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# **2024 Easement Policy and Application for Easements or Rights-of-Way on City of Fort Collins Natural Areas and Conserved Lands**

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# **CITY OF FORT COLLINS NATURAL AREAS AND CONSERVED LANDS EASEMENT POLICY**

Resolution 2012-001 Adopted January 3, 2012

Updated March 28, 2024<sup>1</sup>

## **PURPOSE:**

The purpose of the policy statement is to clarify the policies and procedures of the City of Fort Collins ("City") with respect to requests for easements or rights-of-way that affect publicly owned Natural Areas or other lands that are managed by the Natural Areas Department; lands owned in part by the Natural Areas Department; and private lands with Conservation Easements held by the Natural Areas Department. The policy does not apply to requests for easements or rights-of-way on or across other lands owned by the City.

## **APPLICABILITY:**

The policy applies to requests for new easements or rights-of-way and to projects within existing easements, as appropriate, which provide for a wide variety of purposes, including without limitation, streets, water, sewer, drainage, flood control, electric power, wind generation, solar generation, pipelines, oil and gas and minerals exploration, and telecommunications facilities. The policy applies to projects of the City as well as those proposed by other public entities, such as special Utility Districts, and private parties. The policy does not apply to trails, parking lots, interpretive features or other facilities that are proposed as part of the management of public natural areas.

## **GENERAL POLICY:**

Most of the natural areas and other conserved lands addressed by these policies were acquired by the City with dedicated funds from sales taxes that were approved by the voters of Fort Collins or Larimer County for the specific purpose of protecting natural areas and conserved lands. These lands are part of the fabric of the Fort Collins community, and are viewed as a type of "community facility" intended to meet specific community goals.

For Natural Areas, the goal is to *"preserve and protect natural areas within Fort Collins and the Community Growth Management Area to provide habitat essential to the conservation of plants, animals, and their associated ecosystems and to enrich the lives of citizens by providing opportunities for education, scientific research, nature interpretation, art, fishing, wildlife observation, hiking and other activities."*

For other types of conserved lands, e.g., agricultural areas, lands are protected to shape the physical structure of the community: These lands *"provide the community with a well-defined edge, establish community separators, direct growth, and preserve rural character."*

Requests for easements or rights-of-way that affect natural areas or other conserved lands must be considered within this context. Accordingly, the general policy is to avoid, to the maximum extent feasible, granting easements or rights-of-way for activities that will adversely affect the use of the land for meeting the community's goals for natural area protection or community shaping. Where easements or rights-of-way are authorized by ordinance of the City Council, the general policy is to minimize the impact on the natural area or the community, to the maximum extent feasible, by limiting the size and visibility of the area affected, managing construction or other human activities with respect to their timing, duration, and frequency of occurrence, and restoring affected areas to a condition that is equal to or better than the condition at the time the easement is granted.

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<sup>1</sup>Updated contact information and restoration fee

Because the natural areas and other conserved lands owned by the City are in many instances within an urban context, it is recognized that easements and rights-of-way may be necessary to allow for the orderly development of the community in accordance with the adopted Fort Collins City Plan (2019). Individual easement requests will be evaluated in accordance with both the general policy and with the specific policies listed in following sections.

In addition, many properties owned by the City were subject to easements and rights-of-way granted by prior owners at the time the City acquired them. The City will take advantage of any opportunities to establish terms and conditions or specific project plans consistent with the terms of this Policy in connection with any such prior easements or rights-of-way.

In connection with any work anticipated to take place within an existing easement, the City will establish a mutually agreed plan for notification and consultation regarding the work. The City will negotiate with the easement holder to establish a process for advance coordination, scheduling and planning for avoidance of impacts and mitigation, if necessary.

### **SPECIFIC TYPES OF FACILITIES:**

**Public Streets.** New public highways, roads, or streets will not be allowed within City owned natural areas or conserved lands, except for those specifically identified in the adopted City Master Street Plan or comparable Master Transportation Plan adopted by the appropriate governing body in cases where the natural area or conserved land is located outside of the city limits of Fort Collins. Widening or other street improvement projects on existing streets within natural areas or conserved lands will be allowed, consistent with the City Master Street Plan or comparable adopted Master Transportation Plan. The City will work to influence the alignment and design of any highway, road, or street improvement so as to avoid or minimize the effect on the natural area or conserved land.

**Private Streets or Other Private Access.** Requests by private parties for private streets or access easements to cross natural areas or conserved lands in order to gain access to a private parcel of land will not be considered unless crossing the City's property is the only feasible means of providing access to a legal parcel of land, or unless determined to be beneficial for the Natural Areas Department in the specific circumstances.

**Overhead Electric Power, Telephone, or Cable Lines.** New overhead cable lines will not be allowed within any City-owned natural area or conserved land, unless determined to be beneficial for the Natural Areas Department in the specific circumstances. Replacement of existing overhead cables with underground cables will be encouraged unless the installation of underground lines will result in adverse impact to the natural area that is inconsistent with these policies. Use of the latest technology reasonably available will also be encouraged.

Any change in above ground features (number of poles, pole height, number of wires, etc.) within easements granted by the City or granted prior to City ownership of the land (to the extent there is an opportunity to negotiate or impose new conditions) will require review and approval by the City.

**Aboveground Structures.** New buildings or other structures, including without limitation, towers, transmitters, receiving stations, tanks, substations, or billboards, other than those of the City, will not be allowed on City-owned natural areas or conserved lands. The City will seek and take advantage of opportunities to require or negotiate for the undergrounding, avoidance or removal of above-ground structures associated with existing infrastructure.

**Underground Utility Cables or Pipelines.** Consistent with standard practice within Fort Collins, underground utility cables (e.g., electric, telephone, fiber optic, etc.) and pipelines (e.g., gas,

water, sewer) will be located within the street and utility right-of-way adjacent to the natural area or conserved land. In instances where the existing right-of-way does not conform to the planned future street right-of-way as depicted on the applicable adopted Master Transportation Plan, cable or pipeline easements will be located parallel to the existing roadway and within the area encompassed by the future street and utility right-of-way.

Some larger utility transmission cables or pipelines are not typically placed beneath streets due to reliability or safety concerns. In instances where the cable or pipeline cannot safely be placed within the road right-of-way, it will be located as close as practicable, and parallel to the road right-of-way.

Above-ground features associated with buried utility cables and pipelines will not be allowed on City property unless required by applicable technical standards for public safety and utility marking or other applicable legal or regulatory requirements. The location, color and height of any such above-ground features must be approved by the City. The City will seek and take advantage of opportunities to require or negotiate for the undergrounding, avoidance or removal of above-ground structures associated with existing infrastructure.

**Drainage Facilities for Private Development.** Drainage facilities that serve new development (such as detention, retention, or water quality ponds) shall be located on private land within the development and not on City-owned natural areas or conserved land. Easements for conveyance facilities will be considered on a case-by-case basis when the City-owned land is located between the private parcel and the historic receiving channel or stream. The design of the new flow conveyance must utilize existing drainages to the maximum extent feasible and must blend into the surrounding terrain; must not impact the existing geomorphic character of the drainage; and must enhance the natural habitat features and character of the site.

Requests will not be granted for easements by private entities to construct flood control or drainage structures on natural areas or conserved lands to create developable land by removing it from the floodplain, unless determined to be beneficial for the Natural Areas Department in the specific circumstances. Requests will be considered on a case by case basis for construction of flood control measures to address existing flood hazards that threaten public health or safety; in these cases, use of the natural area or conserved land must be the only reasonable alternative to address the flood hazard and the structure or measure must be designed to minimize the impact to the natural area.

**Public Flood Control and Drainage Facilities.** The City's Natural Areas, Storm Drainage, and Water Quality programs have a strong record of collaboration in the joint acquisition of land and in the design of projects that meet multiple community needs. To the maximum extent feasible, planning for storm drainage, water quality and natural areas and land conservation acquisitions shall continue to be coordinated so that lands needed for all of these uses are purchased jointly. Innovative approaches shall continue to be used so that flood control and water quality facilities are designed, constructed, and managed to maintain or enhance natural area protection values while meeting flood control, stream stability, and water quality needs. Easements or rights-of-way for flood control structures or facilities will be considered on natural area or conserved land when the facility is part of the implementation of an adopted basin-wide master plan (e.g., Canal Importation Master Drainageway Plan, Poudre River Master Drainageway Plan).

**Oil and Gas and Minerals Exploration.** In connection with the exploration of oil and gas and minerals resources, access, pipeline, and other types of easements may be requested. Such requests will not be considered unless crossing the City's land is the only feasible means of providing access to the location on which the oil and gas or minerals exploration will occur, or unless determined to be beneficial for the Natural Areas Department in the specific circumstances. Any easement for this type of activity will incorporate, to the extent applicable,



the most current Best Management Practices requirements developed for use in connection with oil and gas exploration activities.

**Conservation Easements.** The owners of private property protected by a conservation easement held by the City's Natural Areas Department may receive requests for easements across their property for roads, utilities and other uses. Notice to the City of the easement request is generally required in the applicable conservation easement, and property owners should notify the Natural Areas Department of any such requests. Staff will consult with the property owner to evaluate such requests on a case-by-case basis, taking into account the terms of the conservation easement, the conservation values of the property, and this Policy, to the extent permissible. In order to complete the appropriate review of any such requested easement, the City will obtain information regarding the nature, scope, design, location, timetable and other material aspects of the proposed activity, and evaluate the proposed activity to determine if it is permissible under, and consistent with, the applicable conservation easement and the conservation values of the property.

The City's Natural Area Department owns lands protected with conservation easements held by other entities. Once the City receives a request for an easement across these properties, the City will notify the owner of the conservation easement. Staff will then work with the conservation easement owner to evaluate such requests on a case-by-case basis, taking into account the terms of the conservation easement, the conservation values of the property, and this Policy, to the extent permissible.

#### **ALTERNATIVES ANALYSIS:**

In general, a right-of-way or easement across a City-owned natural area or conserved land will only be approved if it is the only reasonable alternative, considering environmental impacts, impacts to the recreation uses of the natural area by the community, financial costs, engineering feasibility, public health and safety and other appropriate factors. Applications for easements or rights-of-way must identify and evaluate the environmental impact, engineering feasibility, and the cost of alternatives that do not affect the City-owned natural area or conserved land. Depending on the type of proposal, alternatives will need to consider both alternative locations for the facility as well as alternative designs. The number of potential alternatives to be considered will depend on the location and nature of the proposal, but must be sufficient to allow City staff, the Land Conservation and Stewardship Board, and City Council to evaluate the cost and environmental impact of the available alternatives for meeting the intent of the proposal. Applicants should expect to provide information on the available alternatives at a level of detail to allow independent review of the conclusions by City staff or outside consultants retained by the City to assess the easement request.

