

## Request for Quote

*This is not a sealed bid. Quotes can be emailed or faxed to the Office of the Purchasing Division. See instructions below.*

The City of Knoxville requests your quoted price for the remediation of the Treybrooke Subdivision Detention Pond located at 5604 Cypress Tree Ln, Knoxville, TN. This remediation is to be completed per the scope of work listed below.

**SCOPE OF WORK:** The work detailed below is to be carried out according to the attached plans.

- Clean out sediment and existing rip-rap obstructing headwall in detention pond and install new rip-rap outfall apron as specified by plans.
- Clean sediment from rip-rap swale and reshape channel as specified in plans.
- Supply and install trash rack as specified in the plans.
- One existing orifice in the outlet structure must be patched with brick and grout as specified in the plans.
- One new orifice will need to be cored/installed as specified in the plans.
- Clean out all debris and install grout invert into bottom of outlet structure to prevent ponding.

**All areas of vegetation disturbed by construction activities must be repaired with permanent vegetation with seeding and straw or sodding. All work will be done in accordance with the plans and specifications and approved by the City of Knoxville Engineering Department.**

**In order for your quote to be considered for award, your completed form must be received by the Purchasing Division via email, fax, or hard copy no later than 2:30 p.m. (Eastern Time) on Thursday, July 25, 2019. Late submissions shall not be accepted.**

Prior to submitting their quotes, vendors are to be registered with the Purchasing Division through the City of Knoxville's online Vendor Registration system. Instructions for registering on-line are available at [www.knoxvilletn.gov/purchasing](http://www.knoxvilletn.gov/purchasing).

By submitting a quote to the City of Knoxville, the submitter warrants the following:

1. The quote is good for 60 days.
2. The Quoter is licensed to conduct business in the city or county where it is headquartered.
3. The Quoter will use environmentally friendly products and services whenever possible.
4. The Quoter has not entered into any collusion with any person in respect to the pricing of this order or any other.
5. The Quoter represents and agrees to the insurance requirements, termination clause, and indemnification clause attached to this document.
6. The Quoter, to the best of its knowledge and belief, does not engage in investment activities in Iran and is not on the list created pursuant to T.C.A § 12-12-106 (available at [https://www.tn.gov/content/dam/tn/generalservices/documents/cpo/cpo-library/public-information-library/List\\_of\\_persons\\_pursuant\\_to\\_Tenn.\\_Code\\_Ann.\\_12-12-106\\_Iran\\_Divestment\\_Act\\_updated\\_7.7.17.pdf](https://www.tn.gov/content/dam/tn/generalservices/documents/cpo/cpo-library/public-information-library/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106_Iran_Divestment_Act_updated_7.7.17.pdf))
7. The Quoter shall be responsible for full compliance with all applicable federal, state, and local laws, rules and regulations.

### QUOTE SECTION

Having carefully examined the scope of work detailed above, and the listed specifications per the plans, for the Treybrooke Detention Pond Remediation, we hereby propose to furnish the supervision, labor, materials, equipment, delivery, and services to do the work as stated for the following sum:

Quote \$ \_\_\_\_\_

GUARANTEE of delivery no later than: \_\_\_\_\_

Firm Name: \_\_\_\_\_ DUNS #: \_\_\_\_\_

Signature of Quoting Official: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email: \_\_\_\_\_

Please send your written quote to either the email address or fax number shown below:

Karisa Scott

Procurement Specialist

City of Knoxville

[kkretschmer@knoxvilletn.gov](mailto:kkretschmer@knoxvilletn.gov)

FAX: (865) 215-2277

**MODIFICATIONS:** If modifications to this document are necessary, such changes will be made in the form of an addendum, posted to the Purchasing website: [www.knoxvilletn.gov/bids](http://www.knoxvilletn.gov/bids). It is the vendor's responsibility to review the website to ascertain whether such addenda have been posted.

**INCLEMENT WEATHER:** During periods of inclement weather, the Purchasing Division will enact the following procedures with regard to solicitations and weather delays:

- If City offices are closed due to inclement weather on the date that quotes are due into the Purchasing Office, all solicitations due that same day will be moved to the next operational business day.
- The City of Knoxville shall not be liable for any commercial carrier's decision regarding deliveries during inclement weather.

**REQUIRED INSURANCE:** When applicable and prior to the commencement of the contract, contractor must, at its sole expense, obtain and maintain in full force and effect for the duration of the Agreement and any extension hereof at least the following types and amounts of insurance for claims which may arise from or in connection with this Agreement. Contractor shall furnish the City of Knoxville with properly executed certificates of insurance which shall clearly evidence all insurance required by the City. All insurance must be underwritten by insurers with an A.M. Best rating of A-VIII or better. Such insurance shall be at a minimum the following:

- Commercial General Liability Insurance;** occurrence version commercial general liability insurance, and if necessary umbrella liability insurance, with a limit of not less than \$2,000,000 each occurrence for bodily injury, personal injury, property damage, and products and completed operations. If such insurance contains a general

aggregate limit, it shall apply separately to the work/location in this Agreement or be no less than \$3,000,000.

