWNER PRIOR TO ORDERING HANGAR BUILDINGS.
5. BID ADDITIVE 1 IS TO ADD TRENCH FLOOR DRAINS TO THE HANGAR POD UNITS TO CONVEY HANGAR BUILDING EFFLUENT THROUGH SANITARY LATERALS AND AN OIL WATER SEPARATOR PRIOR TO DISCHARGE INTO THE SANITARY SEWER. THIS ADDITIVE BID INCLUDES ALL MATERIALS AND CONNECTIONS TO THE PROPOSED SANITARY SEWER.
6. BID ADDITIVE NUMBER 2 IS TO IS TO PROVIDE UNDERGROUND CONNECTIONS TO CONNECT ROOF DOWNSPOUTS TO THE PROPOSED STORM SEWER SYSTEM. DOWNSPOUTS SHALL TIE TO THE PROPOSED STORM SEWER SYSTEM AS SHOWN ON THE GRADING PLANS. THIS WORK SHALL INCLUDE ALL FITTINGS AND MATERIALS REQUIRED FOR COMPLETING THE CONNECTIONS FROM THE DOWNSPOUTS TO THE STORM SEWER.

HANGAR NOTES:

1. THE HANGAR SLAB SHALL BE INSTALLED WITH A 0.3% SLOPE IN THE LONG DIRECTION. THE HANGAR BUILDING IS TO BE ERECTED PERPENDICULAR TO THE SLOPING SLAB. ALL COLUMNS WILL BE ERECTED PLUMB TO THE SLAB AND NOT PLUMB TO THE WORLD.
2. AIRCRAFT HANGAR SHALL HAVE ELECTRIC BI-FOLD DOORS. THE DOOR OPENINGS SHALL CONSIST OF 47'-6" X 14'-0" CLEAR DOOR OPENINGS FOR THE T-HANGARS.
3. CONTRACTOR IS RESPONSIBLE FOR HANGAR BUILDING & FOUNDATION (SLAB & FOOTINGS) DESIGN AND SHALL SUBMIT DESIGN FOR APPROVAL WITH BUILDING SHOP DRAWINGS SEALED BY A NC PROFESSIONAL ENGINEER AS REQUIRED FOR THE BUILDING PERMIT. THE CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT FOR RECOMMENDATIONS REGARDING FLOOR SLAB DESIGN.
4. HANGAR FLOOR SHALL BE FIBER REINFORCED 3,00 PSI (28 DAY) CONCRETE, MINIMUM 6" THICK P-501 WITH MINIMUM 6X6 WELDED WIRE FABRIC FOR SLAB REINFORCEMENT. FLOOR SURFACE SHALL BE SMOOTH FINISH WITH TWO COATS OF LIGHT COLORED POLYURETHANE SEALER. PLACE SLAB ON 4" THICK P-209 COMPACTED STONE BASE W/ 6 MIL VAPOR BARRIER. FOR CONCRETE SLAB SPECIFICATIONS, SEE SPEC SECTION P-610.
5. HANGAR FLOORS SHALL BE SLOPED TO DRAIN TOWARD BIFOLD DOOR PER MANUFACTURER'S REQUIREMENTS. NO ABRUPT CHANGE IN GRADE WILL BE ALLOWED BETWEEN THE ASPHALT APRON AND THE CONCRETE HANGAR FLOOR; A SMOOTH TRANSITION IS REQUIRED. BIFOLD DOORS SHALL HAVE A RUBBER SEAL TO PROVIDE A WATERTIGHT DOOR. IF BID ADDITIVE NUMBER 1 IS ACCEPTED THE FLOOR SLAB SHALL ADEQUATELY DRAIN TOWARDS THE TRENCH DRAIN LOCATED IN EACH HANGAR POD UNIT.
6. THE PROPOSED BUILDING SHALL HAVE ROOF GUTTERS WITH DOWNSPOUTS SPACED EVENLY. IF BID ADDITIVE NUMBER 2 IS NOT ACCEPTED, DOWNSPOUTS SHALL DISCHARGE TO THE ASPHALT APRON.
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER A MINIMUM OF 48 HOURS PRIOR TO POURING THE BUILDING FOOTERS AND SLAB TO ALLOW FOR INSPECTION OF THE FORMS AND CONCRETE PLACEMENT PROCESS.
8. EXTERIOR WALL PANELS AND TRIM COLORS ARE TO BE COORDINATED WITH THE OWNER UPON BUILDING PERMIT APPROVAL, PRIOR TO ORDERING BUILDING.
9. EXTERIOR WALLS, DOORS AND ROOF SHALL BE INSULATED (R13) WITH SCRIM REINFORCED WHITE VINYL.
10. ALL INTERIOR WALLS SHALL BE 26-GAUGE GALVALUME METAL FROM FLOOR TO CEILING.
11. EACH HANGAR UNIT SHALL HAVE ONE PERSONNEL DOOR AND CONFORM TO LOCAL, STATE AND FEDERAL REQUIREMENTS, INCLUDING THE NEED FOR FIRE EXIT SIGNS WITH BATTERY BACKUPS ABOVE EACH PERSONNEL DOOR.
12. A LOCKING, ELECTRIC PANEL BOARD SHALL BE INSIDE ONE OF THE HANGAR UNITS. THE LOCATION OF THE PANEL BOARD SHALL BE COORDINATED WITH LOCAL BUILDING INSPECTIONS DEPARTMENT AND IS SUBJECT TO THE APPROVAL OF THE OWNER.
13. EACH HANGAR UNIT SHALL HAVE WALL-MOUNTED COMMERCIAL-GRADE FIRE EXTINGUISHER CABINETS WITH APPROPRIATE SIGNAGE, COMPLETE WITH FIRE EXTINGUISHERS AS REQUIRED BY LOCAL CODE ENFORCEMENT.
14. THE TYPE AND NUMBER OF ELECTRICAL RECEPTACLES PER HANGAR BAY SHALL BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS, BUT INCLUDE THREE (3) RECEPTACLES AT A MINIMUM.
15. INTERIOR LIGHTING IN T-HANGAR BAY AREAS SHALL CONSIST OF A MINIMUM OF THREE (3) 4FT LONG, 40 WATT LED CEILING FIXTURES. FIXTURES SHALL INCLUDE TWO LAMPS PER FIXTURE WITH 0-DEGREE BALLAST. SWITCH SHALL BE LOCATED AS SHOWN ON DETAIL 3 ABOVE AND SHALL BE IN ACCORDANCE WITH STATE, LOCAL AND FEDERAL REQUIREMENTS.
16. RECEPTACLES SHALL BE LOCATED ON THE BACK WALL OF THE T-HANGAR BAY AS SHOWN ON THE PLANS AND SHALL BE IN ACCORDANCE WITH STATE, LOCAL AND FEDERAL REQUIREMENTS.
17. CONTRACTOR SHALL PROVIDE A MANUAL TRANSFER SWITCH AND AN OUTLET FOR EACH FACILITY WHICH WILL ALLOW A PORTABLE GENERATOR TO BE PLUGGED IN TO POWER THE ENTIRE FACILITY IN THE EVENT OF A POWER OUTAGE, PORTABLE GENERATOR TO BE PROVIDED BY OTHERS.
18. ALL DIMENSIONS INDICATED ARE NOMINAL. USE THE MANUFACTURER PROVIDED DIMENSIONS FROM THE APPROVED SHOP DRAWING SUBMITTAL.
19. EXTERIOR LIGHTING SHALL CONSIST OF BUILDING-MOUNTED FLOOD LIGHTS, 20,000 LUMENS MINIMUM, WITH MEDIUM FLOOD OPTICS. EACH LIGHT IS TO INCLUDE A FIXED HOOD/VISOR, WHITE FINISH AND SHALL BE EQUIPPED WITH MOTION DETECTORS ADJUSTABLE UP TO A ONE-HOUR DELAYED "OFF". ALL EXTERIOR LIGHTING POWER TO BE ACTIVATED BY ONE SINGLE PHOTOCELL ORIENTED TO NORTHERN SKY AND MOUNTED ON EXTERIOR OF BUILDING.

T-HANGAR RESTROOM AND UTILITY NOTES:

1. RESTROOM FACILITY SHALL MEET NORTH CAROLINA BUILDING CODE, ACCESSIBILITY STANDARDS, AND ADA REQUIREMENTS.
2. CONTRACTOR SHALL INSTALL A HANDICAP ACCESSIBLE RESTROOM COMPLETE.
   a. TOILET SHALL BE ENCLOSED IN A HANDICAP ACCESSIBLE RESTROOM STALL.
   b. SINK SHALL BE STAND ALONE ADJACENT TO RESTROOM STALL.
   c. AN ELECTRIC, 1.5 GPM POINT-OF-USE TANKLESS WATER HEATER SHALL BE INSTALLED AT THE RESTROOM SINK.
   d. ALL RESTROOM FIXTURES SHALL BE AMERICAN STANDARD OR KOHLER COMMERCIAL GRADE FIXTURES AND SHALL INCLUDE CHROME PAPER DISPENSERS AS REQUIRED, INCLUDING HAND TOWELS. RESTROOM MIRRORS SHALL BE BOBRACH OR EQUAL.
   e. UNIVERSAL SIGNS SHALL BE PLACED ON EXTERIOR RESTROOM DOOR IDENTIFYING MEN AND WOMEN RESTROOM AND INDICATING HANDICAP ACCESSIBLE.
3. LIGHTING SHALL CONSIST OF 40W FLORESCENT LIGHT FIXTURES ABOVE SINK AND OTHER CEILING FLORESCENT LIGHTING NECESSARY FOR A 75 FOOT CANDLE LEVEL IN THE RESTROOM AREA. FLUORESCENT FIXTURES SHALL NOT HAVE EXPOSED TUBES. RESTROOM SHALL HAVE A CEILING VENT FAN VENTED TO THE EXTERIOR OF THE BUILDING. LIGHTS AND FAN SHALL BE CONTROLLED BY A SINGLE SWITCH AT THE DOOR.
4. ALL WATER LINE, SANITARY SEWER LINE, POWER, AND CABLE/DATA LINE CONSTRUCTION SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
5. CONTRACTOR TO PROVIDE WALL PACK HEATING UNIT APPROPRIATE FOR SIZE AND SPACE. CONTRACTOR TO SUBMIT SHOP DRAWING OF PROPOSED HEATING UNIT TO OWNER FOR APPROVAL.

BID DOCUMENTS - NOT FOR CONSTRUCTION

ELLIS AIRPORT
OAJ
ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
HANGAR DETAILS

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER:
C-600

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: Z:\PROJECTS\ROBLOM COUNTY\2023\139900\PA - GA TAXI - GS GA EXPANSION\PHEL DESIGN\ACAD\PA AS BUILTS\ETS\2023139900 PA C_SHT HANGAR DETAILS

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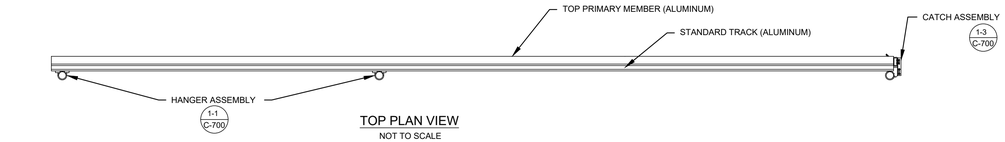
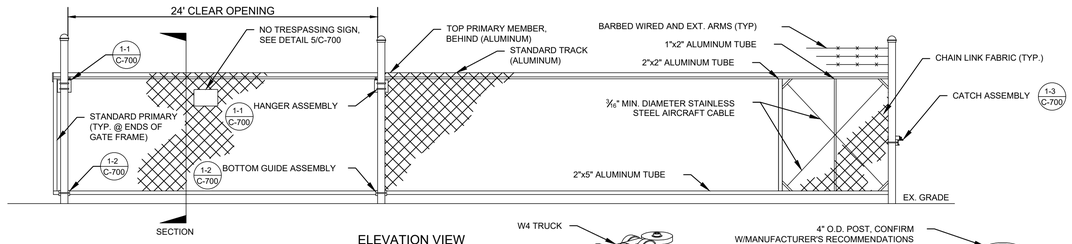
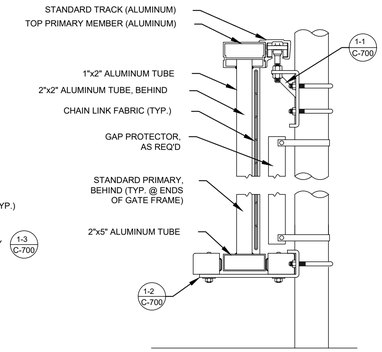


TOP PLAN VIEW
NOT TO SCALE



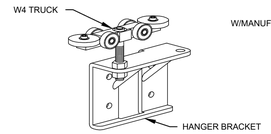
ELEVATION VIEW
NOT TO SCALE



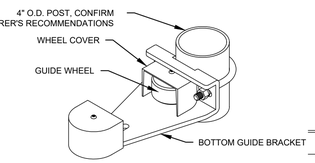
ENLARGED SECTION VIEW
NOT TO SCALE

NOTES:

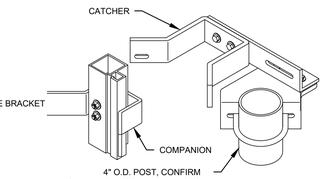
1. CHAIN LINK FENCE MATERIALS USED ON THE GATE SHALL BE PER SPECIFICATION F-162.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
3. MOTORIZED GATE OPERATOR SHALL BE PER SPECIFICATIONS AND COMPATIBLE W/CHAIN LINK CANTILEVER GATE.
4. GATE SHALL BE KEY PAD OPERATED.
5. CONTRACTOR TO INCLUDE GATE, POSTS, GATE OPERATOR, BOLLARD, CONCRETE PADS, KEYPAD, ALL POWER AND CONTROL WIRING, AND DETECTOR LOOPS FOR FULLY FUNCTIONAL GATE.
6. ALL FENCE ITEMS SHOWN AND ANY REQUIRED FENCE FABRIC AND POST INSTALLATION FOR ADJUSTMENT TO THE EXISTING FENCE SHALL BE INCLUDED IN PAY ITEM F-162-1.



1-1 C-700 GATE HANGER ASSEMBLY
NOT TO SCALE

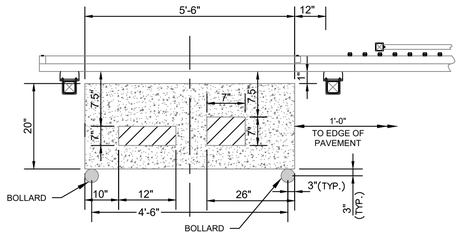


1-2 C-700 BOTTOM GUIDE
NOT TO SCALE



1-3 C-700 CATCH ASSEMBLY
NOT TO SCALE

1 C-700 24' WIDE ALUMINUM, CANTILEVER SLIDE GATE
NTS



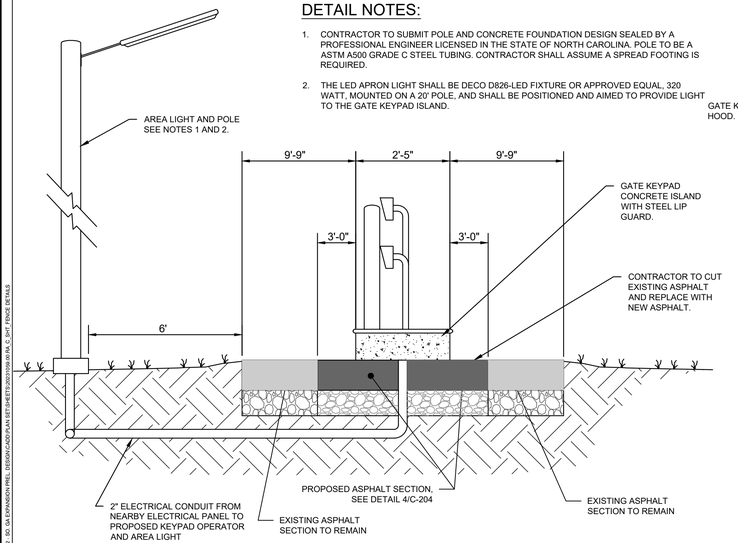
2 C-700 CONCRETE PAD FOR GATE OPERATOR DETAIL
NTS

NOTES:

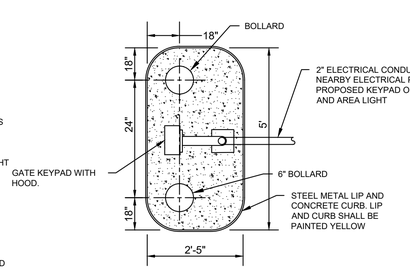
1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR THE GATE OPERATOR, AND BASE/FOOTING. GATE OPERATOR SHALL BE A BLACK HY-SECURITY SLIDE SMART DC 10F, 1/2HP GATE OPERATOR OR AN APPROVED EQUAL.
2. BASE AND FOOTINGS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
3. CONTRACTOR MUST ENSURE COMPATIBILITY WITH OPERATOR EQUIPMENT AND FENCE GATE MATERIALS USED.
4. ALL GATE OPERATOR ITEMS SHOWN AND ITS REQUIRED ACCESSORIES INCLUDING THE CONCRETE PADS, CONDUIT FOR POWER, ETC. SHALL BE INCLUDED IN PAY ITEM F-162-1

DETAIL NOTES:

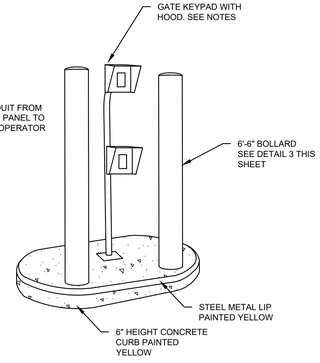
1. CONTRACTOR TO SUBMIT POLE AND CONCRETE FOUNDATION DESIGN SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. POLE TO BE A ASTM A500 GRADE C STEEL TUBING. CONTRACTOR SHALL ASSUME A SPREAD FOOTING IS REQUIRED.
2. THE LED APRON LIGHT SHALL BE DECO D826-LED FIXTURE OR APPROVED EQUAL, 320 WATT, MOUNTED ON A 20' POLE, AND SHALL BE POSITIONED AND AIMED TO PROVIDE LIGHT TO THE GATE KEYPAD ISLAND.



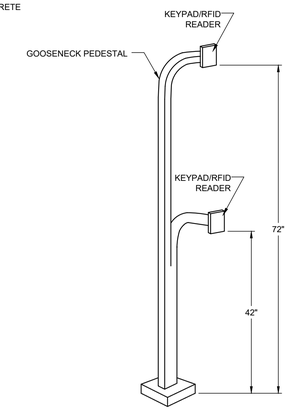
SECTION VIEW



PLAN ENTRANCE GATE



ISOMETRIC VIEW

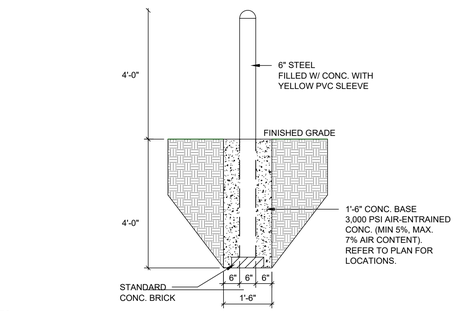


DOUBLE KEYPAD CONFIGURATION

NOTES:

1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR KEYPAD, GOOSE NECK PEDESTAL, AND BASE/FOOTING. GATE KEYPAD SHALL BE HID PIVCLASS® RKCL40 OR AN APPROVED EQUAL.
2. HEIGHTS OF THE EXTENSIONS FOR THE GOOSE NECK PEDESTAL SHALL BE 42" AND 72".
3. THE FINISH SHALL BE BLACK.
4. BASE AND FOOTINGS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
5. CONTRACTOR MUST ENSURE COMPATIBILITY WITH GOOSE NECK SELECTED AND ALL EQUIPMENT USED.
6. ALL KEYPADS ITEM SHOWN AND REQUIRED ACCESSORIES INCLUDING THE CONCRETE ISLANDS, CONDUIT FOR POWER, ETC. SHALL BE INCLUDE IN PAY ITEM F-162-2.

