Addendum #1

Capital Project Committee

Project Information	
Project Name:	Greeley Fishing Pond Remedial Action Plan Implementation & Vegetative Soil Cover Construction
Bid Number:	FL20-01-001
Date:	December 5, 2019
Project Manager:	Brian Ward

Addendum Items	
Item 1:	A PDF version of the 2019-12-05 Pre-Proposal presentation has been included.
Item 2:	The SWMP Plan for the project has been included.
Item 3:	A PDF version of the 2019-12-05 Pre-Proposal meeting sign in sheet has been included.
Item 4:	The CAD files for the project may be downloaded from the following FTP site: https://terracon.sharefile.com/d-se2f743742304c90b. Please contact the City of Greeley if you experience any issues downloading these files.
Item 5:	Due to inclement weather, the pre-proposal site visit was postponed until December 12th, 2019 at 10:00 a.m. Please meet at the front gate entrance at the corner of 1st Ave and 31st St by 10:00 a.m.
Item 6:	The concrete located around the power poles will be removed in full and not replaced around the poles. The removed concrete will be treated as other onsite concrete, asbestos containing concrete will be buried on site and non asbestos containing concrete will be crushed.
Item 7:	The open space trail portion of the project will not be included within the scope of this proposal. Please disregard the construction of the trails.
Item 8:	Removal of trees is currently included within the "Clear and Grubbing" Item 4a. An updated bid tab will be issued for the project (as part of Addendum #2) that will include a separate line item for "Tree Removal" with units of Each. An estimated number of trees will be included within the new bid tab and the contractor will be paid for the actual trees removed for the project. It is anticipated that Addendum #2 for the project will be issued within 48 hours of the December 12th, 2019 site visit.

Fishing Pond Reclamation Services

December 5, 2019

City of Greeley Colorado

Agenda

- Project Team
- Project Background
- Project Overview, Challenges, and Goals
- Scope of Services
- Consultant Selection Schedule
- Preliminary Project Schedule
- Questions

Project Team

- Andy McRoberts, CPR Director, Project Owner
- Brian Ward, Project Manager
- Linda Ingram, Contract Specialist
- Terracon, Design Consultant
- Construction Contractor (TBD)

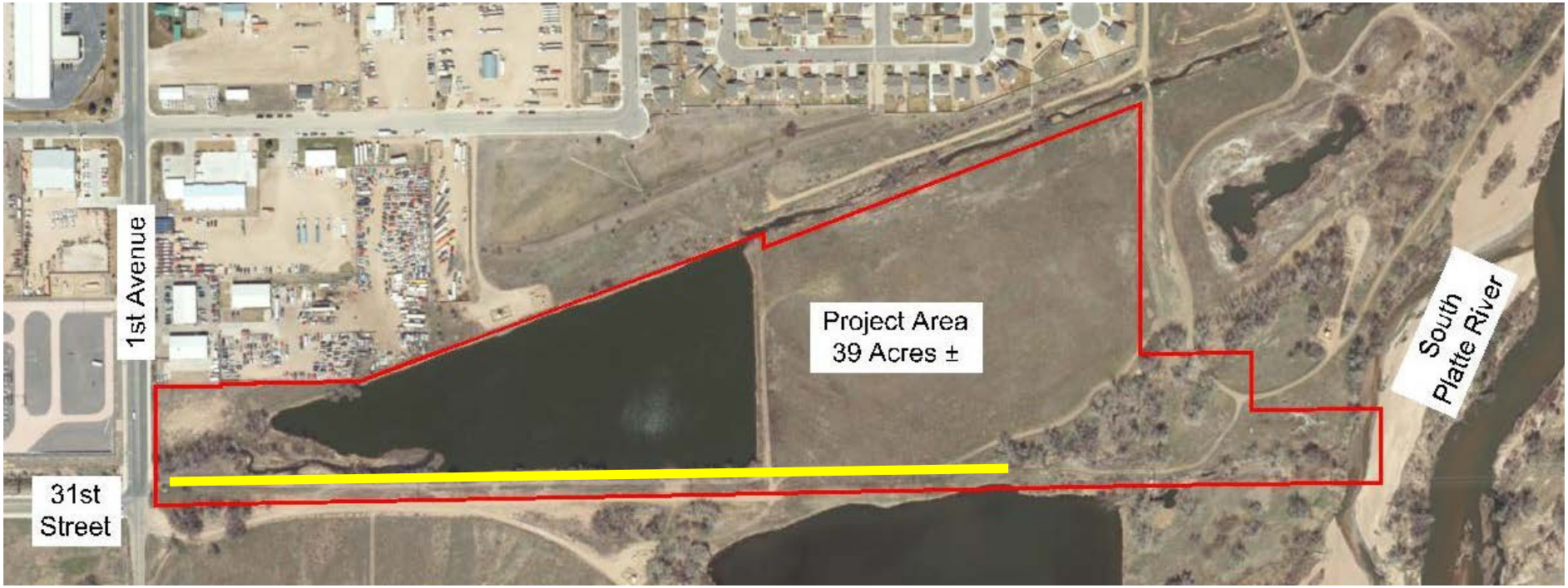
City of Greeley Colorado

Project Background

- Greeley Fishing Pond property was purchased in 2015
- A solid waste repository was present on the site (trash dump)
- Asbestos was discovered in the trash dump
- The site was accepted into the CDPHE voluntary cleanup program
- A cleanup method / design has been created and accepted by the CDPHE
- The site will ultimately be an open space for the public

City of Greeley Colorado

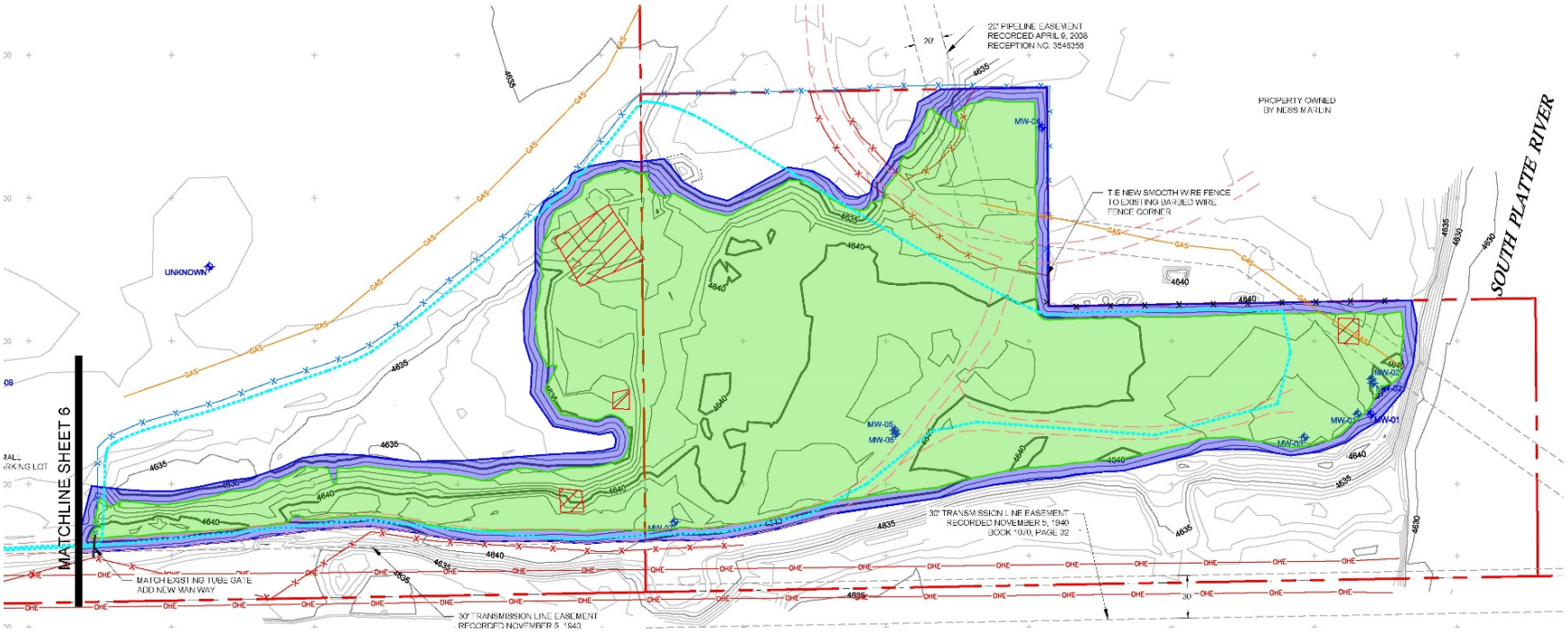
Project Background



Roadway improvements for accessing the site are annotated in yellow.

City of Greeley Colorado

Project Background



Green area is the 2' soil cap

City of Greeley Colorado

Project Overview - Construction

- Project Coordination
  - RFI's
  - Submittal Review
  - Minor Design Changes
  - Meetings
- Stormwater Control
  - CDPHE stormwater permit and SWMP plans

City of Greeley Colorado

Project Overview - Construction

- Site Cleanup
  - Clearing and Grubbing
  - General Trash
    - Car frames and bodies in ditch area
    - Fallen trees, brush, rubbish
  - Concrete pieces will need reviewed for asbestos. Pieces that contain asbestos will be buried or removed from the site as asbestos containing material (ACM). Pieces that do not contain asbestos will be crushed and used as base material
  - Concrete around power poles will need picked for asbestos as well.

Project Overview - Construction

- Vegetative Cover
  - Subgrade prep
  - Geotextile membrane
  - Soil fill / cover
  - Topsoil
  - Seeding
- Open space trails
  - Construct the open space soft trails per plan

Project Overview - Construction

- Asbestos Remediation
  - Proper handling of all onsite asbestos
  - Previously stabilized ACM will need to be graded and re-stabilized under the observation of an abatement contractor

It is the responsibility of the contractor to retain an asbestos handling consultant. All handling of asbestos whatsoever shall be by certified means and methods at the cost of the contractor.

- The design engineer will author the final abatement report.

City of Greeley Colorado

Other expectations:

- Meet weekly with City Team during Construction
- Frequent, honest and straightforward communication
- Team must be able to provide safe construction
- Manage all stakeholder comments and ensure all input is considered

Project Challenges

- Asbestos containing materials
- CDPHE guidelines and reporting need to be followed
- The construction site has unstable ground and small holes
- Critters and bugs
- Biologically sensitive area – disturbance needs to be kept to a minimum

City of Greeley Colorado

Project Goals

- Priorities:
  - No safety incidents
  - Asbestos is fully and properly abated
  - Reporting requirements are met

Addendum #1

- SWMP Plans
- Pre-Proposal Presentation
- Concrete around the WAPA power poles will not require replacement
- The on site visit has been rescheduled to December 12, 2019 at 10:00 a.m.

Consultant Selection Schedule

Schedule of Events (subject to change)	All times are given in local Colorado time
RFP Issued	November 8, 2019
Pre-Proposal Meeting	December 5, 2019 9:00 am Public Works, 1001 9th Ave
Inquiry Deadline	December 26, 2019 before 5:00pm
Final Addendum Issued	December 27, 2019 before 12:00 pm
RFP Due Date and Time	January 6, 2020, before 2:00 pm
Notice of Award (Tentative)	January 10, 2020

City of Greeley Colorado

Preliminary Project Schedule

- The City desires that the project follow the schedule below:
  - Notice-to-Proceed –02/01/2020
  - Contractor start work – 03/01/2020
  - 90 days for completion of work – 06/01/2020

Questions

Brian.Ward@greeleygov.com
970-350-9357

Stormwater Management Plan

Greeley Fishing Pond
East of 31st Street at 1st Avenue
Greeley, Weld County, Colorado
November 18, 2019

Terracon Project No. 21187023

Prepared for:
City of Greeley – Public Works Department
Greeley, Colorado

Prepared by:
Terracon Consultants, Inc.
Longmont, Colorado

Terracon

November 18, 2019

City of Greeley
Public Works Department
1001 9th Avenue
Greeley, Colorado

Attention: Mr. Brian Ward
Phone: (970) 350-9357
Email: brian.ward@greeleygov.com

Re: **Stormwater Management Plan – Greeley Fishing Pond**
East of 31st Street at 1st Avenue
Greeley, Weld County, Colorado
Terracon Project No. 21187023

Dear Mr. Ward,

Terracon Consultants, Inc. (Terracon) appreciates the opportunity to provide you with this Stormwater Management Plan (SWMP) for the above-referenced Site. Should you have any questions or require additional information, please do not hesitate to contact me at (303) 776-3921.