Such insurance shall:

(a.) Contain or be endorsed to contain a provision that includes the City, its officials, officers, employees, and volunteers as additional insureds with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. The coverage shall contain no special limitations on the scope of its protection afforded to the above-listed insureds. Proof of additional insured status up to and including copies of endorsements and/or policy wording will be required.

(b.) For any claims related to this project, Contractor's insurance coverage shall be primary insurance as respects the City, its officers, officials, officers, employees, and volunteers. Any insurance or self-insurance programs covering the City, its officials, officers, employees, and volunteers shall be excess of Contractor's insurance and shall not contribute with it.

(c.) At the sole discretion of the City, dedicated limits of liability for this specific project may be required.

**B. Automobile Liability Insurance;** including vehicles owned, hired, and non-owned, with a combined single limit of not less than \$1,000,000 each accident. Such insurance shall include coverage for loading and unloading hazards. Insurance shall contain or be endorsed to contain a provision that includes the City, its officials, officers, employees, and volunteers as additional insureds with respect to liability arising out of automobiles owned, leased, hired, or borrowed by or on behalf of Contractor.

**C. Workers' Compensation Insurance.** Contractor shall maintain workers' compensation insurance with statutory limits as required by the State of Tennessee or other applicable laws and employers' liability insurance with limits of not less than \$500,000. Contractor shall require each of its subcontractors to provide Workers' Compensation for all of the latter's employees to be engaged in such work unless such employees are covered by Contractor's workers' compensation insurance coverage. Such insurance shall include a waiver of subrogation in favor of the City. Proof of waiver of subrogation up to and including copies of endorsements and/or policy wording will be required.

**D. Other Insurance Requirements.** Contractor shall:

- Prior to commencement of services, furnish the City with original certificates and amendatory endorsements effecting coverage required by this section and provide that such insurance shall not be cancelled, allowed to expire, or be materially reduced in coverage except on 30 days' prior written notice to the City Attorney of Knoxville; P.O. Box 1631; Knoxville, Tennessee 37901. Proof of policy provisions regarding notice of cancellation will be required.
- Upon the City's request, provide certified copies of endorsements and policies if requested by the City in lieu of or in addition to certificates of insurance. Copies of policies will only be requested when contracts are deemed to be extremely or uniquely hazardous, include a dollar amount that is significant to the overall budget of the City or a City Department, or the coverage(s) may not follow standard insurance forms. A policy will only be requested after

the City's Risk Manager has reviewed the contract and proof of coverage has been provided. Should the certificate of insurance refer to specific coverage wording or endorsements(s), proof of such policy wording or endorsement(s) will be required.

- Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of services.
- Maintain such insurance from the time services commence until services are completed. Failure to maintain or renew coverage or to provide evidence of renewal may be treated by the City as a material breach of contract.
- If Contractor cannot procure insurance through an insurer having an A.M. Best rating of A-VIII, Contractor may, in the alternative, place such insurance with insurer licensed to do business in Tennessee and having A.M. Best Company ratings of no less than A. Modification of this standard may be considered upon appeal to the City Law Director.
- Require all subcontractors to maintain during the term of the Agreement Commercial General Liability insurance, Business Automobile Liability insurance, and Workers' Compensation/Employer's Liability insurance (unless subcontractor's employees are covered by Contractor's insurance) in the same manner as specified for Contractor. Contractor shall furnish subcontractors' certificates of insurance to the City without expense immediately upon request.
- Any deductibles and/or self-insured retentions greater than \$50,000 must be disclosed to and approved by the City of Knoxville prior to the commencement of services. Use of large deductibles and/or self-insured retentions may require proof of financial ability as determined by the City.
- The insurer shall agree to waive all rights of subrogation against the City, its officers, officials, and employees for losses arising from work performed by Contractor for the City. Proof of waiver of subrogation up to and including copies of endorsements and/or policy wording will be required.
- All general liability policies must be written on an occurrence basis, unless the Risk Manager determines that a claims made basis is reasonable in the specific circumstance. Use of policies written on a claims made basis must be approved by the City. Risk Manager and retroactive dates and/or continuation dates must be provided to the City prior to commencement of any work performed. Professional Liability and Environmental Liability (Pollution Coverage) are most commonly written on a claims made basis and are generally acceptable in that form.

## **INDEMNIFICATION CLAUSE**

The successful proposer will be required to sign a contract which contains the following indemnification clause. This indemnification clause will not be altered in any way. Failure to agree with this indemnification clause in the contract may result in the City moving to the next responsible responsive proposer.

