

INVITATION TO BID

WESTERN WATERFRONT TRAIL (WWT) INVASIVES REMOVAL & NATIVE PLANTINGS – PHASE 2

POSTED: MAY 23, 2017

Bid #: 17-0406

BIDS DUE: TUESDAY, JUNE 13, 2017 @ 2:00 PM CST



PARKS & RECREATION DIVISION
411 West 1st Street, Ground Floor
Duluth, MN 55802
218.730.4300

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INVITATION TO BID

WESTERN WATERFRONT TRAIL INVASIVES REMOVAL & NATIVE PLANTINGS – PHASE 2

BID NUMBER: 17-0406

BID OPENING: TUESDAY, JUNE 13, 2017 AT 2:00 PM

PROJECT DESCRIPTION: Requested services for this project include native plant restoration (planting and seeding) and selective herbicide treatment of nonnative, invasive plant species from approximately 130 acres within City land adjacent to the Western Waterfront Trail. The Contractor shall furnish all labor, material, and equipment necessary to perform the work as described in the Plans and Specifications for the project (attached).

PRE-BID/WALK-THROUGH: A pre-bid meeting will be conducted on Wednesday, May 31, 2017 at 2:00 pm in City Hall Room 106A. All interested bidders are encouraged to attend.

QUESTIONS: Please direct any questions regarding this project to Jeff Goetzman, Project Manager with TKDA, at 218.491.7385 or Jim Shoberg, Project Coordinator with the City of Duluth, at 218.730.4300. Responses will be provided to all interested bidders as an addendum to this solicitation.

The selected contractor will be issued a standard service agreement, attached.

INSTRUCTIONS TO BIDDERS

All bids must be complete, signed, and transmitted in a sealed envelope plainly marked with the bid number, subject matter, and opening date.

Bids may be mailed to the Purchasing Office, City Hall, 411 West 1st Street, Room 100, Duluth, MN 55802 or dropped off in person at the same address.

Bids must be received in Purchasing before 2:00 PM local time on the bid opening date specified on the Invitation for Bids. The City Purchasing Agent or her designee will conduct a public bid opening in Room 100 immediately following receipt of the bids. Once all bids have been reviewed, bid results will be posted online at <http://www.duluthmn.gov/purchasing/bids-request-for-proposals/>.

No alternatives to the specification will be considered unless specifically requested. Erasures or other changes to the bid must be initialed and dated, however no special conditions shall be made or included in the bid form by the bidder.

The City of Duluth reserves the right to split the award where there is a substantial savings to the City, to waive informalities and to reject any and all bids. Price may not be the only consideration for bid award. Bids must be firm for a minimum of 30 days.

The following documents must be submitted with your bid:

1. **Bid Bond** - A certified check or bank draft, payable to the order of the City of Duluth, negotiable U.S. Government Bonds (at par value), or a satisfactory bid bond executed by the bidder and acceptable surety, in an amount equal to five per cent (5%) of the total bid. Bids may be withdrawn without forfeiture of surety if the request is submitted by the Bidder and received at the Purchasing Office in writing or by e-mail prior to the scheduled bid opening.

2. **Acknowledgment of Addendum** – any changes to this solicitation will be announced via Addendum. Bidders must indicate that they have reviewed any addendum(s) by initialing and dating on the bid form where indicated. Failure to acknowledge addendum(s) may result in your bid being deemed non-responsive.

Please note that the following requirements also apply to this project, and any additional required documents must be submitted prior to award/contract execution. Submitting these documents with your bid will assist in expediting the process.

1. **Insurance** – Contractor must provide proof of Public Liability and Automobile Liability Insurance with limits not less than \$1,500,000 Single Limit prior to the commencement of work. The City of Duluth must be named as an additional insured. Please refer to the draft Contract, Section 7.

2. **Affidavit of Non-Collusion** – The successful bidder shall be required to execute the attached affidavit stating that he/she has not entered into a collusive agreement with any other person, firm, or corporation in regard to any bid submitted.

3. **Affirmative Action/EEO** - The contractor must take affirmative action to ensure that the employees and applicants for employment are not discriminated against because of their race, color, creed, sex or national origin, and must meet the affirmative action goals. Contractors are encouraged to subcontract with Disadvantaged Business Enterprises (DBEs) when possible. A current list of certified DBEs is available on the Minnesota Unified Certification website at <http://mnucp.metc.state.mn.us> . Contractor will comply with all applicable Equal Employment Opportunity laws and regulations. Awarded contractor will submit the attached Equal Employment Opportunity (EEO) Affirmative Action Policy Statement & Compliance Certificate.

The City of Duluth is an Equal Opportunity Employer. Contractor shall comply with all applicable Equal Employment Opportunity laws and regulations.

CITY OF DULUTH

Amanda Ashbach
Purchasing Agent

BID FORM
BID # 17-0406
**WESTERN WATERFRONT TRAIL (WWT) INVASIVES REMOVAL &
NATIVE PLANTINGS – PHASE 2**

	ITEM	PRICE
1.	LUMP SUM TOTAL for Invasives Removal, Seeding and Planting as per the specification SP-1 through SP-9.3	\$
2.	Additional cost for Add/Alternate 1 as per the specification SP-10.1	\$

TOTAL PRICE IN WRITING (ITEM 1 ONLY)

REMEMBER TO ATTACH DOCUMENTATION AS REQUIRED IN SP-7; CONTRACTOR QUALIFICATIONS

ACKNOWLEDGMENT OF ADDENDA

ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE
ADDENDUM #	INITIAL/DATE

Signature _____ Date _____

Name/Title _____

Company Name _____

Address _____

City, State, Zip _____

Tel. _____ E-Mail _____

If your organization is certified as a Disadvantaged Business Enterprise, please check here: ☐

AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS

Affidavit of Non-Collusion:

I hereby swear (or affirm) under penalty of perjury:

- 1) That I am the bidder (if the bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
- 2) That the attached bid or bids have been arrived at by the bidder independently and have been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid, designed to limit independent bidding or competition;
- 3) That the contents of the bid or bids have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids and will not be communicated to any such person prior to the official opening of the bid or bids;
- 4) That a family relationship between a City of Duluth employee and bidder/proposer are in non-collusion; and
- 5) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: _____

Firm Name: _____

Subscribed and sworn to me before this _____ day of _____, _____

NOTARY PUBLIC _____

My commission expires: _____

Bidder's Federal Identification Number _____

**EQUAL EMPLOYMENT OPPORTUNITY EEO AFFIRMATIVE ACTION
POLICY STATEMENT & COMPLIANCE CERTIFICATE**

TO: City of Duluth, MN PROJECT NUMBER & DESCRIPTION _____

FROM: _____

(Vendor's name, address, telephone number)

A) Employment: It is the policy of the above named FIRM to afford equal opportunity for employment to all individuals regardless of race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance and/or disability. The FIRM will take affirmative action to ensure that we will: (1) recruit, hire, and promote all job classifications without regard to race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability, except where sex is a bona fide occupational qualification; (2) base decisions on employment so as to further the principle of equal employment opportunity; (3) ensure that promotion decisions are in accord with the principles of equal employment opportunity by imposing only valid requirements for promotional opportunities; (4) ensure that all personnel actions such as compensation, benefits, transfers, layoffs, return from layoff, FIRM sponsored training, education tuition assistance, social and recreational programs will be administered without regard to race, color, creed, religion, national origin, ancestry, age, sex, marital status, status with respect to public assistance, and/or disability. The FIRM also intends full compliance with Veteran affirmative action requirements. Additionally, minority and female employees shall be encouraged to participate in all FIRM activities and refer applicants.

I have designated (name) _____ to direct the establishment of and to monitor the implementation of personnel procedures to guide the FIRM's affirmative action program. Where PROJECTS exceed \$500,000, this official shall also serve as the liaison officer that administers the FIRM's "Minority Business Enterprise Program." This official is charged with designing and implementing audit and reporting systems that will keep management informed on a monthly basis of the status of the equal opportunity area.

Supervisors have been made to understand that their work performance is being evaluated on the basis of their equal opportunity efforts and results, as well as other criteria. It shall be the responsibility of the FIRM and its supervisors to take actions to prevent harassment of employees placed through affirmative action efforts.

B) Reports: Unless exempted by law and regulation, the FIRM shall make available and file those reports related to equal opportunity as may be required by the City of Duluth and State and Federal compliance agencies. Requirements and Reports are defined in 41CFR60 "Compliance Responsibility for Equal Opportunity" published by the U. S. Department of Labor which is incorporated herein by reference. Additional requirements are defined in various State and Federal Civil Rights Legislation and Rules promulgated thereunder.

C) Nonsegregated Facilities: The FIRM certifies that it does not maintain or provide for its employees any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The FIRM certifies that it will not maintain or provide for its employees any segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The FIRM agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this certificate. As used in this Certification, the term "segregated

facilities" means any waiting rooms, work area, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation for entertainment area, transportation, and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise.

- D) Affirmative Action Compliance Program:** Unless exempted by regulation and law, the FIRM—if the FIRM has 50 or more employees and if the value of current contracts with the City of Duluth exceeds \$50,000—shall prepare and maintain a written affirmative action compliance program that meets the requirement as set forth in 41CFR60.
- E) Non-Compliance:** The FIRM certifies that it is not currently in receipt of any outstanding letters of deficiencies, show cause, probable cause, or other such notification of non-compliance with EEO Laws and Regulations.
- F) Employment Goals - "Construction" Projects:** It shall be the goal of the FIRM if the PROJECT is of a construction nature that in all on-site employment generated that no less than 3% of the on-site workforce will be minority employees and that no less than 7% of the on-site workforce will be female employees. Further, it is the goal of the FIRM if the PROJECT is of a construction nature that in all on-site employment generated that no less than 3% of the work hours generated shall be worked by minority employees and that no less than 7% of the work hours generated shall be worked by female employees.
- G) Subcontractors:** The FIRM will for all its PROJECT subcontractors regardless of tier (unless exempted by law and regulation) that received in excess of \$2,500 require that: (1) the subcontractor shall execute an "EEO Statement and Certification" similar in nature to this "Statement and Certification", (2) said documentation to be maintained on file with the FIRM or subcontractor as may be appropriate.

