# ERIE INTERNATIONAL AIRPORT

REALIGNMENT & RECONSTRUCTION OF TAXIWAY A - PHASE 4
ERIE, PENNSYLVANIA
ISSUED FOR BID
APRIL 17, 2025

### OWNER REPRESENTATIVE

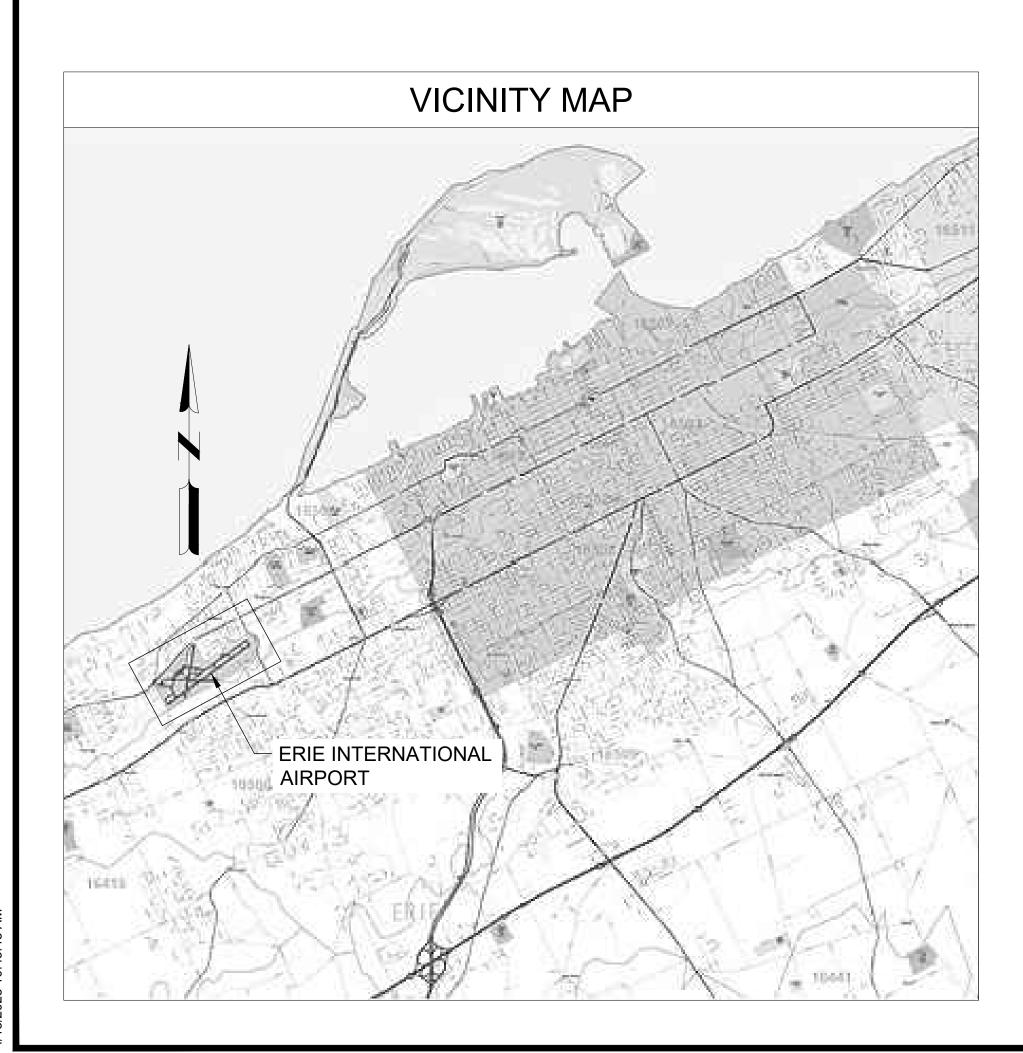
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## CIVIL/AVIATION ENGINEER

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Mead Hunt

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HA11 WEST 12TH STREET ERIE, PENNSYLVANIA

ISSUED 4/17/2025 ISSUED FOR BID

NO.: 3-42-030-XXX-202
H NO.: 3225600-192499.0
E: APRIL 17, 2025
HGGNED BY: RGM
WN BY: NZ/RGM
ECKED BY: BDH

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COVER SHEET

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E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA  CON  G <sub>X</sub> ELECTRICAL DETA  CON  CON  CON  CON  CON  CON  CON  CO	CONDUIT, GENERIC  EXISTING GAS  EXISTING ELECTRIC, OVERHEAD  PROPOSED ELECTRIC, UNDERGROUND  EXISTING ELECTRIC, UNDERGROUND  EXISTING CONTOUR LINES
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E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA  CON  G <sub>X</sub> ELECTRICAL DETA  CON  F <sub>X</sub> ELECTRICAL PLAN	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE
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E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE PROPERTY LINE RIGHT-OF-WAY EXISTING SANITARY SEWER SIGNAL CABLE, UNDERGROUND SILT FENCE EXISTING STORM SEWER / CULVERT
E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE PROPERTY LINE RIGHT-OF-WAY EXISTING SANITARY SEWER SIGNAL CABLE, UNDERGROUND SILT FENCE EXISTING STORM SEWER / CULVERT EXISTING TELEPHONE, UNDERGROU
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E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE PROPERTY LINE RIGHT-OF-WAY EXISTING SANITARY SEWER SIGNAL CABLE, UNDERGROUND SILT FENCE EXISTING STORM SEWER / CULVERT EXISTING TELEPHONE, UNDERGROU EXISTING TV CABLE PROPOSED UNDERDRAIN
E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA  CON  G <sub>x</sub> E <sub>x</sub> EE <sub>x</sub> EE <sub>x</sub> XXX	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE PROPERTY LINE RIGHT-OF-WAY EXISTING SANITARY SEWER SIGNAL CABLE, UNDERGROUND SILT FENCE EXISTING STORM SEWER / CULVERT EXISTING TELEPHONE, UNDERGROU EXISTING TV CABLE PROPOSED UNDERDRAIN
E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA	CONDUIT, GENERIC  EXISTING GAS  EXISTING ELECTRIC, OVERHEAD  PROPOSED ELECTRIC, UNDERGROUND  EXSTING ELECTRIC, UNDERGROUND  EXISTING CONTOUR LINES  PROPOSED CONTOUR LINES  EXISTING FENCE  EXISTING FIBER OPTIC CABLE  GRADING LIMITS  GROUND  HAUL ROUTE  PROPERTY LINE  RIGHT-OF-WAY  EXISTING SANITARY SEWER  SIGNAL CABLE, UNDERGROUND  SILT FENCE  EXISTING STORM SEWER / CULVERT  EXISTING TELEPHONE, UNDERGROU  EXISTING TV CABLE  PROPOSED UNDERDRAIN  EXISTING UNDERDRAIN  EXISTING WATER
E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE PROPERTY LINE RIGHT-OF-WAY EXISTING SANITARY SEWER SIGNAL CABLE, UNDERGROUND SILT FENCE EXISTING STORM SEWER / CULVERT EXISTING TO CABLE PROPOSED UNDERDRAIN EXISTING UNDERDRAIN EXISTING WATER DITCH
E-201 E-202 E-601  LINES	ELECTRICAL PLAN ELECTRICAL DETA	CONDUIT, GENERIC EXISTING GAS EXISTING ELECTRIC, OVERHEAD PROPOSED ELECTRIC, UNDERGROUND EXSTING ELECTRIC, UNDERGROUND EXISTING CONTOUR LINES PROPOSED CONTOUR LINES EXISTING FENCE EXISTING FIBER OPTIC CABLE GRADING LIMITS GROUND HAUL ROUTE PROPERTY LINE RIGHT-OF-WAY EXISTING SANITARY SEWER SIGNAL CABLE, UNDERGROUND SILT FENCE EXISTING STORM SEWER / CULVERT EXISTING TELEPHONE, UNDERGROUND EXISTING TV CABLE PROPOSED UNDERDRAIN EXISTING WATER DITCH SEDIMENT LOG

APL	AIRCRAFT PARKING LIMIT
——— AOA ———	AIRPORT OPERATION AREA
——— AS ———	APPROACH SURFACE
BRL	BUILDING RESTRICTION LINE
——— DRPZ ———	DEPARTURE RUNWAY PROTECTION ZONE
——— DS ———	DEPARTURE SURFACE
——— FAA ———	FAA
	GLIDE SLOPE CRITICAL AREA
GCA	GROUND CONTROL APPROACH
ROFA	RUNWAY OBJECT FREE AREA
—— OFZ ——	OBJECT FREE ZONE
——— RGL ———	RUNWAY GUARD LIGHTS
ROFA	RUNWAY OBJECT FREE AREA
——— RPZ ———	RUNWAY PROTECTION ZONE
	RUNWAY RESTRICTED AREA
RSA	RUNWAY SAFETY AREA
RWA	RUNWAY WORK AREA
SIDA	SECURITY IDENTIFICATION DISPLAY AREA
	TAXIWAY EDGE
——— TOFA ———	TAXIWAY OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
\\A//	ABANDON
CON\\A//	ABANDON CONDUIT
——— E\\A// ———	ABANDON ELECTRIC, UNDERGROUND
G\\A//	ABANDON GAS, UNDERGROUND

——— SS\\A// ——— ABANDON SANITARY SEWER

ABANDON WATER

— //E// — REMOVE ELECTRICAL DUCT BANK

----- //OHE// ----- REMOVE ELECTRIC, OVERHEAD

----- //FOC// ----- REMOVE FIBER OPTIC CABLE

------ //SS//----- REMOVE SANITARY SEWER

----- //SD//---- REMOVE STORM DRAIN

----- //T// REMOVE TELEPHONE

------ //W// ----- REMOVE WATER LINE

----- //UD//---- REMOVE UNDERDRAIN

SAW CUT PAVEMENT

REMOVE STRUCTURE

REMOVE AND DISPOSE OF EXISTING TAXIWAY LIGHT

FIXTURE, BASE PLATE, TRANSFORMER, LIGHT BASE,

——— SD\\A// ——— ABANDON STORM SEWER

XXXX REMOVE CONDUIT

----- //FNC// ----- REMOVE FENCE

----- //G// REMOVE GAS LINE

\_\_\_\_\_ W\\A//\_\_\_

	RIPRAP
*****************	STANDING WATER
	AGGREGATE BASE COURSE
	AGGREGATE SUBBASE
	ASPHALT
	ASPHALT OVERLAY
	CONCRETE
	STABILIZED CONSTRUCTION ENTRANCE
	EROSION MAT
	GROUND, EXISTING
	GROUND, PROPOSED
	RESTORATION AREA
	WELDED WIRE REINFORCEMENT
afte afte afte	WETLAND
	PAVEMENT MARKING REMOVAL

RIPRAP OUTFALL





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4/17/2025 ISSUED FOR BID

3-42-030-XXX-202X 3225600-192499.07

APRIL 17, 2025

DO NOT SCALE DRAWINGS

INDEX AND LEGEND

**GUY ANCHOR** HANDHOLE, GENERIC

**IRON PIN** 

BENCHMARK

AOA BARRICADE

CONTROL POINT

BOLLARD

BARRIER, JERSEY

ELECTRIC MANHOLE

ELECTRIC PEDESTAL BOX

ELECTRIC SERVICE PANEL

FIBER OPTIC MANHOLE

FUEL SHUT OFF VALVE

FIRE HYDRANT

**FUEL VENT PIPE** 

**GAS MANHOLE** 

**GAS METER** 

GAS VALVE

GAS VENT PIPE

**FLAGPOLE** 

(**•**)~

ELECTRIC TRANSFORMER BOX

ELECTRIC HANDHOLE (PULLBOX)

ELECTRIC METER

CLEANOUT, SANITARY OR STORM

LIGHT BOLLARD FLOODLIGHT POLE

LIGHT POLE (SINGLE) LIGHT POLE (DOUBLE)

MARKER, CABLE

MARKER, DUCT MONITORING WELL

SANITARY SEWER MANHOLE SANITARY SEWER VALVE

SANITARY SEWER WET WELL

SIGN (SINGLE POST)

SOIL BORING STORM INLET, CURB

STORM INLET, ROUND STORM INLET, SQUARE

STORM FLARED END SECTION STORM SEWER MANHOLE

STORM WATER QUALITY MANHOLE TELECOMMUNICATIONS MANHOLE

TELECOMMUNICATIONS PEDESTAL BOX UTILITY CROSSING / CONFLICT OR

CAUTION UNDERDRAIN FLUSHER RISER UNDERDRAIN MANHOLE

VALVE MANHOLE WATER AIR RELIEF VALVE

WATER BLOW OFF VALVE WATER MANHOLE WATER SURFACE

SECTION REFERENCE **ELEVATION REFERENCE** 

(SEE X-XXX) SHEET REFERENCE

(SEE X/X-XXX) DETAIL REFERENCE

734.97' EXISTING SPOT ELEVATION

DRAINAGE FLOW DIRECTION

FINISHED / PROPOSED SPOT ELEVATION

FINISHED / PROPOSED SLOPE

INLET PROTECTION

SHEET NO. 2 of 27

DATE:

DESIGNED BY: RGM

SHEET CONTENTS

DRAWN BY: NZ/RGM CHECKED BY: BDH

### SUMMARY OF CONTRACT QUANTITIES

### BASE BID

5011	ITEM DESCRIPTION	UNIT	Quantit
100001	Restore and Repair Haul Routes	T&M	1
100001	Contractor Quality Control Program (CQCP)	LS	1
102001	Temporary Erosion and Sedimentation Controls	LS	1
105001	Mobilization, 10% Maximum	LS	1
105002	Safety and Security	LS	1
105003	Permits	DLR	10,000
101001	Pavement Removal, Asphalt	SYD	6,000
101002	Bitiminous Cold Millling, Variable Depth	SYD	200
101003	Remove Drainage Structure	EA	10
101004	Remove Storm Sewer	LFT	1,000
101005	Remove Underdrain	LFT	1,400
101006	Remove Electrical Junction Can	EA	2
101007	Remove Electrical Handhole	EA	2
101008	Remove Elevated Edge Light and Base	EA	14
101009	Remove Guidance Sign and Base	EA	3
101010	Remove Concrete Encased Electrical Duct Bank	LFT	240
101011	Sawing Asphalt Pavement	LFT	340
152001	Unclassified Excavation	CYD	4,000
152002	Subgrade Undercut	CYD	150
154001	Subbase Course	CYD	3,000
154002	Separation Geotextile	SYD	4,500
209001	Crushed Aggregate Base Course	CYD	800
401001	Asphalt Surface Course, Gradation 2	TON	1,015
403001	Asphalt Mixture Base Course, Gradation 2	TON	1,300
603001	Emulsified Asphalt Tack Coat	GAL	1,310
620001	Surface Preparation	LS	1
620002	Airport Pavement Marking, Solid, White, 1/2 Rate	SFT	360
620003	Airport Pavement Marking, Solid, Yellow, 1/2 Rate	SFT	2,510
620004	Airport Pavement Marking, Solid, Red, 1/2 Rate	SFT	940
620005	Airport Pavement Marking, Solid, Black	SFT	4,200
620006	Airport Pavement Marking, Solid, White, with Reflective Beads	SFT	360
620007	Airport Pavement Marking, Solid, Yellow, with Reflective Beads	SFT	3,150
620008	Airport Pavement Marking, Solid, Red, with Reflective Beads	SFT	950
701001	24" Corrugated Polyethylene Pipe	LF	1,600
701002	18" Reinforced Concrete Pipe	LF	400
705001	6" Corrugated Perforated Polyethylene Pipe complete,		
700001	including porous backfill and filter fabric	LF	1,690
	• •		214
705002	16" Corrugated Polyethylene Pine	I F	
	6" Corrugated Polyethylene Pipe	LF	+
751001	Inlet, Double Grate	EA	2
751001 751002	Inlet, Double Grate Inlet, Triple Grate	EA EA	2
751001 751002 751003	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole	EA EA EA	2 2 2
751001 751002 751003 751004	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole	EA EA EA	2 2 2 7
751001 751002 751003 751004 751005	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench,	EA EA EA	2 2 2
751001 751002 751003 751004 751005 108001	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit	EA EA EA VF LFT	2 2 2 7 0.66 3,900
751001 751002 751003 751004 751005 108001	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch	EA EA EA VF LFT	2 2 2 7 0.66 3,900 1,685
751001 751002 751003 751004 751005 108001 110001 110002	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch	EA EA EA VF LFT LFT	2 2 7 0.66 3,900 1,685 110
751001 751002 751003 751004 751005 108001 110001 110002 110003	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch	EA EA EA VF LFT LFT LFT	2 2 7 0.66 3,900 1,685 110 70
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch	EA EA EA VF LFT LFT LFT LFT LFT	2 2 7 0.66 3,900 1,685 110 70 240
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004 115001	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated	EA EA EA VF LFT LFT LFT LFT LFT LFT LFT	2 2 7 0.66 3,900 1,685 110 70 240 2
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004 115001 115002	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated Electrical Junction Can	EA EA EA VF LFT LFT LFT LFT LFT EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2
751001 751002 751003 751004 751005 108001 110002 110003 110004 115001 115002 125001	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated Electrical Junction Can L-858(L) Guidance Sign, Base Mounted	EA EA EA VF LFT LFT LFT LFT LFT EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2 2
751001 751002 751003 751004 751005 108001 110002 110003 110004 115001 115002 125001 125002	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated Electrical Junction Can L-858(L) Guidance Sign, Base Mounted L-858(L) Reinstall Guidance Sign on new Base	EA EA EA VF LFT LFT LFT LFT LFT EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004 115001 115002 125001 125002	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated Electrical Junction Can L-858(L) Guidance Sign, Base Mounted L-858(L) Reinstall Guidance Sign on new Base Mounted in Turf	EA EA EA VF LFT LFT LFT LFT LFT EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2 2
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004 115001 115002 125001 125002	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated Electrical Junction Can L-858(L) Guidance Sign, Base Mounted L-858(L) Reinstall Guidance Sign on new Base L-861T(L) Elevated Medium Intensity Taxiway Light, Base	EA EA EA VF LFT LFT LFT LFT EA EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2 2 2
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004 115001 115002 125001 125002	Inlet, Double Grate Inlet, Triple Grate 5' Diameter Manhole Aircraft Rated Handhole Structure Grade Adjustment No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch Non-Encased Electrical Conduit, 2-Way 3 Inch Concrete Encased Electrical Ductbank, 2W 3 Inch Concrete Encased Electrical Ductbank, 4W 4 Inch Electrical Handhole, Aircraft Rated Electrical Junction Can L-858(L) Guidance Sign, Base Mounted L-858(L) Reinstall Guidance Sign on new Base L-861T(L) Elevated Medium Intensity Taxiway Light, Base Mounted in Turf L-861T(L) Elevated Medium Intensity Taxiway Light, Reinstall on New Base in Turf	EA EA EA VF LFT LFT LFT LFT EA EA EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2 2 2 1
110002 110003 110004 115001 115002 125001 125002 125003	Inlet, Double Grate  5' Diameter Manhole  Aircraft Rated Handhole  Structure Grade Adjustment  No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit  Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch  Non-Encased Electrical Conduit, 2-Way 3 Inch  Concrete Encased Electrical Ductbank, 2W 3 Inch  Concrete Encased Electrical Ductbank, 4W 4 Inch  Electrical Handhole, Aircraft Rated  Electrical Junction Can  L-858(L) Guidance Sign, Base Mounted  L-858(L) Reinstall Guidance Sign on new Base  L-861T(L) Elevated Medium Intensity Taxiway Light, Base Mounted in Turf  L-861T(L) Elevated Medium Intensity Taxiway Light, Reinstall on New Base in Turf  Electrical and Communication Investigation  Furnish and Install Surface Sensor Cable, Vaisala Type V	EA EA EA VF LFT LFT LFT LFT EA EA EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2 2 1 9
751001 751002 751003 751004 751005 108001 110001 110002 110003 110004 115001 115002 125001 125002 125003 125004	Inlet, Double Grate  Inlet, Triple Grate  5' Diameter Manhole  Aircraft Rated Handhole  Structure Grade Adjustment  No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit  Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch  Non-Encased Electrical Conduit, 2-Way 3 Inch  Concrete Encased Electrical Ductbank, 2W 3 Inch  Concrete Encased Electrical Ductbank, 4W 4 Inch  Electrical Handhole, Aircraft Rated  Electrical Junction Can  L-858(L) Guidance Sign, Base Mounted  L-858(L) Reinstall Guidance Sign on new Base  L-861T(L) Elevated Medium Intensity Taxiway Light, Base Mounted in Turf  L-861T(L) Elevated Medium Intensity Taxiway Light, Reinstall on New Base in Turf  Electrical and Communication Investigation  Furnish and Install Surface Sensor Cable, Vaisala Type V Multi-Conductor	EA EA EA VF LFT LFT LFT LFT EA EA EA EA LS LF	2 2 7 0.66 3,900 1,685 110 70 240 2 2 2 1 9
751001 751002 751003 751004 751005 108001 110002 110003 110004 115002 125001 125002 125003 125004	Inlet, Double Grate  5' Diameter Manhole  Aircraft Rated Handhole  Structure Grade Adjustment  No. 8 AWG, 5kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit  Non-Encased Electrical Conduit, 1-Way 1 1/4 Inch  Non-Encased Electrical Conduit, 2-Way 3 Inch  Concrete Encased Electrical Ductbank, 2W 3 Inch  Concrete Encased Electrical Ductbank, 4W 4 Inch  Electrical Handhole, Aircraft Rated  Electrical Junction Can  L-858(L) Guidance Sign, Base Mounted  L-858(L) Reinstall Guidance Sign on new Base  L-861T(L) Elevated Medium Intensity Taxiway Light, Base Mounted in Turf  L-861T(L) Elevated Medium Intensity Taxiway Light, Reinstall on New Base in Turf  Electrical and Communication Investigation  Furnish and Install Surface Sensor Cable, Vaisala Type V	EA EA EA VF LFT LFT LFT LFT EA EA EA EA EA	2 2 7 0.66 3,900 1,685 110 70 240 2 2 2 1 9

