



**CONSTRUCTION SCOPE  
OF WORK**

Project No.: NA400240  
Document No.: Subcontract Order S4475T00240-MOLD-20002,  
Revision No.: Exhibit A Scope of Work  
0



**Subcontract Order No. S4475T00240-MOLD-20002**

**Exhibit A**

**SCOPE OF WORK**

**FOR**

**Moldova Group 5**

**Design, Integration, Construction, Communication and Engineering 2  
(DICCE2) Services**

**For the Nuclear Smuggling Detection and Deterrence Project**

URS Federal Services, Inc.

1500 West 3<sup>rd</sup> Street

Cleveland, OH 44113

PROJECT NUMBER NA400240

Revision: 0

Status: Approved

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**REVISION PAGE**

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Construction

Client: DOE / NSDD

**Revision Signatures**

V. Corovai

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Prepared by

Date

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Date

R. Jambor

Checked by

Date

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### 1.0 SCOPE

#### 1.1 GENERAL DESCRIPTION OF SERVICES

URS Federal Services, Inc. requires local construction, installation, and startup support services pursuant to execution of United States Department of Energy Prime Contract DE-NA000336X, Task Order

NA400240, and APOGEE Task Authorization No. 19-0000024 for Design, Integration, Construction, Communication and Engineering 2 (DICCE2) Services for Balkan Region – Moldova Group 5. These services are required to:

- Plan, schedule, and conduct construction works to implement approved designs for radiation portal monitor (RPM) systems at the **Palanca Vehicle Crossing, Criva Vehicle Crossing, and Chisinau Airport.**
- Install equipment and systems provided by URS Federal Services.
- Procure and install materials and equipment designated as Subcontractor furnished equipment.
- Support URS Federal Services RPM startup and testing activities until system operation is transferred to the Moldovan Customs Service and to the General Inspectorate of Border Police of Moldova.

#### 1.2 BACKGROUND

URS Federal Services, Inc. is responsible to design and install RPM systems at selected border crossings in Moldova in accordance with requirements for the Design, Integration, Construction, Communication and Engineering 2 (DICCE 2) Program, which is an integral part of Nuclear Smuggling Detection and Deterrence Program (NSDD).

URS Federal Services requires construction services to procure local construction materials and equipment, mobilize construction and installation teams at the designated sites, perform construction work necessary to prepare the site infrastructure to support the RPM systems, install the RPM systems provided by URS Federal Services, and assist URS Federal Services to startup and test the systems in preparation for acceptance by the U.S. Government and transfer of ownership to the end users (Moldovan Customs Service and to the General Inspectorate of Border Police of Moldova). Performance requirements for these activities are specified in DICCE 2 program directives, design specifications and guidelines, and equipment performance specifications.

The rationale for subcontracting construction and installation services is summarized as follows:

1. Local construction and procurement expertise is needed to hire construction crews, manage local work forces, purchase and deliver goods and materials, and facilitate execution of work plans with end user organizations.
2. Local construction expertise is needed to comply with Moldovan codes, standards, rules, laws, and regulations.
3. Local construction expertise is needed to interface with existing infrastructure and utility services to implement approved designs for RPM systems.

#### 1.3 CONTRACT DESCRIPTION

Construction and installation work applies to the following Moldovan border crossings:

1. Palanca Vehicle Crossing: Four (4) vehicle RPMs, one (1) pedestrian RPM, one (1) central alarm station (CAS) and associated detection and traffic control systems.
2. Criva Vehicle Crossing: One (1) vehicle RPM and associated detection and traffic control systems.
3. Chisinau Airport: One (1) pedestrian RPM, and repositioning of three (3) existing pedestrian RPMs so they have equal face to face spacing. The Subcontractor shall replace the tile flooring under the existing monitors once moved. Assume that floor tiles will be provided by the airport.

The scope of the project, herein defined as Work, includes site development and installation of detection systems as prescribed on the design drawings. Supporting site development includes earthwork, pavement, foundations, electrical work, collision protection, structural support for the enclosures, security, traffic controls, and modifications to the electrical infrastructure to supply power with sufficient capacity to the new or existing main power distribution panel at each site. Also included in the Scope of Work is the





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termination of power, instrument, and communication cables to the detection system including monitors, utility panels and alarm stations.

### 1.4 DEFINITION OF CONTRACTOR

For the purpose of this contract, Contractor and Architect/Engineer is URS Federal Services, Inc. Contractor will implement the contract and perform architect/engineer services and administer the construction program for its Client – the US Department of Energy (DOE).

