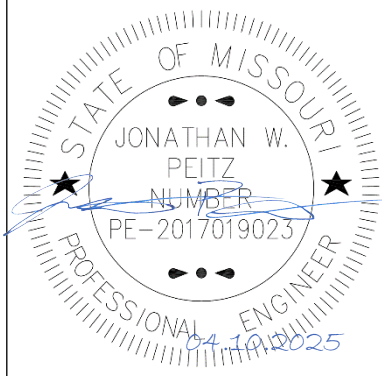
APPENDIX A:

JOB SPECIAL PROVISIONS

<table>
<tr>
<td>
</td>
<td>CITY OF JOPLIN
602 S MAIN STREET
JOPLIN, MO 64801
Phone 417-624-0820

OLSSON
1027 S MAIN STREET
SUITE 503
JOPLIN, MO 64801
Certificate of Authority: 001592
Consultant Phone: 417-781-0643

If a seal is present on this sheet, JSP’s have been electronically sealed and dated.

JOB NUMBER: R17-0642
JASPER COUNTY, MO
DATE PREPARED: 04/10/2025

ADDENDUM DATE:</td>
</tr>
<tr>
<td colspan="2">Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All</td>
</tr>
</table>

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JOB SPECIAL PROVISION JSP-0400-01
GENERAL JOB SPECIAL PROVISIONS

1.0 COORDINATION OF CONTRACT DOCUMENTS

The contract documents are essential parts of the contract, and a requirement occurring in one shall be as binding as though occurring in all. Contract documents are intended to be complementary and to describe and provide for a complete work. In case of discrepancy among contract documents, the governing ranking will be:

(a) Agreement
(b) Job Special Provisions
(c) General Conditions
(d) Project Specific Drawings
(e) Special Provisions to City of Joplin, Standard Specifications
(f) City of Joplin, Standard Specifications
(g) Standard Drawings
(h) Bid Items or Quantities
(i) All other sections of the contract documents

In case of discrepancies, calculated dimensions will govern over scaled dimensions.

All contractors, including subcontractors, shall not take advantage of any apparent error or omission in the contract documents. If an error or omission is discovered, the engineer shall be notified promptly so corrections and interpretations necessary to fulfill the intent of the contract can be made. A failure to give notice shall render the effects of any error or omission non-compensable and any delay non-excusable.

2.0 CONSTRUCTION VIDEO AND PHOTOGRAPHY

2.1 SCOPE

Furnish all labor, materials and equipment necessary to provide high quality color digital audio/video recording and digital photographs of the Project site surface conditions as specified herein. Furnish to the Engineer an original and one copy of a continuous high quality color audio/video DVD recording of surface conditions along the entire route of the proposed Work. Furnish to the Engineer high quality color digital photographs on data storage media device.

The video recording and photographs shall be taken:

- Prior to any construction activity.
- After completion of all construction activities.

The Engineer reserves the right to reject audio/video DVD recordings and digital photographs which do not conform to the project specifications. This includes, but is not limited to, poor quality, unintelligible audio or uncontrolled pan or zoom. Any DVD recording or digital photographs rejected by the Engineer will be re-recorded/re-photographed at no cost to the Owner. Under no circumstances shall

construction begin until the Engineer has received and accepted the audio/video DVD(s) and photographs.

A qualified, established audio/video recording firm knowledgeable in construction practices and experienced in audio/video recording and photographing of construction projects shall perform the video. If requested, the videographer/photographer shall provide examples of prior work and/or references.

2.2 CONSTRUCTION REQUIREMENTS

The Contractor shall submit the required photos and video prior to the issuance of a Notice to Proceed, during construction as directed by the Engineer, and immediately prior to acceptance of the project. Final payment for the project will not occur until the Contractor has completed this item.

2.2.1 Color Audio/Video and Digital Photography Survey

(1) Coverage shall include, but not be limited to, all existing roadways, sidewalks, fences, curbs, driveways, buildings and structures, ditches, above ground utilities, traffic signal and street light cabinets, landscaping, trees, culverts, headwalls, retaining walls, signage and other physical features located within the zone of influence of the construction. Particular and detailed attention shall be given to any defects noted, such as cracks, disturbed areas, damaged items, or as Engineer may direct. The coverage may be expanded if Engineer so directs.

(2) All filming or photography will be done during daylight hours. No filming or photography shall be performed if weather is not acceptable, such as rain, fog, snow, etc.

(3) It is the intent of this coverage to accurately and clearly document and define pre-existing, post-construction and/or construction conditions to minimize potential construction claims. Physically mark the excavation areas with highly visible fluorescent paint prior to audio/video recording and photography. The markings shall include stationing information.

(4) The Engineer will have the opportunity to accompany the videographer/photographer.

(5) Sufficient time will be allowed for the Engineer to review the Audio/Video recording and the digital photographs prior to construction.

2.2.2 Audio and Color Video Recording [Viewable on Windows media]

(1) Audio/Video DVDs shall be commercial grade in a standard write protected format. Video system shall have capability of producing hard copy prints of selected individual still frames. Video may be captured originally in Digital Video format, but must be transferred to DVD disc for delivery to the Engineer, and shall be formatted to be played in the Standard Install Windows Media player.

(2) Video recordings shall be divided into multiple segments, and a field log listing those segments shall be provided with the original tapes and DVD discs of all recordings. A visual recording of the field notes and log (listing the videotape segments) shall be included at the end of each respective original recording tape. Items to note on the field log include, but are not limited too, the tract number, street or road viewed, filming start- and stop-times, side (of street) being viewed, point starting from, traveling direction and ending destination point. Written documentation must coincide with the information on the disk so as to make easy retrieval of locations sought for at a later date. All original video field notes and logs (signed by the photographer) shall be released to the Engineer.

(3) Audio/Video recordings shall begin with a verbal description of the current date and time, the Owner's name, Project or Contract name and number, Contractor's name, and location information such as street name, direction of travel, viewing side, etc. Translucent information consisting of the month, day, year and time of recording must appear on the viewing screen on all video recordings, by electronic means. Information appearing on the DVD must be continuous and run simultaneously by the computer generated translucent digital information. No editing or overlaying of information at a later date will be acceptable.

(4) Audio shall be recorded at the same time as the video recording and provide the same information as on the video log sheet. Recordings shall include "continuous" narration identifying the viewing direction, street address or station number location, direction of progress, description of features and the existing condition of improvements or damage within the zone of influence shown on the viewing screen. Identify houses and buildings by house number, when visible, in such a manner that structures of the proposed construction, (i.e. manholes, etc.) can be located by reference. Special commentary shall be given for unusual conditions of buildings, sidewalks and curbing, foundations, trees and shrubbery, etc.

(5) The zone of influence shall be defined as an area within the temporary construction easement or public right-of-way as Drawings indicate, or within 35 feet of the proposed Work. The Contractor shall obtain permission from the owners of private property prior to entering private property for the purpose of filming.

(6) The rate of speed in the general direction of travel during the recording shall not exceed 100 feet per minute. Panning rates and zoom-in and zoom-out rates shall be controlled sufficiently such that during playback, the picture shall be in focus and maintain clarity at all times.

(7) Adequate lighting, to produce the proper detail and perspective, will be required to fill in the shadow area caused by trees, structures, utility poles, road signs, and other such

objects in residential areas, or as directed by the Owner's Representative.

(8) Engineering station numbers recorded, if applicable, must be continuous, be accurate and correspond to Project stationing. The symbols should be the standard engineering symbols (i.e. 16+64).

(9) All DVDs and cases shall bear labels with the following information:
   a. Disk Number
   b. Owner's Name
   c. Date of Recording
   d. Project Name and Number
   e. Location of Recording

2.2.3 Digital Photography

(1) Photographs shall be captured on digital camera equipment with at least 6-mp memory and delivered on flash drive or portable hard drive. Original digital image files shall have dimensions of 1500 x 2100 pixels or greater and delivered in TIFF format or JPEG format WITHOUT added compression. Each image must be assigned a unique filename that includes the date of photography.

(2) Each digital image file must be delivered with matching descriptive information that accurately describes the direction and location of the individual photograph, plus notation of any noteworthy damage that is not readily visible in the image. This information may not be provided as the (editable) image filename, but must be delivered in a permanent form.

(3) Sufficient digital photographs shall be taken to document existing features such as roadways, sidewalks, fences, curbing, driveways, buildings and structures, ditches, above ground utilities, traffic signal and street light cabinets, landscaping, subdivision monuments, trees, culverts, headwalls, retaining walls, signage and other physical features located within the zone of influence of the construction. Particular and detailed attention shall be given to any defects noted, such as cracks, disturbed areas, damaged items, or as Engineer may direct. The coverage may be expanded if Engineer so directs.

(4) The zone of influence shall be defined as an area within the temporary construction easement or public right-of-way as Drawings indicate, or within 35 feet of the proposed Work. The Contractor shall obtain permission from the owners of private property prior to entering private property for the purpose of taking photographs.

(5) Adequate lighting, to produce the proper detail and perspective, will be required to fill in the shadow area caused by trees, structures, utility poles, road signs, and other such objects in residential areas, or as directed by the Owner's Representative.

(6) Engineering station numbers recorded (in the image or as a descriptor), if applicable, must be accurate and correspond to Project stationing. The symbols should be the standard engineering symbols (i.e. 16+64).

2.3 MEASUREMENT AND PAYMENT

The Engineer will not measure the specified work for separate payment.

Payment for the audio/video recordings and photographs shall be subsidiary to the other contract items.

3.0 CONSTRUCTION SCHEDULE

3.1 SCOPE

After being awarded the contract, the Contractor shall immediately prepare a Critical Path Method (CPM) schedule for approval by the Engineer that will ensure completion of the project within the contract time. This schedule shall be submitted and approved by the Engineer before a Notice to Proceed is issued. No work on this contract shall begin until said schedule is approved. The Engineer reserves the right to adjust the Contractor's schedule to coordinate with any other projects in the same area.

3.2 GENERAL REQUIREMENTS

A computerized network diagram shall be included in the CPM schedule and shall serve as the 'Master Construction Schedule' for the Project, giving mathematical analysis (printout) of that network, which verifies and validates logic and planning and defines critical path. The approved schedule shall be kept on site with the superintendent and reviewed with Subcontractors each week. The CPM schedule shall be utilized for planning, organizing, and directing the work, for reporting progress, and requesting payment for work completed. The schedule shall be reviewed each week as part of the progress meeting. Abbreviations used in CPM schedules shall be clearly explained in a legend of symbols, either separate or attached.

3.3 SCHEDULE REQUIREMENTS

The CPM schedule shall clearly show sequential interdependencies, with activity duration and float clearly represented. Sequence(s) of activities with no float shall be clearly identified as Critical Path(s). The scheduling system shall be capable of baseline comparison analysis. Upon development and approval of the schedule, the Contractor shall 'freeze' the initial schedule as the baseline schedule. As work progresses, Contractor shall provide graphics displaying actual progress bars versus baseline or target bars. Activity durations shall be in calendar days.

The CPM schedule shall include pre-construction tasks, construction tasks (bid items), shop drawing submittal and approval process, material and equipment ordering and delivery, submittal of as-built drawings, clean up and punch list, inspection coordination activities, utility relocation, final inspection and certificate of completion, and final payment. Submittal activities shall be scheduled to allow sufficient time for materials and equipment to be procured and installed, even if

the submittal is unacceptable and resubmittal is required. The CPM schedule shall reflect anticipated delays, such as weather delays.

Contractor shall submit the initial schedule, complete revisions, and periodic reports in three hard copies, one reproducible and two prints or plots, and one copy digitally on CD or DVD. This schedule shall include the completed network program consisting of GANTT chart and mathematical analysis within 10 days of the executed contract. Allow 5 days for the Engineer to review. Contractor shall submit the schedule of submittal activities extracted from the master schedule within 10 days after receipt of Notice to Proceed. During the preparation period, Contractor shall review this information with the Engineer.

Submittals to the Engineer of initial and monthly CPM schedule charts shall include three sets of all reports as outlined below. Plots shall be color, blueline, printed or photocopied prints and, if segmentally generated, fully assembled. Highlight the critical path when the critical path is not clearly defined.

The Contractor will participate in the Engineer's review and evaluation of submitted network diagrams and mathematical analysis of diagrams. Resubmit revisions necessary due to review within 5 days after the review. Contractor and major Subcontractors shall review the network CPM schedule before final submittal.

3.4 REPORT FORMATS

Standard set of reports submitted each month including initial submittals shall consist of a GANTT chart of entire project. Progress bar chart shall include target or baseline comparison bars. Bar positions shall be early start/early finish with float clearly defined. GANTT charts shall include a tabulation of each activity. For each activity on the GANTT charts furnish the following:

- Initial/submittal schedule shall include a list of responsible contractors and suppliers, task description, duration, start date, end date, latest start date, latest end date, total slack or float time in calendar days and current schedule bar in Gantt view.

- Progress schedule updates shall include a list of responsible contractors and suppliers, task description, duration, actual start date, actual finish date, percentage completion, remaining duration in calendar days and current schedule bar in Gantt view.

Graphics outlined above shall comply with the following criteria unless noted otherwise:

3.4.1 Sheet size of diagram shall be 11 by 17 inches minimum and time scaled in month as the major timescale and weeks as the minor timescale unless approved otherwise.

3.4.2 On each page include a title block containing the following minimum information;

a. Project Title
b. Project Number

c. Contractor's Business Name
d. Date of Submittal and Revision (The Date shown must clearly show the current preparation date and separately the revision date of the current schedule - this is a hard date entered and not an auto or status date)
e. Submit a separate Legend Page of Symbols and Abbreviations as applicable.

3.4.3 Prepare and submit to the Engineer upon request additional charts, reports, and current digital copy of the project schedule.

3.5 CPM SCHEDULE IMPLEMENTATION AND MOTITORING

Monthly CPM schedule charts and reports shall accompany the Contractor's pay request for work completed. Where the Contractor is shown to be behind schedule, provide accompanying written summary, cause, and explanation of planned remedial action. CPM schedules shall reflect those instances, modifications or other alterations to the schedule, which have an impact on the final completion or interim target dates within the schedule. Payments or portions of payments may be withheld by the Engineer, upon failure to maintain scheduled progress of the work as shown on the approved CPM schedule. Failure to prepare, submit and maintain a CPM schedule as specified shall be cause for rejection of other schedules submitted and for possible delay of payment. Float time belongs to the project, not to the Contractor or to the Engineer, and may be utilized by both parties.

3.6 SCHEDULE CHANGES AND UPDATES

At a minimum the Contractor shall update and submit the CPM Schedule for review weekly. A weekly update is required unless agreed upon by the Engineer. Monthly submittal of the CPM schedule and approval by the Engineer is required prior to payment for work completed. Activities added to the CPM schedule shall be submitted by the Contractor on schedule charts. It is the Engineer's intent that the project be managed and operated according to the CPM schedule. Payment requests may be held up until the CPM schedule is brought back into compliance with the contract documents.

Once the CPM schedule is submitted and approved by the Engineer the Contractor shall identify any modifications to activity durations, logic, values, or descriptions resubmit for approval. Such adjustments shall not impact the contracted completion date.

3.7 MEASUREMENT AND PAYMENT

No measurement or payment will be made for this item. This item shall be subsidiary to other bid items.

JOB SPECIAL PROVISION JSP-0400-02
UTILITY COORDINATION

1.0 UTILITY COORDINATION

1.1 SCOPE

It shall be the duty of the Contractor to notify the serving utility companies of pending construction operations and the schedule of same, prior to any work being done on this project. The utility companies will relocate and adjust their own facilities at no cost to the Contractor, except for sanitary and storm sewers and waterlines. The Contractor shall be responsible for the adjustment and protection of all sanitary and storm sewer facilities. Some minor grading and backfill work may be required of the Contractor at locations of utility adjustments. This work shall be considered subsidiary to other items of work.

The Contractor shall be responsible for holding periodic utility meetings with the City, the Engineer, and utility companies during the relocation of utility lines. The frequency of meetings will initially be bi-weekly (or more frequently if necessary) and then, as relocation work begins to diminish, will be held more infrequently. The Contractor shall keep minutes of the meetings and send copies to all those in attendance.

1.2 STATUS OF UTILITIES

The information below is the latest update for each utility. The utility companies will be invited to the Pre-Bid meeting to give an update on their relocations.

Gas: Southern Star no relocation anticipated.
Location: Crossing near station 110+00
Schedule: N/A
Special Requirements: There is an encroachment agreement that shall be followed when in Southern Star's easement.

Gas: Spire

Water: Missouri American Water Main relocation to be completed based on the following location and schedule:
Location: Along south side of Zora
Schedule: Mid-April relocation to begin. Completion date to be determined.

Electric – Phase 2: Liberty Utilities Overhead Electric (Distribution) relocation to be completed based on the following location and schedule:
Location: 111+50 south side pole
138+75 south side guy
Schedule: Relocation scheduled to be completed June 2025.

Phone: AT&T relocation to be completed based on the following location and schedule:

AT&T Distribution: No Conflicts

AT&T Transmission
Location: Various Locations north of Zora.
Schedule: Relocation should be completed by June 2025.
Special Requirements: There is an encroachment agreement that shall be followed when in AT&T's easement, attached for reference.

Cable/Fiber: Sparklight cable relocation to be completed based on the following location and schedule:
Location: Various locations
Schedule: Relocations are scheduled to be complete June 2025

Fiber: Liberty Connect Fiber relocation to be completed based on the following location and schedule:
Location: No Conflicts

1.3 MEASUREMENT AND PAYMENT

This work shall be considered subsidiary to other items of work. No additional payment will be allowed for delays caused by utility delays. Additional time will be considered for delays caused by utility conflicts that exceed the schedules listed in this special provision.

AFTER RECORDING, RETURN TO:

AT&T ENTERPRISES, LLC.
RIGHT OF WAY DEPT.
3450 Riverwood Pkwy SE
Room 162-RW
Atlanta, GA 30339

Encroachment: (3) Storm Inlets (6) Permanent Drainage Easements
Route: Springfield to Joplin
County: Jasper
State: Missouri
Rep:

ENCROACHMENT PERMIT

THIS PERMIT is issued as of the ____ day of _____, 2025 by AT&T Enterprises, LLC. (a Delaware limited liability company) successor in interest to *AT&T Corp.*, ("AT&T") to **City of Joplin** (Owner) **602 S. Main Street Joplin, MO 64801**

TERMS AND CONDITIONS

1. Purpose and Scope of Permit

AT&T hereby allows and permits Permittee the non-exclusive use of certain lands hereinafter described for the following purpose, subject to the conditions and stipulations herein set forth:

To cross AT&T facilities at various locations along Zora Rd. within the City of Joplin, MO., with (3) Storm Inlets and (6) Permanent Drainage Easements.

Permittee will maintain a separation of at least 24" from AT&T conduit and an AT&T tech will be on-site during the crossing construction.

2. Encroachment Location(s)

Located along Zora Rd. at (3) Inlets located at/near City Sta. No. 113+82, 114+48, 120+18; (6) Permanent Drainage Easements located at/near City Sta. No. 120+5 to 120+30, 121+10 to 121+62,128+57 to 131+50,132+82 to 133+32,136+50 to 150+50,153+00 to 163+20, as being shown on the attached map as Exhibit "A".

3. Risk of Entry

AT&T makes no warranty whatsoever as to physical conditions which exist now, or may exist hereafter, at said Encroachment Location(s) and Permittee accepts said Encroachment Location(s) "AS IS" and agrees to enter thereupon at Permittee's own risk.

4. Permitee's Duties

By accepting this Permit, Permittee agrees, without qualification or limitation:

(a) to make no modifications or additions to its facilities at the Encroachment Location(s) without first obtaining AT&T's prior written consent;

(b) to notify AT&T by telephone at 1-800 252-1133 forty-eight (48) hours prior to performing any construction, demolition or repairs at the Encroachment Location(s);

(c) to not use at the encroachment location(s) any tool, equipment, or machinery capable of being operated within ten (10) feet of cable lines;

(d) to perform construction, demolition, repair, modifications, additions and any other activities in compliance with all applicable laws and regulations and in a manner that does not interfere with the operations of AT&T;

(e) to assume all risks of and relieve AT&T of any and all liability for loss or damage to property or facilities installed by it and any other financial loss sustained by it;

(f) to indemnify, defend and hold harmless AT&T from and against any and all claims, demands, actions, losses, damages, assessments, charges, judgments, liabilities, settlement liabilities, costs and expenses (including, without limitation, interest, penalties, and reasonable attorneys' fees and disbursements) that may from time to time be suffered or incurred by, or asserted against AT&T because of any personal injury, including death, to any person or loss of, physical damage to or loss of use of real or tangible personal property, or for any financial loss of whatever nature, in any way arising out of or in connection with this Permit or activities undertaken pursuant to this Permit, whether caused by the acts, negligence or willful misconduct of Permittee, its agents, employees, representatives, contractors, permitted assigns, or those under Permittee's control or by failure to perform the covenants or conditions of this Permit. Permittee's obligations to indemnify and hold harmless shall survive any termination or abandonment of this Permit. For purposes of indemnifications set forth in this Permit, "AT&T" means AT&T, its affiliates, subsidiaries, parent,

successors and assigns and its and their employees, directors, officers, agents, contractors and subcontractors;

(g) to neither cause nor permit use of the rights herein granted by any other person except Permittee's lawful successors, and if Permittee is a utility company, any transferee of the utility system (or operating component of a utility system) of which the Permittee's facilities at the Encroachment Location(s) are a part;

(h) that AT&T retains all of its rights with respect to its property, right-of-way or easement. Specifically, AT&T retains the right to access its telecommunications cable to repair, maintain or augment its telecommunications network. AT&T, where practical, shall give Permittee 24 hours notice of its need to access or repair its telecommunications equipment. Any damage to Permittee's facilities as a result of AT&T's exercise of its rights with respect to its property, right-of-way or easement shall be the sole responsibility of Permittee;

(i) to not use, have present nor transport on or about the Encroachment Location(s) any hazardous or toxic materials, wastes or substances or any pollutants or contaminants ("Hazardous Substances"), without the prior express written consent of AT&T. If at any time during the term of this Permit, Permittee knows or has reason to believe that any Hazardous Substances have come, or will come, to be located upon, about, or underneath the Encroachment Location(s), then Permittee shall, as soon as reasonably possible, give verbal and written notice of that condition to AT&T. Permittee covenants to investigate, clean-up and otherwise remediate any release of such Hazardous Substances by Permittee, its agents, employees, representatives, contractors, permitted assigns, or those under Permittee's control at Permittee's cost and expense. Permittee shall notify AT&T prior to commencing any clean-up or remediation; and

(j) NOTWITHSTANDING ANY PROVISION OF THIS PERMIT TO THE CONTRARY, EXCEPT AS SET FORTH IN PARAGRAPH 4(f), IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, RELIANCE OR CONSEQUENTIAL DAMAGES, WHETHER FORESEEABLE OR NOT, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE, COST OF CAPITAL, COST OF REPLACEMENT SERVICES, OR CLAIMS OF CUSTOMERS OR OF ANY OTHER THIRD PARTIES, OCCASIONED BY ANY CAUSE WHATSOEVER, INCLUDING, WITHOUT LIMITATION, BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

5. <u>Incompatible Facilities</u>

This Permit is issued by AT&T and accepted by Permittee with the mutual belief that the facilities of each can exist at the Encroachment Location(s) in the form contemplated when this Permit was issued without disruption to the other. If at anytime for any reason Permittee's facilities are determined in AT&T's judgment to be incompatible with AT&T's then existing or then proposed facilities, Permittee agrees it shall cure any such incompatibility by modifying its facilities, by removing its facilities or by taking whatever other action which in AT&T's judgment is necessary.

