

El Paso County MS4 Post Construction Detention / Water Quality Facility Documentation Form

This document **must be completed and submitted** with required attachments to the County for projects requiring a detention and/or a water quality facility. A separate completed form must be submitted for each facility.

Project name:

Owner name:

Location Address:

Latitude and Longitude:

Assessor's Parcel #: Section: Township: Range:

Expected Completion date:

Project acreage: Design Ponding Acres: Design Storm:

Design Engineer Email Address:

To ensure compliance with C.R.S. 37-92-602(8), the completed Stormwater Detention and Infiltration Design Data Sheet **must be attached**. The form can be found here: <https://maperture.digitaldataservices.com/gvh/?viewer=cswdif#> (click on Download SDI Design Data Sheet)

List all permanent water quality control measure(s) (EDBs, rain gardens, etc):

For all projects for which the constrained redevelopment sites standard is applied, provide an explanation of why it is not practicable to meet the full design standards.

Attach Operations and Maintenance (O&M) Plan describing the operation and maintenance procedures that ensure the long-term observation, maintenance, and operation of control measure(s), including routine inspection frequencies and maintenance activities. If multiple, different water quality control measures are used at the same location, a separate O & M Plan must be provided for each facility.

Attach Private Detention Basin / Stormwater Quality Best Management Practice Maintenance Agreement and Easement addressing maintenance of BMPs that shall be binding on all subsequent owners of the permanent BMPs.

Attachments:

- Stormwater Detention and Infiltration Design Data Sheet
- O & M Plan
- Maintenance and Access Agreement

Review Engineer

EPC Project File No.

Operation and Maintenance Manual For Extended Detention Basin (EDB)

TERRA RIDGE NORTH Permanent Detention Pond

Reference:

This plan is adapted from various maintenance manuals developed in the Colorado Front Range

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ACRONYMS

PBMP	Permanent Best Management Practice
GIS	Geographic Information System
O&M	Operation and Maintenance
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
SOP	Standard Operating Procedure
EPA	U.S. Environmental Protection Agency
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
WQCD	Water Quality Control Division of the CDPHE
CWA	Clean Water Act
EDB	Extended Detention Basin
PLD	Porous Landscape Detention
GS/GB	Grass Swale/Grass Buffer
WQCV	Water Quality Capture Volume

EDB-1 Background

Extended Detention Basins (EDBs) are one of the most common types of Stormwater Management Facilities utilized within the Front Range of Colorado. EDBs are an adaptation of a detention basin used for flood control, with the primary difference in the addition of forebays, micropools and a slow release outlet design. Forebays are shallow concrete “pans” located at the inflow point to the basin. These forebays collect and briefly hold stormwater runoff resulting in a process called sedimentation, dropping sediment out of the stormwater. The stormwater is then released into the concrete trickle channel and upper basin, the large grassy portion of the basin. The EDB uses a much smaller outlet that extends the release time of the more frequently occurring runoff events to facilitate pollutant removal. An EDB is a sedimentation basin designed to drain sometime after stormwater runoff ends. The EDB’s drain time for the water quality portion of the facility is typically 40 hours. The basins are considered to be “dry” because the majority of the basin is designed without a significant permanent pool of water remaining between runoff events. However, all EDBs should have a small micropool just below the outlet. This micropool is designed to continuously hold water and keep sediment from blocking the outlet.

EDB-2 Inspecting Extended Detention Basins (EDBs)

EDB-2.1 Access and Easements

Inspection or maintenance personnel may utilize the site plan, located in Appendix B of the Operation and Maintenance Manual, containing the locations of the access points and maintenance easements of the EDBs within this development.

EDB-2.2 Stormwater Management Facilities Locations

Inspection or maintenance personnel may utilize the site plan, located in Appendix B of the Stormwater Management Facility Operation and Maintenance Manual, containing the locations of the EDBs within this development.

EDB-2.3 Extended Detention Basin (EDB) Features

EDBs have a number of features that are designed to serve a particular function. Many times the proper function of one feature depends on another. For example, if a forebay is not properly maintained, it could negatively impact the performance of a feature downstream (trickle channel, micropool, etc.). Therefore, it is critical that each feature of the EDB is properly inspected and maintained to ensure that the overall facility functions as it was intended. Below is a list and description of the most common features within

an EDB and the corresponding maintenance inspection items that can be anticipated:

**Table EDB-1
Typical Inspection & Maintenance Requirements Matrix**

EDB Features	Sediment Removal	Mowing/ Weed control	Trash & Debris Removal	Erosion	Overgrown Vegetation Removal	Standing Water (mosquito/ algae control)	Structure Repair
Inflow Points (outfalls)	X		X			X	X
Forebay	X		X				X
Low-flow channel	X		X	X	X		X
Bottom Stage	X	X	X	X	X	X	
Micropool	X		X		X	X	X
Outlet Works	X		X				X
Emergency Spillway			X	X	X		X
Upper Stage	X	X	X	X	X		
Embankment		X		X	X		

EDB-2.3.1 Inflow Points

Inflow Points or Outfalls into EDBs are the point source of the stormwater discharge into the facility. An inflow point is commonly a storm sewer pipe with a flared end section that discharges into the forebay. In some instances an inflow point could be a drainage channel or ditch that flows into the EDB.

An energy dissipater (riprap or hard armor protection) within the forebay is typically immediately downstream of the discharge point into the EDB to protect from erosion. In some cases, the storm sewer outfall can have a toe-wall or cut-off wall immediately below the structure to prevent undercutting of the outfall from erosion.

The most typical maintenance items that are found with inflow points are as follows:

- a. *Riprap Displaced* – Many times, because the repeated impact/force of water, the riprap can shift and settle. If any portion of the riprap apron appears to have settled, soil is present between the riprap, or the riprap has shifted, maintenance may be required to ensure future erosion is prevented.

b. Erosion Present/Outfall Undercut – In some situations, the energy dissipater may not have been sized, constructed, or maintained appropriately and erosion has occurred. Any erosion within the vicinity of the inflow point will require maintenance to prevent damage to the structure(s) and sediment transport within the facility.

c. Sediment Accumulation – Because of the turbulence in the water created by the energy dissipater, sediment often deposits immediately downstream of the inflow point. To prevent a loss in hydraulic performance of the upstream infrastructure, sediment that accumulates in this area must be removed in a timely manner.

d. Structural Damage – Structural damage can occur at anytime during the life of the facility. Typically for an inflow, the structural damage occurs to the pipe flared end section (concrete or steel). Structural damage can lead to additional operating problems with the facility, including loss of hydraulic performance.

e. Woody Growth/Weeds Present – Undesirable vegetation can grow in and around the inflow area to an EDB that can significantly impact the performance of the drainage facilities discharging into the facility. This type of vegetation includes trees (typically cottonwoods) and dense areas of shrubs (willows). If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, resulting in blockage of the discharge. Also, tree roots can cause damage to the structural components of the inflow. Routine maintenance is essential for trees (removing a small tree/sapling is much cheaper and “quieter” than a mature tree). Also, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/land.