Sincerely,
Terracon Consultants, Inc.

Michael J. Skridulis
Environmental Department Manager

TABLE OF CONTENTS

APPENDICES

STORMWATER MANAGEMENT PLAN
GREELEY FISHING POND
EAST OF 31ST STREET AND 1ST AVENUE
GREELEY, WELD COUNTY, COLORADO

Terracon Project No. 21187023
November 18, 2019

1.0 INTRODUCTION

The proposed Greeley Fishing Pond Redevelopment site consists of three adjacent parcels located southeast of the City of Greeley, Weld County, Colorado. The parcels lie on the east side of 31st Street at 1st Avenue and make up the Greeley Fishing Pond and associated open space.

Environmental investigations performed by Terracon and others at the site have identified solid waste, asbestos containing material (ACM), arsenic, and semi volatile organic compounds (SVOCs) in site soils in exceedance of regulatory guidance action levels and regulatory standards. The site has been entered into the Colorado Department of Public Health and Environment (CDPHE), Voluntary Cleanup Program (VCP) to remediate the property and mitigate risks associated with the planned redevelopment of the property. Redevelopment of the property consists of the redevelopment of the site as City natural open space.

The remedial action plan outlined in the VCP application submitted to the CDPHE on November 8, 2018 (Terracon Project No. 21187023), and accepted by CDPHE on December 27, 2018, includes excavation and relocation of ACM, construction of an engineered vegetative soil cover, a groundwater monitoring program, and institutional controls to limit future site disturbance.

The Clean Water Act (CWA) provides that stormwater discharges associated with construction activity are unlawful unless authorized by the Colorado Discharge Permit System (CDPS). In accordance with the CWA, CDPHE requires a general permit for construction activity disturbing one-acre of land or more. The general permit is No.COR-030000 - Stormwater Discharges Associated with Construction Activity. Per this general permit, a Stormwater Management Plan (SWMP) must be prepared prior to submittal of the application for the permit and kept on site during construction.

2.0 SITE DESCRIPTION

2.1 Property

The proposed Greeley Fishing Pond Redevelopment site consists of three adjacent parcels identified as Weld County Assessor Parcel numbers 096121217001 (16.14-acres), 096121201023 (18.72-acres), and 096121100029 (3.79-acres). The parcels are located southeast of the City of Greeley, Weld County, Colorado. The parcels lie on the east side of 31st Street at 1st Avenue and make up the Greeley Fishing Pond and associated open space.

The property is owned by the City of Greeley (City) and has been allocated as future open space by the City of Greeley Public Works Department. The City is planning to convert the property to public open space trails with unrestricted access to the Greeley Fishing Pond.

2.2 Physical Setting

The property is located at an approximate elevation of 4,635 feet above sea level. Surface geology in the area is characterized by alluvial deposits of sand and gravel underlain by claystone, shale, sandy shale, and sandstone of the Cretaceous-era Laramie formation (Colton 1978).

Based on boring information collected at the site, the general site lithology is sand with silt and clay to depths ranging from 4 feet below ground surface (bgs) to 14 feet bgs. Clay and silt content generally increased as the distance from the South Platte River increased, heading approximately west. Bedrock was not encountered in any of the borings to a maximum depth of 16 feet bgs. Solid waste/trash (household waste including plastic, glass, and tires) was found across the site in soil borings ranging between 5.5 feet bgs to 10 feet bgs.

According to the U.S. Geological Survey (USGS), depth to the uppermost ground water beneath the property and vicinity is less than 5 feet below ground surface (bgs) (Hillier et al. 1979). Depth to groundwater was observed between 7.00 and 10.50 feet bgs at the site on February 2018. Based on groundwater monitoring, groundwater flows to the east at an approximate hydraulic gradient of 0.002 feet per foot (ft/ft). Groundwater flow direction, flow velocity and depth to groundwater may change due to seasonal weather variations such as precipitation, and inconsistency in the subsurface due to the solid waste material and varying depths to bedrock.

According to topographic information from the USGS 7.5-minute quadrangle map, surface water on the property flows to the east, toward the South Platte River (USGS 2013).

2.3 Proposed Construction Activities

As cited above, to mitigate risks associated with the planned redevelopment of the site as a City natural open space, proposed activities include excavation and relocation of ACM and construction of an engineered vegetative soil cover. The vegetative soil cover will include:

- 6-inch layer of imported soil over the landfill;
- 8-ounce non-woven geotextile on the 6-inch layer of soil;
- 18-inch imported soil/capping soil layer; and
- Mulch and seed to restore vegetation on cover.

Construction activities are shown in the proposed grading plan **(Appendix A).**

2.4 Proposed Sequence of Major Activities

The major activities and their proposed sequence include the following:

1. Install construction entrance and tracking pad at intersection of county road and site access road.
2. Construct access road (refer to drawing 6 in the grading plans).
3. Install silt fence (refer to drawing 6 in the grading plans).
4. Import fill soil for first 6-inch layer and compact per specifications (refer to drawing 4 in grading plans).
5. Place geotextile fabric on 6-inch fill (refer to drawing 4 in grading plans).
6. Import clean soil for vegetative cap, place in 6-inch layers and compact per specifications for total height of fill of 2 feet.
7. Mulch and seed final cover.

2.5 Area Estimates

The proposed Greeley Fishing Pond Redevelopment site consists of three adjacent parcels identified as Weld County Assessor Parcel numbers 096121217001 (16.14-acres), 096121201023 (18.72-acres), and 096121100029 (3.79-acres), i.e., total area of the site is 38.65 acres. The area to be disturbed by clearing, excavation, and grading is estimated at 3.89 acres shown in the following table.

Disturbed Area	Area (acres)
Landfill Cap	3.15
Access Road	0.74
Total:	**3.89**

2.6 Existing Vegetative Ground Cover

Based on a natural resources assessment conducted by Terracon, vegetation including the trees, saplings/shrubs, and herbs, currently covers approximately 70% to 80% of the site. Types of vegetation are presented in the following table.

Vegetation	Common Name	Scientific Name
Trees	American Elm	*Ulmus americana*
	Weeping Willow	*Salix pendulina*
	Virginia Creeper	*Parthenocissus quinquefolia*
	Eastern Cottonwood	*Populus deltoides*
	Cascade Mountain Ash	*Sorbus scopulina*
Sapling/Shrub	Western snowberry	*Symphoricarpos occidentalis*
	Gambel oak	*Quercus gamelii*
Herbs	Smooth Brome	*Bromis inermis*
	Field Bindweed	*Convolvulus arvensis*
	Intermediate Wheatgrass	*Thinopyrum intermedium*
	Hounds tongue	*Cynoglossum officinale*
	Prickly Pear	*Opuntia phaeacantha*
	Field pennycress	*Thlaspi arvense*
	Pepperweed	*Lepidium campestre*
	Wild oat	*Avena fatua*
	Curly dock	*Rumex crispus*
	Cheatgrass	*Bromus tectorum*
	Showy milkweed	*Asclepias speciosa*
	Reed canarygrass	*Phalaris arundinacea*
	Indian hemp	*Apocynum cannabinum*
	Prickly lettuce	*Latuca serriola*
	Thickspike wheatgrass	*Elymus lanceolatus*

2.7 Location and Description of Potential Pollution Sources

The locations and descriptions of potential pollution source include:

- Stormwater runoff from the landfill during the construction of the vegetative cover;
- Stormwater runoff from the soil piles stored on site.
- Fuel storage is not anticipated, rather fuel will be delivered to the site and conveyed directly into vehicles and equipment; and
- Fuel and hydraulic fluid leaks from construction equipment used on the access road and landfill cap, and at the storage area.

2.8 Location and Description of Non-Stormwater Discharges

Construction dewatering and concrete washout are not anticipated during construction activities. Landscape irrigation return flow is not anticipated. On-site springs were not noted during the natural resources assessment. Therefore, non-stormwater discharges from the site are not anticipated.

2.9 Receiving Waters

The South Platte River is immediately to the east of the site. Runoff from the east side of the site could potentially flow to the river. The Greeley Fishing Pond is approximately 600 feet west of the western border of the proposed landfill remediation area.

3.0 SITE MAP

The site map with proposed field activities is shown in the Grading Plan in **Appendix A**. The following shows areas of activities associated with the SWMP and respective drawings in the grading plans:

- Construction site boundaries are shown on drawings 4 and 6;
- Areas to be disturbed will be the surface of the landfill (Drawing 4) and the access road (Drawing 6);
- Areas of cut and fill are shown on Drawing 5;
- Areas used for storage of equipment, materials, and soil are shown in the site plan (**Appendix B**);
- Locations of structural BMPs are shown in Drawing 4; and
- Locations of surface waters are shown on Drawing 4.

4.0 STORMWATER MANAGEMENT CONTROLS

4.1 SWMP Administrator

The individuals responsible for developing, implementing, maintaining and revising the SWMP and their contact information include the following:

Name	Title	Email	Telephone
Brian Ward (City of Greeley)	Public Works Project Manager	Brian.ward@greeleygov.com	(970) 350-9357
Michael Skridulis (Terracon)	Project Manager	Mike.skridulis@terracon.com	(303) 454-5249

4.2 Identification of Potential Pollutant Sources and Best Management Practices for Stormwater Pollution Prevention

4.2.1 Soil Disturbing Activities

The following planned sequence of major soil disturbing and construction activities that may be performed by the facility operator include:

- Clearing and grubbing where necessary;
- Grading and addition of aggregate for construction of the access road;
- Create staging areas for equipment, materials, and imported soil;
- The installation of erosion and sediment control devices;
- Installation of soil cap on the landfill;
- Stockpiling and removal of soil, as necessary;
- Maintaining erosion and sediment control measures (continuous);
- Final grading of soil cap;
- Seeding, landscaping, and/or reclamation of disturbed areas, including stockpiles that will be idle for more than 14 calendar days;
- Removal of equipment and construction materials, and
- Once final stabilization has been reached, removal of erosion and sediment control devices.

The sequence of activities for the site is subject to change. Construction activities will be documented on a daily basis as presented in the Construction Quality Assurance (CQA) Plan. Site construction activities will be conducted in a sequencing approach to reduce the amount of disturbed soil at a given time, to the extent feasible. An area of disturbance will be completed prior to proceeding to the next area, if feasible.

4.2.2 Soil Erosion and Sedimentation Controls

Outlined below are the best management practices (BMPs) that will be used by the facility operators to reduce soil erosion and control sedimentation, both during and after construction. Soil erosion and sediment control BMPs will remain in place until final stabilization occurs (i.e., re-vegetation).

Soil erosion and sediment controls will be designed, installed, and maintained to:

- Control stormwater volume and velocity within the site to minimize soil erosion;
- Control peak-flow rates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and stream-back erosion;

- Reduce the amount of soil exposed during construction activity, to the extent feasible;
- Reduce the disturbance of steep slopes, to the extent feasible;
- Reduce sediment discharges from the site, to the extent feasible;
- Provide and maintain appropriate natural buffers if feasible and as necessary, around surface waters;
- Direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration;
- Preserve native topsoil at the site, unless infeasible; and
- Reduce soil compaction in post-construction pervious areas, to the extent feasible.

4.2.3 Structural Practices

The facility operators will be responsible for the installation, maintenance, and removal of the following practices:

Vehicle Tracking Pad

A stabilized construction access will be installed and vehicles from disturbed areas within the site will drive over stabilized rock construction exits prior to leaving the site. Construction entrances/exits will require maintenance as necessary. Maintenance includes adding rock or stirring up of existing rock entrances/exits to help prevent the off-site transfer of soil. The construction entrance/exit should be a minimum length of 70 feet and a minimum width of 12 feet the Colorado Department of Transportation's (CDOTs) Erosion Control and Stormwater Quality Field Guide.