### 1.5 DEFINITION OF SUBCONTRACTOR

For the purpose of this contract, Subcontractor is the individual, partnership firm, corporation, or joint venture, to which the contract is awarded by the Contractor.

### 1.6 DEFINITION OF LOCAL OWNER AND LOCAL CODES AND STANDARDS

The term "Local Owner" means any and all of the companies or government and government agencies in the country where the work is being performed that may have jurisdiction and enforce compliance requirements over the work to be performed. This includes airport owner-operators, local public works departments or similar, the city, county or equal, state or equal, and the country where the work is to be performed. Where the term "local codes and standards" is used, it shall mean all codes and standards of the country and agencies that may hold jurisdiction.

### 1.7 CONTRACTOR FURNISHED EQUIPMENT (CFE)

Contractor Furnished Equipment (CFE) refers to all material or components provided to the Subcontractor for installation under this contract. Contractor will supply and ship the CFE to Moldova and after Customs Clearance the Subcontractor will take possession of the equipment. If storage of equipment is necessary prior to installation the subcontractor shall provide a safe and secure storage location. The Subcontractor shall be responsible to load, transport to the installation site, unload, inspect for damage, store at the site if necessary, protect, and install. Contractor may perform inspection for damage at any time and place at the Contractor's discretion.

### 1.8 SUBCONTRACTOR FURNISHED EQUIPMENT (SFE)

Subcontractor Furnished Equipment (SFE) refers to any and all material or components provided and installed by the Subcontractor for installation under this contract.

### 1.9 CODES AND STANDARDS

All of the work associated with this project shall be constructed and installed in compliance with applicable local codes and standards as approved by Contractor. When local standards or practices are deemed substandard or unsuitable, standards and practices based on U.S. Codes and Standards shall be implemented. Subcontractor shall inform Contractor when the application of local codes or standards would cause a deviation from the design documents (i.e., drawings, plans, and specifications). In those instances, Contractor shall provide appropriate resolution and direction to the Subcontractor.

All work shall comply with the requirements specified in the following attached documents:

1. Appendix A – Standard Drawings that apply to all sites and Site Specific Drawings that apply only to the referenced site.
2. Appendix B – Equipment List
3. Appendix C – Civil and Electrical Design Requirements
4. Appendix D - Project Schedule

### 1.10 INCONSISTENCY BETWEEN ENGLISH AND TRANSLATED VERSIONS

In the event of inconsistency between any terms of this contract and any translation into another language, the English language meaning shall control.



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### 1.11 INTERFACE WITH OTHERS

The Subcontractor shall support startup, integration, and acceptance testing activities as directed by the Contractor. Startup, integration, and acceptance testing of the radiation detection systems will be coordinated by the Contractor and performed by Others.

### 1.12 TAXES AND DUTIES

Moldovan Governmental Decision (GD) Number 246 dated 8 April 2010 granted exemption from the following taxes to DICCE 2 - an integral part of NSDD Program contractors and sub-contractors:

1. Excise tax for imported goods destined for DICCE 2 Program
2. Customs duties (fees) for imported goods destined for DICCE 2 Program
3. Customs processing fees for imported goods destined for DICCE 2 Program
4. VAT for imported goods destined for DICCE 2 Program
5. Zero VAT tax rate for goods and services procured from the local suppliers. In such case local suppliers can be reimbursed for VAT expenses from Moldovan Fiscal Authorities.

### 1.13 MATERIAL AND WORKMANSHIP

All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Subcontractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contractor, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

The Subcontractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Subcontractor shall furnish to the Contractor the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment.

When required by this contract or by the Contractor, the Subcontractor shall also obtain the Contractor's approval of the material or articles, which the Subcontractor contemplates incorporating into the work. When requesting approval, the Subcontractor shall provide full information concerning the material or articles. When directed to do so, the Subcontractor shall submit samples for approval at the Subcontractor's expense. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

All work under this contract shall be performed in a skillful and workmanlike manner. The Contractor may require, in writing, that the Subcontractor remove from the work any employee the Contractor deems incompetent, careless, or otherwise objectionable.

### 1.14 PERMITS AND RESPONSIBILITIES

The Subcontractor shall, without additional expense to the Contractor, be responsible for obtaining any necessary licenses and permits, and for complying with any national or regional laws, codes, and regulations applicable to the performance of the work. The Subcontractor shall also be responsible for all damages to persons or properties that occur as a result of the Subcontractor's fault or negligence. The Subcontractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work, which may have been accepted under the contract.