Executed this _____ day of _____, 20__ by:

Printed name and title

Signature

NOTE: In addition to the various remedies prescribed for violation of Equal Opportunity Laws, the penalty for false statements is prescribed in 18 U.S.C. 1001.

SERVICES AGREEMENT
(Purchase Order #_____)

This agreement ("Agreement") between the City of Duluth, a Minnesota municipal corporation ("City") and **NAME OF SERVICE PROVIDER**. ("**NAME**" or "Service Provider"), with offices located at **ADDRESS**.

WHEREAS, City desires to enter into an agreement with a service provider to provide **DESCRIBE THE SERVICES**;

WHEREAS, City issued a Request for Bid (the "RFB") for **DESCRIBE THE SERVICES** (the "Services");

WHEREAS, **NAME** is in the business of providing **DESCRIBE THE SERVICES** to its customers;

WHEREAS, **NAME** submitted a Response to the RFB (the "Response") and has represented itself as fully capable of providing the Services to its customers and that it is qualified and willing to perform the services set forth in the RFB;

WHEREAS, based on the Response the City has selected **NAME** as the lowest responsible bidder and wishes to engage **NAME** to provide the Services;

NOW, THEREFORE, in consideration of the mutual covenants and conditions hereinafter contained, the parties hereto agree as follows:

City and Service Provider hereby agree to the following terms and conditions:

1. Services. Service Provider shall provide the following Services:

DESCRIBE THE SERVICES, described in more detail on the Response attached to this Agreement as Exhibit A and incorporated by reference.

2. Rates/Price and Payment for Services. The rates (the "Rates") for the Services are outlined in Exhibit A. The total amount payable under this agreement shall not exceed **dollar amount spelled out (\$)** unless the contract is modified by formal amendment. Payments shall be made **from fund XXX-XXX-XXX**. Service Provider shall be paid for the Services within thirty (30) days of the City's receipt of an invoice. Notwithstanding the foregoing, Service Provider acknowledges that financial obligations of the City under this Agreement are subject to appropriation, budgeting and availability of funds to discharge such obligations. Nothing in this Agreement shall be deemed to pledge the City's credit or faith, directly or indirectly, to the Service Provider. **(Include any special terms for price adjustments, prepayment or partial prepayment, etc)**

3. Term; Termination. The term of this Agreement shall commence on **(either date of attestation or future date)** and shall continue, unless earlier terminated as provided for herein, for a period **enter term** (the "Term"). The Term will renew for **XX** additional **XX (X)** year terms (each year a "Renewal Term") unless either Service Provider or City provides the other party with written notice of termination of this Agreement at least sixty (60) days prior to the end of the Term or any Renewal Term. Either party may terminate this Agreement at any time prior to the end of the Term or any Renewal Term due to the other party's material breach of any of its obligations hereunder, which breach has not been cured to the non-breaching party's reasonable satisfaction within a reasonable time, not to exceed ten (10) business days, after receipt of written notice specifying such breach. In addition, during the Renewal

Term of this Agreement, either party may terminate this Agreement upon thirty (30) days prior written notice to the other party.

4. Representations and Warranties. Service Provider represents and warrants that:

- i. Service Provider shall perform its respective duties in a professional and diligent manner in the best interests of City and in compliance with all applicable laws.
- ii. Service Provider and all personnel to be provided by it hereunder have sufficient training and experience to perform the duties set forth herein and are in good standing with all applicable licensing requirements.

5. Insurance.

A. Service Provider shall provide and maintain in full force and effect during the life of this Agreement the following minimum amounts of insurance:

- (1) Workers compensation insurance in accordance with applicable law.
- (2) Public Liability and Automobile Liability Insurance with limits not less than \$1,500,000 Single Limit and twice the limits provided when a claim arises out of the release or threatened release of a hazardous substance; and shall provide for the following: Liability for Premises, Operations, Completed Operations, Independent Contractors, and Contractual Liability.
- (3) City of Duluth shall be named as an Additional Insured under the Public Liability and Automobile Liability and Service Provider will provide Certificate of Insurance evidencing such coverage with 30-days' notice of cancellation, non-renewal or material change provisions included. The City of Duluth does not represent or guarantee that these types or limits of coverage are adequate to protect the Service Provider's interests and liabilities.
- (4) The use of an Accord form as a certificate of insurance shall be accompanied by two forms:
 - (i) ISO Additional Insured Endorsement (CG-2010 pre-2004) and
 - (ii) Notice of Cancellation Endorsement (IL 7002) or equivalent, as approved by the Duluth City Attorney's Office.

B. Such insurance shall protect Service Provider, its employees, agents and representatives from claims and damages including but not limited to personal injury and death and any act or failure to act by Service Provider, its employees, agents and representatives in the negligent performance of work covered by this Agreement.

C. Certificates showing that Service Provider is carrying the above described insurance in the specified amounts shall be furnished to the City prior to the execution of this Agreement and a certificate showing continued maintenance of such insurance shall be on file with the City during the term of this Agreement.

6. Indemnification. To the extent allowed by law, Service Provider shall defend, indemnify and hold City and its employees, officers, and agents harmless from and against any and all cost or expenses, claims or liabilities, including but not limited to, reasonable attorneys' fees and expenses in connection with any claims resulting from the Service Provider's a) breach of this agreement or b) its negligence or misconduct or that of its agents or contractors in performing the Services hereunder or c) any claims arising in connection with the Service Provider's employees or contractors, or d) the use of any materials supplied by the Service Provider to the City unless such material was modified by City and such modification is the cause of such claim. This Section shall survive the termination of this Agreement for any reason.

7. Data, Records and Inspection.

- a. The City agrees that it will make available all pertinent information, data and records under its control for Service Provider to use in the performance of this Agreement, or to assist Service Provider wherever possible to obtain such records, data and information.
- b. All customer addresses and other data or customer information provided to Service Provider by the City pursuant to this Agreement will be confidential and will not be released by Service Provider without prior authorization from the City.
- c. Records shall be maintained by Service Provider in accordance with requirements prescribed by the City and with respect to all matters covered by this Agreement. Such records shall be maintained for a period of six (6) years after receipt of final payment under this Agreement.
- d. Service Provider will ensure that all costs shall be supported by properly executed payrolls, time records, invoices, contracts, vouchers, or other official documentation evidencing in proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to this Agreement shall be clearly identified and readily accessible.
- e. Service Provider shall be responsible for furnishing to the City records, data and information as the City may require pertaining to matters covered by this Agreement.
- f. Service Provider shall ensure that at any time during normal business hours and as often as the City may deem necessary, there shall be made available to the City for examination, all of its records with respect to all matters covered by this Agreement. Service Provider will also permit the City to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and other data relating to all matters covered by this Agreement.

8. Independent Contractors. The parties agree that they are independent contractors, and no agency, partnership, employment or joint venture arrangement shall be deemed to exist by virtue of this Agreement, performance hereunder or otherwise. No employee or independent contractor of Service Provider shall be deemed to have any employment or independent contractor relationship with City by virtue of this Agreement or performance hereunder, and such individuals shall have no claim against City for any employee benefits offered to employees of City.

9. Assignment. Service Provider may not assign this agreement. City may assign this Agreement without the prior written consent of Service Provider.

10. Amendment; Entire Agreement. This Agreement embodies the entire understanding of the parties and there are no other agreements or understandings, written or oral, in effect between parties relating to the subject matter hereof. This Agreement may be amended or modified only by an instrument signed by the parties.

11. Applicable Law. This Agreement, together with all of its paragraphs, terms and provisions is made in the state of Minnesota and shall be construed and interpreted in accordance with the laws of the State of Minnesota.

12. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original as against any party whose signature appears thereon, but all of which together shall constitute but one and the same instrument. Signatures to this Agreement transmitted by facsimile, by electronic mail in "portable document format" (".pdf"), or by any other electronic means

which preserves the original graphic and pictorial appearance of the Agreement, shall have the same effect as physical delivery of the paper document bearing the original signature.

13. Captions. The captions contained in this Agreement are solely for convenience of reference and are not part of the Agreement and shall not be used in construing this Agreement or in any way affect the meaning or interpretation of this Agreement.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first set forth below.

CITY OF DULUTH-

NAME

By: _____
Mayor

By _____

Its _____

Attest:

Date: _____

By: _____
City Clerk

Date: _____

Countersigned:

City Auditor

Approved as to form:

City Attorney

SPECIAL PROVISIONS
2017 Western Waterfront Habitat Restoration Project
May 2017

SP-1 Scope of Work

The City of Duluth has obtained grant funding for native plant restoration and the removal and control of non-native invasive species including common buckthorn, Eurasian honeysuckles, Minnesota Department of Agriculture (MDA) noxious weeds, and Minnesota Department of Natural Resources (MNDNR) invasive species from 130 acres within City land adjacent to the Western Waterfront Trail. Requested services for this project include native plant restoration (planting and seeding), selective herbicide treatment of nonnative, invasive plant species, and material handling. The Contractor shall furnish all labor, material, and equipment necessary to perform the work as described in the Plans and Specifications for the project. The Contractor shall provide a detailed work schedule to TKDA and the City at a scheduled pre-project meeting.

