

**STATEMENT OF OBJECTIVES (SOO)
NATURAL RESOURCES SUPPORT ACTIVITIES
EDWARDS AFB (EAFB), CALIFORNIA**

Article III, (D) of the Applicable Cooperative Ecosystems Studies Unit (CESU)

1. PURPOSE

- 1.1.** The Edwards AFB (EAFB) environmental program ensures military mission activities are conducted in compliance with all applicable environmental laws, regulations and policies with cooperation and assistance from the Air Force Civil Engineer Center's (AFCEC) Installation Support Section (ISS). Article I B of the master agreement states the objectives of the CESU are to: provide research, technical assistance and education to federal land management, environmental and research agencies and their potential partners; develop a program of research, technical assistance and education that involves the biological, physical, social sciences needed to address resource issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional, and national level; and place special emphasis on the working collaboration among federal agencies and universities and their related partner institutions.
- 1.2.** The objectives of the work to be performed under this task order are to conduct natural resource tasks on the federal lands belonging to Edwards Air Force Base (AFB), and to prepare reports detailing the results of this work for submission to the USACE Omaha Project Manager (PM), AFCEC Edwards Installation Support Section (ISS) POC, and Edwards Natural Resource POC.

2. AUTHORITY

Authority to enter into a Cooperative Agreements (CA) for the work: Section 670c-1, Title 16 United States Code, Sikes Act.

- 2.1.** In agreement with the above stated goals, the NFE agrees to provide the necessary personnel, equipment, and materials required to implement, in part, the EAFB responsibilities pursuant to the Endangered Species Act (16 USC 1531 et seq.), the Sikes Act Improvement Act, the Migratory Bird Treaty Act (16 USC 1361 et seq.), the National Environmental Policy Act (42 U.S.C. 4321 et seq.), and applicable implementing regulations, such as Air Force Instruction 32-7064, *Integrated Natural Resources Management*.¹¹ *Grant and Cooperative Agreements Act of 1977* (31 U.S.C. § 6301 et seq.), all CESU projects must carry out a public purpose of support or stimulation, instead of acquiring goods or services for the exclusive direct benefit of the United States Government. Examples of carrying out a public purpose may include, but are not limited to, the following:
- Project results are made available to a wide audience (including nonfederal entities)

- Project results/outputs add to the scientific literature/knowledge base, with applicability and utility beyond the scope of the project footprint/study area
- Academic and other nonfederal partner institutions (and their personnel) gain professional experience, increase knowledge, and develop skills and abilities
- Students benefit from direct interaction with federal scientists, program and technical staff, and field unit managers

2.2. In accordance with section 6305 – *Using cooperative agreements of the Federal Grant and Cooperative Agreements Act of 1977* (31 U.S.C. § 6301 et seq.), substantial involvement is expected between the Department of Defense and the recipient when carrying out the activity contemplated by the cooperative agreement. The DoD agrees to participate at a national level in support of the CESU program as accepted in the Master MOU for the establishment and continuation of the CESU program Article II 1-4 and Article VI 1-7.

The installation further (hence DoD) agrees to provide substantial involvement as directed under the appropriate master agreement to include, but not limited to, the following:

- EAFB and AFCEC Edwards ISS are involved in development of study methodology, data gathering, analysis, and/or report writing
- EAFB and AFCEC Edwards ISS are active participants and collaborates in carrying out the project plan of work, reviews and approves activities, helps train or select project staff or trainees
- EAFB and AFCEC Edwards ISS incurs in-kind or direct expenditures in carrying out the activities specified in the project agreement.
Examples include, but are not limited to, the following:
 - Providing staff time to work on the project

3. DESCRIPTION OF OBJECTIVES

Conduct tasks in accordance with this Description of Objectives, as prioritized by AFCEC Edwards ISS and the respective base Natural Resources Manager (NRM). Only work aligned with the original AF ACES programming and approved by the USACE Grants Officer Technical Representative (GOTR) should be completed as part of this task order (TO).

Task provisions and coordination is as follows:

Travel: Provide transportation and fuel for all NFE staff to get to and from all field sites. Retain current proof of insurance and current registration for all modes of transportation.

Coordination: Coordinate concurrently with the Base NRM, AFCEC Edwards ISS and USACE PM. All work schedules shall be approved by the AFCEC and be consistent with the Project Schedule & Work Plan approved by the Base NRM. Schedule changes can be made; trade-off decisions will be jointly made by the USACE PM, Base NRM and AFCEC

Edwards ISS and align with the Sikes Act compliant INRMP and original ACES programming. Any changes in scope or cost must be approved by the USACE Grants Officer. All coordination with state and federal regulators will be by the Base NRM or AFCEC Edwards ISS only.

Project Management: Within 30 days of award of this task order, the NFE will schedule an initial project kick off meeting with all parties involved (Edwards AFB, AFCEC/Edwards ISS, USACE, etc) to develop a project work schedule to implement the SOO. All deliverables/tasks will be submitted within the required timeframes as identified.

Access: Access to Edwards AFB is restricted. General base access requires sponsorship by a Government civilian employee, and should be coordinated at least two weeks prior to the visit. Long-term base access will require additional security clearances and access processing. Access to the Air Force Research Laboratory (AFRL), the Precision Impact Range Area (PIRA), the airfield, and other restricted facilities on EAFB may require additional security clearances and training. Access to some areas may be limited by ongoing military activities such that personnel access is limited to weekends or brief periods of a few hours. Access procedures are described in further detail in the most recent version of the *Edwards AFB Contractor Access Request Procedures Template*.

Photography Use: Photography at Edwards AFB is restricted, requiring an authorization letter that must be in the photographer's possession at all times. Cell phone photos are not allowed. Any photos/reports released to the public must be reviewed and authorized by Public Affairs. A non-disclosure agreement (NDA) is required for use of photographs for data analysis and report preparation prior to authorization by public affairs for release of photos/reports to the public.

Biological Security Measure: The NFE shall follow applicable Biological Security Best Management Practices identified in the most recent version of the *Edwards Air Force Base Invasive Species Management Plan*.

