

UNDERSTANDING MINNESOTA PUBLIC DRAINAGE LAW

A Handbook for Practitioners

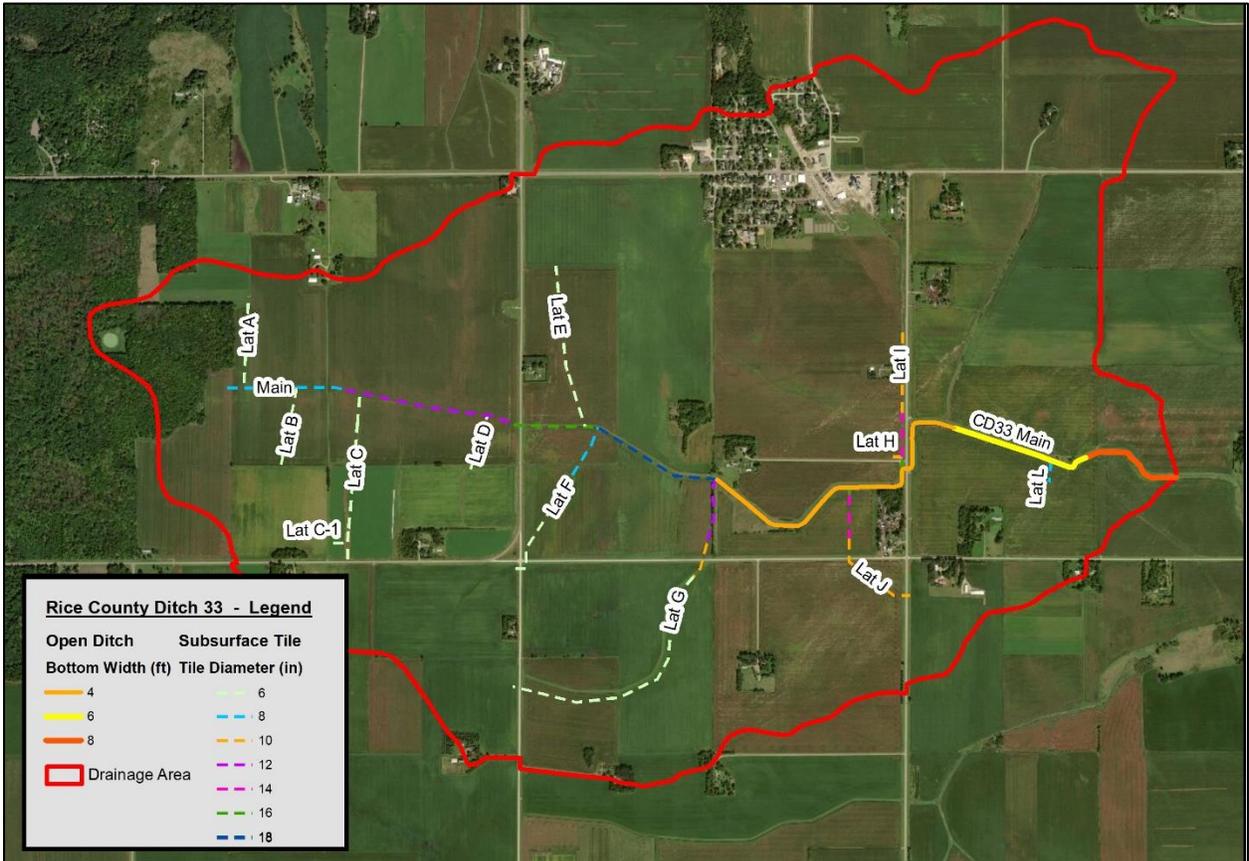
OVERVIEW

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Minnesota Board of Water and Soil Resources



Example Chapter 103E Drainage Ditch with Buffer Strips



Example Chapter 103E Drainage System with Open Ditch and Subsurface Tile

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Purposes of this Handbook

The precursor to this updated edition of **Understanding Minnesota Public Drainage Law** was first published by the Association of Minnesota Counties (AMC) in 1998 and subsequently updated in 2002 with the subtitle “2002 Overview for Decision-makers.” The purpose was to support more consistent knowledge and application of Minnesota public drainage law. That purpose continues and is expanded with this update to be “A Handbook for Practitioners” in two versions. The **Handbook** version is comprehensive for practitioners who seek detailed information about Minnesota public drainage law authorities, requirements, process, and associated information. This companion **Overview** version is for decision-makers and others seeking a summary of this information. The updated purposes include:

- 1) Enhance understanding and administration of current Minnesota public drainage law (drainage code) (Minnesota Statutes [Chapter 103E Drainage, 2019](#)).
- 2) Summarize and clarify roles and responsibilities of the primary players involved in public administration of Chapter 103E drainage systems.
- 3) Provide summary flow charts of process steps involved in different categories and types of Chapter 103E drainage proceedings and procedures, as well as more detailed explanations of the process steps and requirements for separate types of proceedings or procedures.
- 4) Provide electronic links to applicable Chapter 103E and other statute provisions by section (§) and to associated information in the [Minnesota Public Drainage Manual, 2016 \(MPDM\)](#), for more comprehensive reference.
- 5) Clarify understanding of provisions in Chapter 103E that enable multipurpose drainage water management and associated Best Management Practices (BMPs).

Disclaimer

The **Handbook** and **Overview** documents provide organized information and guidance about Chapter 103E. They do not supersede statute, rule or other law. Readers are cautioned to obtain legal advice when using specific drainage proceedings or procedures, including checking for any changes in drainage law and pertinent case law, as appropriate. When reading Chapter 103E, note that many provisions have not been fully updated to more clearly reflect watershed districts as drainage authorities.

Section 1. INTRODUCTION

1.1 Brief History of Drainage Law in Minnesota

Minnesota drainage law began in 1858 when Minnesota became a state, with the passage of “An Act to Regulate and Encourage the Drainage of Lands.” That law recognized drainage corporations of multiple landowners. For a time, township boards of supervisors were drainage authorities for group drainage projects. Between 1883 and 1887, state drainage law was passed and amended that was significantly similar in scope to the current Chapter 103E **Drainage**, making county boards drainage authorities. Over the years, drainage authorities have included a Red River Basin commission, the State of Minnesota, and district courts. Current Chapter 103E drainage authorities include:

- county board of commissioners,
- joint county board of representative commissioners from affected counties, and
- watershed district board of managers.

A substantial portion of Minnesota’s agricultural lands receive productivity and associated economic benefits from Chapter 103E drainage systems involving open ditches and/or subsurface tile. Many roads, other properties and some municipalities also receive drainage benefits.

Minnesota has approximately 19,150 miles of drainage ditches and extensive untallied miles of subsurface tile installed and maintained under Chapter 103E. These drainage systems are owned by the benefited property owners and administered by the applicable local government unit drainage authority, in accordance with Chapter 103E. These systems are referred to as “public” drainage systems.

Over the years, Minnesota drainage law has been periodically revised, and recodified several times, via the state legislative process. Since 2006, the stakeholder Drainage Work Group (DWG) has provided a forum for discussion of Chapter 103E drainage law and been a key source of recommendations for revisions. The DWG is coordinated by the Minnesota Board of Water and Soil Resources (BWSR) in accordance with [§ 103B.101 Board of Water and Soil Resources, Subd. 13. Drainage stakeholder coordination.](#)

1.2 Key Characteristics of Chapter 103E

- Minnesota Statutes Chapter 103E Drainage does not have companion rules.
- Chapter 103E proceedings and procedures are primarily petitioned based by affected or interested property owners, individuals or entities. However, drainage authorities also make findings and order repairs and other types of drainage proceedings or procedures based on inspection of the drainage system and associated reports.
- All drainage system costs are paid by the owners of property determined to be benefited by the drainage project or drainage system in proportion to the benefits, **with two exceptions:**
 - 1) Since 2000, external sources of funding can be used in coordination with drainage system funds for the specific purposes of wetland preservation or restoration, creation of water quality improvements, or flood control.
 - 2) Since 2019, repair costs alternatively can be apportioned based on relative runoff and relative sediment delivery from all property contributing runoff to the drainage system.
- Some types of drainage proceedings and procedures require an engineer’s report, some require a viewers’ report and a property owners’ report, and some an inspection report.
- Most types of drainage proceedings and procedures require a public hearing and drainage authority findings and order.
- Appeal rights involving the applicable district court are provided for certain types of drainage authority orders.
- Drainage authority advisors include county auditors, watershed district secretaries and administrators, county or watershed district drainage system managers, engineers, attorneys, viewers, inspectors, and involved state and federal agencies.

1.3 Roles and Responsibilities in Drainage System Administration

A summary of entities involved in Chapter 103E drainage system administration, and their roles and responsibilities, are outlined in **Table 1-1. Summary of Drainage System Roles and Responsibilities.** This table may not include all possible situations.

Table 1-1. Summary of Drainage System Roles and Responsibilities

<p>Affected Property Owner(s) or other Eligible Individual or Entity</p> <ul style="list-style-type: none"> • Prepare and file a petition, and bond, if required, or seek legal assistance for this • Share in the costs of a petitioned drainage project proceeding and/or the drainage system, as required
<p>Drainage Authority</p> <ul style="list-style-type: none"> • Act as the drainage system’s governing body – administer proceedings and procedures; approve petitions; hold hearings; make findings; issue orders; appoint engineer(s), viewers, and inspector(s); engage or retain attorney(s); apportion costs; etc.
<p>County Auditor, Watershed District Secretary and Administrator, Drainage Manager</p> <ul style="list-style-type: none"> • Maintain drainage system records, including petitions, engineer’s reports, drainage system plans and profiles, viewers’ reports, property owners’ reports, records of proceedings and procedures, inspection reports, etc. • Maintain finances and financial records for each drainage system • Receive filed petitions, engineer’s reports, viewers’ reports, inspection reports, etc. • Provide petitions, reports, bond certificates, other documents to drainage authority • Schedule, provide notice and assist hearings and other pertinent communications • Recommend or assign drainage system alphanumeric identifications • Order the first meeting of viewers • Prepare and mail property owners’ report based on viewers’ report • Collect assessments and charges • Receive appeals of certain drainage authority orders for benefits, damages, project dismissal or establishment and transmit to the drainage authority • File notice of appeal of benefits and damages or orders with the applicable district court administrator
<p>County Attorney or Private Attorney (Engaged or retained by the drainage authority.)</p> <ul style="list-style-type: none"> • Review and prepare opinions about adequacy of petitions and approve associated bonds, as applicable, on behalf of the drainage authority • Advise the drainage authority about drainage law and associated provisions of law • Prepare construction contract and bond (with engineer and petitioners’ attorney, as applicable)
<p>Drainage Inspector (Appointed by the drainage authority. May be a county highway engineer, but not a county commissioner.)</p> <ul style="list-style-type: none"> • Inspect drainage systems as directed by the drainage authority • Coordinate with property owners and may work with an inspection committee • Prepare and file inspection reports • May assist enforcement of Chapter 103E drainage systems and buffer strips