SP-1.1 Contact Information

TKDA is the engineer of record. Questions regarding this project shall be directed to Jeff Goetzman, Project Manager with TKDA, at 218.491.7385 or Jim Shoberg, Project Coordinator with the City of Duluth, at 218.730.4300.

SP-1.2 Insurance

Contractor will be required to carry insurance of the kinds and in the amounts specified in the 2017 City of Duluth Construction Standards.

SP-1.3 Licenses and Permits

All expense and cost of permits arising from or in conjunction with performing the work described in these Plans and Specifications shall be borne by the Contractor. Burning may be permissible if conditions allow, and with a permit issued by the Duluth Fire Marshall.

SP-1.4 Laws to Be Observed (Data Practices)

Bidders shall be advised that all data created, collected, received, maintained, or disseminated by the Contractor and any subcontractors in performing the work contained in this Contract area subject to the requirements of MN Statute Chapter 13, the Minnesota Government Data Practices Act (MGDPA). The Contractor shall comply with the requirements of the MGDPA in the same manner as the City. Contractor does not have a duty to provide access to public data to the public if the public data are available from the City, except as required by the terms of the Contract.

SP-2 Determination and Extension of Contract Time

The Contract Time will be determined in accordance with the **schedule shown in Appendix A** and the following:

SP-2.1 Contract Dates

Work shall begin or before June 13, 2017, or within ten (10) calendar days after the date of award by City Council resolution, whichever is later; however, the Notice to Proceed letter will be the official authorization to commence work on the project. The project shall be completed by June 30, 2018.

When all, or a portion, of the Contract Time is specified as a calendar completion date, the time is presumed to have been determined by considering the Proposal quantities, normal weather

for the locality and season of the year, and the necessity of having the work completed by the specified date. The time may be extended by the Engineer only in accordance with the following:

- A. Unavoidable delay in starting or completing the progress-controlling operations and then, only when it is shown that the delay time could not be overcome and the work brought back on schedule.
- B. Delays caused by failure of the City Council to award the Contract at least 10 days in advance of the latest date specified for beginning operations.
- C. Delays caused by earthquake, flood, or other cataclysmic phenomenon of a nature beyond the power of the Contractor to foresee and make defense against.

SP-2.2 Controlling/Progress Dates

- A. The Contractor shall complete all bare root tree and shrub planting from spring green-up, 2018 to June 1, 2018 and all containerized tree and shrub planting from October 15 to freeze up, 2017 or from spring green-up, 2018 to June 1, 2018. All seeding shall be in the spring before June 30th or in the fall after October 15th and before the soil freezes.
- B. All foliar spraying of tree/shrub seedlings, saplings, and herbaceous invasive species must be completed by November 30, 2017.
- C. Any remaining punch list items to be completed by June 30, 2018.

SP-3 General Site and Work Conditions

- A. These stipulations shall govern the restoration activities on 130 acres of City of Duluth property.
- B. Any and all services, articles, or equipment offered and furnished shall comply with all local, State, and federal laws and regulations, including Minnesota Statute 181.59, prohibiting discrimination.
- C. All work must be done when ground is firm.
- D. Work shall be performed between 7 am and 7 pm Monday through Friday to minimize disturbance to trail users and adjacent landowners. Any trail user or adjacent landowner complaints received by the Service Provider must be brought to the attention of the Project Manager within one (1) hour.
- E. Neither TKDA nor the City, guarantee to any quote provider, the exact acreage of the defined project area as 130 acres. TKDA will provide GIS boundary information to the successful bidder. The successful bidder is responsible to perform the work completely and to the satisfaction of the Project Manager as per the project specifications and guidelines.
- F. All prospective bidders are required to inspect the project site before submitting quotes to satisfy themselves as to scope of work and site conditions.
- G. TKDA will require written progress reports to be submitted to the Project Manager once per month and should include the status of work, reasoning for any delays, and/or a plan of action to ensure a return to the original schedule, if applicable. A failure to comply may result in penalties.
- H. The City of Duluth reserves the right to accept or reject any or all bids as is in the best interest of the City for this project.
- I. The successful bidder must review all project requirements and specifications before work begins; ensure that all sites are left in an orderly manner and free of all refuse and

debris; and notify the Project Manager at least two (2) business days before work begins.

SP-3.1 Limits of Work

The Contractor will be provided with a GIS shapefile of the project work limits as depicted on Sheet 3 of the Plans, which is based on City cadastral data. It will be the responsibility of the Contractor to utilize GPS or similar technology to remain within the work limits.

SP-4 Safety and Cleanup

- A. The Contractor shall at all times conduct operations and perform the work in a manner that will provide for the safety of the general public who might be using the trails.
- B. The Contractor shall erect barriers, fences, signs, and other safety devices to restrict park users from accessing areas of hazardous conditions. The traffic control/closure plan provides for these measures. If work shall not impede the use of the trail, less obtrusive forms of signage and control may be used to alert the public to ongoing work and any potential hazards. Contractor shall provide plan for traffic or hazard control to the Engineer prior to beginning work.
- C. Contractor shall maintain erosion control measures as needed and shall stabilize any damaged areas using seed and mulch or other approved methods.
- D. Damage to sidewalks, curbs, street paving, or utility structures shall be avoided on or adjoining the site. Any damage caused by the contractor shall be repaired at the expense of the contractor.

SP-5 Traffic Control and Site Access

The provisions of City of Duluth's Standard Construction Specifications 2017 Edition and the traffic control plan for the project indicate those items that are required for the closure and advanced warning of work taking place along the project when access to the trail is impeded by the work. This work shall include the erection, maintenance, alteration and/or reinstallation of each traffic control device. The applicable signing shall remain in place through the final stage of work. The traffic control shown in the plan and detail consists of:

- Type III barricade (72-inch) at trail access points, effectively closing the trail to use during times of work taking place
- "Trail Closed" sign affixed to Type III barricade, MnDOT Type R9-9a
- "Herbicide in Use" signage, MnDOT size/Type R9-9a

The Type III barricades should remain onsite at the access points for the duration of the project. In times where no work is ongoing, and the residual effects of any herbicide recently placed has subsided, the Contractor may reopen sections of the trail to use either by setting aside the Type III barricades or covering/bagging the Herbicide in Use placard.

SP-5.1 Contractor Work Access

- A. Contractor shall access the project area from the existing roads and trail access points.
- B. Contractor is allowed to drive ATVs or other approved work equipment on the existing trails and off trail, at a safe speed with flashers on, yielding to right-of-way to trail users. Contractor must repair any ruts or other damage caused by work vehicles or equipment to the satisfaction of the Engineer.
- C. Contractor will keep all trails and roads open and not blocked with trees, branches, materials, equipment, vehicles, or debris resulting from this operation.

SP-6 Invasive Species Prevention

Contractor must follow the Minnesota DNR's Operational Order 113, which requires preventing or limiting the introduction, establishment and spread of invasive species during activities on public waters and DNR-administered lands. This applies to all activities performed on all lands under this grant agreement and is not limited to lands under DNR control or public waters. Duties are listed under Sections II and III (p. 5-8) of Operational Order 113 which may be found at: http://files.dnr.state.mn.us/assistance/grants/habitat/heritage/oporder_113.pdf.

SP-7 Contractor Qualifications

- A. Contractor shall have successfully completed at least five (5) woodland restorations of similar size and scope to this project. Provide a list of the five (5) successful woodland restorations with client contact information for each project.
- B. Contractor shall perform all work under the direct control of a qualified Supervisor capable of being present full-time during the restoration work. Documented experience restoring native landscapes shall include a bachelor's degree in Natural Resources management or related field, minimum of ten (10) years' experience in native landscape restoration supervision experience, extensive plant knowledge, and a current herbicide applicators license.
- C. Provide the Supervisor's resume documenting that he/she meets the qualifications specified.
- D. The Supervisor shall directly supervise the work force and be present full-time during all site work and reviews of site work. The Contractor shall not change Supervisors without the written approval of Owner Representative.
- E. If Contractor, in opinion of Owner or Owner Representative, fails to provide a Supervisor conforming to the minimum qualifications the Contractor shall be considered in breach of Agreement.
- F. The Contractor's labor force shall be thoroughly familiar with and trained in the work to be accomplished and perform in a competent, efficient manner acceptable to the Owner Representative.
- G. Provide a summary of experience for all crew members with demonstrations that all crew members have a minimum of one (1) year experience or equivalent experience performing native landscape restoration projects. Provide resume of each crew member.

SP-7.1 Contract Warranty and Establishment Periods

Furnished plant material (trees and shrubs) shall have a warranty for plant growth to be in vigorous growing conditions for a minimum of a 12-month period.

- A. After installation of all trees and shrubs, the Contractor shall notify TKDA and the City and request an inspection. As soon as practicable thereafter, TKDA and the City will conduct an inspection, at which time all trees and shrubs in a live, healthy condition will be accepted for payment and the 12 month warranty period will begin.
- B. The Contractor shall guarantee 80% of the bare root trees and shrubs through the 12 month warranty period. The mortality of up to 20% of the bare root trees and shrubs due to natural causes will be accepted. Plant material mortality resulting from improper planting are not to be factored in to the 20% acceptable mortality and shall be replaced by the Contractor at no additional expense to the City.
- C. The Contractor shall guarantee 100% of any containerized trees and shrubs through the 12 month warranty period.

- D. At the end of the 12 month warranty period, TKDA and the City will inspect all planted trees and shrubs to determine plant acceptability. Unacceptable trees and shrubs will be replaced by the contractor at his/her own expense as soon as favorable conditions exist.
- E. If any replacement plants die as a result of improper planting, they shall also be replaced by the Contractor at no additional expense to the City.