### GENERAL NOTES:

- 1. THIS PROJECT IS SUBJECT TO ALL INSPECTIONS PROVIDED IN THE CONTRACT DOCUMENTS AND TO INSPECTIONS BY REPRESENTATIVES OF ERIE REGIONAL AIRPORT AUTHORITY (ERAA), MILLCREEK TOWNSHIP AND ERIE COUNTY CONSERVATION DISTRICT.
- 2. ACCESS TO THE SITE THE CONTRACTOR'S ACCESS POINTS TO THE SITE WILL BE VERIFIED AT THE PRE-CONSTRUCTION MEETING.
- 3. HAUL ROUTES IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS, OR LOCAL ROADS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITION UPON COMPLETION OF USE AS A HAUL ROUTE. THE BEFORE AND AFTER CONDITION OF ON-SITE HAUL ROUTES SHALL BE JOINTLY INSPECTED BY THE CONTRACTOR AND THE ENGINEER PRIOR TO COMMENCING WORK.
- 4. THE CONTRACTOR'S LAYDOWN AREA AND STAGING AREA WILL BE VERIFIED AT THE PRE-CONSTRUCTION MEETING. CONTRACTOR'S LAYDOWN AND STAGING AREA SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITION UPON COMPLETION OF THE PROJECT. THE BEFORE AND AFTER CONDITION OF THE LAYDOWN AND STAGING AREA SHALL BE JOINTLY INSPECTED BY THE CONTRACTOR AND ENGINEER. CONTRACTOR'S LAYDOWN DOCUMENTATION AND RESTORATION INCIDENTAL TO MOBILIZATION ITEM.
- 5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE DEVELOPED FROM RECORD PLANS AND SURVEY DATA AND ARE THE ANTICIPATED CONDITIONS AT THE COMMENCEMENT OF CONSTRUCTION. PRIOR TO BID, THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BID OF ANY DISCREPANCIES BETWEEN THE BID DOCUMENTS AND THE EXISTING CONDITIONS.
- 6. THE APPROXIMATE LOCATIONS OF KNOWN AIRPORT UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS AND ARE NOT WARRANTED TO BE CORRECT. PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL CALL THE PENNSYLVANIA ONE CALL SYSTEM, INC. AT 1-800-242-1776. THE CONTRACTOR MUST VERIFY THE EXACT LOCATION OF UTILITIES PRIOR TO THE START OF CONSTRUCTION. IN THE EVENT THAT THE CONTRACTOR DAMAGES A UTILITY, THE ENGINEER MUST BE NOTIFIED IMMEDIATELY. THE REPAIR MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL SERVICE HAS BEEN FULLY RESTORED AND THE REPAIRS ARE COMPLETE. ALL SUCH REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL BE INSPECTED AND APPROVED BY THE ENGINEER AND THE UTILITY OWNER PRIOR TO BACKFILL BY THE CONTRACTOR. IF REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL SUPPLY AND INSTALL A CONCRETE MARKER AT ALL APPLICABLE LOCATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 7. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER, OTHER CONTRACTORS, AND UTILITY COMPANIES WITHIN THE PROJECT LIMITS.
- 8. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL OF THE ENGINEER IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
- 9. THE ENGINEER MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN HIS/HER JUDGMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS DANGER TO THE PUBLIC HEALTH, SAFETY, OR AIRFIELD SAFETY.
- 10. APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL FINAL ACCEPTANCE OF A COMPLETE WORKABLE UNIT IS PROVIDED IN WRITING.
- 11. ACCEPTANCE OF COMPLETED WORK WILL NOT BE GIVEN UNTIL DEFECTIVE OR UNAUTHORIZED WORK IS REMOVED AND FINAL CLEAN-UP IS COMPLETE.
- 12. CONTRACTOR RESPONSIBLE TO KEEP PUBLIC ROADS FREE OF DEBRIS BETWEEN THE CONTRACTOR STAGING AREA AND AIRFIELD ACCESS POINT.
- 13. PRIOR TO REOPENING TEMPORARILY CLOSED AIRFIELD PAVEMENTS, THE AREA MUST BE THOROUGHLY CLEANED OF ALL DEBRIS AND INSPECTED AND APPROVED BY THE ENGINEER AND AIRPORT PERSONNEL.
- 14. CONTRACTOR'S PERSONNEL SHALL PARK IN CONTRACTOR STAGING AREAS.
- 15. THE CONTRACTOR SHALL CONDUCT ITS ACTIVITIES IN A SAFE MANNER AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- 14. THE HORIZONTAL CONTROL IS TIED TO THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SPSC 83), PA NORTH AND IS RELATIVE TO THE PAC'S AND SAC'S MONUMENTS AT THE AIRPORT.
- 16. VERTICAL CONTROL IS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND IS RELATIVE TO THE PAC'S AND SAC'S MONUMENTS AT THE AIRPORT.
- 17. ALL EROSION AND SEDIMENTATION POLLUTION CONTROL DEVICES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.

# Mead Hunt

Mead and Hunt, Inc. 1007 North Front Street, Suite 2 North Office 4 Harrisburg, PA 17102 phone: 971-256-9307 meadhunt.com

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RIE INTERNATIONAL AIRPORT EALIGNMENT & RECONSTRUCTION F TAXIWAY A PHASE 4

ISSUED 4/17/2025 ISSUED FOR BID

PENNSYLVANIA ACT 287, as amended

REQUIRES NOTIFICATION TO UTILITY COMPANIES PRIOR TO ANY DIGGING, DRILLING, BLASTING OR EXCAVATING. CONTRACTOR SHALL CONTACT:



EXISTING UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THE LOCATIONS MUST BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY EXIST WHICH ARE NOT SHOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE PHYSICAL LOCATION OF ALL UTILITY LINES PRIOR TO THE START OF CONSTRUCTION.

DESIGNED BY: RGM
DRAWN BY: NZ/RGM
CHECKED BY: BDH
DO NOT SCALE DRAWINGS

DATE:

SHEET CONTENTS

GENERAL NOTES

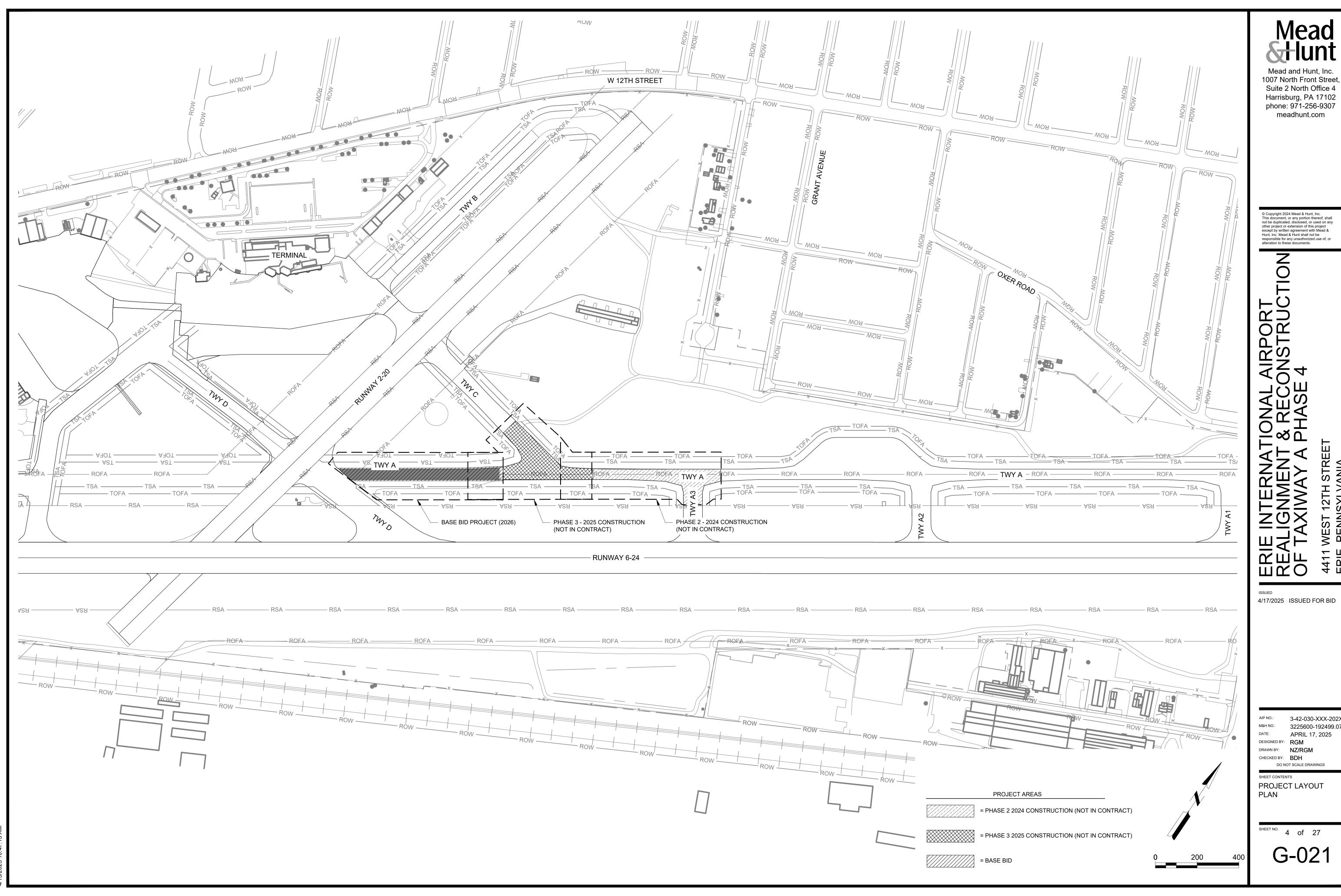
SHEET NO. 3 of 27

G-003

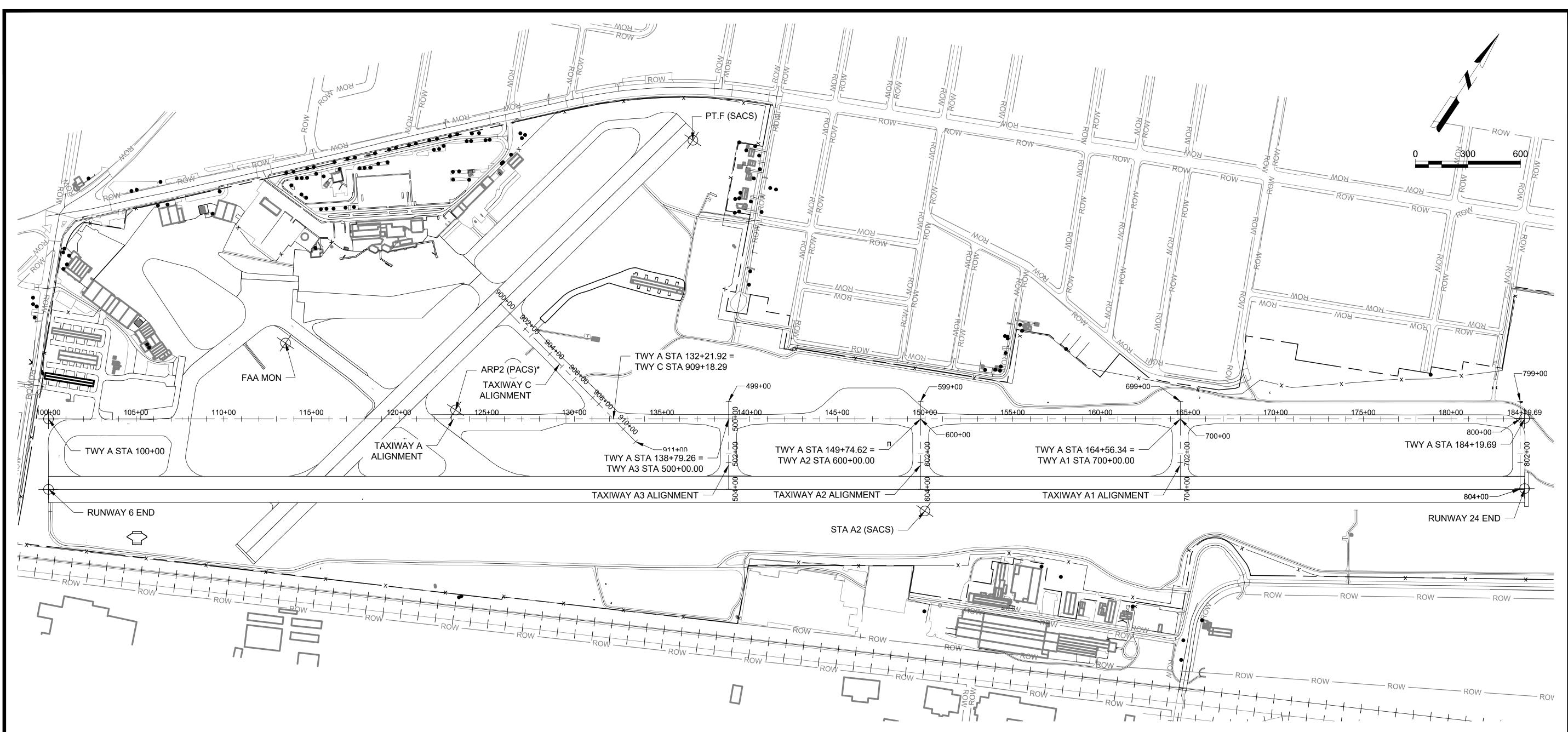
3-42-030-XXX-202X

3225600-192499.07

APRIL 17, 2025



3-42-030-XXX-202X 3225600-192499.07



SURVEY CONTROL POINT DATA					
<u>BENCHMARK</u>	DESCRIPTION	NORTHING	EASTING	ELEVATION	
ARP2 (PACS)*	NGS MONUMENT	706885.150	1309324.980	728.410	
STA A2 (SACS)	NGS MONUMENT	707900.39	1311868.02	727.590	
PT.F (SACS)	NGS MONUMENT	708916.53	1309590.82	733.560	
FAA MON	FAA MONUMENT	706662.31	1308305.90	729.010	

\* TO BE RELOCATED IN 2025 BY OTHERS.

TAXIWAY A ALIGNMENT DATA					
GEOMETRY POINTS	STATION	NORTHING	<u>EASTING</u>		
P.O.B.	100+00.00	705547.6000	1307426.5400		
P.O.E.	184+19.69	710244.9756	1314414.0883		
PA83-NF BEARING:	N 56° 05' 29.59" E				

TAXIWAY A1 ALIGNMENT DATA				
GEOMETRY POINTS	STATION	NORTHING	<u>EASTING</u>	
P.O.B.	699+00.00	709232.7397	1312729.1020	
P.O.E.	704+00.00	708817.1316	1313007.0760	
PA83-NF BEARING:	S 33° 46' 33.83" E			

TAXIWAY A2 ALIGNMENT DATA					
GEOMETRY POINTS	STATION	NORTHING	<u>EASTING</u>		
P.O.B.	599+00.00	708405.9518	1311499.2188		
P.O.E.	604+00.00	707991.0004	1311778.1698		
PA83-NF BEARING:	S 33° 54' 39.44" E				

TAXIWAY A3 ALIGNMENT DATA					
GEOMETRY POINTS	STATION	NORTHING	EASTING		
P.O.B.	499+00.00	707794.8468	1310590.1739		
P.O.E.	504+00.00	707379.8917	1310869.1189		
PA83-NF BEARING:	S 33° 54' 36.56" E				

TAXIWAY C ALIGNMENT DATA				
GEOMETRY POINTS	STATION	NORTHING	EASTING	
P.O.B.	900+00.00	707530.7896	1309201.1018	
P.O.E.	911+00.00	707308.3786	1310278.3823	
PA83-NF BEARING:	S 78° 20' 05.42" E			

TOPOGRAPHIC SURVEY PERFORMED BY MICHAEL BAKER INTERNATIONAL USING LIDAR TECHOLOGY IN NOV 2016. REFERENCING LOCAL AIRPORT PACS (ERI ARP 2) AND SACS (ERI AP STA A 2, ERI CONTROL POINT F), FIELD SURVEY PERFORMED BY PARKER SURVEYING AND ENGINEERING LLC IN NOV 2016 TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL POINTS TO GEOREFERENCE THE LIDAR POINT CLOUD DATA TO THE PA STATE PLANE COORDINATE SYSTEM, FIPS ZONE 3701, NAD 83 USING RTK GPS EQUIPMENT. ELEVATIONS FOR LIDAR CONTROL POINTS WERE BASED ON NAVD 88 AND ESTABLISHED BY DIFFERENTIAL LEVELS USING A TRIMBLE DINI DIGITAL LEVEL.

