ADDENDUM #1

Contract Documents Entitled	State Technical College of Missouri (1H3) Airport Fence Replacement Project MoDOT Project #24-044A-1
Bid Issuance Date:	February 14, 2025
Owner:	State Technical College of Missouri
Designer of Record:	WSP USA, Inc.

TO ALL PLANHOLDERS:
Addendum #1 is herewith made a part of the Contract Documents of the above issued project, and is issued to amend and supplement the January 2025 drawings and specifications as follows:

SPECIFICATION REVISIONS

Section F-162 Chain Link Fence

1. Replace 2nd paragraph of section 162-3.2 Clearing Fence Line with the following:
    i. Contractor shall salvage existing fence fabric and posts not in concrete for delivery to Owner
2. In section 162-5.3 Basis of Payment, update Line-Item F-162-5.4 from 49 Ft to 52 Ft.

Section P-153 Controlled Low-Strength Material (CLSM)

1. This section has been added to the project manual and will not constitute its own pay item. This item is incidental to other work items where CLSM may be used.

PLAN REVISIONS

Plan Sheets

1. The following sheets will be removed and replaced with the sheets attached to this Addendum No. 1
    i. Fence Replacement Site Plan (plansheet 5 of 10)
    ii. Fence Replacement Site Plan (plansheet 6 of 10)
    iii. Electrical details (plansheet 7 of 10)
    iv. Fence Details (plansheet 9 of 10).

PRE-BID CONFERENCE

A pre-bid conference was held on February 6, 2025, from 9:00am to 9:15am at the Auditorium in the Osage County Community Center on the State Technical College of Missouri's campus.

- Pre-Bid Meeting minutes and attendance list are attached to this addendum.

QUESTION AND ANSWER

Q. Can SS40 pipe be used instead of Schedule 40?
A. SS40 pipe will be acceptable.

Q. Can line posts be driven?
A. Refer to spec 162-3.3 Installing Posts.

Q. What is meant by temporary seeding and mulching quantities?
A. Temporary seeding provides temporary cover until it is acceptable to place the permanent seeding. See spec 102-2. It provides cover until permanent seeding is placed.

Q. The plans reference the fence having top tension wire and bottom tension wire. The specs refer to top rail being run continuously.

A. Please disregard the paragraph F-162-3.4 in the specifications. Follow the plan details, there is no top rail.

Q. Will a Knox Lock be required?
A. The new automatic gate will have a keypad. The code will be provided to the fire department and no Knock Lock will be required.

Q. Is a free exit loop or safety loop needed for the operator?
A. Yes, a free exit loop is required. Entrapment protection is required per manufacturer instructions.

Q. Is a standalone keypad required or card access keypad?
A. This will require a standalone keypad that uses a programmable PIN.

Q. Is the area around the fence the only part that needs to be seeded or are there other areas?
A. The intent is to reseed the area around the fence and the areas disturbed during construction by the contractor as part of this project.

BID OPENING

The location of the bid opening has been adjusted.

Sealed bids will be received until **2pm (Central Prevailing Time)**, **February 19, 2025**, and then publicly opened and read at the **Vehicle and Power Center (Building 2) Conference Room 201 County Community Center** located adjacent to the campus of the State Technical College of Missouri at **1 Technology Dr, Linn, MO 65051**. A map is attached to this addendum.

All bidders shall acknowledge receipt and acceptance of Addendum #1 by signing in the space provided on the Bid Form. Bids submitted without the Addendum #1 being acknowledged will be considered nonresponsive.

END OF DOCUMENT

MEETING NOTES

PROJECT NAME	State Technical College of Missouri – Fence Replacement Project
PROJECT NUMBER	MoDOT Project No. 24-044A-1 WSP Project No. 30902794
DATE	06 February 2025
TIME	0900
VENUE	Function Room of the Osage County Community Center at the State Technical College of Missouri 1 Technology Dr, Linn, MO 65051
SUBJECT	Pre-Bid Meeting
CLIENT	State College of Missouri
PRESENT	Jennifer Kuchinski, P.E. WSP Sam Stallbaumer, P.E. WSP Imad Atra, E.I. WSP Nicole Nilges, STCOM Brad Crede, STCOM Brian N. Boehmer, MoDOT Kara LeCure, MoDOT Thomas M. Powers, MoDOT Pat Moore, Kirkwood Fence Brad Turnbough, Diamond Fence Becky Voss. Superior Fence
DISTRIBUTION	As above

DISCUSSION POINTS

1. Introductions

- WSP opened the meeting and introduced the project team members.

2. Project Overview

- Sam provided an overview of the project, which includes replacing 6,200 feet of chain-link fence, removing some existing fence on the south side, installing new gates, and an automatic sliding gate, as well as an add alternate to relocate the existing wind cone, which includes some electrical work.
- Bid documents and addenda can be found here

3. Key Dates and Requirements

- Bids are due on February 19th, 2025, at 2:00 PM local time.
- Sealed bids will be opened in the State Tech College Auditorium.
- A bid bond of 5% is required with all bids.
- A 100% performance bond is required for the contract.
- Bids will be held for 90 days for evaluation.
- There is a 0% DBE requirement set by MoDOT for this project.
- Davis-Bacon wage rates apply and are listed in the project manual.
- The Buy American requirement is in effect, but waivers are allowed.
- Sales tax exemption applies.
- E-verify compliance and bid forms will be used.
- The last day for questions is February 13th, 2025.

4. Contract Details

- The contract duration is 90 calendar days.
- Construction is anticipated to start in the spring of 2025, within 10 days of the notice to proceed.
- Liquidated damages (LDs) are $2,500 per day.
- Weather days will be accounted for, and LDs may not be assessed if progress is being made in good faith.
- Insurance is outlined in Part C-Local Provisions in the project manual.