SP-8 General Specifications for Native Plant Restoration (Planting and Seeding)

SP-8.1 Plant Native Trees and Shrubs

- A. All trees and shrubs shall be native to Minnesota and selected to match site conditions (soils, hydrology, precipitation, elevation, drainage, aspect, sun/shade and climate) and have original provenance from as close to the project site as possible to protect local ecotypes from genetic contamination.
- B. Trees and shrubs must be obtained from a licensed nursery.
- C. All bare root tree and shrub planting should occur from spring green-up, 2018 to June 1, 2018 and all containerized tree and shrub planting from October 15 to freeze up, 2017 or from spring green-up, 2018 to June 1, 2018.
- D. Trees and shrubs will be planted within the areas identified in the plan sheets. Specific planting locations will be coordinated between the Contractor's Landscape Architect, TKDA, and the City in the field. TKDA will provide a coordinator that will assist in determining planting locations.
- E. Trees and shrubs should be planted in groups of at least three (3) with spacing appropriate to the species.

SP-8.1.1 Reforestation - Blackmer Park (10 Acres)

The Blackmer Park area contained a significant infestation of buckthorn that was removed and treated in 2016. This area will be reforested with tree and shrub species to increase species diversity and wildlife habitat. The Blackmer park area is classified by the Minnesota Department of Natural Resources as native plant community, MHn44a – Aspen-Birch-Red Maple Forest. Species common to this native plant community shall be planted as outlined in the table below. The species list and quantities may be altered based on best professional judgement with prior approval from TKDA and the City. Trees and shrubs will be protected from animal browse as specified in section SP-8.3.

Blackmer Park Reforestation			
2500 Trees, plugs/bare root			
Common Name	Scientific Name	% of total	# Trees
Paper birch	<i>Betula papyrifera</i>	20%	500
Red maple	<i>Acer rubrum</i>	20%	500
Balsam fir	<i>Abies balsamea</i>	20%	500
Bur oak	<i>Quercus macrocarpa</i>	20%	500
Basswood	<i>Tilia americana</i>	5%	125
White pine	<i>Pinus strobus</i>	5%	125
Northern red oak	<i>Quercus rubra</i>	5%	125
White spruce	<i>Picea glauca</i>	5%	125
1000 Shrubs, #2 Pots. Equal Parts based on availability and habitat			

Common Name	Scientific Name	% of total	# shrubs
Round-leaf serviceberry	<i>Amelanchier sanguinea</i>	10%	100
Alleghany serviceberry	<i>Amelanchier laevis</i>	10%	100
Chokecherry	<i>Prunus virginiana</i>	10%	100
beaked hazel	<i>Corylus cornuta</i>	10%	100
Winterberry	<i>Ilex verticillata</i>	10%	100
Downy Arrowwood	<i>Viburnum rafinesquianum</i>	10%	100
High bush cranberry	<i>Viburnum trilobum</i>	10%	100
Roundleaf dogwood	<i>cornus rugosa</i>	10%	100
gray dogwood	<i>Cornus racemosa</i>	10%	100
red osier dogwood	<i>Cornus alba</i>	10%	100

SP-8.1.2 White Cedar Planting- Knowlton Creek (1 Acre)

Plant 350 white cedar (*Thuja occidentalis*) to provide forest regeneration to an existing 1-acre stand of white cedar along the west bank of Knowlton Creek. The white cedar should be 2-3 year transplants and protected from animal browse as specified in section SP-8.3. The white cedar will be randomly planted within the 1 acre planting area as deemed appropriate.

SP-8.1.3 Fruiting Shrub Planting – Kingsbury Bay (10 Acres)

Plant 1,000 native fruit bearing shrubs to enhance the native plant community and provide a forage source for wildlife and migratory birds in the Kingsbury Bay area. The native shrubs will provide a greater nutritional benefit to wildlife than the invasive buckthorn and honeysuckle. A list of shrub species to be planted is outlined in the table below. The species list and quantities may be altered based on best professional judgement with prior approval from TKDA and the City. Shrubs will be protected from animal browse as specified in section SP-8.3.

Kingsbury Bay Fruiting Shrub Planting			
1000 Shrubs, #2 Pots. Equal Parts based on availability and habitat			
Common Name	Scientific Name	% of total	# shrubs
Round-leaf serviceberry	<i>Amelanchier sanguinea</i>	10%	100
Alleghany serviceberry	<i>Amelanchier laevis</i>	10%	100
Regent serviceberry	<i>Amelanchier alnifolia</i>	10%	100
Chokecherry	<i>Prunus virginiana</i>	10%	100
Winterberry	<i>Ilex verticillata</i>	10%	100
Downy Arrowwood	<i>Viburnum rafinesquianum</i>	10%	100
High bush cranberry	<i>Viburnum trilobum</i>	10%	100
Roundleaf dogwood	<i>cornus rugosa</i>	10%	100
gray dogwood	<i>Cornus racemosa</i>	10%	100
red osier dogwood	<i>Cornus alba</i>	10%	100

SP-8.1.4 White Pine Planting – Indian Point (10 Acres)

Plant 120 white pine (*Pinus strobus*) in and around 10-acres of Indian Point Campground to showcase an iconic northern Minnesota species and provide a seed source for the future. The limited number of trees per acre shall be well protected from browse and easily maintained by campground and City staff. The white pines shall be #5 container nursery stock or equivalent and protected from animal browse as specified in section SP-8.3.

SP-8.2 Seeding

Two areas will require seeding, a pollinator meadow in Riverside and a sedge meadow in north Kingsbury Bay. Seeding work tasks are outlined below:

- A. Seeding dates shall be in the spring before June 30th or in the fall after October 15th and before the soil freezes.
- B. Seeding will be completed by mechanical or hand broadcasting.
- C. Seeding on steep slopes or erodible soils will require erosion control.
- D. Seed mixes may be customized based on site conditions and availability of seed but must be approved by the City.
- E. Yellow tag seed should be used over non-source identified seed when it is available.

SP-8.2.1 Pollinator Meadow – Riverside (0.37 Acres)

Plant a northern Minnesota pollinator plot on a 0.37 acre parcel located at the Western Waterfront Trail trailhead along Spring Street in the Riverside neighborhood. This parcel is currently dominated by nonnative species and is occasionally mowed. Work tasks will include herbicide treatment of existing vegetation, seed bed preparation, seeding and mulching. Specifics on this work task are outlined below:

- A. Herbicide treatment of existing vegetation must follow the specifications in section SP-9 GENERAL SPECIFICATIONS FOR HERBICIDE APPLICATION.
- B. Seed bed shall be properly tilled and prepared.
- C. Seed mix may be customized with approval by TKDA and the City but at a minimum assume use of BWSR Pilot Seed Mixes: Pollinator Plots Northeast (March 2017). Custom seed mixes must incorporate MNDNR pollinator best management practices (BMPs).
- D. The pollinator plot shall include signage to identify the area as a pollinator habitat and preventing mowing and pesticide use. The signage will include 6 – 9 inch by 12 inch signs on t-posts. Sign content shall be approved by the City.

SP-8.2.2 Sedge Meadow – North Kingsbury Bay (1 Acre)

The baseline survey identified a one acre area dominated by reed canary grass (*Phalaris Arundinacea*) along the trail in the north end of the Kingsbury Bay area. This area shall be restored into a sedge meadow plant community. The location of the sedge meadow restoration area is shown on Sheets 3 and 4 of the Plans. The reed canary grass in this area was sprayed with herbicide in the fall of 2016. A prescribed burn and additional herbicide application shall be completed in the spring of 2017. Reed canary grass removal and control and sedge meadow restoration work tasks are outlined below:

- A. Broadcast spray with an herbicide such as glyphosate formulated for use over water in late summer and again in fall.

- B. Fall 2017 seeding of sedge meadow seed mix or early spring 2018 seeding if a third herbicide application in the spring of 2018 is deemed necessary.
- C. Seed mix should be customized with approval by TKDA and the City to contain species that are resistant to grass specific herbicide that will be used for long-term maintenance. At a minimum, assume a modified use of BWSR state seed mix Wet Meadow Northeast.

SP-8.3 Browse Protection

SP-8.3.1 White Cedar at Knowlton & White Pine at Indian Point Campground

The 350 white cedar planted at Knowlton Creek and the 120 white pine planted at Indian Point will require large tree enclosures. The tree enclosures will consist of 14 gauge, 2x4" wire mesh that is 4' high and 30" in diameter. Each tree enclosure will have a 3'x3' weed mat (vispore type) and be secured to the ground with 8 sod staples and/or 2 T-posts.

SP-8.3.2 Tree Plugs/Bare Root & Shrubs

All plug or bare root trees and shrubs shall be protected with a 4' tree tube, 2 – 5' bamboo or oak stakes, a 3'x3' weed mat (vispore type), and 5 sod staples or equivalent. As size and growth habit varies among tree and shrubs species and nursery stock, browse protection may be customized based on best professional judgement of the contractor and with approval from TKDA and the City.

SP-8.4 Seed and Plant Substitutions

Species to be planted shall be those specified on the plans. Any substitution or change shall be approved prior to use by TKDA and the City. If any seed or plant specified is not obtainable, due to conditions beyond the control of the Contractor and for reasons other than cost changes since submittal of Proposal prices, a proposal will be considered for use of the nearest equivalent variety with corresponding adjustment of Contract price.