#### **LAND USE CONSISTENCY:**

Applicants for rights-of-way and easements must demonstrate that any development to be served by the proposal is consistent with the Fort Collins City Plan, the City's Comprehensive Plan. Where the purpose of the easement is to provide utility services to areas outside the land use jurisdiction of the City, the applicant must demonstrate consistency with the adopted comprehensive plan of the governing jurisdiction, and with any applicable growth management policies of the City. Applications for easements that facilitate development or growth that is contrary to the policies of the City will not be approved.

#### **MASTER PLAN CONSISTENCY:**

As a condition of approval, the applicant must demonstrate that the requested easement or right-of-way is consistent with the adopted utility master plan or service plan for the area where the easement is requested. The applicant must demonstrate that the proposed project is located and designed appropriately to meet the future needs of the service area based on the adopted land use plans and/or zoning in the area served. This requirement is intended to encourage

thorough planning, coordination among property owners, and to avoid multiple requests for easements or premature expansion or modification of the facility before the end of its normal service life.

**COORDINATION WITH OTHER ENTITIES:**

Generally, the City will not grant exclusive easements. As a condition of approval, the applicant must contact other utility service providers in the project vicinity to determine if they have current or future plans for additional facilities in the area. To the extent feasible, the planning, design, and construction of facilities shall be coordinated among utility providers to conserve easement corridors and to avoid repeated construction activities that may affect the natural area or conserved land. Applicants must provide copies of written requests for utility coordination and the responses received from other service providers.

**COMPLIANCE WITH EXISTING EASEMENTS:**

Applicants must demonstrate compliance with the requirements of prior easements on land subject to this Policy or other City property. Requests for new or additional easements will not be considered if the applicant has not met the requirements of existing easement agreements and has failed to make diligent efforts to correct the situation after notification by the City.

**RESOURCE PROTECTION STANDARDS:**

As a condition of approval of any easement or right-of-way, the City will impose appropriate measures to assure adequate resource protection for the natural area or conserved land. These measures will be determined based on the characteristics of the proposal and the affected land, but may include, without limitation: field investigations to determine the presence of sensitive plants and wildlife; siting requirements to minimize the effect on natural resources; seasonal timing restrictions to avoid impacts to wildlife or sensitive habitat during critical periods of the year; access restrictions to control times and locations of access to the easement; construction management measures to ensure that activities are restricted to designated areas, to control erosion, to limit noise, or other impacts; restoration requirements to ensure the timely regrading and revegetation of disturbed areas to a condition consistent with the future management of the area; mitigation measures to replace resource values lost to the community as a result of the project; and requirements to minimize the impact to the natural area of ongoing operation and maintenance of the facility. The City Manager or his or her designee shall develop and maintain a general list of resource protection standards that are applicable to natural areas and conserved lands. This list, which is now maintained by the Natural Areas Department, may be modified from time to time based on the experience gained in managing easements, developing knowledge about the resource values of the City's natural areas and conserved lands, and improved knowledge related to best management practices needed to protect the natural values of the City's properties and to reflect specific circumstances or concerns in connection with a particular easement or project.

**COMPENSATION AND MITIGATION:**

As a condition of approval of any easement or right of way, the City will require cash compensation for the value of the permanent and temporary easements and for the administrative costs of processing and managing the easement, except where there is offsetting value and benefit to the Natural Areas Department. In addition, the City will require compensation for the loss of ecological service values, recreation values, and other intrinsic values of the property.

Compensation for the value of the land and for damages will be based on fair market value as determined by accepted appraisal techniques. Compensation for loss in ecological services and recreation use will be based on values reported in appropriate professional and technical publications. Compensation for losses in ecological services and recreation use may be negotiated to be paid in cash or through the completion of appropriate mitigation measures. Additional fees assessed for other costs associated with processing the easement request and approval process, overseeing construction activities, and managing the easement following

construction will be based on the estimated actual costs of the service provided. Furthermore, the City will seek compensation intended to support on or off-site capital improvements or land conservation. In general, compensation and fees will be administered so as to result in a net benefit to the Natural Areas Department.

**PUBLIC INFORMATION AND REVIEW PROCESS:**

In addition to the formal advisory board and City Council review procedures described below, the applicant requesting an easement on City-owned natural area or conserved land will be required to arrange for a public meeting at which information regarding the proposed easement and related project will be provided, and at which questions regarding the easement and related project will be taken. The applicant shall be responsible for ensuring that responses are provided to questions asked at the meeting to the extent practicable, and that questions and responses and any input received at the meeting are documented and provided to City staff. The applicant shall be responsible for providing timely and meaningful notice to the general public in advance of any such public meeting.

**ADVISORY BOARD AND COUNCIL REVIEW:**

Granting an easement or right-of-way conveys a property right and must be approved by the City Council by ordinance. The Land Conservation and Stewardship Board will also review the easement proposal and make a recommendation in its advisory role to the City Council. City staff will be responsible for working with the applicant on the application process, reviewing and evaluating the application, and making a recommendation to both the Land Conservation and Stewardship Board and the City Council. If an easement is granted by the City Council, staff will be responsible for overseeing and managing the easement and ensuring that the conditions of the grant are met.

**APPLICATION REQUIREMENTS AND REVIEW PROCESS:**

In addition to this Policy, the City Manager or his or her designee will establish procedures for reviewing applications for easements and rights-of-way that affect City-owned natural areas and conserved lands. These procedures shall establish the fees, necessary steps and information requirements for the timely consideration of requests for easements or rights-of-way. The City Manager or his or her designee will ensure that easement requests are presented to City Council for decision in a timely manner.



## General Resource Protection Standards

Updated March 2020

### **Introduction**

This document lists the various resource protection standards that may be required as conditions of granting an easement, license to enter, or right-of-way (collectively referred to in this document as “easements”) on City Natural Areas and other conserved lands, in order to protect or restore natural resource values. These measures are consistent with the requirements in the City Land Use Code for Ecological Characterization Studies and for Resource Protection associated with development projects. The measures will be evaluated for each easement request and applied as needed, depending on the site location, characteristics of the site, and on the nature of the easement.

The applicable resource protection standards will be specifically included in the terms of the easement agreement. They must also be included as notes on the approved construction plans for the easement request. The easement holder (“Grantee”) must provide these standards to all contractors who will be doing work for the Grantee within the easement area. The City may also attach some or all of these requirements as an addendum to the Grantee’s Development Agreement, if applicable.

These resource protection standards are current as of March 2020. They may be updated from time to time by the Natural Areas Department based on new information about the resources of the City’s natural areas or on new information about best management practices. Applicants must contact the Natural Resources Department for a current list of standards.

The Grantee is responsible for completing, or requiring all its contractors and sub-contractors to complete, each of the following conditions that the City determines is applicable to the Grantee’s project:

### **Plans and Permits**

Prior to starting any construction on the Project:

1. Submit final plans to the City and ensure that they have been approved and signed on behalf of the City. Confirm that all permanent and temporary easements have been approved by City Council and that the easement documents have been signed by both parties and recorded at the County Clerk’s Office. Plans must include: 1’-2’ contours; property lines with adjoining property ownership shown; all wetlands; streams; ditches; riparian areas; prairie dog colonies; raptor nests and raptor nests buffer zones; all existing and proposed man-made structures; all existing utilities; all needed easements for access, construction staging areas, and construction (limits of disturbance); construction plans and profiles; restoration plans; and general notes stating all construction and restoration requirements.
2. Obtain a City Excavation Permit.
3. Perform field investigations and surveys to determine the presence and location of sensitive plants or animal species and geological or archeological features.
4. Develop an erosion control plan. This plan must comply with the City’s *Storm Drainage Design Criteria and Construction Standards*. Ensure that the erosion control plan has been approved and signed by the City.

5. Contact the Corps of Engineers to obtain a 404 permit and/or clearance of the project. Submit two copies of the permit, or the letter of clearance from the Corps, to the City.
6. Conduct a Preble's meadow jumping mouse survey according to U.S. Fish and Wildlife Service guidelines. Submit two copies of the report and letter of clearance from the U.S. Fish and Wildlife Service to the City.
7. Conduct a Ute ladies' tresses orchid survey according to U.S. Fish and Wildlife Service guidelines. Submit two copies of the report and letter of clearance from the U.S. Fish and Wildlife Service to the City.

### **Construction Coordination and Project Acceptance**

8. Arrange for the City's designated representative to attend the pre-construction meeting to meet the contractors, discuss the importance of the resource protection requirements, discuss and approve the construction schedule and establish lines of communication to be used during construction.
9. Maintain ongoing communication with the City's representative during construction to communicate progress, changes in schedule, problems, and periodic inspections.
10. Once the project has been completed, arrange for the City's representative to inspect the project site to verify that the project was completed, and the site restored according to the applicable plans and agreements. Once the City accepts the restoration work, the City will generally take over the vegetation maintenance, per the specific terms of the easement agreement.
11. Provide the City with Drawings of Record within sixty (60) days after the completion of the improvements.

### **Wildlife**

12. Raptors: Survey the site to determine if any of the following species are present and check with the City for information on possible nesting, feeding or roosting sites.
  - a. All construction falling within raptor nest buffer zones will adhere to construction requirements for these zones.
  - b. If the site is used as a winter-feeding area by large birds of prey, construction cannot take place from October 15 through March 15 to avoid disturbing feeding eagles and large hawks, unless otherwise directed by the City.
  - c. If a bald eagle and/or ferruginous hawk winter night roost is located near the proposed easement, construction cannot take place from October 15 through March 15 to avoid disturbing night-roosting eagles and/or hawks.
  - d. If a Swainson's hawk nest is located near the proposed easement, construction cannot take place from April 1 through July 15 to avoid disrupting the nesting cycle of the hawk.
  - e. If a red-tailed hawk nest is located near the proposed easement, construction cannot take place from March 1 through July 15 to avoid disrupting the nesting cycle of the hawk.