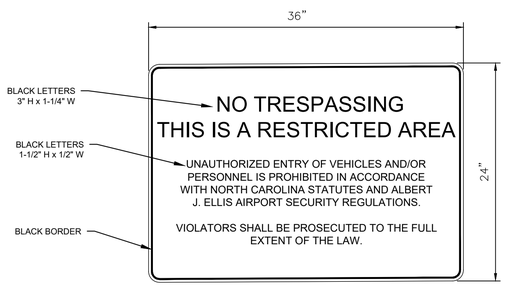
3 C-700 KEYPAD AND GOOSE NECK PEDESTAL ISLAND DETAIL
NTS



NOTES:

1. BOLLARD PAY ITEM SHALL INCLUDE COMPLETE INSTALLATION IN ACCORDANCE WITH DETAIL. THIS PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, FOR PREPARING AND PLACING THESE MATERIALS, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

4 C-700 4' BOLLARD DETAIL
NTS



NOTES:

1. FURNISHING THE " NO TRESPASSING" SIGN, SHALL BE INCLUDED IN THE PAY ITEM F-162-1.

5 C-700 NO TRESPASSING SIGN
NTS

BID DOCUMENTS - NOT FOR CONSTRUCTION

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ALBERT J. ELLIS AIRPORT
RICHLANDS, NC

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: GATE DETAILS

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	FEB. 2025

DRAWING NUMBER: C-700

WKD PROJ. NO.: 20240074.00.WK

RLE PATH: Z:\PROJECTS\ONSLOW COUNTY\2020\1900068A - OAJ TOAT - SO - GA EXPANSION PHEL - DESIGN\CADD\PLAN SET\SHEET\20201900.00.WA C_SHT / FENCE DETAILS

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GENERAL NOTES

1. PROJECT PAY ITEMS: THE PROJECT PAY ITEMS ARE PROVIDED TO BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN IN THE CONTRACT DOCUMENTS. ALL WORK NOT IDENTIFIED WITH A SPECIFIC PAY ITEM IS TO BE CONSIDERED REQUIRED WORK TO COMPLETE THE PROJECT, AND IS TO BE SUBSIDIARY TO THE COST OF PROJECT PAY ITEMS PROVIDED.

2. WHENEVER, IN THE CONTRACT DOCUMENTS, THE WORDS "PROVIDE", "FURNISH", "INSTALL", "FURNISH AND INSTALL", OR OTHER WORDS OF LIKE IMPORT ARE USED, IT SHALL BE UNDERSTOOD THAT THE INTENT OF THE CONTRACT DOCUMENTS IS TO PROVIDE FOR THE CONSTRUCTION AND COMPLETION IN EVERY DETAIL OF THE WORK DESCRIBED. IT IS FURTHER INTENDED THAT THE CONTRACTOR SHALL FURNISH ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, SUPPLIES, TESTING AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS (PLANS), SPECIFICATIONS AND TERMS OF THE CONTRACT.

3. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, ETC., PRIOR TO COMMENCEMENT OF WORK. THE COST OF PERMITS, LICENSES, ETC., SHALL BE INCIDENTAL TO AND INCLUDED IN THE BID PRICE FOR THE RESPECTIVE PAY ITEMS.

4. CIVIL INFORMATION IS SHOWN ON ELECTRICAL DRAWINGS FOR REFERENCE ONLY.

5. ITEMS SHOWN IN SCREEN (GHOST) ARE CIVIL AND EXISTING ELECTRICAL ITEMS. ITEMS SHOWN IN SOLID (BOLD) ARE NEW ELECTRICAL ITEMS TO BE INSTALLED UNDER THIS CONTRACT, UNLESS OTHERWISE NOTED.

6. ALL EXCAVATION WITHIN 5 FEET OF AN UNDERGROUND UTILITY SHALL BE PERFORMED BY HAND EXCAVATION METHODS. IF ENCOUNTERED, EXISTING DIRECT BURIED CABLES TO REMAIN SHALL BE ENCLOSED IN SPLIT DUCT AND ENCASED IN A 3" ENVELOPE OF P-610 CONCRETE UNDER THE FOLLOWING CONDITIONS:

   A. WHEN WITHIN 20 FEET OF EXCAVATION, TRENCHING, ETC.

   B. WHEN PAVEMENT WIDENING OR EXTENSIONS WILL BE ROUTED OVER THE EXISTING CABLE. THE SPLIT DUCT WILL EXTEND 20 FEET BEYOND THE NEW EDGE OF PAVEMENT.

   C. WHEN ENCOUNTERED DURING CONSTRUCTION.

   D. WHEN SUBJECT TO DAMAGE, IN THE OPINION OF THE OWNER/ENGINEER, FROM CONSTRUCTION ACTIVITIES.

7. THE CONTRACTOR SHALL BEFORE STARTING CONSTRUCTION, VISIT THE SITE OF THE PROJECT AND VERIFY EXISTING CONDITIONS.

8. EXISTING CONDUIT, DUCT BANK, CIRCUITING AND UTILITY INFORMATION IS BASED ON "AS-BUILT" AND "RECORD" DRAWINGS, AND SITE VISITS BY THE ENGINEER. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL NOT BE SCALED FOR EXACT LOCATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE APPROPRIATE UTILITY/ AGENCY, PRIOR TO STARTING WORK, AND STAKE/MARK THE LOCATION OF ALL EXISTING UTILITIES. ANY INTERRUPTION OF AN EXISTING SYSTEM OR UTILITY SERVICE SHALL BE COORDINATED AND APPROVED BY THE AUTHORITY, AGENCY OR UTILITY HAVING JURISDICTION, PRIOR TO STARTING WORK.

9. ALL EXISTING SYSTEMS/UTILITIES TO REMAIN SHALL BE PROTECTED FROM DAMAGE. REPLACEMENT OF ANY DAMAGED EXISTING SYSTEMS/ UTILITIES TO REMAIN SHALL BE AT NO ADDITIONAL COST TO THE OWNER. ALL DAMAGED SYSTEMS SHALL BE IMMEDIATELY REPAIRED WITHIN 24 HOURS TO THE SATISFACTION OF THE OWNER. FAA CABLES CANNOT BE SPLICED. DAMAGE TO FAA CABLES WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR COMPLETE REPLACEMENT OF THE FAA CABLE.

10. ELECTRICAL DEMOLITION WORK SHALL BE LIMITED TO THE AREAS AND SCHEDULES IDENTIFIED IN THE APPROVED PHASING PLAN. TEMPORARY JUMPER NEEDED TO MAINTAIN ELECTRICAL CONTINUITY AROUND CLOSED WORK AREA ARE SHOWN ON THE DEMOLITION PLANS. THE CONTRACTOR MAY NEED ADDITIONAL "JUMPERS".

11. ALL WORK SHOWN ON THE EXISTING CONDITIONS AND DEMOLITION DRAWINGS IS BASED ON FIELD OBSERVATION OF THE ACTUAL EXISTING CONDITIONS AND ON EXISTING "AS-BUILT" DRAWINGS OF THE AREAS AFFECTED. THEY ARE THEREFOAT CONSIDERED TO BE SCHEMATIC. IT IS THE INTENT OF THE DEMOLITION DRAWINGS THAT ALL EQUIPMENT, DEVICES, FIXTURES, WIRING MATERIALS, SYSTEMS AND APPURTENANCES, ETC., WHICH ARE NO LONGER REQUIRED AS A RESULT OF THE PROJECT BE REMOVED.

12. ALL REMOVED FIXTURES, BASE PLATES, SPACERS, SIGNS, TRANSFORMERS, CABLES, DUCTS, BASE CANS, CONCRETE PADS, JUNCTION CANS, HANDHOLES, MANHOLES, ETC., SHALL BE PROPERLY DISPOSED OF OFF THE SITE BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON PLANS. THE AIRPORT HAS THE FIRST RIGHT OF REFUSAL OF ALL MATERIALS REMOVED AS A PART OF THIS PROJECT. ITEMS SHALL BE PROVIDED TO THE AIRPORT OR PROPERLY DISPOSED OF AT THEIR DIRECTION. ANY ITEMS DAMAGED DURING REMOVAL WILL BE REPLACED AT CONTRACTOR'S EXPENSE.

13. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO DETERMINE THAT ALL AIRFIELD LIGHTING CIRCUITS, EXCEPT THOSE THAT ARE SERVING CLOSED TAXIWAYS OR RUNWAYS, ARE COMPLETELY OPERATIONAL, AT THE END OF EACH WORK SHIFT AND SHALL SO CERTIFY TO THE RESIDENT ENGINEER/INSPECTOR AND OWNER BEFORE THE END OF EACH SHIFT. THE CONTRACTOR SHALL NOT LEAVE THE WORK SITE UNTIL CIRCUIT OPERATION HAS BEEN CONFIRMED BY THE RESIDENT ENGINEER/INSPECTOR AND OWNER.

14. THE CONTRACTOR SHALL COMPLETELY SURVEY AND STAKE OUT EACH AREAS' LIGHTING LAYOUT PRIOR TO STARTING ANY INSTALLATION. SHOULD ANY IRREGULARITIES OCCUR IN THE LIGHTING LAYOUT, THE OWNER SHALL BE NOTIFIED IMMEDIATELY. THE BID ITEM PRICE SHALL INCLUDE THE NECESSARY LAYOUT FOR EACH FIXTURE, AND THE COST FOR ANY ADDITIONAL ADJUSTMENT OF THE LOCATION OF THE FIXTURES, DUE TO THE EXISTING GEOMETRIC CONDITIONS. THE NEW LIGHTING INSTALLATION SHALL BE COORDINATED WITH AND BLEND INTO THE EXISTING INSTALLATION.

15. IF A LIGHT CAN IS INSTALLED INCORRECTLY, THE DUCT/CONDUIT IS PLUGGED/BROKEN THE CONCRETE SLABS OR ASPHALT PAVEMENT AROUND THE LIGHT CAN, AND THE LIGHT, SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.

16. LOCATE AND UTILIZE EXISTING DUCTS WHERE POSSIBLE. MANDREL EXISTING DUCTS TO DETERMINE ACCEPTABILITY FOR USE. THE COST OF MANDRELLING THE EXISTING DUCTS SHALL BE INCIDENTAL TO THE NEW DUCT INSTALLATION PAY ITEM. IF EXISTING DUCTS SHOWN ARE DAMAGED, NON-EXISTENT, OR ROUTED DIFFERENTLY, WITH THE PERMISSION OF THE OWNER, OPEN CUT PAVEMENT AND INSTALL NEW DUCT AS DETAILED IN THE PLANS.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STORAGE OF ALL ITEMS REQUIRING STORAGE PRIOR TO REINSTALLATION. ALL SIGNS UNITS, LIGHT FIXTURES, ETC. SHALL BE REINSTALLED OR RETURNED TO THE OWNER UNDAMAGED, IN PROPER WORKING CONDITION, CLEANED AND RE-LAMPED. ITEMS WHICH ARE DAMAGED PRIOR TO CONTRACTOR POSSESSION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BY THE CONTRACTOR PRIOR TO DEMOLITION AND SHALL BE PHOTO DOCUMENTED. ANY ITEMS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES OR STORAGE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

18. THE DIMENSION BETWEEN LIGHTS SHOWN ON A RADIUS IS DEFINED AS THE CHORD LENGTH. LOCATIONS SHOWN ARE TO THE CENTER OF THE LIGHTING FIXTURE. THE DIMENSION SHOWN ARE ESTIMATED. THE CONTRACTOR SHALL SURVEY THE ACTUAL DIMENSIONS AND MODIFY THE LIGHT SPACING AS NEEDED. THE COST SHALL BE INCIDENTAL TO THE LIGHT INSTALLATION.

19. ALL MANHOLES OR HANDHOLES SHALL BE INSTALLED AS SHOWN ON PLANS. MANHOLES OR HANDHOLES SHALL NOT BE INSTALLED IN DITCHES, DRAINAGE SWALES OR WHERE WATER WILL POND ON TOP OF THE MANHOLE/HANDHOLE.

20. DEWATERING FOR THE INSTALLATION OF MANHOLES, HANDHOLES, BASE CANS, DUCT BANKS OR CONDUITS ARE INCIDENTAL TO THE RESPECTIVE PAY ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR AND OBTAIN ANY AND ALL PERMITS REQUIRED FOR DEWATERING.

21. THE ELECTRICAL CONTRACTOR SHALL ATTEND THE CONSTRUCTION MEETINGS, HELD WEEKLY, FOR THE DURATION OF THE PROJECT.

22. ALL ELECTRICAL DEMOLITION SHALL INCLUDE FOUNDATION REMOVAL AND BACKFILL PER P-152. SEE SPECIFICATION T-901 AND T-904 FOR SEEDING AND SODDING REQUIREMENTS. NO SEPARATE PAYMENT SHALL BE MADE FOR RESTORATION.

23. GROUNDING SHALL BE IN ACCORDANCE WITH SPECIFICATION L-108 AND FAA AC 150/5340-30 (LATEST EDITION). THE RESISTANCE FROM THE GROUND ROD TO EARTH MUST BE 25 OHMS OR LESS PRIOR TO CONNECTION TO THE GRUND SYSTEM. IF THE 25 OHM REQUIREMENT IS NOT MET, ADDITIONAL GROUND ROD SECTIONS SHALL BE INSTALLED. ALL TESTING SHALL BE WITNESSED BY THE RESIDENT ENGINEER/INSPECTOR OR OWNER. THE CONTRACTOR SHALL SUBMIT ALL GROUND RESISTANCE TESTING RESULTS TO OWNER AT THE END OF THE PROJECT. IF MORE THAN 2 GROUND BARS ARE NEEDED TO MEET THE 25 OHM REQUIREMENT, THE ENGINEER/OWNER SHALL BE NOTIFIED PRIOR TO INSTALLATION.

24. ALL EQUIPMENT PROVIDED IN THIS PROJECT SHALL BE LISTED IN FAA AC 150-5345-53 APPENDIX (LATEST EDITION).

25. ALL EXISTING CONDUCTORS SHALL BE TESTED FOR INSULATION RESISTANCE PRIOR TO WORKING ON CIRCUIT USING A 1000V MEGGER AND SHALL BE RETURNED TO SERVICE WITH MATCHING OR BETTER INSULATED RESISTANCE READINGS. ALL PROPOSED CONDUCTORS SHALL BE TESTED FOR INSULATION RESISTANCE PRIOR TO CONNECTING TO EXISTING CIRCUIT, USING A 1000V MEGGER. NEW PORTIONS OF CIRCUITS SHALL BE COMPLETE FOR TESTING. ALL TESTING SHALL BE WITNESSED BY THE RESIDENT ENGINEER/INSPECTOR OR OWNER. ALSO, CONTRACTOR SHALL SUBMIT ALL INSULATION RESISTANCE TESTING RESULTS TO OWNER AT THE END OF THE PROJECT.

26. THE ALBERT J. ELLIS AIRPORT MAINTENANCE DEPARTMENTS "LOCKOUT/TAGOUT" PROCEDURE SHALL BE COMPLIED WITH BY THE CONTRACTOR. CONTACT AIRPORT MAINTENANCE TO "LOCKOUT/TAGOUT" REGULATORS AND FOR A COPY OF ALBERT J. ELLIS AIRPORT MAINTENANCE DEPARTMENTS "LOCKOUT/TAGOUT" PROCEDURE. THE CONTRACTOR SHALL COMPLY WITH ALL SAFETY PROCEDURES OUTLINED IN AC 150/5340-26B (LATEST EDITION).

27. BY OPENING THESE SHEETS IN AUTOCAD, THE USER AGREES THAT DATA PROVIDED BY ELECTRONIC FILES ARE FOR INFORMATIONAL PURPOSES ONLY AND SHOULD BE USED AT ONE'S OWN RISK. THE ENGINEER MAKES NO REPRESENTATIONS, WRITTEN OR VERBAL, THAT THE INFORMATION CONTAINED IN THESE DIGITAL FILES IS COMPLETE OR ACCURATE OR SHOULD BE RELIED UPON FOR CONSTRUCTION. ANY CONFLICT BETWEEN THE INFORMATION REFLECTED ON THE SEALED PLAN SHEETS AND ELECTRONIC DATA SHALL BE RESOLVED IN FAVOR OF THE SEALED PLAN SET.

28. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE WORK WITH THE APPROPRIATE UTILITIES AS NECESSARY. THE CONTRACTOR MAY BE REQUIRED TO WORK CONCURRENTLY WITH OR "WORK AROUND" EXISTING UTILITIES. THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY UTILITY COMPANIES.

29. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY A MINIMUM OF 7 DAYS PRIOR TO BEGINNING ANY EXCAVATION WORK TO HAVE UNDERGROUND UTILITIES MARKED ON THE GROUND.

30. THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL SHUTDOWNS WITH THE FAA AND AIRPORT.

ABBREVIATIONS:

AWG	-	AMERICAN WIRE GAUGE
ALCMS	-	AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM
BP1	-	BID PACKAGE 1
BSDC	-	BARE SOFT DRAWN COPPER
CC	-	CENTER TO CENTER
CE	-	CONCRETE ENCASED
CKT	-	CIRCUIT
CL	-	CENTERLINE
CLT/CDIA	-	CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT
COMM	-	COMMUNICATION
CU	-	COPPER
DD	-	DIRECTIONAL DRILLED
DEB	-	DIRECT EARTH BURIED
DIA	-	DIAMETER
ELD	-	ELECTRICAL LINE DISTRIBUTION
EOP	-	EDGE OF PAVEMENT
EQ	-	EQUAL
FOC	-	FIBER OPTIC CABLE
FOTS	-	FIBER OPTIC TRANSMISSION SYSTEM
GSE	-	GROUND SERVICE EQUIPMENT
HDPE	-	HIGH DENSITY POLYETHYLENE
IFR	-	INSTRUMENT FLIGHT RULES
ILC	-	INDIVIDUAL LIGHT CONTROLLER
IPRF	-	INNOVATIVE PAVEMENT RESEARCH FOUNDATION
IP	-	INFLECTION POINT
JCP	-	JUNCTION CAN PLAZA
KV	-	KILOVOLT
MAX	-	MAXIMUM
MIN	-	MINIMUM
MITL	-	MEDIUM INTENSITY TAXIWAY EDGE LIGHT
NEAT	-	NORTH END AROUND TAXIWAY
PC	-	POINT OF CURVATURE
PI	-	POINT OF INFLECTION
PS	-	PAVEMENT SENSOR
PT	-	POINT OF TANGENCY
PVC	-	POLYVINYL CHLORIDE
REL	-	RUNWAY ENTRANCE LIGHT
RGS	-	RIGID GALVANIZED STEEL
RWY	-	RUNWAY
RWSL	-	RUNWAY STATUS LIGHTS
SCH	-	SCHEDULE
SCHED	-	SCHEDULE
SP	-	SPACES
THL	-	TAKEOFF HOLD LIGHT
TWY	-	TAXIWAY
TYP	-	TYPICAL
UGE	-	UNDERGROUND ELECTRICAL
UNO	-	UNLESS NOTED OTHERWISE
WWF	-	WELDED WIRE FABRIC

BID DOCUMENTS - NOT FOR CONSTRUCTION

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PROFESSIONAL SEAL

NO.	DATE	DESCRIPTION	BY

REVISION RECORD

PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: **ELECTRICAL GENERAL NOTES AND ABBREVIATIONS**

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-001
WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WDE\PROJS\HARDWOOD\DESIGN\ - PROJECTS\ALBERT J. ELLIS\08 SOUTH GA EXPANSION\CIVIL\DESIGN\01 - CURRENT\D250108.08 FAA_E_SHT_ELEC_GEN NOTES

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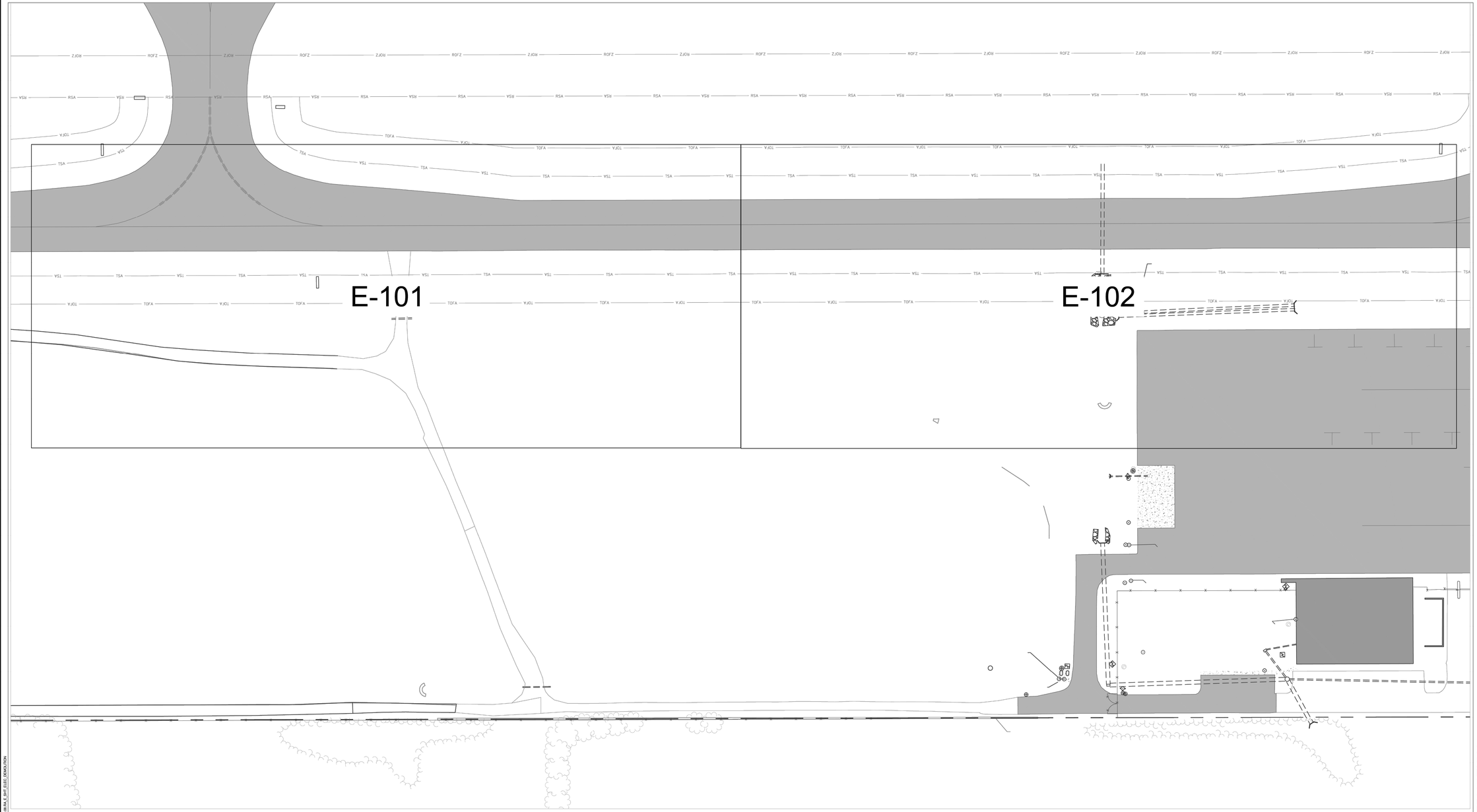

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
OVERALL ELECTRICAL DEMOLITION PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-100

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WKD\PROJECTS\ALBERT J. ELLIS\SOUTH GA EXPANSION\CTD\DESIGN\01 - CURRENT\20240074.00.WK_E_SHT_ELEC_DEMOLITION.

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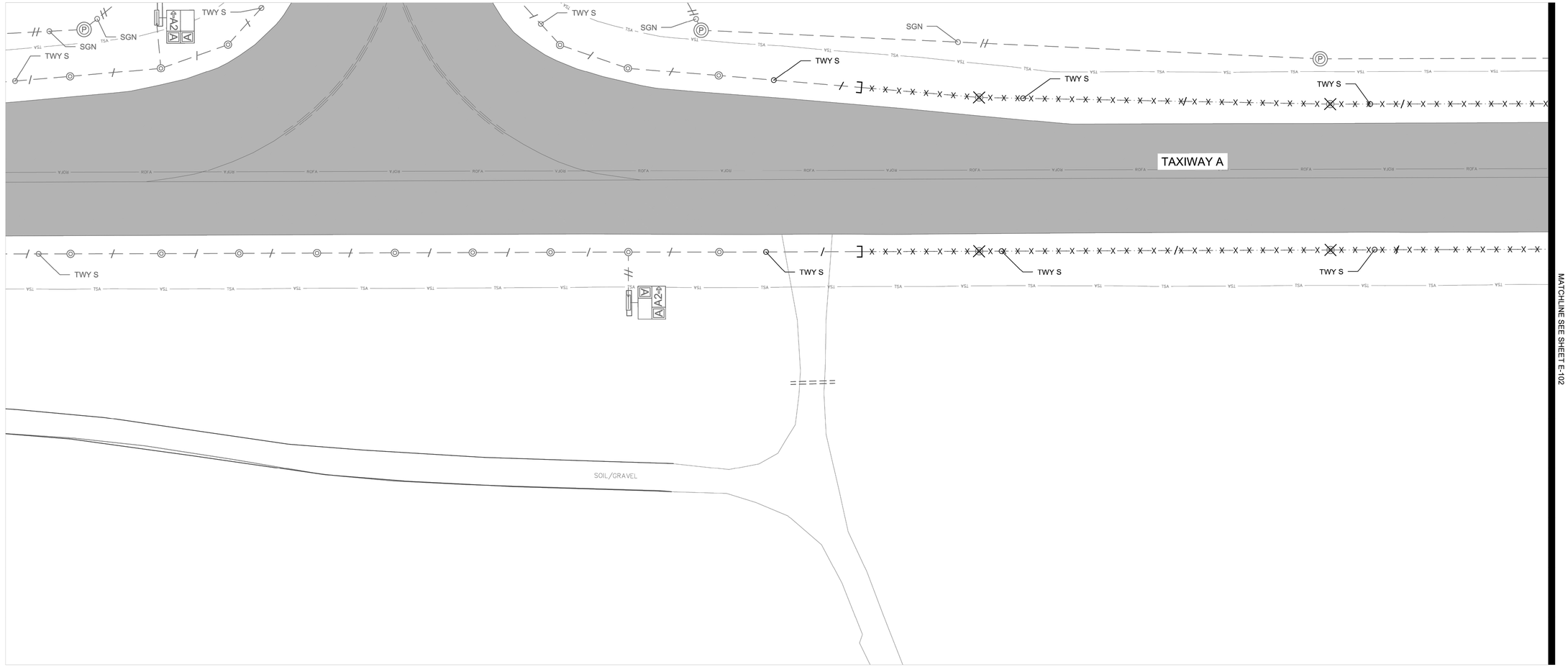
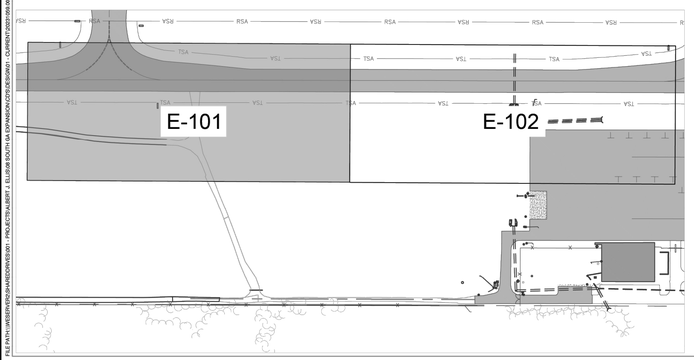
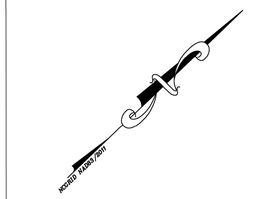




EXISTING ELECTRICAL LEGEND:

- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT
- EXISTING AIRFIELD GUIDANCE SIGN
- EXISTING PULL CAN
- EXISTING CONDUIT. CKT = EXISTING CIRCUIT DESIGNATOR. NUMBER OF TICS INDICATES NUMBER OF EXISTING CABLES INSIDE CONDUIT (CKT)
- DEMOLISH. COMPLETELY REMOVE UNLESS OTHERWISE NOTED. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO: CONCRETE, REBAR, CONDUIT, CABLE, COUNTERPOISE, JUNCTION STRUCTURES (ANY DEPTH), AGGREGATE, GROUND RODS, BASE CANS, AS SHOWN ON PLANS.
- CONDUIT CAP. CAP EXISTING CONDUITS AT DEMOLITION LIMITS WITH APPROPRIATELY SIZED FRICTION FIT PVC CAPS TO PREVENT DIRT AND DEBRIS FROM ENTERING THE CONDUIT. REMOVE CABLE BACK TO ADJACENT JUNCTION STRUCTURES/LIGHT BASES.



30 0 15 30 60

1 inch = 30 ft.

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(f)919-782-0495
WWW.WKDICKSON.COM
NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL DEMOLITION PLAN - PLAN SHEET 1 OF 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-101
WKD PROJ. NO.:
20240074.00.WK

FILEPATH:\WEBSYNC\SHARED\WKDEV001 - PROJECTS\ALBERT J. ELLIS\04 SOUTH GA EXPANSION\CIVIL\DESIGN\01 - CURRENT\20251009 08:08 DA_E_SHT_ELEC_DEMOLITION

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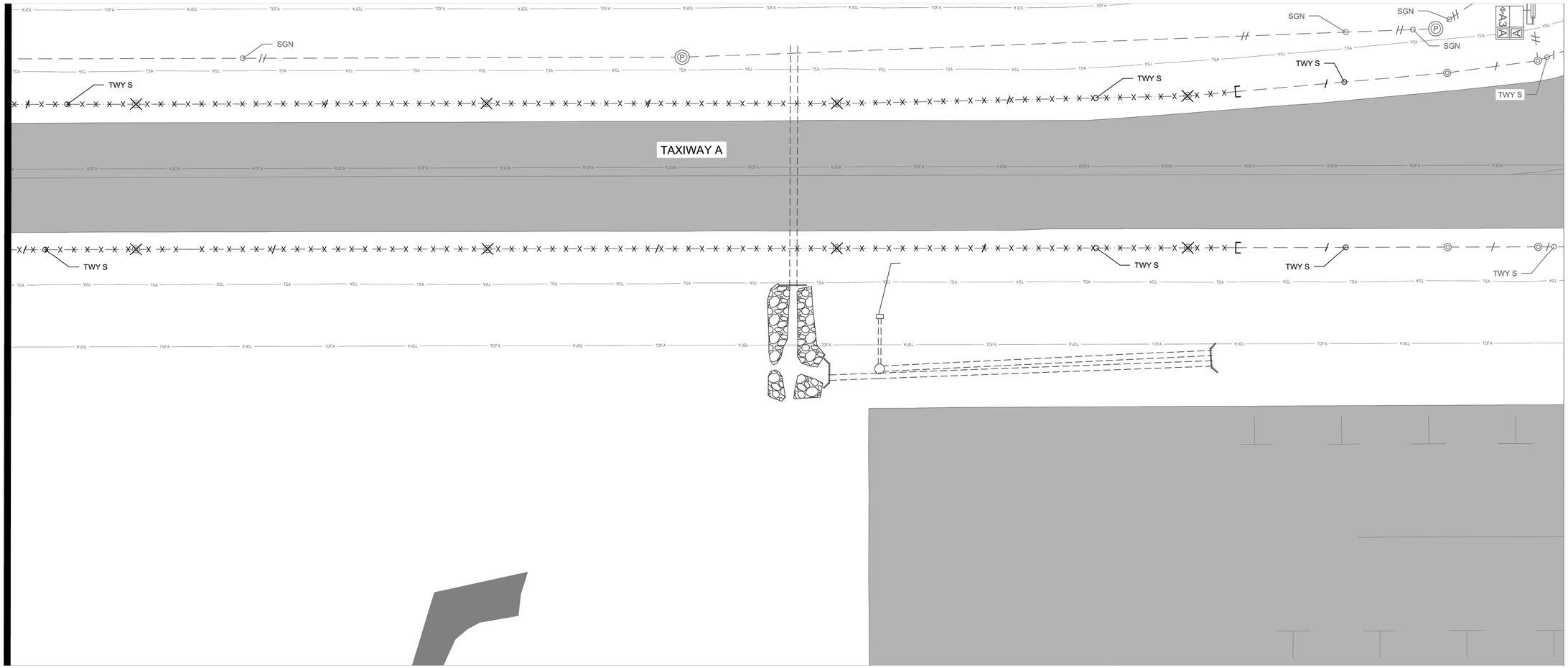

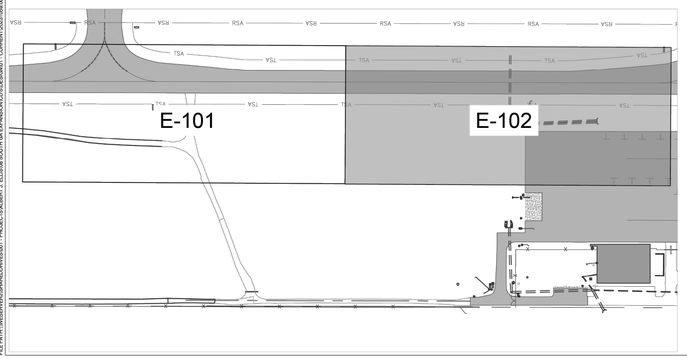

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- EXISTING PULL CAN
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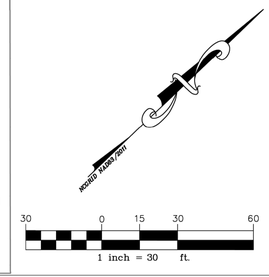

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL DEMOLITION PLAN - PLAN SHEET 2 OF 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-102

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: W:\SERVER\ENGINEERING\PROJECTS\ALBERT J. ELLIS\04 SOUTH GA EXPANSION\CDS\DESIGN\ - CURRENT\2025\100-50% PLAN_E_SHT_ELEC_DEMOLITION

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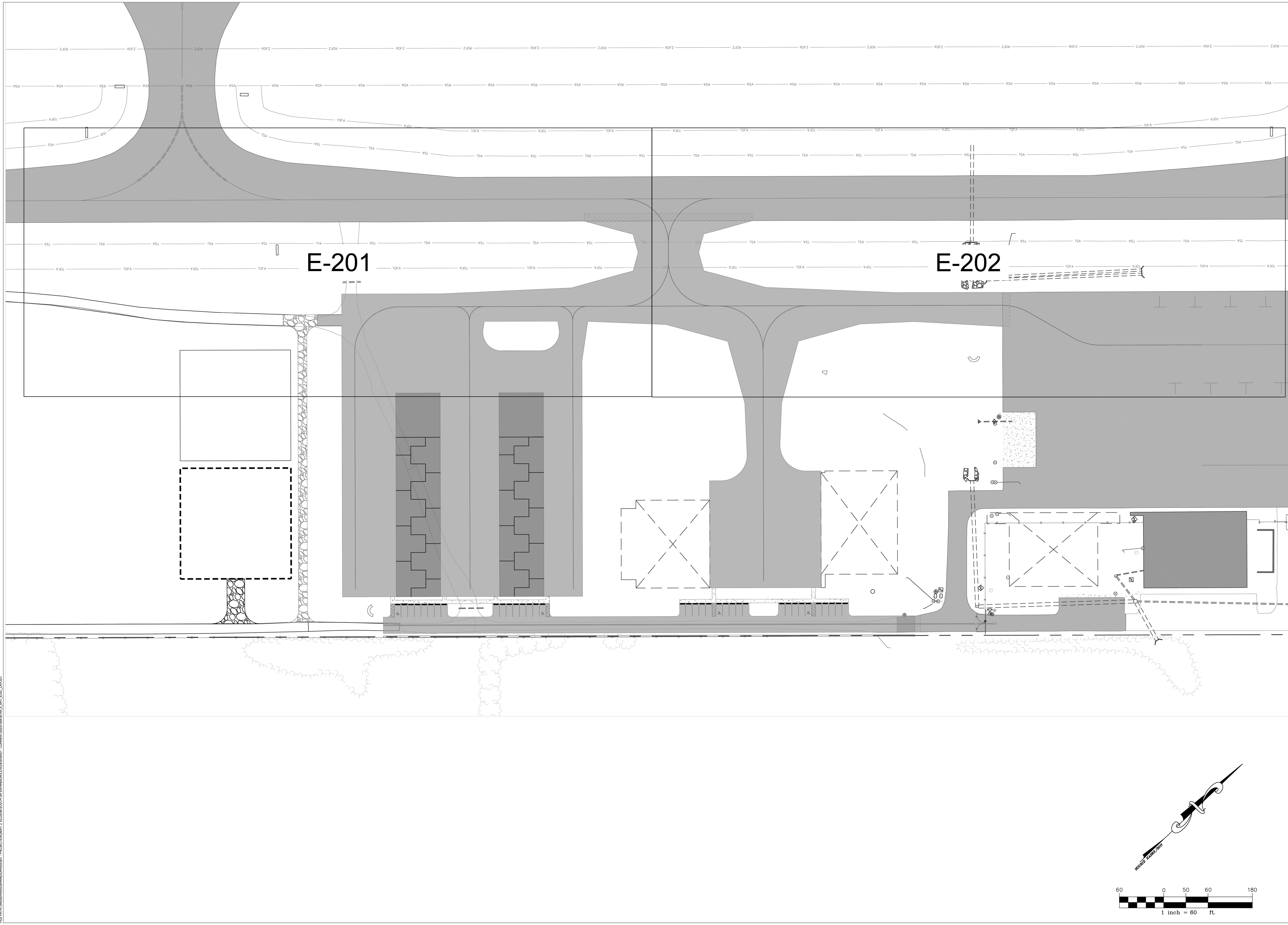