Environmental Awareness Training: All NFE project personnel working on Edwards AFB shall attend desert tortoise awareness training prior to commencing work or visiting the work site.

Table 1.

	Section	Task	Title	Location
AFCEC Project No.	FSPMA53206120 MGT, SPECIES			
	3.1	Task 1	LARGE MAMMAL SURVEY	EAFB
	3.2	Task 2	WILDLAND URBAN INTERFACE	EAFB
	3.3	Task 3	SUSTAINMENT	EAFB

3.1. Task 1: Large Mammal Survey

The primary objective of this project is to develop, implement, and document a large mammal inventory survey for Edwards AFB. This project builds on previous research at Edwards AFB, and helps to fulfill a known data gap in the Edwards AFB INRMP. This project is identified in the Edwards AFB Integrated Natural Resources Management Plan (INRMP). It helps accomplish Goal 6: Protect a sustainable ecosystem through maintenance of biodiversity, and Goal 11: Sustain and/or protect populations of at-risk species.

Background: Fish and wildlife program management focuses on conserving desert habitat on Edwards AFB. Native wildlife includes a wide variety of invertebrates, reptiles, birds, and mammals adapted to various desert habitats on base. Natural resource management is critical to the maintenance of biodiversity which provides critical support to the military mission. Periodic fauna surveys are conducted to determine fauna presence, trends, and viability of various animal species. Long-term monitoring is a fundamental aspect of adaptive management to determine the overall health of the ecosystem and allow a focused and cost-effective monitoring program. A total of 30 mammal species have been documented on base of which 10 are considered large mammals. A few other large mammals may not have been documented to date on Edwards AFB. Documented large mammals on base include American badger (*Taxidea taxus*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), desert kit fox (*Vulpes macrotis arsipis*), grey fox (*Urocyon cinereoargenteus*), mountain lion (*Felis concolor*), ring-tailed cat (*Bassariscus astutus*), racoon (*Procyon lotor*), spotted skunk (*Spilogale putorius*), muskrat (*Ondatra zibethica*), and American black bear (*Ursus americanus*). This project will commence with a literature search and development of a research design, followed by field work, analysis, and reporting.

Objectives: The Non-Federal Entity (NFE) shall establish procedures, and provide services and equipment to implement the following: 1) Determine existing large mammals found or likely to be found on Edwards AFB. 2) Develop effective large mammal survey protocols to determine distribution of each species on base and their relative abundance. Survey protocols shall be scientifically agreed upon as accurate and also cost-effective. Survey protocols will be designed to: include habitat subsets as identified in Edwards AFB Habitat Quality Assessments (HQA) current design, not include or overlap current HQA plot locations, and be able to be replicated in future surveys to allow for trend analysis. 3) Implement approved survey protocols and complete surveys within period of performance. The NFE shall obtain all necessary state and federal permits required for trapping and tracking any surveyed animals.

Report Deliverables include: Work Plan to include survey protocols, Technical Report, GIS Data, Weekly Status Report, Monthly Status Report, Brochure, Poster, Video Script, and Press Releases.

Reports

Edwards AFB requires use of the approved work plan template, standard report covers, and Standard Form 298 - Report Documentation Page. Reports shall generally be free of typos, grammatical errors, formatting inconsistencies and incorrectly labeled tables and figures. The reports shall provide proper citations for all documents referenced. It is requested that draft reports contain line numbering for ease of Government comment. Government and NFE comments shall be provided in a comment matrix provided by the

Government. Project GIS Data shall be submitted along with draft and final reports. Final work plans, final technical reports, and final GIS data deliverables shall be submitted only after the NFE has addressed all Government comments satisfactorily.

Brochures, posters and video scripts shall be presented in draft versions to Natural Resource Manager for review prior to submission as final deliverable. Review is for agreement of general concept only.

Work Plan: The NFE shall submit a separate draft and final work plan describing in narrative format the plan of action for the accomplishment of the project tasks. The plan shall follow the Edwards AFB Work Plan Template. The NFE shall provide a proposed comprehensive timeline for completion of the required work element activities and submittals. Updated project schedules will be provided by the NFE when the schedule changes, regardless of whom is responsible for causing the change in schedule. Updated schedules shall be submitted within seven (7) calendar days of any documented change in project schedule.

Technical Report: The NFE shall submit a separate draft and final technical report describing in narrative format the accomplishments of the project tasks including pertinent maps, figures, tables, photographs. The report format shall follow that of a scientific publication and include the following section heading: Introduction, Methods, Results, Discussion and Literature Cited, as well as original data sheets and/or copies thereof, laboratory reports, and other appendices as appropriate.

GIS Data: The NFE shall comply with all requirements in the most recent version of the *Edwards Air Force Base Standards for Geographic Environmental Support Section 412 CEG/CEVA*. This document provides all details required for a successful GIS delivery. A preliminary technical consultation with 412 CEG/CEVA GIS staff shall be accomplished after the Post Award Kick-Off Meeting and prior to the start of all data collection for this project.

Weekly Status Report: The NFE shall provide to the Edwards AFB NRM weekly status report via email when performing on-base project activities. Report shall include activities accomplished, activity planned for the upcoming week, issues, and updated timelines for completion of work.

Monthly Status Report: The NFE shall provide a brief monthly project status report to the Edwards AFB NRM that describes amount of work completed to date, work completed in the past month, upcoming work schedules, potential problems, and unresolved issues.

Brochure: The NFE shall prepare an interpretive tri-fold brochure (8.5" x 11") that can be used to inform the general public about the findings of this project and the importance of a Large Mammal Survey. Write narrative to the 9th grade level, using captioned photographs, maps, and some text boxes to convey the key messages. Provide an editable electronic copy. Brochure shall be formatted for reproduction by the 412 TW/PA.

Poster: The NFE shall prepare an interpretive poster that can be used to inform the general public about the findings of this project and the importance of Large Mammal Survey. Write narrative to the 9th grade level, using captioned photographs, maps, and some text boxes to convey the key messages. Provide an editable electronic copy, formatted for reproduction by the 412 TW/PA, and two flexible matte laminated posters (Large Poster 24”h x 36”w).