- f. If burrowing owls are nesting within 330 feet of the limits of development, construction cannot take place from April 1 through August 1 to avoid disrupting the nesting cycle of the owls.
- 13. If construction will be taking place in or through an area that contains or may contain prairie dogs, either relocate the prairie dogs or fumigate the burrows immediately prior to any grading. Relocation of Prairie dogs between February 1 and August 1 is not permitted. Burrowing owl survey required prior to fumigation. Proof of prairie dog eradication required prior to grading.
- 14. Perform the wildlife surveys described below, notify the City of the survey results and obtain approval of construction schedule prior to starting construction. These surveys may be done several months prior to construction, but if done more than 30 days prior to construction they must be performed again within 30 days prior to the start of construction to verify results.
  - a. The site may contain den sites for red foxes. Conduct surveys to determine if any foxes are denning within 100 feet of the limits of development. If foxes are found to be denning within 100 feet, then construction cannot take place during the normal denning and pup-rearing season (February 1 through October 1).
  - b. The site may contain den sites for coyotes. Conduct surveys to determine if any coyotes are denning within 300 feet of the limits of development. If coyotes are found to be denning within 300 feet, then construction cannot take place during the normal denning and pup-rearing season (February 1 through October 1).
  - c. The site may contain den sites for badgers. Conduct surveys to determine if any badgers are denning within 300 feet of the limits of development. If badgers are found to be denning within 300 feet, then construction cannot take place during the normal denning and young-rearing season (January 1 through August 1).

### **Plants**

- 15. The site may contain plant species listed as rare in Colorado. If a rare plant is discovered prior to or during construction activities, notify the City. The City may, in its discretion, require the Grantee to remove all such plants within the limits of disturbance prior to construction, keep plants alive and replant after construction is completed, or the City may salvage existing plants and shrubs for transplanting to other sites.
- 16. The site may contain native shrubs and/or trees that may be within the limits of development. Any native shrubs/trees removed to allow construction or damaged during construction must be replaced or mitigated as approved by city staff and detailed in the mitigation plan.

### **Structures**

- 17. Remove, store, protect and replace any man-made structures (e.g., kiosks, raptor perch poles, prairie dog barriers and fencing) within the limits of disturbance.
- 18. Repair any damage to concrete bike trails, fences, parking lots, or any other improvements caused directly or indirectly by the construction. Repair/replace improvements immediately to current City standards, including matching the color of the concrete.

### **Field Demarcation**

19. Install orange construction fencing to mark the easement limits (limits of disturbance) on the site. Do not begin any construction activities until the City's representative has approved the fence location.
20. Post temporary signs informing the public that this is the Grantee's project and indicating the purpose of the project and the Grantee's phone number. Signs must be posted at the locations designated by the City.

### **Erosion Control**

21. Have erosion control measures in place and approved by a City representative prior to any construction.
22. Obtain erosion control and de-watering permits as necessary.

### **Grading/Construction**

23. Required documentation that equipment has been washed/disinfected prior to arriving on site to prevent the spread of noxious species.
24. For areas with native vegetation, strip topsoil in all areas of excavation to a depth of 8 inches and stockpile separately. Wetland and upland soils must be stockpiled separately from each other. Place the topsoil in an 8-inch layer on top of the subsoil in the corresponding zone immediately following the completion of construction.
25. For areas with non-native vegetation, strip the top 2 inches of topsoil from the entire construction easement area and remove the topsoil from the site to remove the non-native vegetation seed source. Then strip 8 inches of topsoil from the area to be excavated and stockpile separately. Wetland and upland soils must be stockpiled separately from each other. Place the topsoil in an 8-inch layer on top of the subsoil in the corresponding zone immediately following the completion of construction.
26. Maintain a safe work area and protect the safety and welfare of Grantee's employees, contractors or subcontractors, and the general public, including without limitation providing barricades and safety fences around excavations and drop-offs left open at the end of a workday. Safety precautions must be in compliance with all applicable laws, rules and regulations.
27. Compact backfill in trenches to 95% Standard Proctor Density. Test the compacted soils at 100' intervals horizontally and 2' intervals vertically within the area of excavation to ensure that this requirement has been met. Submit to the City all laboratory Proctor density results, and a copy of all field compaction tests. After compaction to final subgrade (8" below finished grade), the top 6 inches of subsoil must be ripped (no more than 20" between intervals), and the previously stripped and stockpiled topsoil materials spread evenly over the excavated areas. Soils in backfilled, compacted, topsoil trenches must match the grade of the surrounding undisturbed areas.
28. Set all manhole covers, valve lids, vaults, etc. below or flush with the finished topsoil surface. If any improvements are approved for construction above the final grade, they must be painted with a color approved by the City.

29. Remove the upper sections of all existing manholes to be abandoned and fill the holes with soil. This soil must be compacted to 95% Standard Proctor Density to prevent settlement.
30. Remove the upper sections of all existing manholes to be retained, but that are not flush with the finished topsoil surface and rebuild to be flush with the topsoil surface.
31. Bring to grade (match surrounding topography) all settled and eroded areas along the existing pipeline, if any, to be abandoned during construction of the new pipeline. Repair any settlement that occurs over the existing pipeline or new pipelines after completion and acceptance of the project by the City. Any necessary repairs must be conducted in a manner and at a time directed by the City. Repaired areas must be restored as per restoration requirements outlined in this document or in the easement agreement.
32. Areas within the limits of disturbance that have been driven over, compacted or rutted by equipment must be scarified to a depth of 8" (not to exceed 10" between intervals), and regraded to original grade and contours.
33. Meet with the City's representative to discuss and get approval of the final grading and the seeding/mulching process prior to reseeded. Seed all disturbed and topsoiled areas with a seed mix of native species specified by the City. The seed must be drilled into the soil an appropriate depth for the species in the mix and existing conditions, using a range drill (not a Brillion). Immediately following seeding, roll the seeded areas with a sheep's foot roller to lightly compact and imprint the soil. This removes air voids, provides better seed-soil contact and provides indentation's in the soil that will capture moisture. All seeded areas must then be hydromulched in accordance with the City's *Storm Drainage Design Criteria and Construction Standards*. Following final grading and initial seeding of the Construction Easement Area and acceptance by the City, the City will be responsible for ongoing restoration management, including weed control, mowing, and reseeded, as needed, in areas disturbed and seeded in accordance with this paragraph. The cost for the City to perform restoration management over the next five to ten years is calculated to be three thousand dollars (\$3,000.00) per acre of disturbance, or \$3,000 for disturbed areas less than 1-acre, based on grassland/shrubland cover types. Restoration management fees will be determined on a case-by-case basis for other cover types.

Any requirements listed above that are not completed in a timely manner may be corrected by the City at the Grantee's expense. The City will bill the Grantee for the cost of the correction plus management costs.



## Standards and Guidelines for Restoration

Updated March 2020

### PART 1 – GENERAL

#### 1.1 DESCRIPTION

This section covers the requirements for the revegetation of utility easements on City Natural Areas and Open Lands. This includes but is not necessarily limited to upland and wetland soil stockpiling, preparation, and placement, soil amendments, seeding, mulching, sediment and erosion control fabrics, watering and initial care, and final inspection and acceptance by the City. This section addresses all areas disturbed during the work shown or indicated in the executed utility easement documents and approved project plans.

#### 1.2 PROJECT MONITORING

The recipient of the utility easement (Grantee) shall notify the Natural Areas Department (NAD) at least three (3) working days prior to the commencement of any work. NAD will monitor the progress of the work throughout. NAD will also, at its discretion, collect samples during construction of seed, soil additives, water, or any other materials it deems necessary to ensure specifications are met.

#### 1.3 SUBMITTALS

**General** - The Grantee shall be required to submit statements of guarantee and/or certifications from vendors who supply seed, mulches, tackifiers, and any soil amendments or other materials utilized on the project. These submittals are detailed in Part 2 – Materials.

**Required Soils Testing** – The Grantee shall, if requested by NAD, sample project soils and submit them for analysis to a qualified soil testing laboratory prior to the start of any seeding operations. At least one soil sample per project soil type must be collected. The location of soil samples shall be jointly determined by the Grantee and NAD. Soil Samples shall be analyzed for the following minimum parameters:

1. pH
2. % Organic Matter
3. Texture (actual % sand, silt, clay, not an estimate)
4. CEC (Contaminants of Emerging Concern)
5. Nitrate, Phosphorous, Potassium, Zinc, Iron, Copper, and Manganese (results in ppm)

The laboratory shall be informed of the species proposed to be planted and the general nature of the project. Based on this information, the laboratory shall provide written recommendations for soil amendments. This report shall be submitted to NAD, where it will be reviewed and approved or modified prior to any soil preparation or seeding.

#### 1.4 GRANTEE'S SITE RESPONSIBILITIES

It shall be the responsibility of the Grantee to locate and protect all utilities, structures, roadways, parking areas, fences, survey markers, existing vegetation (e.g. trees), etc. on all work sites. Any damage caused by the Grantee or their subcontractors shall be immediately repaired or corrected by the Grantee at no expense to the City of Fort Collins.

#### 1.5 CLEANING

All work sites shall be kept clean and free from all debris. At the conclusion of work, the Grantee shall remove and haul from the site all excess materials, debris, and equipment. Any damage

(e.g. damaged fencing, damaged road surfaces, excessive tire furrows, mud tracked onto pavement, etc.) resulting from the Grantee's activities shall be repaired by the Grantee to the satisfaction of NAD at no expense to the City of Fort Collins.

## 1.6 INSPECTION; ACCEPTANCE

**Initial inspection** – The Grantee shall give the NAD three (3) working days written notice prior to the beginning of any revegetation work. The Grantee and NAD will inspect the site and verify that all utility work has been completed in accordance with specifications, including but not limited to backfill and compaction, final site grading, replacement of topsoil, removal of all construction materials, and site cleanup. When this has been verified, NAD will notify the Grantee in writing that revegetation work may begin.

**Conditional Acceptance** - When work has been completed on the project or on any portion or phase of the project designated in the documents and plans, the Grantee and NAD shall inspect the site together and determine whether or not the work is complete and has been done in accordance with easement documents and specifications. If mutual agreement cannot be reached on these issues, the determinations made by NAD shall be final. Deficiencies in the work, if any, shall be noted and a checklist of these deficiencies given to the Grantee by NAD. The Grantee shall immediately correct any deficiencies listed on the checklist. When all checklist items are completed to the satisfaction of NAD, NAD shall issue a Certificate of Conditional Acceptance.