5. Site Considerations

- The project site is located near an airport runway.
- Contractors will need to be aware of airspace restrictions and obtain necessary permits for equipment exceeding a certain height.
- Work will primarily be conducted on the perimeter and away from the runway and taxiways.
- Runway closure may be required for less than an hour, but it is expected that work can be done under escort.
- Yield to aircraft at all times.
- No work is allowed within 200 feet of the runway centerline.
- The airport owner will issue NOTAMs (Notices to Airmen) to alert pilots of work in the vicinity.
- Contractors must keep the site clean and prevent debris from blowing onto the runway.
- A field office is not required.
- There will be some submittals required prior to the notice to proceed, including a safety plan compliance document.
- Weekly or bi-weekly coordination meetings will be held.
- Davis-Bacon wages will be enforced, and interviews will be conducted to ensure compliance.

6. DBE Participation

- Tom clarified that there is no DBE requirement for this project, but any DBE participation will be considered a bonus and may be beneficial for future work.
- Contractors are not contractually obligated to meet any specific DBE goal.

7. Questions and Answers

- Bidders were directed to the State Tech website to download the plans and specifications.
- The meeting concluded with a reminder that an addendum would be sent out with the agenda and any additional questions or information from the site visit.

8. Site Visit

- A site visit was conducted after the meeting for those who attended in person.

Action Items:

- Sam will send out an addendum with the agenda, questions, and information from the site visit.
- Bidders should submit their sealed bids by February 19th, 2025, at 2:00 PM CST.

Attendees Contact List:

NAME	COMPANY	TELEPHONE	EMAIL
Jennifer Kuchinski	WSP USA INC.	314-698-0974 (M)	Jennifer.kuchinski@wsp.com
Sam Stallbaumer	WSP USA INC.	210-867-6532 (M)	Sam.stallbaumer@wsp.com
Imad Atra	WSP USA INC.	913-710-7556 (M)	Imad.atra@wsp.com
Nicole Nilges	STCOM	573-291-2296 (M)	Nicole.nilges@statetechmo.edu
Brad Crede	STCOM		brad.crede@statetechmo.edu
Brian N. Boehmer	MoDOT		Brian.Boehmer@modot.mo.gov
Kara LeCure	MoDOT		Kara.Lecure@modot.mo.gov
Thomas M. Powers	MoDOT		Thomas.Powers@modot.mo.gov
Pat Moore	Kirkwood Fence	636-386-7765	Pmoore@kirkwoodfence.com
Brad Turnbough	Diamond Fence	573-210-6297	Diamondfence@hotmail.com
Becky Voss	Superior Fence	636-368-7497	Becky.voss@superiorfenceandrail.com

1 Information Technology Center
2 Vehicle and Power Center
3 Health Science Building
4 Utility Technology Center
5 Civil Technology Center
6 Expansion Center
7 Nilges Technology Center
8 McDonnell-Douglass Green Aviation Building
9 Welding Center
10 Engineering Technology Center
11 Activity Center
12 Osage County Community Center
13 Student Housing
14 Osage View & Turf & Grounds Center
15 Lake State Tech
16 Outdoor Climbing & Directional Boring Lab
17 Heavy Equipment Operations Lab

PARKING

A Osage County Community Center Parking
B Activity Center/Student/Visitor
C D E F G H I Student/Visitor Parking
J Student Housing Parking

Due to construction, some building entrances and pathways may be closed. Please see the map above for affected areas.

Building Entrance Pathways

STATE TECH

ITEM F-162 CHAIN-LINK FENCE

DESCRIPTION

162-1.1 This item shall consist of furnishing and erecting a chain-link fence in accordance with these specifications, the details shown on the plans, and in conformity with the lines and grades shown on the plans or established by the RPR.

MATERIALS

162-2.1 Fabric. The fabric shall be woven with a 9-gauge galvanized steel wire in a 2-inch (50 mm) mesh and shall meet the requirements of ASTM A392, Class 2.

162-2.2 Barbed wire. Not used.

162-2.3 Posts, rails, and braces. Line posts, rails, and braces shall conform to the requirements of ASTM F1043 or ASTM F1083 as follows:

- Galvanized tubular steel pipe shall conform to the requirements of Group IA, (Schedule 40) coatings conforming to Type A, or Group IC (High Strength Pipe), External coating Type B, and internal coating Type B or D.
- Roll Formed Steel Shapes (C-Sections) shall conform to the requirements of Group IIA, and be galvanized in accordance with the requirements of ASTM F1043, Type A.
- Hot-Rolled Shapes (H Beams) shall meet the requirements of Group III, and be galvanized in accordance with the requirements of ASTM F1043, Type A.
- Aluminum Pipe shall conform to the requirements of Group IB.
- Aluminum Shapes shall conform to the requirements of Group IIB.
- Vinyl or polyester coated steel shall conform to the requirements of ASTM F1043, Paragraph 7.3, Optional Supplemental Color Coating.
- Composite posts shall conform to the strength requirements of ASTM F1043 or ASTM F1083. The strength loss of composite posts shall not exceed 10% when subjected to 3,600 hours of exposure to light and water in accordance with ASTM G152, ASTM G153, ASTM G154, and ASTM G155.
- Posts, rails, and braces furnished for use in conjunction with aluminum alloy fabric shall be aluminum alloy or composite.

Posts, rails, and braces, with the exception of galvanized steel conforming to ASTM F1043 or ASTM F1083, Group 1A, Type A, or aluminum alloy, shall demonstrate the ability to withstand testing in salt spray in accordance with ASTM B117 as follows:

- External: 1,000 hours with a maximum of 5% red rust.
- Internal: 650 hours with a maximum of 5% red rust.

The dimensions of the posts, rails, and braces shall be in accordance with Tables I through VI of Federal Specification RR-F-191/3.

162-2.4 Gates. Gate frames shall consist of galvanized steel pipe and shall conform to the specifications for the same material under paragraph 162-2.3. The fabric shall be of the same type material as used in the fence.

162-2.5 Wire ties and tension wires. Wire ties for use in conjunction with a given type of fabric shall be of the same material and coating weight identified with the fabric type. Tension wire shall be 7-gauge marcelled steel wire with the same coating as the fabric type and shall conform to ASTM A824.

All material shall conform to Federal Specification RR-F-191/4.