Video Script: The NFE shall prepare an editable video script 5 to 10 minutes in length that can be used to inform the general public about the findings of this project and the importance of Large Mammal Survey. Write narrative to the 9th grade level and provide photo suggestions for script narrative. Provide an editable electronic copy.

Press Release: The NFE shall prepare an editable press release for the general public. The press release shall identify the project as a 412 CEG/CEVA Natural Resource project, what the project’s objective is, where the project is located on base, when the project will be implemented, how it will be implemented. The press release shall be no longer than approximately 200 words. Write the narrative to the 9th grade level. Provide an editable electronic copy of: 1) Beginning of project press release. 2) End of project results press release.

Deliverables:

Work Plan to include survey protocols: Draft and Final

Technical Report: Draft and Final

GIS Data: Draft and Final

Weekly Status Report

Monthly Status Report

Brochure: Draft and Final

Poster: Draft and Final

Video Script: Draft and Final

Press Release: Initial and Results

Deliverables Schedule: Submit deliverables as listed below, or as otherwise specified in the NFE’s proposal. Deliverable schedule must be within the period of performance of the contract. The NFE may propose an alternate schedule, but should not reduce the opportunities for and duration of Government review periods.

Description	When Due	Format
Work Plan Draft to include survey protocols	Notice to Proceed (NTP)+ 60 days	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Work Plan Comment Response	30 days after receipt of Government comments	Microsoft Word editable: Electronic only - comment matrix and work plan revision with track changes (e-mail attachment, or file transfer)
Work Plan Final	21 days after	PDF: Electronic only (e-mail attachment

Description	When Due	Format
to include survey protocols	Government approval of NFE's response to all Government comments	or file transfer)
Weekly Status Report	Friday prior to upcoming field work week	Email
Monthly Status Reports	Within 14 days after end of each month	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Draft Technical Report	To be determined by NFE	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
GIS Draft Technical Report Deliverables	Submit with Draft Technical Report	Per EAFB GIS Standards: Electronic (e-mail attachment, or file transfer)
Technical Report Comment Response	30 days after receipt of Government comments	Microsoft Word editable: Electronic only - comment matrix and technical report revision with track changes (e-mail attachment, or file transfer)
Final Technical Report	21 days after Government approval of NFE's response to all Government comments	PDF: Electronic (e-mail attachment or file transfer); 2 hard copies spiral or comb-bound, each with a CD containing the full document and all references.
GIS Final Technical Report Deliverables	Submit with Final Technical Report	Per EAFB GIS Standards Electronic (e-mail attachment, or file transfer) and CD
Brochure Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Brochure Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer)
Poster Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Poster Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer) and two flexible printed posters
Video Script Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Video Script Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer)
Press Release Initial	Submit with Work Plan Draft	Microsoft Word editable: Electronic only (e-mail attachment)

Description	When Due	Format
Press Release Results	Submit with Final Technical Report	Microsoft Word editable: Electronic only (e-mail attachment)

3.2. Task 2: Wildland Urban Interface

The primary objective of this wildland urban interface project is to develop a management plan for predatory animals, specifically bobcats and coyotes, located in or influenced by the housing areas, commercial areas, school areas and play areas within a portion of the cantonment area on Edwards AFB. This project is identified in the Edwards AFB Integrated Natural Resources Management Plan (INRMP). It helps accomplish Goal 23: Ensure public safety from predators, and Goal 26: Foster natural resource awareness and education.

Background: Living with wildlife and ensuring public safety from wildlife predators in the wildland urban interface is a requirement on Edwards AFB. The urban areas where personnel live and work is a small portion of the wildland making up most of Edwards AFB. The urban area provides attractive food, water, and cover subsidies for a variety of native wildlife. As wildlife becomes more accustomed to human presence, they can insert their presence assertively when seeking food, water, and cover. This interaction could result in public harm if both wildlife and human activities are not managed appropriately. A pro-active management approach including education, wildlife and human behavior modification, habitat modification, food and water subsidy management, and monitoring of predatory wildlife activities is necessary. Data on predatory wildlife movements in the project area are not well known. Surveys of wildlife presence, movements within, and into and out of the project area are required to determine wildlife habits and sources of food, water, and cover. Effective wildlife deterrence methods must be developed for long range management and in-the-moment actions. Effective public natural resource management education actions are also required. This project will commence with a literature search and development of a research design, followed by field work, analysis, and reporting.

Objectives: The Non-Federal Entity (NFE) shall establish procedures, and provide services and equipment to implement the following: 1) Identify predatory animals frequenting the project area and locate existing populations of bobcats and coyotes living within or influenced by the housing areas, commercial areas, school areas and play areas within that portion of the cantonment area on Edwards AFB shown on attached Attachment 1: *Wildland Urban Interface Project Area*. 2) Develop bobcat and coyote survey protocols to: map denning/cover habitat, food and water subsidy attractants, and travel pathways; track movements within the project area; track movements adjacent to the project area in conjunction with ingress and egress to the project area. NFE shall trap, transmitter and perform health assessment of trapped coyotes and bobcats to determine communicable human or pet diseases including but not limited to rabies, mange, parvovirus and such. NFE shall obtain all necessary state and federal permits required for trapping and tracking any surveyed animals. 3) Implement approved survey protocol within period of performance. 4) The NFE shall provide recommendations to ameliorate wildland urban interface human/predatory animal negative interactions. Recommendations shall include but are not limited to habitat modification, food subsidy modification, or educational outreach.

Outreach recommendations will identify what type of public education is most effective.

Report Deliverables include: Work Plan to include survey protocols, Technical Report, GIS Data, Weekly Status Report, Monthly Status Report, Brochure, Poster, Video Script, and Press Releases.

Qualifications: The NFE should meet the minimum qualifications necessary to perform tasks described in the project work statement. The principal investigator should have experience directing the efforts of the project team. NFE personnel shall have the technical experience, the field implementation experience, any required state and federal certifications, and any required state or federal handling or application permits likely to be used in this project. The NFE shall furnish all labor, materials, equipment, supplies, technical expertise, and supervision needed to perform all field efforts.