EDB-2.3.2 Forebay

A forebay is a solid surface (pad), typically constructed of concrete, immediately downstream of the inflow point. The forebay is designed to capture larger particles and trash, to prevent them from entering the main portion of the EDB. The solid surface is designed to facilitate mechanical sediment removal (skid steer). The forebay typically includes a small diameter discharge pipe or weir on the downstream end and designed to drain the forebay in a specified period of time to promote sedimentation. The forebays vary in size and depth depending on the design and site constraints.

The most typical maintenance items that are found with forebays are as follows:

a. Sediment/Debris Accumulation – As this feature of the EDB is designed to provide the initial sedimentation, debris and sediment frequently accumulate in this area. If the sediment and debris is not removed from the forebay on a regular basis, it can significantly impact the function of other features within the EDB. Routine sediment removal from the forebay can significantly reduce the need for dredging of the main portion of the EDB using specialized equipment (long reach excavators). Routine removal of sediment from the forebay can substantially decrease the long-term sediment removal costs of an EDB.

b. Concrete Cracking/Failing – The forebay is primarily constructed of concrete which in time cracks, spalls, and settles. Damage to the forebay can result in decreased performance and impact maintenance efforts.

c. Drain Pipe/Weir Clogged – Many times the drain pipe or weir can get clogged with debris, and prevent the forebay from draining properly. If standing water is present in the forebay (and there is not a base flow), the forebay is most likely not draining properly. This can result in a decrease in performance and create potential nuisances from stagnant water (mosquitoes).

d. Weir/Drain Pipe Damaged – Routine maintenance activities, vandalism, or age may cause the weir or drain pipe in the forebay to become damaged. Weirs are typically constructed of concrete which in time cracks and spalls. The drain pipe is typically of plastic material which can fracture.

EDB-2.3.3 Trickle Channel (Low-Flow)

The trickle channel conveys stormwater from the forebay to the micro-pool of the EDB. The trickle channel is typically made of concrete. However, grass lined (riprap sides protected) is also common and can provide for an additional means of water quality within the EDB. The trickle channel is typically 6-9 inches in depth and can vary in width.

a. Sediment/Debris Accumulation – Trickle channels are typically designed with a relatively flat slope that will promote sedimentation and the collection of debris. Also, if a trickle channel is grass lined it can accumulate sediment and debris at a much quicker rate.

Routine removal of accumulated sediment and debris is essential in preventing flows from circumventing the trickle channel and impacting the dry storage portion of the pond.

b. Concrete/Riprap Damage – Concrete in time can crack, spall, and settle and must be repaired to ensure proper function of the trickle channel. Riprap can also shift over time and must be replaced/repared as necessary.

c. Woody Growth/Weeds Present – Because of the constant moisture in the area surrounding the trickle channel, woody growth (cottonwoods/willows) can become a problem. Trees and dense shrub type vegetation can impact the capacity of the trickle channel and force flows to circumvent this feature.

d. Erosion Outside of Channel – In larger precipitation events, the trickle channel capacity will likely be exceeded. This can result in erosion immediately adjacent to the trickle channel and must be repaired to prevent further damage to the structural components of the EDB.

EDB-2.3.4 Bottom Stage

The bottom stage is at least 1.0 to 2.0 feet deeper than the upper stage and is located in front of the outlet works structure. The bottom stage is designed to store the smaller runoff events and assists in keeping the majority of the basin bottom dry resulting in easier maintenance operations and enhances the facilities pollutant removal capabilities. This area of the EDB may develop wetland vegetation.

a. Sediment/Debris Accumulation – The bottom stage can frequently accumulate sediment and debris. This material must be removed to maintain pond volume and proper function of the outlet structure.

b. Woody Growth/Weeds Present – As there is constant moisture in the soil surrounding the bottom stage, woody growth (cottonwoods/willows) can create operational problems for the EDB. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate outside of the micro-pool, which can cause problems with other EDB features. Also, tree roots can cause damage to the structural components of the outlet works. Routine management is essential for tree removal (removing a small tree/sapling is much cheaper and “quieter” than a mature tree).

c. Bank Erosion – The bottom stage is usually a couple feet deeper than the other areas of the ponds. Erosion can be caused by water flowing into the micro-pool, if adequate protection/armor is not present. Erosion in this area must be mitigated to prevent sediment transport and other EDB feature damage.

d. Mosquitoes/Algae Treatment – Mosquitos are a nuisance created by stagnant water can result from improper maintenance/treatment of the micro-pool. Mosquito larvae can be laid by adult mosquitoes within the permanent pool. Also, aquatic vegetation that grows in shallow pools of water can decompose causing foul odors. Chemical/mechanical treatment of the micro-pool may be necessary to reduce these impacts to adjacent homeowners.

e. Petroleum/Chemical Sheen – Many indicators of illicit discharges into the storm sewer systems will be present in the micro-pool area of the EDB. These indicators can include sheens, odors, discolored soil, and dead vegetation. If it is suspected that an illicit discharge has occurred, contact Douglas County immediately. Proper removal/mitigation of contaminated soils and water in the EDB is necessary to minimize any environmental impacts downstream.

EDB-2.3.5 Micropool

The micropool is a concrete or grouted boulder walled structure directly in front of the outlet works. At a minimum the micropool is 2.5 feet deep and is designed to hold water. The micropool is critical in the proper function of the EDB; it allows suspended sediment to be deposited at the bottom of the micropool and prevents these sediments from being deposited in front of the outlet works causing clogging of the outlet structure, which results in marshy areas within the top and bottom stages.

a. Sediment/Debris Accumulation – The micro-pool can frequently accumulate sediment and debris. This material must be removed to maintain pond volume and proper function of the outlet structure.

b. Woody Growth/Weeds Present – As there is constant moisture in the soil surrounding the micro-pool, woody growth (cottonwoods/willows) can create operational problems for the EDB. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate outside of the micro-pool, which can cause problems with other EDB features.

Also, tree roots can cause damage to the structural components of the outlet works. Routine management is essential for tree removal (removing a small tree/sapling is much cheaper and “quieter” than a mature tree).

c. Mosquitoes/Algae Treatment – Mosquitos are a nuisance created by stagnant water can result from improper maintenance/treatment of the micro-pool. Mosquito larvae can be laid by adult mosquitoes within the permanent pool. Also, aquatic vegetation that grows in shallow pools of water can decompose causing foul odors. Chemical/mechanical treatment of the micro-pool may be necessary to reduce these impacts to adjacent homeowners.

d. Petroleum/Chemical Sheen – Many indicators of illicit discharges into the storm sewer systems will be present in the micro-pool area of the EDB. These indicators can include sheens, odors, discolored soil, and dead vegetation. If it is suspected that an illicit discharge has occurred, contact Douglas County immediately. Proper removal/mitigation of contaminated soils and water in the EDB is necessary to minimize any environmental impacts downstream.