Contractor shall defend, indemnify and hold harmless the City, its officers, employees and agents from any and all liabilities which may accrue against the City, its officers, employees and agents or any third party for any and all lawsuits, claims, demands, losses or damages alleged to have arisen from an act or omission of Contractor in performance of this Agreement or from Contractor's failure to perform this Agreement using ordinary care and skill, except where such injury, damage, or loss was caused by the sole negligence of the City, its agents or employees.

Contractor shall save, indemnify and hold the City harmless from the cost of the defense of any claim, demand, suit or cause of action made or brought against the City alleging liability referenced above, including, but not limited to, costs, fees, attorney fees, and other expenses of any kind whatsoever arising in connection with the defense of the City; and Contractor shall assume and take over the defense of the City in any such claim, demand, suit, or cause of action upon written notice and demand for same by the City. Contractor will have the right to defend the City with counsel of its choice that is satisfactory to the City, and the City will provide reasonable cooperation in the defense as Contractor may request. Contractor will not consent to the entry of any judgment or enter into any settlement with respect to an indemnified claim without the prior written consent of the City, such consent not to be unreasonably withheld or delayed. The City shall have the right to participate in the defense against the indemnified claims with counsel of its choice at its own expense.

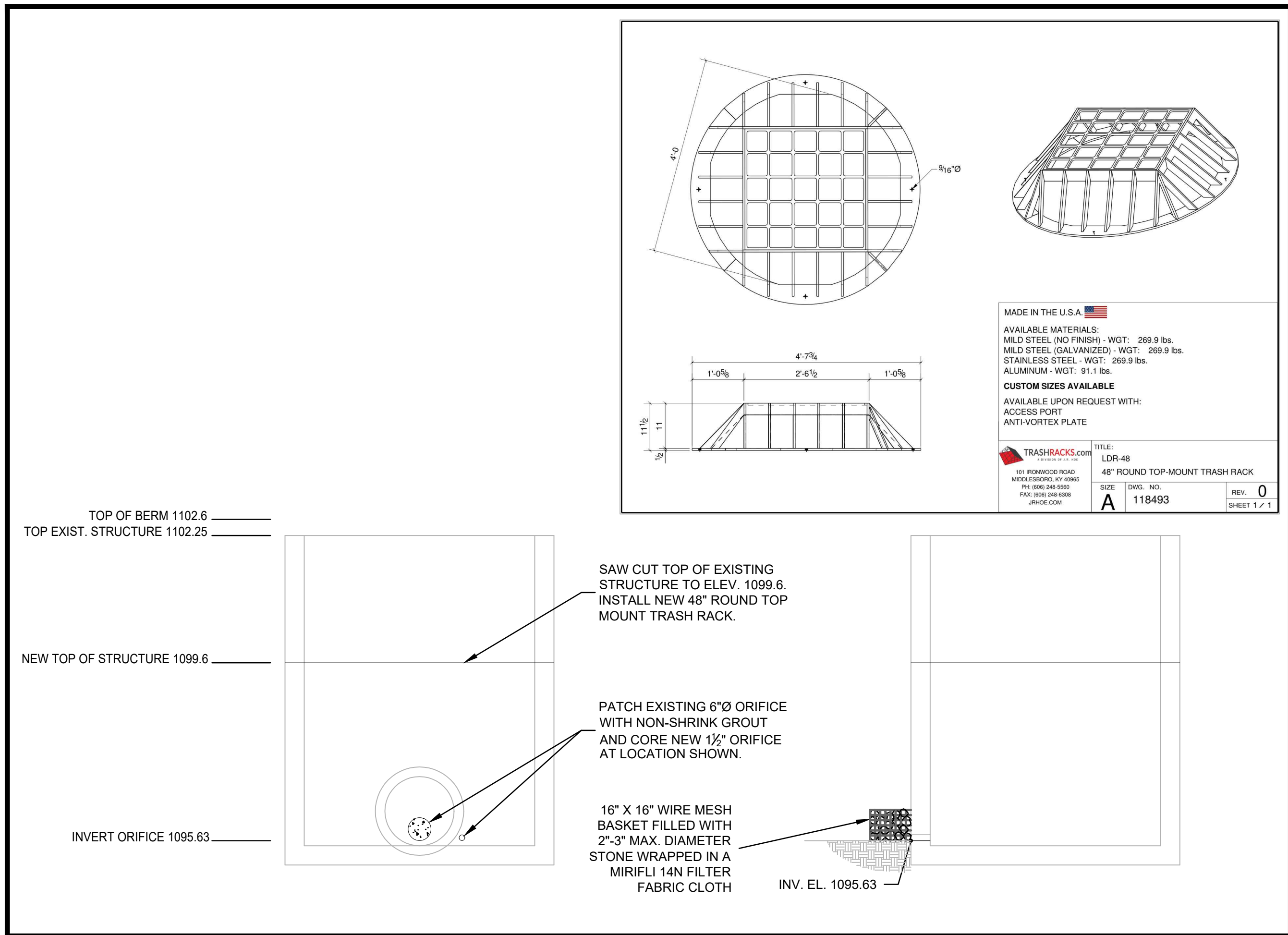
Contractor shall save, indemnify and hold City harmless and pay judgments that shall be rendered in any such actions, suits, claims or demands against City alleging liability referenced above.