6. Fee Title: Superiority of Prior Interest

If neither AT&T nor Permittee own fee simple title to the lands at the Encroachment Location(s), the authorization required by Permittee from the fee simple owner shall be obtained at Permittee's sole cost. In any judicial construction of this Permit, it shall be recognized that AT&T, by virtue of prior rights and prior possession and by virtue of this Permit, shall enjoy with respect to the Encroachment Location(s) rights superior to those of Permittee.

7. Cost

This permit is issued by AT&T and accepted by Permittee with the understanding that Permittee's use of the permission herein granted shall not result in any cost to AT&T. No claims for payment or performance shall be made of AT&T by Permittee and any expenses incurred by AT&T related to Permittee's exercise of the rights herein permitted shall be promptly reimbursed to AT&T by Permittee. In enforcing this permit against Permittee, AT&T shall be entitled to collect reasonable attorney's fees, court costs and interest on the principal sum.

8. Notices

Except as expressly otherwise provided, any demand, notice or other communication to be given to a party in connection with this Permit shall be given in writing and shall be given by personal delivery or by commercial overnight delivery service addressed to the recipient as set forth below or to such other address or individual, as may be designated by notice given by the party to the other.

AT&T:

AT&T Enterprises, LLC.
Right of Way Dept.
3450 Riverwood Pkwy SE
Room 162-RW
Atlanta, GA 30339
Attn: Sherri Plaza
(404) 853-4340

Permittee:

City of Joplin
Director of Public Works
602 S Main Street
Joplin, MO 64801

with a copy to:

AT&T Enterprises, LLC.
One AT&T Way
Room 3A118A
Bedminster, NJ 07921
Attention: Legal Department – Network Services

Any demand, notice or other communication given by personal delivery shall be conclusively deemed to have been given on the day of actual delivery thereof and if given by registered or certified mail, return receipt requested, or by commercial overnight delivery service on the date of receipt thereof.

9. Successors and Assigns

The permission hereby given shall be binding upon the heirs, administrators, executors and assigns of both parties.

IN WITNESS WHEREOF, the parties have executed this Permit as of the date first above set forth.

Concurred By:_____
Name: _____
Title:_____
Date: _____

AT&T Enterprises, LLC.

By: _____
Name: Todd R. Gregory
Title: Sr. Network Proj/Prog Mgmt.

Permittee: City of Joplin

By: _____
Name: Dan Johnson, PE
Title: Director of Public Works

AT&T Acknowledgment

STATE OF _____)
COUNTY OF _____) SS:

On this ____ day of _____, 2025, before me, personally appeared **Todd R. Gregory** to me known, who, being by me duly sworn, did depose and say that he is the **Sr. Network Proj/Prog Mgmt.** of AT&T Enterprises, LLC, a Delaware Limited Liability Company and in that capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the Limited Liability Company.

_____
Notary Public

_____
My commission expires:

City of Joplin Acknowledgment

STATE OF _____)
COUNTY OF _____) SS:

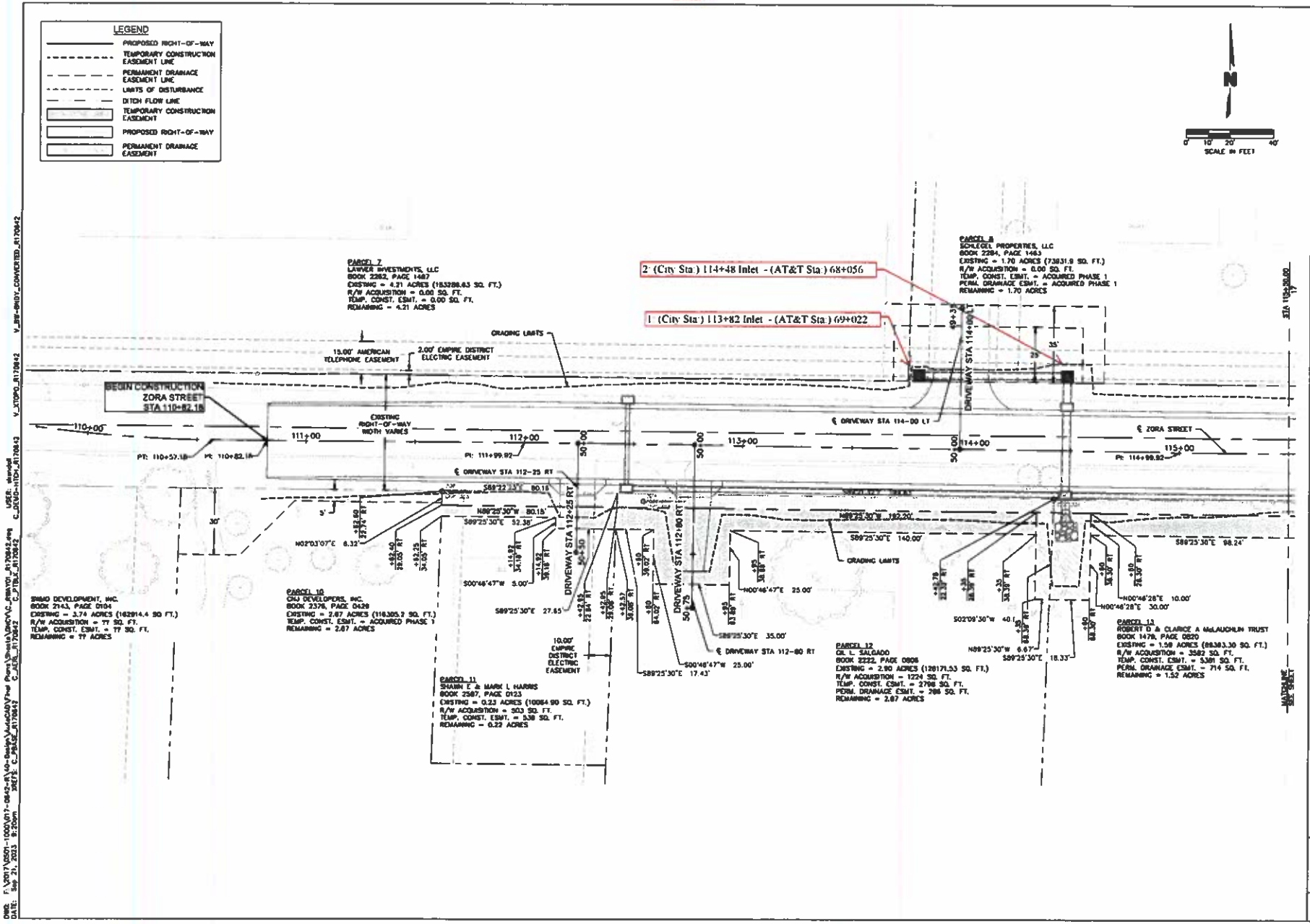
On this ____ day of _____, 2025, before me, personally appeared **Dan Johnson** to me known, who, being by me duly sworn, did depose and say that he is the **Director of Public Works City of Joplin, MO**, and in that capacity, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the Limited Liability Company.

_____
Notary Public

_____
My commission expires:

EXHIBIT A

EXHIBIT A



olsson
Olsson - Civil Engineering
Missouri Certificate of Authority # 00149
1027 S. Main Street, Suite 503
Joplin, MO 64801
TEL 417.781.0643
www.olsson.com

PRELIMINARY
NOT FOR CONSTRUCTION

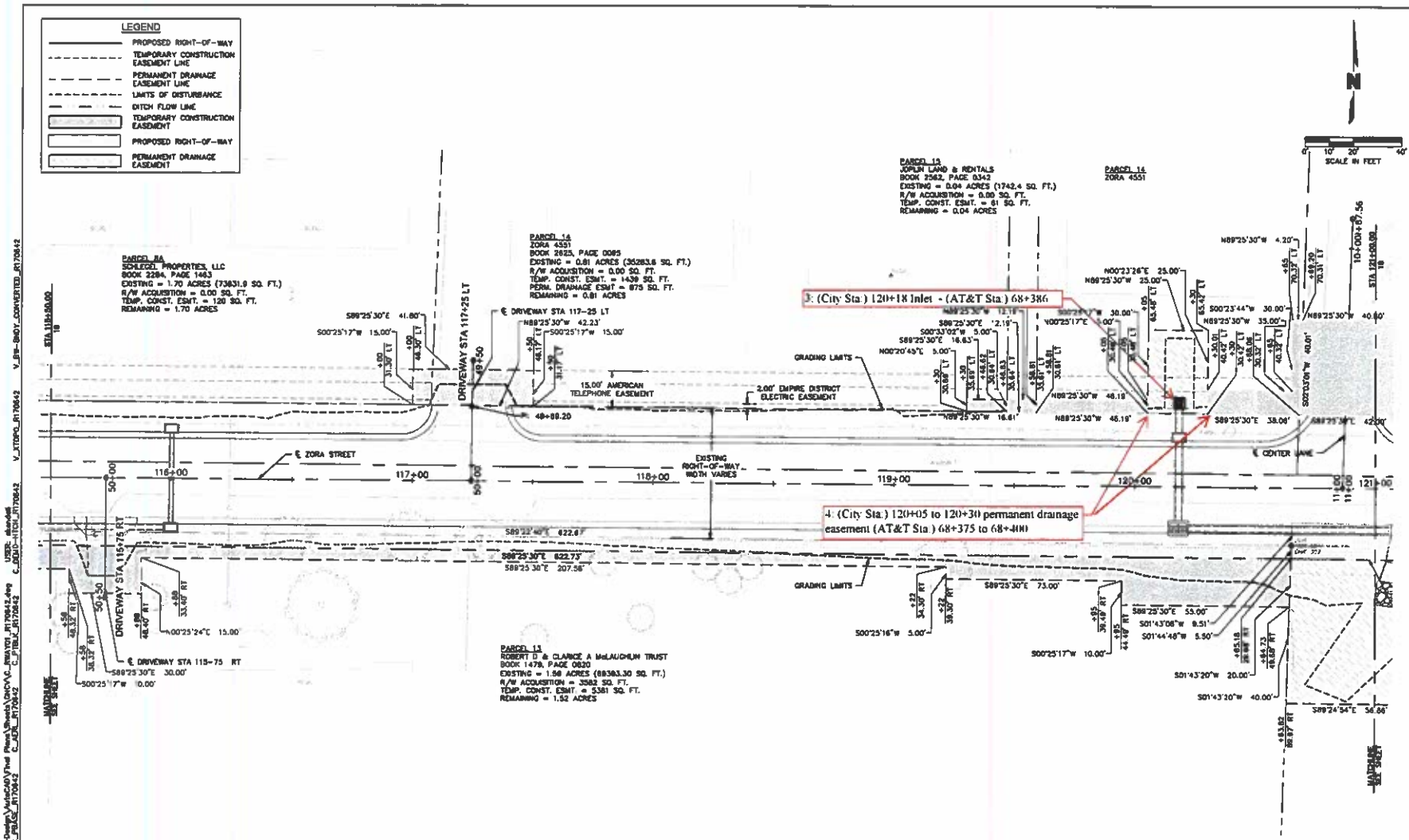
REV NO	DATE	REVISIONS DESCRIPTION	BY
		REVISIONS	

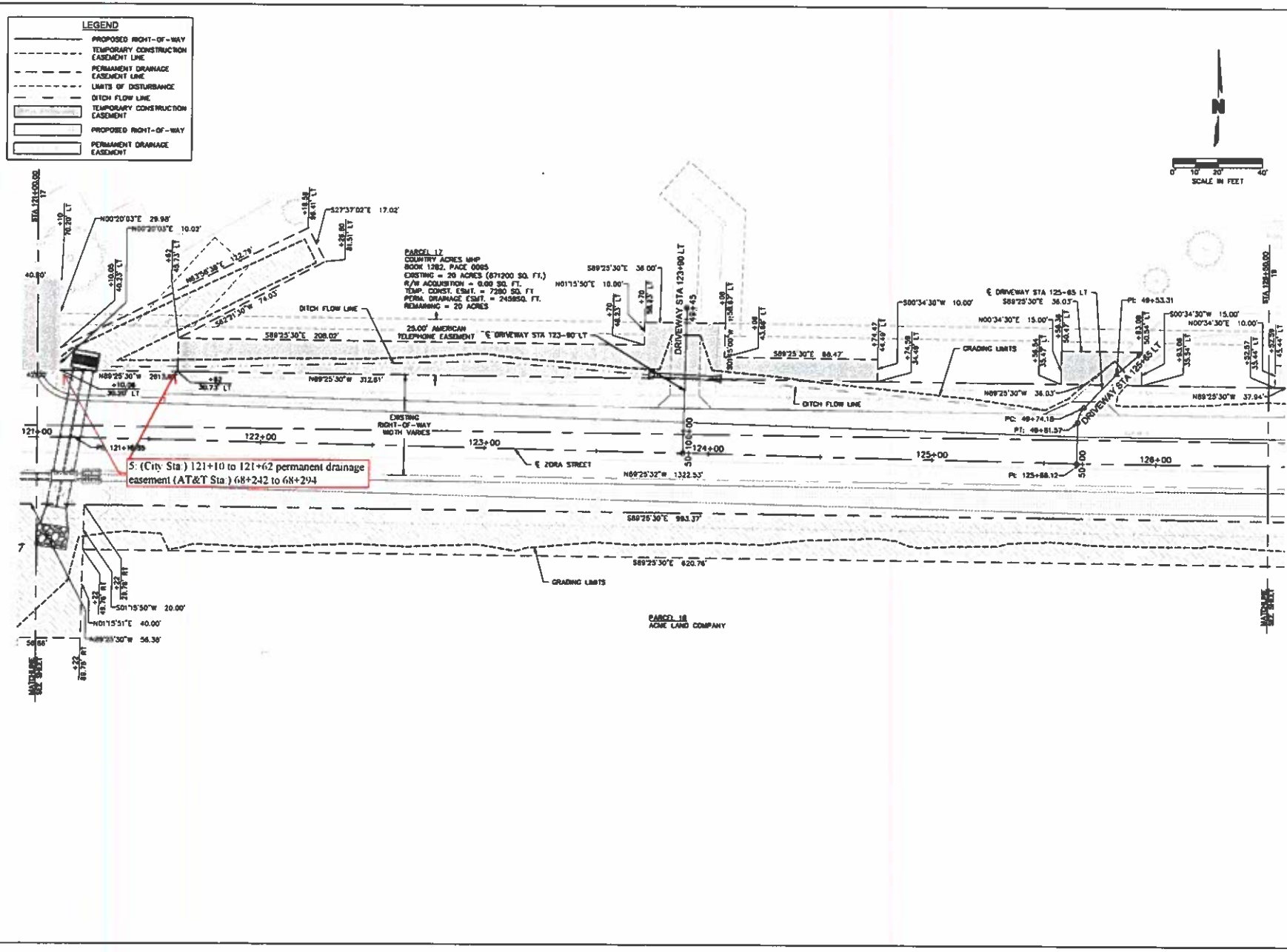
RIGHT OF WAY & EASEMENT PLANS
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN
JOPLIN, MISSOURI
2023

drawn by MMW/CTA
checked by SAB
approved by JMR
QA/QC by CNB
project no. 017-0642-15
drawing no. C_R170942_R170942
date 09/19/23

SHEET
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LEGEND
PROPOSED RIGHT-OF-WAY
TEMPORARY CONSTRUCTION EASEMENT LINE
PERMANENT DRAINAGE EASEMENT LINE
LIMITS OF DISTURBANCE
DITCH FLOW LINE
TEMPORARY CONSTRUCTION EASEMENT
PROPOSED RIGHT-OF-WAY
PERMANENT DRAINAGE EASEMENT
PARCEL 8A
SCHLEGEL PROPERTIES, LLC
BOOK 2284, PAGE 1443
EXISTING = 1.70 ACRES (73831.9 SQ. FT.)
R/W ACQUISITION = 0.00 SQ. FT.
TEMP. CONST. ESMT. = 120 SQ. FT.
REMAINING = 1.70 ACRES
PARCEL 14
ZORA 4551
BOOK 2625, PAGE 0085
EXISTING = 0.81 ACRES (35283.6 SQ. FT.)
R/W ACQUISITION = 0.00 SQ. FT.
TEMP. CONST. ESMT. = 1439 SQ. FT.
PERM. DRAINAGE ESMT = 875 SQ. FT.
REMAINING = 0.81 ACRES
PARCEL 15
JOPLIN LAND & RENTALS
BOOK 2542, PAGE 0342
EXISTING = 0.04 ACRES (1742.4 SQ. FT.)
R/W ACQUISITION = 0.00 SQ. FT.
TEMP. CONST. ESMT. = 61 SQ. FT.
REMAINING = 0.04 ACRES
PARCEL 16
ZORA 4551
PARCEL 13
ROBERT D & CLARICE A McLAUGHLIN TRUST
BOOK 1479, PAGE 0820
EXISTING = 1.56 ACRES (68363.30 SQ. FT.)
R/W ACQUISITION = 3582 SQ. FT.
TEMP. CONST. ESMT. = 5361 SQ. FT.
REMAINING = 1.52 ACRES
3: (City Sta.) 120+18 Inlet - (AT&T Sta.) 68+386
4: (City Sta.) 120+05 to 120+30 permanent drainage easement (AT&T Sta.) 68+375 to 68+410
℄ ZORA STREET
℄ DRIVEWAY STA 117-25 LT
DRIVEWAY STA 115+75 RT
℄ DRIVEWAY STA 115+75 RT
℄ CENTER LANE
GRADING LIMITS
15.00' AMERICAN TELEPHONE EASEMENT
2.00' EMPIRE DISTRICT ELECTRIC EASEMENT
EXISTING RIGHT-OF-WAY WIDTH VARIES
SCALE IN FEET
0' 10' 20' 40'
N
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Olsson, Civil Engineering
Missouri Certificate of Authority # 001592
1027 S. Main Street, Suite 503
Joplin, MO 64801
TEL 417.781.0643
www.olsson.com
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REVISIONS
NO. DATE REVISIONS OR ADOPTION BY
RIGHT OF WAY & EASEMENT PLANS
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN
JOPLIN, MISSOURI
2023
SHEET
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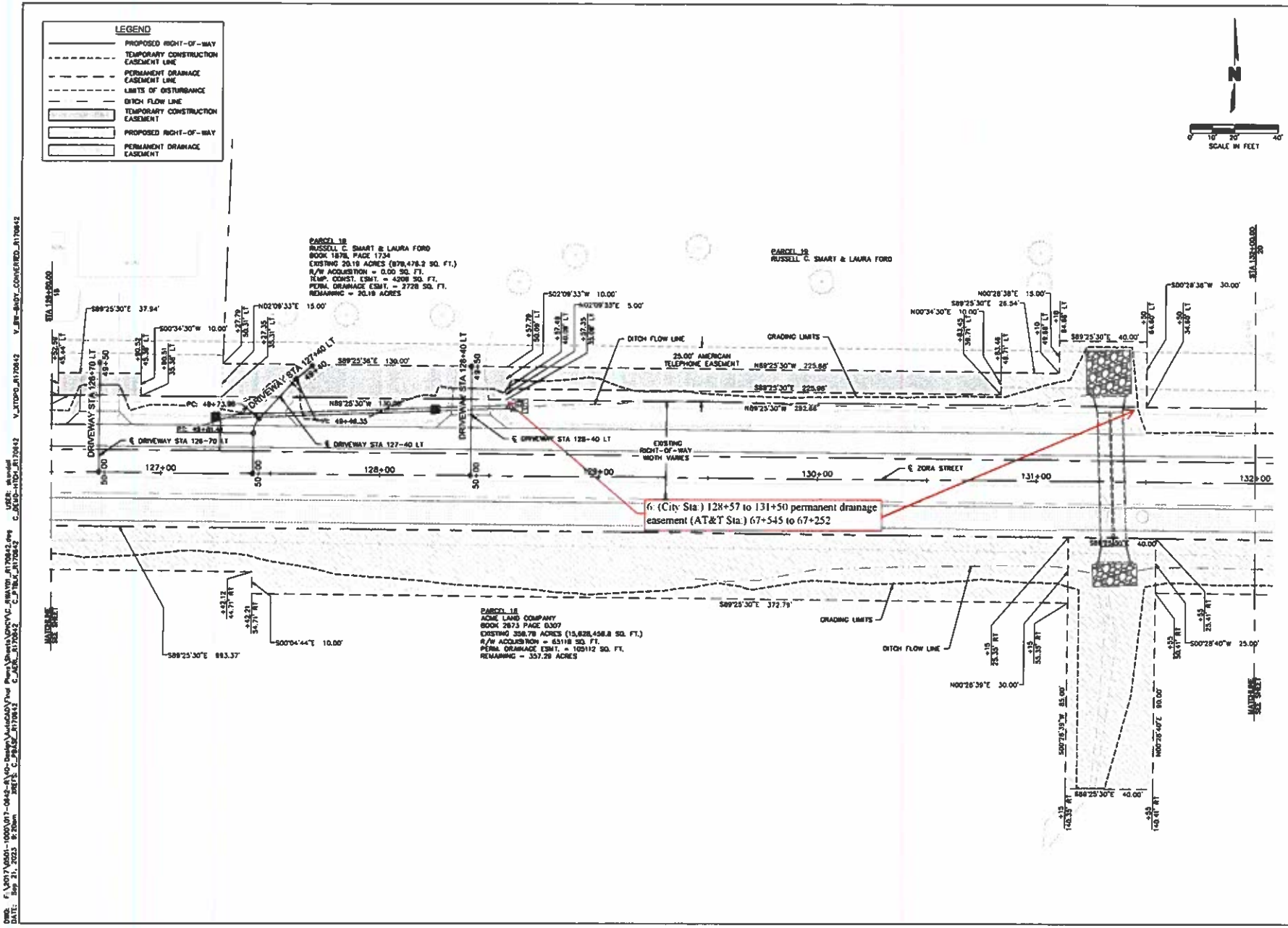
RIGHT OF WAY & EASEMENT PLANS

ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN

JOPLIN, MISSOURI 2023

SHEET
18 of 115

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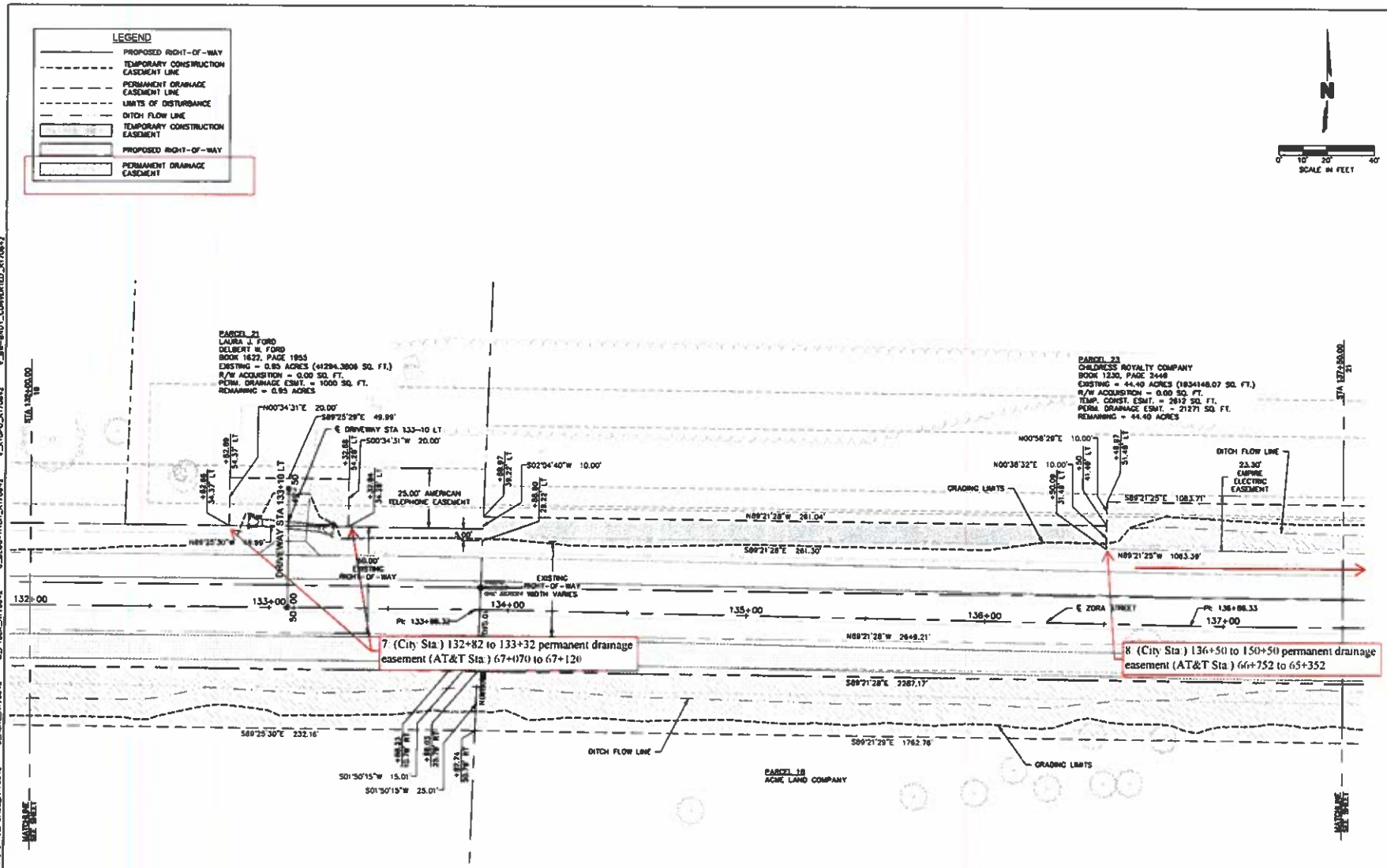
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RIGHT-OF-WAY & EASEMENT PLANS
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN
JOPLIN, MISSOURI
2023

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19 of 115

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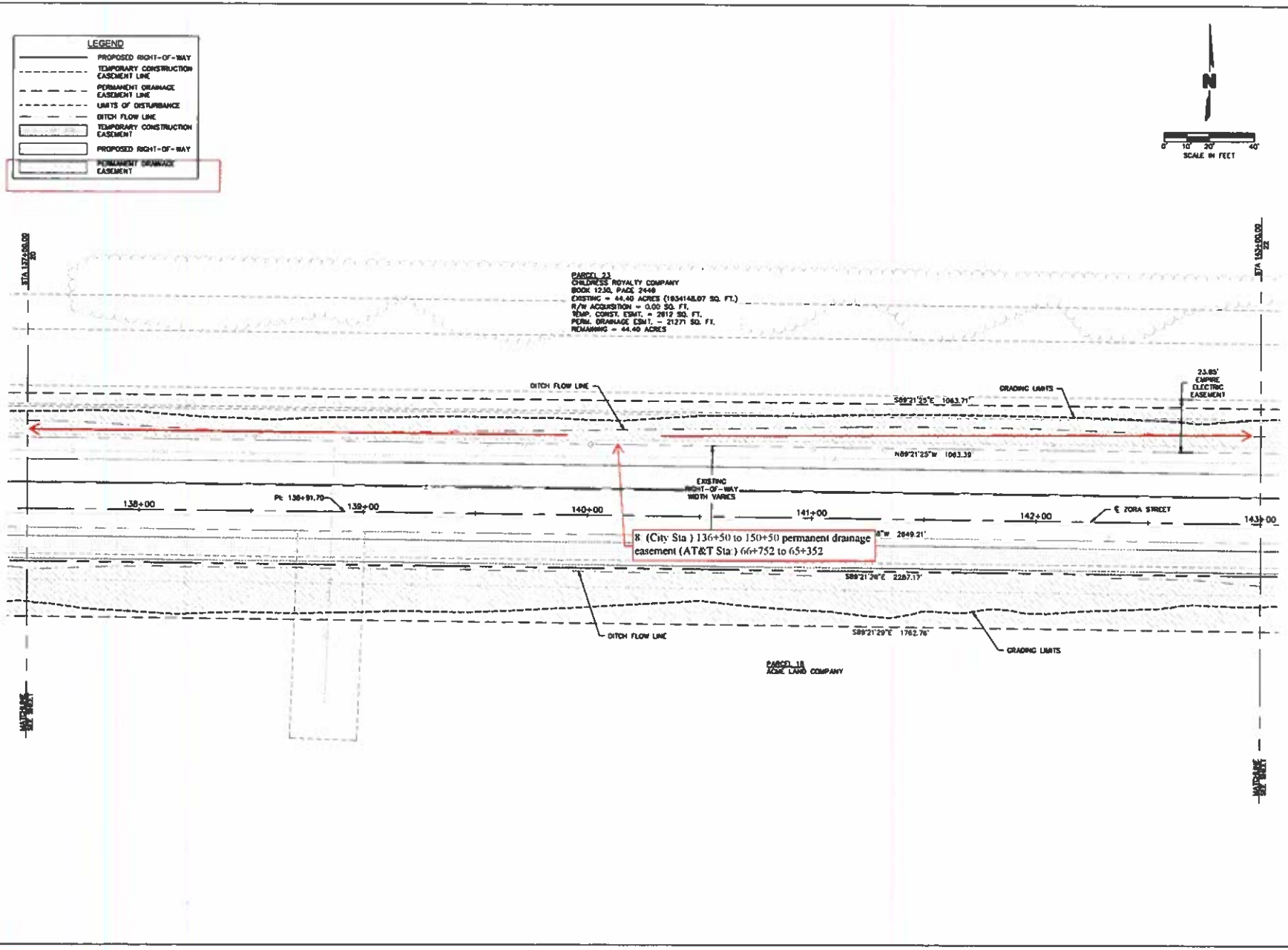
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RIGHT OF WAY & EASEMENT PLANS
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN
JOPLIN, MISSOURI
2023

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RIGHT OF WAY & EASEMENT PLANS

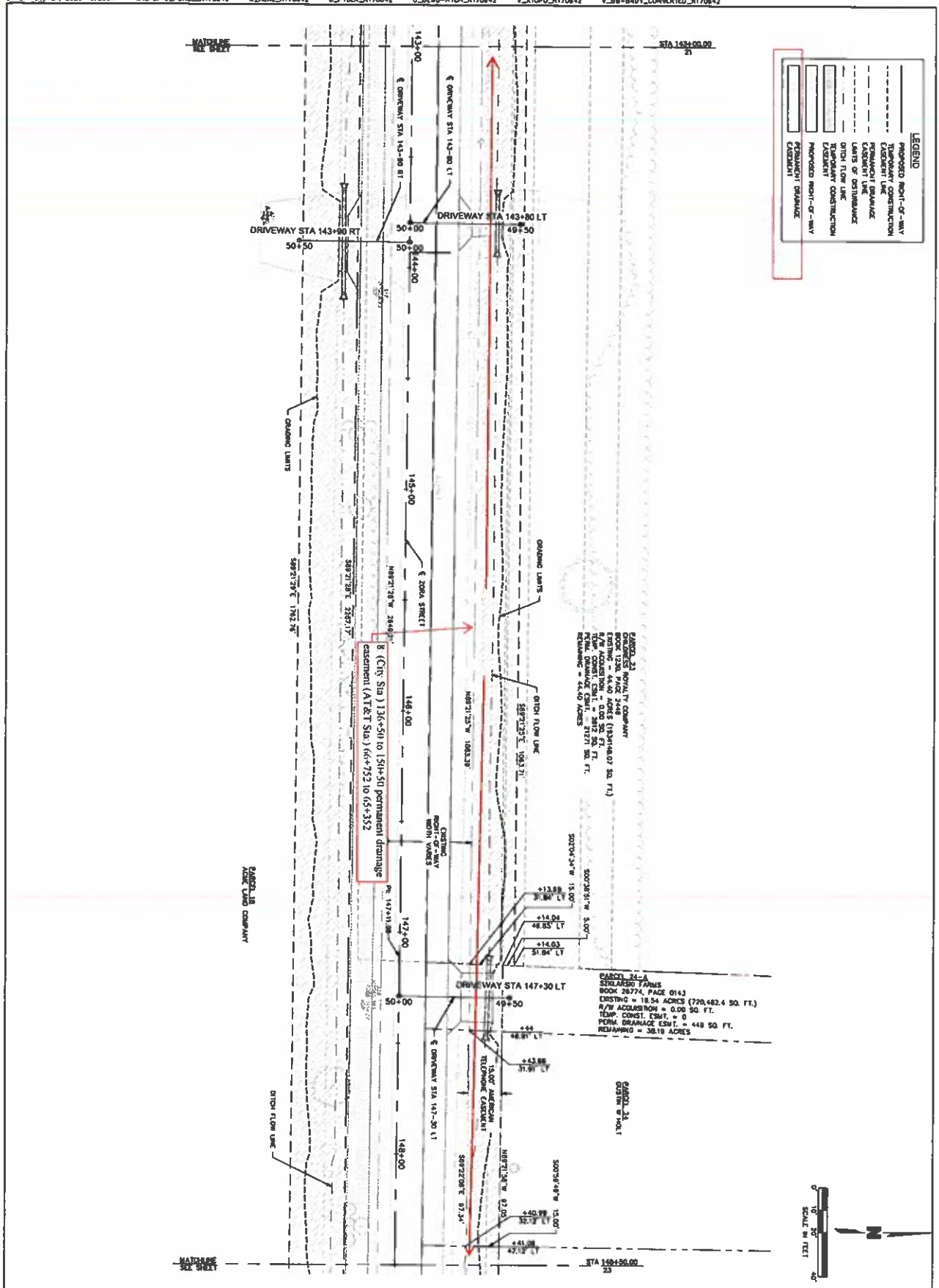
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN

JOPLIN, MISSOURI

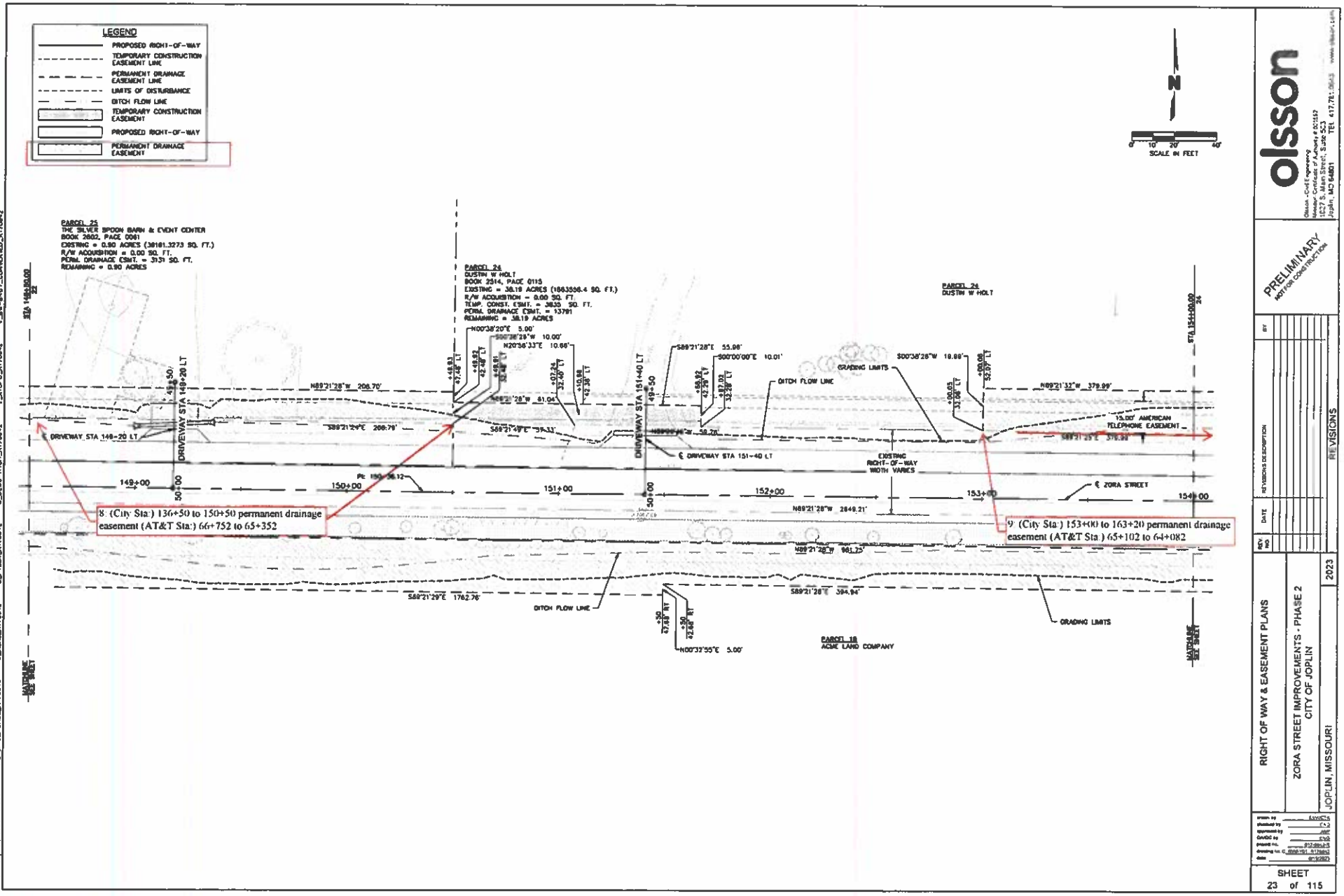
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SHEET 22 of 115	RIGHT OF WAY & EASEMENT PLANS	REV NO	DATE	REVISIONS DESCRIPTION	BY	PRELIMINARY NOT FOR CONSTRUCTION	olsson
	ZORA STREET IMPROVEMENTS - PHASE 2 CITY OF JOPLIN						Olsson - Civil Engineering Missouri Certificate of Authority # 2011597 1027 S. Main Street, Suite 503 Joplin, MO 64801 TEL 417.781.0643 www.olsson.com
	JOPLIN, MISSOURI 2023			REVISIONS			



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REV NO	DATE	REVISIONS DESCRIPTION	BY

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RIGHT OF WAY & EASEMENT PLANS

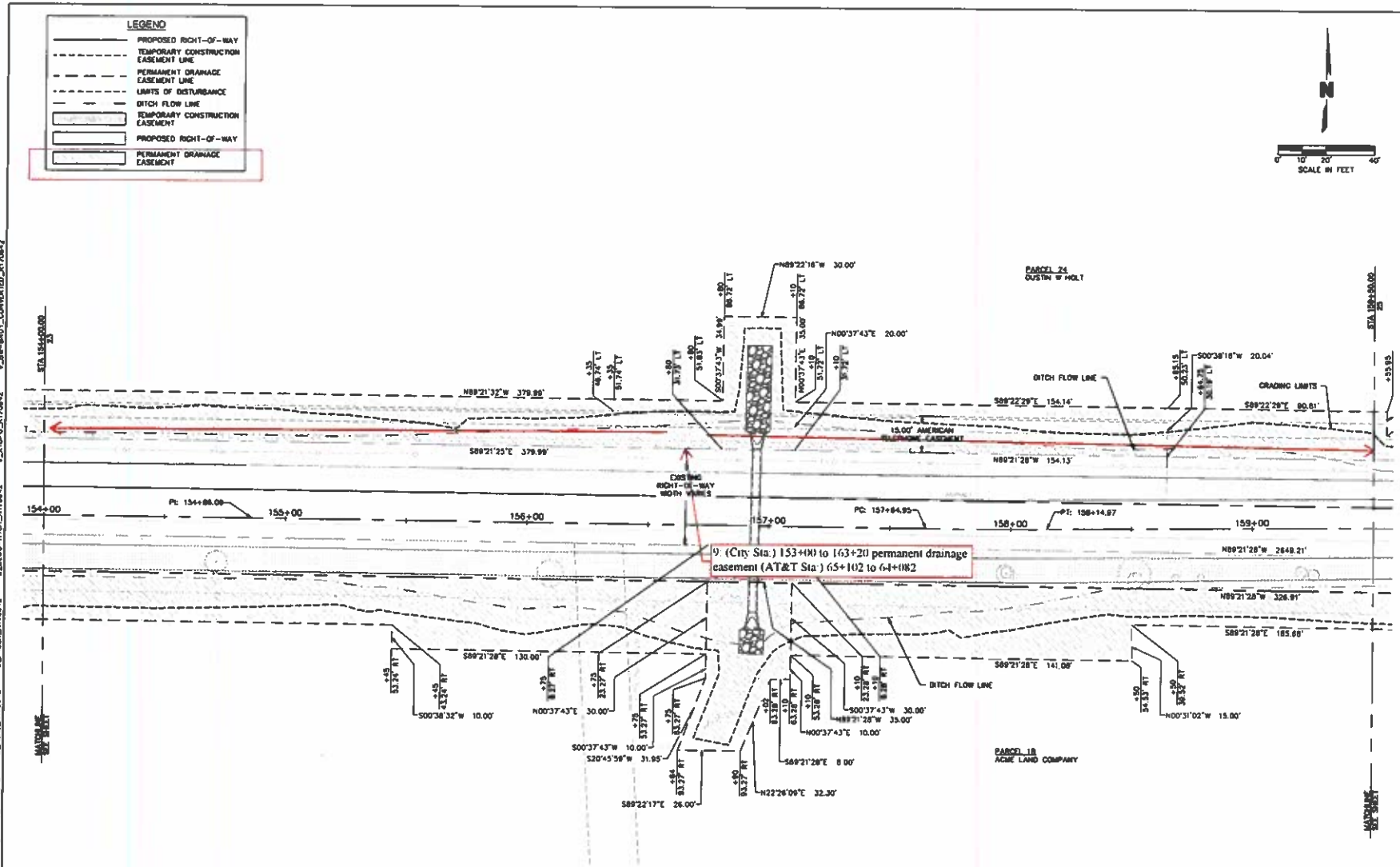
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN

JOPLIN, MISSOURI

2023

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23 of 115

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RIGHT OF WAY & EASEMENT PLANS

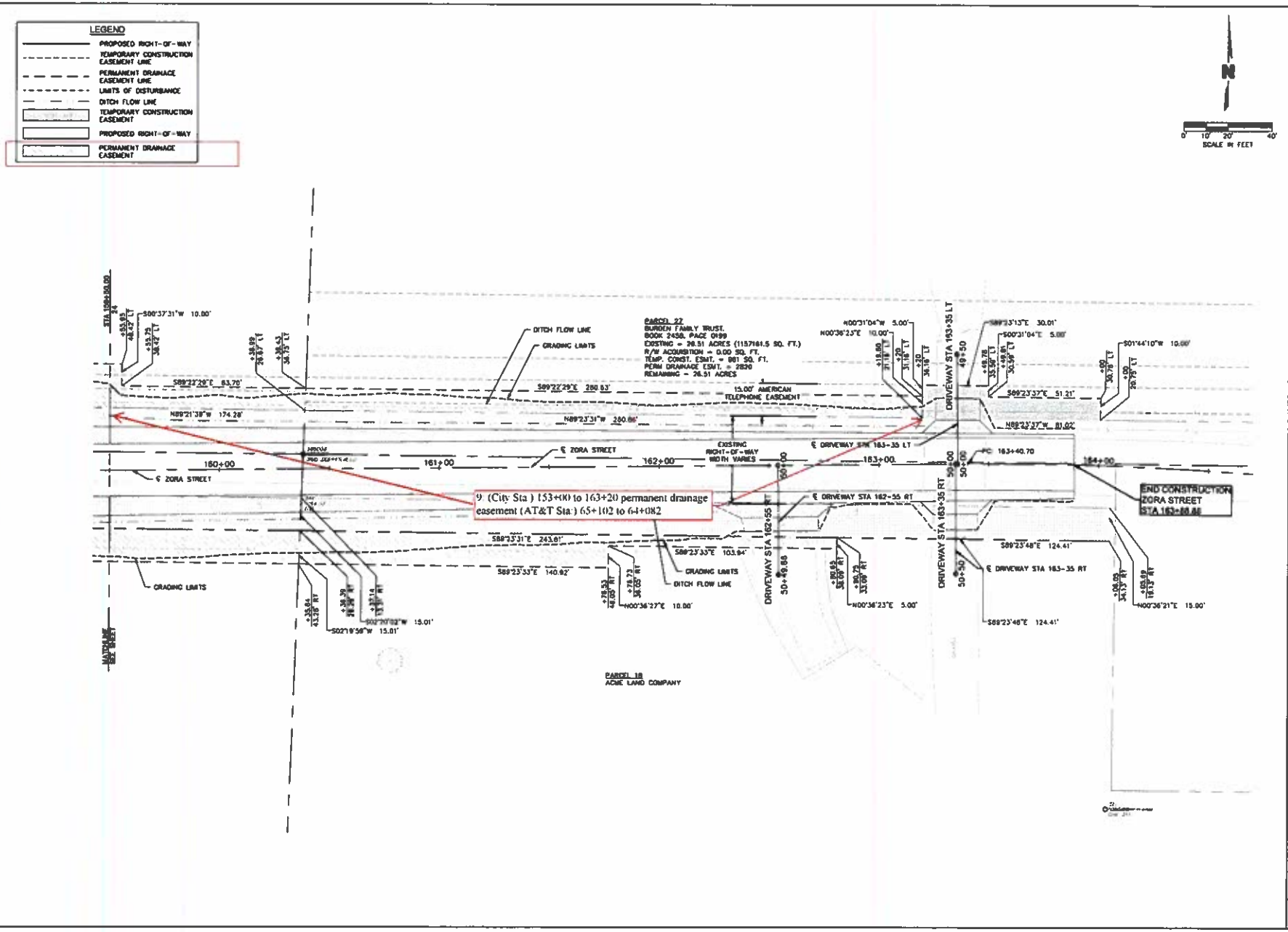
ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN

JOPLIN, MISSOURI

2023

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24 of 115

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USER: skendall



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ZORA STREET IMPROVEMENTS - PHASE 2
CITY OF JOPLIN

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2023

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25 of 115

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JOB SPECIAL PROVISION JSP-0400-02
MOBILIZATION

1.0 SCOPE

This item shall consist of the preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and the establishment of all offices, buildings and other facilities necessary for work on the project, except as provided in the contract as separate pay items. This work includes other work and costs incurred before the project starts.

All equipment used by the Contractor having metal tracks shall not be driven over City streets other than those streets being constructed. Such equipment must be transported from one work area to the next work area.

Observe legal load restrictions when operating equipment, hauling equipment, or hauling materials on public roads; newly constructed/reconstructed base, pavement, and structures; and any existing base, pavement or structures that will remain in place. The contractor shall assume responsibility for changes in legal load restrictions that occur after the project was let. Obtain the Engineer's written approval and a special permit to exceed legal load restrictions on the City street system and on newly constructed/reconstructed portions of the project.

Protect roadways and structures within project limits from damage. Observe curing periods before operating equipment or hauling loads on newly constructed pavement, reconstructed pavement, or structures. Do not haul loads of any size on pavement base, except when operations require equipment on pavement base to place material. The Contractor shall assume all responsibility for damages to roadways and structures caused by the Contractor from operating equipment or hauling loads.