Temporary Diversion Ditch and Berm

If needed if needed to divert stormwater runoff, temporary diversion ditches and berms shall be used. A diversion ditch is a small earth channel used to divert and convey runoff, generally to structures such as sediment basins, check dams, or reinforced rock berms. Depending on slope, the diversion swale may need to be lined with erosion control blanket, plastic (for temporary installations only), or riprap. Details for diversion ditches and berms can be found in CDOT's Erosion Control and Stormwater Quality Field Guide.

Berms shall have a minimum height of 18 inches, side slopes of 2:1 or flatter, and a minimum base width of 4.5 feet. Berms shall not be used in high-traffic areas where they will be continually run over. Do not run berms down a slope; watch for concentrated flows when the berm directs water to one area. Sand and gravel or debris laden material shall not be used to construct a berm.

Temporary Sediment Traps

If needed to allow sediments to settle out of stormwater runoff, sediment traps shall be used. Sediment traps are small impoundments that allow sediment to settle out of stormwater runoff. According to the CDOTs Erosion Control and Stormwater Quality Field Guide, sediment traps are usually used for areas draining 5 acres or less. Sediment traps should not be located closer than 20 feet from a proposed building foundation or highway alignment. Temporary sediment traps will be installed before any land disturbance takes place in the drainage area. Sediment will be removed from the trap when the wet storage volume has been reduced by one half. The outlet of a trap will be underlain with geotextile fabric and be at least 1 foot high. The slope on the outlet shall be no steeper than 2:1. Sediment trap outlets shall be riprap D50 = 12 inch. Sediment traps will only be dug down to a maximum of 4 feet, should not be installed in state waters, and should not mix with groundwater. The maximum structure life is 2 years. The required storage area is 1,800 cubic feet per acre. For details, refer to CDOT's Erosion Control and Stormwater Quality Field Guide.

4.2.4 Non-Structural Practices

The facility operators will be responsible for the installation, maintenance, and removal of the following practices:

Maintain Existing Vegetation

Existing native vegetative ground cover shall be protected and retained, to the extent feasible. Removal or disturbance of existing vegetation will be limited to the area required for immediate construction activities. To the extent feasible, native vegetative buffers will be maintained between construction areas and down gradient erosion control systems to reduce sediment runoff. Native vegetation will be used as a vegetative buffer in place of reinforced rock berm for perimeter sediment control in areas around the perimeter that are not down gradient to stormwater flow.

Stockpiling

Material stockpiles, if needed, shall be placed only in designated areas where sediment is controlled by berms, vegetative buffers or other structural barriers. It is anticipated that the Primary Operators will utilize temporary diversion berms in the areas around stockpiles. Diversion berms/channels may be constructed around stockpiles if stockpiles will be left overnight or if precipitation is imminent, to reduce sediment run-off, should the facility operator deem that this is necessary. Soil stockpiles shall not exceed 10 feet in height.

Soil Loading and Unloading

Soil erosion and sediment control procedures shall be used during unloading of imported soil at the soil stockpiles and during loading of the soil for transport and placement on the landfill cap. Procedures could include silt fence and berms to control runoff from these areas.

Dust Suppression

An on-site water truck(s) may be utilized as necessary to limit the off-site transport of sediment from the site as a means of dust suppression should it be determined that dust suppression is needed.

4.2.5 Stabilization Practices

Stabilization of disturbed areas will be initiated immediately by the facility operator whenever any clearing, grading, or other earth disturbing activities have permanently ceased.

Temporary Stabilization Practices

Areas where construction activity shall be temporarily suspended for more than 14 days shall be stabilized with a temporary seed and/or erosion control matting, within 14 days after construction has temporarily ceased. Where temporary stabilization measures not feasible, the facility operator will alternatively utilize temporary perimeter controls.

Permanent Stabilization Practices

Disturbed portions of the site where construction activities have permanently ceased shall be fertilized, stabilized with permanent seed, mulched, rocked and/or landscaped.

The preparation and application practices in establishing permanent vegetation shall be such that stabilization occurs within a short amount of time. Permanent stabilization shall be performed within 14 days after construction in that area of the site has permanently ceased.

4.2.6 Best Management Practices

Following is a list of BMPs that shall be used by the facility operator to avoid the transport of sediment/soil from one area of the site to another:

- Control access to the site, as necessary;
- Limit construction activities to those areas within the limits of disturbance as shown on the Site Map;
- Conduct operations so as not to transport sediment to areas that have been fully excavated or to areas outside the disturbance;
- Phase construction activities to reduce the amount of soil disturbed at one time;
- Cover transport vehicles, including over the road trucks, with tarps or an approved equal protective cover before leaving the site; and
- Periodically sweep the roadways outside of construction entrances, as needed, to remove sediment that is tracked onto pavement. The sediment collected by sweeping activities shall be collected and incorporated with on-site soils which are destined for off-site disposal. The pavement shall not be cleaned by washing down

the street, except when sweeping is ineffective and there is a threat to public safety. If it becomes necessary to wash the streets, the construction of a small sump will be considered. The sediment would then be washed into the sump where it can be controlled.

4.3 Potential Pollutants and Pollution Prevention Measures

Outlined below are other potential pollutants and BMPs that could be used by the facility operator to prevent potential releases of pollution from on-site materials and contaminated areas (if spills occur) during construction.

4.3.1 Hazardous Substances

Hazardous substances are not anticipated to be used on site. However, if used as part of the construction activities, will be used, stored, and disposed of in accordance with applicable local, state, and federal regulations. Materials will be stored in their original containers, under roof/cover, to the extent feasible. A Safety Data Sheet (SDS) for each chemical should be maintained at the site. Preventive maintenance inspections will be conducted on a routine basis. The facility operators will be responsible for implementing these procedures.

If spills of fuel or other hazardous substances occur on the site in excess of 1 gallon or reportable quantities, the incident will be addressed in accordance with applicable local, state, and/or federal reporting requirements. A spill kit will be maintained onsite where it is readily assessable during working hours. Information of spill reporting can be obtained from the CDPHE by calling 877-518-5608.

Waste materials will be collected, stored, and disposed in accordance with applicable local, state and federal regulations. Waste dumpsters will be covered to protect them from rain, snow, and other moisture that may cause them to release potentially hazardous materials. Construction materials will not be buried on-site. The facility operator will be responsible for implementing these procedures.

Portable toilets will be used on site during construction. Sanitary waste will be collected from the portable units by a licensed sanitary waste management contractor, as required by local regulations.

Good housekeeping procedures will be followed. Construction debris and trash will be collected and disposed of offsite as needed.

4.3.2 Management of Contaminated Soil

If contaminated soils are encountered in cut areas, they will be moved to areas on the landfill that will be covered with 24 inches of imported soil per the design.

4.4 Equipment Storage Area

Construction equipment and vehicles have the potential for leaks of fluids that can impact the soil and/or groundwater. Thus, construction vehicles and equipment will be intermittently checked for visual signs of leakage. If leakage is observed, oil absorbent materials and/or drip pans will be used to minimize the potential of exposure to stormwater to the extent feasible. Spill and leak prevention measures will include inspection of these areas during the required site inspections. Spill response procedures will be implemented at the construction site in case of a spill.

Maintenance done on equipment at the storage area shall monitor leaks or spills and take actions cited above to address leaks and spills. The facility operator will be responsible for implementing these procedures.

4.5 Pollution Prevention Measures

The facility operator will design, install, implement, and maintain effective pollution prevention measures to reduce the discharge of pollutants, to the extent feasible. At a minimum, these measures will be designed, installed, implemented, and maintained on site.

Although vehicle washing is not anticipated, the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters will be reduced to the extent feasible. Wash waters will be directed to a designated wash out area.

Fueling for construction may be conducted with a fuel truck that will not be kept on site permanently or using a temporary on-site fuel tanks. If used, temporary tanks will be stored near the equipment storage area. Temporary tanks shall have approved secondary containment that holds 100% of the tank plus sufficient volume for a 25-year, 24-hour storm. A double-walled tank only requires containment of spills from unloading and loading of fuel. In accordance with National Fire Protection Association (NFPA) 30, secondary containment must be constructed of materials of sufficient thickness, density and composition so as not to be structurally weakened as a result of contact with the fuel stored and capable of containing discharged fuel for a period of time equal to or longer than the maximum anticipated time sufficient to allow recovery of discharged fuel. Tanks must be in sound condition free of rust or other damage which might compromise containment. Fuel storage areas shall meet all Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and other regulatory requirements for signage, fire extinguisher, etc. Hoses, valves, fittings, caps filler nozzles and associated hardware

shall be maintained in proper working condition at all times. The location of the fuel tank(s) must be located to minimize exposure to weather and surface water drainage features.

5.0 FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

To achieve final stabilization of all disturbed areas and control pollutants in stormwater discharges after construction is completed, the following will be implemented:

- After placement and compaction of the imported soil used for the cap, the soil will be seeded and mulched per Section 32 92 19 of the project specifications (**Appendix C**); and
- Final stabilization of the landfill cap will be when plant density attains 70 percent of the pre-disturbance levels.

6.0 INSPECTION AND MAINTENANCE PROCEDURES

Outlined below are the observation and maintenance practices that will be used to maintain erosion and sediment controls. Inspections shall be documented in an inspection report prepared by the facility operator.

6.1 Inspection Observations

- Control measures will be observed by qualified personnel that have been trained to maintain BMPs and identify defects in erosion and sediment controls. These inspections will be performed by the facility operator or a designee at least weekly and within 24 hours following storm events of 0.5 inches;
- In the event of flooding or other controllable situations which prohibit access to the site, inspections will be conducted as soon as practicable;
- Personnel conducting the inspections will be knowledgeable of the Permit, the construction site, and the SWMP for the site;
- Qualified personnel will inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, discharge locations, and structural controls for evidence of, or the potential for, pollutants to enter the drainage system;
- The observations will include the construction entrance and on-site construction locations. The observations will assess the effectiveness of the controls;
- Erosion and sediment control measures, such as reinforced rock berms, will be observed for undermining, collapse, tears, decomposition, and effectiveness;

- Written reports will be prepared to document the observations and make recommendations for repairs or revisions to the BMPs, if required. Copies of the reports will be maintained on-site.

6.2 Maintenance

The following maintenance procedures will be utilized by the facility operator:

- If erosion is observed within vegetative buffers, additional BMPs will be installed and maintained;
- Sediment that accumulates will be periodically removed in order to maintain effectiveness. Trapped sediment will be removed before it reaches 50% of the above-ground height of the reinforced rock berms. Sediment removed during maintenance will be incorporated into soils destined for off-site disposal unless it is determined that the sediment was not generated by potentially contaminated soils. If determined to be from uncontaminated sources, sediment will be incorporated into earthwork on site or disposed of at appropriate locations;
- Repairs or revisions to control measures will be promptly initiated within 24 hours and completed within seven calendar days of the observed deficiency; and
- Built-up sediment will be removed from entrances/outlets as required.

6.3 Record Keeping

The facility operator will maintain on-site records of the following during construction:

- The dates when major grading activities occur in a particular area;
- The dates when construction activities cease in an area, temporarily or permanently;
- The dates when an area is stabilized, temporarily or permanently; and
- Inspections and notifications.

When the soil disturbing activity is completed and final stabilization has occurred on all portions of the site, a completed notice of termination will be submitted to the CDPHE and the City of Greely within 30 days.

The facility operator will be responsible for the SWMP and inspection forms being readily accessible at the construction site for review by the CDPHE; a federal, state, or local agency approving erosion and sediment control plans; and local government officials (City of Greely). A copy of this SWMP will be kept at the site until completion of construction activities. If the site becomes inactive or does not have an on-site location to store the plan, a notice will be posted describing the location of the SWMP. A copy of the SWMP, reports required by the permit, site

inspection records, Operator certifications, and Plan revisions will be maintained by the facility operator for a minimum of three years.