Mead

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NAL AIRPORT RECONSTRUCTION ASE 4

1 WEST 12TH STREET

ISSUED
4/17/2025 ISSUED FOR BID

NO.: 3-42-030-XXX-202X HNO.: 3225600-192499.07 TE: APRIL 17, 2025 RIGNED BY: RGM

DESIGNED BY: RGM

DRAWN BY: NZ/RGM

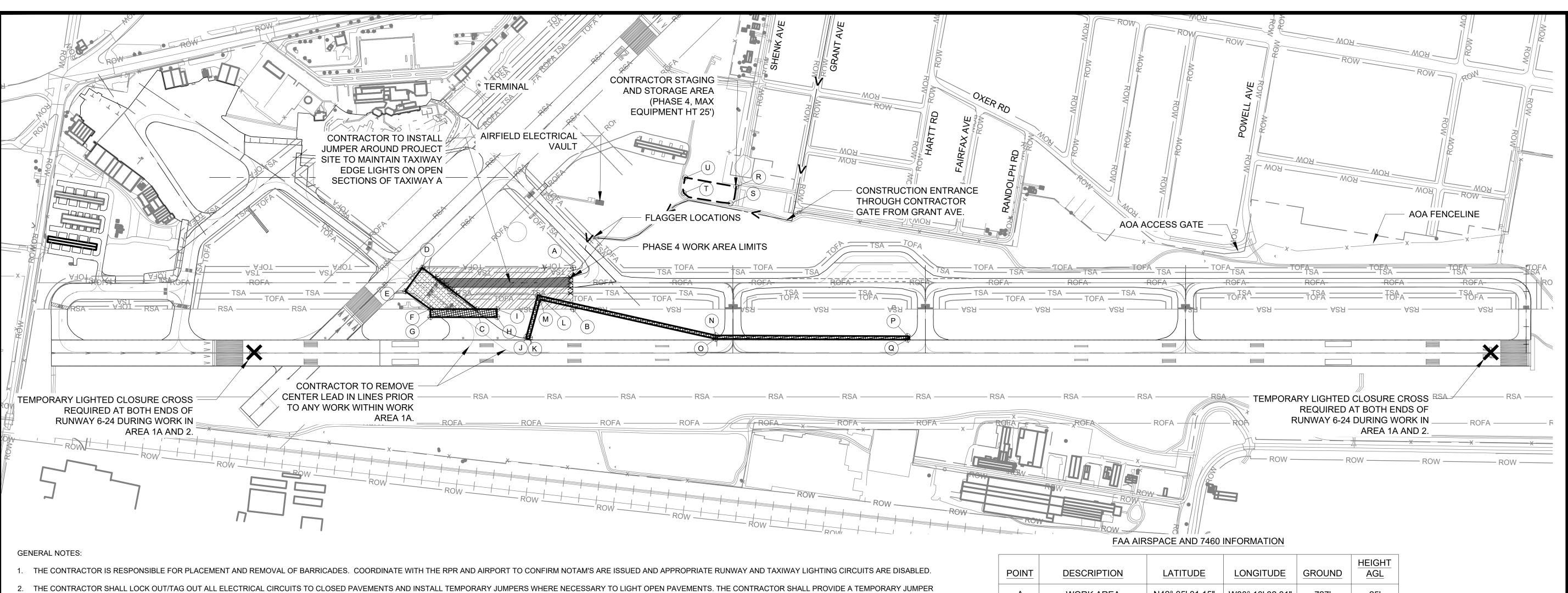
CHECKED BY: BDH

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SHEET CONTENTS
SURVEY CONTROL
PLAN

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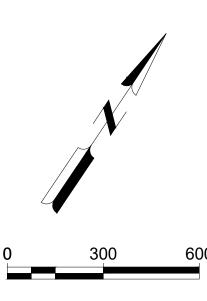
G-041



- PLAN 14 DAYS PRIOR TO WORK AREA CHANGE FOR APPROVAL BY THE RPR AND AIRPORT. ELECTRICAL LOCK OUT/TAG OUT AND TEMPORARY INSTALLATION SHALL BE INCIDENTAL TO MOBILIZATION.
- 3. THE CONTRACTOR SHALL REMOVE TAXIWAY CENTERLINES LEADING TO CLOSED TAXIWAY PAVEMENTS FOR ALL CLOSURES OVER 30 DAYS IN DURATION.
- 4. THE CONTRACTOR SHALL PROVIDE GATE GUARD(S) AT ALL CONSTRUCTION ENTRANCES. COORDINATE ADDITIONAL TRAINING WITH THE AIRPORT OPERATOR.
- THE CONTRACTOR SHALL REQUEST A SAFETY AND LIGHTING INSPECTION BY AIRPORT OPERATIONS PRIOR TO LEAVING THE CONSTRUCTION SITE AFTER EACH WORKING DAY. THE SAFETY INSPECTION SHALL INCLUDE THE CONDITION OF ACTIVE OPERATION AREAS ADJACENT TO THE CONSTRUCTION LIMIT, THE CONDITION OF THE CONTRACTOR STAGING AREA, AND THE SECURITY OF THE CONSTRUCTION ENTRANCE(S). THE CONTRACTOR'S SUPERVISOR SHALL REMAIN ON SITE UNTIL THE SAFETY INSPECTION IS COMPLETE AND ALL DEFICIENCIES HAVE BEEN CORRECTED TO THE SATISFACTION OF THE AIRPORT OPERATIONS DEPARTMENT.
- ACCESS TO THE SITE WILL BE FROM GRANT AVE. THE CONTRACTOR SHALL INSTALL CONSTRUCTION ENTRANCE ROADWAY SIGNAGE AS REQUIRED BY MILLCREEK TWP AND IN COMPLIANCE WITH MUTCD. CONTRACTOR SHALL OBTAIN ROADWAY PERMIT THROUGH MILL CREEK TOWNSHIP, ALL FEES SHALL BE INCIDENTAL TO PERMITS.
- 7. CONTRACTOR TO COORDINATE ACCESS TO CABLE INSTALLATION AREAS (NEW CABLE IN EXISTING CONDUIT) THAT ARE OUTSIDE OF THE PHASE 4 WORK LIMITS WITH AIRPORT OPERATIONS. WORK IN THESE AREAS WITHIN THE RSA OR TOFA WILL INCLUDE NIGHT WORK BETWEEN THE HOURS OF 11:00PM TO 5:00 AM. ALL PERSONNEL AND EQUIPMENT MUST VACATE THE RSA OR TOFA WHEN AIRCRAFT ARE OPERATIONAL ON ADJACENT PAVEMENTS.
- 8. CONTRACTOR IS ADVISED OF SPECIAL EVENTS INCLUDING TALL SHIPS FESTIVAL IN AUGUST, AND DISCOVER PRESQUE IS IN JULY. CONTRACTOR SHALL COORDINATE WITH THE AIRPORT ON POTENTIAL IMPACTS THESE EVENTS HAVE ON CONSTRUCTION OPERATIONS.
- 9. CONTRACTOR TO COORDINATE WORK AREA 1 WORK WITH AIRPORT OPERATIONS. THE WORK WITHIN RUNWAY SAFETY AREA SHALL ONLY BE PERMITTED AT NIGHT BETWEEN THE HOURS OF 11:00 PM TO 5:00 AM, IN COORDINATION WITH AIRPORT OPERATIONS. ALLOWABLE WORK ONLY WHEN NO COMMERCIAL AIRCRAFT OPERATIONS ARE SCHEDULED. ALL WORK SHALL BE BACKFILLED TO MEET RSA REQUIREMENTS (NO DROPOFFS GREATER THAN 3") WITHIN THE WORK TIMEFRAME PERMITTED BY AIRPORT OPERATIONS. RUNWAY CLOSURE CROSSES SHALL PROVIDED BY AIRPORT. CONTRACTOR SHALL MAINTAIN, PROVIDE FUEL, AND SERVICE THE CLOSER CROSSES FOR HE DURATION OF CLOSURES.

- 10. TWO FLAGGERS SHALL BE PRESENT DURING ALL HAULING OPERATIONS THAT TAKE PLACE OVER ON ACTIVE TAXIWAYS. ONE SHOULD BE POSITIONED ON THE NORTH SIDE OF TAXIWAY C OUTSIDE OF THE TOFA ON THE ACCESS ROAD. ONE SHOULD BE AT THE ENTRANCE/EXIT TO THE WORK AREA. FLAGGERS SHOULD HAVE AIRPORT APPROVED RADIOS AND BE IN COMMUNICATION WITH THE GATE GUARD AND AIR TRAFFIC CONTROL.
- 11. A SWEEPER VAC TRUCK SHOULD BE ONSITE THROUGHOUT ALL HAULING OPERATIONS OVER ACTIVE TAXIWAYS. THE TRUCK SHOULD MAINTAIN CLEAN TAXIWAY SURFACES AND SHALL REMOVE ALL FOD FROM HAULING OPERATIONS

					HEIGH I
POINT	DESCRIPTION	LATITUDE	LONGITUDE	GROUND	<u>AGL</u>
Α	WORK AREA	N42° 05' 01.15"	W80° 10' 32.31"	727'	25'
В	WORK AREA	N42° 04' 57.57"	W80° 10' 28.88"	728'	25'
С	WORK AREA	N42° 04' 51.84"	W80° 10' 39.62"	729'	25'
D	WORK AREA	N42° 04' 51.97"	W80° 10' 44.78"	729'	25'
E	WORK AREA	N42° 04' 50.33"	W80° 10' 44.80"	729'	25'
F	WORK AREA	N42° 04' 50.34"	W80° 10' 42.47"	729'	25'
G	WORK AREA	N42° 04' 49.97"	W80° 10' 42.13"	729'	25'
Н	WORK AREA	N42° 04' 52.15"	W80° 10' 38.04"	729'	25'
I	WORK AREA	N42° 04' 52.51"	W80° 10' 38.39"	729'	25'
J	WORK AREA	N42° 04' 52.20"	W80° 10' 35.36"	730'	25'
K	WORK AREA	N42° 04' 52.27"	W80° 10' 35.11"	730'	25'
L	WORK AREA	N42° 04' 54.47"	W80° 10' 36.48"	730'	25'
М	WORK AREA	N42° 04' 54.36"	W80° 10' 36.15"	730'	25'
N	WORK AREA	N42° 04' 58.45"	W80° 10' 23.81"	729'	25'
0	WORK AREA	N42° 04' 58.28"	W80° 10' 23.66"	729'	25'
Р	WORK AREA	N42° 05' 04.68"	W80° 10' 11.97"	729'	25'
Q	WORK AREA	N42° 05' 04.52"	W80° 10' 11.82"	729'	25'
R	STORAGE AREA	N42° 05' 05.92"	W80° 10' 29.06"	732'	25'
S	STORAGE AREA	N42° 05' 04.98"	W80° 10' 28.68"	732'	25'
Т	STORAGE AREA	N42° 05' 03.93"	W80° 10' 32.00"	732'	25'
U	STORAGE AREA	N42° 05' 04.68"	W80° 10' 32.60"	732'	25'



4/17/2025 ISSUED FOR BID

3-42-030-XXX-202X 3225600-192499.07 DATE: APRIL 17, 2025 DESIGNED BY: RGM DRAWN BY: NZ/RGM CHECKED BY: BDH

Mead and Hunt, Inc.

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DO NOT SCALE DRAWINGS SHEET CONTENTS CONSTRUCTION SAFETY PHASING PLAN

SHEET NO. 6 of 27

		AFFECTED ACTIVE OPERATION AREAS (AOA'S)	WORK HOURS	CONTRACT TIME	SAFETY AND SECURITY		
WORK AREA	CONSTRUCTION						
	CONSTRUCT TAXIWAY A AS SHOWN. COMPLETE REMOVAL OF TAXIWAY A INCLUDING SAWCUTTING, PAVEMENT REMOVAL, BASE COURSE, PAVEMENT, TOPSOIL GRADING, SEEDING AND MULCHING. COMPLETE TAXIWAY EDGE LIGHTING AND GUIDANCE SIGN MODIFICATIONS, EDGE RESTORATION AFTER PAVING, AND PLACE HALF-RATE MARKING ON NEW PAVEMENTS.	1. TAXIWAY A CLOSED (TWY D TO TWY C) 1.1. FAA FLIGHT PROCEDURES MAY INCREASE VISIBILITY MINIMUMS ON RUNWAY 6-24 2. TAXIWAY C OPEN. 2.1. CONTRACTOR SHALL PROVED VAC TRUCK TO PREFORM CLEANING AND VACUMING OF TAXIWAY C DURING CONSTUCTION HOURS TO PREVENT FOD WHEN AIRCRAFT USE TAXYWAY C	NORMAL / UN- RESTRICTED	30 CALENDAR DAYS TOTAL. BASE BID: 28 DAYS	THE CONTRACTOR SHALL NOTIFY THE AIRPORT AT LEAST 5 DAYS IN ADVANCE OF WORK AND WORK AREA CHANGES SO THAT THE AIRPORT MANAGEMENT CAN ISSUE A NOTAM OF CONSTRUCTION ACTIVITY.  1. ALL GATES MUST BE LOCKED OR GATE GUARD POSTED.  2. ALL CONTRACTOR PERSONNEL WORKING ON-SITE SHALL UNDERGO AIRPORT TRAINING AND HAVE AIRPORT ISSUED BADGE.  3. MAXIMUM EQUIPMENT HEIGHT FOR THE PROPOSED WORK AREA IS 25' UNLESS OTHERWISE NOTED.		
1A	ALL WORK AREA 1 WORK WITHIN THE 500' WIDE RSA  ALL PHASE 1 ELECTRICAL WORK WITHIN THE 500' WIDE RSA	<ol> <li>RWY 6-24 CLOSED</li> <li>TAXIWAY A3 CLOSED</li> <li>TAXIWAY A2 CLOSED</li> </ol>	SEE GENERAL NOTE 9	SEE GENERAL NOTE 9			
1B)	WORK AREA 1 WORK WITHIN THE TAXIWAY D TOFA.	1. TWY D CLOSED 2. TWY A CLOSED (FROM TWY C TO TWY D)	NORMAL / UN- RESTRICTED	BASE: 2 CALENDAR DAYS			
	SCHEDULING NOTE: FINAL MARKING WORK MUST OCCUR A MINIMUM OF 30 DAYS AFTER COMPLETION OF RESPECTIVE ASPHALT PAVING, A STOP ORDER IS ANTICIPATED.						
2	COMPLETE FULL RATE MARKING OF NEW PAVEMENTS.	COORDINATE TEMPORARY CLOSURES ON TAXIWAYS AND RUNWAYS WITH AIRPORT OPERATIONS.	NORMAL / UN- RESTRICTED	1 CALENDAR DAY	1. WORK SHALL TAKE PLACE ON A PULL-OFF BASIS. CONSTRUCTION TRAFFIC MUST YIELD TO ALL AIRCRAFT.		

RUNWAY 6-24: RDC: C-II-2400 RSA: 500' WIDE OFZ: 400' WIDE OFA: 800' WIDE

CRITICAL DIMENSIONS (TOTAL WIDTH):

XXXXXXXXXXXXXXXXX

- TOFA

RUNWAY 2-20: RDC: B-II-VISUAL RSA: 150' WIDE OFZ: 400' WIDE OFA: 500' WIDE

**LEGEND** 

**EXISTING PAVEMENTS** 

WORK AREA BOUNDARY

**RUNWAY SAFETY AREA** 

CONTRACTOR HAUL ROUTE

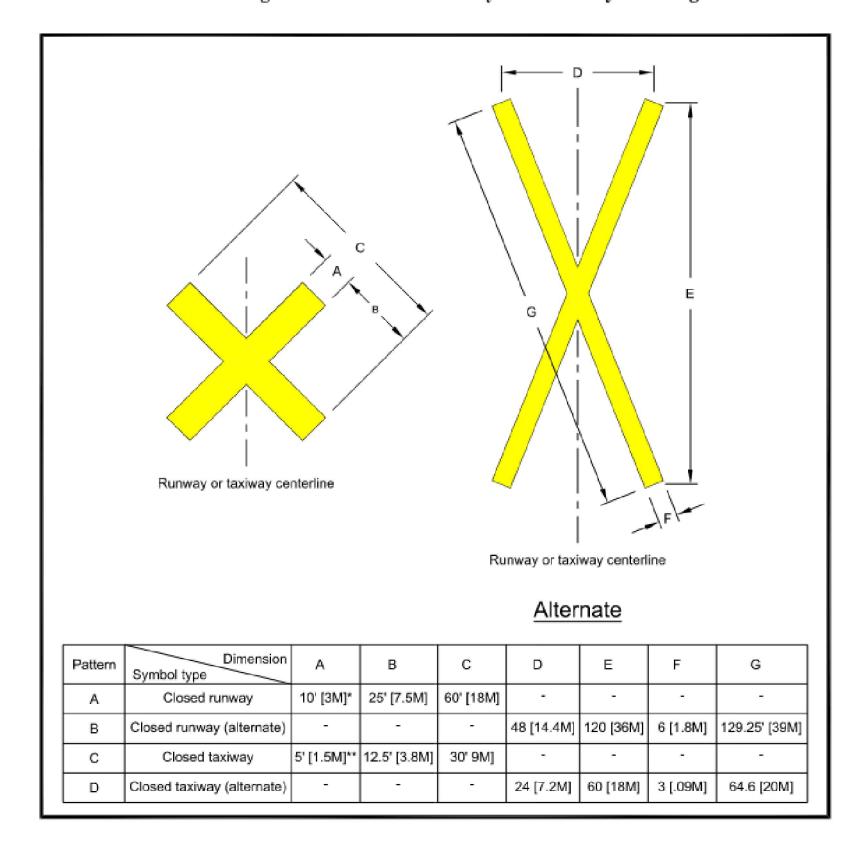
TAXIWAY OBJECT FREE AREA

TAXIWAYS: TDG: 3 ADG: III TSA: 118' WIDE OFA: 171' WIDE

LIGHTED BARRICADE (PHASE IF APPLICABLE)

TOTAL CONTRACT TIME: 30 CALENDAR DAYS

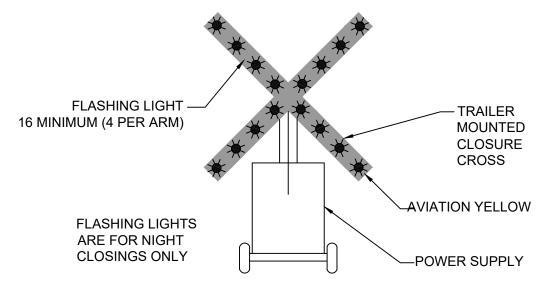
Figure A-27. Closed Runway and Taxiway Markings



Note: Both symbols are always painted yellow.

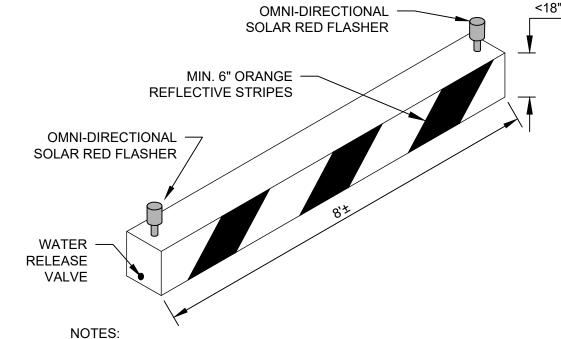
- For temporary symbol, this dimension may be changed to 8 ft (2.4m).
  - For temporary symbol, this dimension may be changed to 4 ft (1.2m).

# CLOSED RUNWAY AND TAXIWAY MARKINGS



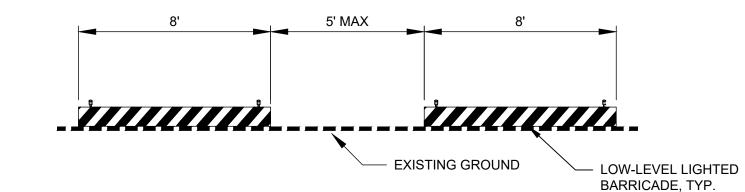
TEMPORARY CLOSURE CROSS DETAIL

- 1). THE OWNER SHALL SUPPLY. THE CONTRACTOR SHALL MAINTAIN TWO GENERATOR-POWERED, LIGHTED CLOSURE MARKERS FOR THE DURATION REQUIRED. MARKERS SHALL BE MOVED, FUELED, OILED AND MAINTAINED BY THE CONTRACTOR FOR THE DURATION REQUIRED.
- 2). MARKERS SHALL BE PLACED ON RUNWAY NUMERALS FOR THE ENTIRE PERIOD OF TIME THAT RUNWAY 6-24 IS CLOSED AS SHOWN.
- 3). CLOSURE MARKERS SHALL BE CERTIFIED AND CURRENTLY APPROVED EQUIPMENT PER THE CURRENT EDITIONS OF FAA AC 150/5345-53 AND FAA AC 150/5345-55.

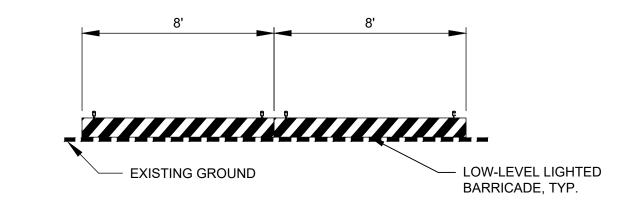


- CONTRACTOR SHALL SUPPLY AND MAINTAIN LOW-LEVEL LIGHTED BARRICADES FOR THE DURATION OF THE PROJECT.
- 2. GAPS IN BARRICADES SHALL NOT EXCEED 5-FEET.
- 3. THERE SHALL BE NO GAPS IN BARRICADES PLACED AT RUNWAYS.