Quality Assurance: The NFE shall ensure that project activities, project reports, and project data are professionally executed with minimal errors.

Reports

Edwards AFB requires use of the approved work plan template, standard report covers, and Standard Form 298 - Report Documentation Page. Reports shall generally be free of typos, grammatical errors, formatting inconsistencies and incorrectly labeled tables and figures. The reports shall provide proper citations for all documents referenced. It is requested that draft reports contain line numbering for ease of Government comment. Government and NFE comments shall be provided in a comment matrix provided by the Government. Project GIS Data shall be submitted along with draft and final reports. Final work plans, final technical reports, and final GIS data deliverables shall be submitted only after the NFE has addressed all Government comments satisfactorily.

Brochures, posters and video scripts shall be presented in draft versions to Natural Resource Manager for review prior to submission as final deliverable. Review is for agreement of general concept only.

Work Plan: The NFE shall submit a separate draft and final work plan describing in narrative format the plan of action for the accomplishment of the project tasks. The plan shall follow the Edwards AFB Work Plan Template. The NFE shall provide a proposed comprehensive timeline for completion of the required work element activities and submittals. Updated project schedules will be provided by the NFE when the schedule changes, regardless of whom is responsible for causing the change in schedule. Updated schedules shall be submitted within seven (7) calendar days of any documented change in project schedule.

Technical Report: The NFE shall submit a separate draft and final technical report describing in narrative format the accomplishments of the project tasks including pertinent maps, figures, tables, photographs. The report format shall follow that of a scientific publication and include the following section heading: Introduction, Methods, Results, Discussion and Literature Cited, as well as original data sheets and/or copies thereof,

laboratory reports, and other appendices as appropriate.

GIS Data: The NFE shall comply with all requirements in the most recent version of the *Edwards Air Force Base Standards for Geographic Environmental Support Section 412 CEG/CEVA*. This document provides all details required for a successful GIS delivery. A preliminary technical consultation with 412 CEG/CEVA GIS staff shall be accomplished after the Post Award Kick-Off Meeting and prior to the start of all data collection for this project.

Weekly Status Report: The NFE shall provide to the Edwards AFB NRM weekly status report via email when performing on-base project activities. Report shall include activities accomplished, activity planned for the upcoming week, issues, and updated timelines for completion of work.

Monthly Status Report: The NFE shall provide a brief monthly project status report to the Edwards AFB NRM that describes amount of work completed to date, work completed in the past month, upcoming work schedules, potential problems, and unresolved issues.

Brochure: The NFE shall prepare an interpretive tri-fold brochure (8.5" x 11") that can be used to inform the general public about the findings of this project and the importance of understanding wildlife/human interactions in the Wildland Urban Interface. Write narrative to the 9th grade level, using captioned photographs, maps, and some text boxes to convey the key messages. Provide an editable electronic copy. Brochure shall be formatted for reproduction by the 412 TW/PA.

Poster: The NFE shall prepare an interpretive poster that can be used to inform the general public about the findings of this project and the importance of understanding wildlife/human interactions in the Wildland Urban Interface. Write narrative to the 9th grade level, using captioned photographs, maps, and some text boxes to convey the key messages. Provide an editable electronic copy, formatted for reproduction by the 412 TW/PA, and two flexible matte laminated posters (Large Poster 24"h x 36"w).

Video Script: The NFE shall prepare an editable video script 5 to 10 minutes in length that can be used to inform the general public about the findings of this project and the importance of understanding wildlife/human interactions in the Wildland Urban Interface. Write narrative to the 9th grade level and provide photo suggestions for script narrative. Provide an editable electronic copy.

Press Release: The NFE shall prepare an editable press release for the general public. The press release shall identify the project as a 412 CEG/CEVA Natural Resource project, what the project's objective is, where the project is located on base, when the project will be implemented, how it will be implemented. The press release shall be no longer than approximately 200 words. Write the narrative to the 9th grade level. Provide an editable electronic copy of: 1) Beginning of project press release. 2) End of project results press release.

Deliverables:

Work Plan to include survey protocols: Draft and Final

Technical Report: Draft and Final

GIS Data: Draft and Final

Weekly Status Report

Monthly Status Report

Brochure: Draft and Final

Poster: Draft and Final

Video Script: Draft and Final

Press Release: Initial and Results

Deliverables Schedule: Submit deliverables as listed below, or as otherwise specified in the NFE's proposal. Deliverable schedule must be within the period of performance of the contract. The NFE may propose an alternate schedule, but should not reduce the opportunities for and duration of Government review periods.

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Work Plan Draft to include survey protocols	Notice to Proceed (NTP)+ 60 days	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Work Plan Comment Response	30 days after receipt of Government comments	Microsoft Word editable: Electronic only - comment matrix and work plan revision with track changes (e-mail attachment, or file transfer)
Work Plan Final to include survey protocols	21 days after Government approval of NFE's response to all Government comments	PDF: Electronic only (e-mail attachment or file transfer)
Weekly Status Report	Friday prior to upcoming field work week	Email
Monthly Status Reports	Within 14 days after end of each month	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Draft Technical Report	To be determined by NFE	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
GIS Draft Technical Report Deliverables	Submit with Draft Technical Report	Per EAFB GIS Standards: Electronic (e-mail attachment, or file transfer)
Technical Report Comment Response	30 days after receipt of Government comments	Microsoft Word editable: Electronic only - comment matrix and technical report revision with track changes (e-mail attachment, or file transfer)

