Wellsville-Mendon Conservation District

Instruction Packet

Guide to Obtain a Letter of Acceptance with the
Wellsville-Mendon Conservation District (WMCD)

Revised 02/2026

Wellsville-Mendon Conservation District

The Wellsville-Mendon Conservation District (WMCD) canal begins near and below Hyrum Reservoir and flows west towards Wellsville, then north towards Mendon, eventually terminating at Cutler Reservoir at Highway 30.

This packet is intended to assist Applicants in working with WMCD. All entities or persons proposing projects within the WMCD corridor or affecting WMCD facilities must obtain permission from WMCD prior to performing work.

This permission is usually granted with a Letter of Acceptance. In a Letter of Acceptance, WMCD grants permission for the Applicant to encroach on its real property interests. WMCD owns the canal corridor in fee. In some limited locations, WMCD holds a deeded easement or a prescriptive easement for the canal corridor. A Letter of Acceptance is a conditioned right to encroach upon WMCD lands. It is **not** an easement or other real property interest. A Letter of Acceptance, or other agreement, must be signed by WMCD's authorized representative **before** the site preparation or construction begins.

Franson Civil Engineers (Franson Civil) is the engineer for WMCD. Neither WMCD nor Franson Civil are responsible for design or construction of encroaching project facilities. WMCD and Franson Civil review project designs and applications for the purpose of protecting the operation and maintenance of the WMCD facilities. WMCD duties regarding an encroachment run only to its shareholders. Franson Civil's duties run only to WMCD. Once a Letter of Acceptance is issued, limited field review may be provided by Franson Civil to observe and confirm that construction appears to be in accordance with the design drawings and the Letter of Acceptance. The person or entity constructing an encroaching project, and their project engineers and contractors, maintain all responsibility for design and construction. No review or approval waives or modifies any Letter of Acceptance terms or gives WMCD or Franson Civil any responsibility for design or construction, workers on site, or the public. It is the responsibility of the Applicant to provide WMCD and Franson Civil with accurate information so a reasonable determination can be made if the project will meet WMCD standards and will not adversely affect WMCD facilities.

This review process can be expedited by ensuring the first submittal to Franson Civil meets WMCD standards following careful review of the checklist that is provided in this packet. The following is a guideline of the typical steps for the application, review, and Letter of Acceptance process, though projects may vary:

- Franson Civil receives the **application**, **application fees**, and **drawings**. The review process will **not** begin until these items have been received. The application must be submitted with sufficient time to review the drawings, write and issue the Letter of Acceptance, and construct the facilities before April 1st. Franson Civil reserves the right to decline applications or delay construction if they (or WMCD) believe the construction may interfere with delivery of water.
- Franson Civil will **review** the drawings. A meeting will be held as needed with Franson Civil, WMCD, and the Applicant to discuss the project. A redline comment letter will be sent to the Applicant with a checklist of items that must be addressed. The reviews will

repeat as explained above until all items from the checklist have been addressed and plans are to WMCD standards. This typically takes two rounds of reviewing.

- A Letter of Acceptance will be prepared once all of the mentioned items above have been completed. A Letter of Acceptance is a document that details the responsibilities of the Applicant and WMCD.
- Once the Letter of Acceptance has been issued, permission has been granted to the Applicant to begin the construction phase of the project, in accordance with the letter.
- The Applicant is required to notify WMCD and Franson Civil at least 24 hours before beginning construction on WMCD facilities.
- Franson Civil and WMCD may perform limited field reviews to observe that construction appears to be in accordance with the design drawings and the Letter of Acceptance. It is the responsibility of the Applicant to perform adequate construction review to ensure the facilities are constructed to WMCD standards and in accordance to their design drawings attached to the Letter of Acceptance.
- After construction is complete, the Applicant is required to schedule a **final walkthrough** that will be attended by Franson Civil and WMCD (at its option) to identify any final items that need to be completed before construction is accepted. A **punch list** will be prepared and sent to the Applicant listing items required.

The appropriate application can be obtained at www.fransoncivil.com/canal-applications.

Enclosed in this packet is a copy of the application for a general crossing and the installation of a turnout. Also included is a checklist to assist the Applicant's engineer in designing the plans to WMCD standards. This checklist is updated periodically, so downloading the most recent version of the packet for each new application is recommended.