SP-9 General Specifications for Herbicide Application

- A. The Contractor shall execute work with care and protect the surrounding environment not subject to removal or treatment. Conduct all work in a manner that will not jeopardize or damage the native plant life, soils, access roads, trails, structures, or property.
- B. Original herbicide containers with labels must be on-site and available for inspection at all times.
- C. Herbicide label directions must be followed.
- D. Herbicide must be applied under dry, low wind conditions and not apply herbicide if rain is likely within a 24 hours. The Contractor is responsible for monitoring the weather conditions.
- E. All herbicide active ingredients must not be on the banned list for use on MNDNR State Certified Forest WMA lands. The list of banned active ingredients is found in the MNDNR Pesticides and Pest Control Guidelines online at http://files.dnr.state.mn.us/assistance/grants/habitat-/heritage/faw_pest.pdf.
- F. Herbicide application near water or wetlands must be formulated for use over water.
- G. Any control method identified in Part 2 can be modified based on current restoration techniques if the contractor can demonstrate its effectiveness.
- H. Baseline surveys completed within the restoration area provide an estimate of the amount of non-native invasive species to be removed and controlled. The City does not guarantee the estimated acreage of invasive species.

SP-9.1 Control Invasive Trees and Shrubs

Common Buckthorn (*Rhamnus cathartica*) and Eurasian Honeysuckles (*Lonicera tartarica*, *L. morrowii*, *L. x bella*) occur throughout the restoration area. Buckthorn and honeysuckle trees and saplings >1/2 inch diameter were cut and stump treated with herbicide throughout the restoration area in 2016. Any observed buckthorn and honeysuckle trees and saplings >1/2 inch diameter that were missed in 2016 shall be cut and stump treated with herbicide. Immature saplings and seedlings occur throughout the restoration area and were foliar treated with herbicide in 2016. Invasive tree and shrub removal and control work tasks are outlined below:

- A. Any remaining Invasive trees, shrubs, and saplings >1/2 inch diameter shall be cut and stump treated with herbicide (very few expected).
- B. Stems must be cut to within 2 inches of grade or existing snow cover. Stems must be cut flat and not left with a shredded or angled top.
- C. Saplings and seedlings of invasive trees and shrubs <1/2 inch diameter shall be foliar treated with herbicide. Foliar applications shall occur during periods of native species dormancy.
- D. Herbicide used for stump and foliar treatment shall be triclopyr- or glyphosate-based and dyed or formulated with penetrating or bark oil to ensure complete coverage.
- E. Herbicide must be spot applied with a backpack or hand held sprayer and immediately after cutting for stump treatment.

SP-9.1.1 Invasive Tree and Shrub Material Handling

Any cut debris will be slashed (cut into small sections) and allowed to degrade in-place.

SP-9.2 Remove and Control MDA Noxious Weeds

The baseline survey identified populations of MDA noxious weeds in large enough populations to pose a significant threat to the native plant communities. Most occurrences of these species were located in the disturbed soils along the trail margins and shoreline while some occurrences were located in the woodland plant communities. The baseline survey locations of MDA noxious weeds are included on Sheet 6 of the Plans. MDA noxious weeds were foliar treated in 2016 but it is assumed that a reduced mature population and seedlings persist. MDA noxious weed removal and control work tasks are outlined below:

- A. Tansy (*Tanacetum vulgare*) was observed to have an average cover class of 5 - 25% over approx. 3.75 acres. Hand spray with a selective broadleaf herbicide such as metsulfuron-methyl or equivalent. Mowing several weeks prior to treatment can be effective to remove old canes and stimulate vegetative growth. Treatment must be completed in the summer before flowering.
- B. Canada thistle (*Cirsium arvense*) was observed to have an average cover class of 5 - 25% over approx. 4 acres. Hand spray with a selective broadleaf herbicide such as metsulfuron-methyl or equivalent. Treat in early summer before flowering and/or to rosettes in the fall.
- C. Purple loosestrife (*Lythrum salicaria*) was observed to have an average cover class of 5 - 25% over approx. 4,500 square feet. Hand spray with an herbicide such as glyphosate formulated for use over water. Treatment should be completed in the summer before flowering.
- D. Wild parsnip (*Pastinaca sativa*) was observed to have an average cover class of 5 - 25% over approx. 500 square feet. Hand spray with a selective broadleaf herbicide such as metsulfuron-methyl plus a surfactant or glyphosate in the early spring or late fall to target basal rosettes and newly bolted plants prior to flowering. Cut the plant below the root crown before seeds set, and remove the cut plant in addition to spraying rosettes.

- E. Garlic mustard (*Alliaria petiolata*) was only observed in one location comprising several small occurrences. Hand pull by hand spray with a selective broadleaf herbicide such as metsulfuron-methyl plus a surfactant or glyphosate in the early spring or late fall while native plants are dormant. Cut and bag any flower heads.
- F. Japanese knotweed (*Polygonum cuspidatum*) was only observed in one location comprising an area of approx. 100 square feet. Hand spray with an herbicide such as glyphosate plus a surfactant, aminopyralid, triclopyr, or dicamba in the early fall. Cut-stem treatment with 30% a.i. glyphosate, aminopyralid, or triclopyr is also acceptable.

SP-9.2.1 MDA Noxious Weeds Material Handling

- A. Noxious weeds will be foliar sprayed with herbicide and left in place.
- B. Do not transport noxious weeds to prevent spreading of seeds or viable plant material.

SP-9.3 Remove and Control MNDNR Invasive Species

The baseline survey identified limited populations of plant species that are identified by the MNDNR as plants that can be invasive in natural areas. Most occurrences of these species were located in the disturbed soils along the trail margins. The baseline survey locations of MDA noxious weeds are included on Sheets 3 and 6 of the Plans. These species can be hand pulled or selectively hand sprayed in conjunction with the other invasive species control activities. MNDNR invasive species removal and control work tasks are outlined below:

- A. Bird's-Foot Trefoil (*Lotus corniculatus*) - Hand spray the main tap root with a selective broadleaf herbicide such as triclopyr or clopyralid plus a surfactant, in the summer before seed production.
- B. Crown Vetch (*Coronilla varia*) - Hand spray the main tap root with a selective broadleaf herbicide such as triclopyr or clopyralid plus a surfactant, in the summer before seed production.
- C. Perennial Sowthistle (*Sonchus arvensis*) - Hand spray with a selective broadleaf herbicide such as triclopyr prior to flowering.
- D. White and Yellow sweet clover (*Melilotus albus*, *M. officinalis*) – Hand pull in early summer before flowering. Or foliar spray seedlings in early spring with dicamba, sulfometuron methyl, clopyralid, aminopyralid, metsulfuron-methyl, or 2,4-D.
- E. Dame's Rocket (*Hesperis matronalis*) - Hand spray with a selective broadleaf herbicide such as imazapic, or triclopyr in late fall or very early spring when native plants are dormant but the basal rosettes of dame's rocket are still green.

SP-10 Alternate Bid Items

SP-10.1 Add/Alternate 1: Black Ash Replacement – North Blackmer

Plant 2800 bare root white cedar (*Thuja occidentalis*) and yellow birch (*Betula alleghaniensis*) north of Blackmer Park to provide black ash replacement and forest regeneration in anticipation of black ash mortality due to the emerald ash borer. Trees and shrubs will be planted within the areas identified on Sheet 7 of the Plans. The trees should be protected from animal browse as specified in section SP-8.3.

2017 WESTERN WATERFRONT VEGETATION RESTORATION PROJECT

SHEET LIST TABLE

Sheet Number	Sheet Title
1	TITLE SHEET
2	QUANTITIES
3	RESTORATION AREA LOCATIONS
4	RESTORATION AREA DETAILS
5	BUCKTHORN DENSITY & REMOVAL
6	NOXIOUS WEEDS
7	ADD ALTERNATE 1
8	TRAFFIC CONTROL

EXISTING UTILITY LOCATIONS

THE CONTRACTOR SHALL VERIFY ALL EXISTING UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN & THOSE THAT ARE SHOWN, MAY NOT BE SHOWN IN THE EXACT LOCATIONS.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLANSET IS UTILITY QUALITY LEVEL "D" AS DEFINED IN ASCE "STANDARD GUIDELINE FOR THE DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