### 1.15 SUSPENSION OF WORK

The Contractor may order the Subcontractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contractor determines appropriate for the



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convenience of the Contractor. If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contractor in the administration of this contract, or (2) by the Contractor's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Subcontractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

### 1.16 STOP-WORK ORDER

The Contractor may, at any time, by written order to the Subcontractor, require the Subcontractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Subcontractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Subcontractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage.

Within a period of 90 days after a stop-work is delivered to the Subcontractor, or within any extension of that period to which the parties shall have agreed, the Contractor shall either—

- (1) Cancel the stop-work order; or
- (2) Terminate the work covered by the order as provided in the terms of this contract.

If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Subcontractor shall resume work. The Contractor shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if—

(1) The stop-work order results in an increase in the time required for, or in the Subcontractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage provided that, if the Contractor decides the facts justify the action, the Contractor may receive and act upon the claim submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Contractor, the Contractor shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contractor shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

### 1.17 INSPECTION OF CONSTRUCTION

*Definition.* "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

The Subcontractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Subcontractor shall maintain complete inspection records and make them available to the Contractor. All work shall be conducted under the general direction of the Contractor and is subject to Contractor inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

Contractor inspections and tests are for the sole benefit of the Contractor and do not—

- (1) Relieve the Subcontractor of responsibility for providing adequate quality control measures;
- (2) Relieve the Subcontractor of responsibility for damage to or loss of the material before acceptance;
- (3) Constitute or imply acceptance; or



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(4) Affect the continuing rights of the Contractor after acceptance of the completed work.

The presence or absence of a Contractor inspector does not relieve the Subcontractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contractor's written authorization.

The Subcontractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contractor.

The Contractor shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size and performance tests shall be performed as described in the contract.

The Subcontractor shall, without charge, replace or correct work found by the Contractor not to conform to contract requirements, unless the Contractor consents to accept the work with an appropriate adjustment in contract price.

### 1.18 CONTRACT VALUE

The price stated in the Subcontract Order shall constitute full compensation for furnishing all labor, supplies, overhead, and profit for the performance of the work relevant to this Scope of Work (SOW) document.

## 2.0 REFERENCES

### 2.1 ABBREVIATIONS

1. CAS – Central Alarm Station
2. NNSA - National Nuclear Security Administration. For the purpose of this Scope of Work, NNSA personnel include DOE, NNSA, National Laboratory, Contractor, and Apogee/URS personnel assigned to this project.
3. NSDD – Nuclear Smuggling Detection and Deterrence Program
4. POC - Point of Contact
5. RPM – Radiation Portal Monitor
6. URS – URS Federal Services, Inc. URS is the Contractor issuing this statement of work.

### 2.2 CODES/STANDARDS/ORDERS/REGULATIONS

All work shall be performed in accordance with the Drawings, Design Guidelines, and Standards provided in the Appendices to this SOW.

## 3.0 GENERAL CONSTRUCTION REQUIREMENTS

1. The construction and installation scope of work includes installation of equipment foundations, shielding walls, pavement, collision protection devices (bollards), traffic control devices, and miscellaneous support steel for the portal monitors, camera poles, lightening protection and grounding systems, electrical power distribution equipment, Radiation Portal Monitor (RPM) systems, and communication equipment at border crossings in Palanca, Criva, and Chisinau Airport.
2. Local Owner operations shall not be interrupted except as required to install the prescribed systems. Operations at Border Crossings shall not be impacted by the Subcontractor's work. Interruptions to operations shall be minimized and scheduled in advance with the Contractor and Local Owners. If necessary, the Subcontractor shall perform work at night, on weekends, or in multiple shifts as required to complete work in accordance with Contractor's schedule requirements.
3. Utility outages at installation sites shall be minimized. All planned utility outages shall be coordinated with Contractor, Local Owners, and utility service providers.