LOW-LEVEL LIGHTED BARRICADE DETAIL







LOW-LEVEL LIGHTED BARRICADE PLACED AT RUNWAYS DETAIL

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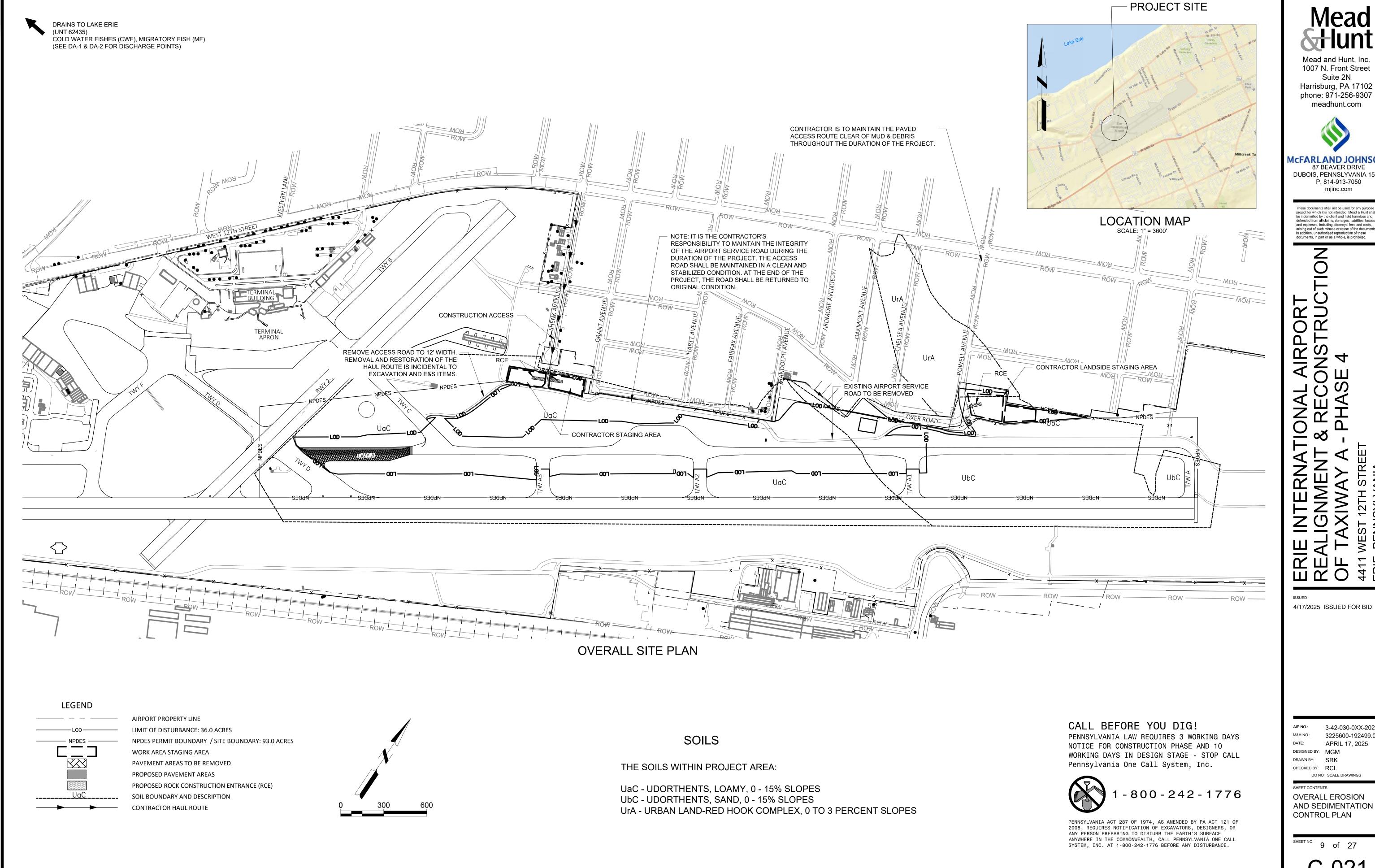
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SHEET CONTENTS CSPP DETAILS

SHEET NO. 7 of 27



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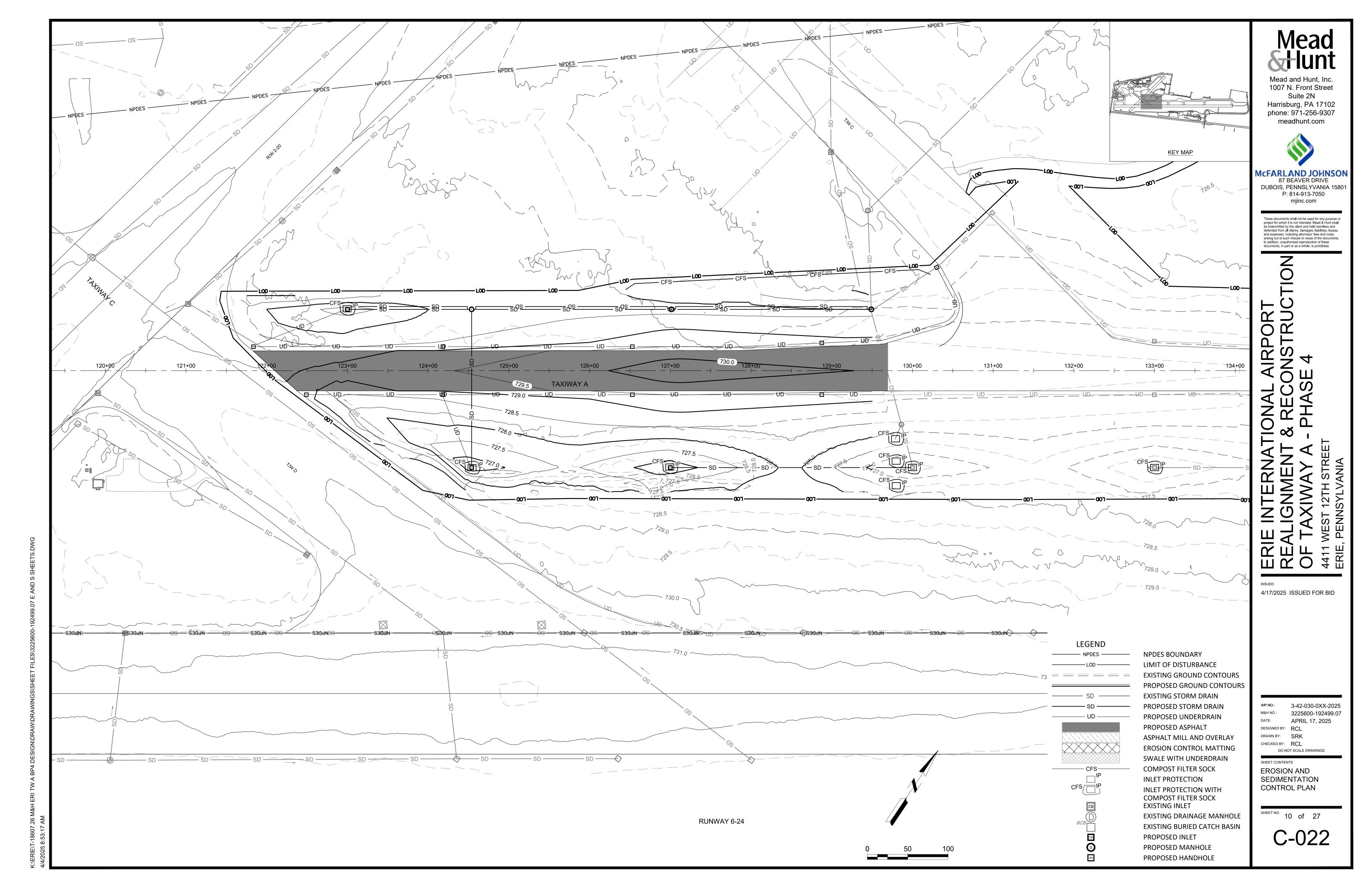
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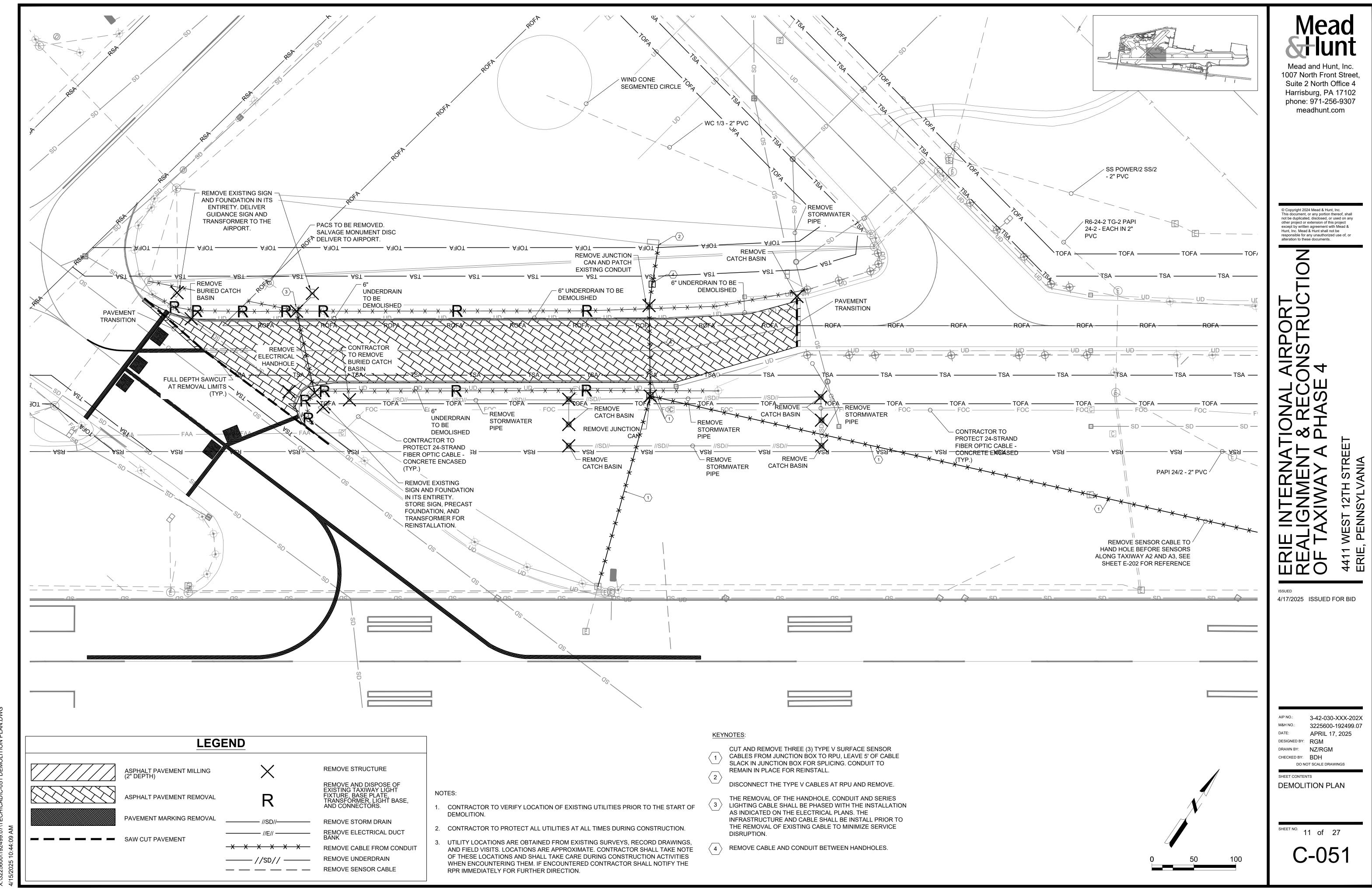
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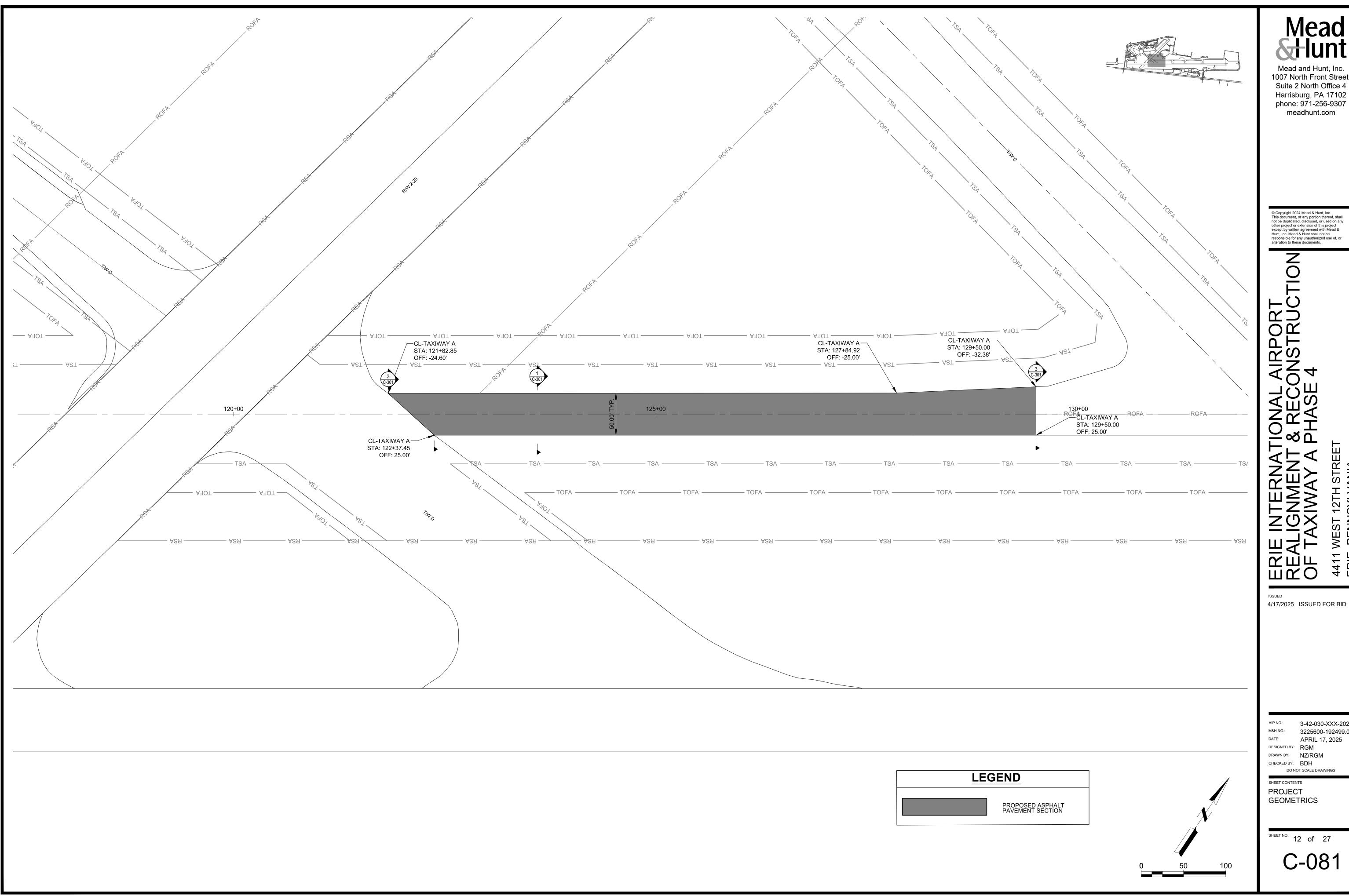
**OVERALL EROSION** AND SEDIMENTATION CONTROL PLAN

SHEET NO. 9 of 27





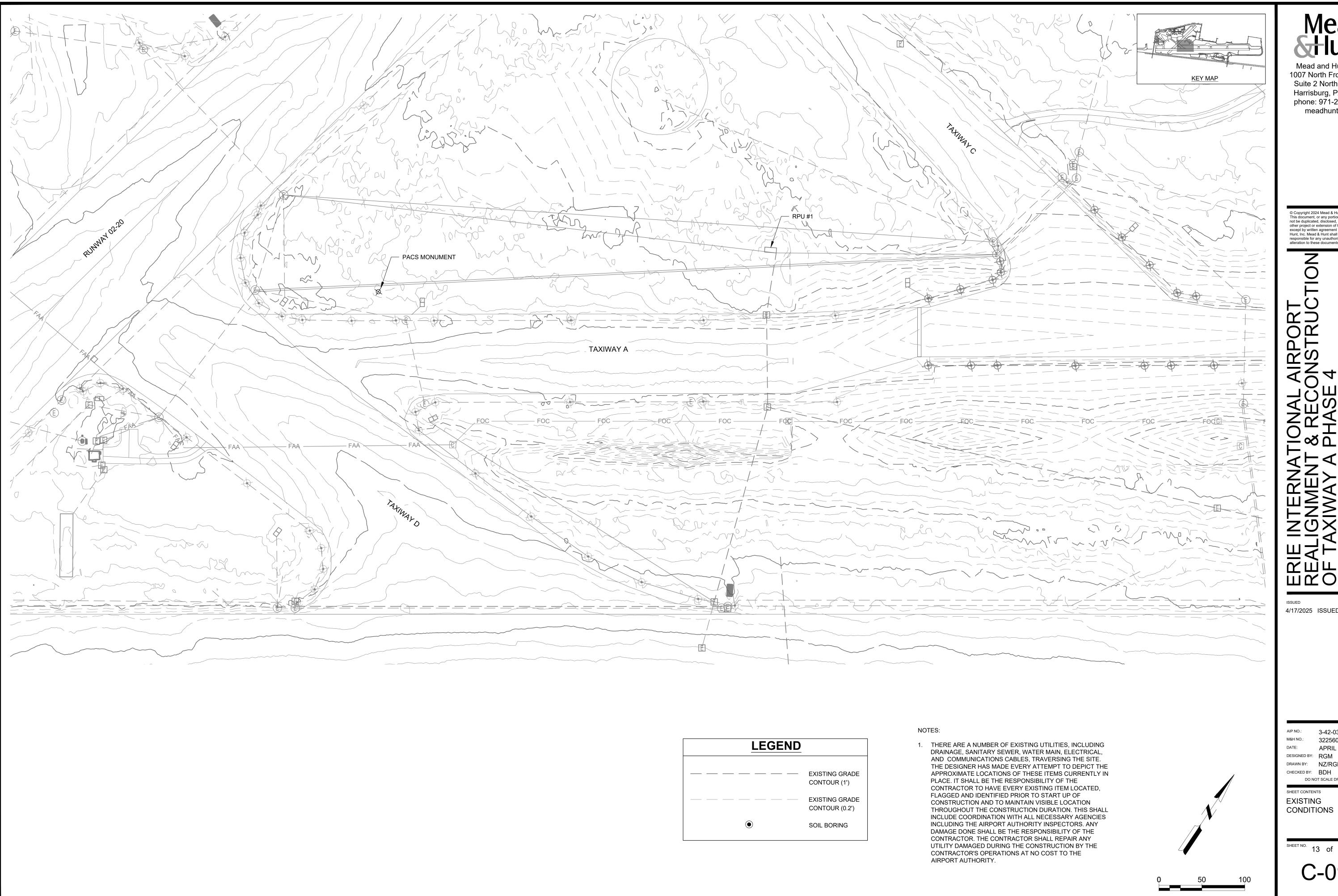
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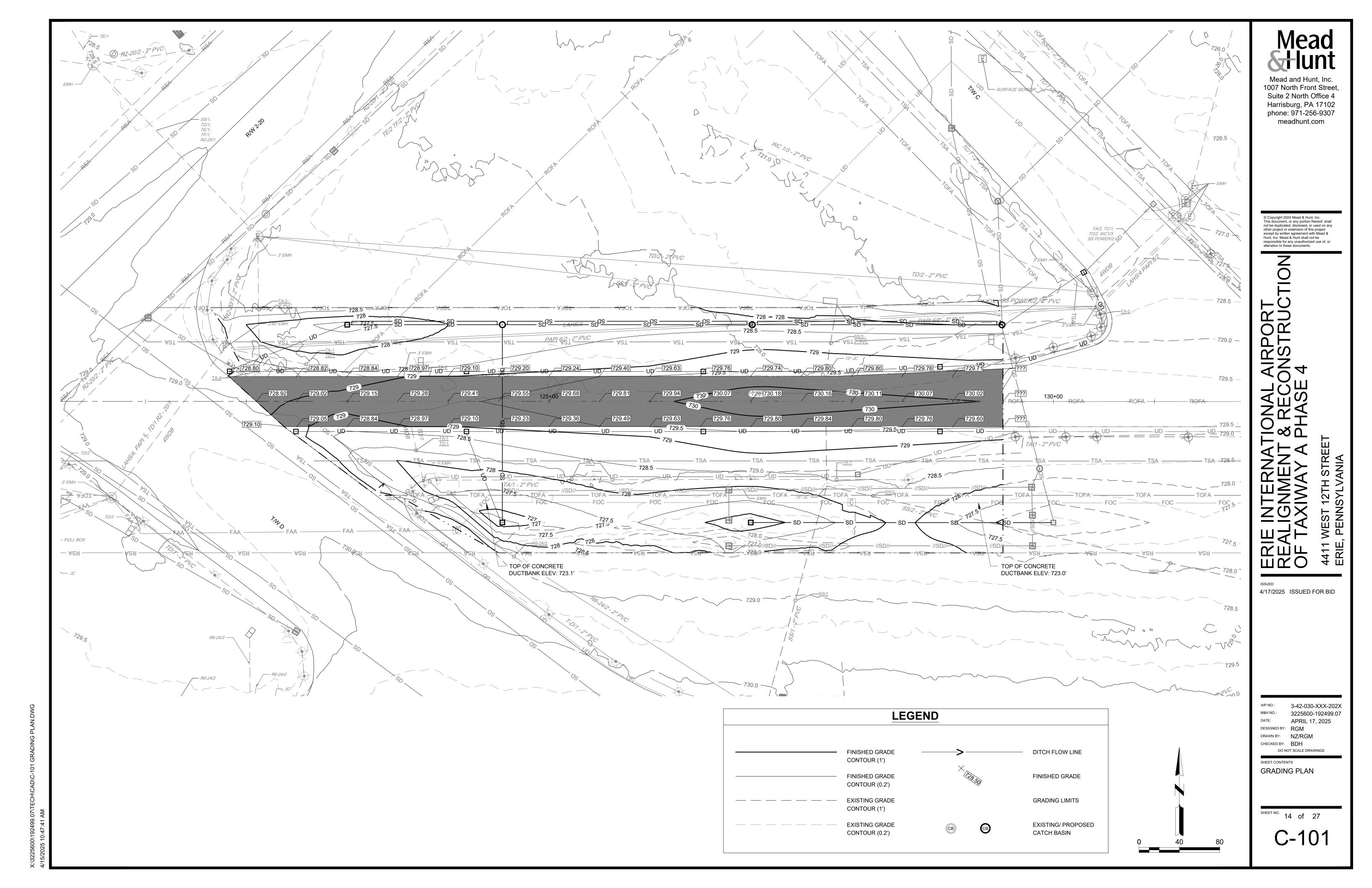
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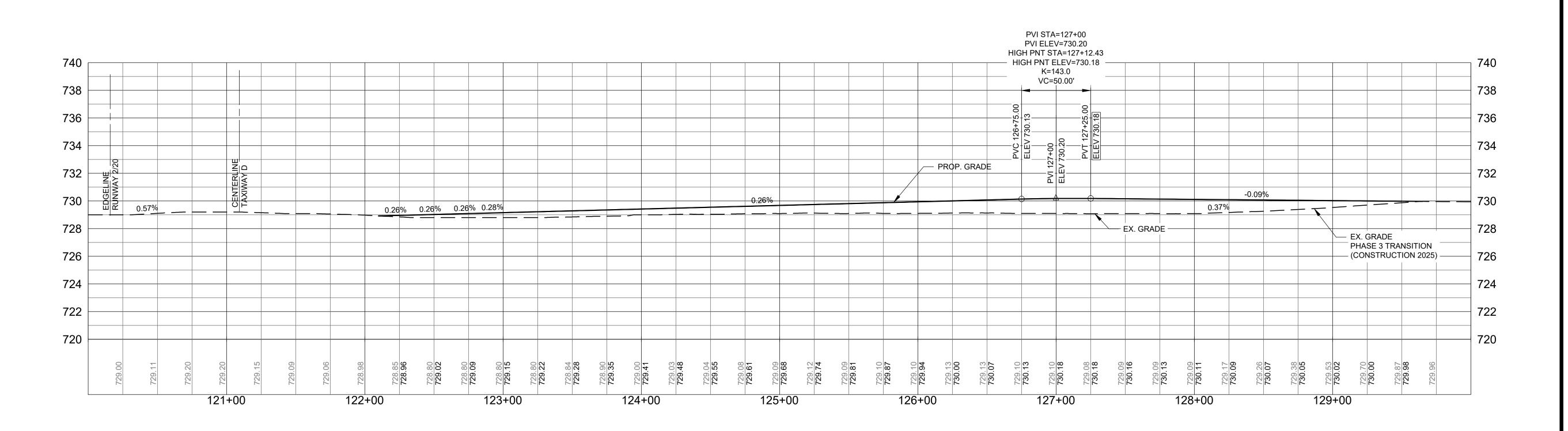
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SHEET NO. 13 of 27