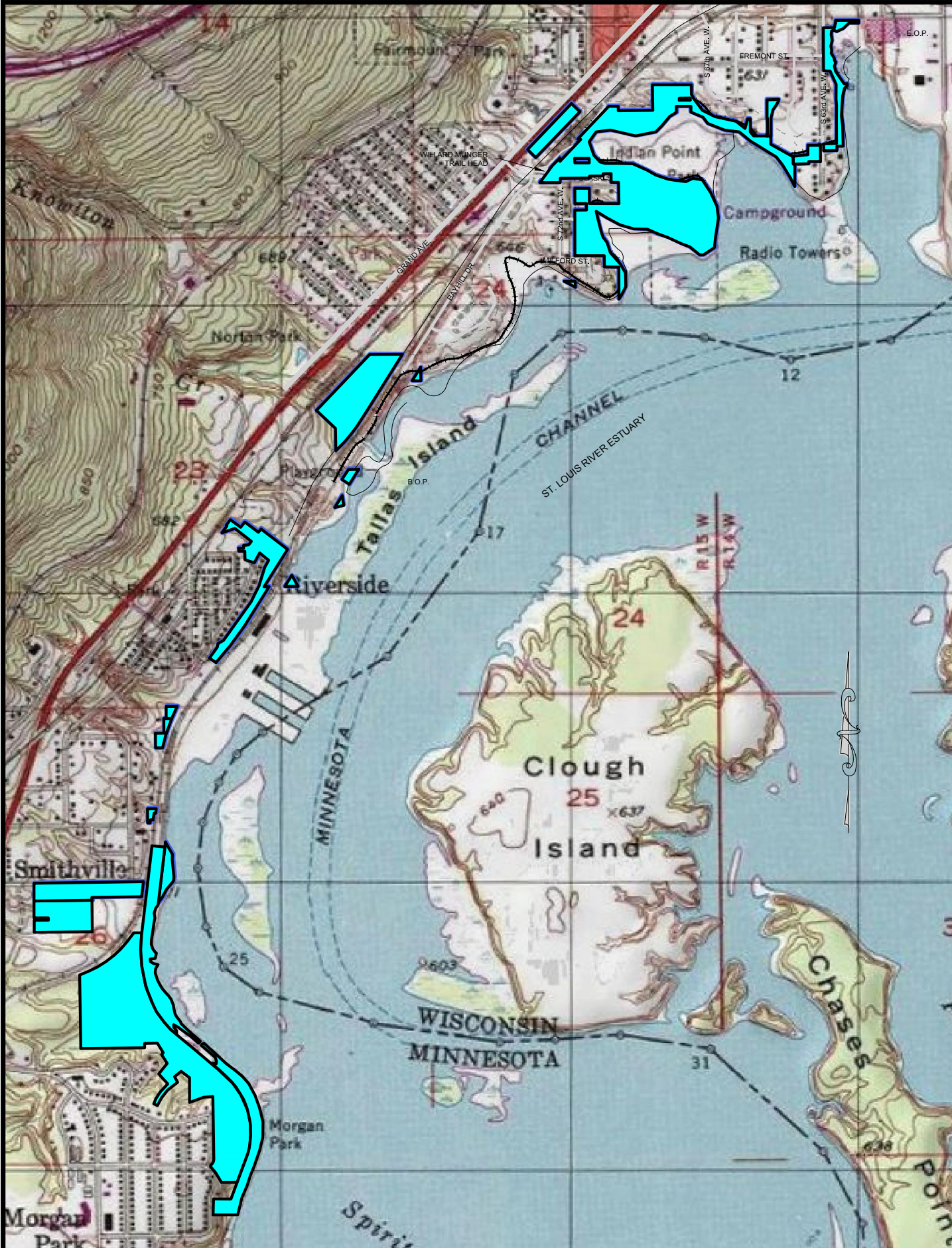
SPECIFICATION REFERENCE

THE FOLLOWING SPECIFICATIONS SHALL APPLY TO THIS PROJECT:

- CITY OF DULUTH 2017 STANDARD CONSTRUCTION SPECIFICATIONS.
- ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO MN MUTCD, INCLUDING THE CURRENT FIELD MANUAL.



**GOPHER STATE ONE CALL
PHONE NUMBERS:**
651-454-0002
800-252-1166 (TOLL FREE)
811
1-866-640-3637 (EMERGENCY
LOCATES ONLY)



FIELD BOOK:
Plot Date: 05/17/2017
Drawing name: P:\Hennepin\Office\Projects\TKDA\15850.001-WWFT - Restoration\CDDPhase II\TITLE SHEET.dwg
Author: JAC EX/17/17, TKDA Logo Hennepin

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED RP	DRAWN JK
CHECKED JG	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

JEFFREY S. GOETZMAN
DATE 05/04/2017 LIC. NO. 26422



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2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT
DULUTH MINNESOTA
CITY PROJECT NO. MSA NO.

TITLE SHEET

RECORD NO. SHEET NO.
1

PROJECT NO.
15850.001
RECORD NO. SHEET NO.
1

BASE BID IS TO PERFORM WORK ADJACENT TO WESTERN WATERFRONT TRAIL

A. REMOVE AND CONTROL NON-NATIVE INVASIVE PLANT SPECIES ON 130 ACRES:

- 1. COMMON BUCKTHORN
- 2. EURASIAN HONEYSUCKLES

B. REMOVE AND CONTROL MDA NOXIOUS WEEDS:

- 1. TANSY
- 2. CANADA THISTLE
- 3. PURPLE LOOSESTRIFE
- 4. WILD PARSNIP
- 5. GARLIC MUSTARD
- 6. JAPANESE KNOTWEED

C. REMOVE AND CONTROL MNDNR INVASIVE SPECIES:

- 1. BIRD'S FOOT TREFOIL
- 2. CROWN VETCH
- 3. PERENNIAL SOWTHISTLE
- 4. WHITE AND YELLOW SWEET CLOVER

D. PERFORM NATIVE PLANT SPECIES RESTORATION:

1. BLACKMER PARK (10 ACRES) REFORESTAION

Blackmer Park Reforestation			
2500 Trees, plugs/bare root			
Common Name	Scientific Name	% of total	# Trees
Paper birch	Betula papyrifera	20%	500
Red maple	Acer rubrum	20%	500
Balsam fir	Abies balsamea	20%	500
Bur oak	Quercus macrocarpa	20%	500
Basswood	Tilia americana	5%	125
White pine	Pinus strobus	5%	125
Northern red oak	Quercus rubra	5%	125
White spruce	Picea glauca	5%	125
1000 Shrubs, #2 Pots. Equal Parts based on availability and habitat			
Common Name	Scientific Name	% of total	# shrubs
Round-leaf serviceberry	Amelanchier sanguinea	10%	100
Alleghany serviceberry	Amelanchier laevis	10%	100
Chokecherry	Prunus virginiana	10%	100
beaked hazel	Corylus cornuta	10%	100
Winterberry	Ilex verticillata	10%	100
Downy Arrowwood	Viburnum rafinesquianum	10%	100
High bush cranberry	Viburnum trilobum	10%	100
Roundleaf dogwood	cornus rugosa	10%	100
gray dogwood	Cornus racemosa	10%	100
red osier dogwood	Cornus alba	10%	100

2. KNOWLTON CREEK (1 ACRE) CEDAR PLANTING

PLANT 350 WHITE CEDAR

3. KINGSBURY BAY (10 ACRES) FRUIT BEARING SHRUB PLANTING

Kingsbury Bay Fruiting Shrub Planting			
1000 Shrubs, #2 Pots. Equal Parts based on availability and habitat			
Common Name	Scientific Name	% of total	# shrubs
Round-leaf serviceberry	Amelanchier sanguinea	10%	100
Alleghany serviceberry	Amelanchier laevis	10%	100
Regent serviceberry	Amelanchier alnifolia	10%	100
Chokecherry	Prunus virginiana	10%	100
Winterberry	Ilex verticillata	10%	100
Downy Arrowwood	Viburnum rafinesquianum	10%	100
High bush cranberry	Viburnum trilobum	10%	100
Roundleaf dogwood	cornus rugosa	10%	100
gray dogwood	Cornus racemosa	10%	100
red osier dogwood	Cornus alba	10%	100

4. INDIAN POINT (10 ACRES) WHITE PINE PLANTING

PLANT 350 WHITE PINE

5. RIVERSIDE (0.37 ACRES) POLLINATOR MEADOW

PLANT A NORTHERN MINNESOTA POLLINATOR PLOT
FURNISH AND INSTALL ADVISORY SIGN PER DETAIL SHEET 4.
THESE ARE APPROXIMATELY 1 SQ. FT. IN SIZE AND SHALL
SAY "POLLINATOR MEADOW NO MOWING".

6. KINGSBURY BAY (1 ACRE) SEDGE MEADOW

PLANT A SEDGE MEADOW PLANT COMMUNITY

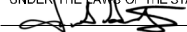
ADD / ALTERNATE 1: 8 ACRE BLACK ASH REPLACEMENT

CONSTRUCTION NOTES:

- 1. CONTRACTOR TO MAKE TRAIL CLOSURE PER SHEET 8 OF THE PLAN WHEN PERFORMING WORK IMPACTING THE USE OF THE WESTERN WATERFRONT TRAIL. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR THE REMOVAL OF INVASIVE SPECIES. IF WORK IS NOT DIRECTLY AFFECTING THE USE OF THE TRAIL, SMALL PLACARDS / SIGNS CAN BE USED ALONG THE TRAIL TO ALERT THE PUBLIC TO ONGOING INVASIVE SPECIES TREATMENT.
- 2. REFER TO SPECIAL PROVISIONS AND PLAN SHEETS FOR THE COVER CLASS AND PRESCRIBED TREATMENT OF EACH SPECIES OF INVASIVE.
- 3. GPS FILES WILL BE MADE AVAILABLE TO THE SELECTED CONTRACTOR SHOWING BUCKTHORN REMOVAL AREAS.
- 4. A GIS SHAPE FILE WILL BE MADE AVAILABLE TO THE SELECTED CONTRACTOR WHICH SHOWS THE PROJECT LIMITS. CONTRACTOR SHALL UTILIZE GPS OR SIMILAR TECHNOLOGY TO REMAIN WITHIN THE WORK LIMITS AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR ENSURING THEIR REMOVAL OPERATIONS ARE WITHIN THE BOUNDARY LIMITS OF THE PROJECT.

FIELD BOOK:
Print Date: 05/18/2017
Drawing Title: Restoration - Office of Policy and Planning - 15850.001 - WWFT - Restoration - Phase II (SECA) -
Notes: 1.001 - Legal Information

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED RP	DRAWN JK
CHECKED JG	
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  JEFFREY S. GOETZMAN	
DATE 05/04/2017 LIC. NO. 26422	



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2017 WESTERN WATERFRONT VEGETATION RESTORATION PROJECT	
DULUTH	MINNESOTA
CITY PROJECT NO.	MSA NO.