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4. Subcontractor shall obtain permission from local authorities to exploit existing site power supplies to provide electrical power to the radiation detection systems as prescribed in the approved design drawings.
5. Subcontractor shall coordinate construction schedule and operations with Local Owner and Contractor. Where multiple monitor pairs are to be constructed at multiple traffic lane locations, work shall be performed in stages to accommodate Local Owner's operating requirements.
6. Subcontractor shall obtain and pay for national, state, provincial, and/ or local permits to perform the Work.
7. The Subcontractor shall conform to technical requirements described in:
  - A. Law Nr. 163 dated 09.07.2010 Authorizing the Execution of Construction Works
  - B. Law Nr. 721-XIII dated 02.02.1996 about Quality in Construction
  - C. Law Nr. 186 dated 10.07.2008 about Labor Safety and Labor Health
8. The Subcontractor shall perform all construction and installation in compliance with applicable environmental and local codes and standards. When local standards or practices are deemed substandard or unsuitable, standards and practices based on U.S. codes and standards shall be implemented. The Subcontractor shall inform the Contractor when the application of local codes or standards would cause a deviation from the contract documents. In those instances, the Subcontractor shall review the local codes and standards and provide appropriate resolution for approval by the Contractor.
9. The Subcontractor must comply with all site access control requirements as determined by site authorities. This includes providing a list of personnel and vehicles which must access the site during the course of installation works. All Subcontractor personnel who are on site must present and have available a form of picture identification to show that they have access approval. If necessary the Subcontractor shall obtain access badges for all personnel who will enter the construction site.
10. The Subcontractor shall provide and ensure all workers wear appropriate safety equipment. As a minimum, all site personnel must wear hardhats, reflective safety vests, safety shoes, safety glasses, and protective gloves while on the jobsite.
11. The Subcontractor shall provide temporary site facilities if required for use by workers for the duration of the project. Site facilities shall include items such as porta-toilets, temporary power for construction tools; refuse collection and disposal, and temporary barricades. The Subcontractor shall ensure that all personnel working at each work site are indoctrinated in the approved Traffic Control Plan and comply with the requirements therein while working on site without exception. The Subcontractor shall limit access to work areas by installing temporary traffic barricades and signage. Open excavations shall be adequately and completely covered with steel plates when unattended. The Subcontractor shall remove all temporary covers, barriers, and barricades when no longer needed.
12. The Subcontractor shall provide all labor, material, supplies, equipment, and supervision necessary to perform the scope of work.
13. Subcontractor shall procure, supply, deliver, and install general construction materials necessary to install CFE. The Subcontractor shall provide only new materials as specified. Subcontractor shall install CFE in accordance with the design documents including all necessary labor, equipment, and tools.
14. The Subcontractor shall install RPM systems, ancillary equipment, and supporting site development in accordance with the approved design drawings and other contract documents.
15. Subcontractor shall procure, install, test, and terminate power, instrument, and communication cables.
16. The Subcontractor shall test all elements of work in accordance with the requirements of this contract and Moldovan codes and regulations. The Contractor shall be afforded an opportunity to witness all required tests performed by the Subcontractor. The Subcontractor shall notify the Contractor no less than 24 hours prior to performing testing. If the Subcontractor fails to provide notification to the Contractor, the test shall be performed a second time and witnessed by the Contractor at no additional cost to the Contractor.
17. The Subcontractor shall submit to the Contractor a written record documenting the results of each test. Examples of the required test reports include concrete quality tests, grounding conductivity tests, electrical cable resistance to ground, and fiber optic cable testing.



18. The Subcontractor shall store, unpack, assemble, transport from storage, and install all CFE and SFE equipment in accordance with equipment manufacturer's written instructions. The Subcontractor shall inspect all equipment furnished by the Contractor and immediately report to the Contractor in writing if the equipment is damaged, defective, or incomplete. The Subcontractor shall identify a secure and appropriate storage facility/laydown area at each work location through the local site authorities. The Subcontractor shall obtain written approval to use these facilities. Subcontractor shall install temporary fencing and any other temporary storage area improvement needed in order to provide an adequate and secure area and restore site to previous condition upon completion.
19. The Subcontractor shall provide temporary de-watering as required during excavation of foundations and trenches.
20. The Subcontractor shall properly dispose all debris, trash, excess and unsatisfactory materials generated during completion of the Scope of Work in accordance with Moldovan regulations. The project work areas shall be swept clean, all unused materials and equipment shall be returned to the storage area, and temporary fencing and barricades shall be erected in the work areas at the end of each day's work.
21. The Subcontractor shall provide a warranty certificate on all construction completed in this Scope of Work for the time period of one (1) year from the date of commissioning.
22. Declaration of conformance shall be provided by the Subcontractor upon completion of this work scope and prior to close out of the contract agreement.