2.0 MEASUREMENT AND PAYMENT

Partial payments for "Mobilization" will be at the contract lump sum price in accordance with the following table. The Percent of Original Contract Completed = the amount earned by the Contractor divided by the total dollar value of the original contract (all bid items). The amount earned by the Contractor shall not include monies earned for Mobilization, Contractor Construction Staking, or Stored Materials.

MOBILIZATION PARTIAL PAYMENTS		
Percent of Original Contract Amount Completed	**Pay Lesser of the Two**	
	% of Mobilization	**% of Original Contract Amount**
5	25	2.5
10	50	5
25	60	7.5
50	100	10
Accepted	100	N/A

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

JOB SPECIAL PROVISION JSP-0400-03
CONTRACTOR FURNISHED CONSTRUCTION STAKING AND SURVEYING

1.0 SCOPE

This item shall consist of the work required for the Contractor to furnish all construction staking and surveying in accordance with Section 0400.39 of the current approved City of Joplin Standard Specifications.

2.0 MEASUREMENT AND PAYMENT

Partial payments for "Contractor Furnished Construction Staking and Surveying" will be at the contract lump sum price in accordance with the following table. The lump sum price set forth in the bid schedule shall include full compensation for all labor, materials and equipment required to survey, stake, coordinate with contractors, coordination, mileage, expenses, rental fees, permits and all other work items incidental thereto including incidentals necessary to complete the project in accordance with the plans.

CONSTRUCTION STAKING AND SURVEYING PAYMENT SCHEDULE	
Percent of Original Contract Amount Completed	**Percent of Bid Item Paid**
Work Started	25%
5%	40%
25%	60%
50%	80%
70%	95%
All field books, As-Built Construction Plans, and Records have been submitted to the City	100%

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

JOB SPECIAL PROVISION JSP-1000-01
EROSION & SEDIMENT CONTROL

1.0 SCOPE

This work shall include all measures necessary including, but not limited to, the installation, maintenance and removal of temporary erosion and pollution control as required during the construction of the project to prevent erosion and pollution on the project in accordance with federal, state, and City of Joplin requirements. The contractor shall utilize and comply with all requirement of the City of Joplin's Land Disturbance Storm Water Pollution Prevention Plan (SWPPP). All erosion and sediment control plans shall be incorporated in the SWPPP. Contractor shall maintain the SWPPP throughout the project and complete the required documentation until the site is stabilized and accepted by the Engineer.

Erosion control plans represent the least possible protection for the project. It is anticipated that additional BMP's will be required to complete the project.

The contractor shall be responsible for all fines associated with failure to comply with the City of Joplin, General Operating Permit, and Land Disturbance Storm Water Pollution Prevention Plan (SWPPP)

2.0 MEASUREMENT

Erosion and Sediment Control BMPs will be measured in accordance with the units listed in the Proposal. Measurement shall occur upon initial installation.

No separate measurement will be made for maintenance, replacement, or removal of Erosion and Sediment Control BMPs.

No separate measurement will be made for compliance with the City of Joplin's SWPPP.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to complete erosion and sediment control shall be paid for at the contract unit prices listed in the Proposal. Payment for Erosion and Sediment Control BMPs shall be considered full compensation for a complete and functioning installation, including but not limited to, ongoing maintenance, repair, replacement, and removal upon final stabilization.

Separate payment shall not be made for compliance with the City of Joplin's standard SWPPP. All work required to comply with the City of Joplin's standard SWPPP shall be considered incidental to erosion and sediment control BMP pay items, including but not limited to, all inspections, record keeping, permitting, and documentation and ongoing maintenance and close-out.

SECTION 806
POLLUTION, EROSION AND SEDIMENT CONTROL

806.1 Description. This work shall consist of furnishing, installing, maintaining and removing temporary pollution, erosion and sediment control measures; furnishing and placing permanent erosion control features; or a combination of both as shown on the plans or as directed by the engineer.

806.2 Schedule of Work. Prior to the preconstruction conference and the start of construction, the contractor shall submit schedules for the implementation of temporary pollution control and temporary and permanent erosion control work, as applicable, for construction operations. The contractor's schedule shall address specifically the pollution and erosion control measures planned at all streams or other bodies of water. No work shall start until the pollution and erosion control schedules and methods of operations have been approved by the engineer. Any delay of the work resulting from failure to submit acceptable pollution and erosion control schedules and methods of operations will be considered nonexcusable.

806.3 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as herein.

806.4 Construction Requirements. The engineer will limit the surface area of erodible earth material exposed by clearing and grubbing or by excavation, borrow and fill operations in accordance with the following. The engineer may direct the contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other bodies of water. Such work may involve the construction of temporary berms, dikes, dams, sediment basins and slope drains, and use of temporary mulches, seeding or other control devices or methods as necessary to control erosion and pollution.

806.4.1 If erosion and sediment control measures, as shown on the plans, are not suitable due to site conditions, a suitable system of Best Management Practices (BMP) as defined by the applicable Missouri State Operating Permit for land disturbance activities and the Stormwater Pollution Prevention Plan (SWPPP), shall be applied as approved by the engineer.

806.4.2 The contractor shall exercise effective management practices throughout the life of the project to control pollution. Pollutants such as chemicals, fuels, lubricants, bitumen, raw sewage or other harmful material shall not be discharged on or from the project. Temporary pollution control measures, such as storage and handling of petroleum products and other pollutants, shall be coordinated with temporary and permanent erosion and sediment control features specified in the contract to ensure economical, effective and continuous erosion and pollution control. These requirements will also apply to work within easements designated by the Commission.

806.4.3 The contractor shall incorporate all permanent erosion, sediment, and pollution control features into the project at the earliest practical time. Temporary measures shall be used to correct conditions that develop during construction which were not foreseen during the design stage, that are needed prior to installation of permanent pollution control features, or that are needed temporarily to control erosion and sediment that develops during normal construction practices, but are not associated with permanent control features on the project.

806.4.4 Installation of temporary control measures shall be scheduled to coincide with clearing and grubbing operations, but before grading operations begin. The project land area disturbance shall not exceed one acre without installation of erosion and sediment controls. The total project land disturbance area shall not exceed 20 acres without written approval from the engineer.

806.4.5 The engineer may allow additional land disturbance acreage if appropriate BMP's including temporary seeding and mulching, have been applied to previously disturbed areas and the contractor has the resources to apply the BMP's to the expanded area.

806.4.6 Unless otherwise provided or approved in writing by the engineer, construction operations in streams or other bodies of water shall be restricted to those areas that must be entered for the construction of temporary or permanent structures. Streams or other bodies of water shall be promptly cleared of all falsework, piling, debris or other obstructions placed therein or caused by construction operations.

806.4.7 Fording of streams or other bodies of water with construction equipment will not be permitted, except as allowed by the engineer. Temporary bridges or other structures shall be used when frequent crossing of streams or other bodies of water is necessary. Unless otherwise approved in writing by the engineer, mechanized

equipment shall not be operated in streams or other bodies of water except as may be required to construct channel changes and temporary or permanent structures. If a Corps of Engineer Section 404 or Department of Natural Resources Section 401 permit is applicable for a project, the permit requirements and conditions will prevail.

806.4.8 The contractor shall obtain all necessary permits for all project support activities located off the project site. Project support activities include, but are not limited to, borrow areas, waste areas, plant sites, and staging areas. All costs associated with the permits and pollution control shall be at the contractor's expense, including providing, installing, maintaining, and removal of all erosion and sediment control devices, and final stabilization of disturbed areas.

806.4.9 In the event of conflict between these requirements and the pollution control laws, rules or regulations of other federal, state or local agencies, the more restrictive laws, rules or regulations will apply.

806.4.10 The contractor is encouraged to incorporate mulch from the clearing and grubbing operation into the BMP's on the project. BMP's may consist of compost filled socks, compost filter berms, soil protection cover or any other method as approved by the engineer.

806.4.11 Unless otherwise specified, or directed by the engineer, all temporary erosion and sediment control measures shall be removed by the contractor after permanent erosion and sediment control measures are established and the project has achieved final stabilization as defined in the SWPPP. Biodegradable erosion and sediment control materials may be allowed to be incorporated into the project in accordance with the SWPPP, as approved by the engineer. Rock from ditch checks and other temporary sediment devices may be repositioned to serve as ditch liner in accordance with the SWPPP, and as directed by the engineer.

806.4.12 Portland cement concrete residue and wash water and other operations that produce sediment laden runoff shall be managed by an appropriate control measure.

806.4.12.1 Portland cement concrete residue and wash water shall be discharged into a plastic lined pit, plastic lined straw bale enclosure, or other commercially available water tight enclosure suitable for containing concrete residue and wash water as approved by the Engineer.

806.4.12.2 Water from aggregate washing and other operations that produce sediment laden water shall be treated by filtration, settling basins, or other means sufficient to comply with the general water quality criteria established by MDNR.

806.4.12.3 No direct payment will be made for the design, installation, maintenance or removal of controls necessary to contain Portland cement concrete residue and wash water or other water from sediment producing operations.

SECTION 806.10 TEMPORARY BERMS.

806.10.1 Description. This work shall consist of constructing and maintaining temporary berms at the top of slopes or transverse to the centerline of fills as shown on the plans.

806.10.2 Material. Type B berms shall consist of graded material from within the project limits, rock, or other suitable material approved by the engineer. Type C berms shall consist of rock with a predominant size between 4 inches and 12 inches.

806.10.3 Construction Requirements. Temporary berms shall be constructed and maintained to the approximate dimensions shown on the plans.

806.10.3.1 Type B Berms. Type B berms shall be machine compacted with a minimum of three passes over the entire width of the berm. Material removed from Type B berms shall be incorporated in the embankment when possible. The contractor shall remove and dispose of any excess or unsuitable material to a location approved by the engineer.

806.10.3.1 Type B berms shall drain to a compacted outlet at slope drain. On transverse berms, the top width of the berms may be wider and the side slopes flatter to allow equipment to pass over these berms with minimal disruption.

806.10.3.2 Type C Berms. Vegetative mulch, erosion control blanket or geotextile fabric, if required by the engineer, shall be placed on the upslope of the Type C berm. The vegetative mulch shall be placed in such a manner that the final compacted thickness is 2 inches. The material for the vegetative mulch shall be in accordance with Sec 802. The vegetative mulch erosion control blanket or geotextile fabric shall be removed and replaced as directed by the engineer.

806.10.4 Method of Measurement. Measurement of Type B and C berms will be made to the nearest linear foot.

806.10.5 Basis of Payment. The accepted quantities of Type B and C berms will be paid for at the contract unit price and will be considered full compensation for material, installation, maintenance, removal and any other hand work necessary to construct the berms. No payment will be made for the straw layer, erosion control blanket or geotextile fabric on the Type C berm. No payment will be made for any seeding and mulching needed after removal.

SECTION 806.20 TEMPORARY SLOPE DRAINS.

806.20.1 Description. This work shall consist of furnishing, constructing maintaining and removing temporary slope drains to carry water down slopes and to reduce erosion. The method selected shall be approved by the engineer prior to construction.

806.20.2 Construction Requirements. The contractor shall provide temporary, impermeable slope drains to carry water or water with suspended solids down fill slopes until permanent erosion control measures are established. The contractor shall provide temporary slope drains on fillslopes at approximately 500-foot intervals or as directed by the engineer. All temporary slope drains shall be adequately anchored to the slope to prevent disruption of flow. The inlet ends shall include a ditch check and be constructed to channel water into the temporary slope drain. Outlet ends shall have some means of dissipating the energy of the water to reduce erosion downstream and have the ability to capture sediment. After removal, the contractor shall restore the site of the slope drains to the satisfaction of the engineer.

806.20.3 Method of Measurement. Measurement of temporary slope drains will be made to the nearest linear foot.

806.20.4 Basis of Payment. The accepted quantities of temporary slope drains will be paid for at the contract unit price. Payment shall include furnishing, constructing, maintaining and removing temporary slope drains, and restoration of the slope drain sites. No payment will be made for any seeding and mulching needed after removal.

SECTION 806.30 TEMPORARY DITCH AND INLET CHECKS.

806.30.1 Description. This work shall consist of furnishing, constructing, maintaining, removing and disposing of temporary ditch and inlet checks.

806.30.2 Construction Requirements.

806.30.2.1 Rock Ditch Checks. Rock ditch checks shall be constructed in accordance with the plans, or as directed by the engineer, and shall have a minimum effective height of 18 inches. The predominant size of the rock used shall range between 4 inches and 12 inches.

806.30.2.2 Alternate Ditch Checks. Alternate ditch checks shall be constructed in accordance with the manufacturer's specifications, and as shown on the plans, or as directed by the engineer. Alternate ditch checks shall have a minimum effective height of 9 inches, shall follow guidance provided in the SWPPP, and shall perform to the level that meets or exceeds the requirement of the current Missouri Operating Permit.

806.30.2.2.1 Compost filter socks used for alternate ditch checks shall meet the requirements of AASHTO R51. Other proprietary devices may be used, as approved by the engineer. Acceptance of the material will be based on the manufacturer's certification and upon acceptable performance in the field, as determined by the engineer.

806.30.2.2.2 Unless otherwise disallowed, the contractor has the option to construct rock ditch checks in lieu of alternate ditch checks. Rock ditch checks constructed in lieu of alternate checks shall have a minimum effective height of 18 inches. Spacing shall be increased, as determined by the engineer, to account for the additional height of rock ditch check. The toe-to-top capacity requirements shown on the plans will be used to determine the spacing.

806.30.2.3 Inlet Checks. Inlet checks shall be installed in accordance with the plans or as directed by the engineer to prevent sediment from entering drop inlets, manholes, and other openings to culverts and closed drainage systems.

806.30.2.3.1 Inlet checks shall be constructed in accordance with Sec 806.30.2.1, rock ditch checks, and shall completely surround the inlet or other structure, as indicated on the plans. Other allowable methods of protecting inlets will be listed in the SWPPP.

806.30.2.4 Curb Inlet Checks. Curb inlet checks shall consist of socks filled with rock, or other fillers of sufficient weight to keep the device in place. Compost filter socks used for curb inlet checks shall meet the requirements of AASHTO R51. Curb inlet checks shall be installed in the gutter or as shown on the plans. Other proprietary devices may be used, as approved by the engineer.

806.30.3 Maintenance. The contractor shall monitor the condition of all temporary checks and repair or replace checks that are not functional. The contractor shall remove sediment in accordance with Sec 806.110. Alternate ditch checks shall be maintained in accordance with this provision and the manufacturer's specifications or as directed by the engineer.

806.30.4 Removal. All types of temporary checks shall remain in service until removal has been approved by the engineer. Removal shall be in accordance with Sec 806.4.11 and as stated herein. The contractor shall remove any sediment from the check, remove the check, and restore the area to match existing ground condition. When necessary, seeding and mulching shall be in accordance with Secs 802 and 805 respectively, and shall be considered incidental.

806.30.5 Method of Measurement.

806.30.5.1 Measurement of rock ditch checks will be made to the nearest linear foot as measured along the top of the check. Rock ditch checks constructed in lieu of alternate checks will be included in this measurement for payment. Inlet checks, except for curb inlet checks, will be included in this measurement for payment.

806.30.5.2 Measurement of alternate ditch checks will be made to the nearest linear foot as measured along the top of the check.

806.30.5.3 No measurement will be made for any portion of a check that exceeds the length necessary to adequately span the ditch as shown on the plans or as directed by the engineer.

806.30.5.4 Measurement of curb inlet checks will be made per each check.

806.30.6 Basis of Payment.

806.30.6.1 The accepted quantities of rock ditch checks, alternate ditch checks, inlet checks, and curb inlet checks will be paid for at the contract unit price for each pay item included in the contract. If the engineer determines unusual conditions warrant complete replacement of a check, payment will be made for the replacement check at the contract unit price.

806.30.6.2 Payment for sediment removal shall be in accordance with Sec 806.110.

SECTION 806.40 SEDIMENT BASINS.

806.40.1 Description. This work shall consist of constructing and maintaining temporary or permanent sediment basins as shown on the plans or as directed by the engineer. This work shall include clearing and excavation to construct the basin, disposal of excavated material, and providing and installing rock or other stabilizing material as approved by the engineer. For temporary basins, removal, backfilling, and site restoration is also included in the work.

806.40.2 Construction Requirements. The sediment basin shall be an excavated or dammed storage area with defined side slopes. Inlet and outlet areas shall be lined with rock of sufficient size to withstand the water flow. In lieu of rock, other allowable liners may be used as described in the SWPPP. Outlets may be constructed with a riser pipe, surface skimmers, or stabilized spillway, or a combination of one or more of these features.

806.40.2.1 The inlet of a sediment basin shall be constructed with a wide cross-section and a minimum grade to prevent turbulence and to allow deposition of soil particles.

806.40.2.2 Sediment shall be removed and disposed in accordance with Sec 806.110, and before the depth reaches approximately one-half the original depth of the sediment basin in any part of the pool.

806.40.2.3 Temporary sediment basins shall remain in service until removal has been approved by the engineer. Removal shall be in accordance with Sec 806.4.11 and as stated herein. The contractor shall remove any sediment from the basin, backfill, compact all excavations, restore the area to match existing ground conditions, and seeding and mulching in accordance with Secs 802 and 805 respectively.

806.40.3 Method of Measurement.

806.40.3.1 Measurement of excavation to construct sediment basin will be made to the nearest tenth of a cubic yard.

806.40.3.2 Measurement of rock placed to construct sediment basins will be made to the nearest tenth of a cubic yard.

806.40.4 Basis of Payment.

806.40.4.1 The accepted quantities for excavation to construct sediment basins will be paid for at the contract unit price. Payment includes clearing, excavation, removal, backfilling and final grading.

806.40.4.2 The accepted quantity for rock used to construct sediment basins will be paid for at the contract unit price. Payment shall include furnishing, placing, and removal of rock.

806.40.4.3 No direct payment will be made for seeding and mulching necessary to restore the area after removal.

806.40.4.4 Payment for sediment removal shall be in accordance with Sec 806.110.

SECTION 806.50 TEMPORARY SEEDING.

806.50.1 Description. This work shall consist of furnishing and applying fertilizer and seed in disturbed areas authorized by the engineer. Mulch shall be applied following temporary seeding in accordance with Sec 802. Temporary seeding and mulching is utilized to provide interim stabilization of disturbed areas where staging requires the area to be disturbed again at a later date, and for areas to be seeded with warm season grasses that are finish-graded, but application of permanent seeding is disallowed per Sec 805.3.1.2. Finish grading will not be required except for areas that will not receive further grading prior to permanent seeding. Hydraulic seeding and fertilizing in accordance with Sec 805 will be permitted.

806.50.2 Construction Requirements. Seeding and mulching shall be a continuous operation on all cut and fillslopes, excess material sites and borrow pits during the construction process. All disturbed areas shall be seeded and mulched as necessary to control erosion in accordance with the Missouri State Operating Permit. Seed bed shall be prepared in accordance with Sec 801. When the engineer allows the contractor to disturb additional ground beyond the restrictions in Sec 806.4.4 solely to enhance the contractor's operation, the contractor shall not receive compensation for temporary seed or mulch, as required by the engineer, for ground cover for areas exceeding the restrictions in Sec 806.4.4.

806.50.2.1 The contractor shall provide permanent seeding and mulching following temporary seeding in accordance with Sec 805. Any preparation of the seed bed that might be necessary prior to permanent seeding to ensure germination shall be considered incidental to temporary seeding. All washouts and rills shall be repaired at the contractor's expense prior to permanent seeding.

806.50.2.2 Temporary seeding mixtures of cereal grains shall be applied at a minimum rate of 100 pounds per acre. All erodible seeded areas shall provide a minimum of 20 plants of the species planted per square foot on at least two random counts per acre in representative areas of the field. For areas with a large percentage of rock, the number of living plants shall be proportional to the percentage of erodible surface, as determined by the engineer. The counts will be conducted 60 days after the species is planted.

806.50.2.3 Fertilizer shall be applied at a rate of 40 pounds nitrogen (N) per acre.

806.50.2.4 Lime will not be required for temporary seeding of unfinished areas. In finished areas, where temporary seeding is placed due to warm season grass planting time restrictions, 100 percent of the lime specified for warm season grasses shall be applied at the time of temporary seeding.

806.50.3 Method of Measurement. Measurement of temporary seeding areas will be made to the nearest tenth of an acre.

806.50.4 Basis of Payment. The accepted quantities of temporary seeding will be paid for at the contract unit price per acre. Payment for fertilizer shall be included in the cost of temporary seeding. When lime is applied in accordance with Sec 806.50.2.4 upon request from the contractor, payment for the lime application will be made as a partial payment for Seeding - Warm Season Grasses. The remaining payment for Seeding - Warm Season Grasses will be made after permanent seeding is complete.

SECTION 806.60 SEDIMENT TRAP.

806.60.1 Description. This work shall consist of constructing, maintaining and removing sediment traps as shown on the plans or as directed by the engineer.

806.60.2 Construction Requirements.

806.60.2.1 Sediment traps shall be constructed as shown on the plans or as directed by the engineer. Traps may require excavation, or placement of rock of sufficient size to impound water, or a combination of excavation and placement of rock.

806.60.2.2 Sediment traps shall be installed with clearing and grubbing operations or as directed by the engineer. The contractor shall monitor sediment levels and remove sediment in accordance with Sec 806.110.

806.60.2.3 Sediment traps shall remain in service until removal has been approved by the engineer. Removal shall be in accordance with Sec 806.4.11 and as stated herein. The contractor shall remove any sediment from the trap, backfill, compact all excavations, restore the area to match existing ground condition, and seeding and mulching in accordance with Secs 802 and 805 respectively.

806.60.3 Method of Measurement.

806.60.3.1 Measurement of excavation to construct sediment traps will be made to the nearest tenth of a cubic yard.

806.60.3.2 Measurement of rock placed to construct sediment traps will be made to the nearest tenth of a cubic yard.

806.60.4 Basis of Payment.

806.60.4.1 The accepted quantity for excavation to construct sediment traps will be paid for at the contract unit price. Payment includes clearing, excavation, removal, backfilling, and final grading.

806.60.4.2 The accepted quantity for rock used to construct sediment traps will be paid for at the contract unit price. Payment shall include furnishing, placing, and removal of rock.

806.60.4.3 No direct payment will be made for seeding and mulching necessary to restore the area after removal.

806.60.4.4 Payment for sediment removal will be in accordance with Sec 806.110.

SECTION 806.70 SILT FENCE.

806.70.1 Description. This work shall consist of furnishing, installing, maintaining, and removing of a silt fence to control sediment along slopes and other designated areas. The quantity of silt fence shown on the plans may be increased or decreased, as directed by the engineer. The engineer may also modify the location as necessary to improve the effectiveness of the silt fence. Variations in quantity and location will not be considered as a change in work.

806.70.2 Material. When geotextile fabric is used, material shall be in accordance with Sec 1011. All other material shall be as specified in the SWPPP.

806.70.2.1 Posts. Wood, steel or synthetic posts may be used. Posts shall be of sufficient length, but no less than 4 feet, to ensure adequate embedment while fully supporting the fence and shall have sufficient strength to resist damage during installation and to support applied loads while in service.

806.70.2.2 Prefabricated Fence. Prefabricated fence systems may be used if the systems meet all of the above material requirements.

806.70.3 Construction and Maintenance Requirements.

806.70.3.1 Fabric Fence. The contractor shall install silt fence as shown on the plans and at other locations directed by the engineer. Fence construction shall be adequate to handle the stress from hydraulic and sediment loading. Fabric at the bottom of the fence shall be buried a minimum of 6 inches to prevent flow under the barrier. The trench shall be backfilled, and the soil compacted over the fabric. Fabric splices with a minimum 2-foot overlay shall be located only at a support post. Any installation method acceptable to the engineer will be allowed as long as the effectiveness and intent of the silt fence is achieved.

