



COLORADO
Division of Water Resources

Department of Natural Resources
Water Division 2 - Main Office

April 7, 2020

C&M Properties
% Edward McDonald
12748 Barossa Valley Road
Colorado Springs, CO 80921

Via Email: mbramlett@jrengineering.com

When replying, please refer to:
Tamlin Road RV & Boat Storage Pond A Dam
Non-Jurisdictional
Water Division 2 Water District 10

SUBJECT: Signed Notice of Intent to Construct a Non-Jurisdictional Water Impoundment Structure

Dear Mr. McDonald,

Our office is in receipt of a Notice of Intent (NOI) to Construct a Non-Jurisdictional Water Impoundment Structure for the subject dam. The impoundment is to be located adjacent to a tributary of the East Fork of Sand Creek tributary to Fountain Creek, with the filling source to be Stormwater for Temporary Detention.

In accordance with Rule 11.1 of the Colorado Rules and Regulations for Dam Safety and Dam Construction, the hazard of this dam has been assessed as Low based on the construction drawing plans submitted with the NOI. A copy of the signed NOI is attached. An electronic copy will be maintained with the Division of Water Resources.

Please note the following:

- This structure must be designed and constructed to standards outlined in 37-92-602(8) for stormwater detention facilities.
- Because this structure is located on a tributary to Fountain Creek, the structure can only operate pursuant a Colorado Discharge Permit System Municipal, Separate Storm Sewer System Permit issued by the Department of Public Health and Environment Pursuant to Article 8 of Title 25, C.R.S.
- In the event groundwater is encountered during construction of the pond, the pond must be backfilled so as not to expose groundwater until such time as: 1) a well permit has been obtained for the groundwater pond pursuant to CRS §37-90-137, or 2) the pond is lined in accordance with the document, "State Engineer Guidelines for Lining Criteria for Gravel Pits," dated August 1999.

The requirements and recommendations provided herein are based on our review of the safety and water administration aspects of the proposed dam and the information provided in the



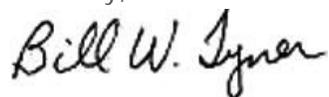
submitted NOI. These requirements and recommendations create no liability for the State of Colorado should the dam fail for any reason. Please be aware that it is in the owner's best interest to construct, operate, and maintain the structure in a safe manner, as he or she may be held liable in civil court for any downstream damages resulting from failure of the dam. A copy of Specifications for Construction of Non-Jurisdictional Dams is provided to assist you in the construction of a sound structure.

Finally, please be aware of any other permitting or regulatory requirements associated with the construction of a water impoundment structure, including but not limited to county and/or municipal regulations, and wetland permitting through the U.S. Army Corps of Engineers (see www.usace.army.mil for regional contact information).

The plans reviewed in this determination are submitted as part of the Developmental Approval process. Prior to the operation of this structure, please provide notice of completion of construction and as-constructed plans in PDF form including as constructed Stormwater Detention and Infiltration Data Sheet. Additionally, prior to the operation of this structure, notice must be provided pursuant to 37-92-602(8)(d) to the substitute water supply plan notification list maintained by the state engineer pursuant to section 37-92-308 (6) for the water division in which the facility is located.

If you have any questions regarding this approval, please contact Water Commissioner, Doug Hollister, at (719) 227-5291 or via email to doug.hollister@state.co.us, or Dam Safety Engineer, John Hunyadi, at (719)-227-5294, or via email to john.hunyadi@state.co.us,

Sincerely,



Bill W. Tyner, P.E.
Division Engineer, Division 2

Enc:

Signed Notice of Intent to Construct a Non-Jurisdictional Water Impoundment Structure
Specifications for Construction of Non-Jurisdictional Dams
Completion of Construction Form

Ec:

John Hunyadi, P.E., Dam Safety Engineer
Doug Hollister, District 10 Water Commissioner
Laserfiche File



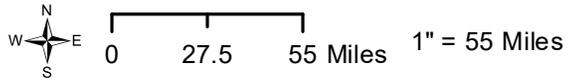
Table 1 DAM SAFETY BRANCH Spillway Sizing Guidelines for Non-Jurisdictional Dams