Any questions regarding the application process can be directed to Chad Brown at Franson Civil. The office phone number is 435-754-7661.

WELLSVILLE-MENDON CONSERVATION DISTRICT

Application for Letter of Acceptance

Instructions and Application for Letter of Acceptance
to Construct Within or Cross Canal Right-of-Way

****Generally, the Applicant must be the governmental entity or utility that will eventually own, operate, and maintain the encroaching project facilities. One common exception is a weir for delivery of Wellsville-Mendon Conservation District (WMCD) water to its shareholders.****

1. Legal Name of Applicant for Letter of Acceptance (Applicant): _____

   _____

   Mailing Address: _____
   Contact Person: _____
   Telephone Number: _____
   Email: _____

2. Contact Person/Company Name: _____
   Mailing Address: _____
   Telephone Number: _____
   Email: _____

3. Engineering Company: _____
   Mailing Address: _____
   Telephone Number: _____
   Contact Person: _____
   Email: _____

4. Brief Description of Proposed Construction (include location): _____

   _____

   _____

5. Proposed Start and Completion Dates for Construction: _____

6. Submit one (1) printed 11x17 OR one (1) digital PDF copy of plans/design drawings for the proposed construction to the contact listed in #8 below. Plans shall be drawn to WMCD standards. A Standards Checklist has been prepared to assist engineers in designing to WMCD standards.

7. Application fees are listed below. For initial submittal, the fee below will begin the review process.

Application Type	Application Fee
Bridge or Box Culvert/Piping of Canal	$5,500
Agricultural Crossing	$5,000
Excavation of Canal	$5,000
Large Bore (over 24 inches in diameter)	$4,000
Turnout	$3,000
Small Boring or Directional Drilling	$3,500
Overhead Crossing	$2,500
Use of Existing Conduit	$1,500

WMCD will use application fees for purposes of administration, coordination, engineer review, preparation of the Letter of Acceptance, review during construction, legal guidance, and any other expenses it incurs related to this application. If fees incurred by WMCD are greater than the application fee, the Applicant will be responsible to reimburse WMCD for the remainder of the expenses.

Please make all checks payable to: **Wellsville-Mendon Conservation District.**

8. Send application, plans, and application fee to:

    Franson Civil Engineers
    Attn: Chad Brown
    459 South Main Street Suite 200
    Logan, UT 84321

    Telephone: (435) 754-7661
    wellsville.mendon.cd@gmail.com
    cc: cbrown@fransoncivil.com

NOTE:

1. The review process will not begin until the application fee is paid.

Starting construction without prior written approval from WMCD may result in WMCD invoicing/requiring an additional fee of $5,000.

2. If application costs exceed the fees paid, the Applicant will be responsible to reimburse WMCD within 30 days following receipt of an invoice.
4. This application is valid for 6 months from the date it is submitted. The Letter of Acceptance must be signed within this 6-month period. Once the Letter of Acceptance is signed, the Applicant has 12 months to complete work of irrigation company facilities. A new application and fee must be submitted if these time frames are not met.
5. Other permits (i.e. city, county, etc.) are the responsibility of the Applicant.

Neither Franson Civil nor WMCD will have any responsibility for design or construction of the facilities related to this application.

I have read, understand, and agree to the terms of this application.

_____	_____	_____
Signature of Applicant	Printed	Date

WELLSVILLE-MENDON CONSERVATION DISTRICT

APPLICATION FOR TURNOUT

This document must be completed in conjunction with the Application for Letter of Acceptance when modifying or constructing a turnout within the WMCD Corridor.

NEW TURNOUT

1. Number of Shares Being Moved to Proposed Turnout: _____
   Owner(s) of Shares: _____
   _____
   Certificate Number(s): _____

MODIFYING EXISTING TURNOUT

Number of Shares Remaining in Existing Turnout: _____
Owner(s) with Remaining Shares in Existing Turnout: _____
_____
Certificate Number(s): _____

SIGNATURE REQUIRED

The Applicant(s) acknowledge that no refund will be given if the work is not completed to the satisfaction of WMCD. Also, irrigation share(s) listed above are subject to additional assessments if the work is not completed to the satisfaction of WMCD.