EDB-2.3.6 Outlet Works

The outlet works is the feature that drains the EDB in specified quantities over specified periods of time. The outlet works is typically constructed of reinforced concrete into the embankment of the EDB. The concrete structure typically has steel orifice plates anchored/embedded within it control stormwater release rates. The larger openings (flood control) on the outlet structure typically have trash racks over them to prevent clogging. The water quality orifice plate (smaller diameter holes) will typically have a well screen covering it to prevent smaller materials from clogging it. The outlet structure is the single most important feature in the EDB operation. Proper inspection and maintenance of the outlet works is essential in ensuring the long-term operation of the EDB.

a. Trash Rack/Well Screen Clogged – Floatable material that enters the EDB will most likely make its way to the outlet structure. This material is intended to be trapped against the trash racks and well screens on the outlet structure. This material must be removed on a routine basis to ensure the outlet structure drains in the specified design period.

b. Structural Damage - The outlet structure is primarily constructed of concrete, which can crack, spall, and settle. The steel trash racks and well screens are also susceptible to damage.

c. Orifice Plate Missing/Not Secure – Many times residents, property owners, or maintenance personnel will remove or loosen orifice plates if they believe the pond is not draining properly. Any modification to the orifice plate(s) will significantly impact the designed discharge rates for water quality and/or flood control. Modification of the orifice plates is prohibited without approval from the County. When maintaining the orifice plate, be sure that the neoprene gasket installed between the concrete structure and the orifice plate is replaced during the maintenance activity. If no neoprene gasket is found during the inspection or maintenance of the orifice plate, one will need to be installed as part of the maintenance activities.

d. Manhole Access – Access to the outlet structure is necessary to properly inspect and maintain the facility. If access is difficult or not available to inspect the structure, chances are it will be difficult to maintain as well.

e. Woody Growth/Weeds Present – As there is constant moisture in the soil surrounding the outlet works, woody growth (cottonwoods/willows) can create operational problems for the EDB. If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate around the outlet works, which can cause problems with other EDB features. Also, tree roots can cause damage to the structural components of the outlet works. Routine management is essential for tree removal (removing a small tree/sapling is much cheaper and “quieter” than a mature tree).

EDB-2.3.7 Emergency Spillway

An emergency spillway is typical of all EDBs and designed to serve as the overflow in the event the volume of the pond is exceeded. The emergency spillway is typically armored with riprap (or other hard armor) and is sometimes buried within the soil. The emergency spillway is typically a weir section in the pond embankment. Proper function of the emergency spillway is essential to ensure flooding does not impact adjacent properties.

a. Riprap Displaced – As mentioned before, the emergency spillway is typically armored with riprap to provide erosion

protection. Over the life of an EDB, the riprap may shift or become dislodged due to flow.

b. Erosion Present – Although the spillway is typically armored, stormwater flowing through the spillway can cause erosion damage. Erosion must be repaired to ensure the integrity of the basin embankment, and proper function of the spillway.

c. Woody Growth/Weeds Present – Management of woody vegetation is essential in the proper long-term function of the spillway. Larger trees or dense shrubs can capture larger debris entering the EDB and reduce the capacity of the spillway.

d. Obstruction Debris – The spillway must be cleared of any obstruction (man made or natural) to ensure the proper design capacity.

EDB-2.3.8 Upper Stage (Dry Storage)

The upper stage of the EDB provides the majority of the water quality flood detention volume. This area of the EDB is higher than the micro-pool and typically stays dry, except during storm events. The upper stage is the largest feature/area of the basin. Sometimes, the upper stage can be utilized for park space and other uses in larger EDBs. With proper maintenance of the micro-pool and forebay(s), the upper stage should not experience much sedimentation; however, bottom elevations should be monitored to ensure adequate volume.

a. Vegetation Sparse – The upper basin is the most visible part of the EDB, and therefore aesthetics is important. Adequate and properly maintained vegetation can greatly increase the overall appearance and acceptance of the EDB by the public. Also, vegetation can reduce the potential for erosion and subsequent sediment transport to the other areas of the pond.

B. Woody Growth/Undesirable Vegetation – Although some trees and woody vegetation may be acceptable in the upper basin, some thinning of cottonwoods and willows may be necessary. Remember, the basin will have to be dredged as to ensure volume, and large trees and shrubs will be difficult to protect during that operation (public perception).

c. Standing Water/Boggy Areas – Standing water or boggy areas in the upper stage is typically a sign that some other feature in the pond is not functioning properly. Routine maintenance (mowing,

trash removal, etc) can be extremely difficult for the upper stage if the ground is saturated. If this inspection item is checked, make sure you have identified the root cause of the problem.

d. Sediment Accumulation – Although other features within the EDB are designed to capture sediment, the upper storage area will collect sediment over time. Excessive amounts of sedimentation will result in a loss of storage volume. It may be more difficult to determine if this area has accumulated sediment without conducting a field survey. However, there are some indicators that sedimentation has occurred in the upper stage.

Below is a list of indicators:

1. Ground adjacent to the trickle channel appears to be several inches higher than concrete/riprap
2. Standing water or boggy areas in upper stage
3. Uneven grades or mounds
4. Micro-pool or Forebay has excessive amounts of sediment

e. Erosion (banks and bottom) – The bottom grades of the dry storage are typically flat enough that erosion should not occur. However, inadequate vegetative cover may result in erosion of the upper stage. Erosion that occurs in the upper stage can result in increased dredging/maintenance of the micro-pool.

f. Trash Debris – Trash and debris can accumulate in the upper area after large events, or from illegal dumping. Over time, this material can accumulate and clog the EDB outlet works.

g. Maintenance Access – Most EDBs typically have a gravel/concrete maintenance access path to either the upper stage or forebay. This access path should be inspected to ensure the surface is still drivable. Some of the smaller EDBs may not have maintenance access paths; however, the inspector should verify that access is available from adjacent properties.

EDB-2.3.9 Miscellaneous

There are a variety of inspection/maintenance issues that may not be attributed to a single feature within the EDB. This category on the inspection form is for maintenance items that are commonly found in the EDB, but may not be attributed to an individual feature.

a. Encroachment in Easement Area – Private lots/property can sometimes be located very close to the EDBs, even though the

County requires that they be located in tracts with drainage easements. Property owners may place landscaping, trash, fencing, or other items within the easement area that may impact maintenance or the operation of the facility.

b. Graffiti/Vandalism – Damage to the EDB infrastructure can be caused by vandals. If criminal mischief is evident, the inspector should forward this information to the Douglas County Sheriffs Office

c. Public Hazards – Public hazards include items such as vertical drops of greater than 4-feet, containers of unknown/suspicious substances, exposed metal/jagged concrete on structures. **If any hazard is found within the facility area that poses an immediate threat to public safety, contact the Douglas County Sheriff at 911 immediately!**

d. Burrowing Animals/Pests – Prairie dogs and other burrowing rodents may cause damage to the EDB features and negatively impact the vegetation within the EDB.

e. Other – Any miscellaneous inspection/maintenance items not contained on the form should be entered here.