<p>Engineer (Appointed by the drainage authority.)</p> <ul style="list-style-type: none"> • Required to file an oath and bond when appointed by a drainage authority • Complete preliminary and detailed surveys, prepare and file associated reports, plans and specifications, construction inspection and as-built documents • Conduct investigations, prepare and file petitioned repair reports • Maintain field notes and file with the county auditor or watershed district secretary
<p>Viewers (Appointed by the drainage authority. Panel of three “disinterested residents” of Minnesota qualified to determine benefits and damages.)</p> <ul style="list-style-type: none"> • Determine benefits and damages for properties affected by a drainage project or drainage system • Viewers team prepares viewers’ report and typically the lead viewer presents to the drainage authority at hearings, and at appeal trials, as applicable
<p>Department of Natural Resources</p> <ul style="list-style-type: none"> • Conduct advisory review and reports for Preliminary and Detailed Engineer’s Reports for “drainage projects”, including watershed district engineer’s reports and plans for drainage projects • Must be notified and can review repair plans that may affect public waters • Can contest and help to resolve repair depths that may affect public waters • Provide a Letter of Permission, if required for drainage work in public waters • Issue a Public Waters Work Permit, if required for a drainage project that substantially affects public waters
<p>Board of Water and Soil Resources</p> <ul style="list-style-type: none"> • Conduct advisory review and reports for watershed district engineer’s reports and plans for drainage projects • Coordinate and compile ditch buffer strip annual reporting • Coordinate and represent the stakeholder Drainage Work Group (DWG)
<p>Wetland Effects Reviewers (Can involve local, state and federal government staff regarding the MN Wetland Conservation Act, U.S. Clean Water Act, U.S. Rivers and Harbors Act, or USDA Farm Bill wetland conservation requirements, as applicable.)</p> <ul style="list-style-type: none"> • Determine compliance with applicable legal requirements and advise mitigation, if necessary

1.4 Categories and Types of Drainage Proceedings and Procedures

The terms “drainage project”, “project”, “drainage proceeding”, and “proceeding” can be confusing, because some of these terms are defined quite narrowly in Chapter 103E but are also used more broadly within and outside the statute. The term “procedure” is also used in Chapter 103E, including in the definition of a “proceeding.”

Repairs are often referred to as a “project” but are not a “drainage project” in Chapter 103E. Some other types of drainage proceedings can also be about a project that is not a “drainage project” such as

impounding, rerouting and diverting drainage system waters. The context of use of these terms in Chapter 103E is key to understanding the applicable meaning.

The term “proceeding(s),” is also used more broadly than its statutory definition to refer to some drainage proceedings or procedures that may or may not require a petition or are not a “drainage project”. There are many procedures in Chapter 103E that are not a “proceeding.” This Handbook and Overview use the terminology “Drainage Proceedings and Procedures,” as overarching terminology that includes the categories “**Drainage Projects**” “**Repairs**” and “**Other Proceedings or Procedures.**” The general definitions below, together with **Figure 1. Categories and Types of Drainage Proceedings and Procedures**, define and organize these categories and types of drainage proceedings and procedures. Detailed information about drainage proceedings, procedures and associated processes are provided in **Section 3. DRAINAGE PROJECTS**, **Section 4. DRAINAGE SYSTEM REPAIRS**, and **Section 5. OTHER PROCEEDINGS OR PROCEDURES** of the Handbook.

§ 103E.005 DEFINITIONS:

Subd. 11. **Drainage project.** “Drainage project” means a new drainage system, an improvement of a drainage system, an improvement of an outlet, or a lateral.

Subd. 22. **Proceeding.** “Proceeding” means a procedure under this chapter for or related to drainage that begins with filing a petition and ends by dismissal or establishment of a drainage project.

Drainage Projects

- **New Drainage System Projects:** Establishment of a new drainage system of open ditch or subsurface tile, or both, to drain property.
- **Improving Drainage Systems:** Enlarging, extending, straightening or deepening an existing drainage system to increase hydraulic capacity and drainage efficiency.
- **Improving Outlets:** A project to prevent overflow onto adjoining properties by extension of an existing drainage system downstream, and/or enlargement of an existing drainage system outlet.
- **Laterals:** Construction of a branch, or similar extension of an existing drainage system to better connect and drain land within the watershed of the drainage system.

Repairs

- **Repairs based on inspection** of the drainage system can include: clean out of sediment deposits, removal of undesirable vegetation or other obstructions, replacement of a failing hydraulic structure, permissive establishment of permanent strips of perennial vegetation (ditch buffer strips) or side inlet controls, and other erosion control that does not require acquisition of additional land rights by the drainage system. Drainage authorities can initiate this type of repair without a petition.
- **Petitioned repairs** can include the types of repairs listed above, as well as repairs that require the acquisition of additional land rights or create new benefits, such as re-sloping of ditch side slopes, installing a 2-stage ditch cross section, removing trees, or installing other erosion control.

Other Proceedings or Procedures

These include many types of drainage proceedings or procedures shown in **Figure 1-1. Categories and Types of Drainage Proceedings and Procedures** below that may or may not require a petition but require a hearing. A few of the procedures can occur within the process of a drainage project proceeding or petitioned repair proceeding.

Figure 1-1. Categories and Types of Drainage Proceedings and Procedures



1.5 Other Key Terms and Their Meaning

Table 1-2. Other Key Terms Used in Chapter 103E helps clarify the meaning of other key terms used in Chapter 103E that can be confusing. Again, the context of use of these terms in Chapter 103E is key to understanding the applicable meaning.

Table 1-2. Other Key Terms Used in Chapter 103E

<p>“assess” “assessing” “assessed” “assessment” – These terms can mean the evaluation or determination of something (e.g., by the engineer, viewers, or drainage authority), or can refer to a levy against property for the cost of a “drainage project”, “repair”, or “other proceeding or procedure.”</p>
<p>“damages” – Damages are the costs of a drainage system paid to the affected property owner(s) by the drainage system for land rights acquisition, including permanent and/or temporary right-of-way, diminished land value, or damage to a conservation program practice caused by a “drainage project” or “repair.”</p>
<p>“view” “viewing” – This is the determination of benefited properties, monetary benefits, and damages of a drainage system by a team of three (3) “viewers” who are disinterested residents of Minnesota qualified to perform this role. The legal terms “view” “viewer” and “viewing” can be found in the 1851 Territorial Statutes and early state statutes of Minnesota, and in other law, indicating visual inspection and associated official determination. Examples in early Minnesota statutes include “fence viewers” who were empowered to police the identification and maintenance of “partition fences” along property boundaries, and “viewing” of a site on the ground by government officials and/or jurors to help make a legal determination.</p>
<p>“bond” – There are several types of bonds required and/or authorized by Chapter 103E, but not always clearly named in the statute.</p> <ul style="list-style-type: none"> • Petitioners’ bond to provide surety for payment of the costs of a “drainage project” proceeding until the project is ordered by the drainage authority, or in case the petition and proceeding is dismissed. • Bid bond from a contractor submitting a construction bid, providing surety that the contractor will honor their bid and sign a contract, if selected. • Construction performance and payment bond is required of the contractor awarded a construction contract to provide surety for project completion if the contractor defaults on the contract, including payment of workers, suppliers and subcontractors. • Financing bonds for drainage projects, repairs or certain other proceedings or procedures can include the following types. <ul style="list-style-type: none"> ○ Drainage bond ○ Temporary drainage bond ○ Definitive drainage bond ○ Drainage funding bond

1.6 Jurisdiction Over Chapter 103E Drainage Systems

Chapter 103E provides jurisdiction to the drainage authority that is critical for the legal administration of a Chapter 103E drainage system. Case law indicates that drainage authorities must carefully follow Chapter 103E.

On behalf of the drainage system, the drainage authority acquires a perpetual right-of-way easement over the property where a drainage system passes. This easement provides access for construction, inspection, repair and associated Chapter 103E proceedings and procedures for the drainage system. Land rights compensation and other “damages” are paid by the drainage system to the applicable property owners for permanent right-of-way acquisition, temporary right-of-way and/or crop damage, damage to a conservation program practice and other damages associated with a drainage project or repair, as applicable.

The drainage authority is responsible to administer drainage proceedings and procedures and to maintain the drainage system and its records, on behalf of the benefited property owners.

1.7 Due Process in Chapter 103E

The components of due process in Chapter 103E include:

- **petition** (by eligible property owners, an individual, or entity, as applicable),
- **reports** (inspector’s, engineer’s, viewers’, property owners’, repair cost apportionment),
- **hearings** (preliminary and final hearings for drainage projects, one hearing for most other proceedings and procedures, and other permissible hearings),
- **drainage authority findings and orders,**
- **compensation for land rights and other damages,**
- **appeal provisions for specific types of drainage authority orders.**

Section 2. PLANNING AND GENERAL CONSIDERATIONS

2.1 Informal Meetings

A drainage authority may hold informal meetings in addition to the required Chapter 103E meetings or hearings “to inform persons affected by the drainage system about the drainage proceedings and provide a forum for informal discussions.” These informal meetings can have substantial value when used for early coordination and consideration of drainage projects, drainage system inspections, repairs and other proceedings or procedures.

2.2 Considerations Before Drainage Work is Done

There are three subdivisions in [§ 103E.015 Considerations Before Drainage Work is Done.](#), summarized as follows:

- Subdivision 1. **Environmental, land use, and multipurpose water management criteria:** applies only to “drainage projects” and includes nine criteria that must be considered by the drainage authority and should be addressed in the engineer’s reports.
- Subd. 1a. **Investigating potential use of external sources of funding and technical assistance:** applies to “drainage projects” and “petitioned repairs”, all of which require an engineer’s report. The purpose is to promote coordination of public (program) and drainage

system assessment funding for multipurpose water management drainage projects and repairs, considering eligibility, availability, and timing of external funding.

- Subd. 2. **Determining public utility, benefit and welfare:** applies to all work affecting Chapter 103E drainage systems, with a focus on consideration of conservation of natural resources and other public interests and matters of law when a drainage authority makes findings regarding public utility, benefit and welfare of drainage system work. This subdivision, as well as Subdivision 1, can involve consideration of state and federal public waters and wetland conservation laws.

2.3 Local Water Management Plan Considerations

Comprehensive local water planning in Minnesota necessarily addresses multipurpose water management. For “drainage projects”, [§ 103E.015, Subdivision 1, clause \(2\)](#) requires the drainage authority to consider alternative measures identified in applicable state-approved and locally adopted water management plans for five purposes:

- (i) conserve, allocate, and use drainage waters for agriculture, stream flow augmentation, or other beneficial uses;
- (ii) reduce downstream peak flows and flooding;
- (iii) provide adequate drainage system capacity;
- (iv) reduce erosion and sedimentation; and
- (v) protect or improve water quality.