### Final Inspection & Final Approval

The Grantee shall pay the City of Fort Collins Natural Area Department a lump sum of \$3,000 per acre disturbed, or \$3,000 for disturbances less than 1-acre, prior to signing and recording the easement. Once the initial restoration is completed the Grantee is issued a conditional letter of acceptance as defined above, the City will assume maintenance responsibility for the revegetated area. This acceptance **DOES NOT** relieve the Grantee from the warranty of the work as defined below in the **Warranty** paragraph.

**Warranty** - The Grantee shall warrant all seeded areas against defective materials and workmanship for two growing seasons from the date of Conditional Acceptance. At any time during the warranty period, NAD may order any samples collected at the time of seeding to be tested for purity, weed content, species present, etc. The Grantee shall be responsible for the cost of these tests. The Grantee shall rework and reseed (in accordance with the provisions in the original project specifications) any areas that are dead, diseased, contain too many weedy species, or in the opinion of NAD are in an unhealthy condition as a result of defective materials or workmanship, at no cost to the City. Any and all reseeding or other remedial measures required shall be completed within ten days of notification by NAD.

## PART 2. MATERIALS

### 2.1 GENERAL

All materials used shall be new and without flaws or defects of any type and shall be the best of their class and kind. All materials furnished shall be free of noxious weeds as defined in Article III, Section 20-41 of the Code of the City of Fort Collins, including but not limited to Russian Knapweed, Canada Thistle, Field Bindweed, Johnsongrass, Leafy Spurge, and Kochia. Any materials which have become wet, moldy, or otherwise damaged in transit or in storage will not be used.

All materials shall be furnished in original manufacturers shipping bags or containers and remain in these bags or containers until they are used. All materials shall be stored in a manner

which will prevent contact with precipitation, surface water, or any other contaminating substance.

## 2.2 SEED

The seed mix will be specified by NAD. All seed shall be mixed by a wholesale seed supplier in the proportions determined by NAD in order to obtain the application rate specified by NAD. All seed shall conform to all current State and Federal regulations and will be subject to the testing provisions of the Association of Official Seed Analysis. All seed and seed mixes shall be furnished in bags or containers clearly labeled to show the name and address of the supplier, the common, scientific, and variety name(s) of the seed(s), the lot number, point of origin, net weight, percent of weed content, and the guaranteed percentage of purity and germination.

**These labels shall be submitted to NAD for approval prior to seeding.** The Grantee shall furnish to NAD a signed statement certifying that the seed furnished is from a lot that has been tested by a recognized laboratory for seed testing within six months prior to the date of delivery.

## 2.3 FERTILIZER

Fertilizers are not permitted.

## 2.4 MULCH

**General** - The type of mulching material to be used shall be designated by NAD.

**Hay or Straw Mulch** - All hay or straw mulch shall be grass hay or straw. At least seventy-five (75%) percent of the mulch by weight shall be ten (10") inches or more in length. Mulch shall not contain any noxious weed, must, mold, cake, or decay. All mulch must be certified, copies of certification to be submitted to NAD for approval prior to transport to the construction site.

**Native Grass Hay Mulch** – At least seventy-five (75%) of the mulch by weight shall be ten (10") inches or more in length. Native grass hay mulch shall be certified, copies of the certification to be submitted to NAD for approval prior to transport to the construction site.

**Hydraulic Mulch** - Hydromulch material shall consist of at least ninety (90%) percent virgin wood cellulose fiber and be free of any substance or factor which might inhibit germination or growth of grass seed. The wood cellulose fibers shall have the property of becoming evenly dispersed and suspended when agitated in water. Hydraulic mulch shall be clean and shall not contain the seeds of noxious weeds or unspecified grasses. It shall be dyed a color to allow visual metering of its application. When sprayed uniformly on the surface of the soil, the fibers shall form a blotter-like ground cover which readily absorbs water and allows infiltration to the underlying soil. Weight specifications for hydraulic mulch from suppliers and for all applications shall refer only to air dry weight of the fiber, a standard equivalent to ten (10%) percent moisture. The hydraulic mulch material shall be supplied in packages having a gross weight not in excess of one hundred (100 lbs.) pounds and shall be marked by the manufacturer to show the air-dry weight content.

The Grantee shall obtain and submit to the project manager certifications from suppliers of hydraulic mulch that laboratory and field testing of their product has been accomplished, and that it meets all the foregoing requirements pertaining to wood cellulose fiber mulch.

## 2.5 ORGANIC TACKIFIER/BINDER

Tackifier, if needed for hydro mulching operations, shall be approved by NAD prior to its use. Tackifier shall be an approved commercial grade product (such as "M-Binder" from Ecology Controls, P.O. Box 1275, Carpinteria, CA 93013) suitable for use with virgin wood cellulose fiber mulch. Any tackifier shall be a non-toxic, non-corrosive, all organic powder which forms a

resilient, re-wetable membrane when combined with wood fiber mulches and water. Tackifier materials shall be furnished in original manufacturer's bags or containers clearly labeled to show the name and address of the supplier, and the material chemical contents. Labels and certificates shall be submitted to NAD

## **2.6 EROSION CONTROL NETTING, BLANKETS, MATS, FABRICS**

Erosion control blankets, mats, or other commercial products for stabilizing land disturbed areas may be required in certain areas. If so, the type, manufacturer, and installation method for these products will be specified by NAD.

## **2.7 WATER**

All water used on projects under this Contract shall be free of any substances harmful to plant germination and growth, or to the environment in general. The Grantee shall be responsible for furnishing and applying water which meets these requirements. NAD may, at the Grantee's expense, submit samples of water used on any project for laboratory analysis (of a reasonable number and kind) to ensure the quality of the water.

## Mitigation and Compensation Requirements

Updated March 2024

The mission of the Natural Areas Department is to “*protect and enhance lands with existing or potential natural areas values, lands that serve as community separators, agricultural lands, and lands with scenic values. Protection of natural habitats and features is the highest priority, while providing for education and recreation for the Fort Collins community.*”

Lands purchased and conserved by the Natural Areas Department (NAD) provide a wide variety of benefits to the citizens of Fort Collins and Larimer County that include fish and wildlife habitat, wildlife viewing, recreation opportunities, agricultural products, community separation and simply the value provided by open space views. Other benefits include water and air purification, water infiltration, flood control, habitat for pollinators of crops and natural vegetation, erosion control, and maintenance of biodiversity. Collectively these benefits are described as ecological goods and services (also called natural goods and services) and represent resources and processes that are supplied by natural ecosystems. Ecosystem goods are considered tangible items such as food, timber, and natural fiber. Ecosystem services are less tangible but just as integral to a healthy, functioning ecosystem. These services often go unnoticed and include such items as water purification and flood control.

The conservation community has long recognized that ecological goods and services have a financial value based in part on the fact they are difficult and costly to duplicate. Numerous studies published in natural resource and economic literature have delineated and quantified these ecological goods and services, and others have devised methodologies for placing a value on the ecological goods and services provided by conserved lands. NAD has selected a document prepared by the Trust for Public Land titled *A Return on Investment: The Economic Value of Colorado's Conservation Easements* to establish the value of ecological goods and services on NAD lands. TPL conducted this analysis to determine Colorado's return on investments in conservation easements. As part of this project, TPL estimated the value of ecological goods and services provided by conserved lands in Colorado based on information gathered through a literature review of values previously calculated for the major land cover types featured in the National Land Cover Dataset, created by the U.S. Geological Survey. Ecological goods and services considered in the analysis include water supply, flood control, fish and wildlife habitat, recreation, aesthetics, carbon sequestration, dilution of wastewater, erosion control, grazing, and agricultural crop production.

While this synthesis document will be used to establish ecological goods and service values for NAD conserved lands, NAD recognizes this is a growing field of study and will continue to pursue opportunities to better define and adjust the values. In all cases, ecological goods and service values will be adjusted on an annual basis based on the Denver-Boulder-Greeley CPI-U. Table 1 provides the value per acre per year for the cover types in Colorado; values are reported in 2018 dollars.

### Compensation

The Natural Area Department owns and/or manages over 35,000 acres of land within Fort Collins and in unincorporated Larimer County. As such, NAD is contacted with requests for easements and rights-of-way that cross conserved lands. The general policy is to avoid, to the maximum extent feasible, granting easements or rights-of-way for activities that will adversely affect the use of the land for meeting the community's goals for natural area protection and or community shaping. When easements or rights-of-way are authorized by City Council, efforts will be made to avoid and/or minimize environmental impacts and NAD will be compensated for the value of the property.



Compensation to the NAD will be based on the property's fair market real estate value based on highest and best use prior to conserving the property as determined by accepted appraisal techniques, and the value of the ecological goods and services lost or impacted by the project as described below in "Ecological Goods and Services Calculation."

### Administration and Maintenance Fees

Once a site is disturbed, not only is the value of the natural goods and services lost for a period of time, but it takes many hours of staff time to administer the restoration of the disturbed site. A base application fee of \$5,000 will be charged to process easement requests. The base application fee is due with the initial application packet. Staff will track its cost to administer the easement and will bill the Grantee for any cost in excess of \$5,000 based on staffs' pay rates plus 20% for overhead expenses. Staff will regularly inform the applicant of the costs the applicant is incurring during the administrative process.

Following final grading and initial seeding of the disturbed site and acceptance by the City, the NAD will be responsible for ongoing vegetation management, including weed control, mowing, and reseeded, as needed. The cost for the City to perform the vegetation management over the next five to ten years is calculated to be three thousand dollars (\$3,985.00) per acre of disturbance, or \$3,985 for disturbances less than 1-acre, based on grassland / shrubland cover types. Fees will not be prorated based on partial acres disturbed. Vegetation management fees will be determined for other cover types on a case-by-case basis. The cost of this service will be evaluated and adjusted as needed.

### Ecological Goods and Services Calculations

The length of time needed for ecological goods and services to return to a pre-disturbance condition is difficult to predict. Since the time necessary for full restoration is difficult to predict the following assumptions are made: (1) a period of ten years will be used to estimate the length of time ecological goods and services are lost or reduced (2) ecological goods and services are lost in full for the first five years and compensated at one hundred percent (100%) of the assigned value, and (3) ecological goods and services are partially restored in years six through ten and compensated at fifty percent (50%) of the assigned value. Payment will be due in full at the time the easement is granted and will be based on the entire ten-year period.