EDB-2.4 Completed Inspection Forms

Inspection reports shall be completed by the person(s) conducting the inspection activities. Each form shall be reviewed and maintained by the property owner or property manager. These inspections forms shall be kept indefinitely and made available to Douglas County upon request.

EDB-3 MAINTAINING EXTENDED DETENTION BASINS (EDBS)

EDB-3.1 Maintenance Personnel

Maintenance personnel must be qualified to properly maintain EDBs. Inadequately trained personnel can cause additional problems resulting in additional maintenance costs.

EDB-3.2 Equipment

It is imperative that the appropriate equipment and tools are taken to the field with the operations crew. The types of equipment/tools will vary depending on the task at hand. Below is a list of tools, equipment, and material(s) that may be necessary to perform maintenance on an EDB:

- 1.) Loppers/Tree Trimming Tools

- 2.) Mowing Tractors
- 3.) Trimmers (extra string)
- 4.) Shovels
- 5.) Rakes
- 6.) All Surface Vehicle (ASVs)
- 7.) Skid Steer
- 8.) Back Hoe
- 9.) Track Hoe/Long Reach Excavator
- 10.) Dump Truck
- 11.) Jet-Vac Machine
- 12.) Engineers Level (laser)
- 13.) Riprap (Minimum - Type M)
- 14.) Filter Fabric
- 15.) Erosion Control Blanket(s)
- 16.) Seed Mix (Native - Foothills)
- 17.) Illicit Discharge Cleanup Kits
- 18.) Trash Bags
- 19.) Tools (wrenches, screw drivers, hammers, etc)
- 20.) Chain Saw
- 21.) Confined Space Entry Equipment
- 22.) Approved Stormwater Facility Operation and Maintenance Manual

Some of the items identified above may not be needed for every maintenance operation. However, this equipment should be available to the maintenance operations crews should the need arise.

EDB-3.3 Safety

Vertical drops may be encountered in areas located within and around the facility. Avoid walking on top of retaining walls or other structures that have a significant vertical drop. If a vertical drop is identified within the EDB that is greater than 48" in height, make the appropriate note/comment on the maintenance inspection form.

EDB-3.4 EDB Maintenance Forms

The EDB Maintenance Form provides a record of each maintenance operation performed by maintenance contractors. The EDB Maintenance Form shall be filled out in the field after the completion of the maintenance operation. Each form shall be review and maintained by the property owner or property manager. The form is located in Appendix D.

EDB-3.5 Completed Maintenance Forms

A variety of maintenance activities, separated into categories, are identified on the form. All maintenance activities performed during the operation must be identified on the form. These maintenance activities are described in more detail later in this Manual. Maintenance forms shall be completed by contractor completing the required maintenance items. The form shall then be reviewed by an authorized agent of the property owner and filed.

EDB-3.6 EDB Maintenance Categories and Activities

A typical EDB Maintenance Program will consist of three broad categories of work. Within each category of work, a variety of maintenance activities can be performed on an EDB. A maintenance activity can be specific to each feature within the EDB, or general to the overall facility. This section of the SOP explains each of the categories and briefly describes the typical maintenance activities for an EDB.

The Douglas County Public Works Engineering Department has identified a variety of maintenance activities that are typical of EDBs. The maintenance activities range in magnitude from routine trash pickup to the reconstruction of drainage infrastructure. Below is a description of each maintenance activity, the objectives, and frequency of actions:

EDB-3.7 Routine Maintenance Activities

The majority of this work consists of regularly scheduled mowing and trash and debris pickups for stormwater management facilities during the growing season. This includes items such as the removal of debris/material that may be clogging the outlet structure well screens and trash racks. It also includes activities such as weed control, mosquito treatment, and algae treatment. These activities normally will be performed numerous times during the year. These items can be completed without any prior correspondence with Douglas County; however completed inspection and maintenance forms shall be filed with the property owner and/or manager.

The Maintenance Activities are summarized below, and further described in the following sections.

**TABLE – EDB-2
Summary of Routine Maintenance Activities**

MAINTENANCE ACTIVITY	MINIMUM FREQUENCY	LOOK FOR:	MAINTENANCE ACTION
Mowing	Twice annually	Excessive grass height/aesthetics	4" to 6" grass height
Trash/Debris Removal	Twice annually	Trash & debris in EDB	Remove and dispose of trash and debris
Outlet Works Cleaning	As needed - after significant rain events – twice annually min.	Clogged outlet structure; ponding water	Remove and dispose of debris/trash/sediment to allow outlet to function properly
Weed control	Minimum twice annually	Noxious weeds; Unwanted vegetation	Treat w/ herbicide or hand pull; Consult Douglas County weed specialist
Mosquito Treatment	As needed	Standing water/mosquito habitat	Treat w/ EPA approved chemicals
Algae Treatment	As needed	Standing water/ Algal growth/green color	Treat w/ EPA approved chemicals

EDB-3.7.1 Mowing

Occasional mowing is necessary to limit unwanted vegetation and to improve the overall appearance of the EDB. Native vegetation should be mowed to a height of 4-to-6 inches tall.

Frequency – Routine - Minimum of twice annually or depending on aesthetics.

EDB-3.7.2 Trash/Debris Removal

Trash and debris must be removed from the entire EDB area to minimize outlet clogging and to improve aesthetics. This activity must be performed prior to mowing operations.

Frequency – Routine – Prior to mowing operations and minimum of twice annually.

EDB-3.7.3 Outlet Works Cleaning

Debris and other materials can clog the outlet work's well screen, orifice plate(s) and trash rack. This activity must be performed anytime other maintenance activities are conducted to ensure proper operation.

Frequency - Routine – After significant rainfall event or concurrently with other maintenance activities.

EDB-3.7.4 Weed Control

Noxious weeds and other unwanted vegetation must be treated as needed throughout the EDB. This activity can be performed either through mechanical means (mowing/pulling) or with herbicide. Consultation with the Douglas County Weed Inspector is highly recommended prior to the use of herbicide.

Frequency – Routine – As needed based on inspections.

EDB-3.7.5 Mosquito/Algae Treatment

Treatment of permanent pools is necessary to control mosquitoes and undesirable aquatic vegetation that can create nuisances. Only EPA approved chemicals/materials can be used in areas that are warranted.

Frequency – As needed.

EDB-3.8 Minor Maintenance Activities

This work consists of a variety of isolated or small-scale maintenance/operational problems. Most of this work can be completed by a small crew, tools, and small equipment. These items require prior correspondence with Douglas County and require completed inspection and maintenance forms shall be filed with the property owner and/or manager.