QUANTITIES	

PROJECT NO. 15850.001	
RECORD NO.	SHEET NO. 2

- 130 Acre Restoration Area
(City of Duluth Property)
- 10 Acre Reforestation -
Blackmer Park
- 0.37 Acre Pollinator Meadow -
Riverside
- 1 Acre White Cedar Planting -
Knowlton
- 10 Acre Fruit Bearing Shrub Planting -
Kingsbury
- 10 Acre White Pine Planting -
Indian Point
- 1 Acre Sedge Meadow Restoration -
North Kingsbury
- Add. Alt 1 - 8 Acre Black Ash Replacement -
North Blackmer

Note: Invasive species control to occur over entire 130 acre restoration area



FIELD BOOK:
Plot Date: 05/17/2017
Drawing Name: P:\Hemlocktown-Office\Projects\TKDA\15850.001-WWFT - Restoration\CDDPhase II\DATA SHEETS.dwg
Author: TKDA Logo Hemlocktown

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED RP	DRAWN JK
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JEFFREY S. GOETZMAN
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2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT
DULUTH MINNESOTA
CITY PROJECT NO. MSA NO.

RESTORATION AREAS
LOCATION MAP

PROJECT NO.	
15850.001	
RECORD NO.	SHEET NO.
	3

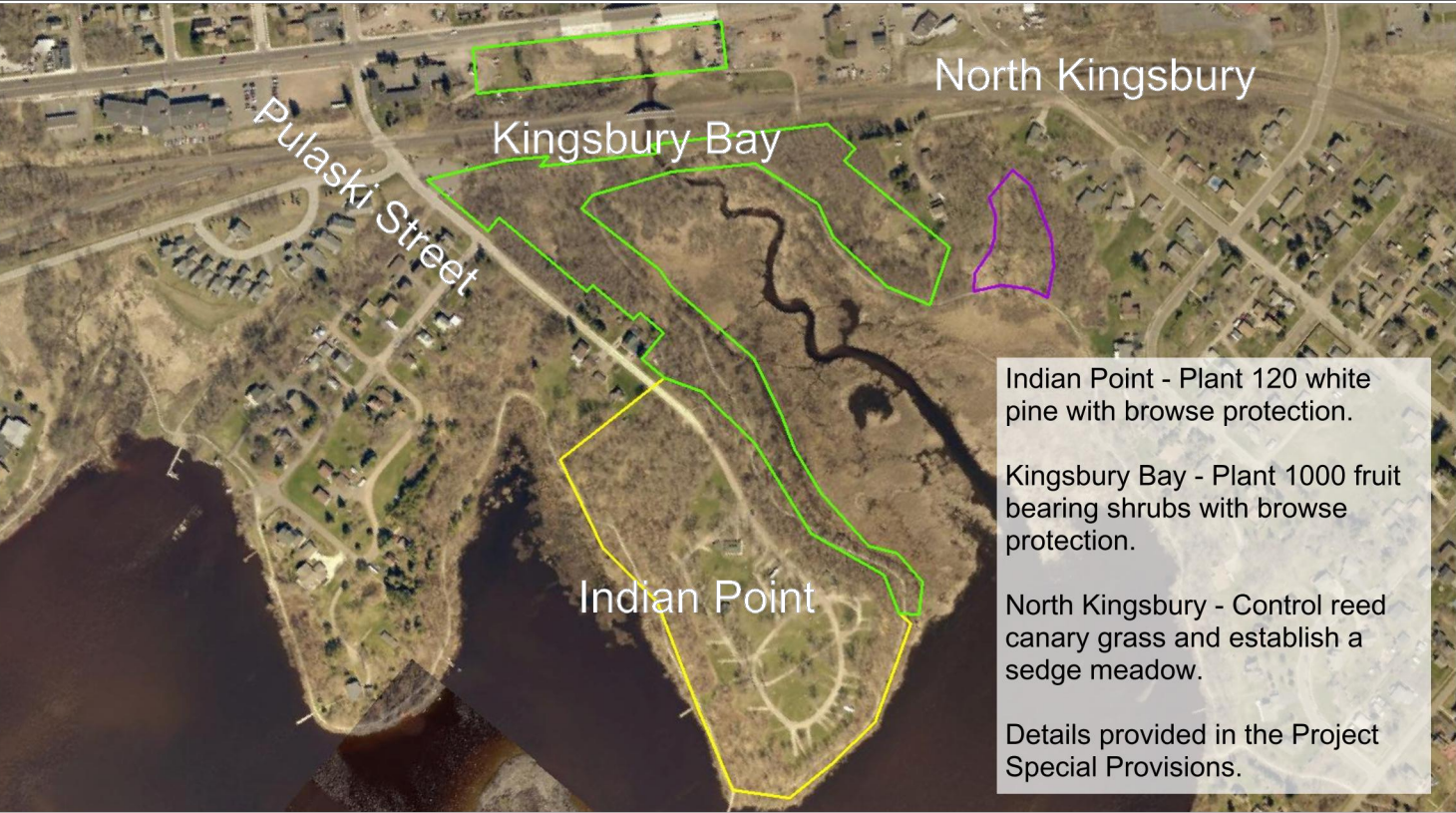
- 10 Acre Reforestation - Blackmer Park

0.37 Acre Pollinator Meadow - Riverside

1 Acre White Cedar Planting - Knowlton
- 10 Acre Fruit Bearing Shrub Planting - Kingsbury

10 Acre White Pine Planting - Indian Point

1 Acre Sedge Meadow Restoration - North Kingsbury



FIELD BOOK:
Plot Date: 05/18/2017
Drawing name: P:\Hemlock\Office\Projects\TKDA\15850.001 - WWFT - Restoration\C3D\Phase II\DATA SHEETS.dwg
Author: TKDA Logo Hemlock

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED RP	DRAWN JK
CHECKED JG	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Jeffrey S. Goetzman **JEFFREY S. GOETZMAN**

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2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT
DULUTH MINNESOTA

CITY PROJECT NO. MSA NO.

RESTORATION AREA DETAILS
SITE DETAILS

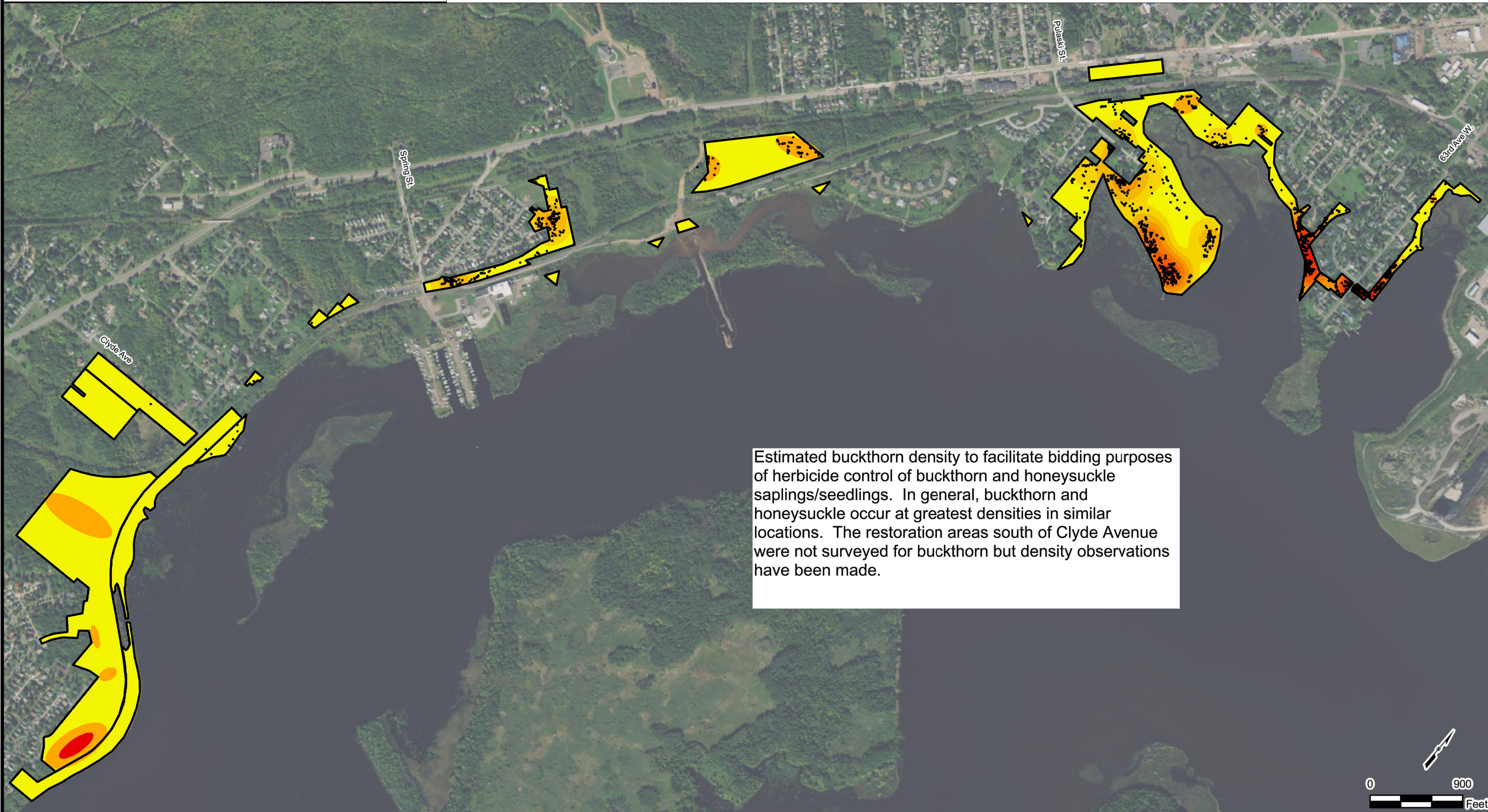
PROJECT NO.	15850.001
RECORD NO.	SHEET NO.
	4

● GPS Located Mature Seed Bearing Common Buckthorn Trees, August - October 2015

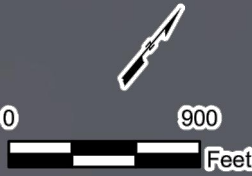
Low Buckthorn Density
Medium Buckthorn Density
High Buckthorn Density

Restoration Area

GPS data collected by LBG, Inc. and Duluth Invaders, August - October 2015



Estimated buckthorn density to facilitate bidding purposes of herbicide control of buckthorn and honeysuckle saplings/seedlings. In general, buckthorn and honeysuckle occur at greatest densities in similar locations. The restoration areas south of Clyde Avenue were not surveyed for buckthorn but density observations have been made.