_____
(Signature)

_____
(Title)

_____
(Date)

Revised 02/2026

WELLSVILLE-MENDON CONSERVATION DISTRICT STANDARDS CHECKLIST

This checklist is intended to assist engineers in designing projects to Wellsville-Mendon Conservation District (WMCD) standards. All projects seeking acceptance by WMCD must be designed to these standards. When used correctly, this checklist will expedite the review and Letter of Acceptance process. Not all items on this checklist will be applicable to every project.

Neither WMCD nor Franson Civil Engineers (Franson Civil) will have responsibility for design, construction, or maintenance of the Applicant's facilities. It is the responsibility of the Applicant and its engineer to design the project to WMCD standards. No approval or acquiescence by WMCD or Franson Civil will operate as a waiver or modification of WMCD standards.

In most instances, the Applicant will install, operate, maintain, inspect, repair, and replace the facilities that are constructed through the application process with no interruption of WMCD delivery of water or operation, maintenance, repair, or replacement of WMCD facilities.

Note: This checklist is updated when standards are amended. Checking for the latest version of this checklist at www.fransoncivil.com/canal-applications will ensure the most up-to-date information. Standard drawings are also available on the website. WMCD reserves the right to make exceptions to the standards or impose other requirements, depending on the Applicant's project.

GENERAL INFORMATION AND REQUIREMENTS

- ☐ Submit an "Application for Letter of Acceptance" and all application fees.
- ☐ Pipes, conduits, or other similar facilities are not allowed to be installed over the canal channel. Irrigation boxes, trees, or other facilities are not allowed to be installed in WMCD corridors. Turnouts, overhead power lines, etc. can be exceptions.
- ☐ Before submitting drawings to Franson Civil for review, please verify that all notes, references, and labels are correct and accurate.
- ☐ Neither WMCD nor Franson Civil can verify the locations of underground facilities. Blue Stakes should always be called before digging (1-800-662-4111).

ALL SUBMITTALS SHALL:

- ☐ Show the plan and profile view of the proposed facilities.
- ☐ Show all existing facilities in and around the project (i.e. canal O&M road, turnouts, pipes, box culverts, pipe outlets, etc.).
- ☐ Provide the location map, and if applicable, the plat map.
- ☐ Show the WMCD canal corridor on the drawings.
    - Applicant is responsible for checking surrounding property and labeling WMCD corridor as owned by WMCD or as an easement. If the land is owned, the actual ownership boundaries should be shown.
- ☐ Provide proposed dates for start and completion of construction. The start date should reflect adequate time to complete the application process and secure a Letter of Acceptance. Generally, the application process takes 1-2 months.

ADD THE FOLLOWING TO DRAWINGS UNDER HEADING "WMCD CANAL NOTES"

- ☐ Notification must be given at least 24 hours prior to the beginning of construction work and re-notification of re-commencement of work following any cessation of work for more than 4 (four) days. Call Chad Brown and the canal water master. Failure to do so may result in a $5,000 fine.
- ☐ Contact information for Franson Civil and WMCD:
    - Chad Brown, P.E., Franson Civil Engineers, 435-754-7661
    - Ben Sandberg, P.E., Franson Civil Engineers, 435-754-7661
    - Quinn Murray, President, Wellsville-Mendon Conservation District, 435-232-8207

- Kirt Lindley, Water Master, Wellsville-Mendon Conservation District, 435-512-6658

- ☐ Any changes in design drawings after the Letter of Acceptance has been issued must be reviewed and accepted by Franson Civil and WMCD.
- ☐ Work cannot interfere with delivery of water. Construction within canal corridors that impacts the canal or operation & maintenance road (O&M road) must be completed between October 15 and April 1.
- ☐ All construction within the canal corridor must be completed to WMCD standards.
- ☐ If disturbed, the canal O&M road shall be reinstalled following construction. O&M road must be available for use by canal personnel no later than April 1.
    - The O&M road shall be graded at a 2% slope away from the canal.
    - After placing and compacting native material, place a minimum of two inches of compacted roadbase on road surface. Compaction shall be 95% standard Proctor density.
- ☐ Stormwater runoff enters the canal during storm events or at other unexpected times. It is the responsibility of the Contractor to protect the work site. Any damage to the canal corridor caused by construction activities will be the responsibility of the Contractor.