The indemnification and hold harmless provisions of this Agreement shall survive termination of the Agreement.

## **TERMINATION CLAUSE**

1. The City may terminate this Agreement at any time, with or without cause, by written notice of termination to the Contractor. If the City terminates this Agreement, and such termination is not a result of a default by the Contractor, the Contractor shall be entitled to receive as its sole and exclusive remedy the following amounts from the City, and the City shall have no further or other obligations to the Contractor: (a). The amount due to the Contractor for work executed through the date of termination, not including any future fees, profits, or other compensation or payments which the Contractor would have been entitled to receive if the Project had not been terminated; and (b) the direct out-of-pocket costs incurred by the Contractor for demobilization of the Project following receipt of the notice of termination, not to exceed the amount reasonably and actually required to demobilize the Project.
2. The City may, by written notice of default to the Contractor, terminate the whole or any part of this contract if the Contractor fails to make delivery of the supplies or to perform the services wherein the time specified herein or any extension thereof; or if the Contractor fails to perform any of the other provisions of the contract, or so fails to make progress as to endanger performance of this contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of 10 days (or such longer period as the Purchasing Agent may authorize in writing) after receipt of notice from the Purchasing Agent specifying such failure.

3. If the contract is terminated in whole or in part for default, the City may procure, upon such terms and in such manner as the Purchasing Agent may deem appropriate, supplies of services similar to those so terminated.
4. If, after notice of termination of this contract under the provisions of this clause, it is determined for any reason that the contractor was not in default under the provisions of this clause, or that the default was excusable under the provisions of this clause, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to termination for convenience of the City.
5. The rights and remedies of the City provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.



**APPLYING MULCH**

Mulch is required for all permanent vegetation applications. Mulch applied to seeded areas shall achieve 75% soil cover. Select the mulching material from the following and apply as indicated:

- When using temporary erosion control blankets or block sod, mulch is not required.
- Dry straw or dry hay of good quality and free of weed seeds can be used. Dry straw shall be applied at the rate of 2 tons per acre. Dry hay shall be applied at a rate of 2 1/2 tons per acre. Sericea lespedeza hay containing mature seed shall be applied at a rate of three tons per acre.
- Straw or hay mulch will be spread uniformly within 24 hours after seeding and/or planting. The mulch may be spread by blower type spreading equipment, other spreading equipment or by hand.
- Wood cellulose mulch or wood pulp fiber shall be used with hydraulic seeding. It shall be applied at the rate of 500 pounds per acre. Dry straw or dry hay shall be applied (at the rate indicated above) after hydraulic seeding.
- One thousand pounds per acre of wood cellulose and wood pulp fiber, which includes a tackifier, shall be used with hydraulic seeding on slopes 3/4:1 or steeper.
- Wood cellulose and wood pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when agitated in water. The fibers shall contain a dye to aid in the uniform application during seeding.

**ANCHORING MULCH**

Anchor straw or hay mulch immediately after application by one of the following methods:

- Emulsified asphalt can be (a) sprayed uniformly onto mulch as it is ejected from the blower machine or (b) sprayed on the mulch immediately following mulch application when straw or hay is spread by methods other than special blower equipment. The combination of asphalt emulsion and water shall consist of a homogeneous mixture satisfactory for spraying. The mixture shall consist of 100 gallons of emulsified asphalt and 100 gallons of water per ton of mulch. Care shall be taken at all times to protect state waters, the public, adjacent property, pavements, curbs, sidewalks, and all other structures from asphalt discoloration.
- Hay and straw mulch may be pressed into the soil immediately after the mulch is spread. A special "crimper" or disk harrow with the disks set straight may be used. Serrated disks are preferred, and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.
- Synthetic tackifiers or binders may be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers should be mixed and applied according to the manufacturer's specifications. Refer to specification **Tackifiers and Binders**.

**BEDDING MATERIAL**

Mulch is used as a bedding material to conserve moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bare areas.

Material	Depth
Grain straw	4" to 6"
Grass hay	4" to 6"
Pine needles	3" to 5"
Wood Waste	4" to 6"

**IRRIGATION**

Irrigation will be applied at a rate that will not cause runoff.