806.70.3.1.1 Post spacing shall not exceed 5 feet. Posts shall be driven a sufficient depth into the ground or placed on closer spacing as necessary to ensure adequate resistance to applied loads.

806.70.3.1.2 The silt fence shall be fastened securely to the upslope side of the post. When wire support fence is used, the wire shall extend into the trench a minimum of 2 inches.

806.70.3.2 Alternate Fence Types. Alternate fence types shall have a minimum effective height of 9 inches, shall follow guidance provided in the SWPPP, and shall perform to the level that meets or exceeds the requirement of the current Missouri Operating Permit. Compost filter socks meeting the requirements of AASHTO R51 may be used as an alternate to fabric silt fence. Additional alternate silt fence types shall be in accordance with the SWPPP or as approved by the engineer. Acceptance of the material will be based on the manufacturer's certification and upon acceptable performance in the field, as determined by the engineer.

806.70.3.3 Maintenance. The contractor shall monitor the condition of all fences and repair or replace fences that are not functional as long as the fences are necessary to contain sediment runoff. Any deficiencies shall be corrected by the contractor in accordance with the SWPPP. In addition, the contractor shall review the effectiveness of silt fences in areas where construction activities have changed the natural contour and drainage runoff. Where deficiencies exist, additional silt fences shall be installed as approved or directed by the engineer.

806.70.3.4 Sediment. The contractor shall remove and dispose of sediment in accordance with Sec 806.110. Segments of silt fence that receive heavy sediment loading may require a secondary silt fence or installation of other controls to adequately contain sediment.

806.70.3.5 Removal. Silt fence shall be removed in accordance with Sec 806.4.11 and as specified herein. The contractor shall remove and dispose of any excess silt accumulation along the fence, shall restore the area to match existing ground condition, and seeding and mulching in accordance with Secs 802 and 805 respectively.

806.70.4 Method of Measurement. Silt fence will be measured to the nearest linear foot from end to end of each separate installation.

806.70.5 Basis of Payment.

806.70.5.1 The accepted quantities of silt fence will be paid for at the contract unit price.

806.70.5.2 No direct payment will be made for seeding and mulching necessary to restore the area after removal.

806.70.5.3 Payment for sediment removal will be in accordance with Sec 806.110.

SECTION 806.80 TEMPORARY PIPE.

806.80.1 Description. This work shall consist of installing and removing temporary pipe utilized to carry water under temporary roadways, silt fences, berms or other locations determined by the engineer.

806.80.2 Material. Any pipe approved by the engineer may be used.

806.80.3 Construction Requirements. Installation of temporary pipe shall be in accordance with the specifications for permanent pipe and shall prevent water from causing erosion around the pipe. All backfill material for pipes shall be placed in 6-inch lifts and mechanically compacted. Compaction tests will not be required. Temporary pipe placed in intermittent or active streams for the convenience of the contractor shall be installed in accordance with Sec 806.100 and any applicable permits.

806.80.4 Method of Measurement. Measurement of temporary pipe will be made to the nearest linear foot for those pipes specified on the plans.

806.80.5 Basis of Payment. The accepted quantities of temporary pipe will be paid for at the contract unit price for temporary pipes specified on the plans. No payment will be made for temporary pipes that the contractor chooses to install to facilitate construction. Unless provided as a pay item in the contract documents, no direct payment will be made for the placement and removal of the backfill material or rock.

SECTION 806.90 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS.

806.90.1 Description. This work shall consist of furnishing and placing erosion control blankets (ECBs) and turf reinforcement mats (TRMs) on slopes or ditches for short-term or long-term protection of seeded areas at locations shown on the plans or as directed by the engineer.

806.90.2 Material. ECBs and TRMs shall be used as designated in the contract or as approved by the engineer. The contractor shall provide ECBs and TRMs of the type specified in the contract and shall provide a manufacturer's certification stating that they are in accordance with Sec 1011.

806.90.3 Construction Requirements. ECBs and TRMs shall be installed and maintained according to the manufacturer's recommendations.

806.90.4 Method of Measurement. Measurement of ECBs and TRMs will be made to the nearest square yard of surface area covered.

806.90.5 Basis of Payment. The accepted quantity of ECBs and TRMs will be paid for at the contract unit price for each of the pay items included in the contract. If ECBs and TRMs are used in lieu of other erosion control measures, payment will be made at the contract unit price for the pay items in the contract for the respective items that the blanket replaces.

SECTION 806.100 TEMPORARY STREAM CROSSING.

806.100.1 Description. This work shall consist of constructing a temporary stream crossing to facilitate the movement of equipment across a stream.

806.100.2 Construction Requirements. The contractor shall be responsible for the design, installation, maintenance and removal of the temporary stream crossing and any structures installed for the construction of the temporary stream crossing. Appropriate measures shall be taken to maintain near normal downstream flows and to minimize flooding upstream. The temporary stream crossing shall be constructed to permit the free movement of the stream’s aquatic life. Fill material shall be clean rock of sufficient size to withstand expected

high flows. Only graded rock and/or quarry-run rock shall be used. The rock must be reasonably well graded, with no particle dimension greater than approximately 12 inches, and no particle dimension less than approximately 9 inches. Gravel and dirt should not exceed 15% of the total fill volume.

806.100.2.1 Prior to construction of the temporary stream crossing, all information shall be submitted to the engineer to ensure that it meets the terms and conditions of the Corps of Engineer permit. The contractor shall not begin construction on any temporary stream crossing without written permission from the engineer.

806.100.2.2 All approaches to the temporary stream crossing shall be maintained such that all storm water runoff is diverted to retention devices.

806.100.2.3 When the temporary stream crossing is no longer needed, the crossing shall be removed as soon as possible and the area shall be restored to pre-project conditions or to the satisfaction of the engineer.

806.100.3 Basis of Payment. No direct payment will be made for the design, installation, maintenance or removal of temporary stream crossings. The contractor shall be responsible for all costs, including damage and penalties.

SECTION 806.110 SEDIMENT REMOVAL.

806.110.1 Description. This work shall consist of removing and disposing of sediment from sediment control devices, such as ditch and inlet checks, sediment basins, sediment traps, silt fence, and other devices that accumulate sediment.

806.110.2 Construction Requirements. The contractor shall monitor sediment levels in all sediment control devices and remove sediment prior to the level reaching approximately one-half the design heights for checks and fences, and one-half the storage capacities for basins and traps. The engineer may require sediment removal from devices prior to levels reaching the specified limits.

806.110.2.1 The contractor shall dispose of the sediment in a location that does not allow the sediment to erode back into the sediment devices or to pollute streams or other bodies of water.

806.110.3 Method of Measurement. Measurement of sediment removal will be made to the nearest tenth of a cubic yard.

806.110.3.1 No measurement will be made for sediment removal that accumulates due to the contractor's failure to complete erosion control measures in accordance with the SWPPP or as directed by the engineer. The engineer shall determine the volume of sediment that will be excluded from payment due to a lack of required erosion control measures.

806.110.3.2 No measurement will be made for removing any remaining sediment during final removal of the sediment control devices.

806.110.4 Basis of Payment. The accepted quantity of sediment removal will be paid for at the contract unit price.

LAND DISTURBANCE
STORM WATER POLLUTION
PREVENTION PLAN
(SWPPP)
FOR CONSTRUCTION OF:
ZORA STREET FROM DUQUESNE ROAD TO I-249

Prepared for
CITY OF JOPLIN, MISSOURI

Original SWPPP Template Prepared
July 2009

Original SWPPP Template Prepared by
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STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
FOR
LAND DISTURBANCE CONSTRUCTION OF:
ZORA STREET FROM DUQUESNE ROAD TO I-249
FOR THE
CITY OF JOPLIN
JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

I. SITE DESCRIPTION

Project Location – The project location governed by this SWPPP is: Along Zora Street from Duquesne Road to I-249.
Located in the City of Joplin, Missouri. The number and location of outfalls are: There are 4 outfalls located within the project limits. Please see erosion control plans for locations of outfalls.
The receiving stream/streams are: Unnamed tributary to Turkey Creek

Project Owner – CITY OF JOPLIN
602 S Main Street
Joplin, Missouri, 64801

Site Area = The total project area is comprised of approximately _____acres.

Proposed disturbed area = Approximately _____ acres.

Site Runoff Coefficients, C
Prior to Proposed Construction & Improvements = 0.75
Estimated Weighted Average After Improvements = 0.75

The site earthwork construction activities for the E Zora Roadway Widening project will consist of: Construction of new pavement, storm sewer, concrete paving and asphalt paving.

Final grading and the preparation of the seedbed for vegetative restoration will follow these activities.

Prior to, and/or in conjunction with, the establishment of the construction site entrance and access roads will be the placement of the filter fabric silt fencing and/or straw bale barriers (as required) down gradient of those areas of vegetation and root zone disturbance activities. In addition, any areas of the site that pose a potential for off-site migration of sediment shall be protected with whatever means necessary to prevent sediment from leaving the site, as site-specific conditions may require. Inspection and maintenance of the filter fabric silt fences, any straw bale barriers and /or straw wattles, vegetated buffer areas, and any other Best Management Practices (BMPs) shall continue throughout the term of the project until a permanent vegetative cover is re-established (as defined) and the Notice of Termination (NOT) of the permit is received from the Missouri Department of Natural Resources (MDNR). Care shall be exercised to limit the disturbance of current vegetated areas to the smallest amount possible for the planned development of the site.

II. SEQUENCE OF CONSTRUCTION ACTIVITIES

The area of the proposed project will be excavated, graded, and constructed, per the plans and specifications. Prior to the initial soil disturbance activities, the installation of the temporary BMPs including installation of the filter fabric silt fencing, and any straw bale barriers (as may be required), will be installed at the location shown on the SWPPP drawing prior to major soil disturbance activities for storm water runoff sediment control, and to retain sediment on the site and out of the drainage structures and streams. Additional Temporary BMPs shall be installed, including, but not limited to, additional silt fencing, straw bale barriers and/or straw wattles, or possible check dams as site-specific conditions may require.

The proposed general sequence of construction activities for the project is as follows:

1. Establish the construction entrance/exit drive at the site with the location(s) to be determined by the contractor. Stabilize and maintain the construction entrance/exit drive with a minimum 50 ft long, minimum 6" thick layer of 3" to 5" clean, washed and graded, crushed rock, placed over a geotextile filter material, for control of vehicle tracking of sediments off-site and on to the public roadways as shown on the SWPPP drawing.

2. Removal of any trees as needed for the earthwork construction activities. Soil disturbances shall be minimized during this process.

3. Placement of filter fabric silt fencing, and/or straw bale barriers/straw wattles, as required, at the locations shown on the SWPPP drawing, and any other additional areas where site conditions may require to prevent erosion and sediment losses with storm water runoff from the site during the earthwork activities. Installation of these items shall be accomplished prior to, and during the turf and soil disruptions caused by the excavation, filling, grading and construction activities.

4. Clear and grub all areas as required for the earthwork construction of the site in preparation for the project, as shown on the construction drawings. Existing vegetation will be preserved wherever practical. Filter fabric silt fencing shall be installed at the locations shown on the SWPPP drawing prior to the initiation of earthwork construction of the site.

5. Project Construction.

6. Following seedbed preparation of disturbed areas, apply seed, fertilize, mulch, etc. in areas where final construction has been completed, and maintain until permanent vegetation is re-established per this SWPPP, and in compliance with the conditions of the Storm Water Discharge General Permit issued by the MDNR.

7. Temporary seeding and mulching of disturbed areas shall be performed, as necessary, to prevent erosion and sediment loss during the construction activities prior to permanent seeding of the disturbed areas.

All additional construction activities to be completed during this project are as follows:

_____

_____

_____

_____

_____

Best Management Practices (BMPs) including establishment of the rock stabilized construction equipment entrance/exit, placement of filter fabric silt fence, any straw bale silt barriers, temporary seeding and any other measures to prevent erosion of the soils and sediment movement off-site shall be implemented prior to the land disturbance activities. Inspection, maintenance, repair, and upkeep of all BMPs throughout the construction project to achieve compliance with the conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit issued by the MDNR, and this SWPPP is, and will be, considered a major concern and part of the project. All conditions of the NPDES permit and this SWPPP shall be strictly adhered to throughout the project, as required.

III. POLLUTION CONTROL – BEST MANAGEMENT PRACTICES (BMPs)

1. Erosion and Sediment Abatement Control

A. Soil Stabilization Practices

1) Temporary Practices: Topsoil stockpiles and areas of the site where daily construction activities will temporarily cease for longer than 21 days will be stabilized using silt fencing, or covered to prevent erosion within 14 days. The contractor shall cause the location of topsoil stockpile to be noted and indicated on the SWPPP drawing.

2) Permanent Restoration: Disturbed portions of the site area affected by the construction shall be seeded for permanent vegetative restoration of turf per the contract plans and specifications or this SWPPP. All areas disturbed during construction shall be fertilized, seeded, and mulched.

Seeding/Fertilizer/Mulch – Light disking or other similar means shall properly prepare seedbeds. Disturbed portions of the site area affected by the improvements shall be seeded for vegetative restoration of turf per the specifications, or as follows. All areas disturbed during construction shall be fertilized, seeded, and mulched. Seed shall be as called for in the specifications, or a mixture of eighty percent (80%) K31 Fescue, fifteen percent (15%) Korean Lespedeza, and five percent (5%) wheat by weight applied at the rate of 130 pounds of seed mix per acre. Seed shall be applied by drilling or by broadcast application. Broadcast applications shall be lightly disked and rolled immediately following application of the seed. In either method, the seed shall be planted to the proper depth. Fertilizer shall be as called for in the specifications, or a commercial fertilizer, having an analysis of 12-12-12 (12 percent nitrogen, 12 percent phosphorous, and 12 percent potassium). Fertilizer shall be applied evenly and incorporated into the soil at the rate as called for in the specifications, or 20 pounds per 1,000 square feet, or per the manufactures instructions. The vegetative mulch shall be the cereal straw from oats, rye, wheat, or barley. The straw shall be free of prohibited weed seeds, as applicable under state seed law, and shall be relatively free of other noxious and undesirable seeds. The straw shall be clean and bright, relatively free of foreign material and applied at the rate of 2-1/2 tons per acre, or as called for in the specifications. The operation of seeding and mulch cover placement shall be accomplished not later than 14 days from the date final construction activities cease.

Erosion Control Mat – Biodegradable erosion control mats shall be installed (as needed) along steeper slopes, bottom of ditches, and elsewhere if shown on the SWPPP drawing and/or as needed, or as directed by the Resident Project Representative in accordance with the manufacturer's instructions. The mats shall be constructed with straw or recycled cellulose products and strengthened with a netting of polypropylene or natural fibers. Mats shall have a recommended life of at least ten months. Contractor shall apply fresh seed at above stated fescue seed mix rate prior to placement of the erosion control mats.

Slopes and seedbed areas shall be properly prepared, fertilized and seeded prior to installation of the mats. Mats shall be anchored with hardwood or biodegradable pins in accordance with the manufacturer's recommendations. (* Staple Pattern B minimum) Metal pins are not acceptable and shall not be used.

Erosion control mats shall be S150BN manufactured by North American Green or an approved equal.

B. Structural Element Practices

1) Filter Fabric Silt Fence: Temporary filter fabric silt fencing shall be installed along and downgradient of the disturbed areas as shown on the SWPPP drawing and in additional areas as needed, prior to and in conjunction with the construction of the improvements. The placement of the silt fencing shall be effective in the prevention of major sediment movement from the site. All filter fabric silt fencing shall be maintained throughout the construction and until final vegetation is restored, and Notice of Termination of the permit is received.

2) Straw Bale Barrier: Temporary straw bale barriers shall be strategically placed at the site as shown on the SWPPP drawing and at additional locations as necessary according to site specific terrain requirements, as a control measure to contain and prevent major sediment runoff from the project site as needed.

3) The construction entrance/exit drive shall be rock stabilized with a minimum 6" thick, 3" to 5" crushed rock over a geotextile filter material to prevent construction vehicles from transporting, tracking and/or dropping mud and/or sediment onto the public road as needed. Any and all other established entrance/exit roads on/site shall be kept clear and clean of any and all sediment to prevent tracking to public roads. This may require daily sweeping.

A descriptive reference for the proper installation of the filter fabric silt fences, straw bale barriers, and the construction entrance/exit is provided in the Appendices and on the drawing of this SWPPP.

2. Waste Disposal

A. Construction Waste/Trash/Solid Waste – Any and all waste materials (except hazardous waste–see paragraph III.2.B. below) generated during the project will be collected as needed and removed from the site daily or placed and stored in a metal dumpster rented from a solid waste management company licensed to operate in the City of Joplin or owned by the contractor or the owner. The dumpster(s) shall meet all local and State solid waste management regulations. The contractor shall cause the location of solid waste containers placed on the site to be noted and indicated on the SWPPP drawing. All trash and construction debris from the site will be deposited in the dumpster(s) as appropriate. The dumpster(s) will be emptied approximately once per week, or more often if necessary. No construction waste materials will be buried on site. All brush, trees and refuse shall be removed or disposed of by burning (if permitted). Open burning of tree trunks, tree limbs, and vegetation from land clearing operations is allowed only in the outstate area of Missouri if the burning takes place outside the city limits of any incorporated area or municipality. Materials such as tires or waste oil may not be used to start the fires or be burned in the fires. Missouri State Regulations prohibit open burning of any waste generated by a business, trade, industry, or any demolition operation including, but not limited to paper, cardboard boxes, pallets, tires, rubber products, hazardous materials, styrofoam, plastics, petroleum products, treated wood and any asbestos-containing material. Any burning operations shall be in strict compliance with the requirements of all applicable statutes and regulations. Prior to conducting any open burning, the contractor shall contact the appropriate city or county of jurisdiction for any local restrictions or permit requirements. Burning operations shall not constitute a nuisance to persons living nearby, shall be kept away from all property lines and at least 200 yards from the nearest inhabited dwelling, as well as transmission and distribution lines and shall be carefully controlled to prevent any damage to adjacent properties and facilities. Burn pit refuse shall be cleaned out and disposed of off-site. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted on site, as necessary. The contractor shall cause any and all burning locations to be shown on the SWPPP drawing.

B. Hazardous Waste – Any and all hazardous waste materials will be disposed of in the manner specified by local, state and/or federal regulations, or per instructions by the manufacturer. Site personnel will be instructed in these practices, and the individual who manages day-to-day site operations will be responsible for seeing that these practices are followed.

C. Sanitary Waste – The General Contractor is responsible for providing sanitary facilities on the site, as needed, should use of any permanent facilities not be available. The contractor shall cause the location of portable toilet facilities placed on the site to be noted and indicated on the SWPPP drawing. All sanitary waste will be collected from the portable units (if provided) a minimum of one time per week (or as needed) by a licensed sanitary waste management contractor, or as required by local regulation and disposed of only in locations having a State permit.

3. Offsite Vehicle Tracking

A stabilized construction site entrance/exit will be established and maintained to help reduce tracking of any sediment off-site and onto the adjacent and adjoining roadways. Care shall be taken to ensure that adequate rock aggregate is in place at all times at the entrance to minimize offsite tracking as discussed above in Section III.1.B.3 of this SWPPP.

IV. MAINTENANCE/INSPECTION PROCEDURES

1. Inspection Schedule

A. All control measures **SHALL** be inspected at least once a week, or as required by the issued storm water discharge permit, prior to a known major storm event, and within a reasonable time, not to exceed 24 hours, following any storm event of 0.5 inches or greater. The contractor is responsible for completing all inspection and maintenance forms, and providing same to the owner.

2. Maintenance of Sediment Control Measures

A. All storm water runoff sediment control measures will be maintained in good working order. Maintenance and repair (if necessary) shall be initiated within 24 hours of being reported.

B. Sediment built up shall be removed from the filter fabric silt fence barriers when it has reached one-third the height of the barrier or sooner.

C. All filter fabric silt fences will be inspected for depth of sediment and for fabric tears and to ensure the fabric is securely attached to the fence posts, and that the fence posts are firmly in the ground.

D. Any and all earthen berms and sedimentation basin dams shall be inspected for damage and erosion and repaired if necessary.

E. Any and all vegetation/rock check dams shall be replenished or replaced when the void space has become filled with silt and sediment to the point it is no longer functional.

F. Straw bales shall be inspected for damage and anchor integrity and replaced and/or re-anchored, if necessary. Sediment built up shall be removed from the straw bale barriers when it has reached one-third the height of the barrier or sooner, as required.

G. All temporary seeding shall be inspected for bare spots, washouts, and healthy growth. Re-seeding will be accomplished as necessary.

H. A maintenance inspection report shall be completed during each inspection. A copy of the inspection and report forms to be completed by the inspector is included in the Appendix.

I. The contractor will be responsible for inspections, completion of the inspection and maintenance reports, and all maintenance and repair activities. The contractor shall provide the owner with copies of all required reports in a timely manner.

J. The contractor shall name an individual as the Environmental Manager for the site for inspection and maintenance responsibilities. The individual shall be trained and knowledgeable in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls (BMPs) used on the site in good working order. The contractor shall cause the name of the Environmental Manager to be to be noted and indicated in the space provided on the SWPPP drawing.

3. Non-Storm Water Discharges

A. It is expected the following non-storm water discharges may occur from the site.

1) Wash waters from construction equipment and finished pavement (where no spills or leaks of toxic or hazardous materials have occurred.)
2) Water sprinkling for dust control.

V. SPILL PREVENTION - SITE MANAGEMENT BMPs/MMPs

The following are the material management practices (MMPs) that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

1. Good Housekeeping Practices

A. The contractor shall make a concerted effort to store only enough of each product on site required to do the job. The contractor shall cause the location of storage areas on the site to be noted and indicated on the SWPPP drawing.

B. Any and all materials stored on site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a cover or other enclosure for protection from precipitation and located away from drainage courses and low areas.

C. Any and all materials and products will be stored and maintained in their original containers with the original manufacturer's label.

D. Substances will not be mixed with one another unless recommended by the manufacturer.

E. Whenever possible, all of a product will be used up before disposing of the container.

F. Manufacturers' recommendations for proper use and disposal will be followed at all times for all materials and products.

G. The contractors' site superintendent, or his designated appointee, will visually inspect the job site daily to ensure proper use and/or disposal of all materials on site.

2. Hazardous Products - Storage, Handling, Use, & Disposal Practices

The contractor shall cause the location of any and all hazardous materials/hazardous products placed on the site to be noted and indicated on the SWPPP drawing. These practices are used to reduce the risks associated with hazardous materials:

A. Any and all products will be kept in original containers unless they are not re-sealable. Otherwise they should be transferred to re-sealable containers for storage and properly marked, indicating the contents.

B. Original labels and material safety data sheets (MSDSs) will be retained on site, as they contain important product information.

C. If surplus product must be disposed of, manufacturers' and local, state and/or federal recommended methods for proper disposal will be followed.

D. Fuels, oils, lubricants, solvents, or other hazardous materials shall NOT be disposed of on the site. All hazardous material must be properly stored, used and disposed in accordance with State and Federal laws and regulations. Drip pans will be provided for any valves on storage containers, as appropriate. For further guidance, contact MDNR at 1-800-361-4827.

