

Grading, Erosion and Sediment Control Report

FOR

Kum & Go Gas & C-Store 302 Main Street.

Original Submittal: April 20, 2022

Owner/Developer/Applicant:

Kum & Go L.C.

1459 Grand Avenue

Des Moines, IA 50309

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E.E.S. Job No. KUM014.01

QUALIFIED STORMWATER MANAGER

Name: _____

Company: _____

Address: _____

CONTRACTOR

Name: _____

Company: _____

Address: _____

Krysta M. Houtchens, P.E.
Registered Professional Engineer
State of Colorado No. 49550

Applicant:

The Stormwater Management Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. Said Plan has been prepared according to the criteria established by the County and State for Stormwater Management Plans.

Engineer of Record and/or
Qualified Stormwater Manager Signature

Date

Review Engineer:

The Stormwater Management Plan was reviewed and found to meet the checklist requirements except where otherwise noted or allowed by an approved deviation request.

Review Engineer

Date

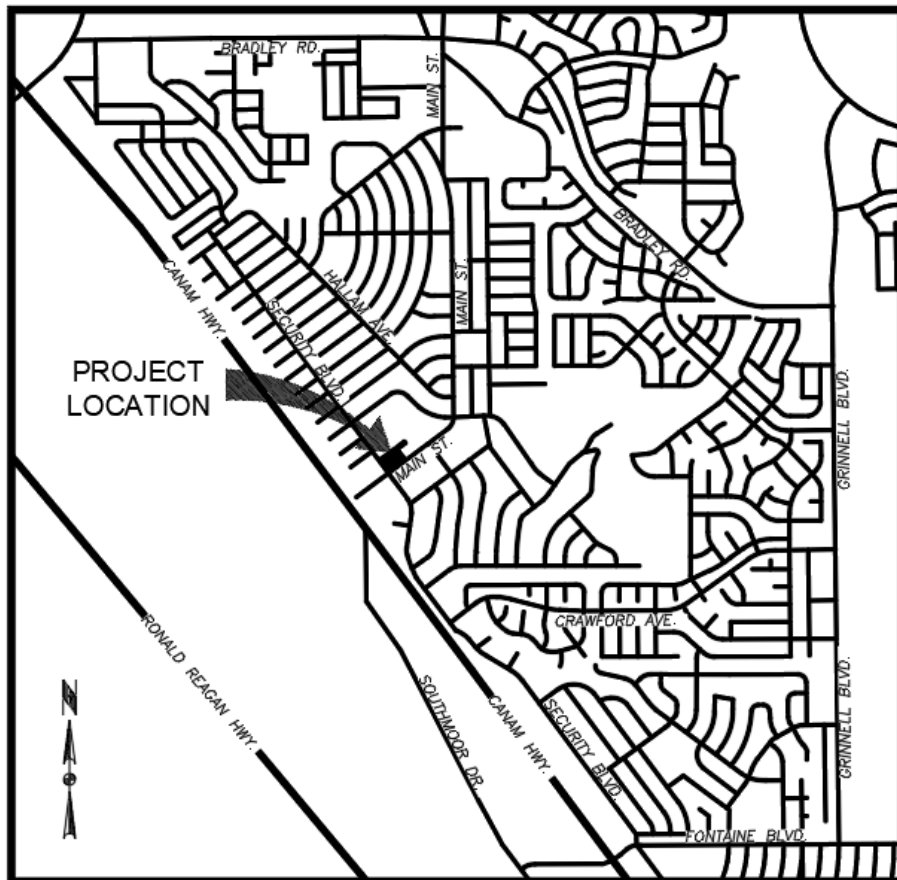
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I. Project Description

The proposed Kum & Go Gas and C-Store project is located in Lot 2 of the Pedrick-Eckerd Filing No. 3. The site is located in part of the Southeast Quarter of Section 11, Township 15 South, Range 66 West of the 6th Principal Meridian, County of El Paso, State of Colorado. The site is bordered on the northwest by an existing parking lot for Ross Dress for Less, on the northeast by a curb island for Sonic Drive-In, on the southeast by Main Street (80-ft ROW), on the southwest by Security Boulevard (80' ROW).



VICINITY MAP

SCALE: 1" = 2000'

Proposed construction will consist of a one-story, 3,962 GSF convenience store (c-store) building and 6-MPD fueling canopy located on a 1.29 acres parcel within the Pedrick-Eckerd Filing No. 3. The area disturbed will be 1.20 acres with the remaining north flag portion of the lot remaining undisturbed. In addition to the c-store and fueling canopy, drive aisles, parking, landscaping, and utility services will also be constructed.