**MAINTENANCE**

Inspection of the seeding and mulch application should be performed along with other regularly scheduled erosion and sediment control inspections. Any areas that have washed out due to high storm water flows, areas that have been disturbed by blowing wind, and areas that do not show good germination should be retreated. Maintenance needs identified in inspections or by other means shall be accomplished before the next storm event if possible, but in no case more than seven days after the need is identified.

**CONSTRUCTION SPECIFICATIONS**

**Grading and Shaping:** Excessive runoff shall be reduced by properly designed and installed erosion control practices such as ditches, dikes, diversions, sediment barriers, etc.

No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeded equipment is used.

**Seedbed Preparation:** When a hydraulic seeder is used, seedbed preparation may not be required. When using conventional or hand-seeding, seedbed preparation may not be required when the soil material is loose and not compacted by equipment or rainfall.

When soil has been compacted by equipment or rainfall, or consists of smooth out slopes, the soil shall be disked, plowed, tilled, or otherwise scarified to provide a place for seed to lodge and germinate.

**Seeding:** Select a grass or grass-legume mixture suitable to the area and season of the year. See Table 1 for suggestions of temporary seeding species. Seed shall be applied uniformly by hand, cyclone seeder, drill, cut/packer seeder, or hydraulic seeder (slurry including seed and mulch). Drill or cut/packer seeders should normally place seed one quarter to one half inch deep. Appropriate depth of planting is ten times the seed diameter. Soil should be "raked" lightly to cover seed with soil if seeded by hand.

**Mulching:** Temporary vegetation may be established without the use of mulch. Mulch without seeding may be considered for short-term protection. Refer to Disturbed Area Stabilization (With Mulch)-MU.

**Irrigation:** During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be made as needed. Newly seeded areas require more water than more mature plants.

**MAINTENANCE**

Inspections of temporarily seeded areas should be made before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within 24 hours after the end of a storm event of 0.5 inches or greater, and at least once every fourteen calendar days. Inspections should identify any areas that need reseeding or need additional BMP's. Maintenance needs identified in inspections or by other means shall be accomplished before the next storm event if possible, but in no case more than seven days after the need is identified.

**Temporary Cover Seeding Mixtures**

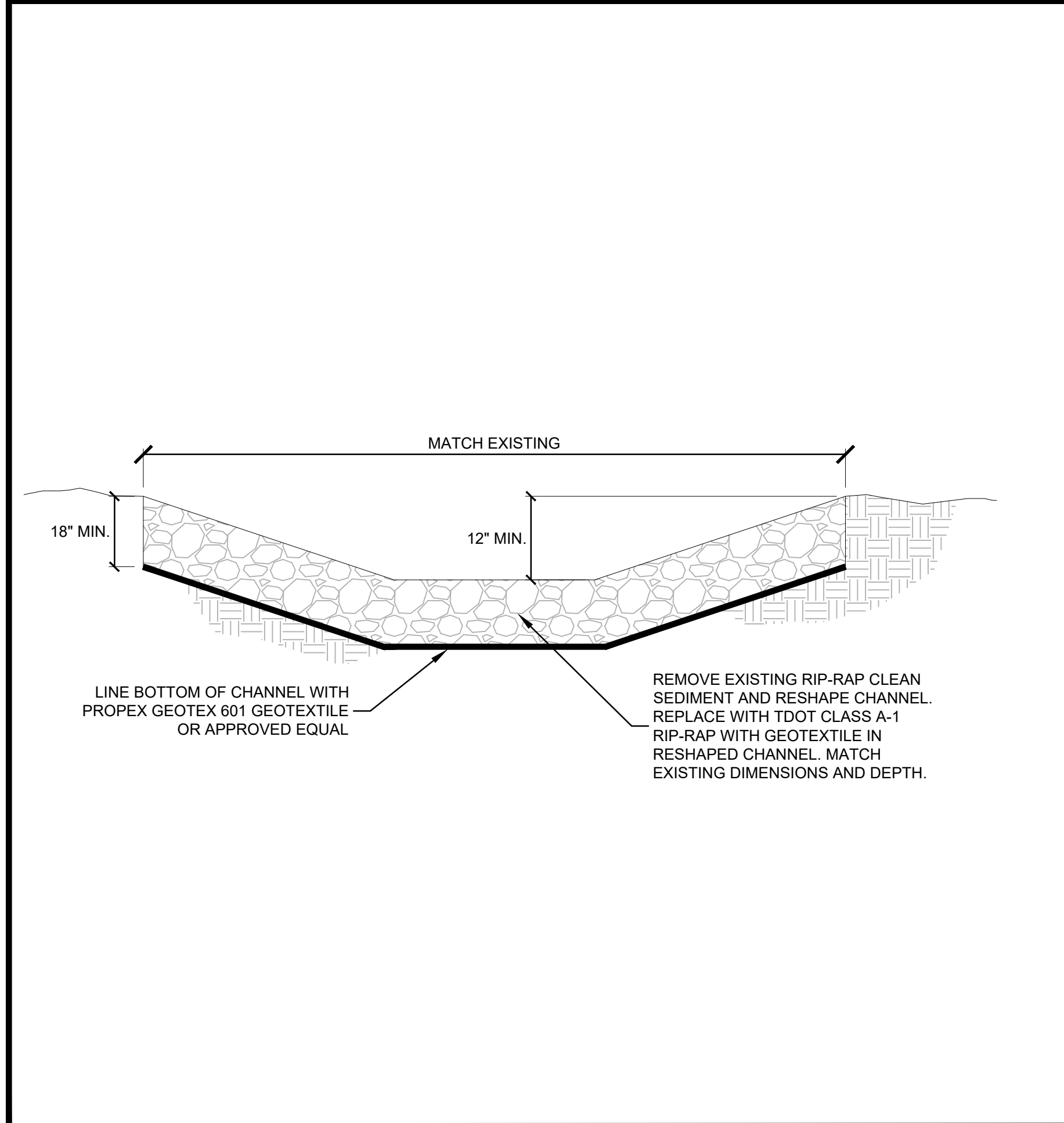
Seeding Dates	Grass Seed	Percentages
January 1 to May 1	Italian Rye	33%
	Korean Lespedeza	33%
	Summer Oats	34%
May 1 to July 15	Sudan-Sorghum	100%
May 1 to July 15	Starr Millet	100%
July 15 to January 1	Balboa Rye	67%
	Italian Rye	33%