APPENDIX A

GRADING PLAN

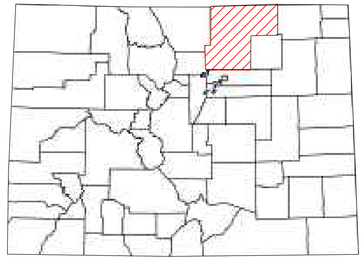
GRADING PLAN DRAWINGS FOR

CITY OF GREELEY
GREELEY FISHING POND - WASTE DUMP
WELD COUNTY, COLORADO

PROFESSIONAL ENGINEER'S CERTIFICATION

"I CERTIFY TO THE BEST OF MY PROFESSIONAL JUDGMENT THAT THIS DRAWING SET PROPERLY ADHERES TO ESTABLISHED, SOUND ENGINEERING PRACTICES. THIS CERTIFICATION IS CONTINGENT ON THE FACT THAT ALL INFORMATION SUPPLIED TO THE SIGNATORY AUTHORITY, UP TO THE DATE OF THIS CERTIFICATION, IS UNQUESTIONABLY ACCURATE AND WAS PROVIDED IN GOOD FAITH."

JULY 2019
PROJECT NO. 3519P052



VICINITY MAP
N.T.S.

Know what's below. Call before you dig.

PREPARED FOR:

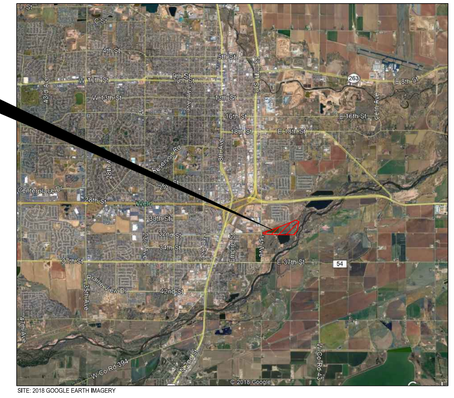
THE CITY OF GREELEY
1001 9TH AVENUE
GREELEY, COLORADO 80631
(970) 350-9357

PREPARED BY:

Terracon
Consulting Engineers and Scientists

1831 LEFTHAND CIR, STE C LONGMONT, CO 80501
PH. (303) 776-3921 FAX. (303) 776-4041

SITE LOCATION



SITE LOCATION MAP
SCALE: N.T.S.

NOTE:

1. THIS DRAWING SET IS PRELIMINARY IN NATURE AND IS NOT A FINAL SIGNED AND SEALED DOCUMENT
2. TREE GRUBING TO BE DETERMINED AT A LATER DATE

INDEX OF DRAWINGS

DRAWING NO.	TITLE
1.	COVER SHEET
2.	INDEX SHEET
3.	EXISTING CONDITIONS
4.	FINAL GRADING PLAN
5.	CUT/FILL PLAN
6.	CONSTRUCTION ENTRANCE PLAN

TYPICAL ABBREVIATIONS

DIA	DIAMETER
ELEV	ELEVATION
FT	FEET
HDPE	HIGH DENSITY POLYETHYLENE
HORZ	HORIZONTAL
ID	INSIDE DIAMETER
IN	INCHES
INV	INVERT
MAX	MAXIMUM
MIN	MINIMUM
MSL	MEAN SEA LEVEL
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PL	PROPERTY LINE
SDR	STANDARD DIMENSION RATIO
TYP	TYPICAL
VERT	VERTICAL

GENERAL NOTES

1. EXISTING FACILITIES AND FEATURES ARE SHOWN LIGHT-LINED AND/OR SCREENED. NEW FACILITIES AND FEATURES ARE SHOWN SOLID AND HEAVY-LINED.

2. SLOPES AND GRADES ARE IN UNITS OF FT(H):FT(V), UNLESS OTHERWISE NOTED.

3. ASBESTOS HAS BEEN IDENTIFIED AT THIS SITE, ASBESTOS IS A BREATHING HAZARD. CONTRACTOR SHALL MINIMIZE SURFACE DISTURBANCE DURING CLEARING ACTIVITIES. AREAS OF KNOWN AND STABILIZED ASBESTOS CONTAINING MATERIALS ARE IDENTIFIED ON THE PLAN AND SHALL NOT BE DISTURBED. IF THE CONTRACTOR UNINTENTIONALLY EXHUMES WASTE OF ANY KIND DURING THE CLEARING ACTIVITY, WORK SHALL BE STOPPED IMMEDIATELY AND THE CITY OF GREELEY PROJECT MANAGER SHALL BE NOTIFIED. WORK WILL ONLY RESUME WHEN THE CITY PROJECT MANAGER HAS GIVEN THE NOTICE TO PROCEED.

4. PLAN IDENTIFIES KNOWN SURFACE AND SUBSURFACE UTILITIES. THIS IN NO WAY RELIEVES THE CONTRACTOR'S OBLIGATION TO IDENTIFY UTILITIES NOT SHOWN, IF ANY, PRIOR TO START OF WORK. THIS INCLUDES PERFORMING THE UTILITY LOCATION CALL TO 811. DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

CONTACT INFORMATION

OWNER:
CITY OF GREELEY
ATTENTION: BRIAN WARD, P.E., P.M.P. - PUBLIC WORKS PROJECT MANAGER
1001 9TH AVENUE
GREELEY, CO 80631
PHONE: (970) 350-9357

ENGINEER:
TERRACON CONSULTANTS, INC.
ATTENTION: F. OWEN CARPENTER P.E. - SR. PROJECT ENGINEER
MIKE SKRIDULIS - PROJECT MANAGER
25809 I-30 SOUTH
BRYANT, ARKANSAS 72022
PHONE: (501) 943-1011
FAX: (501) 847-9210

REGULATORY AUTHORITY:
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
4300 CHERRY CREEK DRIVE SOUTH
DENVER, COLORADO 80246
PHONE: (303) 692-2000

REV.	DATE	BY	DESCRIPTION

INDEX SHEET

GREELEY FISHING POND - WASTE DUMP REGRADE
CITY OF GREELEY
GREELEY FISHING POND WASTE DUMP
WELD COUNTY COLORADO

Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR. STE C
PH. (303) 776-3921
LONGMONT, CO 80501
FAX. (303) 776-4041

DRAWING 2

DESIGNED BY:	MPB
DRAWN BY:	DEW
APPVD. BY:	FOC
SCALE:	
DATE:	JULY 2019
JOB NO.	3519P052
ACAD NO.	167 / 020
SHEET NO.:	2 OF 6

N:\GEC\ARCHIVE\CAD\167\020\3519P052\PLAN SET\020-INDEX SHEET.DWG

N

40 0 20 40

SCALE IN FEET

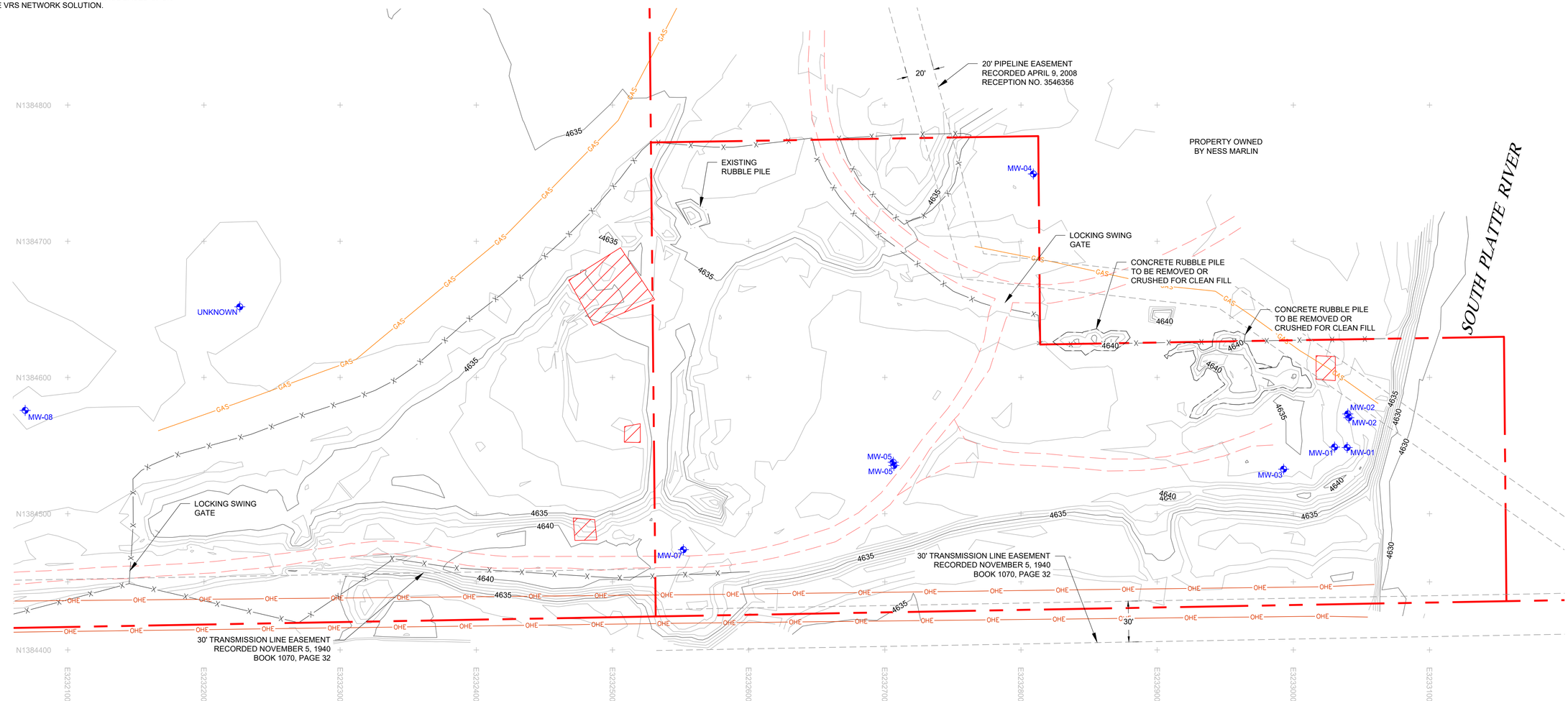
NOTE:
1. EXISTING GRADE CONTOURS PROVIDED BY KING SURVEYORS ON FEBRUARY 21, 2019.
2. SEE NOTE 3 ON DRAWING 2 REGARDING ASBESTOS WASTE.
3. EXISTING MONITORING WELLS WITHIN THE GRADING AREA WILL BE ABANDONED IN ACCORDANCE WITH THE GUIDELINES OUTLINED BY THE COLORADO DEPARTMENT OF WATER RESOURCES (DWR) STATE ENGINEER'S OFFICE (SEO).
4. THIS DRAWING IS AT MODIFIED STATE PLANE. TO REDUCE TO STATE PLANE COORDINATES, SCALE AT 0.99973537 (1.00026470) ABOUT THE ORIGIN 0,0.
5. TREE GRUBING TO BE DETERMINED AT A LATER DATE

VERTICAL DATUM:
NORTH AMERICAN VERTICAL DATUM OF 1988. VERTICAL BENCHMARK IS NGS DESIGNATION S 261, ELEVATION=4653.00, A STANDARD DISK SET IN THE TOP OF A CONCRETE POST, AND LOCATED IN EVANS, COLORADO NEAR THE INTERSECTION OF THE UNION PACIFIC RAILROAD AND 39TH STREET, 93' SOUTH OF THE CENTERLINE OF 39TH STREET AND 31.6' EAST OF THE EAST RAIL OF THE UNION PACIFIC RAILROAD.

HORIZONTAL DATUM:
COLORADO STATE PLANE NORTH ZONE COORDINATES NAD 83(2011) DATUM. HORIZONTAL CONTROL BASED UPON TRIMBLE VRS NETWORK SOLUTION.