**Table – EDB-3
Summary of Minor Maintenance Activities**

MAINTENANCE ACTIVITY	MINIMUM FREQUENCY	LOOK FOR:	MAINTENANCE ACTION
Sediment Removal	As needed; typically every 1 –2 years	Sediment build-up; decrease in pond volume	Remove and dispose of sediment
Erosion Repair	As needed, based upon inspection	Rillying/gullyng of side slopes, trickle channel, other areas	Repair eroded areas Revegetate; Address cause
Vegetation Removal/Tree Thinning	As needed, based upon inspection	Large trees/wood vegetation in lower chamber of pond	Remove vegetation; restore grade and surface
Drain Cleaning/Jet Vac	As needed, based upon inspection	Sediment build-up /non draining system	Clean drains; Jet Vac if needed

EDB-3.8.1 Sediment Removal

Sediment removal is necessary to maintain the original design volume of the EDB and to ensure proper function of the infrastructure. Regular sediment removal (minor) from the forebay, inflow(s), and trickle channel can significantly reduce the frequency of major sediment removal activities (dredging) in the upper and lower stages. The minor sediment removal activities can typically be addressed with shovels and smaller equipment. Major sediment removal activities will require larger and more specialized equipment. The major sediment activities will also require surveying with an engineer’s level, and consultation with the Douglas County Engineering Staff to ensure design volumes/grades are achieved.

Stormwater sediments removed from EDBs do not meet the criteria of “hazardous waste”. However, these sediments are contaminated with a wide array of organic and inorganic pollutants and handling must be done with care. Sediments from permanent pools must be carefully removed to minimize turbidity, further sedimentation, or other adverse water quality impacts. Sediments should be transported by motor vehicle only after they are dewatered. All sediments must be taken to a landfill for proper disposal. Should a spill occur during transportation, prompt and thorough cleanup is important.

Frequency – Nonroutine – As necessary based upon inspections. Sediment removal in the forebay and trickle channel may be necessary as frequently as every 1-2 years.

EDB-3.8.2 Erosion Repair

The repair of eroded areas is necessary to ensure the proper function of the EDB, minimize sediment transport, and to reduce potential impacts to other features. Erosion can vary in magnitude from minor repairs to trickle channels, energy dissipaters, and rilling to major gullies in the embankments and spillways. The repair of eroded areas may require the use of excavators, earthmoving equipment, riprap, concrete, erosion control blankets, and turf reinforcement mats. Major erosion repair to the pond embankments, spillways, and adjacent to structures will require consultation with the engineering staff.

Frequency – Nonroutine – As necessary based upon inspections.

EDB-3.8.3 Vegetation Removal/Tree Thinning

Dense stands of woody vegetation (willows, shrubs, etc) or trees can create maintenance problems for the infrastructure within an EDB. Tree roots can damage structures and invade pipes/channels thereby blocking flows. Also, trees growing in the upper and lower stages of the EDB will most likely have to be removed when sediment/dredging operations occur. A small tree is easier to remove than a large tree, therefore, regular removal/thinning is imperative. All trees and woody vegetation should be removed that is growing in the bottom of the EDB or near structures (inflows, trickle channels, outlet works, emergency spillways, etc). Any trees or woody vegetation in the EDB should be limited to the upper portions of the pond banks.

Frequency – Nonroutine – As necessary based upon inspections.

EDB-3.8.4 Clearing Drains/Jet-Vac

An EDB contains many structures, openings, and pipes that can be frequently clogged with debris. These blockages can result in a decrease of hydraulic capacity and also create standing water (nuisances) in areas outside of the micro-pool. Many times the blockage to this infrastructure can be difficult to access and/or clean. Specialized equipment (jet-vac machines) may be necessary to clear debris from these difficult areas.

Frequency – Nonroutine – As necessary based upon inspections.

EDB-3.9 Major Maintenance Activities

This work consists of larger maintenance/operational problems and failures within the stormwater management facilities. All of this work requires consultation with the Douglas County Engineering Department to ensure the proper maintenance is performed. This work requires that the engineering staff review the original design and construction drawings to assess the situation and assign the necessary maintenance. This work may also require more specialized maintenance equipment, design/details, surveying, or assistance through private contractors and consultants.

**Table – EDB-4
Summary of Major Maintenance Activities**

MAINTENANCE ACTIVITY	MINIMUM FREQUENCY	LOOK FOR:	MAINTENANCE ACTION
Major Sediment Removal	As needed – based upon scheduled inspections	Large quantities of sediment; reduced pond capacity	Remove and dispose of sediment. Repair vegetation as needed
Major Erosion Repair	As needed – based upon scheduled inspections	Severe erosion including gullying, excessive soil displacement, areas of settlement, holes	Repair erosion – find cause of problem and address to avoid future erosion
Structural Repair	As needed – based upon scheduled inspections	Deterioration and/or damage to structural components – broken concrete, damaged pipes, outlet works	Structural repair to restore the structure to its original design

EDB-3.9.1 Major Sediment Removal

Major sediment removal consists of removal of large quantities of sediment or removal of sediment from vegetated areas. Care shall be given when removing large quantities of sediment and sediment deposited in vegetated areas. Large quantities of sediment need to be carefully removed, transported and disposed of. Vegetated areas need special care to ensure design volumes and grades are preserved.

Frequency – Nonroutine – Repair as needed based upon inspections.

EDB-3.9.2 Major Erosion Repair

Major erosion repair consist of filling and revegetating areas of severe erosion. Determining the cause of the erosion as well as correcting the condition that caused the erosion should also be part of the erosion repair. Care should be given to ensure design grades and volumes are preserved.

Frequency – Nonroutine – Repair as needed based upon inspections.

EDB-3.9.3 Structural Repair

An EDB includes a variety of structures that can deteriorate or be damaged during the course of routine maintenance. These structures are constructed of steel and concrete that can degrade or be damaged and may need to be repaired or re-constructed from time to time. These structures include items like outlet works, trickle channels, forebays, inflows and other features. Some of the minor structural repairs can be performed by in-house operations staff. Major repairs to structures may require input from a structural engineer and specialized contractors. Consultation with the Douglas County Engineering Staff should take place prior to all structural repairs.

Frequency – Nonroutine – Repair as needed based upon inspections.

**PRIVATE DETENTION BASIN /
STORMWATER QUALITY BEST MANAGEMENT PRACTICE
MAINTENANCE AGREEMENT AND EASEMENT**

This PRIVATE DETENTION BASIN / STORMWATER QUALITY BEST MANAGEMENT PRACTICE MAINTENANCE AGREEMENT AND EASEMENT (Agreement) is made by and between EL PASO COUNTY by and through THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO (Board or County) and [Phillip S & Jennifer Miles](#) (Developer) and [Terra Ridge North HOMEOWNERS ASSOCIATION](#) (Homeowners Association or Association), a Colorado nonprofit corporation. The above may occasionally be referred to herein singularly as “Party” and collectively as “Parties.”