FIELD BOOK:
Plot Date: 05/17/2017
Drawing name: P:\Hemlocktown-Office\Projects\TKDA\15850.001-WWFT - Restoration\CSDPhase II\DATA SHEETS.dwg
Author: TKDA Logo Hemlocktown

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2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT

DULUTH MINNESOTA

CITY PROJECT NO. MSA NO.

BUCKTHORN DENSITY & REMOVAL

PROJECT NO.	15850.001
RECORD NO.	SHEET NO.
	5

Tansy (*Tanacetum vulgare*)

Canada Thistle (*Cirsium arvense*)

Purple Loosestrife (*Lythrum salicaria*)

Wild Parsnip (*Pastinaca sativa*)

Garlic Mustard (*Alliaria petiolata*)

Japanese Knotweed (*Polygonum cuspidatum*)

Western Waterfront Restoration Area

GPS data collected by LBG, Inc. August - October 2015

General locations of invasive herbaceous species identified during the baseline survey. Restoration areas south of Clyde Avenue were not surveyed as part of the baseline survey.

MDA NOXIOUS WEEDS BASELINE SURVEY NOTES

1. GPS data points represent visual observations of species occurrences with varying degrees of population size and densities.
2. It is assumed that not all species occurrences have been surveyed.
3. Tansy was observed to have an average cover class of 5 - 25% over approx. 3.75 acres.
4. Canada thistle was observed to have an average cover class of 5 - 25% over approx. 4 acres.
5. Purple loosestrife was observed to have an average cover class of 5 - 25% over approx. 4,500 square feet.
6. Wild parsnip was observed to have an average cover class of 5 - 25% over approx. 500 square feet.
7. Garlic mustard was only observed in one location comprising several small occurrences.
8. Japanese knotweed was only observed in one location comprising an area of approx. 100 square feet.

FIELD BOOK:
Plot Date: 05/17/2017
Drawing name: P:\Hemlocktown-Office\Projects\TKDA\15850.001-WWFT - Restoration\CDDPhase II\DATA SHEETS.dwg
Author: TKDA Logo Hemlocktown

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2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT
DULUTH MINNESOTA

CITY PROJECT NO. MSA NO.

NOXIOUS WEEDS

PROJECT NO.	15850.001
RECORD NO.	SHEET NO.
	6

FIELD BOOK:
Plot Date: 05/17/2017
Drawing name: P:\Hemlocktown-Office\Projects\TKDA\15850.001-WWFT - Restoration\C3DPhase II\DATA SHEETS.dwg
Author: TKDA Logo Hemlocktown



Add. Alt 1


8-Acre Black Ash Replacement
north of Blackmer Park.

Plant 2800 trees and with
browse protection. Access from
Beverly Street.

Details provided in the Project
Special Provisions.

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JEFFREY S. GOETZMAN

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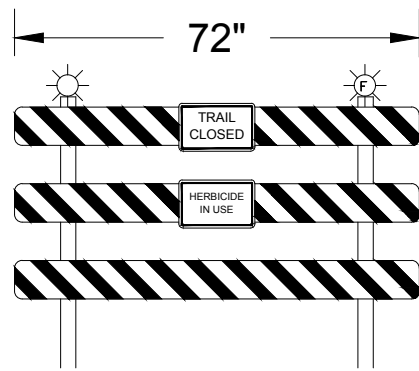
2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT

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ADD ALTERNATE 1
BLACK ASH PLANTING

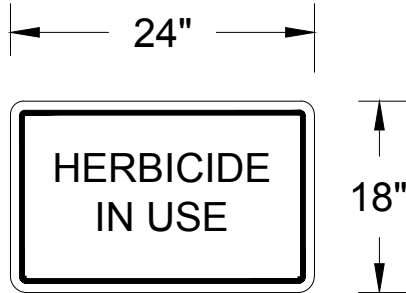
PROJECT NO.	15850.001
RECORD NO.	SHEET NO.
	7



TYPE III BARRICADE



TYPE R9-9a



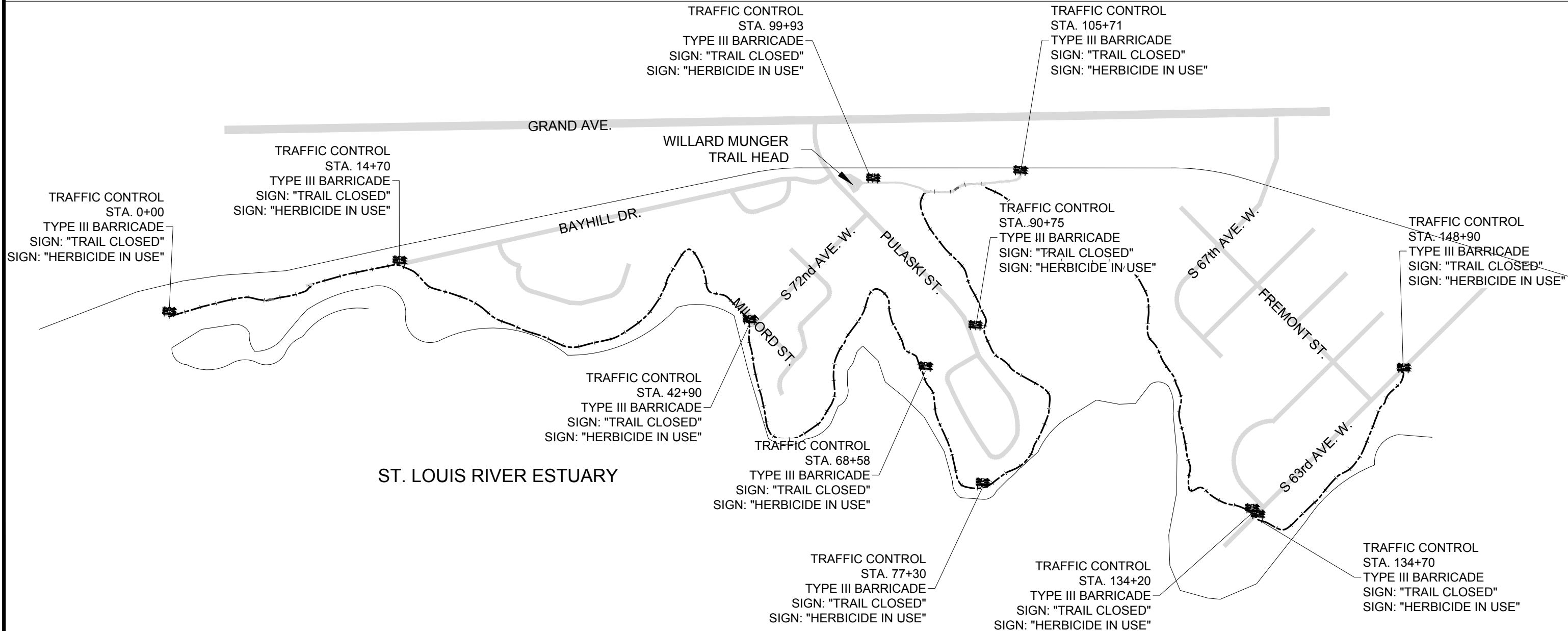
TYPE R9-9a

CONSTRUCTION NOTES:

1. CONTRACTOR TO MAKE TRAIL CLOSURE PER SHEET 8 OF THE PLAN WHEN PERFORMING WORK IMPACTING THE USE OF THE WESTERN WATERFRONT TRAIL. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEMS FOR THE REMOVAL OF INVASIVE SPECIES. IF WORK IS NOT DIRECTLY AFFECTING THE USE OF THE TRAIL, SMALL PLACARDS / SIGNS CAN BE USED ALONG THE TRAIL TO ALERT THE PUBLIC TO ONGOING INVASIVE SPECIES TREATMENT.
2. REFER TO SPECIAL PROVISIONS AND PLAN SHEETS FOR THE COVER CLASS AND PRESCRIBED TREATMENT OF EACH SPECIES OF INVASIVE.
3. GPS FILES WILL BE MADE AVAILABLE TO THE SELECTED CONTRACTOR SHOWING BUCKTHORN REMOVAL AREAS.
4. A GIS SHAPE FILE WILL BE MADE AVAILABLE TO THE SELECTED CONTRACTOR WHICH SHOWS THE PROJECT LIMITS. CONTRACTOR SHALL UTILIZE GPS OR SIMILAR TECHNOLOGY TO REMAIN WITHIN THE WORK LIMITS AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR ENSURING THEIR REMOVAL OPERATIONS ARE WITHIN THE BOUNDARY LIMITS OF THE PROJECT.

1
8

TRAFFIC CONTROL SIGNS



FIELD BOOK:
Plot Date: 06/17/2017
Drawing Name: P:\Hennepine\Office\Projects\TKDA\15850.001-WWVF - Restoration\CSD\Phase II\TRAFFIC CONTROL.dwg
Xrefs: TKDA Logo Permittion

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2017 WESTERN WATERFRONT
VEGETATION RESTORATION PROJECT

DULUTHMINNESOTA

CITY PROJECT NO. MSA NO.

TRAFFIC CONTROL

PROJECT NO.
15850.001

RECORD NO. SHEET NO.
8