Table 1 Provides the per acre per year value for the cover types in this area (from Sargent-Michaud, J. 2010. A return on investment: The economic value of Colorado's conservation easements. The Trust for Public Lands) **Actual dollars will be adjusted for inflation using the US Bureau of Labor Statistics, CPI Inflation Calculator.**

Ecosystem Type	Fee/Acre/Year (2024)
Mixed Forest	\$ 1,279.00
Deciduous Forest	\$ 1,277.00
Evergreen Forest	\$ 1,277.00
Emergent Herbaceous Wetland	\$ 1,138.00
Woody Wetland	\$ 1,138.00
Scrub / Shrub	\$ 886.00
Agriculture	\$ 411.00
Open Water	\$ 389.00
Developed - Low Density	\$ 281.00
Developed - High Intensity Urban	\$ 281.00

Shortgrass Prairie	\$	128.00
Grassland / Herbaceous	\$	123.00
Sagebrush	\$	119.00

### On-site or Off-site Mitigation

NAD may select cash or mitigation as compensation for the loss in natural goods and services. Mitigation projects may occur on or off-site and include such items as:

- Habitat or vegetation restoration beyond what is disturbed by the project,
- Trail construction or repair,
- Natural Area Public Facility upgrade or repair,
- Removal or undergrounding of above ground features.

Preference will be given to mitigation projects that occur within or adjacent to the Natural Area affected by the easement. If additional acres are restored, preference will be given to the restoration of the same cover type within or adjacent to the affected Natural Area.

In all cases, the site impacted by the easement project will be restored and the mitigation project approved by Council.

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## Fort Collins City Plan

**City Plan** can be found at the following link:

<https://www.fcgov.com/cityplan/>

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## Fort Collins Land Use Code, Division 3.4 Environmental, Natural Area, Recreational and Cultural Resource Protection Standards

**Land Use Code** Division 3.4 can be found at the following link:

[https://www.municode.com/library/co/fort\\_collins/codes/land\\_use?nodeId=ART3GEDEST\\_DIV3.4ENNAARRECUREPRST](https://www.municode.com/library/co/fort_collins/codes/land_use?nodeId=ART3GEDEST_DIV3.4ENNAARRECUREPRST)

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## Fort Collins Stormwater Master Plan

**Stormwater Master Plan** can be found at the following link:

<https://www.fcgov.com/utilities/what-we-do/stormwater/master-plan>

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## Fort Collins Transportation Master Plan

**Transportation Master Plan** can be found at the following link:

<https://www.fcgov.com/fcmoves/tmp>

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## Application Procedures for Easements or Rights-of-Way on Natural Areas and Conserved Lands

Updated March 2024

**IMPORTANT NOTE: Please allow for at least four to six months to process an easement request once a complete application has been received by NAD.**

### 1. Initial Steps

#### A. Initial Contact

Contact the Natural Areas Department (NAD) to Discuss Easement Needs. To establish initial contact with the NAD regarding an easement or right-of-way proposal, please contact the City of Fort Collins, Natural Areas Department, Land Conservation Lead Specialist, Tawnya Ernst via email at [ternst@fcgov.com](mailto:ternst@fcgov.com) or by phone at (970) 416-2753. Anyone seeking an easement or right-of-way across a Natural Area, lands managed in-full or in- part by the NAD, or on private lands with a Conservation Easement held by the NAD, herein referred to as “conserved property/conserved land/conserved area,” is required to have an initial meeting and site visit to discuss the proposal with the NAD.

#### B. Schedule Meeting & Site Visit to discuss proposal and to walk the proposed easement alignment and/or alternative alignments

It is the applicant’s responsibility to schedule and coordinate a meeting and site visit with NAD staff. During the meeting and site visit NAD staff will discuss the Natural Areas Easement Policy and associated easement documents, ask why the easement is needed across the City’s conserved property, and ask what other viable options may be available to avoid the conserved area. Staff will identify potential impacts to the conserved property and discuss ways to avoid and/or ways to minimize impacts to the conserved property. NAD staff will also want to walk the proposed alignment and any proposed alternative alignments to look at and discuss the various alternatives to avoid the conserved property. Following the site visit NAD staff will provide comments including general site information and important “known” natural, cultural, archeological, geological, and recreational features associated with the area of impact on the conserved property.

### 2. Application Fee and Application Packet Requirements

- **NOTE:** Coordinate authorization to enter City property. Required for all site visits. Contact Tawnya Ernst (970) 416-2753

#### A. Application Fee

A non-refundable application fee of \$5,000 is charged to process each easement request. Please submit the application fee immediately following the initial meeting prior to moving forward with application. All checks should be made out to the City of Fort Collins. Please note on the check Natural Areas Dept. Easement Request.

#### B. Application Letter

The first item in the application packet should be a cover letter addressed to Tawnya Ernst, Land Conservation Lead Specialist, Natural Areas Department, City of Fort Collins. This letter should

address several topics: 1) briefly summarize the easement proposal including a general project location, the NAD affected property(s), and why it is essential to cross the NAD conserved property; 2) briefly explain the potential alternatives; 3) provide a general timeline; and 4) introduce all parties associated with the proposal and explain if all parties are in agreement with the proposal.

### **C. Alternatives Analysis**

As stated in the Easement Policy, applications for an easement or right-of-way must identify and evaluate the environmental impact, engineering feasibility, and the cost of alternatives that do not affect the city-owned natural area or conserved land. Depending on the type of proposal, alternatives will need to consider both alternative locations for the facility as well as alternative designs.

Prior to providing the information required by this section, the Applicant must meet with a representative of the Natural Areas Department to discuss alternate routes and alternate designs that must be considered in the Alternatives Analysis.

The following information should be included within the Alternatives Analysis provided by the applicant.

1. A map of appropriate scale that clearly identifies alternate routes considered for the easement both on and off City-owned property.
2. A written description of the environmental impacts, engineering feasibility, and project cost for each alternate route including supporting documentation on feasibility and costs. The written description shall summarize the wildlife and vegetation survey information, and recreation and wildlife structure information described in the *Plans and Permits, Wildlife, Plant, and Structures* sections of the Resource Protection Standards.
3. A written description of any anticipated recreation impacts that will result from the City granting of the easement or right-of-way.
4. A map of appropriate scale that clearly identifies the location and dimensions of the requested easement or right-of-way on City-owned property (including temporary construction easements and access easements).
5. A written description of public safety benefits from the use of the City-owned natural area or conserved land.
6. A written summary describing the environmental impacts, recreation impacts, cost savings, engineering feasibility, and public safety issues avoided by selection of the proposed route on City-owned land.
7. Based on the conceptual restoration and mitigation plan, describe how this plan relates to the project on City-owned land and how these activities will benefit the City.
8. A map of appropriate scale showing the location of proposed mitigation activities.

### **D. Conceptual Plans**

This information is also addressed in the *General Resource Protection Standards* documents. Conceptual plans must be submitted on an aerial photo at a scale of 1" = 100' and must include 1'- 2' contours; property lines with adjoining property ownership shown; approximate location of all wetlands, streams, ditches, prairie dog colonies, and riparian areas; all existing man-made structures; and all existing utilities. Additionally, the conceptual plans should show the location(s) of easements needed for construction staging areas; access and utility line installation; the construction's limits of disturbance; and the location(s) of alternative alignments.

### **E. Resource Protection Compliance and Requirements**

All projects on the NAD's conserved land are bound by and must comply with the requirements



set forth in the *General Resource Protection Standards*. Not all resource protection standards are applicable to every proposed project. In the application packet, the applicant is required to acknowledge receipt of the General Resource Protection Standards (GRPS) document and petition the NAD to exempt any non- applicable resource protection standards for the proposed project. It is the applicant's responsibility to comply with the standards set forth in the GRPS document. Resource protection standard requirements will vary depending on the location, size and scope of the proposal.

The applicant should have a basic understanding of the site's general characteristics and important features based on the initial meeting, site visit, and documentation provided by the NAD. To ensure the highest level of resource protection the applicant is required to become familiar with any and all documents associated with the site including but not limited to the site's specific management plan, guiding documents, and conservation easements. This information should serve as a starting point to help the applicant comply with the GRPS requirements and the site-specific management goals.

The applicant should, to the greatest extent possible, complete the necessary requirements identified in the GRPS document before submitting the application. The applicant must obtain from the NAD a Special Use Permit which will grant permission to enter the NAD property for any and all survey work associated with the GRPS. When field investigations are necessary, the applicant should hire an independent, qualified, third- party biological consultant to assess the site.

Resource protection standards apply to each phase of an easement project, however all applicable pre-project GRPS requirements should be completed prior to the public meeting. If the applicant is unable to complete all pre-project GRPS requirements prior to the public meeting, the applicant should provide detailed information to the public about the resources (biological, cultural, recreational and aesthetic) potentially affected by the proposed easement or right-of-way. The application packet should thoroughly incorporate and reflect compliance with the GRPS and the site-specific guiding documents.

All projects on the NAD's conserved land are bound by and must comply with the resource protection requirements set forth in the *City of Fort Collins Natural Areas and Conserved Lands Easement Policy* and in the *General Resource Protection Standards*. In addition to complying with the Easement Policy and the General Resource Protection Standards requirements, the applicant should become familiar with the Natural Area's site-specific management plan and any associated regional plan. Resource protection requirements will vary depending on the location, size, and scope of the proposal.

Based on the initial meeting and site visit, documentation provided by the NAD, and review of the site's guiding documents, the applicant should have a thorough grasp of the site and its important biological, geological, cultural, and recreational features. As such, this section of the application packet should include 1) acknowledgement of receipt and review of the General Resource Protection Standards document; 2) a statement that the applicant will comply with all applicable resource protection requirements; 3) any petition to the NAD regarding any Protection Standards that are not applicable to the project and why they should not apply; and 4) address how the project will affect the management goals outlined in the site-specific management plan.

## **F. Description of conceptual restoration and mitigation plans**

An applicant requesting an easement or right-of-way on the NAD owned or managed property needs to provide a conceptual restoration and mitigation plan. The restoration plan should explain how the applicant will restore the affected areas to a condition that is equal to or better

than the condition at the time the easement is granted. The *General Resource Protection Standards* and *Standards and Guidelines for Restoration of Utility Easements* are documents that should be referenced and used to help develop a conceptual restoration plan.