Local water management plans include county, watershed district and water management organization plans, as well as One Watershed, One Plan. Other provisions of Chapter 103E enable multipurpose considerations for repairs and certain other proceedings or procedures.

2.4 Best Management Practices

Early coordination about alternative measures and multipurpose drainage management is very important for consideration of multipurpose best management practices (BMPs) and the potential to integrate use of external sources of funding for certain purposes in addition to the drainage purpose. Informal meetings can be very helpful to coordinate with property owners, as well as with local water planners and representatives of conservation programs that might provide external funding (typically cost-share) for eligible BMPs.

2.5 Drainage System Cost Apportionment

- All costs for constructed “**drainage projects**” must be apportioned to the benefited property owners in proportion to the monetary benefits for each land unit benefited by the project, as determined by the team of viewers and approved by the drainage authority (i.e., pro rata based on benefits).
- The costs of a “**repair**” anywhere on a drainage system are apportioned pro rata:
 - to all property benefited by the drainage system based on benefits of record, or
 - can be apportioned to all property contributing runoff to the drainage system based on relative runoff and relative sediment delivery to the drainage system.
- Improvement projects can involve separable repair costs, in which case improvement costs are apportioned based on benefits of the improvement and repair costs are apportioned to all property in the benefited area or runoff contributing area of the drainage system.

- The costs for most “**other proceedings or procedures**” are apportioned pro rata to all properties in the benefited area of the drainage system based on benefits of record.
- If external funding is used for specific purposes allowed in Chapter 103E and in accordance with requirements of the funding source, the costs for the drainage purpose of a “drainage project” or “repair” are apportioned in accordance with Chapter 103E.

2.6 Petition and Bond – General Requirements

- “Drainage projects” “petitioned repairs” and many “other proceedings or procedures” begin by eligible property owner(s) or an eligible affected or interested party properly filing a petition with the applicable drainage authority representative (applicable county auditor(s) or watershed district secretary). See petition requirements in the applicable section below.
- “Drainage projects” and “petitioned repairs” require the petitioner(s) to submit and maintain a petitioners’ bond (at least \$10,000) as surety to pay the costs of the proceedings, if the petition is dismissed or the project is not constructed. These costs can become part of the project cost and apportioned, if the project is ordered by the drainage authority.
- One type of “other proceedings or procedures” ([§ 103E.227](#)) can require a petitioners’ bond.
- Chapter 103E includes provisions for joint and several liability of petitioners for a “drainage project” and requirements for withdrawing from a petition or a petition being dismissed.

Section 3. DRAINAGE PROJECTS

“Drainage projects” include:

- establishing a **new drainage system** ([§ 103E.212](#)),
- **improving** an existing drainage system ([§103E.215](#)),
- **improving the outlet** of an existing drainage system ([§ 103E.221](#)), and
- establishing a **lateral** to an existing drainage system ([§ 103E.225](#)).

3.1 Drainage Project Petition, Bond, and Where to File

- **All “drainage projects” require a petition that must:**
 - state that the project will benefit and be useful to the public (or be of public benefit and utility) and promote (or improve) the public health,
 - state that the petitioners will pay all costs incurred if the project proceedings are dismissed or a contract for construction is not awarded (joint and several liability),
 - be accompanied by a petitioners’ bond of at least \$10,000 to pay for costs of the proceedings until the project is ordered, or in case the proceedings are dismissed, except for a petition by an affected county or watershed district for improvement of an outlet of an existing drainage system.
- **Table 3-1. Additional Requirements for “Drainage Project” Petitions** provides specific information about who can file a petition and additional required content of the petition for the different types of “drainage projects.”
- **“Drainage project” petitions must be filed as follows:**
 - for a project within one county where there isn’t a watershed district, with the county auditor

- for a project within more than one county where there isn't a watershed district, with the auditor of the county with the greatest area that the project passes over
- for a new drainage system or improvement of an existing drainage system within a watershed district, with the watershed district secretary

Table 3-1. Additional Requirements for "Drainage Project" Petitions

Drainage Project Type	Who Can File a Petition	Additional Required Contents of the Petition
<p>Establishment of a New Drainage System § 103E.212</p>	<ul style="list-style-type: none"> • Majority of owners of property that the proposed drainage system passes over. <li style="text-align: center;">or • Property owners owning at least 60% of the area the proposed system passes over. 	<ul style="list-style-type: none"> • Describe the 40-acre tracts or government lots and property the proposed system passes over, including names and addresses of property owners. • Describe the starting point, course and terminus of the system. • State why the drainage system is necessary.
<p>Improvement of an Existing Drainage System § 103E.215</p>	<ul style="list-style-type: none"> • At least 26% of owners of property affected by the proposed improvement. <li style="text-align: center;">or • At least 26% of the owners of property that the proposed improvement passes over. <li style="text-align: center;">or • Owners of at least 26% of the property area affected by the proposed improvement. <li style="text-align: center;">or • Owners of at least 26% of the property area that the proposed improvement passes over. 	<ul style="list-style-type: none"> • Designate the drainage system to be improved by number or description. • State that the drainage system has insufficient capacity or needs enlarging or extending to furnish sufficient capacity or a better outlet. • Describe the starting point, general course, and terminus of any extension. • Describe the improvement, including names and addresses of the owners of all property the improvement passes over.
<p>Improvement of an Outlet of an Existing Drainage System § 103E.221</p>	<ul style="list-style-type: none"> • By the Board of an affected county or watershed district. <li style="text-align: center;">or • By at least 26% of owners of adjoining overflowed property. <li style="text-align: center;">or • By owners of at least 26% of area of the overflowed property. 	<ul style="list-style-type: none"> • Describe the property that has been or is likely to be overflowed, including names and addresses of landowners, and the location and outlet of the overflowed drainage system. • Identify the drainage system(s) that have caused or are likely to cause the overflow. • Show the need for outlet improvement by enlarging the system or controlling waters by off-take ditches, additional outlets, etc.

Drainage Project Type	Who Can File a Petition	Additional Required Contents of the Petition
Establishment of a Lateral § 103E.225	<ul style="list-style-type: none"> At least 26% of the owners of property that the proposed lateral passes over. or By the owners of at least 26% of the area of the property that the proposed lateral passes over. 	<ul style="list-style-type: none"> Show outlet improvement will protect adjoining property from overflow. Describe the starting point, general course, and end point of the proposed lateral. Describe the property to be crossed by the lateral, including the names and addresses of the property owners. State why the lateral is necessary. Request that the lateral be constructed and connected with the drainage system.

3.2 Drainage Project Process

Figure 3-1(a. & b.) Process Summary for “Drainage Projects” in Appendix 1. Drainage Proceedings and Procedures Process Charts outline the sequence of steps for “drainage project” proceedings from petition through completion, including the applicable sections of Chapter 103E. Handbook **Section 3. DRAINAGE PROJECTS** further explains the following “drainage project” requirements and process:

- Details about the sequential steps, considerations and requirements in the process for the different types of “drainage project” proceedings, including links to applicable sections of Chapter 103E and to applicable sections of the **Minnesota Public Drainage Manual**.
- [Section 103E.015 Considerations Before Drainage Work is Done, Subd. 1 Environmental, land use and multipurpose water management criteria](#) includes nine criteria for consideration that apply to “drainage projects.” These criteria and [Subd. 2. Determining public utility, benefit, or welfare](#) include required compliance, as applicable, with provisions of the Minnesota Wetland Conservation Act; U.S. Clean Water Act, Section 404, Section 401, and Construction Stormwater Pollution Prevention Plan requirements; U.S. Rivers and Harbors Act, Section 10; and U.S. Farm Bill, Conservation Compliance wetlands provisions.
- Detailed requirements for the Engineer’s Preliminary Survey Report, Engineer’s Detailed Survey Report, the Viewers’ Report and the Property Owners’ Report.
- Required advisory reports by the Minnesota Department of Natural Resources (DNR) for all “drainage projects.” Advisory review by the Minnesota Board of Water and Soil Resources (BWSR) for “drainage projects” for which a watershed district is the drainage authority.
- The requirement for the drainage authority to receive DNR permission for work in public waters. The DNR published “[Public Waters Authority over Work Done in Public Drainage Systems](#)” [Feb. 28, 2018](#) to help clarify DNR authority and responsibilities regarding public waters and Chapter 103E drainage systems, including section **III. General Guidance for Public Drainage System Projects**. The [DNR Area Hydrologist](#) is a point of contact.
- Requirements for scheduling, noticing and conducting hearings.

- Requirements for a benefit-cost test and other criteria at the final hearing upon which to base findings and an order to either dismiss or to construct a “drainage project”.
- Construction contracting and financing.
- Construction inspection and partial payments.
- Project acceptance and as-built drawings.
- That costs for “drainage projects” must be apportioned to the benefited property owners in proportion to the monetary benefits for each benefited land unit, as determined by the viewers and approved by the drainage authority (i.e., pro rata based on benefits).

Section 4. DRAINAGE SYSTEM REPAIRS

The drainage authority is responsible for maintaining and otherwise repairing the drainage system in accordance with Chapter 103E, on behalf of the property owners who pay for the drainage system. The Chapter 103E definition of “repair” involves maintaining the “hydraulic capacity” of the drainage system, as well as its “effectiveness” and “efficiency”. There are two primary types of repairs, including “**repairs based on inspection**” and “**petitioned repairs.**” Drainage authorities often prefer to receive a petition for a major repair to demonstrate property owner support and to enable appointment of an engineer to investigate and make recommendations in a Repair Report.

Following is summary information about Chapter 103E repair provisions. See the Handbook **Section 4. DRAINAGE SYSTEM REPAIRS** for detailed information.

4.1 General Repair Provisions

- If a repair based on inspection or a petitioned repair may affect public waters, the drainage authority must notify the DNR. The DNR published the guidance document “[Public Waters Authority over Work Done in Public Drainage Systems](#)” Feb. 28, 2018 to help clarify DNR authority and responsibilities regarding public waters and Chapter 103E drainage systems, including section II. **General Guidance for Repairs of Public Drainage Systems**. The [DNR Area Hydrologist](#) is a point of contact.
- Repairs must comply with any applicable provisions of the Minnesota Wetland Conservation Act; U.S. Clean Water Act Section 404, Section 401, and Construction Stormwater Pollution Prevention Plan requirements; U.S. Rivers and Harbors Act, Section 10; and U.S. Farm Bill, Conservation Compliance wetland provisions. There are exemptions for certain types and scope of repair.
- Chapter 103E repair provisions provide for wetland preservation, restoration or replacement; water quality protection and improvement; and restoration of a conservation practice damaged by a repair.
- Certain repairs are not subject to bidding requirements.
- Repair financing can involve the drainage system repair fund, which has funding limits; borrowing from other drainage system repair funds (with interest); or bonding.
- There are annual repair assessment levy limits.