Recitals

A. WHEREAS, Developer is the owner of certain real estate (the Property or Subdivision) in El Paso County, Colorado, which Property is legally described in [Exhibit A](#) attached hereto and incorporated herein by this reference; and

B. WHEREAS, Developer desires to plat and develop on the Property a subdivision to be known as [Terra Ridge North](#); and

C. WHEREAS, the development of this Property will substantially increase the volume of water runoff and will decrease the quality of the stormwater runoff from the Property, and, therefore, it is in the best interest of public health, safety and welfare for the County to condition approval of this subdivision on Developer’s promise to construct adequate drainage, water runoff control facilities, and stormwater quality structural Best Management Practices (“BMPs”) for the subdivision; and

D. WHEREAS, Chapter 8, Section 8.4.5 of the El Paso County [Land Development Code](#), as periodically amended, promulgated pursuant to Section 30-28-133(1), Colorado Revised Statutes (C.R.S.), requires the County to condition approval of all subdivisions on a developer’s promise to so construct adequate drainage, water runoff control facilities, and BMPs in subdivisions; and

E. WHEREAS, the Drainage Criteria Manual, Volume 2, as amended by Appendix I of the El Paso County Engineering Criteria Manual (ECM), as each may be periodically amended, promulgated pursuant to the County’s Colorado Discharge Permit System General Permit (MS4 Permit) as required by Phase II of the National Pollutant Discharge Elimination System (NPDES), which MS4 Permit requires that the County take measures to protect the quality of stormwater from sediment and other contaminants, requires subdividers, developers, landowners, and owners of facilities located in the County’s rights-of-way or easements to provide adequate permanent stormwater quality BMPs with new development or significant redevelopment; and

F. WHEREAS, Section 2.9 of the El Paso County [Drainage Criteria Manual](#) provides for a developer’s promise to maintain a subdivision’s drainage facilities in the event the County does not assume such responsibility; and

G. WHEREAS, developers in El Paso County have historically chosen water runoff detention basins as a means to provide adequate drainage and water runoff control in subdivisions,

which basins, while effective, are less expensive for developers to construct than other methods of providing drainage and water runoff control; and

H. WHEREAS, Developer desires to construct for the subdivision 1 detention basin/stormwater quality BMP(s) (“detention basin/BMP(s)”) as the means for providing adequate drainage and stormwater runoff control and to meet requirements of the County’s MS4 Permit, and to provide for operating, cleaning, maintaining and repairing such detention basin/BMP(s); and

I. WHEREAS, Developer desires to construct the detention basin/BMP(s) on property that will be platted as [Tract A](#) as indicated on the final plat of the subdivision, and as set forth on [Exhibit B](#) attached hereto; and

J. WHEREAS, Developer shall be charged with the duty of constructing the detention basin/BMP(s) and the Association shall be charged in the Subdivision’s Covenants with the duties of operating, maintaining and repairing all common areas and common structures within the Subdivision, including the detention basin/BMP(s) on the Property described in [Exhibit B](#); and

K. WHEREAS, it is the County’s experience that subdivision developers and homeowners’ associations historically have not properly cleaned and otherwise not properly maintained and repaired these detention basins/BMPs, and that these detention basins/BMPs, when not so properly cleaned, maintained, and repaired, threaten the public health, safety and welfare; and

L. WHEREAS, the County, in order to protect the public health, safety and welfare, has historically expended valuable and limited public resources to so properly clean, maintain, and repair these detention basins/BMPs when developers and homeowners’ associations have failed in their responsibilities, and therefore, the County desires the means to recover its costs incurred in the event the burden falls on the County to so clean, maintain and repair the detention basin/BMP(s) serving this Subdivision due to the Developer’s or the Association’s failure to meet its obligations to do the same; and

M. WHEREAS, the County conditions approval of this Subdivision on the Developer’s promise to so construct the detention basin/BMP(s), and further conditions approval on the Association’s promise to reimburse the County in the event the burden falls upon the County to so clean, maintain and/or repair the detention basin/BMP(s) serving this Subdivision; and

N. WHEREAS, the County could condition subdivision approval on the Developer’s promise to construct a different and more expensive drainage, water runoff control system and BMPs than those proposed herein, which more expensive system would not create the possibility of the burden of cleaning, maintenance and repair expenses falling on the County; however, the County is willing to forego such right upon the performance of Developer’s and the Association’s promises contained herein; and

O. WHEREAS, the County, in order to secure performance of the promises contained herein, conditions approval of this Subdivision upon the Developer’s grant herein of a perpetual Easement over a portion of the Property for the purpose of allowing the County to periodically access, inspect, and, when so necessary, to clean, maintain and/or repair the detention basin/BMP(s); and

P. WHEREAS, given that the Association could potentially avoid liability hereunder by dissolving and reforming as a different entity, and given the difficulties inherent in collecting an unsecured promise, the County, in order to secure performance of the promises contained herein, conditions approval of this Subdivision upon the Developer's creation, by and through this Agreement, of a covenant running with the land upon each and every lot in the Subdivision.

Agreement

NOW, THEREFORE, in consideration of the mutual Promises contained herein, the sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Incorporation of Recitals: The Parties incorporate the Recitals above into this Agreement.

2. Covenants Running with the Land and Pro Rata Liability upon Individual Lot Owners: Developer and the Association agree that this entire Agreement and the performance thereof shall become a covenant running with the land, which land is legally described in [Exhibit A](#) attached hereto, and that this entire Agreement and the performance thereof shall be binding upon themselves, their respective successors and assigns, including individual lot owners within the Subdivision.

However, any liability imposed under this Agreement against an individual lot owner shall not be joint and several with the Developer and the Association, but shall be pro rated on a per-lot basis as determined by the following formula and illustration: each individual lot owner(s) shall be liable for no more than the total monetary amount of liability multiplied by a fraction in which the numerator is the number of lots in the Subdivision owned by a particular lot owner, and the denominator is the total number of lots in the Subdivision. As to any lot(s) owned by more than one person or entity, the liability among co-owners shall be joint and several for the pro rata obligation of that lot. The application of this Paragraph is best illustrated by the following example. Assume the following parameters: total liability is \$10,000; total number of lots in the Subdivision is 100; Lot 1 is owned by persons A and B; person B also owns Lot 2. Liability is as follows: the Developer, \$10,000; the Association, \$10,000; Lot 1 is \$100.00, joint and several as to A and B, Lot 2 is \$100.00 owed solely by B. Thus person A's total liability is \$100.00 and person B's is \$200.00. Applying the principle that the County cannot collect more than it is owed, and assuming that the County cannot collect anything from the Developer and the Association, if the County collected the whole \$200.00 from B, then it could not collect the \$100.00 from A. Likewise, if the County collected the \$100.00 from A, then it could only collect \$100.00 from B.