The *Mitigation and Compensation* section explains the various ways applicants are required to compensate and mitigate for the proposed easement or right-of-way. As the guidance document explains, the City charges a restoration fee and an ecological service fee to compensate for future management of disturbed areas to the conserved property. The document also states that the NAD may require cash compensation and/or on-site or off-site mitigation as compensation for the ecological service fee. Potential mitigation projects include additional habitat or vegetation restoration beyond the disturbed area, trail construction or repair, NAD facility upgrades or repairs, or removal or undergrounding of above ground features. NAD staff will do an analysis of the project area to assess the land cover type impacted by the easement or right-of-way and the associated costs for lost ecosystem goods and services. The NAD will provide a written description to the applicant of the analysis of ecological service costs. Fees associated with impacted ecosystem services are collected with the signed easement agreement.

### **Additional Documentation**

Additional documents required for a complete application packet include: 1) a legal description of the proposed easement(s); 2) survey maps of the project area; 3) requested temporary construction easement(s) area and final easement(s) area; 4) a site map; 5) a proposed construction schedule; 6) information demonstrating coordination with other entities.

When creating a construction schedule please refer to the Wildlife Section of the *General Resource Protection Standards* document. This section has specific wildlife standards and requirements depending on the wildlife and wildlife habitat associated with the project site. If applicable, the applicant must contact other utility service providers in the project vicinity to determine if they have current or future plans for additional facilities in the area, and if they are complying with existing easements. Applicants must provide copies of this communication to NAD staff as a condition of approval.

## **3. Initial Application Review**

### **A. City Staff Review / Evaluation, Presentation Determination, and Feedback**

Upon receiving a complete application packet, NAD staff will review and evaluate the application against the requirements specified in the Easement Policy including land use consistency, master plan consistency, as well as coordination with other entities, compliance with existing easements, and compliance with the GRPS document. After the initial review and evaluation, NAD staff will notify the applicant about the timeline for presentation and review by the Land Conservation Stewardship Board (LCSB) and City Council. The applicant is encouraged to attend all applicable presentations and meetings and to assist with preparation of the presentations to the LCSB and City Council. After the initial review, evaluation, and public meeting, NAD staff will provide feedback with regard to the initial application including required revisions, updates and/or modifications.

### **B. Public Meeting**

Applicants requesting an easement on NAD owned or managed property, May Be Required to arrange a public meeting where information regarding the proposed easement and related projects are presented in a public forum. The applicant is responsible for providing timely and meaningful notification to the general public and NAD staff in advance of any such public meeting and must provide documentation of that notification to NAD staff. The meeting provides the public the opportunity to ask questions related to easement proposals on the City's conserved lands. The applicant is required to provide answers to the public's questions to the

greatest extent practicable. All questions, answers, and input received at the public meeting should be summarized, documented, and copies of the documentation should be provided to the NAD staff. Additionally, if the project changes significantly from the time of the public meeting to the final proposed project, NAD staff at their sole discretion may require an additional public meeting to present changes in the project.

#### **4. Easement or Right of Way Approval Process**

##### **A. Submit Final Plans, Final Studies, and All Permits**

Based on NAD staff feedback and information gathered at the public meeting, the applicant must prepare and submit all final plans, final studies, and all applicable permits. The GRPS document outlines these requirements. In summary, the applicant should submit final construction plans and profiles with applicable GRPS included as notes; excavation and 404 permits; final surveys and/or completed studies done in association with wildlife, plants, recreational features, and structures; erosion control plans; a detailed description of the project's compliance with the GRPS; and a final restoration and mitigation plan. Clearance letters from the United States Fish and Wildlife Service are accepted for Threatened and Endangered Species.

##### **B. Restoration Fee and Ecosystem Goods and Services Costs**

After receiving the final plans, final studies, all permits, and any additional required documentation, the NAD in conjunction with City of Fort Collins Real Estate Services, will provide a written description of the vegetative management costs associated with each vegetative cover type found within the project area. This communication will also include a description of how the ecological goods and services costs were calculated. For more details about revegetation costs and ecosystem goods and services costs please see the Mitigation and Compensation section.

##### **C. Preparation of Agreements and Legal Documentation**

Once NAD staff has received the final plans, studies, and permits the City of Fort Collins Real Estate Service and the City Attorney's Office will prepare draft(s) of the temporary and permanent easement agreements including land compensation costs and vegetative management costs. These steps include 1) land appraisal and value findings of easement; 2) draft easement agreement prepared by Real Estate Services followed by review and approval by the City Attorney's Office; 3) draft easement sent to applicant for review; and 4) final easement submitted to the Land Conservation Stewardship Board and City Council.

##### **D. LCSB and City Council Hearings and Approvals**

Granting an easement or right-of-way conveys a property right and must be approved by the City Council by ordinance. The Land Conservation and Stewardship Board (LCSB) reviews easement and right-of-way proposals and makes a recommendation in an advisory capacity to the City Council. NAD staff are required to complete the necessary steps for the LCSB and City Council hearings and approval. The steps for the LCSB recommendation process include 1) staff review of completed easement request and recommendations; 2) staff preparation of a board memo for the LCSB; 3) staff presentation to the LCSB; and 4) Board recommendations to City Council. Similarly, the steps for the City Council approval process include 1) staff preparation of a City Council Agenda Item Summary with staff and LCSB recommendations; 2) City Council's first reading; and 3) City Council's second reading and approval.

#### **5. Pre-construction and Construction Approval Process**

The following description outlines and provides details about the steps for the pre-construction and construction approval process and requirements during construction.

**A. Submit final documentation and fees**

Prior to beginning construction, the applicant must submit the final signed easement agreement(s) and payment for the appraised value of the easements, restoration fees, and ecological service fees (see the *Fee Schedule below*). The City **will not sign** the easement agreement until all final documentation and full payment has been received. The City can sign the easement agreement no sooner than ten days after the Ordinance is approved by City Council on Second Reading.

**B. Record of easement with the County Clerk**

NAD staff is responsible for recording the easement with the Larimer County Clerk and Recorder. The easement will be effective once it is recorded.

**C. Pre-construction meeting, construction approval letter, and limits of disturbance**

Before construction can begin, the applicant is required to have a pre-construction meeting. A NAD representative must be in attendance to meet the contractors, discuss the importance of the resource protection requirements, discuss the approved construction schedule, and establish the lines of communication to be used during construction. The applicant must receive written communication from the NAD stating that the project may proceed on NAD property. Actual construction may not begin until a NAD representative has approved the fence location / easement limits / limits of disturbance.

**6. Construction Requirements**

Throughout the duration of the project the applicant is required to maintain communication with NAD staff regarding progress, schedule changes, and problems. NAD staff will conduct periodic inspections of the construction site throughout the duration of the project including the restoration phase.

**7. Project Completion & Drawing of Record**

Once the project is complete a NAD representative must inspect the project site to verify that the project was completed, and the site restored according to the plans and agreements. City staff will submit a letter verifying in writing that both the project and restoration work were completed according to the plans and agreements. Once accepted the NAD will take over the vegetation maintenance. The Drawing of Record must be submitted to the NAD within 60 days of project completion.

## Application Checklist

### General Project Information

Project: \_\_\_\_\_

Contact Info: \_\_\_\_\_

Affected Natural Area(s): \_\_\_\_\_

### 1. Initial Steps

- \_\_\_\_\_ Contact the Natural Areas Department, Land Conservation Lead Specialist, Tawnya Ernst (970) 416-2753, [ternst@fcgov.com](mailto:ternst@fcgov.com).
- \_\_\_\_\_ Initial meeting with Natural Areas Staff.
- \_\_\_\_\_ Coordinate authorization to enter City property. Required for all site visits. Contact Tawnya Ernst (970) 416-2753

### 2. Application Fee and Easement Application Packet Requirements

*Project will not proceed until a complete application and the application fee have been received.*

#### Application Fee

\$5,000 application fee is due after initial meeting prior to moving forward.

#### Application Packet

- \_\_\_\_\_ Application Cover Letter
- \_\_\_\_\_ Alternatives Analysis
- \_\_\_\_\_ Ecological Characterization Study
- \_\_\_\_\_ Conceptual Plans
- \_\_\_\_\_ Resource Protection Compliance
- \_\_\_\_\_ Description of Conceptual Restoration and Mitigation Plans
- \_\_\_\_\_ Legal Descriptions
- \_\_\_\_\_ Survey of Easements
- \_\_\_\_\_ Site Map
- \_\_\_\_\_ Proposed Construction Schedule
- \_\_\_\_\_ Utility Coordination Requests and Responses
- \_\_\_\_\_ Drawing and Maps for Pertinent Data

### 3. Initial Review of Easement Application

- \_\_\_\_\_ Submit application and documents to the NAD Land Conservation Manager
- \_\_\_\_\_ Staff application review and evaluation
- \_\_\_\_\_ Staff feedback requesting updates, revisions, and/or modifications
- \_\_\_\_\_ Submit any follow-up documentation requested by NAD
- \_\_\_\_\_ Public Meeting (if required)
- \_\_\_\_\_ Submit documentation of questions, responses, and input received at public meeting to NAD

### 4. Easement Approval Process



**A. Land Conservation and Stewardship Board and City Council Hearings and Approval**

\_\_\_\_\_ LCSB Meeting and Recommendation to City Council

**B. Submit Final Plans, Final Studies, and All Permits**

\_\_\_\_\_ Final Construction Plans and Profiles w/ applicable GRPS included as notes

\_\_\_\_\_ Final Erosion Control Plans (if applicable)

\_\_\_\_\_ Excavation Permit (if applicable)

\_\_\_\_\_ 404 permit and/or clearance of the project (if applicable)

\_\_\_\_\_ Completed GRPS surveys/studies associated with wildlife, plants, recreational features, and structures

\_\_\_\_\_ Detailed description of compliance with the General Resource Protection Standards

\_\_\_\_\_ Final Restoration and Mitigation Plan

\_\_\_\_\_ All pertinent GIS shape files submitted to NAD

**C. Revegetation Fee and Ecosystem Goods and Services Costs**

\_\_\_\_\_ Ecosystem service costs and restoration fees. ( NAD Staff Responsibility)

**D. Preparation of Agreement & Legal Documents** *(City Staff's Responsibility)*

\_\_\_\_\_ Receipt of draft(s) of the Temporary and Permanent Easements Agreements including land compensation costs and vegetation management costs

**5. City Council Hearing – First reading**

**6. City Council Hearing – Second Reading and Ordinance Approval**

**7. Pre-Construction and Construction Approval Process**

\_\_\_\_\_ Submit the final signed easement agreement(s)

\_\_\_\_\_ Submit payment for: *(see Fee Schedule for Easement Applications Document)*

\_\_\_\_\_ NAD staff records easement with County Clerk

\_\_\_\_\_ Date of on-site pre-construction meeting with City Staff

\_\_\_\_\_ Fence location / easement limits / limits of disturbance checked by NAD staff

\_\_\_\_\_ Receipt of letter from Natural Areas stating project may proceed

**8. Construction Requirements**

\_\_\_\_\_ Maintain communication with NAD staff regarding progress, schedule changes, and problems

\_\_\_\_\_ Periodic site inspections by NAD staff

**9. Project Completion**

\_\_\_\_\_ Date of on-site inspection with City Staff for final project completion and site restoration assessment

\_\_\_\_\_ Receipt of letter from City Staff stating approval of project and restoration work

\_\_\_\_\_ Submit Drawings of Record to the NAD within 60 days after the project is completed

## Fee Schedule

Updated March 2024

**Note:** All checks should be made out to City of Fort Collins Natural Areas Department – Utility Easement

**Application Fee** *(due after initial meeting)*

A base application fee of \$5,000 will be charged to process each easement request. The application fee should be submitted with the initial application package.