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& RECONSTRUCTION
PHASE 4

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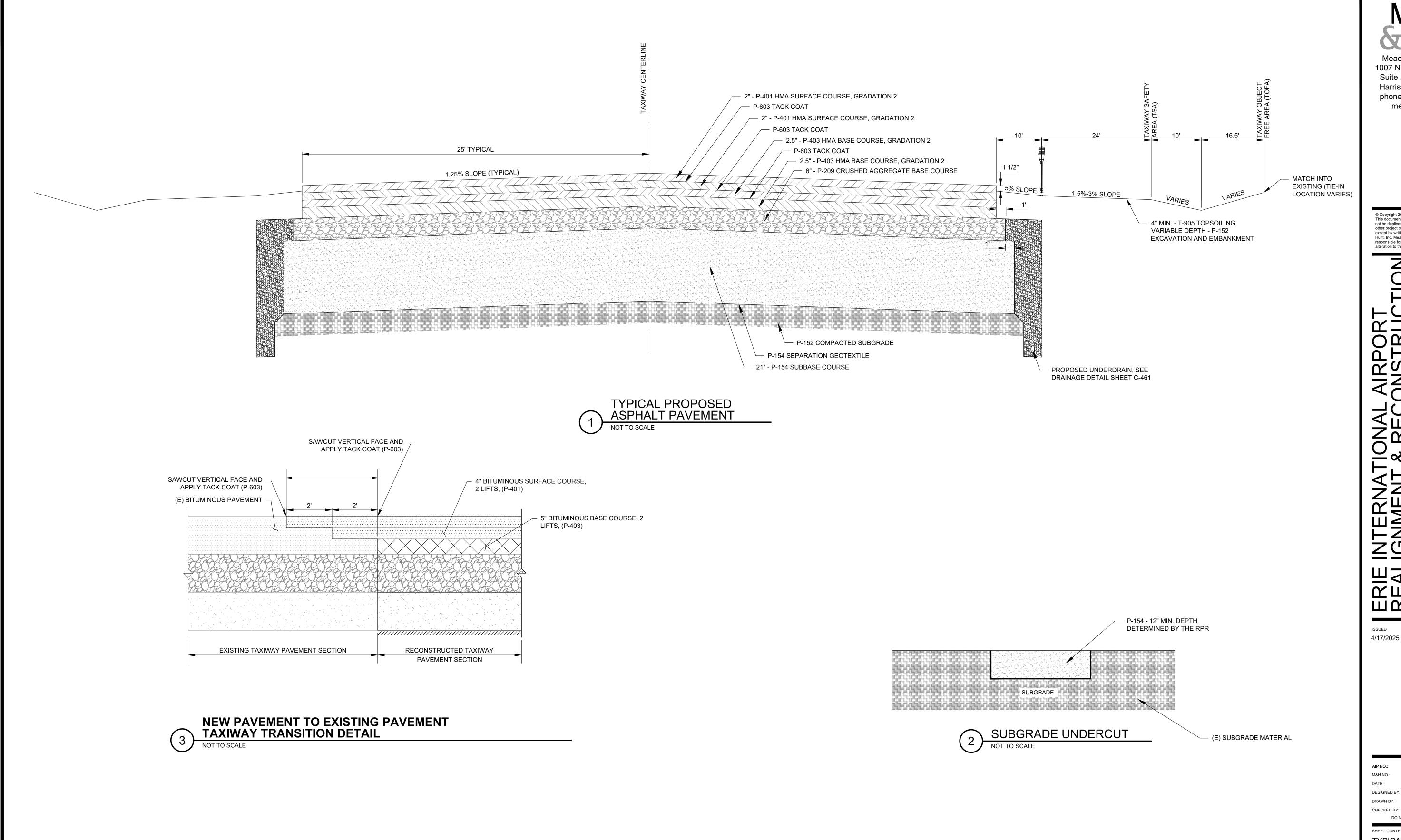
SHEET CONTENTS

CENTERLINE

PROFILES

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C-201



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SHEET CONTENTS
TYPICAL SECTIONS

SHEET NO. 16 of 27

C-301

### Proposed Erosion and Sedimentation BMPs and BMP Construction Sequence

### **Proposed Erosion and Sedimentation BMPs**

The proposed Erosion and Sedimentation (E&S) controls for this Project are identified on E&S Control Plan Drawings. All Best Management Practices (BMPs) shall be installed as indicated in the E&SCP Plan and Detail Drawings and approved by the Erie County Conservation District (ECCD).

Prior to the start of earth disturbance, the contractor is required to sign on as co-permittee and will be responsible for the installation/maintenance of all E&S controls within the designated area of earth disturbance.

- a) The contractor's staging/storage areas will be located in between the taxiway and the airport service road and east of Taxiway C in the locations shown on the plan drawings. It is the contractor's responsibility to maintain the staging areas in stabilized condition during construction. Matting and rock may be required to prevent rutting and potential for erosion and sediment runoff. The areas must be maintained throughout construction due to the close proximity of air operations. The staging areas are to be restored to original condition when the area is no longer needed.
- b) A rock construction entrance will be installed at the entrance/exit of the construction vehicles into the staging areas/project site. The rock construction entrance will be maintained in a clean condition with clean rock being added as necessary throughout construction. The rock construction entrances should have fabric applied along with rock thickness according to the specifications in the rock construction detail and should be constantly maintained to the specified dimensions by adding rock, as necessary. A stockpile or other nearby storage shall be accessible on site for this purpose. Vacuum street sweeping must be used on paved surfaces in conjunction with utilizing the rock construction entrance.
- c) The access road into the site must be maintained free of mud and debris throughout the duration of the project. Any surface disturbance along the construction access route will be repaired and revegetated as a part of the final restoration process. Any mud and/or debris tracked onto Powell Road must be cleaned by the contractor. A vacuum sweeper should be kept onsite during construction to endure the roadways area maintained.
- d) Compost filter sock (CFS) is to be installed at various locations within the project area, as indicated on the Erosion and Sedimentation Control Plans. Switchgrass silt sock can be substituted for standard CFS at the contractor's preference. If the compost filter sock is undermined or overtopped, it shall be immediately replaced. The CFS shall be installed in accordance with the details shown on the plan sheets. A CFS may be utilized in the location indicated. The contractor is to ensure the CFS is the designated size indicated on the plan drawings. CFS should be installed in accordance with the detail and shall be inspected weekly and after each runoff event. A supply of CFS should be kept onsite in the event that a tube becomes damaged and/or needs replaced.
- e) Blackhawk/blanket Inlet Protection System or an approved equal will be utilized on the designated inlets as shown on the plan drawing. It is the contractor's responsibility to ensure that the inlets are maintained and utilized in the designated locations throughout the proposed construction activities until the site is stabilized. Inlet protection shall be inspected on a weekly basis and after each runoff event. Compost filter sock will be installed around the inlets within the newly graded area as an added measure to controlling sediment during the construction process.
- f) A pumped water filter bag will be utilized if water is encountered when excavating for the proposed stormwater controls and/or when trenching for utilities. If an area needs dewatering throughout the duration of the project, a pumped filter bag will be utilized. The pumped water filter bag will have CFS installed downgradient.
- g) Vacuum street sweeping is to be performed throughout the course of the proposed project to ensure that all airport pavement is maintained in a clean condition and free of mud and debris
- h) Erosion control fabric will be utilized on the designated slopes throughout the project area. The erosion control fabric is to be installed as soon as finished grade is achieved.
- i) Interim stabilization procedures will be utilized if required and are provided in this narrative.
- Seeding specifications are included within the narrative and on the E&S Plan detail sheets. It should be noted that mulch must be netted/binded/tackified material due to the close proximity

### **Construction Sequence**

- a) The contractor shall notify the Erie County Conservation District 7 days prior to the start of construction at Phone: (814) 825-6403 to schedule the required pre-construction meeting. At least three days prior to the start of any earth disturbance activities, notify the Pennsylvania One Call System, Inc. at 1-800-242-1776 for buried utilities location.
- b) The locations for each staging area are shown on the plan drawings. It is the contractor's responsibility to maintain the staging areas in clean condition during construction. The area must be maintained clean throughout construction due to the close proximity of air operations. Topsoil stockpiles will be located adjacent to the staging area or within the project area, outside the runway and taxiway safety areas. Compost filter sock shall be installed around the perimeter of the stockpiles. The staging areas are to be kept in a stabilized condition throughout the course of use. Matting and rock may be required to prevent rutting and potential for erosion and sediment runoff. It is the contractor's responsibility to maintain the staging areas utilized during construction. The staging areas are to be restored to original condition when the area is no longer needed. The staging areas are to be restored to original condition when the area is no longer needed.
- c) Install the rock construction entrances in the locations indicated on the plan drawing. The rock construction entrances are to be constructed according to the specified dimensions and maintained throughout the duration of the project.
- d) Install the compost filter socks (CFS) in the locations shown and according to the details shown. The CFS will be in place and functioning prior to any adjacent and/or upslope disturbance.
- e) Install the Blackhawk/blanket inlet protection (or equivalent) and CFS inlet protection as well as the blanket inlet protection on the designated inlets that may receive runoff during the project. Refer to the plan drawing for designated inlet protection for each inlet.
- f) If necessary, utilize a pumped water filter bag in any area that requires dewatering during the project. CFS must be installed downslope of the pumped water filter bag.
- g) Once the E&S controls are installed and functioning as intended, earthwork can begin.
- h) Refer to the Construction Safety & Phasing Plan for detailed project phasing.
- i) Perform the taxiway realignment and reconstruction, associated grading, lighting, signage, and installation of stormwater management controls as specified on the plan drawings.

- j) During the proposed project, the contractor is to ensure that all airport pavement and surrounding pavement are clean of mud and debris. A vacuum street sweeper shall be utilized.
- k) It is the contractor's responsibility to ensure E&S BMPs are installed and functioning, and that no sediment enters the proposed stormwater controls prior to stabilization.
- I) Prior to mulching, any newly graded slopes should be tracked to create horizontal tracks or grooved to help reduce runoff velocity and erosion. Stabilization of any disturbed area will be achieved by applying agricultural lime, fertilizer, seed, and mulch according to the designated seeding specifications. Minimum topsoil placement depth will be four (4) inches. Apply binded mulch to areas that will be left for a period greater than 4 days prior to continued earthmoving activities. Erosion control fabric will be applied to the designated locations. Apply according to the manufacturer's recommendations.
- m) Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean-out, repair, replacement, regrading, and remulching must be performed immediately. A log showing dates that BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection. The PADEP Visual Site Inspection Report form is included.
- n) The contractor will be responsible for maintaining the compost filter sock, inlet protection, and any remaining erosion and sedimentation control BMPs until the site achieves uniform 70% ground cover with perennial vegetation.
- o) When the project is complete and the site is at least 70% stabilized, the permittee shall submit a Notice of Termination form to the Erie County Conservation District to terminate the permit.

### **General Erosion and Sedimentation Notes:**

- 1. The contractor shall notify the Erie County Conservation District 7 days prior to the start of construction at Phone: (814) 825-6403. At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, appropriate municipal officials, the E&S/Restoration plan preparer, and a representative from
- 2. At least three days prior to starting any earth disturbance activities, or expanding into any areas previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
- 3. A co-permittee agreement must be completed by all parties involved in order to share permit responsibility, coverage, and liability.
- 4. To properly implement the Plan, the contractor should become familiar with the requirements 25 PA Code, Chapter 102 for Erosion and Sediment Control.
- 5. All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with the approved E&S plan. A copy of the approved drawings (stamped, signed, and dated by the Erie County Conservation District) must be available at the project site at all
- 6. Erosion and sediment BMPs must be constructed, stabilized, and functional before site disturbance begins within the tributary areas of those BMPs.
- 7. Until the site is stabilized all E&S BMPs must be maintained properly by the Contractor. Maintenance must include inspection of all E&S BMPs on a weekly basis and after each stormwater event. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching, and renetting must be performed immediately. If E&S BMPs fail to perform as expected, replacement BMPs or modifications of those installed will be required.
- 8. At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before operations begin.
- 9. Any off-site waste and borrow areas must have an E&S plan approved by the Conservation District or PADEP fully implemented prior to being activated.
- 10. Areas which are to be topsoiled shall be scarified to a minimum depth of 3 to 5 inches 6 to 12 inches on compacted soils- prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.
- 11. Seeding and soil supplements, mulching and slope erosion protection will be conducted according to the seeding specifications shown on the details and in the narrative.
- 12. Mulch materials shall be only of the mulch netting type for this site.

stabilized.

- 13. If stockpiles are created, then place compost filter sock around the pile perimeter. Stockpile heights must not exceed 35 feet and slopes must be 2:1 or flatter.
- 14. If stockpiles are created, then place compost filter sock around the downslope pile perimeter. Stockpile heights must not exceed 35 feet and slopes must be 2:1 or flatter.
- 15. Any mud deposited upon paved surfaces open to public travel will be immediately cleaned with a vacuum street sweeper. At the end of each construction day, all paved roadways will be checked for sediment deposition and cleaned if necessary.
- 16. It is the responsibility of the Contractor to remove accumulated sediment from inlet filter protection after each storm event. All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
- 17. The contractor's staging areas shall be kept in a stabilized condition with perimeter controls, as
- 18. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. 19. E&S BMPs shall remain functional as such until all areas tributary to them are permanently
- 20. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching, and renetting must be performed within 24 hours. If erosion and sediment control BMPs fail to perform as expected, replacement BMPs, or modification of those installed will be required.
- 21. After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed. Areas disturbed during removal of the BMPs must be stabilized immediately.
- 22. Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by DEP as defined in Section 602 of the Pennsylvania Clean Streams Law. The Clean Streams Law provides for up to \$10,000 per day in civil penalties, up to \$10,000 in summary criminal penalties, and up to \$25,000 in misdemeanor criminal penalties for each violation.
- 23. It is condition of the NPDES and E&S Permits that a maintenance program be conducted to provide for the operation and maintenance of all BMPs to be inspected on a weekly basis and after each stormwater event. Failure to conduct the required inspection may result in permit suspension of the imposition of civil penalties. At a minimum, the DEP Visual Site Inspection Report shall be utilized for weekly and/or storm event inspections.

### **Maintenance and Inspection Program**

Inspection and Oversight Requirements- visual site inspections must occur throughout the duration of construction and until the Notice of Termination (NOT) has been submitted by the permittee. Two types of inspections are required: 1) routine inspections (at least weekly); and 2) post-storm event inspections (within 24 hours of each 0.25 inch or greater storm event or the occurrence of snowmelt sufficient to cause a discharge; and 3) corrective action inspections. Each inspection must be documented on DEP's

familiar with the requirements 25 PA Code, Chapter 102 for Erosion and Sediment Control. It shall be the responsibility of the contractor to designate a person or persons to maintain the integrity and operation of all erosion and sedimentation control facilities. The contractor shall provide a weekly maintenance check and a check after each precipitation event to ensure that all BMPs are in place and functioning as intended. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed within 24 hours. If erosion and sediment control BMPs fail to perform as expected, replacement BMPs, or modification of

Inspection and maintenance should abide by all general notes included in this narrative. Interim stabilization, if needed, will be in accordance with the specifications in this narrative and as shown on the enclosed detail sheet. Maintenance for each specific BMP is included on the Erosion and Sedimentation Plan detail sheets.

the operation and maintenance of all BMPs to be inspected on a weekly basis and after each stormwater event. Failure to conduct the required inspection may result in permit suspension of the imposition of civil penalties. At a minimum, the DEP Visual Site Inspection Report shall be utilized for weekly and/or storm event inspections.

Any waste materials generated as a result of the proposed construction activities will be disposed of in accordance with state and local mandates and ordinances. The contractor responsible for earth disturbance activities must ensure that proper mechanisms are in place to control waste materials. Construction wastes include, but are not limited to, excess soil materials, concrete washwater, sanitary wastes, etc. that could adversely impact water quality. Measures should be planned and implemented for housekeeping, materials management, and litter control. Whenever possible, recycling of excess materials is preferred, rather than disposal.

### **Natural Occurring Geologic Formations and Soil Conditions**

### **Potential Thermal Impacts**

There is little potential for thermal impacts as a result of the proposed project. With the removal of existing pavement, there will be less impervious surface which will contribute to less runoff post construction. Stormwater will sheet flow to proposed inlets and piping, and ultimately discharge to existing stormwater outfalls at the Airport. Stormwater will have the ability to cool to ambient temperatures before reaching waters of the Commonwealth.

The existing riparian buffer, located downslope and outside the limits of the project area, will remain undisturbed for this project.

It is the responsibility of the operator to perform environmental due diligence and determine that all fill imported into the site meets the DEP definition of clean fill. Clean fill is defined as "Uncontaminated non-water soluble, nondecomposable inert solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and recognizable as such. (25 Pa. Code §§287.1, 271.1) The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized. Environmental Due Diligence is defined as "Investigative techniques, including but not limited to, visual property inspections, electronic data base searches, review of ownership and use history of property, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments and audits. (35 P.S. §6027.103)

Chapter 102 Visual Site Inspection Report or an alternative with identical information.

**BMP Maintenance and Inspection Schedule** 

Rock Construction Entrances (RCEs) shall be inspected daily as

RCE thickness shall be constantly maintained to the specified

rock or if rock becomes clogged, it must be replaced.

dimensions by adding rock. RCE must be maintained with clean

Inlet Protection shall be inspected on a weekly basis and after each

Protection shall be emptied and rinsed or replaced when flow

capacity has been reduced with potential to cause flooding or

bypassing of the inlet. Damaged or clogged protection shall be

Controls shall be inspected weekly and after each runoff event.

Damaged controls shall be repaired according to manufacturer's

specifications or replaced within 24 hours of inspection. Sediment

shall be removed when accumulations reach 1/3 the height of the

Outlets shall be inspected on a weekly basis as necessary.