BORING

For the purpose of this application packet, boring refers to the installation of a casing under the canal without excavating the canal itself. Also see the "Directional Drilling/Boring" section to see if your project qualifies for that section.

- ☐ All drawings must be stamped, signed, and dated by a licensed professional engineer. This can be completed after the project meets WMCD standards and is ready for the Letter of Acceptance.
- ☐ All facilities (utilities, pipes, etc.) installed under the canal (even under box culverts) must be encased in a steel, fusible HDPE, or fusible PVC casing. Minimum steel casing thickness can be found on the standard drawings. Minimum HDPE casing thickness shall be DR 32.5. Verification that the minimum thickness is sufficient is the responsibility of the Applicant.
- ☐ In locations where steel casing pipe is used, soil tests for resistivity shall be completed by the Applicant and at the Applicant's expense. Test results shall be submitted to Franson Civil. Soils with a soil resistivity (ohm cm) of 2,500 or less shall have cathodic protection

with a 25-year life or have cellular concrete placed in the annular space between the carrier pipe and casing pipe.

- ☐ Casings must have a minimum of two feet between the top of the casing and the bottom of the box culvert or concrete-lined canal, and four feet between the top of the casing and the earthen canal bottom. In areas with sand or cobbles, this distance may need to be increased. The actual safe depth is to be determined by the Applicant's engineer.
- ☐ The casing shall extend outside the canal corridor, which is defined as 6 feet from the toe of the canal bank on the downhill side and 6 feet from the top of the canal bank on the uphill side.
- ☐ Bore pits must be located outside the canal corridor.
- ☐ Bore pit compaction shall be 95% standard Proctor density.
- ☐ Trench plugs are to be placed at each end of the casing.
- ☐ Trench plugs are to extend the width of trench, 12 inches above and below casing pipes, and with a thickness of 24 inches.
- ☐ Trench plugs shall be 10% bentonite and 90% clay mixture. At least 40% of the backfill material must pass a No. 200 U.S. standard sieve prior to adding bentonite powder. The backfill material must then be amended by adding and thoroughly mixing commercial bentonite powder with the backfill material at a ratio of one-part bentonite to nine-parts backfill material. Impermeable flowable fill is an acceptable alternative.
- ☐ The carrier pipe shall have adequate casing spacers.
- ☐ Waterline pipes inside the casings shall have restraining joints.
- ☐ See the "Canal Boring Details" standard drawing for additional requirements.

<u>Add the following notes to drawings under heading "WMCD Canal Notes"</u>

- ☐ Contractor to notify Chad Brown of Franson Civil Engineers when trench plugs are installed. Verification of trench plug completion must be performed by Franson Civil before backfilling. Chad can be reached at 435-754-7661.

DIRECTIONAL DRILLING/BORING

For the purpose of this application packet, directional drilling refers to the installation of a smaller casing for a utility (usually under six inches in diameter) installed by directional drilling.

- ☐ All drawings must be stamped, signed, and dated by a licensed professional engineer. This can be completed after the project meets WMCD standards and is ready for the Letter of Acceptance.
- ☐ Label the conduit material and thickness. Verification that the conduit specifications are sufficient is the responsibility of the Applicant.
- ☐ Conduit must have a minimum of two feet between the top of the conduit and the bottom of a box culvert or concrete-lined canal, and four feet between the top of the conduit and the earthen canal bottom. In areas with sand or cobbles, this distance may need to be increased. The actual safe depth is to be determined by the Applicant's engineer.
- ☐ The conduit shall extend outside the canal corridor, which is defined as 6 feet from the toe of the canal bank on the downhill side and 6 feet from the top of the canal bank on the uphill side.
- ☐ Bore pits must be located outside the canal corridor.
- ☐ Fill bore pits with a mixture of native material and 10% bentonite powder to create a seal that will prevent water from following the new conduit.
- ☐ Bore pit compaction shall be 95% standard Proctor density.
- ☐ See the "Directional Drilling Details" standard drawing for additional requirements.

OCCUPYING EXISTING BLANK CONDUIT/CASING

This section is used when an existing blank conduit is in place under the canal and the Applicant wishes to occupy the conduit. It is common for conduits to be installed at the same time as a box culvert; however, the placement of these conduits does **not** give permission for the utility to be installed in the conduit. An application, drawings, and fee need to be submitted and a Letter of Acceptance signed before the conduit is occupied. Drawings from the original conduit placement can be used if the Applicant can provide them.