4.2 Apportionment of Repair Costs

The costs of a repair anywhere on a drainage system are apportioned by one of two methods:

- pro rata based on benefits of record for all property benefited by the drainage system ([§ 103E.728](#)), or
- alternatively, can be apportioned based on relative runoff and relative sediment delivery from all property contributing runoff to the drainage system ([§ 103E.729](#)).

4.3 Repairs Based on Inspection

- Drainage authorities are required to appoint a drainage inspector and to specify the appointment period and compensation for the inspector. The inspector can be the county engineer but cannot be a county commissioner.
- The drainage authority also designates drainage systems to be inspected and/or a schedule, considering the inspection frequency and ditch buffer strip inspection requirements in Chapter 103E, drainage inspector input and property owner input, as applicable.
- The drainage inspector must prepare an inspection report to the drainage authority for each drainage system inspected identifying any repair(s) needed, including any ditch buffer strip violations.
- For incremental establishment of ditch buffer strips and/or side inlet controls using [§ 103E.021, Subd. 6](#), the drainage authority may appoint an engineer to prepare an engineer’s repair report, and damages can be determined by the drainage authority or viewers appointed by the drainage authority. A hearing must be noticed and held.
- The drainage authority can, or may be required to, hold a hearing on repair cost apportionment if the [§ 103E.728](#) method is used, and must hold a hearing if the [§ 103E.729](#) method is used.

Figure 4-1(a. & b.) Process Summary for “Repairs Based on Inspection” in Appendix 1. Drainage Proceedings and Procedures Process Charts outline the sequence of steps for repairs based on inspection, including the applicable sections of Chapter 103E.

4.4 Petitioned Repairs

- An individual or entity (including the drainage authority) interested in or affected by a drainage system may file a repair petition.
- The petition must include a minimum \$10,000 petitioner’s bond to pay for the costs of the proceedings until the repair project is ordered, or in case the proceedings are dismissed.
- A petitioned repair requires the appointment of an engineer to examine the drainage system and prepare a repair report.
- A hearing must be noticed and conducted regarding the repair report.
- A repair that involves the need for additional drainage system land rights, or creates new benefits or damages, requires the drainage authority to appoint viewers to prepare a Viewers’ Report and the auditor or secretary to subsequently prepare and mail a Property Owners’ Report. These reports must be considered at the hearing, together with the engineer’s Repair Report.
- The drainage authority can, or may be required to, hold a hearing on repair cost apportionment if the [§ 103E.728](#) method is used, and must hold a hearing if the [§ 103E.729](#) method is used.

Figure 4-2(a. & b.) Process Summary for “Petitioned Repairs” in Appendix 1. Drainage Proceedings and Procedures Process Charts outline the sequence of steps for petitioned repairs, including the applicable sections of Chapter 103E.

Section 5. OTHER PROCEEDINGS OR PROCEDURES

Figure 1 in Section 1. INTRODUCTION of this Overview identifies 22 types of “Other Proceedings or Procedures” in Chapter 103E. These proceedings or procedures have varying requirements for petitions and other process, while all require a hearing involving the drainage authority.

5.1 Initiated by Notice, Motion or Petition

The following “other proceedings or procedures” can be initiated by petition, or by a motion of the drainage authority and/or the action of the applicable auditor or watershed district secretary to schedule a hearing, as summarized in Table 5-1. Initiation of Certain “Other Proceedings or Procedures.” Requirements for petitioners and petitions are summarized in Table 5-2. Petition Requirements for “Other Proceedings or Procedures.”

Table 5-1. Initiation of Certain “Other Proceedings or Procedures”

Other Proceeding or Procedure	How it’s Initiated
§ 103E.075 Obstructing Drainage System.	Drainage authority notice to person or other entity responsible for a drainage system obstruction.
§ 103E.101, Subd. 4a. Reestablishing records.	Drainage authority motion, or petition from any party affected by the drainage system.
§ 103E.245, Subd. 2. Limitation of survey.	Drainage authority determination of need to expand the area to be surveyed and notice of hearing.
§ 103E.351 Redetermining Benefits and Damages.	Drainage authority determination of need for redetermination, and motion; or petition by more than 26% of owners of property benefited or damaged and drainage authority determination of need.
§ 103E.555 Accepting Contract.	Auditor or watershed district secretary notice of hearing after receiving engineer’s report on contract completion.
§ 103E.721 Replacement and Hydraulic Capacity of Bridges and Culverts.	Drainage authority and auditor or watershed district secretary notice of hearing after receiving engineer’s hydraulic capacity report.
§ 103E.741 Property not Assessed Benefits; Hearing.	Drainage authority and auditor or watershed district secretary notice of hearing after receiving engineer’s repair report with map of additional benefited property.
§ 103E.801 Consolidating or Dividing Drainage Systems.	Drainage authority motion after redetermination of benefits and damages, or petition from any party interested in or affected by the drainage system.

5.2 Initiated by Petition Only

The following “other proceedings or procedures” can only be initiated by petition. Requirements for petitioners and petitions are summarized in **Table 5-2. Petition Requirements for “Other Proceedings or Procedures”** below.

- § 103E.227 **Impounding, Rerouting, and Diverting Drainage System Waters.**
- § 103E.231 **Dismissing or Delaying Proceedings; Petitioners.**
- § 103E.345 **Apportioning Cost for Joint County Drainage Systems.**
- § 103E.401 **Use of Drainage System as Outlet.**
- § 103E.411 **Drainage System as Outlet for Municipality.**
- § 103E.511 **Contract Not Awarded; Excessive Bids or Costs.**
- § 103E.535 **Partial Payment of Retained Contract Amount.**
- § 103E.545 **Reducing Contractor’s Bond**
- § 103E.631 **Apportioning Liens.**
- § 103E.711 **Cost Apportionment for Joint County Drainage Systems.**
- § 103E.805 **Removing Property from Drainage System.**
- § 103E.806 **Partial Abandonment of Drainage System.**
- § 103E.811 **Abandoning Drainage System.**
- § 103E.812 **Transfer of All or Part of Drainage System.**

Table 5-2. Petition Requirements for “Other Proceedings or Procedures”

Proceeding or Procedure	Who Can File a Petition	Other Petition Requirements
Reestablishing Records §103E.101, Subd. 4a.	<ul style="list-style-type: none"> • Any party affected by the drainage system. 	<ul style="list-style-type: none"> • Request reestablishment of drainage system records.
Impounding, Rerouting, and Diverting Drainage System Waters § 103E.227	<ul style="list-style-type: none"> • A person, public or municipal corporation, governmental subdivision, the state or a state agency or department, the commissioner of natural resources, the U.S. or any of its agencies. 	<ul style="list-style-type: none"> • Identify project location. • Include concept plan and map of areas likely affected. • Identify sources of funding & rationale for any drainage system funds requested. • \$10,000 bond required unless the petition is filed by a state agency/dept., U.S. agency, SWCD, WD or municipality.

Proceeding or Procedure	Who Can File a Petition	Other Petition Requirements
<p>Dismissing or Delaying Proceedings; Petitioners. § 103E.231</p>	<ul style="list-style-type: none"> For dismissal, a majority of petitioners who own at least 60% of the area owned by all petitioners, as defined in the original project petition. For delay, a majority of the petitioners on the original project petition. 	<ul style="list-style-type: none"> Request dismissal or delay of a drainage project proceeding.
<p>Apportioning Cost for Joint County Drainage Systems. § 103E.345</p>	<ul style="list-style-type: none"> An auditor of a county affected by a joint county drainage project. 	<ul style="list-style-type: none"> Request drainage authority determination of costs to be paid by affected counties.
<p>Redetermining Benefits and Damages § 103E.351</p>	<ul style="list-style-type: none"> More than 26% of owners of property benefited or damaged by the system. or Owners of more than 26% of the property benefited or damaged by system. 	<ul style="list-style-type: none"> Request redetermination of drainage system benefits and damages.
<p>Use of Drainage System as Outlet § 103E.401</p> <p>Drainage System as Outlet for Municipality § 103E.411</p>	<ul style="list-style-type: none"> Any person or drainage system with property not assessed for benefits by an established drainage system seeking authorization to use the established drainage system as an outlet. (§ 103E.401) A municipality seeking authorization to use a drainage system as an outlet. (§ 103E.411) 	<ul style="list-style-type: none"> For petition by a municipality: <ul style="list-style-type: none"> Show necessity for use of the system as an outlet and that the use will be of public benefit & utility & promote public health. Include a plat showing the locations of the drainage system and municipal system. Include specifications showing connection plan.
<p>Contract Not Awarded; Excessive Bids or Costs. § 103E.511</p>	<ul style="list-style-type: none"> A person interested in the applicable drainage project. 	<ul style="list-style-type: none"> Petitioner’s determination of mistake in engineer’s cost estimate or changes in plans & specs to reduce costs without impairing project, or Define inflation effects, if bids 30% over engr. est., or if unavoidable delay in construction completion.

Proceeding or Procedure	Who Can File a Petition	Other Petition Requirements
Partial Payment of Retained Contract Amount § 103E.535	<ul style="list-style-type: none"> Contractor for a contract exceeding \$50,000 that is 50% or more complete and not in default. 	<ul style="list-style-type: none"> Request payment for 40% of retained value.
Apportioning Liens § 103E.631	<ul style="list-style-type: none"> A person with interest in property having drainage lien, to apportion lien to portions of the tract. 	<ul style="list-style-type: none"> Principal and interest payments must not be in default.
Cost Apportionment for Joint County Drainage Systems. § 103E.711	<ul style="list-style-type: none"> The board of a county affected by a joint county not paying its share of a county's annual repair cost statement. 	<ul style="list-style-type: none"> Show the nature and necessity of repairs made and costs. Request the drainage authority to apportion and order costs per county.
Consolidating or Dividing Drainage Systems § 103E.801	<ul style="list-style-type: none"> Any party interested in, or affected by, the drainage system. 	<ul style="list-style-type: none"> Request consolidation or division of a drainage system.
Removing Property from Drainage System § 103E.805	<ul style="list-style-type: none"> An owner of property in the benefited area of the drainage system. 	<ul style="list-style-type: none"> Request removal of property from a drainage system.
Partial Abandonment of Drainage System § 103E.806	<ul style="list-style-type: none"> An owner of property previously determined to benefit from the drainage system. 	<ul style="list-style-type: none"> Define the part of drainage system that is not of public benefit and utility and does not serve a substantial useful purpose to property remaining in the system.
Abandoning Drainage System § 103E.811	<ul style="list-style-type: none"> At least 51% of property owners benefited and assessed for the drainage system, or The owners of at least 51% of the property benefited and assessed for the drainage system. <p>Note: These can include a county as owner of tax-forfeited, assessed property.</p>	<ul style="list-style-type: none"> Designate the drainage system proposed to be abandoned and show that the drainage system is not of public benefit and utility: <ul style="list-style-type: none"> because the agricultural property that used the drainage system has been generally abandoned, or because the drainage system has ceased to function, and restoration is not practical.