Source: TDOT Standard Specifications  
Table 1

**3**  
NTS  
**OUTLET STRUCTURE**

**4**  
NTS  
**APPLYING MULCH**

**5**  
NTS  
**TEMPORARY SEEDING** (TS)



**Construction Specifications**

**Grading and Shaping:** Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape the slope, where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching, and maintenance of vegetation.

Concentrations of water that could cause excessive soil erosion should be diverted to a safe outlet. Diversions and other treatment practices must conform to the appropriate standards and specifications of the Tennessee Erosion and Sediment Control Handbook.

**Plant Selection:** Refer to Table 1 for suggested species. Plants should be selected on the basis of species characteristics, site and soil conditions, planned use and maintenance of the area; time of year of planting; method of planting; and the needs and desires of the land user.

Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their optimum planting period. Care should be taken in selecting companion crops species and seeding rates because the annual crops will compete with the perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species.

**Ryegrass shall not be used in any seeding mixtures containing permanent, perennial species due to its ability to out-compete desired species for permanent perennial cover.**

**Seed Quality:** The term "pure live seed" is used to express the quality of seed and is not shown on the label. Pure live seed (PLS) is expressed as a percentage of the seeds that are pure and will germinate. Information on percent germination and purity can be found on seed tags. PLS is determined by multiplying the percent of pure seed with the percent of germination; i.e.,

**(PLS) = %germination X %purity**

Example: Common Bermuda seed  
70% germination, 80% purity  
PLS = 70% germination x 80% purity  
PLS = 56%

The percent of PLS determines the amount of seed needed. If the seeding rate is 10 pounds PLS and the bulk seed is 56% PLS, the bulk seeding rate is:

**10 lbs PLS/acre = 17.9 lbs/acre  
56% PLS**

An application of 17.9 lbs/acre will provide 10 lbs/acre of pure live seed.

**Topsoil:** Topsoil should be friable and loamy, free of debris, objectionable weeds and stones, and contain no toxic substances that may be harmful to plant growth. When replacing topsoil on disturbed areas, maintain needed erosion and sediment control practices such as diversions, berms, sediment basins, etc. Grades containing these structures should be maintained after the topsoil is applied.

Topsoil should be handled only when it is dry enough to work without damaging soil structure. A uniform application of 5 inches (unsettled) is recommended, but may be adjusted at the direction of the engineer or landscape architect. See Table 2 for additional information about the volume of topsoil to achieve various depths.

**Seedbed Preparation:** When conventional seeding is to be used, topsoil should be applied to any area where the disturbance results in subsoil being the final grade surface.

**Broadcast plantings**

- Seedbed preparation may not be required where hydraulic seeding equipment is to be used.
- Tillage, at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate topsoil, lime, and fertilizer; smooth and firm soil; allow for the anchoring of straw or hay mulch if a crimper is to be used.
- Tillage may be done wait any suitable equipment.
- Tillage should be done parallel to the contour where feasible.
- On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide consecutive beds, 6 to 8 inches apart, in which seed may lodge and germinate. Hydraulic seeding may also be used.

**Individual Plants:**

- Where individual plants are to be set, the soil shall be prepared by excavating holes, open furrows, or dibble planting.
- For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
- Where pine seedlings are to be planted, use a subsaoler under the row to a depth of 36 inches on the contour four or six months prior to planting. Subsoiling should be done when the soil is dry, preferably in August or September.
- Trees should not be planted in power line right-of-ways or under power lines.