Description	When Due	Format
Final Technical Report	21 days after Government approval of NFE's response to all Government comments	PDF: Electronic (e-mail attachment or file transfer); 2 hard copies spiral or comb-bound, each with a CD containing the full document and all references.
GIS Final Technical Report Deliverables	Submit with Final Technical Report	Per EAFB GIS Standards Electronic (e-mail attachment, or file transfer) and CD
Brochure Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Brochure Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer)
Poster Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Poster Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer) and two flexible printed posters
Video Script Draft	Submit with Draft Technical Report	Microsoft Word editable: (e-mail, compact disk, or file transfer)
Video Script Final	Submit with Final Technical Report	Microsoft Word editable and PDF file: (e-mail, compact disk, or file transfer)
Press Release Initial	Submit with Work Plan Draft	Microsoft Word editable: Electronic only (e-mail attachment)
Press Release Results	Submit with Final Technical Report	Microsoft Word editable: Electronic only (e-mail attachment)

3.3. Task 3: Sustainment

The primary objective of this project is to control nuisance animals on Edwards AFB by reducing food/cover subsidies, identifying and removing trash from illegal dump sites, and removing nuisance animals. This project is identified in the Edwards AFB Integrated Natural Resources Management Plan (INRMP). It helps accomplish Goal 4: Maintain and enhance quality and quantity of habitat. Goal 10: Sustain populations of federally listed species in support of ESA Recovery Programs. Goal 23: Ensure public safety from predators.

Background: The boundary of Edwards AFB is fenced with 3-strand barbed wire and posted with signage to preclude trespass and inform about the presence of desert tortoise, a federally listed threatened species. The remoteness of most of the boundary from the cantonment area provides opportunities for trespass, illegal trash dumping, and access by stray animals. The Animal Damage Control Act (7 U.S.C. § 426-426b, 47 Stat. 1468) provides authority to the Secretary of Agriculture for investigation and control of mammalian predators, rodents, and birds. DoD installations may enter into cooperative agreements to conduct animal control projects. A Memorandum of Agreement (MOA), dated 8 September 2017, exists between

Edwards AFB and California City, California for Feral and Stray Animal Control. This project may use this MOA to implement portions of these objectives.

Objectives: The NFE shall establish procedures, and solicit services and equipment to implement the following: 1) Identify illegal trash dumps on Edwards AFB and establish a protocol for documenting and initiating illegal trash dump clean-up and initiating a trash removal work order. 2) Clean-up and remove from Edwards AFB debris from illegal trash dumps on base that attract nuisance wildlife. 3) Remove from Edwards AFB existing and ongoing stray animals including but not limited to dogs, cats, goats, cattle, horses, and exotic birds. 4) Provide veterinary services to treat and/or euthanize injured nuisance animals and wildlife. 5) Control public access to the Piute Ponds Complex area by installing a vehicle gate at Avenue E, along with placement of earthen berms at select areas to discourage drive-arounds. See attached: Attachment 2: *Access Control Gate Photo*
Attachment 3: *Access Gate Location*
Attachment 4: *Gate System Overview*

Report Deliverables may include: Work Plan, Technical Report, GIS Data, Weekly Status Report, Monthly Status Report, Press Releases

Reports

Edwards AFB requires use of the approved work plan template, standard report covers, and Standard Form 298 - Report Documentation Page. Reports shall generally be free of typos, grammatical errors, formatting inconsistencies and incorrectly labeled tables and figures. The reports shall provide proper citations for all documents referenced. It is requested that draft reports contain line numbering for ease of Government comment. Government and NFE comments shall be provided in a comment matrix provided by the Government. Project GIS Data shall be submitted along with draft and final reports. Final work plans, final technical reports, and final GIS data deliverables shall be submitted only after the NFE has addressed all Government comments satisfactorily.

Work Plan: The NFE shall submit a separate draft and final work plan describing in narrative format the plan of action for the accomplishment of the project tasks. The plan shall follow the Edwards AFB Work Plan Template. The NFE shall provide a proposed comprehensive timeline for completion of the required work element activities and submittals. Updated project schedules will be provided by the NFE when the schedule changes, regardless of whom is responsible for causing the change in schedule. Updated schedules shall be submitted within seven (7) calendar days of any documented change in project schedule.

Technical Report: The NFE shall submit a separate draft and final technical report describing in narrative format the accomplishments of the project tasks including pertinent maps, figures, tables, photographs. The report format shall follow that of a scientific publication and include the following section heading: Introduction, Methods, Results, Discussion and Literature Cited, as well as original data sheets and/or copies thereof, laboratory reports, and other appendices as appropriate.

GIS Data: The NFE shall comply with all requirements in the most recent version of the

Edwards Air Force Base Standards for Geographic Environmental Support Section 412 CEG/CEVA. This document provides all details required for a successful GIS delivery. A preliminary technical consultation with 412 CEG/CEVA GIS staff shall be accomplished after the Post Award Kick-Off Meeting and prior to the start of all data collection for this project.

Weekly Email Updates: The NFE shall provide to the Edwards AFB NRM weekly email updates when performing on base project activities. Update shall include activities accomplished, activity planned for the upcoming week, issues, and updated timelines for completion of work.

Monthly Status Report: The NFE shall provide a brief monthly project status report to the Edwards AFB NRM that describes amount of work completed to date, work completed in the past month, upcoming work schedules, potential problems, and unresolved issues.

Press Release: The NFE shall prepare an editable press release for the general public. The press release shall identify the project as a 412 CEG/CEVA Natural Resource project, what the project's objective is, where the project is located on base, when the project will be implemented, how it will be implemented. The press release shall be no longer than approximately 200 words. Write the narrative to the 9th grade level. Provide an editable electronic copy of: 1) Beginning of project press release. 2) End of project results press release.

Deliverables:

Work Plan: Draft and Final
Technical Report: Draft and Final
GIS Data: Draft and Final
Weekly Status Report
Monthly Status Report
Press Release: Initial and Results

Deliverables Schedule: Submit deliverables as listed below, or as otherwise specified in the NFE's proposal. Deliverable schedule must be within the period of performance of the contract. The NFE may propose an alternate schedule, but should not reduce the opportunities for and duration of Government review periods.