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:

SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:

OVERALL ELECTRICAL LAYOUT PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:

E-200

WKD PROJ. NO.:

20240074.00.WK

FILE PATH:\\WESERVER2\SHAREDDRIVES\001 - PROJECTS\ALBERT J. ELLIS\08 SOUTH GA EXPANSION\CD'S\DESIGN\01 - CURRENT\20231059.00.RA_E_SHT_ELEC_LAYOUT

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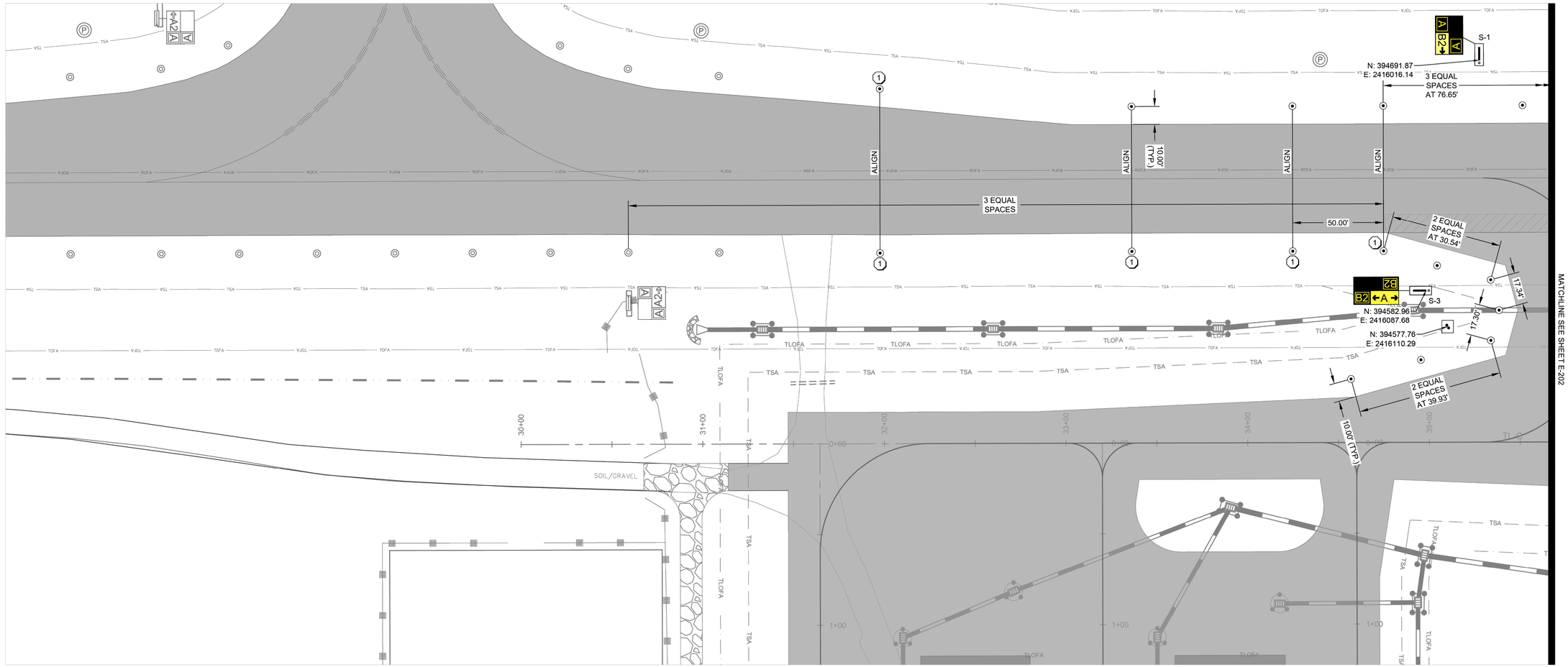

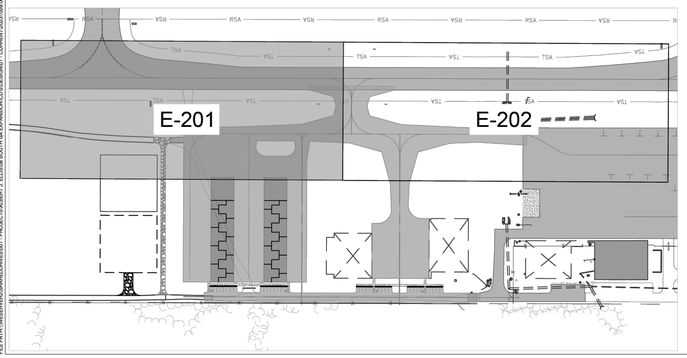

KEY NOTES:

1. INSTALL TAXIWAY EDGE LIGHT SUCH THAT IT IS ALIGNED WITH THE OFFSET OF THE EXISTING TAXIWAY EDGE LIGHTS ALONG TAXIWAY A (10.00' MAX.)

EXISTING ELECTRICAL LEGEND:

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- EXISTING AIRFIELD GUIDANCE SIGN
- EXISTING PULL CAN
- CKT — EXISTING CONDUIT. CKT = EXISTING CIRCUIT DESIGNATOR. NUMBER OF TICS INDICATES NUMBER OF EXISTING CABLES INSIDE CONDUIT
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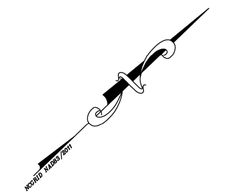
PROPOSED ELECTRICAL LEGEND:

- L-861T(L), LED, OMNI-DIRECTIONAL, TAXIWAY EDGE LIGHT. INSTALL 14" STEM ON L-867B BASE CAN, CLASS 1A, WITH BASE PLATE, PROPERLY SIZED L-830 TRANSFORMER AND L-823 CONNECTORS. EDGE LIGHT INSTALLED IN TURF
- L-858B(L) AIRFIELD SIGN, LED, INSTALLED ON A CONCRETE FOUNDATION WITH L-867B CLASS 1A, 24" DEEP BASE CAN, PROPERLY SIZED L-830 TRANSFORMER AND L-823 CONNECTORS
- JUNCTION CAN PLAZA IN CONCRETE BASE WITH TWO CLASS 1A L-867D BASE CANS IN PLAZA.
- PROPOSED AIRFIELD ELECTRICAL DUCT BANK. SCHEDULE 40 PVC CONDUIT, CONCRETE ENCASED. X= NUMBER OF CONDUITS IN DUCT, Y= DIAMETER OF CONDUIT IN INCHES. CKT# = CIRCUIT DESIGNATOR(S) INSIDE DUCT. NUMBER OF TICS INDICATE NUMBER OF NEW L-824, TYPE C, 5KV CABLES INSIDE DUCT.

  2" SCH. 40 PVC CONDUIT, DIRECT EARTH BURIED. NUMBER OF TICK MARKS INDICATE THE NUMBER OF NEW L-824, TYPE C, 5 KV, #8 AWG, CABLES INSTALLED IN CONDUIT. CKT = CIRCUIT DESIGNATOR.

  INTERCEPT EXISTING CONDUIT AND CONNECT TO NEW CONDUIT WITH APPROPRIATELY SIZED PVC COUPLING. INSTALL NEW CABLE(S) BACK TO ADJACENT JUNCTION STRUCTURES/LIGHT BASES AS SHOWN ON CIRCUITING PLANS.



30 0 15 30 60
1 inch = 30 ft.

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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DESCRIPTION	DATE	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL LAYOUT PLAN - PLAN SHEET 1 OF 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-201

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WE\SURVEY\SURVEY\DRAWINGS\20240001 - PROJECTS\ALBERT J. ELLIS\SE SOUTH GA EXPANSION\CDS\E\20240001 - CURRENT\20240074.00 WA_E_SHT_ELEC_LAYOUT.DWG

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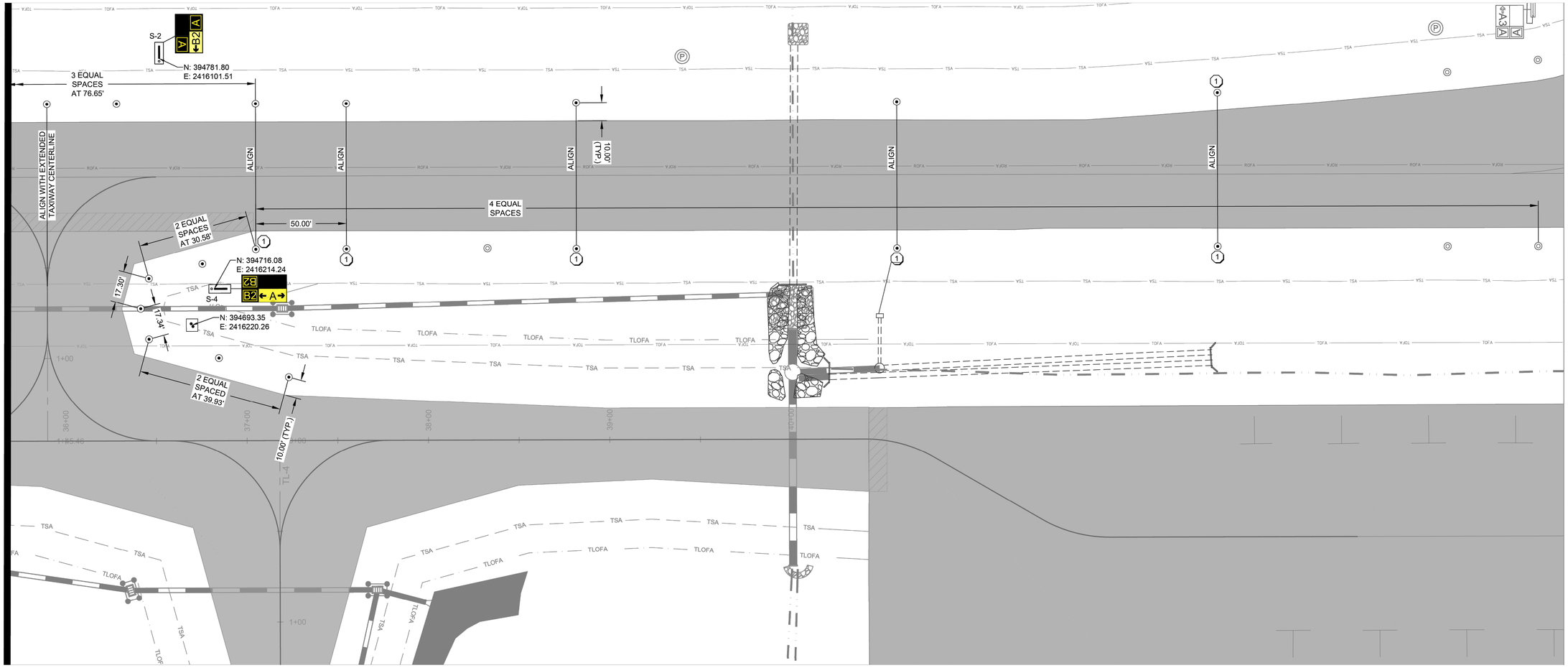

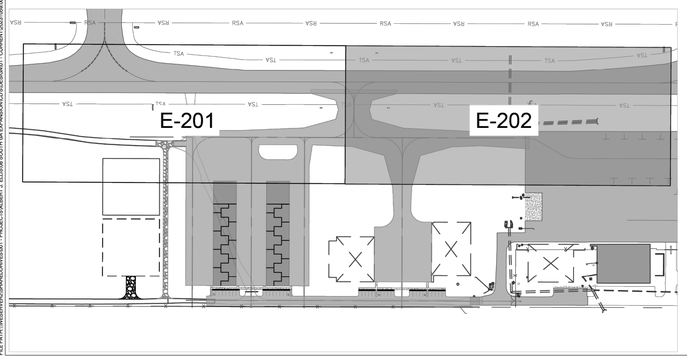

EXISTING ELECTRICAL LEGEND:

- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT
- EXISTING AIRFIELD GUIDANCE SIGN
- EXISTING PULL CAN
- EXISTING CONDUIT. CKT = EXISTING CIRCUIT DESIGNATOR. NUMBER OF TICS INDICATES NUMBER OF EXISTING CABLES INSIDE CONDUIT
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30 0 15 30 60

1 inch = 30 ft.

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL LAYOUT PLAN - PLAN SHEET 2 OF 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-202

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\RESRVED\SHARED\DIVISION - PROJECTS\ALBERT J. ELLIS\SOUTH GA EXPANSION\CONSTRUCTION\CURRENT\20240074.00.WK_E_SHT_ELEC_LAYOUT

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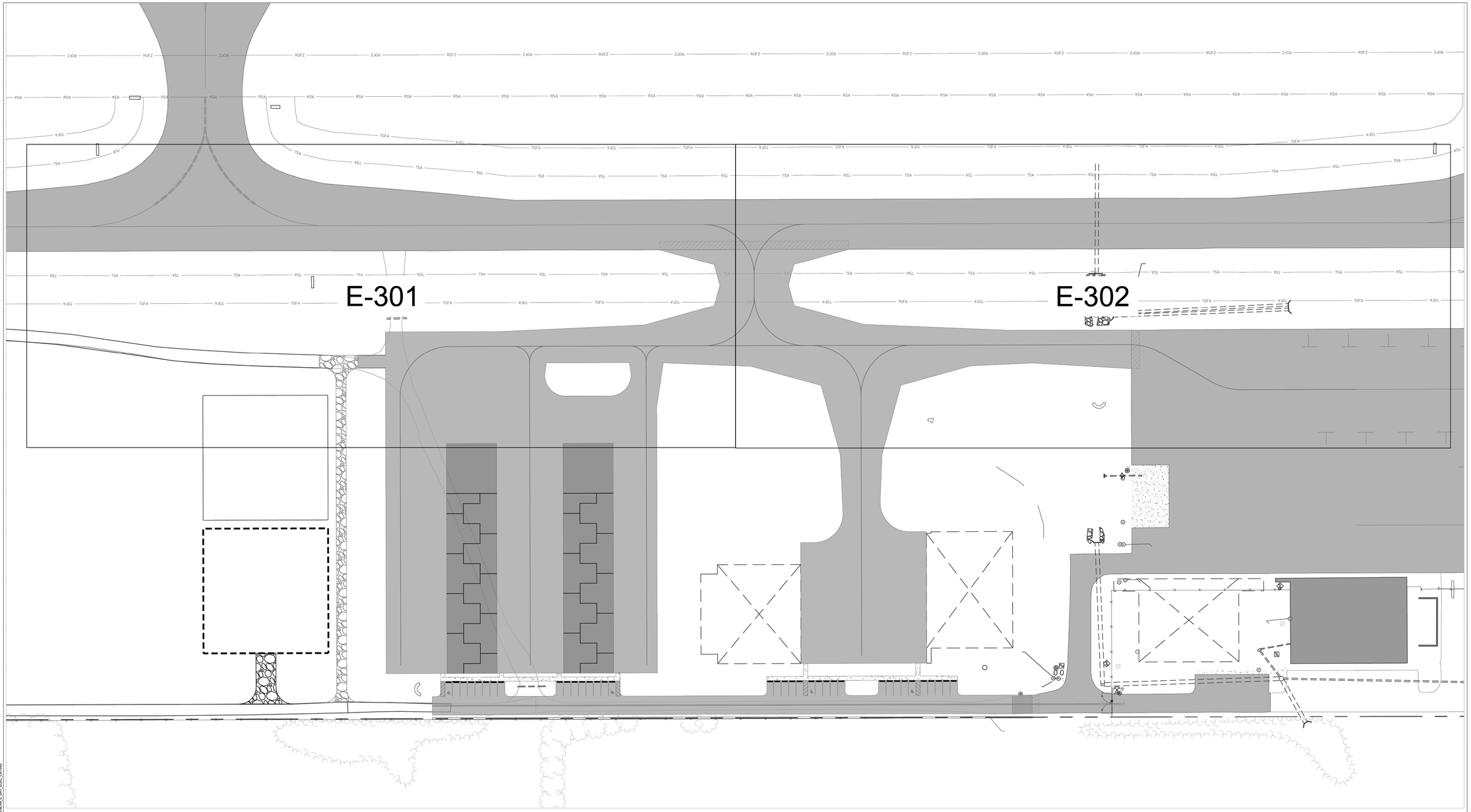

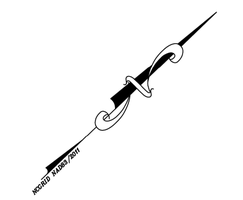

60 0 50 60 180

1 inch = 60 ft.