Proceeding or Procedure	Who Can File a Petition	Other Petition Requirements
<p>Transfer of All or Part of Drainage System § 103E.812</p>	<p><i>For a drainage system outside the 7-County Metro and outside city boundaries:</i></p> <ul style="list-style-type: none"> • At least 51% of owners of property assessed for the drainage system or portion to be transferred. <p style="text-align: center;">or</p> <ul style="list-style-type: none"> • Owners of not less than 51% of property assessed for the drainage system or portion to be transferred. <p style="text-align: center;">and (required)</p> <ul style="list-style-type: none"> • The proposed transferee water mgmt. authority. <p><i>For a drainage system wholly or partially within city boundaries:</i></p> <ul style="list-style-type: none"> • The city AND transferee water mgmt. authority. <p><i>For a drainage system in 7-County Metro and wholly or partially within a water mgmt. authority:</i></p> <ul style="list-style-type: none"> • The water mgmt. authority. 	<ul style="list-style-type: none"> • Designate the drainage system, or portion thereof, proposed to be transferred & show transfer is necessary for orderly water management, including water quality; • Indicate the impact, if any, of the transfer on properties utilizing the drainage system for an outlet or otherwise benefiting from the existence of the drainage system; and • Include an engineering report, prepared by the transferee water management authority, on the nature and extent of the drainage easement and the as constructed or subsequently improved depth, grade, and hydraulic capacity of the drainage system.

5.3 Where to File a Petition

Table 5-3. Where to File a Petition for “Other Proceedings or Procedures” defines the required entity or individual(s) with whom (i.e., where) a petition must be filed.

Table 5-3. Where to File a Petition for “Other Proceedings or Procedures”

<p>Petitions must be filed with the applicable county auditor or watershed district secretary representative of the county, joint county, or watershed district drainage authority, with the following additions or exceptions:</p>
<p>A petition for Impounding, Rerouting and Diverting Drainage System Waters of a joint county drainage system, must also be filed with the auditor of each of the other counties participating in the joint county drainage authority. (§ 103E.227 Impounding, Rerouting, and Diverting Drainage System Waters., Subdivision 1. Petition.)</p>
<p>A petition for Abandoning a Drainage System signed by a county as the owner of tax-forfeited land in the assessed area of the drainage system, must be made to the district</p>

court of the county and filed with the administrator of the court. If property assessed for benefits is in 2 or more counties, the petition must also be filed with the applicable county auditor. ([§ 103E.811 Abandoning Drainage System., Subd. 4. Filing petition; jurisdiction.](#))

For the Transfer of All or Part of a Drainage System:

- If the drainage system is administered by a county or joint county drainage authority and if all property assessed for benefits in the drainage system is in one county, the petition must be filed with the auditor unless the petition is signed by the board, in which case the petition must be made to the district court for the county where the drainage system is located, and filed with the court administrator. If the board, acting as the drainage authority, is also the petitioning water management authority, the petition must be made to the district court of the county where the drainage system is located and filed with the court administrator.
- If property assessed for benefits is in two or more counties, the petition must be filed with the auditor or court administrator of either (1) the county where the portion of the drainage system sought to be transferred exists; (2) the county not petitioning for the transfer; or (3) the county where the majority of the drainage system sought to be transferred exists.
- If the drainage system is administered by the board of managers of a watershed district, the petition must be filed with the secretary of the watershed district. If the watershed district is also the petitioning water management authority, the petition must be filed with the court administrator consistent with the criteria in paragraph (a), clauses (1) to (3).

([§ 103E.812 Transfer of All or Part of Drainage System., Subd. 4. Filing petition; jurisdiction.](#))

Figure 5-1. Process Summary for “Other Proceedings or Procedures” in Appendix 1. Drainage Proceedings and Procedures Process Charts outlines the basic sequence of steps for “other proceedings or procedures” including the applicable sections of Chapter 103E.

Section 5. OTHER PROCEEDINGS OR PROCEDURES of the Handbook further explains each of the 22 “other proceedings or procedures” including:

- the purpose(s) for each proceeding or procedure,
- considerations, requirements and associated process steps involved in using the proceeding or procedure,
- links to applicable sections of Chapter 103E and to applicable sections of the [Minnesota Public Drainage Manual](#) for additional reference.

Section 5 of the Handbook also provides discussion of, and links to, Minnesota Statutes [Chapter 103D. Watershed Districts., § 103D.625 Drainage Systems in Watershed District](#), which enables transfer of drainage authority from a county board or joint county board to a watershed district board. This can be initiated by a county or joint county drainage authority, a petition from an interested person, or the watershed district.

Section 6. VIEWING

Viewing is the determination of benefited properties, monetary benefits, and monetary damages of a drainage system by a team of three “viewers” who are appointed by the drainage authority.

6.1 Proceedings or Procedures Requiring Viewers

There are nine types of drainage proceedings or procedures that require the appointment or involvement of viewers to determine benefits and/or damages:

Drainage Projects

- 1) [§ 103E.212 New Drainage System Projects.](#)
- 2) [§ 103E.215 Improving Drainage Systems.](#)
- 3) [§ 103E.221 Improving Outlets.](#)
- 4) [§ 103E.225 Laterals.](#)

All “drainage projects” require appointment of viewers to determine benefits and damages. These projects are subject to a benefit-cost test (benefits determined by viewers must be greater than costs of the project) and cost apportionment is based pro rata on benefits determined.

Specific Repairs and Other Proceedings or Procedures

- 5) [§ 103E.715 Repair by Petition., Subd. 6. Repair by resloping ditches, incorporating multistage ditch cross-section, leveling spoil banks, installing erosion control, or removing trees.](#) (if the repair involves new benefits and/or damages)
- 6) [§ 103E.351 Redetermining Benefits and Damages.](#)
- 7) [§ 103E.741 Property not Assessed Benefits.; Hearing.](#) (for property found to be receiving benefits in a repair proceeding, but not previously assessed for benefits)
- 8) [§ 103E.811 Abandoning Drainage System.](#) (viewer involved, if necessary)
- 9) [§ 103E.812 Transfer of All or Part of Drainage System.](#) (viewer involved, if necessary)

6.2 Proceedings or Procedures Not Requiring Viewers

There are three proceedings or procedures in Chapter 103E for which the drainage authority may determine benefits or damages on its own, without appointing viewers:

- For damage determinations in accordance with [§ 103E.021 Planting Ditches with Perennial Vegetation., Subd. 6. Incremental establishment; vegetated buffer strips and side inlet controls., paragraph \(c\)](#), if the drainage authority so chooses.
- For an outlet petition, in accordance with [§ 103E.401 Use of Drainage System as Outlet.](#)
- For an outlet petition in accordance with [§ 103E.411 Drainage System as Outlet for Municipality.](#)

However, drainage authorities may appoint viewers to determine damages for § 103E.021, Subd. 6, and may consult viewers for [§ 103E.401](#), [§ 103E.411](#) and [§ 103E.631 Apportioning Liens.](#)

Benefits of record can be used as a basis for pro rata “repair” cost apportionment and may be used as a basis to apportion costs pro rata for “other proceedings or procedures” as applicable.

6.3 Appointment and Qualifications of Viewers ([§ 103E.305](#))

Viewers must be residents of Minnesota who are disinterested in the drainage proceeding or procedure and qualified to assess benefits and damages. The drainage authority may establish qualifications for viewers. When viewers are appointed, it must be as a team of three (3) viewers, except for § 103E.812, which only requires one viewer to serve on a technical panel, if necessary.

The types of knowledge and experience needed by viewers includes:

- soils maps and data, including the USDA Web Soil Survey
- agriculture and productivity of land
- land values and effects of drainage on land values
- availability and interpretation of pertinent aerial photography, including historical
- topography and runoff
- engineering and survey data related to the effects of surface and subsurface drainage
- the value of land rights acquired or otherwise diminished by a drainage system or associated work
- property parcel, tract and government lot boundaries and ownership
- geographic information systems (GIS) and other pertinent data management tools
- mass appraisal methods.

Viewers should be able to present their analyses and determinations in an orderly and understandable manner at hearings. Lead viewers may also be required to testify in court regarding an appeal of benefits and/or damages.

6.4 Determination of Drainage Benefits and Damages ([§ 103E.315](#))

Determination of **benefits** is based on:

- 1) an increase in the current market value of property as a result of constructing the project
- 2) an increase in the potential for agricultural production as a result of constructing the project
- 3) an increased value of the property as a result of a potential different land use
- 4) use of a drainage project as an outlet for an existing drainage system
- 5) use of a drainage project or system as an outlet for property within its watershed responsible for increased sedimentation in downstream areas of the watershed
- 6) use of a drainage project or system as an outlet for property responsible for increased maintenance or hydraulic capacity due to natural drainage alteration that accelerates drainage from the property, or
- 7) increased drainage within the whole watershed of a drainage project that causes a need for increased drainage capacity.

Determination of **damages** is based on:

- 1) the fair market value of the property required for the channel of an open ditch and the permanent strip of perennial vegetation under section 103E.021 (perpetual property rights acquired via easement)
- 2) the diminished value of a farm due to severing a field by an open ditch
- 3) loss of crop production during drainage project construction

- 4) the diminished productivity or land value from increased overflow
- 5) costs to restore a perennial vegetative cover or structural practice existing under a federal or state conservation program adjacent to the permanent drainage system right-of-way and damaged by the drainage project.

6.5 Viewers' Report ([§ 103E.321](#))

The Viewers' Report documents the facts and determinations of the team of viewers regarding the benefited properties, benefits and damages of a proposed drainage project, existing drainage system (when redetermining benefits and damages), or other applicable proceeding or procedure. The Viewers' Report is a very important document, because the benefits determined are used:

- in a "drainage project" proceeding for the required benefit-cost test and as a basis for pro rata apportionment of project costs to benefited property owners,
- as a benefits-of-record-based method for pro rata apportionment of "repair" costs,
- in applicable "other proceedings or procedures" for pro rata apportionment of the associated costs, based on the benefits of record.

The Viewers' Report also provides the information necessary to develop the Property Owners' Report. Damages determined in the Viewers' Report are reflected in the Property Owners' Report to define the net amount assessed to or paid to benefited or damaged property owners. **Section 6. VIEWING** of the Handbook presents specific requirements for the Viewers' Report and links to additional information in the [Minnesota Public Drainage Manual](#).