If any problem is detected, pumping shall cease immediately

be replaced when they become one-half full of sediment.

and not resume until the problem is corrected. Filter bags shall

Blanketed areas shall be inspected weekly and after each runoff

event until perennial vegetation is established to a minimum

Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

Access and staging areas shall be inspected daily and after each runoff event.

airport pavement will be cleaned with a vacuum street sweeper

throughout construction. Damaged roadways, ditches, or cross

Mud and sediment on the access and staging areas or surrounding

uniform 70% coverage throughout the blanketed area.

Filter Bags shall be inspected daily.

drains shall be repaired immediately.

**Rock Construction Entrance** 

Inspection Schedule:

Maintenance:

**Inlet Protection** 

Inspection Schedule:

Maintenance:

**Compost Filter Sock (CFS)** 

Inspection Schedule:

Maintenance:

**Rock Filter** 

Inspection Schedule:

Pumped Water Filter Bag

**Inspection Schedule:** 

**Erosion Control Blanket** 

Inspection Schedule:

Maintenance:

Access and Staging Area

Inspection Schedule:

Maintenance:

replaced.

control.

In order to properly implement the Plan and handle onsite changes the contractor should become

It is condition of the NPDES and E&S Permits that a maintenance program be conducted to provide for

### **Recycling or Disposal of Materials**

No known naturally occurring geologic formations or soil conditions have the potential to cause pollution during earth disturbance activities. The project area exists as the current taxiway system and has been previously disturbed for past taxiway construction and associated grading.

### **Existing and Proposed Riparian Forest Buffers**

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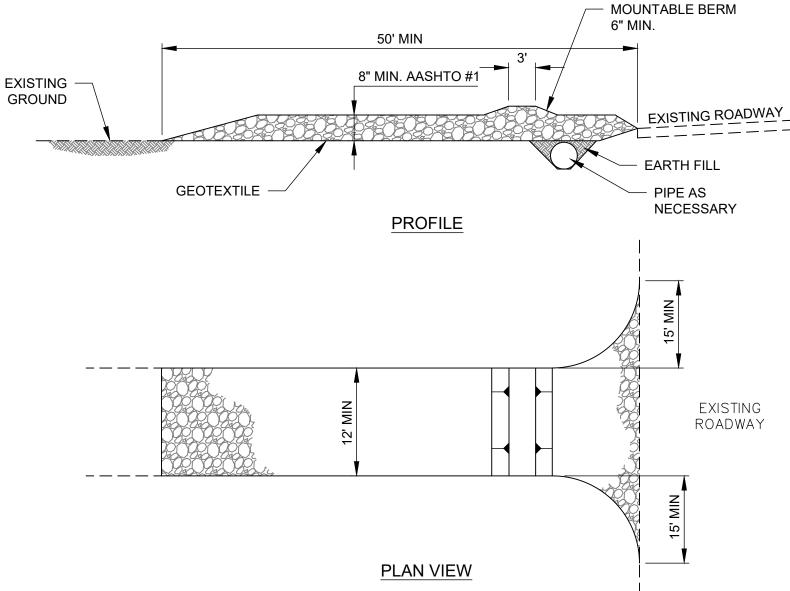
3-42-030-0XX-2025 3225600-192499.07 DATE: APRIL 17, 2025 DESIGNED BY: RCL

DRAWN BY: SRK CHECKED BY: RCL DO NOT SCALE DRAWINGS SHEET CONTENTS **EROSION AND** SEDIMENT CONTROL

PLAN DETAILS SHEET

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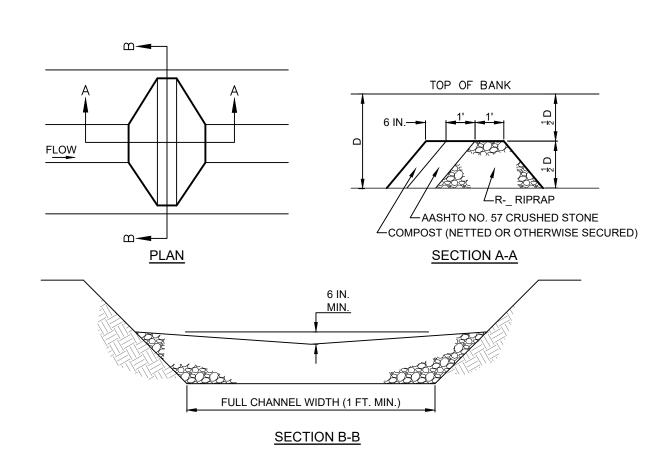
### NOTES:

- 1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
- 2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
- 3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

### MAINTENANCE:

ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON THE ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FEET INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL A WASH RACK. WASHING THE ROADWAY OR SWEEPING DEPOSITS INTO ROADWAY DITCHES, SEWER, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.





		FOR D >	3 FT USE R-4 2 FT. TO D < 3 F PLICABLE FOR D	
ROCK FILTER NO.	LOCATION	D (FT)	RIPRAP SIZE (R)	
RF-1	STA. 154+32.25; OFF. 77.25	5	4	

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS.

NOTES:

IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.



# **BLACKHAWK**

### **Advanced Inlet Filter Mat**



Sediment control device designed to prevent street flooding while being easy to install and service.

Silt sacks have limited sediment storage capacity and can easily blind whereby causing street flooding. Blackhawk™ has a much higher sediment storage capacity because sediment is kept above the grate. It's unique design — vertically oriented coir fibers, scalloped edging, hi-flow holes, and emergency dewatering plugs, make this device the most robust in it's class.

Blackhawk™ is held to the grate with high strength rubberized magnets so installation, servicing, and removal is a snap — no skid steer or backhoe needed. This device can be cleaned and re-used multiple times.

### **Performance Details:**

- 1300 GPM hydraulic flow rating (2x4 grate version)
- Removes 99% .425 mm particle size and larger
- Independent testing shows 87% overall sediment removal
- Works with both Type-M and Type-C inlet configurations
- Mats for 2x2, 2x3, and 2x4 grates are in stock
  Custom sizes available with short lead-times

### Other Benefits:

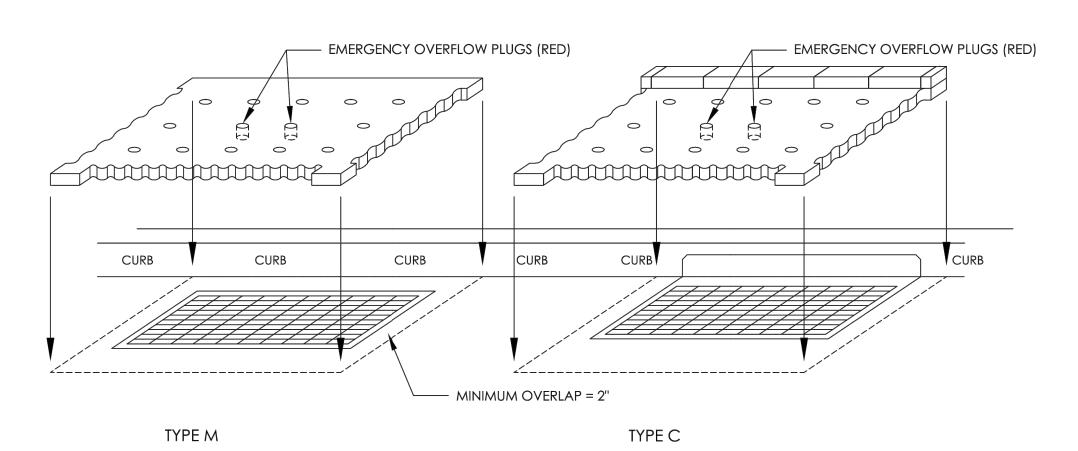
- Easy to handle Installs by just laying on the grate
- Can be cleaned and re-used multiple times
- Can be used for both E&S and MS-4 compliance
  Much higher sediment storage capacity than bags
- Designed to be highly resistant to blinding and flooding
- Integrated emergency dewatering plugs





888-578-0777

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# BLACKHAWK INLET FILTER SYSTEM (OR EQUIVALENT)

NOTES:

-PRIOR TO INSTALLATION, INLET GRATE SURFACE AND SURROUNDING AREA SHALL BE CLEANED AND CLEARED OF DEBRIS. INLET FILTER MAT SHALL BE INSTALLED WITH A MINIMUM 2" OVERLAP FROM EDGE OF GRATE TO EDGE OF MAT WITH STRAIGHT EDGE FLUSH TO CURB FACE. ADJUST MAT BY HAND UNTIL PLACEMENT ALLOWS FOR OPTIMAL MAGNETIC ADHESION TO GRATE SURFACE.

- PREINSTALLED RED EMERGENCY OVERFLOW PLUGS CAN BE REMOVED IN THE EVENT OF FLOODING TO ALLOW FOR RAPID DEWATERING. AFTER DEWATERING, THE INLET FILTER MAT SHALL BE LIFTED AND THOROUGHLY CLEANED OR REPLACED AND THE AND THE EMERGENCY OVERFLOW PLUGS SHALL BE REINSTALLED. IF GRATE IS AT LOWEST POINT OF STREET, REMOVAL OF ONE PLUG WILL ALLOW FOR EXPECTED DEWATERING AT ALL TIMES.

-INLET FILTER MATS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. AS NEEDED, INLET FILTER MATS SHALL BE LIFTED AND RINSED OR REPLACED. WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET OR THE INLET FILTER MAT BECOMES COMPRESSED DUE TO HEAVY TRAFFIC, REPLACEMENT IS REQUIRED.

-A SUPPLY OF SPARE INLET FILTER MATS SHALL BE MAINTAINED ON SITE. ALL NECESSARY REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED MATS ACCORDING TO THE PLAN NOTES.



# Mead Hunt

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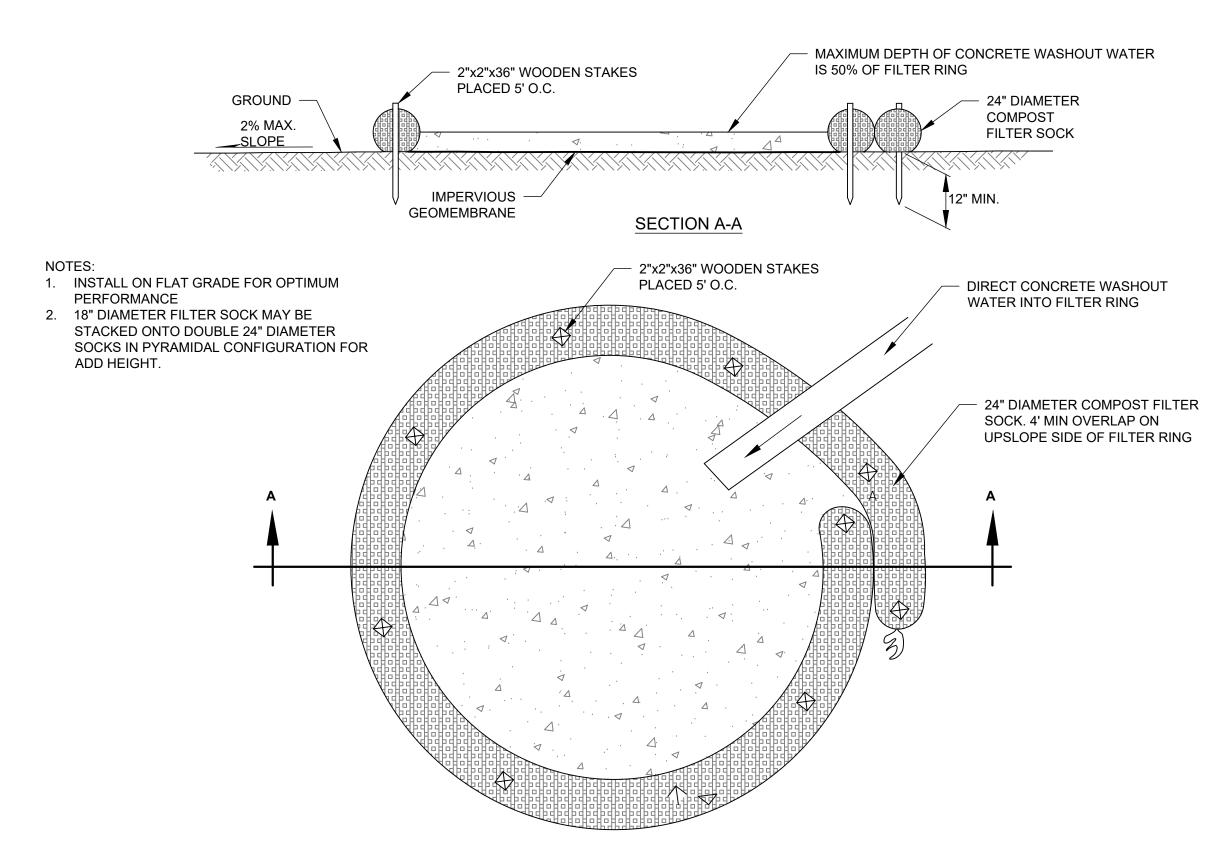
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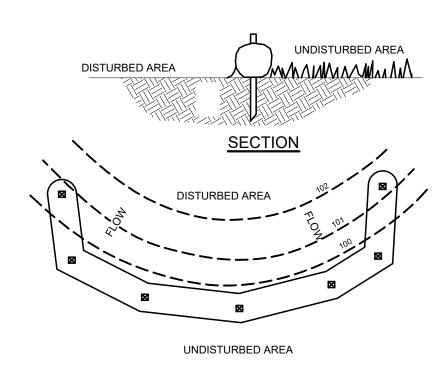
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C-303





TYPICAL COMPOST SOCK WASHOUT INSTALLATION

### **PLAN VIEW**

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT, MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

NOT TO SCALE

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

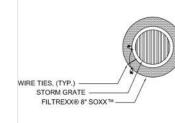
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL

### Compost filter sock (CFS)\*

CFS-1:	3'/100' = 3%	CFS-6:	3'/100' = 3%
CFS-2:	3'/180' = 1.7%	CFS-7:	5'/100' = 5%
CFS-3:	5'/120' = 4.2%	CFS-8:	4'/100' = 4%
CFS-4:	5'/110' = 4.5%	CFS-9:	3'/100' = 3%
CFS-5:	3'/180' = 1.6%	CFS-10	: 7'/90' = 7.7%

\*All CFS should be 12" minimum.





DRAIN INLET PLAN

FILTREXX® 8" SOXX™ DRAIN INLET SECTION **INSTALLATION** 

1. Inlet protection shall be placed at locations indicated on plans as directed by the Engineer. Inlet protection should be installed in a

pattern that allows complete protection of the inlet area. 2. Installation of curb inlet protection will ensure a minimal overlap of at least 1 ft (300mm) on either side of the opening being protected. Inlet protection will be anchored to the soil behind the curb using staples, stakes or other devices capable of holding the inlet protection in place.

3. Standard inlet protection for curb inlet protection and curb sediment containment will use 8 in (200mm) diameter inlet protection, and drain inlets on soil will use 12 in (300mm) or 18 in (450mm) diameter inlet protection. In severe flow situations, larger inlet protection may be specified by the Engineer. During curb installation, inlet protection shall be compacted to be slightly shorter than curb height.

4. If inlet protection becomes clogged with debris and sediment, they shall be maintained so as to assure proper drainage and water flow into the storm drain. In severe storm events, overflow of the inlet protection may be acceptable in order to keep the area from flooding.

5. Curb and drain inlet protection shall be positioned so as to provide a permeable physical barrier to the drain itself, allowing sediment to collect on the outside of the inlet protection. 6. For drains and inlets that have only curb cuts, without street

grates, a spacer is required in order to keep the inlet protection away from the drain opening. This spacer should be cinder

blocks or a hog wire screen bent to overlap the grate opening and keep the sock from falling into the opening. Use at least one

spacer for every 4 ft (1.2m) of curb drain opening. The wire grid also prevents other floatable waste from passing over the inlet Stakes shall be installed through the middle of the drain inlet

(50mm) by 3 ft (1m) wooden stakes. 8. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.

protection on 5 ft (1.5m) centers, using 2 in (50mm) by 2 in

### MAINTENANCE & DISPOSAL

1. The Contractor shall remove sediment at the base of the upslope side of the inlet protection when accumulation has reached 1/2 of the effective height of the inlet protection, or as directed by the Engineer. Alternatively, for drain inlet protection, a new Soxx may be placed on top of the original increasing the sediment

storage capacity without soil disturbance. 2. Inlet protection shall be maintained until disturbed area above or around the device has been permanently stabilized and construction activity has ceased. Regular maintenance includes lifting the inlet protection and cleaning around and under them as sediment collects.

3. The FilterMedia will be removed from paved areas or dispersed on site soil or behind curb once disturbed area has been permanently stabilized, construction activity has ceased, or as determined by the Engineer.

# INLET PROTECTION - COMPOST FILTER SOCK

The maximum slope length above a compost filter sock should not exceed those shown in Figure 4.2. NOTE: Slope length is not addressed by use of multiple rows of compost socks. The anticipated functional life of a biodegradable filter sock should be 6 months; for photodegradable socks it is 1 year. Some other types may last longer. Projects with disturbances anticipated to last longer than the functional life of a sock should plan to replace the socks periodically or use another type of BMP.

Upon stabilization of the tributary area, the filter sock may be left in place and vegetated or removed. In the latter case, the mesh is typically cut open and the mulch spread as a soil supplement. In either case, the stakes should be removed.

Filter socks using other fillers may be approved on a case-by-case basis if sufficient supporting information (including manufacturer's specs and independent test data) is provided. However, they might not qualify as ABACTs. Wherever compost socks are used, Table 4.1 should be placed on a detail sheet.

### TABLE 4.1 Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material	Photo-	Photo-	Bio-	Photo-	Photo-
Characteristics	degradable	degradable	degradable	degradable	degradable
		12"	12"	12"	12"
Sock	12"	18"	18"	18"	18"
Diameters	18"	24"	24"	24"	24"
		32"	32"	32"	32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original	23% at	23% at	,	100% at	100% at
Strength (ASTM G-155)	1000 hr.	1000 hr.		1000 hr.	1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Longevity	Two	-ply systems
	100	
		HDPE biaxial net
		Continuously wound
Inner Containment Netting		Fusion-welded junctures
		3/4" X 3/4" Max. aperture size
		Composite Polypropylene Fabric
		(Woven layer and non-woven fleece
Outer Filtration Mesh		mechanically fused via needle punch)
		3/16" Max. aperture size
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.		

Sock fabrics composed of buriap may be used on projects lasting 6 months or less. Filtrexx & JMD

Compost should be a well decomposed, weed-free organic matter derived from agriculture, food, stump grindings, and yard or wood/bark organic matter sources. The compost should be aerobically composted. The compost should possess no objectionable odors and should be reasonably free (<1% by dry weight) of man-made foreign matter. The compost product should not resemble the raw material from which it was derived. Wood and bark chips, ground construction debris or reprocessed wood products are not acceptable as the organic component of the mix.

The physical parameters of the compost should comply with the standards in Table 4.2. The standards contained in the PennDOT Publication 408 are an acceptable alternative.

### **TABLE 4.2** Compact Standards

	Compost Standards		
Organic Matter Content		80% - 100% (dry weight basis)	
Organic Portion		Fibrous and elongated	
pH		5.5 - 8.0	
Moisture Content		35% - 55%	
Particle Size		98% pass through 1" screen	
	Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum	

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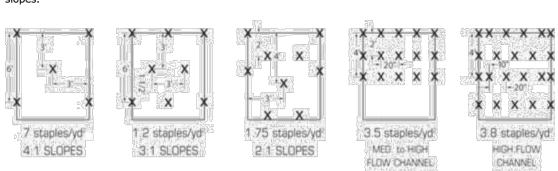
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SHEET CONTENTS **EROSION AND** SEDIMENT CONTROL PLAN DETAILS SHEET 3 OF 4

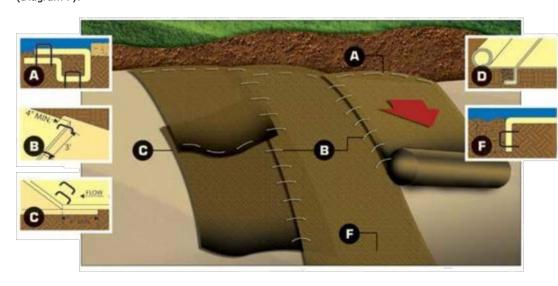
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### **BASIC INSTALLATION GUIDELINES**

- Prepare the soil surface including raking, seeding, and fertilizing. Begin the installation process by digging a trench 6" deep by 6" wide at the top of the slope. Place 12" of blanket over the up-slope portion of the trench. Secure the blanket at the bottom of the trench with staples placed 12" apart. Backfill and compact the trench. Apply seed, and fold the remaining 12" over soil, secure
- staples placed 12" apart across the width of the blanket (Diagram A). 3. Roll the blanket vertically down the slope. Secure using the appropriate staple pattern below, specified by



- 4. Parallel blankets must be overlapped by a minimum of 4", and secured with a row of staples placed approximately 3'-0' apart (Diagram B).
- 5. Additional vertical blankets can be joined using a minimum 4" overlapping or shingle style in the direction of water flow. Connect the blankets by placing staples approximately 12" apart across the width of the
- 6. An intermittent check slot is recommended for blankets placed on a long slope. A 6" deep by 6" wide trench is made. Blanket is placed at bottom of trench and covered with approximately 2" of soil. Blanket is rolled over compacted soil and secured with staples placed 12" apart. Backfill and compact the trench. Apply seed,
- and continue with general installation (Diagram D). 7. The end of blanket must be secured in a  $6^{\circ}$  x  $6^{\circ}$  trench with a row of staples placed at 12" intervals (Diagram F).