3. Product Specific Practices

The following product specific practices will be followed on site:

A. Petroleum Products - All on-site vehicles and equipment will be monitored for leaks, and will receive regular preventive maintenance to reduce the chance of leakage. Any and all petroleum products on site will be stored in tightly sealed containers that are clearly labeled and provided with drip pans, if appropriate. Any asphalt substances used on site will be applied according to the manufacturer's recommendations. Any fuel storage tanks located on-site shall be provided with adequate secondary containment. Drip pans will be provided for all valves. If greater than 1320 gallons of oil is stored on the site, the contractor is responsible for providing and maintaining a SPCC (Spill Prevention, Control, and Countermeasures) plan on site. The contractor shall cause the location of any petroleum product storage areas on the site to be noted and indicated on the SWPPP drawing.

B. Fertilizers - Fertilizers will be applied only in the minimum amounts previously stated. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Storage of fertilized will be inside or under cover. The contents of any partially used bags of fertilizer will be transferred to a properly labeled, sealable plastic bin or container to avoid spills. The contractor shall cause the location of any fertilizer product storage area on the site to be noted and indicated on the SWPPP drawing.

C. Paints/Solvents/Cleaning Compounds, Etc. - All containers will be tightly sealed and stored when not required for use. Drip pans will be provided, if appropriate. Excess materials will NOT be disposed or dumped on site, but will be properly disposed of according to manufacturer's instructions and/or Federal, State, and local regulations. The contractor shall cause the location of any paints/solvents/cleaning compounds, etc. storage areas on the site to be noted and indicated on the SWPPP drawing.

D. Concrete Trucks - Concrete trucks shall be allowed to wash out only in locations where the discharge will remain on-site, and in a manner that prevents contact with storm water runoff. It is not permissible to discharge concrete truck washout directly to streams or storm drains.

E. Mud/Sediment Offsite Tracking - Only the designated entrance(s) shall be used for contractor access to, and exit from, the site. The General Contractor will be responsible for keeping all mud and off-site tracking cleaned from the adjoining public road, on a daily basis if needed.

4. Spill Control Practices

The contractor is responsible for providing and maintaining a SPCC (Spill Prevention Control and Countermeasures) plan on site, as required by the regulations at 40 CFR 112. In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

A. Manufacturer's recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Refer to manufacturer's MSDSs.

B. Materials and equipment necessary for spill cleanup will be kept in a designated material storage area on site. The contractor shall cause the location of the spill clean up materials and equipment to be noted and indicated on the SWPPP drawing. Spill cleanup equipment and materials will include, but not be limited to, shovels, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and/or metal trash containers specifically for this purpose, as applicable.

C. All spills will be cleaned up immediately after discovery and properly containerized for proper disposal. Burial on site is not acceptable and shall not be allowed.

D. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

E. Reportable quantities for spills of toxic or hazardous material will be promptly reported to the appropriate Federal, State and local government agencies, as required, including the McDonald County Local Emergency Planning Committee (LEPC) and others listed on the enclosed "Spill/Release Information and Reporting Form". Reportable quantities for oil and hazardous substances are found at 40 CFR 110, 117, and 302, and as stated in the Appendix of this plan. When permits are applicable, the permittee or his/her authorized representative is required to notify the MDNR Environmental Emergency Response in accordance with 40 CFR 117 and 40 CFR 302 as soon as they have knowledge of the discharge of any hazardous substance or petroleum product in excess of the reportable quantity. The MDNR emergency spills hot line is 1-573-634-2436. Copies of any and all reporting forms shall be provided to the owner of the project as soon as is practical.

F. The spill prevention, control and countermeasures plan and/or practices will be adjusted to include measures to prevent a spill event of this type from recurring, and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures taken will also be included.

G. The Environmental Manager will also be the spill prevention and cleanup coordinator unless the contractor arranges otherwise. He will designate other site personnel who will receive spill prevention and cleanup training, as required. The names of responsible spill personnel will be posted in the material storage area and in the office trailer on site, if one so exists.

VI. AIR EMISSIONS

1. Burning: Any burning on the site may require a permit from the MDNR. For guidance, contact the MDNR Southwest Regional Office in Springfield at (417) 891-4300 or the MDNR Air Pollution Control Program, Jefferson City at (573) 751-4817. County and/or city ordinances may also apply. It is the responsibility of the contractor to contact these governing bodies for guidance. Refer to Section III.2.A of this SWPPP for additional information relative to open burning at the site. An MDNR fact sheet relative to open burning is included in the Appendix.

2. Dust Control: The contractor is required by State law to control fugitive dust blown from the site. Dust can be minimized by stabilizing areas with mulch as soon as possible. Watering should be provided in unstabilized areas as needed for dust control. Contact MDNR for guidance, as needed, at the numbers listed above.

VII. AMENDING THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

The permittee, CITY OF JOPLIN, and the Contractor shall amend and update the SWPPP, as appropriate, during the term of the land disturbance activities. The permittee/contractor shall amend the SWPPP, at a minimum, whenever the:

1. Design, operation, or maintenance of Best Management Practice (BMP) structures and/or controls is changed or is deemed inadequate in controlling sediment;

2. Design of the construction project is changed that could significantly affect the quality of the storm water discharges;

3. Inspections indicate deficiencies in the SWPPP or any BMP used at the site;

4. MDNR notifies the permittee of deficiencies in the SWPPP;

5. The SWPPP is determined to be ineffective in significantly minimizing or controlling erosion and off-site sedimentation (e.g., there is visual evidence, such as excessive site erosion or excessive sediment deposits in receiving streams);

6. Non-Filterable Residues (NFR) from a storm water outfall exceeds 45 mg/l;

7. Total Settleable Solids from a storm water outfall exceed 2.5 ml/L/hr, unless the disturbed area is defined under, "Applicability to Valuable Resource Water". Settleable Solids from a storm water outfall in areas near Valuable Resource Water shall not exceed 0.5 ml/L/hr, as indicated in the permit issued by MDNR and/or;

8. MDNR determines violations of Water Quality Standards may occur or have occurred.

Based on the results of an inspection, the SWPPP must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. Implementation of these additional or modified BMPs must be accomplished as soon as possible.

VIII. RETENTION OF RECORDS

The permittee, CITY OF JOPLIN, shall retain copies of the SWPPP and all reports required by this permit, and records of all data used to comply with this permit, for a period of at least three years from the date that the site is finally stabilized and the Notice of Termination is received from the MDNR. This period may be extended by request of the Director of MDNR at any time.

The permittee shall retain a copy of the SWPPP from the date of project initiation to the date of final stabilization, as required by the permit (including a copy of the permit), at the construction site (or other local location), and made available upon request by the MDNR Director, or his representative; or other state or local agency approving or inspecting sediment and erosion control plans, grading plans, or storm water management plans to ensure implementation of the SWPPP, or the operator of a municipal separate storm sewer system, if any, receiving discharges from the site; and representatives of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service. The Permittee, or Contractor(s) with day-to-day operational control over SWPPP implementation shall have a copy of the SWPPP on-site or locally available at all times. A copy of the SWPPP, in its entirety, must be made available to the MDNR staff for review and copying at the time of an on-site inspection. All SWPPPs must be signed and certified, as required.

If an on-site location is unavailable to store the SWPPP when no personnel are present, a sign or other notice of the plan's location must be conspicuously posted near the main entrance of the construction site. If not feasible, the notice can be posted in a local public building, or public library. The sign or other notice must contain the following information:

1) A copy of the completed Application, as submitted to the MDNR Water Pollution Control Program; and

2) If the location of the SWPPP or the name and telephone number of the contact person for scheduling SWPPP viewing times has changed, the current location of the SWPPP and the name and telephone number of the person for scheduling viewing times must be stated.

CITY OF JOPLIN
PROJECT NAME: ZORA STREET FROM DUQUESNE ROAD TO I-249
JASPER/NEWTON COUNTY
JOPLIN, MISSOURI
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CERTIFICATION

OWNER'S CERTIFICATION

I certify that, being an authorized representative of CITY OF JOPLIN, owner of the site, the information contained herein is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting (if required) false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____

Title: _____

Signature: _____

Date: _____

For: CITY OF JOPLIN
602 S Main Street
Joplin, Missouri, 64801
(417) 624-0820

CONTRACTOR'S CERTIFICATION

I certify under penalty of law, that I, being an authorized representative of the Contractor for the permittee, understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit issued by the Missouri Department of Natural Resources (MDNR) and this Storm Water Pollution Prevention Plan (SWPPP) and shall comply with all conditions of the SWPPP, and the Permit for authorized Storm Water Discharges Associated with Construction or Land Disturbance Activities as issued by the MDNR Water Pollution Control Program, and that any non-compliance with the general permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6.200. Non-compliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

_____
Printed or Typed Name and Title

_____
Contractor's Representative Signature

_____
Date

For: _____
Contractor Name (Print)

_____
Contractor Address

_____
City/State

_____
Contractor Telephone Number

APPENDICES

A. BMP Examples

Construction Site Entrance/Exit Information

Filter Fabric Silt Fence Example

Straw Bale Barrier Example

Storm Drain Inlet Structure Protection Example

Storm Water Outlet Structure Protection Example

B. Inspection and Maintenance Report Forms and Inspection Log Sheet

C. Weather Information Form

D. Changes Required to the SWPPP

E. List of Stabilized Areas Form

F. Major Grading Activities Report

G. Spill/Release Information and Reporting Form

H. Subcontractor Certification List and Subcontractor Certification Form

I. MDNR Technical Bulletin – Response to Small Fuel Spills

J. MDNR Fact Sheet – Open Burning Under Missouri Regulations

K. Notice of Intent (NOI)

L. Notice of Termination (NOT) Form H

M. City Wide National Pollutant Discharge Elimination System Storm Water Discharge General Permit

N. Drawings (Insert a copy into the back cover of this document)

APPENDIX A

BMP EXAMPLES

CONSTRUCTION SITE ENTRANCE/EXIT INFORMATION

COMPOST FILTER SOCK EXAMPLE

STRAW BALE BARRIER EXAMPLE

STORM DRAIN INLET STRUCTURE PROTECTION EXAMPLE

STORM WATER OUTLET STRUCTURE PROTECTION EXAMPLE

Stormwater Best Management Practice

Construction Track-Out Controls

Minimum Measure: Construction Site Stormwater Runoff Control
Subcategory: Sediment Control

Description

Construction track-out controls minimize the amount of sediment leaving or being tracked out from the construction site as dirt, mud or other sediment attached to vehicles. Stabilization measures, vehicle wash stations and sediment collection devices are all common track-out controls.

Installing a pad of gravel over filter cloth where construction traffic leaves a site can help stabilize sediment at a construction entrance/exit. As a vehicle drives over the pad, the pad removes mud and sediment from the wheels and reduces soil transport off the site. The filter cloth separates the gravel from the soil below. It also reduces rutting by vehicle tires.

In addition to using a gravel pad, construction staff can install a vehicle washing station at the site entrance/exit. Using washing stations routinely can remove a lot of sediment from vehicles before they leave the site. Construction staff should divert wash water from vehicle washing stations into a sediment trap that will handle sediment from vehicles properly and keep it on-site.

Several other types of track-out controls, such as shaker racks (also called exit grids, rumble strips or cattle guards) and other similar proprietary devices, can help knock mud and dirt off vehicle tires. Shaker racks work by removing mud or soil from vehicle tires through bouncing or shaking action as the vehicle drives over the rack.

Applicability

Construction staff should install track-out controls anywhere construction traffic leaves or enters a construction site. Track-out controls can also provide benefits from a public relations point of view, as the site entrance/exit is often the most noticeable part of a construction site and can show community members that controls are in place to minimize sediment being tracked onto nearby streets and neighboring areas. Minimizing sediment on roads can improve both the appearance and the public perception of the construction project as well as limit the occurrence of complaints about the site. Additionally, a stabilized construction entrance/exit is generally a requirement of any construction permit, though design engineers should contact local authorities for specific requirements and design specifications.



A construction entrance stabilized with gravel over filter cloth reduces the amount of sediment transported off site.
Photo Credit: PG Environmental for USEPA

Siting and Design Considerations

Before considering track-out controls, design engineers should consider the locations of construction site entrances/exits. Where possible, they should place site entrances/exits in well-drained areas, away from streams or wetlands, and in a place where construction staff can easily conduct regular maintenance. If including wash areas, design engineers should account for adjacent, downstream areas on-site that can collect and treat wash water (e.g., using a sediment basin or similar temporary treatment practice).

Design engineers should follow local design and installation details for all construction entrances/exits. Some common design practices include the following (Caltrans, 2017; MPCA, 2019):

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- Stabilize all entrances/exits to a site before land disturbance begins.
- Make sure the stabilized site entrances/exits are long and wide enough to allow the largest construction vehicle to fit with room to spare. If many vehicles will use an entrance/exit in any one day, make the site entrance/exit wide enough for two vehicles to pass at the same time with room on either side.
- If a site entrance/exit leads to a paved road, make the end of the entrance/exit flared so that long vehicles do not leave the stabilized area when they turn onto or off the road.
- Grade the exit pad so that sediment-laden stormwater does not flow onto streets or into storm drains.
- Install non-woven geotextile on graded soil to support the exit pad and spread rock evenly over the geotextile.
- Make sure the stone and gravel used to stabilize the construction site entrance/exit is large enough that vehicles do not carry it off-site.
- Avoid using sharp-edged stones, which can puncture tires.
- Install stone or gravel at a depth of at least 6 inches for the entire length and width of the stabilized construction entrance/exit. If the design uses shaker racks, make sure they are wide enough to fit the widest vehicles and long enough to allow enough shaking time. Make sure there is enough storage beneath the rack—at least 4 inches is typical.
- If a construction site entrance/exit crosses a stream, swale or other depression, provide a bridge or culvert to prevent erosion from unprotected banks.

Operational practices can also help limit sediment track-out. To limit overloading track-out controls, construction staff should avoid vehicle traffic on exposed, muddy areas of the site where possible. They should also limit traffic onto and off the site by parking vehicles on the street if possible.

Limitations

Although stabilizing a construction entrance/exit reduces the amount of sediment leaving a site, vehicle tires might still deposit some soil onto paved surfaces. To further reduce the chance of these sediments polluting stormwater, construction staff should sweep the paved area adjacent to the stabilized site entrance/exit as needed. Times of wet weather will likely call for increased sweeping and maintenance. For sites that use wash stations, a reliable water source might not be initially available and trucks might have to bring water to the site at an additional cost. Using a recapture and treatment system can help reduce the cost of water imports.

Maintenance Considerations

Construction staff maintain track-out controls in compliance with applicable permits and local regulations, generally until they have fully stabilized the rest of the construction site. Below are some steps they can follow:

- Add stone and gravel periodically to each stabilized construction site entrance/exit.
- Remove mud and dirt clods to keep the stabilized pad relatively clean.
- Immediately sweep up or vacuum soil and dirt clods tracked off-site for proper disposal.
- Make sure not to hose or sweep tracked-out sediment into any stormwater conveyance or storm drain inlet, or directly into any creek, stream or other waterway.
- Periodically remove sediment from wash rack sediment traps to make sure they keep working.

Effectiveness

The effectiveness of track-out controls is highly variable and depends on their design, use and maintenance. Sediment removal rates can range from less than 30 percent up to 60 percent for gravel pads and shaker racks. Wheel washing racks, when properly installed, can remove 75 percent or more of sediment (MPCA, 2019).

In some cases, such as areas with high clay content or persistent rain, stabilizing the site entrances/exits might not be very effective without routine use of a wash rack. Track-out controls are only effective when site rules require vehicles to use them and physical constrictions force traffic through the controls. This can be problematic for sites with multiple entrances/exits and high vehicle traffic.

Cost Considerations[1]

Track-out control costs will vary greatly depending on the controls' type and design specifications, as well as site conditions (MPCA, 2019). According to Minnesota Department of Transportation project bids awarded in 2019, the average cost for a stabilized rock construction entrance was $3,100 (MnDOT, 2019, bid item 2573501/00025). This cost includes maintenance of the track-out control throughout the project. The Construction BMP Online Handbook cites an average annual cost for installation and maintenance of $2,900 (range of $1,500–$5,900) for a stabilized rock entrance. With an added wash rack and sediment trap at the entrance, the average cost increases to $4,400 (range of $1,500–$7,300) per entrance (CASQA, 2009).

[1]Prices updated to 2020 dollars. Inflation rates obtained from the Bureau of Labor Statistics CPI Inflation Calculator Web site, https://data.bls.gov/cgi-bin/cpicalc.pl. Reference dates for the calculation are October 2011 and September 2019.

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

California Department of Transportation (Caltrans). (2017). *Construction site best management practices (BMP) manual*. CTSW-RT-17-314.18.1.

California Stormwater Quality Association (CASQA). (2009). *Construction BMP online handbook.*

Minnesota Department of Transportation (MnDOT). (2019). *Average bid prices for awarded contracts, state aid projects not included: 1/1/2019 to 12/31/2019.*

Minnesota Pollution Control Agency (MPCA). (2019). Sediment control practices—vehicle tracking BMPs. In *Minnesota stormwater manual.*

Disclaimer

This fact sheet is intended to be used for informational purposes only. These examples and references are not intended to be comprehensive and do not preclude the use of other technically sound practices. State or local requirements may apply.

Stormwater Best Management Practice

Compost Filter Socks

Minimum Measure: Construction Site Stormwater Runoff Control
Subcategory: Erosion Control

Description

A compost filter sock is a type of contained compost filter berm. The filter sock is typically a mesh tube filled with composted material that is placed perpendicular to the direction of sheet flow to control erosion and retain sediment in disturbed areas. A compost filter sock has an oval or round cross-section and provides a three-dimensional filter to retain sediment and other pollutants (e.g., suspended solids, nutrients, metals and motor oil) and allow clean water to flow through (Faucette et al., 2009). The filter sock can replace a traditional erosion and sediment control practice, such as a silt fence or straw bale barrier, and is often more effective. The composts in filter socks come from a variety of feedstocks, including yard trimmings, food residuals, separated municipal solid waste, biosolids and manure.

Construction staff generally place compost filter socks along the perimeter of a site or at intervals along a slope to capture and treat sheet flow. They can also serve as storm drain inlet protection on pavement. They are flexible, and construction staff can fill them in place or fill and move them into position, making compost filter socks especially useful on steep or rocky slopes where installation of other erosion and sediment control practices is not feasible. Compost filter socks have more surface area contact with the underlying soil than typical sediment control devices, so stormwater is less likely to create rills under them and/or create channels carrying unfiltered sediment. The greater contact area and weight of compost filter socks also allows water to pond upgradient and suspended sediments to settle out.

Compost filter socks can be vegetated or unvegetated. Vegetated filter socks can remain in place to provide long-term stormwater filtration as a post-construction stormwater control measure. The vegetation grows into the slope, further anchoring the filter sock. Construction staff often cut open unvegetated filter socks upon project completion, and they spread the compost around the site as soil amendment or mulch. They then dispose of the mesh sock unless it is biodegradable.



Compost filter socks installed in a vegetated channel leading to a sediment basin.

Credit: Anthony D'Angelo for USEPA, 2015

Applicability

Compost filter socks apply to construction sites or other disturbed areas where stormwater discharge occurs as sheet flow. Compost filter socks can apply to steeper slopes with faster flows if they have closer spacing, lie beside and/or on top of each other, have larger diameters, or work in combination with other stormwater controls such as compost blankets.

It is also important to account for regional considerations such as ambient temperature and moisture conditions. Freezing temperatures and prolonged dry periods can impact the compost's effectiveness and life span (USACE, 2008).

Compost Quality Considerations

Compost quality is an important consideration when designing a compost filter sock. Use of sanitized, mature, biologically stable compost ensures that the compost filter sock performs according to design, has no identifiable feedstock constituents or offensive odors, and minimizes soluble nutrient loss.

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Maturity: Maturity indicates how well the compost will support plant growth. One maturity test compares the percentage of seeds that germinate in compost compared to a potting soil mix. The difference in germination rates marks the maturity of the compost.

Stability: Stability indicates microbial activity in the compost and can directly correlate to carbon dioxide production from the compost due to microbe respiration during the decay process. A stable compost has no offensive odors, does not resemble the original material and has low rates of carbon dioxide off-gassing.

Absence of pathogens: The pathogen count indicates how sanitary the compost is. In 40 CFR, Part 503, EPA has defined processes for composting that reduce the number of pathogenic organisms to nondetectable levels and ensure the resulting compost is sufficiently heat-treated and sanitary.

The compost in filter socks should meet all local, state and federal quality requirements and meet the guidelines outlined in Table 1. All compost should comply with 40 CFR, Part 503, which establishes safe standards for pathogen reduction and presence of heavy metals.

Table 1. Quality guidelines for compost used in filter socks.

Parameters	Units of Measure	Acceptable Range
pH	N/A	5.0–8.5
Soluble salt concentration (electrical conductivity)	dS/m (millimhos/cm)	Maximum 5 dS/m
Moisture content	Percent, wet weight basis	30–60%
Organic matter content	Percent, dry weight basis	25–100%
Particle size	Percentage passing a selected mesh size, dry weight basis	2 inches, 100% passing; 3/8 inches, 50% passing
Biological stability/maturity (carbon dioxide evolution rate)	mg CO_2-C per gram of organic matter per day	Less than 8 mg
Physical contaminants (human-made inerts)	Percent, dry weight basis	Less than 1%

Source: AASHTO 2017, USDA 2011

The U.S. Composting Council (USCC) certifies compost products under its Seal of Testing Assurance Program. Compost producers whose products the Seal of Testing Assurance Program has certified provide customers with a standard product label that allows comparison among compost products. The USCC website contains information on the current Seal of Testing Assurance Program requirements and testing methods.

Construction staff should choose a mature, biologically stable compost that meets the particle size specifications in Table 1 above. This ensures that the nutrients in the composted material are in organic form, less soluble and less likely to migrate into receiving waters.

The American Association of State Highway Transportation Officials (AASHTO) and many individual state departments of transportation have issued specifications for filter socks (AASHTO, 2017; USCC, 2001). These specifications describe the quality and particle size distribution of compost for compost filter socks for highway construction projects. Research on these parameters continues to evolve; therefore, design engineers should contact the department of transportation or state environmental agency where they will install the filter sock to obtain any applicable specifications or compost-testing recommendations. Compost filter socks can apply to many types of construction projects and various landscaping projects as well. Construction staff may modify these parameters depending on local site conditions or needs, as appropriate.

Siting and Design Considerations

Filter sock assembly involves tying a knot in one end of the mesh sock, filling the sock with the composted material (usually using a pneumatic blower), then knotting the other end once the sock reaches the desired length. A filter sock is normally the width of the slope to ensure that stormwater does not break through at the intersection of socks placed end to end. Where this is not possible, construction staff place the socks end to end along a slope and interlock the ends.

The diameter of the filter sock varies depending on the purpose of the filter sock, as well as the steepness and length of the slope. Construction staff usually place compost filter socks along a contour perpendicular to sheet flow. In areas of concentrated flow, compost filter socks often serve as check dams. Local rainfall and appropriate storm scenarios should determine the sizing and spacing of filter socks. Specifications manuals can provide detailed information regarding diameter, length, specific location and spacing recommendations for filter socks (e.g., USDA 2011 and ASSHTO 2017).

Studies examining the use of erosion and sediment control practices utilizing compost in bioretention systems, compost blankets and as soil amendments have shown both reductions in organic nutrients and releases of nutrients (N and P) in leachate and infiltrate. The potential for nutrient discharges from erosion and sediment control practices that utilize compost should be considered to determine whether compost use is appropriate especially in cases where there are receiving waterbodies that are sensitive to or are currently impaired by nutrients. Site conditions, compost type and composition, compost berm placement and management of the compost system also will affect potential nutrient loadings or reductions and pollutant loadings to receiving waters. The use of this practice should be considered weighing the overall efficacy of the system in terms initial nutrient loadings, mid-life nutrient trapping capacity and the potential for end-of-life nutrient discharges where nutrients are of concern.