**Inoculants:** All legume seed shall be inoculated with the appropriate nitrogen fixing bacteria. The inoculants shall be pure culture prepared specifically for the seed species and used within the dates on the container.

A mixing medium recommended by the manufacturer shall be used to bond the inoculants to the seed. For conventional seeding, use twice the amount of inoculants recommended by the manufacturer. For hydraulic seeding, four times the amount of inoculant recommended by the manufacturer shall be used.

All inoculated seed shall be protected from the sun and high temperatures and shall be planted the same day inoculated. No inoculated seed shall remain in the hydroseeder longer than one hour.

**Cubic Yards of Topsoil Required to Attain Various Soil Depths**

Depth (Inches)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

Table 2

**Permanent Cover Seeding Mixtures**

Seeding Dates	Grass Seed	Percentages
February 1 to July 1	Korean 31 Fescue	80%
	Korean Lespedeza	15%
	English Rye	5%
June 1 to August 1	Korean 31 Fescue	55%
	English Rye	20%
	Korean Lespedeza	15%
	German Millet	10%
April 15 to August 15	Bermudagrass (hulled)	70%
	Annual Lespedeza	30%
August 1 to December 1	Kentucky 31 Fescue	70%
	English Rye	20%
	White Clover	10%
February 1 to December 1	Kentucky 31 Fescue	70%
	Crown Vetch	25%
	English Rye	5%

Source: TDOT Standard Specifications  
Table 1

**PLANTING**

**Hydraulic Seeding:** Mix the seed (inoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made.

**Conventional Seeding:** Seeding will be done on a freshly prepared seedbed. For a broadcast planting, use a cut/packer seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large seed when using a cut/packer or other suitable equipment.

**No-Till Seeding:** No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

**Individual Plants:** Shrubs, vines and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding of the roots.

Nursery stock plants shall be planted at the same depth or slightly deeper than they grew at the nursery. The tips of vines and sprigs must be at or slightly above the ground surface.

Where individual holes are dug, an appropriate amount of fertilizer shall be placed in the bottom of the hole, two inches of soil shall be added, and the plant shall be set in the hole and the hole filled in.