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
OVERALL ELECTRICAL CIRCUITING PLAN

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-300

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WKD\PROJECTS\20240074.00\WK\CAD\DESIGN\01 - PROJECTS\ALBERT J. ELLIS\SOUTH GA EXPANSION\CONSTRUCTION\01 - CURRENT\20240074.00.WK & E_BAT_ELEC_OVRALL

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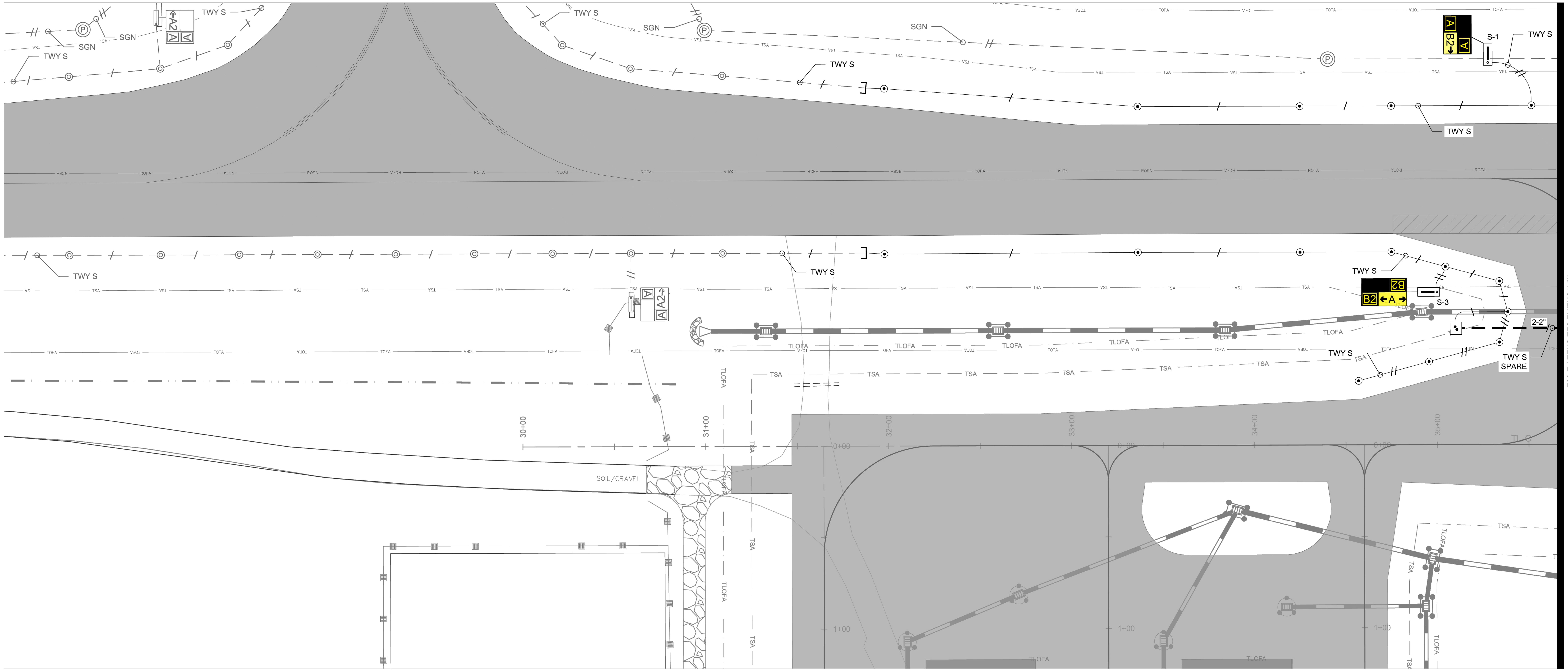

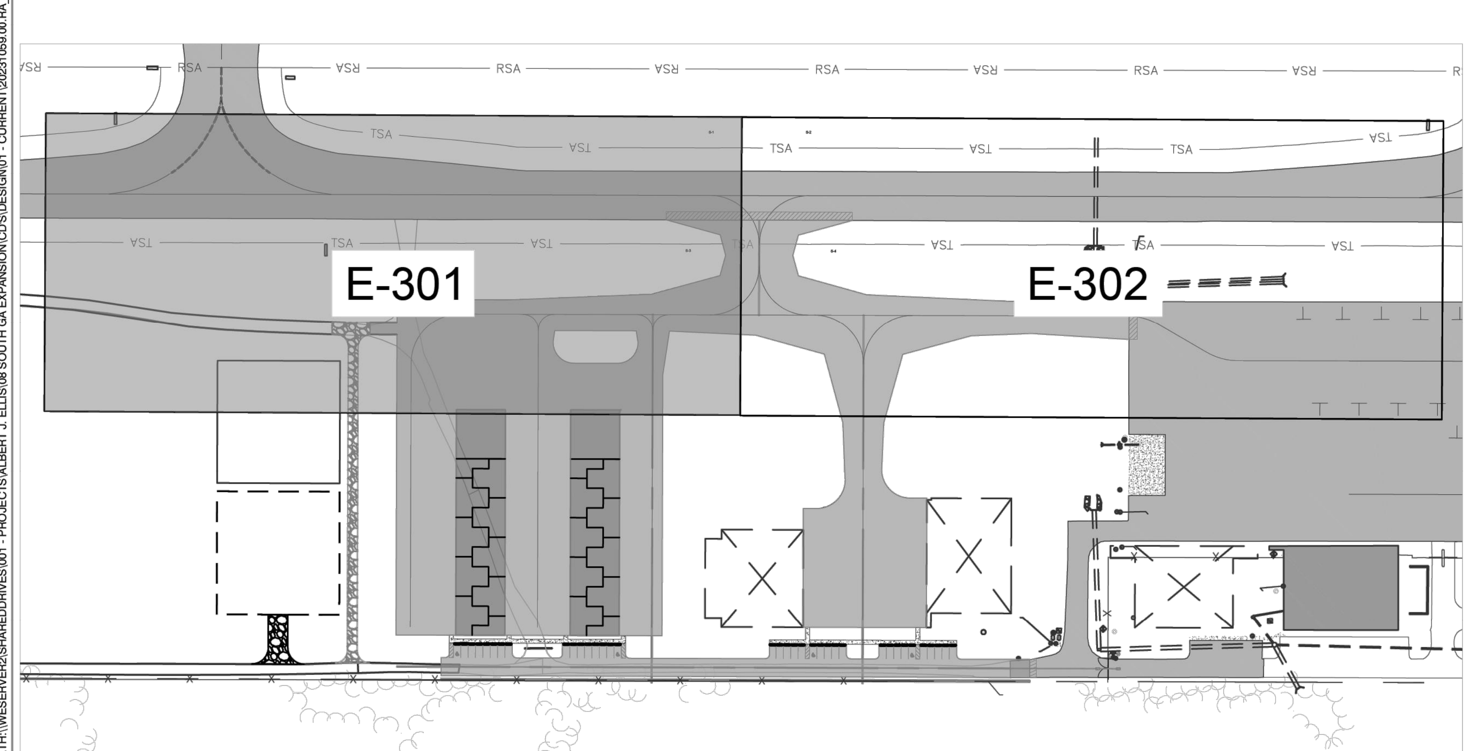

EXISTING ELECTRICAL LEGEND:

EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT

EXISTING AIRFIELD GUIDANCE SIGN

EXISTING PULL CAN

CKT — EXISTING CONDUIT. CKT = EXISTING CIRCUIT DESIGNATOR. NUMBER OF TICS INDICATES NUMBER OF EXISTING CABLES INSIDE CONDUIT

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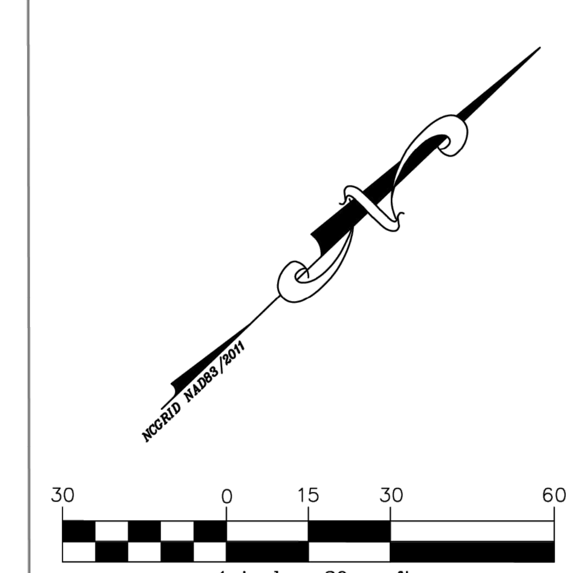
L-858B(L) AIRFIELD SIGN, LED, INSTALLED ON A CONCRETE FOUNDATION WITH L-867B CLASS 1A, 24" DEEP BASE CAN, PROPERLY SIZED L-830 TRANSFORMER AND L-823 CONNECTORS

JUNCTION CAN PLAZA IN CONCRETE BASE WITH TWO CLASS 1A L-867D BASE CANS IN PLAZA.

CKT1 CKT2 X-Y" — PROPOSED AIRFIELD ELECTRICAL DUCT BANK. SCHEDULE 40 PVC CONDUIT, CONCRETE ENCASED. X= NUMBER OF CONDUITS IN DUCT, Y= DIAMETER OF CONDUIT IN INCHES. CKT# = CIRCUIT DESIGNATOR(S) INSIDE DUCT. NUMBER OF TICS INDICATE NUMBER OF NEW L-824, TYPE C, 5KV CABLES INSIDE DUCT.

CKT — 2" SCH. 40 PVC CONDUIT, DIRECT EARTH BURIED. NUMBER OF TICK MARKS INDICATE THE NUMBER OF NEW L-824, TYPE C, 5 KV, #8 AWG, CABLES INSTALLED IN CONDUIT. CKT = CIRCUIT DESIGNATOR.

INTERCEPT EXISTING CONDUIT AND CONNECT TO NEW CONDUIT WITH APPROPRIATELY SIZED PVC COUPLING. INSTALL NEW CABLE(S) BACK TO ADJACENT JUNCTION STRUCTURES/LIGHT BASES AS SHOWN ON CIRCUITING PLANS.



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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:

SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:

ELECTRICAL CIRCUITING PLAN - PLAN SHEET 1 OF 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:

E-301

WKD PROJ. NO.:

20240074.00.WK

FILE PATH:\\WESERVER2\SHAREDDRIVES\001 - PROJECTS\ALBERT J. ELLIS\08 SOUTH GA EXPANSION\CD'S\DESIGN\01 - CURRENT\20231059.00.RA_E_SHT_ELEC_CKTING

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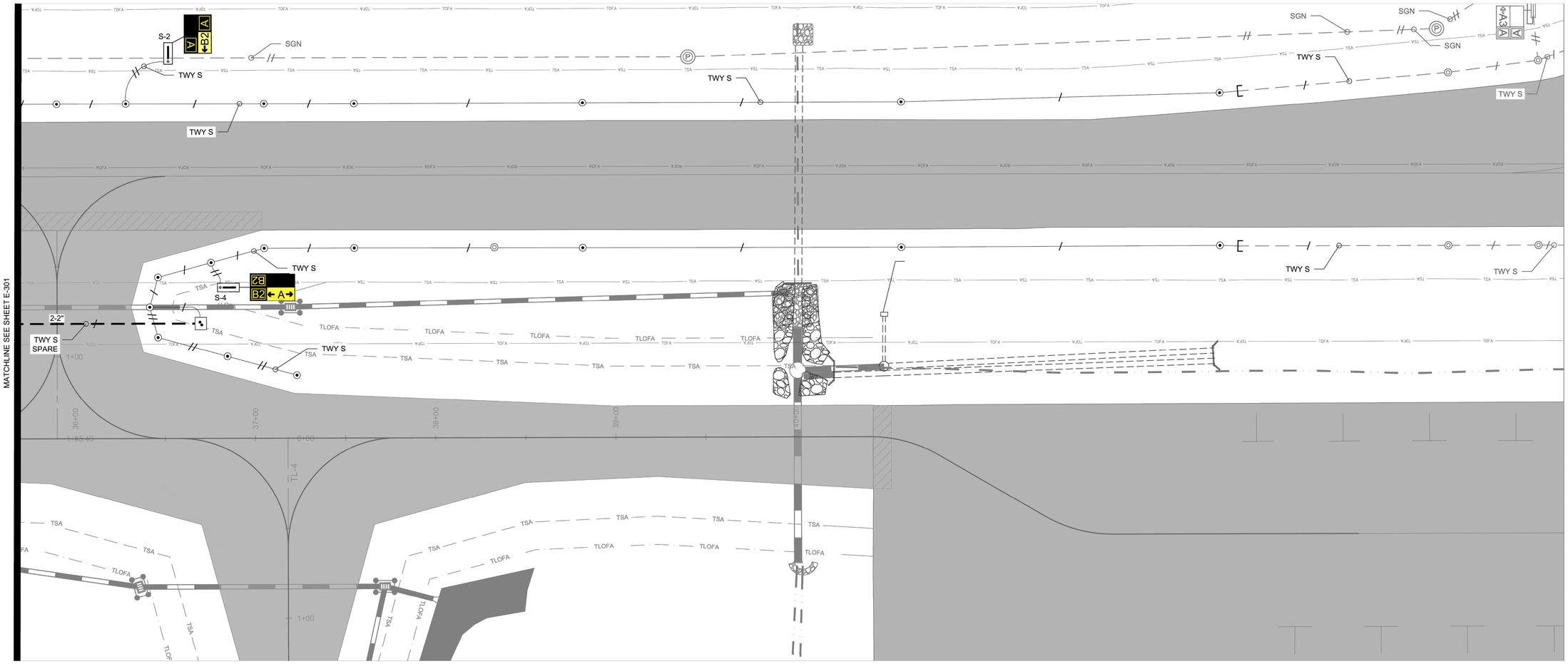
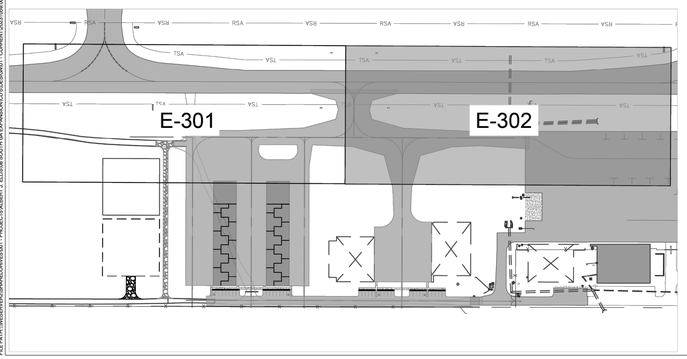


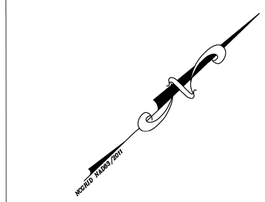


EXISTING ELECTRICAL LEGEND:

- EXISTING BASE MOUNTED TAXIWAY EDGE LIGHT
- EXISTING AIRFIELD GUIDANCE SIGN
- EXISTING PULL CAN
- EXISTING CONDUIT. CKT = EXISTING CIRCUIT DESIGNATOR. NUMBER OF TICS INDICATES NUMBER OF EXISTING CABLES INSIDE CONDUIT (CKT)
- DEMOLISH. COMPLETELY REMOVE UNLESS OTHERWISE NOTED. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO: CONCRETE, REBAR, CONDUIT, CABLE, COUNTERPOISE, JUNCTION STRUCTURES (ANY DEPTH), AGGREGATE, GROUND RODS, BASE CANS, AS SHOWN ON PLANS.
- CONDUIT CAP. CAP EXISTING CONDUITS AT DEMOLITION LIMITS WITH APPROPRIATELY SIZED FRICTION FIT PVC CAPS TO PREVENT DIRT AND DEBRIS FROM ENTERING THE CONDUIT. REMOVE CABLE BACK TO ADJACENT JUNCTION STRUCTURES/LIGHT BASES.

PROPOSED ELECTRICAL LEGEND:

- L-861T(L), LED, OMNI-DIRECTIONAL, TAXIWAY EDGE LIGHT. INSTALL 14" STEM ON L-867B BASE CAN, CLASS 1A, WITH BASE PLATE, PROPERLY SIZED L-830 TRANSFORMER AND L-823 CONNECTORS. EDGE LIGHT INSTALLED IN TURF
- L-858B(L) AIRFIELD SIGN, LED, INSTALLED ON A CONCRETE FOUNDATION WITH L-867B CLASS 1A, 24" DEEP BASE CAN, PROPERLY SIZED L-830 TRANSFORMER AND L-823 CONNECTORS
- JUNCTION CAN PLAZA IN CONCRETE BASE WITH TWO CLASS 1A L-867D BASE CANS IN PLAZA.
- CKT1 / CKT2 X-Y" — PROPOSED AIRFIELD ELECTRICAL DUCT BANK. SCHEDULE 40 PVC CONDUIT, CONCRETE ENCASED. X= NUMBER OF CONDUITS IN DUCT, Y= DIAMETER OF CONDUIT IN INCHES. CKT# = CIRCUIT DESIGNATOR(S) INSIDE DUCT. NUMBER OF TICS INDICATE NUMBER OF NEW L-824, TYPE C, 5KV CABLES INSIDE DUCT.
- CKT — 2" SCH. 40 PVC CONDUIT, DIRECT EARTH BURIED. NUMBER OF TICK MARKS INDICATE THE NUMBER OF NEW L-824, TYPE C, 5 KV, #8 AWG, CABLES INSTALLED IN CONDUIT. CKT = CIRCUIT DESIGNATOR.
- INTERCEPT EXISTING CONDUIT AND CONNECT TO NEW CONDUIT WITH APPROPRIATELY SIZED PVC COUPLING. INSTALL NEW CABLE(S) BACK TO ADJACENT JUNCTION STRUCTURES/LIGHT BASES AS SHOWN ON CIRCUITING PLANS.



30 0 15 30 60
1 inch = 30 ft.

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL CIRCUITING PLAN - PLAN SHEET 2 OF 2

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-302

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\RESERVED\RAWDCONVERSION - PROJECTS\ALB\PT 1 ELLIS\04 SOUTH GA EXPANSION\CONSTR\DWG\ - CURRENT\20231009 SA_E_SHT_ELEC_CKTNG

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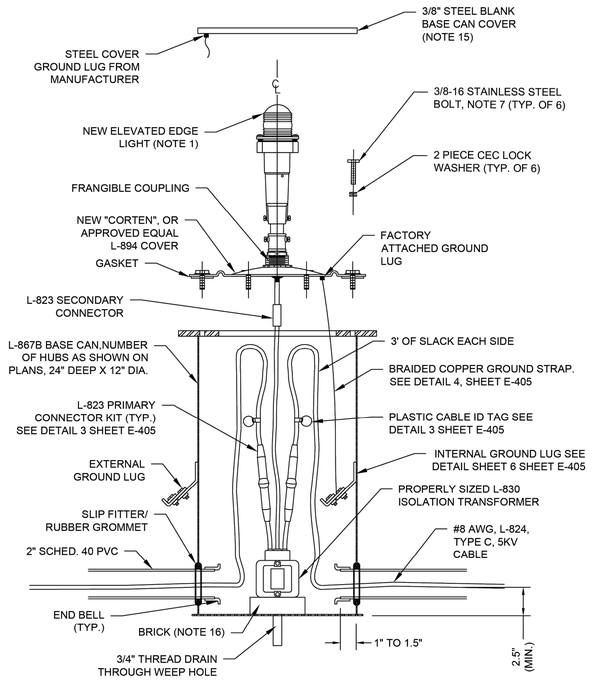
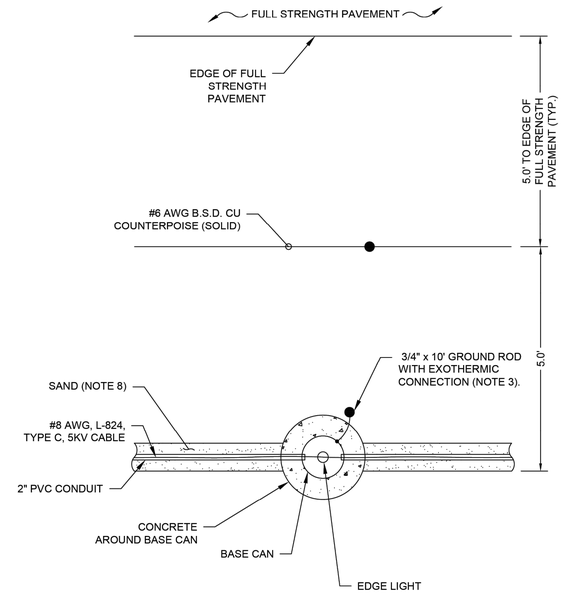