3. Construction: Developer shall construct on that portion of the Property described in [Exhibit B](#) attached hereto and incorporated herein by this reference, 1 detention basin/BMP(s). Developer shall not commence construction of the detention basin/BMP(s) until the El Paso County Planning and Community Development Department (PCD) has approved in writing the plans and specifications for the detention basin/BMP(s) and this Agreement has been signed by all Parties and returned to the DSD. Developer shall complete construction of the detention basin/BMP(s) in substantial compliance with the County-approved plans and specifications for the detention basin/BMP(s). Failure to meet these requirements shall be a material breach of this Agreement, and shall entitle the County to pursue any remedies available to it at law or in equity to enforce the same. Construction of the detention basin/BMP(s) shall be substantially completed within one (1) year (defined as 365 days), which one year

period will commence to run on the date the approved plat of this Subdivision is recorded in the records of the El Paso County Clerk and Recorder. Rough grading of the detention basin/BMP(s) must be completed and inspected by the El Paso County Planning and Community Development Department prior to commencing road construction.

In the event construction is not substantially completed within the one (1) year period, then the County may exercise its discretion to complete the project, and shall have the right to seek reimbursement from the Developer and the Association and their respective successors and assigns, including individual lot owners in the Subdivision, for its actual costs and expenses incurred in the process of completing construction. The term actual costs and expenses shall be liberally construed in favor of the County, and shall include, but shall not be limited to, labor costs, tool and equipment costs, supply costs, and engineering and design costs, regardless of whether the County uses its own personnel, tools, equipment and supplies, etc. to correct the matter. In the event the County initiates any litigation or engages the services of legal counsel in order to enforce the Provisions arising herein, the County shall be entitled to its damages and costs, including reasonable attorney fees, regardless of whether the County contracts with outside legal counsel or utilizes in-house legal counsel for the same. The scope of liability therefor of the Developer, the Association, and the individual lot owners shall be as set forth in Paragraph Two (2) above.

4. Maintenance: The Developer and the Association agree for themselves, their respective successors and assigns, including individual lot owners within the Subdivision, that they will regularly and routinely inspect, clean and maintain the detention basin/BMP(s), and otherwise keep the same in good repair, all at their own cost and expense. No trees or shrubs that will impair the structural integrity of the detention basin/BMP(s) shall be planted or allowed to grow on the detention basin/BMP(s).

5. Creation of Easement: Developer and the Association hereby grant the County a non-exclusive perpetual easement upon and across that portion of the Property described in [Exhibit B](#). The purpose of the easement is to allow the County to access, inspect, clean, repair and maintain the detention basin/BMP(s); however, the creation of the easement does not expressly or implicitly impose on the County a duty to so inspect, clean, repair or maintain the detention basin/BMP(s).

6. County's Rights and Obligations: Any time the County determines, in the sole exercise of its discretion, that the detention basin/BMP(s) is not properly cleaned, maintained and/or otherwise kept in good repair, the County shall give reasonable notice to the Developer, the Association and their respective successors and assigns, including the individual lot owners within the Subdivision, that the detention basin/BMP(s) needs to be cleaned, maintained and/or otherwise repaired. The notice shall provide a reasonable time to correct the problem(s). Should the responsible parties fail to correct the specified problem(s), the County may enter upon the Property to so correct the specified problem(s). Notice shall be effective to the above by the County's deposit of the same into the regular United States mail, postage pre-paid. Notwithstanding the foregoing, this Agreement does not expressly or implicitly impose on the County a duty to so inspect, clean, repair or maintain the detention basin/BMP(s).

7. Reimbursement of County's Costs / Covenant Running With the Land: The Developer and the Association agree and covenant, for themselves, their respective successors and assigns, including individual lot owners within the Subdivision, that they will reimburse the County for its costs and expenses incurred in the process of completing construction of, cleaning, maintaining, and/or repairing the detention basin/BMP(s) pursuant to the provisions of this Agreement; however, the obligation and liability of the Developer hereunder shall only continue until such time as the Developer

transfers the entire management and operation of the Association to the individual lot owners within the Subdivision. Notwithstanding the previous sentence, the Association and the individual lot owners within the Subdivision shall always remain obligated and liable hereunder, and as per the provisions of Paragraph Two (2) above.

The term “actual costs and expenses” shall be liberally construed in favor of the County, and shall include, but shall not be limited to, labor costs, tools and equipment costs, supply costs, and engineering and design costs, regardless of whether the County uses its own personnel, tools, equipment and supplies, etc. to correct the matter. In the event the County initiates any litigation or engages the services of legal counsel in order to enforce the provisions arising herein, the County shall be entitled to its damages and costs, including reasonable attorney’s fees, regardless of whether the County contracts with outside legal counsel or utilizes in-house legal counsel for the same. The scope of liability therefor of the Developer, the Association, and the individual lot owners shall be as set forth in Paragraph Two (2) above.

8. Contingencies of Subdivision Approval: Developer’s and the Association’s execution of this Agreement is a condition of subdivision approval. Additional conditions of this Agreement include, but are not limited to, the following:

- a. The County’s receipt of a copy of the Articles of Incorporation for the Association, as filed with the Colorado Secretary of State; receipt of the Certificate of Incorporation or other comparable proof for the same from the Colorado Secretary of State; a copy of the Bylaws of the Association; a copy of the organizational minutes or other appropriate document of the Association, properly executed and attested, establishing that the Association has adopted this Agreement as an obligation of the Association; and
- b. A copy of the Covenants of the Subdivision establishing that the Association is obligated to inspect, clean, maintain, and repair the detention basin/BMP(s); that the Association has adopted this Agreement as an obligation of the Association; and that a funding mechanism is in place whereby individual lot owners within the Subdivision pay a regular fee to the Association for, among other matters, the inspection, cleaning, maintenance, and repair of the detention basin/BMP(s); and
- c. A copy of the Covenants of the Subdivision establishing that this Agreement is incorporated into the Covenants, and that such Agreement touches and concerns each and every lot within the Subdivision.

The County shall have the right, in the sole exercise of its discretion, to approve or disapprove any documentation submitted to it under the conditions of this Paragraph, including but not limited to, any separate agreement or amendment, if applicable, identifying any specific maintenance responsibilities not addressed herein. The County’s rejection of any documentation submitted hereunder shall mean that the appropriate condition of this Agreement has not been fulfilled.

9. Distribution to Lot Purchasers: Upon the initial sale of any lot within the Subdivision, prior to closing on such sale, the Developer shall give a copy of this Agreement to the potential Buyer.

10. Agreement Monitored by El Paso County Planning and Community Development Department and/or El Paso County Department of Public Works: Any and all actions and decisions to

be made hereunder by the County shall be made by the Director of the El Paso County Planning and Community Development Department and/or the Director of the El Paso County Department of Public Works. Accordingly, any and all documents, submissions, plan approvals, inspections, etc. shall be submitted to and shall be made by the Director of the Planning and Community Development Department and/or the Director of the El Paso County Department of Public Works.