Description	When Due	Format
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Work Plan Final	21 days after Government approval of NFE's response to all Government	PDF: Electronic only (e-mail attachment or file transfer)

Description	When Due	Format
	comments	
Weekly Status Report	Friday prior to upcoming field work week	Email
Monthly Status Reports	Within 14 days after end of each month	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
Draft Technical Report	To be determined by NFE	Microsoft Word editable: Electronic only (e-mail attachment, or file transfer)
GIS Draft Technical Report Deliverables	Submit with Draft Technical Report	Per EAFB GIS Standards: Electronic (e-mail attachment, or file transfer)
Technical Report Comment Response	30 days after receipt of Government comments	Microsoft Word editable: Electronic only - comment matrix and technical report revision with track changes (e-mail attachment, or file transfer)
Final Technical Report	21 days after Government approval of NFE's response to all Government comments	PDF: Electronic (e-mail attachment or file transfer); 2 hard copies spiral or comb-bound, each with a CD containing the full document and all references.
GIS Final Technical Report Deliverables	Submit with Final Technical Report	Per EAFB GIS Standards Electronic (e-mail attachment, or file transfer) and CD
Press Release Initial	Submit with Work Plan Draft	Microsoft Word editable: Electronic only (e-mail attachment)
Press Release Results	Submit with Final Technical Report	Microsoft Word editable: Electronic only (e-mail attachment)

4. DELIVERABLES

Refer to Task 1 – Task 3 for specific deliverables.

5. QUALIFICATIONS/PERMITS

The NFE should meet the minimum qualifications necessary to perform tasks described in the project work statement. The principal investigator should have experience directing the efforts of the project team. NFE personnel shall have the technical experience, the field implementation experience, any required state and federal certifications, and any required state or federal handling or application permits likely to be used in this project.

6. GOVERNMENT FURNISHED MATERIALS OR PROPERTY

The NFE shall furnish all labor, materials, equipment, supplies, technical expertise, and

supervision needed to perform all objectives.

7. OPTIONS:

None.

8. PERIOD OF PERFORMANCE

The period of performance will be 18-months from the date of award.

9. COORDINATION

USACE POC

David Leptien, PM

Office: 402-995-2742

david.b.leptien@usace.army.mil

AFCEC POC

Daniel F. Garcia

Edwards ISS at Vandenberg AFB

Office: 805-606-9834,

DSN: 276-9834

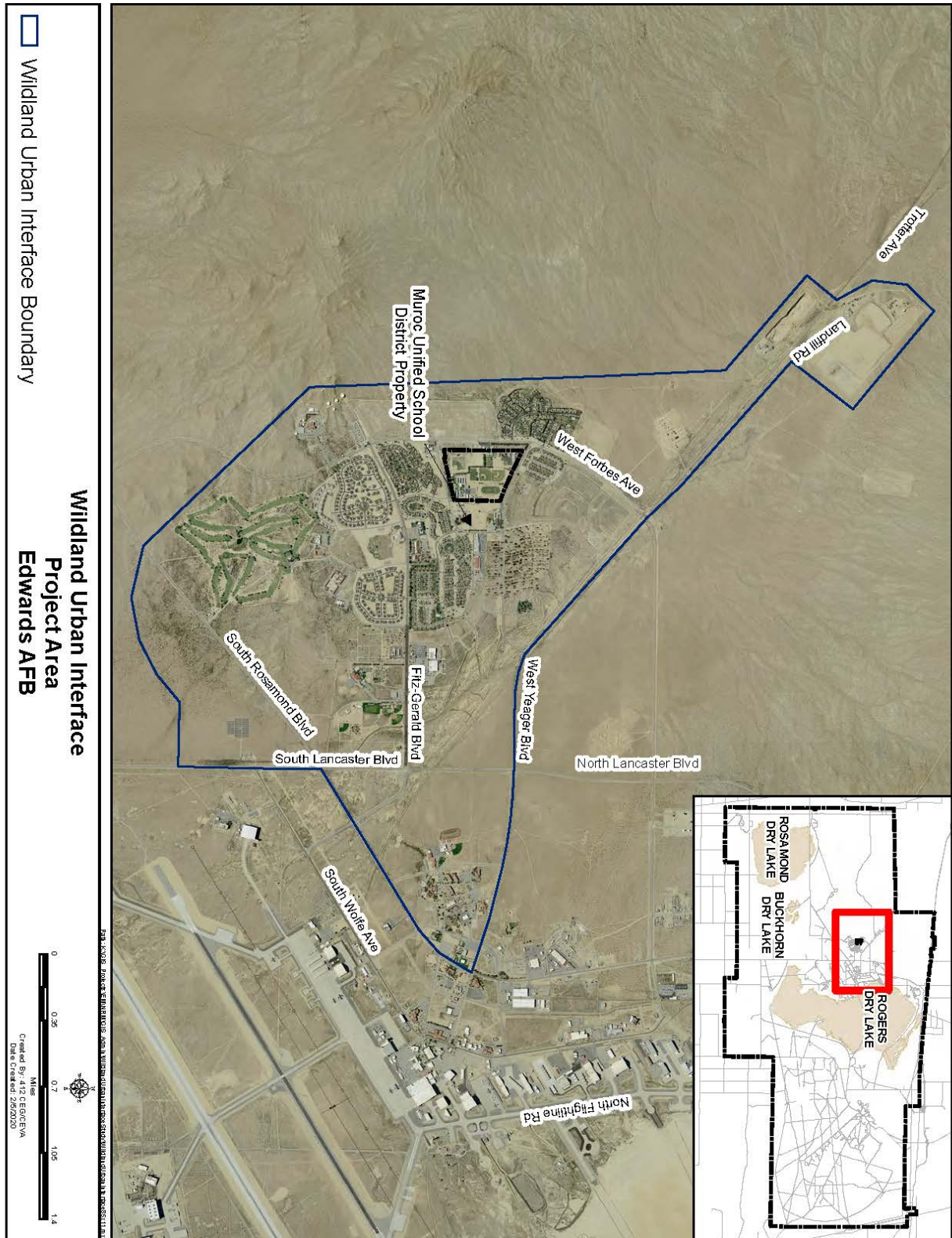
daniel.garcia.23@us.af.mil

- 10.** This cooperative agreement may be administered through a CESU only upon mutual agreement and official authorization by both parties of the acceptance of the application of the CESU Network IDC rate (17.5%).