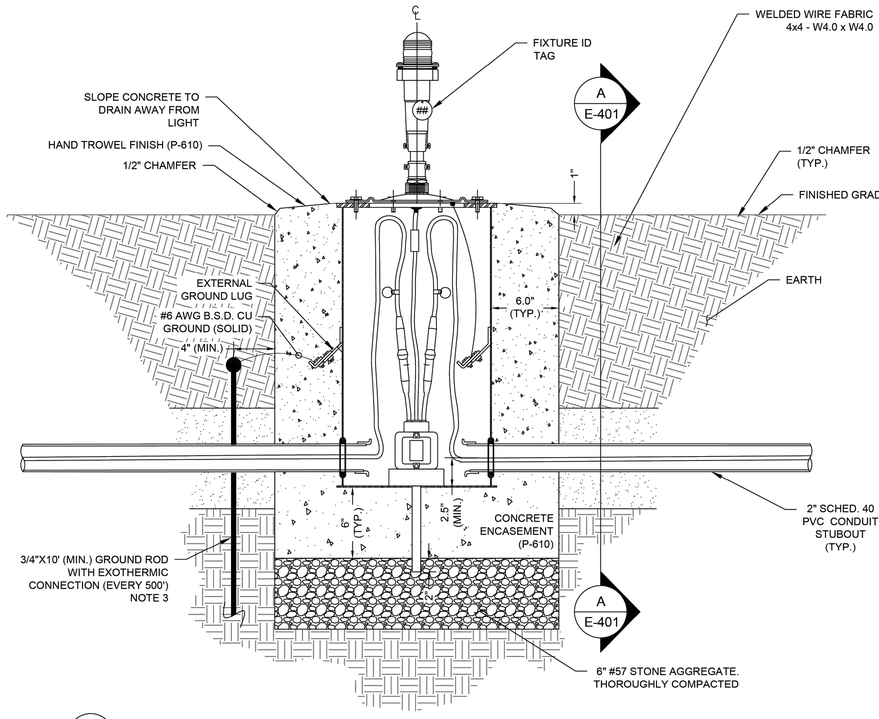
1 E-401 MOW PAD AND COUNTERPOISE LAYOUT
NTS



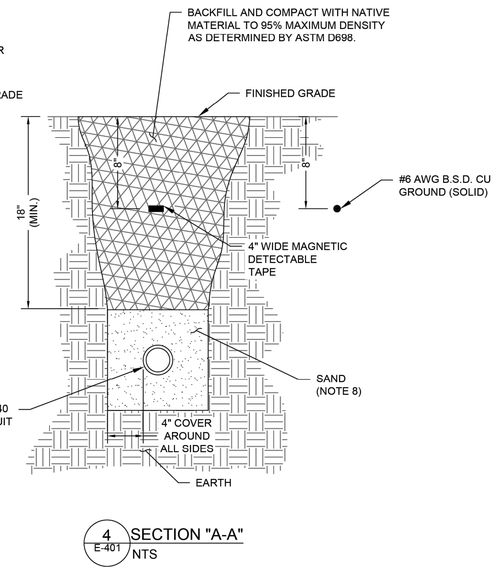
2 E-401 MOW PAD AND COUNTERPOISE LAYOUT
NTS

ELEVATED FIXTURE NOTES:

1. THE OVERALL HEIGHT OF THE ELEVATED EDGE LIGHTS SHALL BE 14".
2. ALL BASE CAN INSTALLATION TECHNIQUES, METHODS, MATERIALS, ETC., SHALL BE SUBMITTED TO THE RPR FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK.
3. EACH GROUND ROD SHALL MEASURE 25 OHMS OR LESS, PRIOR TO CONNECTION TO THE GROUND SYSTEM. IN THE EVENT 25 OHM VALUE IS NOT MET, AN ADDITIONAL GROUND ROD SHALL BE INSTALLED.
4. ANY BASE CAN DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
5. EDGE LIGHTS SHALL BE INSTALLED 10.0' FROM THE EDGE OF FULL STRENGTH PAVEMENT. COUNTERPOISE SHALL BE INSTALLED AT THE MIDPOINT BETWEEN THE CONDUIT AND THE EDGE OF FULL STRENGTH PAVEMENT AND RUN PARALLEL TO THE EDGE OF FULL STRENGTH PAVEMENT AND TURF SHOULDERS.
6. THE FINISHED PAVEMENT SURFACE SHALL BE PROTECTED FROM FOREIGN SUBSTANCES WHICH COULD CAUSE STAINING, IE. CONCRETE, OIL, ETC. THE CONTRACTOR SHALL IMMEDIATELY CLEAN ALL SPILLS AND CORRECT/CLEAN ANY STAINED SURFACES AT THE CONTRACTOR'S EXPENSE.
7. THE BASE CAN COVER MOUNTING BOLTS SHALL EXTEND THROUGH THE BASE CAN MOUNTING FLANGE INTO THE BASE CAN A MIN. OF 0.5". THE BOLTS SHALL HAVE ENOUGH THREAD LENGTH SO THEY DO NOT SHOULDER OUT BEFORE THE FIXTURE IS SECURELY TIGHTENED. ANTI-SEIZE SHALL BE USED ON BOLTS (NOALOX OR APPROVED EQUAL).
8. USE SAND TO BACKFILL THIS AREA. REMOVED EARTH MAY BE USED PROVIDED NO ROCK OR STONE LARGER THAN 1/4" IS PRESENT. BACKFILL SHALL COMPLY WITH CIVIL SPECIFICATIONS. IF ADDITIONAL SAND BACKFILL IS REQUIRED TO PROPERLY COMPACT THE FILLING OF THE TRENCH TO MATCH ADJACENT NATIVE SOIL CONDITIONS, IT SHALL BE PROVIDED AT NO ADDITIONAL COST AS A PART OF THE TRENCHING LINE ITEM.
9. P-610 CONCRETE AROUND BASE CANS AND DUCT/CONDUIT SHALL BE COMPLETELY CONSOLIDATED BY MECHANICAL MEANS AND SHALL BE FREE OF ANY VOIDS.
10. IMMEDIATELY AFTER THE HOLES ARE AUGURED, THE BASE CANS SHALL BE INSTALLED AND THE P-610 PLACED SO AS TO PREVENT WATER FROM ENTERING THE HOLE.
11. ALL L-824 CABLES SHALL BE IDENTIFIED WITH AN 18 GUAGE STAINLESS STEEL TAG WITH ITS RESPECTIVE CIRCUIT/LOOP NUMBER AT ALL ACCESSIBLE LOCATIONS. ATTACH ID TAG 12" FROM THE L-823 CONNECTORS OR MID LOOP IF NO CONNECTORS ARE REQUIRED. THE CONDUCTORS SHALL BE IDENTIFIED ON EACH SIDE OF THE CONNECTORS OR LOOP.
12. L-823 CONNECTORS SHALL BE INSTALLED ON ALL CABLES, IN EACH, BASE CAN, MANHOLE, OR OTHER ACCESSIBLE LOCATIONS.
13. ALL AIRFIELD LIGHTING MATERIALS SHALL COMPLY WITH FAA SPECIFICATIONS AND REQUIREMENTS.
14. PRE-CAST BASE CANS ARE ACCEPTABLE PROVIDED THEY MEET THE REQUIREMENTS AS SHOWN ON THE DETAIL. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING FOR APPROVAL.
15. FOR JUNCTION CANS, REPLACE LIGHT FIXTURE WITH 3/8 " STEEL COVER AND REPLACE L-867B BASE CAN WITH L-867D BASE CAN.
16. ISOLATION TRANSFORMER BRICK STAND SHALL BE INSTALLED SUCH THAT IT DOES NOT BLOCK 3/4" DRAINAGE WEEP HOLE
17. INSTALLATION OF SCHEDULE 40 PVC CONDUIT STUBOUT SHALL BE INCIDENTAL TO THE "L-861(L) LED ELEVATED RUNWAY EDGE LIGHT - BASE MOUNTED INSTALLED IN TURF" LINE ITEM.



3 E-401 ELEVATED EDGE LIGHT INSTALLED IN UNPAVED SHOULDER: PROFILE VIEW
NTS



4 E-401 SECTION "A-A"
NTS

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REVISION RECORD

NO.	DATE	DESCRIPTION	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL DETAILS

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-401

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WE\ENTER\SHARED\WORK\001 - PROJECTS\ALBERT J. ELLIS\08 SOUTH GA EXPANSION\CD\DESIGN\01 - CURRENT\2025\100.00 VA_E_SHT_ELEC_DETAILS

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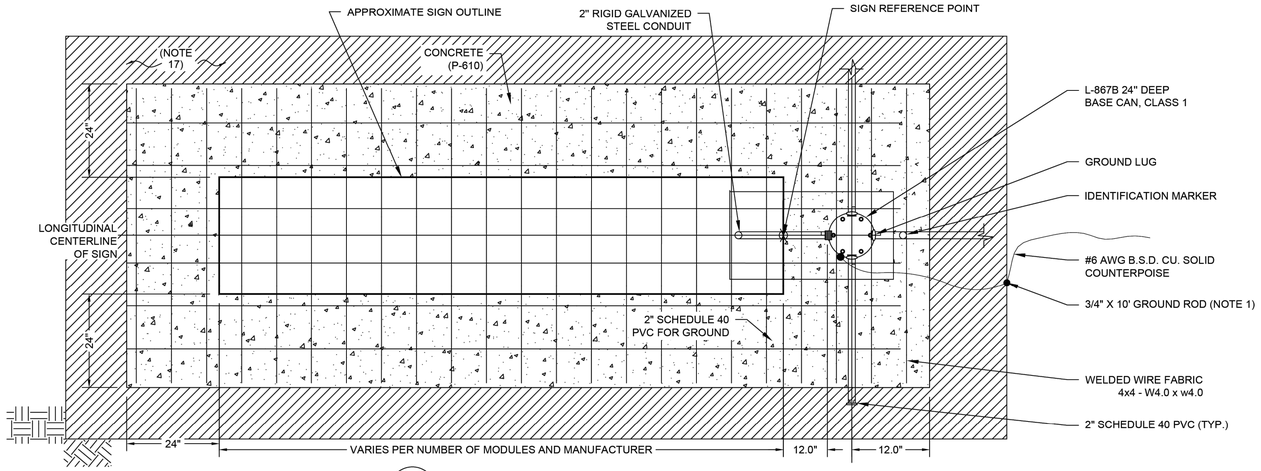
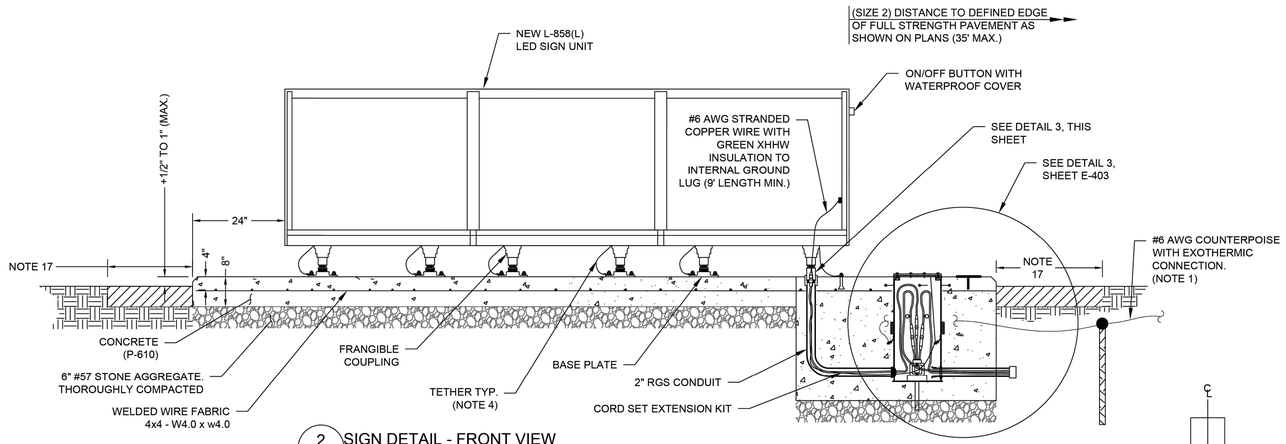
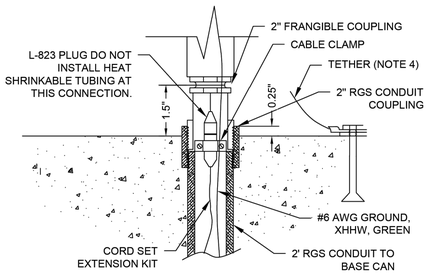


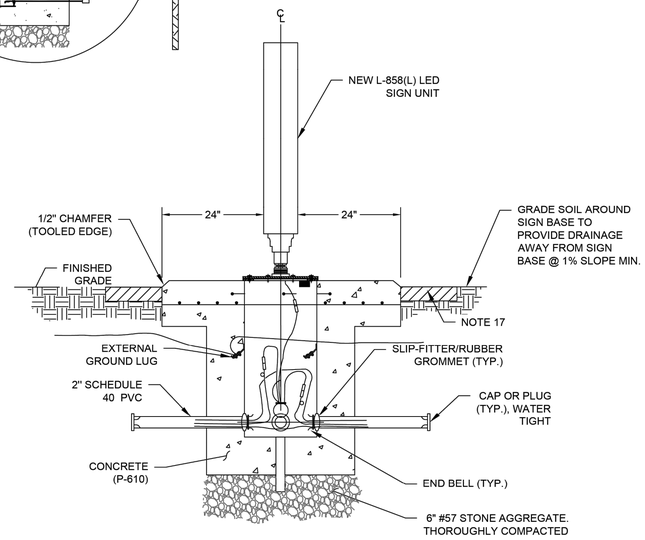
1 / E-402 SIGN DETAIL - PLAN VIEW
NTS



2 / E-402 SIGN DETAIL - FRONT VIEW
NTS



3 / E-402 FRANGIBLE POWER CONNECTION
NTS



4 / E-402 SIGN DETAIL - SIDE VIEW
NTS

NOTES:

1. CONNECTIONS BETWEEN COUNTERPOISE AND GROUND ROD SHALL BE EXOTHERMIC.
2. THE DETAILS SHOWN IN THE PLANS PROVIDE THE MINIMUM REQUIREMENTS FOR SIGN INSTALLATIONS. THE CONTRACTOR SHALL USE STANDARDS APPLICABLE FOR THE PARTICULAR SIGN MANUFACTURER. THE BOLTING PATTERN, METHOD OF ANCHORING, ETC., SHALL BE PER SIGN MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE ENGINEER.
3. THE SIGN SHALL WITHSTAND 200 MPH WIND LOAD PER AC 150/5345-44 (LATEST EDITION) WITHOUT DAMAGE. THE SIGN SHALL NOT BREAK AT THE FRANGIBLE POINTS NOR SUFFER PERMANENT DISTORTION. THE SIGN MANUFACTURER SHALL SUBMIT TO THE ENGINEER MOUNTING METHODS AND THE CALCULATIONS OR TEST RESULTS SUPPORTING THE ABOVE REQUIREMENT. THE SIGNS SHALL BE FRANGIBLE, MEETING THE REQUIREMENTS OF AC 150/5345-44 AND AC 150/5340-18 (LATEST EDITIONS).
4. ALL SIGNS SHALL BE FURNISHED WITH TETHERS. 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 AND BASE BY BEING SANDWICHED BETWEEN TWO STAINLESS STEEL FENDER WASHERS, WITH A 1/2" MINIMUM STAINLESS STEEL BOLT. 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. ALL TETHERS SHALL BE THE SAME LENGTH. PROVIDE 1 TETHER PER SIGN LEG. THE BONDING CONDUCTOR AND SIGN TETHER SHALL NOT BE ATTACHED AT THE SAME ANCHOR BOLT. AN APPROVED MECHANICAL OR COMPRESSION LUG SHALL BE USED TO CONNECT THE BONDING CONDUCTOR TO THE SIGN FLANGE AND SIGN.
5. FOR LOCATION AND ORIENTATION OF SIGNS AND FOUNDATIONS, SEE LAYOUT PLANS. THE LOCATION SHOWN ON THE PLANS IS THE PERPENDICULAR DISTANCE FROM THE DEFINED TAXIWAY EDGE OF FULL STRENGTH PAVEMENT, TO THE NEAR SIDE OF THE SIGN ON THE SIGN'S LONGITUDINAL CENTERLINE (SEE PLAN VIEW).
6. ALL SIGNS SHALL BE ORIENTED SUCH THAT THE LONGITUDINAL CENTERLINE OF THE SIGN IS PERPENDICULAR TO THE RESPECTIVE TAXIWAY CENTERLINE, UNLESS NOTED OTHERWISE.
7. ALL MANDATORY SIGNS SHALL BE LOCATED OFF THE EDGE OF FULL STRENGTH PAVEMENT AND ALIGNED WITH THE FRONT EDGE OF THE FRONT STRIPE OF THE HOLD POSITION MARKING. ALL TAXIWAY GUIDANCE SIGNS SHALL BE LOCATED OFF THE EDGE OF THE FULL STRENGTH PAVEMENT AS SHOWN ON THE PLANS.
8. THE ACTUAL SIGN DIMENSIONS WILL VARY. THE BASE SIZE AS SHOWN SHALL BE ADJUSTED TO MATCH THE SIGN.
9. THE CONCRETE SHALL COMPLY WITH P-610 SPECIFICATION.
10. CONCRETE STEEL REINFORCEMENT SHALL BE TYPE ASTM A615 GRADE 60. ALL REINFORCEMENT SHALL HAVE A 3" MINIMUM CONCRETE COVER. REINFORCEMENTS MAY BE ADJUSTED TO MISS INTERFERENCES.
11. INSTALL SIGN UNIT LEVEL. USE STRUCTURAL BACKFILL AS REQUIRED. STRUCTURAL BACKFILL, FREE-DRAINING, AS APPROVED BY THE ENGINEER, SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED 4".
12. ALL AREAS FOR THE LEG FLANGE PLATES SHALL BE IN THE SAME PLANE. THE ANCHOR BOLTS SHALL BE A-36 STEEL, HOT DIP GALVANIZED WHEN CAST INTEGRALLY WITH THE CONCRETE PAD OR STAINLESS STEEL EXPANSION ANCHORS.
13. RESTORATION OF GRADE IN DISTURBED AREAS SHALL BE INCIDENTAL TO THE SIGN INSTALLATION.
14. GROUND RODS SHALL BE 3/4 INCH DIAMETER, 10 FEET LONG, COPPER CLAD STEEL SECTIONAL RODS. EACH GROUND ROD SHALL BE INDIVIDUALLY TESTED PRIOR TO CONNECTION TO THE GROUND GRID OR COUNTERPOISE. EACH INDIVIDUAL ROD SHALL HAVE AN EARTH RESISTANCE OF 25 OHMS OR LESS. IN THE EVENT 25 OHM VALUE IS NOT MET, AN ADDITIONAL GROUND ROD SHALL BE INSTALLED.
15. SIGNS SHALL BE WELL SEALED AGAINST INFILTRATION BY WATER AND DIRT.
16. ISOLATION TRANSFORMER BRICK STAND SHALL BE INSTALLED SUCH THAT IT DOES NOT BLOCK 3/4" DRAINAGE WEEP HOLE
17. SODDING OF DISTURBED AREAS SHALL BE INCLUDED IN THE INDIVIDUAL SIGN PAY ITEM AND SHALL BE A 24" MIN. AROUND CONCRETE PAD. GRASS SOD SHALL BE NATIVE TO WORK AREA.