LEGEND:

- 100 — EXISTING GRADE CONTOURS (1 FOOT CONTOURS)
- X—X—X—X — EXISTING FENCELINE
- GAS—GAS — EXISTING GAS LINE
- OHE—OHE — OVERHEAD ELECTRIC
- ROAD
- EXISTING UTILITY EASEMENT
- PROPERTY LINE
- MW-04 — MONITORING WELL LOCATION
- STABILIZED ASBESTOS AREA (DO NOT DISTURB)
- N1384900 — HORIZONTAL COORDINATE GRID



REV.	DATE	BY	DESCRIPTION

EXISTING CONDITIONS

GREELEY FISHING POND - WASTE DUMP REGRADE

CITY OF GREELEY

GREELEY FISHING POND WASTE DUMP

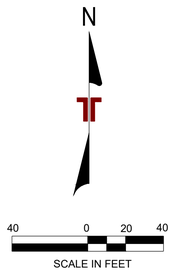
WELD COUNTY COLORADO

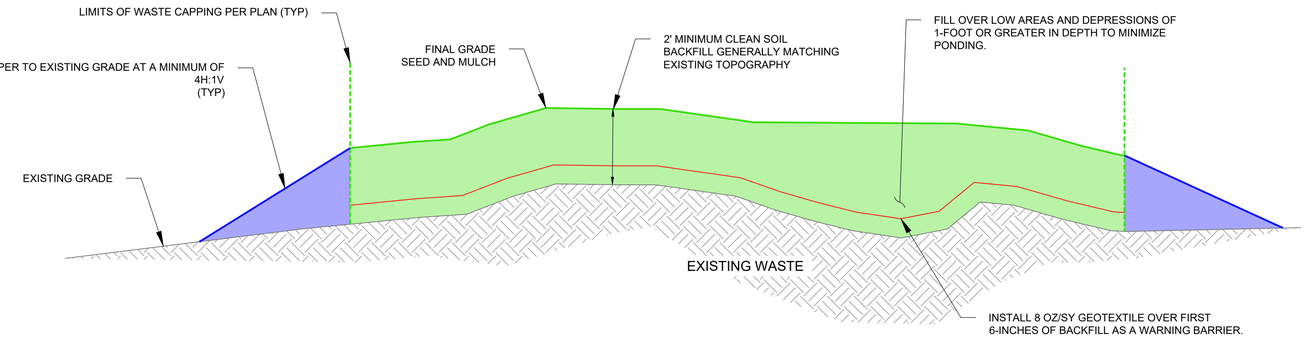
Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR, STE C
LONGMONT, CO 80501
PH: (303) 776-5921
FAX: (303) 776-4041

DRAWING 3

DESIGNED BY:	MPB
DRAWN BY:	DEW
APPVD. BY:	FOC
SCALE:	SEE SCALE
DATE:	JULY 2019
JOB NO.	3519P052
ACAD NO.	167 / 020
SHEET NO.:	3 OF 6

N:\GEC2\RCHIVE\CAD\167\2020\3519P052\PLAN SET\003-EXISTING CONDITIONS.DWG

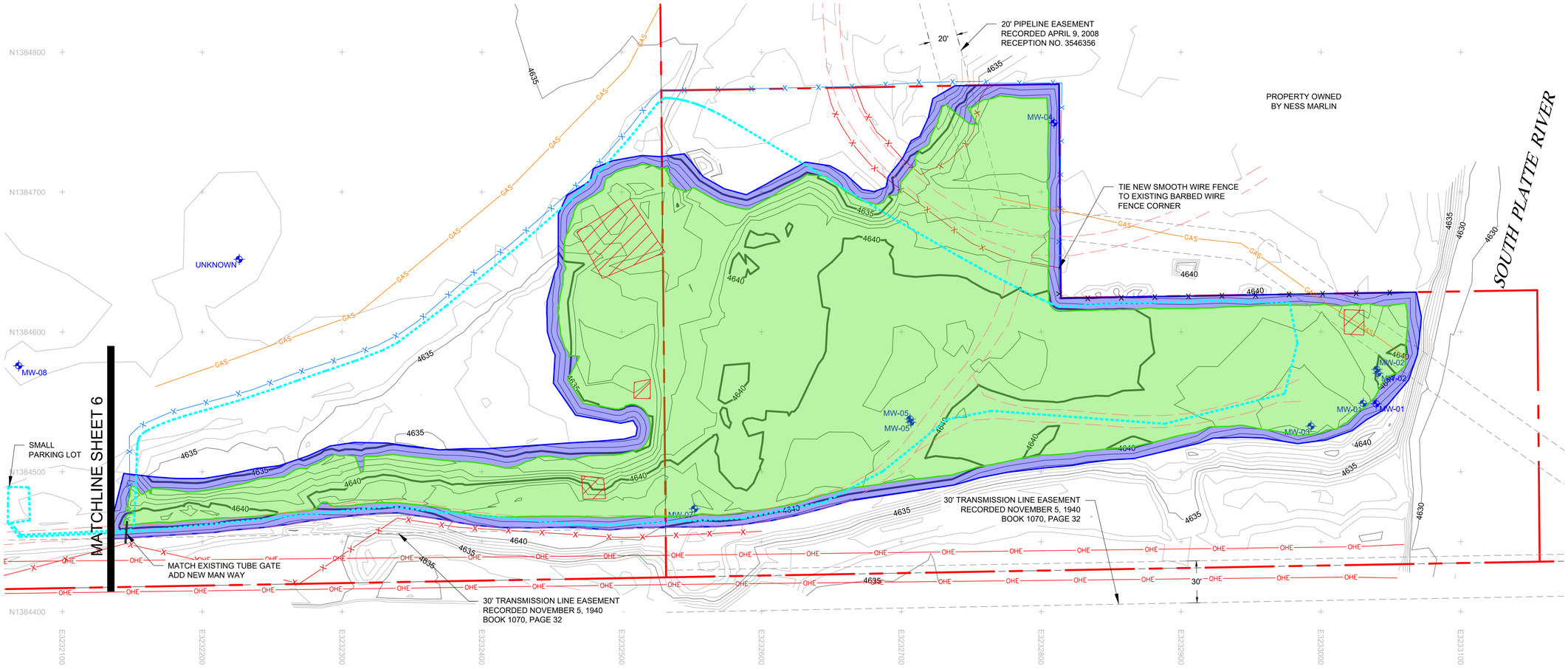




TYPICAL CAP FILL DETAIL

NOTE:

1. EXISTING GRADE CONTOURS PROVIDED BY KING SURVEYORS ON FEBRUARY 21, 2019.
2. SEE NOTE 3 ON DRAWING 2 REGARDING ASBESTOS WASTE.
3. EXISTING MONITORING WELLS WITHIN THE GRADING AREA WILL BE ABANDONED IN ACCORDANCE WITH THE GUIDELINES OUTLINED BY THE COLORADO DEPARTMENT OF WATER RESOURCES (DWR) STATE ENGINEER'S OFFICE (SEO).
4. THE CONTRACTOR SHALL INSTALL SILT FENCES IMMEDIATELY DOWN-SLOPE OF EACH AREA TO BE DISTURBED PRIOR TO THE BEGINNING OF WORK IN THAT AREA. THE CONTRACTOR SHALL MAINTAIN THE SILT FENCES FOR THE DURATION OF CONSTRUCTION. ACCUMULATED SEDIMENT BEHIND THE SILT FENCES SHALL BE DISPOSED OF ON-SITE BY THE CONTRACTOR IN A MANNER APPROVED BY THE OWNER. SEE DETAIL B ON SHEET 6 FOR SILT FENCE INSTALLATION GUIDANCE



REV.	DATE	BY	DESCRIPTION

FINAL GRADING PLAN
GREELEY FISHING POND - WASTE DUMP REGRADE
CITY OF GREELEY
GREELEY FISHING POND WASTE DUMP
WELD COUNTY COLORADO

Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR. STE C
PH. (303) 776-3921
LONGMONT, CO 80501
FAX. (303) 776-4041

DRAWING 4	
DESIGNED BY:	MPB
DRAWN BY:	DEW
APPV'D. BY:	FOC
SCALE:	SEE SCALE
DATE:	OCTOBER 2019
JOB NO.	3519P052
ACAD NO.	167 / 020
SHEET NO.:	4 OF 6

N:\GEC\ARCHIVE\CAD\167\020\3519P052\PLAN SET\004-FINAL GRADING.DWG

N

40 0 20 40

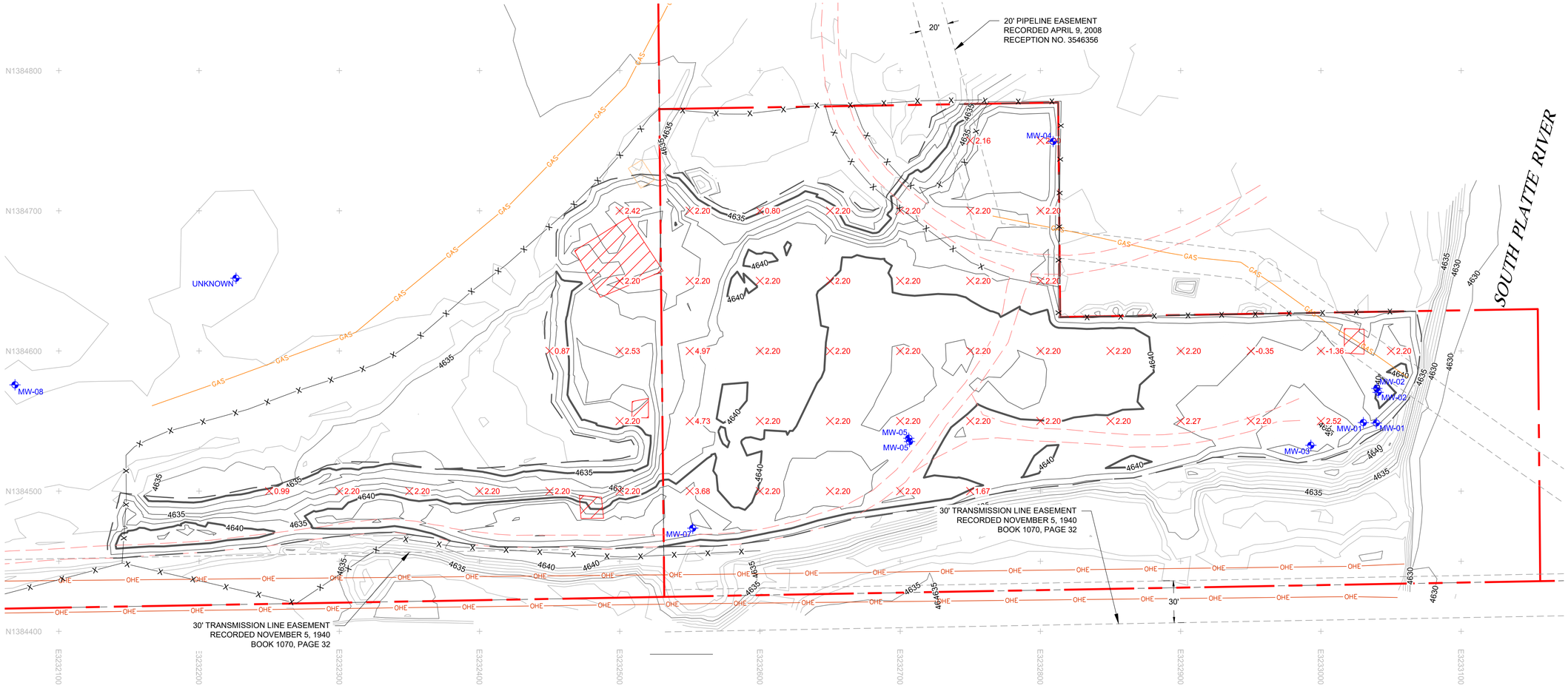
SCALE IN FEET

LEGEND:

- 100 — EXISTING GRADE CONTOURS (1-FOOT CONTOURS)
- 100 — PROPOSED FINAL COVER CONTOURS (1-FOOT CONTOURS)
- X X X X — FINAL FENCELINE
- GAS GAS — EXISTING GAS LINE
- OHE OHE — OVERHEAD ELECTRIC
- PROPERTY LINE
- ROAD
- EXISTING UTILITY EASEMENT
- STABILIZED ASBESTOS LOCATION (DO NOT DISTURB)
- LIMITS OF GRADING
- FEET OF SOIL BETWEEN EXISTING GRADE AND PROPOSED FINAL COVER — 2.20
- CONTROL POINTS
- MW-04 — MONITORING WELL LOCATION

NOTE:

1. EXISTING GRADE CONTOURS PROVIDED BY KING SURVEYORS ON FEBRUARY 21, 2019.
2. SEE NOTE 3 ON DRAWING 2 REGARDING ASBESTOS WASTE.
3. EXISTING MONITORING WELLS WITHIN THE GRADING AREA WILL BE ABANDONED IN ACCORDANCE WITH THE GUIDELINES OUTLINED BY THE COLORADO DEPARTMENT OF WATER RESOURCES (DWR) STATE ENGINEER'S OFFICE (SEO).