Installation

The advantage of compost filter socks over similar stormwater controls is that they do not require trenching; therefore, installing them does not disturb the soil. However, construction staff should trim or remove vegetation and debris to ensure full contact with the ground surface. Once staff have filled the filter sock and placed it, they should anchor it to the slope. The preferred anchoring method is to drive stakes at regular intervals through the center of the sock at least 8 inches into the ground (USDA, 2011); alternatively, construction staff can place stakes on the downstream side of the sock. They should direct the ends of the filter sock upslope to prevent stormwater from running around them. Incorporating seed into the compost before placement in the filter sock can vegetate the filter sock. Since it is not necessary to trench compost filter socks into the ground, construction staff can install them on frozen ground or even cement.

Limitations

Construction staff can install compost filter socks on any type of soil surface; however, they should cut down or remove heavy vegetation to ensure that the compost contacts the ground surface. Stormwater and sediment control devices, including filter socks, are not appropriate for use in streams.

Maintenance Considerations

Construction staff should inspect compost filter socks regularly, including after each rainfall event, to ensure proper function. Excessive upstream ponding or overtopping indicates that the current configuration is not adequate. In these cases, construction staff should place an additional filter sock further up the slope or use an additional erosion control, such as a compost blanket, in conjunction with the filter sock. Staff should remove accumulated sediment when it reaches one half the height of the filter sock or as the current EPA Construction General Permit or equivalent state and local permits mandate. If the compost filter sock is a temporary application, at the end of the project, construction staff can spread the compost material in areas that do not receive concentrated flow (USDA, 2011).

Effectiveness

A number of studies have shown that compost filter socks are at least as effective as traditional erosion controls at removing settleable solids, total suspended solids and a variety of other pollutants from stormwater. An Ohio State University study found that compost filter socks have a 50 percent higher flow-through rate than

silt fences without a reduction in sediment removal efficiencies (Keener et al., 2007). A U.S. Department of Agriculture study found that compost filter socks reduced clay and silt particulates (the major contributors to suspended solids and turbidity) by 65 percent, outperforming straw bales and mulch berms. The same study saw a reduction in bacteria of 75 percent, reduction in heavy metals of 37 to 71 percent and reduction in petroleum hydrocarbons of 43 to 84 percent (Faucette et al., 2009). In a similar study, compost filter socks reduced phosphorus concentrations by about 60 percent, compared to removal rates of around 20 percent by silt fences (Faucette et al., 2008).

Cost Considerations

The cost to install a compost filter sock depends on the availability of the required quality of compost in an area. The cost for a biodegradable compost filter sock generally ranges from $5 to $10 per linear foot, with the cost mostly dependent on the cost of the compost (RSMeans, 2019). Although costs for fully biodegradable netting can be more than non-biodegradable netting, the labor cost savings from not having to remove the control measure—as well as the subsequent benefit to soil condition and vegetation establishment—may justify this cost. However, there is still the cost to remove and dispose of sediment that accumulates to at least one-third the distance between the top of the fiber roll and the ground surface.

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

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Stormwater Best Management Practice

Straw or Hay Bales

Minimum Measure: Construction Site Stormwater Runoff Control
Subcategory: Sediment Control

Description

Construction sites have historically used straw or hay bales for erosion and sediment control as check dams, inlet protection, outlet protection and perimeter control. Many applications of straw bales for erosion and sediment control are ineffective due to the composition of straw bales, inappropriate placement, inadequate installation, lack of maintenance or a combination of all these factors (Fifeld, 1999). In addition, straw bales are maintenance-intensive and can be expensive. Because many applications of straw and hay bales have been ineffective, EPA recommends carefully considering other stormwater control measures first. This fact sheet provides more information and alternatives to straw and hay bales.

Limitations

Limitations to straw and hay bales include the following:

- ***Channel flow***: Straw bales cannot reduce erosion in channel conveyances. Installing a straw bale structure across a channel may actually increase stormwater velocities by reducing the channel's cross-sectional area. This can result in increased erosion around the bales and widening of the channel's cross section (City of Portland, 2008).
- ***Heavy rain***: Straw bales do not work well in areas with heavy rain or on sites with large drainage areas or steep slopes. Straw bales can be impermeable and cannot withstand high flows. Construction staff should take care during placement and installation to avoid failure from undercutting, overtopping and end-running. Construction staff should not install straw bale structures across ditches or concentrated-flow areas because the structures can exacerbate erosion and flooding.
- ***Deployment and use***: Construction staff should not use straw bales on streets or sidewalks because they cannot properly stake the bales into concrete or asphalt, and the straw bales will wash away in higher flows. Straw bales are also difficult to transport and to carry around onsite, particularly when attempting to dispose of waterlogged straw bales. Often, the bindings break and the straw can wash into and clog storm drains (City of Portland, 2008).
- ***Resilience***: Straw bales will rot and fall apart over time (approximately 3 months), particularly in areas of high rainfall; therefore, they require intensive maintenance. Straw bales will float, and construction staff should properly stake them even in low-flow conditions. As previously stated, in high-flow conditions, water will flow around a straw bale barrier or undercut spaces between the bales.

Alternatives

The following is a list of typical applications for straw and hay bales and some alternative practices that are more effective.

Common Uses of Straw or Hay Bales	Alternatives to Straw or Hay Bales
Perimeter controls	■ Silt fence ■ Brush barrier
Check dams	■ Rock check dams ■ Fiber rolls ■ Compost filter berm ■ Filter berm
Slope protection	■ Geotextiles ■ Compost blankets ■ Erosion control blanket
Storm drain inlet protection	■ Filter fabric, gravel bags and other designs ■ Compost filter socks ■ Fiber rolls
Concrete washout structures	■ Prefabricated concrete washout containers

Considerations

If using straw bales (considering the limitations listed above), each bale should be at least 14 inches wide, 18 inches high and 30 inches long, with a minimum mass of 50 pounds (Broz et al., 2017). The straw bale should consist entirely of vegetation except for the binding material. Steel wire, nylon or polypropylene string should bind the bales. Bales should not have jute or cotton binding. Baling wire should be at least 14 gauges in diameter, while nylon or polypropylene string should

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have an approximately 12-gauge diameter with a breaking strength of 80 pounds of force.

Proper installation of straw bales is critical, as improper installation can make them ineffective. Construction staff should intrench straw bales approximately 4 to 6 inches into a pervious ground surface. They should use wood stakes to hold the bales in place. The stake material should be commercial-quality lumber that is free from decay, splits or cracks longer than the thickness of the stake or other defects that would render it structurally unsuitable. Steel bar reinforcement should be equal to a #4 designation or greater. Any exposed bar reinforcement should have end protection. Upstream slopes should be shallow, with an upstream flow path of less than 100 feet from the bale, as steep slopes will cause flow to overtop the straw bales.

Maintenance Considerations

Straw bales degrade making the replacement of rotting bales a regular maintenance activity. Replacement intervals are typically every 3 months, depending on local conditions. Maintenance will include repairing any erosion from washouts around the bales. Construction staff may also have to clean out sediment that settles in ponded areas around correctly installed bales when the sediment accumulation reaches one-third of the bale height. Construction staff will also have to remove straw bales when they burst open or are no longer necessary.

Effectiveness

Straw bale barriers are generally not as effective as similar alternative practices due to the limitations discussed above. These barriers often fill to capacity after small storms and can wash away if staked incorrectly. Straw bale structures cannot accommodate large storms and tend to fail during large storm events.

Cost Considerations

Staked hay bales cost around $5 to $10 per linear foot to install depending on location, site layout and material availability. By comparison, silt fences cost around $2 to $3 per linear foot to install, last longer, and are often a more effective means of erosion and sediment control (RSMeans, 2019). Similarly, brush barriers can be a low-cost alternative to site perimeter control when material comes from the clearing of the site.

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

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Stormwater Best Management Practice

Storm Drain Inlet Protection

Minimum Measure: Construction Site Stormwater Runoff Control
Subcategory: Sediment Control

Description

Storm drain inlet protection controls prevent soil and debris from entering storm drain inlets. These controls are usually temporary and allow storm drain inlets on-site to remain operational prior to permanent site stabilization. Inlet protection is often the last opportunity to provide treatment to stormwater prior to discharge. There are several types of inlet protections that construction site operators can use depending on site conditions, inlet configurations and material availability. Inlet protection can be either internal or external. Internal controls consist of a filter insert that construction staff place within a storm drain, and these controls are generally only useful for larger sediment. External controls enable ponding around the storm drain inlet using some type of filter barrier made of stone, gravel or fabric. Construction staff can create the ponded area by either excavating around a drop inlet or by building the filter material up around a drop inlet's perimeter. External controls slow flow velocities and allow for sediment settling and filtration before stormwater enters the inlet.

A variety of controls can protect storm drain inlets, such as the mostly structural controls that this fact sheet discusses or non-structural controls that the Compost Filter Socks and Fiber Rolls fact sheets discuss in greater detail.

Applicability

Inlet protection is applicable to operational inlets for which all or some of the inlet's drainage area is disturbed. Storm drain inlet protection is a secondary control device, meaning that construction staff should always use inlet protection in conjunction with other sediment and erosion control practices.

Internal controls are applicable to areas with high construction traffic or where roadway flooding is a concern (WSDOT, 2019). External controls—which require more space for stormwater ponding but are generally more effective as sediment control practices—are applicable to a wide range of inlet configurations. Excavated drop inlet protection and block and gravel inlet protection are applicable to areas of high flow, where drain overflow is likely. Fabric (e.g., silt fence or geotextile) barriers are applicable to smaller, flatter drainage areas, but construction staff should be aware that some locations caution against this practice due to its high failure rate (e.g., TDEC, 2012).



Storm drains and curb inlets should be protected with filter fabric and filter socks, which trap sediment and allow water to flow through.

Photo Credit: PG Environmental for USEPA

Siting and Design Considerations

Construction staff should install temporary inlet protection controls before any soil disturbance occurs in the drainage area. Generally, drainage areas to each control should be no greater than 1 acre per inlet. In all cases, the overtopping depth of an inlet protection control should not be greater than any surrounding low point in the drainage area so that stormwater does not bypass the inlet. In some cases, controls may require an emergency overflow (City of Seattle, 2017).

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Given the wide variety of inlet protection types, design engineers and construction staff should always consult local, state and manufacturer specifications for siting, installation and maintenance requirements. Considerations for common inlet protection controls are below (City of Seattle, 2017; DC, 2017; Lake, 2016; TDEC, 2012; WSDOT, 2019):

- ***Excavated drop inlet protection*** – This consists of a small area that construction staff can excavate or leave below grade around an inlet to create a settling pool. Small holes (also called weep holes) with gravel and/or filter fabric protection slowly release stormwater into the inlet. Recommended depths vary by location but are generally between 1 and 2 feet depending on site configurations. Most jurisdictions also provide recommendations for minimum storage volume as a function of drainage area. For example, the New York State Department of Environmental Conservation recommends a minimum of 35 cubic yards per acre disturbed (Lake, 2016).
- ***Fabric drop inlet protection*** – This consists of a barrier of porous fabric around an inlet that creates a shield against sediment while allowing water to flow into the inlet. This barrier slows stormwater while catching soil and other debris. If water levels are high enough, water should be able to overflow into the inlet leaving settled sediment behind. Most jurisdictions specify a maximum fabric height of 1.5 feet unless adequate reinforcement is in place.
- ***Block and gravel inlet protection*** – Standard concrete blocks and gravel form a barrier to sediments that permits stormwater to flow through select sideways blocks. Similar to fabric drop inlet protection, block and gravel controls should be high enough to pond stormwater and enable settling of sediments, but not so high as to prohibit overtopping during times of high flows. Designs typically require wire mesh between the blocks and gravel to prevent gravel from entering the inlet.
- ***Sod inlet protection*** – For permanent inlet protection after construction staff have stabilized the surrounding area, staff can install sod. This permanent measure is an aesthetically pleasing way to slow stormwater near drop inlet entrances and to remove sediments and other pollutants from stormwater. Only use sod inlet protection after staff have stabilized the entire drainage area.

Limitations

Stormwater inlet protection is not appropriate as a primary sediment control. Construction staff should always use it with other controls, such as an upstream buffer strip or storm drain diversion (Lake, 2016). In general, stormwater inlet protection is only practical for areas receiving relatively clean stormwater that does not contain large amounts of sediment, as the controls often clog quickly. If sediment and other debris clog the water intake, inlet protection controls can cause stormwater to bypass the inlet and erode unprotected areas.

Maintenance Considerations

Storm drain inlet protection controls require regular maintenance to prevent clogging and ensure effective operation. Regular maintenance activities include:

- Checking all controls after each storm event.
- Removing accumulated sediment from settling areas when the capacity decreases by half.
- Removing sediment from the settling area or unclogging weep holes if the control does not drain within 48 hours.
- Immediately replacing tears in fabric controls or internal filtering controls. This may require replacing the entire control depending on the amount of damage.
- Periodically removing additional debris from the shallow pools.

Effectiveness

Inlet protection controls alone have limited effectiveness, as stormwater would quickly overwhelm them if used as a primary control. However, inlet protection can provide a moderate level of pollutant removal in conjunction with other controls. Given the wide variability in designs of external controls, performance data for external controls is limited. In a review of 11 internal inlet protection controls, Clary et al. (2011) found inlet inserts to reduce total suspended solids concentrations from a median influent concentration of 52 mg/L to a median effluent concentration of 33 mg/L. Removals for other parameters, including metals and nutrients, were variable but mostly positive.

Cost Considerations[1]

The cost of implementing storm drain inlet protection controls varies depending on many factors including the control type, availability and proximity of materials, prevailing wage rates, and regional cost trends. It is therefore difficult to develop cost estimates that apply nationwide. The New York State Department of Environmental Conservation used average bid prices from 2013 to estimate a cost of $210 for each filter fabric inlet control and $1,100 for each excavated or block and gravel inlet control; they also suggest maintenance costs to be about 60 percent of construction costs (Lake, 2016).

[1]Prices updated to 2020 dollars. Inflation rates obtained from the Bureau of Labor Statistics CPI Inflation Calculator Web site https://data.bls.gov/cgi-bin/cpicalc.pl. Reference dates for the calculation are October 2011 and September 2019."

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

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APPENDIX B

INSPECTION AND MAINTENANCE REPORT FORM
and
INSPECTION LOG SHEET

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY

JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
INSPECTION AND MAINTENANCE REPORT FORM
TO BE COMPLETED AT LEAST ONCE PER WEEK, PRIOR TO A KNOWN MAJOR STORM EVENT, AND WITHIN 24 HOURS OF A 0.5 INCH OR MORE RAINFALL EVENT

INSPECTOR: _____ DATE: _____
DAYS SINCE LAST RAINFALL: _____ AMOUNT OF THIS RAINFALL _____ INCHES

Storm Water Control (If applicable)	Condition	Repair Req'd		Comments (Attach additional Sheets if Necessary)	Date Repaired	Initials
		Yes	No			
Site Entrance/Exit(s)				See Below		
Filter Fabric Fences						
Straw Bales						
Seeded Areas						
Top Soil Stockpile(s)						
Material Storage Areas						
Portable Toilet(s)						
Waste Container(s)						
Fuel Storage						
Outfall #001						
Outfall #002						
Outfall #003						
Others-List on P. 4						

STABILIZED CONSTRUCTION SITE ENTRANCE

Does Sediment Get Tracked on to Road?	Is the Rock Clean or is it Filled with Sediment?	Does All Traffic Use the Stabilized Entrance to Enter and Leave the Site?	Is the Culvert (if installed) Beneath the Entrance Working?

Describe Maintenance Required to the Stabilized Construction Entrance: _____

_____

_____

_____

_____

_____

Continued on Reverse Side

SEDIMENT BASIN (S)

Depth of Sediment Basin	Condition of Basin Side Slopes	Any Evidence of Overtopping of the Embankment	Condition of Outfall from Sediment Basins
N/A			

Describe Maintenance Required for the Sediment Basins: _____

_____

☐ If this box is checked, I hereby certify that this inspection did not identify any incidents of non-compliance and that the facility is in compliance with the permit and the SWPPP.

CERTIFICATION:

Qualified personnel must conduct all inspections. "Qualified Personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity. I certify under penalty of law that I am qualified to properly gather and evaluate the information submitted and that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

Printed Name: _____ Contractor: _____

Address: _____ City/State: _____

All Maintenance Items Required and Described above are:

To be performed by: _____ On or Before: _____

Signature: _____ Date: _____

Date Repaired: _____ By: _____

List of Items Repaired: _____

_____

Signature: _____ Contractor: _____

Printed Name: _____ Date: _____

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
INSPECTION AND MAINTENANCE REPORT FORM

CERTIFICATION:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage this SWPPP system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

Printed Name: _____ Phone: _____

Contractor: _____ Address: _____

City/State: _____

Report Submitted to and Received by Owner (Permittee), CITY OF JOPLIN, Joplin, Missouri.

Date: _____

Submitted by: _____
Printed Name – For the Contractor

Signature: _____

Contractor: _____

Date: _____

Received by: _____
Printed Name – CITY OF JOPLIN

Signature: _____

NOTE: All inspection and maintenance report forms shall be retained by the owner for at least three years from the date the site is finally and permanently stabilized, and permit coverage expires or is terminated. This period may be extended by the request of MDNR at any time.

# of additional sheets attached = _____

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
INSPECTION LOG SHEET

REGULARLY SCHEDULED INSPECTIONS SHALL BE AT A MINIMUM OF ONCE PER WEEK,
PRIOR TO A KNOWN MAJOR STORM EVENT, AND
WITHIN 24 HOURS OF A 0.5 INCHES OR MORE RAINFALL EVENT

DATE OF INSPECTION	ANY BMPs NEED MAINTENANCE? YES/NO	INSPECTORS NAME

Note: To be completed along with each INSPECTION AND MAINTENANCE REPORT

APPENDIX C

WEATHER INFORMATION FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

CONSTRUCTION SITE WEATHER INFORMATION DATA

DATE	PRECIPITATION START TIME	PRECIPITATION END TIME	AMOUNT (INCHES)	DISCHARGE AT OUTFALLS? YES (#) / NO	INITIALS

Date: _____ Date: _____

Submitted by: _____ Received by: _____
Printed Name – Contractor Representative Printed Name – CITY OF JOPLIN Representative

Signature: _____ Signature: _____

APPENDIX D

CHANGES REQUIRED TO THE SWPPP

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY

JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CHANGES REQUIRED TO THE SWPPP

CHANGES REQUIRED: _____

_____

_____

_____

_____

REASONS FOR CHANGES: _____

_____

_____

_____

_____

Date Changes Made to SWPPP: _____

Date Changes Implemented at the Site: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Number of Additional Pages Attached: _____

Printed Name: _____ Company: _____

Signature: _____ Date: _____

Date Received by CITY OF JOPLIN: _____

Received by: _____ Signature: _____

Printed Name – CITY OF JOPLIN Representative

APPENDIX E

LIST OF STABILIZED AREAS

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

LIST OF STABILIZED AREAS

DESCRIPTION OF AREA WHERE FINAL STABILIZATION HAS BEEN ACHIEVED	DATE STABILIZED /INITIALS

INITIALS _____ NAME _____
INITIALS _____ NAME _____

APPENDIX F

MAJOR GRADING ACTIVITIES REPORT FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

MAJOR GRADING ACTIVITIES REPORT

GRADING START DATE	**GRADING END DATE**	**LOCATION ¼, ¼, SECTION, TWP, RGE or AREA DESCRIPTION**	**STABILIZATION MEASURES INITIATED YES/DATE ---------NO**

Date: _____ Date: _____

Submitted by: _____ Received by: _____
Printed Name – Contractor Printed Name – CITY OF JOPLIN Representative

Signature: _____ Signature: _____

APPENDIX G

SPILL/RELEASE INFORMATION AND REPORTING FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY

JOPLIN, MISSOURI

SPILL/RELEASE INFORMATION AND REPORTING FORM

1. Basic description of the spill/release, including causes, if known:

_____

_____

_____

_____

_____

_____

(If additional space is required, attach additional sheets.)

2. Chemical Name of Material Spilled: _____
3. Listed CERCLA Hazardous Substance? Yes ___ No ___
4. Listed EPCRA Extremely Hazardous Substance? Yes ___ No ___
5. Oil? Yes ___ No ___
6. Quantity Spilled (exclude water): _____
7. Date and Time of Spill: _____
8. Duration of Spill: _____
9. Spill Went to: Water: _____ Land: _____ Air: _____
10. Any known or anticipated acute or chronic health risks associated with the spill and, where appropriate, advice regarding medical attention necessary for exposed individuals.

_____

_____

_____

_____

11. Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan).

_____

_____

_____

_____

1. Spill Reported By: _____

   Date: _____

   Spill Reported to: _____

_____

_____

SEE REVERSE SIDE OF FORM FOR REPORTING REQUIREMENTS

REPORTABLE QUANTITIES FOR OIL
AND HAZARDOUS SUBSTANCES ARE FOUND AT
40 CFR Part 110, 40 CFR Part 117, & 40 CFR Part 302

In accordance with the Missouri Department of Natural Resources (MDNR), Division of Environmental Quality, a Release and a Reportable Release of Petroleum Products are defined as follows:

Release: Any loss of petroleum product to the environment is considered a release. This definition includes, but is not limited to, any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from a storage tank into ground water, surface water, surface or subsurface soils.

Reportable Release: A petroleum product release greater than fifty (50) gallons, or spills and/or overfills of petroleum product from an underground storage tank that result in a release to the environment that exceeds twenty-five (25) gallons, or any release that causes a sheen on nearby surface water; and a spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 is a reportable release and must be reported to the MDNR within twenty-four (24) hours. Soil contamination levels of TPH =/>50 parts per million (ppm), BTEX =/>1.0 ppm, benzene =/>0.5 ppm, or MTBE =/>60 ppm is also considered to be evidence of a reportable "release" of petroleum products.

Formal reporting of a Reportable Release shall be as follows:

MDNR – Environmental Emergency Response Unit – (573) 634-2436 (Follow MDNR instructions)
National Response Center – 1-800-424-8802
MDNR – Southwest Regional Office – (417) 891-4300
MDNR – Jefferson City – (573) 751-3176
CITY OF JOPLIN – David Hertzberg, P.E., Public Works Director – 417-624-0820
McDonald County Local Emergency Planning Committee, Pineville, MO – 417-223-4319
White Rock Fire Protection District – Emergency 911 – Non-Emergency 417-223-4318

All spills reported by telephone shall be reported in writing within 24 hours by the responsible party, and submitted to the MDNR Environmental Emergency Response Unit, or as directed by the Agency, with copies submitted to Mr. David Hertzberg, P.E., Public Works Director, CITY OF JOPLIN.