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PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

BID DOCUMENTS - NOT FOR CONSTRUCTION

PROJECT NAME: **SOUTH GA EXPANSION**
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE: **ELECTRICAL DETAILS**

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-402
WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WEBSERVER\GRANTS\DIVISION\ - PROJECTS\ALBERT J. ELLIS\SOUTH GA EXPANSION\CD'S\E\SIGN01 - CURRENT\2025-03\SHEETS\E_SHT_ELEC_DETAILS

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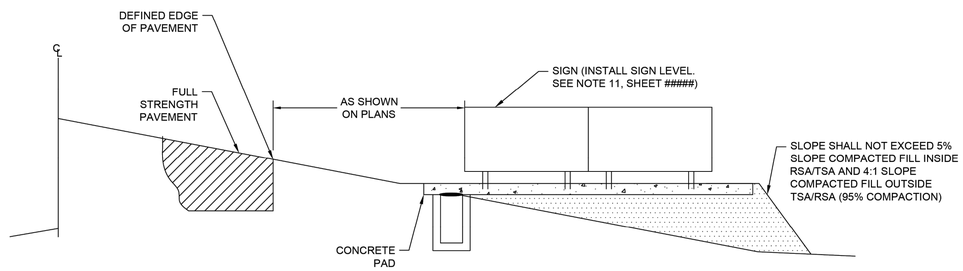
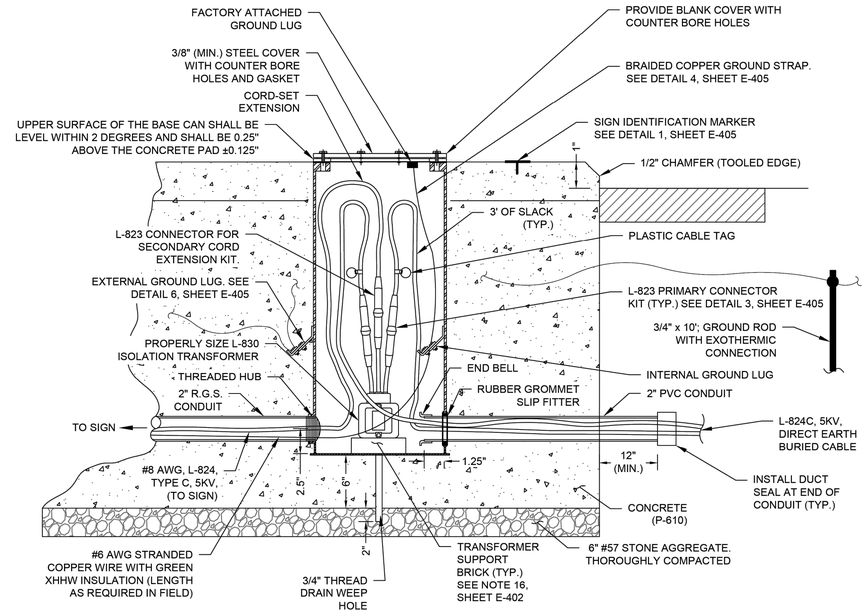
SIGN NO.	LEGEND - SIDE A				LEGEND - SIDE B				SIZE	STYLE	MODE	CLASS	NOTES
	1	2	3	4	1	2	3	4					
S-1	A	B2	➔		A				2	2	2	1	INSTALL NEW SIGN ON NEW FOUNDATION
	L	Y	Y		L	B	B						
S-2			A		←	B2	A		2	2	2	1	INSTALL NEW SIGN ON NEW FOUNDATION
	B	B	L		Y	Y	L						
S-3	B2	←	A ➔		B2				2	2	2	1	INSTALL NEW SIGN PANELS ON EXISTING SIGN
	L	Y	Y		L	B	B						
S-4			B2		B2	←	A ➔		2	2	2	1	INSTALL NEW SIGN PANELS ON EXISTING SIGN
	B	B	L		L	Y	Y						

1 / E-403 SIGN SCHEDULE
SCALE: NTS



2 / E-403 GRADING AND FILL DETAIL
SCALE: NTS



3 / E-403 SIGN BASE CAN
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NC LICENSE NO.F-0374

PROFESSIONAL SEAL

REVISION RECORD

NO.	DATE	DESCRIPTION	BY

PROJECT NAME:
SOUTH GA EXPANSION
FOR
ALBERT J. ELLIS AIRPORT (OAJ)
RICHLANDS, NC

DRAWING TITLE:
ELECTRICAL DETAILS

PROJ. MGR.:	JLE
DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-403

WKD PROJ. NO.:
20240074.00.WK

FILE PATH: I:\WEB\PAVED\SHARED\DIVISION - PROJECTS\ALBERT J. ELLIS\GA SOUTH GA EXPANSION\CPDS\DESIGN\01 - CURRENT\20251006 MA_E_SHT_ELEC_DETAILS

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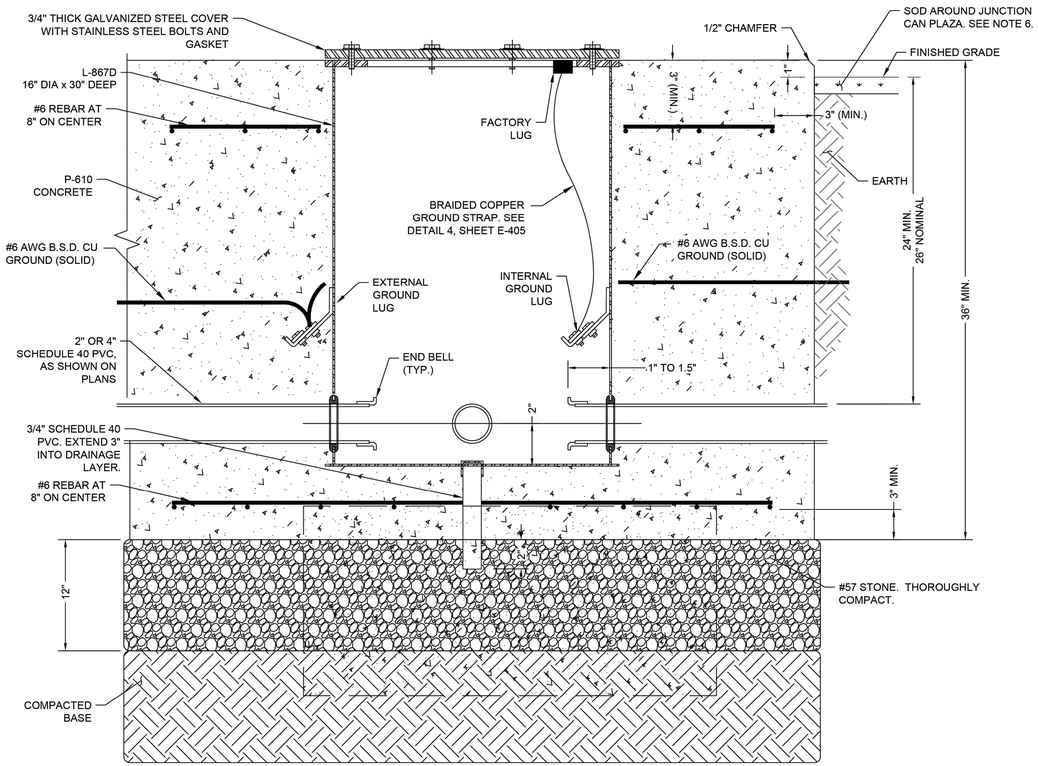
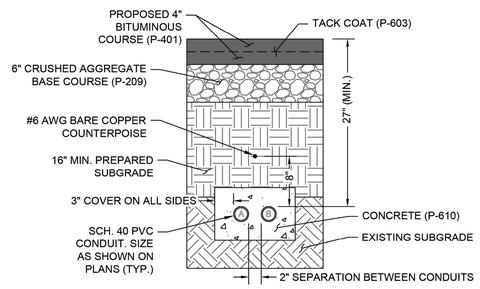


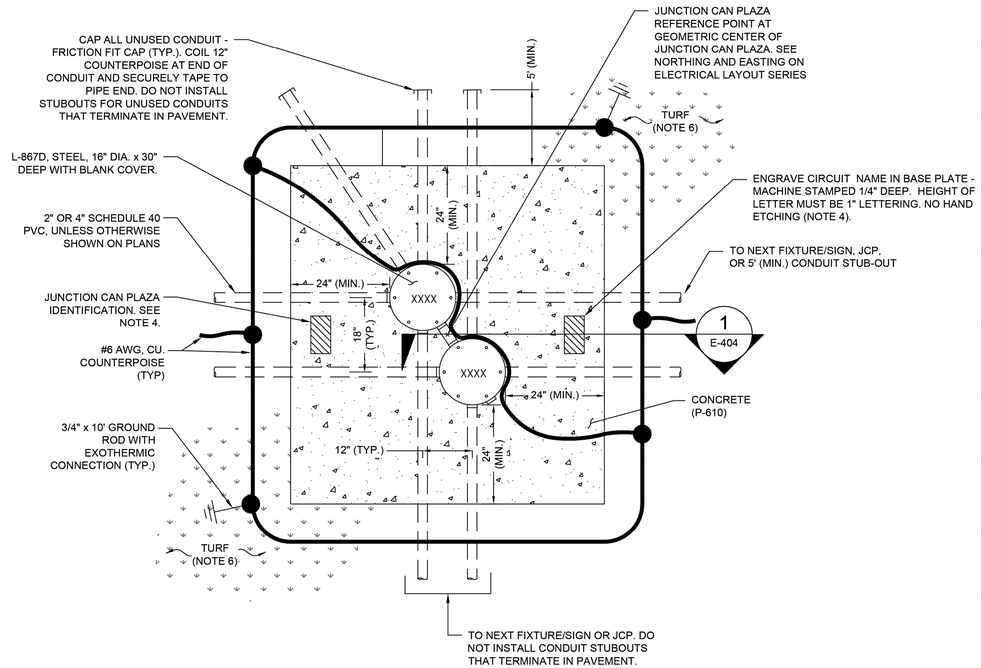
1 / E-404 TYPICAL BASE CAN SECTION (FOR BASE CAN PLAZA)
SCALE: NTS



2 / E-404 2 WAY DUCT SECTION UNDER PAVEMENT
SCALE: NTS

JUNCTION CAN NOTES:

1. NUMBER OF JUNCTION CANS AND CONDUIT CONFIGURATIONS VARY. SEE LAYOUT PLAN SHEETS FOR ORIENTATION. MODIFY OVERALL PAD SIZE TO ACCOMMODATE THE QUANTITY OF JUNCTION CANS SHOWN IN THE PLANS.
2. ORIENT PLAZA AS SHOWN ON AIRFIELD CIRCUITING PLAN SHEETS.
3. INSTALL GROUND RODS AND GROUND LOOP AT ALL JUNCTION CAN PLAZAS AS SHOWN. TWO GROUND RODS PER PLAZA LOCATED AT OPPOSITE CORNERS MUST BE PROVIDED. EACH GROUND ROD MUST BE INDIVIDUALLY TESTED PRIOR TO CONNECTION TO THE GROUND GRID OR COUNTERPOISE. EACH INDIVIDUAL ROD MUST HAVE AN EARTH RESISTANCE OF 25 OHMS OR LESS, OR AN ADDITIONAL SUPPLEMENTAL GROUND ROD MUST BE DRIVEN PER SPECIFICATION L-108 AND PAID FOR UNDER THE L-108 "SUPPLEMENTAL GROUND ROD" PAY ITEM.
4. LABEL TWO (2) ENDS OF EACH JUNCTION CAN PLAZA (JCP) BY IMPRESSING THE JCP IDENTIFICATION NUMBER INTO THE CONCRETE FOUNDATION DURING PLACEMENT. LETTERS AND NUMBERS MUST BE 4" IN HEIGHT, PROPORTIONAL IN WIDTH, AND HAVE A STROKE WIDTH OF 1/2" AND 1/4" DEPTH.
5. SEE AIRFIELD CIRCUITING PLAN SHEETS FOR JCP IDENTIFICATION NUMBERS.
6. GRADE AROUND JUNCTION CAN PLAZAS AS NECESSARY TO PREVENT SILT/DIRT INFILTRATION ONTO JUNCTION CAN PLAZAS. 5' MINIMUM SODDING OF DISTURBED AREAS SHALL BE INCLUDED IN THE INDIVIDUAL JUNCTION CAN PLAZA PAY ITEM. EXCAVATION, GRADING, FILL, SOD, ECT. FOR JUNCTION CAN PLAZAS IS INCIDENTAL TO THE RESPECTIVE JUNCTION CAN PLAZA PAY ITEM.
7. LEAVE APPROXIMATELY 8' OF EACH CABLE COILED IN JUNCTION CAN SO THAT EACH CABLE MAY BE RAISED A MINIMUM OF 3' ABOVE TOP OF CAN.
8. PROVIDE CABLE CIRCUIT IDENTIFICATION MARKERS ATTACHED TO EACH CABLE IN JUNCTION CANS. SEE CABLE IDENTIFICATION REQUIREMENTS.
9. TRANSITION FROM MULTI-WAY CONDUIT TRENCH TO JUNCTION CAN PLAZAS REQUIRES DISTRIBUTION OF 2" OR 4" SCH 40 PVC TO EACH JUNCTION CAN. CONTRACTOR MUST LIMIT CONDUIT BENDS TO 30 DEGREES MAXIMUM.
10. CONDUITS CONNECTING BETWEEN CANS IN THE JUNCTION CAN PLAZA ARE FOR MAINTENANCE AND FUTURE USE ONLY. CONTRACTOR MUST USE CARE NOT TO TRANSPOSE CONDUITS WHEN INSTALLING AND CONNECTING DUCT BANKS.
11. FOR JUNCTION CAN PLAZAS NOT INSTALLED FLUSH WITH ASPHALT SHOULDER PAVEMENT, SEE LAYOUT PLANS FOR STATION AND OFFSET INFORMATION. ROUTE GROUND LOOP AROUND ENTIRE PLAZA, DELETE EXPANSION JOINT, AND INSTALL SOD AROUND PERIMETER OF PLAZA PER NOTE 6, THIS SHEET.



3 / E-404 2 WAY BASE CAN PLAZA
SCALE: NTS

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FOR
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ELECTRICAL DETAILS

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DESIGN BY:	CDH
DRAWN BY:	CDH
PROJ. DATE:	JAN. 2025

DRAWING NUMBER:
E-404

WKD PROJ. NO.:
20240074.00.WK

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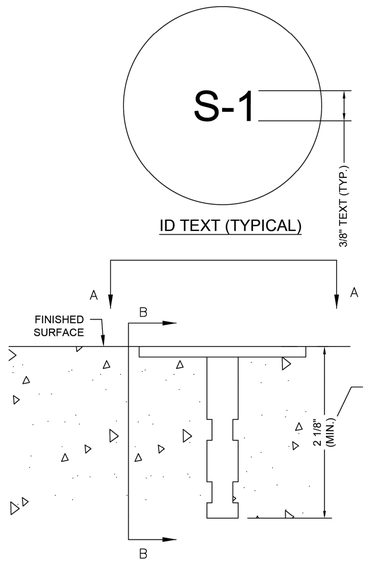
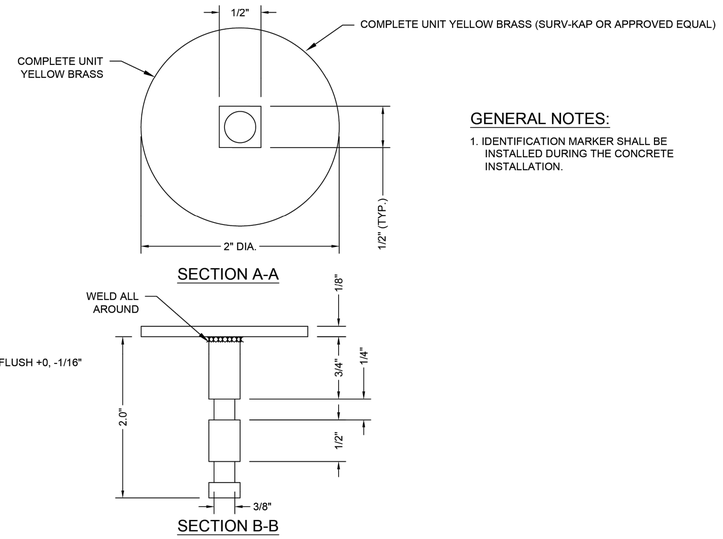
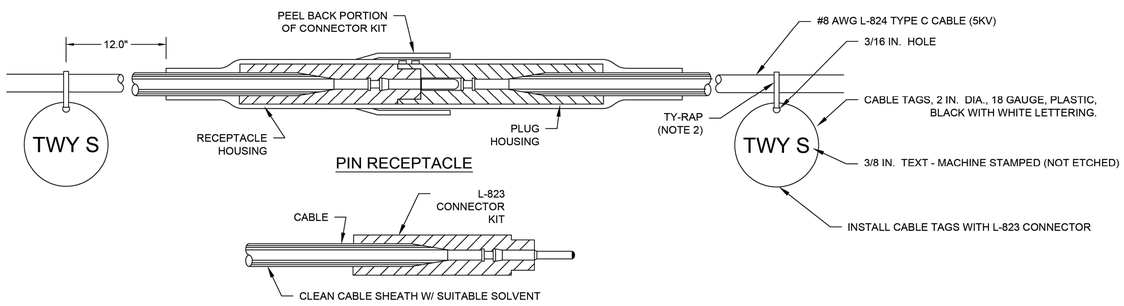




GENERAL NOTES:

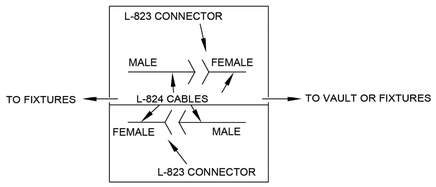
1. IDENTIFICATION MARKER SHALL BE INSTALLED DURING THE CONCRETE INSTALLATION.

1 E-405 SIGN IDENTIFICATION MARKER
NTS

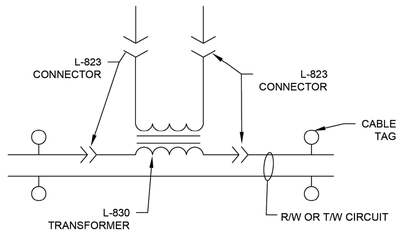


L-823 SUPER KIT CONNECTOR-PLUG (OR APPROVED EQUAL) CONNECTED TO CABLE

3 E-405 TYPICAL L-824 CABLE SPLICE AND CONNECTOR DETAIL
NTS



5 E-405 TYPICAL L-823 CONNECTOR SCHEMATIC
NTS



2 E-405 LIGHTING CONNECTION SCHEMATIC
NTS

PLUG CONNECTOR NOTES:

1. CONTRACTOR SHALL PROVIDE CABLE CIRCUIT IDENTIFICATION MARKERS ATTACHED TO BOTH SIDES OF EACH CABLE CONNECTION.

2. CABLE IDENTIFICATION MARKERS SHALL BE CABLE TAGS ATTACHED VIA TY-RAP PER DETAIL 1.

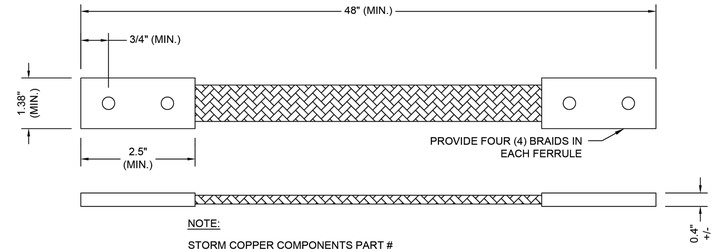
3. THE CABLE SHALL THOROUGHLY BE CLEANED PRIOR TO THE INSTALLATION OF THE L-823 CONNECTOR KIT.