REV.	DATE	BY	DESCRIPTION

CUT/FILL PLAN

GREELEY FISHING POND - WASTE DUMP REGRADE

CITY OF GREELEY

GREELEY FISHING POND WASTE DUMP

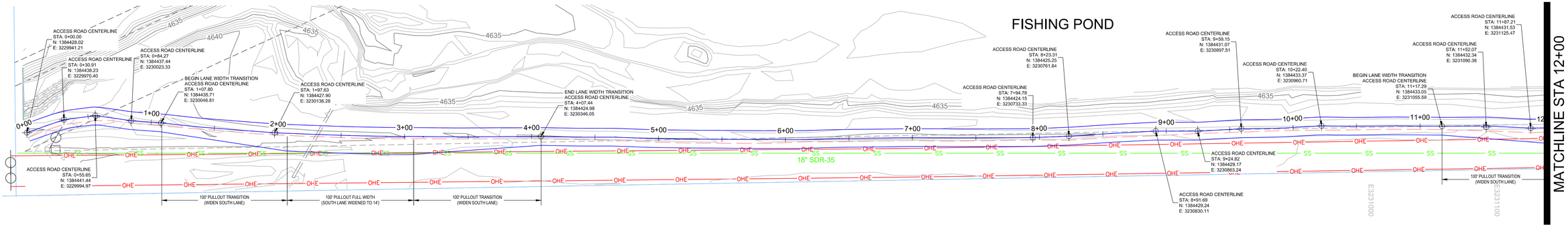
WELD COUNTY COLORADO

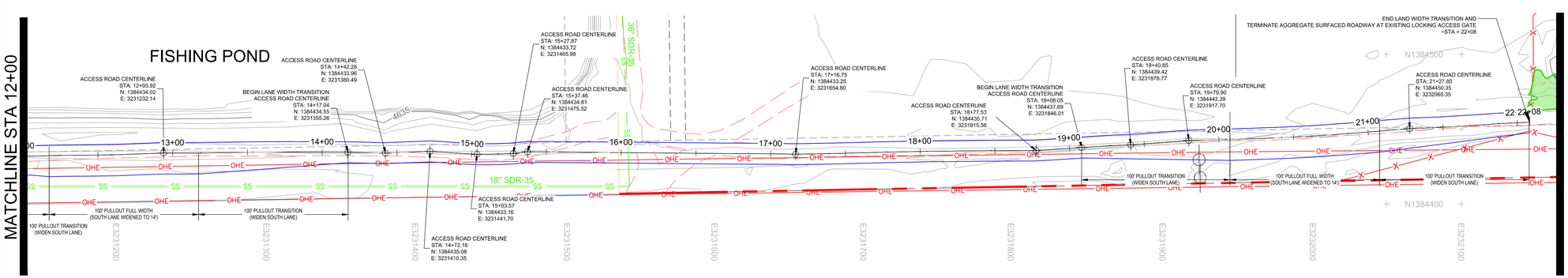
Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR, STE C
LONGMONT, CO 80501
PH: (303) 776-3921
FAX: (303) 776-4041

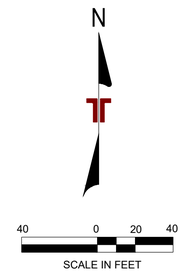
DRAWING 5

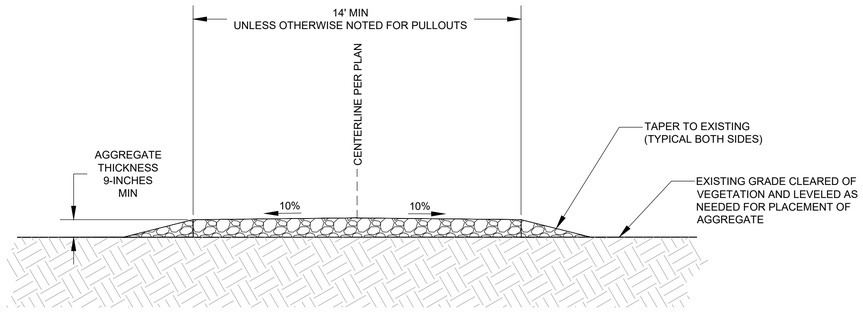
DESIGNED BY:	MPB
DRAWN BY:	DEW
APPVD. BY:	FOC
SCALE:	SEE SCALE
DATE:	JULY 2019
JOB NO.	3519P052
ACAD NO.	167 / 020
SHEET NO.:	5 OF 6

N:\GEC\ARCHIVE\CAD\167\020\3519P052\PLAN SET\005-CUT-FILL POINTS.DWG





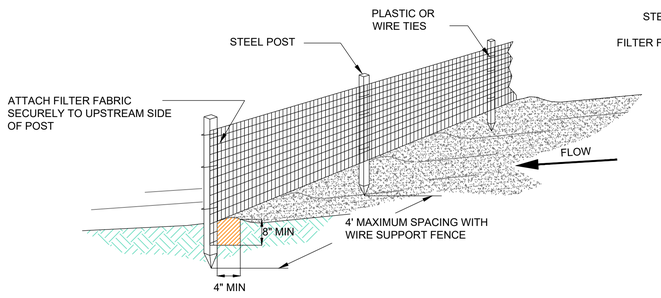


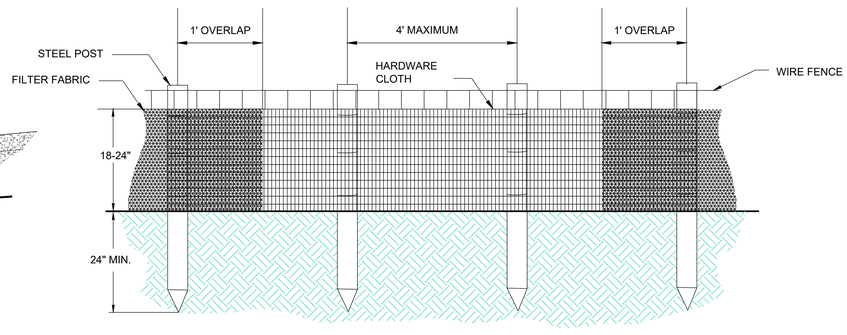


AGGREGATE-SURFACED ROADWAY CROSS SECTION

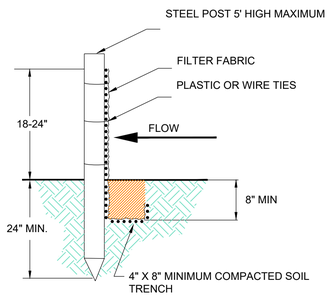
DETAIL A 6

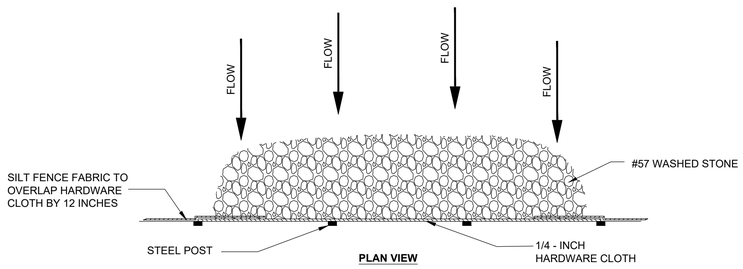
NOT TO SCALE





FRONT VIEW





PLAN VIEW

FILTER FABRIC SILT FENCE/SILT FENCE OUTLET

DETAIL B 6

SCALE: N.T.S.

LEGEND:

- 100 — EXISTING GRADE CONTOURS (1-FOOT CONTOURS)
- X X X X — EXISTING FENCELINE
- GAS GAS — EXISTING GAS LINE
- OHE OHE — OVERHEAD ELECTRIC
- APPROXIMATE LIMITS OF EXISTING TWO TRACK DRIVE
- EXISTING UTILITY EASEMENT
- PROPOSED AGGREGATE SURFACE ROAD EDGE, SEE DETAIL A THIS SHEET FOR INSTALLATION GUIDANCE
- SS SS — PROTECT SANITARY SEWER LINE (18" SDR-35)

NOTE:

1. EXISTING GRADE CONTOURS PROVIDED BY KING SURVEYORS ON FEBRUARY 21, 2019.
2. AGGREGATE MATERIAL PER SPECIFICATIONS TO BE PLACED IN LIFTS WITH A MAXIMUM OF 6-INCHES AND COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY UNIT WEIGHT, ASTM D1557.
3. AGGREGATE SHALL BE LAID AT EXISTING GRADE.
4. THE CONTRACTOR SHALL INSTALL SILT FENCES IMMEDIATELY DOWN-SLOPE OF EACH AREA TO BE DISTURBED PRIOR TO THE BEGINNING OF WORK IN THAT AREA. THE CONTRACTOR SHALL MAINTAIN THE SILT FENCES FOR THE DURATION OF CONSTRUCTION. ACCUMULATED SEDIMENT BEHIND THE SILT FENCES SHALL BE DISPOSED OF ON-SITE BY THE CONTRACTOR IN A MANNER APPROVED BY THE OWNER. SEE DETAIL B THIS SHEET FOR SILT FENCE INSTALLATION GUIDANCE
5. ENSURE PROTECTION OF SANITARY SEWER LINE.

REV.	DATE	BY	DESCRIPTION

CONSTRUCTION ENTRANCE PLAN

GREELEY FISHING POND - WASTE DUMP REGRADE

CITY OF GREELEY

GREELEY FISHING POND WASTE DUMP

WELD COUNTY COLORADO

Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR. STE C
LONGMONT, CO 80501
PH: (303) 776-3921
FAX: (303) 776-4041

DRAWING 6	
DESIGNED BY:	MPB
DRAWN BY:	DEW
APPVD. BY:	FOC
SCALE:	SEE SCALE
DATE:	OCTOBER 2019
JOB NO.	3519P052
ACAD NO.	167 / 020
SHEET NO.:	6 OF 6

N:\GE\CAR\CHIVE\CAD\167\020\3519P052\PLAN SET\006-CONSTRUCTION ROAD GRADING.DWG

LEGEND:

- 100 — EXISTING GRADE CONTOURS (1-FOOT CONTOURS)
- X—X—X—X — EXISTING FENCELINE
- GAS GAS — EXISTING GAS LINE
- OHE OHE — OVERHEAD ELECTRIC
- PROPERTY LINE
- ROAD
- EXISTING UTILITY EASEMENT
- AREA OF 25' TEMPORARY EASEMENT
- LIMITS OF GRADING
- MW-04 — MONITORING WELL LOCATION
- SECTION OF FENCE TO BE REMOVED
- NEW 3 STRAND SMOOTH WIRE FENCE
- ROAD TO BE REMOVED