- ☐ Show the plan and profile view of the existing blank conduit.
- ☐ Specify the existing conduit material and thickness.
- ☐ Show or note the details of the utility to be installed in the blank conduit.
- ☐ Show where and how the conduit will be accessed to install the utility.
- ☐ Show the canal corridor.

OPEN CUT OF CANAL CHANNEL

- ☐ All drawings must be stamped, signed, and dated by a licensed professional engineer. This can be completed after the project meets WMCD standards and is ready for the Letter of Acceptance.
- ☐ All facilities (utilities, pipes, etc.) installed under the canal must be encased in a steel, fusible HDPE solid wall, or fusible PVC casing. Minimum steel casing thickness can be found on the standard drawings. Minimum HDPE casing thickness shall be DR 32.5. Verification that the minimum thickness is sufficient is the responsibility of the Applicant.
- ☐ In locations where steel casing pipe is used, soil tests for resistivity shall be done and submitted to Franson Civil. Soils with a soil resistivity (ohm cm) of 2,500 or less shall have cathodic protection with a 25-year life or have cellular concrete placed in the annular space between the carrier pipe and casing pipe.
- ☐ Casings must have a minimum of two feet between the top of the casing and the bottom of the box culvert or concrete-lined canal, and four feet between the top of the casing and the earthen canal bottom. In areas with sand or cobbles, this distance may need to be increased. The actual safe depth is to be determined by the Applicant's engineer.
- ☐ The casing shall extend outside the canal corridor, which is defined as 6 feet from the toe of the canal bank on the downhill side and 6 feet from the top of the canal bank on the uphill side.
- ☐ Trench plugs are to be placed at each end of the casing.
- ☐ Trench plugs are to extend the width of trench, 12 inches above and below casing pipes, and with a thickness of 24 inches.
- ☐ Trench plugs shall be a 10% bentonite and 90% clay mixture. At least 40% of the backfill material must pass a No. 200 U.S. standard sieve prior to adding bentonite powder. The backfill material must then be amended by adding and thoroughly mixing commercial bentonite powder with the backfill material at a ratio of one-part bentonite to nine-parts backfill material. Impermeable flowable fill is an acceptable alternative.
- ☐ The carrier pipe must have adequate casing spacers.
- ☐ Waterline pipes inside the casings shall have restraining joints.
- ☐ Bedding material must be shown, as appropriate for the design.
- ☐ See the "Open-Cut Trench Cross-Section" standard drawing for additional requirements.

Add the following notes to drawings under heading "WMCD Canal Notes" if canal is earthen:

- ☐ The canal floor and embankment material removed for excavation shall be replaced with a 12-inch minimum thickness of 10^{-6} cm/sec permeability clay material, in 6-inch maximum lifts.
- ☐ All replaced materials shall be compacted to 95% standard Proctor density.
- ☐ Canal embankment shall be shaped to match the existing canal prism.
- ☐ Compaction test results must be submitted to Franson Civil Engineers. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- ☐ The trench through the canal may be cut as little as ¼ horizontal to 1 vertical.
- ☐ Contractor to notify Chad Brown of Franson Civil Engineers when trench plugs are installed. Verification of trench plug completion must be performed by Franson Civil Engineers before backfilling. Chad can be reached at 435-754-7661.

Add the following notes to drawings under heading "WMCD Canal Notes" if canal is lined:

- ☐ The existing concrete section must be sawcut to give a clean edge for the replacement section.
- ☐ The trench through the canal may be cut as little as ¼ horizontal to 1 vertical to minimize the amount of concrete liner that needs to be removed. It is the responsibility of the Contractor to verify that compaction will not be affected.
- ☐ Embankment material shall be compacted to a minimum of 95% standard Proctor density. Native material may be used.
- ☐ Compaction test results must be submitted to Franson Civil. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- ☐ Canal embankment shall be shaped to match the existing canal prism.
- ☐ Rebar shall be a minimum of #4 bar at 12 inches on center for concrete-liner.
- ☐ Contractor to notify Chad Brown of Franson Civil Engineers when trench plugs are installed. Verification of trench plug completion must be performed by Franson Civil Engineers before backfilling. Chad can be reached at 435-754-7661.