The project site currently consists of an existing parking lot with a coffee stand. The proposed improvements will require approximately 1.1 acres of impervious surfaces to be demolished including the coffee stand structure with utilities, parking lot, curb and gutter and sidewalk.

II. Existing Site Conditions

The project site is currently mostly covered with mostly asphalt pavement and consists of an existing coffee stand with drive-thru. The site is primarily existing asphalt with small patches of native grasses and weeds. The site sheet drains to the south where there is an existing inlet along the curb line at the Northwest corner of the Security Boulevard and Main Street intersection. The site is located within the Little Johnson/ Security Drainage Basin as outlined in the Little Johnson/ Security Drainage Basin Planning Study (1988) and ultimately discharges to Crews Gulch (Widefield Creek) to the southeast. No wetlands, streams, irrigation canals or ditches have been identified onsite.

III. Adjacent Areas

The site is bordered on the northwest by an existing parking lot for Ross Dress for Less, on the northeast by a curb island for Sonic Drive-In, on the southeast by Main Street (80-ft ROW), on the southwest by Security Boulevard (80' ROW). There are no ponds, lakes, or streams directly adjacent to the site. The parcel is in FEMA identified floodplain, Flood Zone AE, and is also located within a Special Flood Hazard Area with Base Flood Elevation of the Flood Plain, as designated on the Flood Insurance Rate Map (FIRM) exported 3/22/2022, map last revised October 2020. The Base Flood elevation is 5731.7. There are no known nearby irrigation facilities.

IV. Soils

A geotechnical investigation was performed by Olsson on December 7th, 2021. Ten (10) borings were completed as part of the investigation for depth varying 10-30'. Free water was not encountered in any of the ten borings, but very moist soils were encountered near the surface in many of the borings. Based on the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) soil survey data, the project site is mapped in the Blendon sandy loam (0 to 3 percent slopes) soil complex. The Blendon sandy loam is described as alluvial fan terraces of sandy alluvium derived from the arkose with bedrock materials located at greater depths. The Blendon soil unit is categorized into hydrologic group B and the depth to the water table is reported to be greater than 80 inches. Soil erosion potential and impacts on discharge are not anticipated to be an issue for the subject project.

V. Areas and Volumes

The project will disturb approximately 1.20 acres and will require approximately 4,085 cubic yards of fill material for construction of the site. The site generates 1,870 cubic yards of unadjusted cut material after the excavation and installation of fuel tank and underground stormwater facility resulting resulting in an unadjusted fill import quantity to 2,271 cubic yards.

VI. Erosion and Sediment Control Measures

Numerous BMPs will be used as erosion and sediment control measures for the site. These BMPs used are outlined in the El Paso County Engineering and drainage Criteria Manual Volumes 1 and 2 Grading, Erosion and Sediment Control Section. There are ten elements of an effective GESC plan which are:

1. Preserve and Stabilize Drainageways by utilizing the following:

Not applicable, there are not drainageways existing or proposed for the project site.

2. Avoid the Clearing and Grading of Sensitive Areas by utilizing the following:

Construction Fence (CF): A construction fence consists of orange plastic fencing or other county-accepted material and is used to identify the limits of construction as well as control access to the site.

3. Balance Earthwork on Site- Site is a Fill site and fill material will be imported to the site as required.

4. Limit the Size of Grading Phase to Reduce Soil Exposure

5. Stabilize Exposed Soils in a Timely Manner by utilizing the following:

Surface Roughening (SR): Consists of creating a series of grooves or furrows on the contour in all disturbed, graded areas to trap rainfall and reduce the formation of rill and gully erosion.

Seeding and Mulching (SM): Seeding and mulching consists of drill seeding disturbed areas with the approved seed mix per the El Paso County Design Criteria Manual Volume 2 and crimping in straw mulch to provide immediate protection against raindrop and wind erosion and, as the grass cover becomes established, to provide long-term stabilization of exposed soils. No soils are to be exposed for a period greater than 30 days.

6. Implement Effective Perimeter Controls by utilizing the following:

Silt Fence (SF): Silt fence is a temporary sediment barrier constructed of woven fabric stretched across supporting posts. The bottom edge of the fabric is placed in an anchor trench that is backfilled with compacted soil.