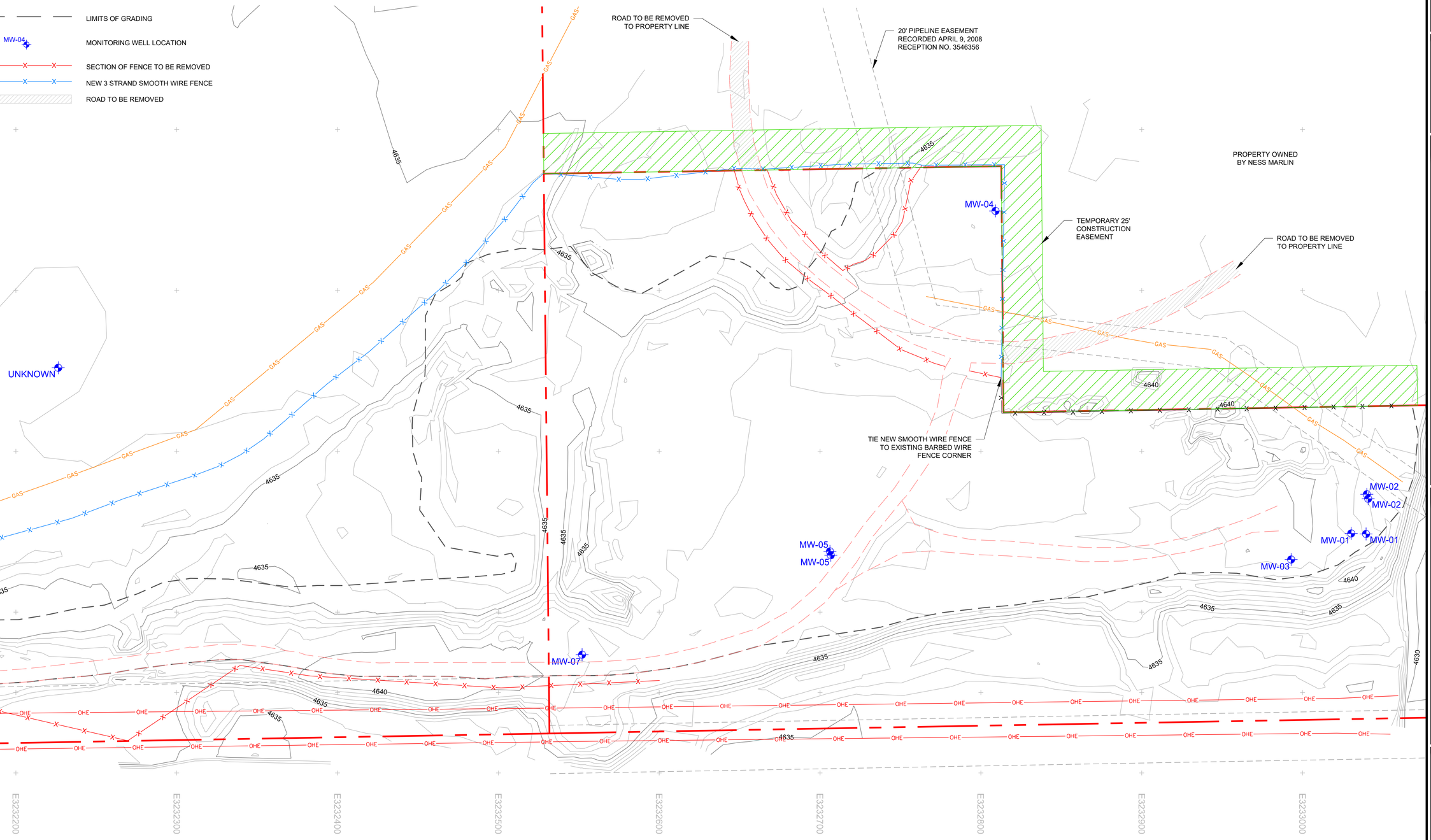
NOTE:

1. EXISTING GRADE CONTOURS PROVIDED BY KING SURVEYORS ON FEBRUARY 21, 2019.
2. SEE NOTE 3 ON DRAWING 2 REGARDING ASBESTOS WASTE.
3. EXISTING MONITORING WELLS WITHIN THE GRADING AREA WILL BE ABANDONED IN ACCORDANCE WITH THE GUIDELINES OUTLINED BY THE COLORADO DEPARTMENT OF WATER RESOURCES (DWR) STATE ENGINEER'S OFFICE (SEO).
4. THE CONTRACTOR SHALL INSTALL SILT FENCES IMMEDIATELY DOWN-SLOPE OF EACH AREA TO BE DISTURBED PRIOR TO THE BEGINNING OF WORK IN THAT AREA. THE CONTRACTOR SHALL MAINTAIN THE SILT FENCES FOR THE DURATION OF CONSTRUCTION. ACCUMULATED SEDIMENT BEHIND THE SILT FENCES SHALL BE DISPOSED OF ON-SITE BY THE CONTRACTOR IN A MANNER APPROVED BY THE OWNER. SEE DETAIL B ON SHEET 6 FOR SILT FENCE INSTALLATION GUIDANCE

N

30 0 15 30

SCALE IN FEET



E323200 E323300 E323400 E323500 E323600 E323700 E323800 E323900 E323000

REV.	DATE	BY	DESCRIPTION

TEMPORARY CONSTRUCTION EASEMENT
GREELEY FISHING POND - WASTE DUMP REGRADE
CITY OF GREELEY
GREELEY FISHING POND WASTE DUMP
WELD COUNTY COLORADO

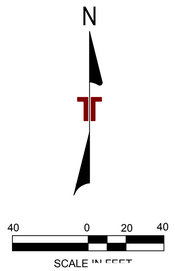
Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR. STE C
LONGMONT, CO 80501
PH. (303) 776-3921
FAX. (303) 776-4041

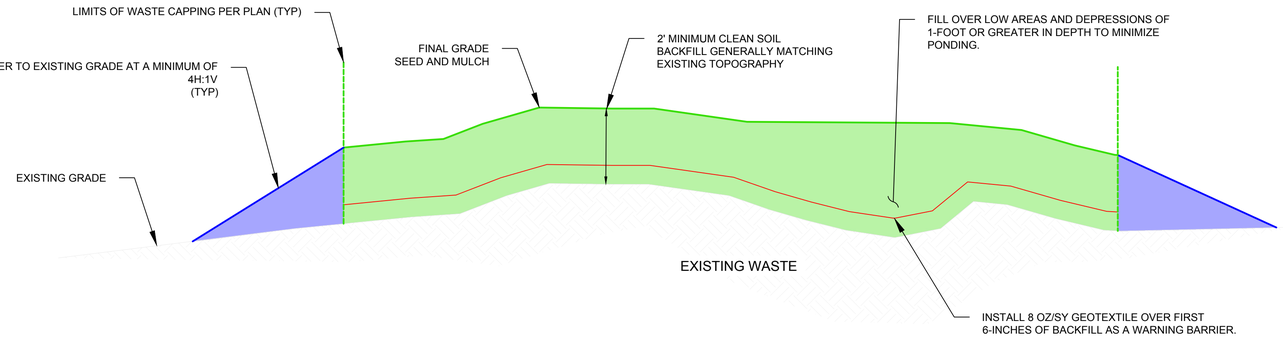
DRAWING 7	
DESIGNED BY:	MPB
DRAWN BY:	DEW
APPVD. BY:	FOC
SCALE:	SEE SCALE
DATE:	OCTOBER 2019
JOB NO.	3519P052
ACAD NO.	167 / 020
SHEET NO.:	OF

N:\GE\CAD\CHIVE\CAD\167\020\3519P052\PLAN SET\TEMP. CONSTRUCTION EASEMENT.DWG

APPENDIX B

SITE PLAN

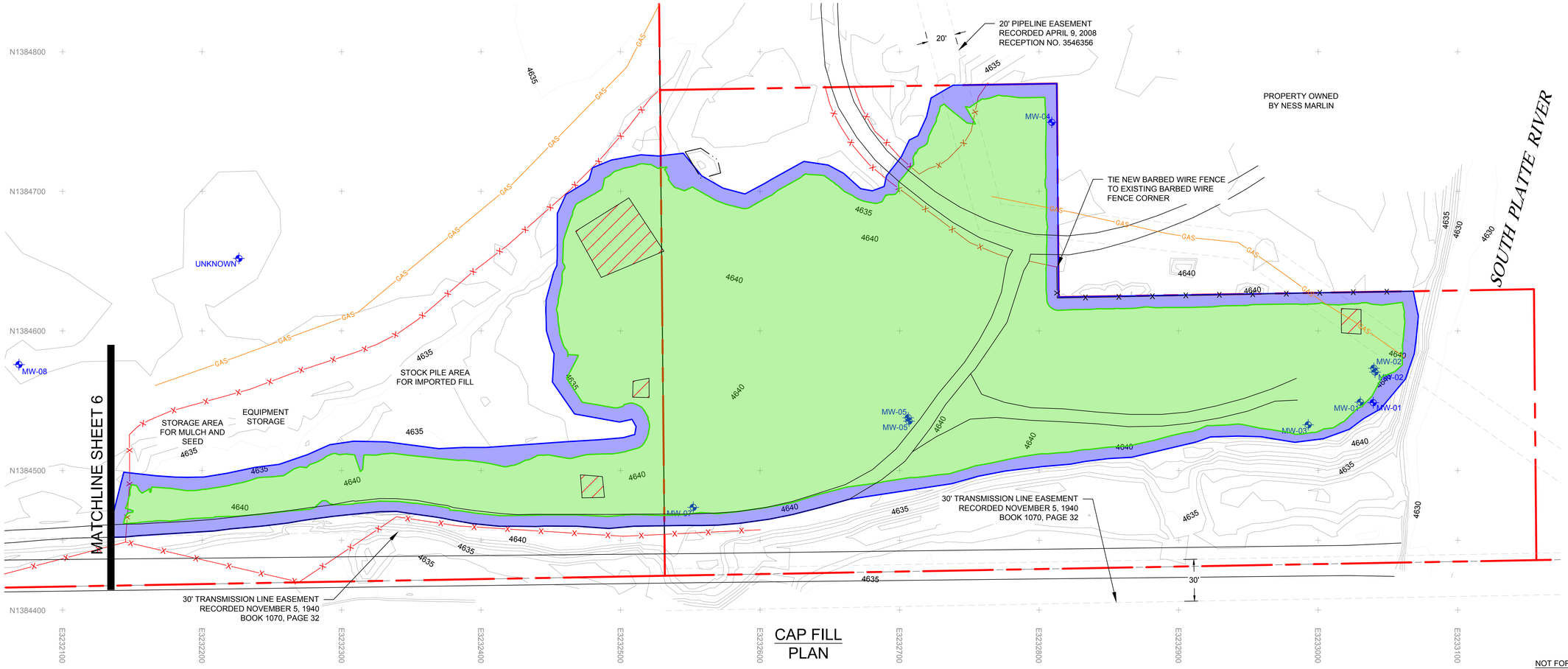




TYPICAL CAP FILL PROFILE

NOTE:

1. EXISTING GRADE CONTOURS PROVIDED BY KING SURVEYORS ON FEBRUARY 21, 2019.
2. ASBESTOS HAS BEEN IDENTIFIED AT THIS SITE, ASBESTOS IS A BREATHING HAZARD. CONTRACTOR SHALL MINIMIZE SURFACE DISTURBANCE DURING CLEARING ACTIVITIES. AREAS OF KNOWN AND STABILIZED ASBESTOS CONTAINING MATERIALS ARE IDENTIFIED ON THE PLAN AND SHALL NOT BE DISTURBED. IF THE CONTRACTOR UNINTENTIONALLY EXHUMES WASTE OF ANY KIND DURING THE CLEARING ACTIVITY, WORK SHALL BE STOPPED IMMEDIATELY AND THE CITY OF GREELEY PROJECT MANAGER SHALL BE NOTIFIED. WORK WILL ONLY RESUME WHEN THE CITY PROJECT MANAGER HAS GIVEN THE NOTICE TO PROCEED.
3. EXISTING MONITORING WELLS WITHIN THE GRADING AREA WILL BE ABANDONED IN ACCORDANCE WITH THE GUIDELINES OUTLINED BY THE COLORADO DEPARTMENT OF WATER RESOURCES (DWR) STATE ENGINEER'S OFFICE (SEO).
4. THE CONTRACTOR SHALL INSTALL SILT FENCES IMMEDIATELY DOWN-SLOPE OF EACH AREA TO BE DISTURBED PRIOR TO THE BEGINNING OF WORK IN THAT AREA. THE CONTRACTOR SHALL MAINTAIN THE SILT FENCES FOR THE DURATION OF CONSTRUCTION. ACCUMULATED SEDIMENT BEHIND THE SILT FENCES SHALL BE DISPOSED OF ON-SITE BY THE CONTRACTOR IN A MANNER APPROVED BY THE OWNER. SEE DETAIL B ON SHEET 6 FOR SILT FENCE INSTALLATION GUIDANCE



CAP FILL PLAN

NOT FOR CONSTRUCTION

REV.	DATE	BY	DESCRIPTION

SITE PLAN
GREELEY FISHING POND - WASTE DUMP REGRADE
CITY OF GREELEY
GREELEY FISHING POND WASTE DUMP
WELD COUNTY COLORADO

Terracon
Consulting Engineers and Scientists
1831 LEFTHAND CIR, STE C
LONGMONT, CO 80501
PH: (303) 776-3921
FAX: (303) 776-4041

DESIGNED BY:	RJR
DRAWN BY:	MAN
APPVD. BY:	MS
SCALE:	SEE SCALE
DATE:	JULY 2019
JOB NO.	21187023
ACAD NO.	167 / 020
SHEET NO.:	1 OF 1

N:\PROJECTS - OTHER OFFICES\21187023 - GREELY POND SWMP\DRAWINGS - CAD FILES\CAD\S004-FINAL GRADING.DGT 11.DWG

APPENDIX C

SEEDING AND MULCHING SPECIFICATIONS

SECTION 32 92 19
SEEDING AND MULCHING

PART 1 GENERAL

1.01 SUMMARY

Section includes establishing a stand of grass on all areas disturbed by construction within the construction limits, including the landfill capping area.