BOX AND PIPE CULVERTS

- ☐ All drawings must be stamped, signed, and dated by a licensed professional engineer. This can be completed after the project meets WMCD standards and is ready for the Letter of Acceptance.
- ☐ If extending an existing box culvert, WMCD recommends that the Applicant perform a reasonable inspection of the existing culvert to make a determination of whether it should be replaced instead of extended.
- ☐ Applicant is responsible to verify that culvert design will not negatively impact the hydraulics of the canal, including other existing structures in the area.
- ☐ A plan and profile view is required of the culvert showing the centerline of the canal, the top of banks, and the WMCD corridor boundaries.
    - Show the elevation and location of the top of the banks, bottom of the banks, and the canal prism, as well as new structures including box culvert and wing walls.
    - Silt collects at the bottom of the canal. The invert of the culvert is to match the bottom of the canal, not the top of the current silt layer.
- ☐ Trench detail is required showing bedding, backfill material, and compaction requirements.
- ☐ The dimensions and type of culvert must be labeled.
- ☐ Label the culvert with loading information and rebar details. Loading shall be determined by the Applicant.
- ☐ The culvert wing walls should flare at a 30- to 45-degree angle then a 90-degree angle into the canal banks, a minimum of two feet perpendicular to the canal banks. Placement of the wing walls cannot interfere with the O&M road. The top of the wing walls shall be a minimum of 12 inches above the high-water mark in the canal.
- ☐ Wing walls shall be tied into the canal banks in a manner that provides a smooth transition from the canal into the culvert and back out of the culvert on the outlet side.
- ☐ If using a precast wing wall/end section, the wing walls, apron, and cutoff wall shall be one piece.
- ☐ If cast-in-place concrete is placed next to pre-cast concrete, Waterstop RX, Swellstop, or an approved equivalent shall be placed to prevent seepage between the surfaces.
- ☐ PVC water stop, or equivalent, is required in all joints of cast-in-place concrete.
- ☐ If extending an existing box culvert, Waterstop RX, Swellstop, or an approved equivalent shall be placed between the old culvert and the new culvert to prevent seepage. Mastic is not acceptable.

- ☐ A concrete apron shall be between the wing walls.
- ☐ Concrete cut-off walls are required on the inlet and outlet, a minimum of two feet below the bottom of the concrete slab (apron). These cutoffs are required to extend into the banks to the ends of the wing walls.
- ☐ The structure must be able to handle the maximum flow capacity of the canal. The Applicant is responsible for verifying maximum flows and designing appropriately. The culvert cannot cause water to back up further upstream. Neither WMCD nor Franson Civil has flow data available for the canal.
- ☐ State on the plans the backfill material and methods for filling and compacting around the box and wing walls. Backfill around the box culvert shall meet manufacturer's specifications for compaction and materials, or a minimum of 95% standard Proctor density.
- ☐ Place a minimum of 24 inches of clay material behind wing walls, compacted to a minimum of 95% standard Proctor density.
- ☐ All other backfill material around head walls and in open canal channel to be compacted to a minimum of 95% standard Proctor density.
- ☐ A 6-foot chain-link fence or 4-foot parapet wall is required on all box culverts that carry pedestrian traffic. Exceptions may occur where local ordinances note otherwise, and upon agreement by WMCD and Franson Civil.
- ☐ Access to canal O&M road shall be installed with curb cuts at drive approaches and thickened concrete at sidewalks.
- ☐ Casings under the culvert must be shown on the plan and profile view. (See "Open Cut of Canal Channel" for information on standards for casing installation.)
- ☐ Identify existing conduits and utilities under the canal.
- ☐ Identify each new conduit being placed under the canal.
    - If the conduit owner/occupier is known, label as such.
    - If the conduit is to remain empty, label as such.
- ☐ See the "Box Culvert Details" standard drawing for additional requirements.

<u>Add the following notes to drawings under heading "WMCD Canal Notes":</u>

- ☐ All concrete used in the construction shall have a minimum compressive strength of 4,000 psi. The concrete mix shall include between 5% and 7% air entrainment.