Any resulting cooperative agreement will be subject to and recipient/cooperator shall comply with 2 CFR 200.313 "Equipment", 200.314 "Supplies", and 200.315 "Intangible Property" which includes use of research data.

[End of SOO]

Attachment 1: Wildland Urban Interface Project Area

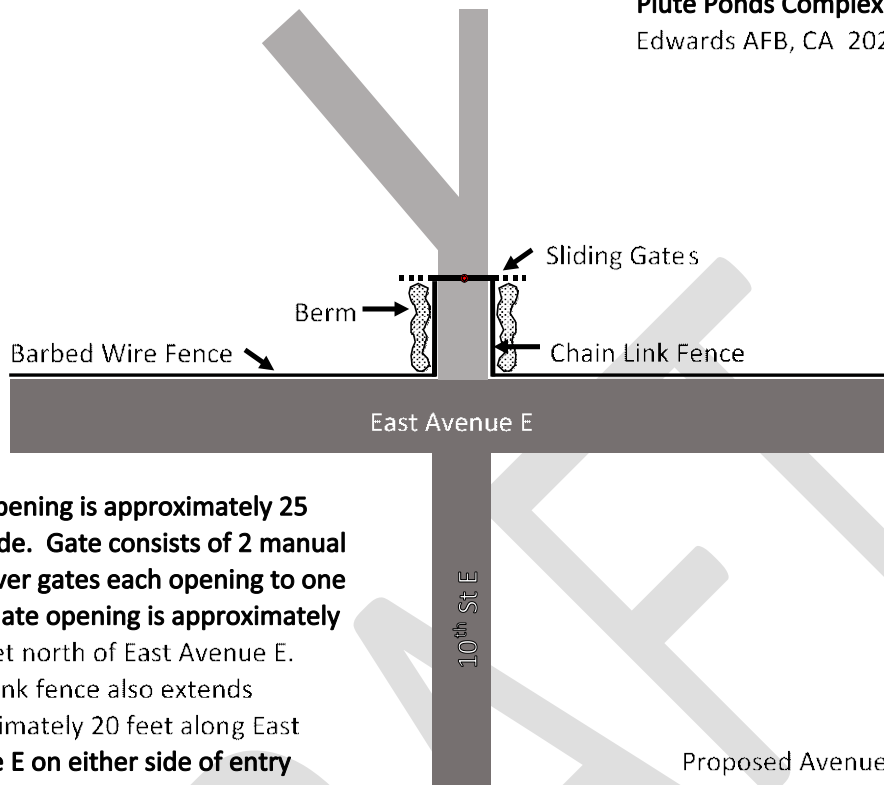


Attachment 2: Access Control Gate Photo



Attachment 3: Access Control Gate Location

Piute Ponds Complex access gate
Edwards AFB, CA 20200407



Gate opening is approximately 25 feet wide. Gate consists of 2 manual cantilever gates each opening to one side. Gate opening is approximately 100 feet north of East Avenue E. Chain link fence also extends approximately 20 feet along East Avenue E on either side of entry road.

Proposed Avenue E Gate
(Not to scale)

Shop: [Cantilever Slide Gates](#) | [Cantilever Slide Gate Hardware](#) | [Cantilever Slide Gate Kits](#)

Driveway can be equipped with vehicle detector loops inside and out	Rollers should	2 1/2" O.D.
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Cantilever slide gates are built larger than the gate opening they are designed to close, often as much as 50% larger than their respective openings. The idea here is to hang the gate on two or more mounting posts and have the gate suspend off these mounting posts into the gate opening to close. In general, no part of the gate comes in contact with the ground directly, or indirectly with any type of wheel. Instead, these slide gates 'cantilever' to close the opening. Cantilever construction allows for overhanging structures without external bracing. It is key that cantilever gate frame be constructed properly to help withstand the forces of gravity and wind. Intricate diagonal bracing and trusses are usually strategically welded in place to help prevent gate sag.

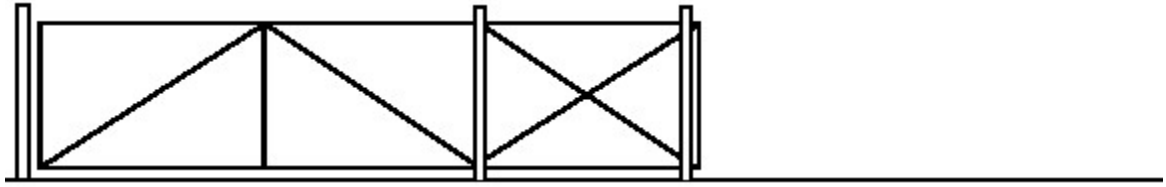
Other types of slide gate systems may have a leading edge wheel installed on the latch side of the gate. These leading edge type wheels either roll directly on the ground, or on a track installed across the driveway or gate opening. Care must be taken to assure the gate opening or driveway is kept perfectly clear of debris or wheels will meet obstructions. Gates which slide on a track imbedded on the ground are often referred to as V-Track gates. Essentially a piece of inverted angle iron is bolted down to concrete and a special v-groove wheel rides it. Gates which have a rubber or pneumatic wheel to roll over the ground are simply Rolling Gates. V-Track gates are popular in southern regions where snow and ice are rare. V-Track gates are often automated with gate operators. Rolling gates on the other hand are popular in northern and southern regions. Both these styles can be appealing as they often will not require a counterbalance which can be as large as 50% more than the gate opening. Automating a slide gate requires the gate slide perfectly in both directions and be installed level. Although this is often easiest to

accomplish by installing a cantilever gate, v-track gates and rolling gates can also carefully be automated. Again, automating a slide gate requires the gate slide perfectly in both directions! Possible obstructions to leading edge wheels such as snow, ice, and other debris will cause gate operator failure. Gates which do not stay on their tracks can be extremely dangerous when opened and closed manually, and especially with a gate opener.