Rock Socks (RS): Consists of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter. Rock socks are typically used either as a perimeter control or as part of inlet protection. When placed at angles in the curb line, rock socks are typically referred to as curb socks. Rock socks are intended to trap sediment from stormwater runoff that flows onto roadways as a result of construction activities.

7. Use Sediment Basins for Areas Exceeding 1.0 Acre

Sediment Trap (ST): Sediment Trap is a temporary sediment collector that consists of a riprap berm with a small upstream basin that acts to trap coarse sediment particles. Sediment traps shall remain in place until the upstream disturbed area is stabilized and grass coverage is approved.

Diversion Ditch (DD): A diversion ditch is a small earth channel used to divert and convey runoff, generally to a sediment basin, check dam, or reinforced rock berm. Diversion ditch is utilized to direct runoff and sediment to Sediment Trap (ST).

8. Protect Inlets, Storm Sewer Outfalls, and Culverts by utilizing the following:

Inlet Protection (IP): Inlet protection consists of a small reinforced rock berm and cinder block frame placed in front of (but not blocking) a curb inlet or around an area inlet to reduce sediment in runoff entering the storm sewer.

9. Provide Access and General Construction Controls by utilizing the following:

Limits of Disturbance (LOD): Clearly identifies the limits of where construction activities will occur.

Vehicle Tracking Control (VTC): Vehicle tracking control consists of a 3 to 6 inch crushed rock pad 12 inches thick at all entrance/exit points for a site, that is intended to help strip mud from tires prior to vehicles leaving the construction site. Access to the site may only be taken at a permitted access point, as approved in the GESC Plans.

Concrete Washout Area (CWA): A concrete washout area is a shallow excavation with a small perimeter berm to isolate concrete truck washout operations.

Stabilized Staging Area (SSA): A stabilized staging area consists of stripping topsoil and spreading a layer of 3-inch minimum granular material, gravel or recycled concrete in the area to be used for a trailer, parking, storage, unloading and loading. A stabilized staging area reduces the likelihood that the vehicles most frequently entering a site are going to come in contact with mud. Construction parking would be accommodated within this area.

Street Sweeping shall be done during the day and at the end of the day during grading activities. Cleaning asphalt and concrete "tailings" from sawcut operations entailing Street Sweeping (SS) operations shall utilize a vacuum-type street sweeper, a brush style street sweeper, or manually using shovels and brooms. Pavement shall not be washed with water at any time unless all water is contained and collected and is not allowed to drain into existing storm conveyances, on or offsite.

Trucks transporting materials cannot exceed their weight limit.

10. Material Handling:

Port-o-lets/Sanitary Facilities: Sanitary facilities shall be provided for construction workers. Sanitary facilities shall be located in the stabilized staging area (SSA) away from drainageways. Sanitary facilities shall never be placed near storm sewer inlets. Port-o-lets shall be staked down to prevent tipping.

Spill Prevention: To the greatest extent possible, vehicle fueling and maintenance shall be completed off-site.

Storage, Handling, and Disposal of Construction Products, Materials and Wastes: Storage, handling and waste shall be located in the stabilized staging area. In storage areas either a cover to prevent these products from coming into contact with rainwater, or a similar effective designed to prevent the discharge of pollutants from these areas is required.

Trash/Debris Removal: For construction and domestic waste, waste containers of sufficient size and number to contain construction and domestic waste will be provided. On work day, waste will be cleaned up and disposed of in designated waste containers and cleaned up immediately if containers overflow.

It is not anticipated for this project to utilize on-site concrete batch plants.

VII. Timing/Phasing Schedule

Construction is currently planned to begin in December of 2022 and be completed in July of 2023. The Phasing Schedule will be:

BMP Installation	12/01/22 to 12/10/22
Site Demo	12/11/22 to 12/20/22
Site Grading	12/21/22 to 2/09/23
Building Pad Construction	2/10/23 to 2/26/23
Site Utility Installation	2/26/23 to 3/12/23
Building Construction	3/12/23 to 6/01/23
Final Grading	4/01/23 to 5/01/23
Curb and Gutter Installation	5/01/23 to 6/01/23
Concrete Paving	6/01/23 to 6/15/23
Landscaping	6/01/23 to 7/01/23
BMP Removal	7/01/23 to 7/10/23