- ☐ Canal floor and embankment material removed for excavation (between apron and undisturbed canal) shall be replaced with a 12-inch minimum thickness of 10^{-6} cm/sec permeability clay material in 6-inch maximum lifts.
- ☐ Compaction around the box culverts to meet manufacturer requirements or a minimum of 95% standard Proctor density.
- ☐ All materials placed in the canal corridor shall be compacted to 95% standard Proctor density.
- ☐ Canal embankment shall be shaped to match the existing canal prism.
- ☐ Compaction test results must be submitted to Franson Civil. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- ☐ Open-cut trenches for the cutoff walls shall be cut at a minimum of 2 horizontal to 1 vertical so that backfill can be properly compacted.
- ☐ Conduits shown on these drawings do not give permission for the conduit to be occupied by an entity other than the original Applicant. Each entity crossing the canal must apply for, and receive, a Letter of Acceptance from WMCD.

AGRICULTURAL CROSSING

For a culvert to qualify as an agricultural crossing the culvert must be used solely for farming purposes (i.e., pivot tower crossing; planting, fertilizing, and harvesting equipment and vehicles, etc.) If an agricultural crossing ever becomes an access to a residential property these standard will no longer apply and the applicant will be required to bring the crossing into compliance with the 'Box and Pipe Culverts' standards.

- ☐ Applicant is responsible to verify that culvert design will not negatively impact the hydraulics of the canal, including other existing structures in the area.
- ☐ A plan and profile view is required of the culvert showing the centerline of the canal, the top of banks, and the WMCD corridor boundaries.
    - Show the elevation and location of the top of the banks, bottom of the banks, and the canal prism, as well as new structures including box culvert and wing walls.
    - Silt collects at the bottom of the canal. The invert of the culvert is to match the bottom of the canal, not the top of the current silt layer.
- ☐ Trench detail is required showing bedding, backfill material, and compaction requirements.
- ☐ The dimensions and type of culvert must be labeled.

- ☐ Canal banks shall be formed in a manner that provides a smooth transition from the canal into the culvert and back out of the culvert on the outlet side.
- ☐ The crossing must be able to handle the maximum flow capacity of the canal. The crossing cannot cause water to back up further upstream.
- ☐ State on the plans the backfill material and methods for filling and compacting around the culvert. Backfill around the culvert shall meet the manufacturer's specifications for compaction and materials, or a minimum of 95% standard Proctor density.
- ☐ Place clay material the width and height of the trench around the culvert a minimum of 24 inches past the inlet and before the outlet, compacted to a minimum of 95% standard Proctor density.
- ☐ All other backfill material in open canal channel to be compacted to a minimum of 95% standard Proctor density

Add the following notes to drawings under heading "WMCD Canal Notes":

- ☐ Canal floor and embankment material removed for excavation shall be replaced with a 12-inch minimum thickness of 10^{-6} cm/sec permeability clay material in 6-inch maximum lifts.
- ☐ Compaction around the culvert to meet manufacturer requirements or a minimum of 95% standard Proctor density.
- ☐ All materials placed in the canal corridor shall be compacted to 95% standard Proctor density.
- ☐ Canal embankment shall be shaped to match the existing canal prism.

TURNOUT

The turnout structure being proposed shall at all times be subject to rights reserved by WMCD to reasonably use, operate, maintain, inspect, repair, replace, and improve the canal. The turnout structure to be built by the Applicant pursuant to the Letter of Acceptance shall be the sole responsibility of the Applicant for purposes of ongoing maintenance and repair, but the canal shall continue to be used exclusively by WMCD for its ongoing delivery of water to its shareholders. Any future repairs, excavation, removal, or other work on the turnout structure shall be subject to advanced review and approval by WMCD engineers.

- ☐ Submit an "Application for Letter of Acceptance" and "Application for Turnout."
- ☐ See "Turnout Details," standard drawings for additional requirements.

- ☐ If the turnout is being built by another entity other than the shareholders that will use the turnout, it is the responsibility of the Applicant to coordinate a meeting with the shareholders, canal water master, and Franson Civil to verify the required flows and any special conditions of the turnout/weir.
- ☐ Provide the cross-section showing the elevation and location of the turnout gate and any permanent structures in relation to the canal. Show the toe of the canal embankment and the elevation of the existing canal invert.
    - Silt collects at the bottom of the canal. The placement of the turnout structure shall match the bottom of the canal, not the top of the current silt layer.
- ☐ If cast-in-place concrete is placed next to pre-cast concrete, Waterstop RX, Swellstop, or an approved equivalent shall be placed to prevent seepage between the surfaces.
- ☐ PVC water stop, or equivalent, is required in all joints of cast-in-place concrete.