11. Indemnification and Hold Harmless: To the extent authorized by law, Developer and the Association agree, for themselves, their respective successors and assigns, including the individual lot owners in the Subdivision, that they will indemnify, defend, and hold the County harmless from any and all loss, costs, damage, injury, liability, claim, lien, demand, action and causes of action whatsoever, whether at law or in equity, arising from or related to their respective intentional or negligent acts, errors or omissions or that of their agents, officers, servants, employees, invitees and licensees in the construction, operation, inspection, cleaning (including analyzing and disposing of any solid or hazardous wastes as defined by State and/or Federal environmental laws and regulations), maintenance, and repair of the detention basin/BMP(s), and such obligation arising under this Paragraph shall be joint and several. Nothing in this Paragraph shall be deemed to waive or otherwise limit the defense available to the County pursuant to the Colorado Governmental Immunity Act, Sections 24-10-101, *et seq.* C.R.S., or as otherwise provided by law. However, the obligation and liability of the Developer hereunder shall only continue until such time as the Developer transfers the entire management and operation of the Association to the individual lot owners within the Subdivision.

12. Severability: In the event any Court of competent jurisdiction declares any part of this Agreement to be unenforceable, such declaration shall not affect the enforceability of the remaining parts of this Agreement.

13. Third Parties: This Agreement does not and shall not be deemed to confer upon or grant to any third party any right to claim damages or to bring any lawsuit, action or other proceeding against either the County, the Developer, the Association, or their respective successors and assigns, including any individual lot owners in the Subdivision, because of any breach hereof or because of any terms, covenants, agreements or conditions contained herein.

14. Solid Waste or Hazardous Materials: Should any refuse from the detention basin/BMP(s) be suspected or identified as solid waste or petroleum products, hazardous substances or hazardous materials (collectively referred to herein as “hazardous materials”), the Developer and the Association shall take all necessary and proper steps to characterize the solid waste or hazardous materials and properly dispose of it in accordance with applicable State and/or Federal environmental laws and regulations, including, but not limited to, the following: Solid Wastes Disposal Sites and Facilities Acts, §§ 30-20-100.5 – 30-20-119, C.R.S., Colorado Regulations Pertaining to Solid Waste Disposal Sites and Facilities, 6 C.C.R. 1007-2, *et seq.*, Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992k, and Federal Solid Waste Regulations 40 CFR Ch. I. The County shall not be responsible or liable for identifying, characterizing, cleaning up, or disposing of such solid waste or hazardous materials. Notwithstanding the previous sentence, should any refuse cleaned up and disposed of by the County be determined to be solid waste or hazardous materials, the Developer and the Association, but not the County, shall be responsible and liable as the owner, generator, and/or transporter of said solid waste or hazardous materials.

15. Applicable Law and Venue: The laws, rules, and regulations of the State of Colorado and El Paso County shall be applicable in the enforcement, interpretation, and execution of this

Agreement, except that Federal law may be applicable regarding solid waste or hazardous materials. Venue shall be in the El Paso County District Court.

IN WITNESS WHEREOF, the Parties affix their signatures below.

Executed this 27 day of April, 2023 by:
Phillip S. & Jennifer Miles

By:
Phillip S. Miles Owner

The foregoing instrument was acknowledged before me this 27 day of April, 2023, by Phillip S. Miles Owner.

Witness my hand and official seal.

My commission expires: September 22, 2026



[Signature]
Notary Public

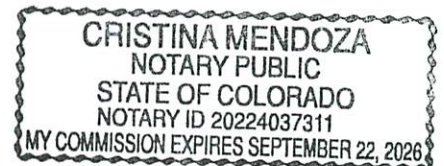
Executed this 27 day of April, 2023 by:
Terra Ridge North HOMEOWNERS ASSOCIATION, a Colorado nonprofit corporation.

By: [Signature]
Phillip S. Miles, President

The foregoing instrument was acknowledged before me this 27th day of April, 2023, by Phillip S. Miles, President, Terra Ridge North HOMEOWNERS ASSOCIATION, a Colorado nonprofit corporation.

Witness my hand and official seal.

My commission expires: September 22, 2026



[Signature]
Notary Public

Executed this _____ day of _____, 20____, by:

BOARD OF COUNTY COMMISSIONERS
OF EL PASO COUNTY, COLORADO

By: _____
Meggan Herington, Executive Director
Planning and Community Development Department
Authorized signatory pursuant to LDC

The foregoing instrument was acknowledged before me this _____ day of _____,
2023, by _____, Executive Director of El Paso County Planning and Community
Development Department.

Witness my hand and official seal.

My commission expires: _____

Notary Public

Approved as to Content and Form:

Assistant County Attorney

EXHIBIT A

Legal Description:

A portion of the Southwest Quarter of Section 29, Township 11 South, Range 65 West of the 6th P.M., County of El Paso, State of Colorado, more particularly described as follows:

Beginning at the Northwest corner of the Southwest Quarter of said Southwest Quarter; thence S89°46'29"E along the South line of Whispering Hills Estates as recorded in Plat Book Z-2 at Page 2 of said county records, 1407.75 feet to the Southeast corner thereof; thence N00°58'34"E, 1327.96 feet to the Northeast corner thereof; thence S89°47'26"E, 1245.16 feet to the Northeast corner of said Southwest Quarter, said Northeast corner also being on the West line of Wildwood Village Unit 3 as recorded in Plat Book H-3 at Page 57 of said county records; thence S00°59'16"W along the East line of said Southwest Quarter and the West Line of said Wildwood Village Unit 3 and Wildwood Village Unit 4 as recorded in Plat Book M-3 at Page 46 of said county records, 1366.91 feet; thence N89°46'29"W, 945.48 feet; thence N00°58'34"E, 8.50 feet; thence N89°46'29"W, 1708.14 feet to a point on the west line of said Southwest Quarter; thence N00°58'34E, 30.00 feet to the point of beginning.

EXHIBIT B

Legal Description:

A portion of the Southwest Quarter of Section 29, Township 11 South, Range 65 West of the 6th P.M., County of El Paso, State of Colorado, more particularly described as follows:

Commencing at the Northwest corner of the Southwest Quarter of said Southwest Quarter; thence S89°46'29"E along the South line of Whispering Hills Estates as recorded in Plat Book Z-2 at Page 2 of said county records; 1407.75 feet to the Southeast corner thereof; thence N00°59'09"E, 1177.23'; thence S70°43'59"E, 507.07' to the point of beginning; thence S04°37'05"E, 67.43', to a point of curve; thence on a curve to the left having a R=173.88', L=124.72', D=41.10° to a point of tangent; thence S46°36'45"E, 39.18', to a point of curve; thence on a curve to the right having a R=215.58', L=81.73', D=21.72° to a point on the curve; thence N89°53'18"E, 62.58'; thence N00°07'50"W, 245.72'; thence N67°15'06"E, 354.73'; thence N89°22'26"W, 421.49'; thence S00°21'17"W, 149.97'; thence N70°42'09"W, 103.15' to the point of beginning.