Base Application Fee \$ 5,000

**Additional Staff Time** *(due with signed Easement Agreement)*

Staff will track the cost to administer the easement and will bill the Grantee for any cost in excess of \$5,000 at the cost of staff time plus 20%. The applicant will be informed if the project exceeds the base fee and as staff time accrues.

Additional Staff Cost \$ \_\_\_\_\_

**Appraised Value of Easement(s)** *(due with signed Easement Agreement)*

This is not a fee but compensation for conveyance for the easement or right to use the property based on the market value of the property.

Temporary Construction Easement(s) \$ \_\_\_\_\_

Permanent Easement(s) \$ \_\_\_\_\_

**Restoration Fee** *(due with signed Easement Agreement)*

\$3,985 an acre, or \$3,985 total if less than 1-acre, is based on grassland / shrubland cover types. Fee will not be prorated. Vegetation management fees for other cover types will be determined on a case-by-case basis.

\$3,985 x \_\_\_\_\_ acres = \$ \_\_\_\_\_

**Ecological Service Fee** *(if applicable, due with signed Easement Agreement)*

(See Mitigation and Compensation Requirements section)

Ecosystem Type:

I. \_\_\_\_\_ \$ \_\_\_\_\_

II. \_\_\_\_\_ \$ \_\_\_\_\_

III. \_\_\_\_\_ \$ \_\_\_\_\_

IV. \_\_\_\_\_ \$ \_\_\_\_\_

Total E.S. Fees \$ \_\_\_\_\_

<b>Base Application Fee</b>	
Paid prior to application submittal	<b>\$ <u>5,000</u></b>
<b>Permanent Easement Fee</b>	\$ _____
<b>Temporary Easement Fee</b>	\$ _____
<b>Restoration Fee</b>	\$ _____
<b>Ecological Service Fee</b>	\$ _____
<b>Additional Staff Cost</b>	\$ _____
<b>TOTAL DUE WITH SIGNED EASEMENT AGREEMENT</b>	<b>\$ _____</b>

## **Native Seed Mixes (Native Seed Work)**

Updated April 2018



# Native Seeds Work

## Why Use Native Plants?

Native plants are sustainable, low maintenance, and create a beautiful habitat for insects and pollinators.

Grasses such as smooth brome, crested wheatgrass, and intermediate wheat are exotic plants. They are aggressive, form monocultures, and don't provide good habitat to native pollinators and other wildlife.

The City of Fort Collins Natural Areas Department has 15 years of experience developing and testing a variety of native seed mixes. Many of these species have been used in successful large-scale restoration projects. These mixes are carefully planned to provide landscapers, contractors, and private citizens grasses and wildflowers that thrive in our climate. The mixes are custom blended for the Fort Collins Growth Management Area at elevations of 4,800—5,660 feet.

## What to Expect

These native prairie plants are adapted to conditions in this area:

- The seeds will germinate and establish in 1–3 growing seasons. If they do not, reseed the area. Get a head start on establishing your native seed. If there are areas that won't be re-disturbed during construction, go ahead and seed it.
- Expect some bare soil between plants.
- Expect plants to go dormant in hot, dry conditions—they will turn brown but are still alive.
- Expect diversity in your plantings. The different native plants will grow commingled, instead of in isolated pockets of the same species grouped together.
- Excessive grazing or continual disturbance will not allow plants to establish.

## Top Tips for Success

- ✓ Plant during recommended dates.
- ✓ Do not use fertilizer.
- ✓ Plant at proper depth.
- ✓ Do not irrigate.
- ✓ Carefully monitor use of herbicides.
- ✓ Do not mow during hot, dry conditions.

## CUSTOM NATIVE SEED MIXES

Native wildflowers and grasses provide larval food, nesting sites, pollen, and nectar for our native pollinators. Many of our native bee populations are declining. Each of these seed mixes was created with native pollinators in mind.

### UPLAND MIX

- All soil types
- Area is dry majority of growing season

\$154-\$204/ac.

### MESIC MIX

- All soil types
- Area is periodically moist during growing season

\$220-\$360/ac.

### WETLAND MIX

- All soil types
- Area is saturated to 6 inches of standing water for the majority of the growing season

\$345-\$685/ac.

### ALKALINE MIX

- Soils with a presence of white mineral deposits on surface or in proximity
- Area dry to saturated for the majority of the growing season

\$200-\$270/ac.

### DETENTION BASIN MIX

- All soil types (blend of Upland and Mesic)
- Low height requires less mowing

\$145-\$225/ac.

Prices may vary due to availability.



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April 2018





# How to Establish Native Seeds

## 1 SELECT NATIVE SEED MIX

Choose a pre-formulated native seed mix (see previous page) based on your site conditions.

## 2 MEASURE, CALCULATE, AND ORDER

Measure the square footage and calculate how much seed you need to purchase. Select a native seed company and let them know which of these native seed mixes you require. They may be able to assist with calculating how much seed you need.

## 3 PREPARE SEED BED

It's important for seeds to have good contact with the soil. Eliminate weeds or other vegetation that might impede soil contact. The soil should be firm. Compacted soil doesn't allow the seed to be placed into the soil; fluffy soil may allow the seed to be planted too deep. There is no need to fertilize. Native plants have evolved with our low-nutrient soils. Fertilizer will benefit non-native weeds more than native plants.

## 4 SEEDING

Plant seed on dry, bare ground from late October through early May. Seeds may be planted using a rangeland seed drill or by hand-broadcasting. If using a seed drill, it is best to plant perpendicular on slopes. This will aid in erosion control. Make sure the top inch of soil is not frozen. Plant seed between ¼ - ½ inch deep. Native plants need sunlight to germinate, so planting deeper may inhibit growth. If using the broadcast method, lightly rake the area, evenly spread the seed, and lightly rake the seed in. You want to ensure good seed-to-soil contact, so be careful not to bury the seed or cluster it into uneven patterns.

## 5 MAINTENANCE

Depending on your site requirements, you may need mulch, hydromulch, or an erosion control mat. Most sites will benefit when protected by placement of one of these. There is no need to irrigate. Native plants have evolved with our precipitation events. Irrigation will benefit non-native weeds more than native plants and will set back the establishment period of native seeds.

Weed control, especially noxious weeds, is important during establishment. Hand pull or spot spray weeds with an herbicide. This helps to limit the amount of herbicide put into the environment and allows the native wildflowers to establish.

Mowing can be beneficial to the establishment of your native seed. Make sure not to mow when conditions are dry and hot. Try not to mow more than once or twice a growing season; any more may stress plants that are trying to establish. It will benefit your project if you allow the plants to flower and seed prior to mowing.

## Seed Companies

Arkansas Valley (Denver)  
[www.avseeds.com/](http://www.avseeds.com/)  
 1-877-907-3337

Granite Seed (Denver)  
[www.graniteseed.com/](http://www.graniteseed.com/)  
 1-888-577-5650

Pawnee Buttes Seed  
 (Greeley)  
[www.pawneebuttesseed.com/](http://www.pawneebuttesseed.com/)  
 1-800-782-5947

Western Native Seed (Salida)  
[www.westernnativeseed.com/](http://www.westernnativeseed.com/)  
 (719) 942-3935

Sharp Bros. Seed (Greeley)  
[www.sharpseed.com/](http://www.sharpseed.com/)  
 (970) 356-4710

## Seed Installation

Custom Services of Colorado  
[markbuckley5619@gmail.com](mailto:markbuckley5619@gmail.com)  
 (303) 775-0505

Native Seeders  
[kate@nativeseederscompany.com](mailto:kate@nativeseederscompany.com)  
 (970) 686-5121, c (970) 217-9390

Habitat Management Inc.  
[habitatmanagementinc.com/](http://habitatmanagementinc.com/)  
 (303) 770-9788

Larimer County Contractor list  
[larimer.org/weeds/commapplicators.htm](http://larimer.org/weeds/commapplicators.htm)

*For more information:*

**Native Plant Revegetation Guide for Colorado:**  
<https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf>

Crystal Strouse, Botanist/Technician | Office (970) 416-2133 | [cstrouse@fcgov.com](mailto:cstrouse@fcgov.com)  
 City of Fort Collins Natural Areas Department