162-2.6 Miscellaneous fittings and hardware. Miscellaneous steel fittings and hardware for use with steel fabric shall be of commercial grade steel or better quality, wrought or cast as appropriate to the article, and sufficient in strength to provide a balanced design when used in conjunction with fabric posts, and wires of the quality specified herein. Barbed wire support arms shall withstand a load of 250 pounds (113 kg) applied vertically to the outermost end of the arm.

162-2.7 Concrete. Concrete shall have a minimum 28-day compressive strength of 3000 psi (2670 kPa).

162-2.8 MARKING. EACH ROLL OF FABRIC SHALL CARRY A TAG SHOWING THE KIND OF BASE METAL (STEEL, ALUMINUM, OR ALUMINUM ALLOY NUMBER), KIND OF COATING, THE GAUGE OF THE WIRE, THE LENGTH OF FENCING IN THE ROLL, AND THE NAME OF THE MANUFACTURER. POSTS, WIRE, AND OTHER FITTINGS SHALL BE IDENTIFIED AS TO MANUFACTURER, KIND OF BASE METAL (STEEL, ALUMINUM, OR ALUMINUM ALLOY NUMBER), AND KIND OF COATING.CONSTRUCTION METHODS

162-3.1 General. The fence shall be constructed in accordance with the details on the plans and as specified here using new materials. All work shall be performed in a workmanlike manner satisfactory to the RPR. The Contractor shall layout the fence line based on the plans. The Contractor shall span the opening below the fence with barbed wire at all locations where it is not practical to conform the fence to the general contour of the ground surface because of natural or manmade features such as drainage ditches. The new fence shall be permanently tied to the terminals of existing fences as shown on the plans. The Contractor shall stake down the woven wire fence at several points between posts as shown on the plans.

The Contractor shall arrange the work so that construction of the new fence will immediately follow the removal of existing fences. The length of unfenced section at any time shall not exceed 300 feet (90 m). The work shall progress in this manner and at the close of the working day the newly constructed fence shall be tied to the existing fence.

162-3.2 Clearing fence line. Clearing shall consist of the removal of all stumps, brush, rocks, trees, or other obstructions that will interfere with proper construction of the fence. Stumps within the cleared area of the fence shall be grubbed or excavated. The bottom of the fence shall be placed a uniform distance above ground, as specified in the plans. When shown on the plans or as directed by the RPR, the existing fences which interfere with the new fence location shall be removed by the Contractor as a part of the construction work unless such removal is listed as a separate item in the bid schedule. All holes remaining after post and stump removal shall be refilled with suitable soil, gravel, or other suitable material and compacted with tampers.

Contractor shall salvage existing fence fabric and posts not in concrete for delivery to Owner.

162-3.3 Installing posts. All posts shall be set in concrete at the required dimension and depth and at the spacing shown on the plans.

The concrete shall be thoroughly compacted around the posts by tamping or vibrating and shall have a smooth finish slightly higher than the ground and sloped to drain away from the posts. All posts shall be

set plumb and to the required grade and alignment. No materials shall be installed on the posts, nor shall the posts be disturbed in any manner within seven (7) days after the individual post footing is completed.

Should rock be encountered at a depth less than the planned footing depth, a hole 2 inches (50 mm) larger than the greatest dimension of the posts shall be drilled to a depth of 12 inches (300 mm). After the posts are set, the remainder of the drilled hole shall be filled with grout, composed of one part Portland cement and two parts mortar sand. Any remaining space above the rock shall be filled with concrete in the manner described above.

In lieu of drilling, the rock may be excavated to the required footing depth. No extra compensation shall be made for rock excavation.

162-3.4 Installing top rails. The top rail shall be continuous and shall pass through the post tops. The coupling used to join the top rail lengths shall allow for expansion.

162-3.5 Installing braces. Horizontal brace rails, with diagonal truss rods and turnbuckles, shall be installed at all terminal posts.

162-3.6 Installing fabric. The wire fabric shall be firmly attached to the posts and braced as shown on the plans. All wire shall be stretched taut and shall be installed to the required elevations. The fence shall generally follow the contour of the ground, with the bottom of the fence fabric no less than one inch (25 mm) or more than 4 inches (100 mm) from the ground surface. Grading shall be performed where necessary to provide a neat appearance.

At locations of small natural swales or drainage ditches and where it is not practical to have the fence conform to the general contour of the ground surface, longer posts may be used and multiple strands of barbed wire stretched to span the opening below the fence. The vertical clearance between strands of barbed wire shall be 6 inches (150 mm) or less.

162-3.7 Electrical grounds. Electrical grounds shall be constructed at 500 feet (150 m). The ground shall be accomplished with a copper clad rod 8 feet (2.4 m) long and a minimum of 5/8 inches (16 mm) in diameter driven vertically until the top is 6 inches (150 mm) below the ground surface. A No. 6 solid copper conductor shall be clamped to the rod and to the fence in such a manner that each element of the fence is grounded. Installation of ground rods shall not constitute a pay item and shall be considered incidental to fence construction. The Contractor shall comply with FAA-STD-019, Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment, paragraph 4.2.3.8, Lightning Protection for Fences and Gates, when fencing is adjacent to FAA facilities.**162-3.9 Cleaning up.** The Contractor shall remove from the vicinity of the completed work all tools, buildings, equipment, etc., used during construction. All disturbed areas shall be seeded per T-901.

METHOD OF MEASUREMENT

162-4.1 Chain-link fence will be measured for payment by the linear foot (meter). Measurement will be along the top of the fence from center to center of end posts, excluding the length occupied by gate openings.

162-4.2 Removal of existing fence, complete, will be measured by the linear foot.

162-4.3 Manual Swing Gates will be measured as complete units.

162-4.3 Manual Slide Gates will be measured as complete units.

162-4.5 Automatic Slide Gates will be measured as complete units including all electrical work, modification to breaker panel in vault, and access control.

BASIS OF PAYMENT

162-5.1 Payment for chain-link fence will be made at the contract unit price per linear foot .

162-5.2 Payment for removal of existing fence will be made at the contract unit price per linear foot.

162-5.3 Payment for gates will be made at the contract unit price for each gate.