Turnout Gate & Headwall

- ☐ Provide specifications for the turnout gate. A water-tight Waterman gate, or equivalent, is required.
- ☐ Canal banks shall be tied into the wingwalls in a manner that provides a smooth transition around the headwall.
- ☐ The headwall should be placed in a manner so that the structure does not extend into the canal or the O&M road.
- ☐ The inlet structure shall be placed on undisturbed soils.
- ☐ The bottom of the pipe opening should be a minimum of two inches off the bottom of the canal floor.
- ☐ Rebar details are required on the submitted drawings. The rebar design must be appropriate for the proposed site and conditions.

Pipe from Turnout to Diversion Box or Sump

- ☐ Open-cut trenches shall be cut at a minimum of 2 horizontal to 1 vertical so that the backfill can be properly compacted. (See “Open-Cut Trench Cross-Section” standard drawing for additional requirements.)
- ☐ Bedding material, as appropriate for the design, must be shown.
- ☐ Specify the pipe type, size, and class.

Diversion Box or Sump

- ☐ Boxes are not allowed in the canal corridor. The box shall be placed outside the canal corridor.
- ☐ Box not to be placed in driveways, roads, or other traffic areas.
- ☐ All pipes into boxes shall be grouted and watertight.

Add the following notes to plans under heading "WMCD Canal Notes"

- ☐ All concrete used in the construction shall have a minimum compressive strength of 4,000 psi. The concrete mix shall include between 5% and 7% air entrainment.
- ☐ Compaction of all replaced embankment material shall be impermeable material, meeting a standard Proctor density of 95%.
- ☐ Compaction test results must be submitted to Franson Civil. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- ☐ A trench plug is required behind the head wall. Trench plug to be placed in location shown for width of trench, 12 inches above and below the pipe, and a thickness of 24 inches.
- ☐ Trench plugs shall be a 10% bentonite and 90% clay mixture. At least 40% of the backfill material must pass a No. 200 U.S. standard sieve prior to adding bentonite powder. The backfill material must then be amended by adding and thoroughly mixing commercial bentonite powder with the backfill material at a ratio of one-part bentonite to nine-parts backfill material. Impermeable flowable fill is an acceptable alternative.

STORM WATER DISCHARGE THROUGH A DETENTION BASIN

- ☐ No stormwater will be permitted to discharge into the WMCD canal without express written consent by WMCD. All stormwater must be retained on site.

OVERHEAD CROSSING

- ☐ Provide a cross section showing the elevation of the overhead crossing and the elevation of the canal invert and banks.
- ☐ Show the location of power poles and any permanent structures in relation to the canal and toe of the canal embankment.
- ☐ Structures shall be located outside the WMCD corridor, which is generally 16.5 feet on the uphill side and 33 feet on the downhill side, measured from the center of the canal. In most instances, WMCD owns the land in fee and the width may vary. Applicant to verify the corridor width at the desired crossing location.

EASEMENTS (Required for any utility crossing the WMCD Canal)

- ☐ The easement must be in the name of the entity that will take ownership of the installed utility after construction. (E.g., a sewer line will have an easement filed for Wellsville City)
- ☐ Prior to any easements being recorded that affect WMCD, the legal description must be prepared and stamped by a licensed surveyor, then submitted to and reviewed by Franson Civil.
    - The easement must include an exhibit map.
- ☐ Easements are required to be recorded with the County Recorder for all WMCD facilities.
    - Proof that the easement was recorded must be submitted to Franson Civil.
- ☐ WMCD owns the majority of the land in fee and the width may vary. It will be the responsibility of the applicant to verify the corridor width. In locations where the land is not owned by WMCD, the canal right-of-way shall extend one rod (16.5 feet) on the uphill side of the canal centerline and two rods (33 feet) on the downhill side, measured from the center of the canal. Easements should be in the name of the Wellsville-Mendon Conservation District.
- ☐ Title insurance may be required.
- ☐ Add a note to the drawings, stating: “No foliage, structures, or other unauthorized improvements are allowed in Wellsville-Mendon Conservation District corridors.”