**1**  
NTS  
**RIP-RAP LINED CHANNEL**

**2**  
NTS  
**PERMANENT SEEDING** (PS)

**REV. 1/2004**

**ROMANS Engineering**

1923 Hopewell Road, Knoxville, TN 37920  
romansengineering@gmail.com  
Phone (615) 679-5736

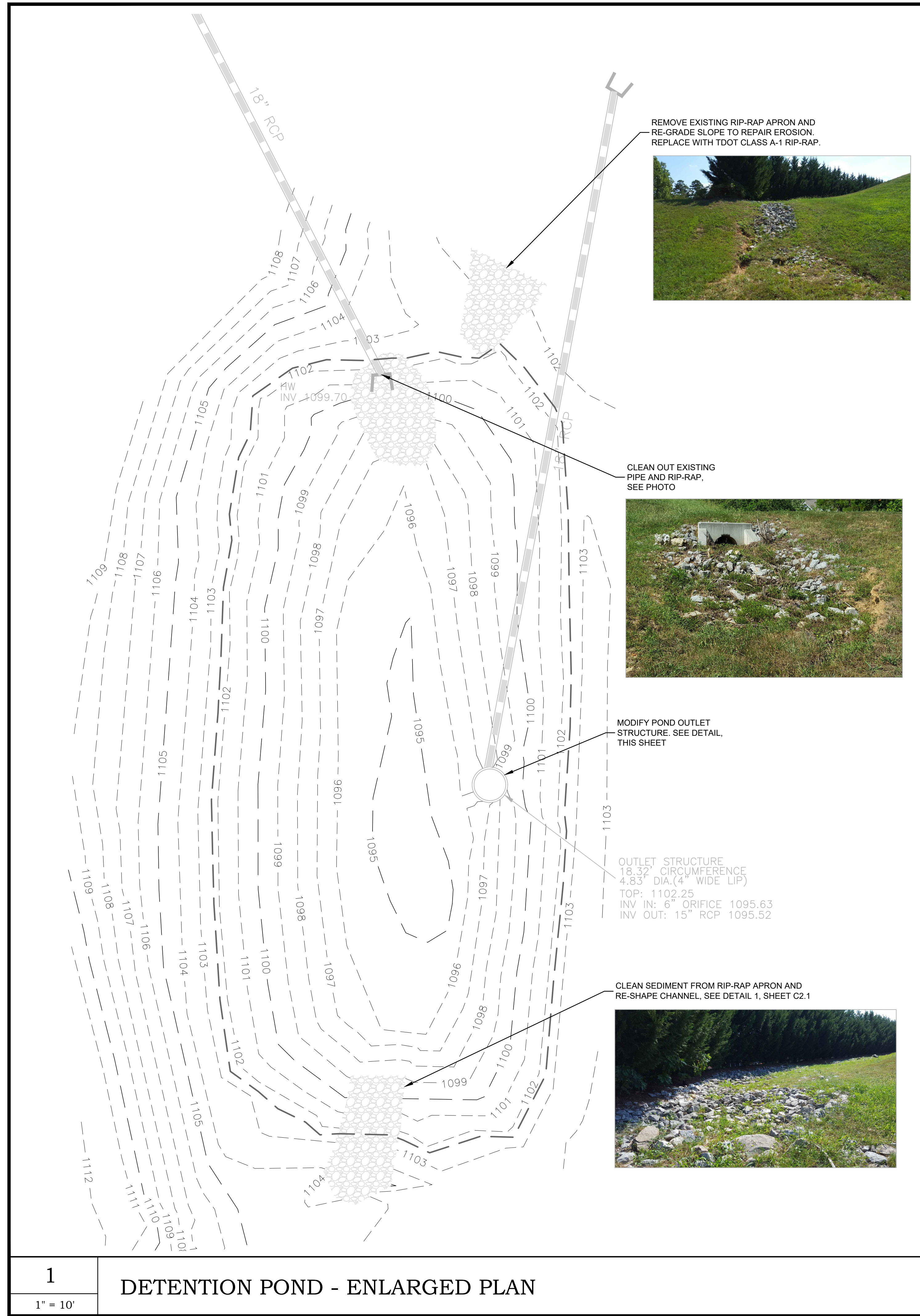
CITY OF KNOXVILLE  
TREYBROOKE SUBDIVISION  
KNOXVILLE, TENNESSEE  
DETAILS

DATE: \_\_\_\_\_  
NUMBER: \_\_\_\_\_  
REVISIONS: \_\_\_\_\_

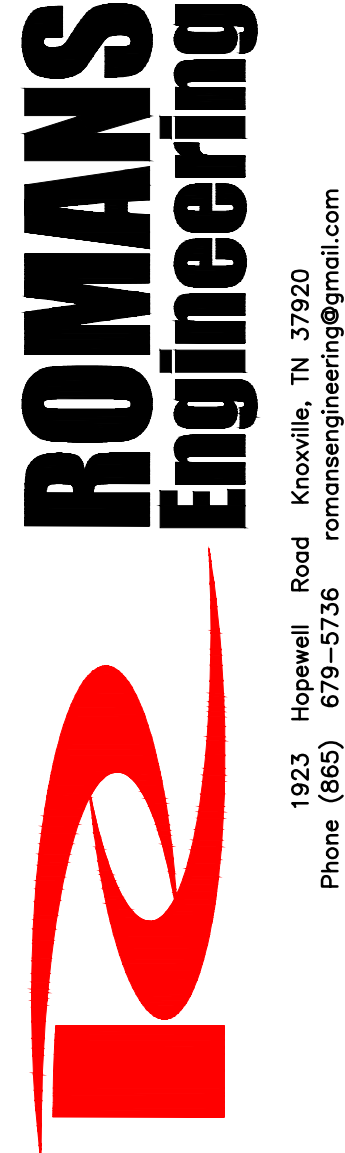
TERRY E. ROMANS  
REGISTERED ENGINEER  
No. 104469  
STATE OF TENNESSEE  
1/28/19

JOB NO: 16-54  
DATE: 1/28/19  
DRAWN: TER  
CHECKED: TER

**C2.1**



2	SUBDIVISION MAP
1" = 100'	
3	NOT USED
1/2" = 1'	



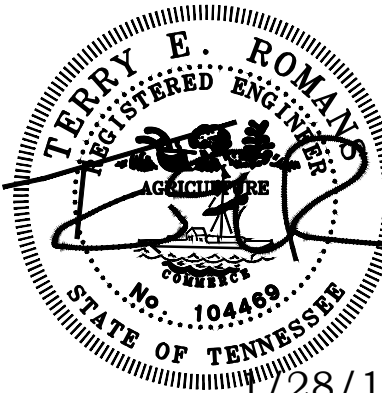
**ROMANS**  
Engineering

1923 - Horwell Road - Knoxville, TN 37920  
Phone (865) 678-5736 - romansengineering@gmail.com

CITY OF KNOXVILLE  
TREYBROOKE SUBDIVISION  
KNOXVILLE, TENNESSEE

POND REPAIRS

DATE:	
REVISIONS:	
NUMBER:	



1/28/19

JOB NO:	16-54
DATE:	1/28/19
DRAWN:	TER
CHECKED:	TER

C1.1

1	DETENTION POND - ENLARGED PLAN
1" = 10'	