The price shall be full compensation for furnishing all materials, and for all preparation, erection, and installation of these materials, and for all labor equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item F-162-5.1	Chain-Link Fence - per linear foot
Item F-162-5.2	Removal of Existing Fence, Complete - per linear foot
Item F-162-5.3	15 Ft. Manual Swing Gate - per each
Item F-162-5.4	52 Ft. Manual Slide Gate - per each
Item F-162-5.5	25 Ft. Automatic Slide Gate - per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A121	Standard Specification for Metallic-Coated Carbon Steel Barbed Wire
ASTM A153	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A392	Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A491	Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM A824	Standard Specification for Metallic-Coated Steel Marcelled Tension Wire for Use with Chain Link Fence
ASTM B117	Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM F668	Standard Specification for Polyvinyl Chloride (PVC), Polyolefin and other Organic Polymer Coated Steel Chain-Link Fence Fabric
ASTM F1043	Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework
ASTM F1083	Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures
ASTM F1183	Standard Specification for Aluminum Alloy Chain Link Fence Fabric
ASTM F1345	Standard Specification for Zinc 5% Aluminum-Mischmetal Alloy Coated Steel Chain-Link Fence Fabric

ASTM G152	Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials
ASTM G155	Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials

Federal Specifications (FED SPEC)

FED SPEC RR-F-191/3	Fencing, Wire and Post, Metal (Chain-Link Fence Posts, Top Rails and Braces)
FED SPEC RR-F-191/4	Fencing, Wire and Post, Metal (Chain-Link Fence Accessories)

FAA Standard

FAA-STD-019	Lightning and Surge Protection, Grounding, Bonding and Shielding Requirements for Facilities and Electronic Equipment

FAA Orders

5300.38	AIP Handbook

END OF ITEM F-162

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ITEM P-153 CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement shall conform to the requirements of ASTM C150 Type I or Type II. If for any reason, cement becomes partially set or contains lumps of caked cement, it shall be rejected. Cement salvaged from discarded or used bags shall not be used.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 µm)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi (690 to 1379 kPa) when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch (200 mm) diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C).

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement. No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

153-6.1 Payment. No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

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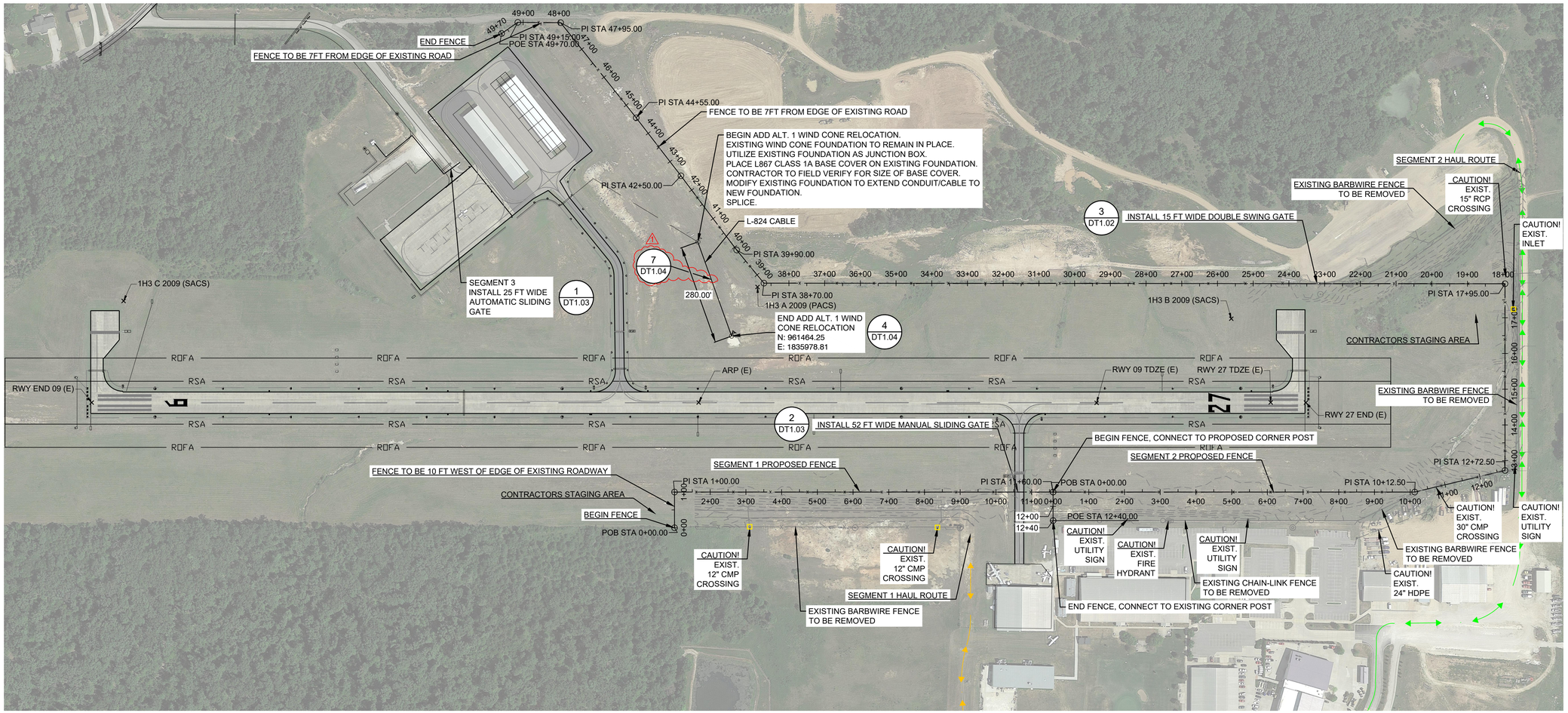

LEGEND

- ACCESS/HAUL ROUTE SEGMENT 1
- ACCESS/HAUL ROUTE SEGMENT 2
- AIRFIELD FENCE
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)
- TAXIWAY OBJECT FREE AREA (TOFA)
- PROPOSED FENCE
- EROSION CONTROL

N

SCALE (FEET)

0 160 320 480

GENERAL NOTES:

1. SEE FENCE DETAIL SHEETS 1 AND 2 FOR ADDITIONAL DETAILS.
2. SEE EROSION CONTROL DETAIL SHEET 1 FOR ADDITIONAL DETAILS.
3. DEMOLISH EXISTING FENCE, INCLUDING FABRIC, GATES, POSTS, AND POST FOUNDATION IN TURF AREAS. REMOVE POSTS TO GRADE LEVEL IN PAVED AREAS AND BACKFILL POST HOLES WITH GROUT.
4. ALIGN NEW FENCE - INCLUDING GATES - WITH ALIGNMENT OF EXISTING FENCE AND GATES, UNLESS NOTED. OBTAIN APPROVAL OF EXACT ALIGNMENT FROM THE ENGINEER BEFORE CONSTRUCTION.
5. ALL AREAS DISTURBED BY DEMOLITION AND INSTALLATION OF FENCE AND GATES MUST BE RESTORED TO THE ORIGINAL CONDITION. THIS RESTORATION MUST INCLUDE, BUT IS NOT LIMITED TO SODDING, SEEDING, SURFACING, SLOPE PROTECTION, AND BEDDING RESTORATION. ALL AREAS DISTURBED MUST BE GRADED TO DRAIN.
6. FROZEN MATERIALS MUST NOT BE ALLOWED NOR SHALL ANY MATERIAL BE PLACED ON FROZEN SURFACE.
7. BACKFILL PLACED MUST BE COMPACTED TO A MINIMUM DENSITY OF 90% AS DETERMINED BY ASTM D-698. MOISTURE CONTENT MUST BE WITHIN -1% TO +3% OF OPTIMUM.
8. SIGNS ALONG THE EXISTING FENCE TO BE PROTECTED IN PLACE.
9. UTILIZE 2" SCHEDULE 80 PVC FOR WIND CONE EXTENSION.
10. UTILIZE L-824 CABLE (2) FOR WIND CONE EXTENSION. #8 5KV L-824 TYPE C LIGHTING CABLE.
11. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND COORDINATE WITH NEW INSTALLATION.
12. CONTRACTOR TO RESTORE EXISTING GROUND IN KIND ALONG CONDUIT TRENCHES. THIS WORK WILL BE SUBSIDIARY TO BID ITEM L-107-5.1 "RELOCATE WIND CONE".

PROJECT COORDINATE SYSTEM			
STATION	LATITUDE	LONGITUDE	GROUND ELEVATION (FT)
0+00.00	N38° 28' 14.31"	W91° 49' 02.87"	963
1+00.00	N38° 28' 15.30"	W91° 49' 02.87"	955
11+60.00	N38° 28' 15.30"	W91° 48' 49.54"	955
12+40.00	N38° 28' 14.52"	W91° 48' 49.54"	959
0+00.00	N38° 28' 15.30"	W91° 48' 49.54"	955
10+12.50	N38° 28' 15.31"	W91° 48' 36.82"	947
12+72.50	N38° 28' 15.91"	W91° 48' 33.63"	940
17+95.00	N38° 28' 21.07"	W91° 48' 33.63"	932
38+70.00	N38° 28' 21.08"	W91° 48' 59.73"	956
39+90.00	N38° 28' 21.99"	W91° 49' 00.69"	957
42+50.00	N38° 28' 24.04"	W91° 49' 02.65"	958
44+55.00	N38° 28' 25.65"	W91° 49' 04.23"	959
47+95.00	N38° 28' 28.28"	W91° 49' 06.89"	958
49+15.00	N38° 28' 28.29"	W91° 49' 08.40"	955
49+70.00	N38° 28' 27.98"	W91° 49' 08.97"	946

PROJECT BENCHMARKS			
NAME	LATITUDE	LONGITUDE	GROUND ELEVATION (FT)
1H3 A 2009 (PACS)	N38° 28' 20.97"	W91° 48' 59.95"	954
1H3 B 2009 (SACS)	N38° 28' 20.10"	W91° 48' 43.27"	948
1H3 C 2009 (SACS)	N38° 28' 20.57"	W91° 49' 22.27"	941
ARP (E)	N38° 28' 17.77"	W91° 49' 02.02"	-
RWY 09 TDZE (E)	N38° 28' 17.77"	W91° 48' 48.01"	953
RWY 27 END (E)	N38° 28' 17.78"	W91° 48' 40.64"	952
RWY 27 TDZE (E)	N38° 28' 17.78"	W91° 48' 41.88"	953
RWY END 09 (E)	N38° 28' 17.76"	W91° 49' 23.39"	947