#### **4.0 CIVIL CONSTRUCTION REQUIREMENTS**

1. The Subcontractor shall coordinate all excavations at work sites with the Local Owners and personnel responsible for site operations.
2. The Subcontractor shall verify the location of existing utilities and below grade structures prior to excavation.
3. The Subcontractor shall saw cut and remove portions of existing pavement, curbs, fencing and landscape areas as required to complete installations. The Subcontractor shall repair damaged or removed portions of existing pavement, landscape (including top soil replacement and grass seeding) and fencing upon completion. The Subcontractor shall legally dispose of all demolished concrete, other pavement and spoils at an approved offsite location.
4. The Subcontractor shall complete trenching for installation of power and communication cables as specified on the design documents. Trenching includes: excavation, disposal of spoils, installation of bedding, placement of conduit, backfill, sealing of pavement joints, and replacement of pavement to match existing conditions.
5. The Subcontractor shall produce and furnish foundations for RPMs, utility panels, bollards, camera poles, light poles, and Jersey concrete barriers at its or subcontracted facilities in accordance with the design drawings.
6. The Subcontractor shall install precast foundations for RPMs, utility panels, bollards, camera poles, and light poles, and concrete Jersey barriers as shown in accordance with the design drawings and manufacturer's written instructions.
7. The compaction degree of all compacted layers shall be measured by a falling weight deflectometer in the presence of a Contractor's representative before proceeding further. Corresponding reports shall be issued and submitted to the Contractor.
8. The Subcontractor shall furnish and install all galvanized camera poles, light poles, and bollards.
9. The Subcontractor shall furnish and install traffic barriers, controls, drop bars, and speed bumps as specified.
10. The Subcontractor shall install painted traffic markings as specified. Paint shall be a reflective, thermoplastic material or Contractor-approved equal.
11. The Subcontractor shall prepare, prime and finish paint all metallic surfaces in accordance with the paint specifications.
12. The Subcontractor shall furnish and install all nuts, bolts, and washers for anchoring equipment, bollards, and camera poles to the foundations.
13. The Subcontractor shall furnish and install signage including galvanized posts and foundations as specified.

**5.0 EQUIPMENT INSTALLATION REQUIREMENTS**

1. The Subcontractor shall remove from storage, assemble, and set into place the following equipment at each lane in accordance with the design drawings:
  - A. Master and Slave RPMs
  - B. Utility Panels and Network Panels
  - C. Video camera mounting poles, camera housings, cameras, and mounting brackets.
  - D. Central Alarm Station (CAS) equipment including computers, cabling, and printers.
2. The Subcontractor shall install equipment listed in Attachment B and shown on the design documents. The Subcontractor's responsibility includes receiving, offloading, and transporting equipment from the Subcontractor's storage site to the work site; provide required rigging and handling equipment; install equipment on foundations; level and align equipment in accordance with specifications; perform grouting; seal and make water tight all penetrations and openings; and apply finish paint and/or coating.
3. The Subcontractor shall procure, install, and test drop arms, drop arm controllers, and associated loop controllers.

**6.0 ELECTRICAL REQUIREMENTS**

1. The Subcontractor shall furnish and install all electrical raceways and conduit for power and communication cables. This includes raceways for all Cat 5e, fiber optic and power cables. Work includes all labor and materials, installation, inspection and testing, marking and labeling, and documentation as specified on the cable and conduit schedules.
2. Subcontractor shall ensure that raceways are properly sized.
3. The Subcontractor shall furnish and install 230 VAC, 50 Amp circuit from new power distribution panel to new Utility Panel or Network Panel. Cables shall be continuous without splices. Work includes installing power cables in accordance with design drawings and all materials, terminations, inspection, testing, marking and labels, and support for documentation on cable schedule.
4. The Subcontractor shall install a voltage stabilizer for all installed equipment. This unit shall be installed between existing power source and the new power distribution panel (PDP). Note that Criva and Chisinau AP have existing voltage stabilizing equipment.
5. The Subcontractor shall install multi-conductor power and control cables between the Master RPM and Slave RPM. This includes all labor, installation, inspection and testing, marking and labeling, and support for documentation on the cable schedule. Control crossover cable will be supplied by the Contractor.
6. The Subcontractor shall install all power, control, and communications cables from Utility Panel or Network Panel to the following equipment:
  - A. Master RPM - This includes 230 VAC power and communications cables.
  - B. Video Cameras and Illuminators - This includes 12 VDC power and additional 12VDC power for the camera housing heating element and communications cables.
  - C. Traffic drop arms where required.
7. The Subcontractor shall furnish, install, and test the electrical grounding system per design drawings and construction specifications. Work includes all labor, material, wire/cables, rods, electrodes, coating/painting, coordination, connections, installation, splicing, bonding, inspection and testing, and removal of abandoned grounding components. The Subcontractor shall tie the new grounding system into existing grounding system where feasible.
8. The Subcontractor shall supply, install, and connect 12Vdc power supply to new LED flood light fixtures located atop cameras poles and the pedestrian monitor mounting structure at the Palanca site.