VIII. Permanent Stabilization

Permanent stabilization of disturbed land must be accomplished as described in the approved GESC plan. Areas not being immediately developed shall be stabilized upon completion of overlot grading and no longer than 30 days exposed. Application of the approved seed mix will be performed by the approved methods in the El Paso County Drainage Criteria Manual Volumes 1 and 2. All seeded areas shall be mulched after seeding on the same day. Erosion Control Blankets shall be placed on all slopes greater than 4:1 and on all drainage channels. Temporary stabilization will remain in-place until the approved landscaping is installed on the disturbed areas. Final landscaping for the site will also occur in phases, with each specific phase being required to complete its landscaping independently of future phases. Total landscape area for the development is 17 percent of the 1.29 acre parcel. The surface drainage for the site will enter the underground water quality and detention facility and exit the site being released at a controlled flow per each storm water event. The specification that final vegetative cover density to be 70% of pre-disturbed levels is N/A for this project's site as the existing conditions for the site consists of mostly asphalt.

IX. Stormwater Management Considerations

During construction, stormwater management will be handled by mimicking the existing site conditions while trying to keep sediment runoff to a minimum. BMPs used to control runoff and improve stormwater quality during construction include diversion ditches that route runoff to sediment basins along with silt fences, seeding and mulching, and inlet protection. Runoff on site during the interim will be captured by the existing storm sewer system in the adjacent street and parcels after passing through a number of BMPs. Upon completion of the site grading, runoff will be slowed by Surface Roughening (SR) and will be captured by the site's proposed storm sewer improvements.

X. Maintenance

The project site and the adjacent streets impacted by the construction shall be kept neat, clean and free of debris. The control measures and facilities will be maintained in good working order. Any items that are not functioning properly or are inadequate will be promptly repaired or upgraded. The site will be inspected by responsible personnel who are familiar with the site. Inspection and monitoring will follow the procedures outlined in the GESC Plan Standard Notes

and Details and outlined below. This project does not rely on control measures owned or operated by another entity.

XI. Record Keeping

This SWMP Plan will be implemented prior to the start of construction activities. The SWMP Plan will be kept accurate and up-to-date, and will reflect the onsite conditions. If this SWMP Report and the Erosion Control Plans are ineffective in controlling pollutants in stormwater discharge it will be revised. A copy of this SWMP Report will be retained at the contractor's construction office and copies will be kept onsite where active construction is taking place along the Project.

A copy of this SWMP Report will be provided upon request to local agency in charge of approving sediment and erosion plans, grading plans or stormwater management plans, and within a timely manner. If the GESC Plan is required to be submitted to any of these entities, it must include a signed certification in accordance with the General Permit, certifying that the GESC Plan is complete and meets all permit requirements.

Self-Monitoring Inspections: The Qualified Stormwater Manager will be sufficiently qualified for the required duties per the ECM Appendix 1.5.2.A.

A signature by the Qualified Stormwater Manager is required on each of the inspection logs.

Required Inspections and Maintenance

- ❖ Inspections shall be scheduled after installation of any construction BMP, after any runoff event that causes erosion, and/or at least once a week.
- ❖ Seeded and mulched areas shall be inspected monthly by the Permittee(s) for a period of two years following initial seeding. Repairs and reseeding and mulching shall be undertaken at least twice per year or as requested by the GESC Inspector for any areas failing to meet the required coverage
- ❖ Rill and gully erosion shall be filled with topsoil prior to reseeding. Approved reseeding methods included in the El Paso County Drainage Criteria Manual Volumes 1 and 2.
- ❖ Noxious weeds shall be controlled in a manner acceptable to El Paso County.
- ❖ Street sweeping shall be done during construction activities on all paved areas surrounding the site on an as-needed basis until completion of construction.
- ❖ Portable sanitary facilities shall be staked down to assist in preventing vandalism and being blown over.
- ❖ All trash materials, construction debris, and personal trash shall be contained and disposed of properly.
- ❖ No work, storage of equipment, stockpiling, or parking of vehicle shall be allowed outside of the approved limits of constructions as illustrated on the GESC plan.
- ❖ El Paso County encourages compliance by requiring self-monitoring inspections by the owner. The self-monitoring inspections require the owner to identify areas of noncompliance and take corrective actions. In addition, the City's inspection priority system provides for the rewarding of complying parties with less frequent inspections.

Appendix A – Soils

Appendix B – Engineer’s Opinion of Probable Cost

Appendix C – GESC Drawing and Report Checklist