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LINN, MISSOURI

FENCE REPLACEMENT PROJECT MoDOT #24-044A-1

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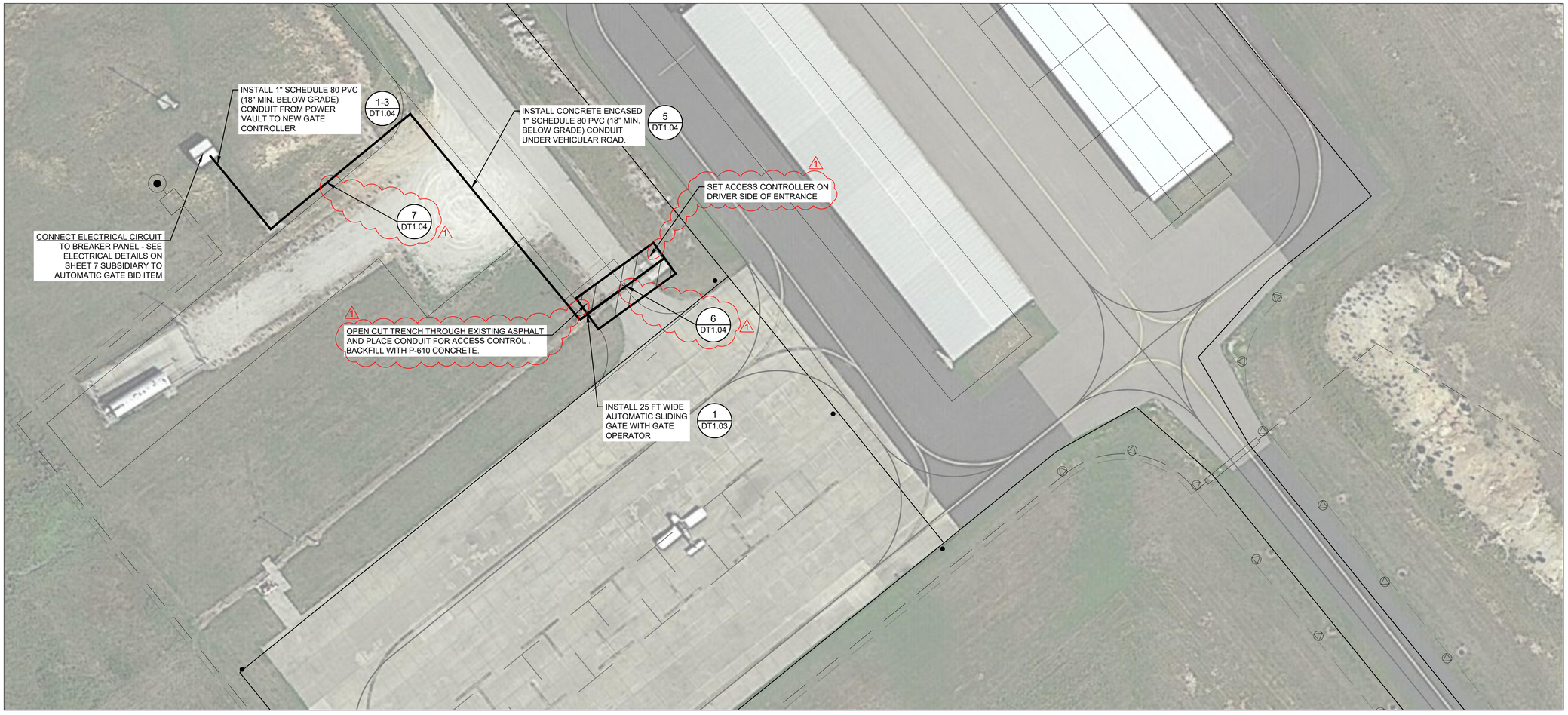
FENCE REPLACEMENT
SITE PLAN
SHEET 1 OF 2

SHEET 5 OF 10



LEGEND

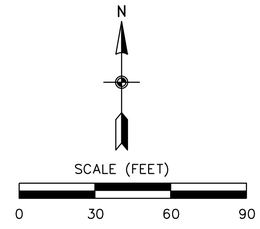
X PROPOSED FENCE

PROPOSED UNDERGROUND ELECTRICAL

QUANTITIES		
ITEM DESCRIPTION	QUANTITY	UNIT
1" SCHEDULE 80 DIRECT BURY PVC	1 250	LF
1" SCHEDULE 80 CONCRETE ENCASED PVC	90	LF
(2) #12 AWG	285	LF
#12 GND (XHHW-2)	285	LF

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND COORDINATE WITH NEW INSTALLATION.
2. PROVIDE SEPARATE CONDUITS PER PLANS FOR LOW VOLTAGE AND LINE VOLTAGES WIRES.
3. BASIS OF DESIGN DOORKING 9150 VEHICULAR SLIDE GATE OPERATOR. CONTRACTOR TO PROVIDE "OR EQUAL" SLIDE GATE OPERATOR.
4. CONTRACTOR TO FOLLOW MANUFACTURER MINIMUMS FOR FOUNDATIONS GATE OPERATOR AND OTHER ITEMS.
5. GATE OPERATOR SHALL INCLUDE ENTRAPMENT PROTECTION.
6. CONTRACTOR TO RESTORE EXISTING GROUND IN KIND ALONG CONDUIT TRENCHES. THIS WORK WILL BE SUBSIDIARY TO BID ITEM F-162-5.5 "25FT AUTOMATIC SLIDE GATE".
7. PROVIDE SEED, MULCH, AND FERTILIZER IN AREA OF GRASS.
8. RESTORE GRAVEL AREAS AS NECESSARY.
9. ALL ELECTRICAL CONDUITS, CABLES, AND CONNECTIONS REQUIRED FOR FULLY FUNCTIONAL AUTOMATIC GATE WILL BE SUBSIDIARY TO BID ITEM F-162-5.5 "25FT AUTOMATIC SLIDE GATE".
10. 1 CONTRACTOR TO PROVIDE KEYPAD ACCESS CONTROL AS SHOWN ON FOLLOWING SHEET AS SUBSIDIARY TO BID ITEM F-162-5.5 "25FT AUTOMATIC SLIDE GATE".
11. QUANTITIES PROVIDED ON THIS SHEET ARE FOR CONTRACTOR INFORMATION ONLY AND SUBSIDIARY TO BID ITEM F-162-5.5 "25FT AUTOMATIC SLIDE GATE".



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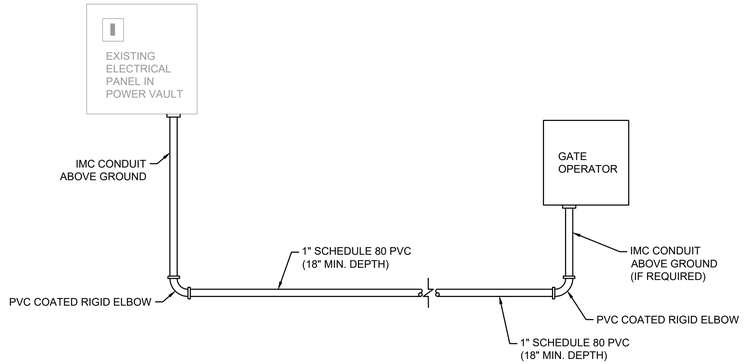
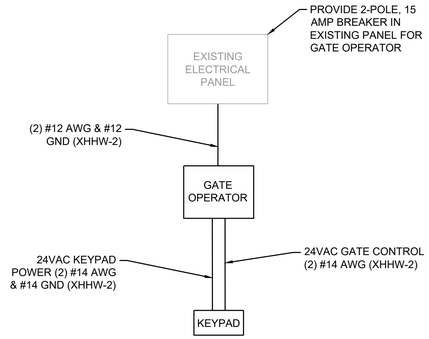
FENCE REPLACEMENT
SITE PLAN
SHEET 2 OF 2