**7.0 COMMUNICATIONS SYSTEM REQUIREMENTS**

1. The Subcontractor shall install the specified Central Alarm Station (CAS) at the location identified on the design documents. The CAS workstation will be configured by others for operation.

2. Subcontractor shall extend communication cabling from exterior of CAS location to the workstation location and provide penetrations through walls and floors as required for access to the final connection point. All penetrations will be sealed in accordance with the approved design.
3. The Subcontractor shall furnish and install all cabling including terminations needed for connectivity between the field located utility panels and the CAS as per design drawings. This includes all labor and materials for installation
4. The Subcontractor shall furnish and install cabling to connect cameras in accordance with the design drawings. Continuous communication cabling is required between connection points for CAT 5e and low voltage cables. If fiber optic cables need to be spliced, splicing shall be performed in accordance with the cable manufacturer recommendations and the cable quality of service shall be measured and reported to Contractor for approval. This includes all labor and materials for installation.
5. The Subcontractor shall test all circuits end-to-end, including all patch cords and cross-connects in accordance with appropriate commercial standards. This includes all labor and materials for installation. All test reports shall be submitted to the Contractor. Each FO cable test report shall identify:
  - A. Number of splices
  - B. Length of each run
  - C. Splice location
  - D. Allowable test result of each segment
  - E. OTDR test result of the completed run
6. Cable Termination
  - A. All cables shall be terminated in accordance with the design specification and manufacturer's specifications.
  - B. All tests shall be performed on a terminated end of a cable.
  - C. All cable termination exposed to the environment shall be installed with weatherproof and Ultra Violet (UV) rated material. Shielding of wires and cables in a flexible or hard conduit is an acceptable alternative. If flexible conduit is used, then it shall be weatherproof and UV rated.
7. Conduit
  - A. All conduits that originate below grade (underground) shall be sealed on the inside of the conduit after testing to minimize water vapor entering the electrical panel. The type of sealant shall be approved by the Contractor prior to installation.
  - B. All conduits connected to a field terminal box, utility panel, room or similar application exposed to the environment shall use rubber, neoprene, or silicon-type gaskets. These gaskets shall minimize water migration into the electrical conduit systems.
8. Labeling
  - A. All new cable shall be labeled in accordance with approved drawings.
  - B. Labels shall be the heat shrink type that securely affixes itself to the cable.
  - C. All spare cables shall be labeled as "Spare".
  - D. All cables that have a poor quality of service shall be labeled as "Damaged and do not use".
9. The Subcontractor shall seal all penetrations in the electrical panels and RPMs with silicon or foam sealant.

## **8.0 STARTUP AND TESTING SUPPORT**

The Subcontractor shall provide support during startup, integration, and testing of the systems at each site. The Subcontractor's support shall include all necessary equipment required to support the work including operators. Scope for this assistance shall include one electrical technician and one general laborer; and lifts and ladders as required. The support period should be as shown on the provided draft schedule.

## **9.0 SCHEDULE**

The period of performance for this Scope of Work will run from award through 31 August 2020.





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A summary project milestone schedule is provided in Appendix D. The Subcontractor may recommend and/or propose changes to the schedule including sequencing of sites. However, all site construction shall be completed by 31 July 2020 to permit the Contractor to complete testing and obtain acceptance of the system by the U.S. Government. The schedule must be provided in format of MS Project or MS Excel.

If the Subcontractor falls behind the Contractor approved schedule, the Contractor shall request the Subcontractor to submit a recovery plan and schedule for approval within five (5) calendar days of the request. If the Subcontractor fails to meet the terms and conditions of the recovery schedule and return the project to its original completion date commitments, the Contractor reserves the right to utilize any means available to obtain materials, equipment, and/or labor force to recover the schedule at the Subcontractor's expense.