### **CHANNEL LINING INSTALLATION GUIDELINES**

- 1. Prepare the soil surface including raking, seeding, and fertilizing.
- 2. Begin the installation process by digging a trench 6" deep by 6" wide at the top of the slope. Place 12" of blanket over the up-slope portion of the trench. Secure the blanket at the bottom of the trench with staples placed 12" apart. Backfill and compact the trench. Apply seed, and fold the remaining 12" over soil, secure with a row of staples placed 12" apart across the width of the blanket (Diagram A).
- 3. Continue placing blankets up the slopes on both sides, with a minimum 4" overlapping, and securing each blanket in the beginning trench. Staples should be placed in a staggered pattern at approximately 12" intervals, refer to sample patterns under Basic Installation
- 4. Additional horizontal blankets can be joined using a minimum 4" overlapping or shingle style in the direction of water flow. Connect the blankets by placing staples approximately 5" apart across the width of the blankets (Diagram E).
- 5. For maximum performance, a check slot should be placed at 25'-40' intervals. Place a row of staples 4" apart along the entire width of the channel. A second row should be placed 4" below in a staggered pattern (Diagram D).
- The end of the blanket must be secured in a 6" x 6" trench by a row of staples placed at
- 12" intervals (Diagram F).
- 7. At the top edge of the side slope, fasten the blanket in a 6" x 6" trench with staples placed at 12" intervals. Install an additional row of staples 1'-0' down slope of the trench along the width of the fabric (Diagram G).

### MATERIAL SPECIFICATION

### **EROSION CONTROL BLANKET** 12-month Straw Double Net Blanket

The erosion control blanket shall be made with uniformly distributed straw and two layers of net covering, which is securely stitched together to create an even mat. The outer ends will be rolled and stitched to create a closed edge. It will have a durability lifespan of approximately 12 months.

The blanket shall be covered on the top and bottom with a lightweight photodegradable polypropylene net having an approximate 0.5 x 0.5 mesh size. The straw shall be 100% agricultural. The blanket shall be sewn together with degradable thread. The blanket size will be 7.5 ft x 96 ft (80 yd<sup>2</sup>). The blanket shall weigh 48 pounds plus or minus 10 percent. Blankets will be shipped in tightly compressed rolls inside polyethylene bags. Each bag will include a product label and installation guide.

### MATERIALS

EROSION CONTROL BLANKET INSTALLATION AND SPECIFICATIONS

100% Straw Fiber  $0.55 \, \text{lbs/sq yd}$ 

Top: Lightweight Photodegradable Polypropylene

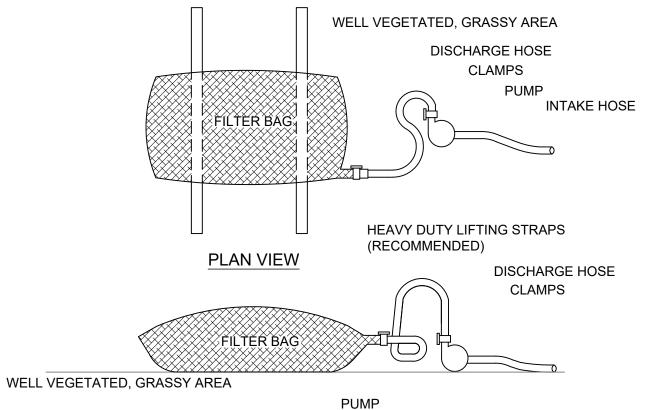
Bottom: Lightweight Photodegradable Polypropylene

### Thread: Degradable

\*All figures are based on Bench Scale test methods

### PHYSICAL PROPERTIES:

Property	Test Method *	Mean
Thickness	ASTM D 4354	.29 in
Resiliency	ECTC TASC 00197	69.0%
Mass per Unit Area	ASTM D 5261	11.95 oz/sq. yd.
Water Absorption	ASTM D 1117/ECTC TASC 00197	338.0%
Swell	ECTC TASC 00197	32%
Stiffness	ASTM D 1388/ECTC	.96 oz/in (10,901 mg-cm
Light Penetration	ECTC TASC 00197	19.0%
MD Tensile	ASTM D 5035/ECTC	195.6 lbs/ft
MD Elongation	ASTM D 5035/ECTC	19.9%
TD Tensile	ASTM D 5035/ECTC	152.4 lbs/ft
TD Elongation	ASTM D 5035/ECTC	15.9%
Ash Content	ASTM D 586	7.33%
Organic Matter	ASTM D 2974	92.67%
FUNCTIONING PROPE	RTIES	
Permissible Sheer Stress	ECTC Test Method #3	2.1 psf



**ELEVATION VIEW** 

### NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

TEST METHOD	MINIMUM STANDARD
ASTM D-4884	60 LB/IN
ASTM D-4632	205 LB
ASTM D-4833	110 LB
ASTM D-3786	350 PSI
ASTM D-4355	70%
ASTM D-4751	80 SIEVE
	ASTM D-4884 ASTM D-4632 ASTM D-4833 ASTM D-3786 ASTM D-4355

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.



Use one of the following seed mixtures or an approved alternative:

### **Temporary Cover**

**INTAKE HOSE** 

Use the temporary seed mixture listed below on all disturbed areas if the area is to be disturbed again, prior to completion of the earth disturbance.

SEEDING SPECIFICATIONS- Erie International Airport-Realignment and Rehabilitation of Taxiway A

Use the temporary seed mixture listed below in conjunction with the permanent cover seed mixture if the area is at final grade.

Rate: 40lbs/acre (common seed)

Seeding Dates: March 15- October 15

### Annual Ryegrass

**Permanent Cover** 

a) Seed Mixture Species	Rate of Application (lbs/acre) PLS**	Min. % Germ.	Min% Purity
Perennial Ryegrass	15	90	98
Tall Fescue	60	80	95

\*\*PLS means Pure Live Seed. PLS = (% Purity x % Germination)/100. For example, to obtain the actual planting rate for Perennial Ryegrass, multiply the percent pure seed by the percent germination (both are shown on the seed tag) and divide that product by 100, then divide 25 lbs PLS by that quotient. Thus, if the pure seed content of a given seedlot is 85%, and its percent germination is 75%, (85%x 75%)/100= 63.75%, then divide 25 lbs PLS by 0.6375 to obtain 39.2 pounds, the amount of seed from that seed lot required to plant 1 acre.

b) Seed Mixture No.:	Use:	Seeding Dates:
(1) and (2)	Final cover on all	March 15 – June 15
	disturbed areas	August 16– October 15
	(mowed and not mowed)	

### c) Method(s) of Seeding:

Broadcast seeding, hydroseeding, or grain drilling.

**Note:** Hydroseeding should only be done during the growing season.

### d) Seedbed preparation:

If compaction has occurred, the soil will be scarified before planting. Lime shall be added at the rate of 4 tons per acre.

### e) Soil preparation and mulching

Apply 100-200-200 commercial fertilizer per acre. Apply netted/binded mulch material at the rate of 3 tons per acre immediately after seeding. Erosion matting is to be utilized on all slopes

Info in this Section obtained from Penn State Agronomy Guide- 1995-1996.



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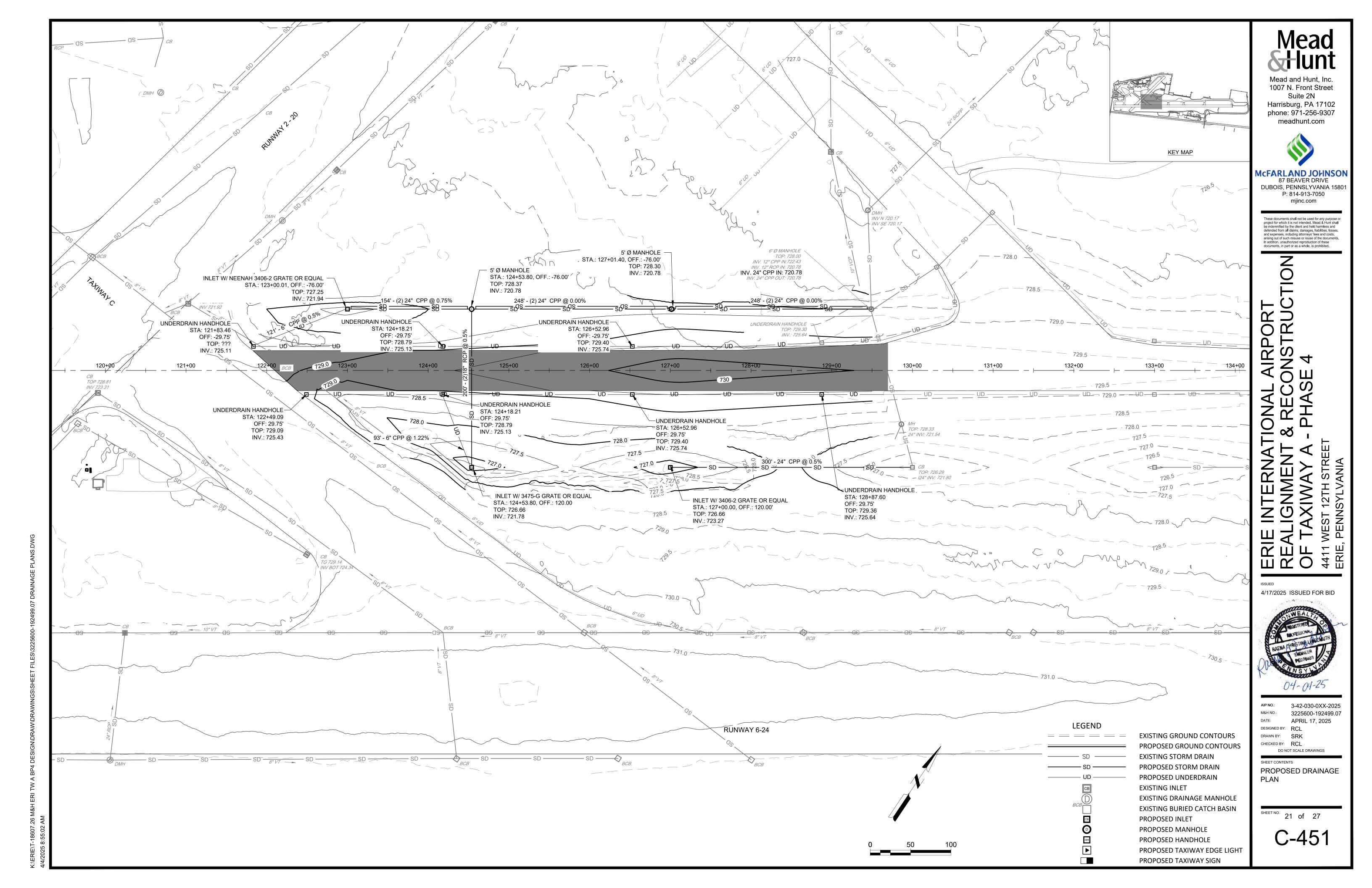
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SHEET CONTENTS **EROSION AND** SEDIMENT CONTROL PLAN DETAILS SHEET 4 OF 4

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### TYPICAL PIPE TRENCH DETAIL **UNDER PAVEMENT**

### TYPICAL PIPE TRENCH DETAIL **UNDER SOD**

HDPE PIPE SIZE		MIN. TRENCH WIDTH
I.D.	O.D. *	PER PIPE SIZE
12"	14.4"	31"
15'	17.6"	34"
18"	21.2"	39"
24"	27.8"	48"
30"	35.1"	66"
36"	41.7"	78"
42"	46.8"	83"
48"	52.7"	89"
	· ·	

\* O.D. MAY VARY DEPENDING ON PIPE MANUFACTURER

**COVER SHALL HAVE 2" RAISED** 

TO READ "STORM SEWER".

LETTERS FLUSH WITH TOP OF LID

TOP STEP SHALL BE WITHIN

18" OF FINISHED GRADE

STEEL REINFORCED

MANHOLE STEPS OR

APPROVED EQUAL

REINFORCED CONCRETE

12" MIN. STRUCTURAL FILL

MANHOLE MONOBASE

(ASTM-C478)

AASHTO NO. 57

6" MIN. WIDTH

POLYPROPYLENE

### NOTES:

2'-0" MIN.

**ECCENTRIC CONE** 

AS NOTED ON PLAN

VARIES WITH SIZE AND DESIGN

PRECAST MANHOLE

NOT TO SCALE

6" MIN.

- TRENCH WALLS SHALL BE COMPLETELY VERTICAL TO A DEPTH AT LEAST 12" ABOVE TOP OF PIPE. SHORING REQUIRED FOR ALL TRENCHES IN ACCORDANCE WITH APPLICABLE REGULATIONS,
- LAWS AND SAFETY CODES. REFER TO FAA SPECIFICATION D-701, THE TOWNSHIP'S, MANUFACTURER'S AND ASTM D2321
- SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- TYPICAL ROADWAY/SIDEWALK/DRIVEWAY AREA DETAIL SHALL BE USED AS FOLLOWS: • WHEN EXCAVATION DEPTH IS FIVE (5) FEET OR LESS, THIS DETAIL SHALL BE USED WITHIN FIVE (5) HORIZONTAL FEET OF ANY PAVEMENT, BERM, SIDEWALK OR DRIVEWAY
- WHEN EXCAVATION DEPTH IS GREATER THAN FIVE (5) FEET, THIS DETAIL SHALL BE USED WITHIN TEN (10) HORIZONTAL FEET OF ANY PAVEMENT, BERM, SIDEWALK OR DRIVEWAY.
- UNSUITABLE MATERIAL BELOW THE EXCAVATED TRENCH BOTTOM SHALL BE REMOVED, WHERE DIRECTED, AND REPLACED WITH AASHTO NO. 57 AGGREGATE.
- INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 "STANDING PRACTICE FOR
- UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE".

TYPICAL PIPE TRENCH DETAILS

IN ADDITION TO THE APPROVED PIPE BACKFILL OF 2A, OTHER GRAVEL SOURCES MAY BE USED, PROVIDED THAT TEST DATA IS SUBMITTED TO AND APPROVED BY THE TOWNSHIP PRIOR TO USE OF THE ALTERNATE SOURCE.

STANDARD OR AIRCRAFT RATED MANHOLE LID AND

SPECIFICATIONS:

MORTAR.

SEE NOTES ON DETAIL 4 THIS SHEET.

- FULL MORTAR BED

8" MIN.

FRAME AS INDICATED ON PROPOSED DRAINAGE PLAN.

PRECAST CONCRETE LEVELING RINGS BONDED

BETWEEN INSIDE AND OUTSIDE WITH 1/2" MIN. MORTAR.

MIN. 1 COURSE, MAX. 3 COURSE HEIGHT ADJUSTMENT.

MUST MEET OR EXCEED ASTM C478

REINFORCED CONCRETE MANHOLE RISERS AND TOPS. ADDITIONAL

TRANSITION PIECES REQUIRED FOR

- GROUT WITH WATERPLUG OR APPROVED

EQUAL AROUND OUTSIDE OF SEAL.

SPECIFICATIONS FOR PRECAST

MANHOLES 5' I.D. AND LARGER.

- GROUT INSIDE & OUTSIDE OF

JOINT WITH NON-SHRINKING

BASE SECTION TO HAVE 6" MIN. SUMP EXCEPT 12" WHEN IN PAVEMENT.

### NOTES: 1. FOR STRUCTURES NOTED TO HAVE AN AIRCRAFT RATED GRATE, THE INLET BOXES GRATE AS NOTED ON PLAN -FRAMES, GRATES, AND LIDS TO SUPPORT 100,000 LB WHEEL LOADING AND 250 PSI TIRE PRESSURE U.N.O. 2. CONTRACTOR TO SUPPLY PROFESSIONAL ENGINEER STAMPED MANUFACTURER DESIGN AND SHOP DRAWINGS FOR AIRCRAFT RATED 3. AIRCRAFT RATED GRATE MUST BE BOLTED TO FRAME. FRAME MUST BE ANCHORED INTO INLET BOX. 4. SIZE OF INLET BOX WILL BE DEPENDENT ON TYPE AND SIZE OF GRATE OR AS NOTED. 5. ALL INLETS SHALL HAVE PERMANENTLY 4000 P.S.I. AFFIXED SIGNAGE LOCATED ON THE CASTING REINF. CONCRETE OR ON THE TOP OF THE INLET WITH THE SIDES & BASE PHRASE "DO NOT DUMP. DRAINS TO STREAM" 6. ALL STORM DRAIN STRUCTURES INCLUDING MANHOLES AND INLETS DEEPER THAN 4 FEET SHALL HAVE ACCESS STEPS PER THE PENNDOT ROADWAY CONSTRUCTION STANDARDS AND PUBLICATION 408 SPECIFICATIONS. THE TOP STEP SHALL BE A MAXIMUM OF 18" FROM THE TOP OF GRATE/MANHOLE COVER. - OUTLET PIPE COMPACTED BASE INCIDENTAL TO INLET ITEM

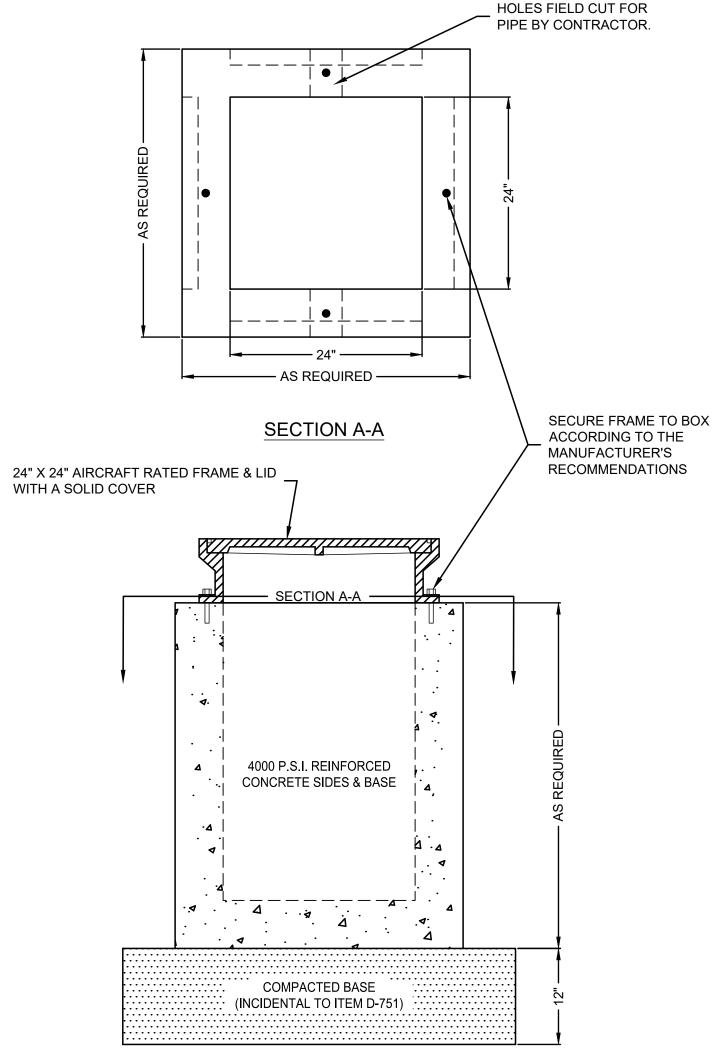
PRECAST INLET (NON STANDARD) NOT TO SCALE

### TOPSOIL EDGE REFER TO TYPICAL SECTIONS ON C-301 -FOR SHOULDER GRADE FILTER FABRIC AS LISTED IN SPECIFICATION D-705 2'-9" DOUBLE LAP FABRIC AT TOP ASPHALT PAVEMENT VVVV VVVV P-209 BASE COURSE VVVVVV 4'-0" ± P-154 SUBBASE COURSE AASHTO #57 6" CPPP **UNDERDRAIN** NON-POROUS COMPACTED MATERIAL 1'-6"

TAXIWAY UNDERDRAIN DETAIL

1) EXCAVATION, AASHTO #57, AND FILTER FABRIC SHALL BE

INCIDENTAL TO ITEM D-705.