SHEET 6 OF 10



1 DT1.04 CONDUIT DETAILS (F-162.4 25FT AUTOMATIC SLIDE GATE)

SCALE: NTS

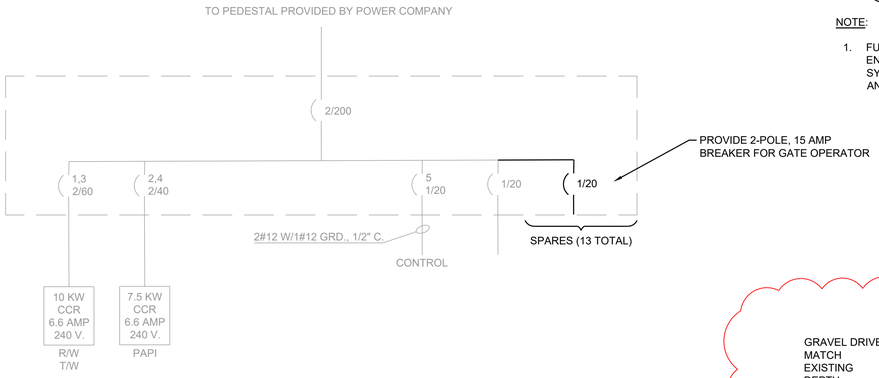


2 DT1.04 ONE-LINE DIAGRAM

SCALE: NTS

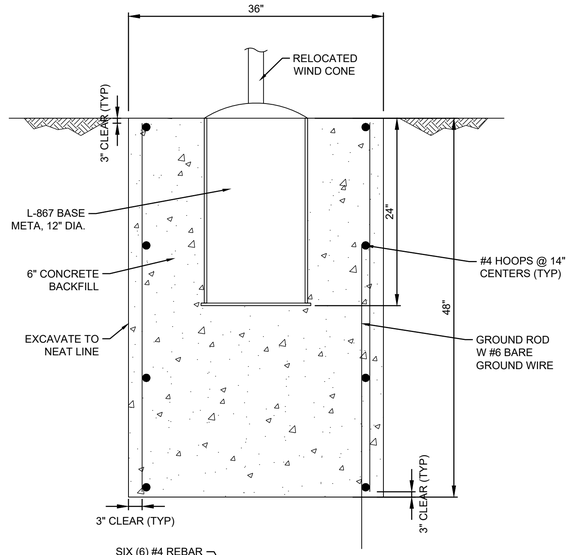
NOTE:

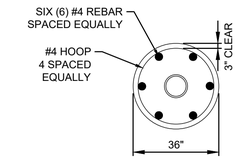
1. FURNISH AND INSTALL INFRARED PHOTO CELL FOR EXTERNAL ENTRAPMENT PROTECTION DEVICE. PROVIDE TWO PHOTOEYE SYSTEMS PER GATE OPERATOR FOR PROTECTION IN THE OPEN AND CLOSE DIRECTION.



3 DT1.04 EXISTING ELECTRICAL PANEL IN VAULT (F-162-5.5)

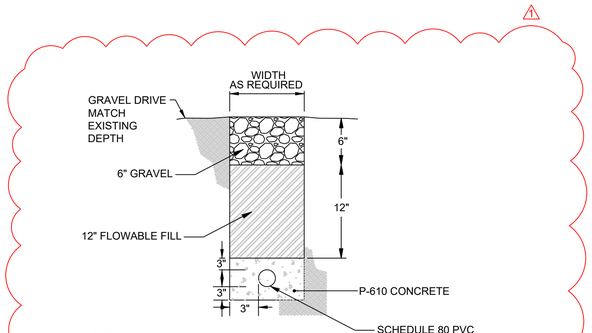
SCALE: NTS





4 DT1.04 SUPPLEMENTAL WIND CONE FOOTING DETAIL

SCALE: NTS

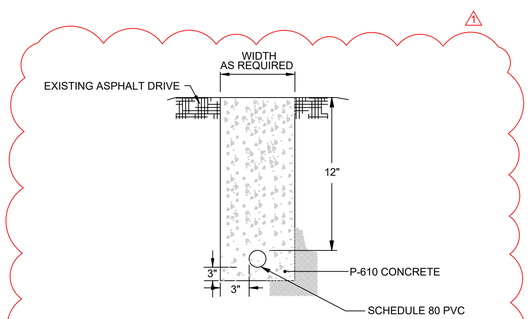


NOTES:

1. SEE PLANS FOR REQUIRED DUCT SECTIONS.
2. PROVIDE PULL WIRES IN ALL (NEW) UNUSED CONDUITS. PLUG ENDS IN HANDHOLES, MANHOLES AND CANS.
3. WARNING TAPE REQUIRED WHEN DUCTS ARE INSTALLED IN AREAS NOT BELOW FULL STRENGTH PAVEMENT.
4. INSTALL COUNTERPOISE ABOVE EACH DUCT ASSEMBLY, E5.02/1 WHERE BENEATH PAVEMENT.

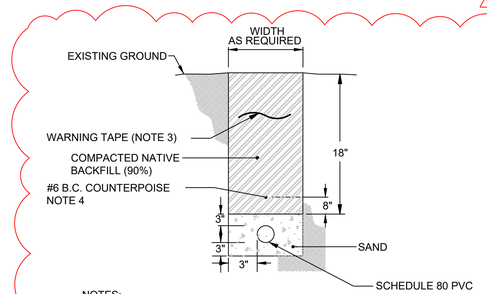
5 DT1.04 TYPICAL TRENCH SECTION AND CONCRETE ENCASED

SCALE: NTS



6 DT1.04 TRENCH FOR ACCESS CONTROL

SCALE: NTS



NOTES:

1. COUNTERPOISE ONLY REQUIRED FOR WINDCONE CONDUIT.

7 DT1.04 DIRECT BURY CONDUIT TRENCH

SCALE: NTS

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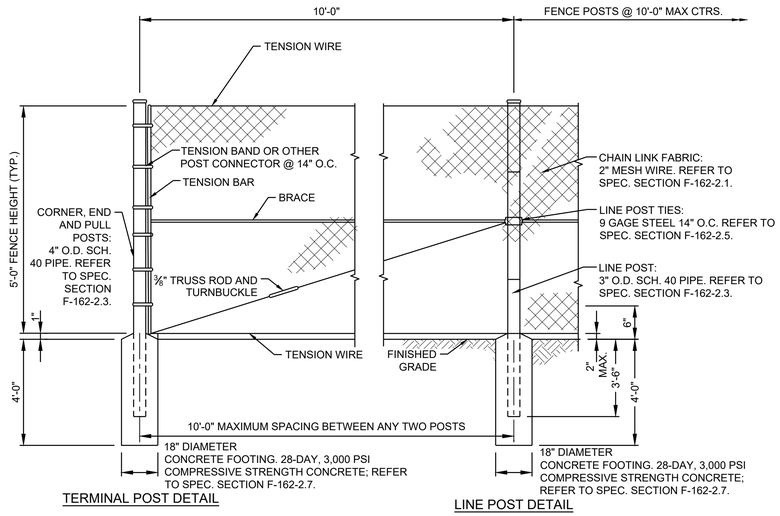
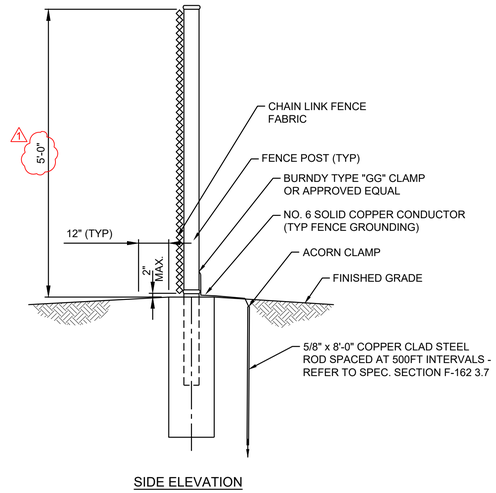
ELECTRICAL DETAILS
SHEET 1 OF 1



1 DT1.02 TYPICAL ELEVATION - PERIMETER FENCE (F-162)



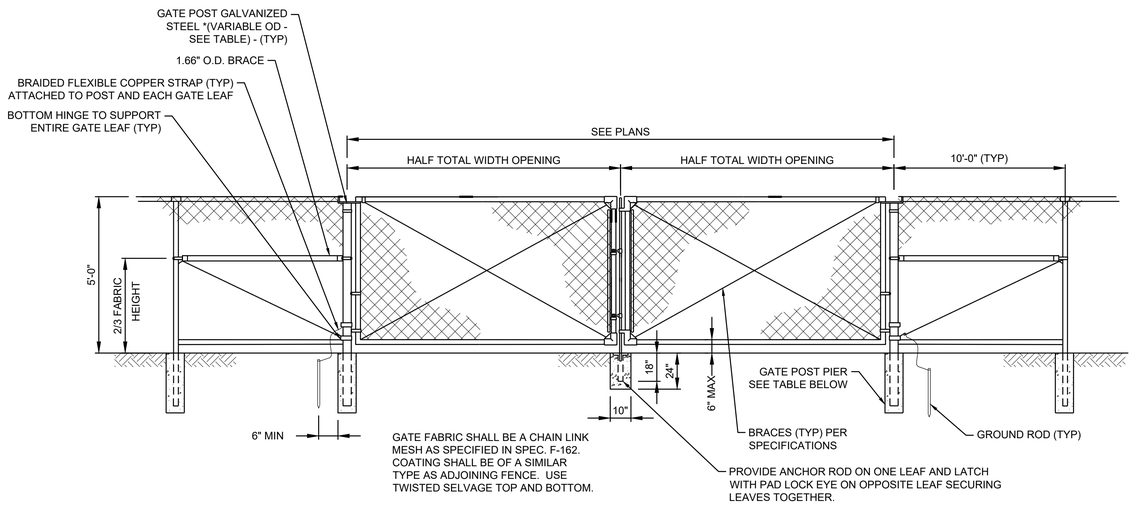
SIDE ELEVATION

2 DT1.02 SIDE ELEVATION - PERIMETER FENCE (F-162)
SCALE: NTS

NOTES:

1. PIPE SECTIONS SHOWN ARE ASTM F1083 FOR STANDARD WEIGHT (SCHEDULE 40) PIPE. EQUIVALENT STEEL SECTIONS FOR FRAME SHALL BE BASED ON PIPE SECTION SHOWN (SEE SPECIFICATIONS).
2. MIDDLE BRACE RAILS AND BRACE ROD ONLY TO BE INSTALLED EACH SIDE OF CORNERS, ENDS AND GATE POSTS FOR ONE BAY LENGTH.
3. CONTRACTOR IS TO SALVAGE AND REUSE EXISTING AIRPORT SECURITY SIGNS. THIS IS INCIDENTAL TO OTHER ITEMS OF WORK.
4. PULL POSTS SHALL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER. THEY SHALL BE PLACED AT 660FT INTERVALS BETWEEN POSTS TO WHICH THE ENDS OF THE FABRIC ARE CLAMPED OR MIDWAY BETWEEN SUCH POSTS WHEN THE DISTANCE IS LESS THAN 1,320FT AND GREATER THAN 660FT.

GATE POSTS				
PIPE SIZE		GATE OPENINGS		
NOM. O.D. PIPE	WEIGHT LB/FT	SINGLE GATE	DOUBLE GATE	FOUNDATION
3.5"	7.58	UP THRU 6'	UP THRU 12'	18"Ø x 4'-0"
4.0"	9.11	7' THRU 13'	12' THRU 26'	18"Ø x 6'-0"
6.625"	18.97	14' THRU 18'	27' THRU 36'	18"Ø x 7'-0"



3 DT1.02 DOUBLE SWING GATE (F-162)
SCALE: NTS

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FENCE DETAILS
SHEET 1 OF 2

SHEET 9 OF 10