### 10.0 FRAUD, WASTE, ABUSE, CORRUPTION, OR MISMANAGEMENT

The Subcontractor shall notify their employees of their duty to report allegations of fraud, waste, abuse, misuse, corruption, criminal acts, or mismanagement relating to NNSA programs, operations, facilities, contracts or information technology systems to appropriate authorities. The notification shall include the provision that employees should, when appropriate, report any information concerning alleged wrongdoing by U.S. Government employees; its contractors, subcontractors, or other recipients of Government financial assistance; or their employees.

The right of the Subcontractor to proceed may be terminated by written notice if, after notice and hearing, the Contractor determines that the Subcontractor, its agent, or another representative—

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

The facts supporting this determination may be reviewed by any court having lawful jurisdiction. If this contract is terminated under this clause, the Contractor is entitled—

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Subcontractor in giving gratuities to the person concerned, as determined by the agency head or a designee.

The rights and remedies of the Contractor provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

The Contractor may reduce the price of a fixed-price type contract by the amount of profit or fee determined if the Contractor determines that there was a violation of the clauses stated herein. The price or fee reduction shall be 10 percent of the initial contract price or a profit amount determined by the Contractor from records or documents in existence prior to the date of the contract award. The Contractor may, at its election, reduce the Subcontractor's price or fee for violations of the clauses stated herein by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced. In addition to the remedies herein, the Contractor may terminate this contract for default. The rights and remedies of the Contractor specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

### 11.0 DELIVERABLE DOCUMENTS AND REPORTS

The Subcontractor will provide the following deliverable documents and reports:

- A. Listing of key project personnel including as a minimum the project manager, safety manager, quality manager, site supervisor, chief electrician, and chief communications technician for each location. The list shall include name, title and contact information.
- B. Quality Assurance Plan for approval by the Contractor prior to performing any pre-fabrication or site work. No work will commence until the Quality Assurance Plan is approved by the Contractor.
- C. Site Health and Safety Plan (H&S) for approval by the Contractor prior to any pre-fabrication or site work. No work will commence until the H&S Plan is approved by the Contractor. The H&S Plan shall include provisions for protection of personnel and

safety around excavations and work sites. All personnel present or working at the site shall receive indoctrination training and adhere to the plan while working on site. The Subcontractor shall also comply with the health and safety rules and regulations of local authorities and owners.

- D. Detailed construction schedule identifying all activities to perform the work for approval by the Contractor prior to mobilization at any site. This detailed construction schedule shall comply with the key event dates in Appendix D.
- E. Traffic Control Plan for each site including a key plan drawing of traffic flow for approval by the Contractor prior to mobilization at any site. The plan shall describe how the partial closure of lanes will be performed to allow continuous operations. No work shall commence until the plan is approved by the Contractor and local authorities.
- F. Horizontal drilling procedure for approval by the Contractor prior to mobilization at sites where horizontal drilling is planned.
- G. Concrete mix designs for approval by the Contractor prior to performing any pre-fabrication or site work involving concrete.
- H. Machinery, equipment, article, and material specifications for Subcontractor Furnished Equipment for approval by the Contractor prior to mobilization. These reports shall include model numbers, catalog data, manufacturer's instructions, specifications, and certificates of compliance with design specifications. Contractor will approve these submittals prior to procurement and installation of the material.
- I. Proposed Product Substitution Reports when Subcontractor proposes to substitute equipment or components or processes from those specified in the design documents. The submittal shall describe the proposed product substitution including manufacturer, model number, and catalog data as applicable. Contractor shall approve these submittals prior to purchase and installation of the substitute product.
- J. Daily work reports shall be submitted no later than 4:00 pm. local time to the Contractor's on site representative on each day that pre-fabrication or site work is performed. The report shall include the following information:
  - 1. Date of the report
  - 2. Weather conditions for the day
  - 3. List of employees who worked at the site identified by trade (carpenter, laborer, etc.) and hours worked
  - 4. List of subcontractors on site and hours worked
  - 5. List of major equipment used
  - 6. Description of major work accomplished
  - 7. Description of problems or delays encountered
  - 8. Results of safety inspections, field tests, and inspections performed during the day
  - 9. Equipment or material received on site
  - 10. List of documents or reports delivered to the Contractor
- K. Reports of field test and inspection results with measurements, deficiencies, and corrective actions. Subcontractor and Contractor shall agree on the format to document test and inspection results. In some instances, Contractor will elect to witness and document the field test results. Contractor shall approve test report submittals prior to energizing electrical equipment or final acceptance. These reports include the following:
  - 1. Concrete slump test results. These results shall be documented in Daily Reports.
  - 2. Seven (7) and twenty-eight (28) day concrete compression test results. These results shall be reported within three (3) days of test completion.
  - 3. Backfill compression test results. These results shall be documented in Daily Reports.
  - 4. Electrical cabling conductivity and resistance to ground test results. These results shall be documented in Daily Reports.
  - 5. Grounding system resistance to ground test results. These results shall be reported in Daily Reports and documented in a format agreed to by the Contractor.
  - 6. Communications cabling continuity test results. These results shall be reported in Daily Reports and documented in a format agreed to by the Contractor.
  - 7. Fiber optic cable test results. These results shall be reported in Daily Reports and documented in a format agreed to by the Contractor.