6.6 Property Owners' Report ([§ 103E.323](#))

The Property Owners' Report is prepared by the applicable county auditor or watershed district secretary for each of the affected property owners and the drainage authority. It is based on the Viewers' Report, associated viewer input, and other county-based property information. The Property Owners' Report contains information specific to each property owner benefited and/or damaged by the proposed drainage project, certain repairs, or other applicable proceeding or procedure. **Section 6. VIEWING** of the Handbook presents the specific requirements for the Property Owners' Report and links to additional information in the [Minnesota Public Drainage Manual](#).

Section 7. APPEALS

The roles and responsibilities of the drainage authority under Chapter 103E are administrative. The drainage authority:

- receives reports, consultations, and other evidence, including testimony at hearings,
- considers evidence, including applicable laws and rules,
- draws conclusions,
- makes findings and orders in a manner that is quasi-judicial and binding (similar to the judicial roles of courts).

Chapter 103E provides for appeal to the applicable district court from specific final drainage authority orders.

- A party with standing to appeal is a person or entity affected by the drainage authority order.

- An appeal must be properly filed within 30 days after the associated drainage authority order.

7.1 Appeals of Benefits, Damages, Fees or § 103E.015 Compliance ([§ 103E.091](#))

A party may appeal to the district court from a recorded order of a drainage authority made in a drainage proceeding that determines:

- 1) the amount of benefits,
- 2) the amount of damages,
- 3) fees or expenses allowed, or
- 4) whether the environmental, land use, and multipurpose water management requirements and criteria of section [103E.015, subdivision 1](#) are met.

Section 7. APPEALS of the Handbook includes the applicable provisions and requirements of [§ 103E.091 Appeals](#) regarding filing a notice of appeal, trial provisions and effect of the final court determination.

- This appeal provision requires a trial by jury.

7.2 Appeal of Orders Dismissing or Establishing Drainage Systems ([§ 103E.095](#))

A party may appeal an order made by the drainage authority that dismisses drainage proceedings or establishes or refuses to establish a drainage project to the district court for the county where the drainage proceedings are pending. **Section 7. APPEALS** of the Handbook includes the applicable provisions and requirements of [§ 103E.095 Appeals from Orders Dismissing or Establishing Drainage Systems](#). This includes filing a notice of appeal, trial provisions, order of determination if there are multiple appeals, requirement for notice of an order if the district court establishes a drainage project, and appeal of a district court order.

- This Chapter 103E appeal provision requires a trial without a jury.

This section of Chapter 103E is also specified for an appeal of a repair cost apportionment under [§ 103E.729 Apportioning Repair Costs; Alternative Option., Subd. 7. Appeals](#).

Section 8. BEST MANAGEMENT PRACTICES

For this Overview and the Handbook, a Best Management Practice (BMP) is a structural or non-structural practice that helps achieve multipurpose drainage water management. The context is Chapter 103E public drainage systems and the contributing watershed of a drainage system. The five multiple purposes identified for consideration in [§ 103E.015 Considerations Before Drainage Work Is Done., Subdivision 1, Environmental, land use, and multipurpose water management criteria., clause \(2\)](#) for “drainage projects” are:

- 1) conserve, allocate, and use drainage waters for agriculture, stream flow augmentation, or other beneficial uses
- 2) reduce downstream peak flows and flooding
- 3) provide adequate drainage system capacity
- 4) reduce erosion and sedimentation
- 5) protect or improve water quality

The § 103E.015, Subdivision 1 considerations criteria are not required for “repairs” but provide multipurpose context for all drainage system BMPs for “drainage projects” and “repairs”.

Drainage system BMPs can be categorized as “on-system” and “off-system” practices. Because Chapter 103E drainage law and systems have a focus on drainage, the economic feasibility and use of some of these multipurpose BMPs can be dependent on achieving multiple purposes and benefits funded in part by external sources. See [MPDM Chapter 5. Public Drainage System Best Management Practices \(BMPs\)](#) for additional information.

8.1 On-System BMPs

This type of BMP is located in, along, or adjacent to a drainage system and benefits the drainage system and other water management purposes by improving open ditch stability, reducing erosion and sedimentation, reducing peak flows and downstream flooding, protecting or improving water quality, and protecting or improving aquatic or terrestrial habitat. The drainage engineer typically designs drainage systems with the following objectives and on-system BMPs, including:

- ditch alignment, profile and cross-section design for stability
- ditch grade control structures where necessary to maintain a stable ditch bottom, dissipate energy of flow and protect ditch side slopes
- erosion control at culverts, bridges, the outside of sharp bends in ditch alignment, outlets of side inlets, and at tile inlets and outlets
- construction erosion control, including construction stormwater pollution prevention practices, timing and sequence of construction, and rapid establishment of effective, permanent vegetation for erosion control.

Public drainage ditch buffer strips of perennial vegetation are required by Chapter 103E when viewers are appointed and required of property owners by [§ 103F.48 Riparian Protection and Water Quality Practices](#) (Minnesota Buffer Law). Ditch buffer strips provide a tillage, fertilizer and pesticide setback from an open ditch, trap waterborne and windborne sediment that may pass over the buffer strip, protect water quality, and provide access for ditch inspection and maintenance.

Following are additional on-system BMPs.

- **Enhanced side inlet controls**, particularly when designed for short-term detention to prevent erosion, meter runoff into the ditch, and trap sediment on the field adjacent to a ditch at relatively low cost.
- **Alternative tile inlets**, such as perforated risers and many other types of commercial inlets, as well as gravel inlets, that meter flow and reduce sediment and crop residue from entering the tile.
- **Restored, or constructed wetland** on-system that can temporarily detain runoff, reduce downstream peak flows and demand on the drainage system hydraulic capacity, improve water quality (primarily via denitrification) and provide aquatic and terrestrial wildlife habitat. This BMP is typically sited where a wetland had been drained but not sufficiently for productive farming.
- **Culvert sizing** can utilize very short-term (e.g., 24 to 36 hours) detention storage upstream from ditch crossings. This practice can reduce or avoid flooding of downstream properties and road crossings by drainage from upstream properties and, thereby, help balance the benefits and risks of the drainage system amongst all affected properties. Because most agricultural crops are not harmed by shallow inundation for 24 to 48 hours, culvert-sizing at ditch crossings utilizes an

opportunity to reduce peak flows that often exists for drainage ditch systems. This BMP typically works best for smaller drainage areas that have intermittent flow, such as in the headwaters areas of drainage systems. Proper consideration must be given to road category and risks of overtopping, erosion control, and the need for fish passage where there is perennial flow.

- **Two-stage ditch** cross section is an important BMP where a ditch is a channelized alluvial stream or ditch with perennial flow and a substantial sediment load. In these situations, the ditch may have formed a 2-stage channel with substantial aquatic habitat. Another application is for a ditch with unstable side slopes due to seepage and/or soil with low shear strength. A two-stage ditch can help stabilize a ditch and significantly reduce future maintenance. It can be designed to provide the same hydraulic capacity as a single stage trapezoidal ditch, while protecting or improving aquatic habitat and water quality.
- **Saturated buffers** along a drainage ditch using controlled subsurface drainage can improve water quality primarily by reducing nitrates from subsurface tile drainage into an open ditch.
- **Bioreactors** are used primarily on tile drainage systems to reduce nitrates in tile outflows, although multi-nutrient reduction bioreactors are being researched for tiles and ditches.

8.2 Off-System BMPs

These include practices located within the watershed of a drainage system that benefit the drainage system and other water management purposes in similar ways as on-system BMPs. Reduction of hydraulic capacity demand on a drainage system and reduced sediment clean-out needs of a drainage ditch are key purposes and benefits for a drainage system. Examples include:

- **Grassed waterway** in fields to prevent gully erosion and trap sediment.
- **Water and sediment control basin, or grade stabilization structure** to intercept concentrated runoff slope length, trap sediment, temporarily detain and meter runoff, and prevent gully erosion and associated sediment delivery to a drainage system.
- **Restored, or constructed wetland** in the watershed of a drainage system for the same purposes as on-system restored or constructed wetlands.
- **Conservation tillage, no-till and/or cover crops** to increase infiltration, soil organic matter and soil profile water holding capacity, increase evapotranspiration, reduce and slow runoff, and reduce erosion and sediment delivery to a drainage system.

8.3 Comprehensive Local Water Planning and Implementation

Minnesota's comprehensive local water planning and implementation framework, including One Watershed, One Plan, is about multipurpose water management. This involves multipurpose drainage management where there are Chapter 103E and private drainage systems. This planning and implementation framework includes coordination of public and private water management purposes, as well as access to state and federal funding for eligible conservation practices that are compatible with multipurpose drainage management. Watershed-based funding for implementation enhances the opportunities to more efficiently coordinate public programs and Chapter 103E drainage system funds for multipurpose drainage projects and repairs. However, note that public conservation and water quality programs are focused on purposes and benefits other than the drainage purpose and benefits.

8.4 Applicable Multipurpose Provisions in Chapter 103E

- [§ 103E.011, Subd. 5. Use of external sources of funding.](#)
Enables use of external funding for water quality improvements, wetland restoration or protection, or flood control purposes.

- [§ 103E.015 Considerations before drainage work is done.](#)
“Drainage projects” (establishment, improvement, improvement of an outlet, laterals) are required to consider nine criteria, including alternative measures to achieve multipurpose water management. This includes alternative measures identified in applicable state-approved and locally-adopted water management plans.
- [§ 103E.015, Subd. 1a. Investigating use of external sources of funding and technical assistance.](#)
Requires investigation of applicable external sources of funding for multipurpose water management, including early coordination with local water planning authorities. Applies to “drainage projects” and petitioned repairs, all of which require the appointment of an engineer to conduct project investigations, prepare plans, and submit a report to the drainage authority.
- [§ 103E.021, Subd. 6. Incremental establishment; vegetated buffer strips and side inlet controls.](#)
This permissive authority enables these multipurpose practices to be done as a repair, where determined to be needed by the drainage authority.
- [§ 103E.227 Impounding, rerouting, and diverting drainage system waters.](#)
Enables drainage system cooperation with programs and participating landowners, including use of external sources of funding for impoundments, wetland restoration, rerouting or diverting a drainage system.
- [§ 103E.701, Subd. 6. Wetland restoration & replacement; water quality protection and improvement.](#)
Enables wetland restoration and water quality practices to be part of a drainage system repair.
- [§ 103E.715, Subd. 6. Repair by resloping ditches, incorporating multistage ditch cross-section, leveling spoil banks, installing erosion control, or removing trees.](#)
Enables erosion control measures and a 2-stage channel to be part of a petitioned repair.