ADVANTAGES OF CANTILEVER SLIDE GATES OVER OTHER STYLES ARE NUMEROUS:

1. Cantilever gates may use less space than a swing gate system. Single cantilever gates move in one direction, often directly parallel to an existing fence line. This efficient use of space makes a cantilever gate an ideal choice when designing a property's perimeter fence and security system.
2. Cantilever gates may be easier to safeguard than swing gates when automating. Safety devices are strongly recommended, if not required, when automating a gate. Such safety devices may include safety photo beams, safety edges, and loops and loop detectors. Safety devices are designed and installed to protect against the gate closing on a vehicle. Due to the linear movement of a sliding cantilever gate, the path of the gate is limited in comparison to a swing gate which swings in an arc approximately 90 degrees.
3. Cantilever gates may be less expensive to automate than swing gates. In some instances, when a double swing gate and a single cantilever gate is to be considered, a single cantilever gate will be less expensive to automate since it requires only one gate operator instead of two.
4. Cantilever gates may require less maintenance than swing gates. Cantilever gates may be installed with nylon cantilever rollers with sealed bearings and nylon roller covers. These rollers do not require greasing and the nylon roller itself and cover will not rust. Further, cantilever rollers will install to posts with bolts which are easy to adjust at a later date if necessary. The brackets which typically connect a gate operator to the gate also are usually installed with bolts that will be easy to adjust later. Conversely, swing gates often have hinges which require repeated greasing. These hinges will also often be welded to the gate post and gate making them difficult to adjust if necessary. Lastly, consider snow removal in northern locations. The single path a cantilever gate travels will often be easier to keep clean of obstructions compared with a swing gate and its wide swing.
5. Cantilever gates are aesthetically appealing. The smart appearance, efficient design, and craftsmanship in a cantilever gate is sure to impress owners, visitors, and customers visiting the property.

CANTILEVER SLIDE GATE PRACTICE:

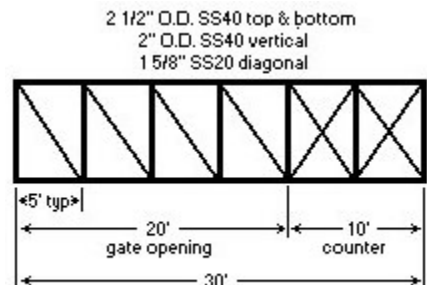


Typically two or more galvanized steel posts are set to support the weight of the gate and serve as mounting posts. Gate posts may be round or square. Gates may be built as much as 50% more than the gate opening size to provide a counterbalance, or cantilever for the gate opening portion. Gate frames may be round or square. Gates may be constructed of aluminum or steel - both are normally welded construction. Professional gate construction is highly recommended as gate frames themselves often serve as the track, providing a smooth even surface for gates to open and close with.

Gates are often stretched with chain link across a portion, or all of the frame. Gates which are automated should have mesh stretched across the entire surface for safety reasons and to comply with ASTM and UL-325 standards.

Steel Cantilever Gates - Steel Cantilever Gates are typically constructed with galvanized round tubing. Top and bottom horizontal rails are often 2-1/2" O.D. (2-3/8" actual) tubing in Sch40 or HF40 grades. 2" O.D. (1-7/8" actual) serve as vertical braces, and 1-5/8" O.D. diagonal bracing is welded in place to help prevent gate sag. Domestically made steel or nylon cantilever gate rollers are mounted to the mounting posts, normally two at top and two at bottom. Import cantilever rollers are also plentiful in both steel and nylon and are generally less expensive. Be sure to use cantilever gate roller covers on all rollers for safety and to protect pinch points. Gate is 'sandwiched' in-between the top and bottom rollers and slides to open and close. Cantilever gate rollers typically all have a galvanized chassis to prevent rust. Rollers themselves are available in galvanized steel or nylon. Both are quality rollers which can provide years of uninterrupted service. An assortment of padlockable cantilever gate latches are available. Some are designed specifically as automated slide gates latches. Steel cantilever gates can be made to close gate openings 30' wide plus! 60' wide plus openings can be closed using a double cantilever gate.

Aluminum Cantilever Gates - Internal Track Aluminum Slide Gates are often made entirely of aluminum. A heavy duty aluminum gate track is welded to, or is part of the gate frame itself. Hoover Fence offers aluminum slide gates built to close 30' wide gate openings made with a single gate track. A 60' wide opening can be closed using a double gate. We offer double track aluminum slide gates for gate openings up to 40' wide, 80' wide doubles. Custom box frame gates are available for openings larger than 40', but less than 60'. Although top track gates are more popular, bottom track and bottom track gate components are also available. Gate track and gate frame slides to open and close across two or more fixed gate trucks. Gate trolleys are secured to galvanized steel mounting posts with galvanized steel truck hanger brackets.



CANTILEVER GATE EXAMPLE fig C1

SLIDE GATE COUNTER BALANCE:

Counterbalance should be approximately 1/2 the length of the gate opening. Minimum counter balance should be

4' long. If an automatic operator is to be installed, the counter balance may need to be longer so the operator can 'pull' the gate shut by the rear of the counter balance. Always choose the operator and gate before construction begins.

POST SIZES:

Generally steel chain link cantilever slide gates require 3" O.D. roller posts for widths up to 10' opening size. Use 4" O.D. posts up to 20' and 6-5/8" O.D. posts up to 32'. These specifications are for 6' high gates and shorter. For taller gates increase post sizes at each step and use 8-5/8" O.D. posts for 32' gates. We use mostly 4" OD steel posts for our aluminum slide gates.

CONCRETE FOOTERS:

18" diameter x 42" deep is recommended for 3-4" posts, 24" diameter x 42" for 6-5/8" O.D. posts and 30" diameter x 48" for 8-5/8" O.D. posts. Increase bottom diameters 6"; creating a bell-shaped hole. The up and down stress with these type gates will 'work' even the largest posts out of the ground. Poor soil conditions, such as sand, will require larger footers. Always consult local building codes or practices prior to beginning any construction project.

Call 811 prior to excavating post hole footers.

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Specifications & Information Subject to Change without Notice