NOTE:

HANDHOLE STRUCTURE TO SUPPORT 100,000 LB WHEEL LOAD AND 250 PSI TIRE PRESSURE. CONTRACTOR TO PROVIDE PROFESSIONAL ENGINEER'S DESIGN AND SHOP DRAWINGS FOR AIRCRAFT RATED HANDHOLE BOXES, FRAMES, AND LIDS.



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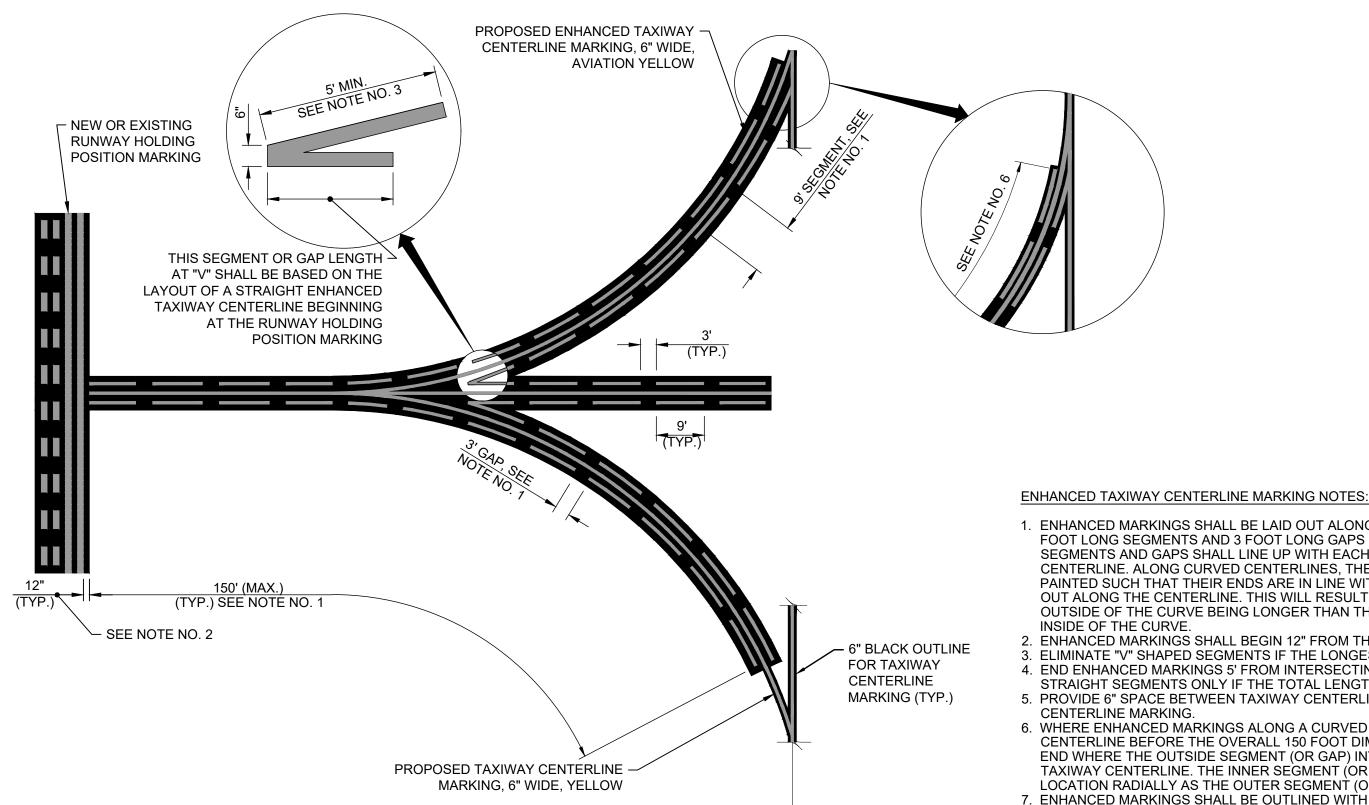


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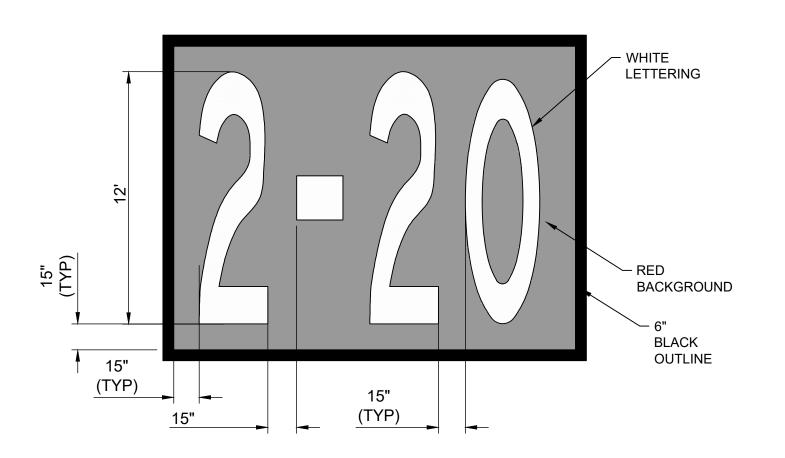
SHEET CONTENTS DRAINAGE DETAILS

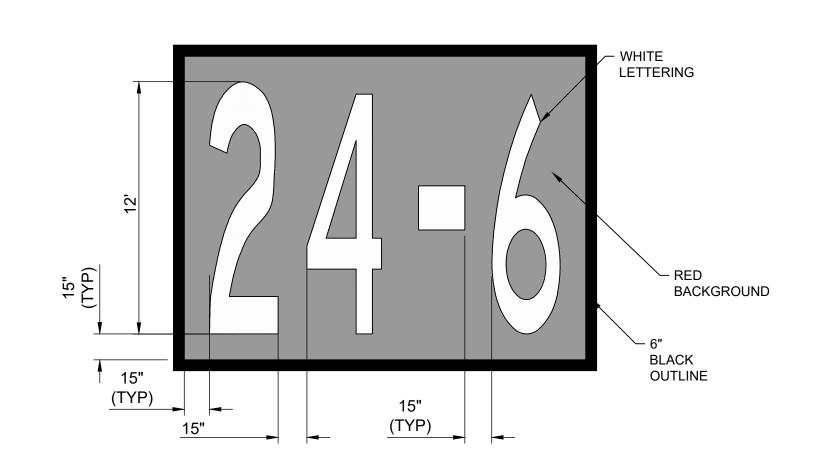
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- 1. ENHANCED MARKINGS SHALL BE LAID OUT ALONG THE TAXIWAY CENTERLINE WITH 9 FOOT LONG SEGMENTS AND 3 FOOT LONG GAPS FOR A DISTANCE OF 150 FEET. SEGMENTS AND GAPS SHALL LINE UP WITH EACH OTHER ON OPPOSITE SIDES OF THE CENTERLINE. ALONG CURVED CENTERLINES, THE SEGMENTS AND GAPS SHALL BE PAINTED SUCH THAT THEIR ENDS ARE IN LINE WITH RADIAL LINES TO THE POINTS LAID OUT ALONG THE CENTERLINE. THIS WILL RESULT IN SEGMENTS AND GAPS ON THE OUTSIDE OF THE CURVE BEING LONGER THAN THE SEGMENTS AND GAPS ON THE INSIDE OF THE CURVE.
- 2. ENHANCED MARKINGS SHALL BEGIN 12" FROM THE HOLDING POSITION MARKING. 3. ELIMINATE "V" SHAPED SEGMENTS IF THE LONGEST LEG IS LESS THAN 5 FEET.
- 4. END ENHANCED MARKINGS 5' FROM INTERSECTING TAXIWAY CENTERLINES ALONG STRAIGHT SEGMENTS ONLY IF THE TOTAL LENGTH IS LESS THAN 150'. 5. PROVIDE 6" SPACE BETWEEN TAXIWAY CENTERLINE AND ENHANCED TAXIWAY
- CENTERLINE MARKING. 6. WHERE ENHANCED MARKINGS ALONG A CURVED CENTERLINE MEET A STRAIGHT CENTERLINE BEFORE THE OVERALL 150 FOOT DIMENSION IS REACHED, THEY SHALL END WHERE THE OUTSIDE SEGMENT (OR GAP) INTERSECTS WITH THE STRAIGHT TAXIWAY CENTERLINE. THE INNER SEGMENT (OR GAP) SHALL END AT THE SAME LOCATION RADIALLY AS THE OUTER SEGMENT (OR GAP).
- 7. ENHANCED MARKINGS SHALL BE OUTLINED WITH A 6" WIDE BLACK BORDER.

**ENHANCED TAXIWAY CENTERLINE MARKING** 





20-2 DETAIL

### 24-6 DETAIL

- 1. STENCILS PROVIDED BY AIRPORT TO BE USED FOR PAINT MARKING.
- 2. SURFACE PAINTED HOLDING POSITION SIGN SHALL BE WHITE PAINTED TEXT ON A RED PAINTED BACKGROUND.

LEGEND AS SHOWN ON PLANS.

- 4. DIMENSIONS ARE SHOWN BETWEEN OUTERMOST EDGES OF CHARACTERS
- 5. TYPE 1 BEADS FOR RED PAINT.

# SURFACE PAINTED HOLDING POSITION SIGN

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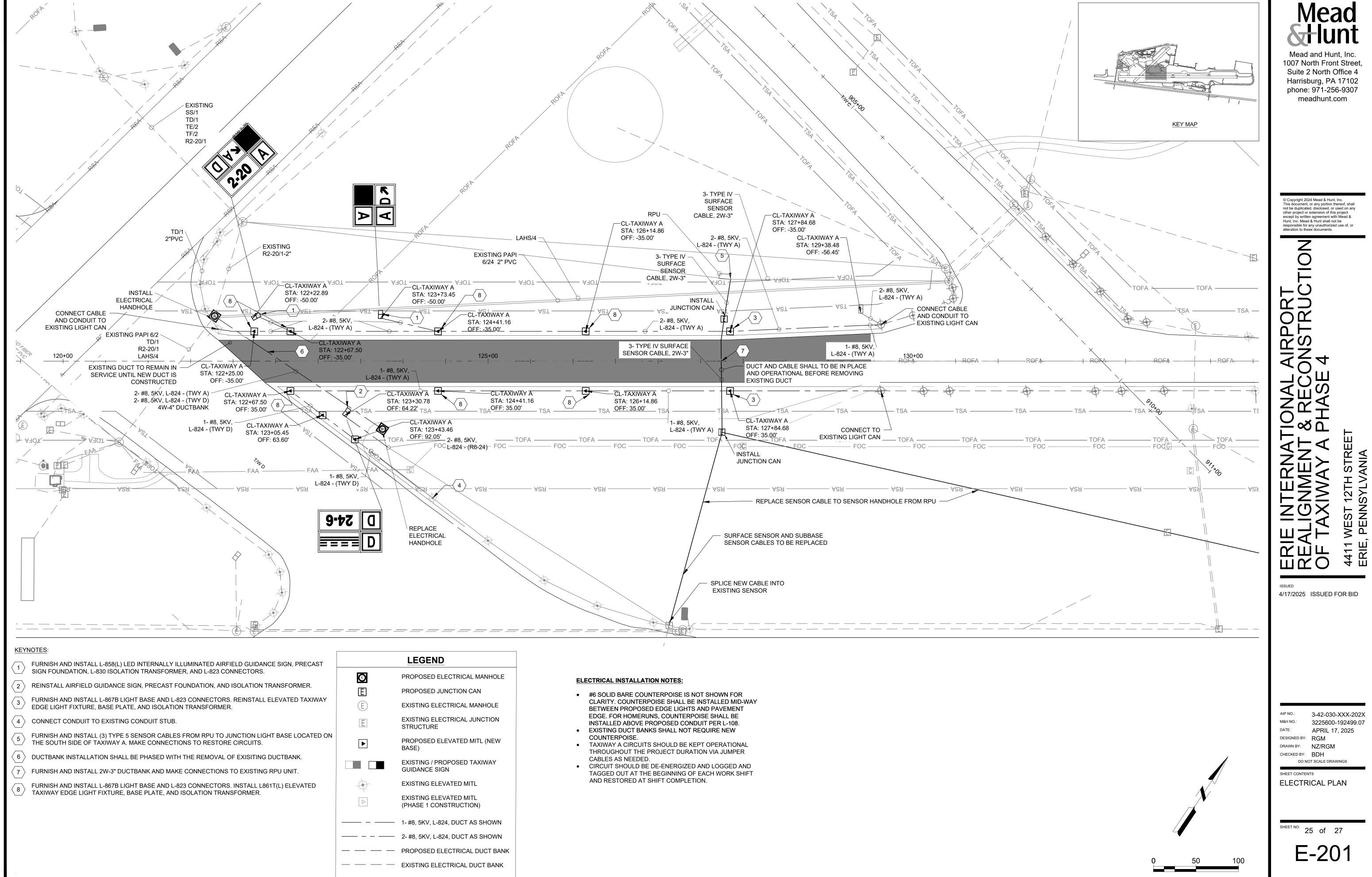
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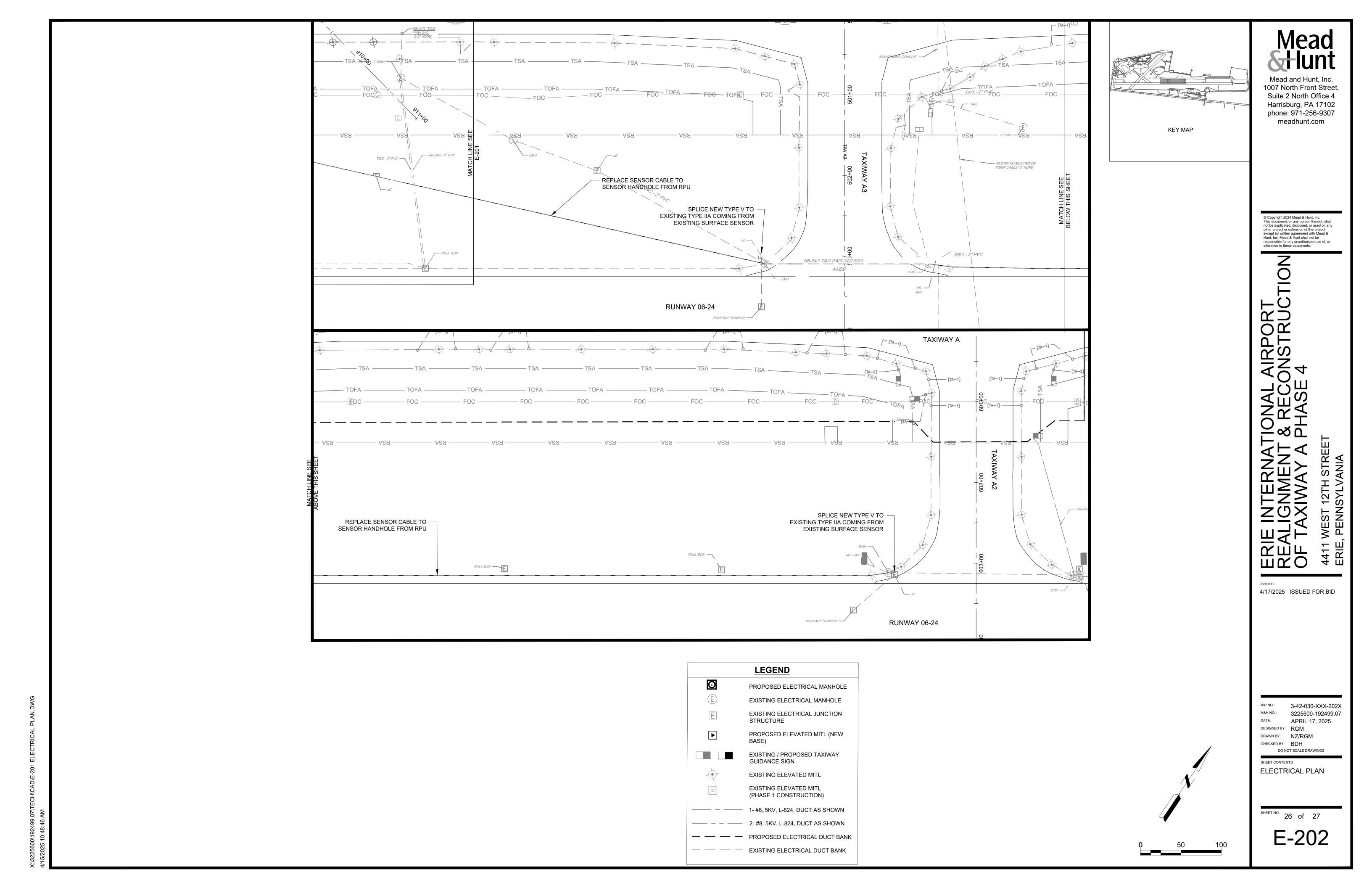
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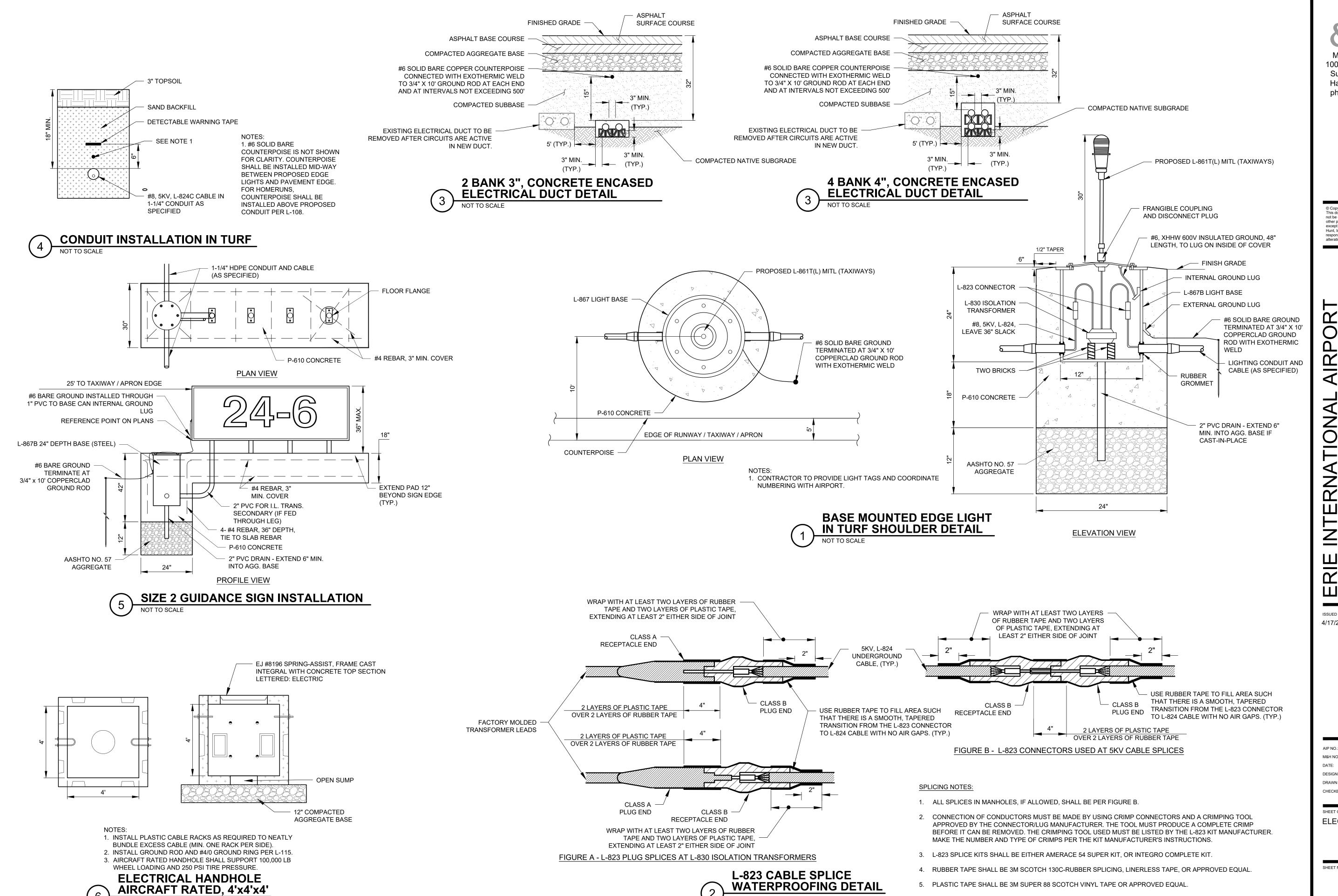
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SHEET CONTENTS **ELECTRICAL DETAILS** 

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