8.5 Evaluating and Selecting BMPs

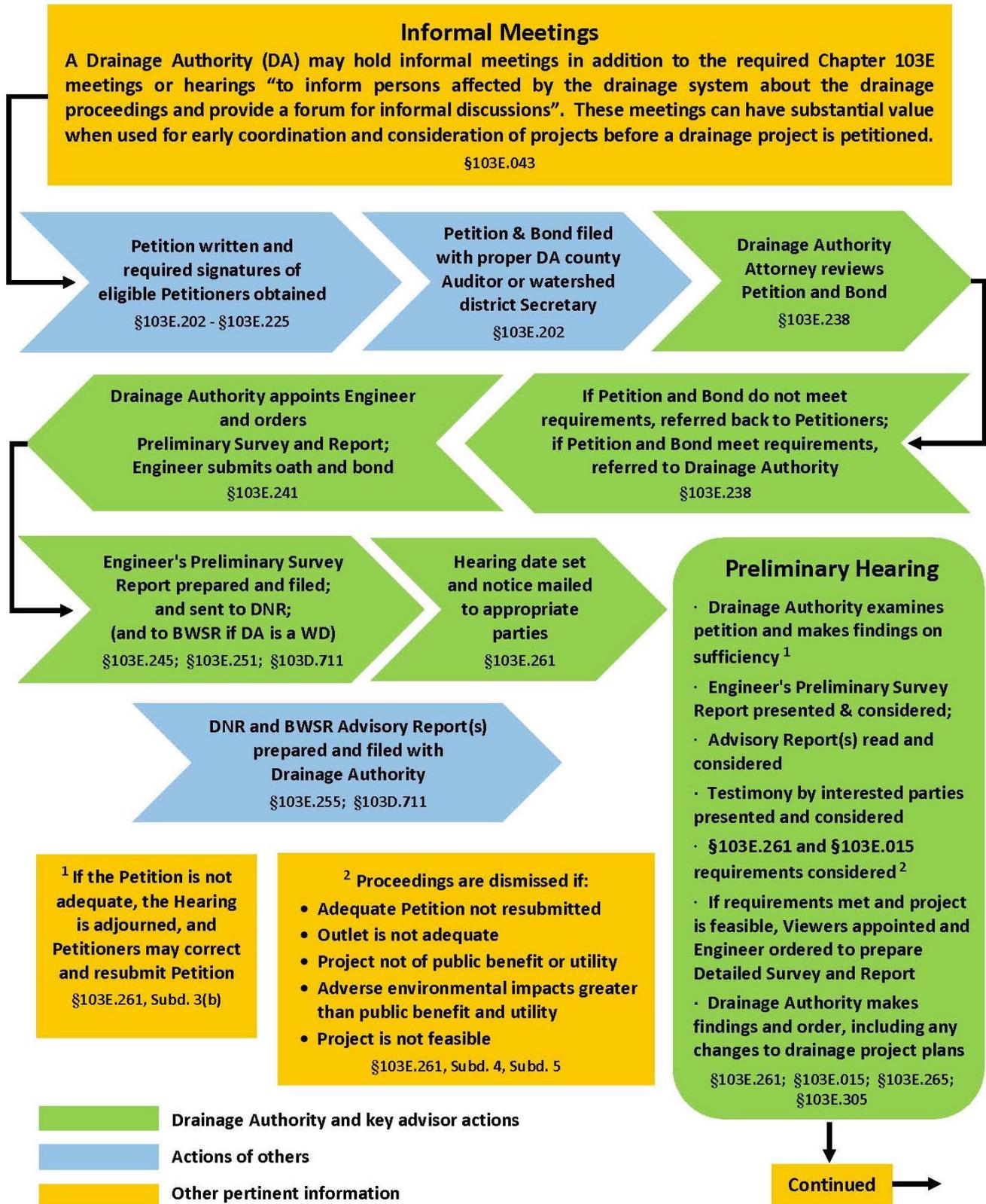
The process for identifying and selecting appropriate BMPs includes several steps, as outlined in the [MPDM, Chapter 5. Public Drainage System Best Management Practices \(BMPs\)](#).

1. Observe and identify potential problems and opportunities. Physical problems along a public drainage system might include channel erosion, failed side slopes, poor water quality, etc. Opportunities can include sources of external funding, e.g., through a local water planning organization or state or federal agency.
2. Determine the cause of the problem. Causes of observed problems might include open tile inlets, excessive use of nitrogen fertilizers or manure, altered hydrology, etc.
3. Select an appropriate solution. A [matrix](#) in the MPDM lists BMPs that address specific problems, symptoms, causes and solutions.

Early coordination is essential for efficient selection of BMPs. It’s important for drainage inspectors and engineers to have the opportunity to identify and discuss problems/opportunities with affected landowners, potential watershed partners and the drainage authority. [Section 103E.043 Informal Meetings](#) enables a good way to coordinate and to identify partners and the potential for use of external sources of funding for eligible multipurpose objectives and BMPs.

Appendix 1. Drainage Proceedings and Procedures Process Charts

Figure 3-1a. Process Summary for “Drainage Projects”



¹ If the Petition is not adequate, the Hearing is adjourned, and Petitioners may correct and resubmit Petition
 §103E.261, Subd. 3(b)

² Proceedings are dismissed if:

- Adequate Petition not resubmitted
- Outlet is not adequate
- Project not of public benefit or utility
- Adverse environmental impacts greater than public benefit and utility
- Project is not feasible

§103E.261, Subd. 4, Subd. 5

Figure 3-1b. Process Summary for “Drainage Projects” (continued)

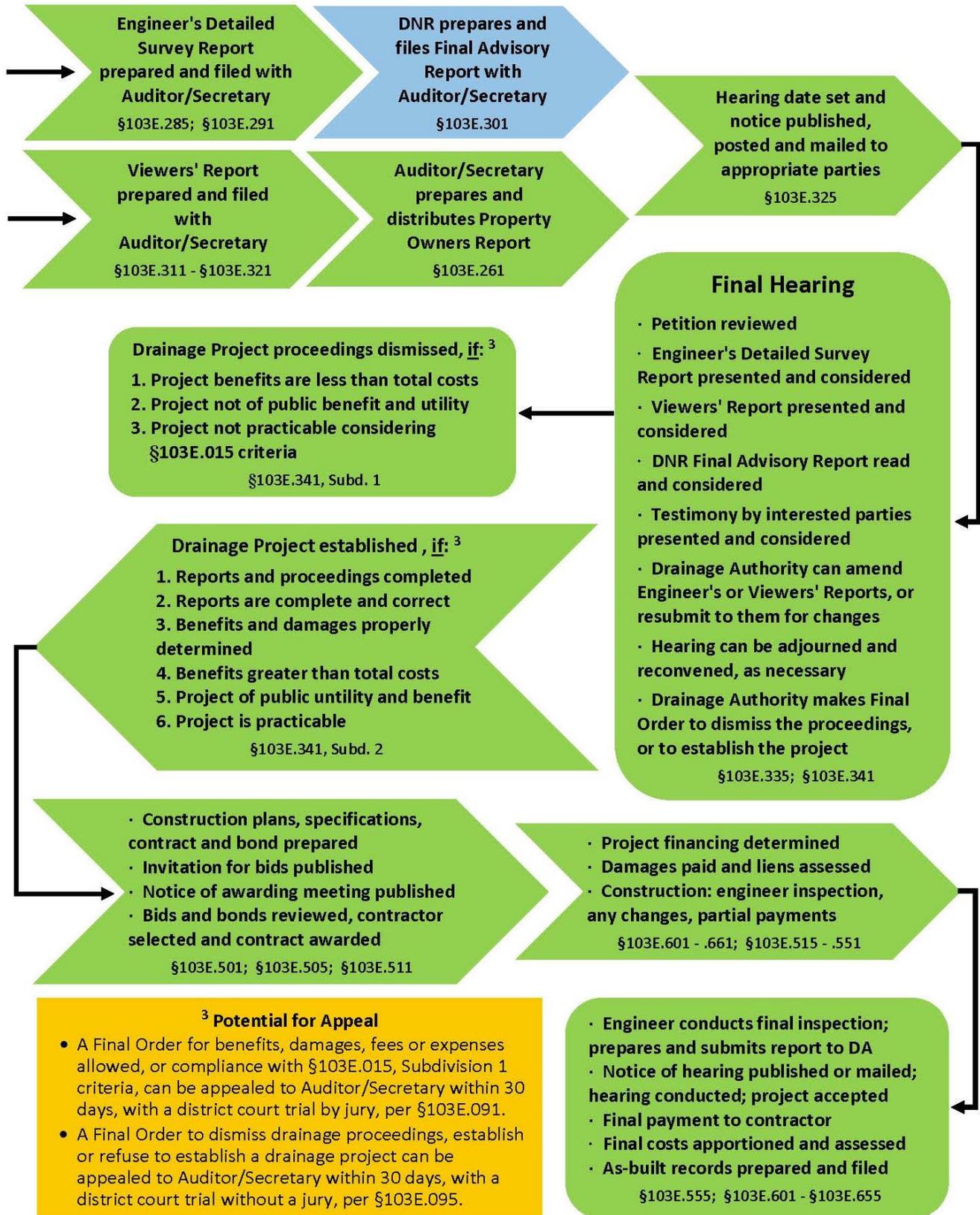


Figure 4-1a. Process Summary for “Repairs Based on Inspection”