1.02 QUALITY ASSURANCE/QUALITY CONTROL

Seeding shall be accomplished per standard local practice and in compliance with requirements of applicable state and federal regulations.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver packaged materials in containers showing weight, analysis and name of manufacturer.

B. Protect materials from deterioration during delivery, and while stored at site.

1.04 PROJECT CONDITIONS

A. Perform seedbed preparation and seeding as soon as possible after completion of grading and compaction in each area.

B. Seeding shall be performed only during the appropriate growing season for the particular seed mix. Below 6,000' elevation: Spring seeding shall occur between spring thaw to June 1. Fall seeding shall occur between September 1 until consistent ground freeze. Vehicular accessibility to the site shall be as directed by the Owner's representative. Repair damage to prepared ground and surfaces, caused by vehicular movement during work under this section, to original condition at no additional cost to the city. Do not drill or sow seed during windy weather or when ground is frozen or otherwise untillable.

PART 2 PRODUCTS

2.01 FERTILIZER

Shall be a standard commercial fertilizer, delivered to the project in bags clearly labeled showing percentages of nitrogen, phosphoric acid, and potash nutrients.

2.02 LIME

At this time, it is not anticipated that the use of lime will be required. However, if required, lime shall be ground limestone containing not less than 85 percent total carbonates and of a fineness so that 90 percent will pass through a No. 20 mesh sieve and 50 percent will pass through a No. 100 mesh sieve.

2.03 SEED

Seed will be non-irrigated native seed. The following is a recommended seed mix depending on the area to be seeded. However, specific site conditions should guide the species selection. For example, if the soils are high salinity, species should be selected that will tolerate and grow in those conditions. It is highly suggested that a companion/nurse crop also be used. The City is open to discussion about appropriate seed species to use based on site-specific conditions.

NATIVE PRAIRIE SEED MIX

Seeding Rate: 20 pounds pure live seed (PLS)/acre

SPECIES – COMMON NAME	SPECIES – SCIENTIFIC NAME	% OF MIX
Blue Grama	*Bouteloua gracilis*	29%
Buffalograss	*Buchloe dactyloides*	25%
Green Needlegrass	*Nassella viridula*	5%
Sideoats Grama	*Bouteloua curtipendula*	20%
Western Wheatgrass	*Pascopyrum smithii*	20%
Sand Dropseed	*Sporobolus cryptandrus*	1%

COMPANION-NURSE CROP

Add the appropriate companion crop to the native seed based on the time of year the seeding is being done.

PLANTING SEASON	SPECIES	POUNDS PER ACRE – PURE LIVE SEED
Spring Planting	Sterile Oats (triticale)	4.0
Fall Planting	Winter Rye/Triticale (sterile)	2.0

WETLAND/RIPARIAN MIX		Seeding Rate: 10 pounds/acre
SPECIES – COMMON NAME	**SPECIES – SCIENTIFIC NAME**	**% OF MIX**
Alkali Bulrush	Scirpus maritmus	15%
Switchgrass	Panicum virgatum	15%
Canada Wildrye	Elymus canadensis	15%
Indiangrass	Sorghastrum nutans	12%
Prairie Cordgrass	Spartina pectinata	7%
Nebraska Sedge	Carex nebrascensis	6%
Hardstem Bulrush	Scirpus acutus	6%
3-Square Bulrush	Scirpus americanus	6%
Soft Stem Bulrush	Juncus effuses/Scirpus validus	6%
Baltic Rush	Juncus balticus	4%
Popcorn Sedge	Carex microptera	4%
Creeping Spikerush	Eleocharus palustris	2%
Blue Vervain	Verbena hastata	2%

LOW GROW MIX
Use a minimum 5’ wide on sides of pathways. Use at property lines abutting residential properties. Use in open areas where short grasses are desired.

SPECIES	**POUNDS PER ACRE – PURE LIVE SEED**
Buffalograss	8.0
Blue grama	6.5

SLOPE MIX
Used on all slopes and berms.

SPECIES	**POUNDS PER ACRE – PURE LIVE SEED**
Sideoats grama	2.0
Blue grama	2.0
Little Bluestem	2.0
Sand dropseed	.06

POND MIX
Used in and around detention/retention ponds, and in areas designed to hold water, but are not necessarily wet the majority of the time.

SPECIES	**POUNDS PER ACRE – PURE LIVE SEED**
Little Bluestem	3.0
Yellow Indian Grass	2.0
Switchgrass	1.0

Blue grama	0.6
Sideoats grama	4.0
Prairie Sandreed	1.5
Western Wheatgrass	6.5

2.04 WATER

Clean, potable.

2.05 MULCH AND OTHER EROSION CONTROL

Mulch shall be wood cellulose fiber mulch suitable for hydromulch, in accordance with CDOT 213.02. Mulch Tackifier shall meet the requirements of CDOT 213.02.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions are as specified and indicated before beginning work. Verify layout of seeding areas as indicated prior to starting seeding operations. Inspect to verify that cap thickness requirements and fine grading is within 0.1 foot of thicknesses and grades specified and indicated. Beginning of installation means acceptance of existing conditions by the contractor.

3.02 PREPARATION

A. Fine grading will be performed as necessary to maintain positive drainage, prevent ponding and direct run-off off of the capped area and to provide smooth, well-contoured surface prior to proceeding. A firm weed-free seed bed is required. Tolerance ± 0.1-foot. shall be scarified to an approximate depth of three inches to be seeded.

B. Surface shall be reasonably smooth and free of litter, large clods, roots, sharp protrusions, and large stones.

C. The seed mixtures specified in paragraph 2.03A shall be applied to areas disturbed from construction activities.

3.03 APPLICATION METHODS

A. Seeding shall be accomplished by a Rangeland Grass Drill with double disk openers and depth bands. Drill in a manner such that, after surface is raked and rolled, seed shall have ¼ inch to ½ inch of cover. Any furrows left by drill seeding shall be rolled to a smooth surface.

B. In areas too small or steep to operate a drill and if approved by the Owner's representative, seeding may be accomplished by broadcast of hydraulic type seeders at twice the rate specified, at no additional cost to the project. Broadcast seed shall be raked in a minimum of ¼ inch.

C. Areas inadequately covered shall be re-treated as directed by the Engineer.

3.04 APPLICATION RATES

A. Lime: Two tons per acre for pH 4 to 5, one ton per acre for pH 5 to 6, or as otherwise determined based on soil test results.

B. Fertilizer:

1. Apply at rate of 1,000 pounds of grade 10-20-10 fertilizer per acre or a sufficient quantity of any other acceptable grades of fertilizer that will provide at least 100 pounds of nitrogen, 200 pounds of available phosphoric acid, and 100 pounds of total potash per acre, as computed from the nominal contents of fertilizing ingredients.

2. Other rates of application may be allowed by the Engineer based on soil test results.

C. Seed mixtures for permanent vegetation shall be applied at the rate of approximately 25 pounds per acre or as otherwise directed by the Engineer.

3.05 APPLICATION TIMES

A. Seeding for temporary vegetation shall comply with Specification 01 57 13.

B. Seeding for permanent vegetation shall be performed during the first optimum planting season following completion of work in an area per Section 1.04.B.

3.06 MULCHING

A. Spread mulch uniformly over seeded area in a continuous blanket.

B. Mulch may be spread by hand or by machinery. Mulch shall be spread not later than 24 hours after seeding.

C. Mulch shall be applied utilizing an approved hydromulcher to apply cellulose fiber at a rate of 2,500-3,000 pounds per acre. Mulching shall not be done in the presence of free surface water resulting from rains, melting snow, or other causes.

D. Areas not properly mulched, or damaged due to the Contractor's negligence, shall be repaired and re-mulched in an acceptable manner at the Contractor's own expense. Mulching removed by wind prior to acceptance shall be re-established by the Contractor at the Contractor's own expense. Areas not mulched within 24 hours after seeding must be re-seeded with the specified seed mix at the Contractor's own expense.

E. Contractor shall remove all hydromulch from plant materials, fences, paved areas and other objects as directed by the Owner's representative.

3.07 ESTABLISHMENT OF GRASS

A. Begin maintenance immediately after seed placement.

B. Seeded areas must be maintained until 70% of vegetation is reestablished.

C. Maintain seeded areas not less than 60 days after substantial completion and longer to establish a good stand of grass as per the Engineer.

D. If seeded in Fall, Contractor shall maintain seeded areas throughout Winter and provide a Spring seeding.

E. Fill, level, and repair washed or eroded areas as necessary.

F. Re-seed mulch areas larger than one square foot not having a uniform stand of grass.

3.08 ACCEPTANCE

A. Seeded areas will be accepted when a full and uniform stand of grass has become established.

END OF SECTION

CITY OF GREELEY		
PRE-BID MEETING		
Greeley Fishing Pond Remedial Action Plan Implementation & Vegetative Soil Cover Construction		
December 5, 2019 @ 9:00 am		
NAME OF PERSON ATTENDING PRE-BID MEETING (PLEASE PRINT)	COMPANY NAME (PLEASE PRINT)	PHONE/EMAIL
Kevin Conner	Great Lakes E&I	PH 720-272-8315 EMAIL Kevinconner@GLEIS.com
BRANDON SAWADA	GREAT LAKES E&I	PH 808-938-4183| EMAIL BRANDONSAWADA@GLEIS.com
Karyl Smith	JB Sittner Trucking	PH 303-358-0484 EMAIL KSmith@JBSittner.com
Matt Eaton	Smith Environmental + Engineering	PH 303 551 7984 EMAIL matteaton@smithdelivers.com
Kathy Harrison	Walsh Construction	PH 970.622.8227 EMAIL matt@walshconstruction.us
Alyson Burm	AB UNDERGROUND	PH 303-710-4667 EMAIL alyson@abundergound.com
DAVID DANIELSON	HUDSPETH	PH 303 501 5201 EMAIL ddanielson@hudspethinc.com
		PH

Scott Huset ESA Scott.Huset@esasite.com

720-840-7282

7-26-16

CITY OF GREELEY		
PRE-BID MEETING		
Greeley Fishing Pond Remedial Action Plan Implementation & Vegetative Soil Cover Construction		
December 5, 2019 @ 9:00 am		
NAME OF PERSON ATTENDING PRE-BID MEETING (PLEASE PRINT)	COMPANY NAME (PLEASE PRINT)	PHONE/EMAIL
James Weeks	ESA	PH 303-549-0471
		EMAIL James.Weeks@ESASITE.com
		PH
		EMAIL
		PH
		EMAIL
		PH
		EMAIL
		PH
		EMAIL
		PH
		EMAIL
		PH
		EMAIL
		PH
		EMAIL