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- L. As-built Drawings that accurately document the final as-constructed conditions. As-built drawings shall be delivered to the Contractor for review less than three weeks before the end of the period of performance. Contractor shall review and comment on the As-built drawings within five working days. Subcontractor will incorporate Contractor comments and redeliver As-built drawings within five working days of receipt of Contractor review comments.

The following table summarizes the deliverable documents and reports.

	Deliverable Document or Report	Due	Contractor Review Period
10.A	List of Key Personnel	AA	1 week
10.B	Quality Assurance Plan	PTW	1 week
10.C	Health and Safety Plan	PTW	1 week
10.D	Detailed Construction Schedule	PTM	1 week
10.E	Traffic Control Plan	PTM	1 week
10.F	Horizontal Drilling Procedure	PTM	1 week
10.G	Concrete Mix Designs	BFR	2 days
10.H	Machinery, Equipment, Article, and Material Specifications for Subcontractor Furnished Equipment	PTP	2 weeks
10.I	Proposed Product Substitution Reports	PTP	2 weeks
10.J	Daily Reports During Pre-Fabrication and Site Work	Daily	1 day
10.K	Field Test and Inspection Results		
10.K.1	Concrete Slump Test Results	AT	1 day
10.K.2	Seven and Twenty-eight Day Concrete Compression Test Results	AT	2 days
10.K.3	Backfill Compression Test Results	AT	1 day
10.K.4	Electrical Cabling Conductivity and Resistance to Ground Test Results	AT	1 day
10.K.5	Grounding System Resistance to Ground Test Results	AT	1 day
10.K.6	Communications Cabling Continuity Test Results	AT	2 days
10.K.7	Fiber Optic Cable Test Results	AT	2 days
10.L	As-built Drawings	At end of site construction	1 week

The following abbreviations are used in the table:

AA – After Award

AT – After Test

BFR – Before Fabrication

PTM – Prior to Mobilization

PTP – Prior to Purchase

PTW – Prior to Work

All deliverables shall be provided in English and Romanian languages unless noted otherwise.

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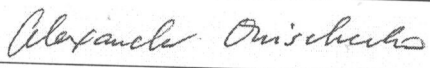
Subcontractor shall provide final Deliverables in electronic format with two (2) sets of hard copies. Electronic documents may be transmitted by e-mail and shall include both the native files as well as PDF versions.

**12.0 ACCEPTANCE OF SERVICES**

The Subcontractor shall report completion of all work and request final acceptance after all systems have been tested and accepted. The project will be considered complete upon Contractor acceptance of all deliverables for this SOW and satisfactory completion of all acceptance testing requirements.

**13.0 APPENDICES**

- A. Appendices A1 to A4 - Standard Detail Drawings and Site Specific Drawings:
  - A1. Appendix A1 – Standard Detail Drawings
  - A2. Appendix A2 – Palanca Site Specific Drawings
  - A3. Appendix A3 – Criva Site Specific Drawings
  - A4. Appendix A4 – Chisinau Intl Airport Site Specific Drawings
- B. Appendix B – Equipment List
- C. Appendix C – DICCE 2 Civil and Electrical Design Requirements
- D. Appendix D – Project Schedule

<b>CONTRACTOR</b>	
URS Federal Services International, Inc. (USA)	
Legal Address: 5005 Rockside Road, Suite 1225, Independence, Ohio 44131, USA	
Signature:	
Printed name:	Richard Jambor
Title:	Project Manager
Date:	May 19, 2020
Signature:	
Printed name:	Alexander Onischenko
Title:	Procurement Manager
Date:	May 19, 2020



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**SUBCONTRACTOR**

**Eurostil Construct S.R.L.**

**Legal Address:** MD-2021, Republic of Moldova, Chisinau, str. Mitropolitul Gurie Grosu, 17

Signature:

Printed name:

Title:

Date:



May 19, 2020