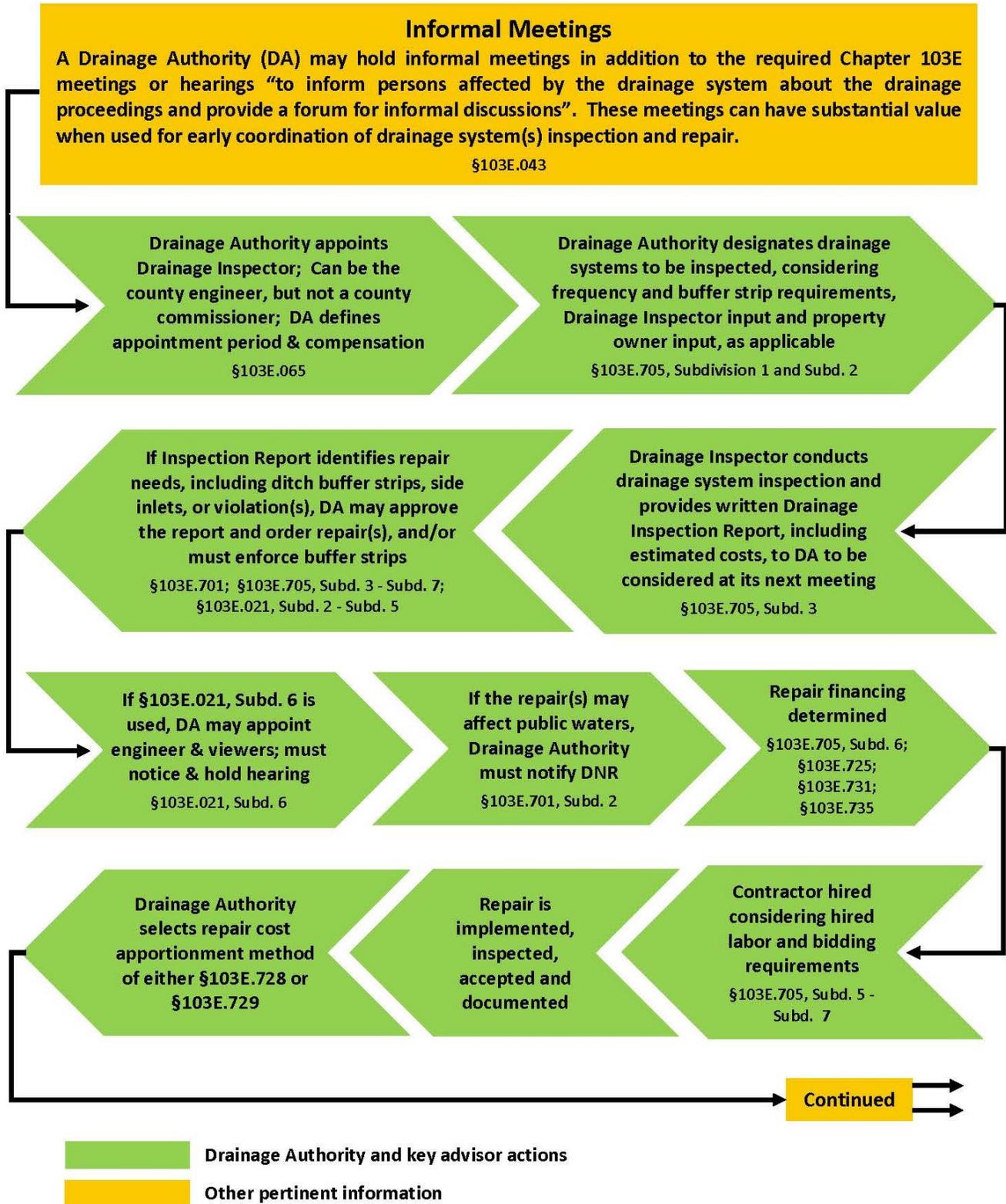


Figure 4-1b. Process Summary for “Repairs Based on Inspection” (continued)

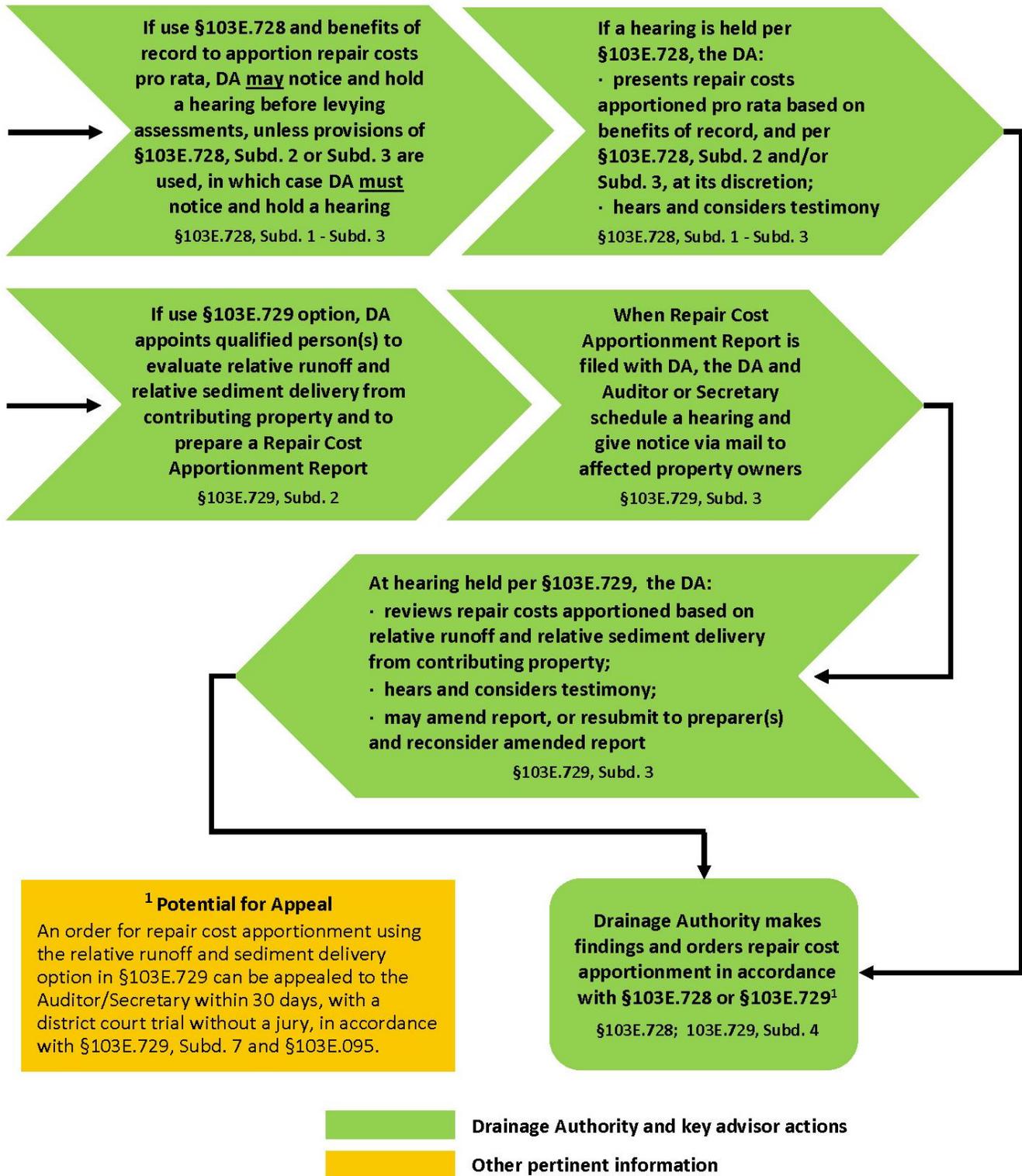


Figure 4-2a. Process Summary for “Petitioned Repairs”

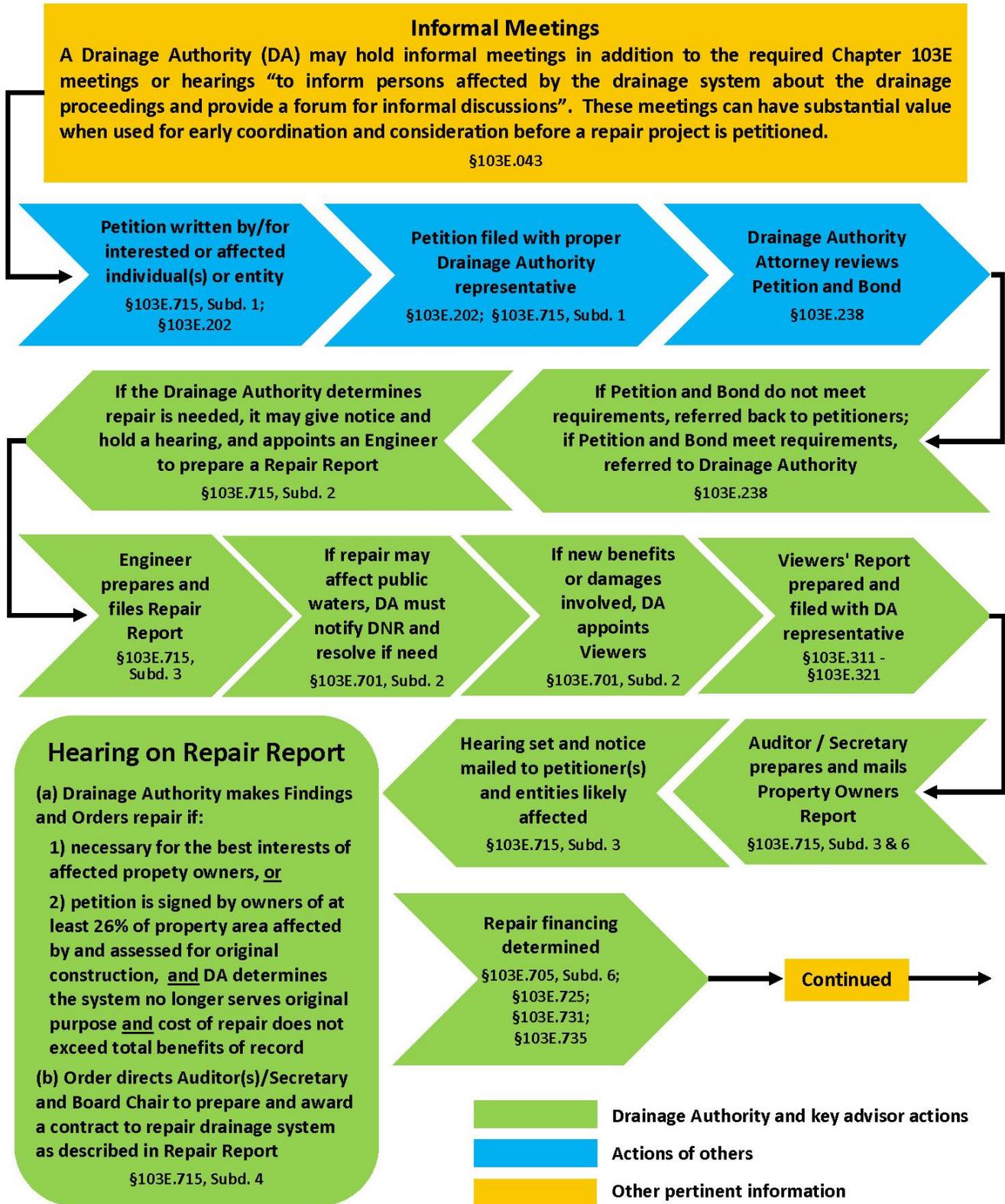


Figure 4-2b. Process Summary for “Petitioned Repairs” (continued)



¹ Potential for Appeal

An order for repair cost apportionment using the relative runoff and sediment delivery option in §103E.729 can be appealed to the Auditor/Secretary within 30 days, with a district court trial without a jury, in accordance with §103E.729, Subd. 7 and §103E.095.

- Drainage Authority and key advisor actions
- Other pertinent information

Figure 5-1. Process Summary for "Other Proceedings or Procedures"