4. INSTALLATION OF THE PIN/RECEPTACLE SHALL BE COMPLETED WITH "CRIMPING" TOOL SUPPLIED OR RECOMMENDED BY THE MANUFACTURER AND DESIGNED FOR THIS SPECIFIC PURPOSE. CRIMPING TOOLS SHALL BE TURNED OVER TO THE AIRPORT UPON COMPLETION OF THE PROJECT.

5. ATTACH EACH CABLE TIE ENOUGH TO HOLD IN PLACE WITHOUT COMPRESSING HOUSING. TRIM OFF EXCESS CABLE TIE.

6. COORDINATE CABLE OUTSIDE DIAMETER WITH CONNECTOR KIT TO ASSURE PROPER AND WATERTIGHT CONNECTION.

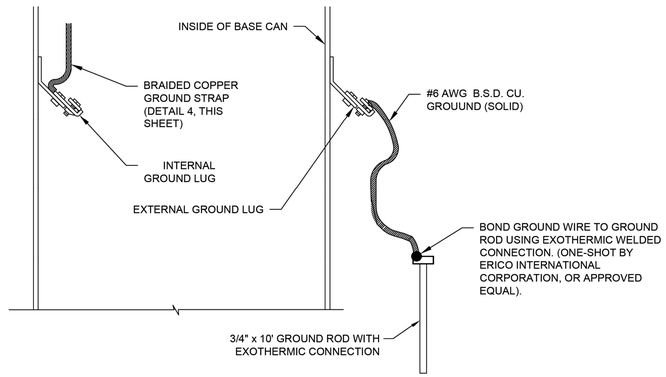
7. INSTALLATION OF L-823 CONNECTOR SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.



NOTE:

STORM COPPER COMPONENTS PART # SC-B4F36 OR APPROVED EQUAL

4 E-405 BRAIDED COPPER GROUND STRAP DETAIL
NTS



6 E-405 GROUND CONNECTION DETAIL FOR BASE CAN
NTS

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E-405
WKD PROJ. NO.:
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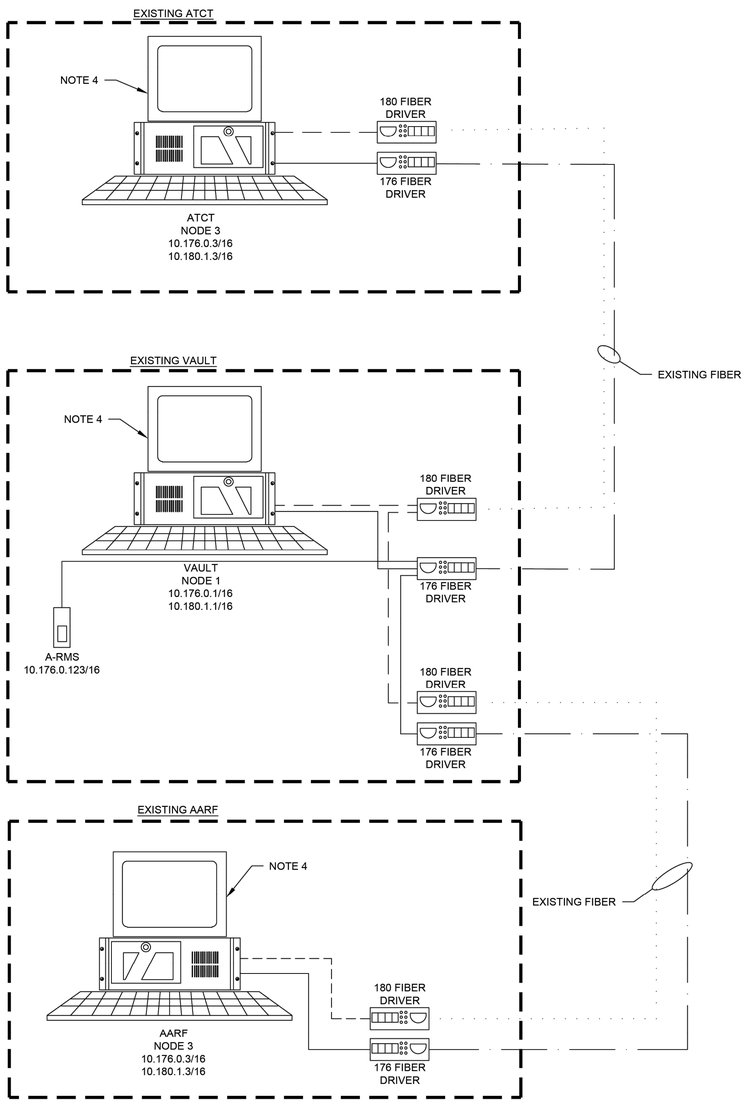
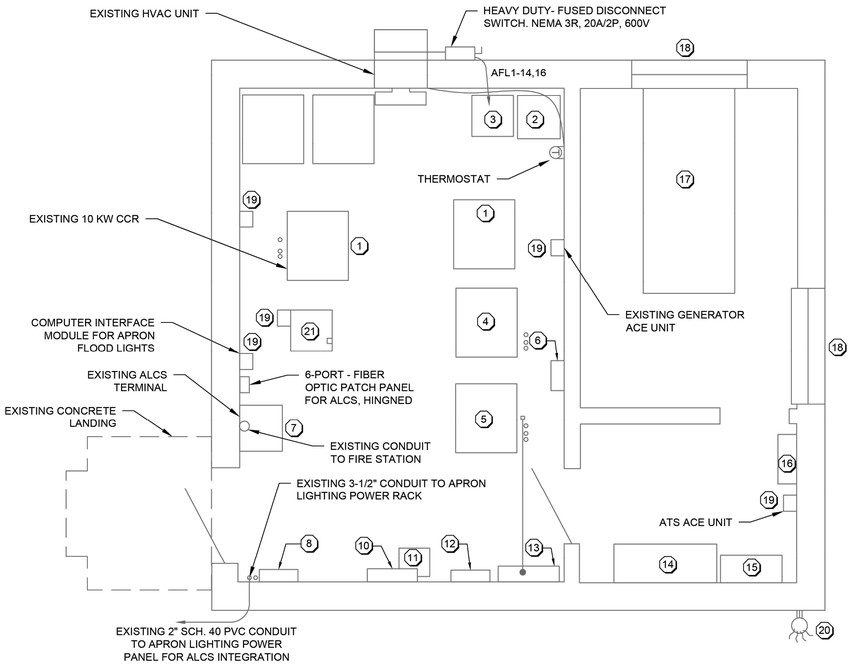
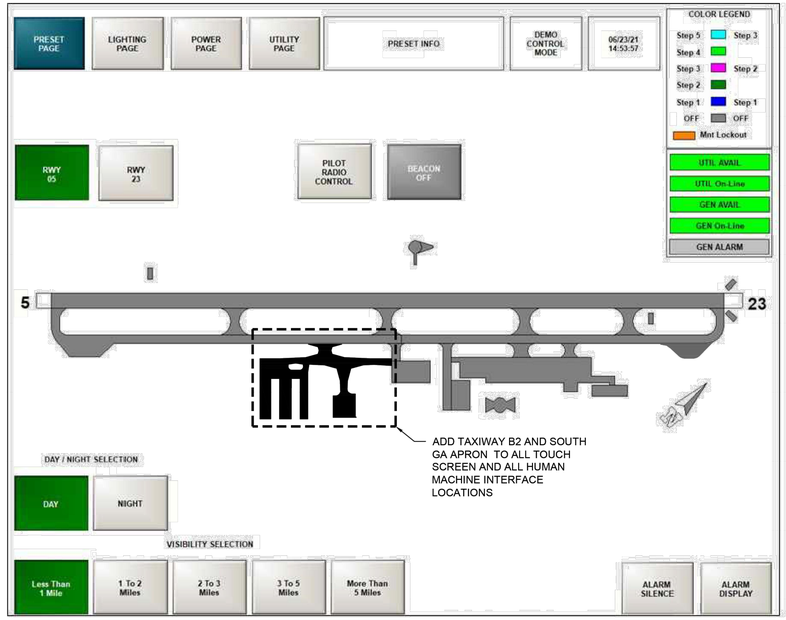


1 E-406 ALBERT J. ELLIS AIRPORT CABLING DIAGRAM (ALCS PHYSICAL CONNECTIONS)
NTS



1 E-406 EXISTING ELECTRICAL VAULT LAYOUT
NTS

KEY NOTE	ITEM DESCRIPTION
1	EXISTING 10 KW, FERRO-REASONANT TYPE WITH WITH COMPUTER INTERFACE MODULE, INTERNAL
2	EXISTING 30 KW CCR, SPARE
3	7.5 KW CCR, SPARE
4	EXISTING 7.5 KW, FERRO-REASONANT TYPE WITH WITH COMPUTER INTERFACE MODULE, INTERNAL
5	EXISTING 7.5 KW, FERRO-REASONANT TYPE WITH WITH COMPUTER INTERFACE MODULE, INTERNAL
6	EXISTING PULL BOX
7	EXISTING ALCS COMPUTER
8	EXISTING L-854 RADIO CONTROL UNIT
9	NOT USED.
10	EXISTING "AFL-2" PANEL, SQUARE D I-LINE
11	EXISTING DRY TYPE TRANSFORMER
12	EXISTING "AFL-1" PANEL SQUARE D NQOD
13	EXISTING "MDP" PANEL SQUARE D I-LINE WITH TWO (2) - 225A, 3 POLE SPACES
14	EXISTING ISOLATION BY-PASS SWITCH
15	EXISTING AUTOMATIC TRANSFORMER SWITCH (ATS)
16	EXISTING MAIN SERVICE DISCONNECT SWITCH
17	EXISTING 100KVA GENERATOR
18	EXISTING AIR LOUVER
19	EXISTING COMPUTER INTERFACE MODULE (I.E. ACE UNIT FOR ADB, INC.)
20	EXISTING OVERHEAD SERVICE WEATHER HEAD.
21	EXISTING 4KW CONSTANT CURRENT REGULATOR, FERRO-RESONANT, MANDATORY SIGN CIRCUIT (SGN CKT),WITH COMPUTER INTERFACE MODULE, INTERNAL



2 E-406 SAMPLE TOUCHSCREEN MODIFICATIONS
NTS

ALCS NOTES:

1. THE EXISTING AIRFIELD LIGHTING CONTROL SYSTEM (ALCS) IS MANUFACTURED BY ADB SAFEGATE, INC. ALL MODIFICATIONS TO THE ALCS SHALL BE COMPLETED BY ADB SAFEGATE, INC. PERSONNEL WITH SPECIALIZED TRAINING IN ALCS SYSTEMS. THE WORK SHALL BE SOLE SOURCE TO ADB SAFEGATE, INC.
2. THE CONTRACTOR MAY CONTACT MR. GALEN DIXON OF ADB SAFEGATE, INC. TO OBTAIN A QUOTE FOR THE WORK. THIS WORK SHALL BE SOLE SOURCED TO ADB SAFEGATE.
3. THE CONTRACTOR SHALL PROVIDE ALL SUPPORT NEEDED TO ADB SAFEGATE, INC. PERSONNEL TO COMPLETE THE MODIFICATION TO INCLUDE, BUT NOT BE LIMITED TO ESCORT ACCESS TO OAJ/AOA, HARDWARE MODIFICATIONS IF DIRECTED BY ADB SAFEGATE, INC., AND ALL OTHER INCIDENTALS REQUIRED IN THE FIELD.
4. THE CONTRACTOR SHALL UPDATE THE TOUCH SCREEN GRAPHICS PANEL IN THE ATCT CAB, AIRFIELD LIGHTING VAULT, AND FIRE STATION TO REFLECT THE ADDITION OF THE TAXIWAY 'A' HOLDING AREA. THIS WORK SHALL BE COMPLETED BY ADB SAFEGATE, INC.

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PROJ. DATE:	JAN. 2025

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E-406

WKD PROJ. NO.:
20240074.00.WK

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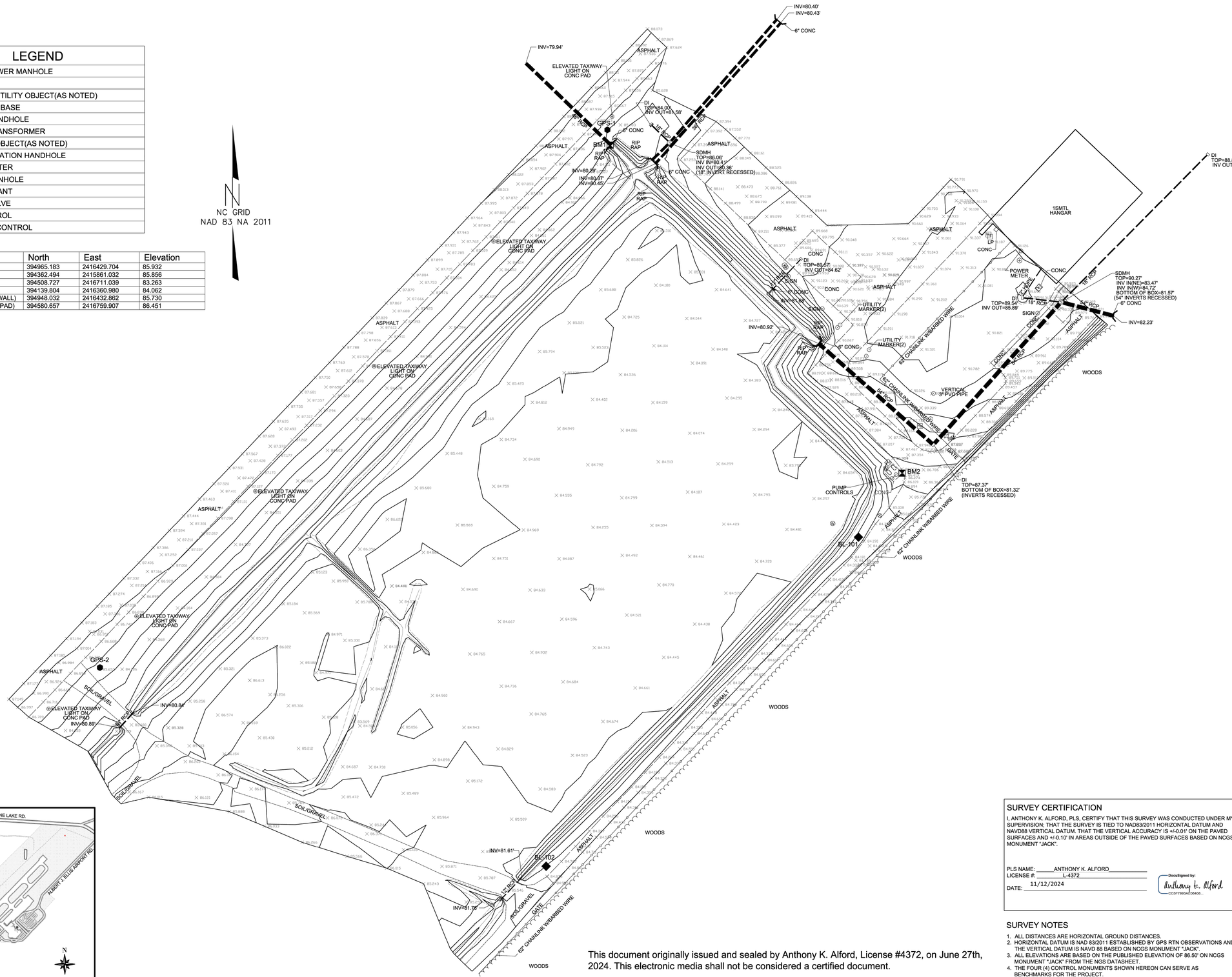
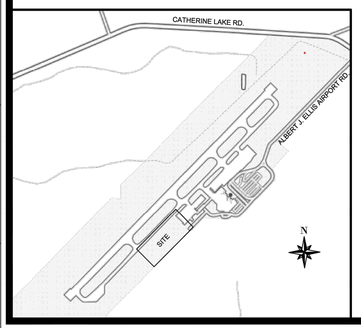
LEGEND	
Ⓢ	STORM SEWER MANHOLE
⊕	CLEANOUT
⊙	LOCATED UTILITY OBJECT(AS NOTED)
□	POLE WITH BASE
▣	POWER HANDHOLE
⊕	POWER TRANSFORMER
⊙	LOCATED OBJECT(AS NOTED)
▣	COMMUNICATION HANDHOLE
◔	WATER METER
Ⓦ	WATER MANHOLE
⚑	FIRE HYDRANT
⊗	WATER VALVE
⬢	GPS CONTROL
◆	BASELINE CONTROL

N
NC GRID
NAD 83 NA 2011

Description	North	East	Elevation
GPS-1	394965.183	2416429.704	85.932
GPS-2	394362.494	2415861.032	85.856
BL-101	394508.727	2416711.039	83.263
BL-102	394139.804	2416360.980	84.062
BM1 (CHISELED X ON HEADWALL)	394948.032	2416432.862	85.730
BM2 (CHISELED X ON CONC PAD)	394580.657	2416759.907	86.451





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0 50 100 Feet

SURVEY CERTIFICATION

I, ANTHONY K. ALFORD, PLS, CERTIFY THAT THIS SURVEY WAS CONDUCTED UNDER MY SUPERVISION; THAT THE SURVEY IS TIED TO NAD83/2011 HORIZONTAL DATUM AND NAVD88 VERTICAL DATUM. THAT THE VERTICAL ACCURACY IS +/-0.01' ON THE PAVED SURFACES AND +/-0.10' IN AREAS OUTSIDE OF THE PAVED SURFACES BASED ON NCGS MONUMENT "JACK".

PLS NAME: ANTHONY K. ALFORD
LICENSE #: L-4372
DATE: 11/12/2024
DocuSigned by: Anthony K. Alford CC5F7993AD0640B...

SURVEY NOTES

1. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES.
2. HORIZONTAL DATUM IS NAD 83/2011 ESTABLISHED BY GPS RTN OBSERVATIONS AND THE VERTICAL DATUM IS NAVD 88 BASED ON NCGS MONUMENT "JACK".
3. ALL ELEVATIONS ARE BASED ON THE PUBLISHED ELEVATION OF 86.50' ON NCGS MONUMENT "JACK" FROM THE NCS DATASHEET.
4. THE FOUR (4) CONTROL MONUMENTS SHOWN HEREON CAN SERVE AS BENCHMARKS FOR THE PROJECT.

WETHERILL ENGINEERING
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN - CIVIL/SITE DESIGN - GIS/GPS - SURVEYING - CONSTRUCTION OBSERVATION
1223 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA, 27606
PHONE: 919-851-8077
LICENSE No. F-0377
WETHERILLENG.COM

OAJ AIRPORT SURVEY

264 Albert J. Ellis Airport Road, Richlands, NC
ONSLOW COUNTY, NC

DATE: 05.09.2024

REVISIONS

DATE	COMMENT
06/27/2024	REMOVED BAD DTM SPOT ELEVATION AT BL-101

Know what's below. Call before you dig. 811

NORTH CAROLINA PROFESSIONAL SEAL L-4372 LAND SURVEYOR ANTHONY K. ALFORD 06/27/2024

24375.30

SURVEY

S-1

P:\2024\24375.30 OAJ Airport Survey\HK Dickson\80-Drawings\FOR REVIEW\Revised_20240627\OAJ_Topo_20240627.dwg 11-06-24 03:17:26 PM tprice