Drainage Area (Acres)	Minimum Recommended Bottom Width ¹ (Feet) Low Intensity Rainfall Zone	Minimum Recommended Bottom Width ¹ (Feet) High Intensity Rainfall Zone
175	8	8
225	8	10
275	8	12
325	8	15
375	10	17
425	11	19
475	12	21
525	13	24
575	15	26
625	16	28
675	17	30
725	19	33
775	20	35
825	21	37
875	22	39
925	24	42
975	25	44
1025	26	46
1075	28	48
1125	29	51
1175	30	53
1225	31	55
1275	33	57
1325	34	59
1375	35	62
1425	37	64
1475	38	66

¹Minimum recommended bottom width for drainage areas less than 175 acres is 8 feet



Spillway Section



Map Key - - - - - Rainfall Divide Line



COLORADO
 Division of Water Resources
 Department of Natural Resources

Rainfall Intensity Zones for Non-Jurisdictional Dam Spillway Sizing



DAM SAFETY BRANCH Specifications for Construction of Non-Jurisdictional Dams

- Site Selection:
 - Foundation soils should be firm to provide adequate support for the embankment and should have low permeability to allow for water retention. Site selection should consider potential downstream property damage in the event of a dam failure. Construction of dams in boggy areas, areas with non-uniform fractured rock, or sands/gravels is not recommended and an engineer should be hired to evaluate the site conditions. Any part of the reservoir basin excavated below grade cannot expose groundwater.
- Embankment Design:
 - Backfill material to be used for construction of the cutoff trench and embankment should be a suitable clay material and contain no material larger than 6 inches in diameter.
 - The upstream slope should be constructed with a slope no steeper than 3:1, and the downstream slope should be no steeper than 2:1 (see cross section below). The dam crest should have a minimum width of 10 feet and the surface should be graded with positive drainage toward the reservoir basin.
 - It is recommended that rock rip rap or other suitable material be placed on the upstream slope of the embankment to protect it from wave action. A suitable gravel or geosynthetic material should be placed under the rip rap to prevent fine material from washing out from behind the larger rock.
 - The embankment should be fenced to restrict livestock from accessing the dam since they damage the protective vegetation and increase erosion.
- Embankment Construction
 - The topsoil and all organic material should be removed from the foundation of the proposed dam site. Organic soil should only be reused for placement on the completed embankment to promote the re-growth of vegetation.
 - A cutoff trench should be excavated under the full length of the centerline of the dam with sloping sides (1:1 min.), a minimum bottom width of 3 feet and a depth of 3 feet.
 - The foundation of the dam should be scarified/ripped to a depth of 6-inches to provide proper contact between the native foundation and embankment. This surface should then be moisture treated before placement of fill.
 - Fill material should be placed in layers not exceeding 12 inches in thickness prior to compaction. Suitable backfill material should have enough clay and moisture content to roll a small ball by hand. If this cannot be done, the soil is likely too dry or does not have adequate clay content.
 - Each lift should be thoroughly compacted using a sheeps foot compactor. Care should be taken not to allow the top layers of the soil to dry out between placement of lifts.
 - Fill should be placed in uniform lifts that cover the entire embankment length and width.
- Outlet
 - Unless a waiver is granted in writing by the Division Engineer, all non-jurisdictional dams require an outlet conduit positioned at the natural low point of the reservoir basin. A minimum diameter of 12 inches is recommended and should be controlled at the upstream end by a valve and trash rack.
- Emergency Spillway
 - The spillway should have sufficient width to provide capacity to route the runoff from the drainage basin above the dam during rainfall/runoff events.
 - The emergency spillway should be located on natural ground far enough away to prevent erosion of the dam embankment. A spillway over the dam embankment is not acceptable.
 - A minimum of 3 feet of freeboard is required from the bottom of the emergency spillway to the top of the dam.
 - To determine the minimum spillway width, see the attached table for your area and drainage basin size.
- Example Plan View and Cross Section