# Native Seed Mixes

UPLAND MIX			
	Common Name	Scientific Name	lbs/PLS/Acre
Wildflowers	Plains coreopsis	<i>Coreopsis tinctoria</i>	0.17
	Purple prairie clover	<i>Dalea purpurea</i>	0.81
	Indian blanketflower	<i>Gaillardia aristata</i>	1.85
	Rocky. Mtn. penstemon	<i>Penstemon strictus</i>	0.35
	Mexican hat	<i>Ratibida columnifera</i>	0.2
Grasses	Indian ricegrass	<i>Achnatherum hymenoides</i>	1.13
	Sideoats grama	<i>Bouteloua curtipendula</i>	1.15
	Buffalograss	<i>Bouteloua dactyloides</i>	3.27
	Blue grama	<i>Bouteloua gracilis</i>	0.25
	Bottlebrush squirreltail	<i>Elymus elymoides</i>	0.95
	Prairie Junegrass	<i>Koeleria macrantha</i>	0.08
	Green needlegrass	<i>Nassella viridula</i>	1.01
	Switchgrass	<i>Panicum virgatum</i>	0.71
	Western wheat	<i>Pascopyrum smithii</i>	1.61
	Sand dropseed	<i>Sporobolus cryptandrus</i>	0.04
	Total for Upland Mix		13.58 lbs/PLS/Acre
Substitutes	<b>ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS</b>		
	Fringed sage ( <i>Artemisia frigida</i> ) 0.03 lbs/PLS/Acre		
	Blue flax ( <i>Linum lewisii</i> ) 0.41 lbs/PLS/Acre		
	Prairie aster ( <i>Machaeranthera tanacetifolia</i> ) 0.25 lbs/PLS/Acre		
	<b>ACCEPTABLE SUBSTITUTES FOR GRASSES</b>		
	Canada wildrye ( <i>Elymus canadensis</i> ) 1.59 lbs/PLS/Acre		
	Inland saltgrass ( <i>Distichlis stricta</i> ) 0.35 lbs/PLS/Acre		
Requirements	Mountain muhly ( <i>Muhlenbergia montana</i> ) 0.11 lbs/PLS/Acre		
	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		



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# Native Seed Mixes

	MESIC MIX		
	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Smooth aster	<i>Aster laevis</i>	0.19
	White prairie clover	<i>Dalea candida</i>	0.65
	Purple prairie clover	<i>Dalea purpurea</i>	0.81
	Indian blanketflower	<i>Gaillardia aristata</i>	1.85
	Black-eyed Susan	<i>Rudbeckia hirta</i>	0.14
Grasses	Big bluestem	<i>Andropogon gerardii</i>	1.3
	Salt and pepper grass	<i>Deschampsia caespitosa</i>	0.07
	Inland saltgrass	<i>Distichlis stricta</i>	0.35
	Streambank wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	1.36
	Switchgrass	<i>Panicum virgatum</i>	0.71
	Western wheatgrass	<i>Pascopyrum smithii</i>	1.61
	Fowl bluegrass	<i>Poa palustris</i>	0.18
	Little bluestem	<i>Schizachyrium scoparium</i>	0.7
	Yellow Indiangrass	<i>Sorghastrum nutans</i>	1.38
	Prairie cordgrass	<i>Spartina pectinata</i>	1
		<b>Total for Mesic Mix</b>	<b>12.31 lbs/PLS/Acre</b>
Substitutes	ACCEPTABLE SUBSTITUTIONS FOR WILDFLOWERS		
	Mexican hat ( <i>Ratibida columnifera</i> ) 0.10 lbs/PLS/Acre		
	Marsh sunflower ( <i>Helianthus nuttallii</i> ) 0.56 lbs/PLS/Acre		
	Beebalm ( <i>Monarda fistulosa</i> var. <i>menthifolia</i> ) 0.09 lbs/PLS/Acre		
	ACCEPTABLE SUBSTITUTIONS FOR GRASSES		
	American sloughgrass ( <i>Beckmannia syzigachne</i> ) 0.20 lbs/PLS/Acre		
	Alkali sacaton ( <i>Sporobolus airoides</i> ) 0.11 lbs/PLS/Acre		
	Prairie sandreed ( <i>Calamovilfa longifolia</i> ) 0.67 lbs/PLS/Acre		
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		



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# Native Seed Mixes

	WETLAND MIX		
	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Marsh sunflower	<i>Helianthus nuttallii</i>	1.51
	Pennsylvania smartweed	<i>Polygonum pensylvanicum (Persicaria pensylvanica)</i>	3.13
	Goldenglow daisy	<i>Rudbeckia ampla</i>	1.36
	Blue verbena	<i>Verbena hastata</i>	0.2
Grasses	American sloughgrass	<i>Beckmannia syzigachne</i>	0.39
	Inland saltgrass	<i>Distichlis stricta</i>	0.67
	Giant mannagrass	<i>Glyceria grandis</i>	0.27
	Fowl bluegrass	<i>Poa palustris</i>	0.35
	Prairie cordgrass	<i>Spartina pectinata</i>	1.9
Wet Species	Spikerush	<i>Eleocharis palustris</i>	0.42
	Arctic rush	<i>Juncus balticus (J. arcticus)</i>	0.03
	Hardstem bulrush	<i>Schoenoplectus acutus</i>	0.65
	Alkali bulrush	<i>Scirpus maritimus (Bolboschoenus maritimus)</i>	1.14
	Common three-square	<i>Schoenoplectus pungens</i>	0.65
		<b>Total for Wetland Mix</b>	<b>12.68 lbs/PLS/Acre</b>
Substitutes	ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS		
	Black-eyed Susan ( <i>Rudbeckia hirta</i> ) 0.19 lbs/PLS/Acre		
	Beebalm ( <i>Monarda fistulosa</i> var. <i>menthifolia</i> ) 0.23 lbs/PLS/Acre		
	If one or more species is unavailable, double the quantity of an available wildflower (In mix above).		
	ACCEPTABLE SUBSTITUTES FOR GRASSES		
	Salt and pepper grass ( <i>Deschampsia caespitosa</i> ) 0.14 lbs/PLS/Acre		
	Switchgrass ( <i>Panicum virgatum</i> ) 1.35 lbs/PLS/Acre		
	Alkali sacaton ( <i>Sporobolus airoides</i> ) 0.20 lbs/PLS/Acre		
	ACCEPTABLE SUBSTITUTES FOR WET SPECIES		
	If one or more species is unavailable, double the quantity of an available wet species (In mix above).		
Requirements	*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 100 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a broadcast seed application. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.		



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# Native Seed Mixes

	ALKALINE MIX		
	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Fringed sage	<i>Artemisia frigida</i>	0.05
	Purple prairie clover	<i>Dalea purpurea</i>	0.81
	Annual sunflower	<i>Helianthus annuus</i>	4.13
	Blue flax	<i>Linum lewisii</i>	0.83
	Mexican hat	<i>Ratibida columnifera</i>	0.2
Grasses	Sideoats grama	<i>Bouteloua curtipendula</i>	1.15
	Buffalograss	<i>Bouteloua dactyloides</i>	3.27
	Blue grama	<i>Bouteloua gracilis</i>	0.25
	Inland saltgrass	<i>Distichlis stricta</i>	0.35
	Bottlebrush squirreltail	<i>Elymus elymoides</i>	0.95
	Slender wheatgrass	<i>Elymus trachycaulus</i>	1.36
	Giant mannagrass	<i>Glyceria grandis</i>	0.14
	Switchgrass	<i>Panicum virgatum</i>	0.71
	Western wheatgrass	<i>Pascopyrum smithii</i>	1.61
	Alkali sacaton	<i>Sporobolus airoides</i>	0.11
		Total for Alkaline Mix	15.92 lbs/PLS/Acre
Substitutes	ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS		
	Indian blanketflower ( <i>Gaillardia aristata</i> ) 1.85 lbs/PLS/Acre		
	Prairie aster ( <i>Machaeranthera tanacetifolia</i> ) 0.49 lbs/PLS/Acre		
	Scarlet globemallow ( <i>Sphaeralcea coccinea</i> ) 0.61 lbs/PLS/Acre		
	ACCEPTABLE SUBSTITUTES FOR GRASSES		
	Canada wildrye ( <i>Elymus canadensis</i> ) 1.60 lbs/PLS/Acre		
	Nuttall's alkaligrass ( <i>Puccinellia airoides</i> ) 0.15 lbs/PLS/Acre		
	Prairie cordgrass ( <i>Spartina pectinata</i> ) 1.00 lbs/PLS/Acre		
Requirements	*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.		



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# Native Seed Mixes

DETENTION BASIN MIX			
	Common Name	Scientific Name	lbs/PLS/ Acre
Wildflowers	Plains coreopsis	<i>Coreopsis tinctoria</i>	0.17
	White prairie clover	<i>Dalea candida</i>	0.65
	Purple Prairie clover	<i>Dalea purpurea</i>	0.81
	Indian blanketflower	<i>Gaillardia aristata</i>	1.85
	Mexican hat	<i>Ratibida columnifera</i>	0.2
Grasses	Indian ricegrass	<i>Achnatherum hymenoides</i>	1.13
	Sideoats grama	<i>Bouteloua curtipendula</i>	1.15
	Buffalograss	<i>Bouteloua dactyloides</i>	3.27
	Blue grama	<i>Bouteloua gracilis</i>	0.25
	Inland saltgrass	<i>Distichlis stricta</i>	0.35
	Bottlebrush squirreltail	<i>Elymus elymoides</i>	0.95
	Streambank wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	1.36
	Prairie Junegrass	<i>Koeleria macrantha</i>	0.08
	Western wheatgrass	<i>Pascopyrum smithii</i>	1.61
	Little bluestem	<i>Schizachyrium scoparium</i>	0.7
	<b>Total for Detention Basin Mix</b>		<b>14.54 lbs/PLS/Acre</b>
Substitutes	<b>ACCEPTABLE SUBSTITUTES FOR WILDFLOWERS</b>		
	Blue flax ( <i>Linum lewisii</i> ) 0.83 lbs/PLS/Acre		
	Black-eyed Susan ( <i>Rudbeckia hirta</i> ) 0.14 lbs/PLS/Acre		
	Prairie aster ( <i>Machaeranthera tanacetifolia</i> ) 0.49 lbs/PLS/Acre		
	<b>ACCEPTABLE SUBSTITUTES FOR GRASSES</b>		
	Salt and pepper grass ( <i>Deschampsia caespitosa</i> ) 0.07 lbs/PLS/Acre		
	Six weeks fescue ( <i>Vulpia octoflora</i> ) 0.19 lbs/PLS/Acre		
	Slender wheatgrass ( <i>Elymus trachycaulus</i> ) 1.36 lbs/PLS/Acre		
Requirements	<p>*Contractor is responsible for locating and purchasing all species listed in mix. If a species can't be located, contractor must replace each missing species with the acceptable substitutions (listed above). Contractor is responsible for providing seed tags to appropriate City staff, if required for project. This mix is based on 70 seeds/ square foot and is only calculated for one acre. This mix is based on the contractor using a drill seed application. Mix should be doubled if hand broadcasted. Contractor is responsible for calculating the appropriate seed amounts to purchase. Please note that the pounds per acre are in PLS (Pure Live Seed) and must be ordered that way. All materials furnished shall be free of Colorado State noxious weeds as defined in Article III, Section 21-40 of the Code of the City of Fort Collins.</p>		



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