Circumstances (causes) leading to the release:

_____

_____

_____

Steps taken to prevent recurrence of the release:

_____

_____

_____

Date SWPPP modified to reflect the release and prevent similar future release: _____

Printed Name: _____

Signature/Title: _____

Organization: _____

APPENDIX H

SUBCONTRACTOR CERTIFICATION LIST
and
SUBCONTRACTOR CERTIFICATION FORM

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)

SUBCONTRACTORS CERTIFICATION LIST

SUBCONTRACTOR	ADDRESS	DATE SIGNED

CITY OF JOPLIN

PROJECT NAME: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

SUBCONTRACTORS CERTIFICATION

SUBCONTRACTORS CERTIFICATION

I certify under penalty of law, that I, being an authorized representative of the Subcontractor for the permittee, understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge General Permit issued by the Missouri Department of Natural Resources (MDNR) and this Storm Water Pollution Prevention Plan (SWPPP) and shall comply with all conditions of the SWPPP, and the Permit for authorized Storm Water Discharges Associated with Construction or Land Disturbance Activities as issued by the MDNR Water Pollution Control Program, and that any non-compliance with the general permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6.200. Non-compliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

_____
Printed or Typed Name and Title

_____
Subcontractor's Representative Signature

_____
Date

For: _____
Subcontractor Name (Print)

_____
Subcontractor Address

_____
City/State

_____
Subcontractor Telephone Number

APPENDIX I

MDNR TECHNICAL BULLETIN

RESPONSE TO SMALL FUEL SPILLS

MISSOURI DEPARTMENT OF NATURAL RESOURCES

Missouri
Department of Natural Resources
Department of Public Safety

Response to Small Fuel Spills

DNR Environmental Services Program/DPS Division of Fire Safety fact sheet 3/2009

Local fire departments often respond to releases of small amounts of petroleum products. This technical bulletin is intended to provide fire departments with information regarding responses to these types of releases.

Missouri state law requires the responsible party (spiller) to report petroleum product releases greater than 50 gallons to the Missouri Department of Natural Resources (DNR) at (573) 634-2436 at the earliest practical moment upon discovery. If the release is from an underground storage tank (UST) or piping, the reportable quantity is 25 gallons or more. Above ground storage tanks (AST) that have released 50 gallons or greater are also required to report. Further, federal law requires the responsible party to report any release of oil if the oil reaches or threatens any waterway. The definition of waterway includes sewers, groundwater, wetlands, lakes, creeks, streams, rivers and areas that may not have running water in them at the time, such as road ditches that drain into other waterways.

In the past, small fuel spills were routinely addressed by "flushing" with either foam or water. Unfortunately, this manner of response often resulted in the fuel reaching a waterway, potentially causing a greater problem than the initial spill itself. While many fire departments realize that flushing may cause more problems than it solves, information regarding alternative cleanup methods may not be readily available. The following information is provided by the Missouri Department of Public Safety (DPS) and DNR as possible alternative response actions to small fuel spills.

NOTE: It is understood that public safety must be the first consideration in a response and that the following actions may not be the most appropriate in certain situations.

1. If possible, the spill of fuel should be contained and the release stopped. Apply sand, gravel, soil, straw, sawdust, ground corn cobs, or commercial absorbents such as kitty litter or oil dry to absorb/contain petroleum residues rather than wash them away with water. Attempt to identify and take measures to protect any stormwater drains with absorbents. Absorbent materials used to clean up fuel spills may be disposed at a sanitary landfill with prior approval of the landfill operator.

2. If fire hazard reduction measures are necessary, use foam as appropriate. Do not over apply. Use as little water on the spill as necessary.

3. Pump, recover, and containerize as much free product as possible. In many cases, recovered product can be routed back to refineries for recycling, or used for other purposes such as fire department training exercises. Another method of disposal is use in fuel blending operations; however, this is not a viable alternative if the fuel has been contaminated with large amounts of water. If the spilled fuel contains too much water to lend itself as a usable resource, it may have to be tested and disposed as a regulated hazardous waste.

4. If flushing with water is the chosen option to mitigate hazards, runoff should be containerized and/or routed to a sanitary sewer **with the knowledge and approval of the wastewater treatment plant operator**.

5 .Treatment chemicals and agents should not be used except under special circumstances and with prior authorization obtained from the U.S. Environmental Protection Agency. A list of treatment chemicals and chemical countermeasures can be found at: http://www.epa.gov/emergencies/docs/oil/ncp/schedule.pdf.
If a fire department has questions as to the proper application of such agents, DNR may be contacted 24 hours a day at 573-634-2436 for technical assistance. As stated in Item 3, water contaminated with petroleum may be required by law to be tested and disposed as a hazardous waste.

According to Missouri Hazardous Waste Management Laws and Regulations, the responsibility for proper disposal of a hazardous waste is that of the owner of that waste (who could be the spiller, the owner of the shipment, or the owner of a facility where the spill occurred). Fire departments should exercise CAUTION; if the material is flushed to a waterway during a response, it could potentially cause water quality issues that would prolong the remediation of the spill.

Not all fire departments have financial resources to maintain stocks of absorbent materials, containers, and other related response equipment. Access to vacuum trucks, heavy equipment, and other necessary services may, likewise, be difficult for some jurisdictions to obtain. It is recommended that a fire department's contingency planning include identification of supply and service sources in order to be prepared for these types of releases.

Every response method has its own inherent advantages and disadvantages. Specific response methods must be evaluated and initiated on a case-by-case basis.

Questions about this guidance may be directed to DNR's Environmental Emergency Response Section at 573-526-3349 (non-emergency), or 573-634-2436 (emergency), or to DPS's Division of Fire Safety at 573-51-2930 (non-emergency).

On the Web:

www.dnr.mo.gov -- http://www.dnr.mo.gov/pubs/pub212.pdf, or
www.dfs.dps.mo.gov

PUB000212

APPENDIX J

MDNR FACT SHEET

OPEN BURNING UNDER MISSOURI REGULATIONS

Missouri Department of Natural Resources

Facts on Open Burning Under Missouri Regulations

Air Pollution Control Program fact sheet 1/2008

Open burning is the burning of any materials in which air contaminants are emitted directly into the air without first passing through a stack or chimney. This fact sheet summarizes allowable and prohibited open burning under Missouri regulations. It does not include open burning restrictions that city or county governments may impose in addition to Missouri's state regulations. Prior to conducting any open burning, businesses and citizens should contact the city or county of jurisdiction for any local restrictions.

The open burning of certain trade wastes and tires is prohibited because the toxic emissions that can be released are harmful to human health. Smoke from fires also typically produces large amounts of small particulate matter that can be inhaled, causing respiratory problems. The burning of common household trash, including paper products and food wastes, can also have severe consequences. Studies have indicated the open burning of an individual household's trash could release pollutants in higher levels than the burning of the trash of thousands of homes by a municipal waste incinerator because the lower combustion temperatures prevent complete incineration. These pollutants can include dioxins, volatile organic compounds, acetaldehyde, formaldehyde, hydrogen chloride and naphthalene. Open burning exposes individuals to toxic emissions that may irritate the eyes, skin and upper respiratory tract. The central nervous system can also be affected causing headaches, dizziness and fatigue.

Because of these potential dangers, the Missouri Department of Natural Resources strongly discourages open burning of any material prior to investigating alternatives. Some rural areas can participate in a "green box" service, which provides a trash collection point near a centrally located county road for local residents to use. Green boxes are usually picked up or emptied once a week. Other options include waste disposal services, waste diversion, recycling and composting. Contact your local Solid Waste Management District for assistance in implementing these safer alternatives to open burning.

Prohibited Open Burning Under State Regulation

Any waste generated by a business, trade, industry, salvage or demolition operation cannot be burned without a permit issued by the Department of Natural Resources or its delegated local agency. Permits will only be considered for untreated wood wastes. Wastes that may not be burned include but are not limited to tires, rubber products, hazardous materials, styrofoam, plastics, petroleum based products, demolition waste, treated wood and any asbestos-containing material.

Allowable Open Burning Under State Regulations

Note: Local governments may have stricter laws and policies

Open Burning of Household Refuse

General Provisions: Missouri allows open burning of household refuse from four dwelling units or less provided it originates and is burned on the same premises. This exemption does not apply to mobile home parks or apartment complexes. Residential waste is solid waste produced by routine household activities, such as paper waste and garbage from daily activities. This does not include home remodeling wastes, wastes from home businesses, durable goods such as old appliances, carpets or furniture, tires or other nonroutine household waste. Materials such as tires or used oil may not be used to start the fires or be burned in the fires.

Kansas City and St. Joseph metropolitan areas: Open burning is allowed provided it occurs within an area zoned for agricultural purposes and outside the portion of the metropolitan areas surrounding the corporate limits of Kansas City and St. Joseph and their bordering municipalities.

Outstate area: No special day, time or location restrictions.

Springfield-Greene County area: Open burning is allowed provided that burning takes place outside the corporate limits of Springfield and only within areas zoned A-1, Agricultural District.

St. Louis metropolitan area: Open burning of household refuse is prohibited in the St. Louis metropolitan area.

Open Burning of Yard Wastes

General Provisions: Missouri allows open burning of yard wastes from sites provided it originates and is burned on the same premises. Materials such as tires or used oil may not be used to start the fires or be burned in the fires. Yard waste includes trees, tree leaves, brush or other vegetation.

Kansas City metropolitan area: Open burning of trees, tree leaves, brush or any other type of vegetation requires an open burning permit.

St. Joseph metropolitan area: Open burning of residential yard wastes is allowed only during a three week period in spring and during a three-week period in fall between 10 a.m. and 3:30 p.m. The two, three-week periods are to be determined by the city along with state agencies and the state fire marshal.

Outstate area: No special day, time or location restrictions.

Springfield-Greene County area: Open burning of trees, brush or any other type of vegetation requires an open burning permit. The open burning of leaves is prohibited.

St. Louis metropolitan area: Open burning of trees, tree leaves or brush is allowed only in areas outside of incorporated municipalities from Sept. 16 to April 14 of each calendar year. These brush piles are limited to a base of 16 square feet and the burning is allowed from 10 a.m. through 4 p.m.

Open Burning for Fire Training Purposes

Missouri allows fires set for the purpose of training fire fighters provided they are conducted in accordance with National Fire Protection Association Standards 600 and 1403. Timely notification should be provided to the appropriate regional office or delegated local agency. All fire training exercises involving donated or acquired structures must be conducted in compliance with 40 CFR part 61 subpart M, *National Emission Standard for Hazardous Air Pollutants-Asbestos*. The use of donated or acquired structures for training is discussed in Publication 2029. All petroleum based products and asbestos containing materials must be removed from donated or acquired structures prior to any burning.

Open Burning in Agricultural, Natural Resource or Land Management Operations

Missouri allows agricultural burning throughout the state. However, several exceptions apply. Materials such as tires or used oil may not be used to start the fires or be burned in the fires. Any burning that creates a health hazard, nuisance or produces smoke that impairs visibility for those operating motor vehicles or airplanes is prohibited. Contact the St. Louis Regional Office before burning in the St. Louis metropolitan area from April 15 to Sept. 15. Botanical nursery operations (greenhouses) are not considered agricultural operations.

Open Burning in Land Clearing Operations

Open burning of tree trunks, tree limbs and vegetation from land clearing operations is allowed without an ACD or permit in the outstate area if the burning takes place outside the city limits of any incorporated area or municipality and at least 200 yards from the nearest inhabited dwelling. Materials such as tires or used oil may not be used to start the fires or be burned in the fires. Permits containing special conditions may be issued by regional offices or local agencies for sites unable to comply with the requirements above. See the Required Open Burning Permits section below for exceptions in the Springfield-Greene County area, and Kansas City and St. Louis Metropolitan areas.

Open Burning at Wood Processing Facilities

Open burning of untreated wood waste from wood processing facilities is allowed if production is less than 8,000 board-feet per day and the facility was in existence as of March 25, 1976, but has not relocated to a new site. The burning also must be done at least 200 yards from the nearest occupied structure.

Open burning of untreated wood waste from wood processing facilities is allowed if production is less than 8,000 board-feet per day and the facility has relocated or from new wood processing facilities not in existence as of Sept. 18, 1970, and the facility and the burning are at least one mile outside city limits. The burning also must be done at least 200 yards from the nearest occupied structure.

Open Burning for Recreational Purposes

Campfires and other fires used solely for recreational purposes, ceremonial occasions or for outdoor noncommercial preparation of food are allowed in Missouri. Fires shall include only vegetative woody materials or untreated wood products.

Required Open Burning Permits

The open burning of certain trade wastes, primarily untreated wood wastes such as pallets or crates, throughout the state, and vegetation from land clearing operations in the Springfield-Greene County area and the Kansas City and St. Louis Metropolitan areas, may be permitted only when it can be shown that open burning is the only feasible method of disposal and that disposal is in the public interest. In the St. Louis nonattainment area, permits will not be issued

unless it can be shown that emissions from open burning would be less than any other waste management or disposal method. The open burning permit requires the facility, in most cases, to use an air curtain destructor.

Commercial and municipal utility tree trimming operations must submit a request to the appropriate regional office for an annually renewable open burning permit. The request must describe the general size, condition and age of the tree trunks and tree limbs to be open burned. Air curtain destructors are generally required at dedicated sites where burning occurs.

Commercial and municipal utility tree trimming operations must submit an application for an open burning permit to the appropriate regional office or local agency.

The information provided in this fact sheet should not be construed to permit open burning that causes or constitutes a public health hazard, nuisance or a hazard to vehicular or air traffic or violates any other rule or statute.

Definitions

St. Louis metropolitan area: The geographical area comprising St. Louis, St. Charles, Jefferson and Franklin Counties and the city of St. Louis. These counties are also currently a nonattainment area for ground-level ozone.

Springfield-Greene County area: The geographical area contained within Greene County.

Kansas City metropolitan area: The geographical area comprising Jackson, Cass, Clay, Platte, Ray and Buchanan counties.

Outstate area: The geographical area comprising those counties not contained in the St. Louis metropolitan area, the Springfield-Greene County area or the Kansas City metropolitan area.

Air Curtain Destructor: An air pollution control device designed to increase burning efficienc, reducing air contaminant emissions during open burning.

Open Burning Permit: A permit that must be applied for and then granted in order to open burn or open burn with restrictions. Permit applications must be sent to the Regional Office or local agency that has jurisdiction over your area. Applications are available at www.dnr.mo.gov/forms or any regional or local agency office.

Untreated Wood: Lumber and other wooden materials that have not been chemically treated for resistance to moisture, fire, fungi, insects and other pests or has not otherwise been treated or manufactured with chemicals, or that does not contain adhesives or resins. Untreated wood does not include plywood, particleboard, chipboard or wood with other than minimal amounts of paint, coating or finish.

For More Information

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-4817 office
(573) 751-2706 fax
www.dnr.mo.gov/env/apcp/index.html

Missouri Department of Natural Resources
Solid Waste Management Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-5401 office
(573) 526-3902 fax
www.dnr.mo.gov/env/swmp/index.html

APPENDIX K

NOTICE OF INTENT (NOI)

NOTICE OF INTENT (NOI)

for Discharge of Stormwater Runoff from Construction Activities

PROJECT NAME: _____

PROJECT No.: _____

JASPER/NEWTON COUNTY
JOPLIN, MISSOURI

The Missouri Department of Natural Resources has issued a General Operating Permit (No. **MOR100050**) to the City of Joplin, which authorizes city-wide land disturbance activities. The City has chosen to apply this permit and authorization to the above referenced project.

The undersigned Contractor agrees to act as the City's agent for the Storm Water Pollution Prevention Plan (SWPPP). The Contractor shall perform all documentation, inspection and maintenance of erosion control BMP's, in full conformity with the requirements of the City's General Operating Permit, for the duration of the project.

The City will monitor SWPPP documentation during the construction process. The Contractor shall turn over all SWPPP documentation to the City at the completion of construction.

Anticipated project Start Date: _____, and Completion Date: _____

Estimated total area to be disturbed: _____ acres Total area of the site: _____ acres

Contractor Representative: _____ Date: _____
Name, Title

City Representative: _____ Date: _____
Name, Title

APPENDIX L

NOTICE OF TERMINATION (NOT)

FORM H

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
(SEE MAP FOR APPROPRIATE REGIONAL OFFICE)

FORM H - REQUEST FOR TERMINATION OF A GENERAL PERMIT

UNDER MISSOURI CLEAN WATER LAW

1.00 TYPE OF GENERAL PERMIT REQUESTED TO BE TERMINATED

1.10 PERMIT NUMBER

MO —

2.00 FACILITY

NAME		COUNTY	
ADDRESS	CITY	STATE	ZIP CODE

3.00 OWNER

NAME	E-MAIL	PHONE	
		FAX	
ADDRESS	CITY	STATE	ZIP

4.00 CONTINUING AUTHORITY

NAME		PHONE	
		FAX	
ADDRESS	CITY	STATE	ZIP

5.00 REASON FOR TERMINATION REQUEST: (CHECK ONE)

☐ For land disturbance sites, area is stabilized by seeding, mulching, sodding, paving, or other means, no further land disturbance activities are planned, all building construction (commercial or residential) is completed, and construction equipment removed.

☐ For industrial facilities, site activities have ceased and site closed and no significant materials remain exposed to storm water.

☐ For any type of site, a site specific permit was obtained.

☐ Other reason (specify) _____

_____

_____

6.00 I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THE TERMINATION REQUEST, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NO. ( ) (AREA CODE)
SIGNATURE	DATE SIGNED

APPENDIX M

CITY WIDE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM STORM WATER DISCHARGE GENERAL PERMIT

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Michael L. Parson
Governor

Dru Buntin
Director

July 8, 2022

Steven Martinez
City of Joplin
602 South Main Street
Joplin, MO 64801

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing your Missouri State Operating Permit for the City of Joplin, MOR-100050.

Please read and review your permit and attached Standard Conditions. They contain important information on site management and reporting requirements. Quarterly reports required by this report must be submitted through our Electronic Discharge Monitoring Report (eDMR) Submission System.

This permit may include requirements with which you may not be familiar. If you would like the Missouri Department of Natural Resources to meet with you to discuss how to satisfy the permit requirements, an appointment can be set up by contacting the permit writer at 573-526-1139. These visits are called Compliance Assistance Visits and focus on explaining the requirements to the permit holder.

This permit is both your Federal NPDES Permit and your new Missouri State Operating Permit and replaces all previous State Operating Permits issued for this facility under this permit number. In all future correspondence regarding this facility, please refer to your State Operating Permit number and facility name as shown on page one of the permit.

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to 10 CSR 20-1.020 and 10 CSR 20-6.020; RSMo Section 621.250, 640.013, and 644.051.6. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, MO 65102, phone: 573-751-2422, fax: 573-751-5018; website: http://ahc.mo.gov/.

Please be aware that this facility may also be subject to any applicable county or other local ordinances or restrictions. If you have any questions concerning this permit, please do not hesitate to contact the Water Protection Program at P.O. Box 176, Jefferson City, MO 65102, 573-522-4502.

Sincerely,

WATER PROTECTION PROGRAM

Chris Wieberg
Director

CW:vs

Enclosure

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

General Operating Permit

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No	MOR100050
Owner: Address:	City of Joplin 602 S. MAIN STREET JOPLIN, MO 64801
Continuing Authority:	CITY OF JOPLIN 602 S. MAIN STREET JOPLIN, MO 64801
Facility Name: Facility Address:	City of Joplin 602 S. MAIN STREET JOPLIN, MO 64801
Legal Description:	Sec. 03, T27N, R33W, Jasper County
UTM Coordinates:	365478.661/4105416.450
Receiving Stream:	Tributary to Joplin Creek (U)
First Classified Stream - ID#:	Joplin Creek (C) 5006.00
USGS# and Sub Watershed#:	11070207 - 0901

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

FACILITY DESCRIPTION

All Outfalls SIC #1629

All Outfalls - Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling and other activity that results in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution of waters of the state)
Issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis

This permit authorizes only wastewater, including storm water, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System, it does not apply to other regulated areas. This permit may be appealed in accordance with RSMo Section 644.051.6 and 621.250, 10 CSR 20-6.020, and 10 CSR 20-1.020.

July 05, 2022
Issue Date

Chris Wieberg, Director
Water Protection Program

July 04, 2027
Expiration Date

I. APPLICABILITY

A. Permit Coverage and Authorized Discharges

1. This Missouri State Operating Permit (permit) authorizes the discharge of stormwater and certain non-stormwater discharges from land disturbance sites that disturb one or more acres, or disturb less than one acre when part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project.

   A Missouri State Operating Permit must be issued before any site vegetation is removed or the site disturbed. Any site owner/operator subject to these requirements for stormwater discharges and who disturbs land prior to permit issuance from the Missouri Department of Natural Resources (Department) is in violation of both State regulations per 10 CSR 20-6.200(1)(A) and Federal regulations per 40 CFR 122.26. The owner/operator of this permit is responsible for compliance with this permit [10 CSR 20-6.200 (3)(B)].

2. This general permit is issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis, for land disturbance projects performed by or under contract to the permittee.

3. This permit authorizes stormwater discharges from land disturbance support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, concrete, or asphalt batch plants) provided appropriate stormwater controls are designed, installed, and maintained and the following conditions are met and addressed in the Stormwater Pollution Prevention Plan (SWPPP). The permittee is responsible for compliance with this permit for any stormwater discharges from construction support activity.
   (a) The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
   (b) The support activity is not a commercial operation or serve multiple unrelated construction sites;
   (c) The support activity does not continue to operate beyond the completion of the construction activity at the project it supports;
   (d) Sediment and erosion controls are implemented in accordance with the conditions of this permit; and
   (e) The support activity is strictly stormwater discharges or non-stormwater discharges listed in PART I, APPLICABILTY, Condition A.4. Support activities which discharge process water shall apply for separate coverage (e.g.,a concrete batch plant discharging process water shall be covered under a MOG49).

4. This permit authorizes non-stormwater discharges associated with your construction activity from the following activities provided that these discharges are treated by appropriate Best Management Practices (BMPs) where applicable and addressed in the permittee's site specific SWPPP required by this general permit:
   (a) Discharges from emergency fire-fighting activities;
   (b) Hydrant flushing and water line flushing, provided the discharged water is managed to avoid instream water quality impacts;
   (c) Landscape watering, including to establish vegetation;
   (d) Water used to control dust;
   (e) Waters used to rinse vehicles and equipment, provided there is no discharge of soaps, solvents, or detergents used for such purposes;
   (f) External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (e.g., paint or caulk containing polychlorinated biphenyls (PCBs))
   (g) Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. Directing pavement wash waters directly into any water of the state, storm drain inlet, or stormwater conveyance (constructed or natural site drainage features), unless the conveyance is connected to an effective control, is prohibited;
   (h) Uncontaminated air conditioning or compressor condensate;
   (i) Uncontaminated, non-turbid discharges of ground water or spring water;
   (j) Foundation or footing drains where flows are not contaminated with process materials; and
   (k) Uncontaminated construction dewatering water discharged in accordance with requirements found in this permit for specific dewatering activities.

B. Permit Restrictions and Limitations

1. This permit does not authorize the discharge of process wastewaters, treated or otherwise.

2. For sites operating within the watershed of any Outstanding National Resource Water (which includes the Ozark National Riverways and the National Wild and Scenic Rivers System), sites that discharge to an Outstanding State Resource Water, or facilities located within the watershed of an impaired water as designated in the Clean Water Act (CWA) Section 303(d) list with an impairment for sedimentation/siltation:
   (a) This permit authorizes stormwater discharge provided no degradation of water quality occurs due to discharges from the permitted facility per 10 CSR 20-7.031(3)(C).
   (b) A site with a discharge found to be causing degradation or contributing to an impairment by discharging a pollutant of concern, during an inspection or through complaint investigations, may be required to become a no discharge facility or obtain a site-specific permit with more stringent monitoring and SWPPP requirements.

3. This permit does not allow placement of fill material into any stream or wetland, alteration of a stream channel, or obstruction of stream flow unless the appropriate CWA Section 404 permitting authority provides approval for such actions or determines such actions are exempt from Section 404 jurisdiction. Additionally, this permit does not authorize placement of fill in floodplains unless approved or determined exempt by appropriate federal and/or state floodplain development authorities.

4. This operating permit does not affect, remove, or replace any requirement of the National Environmental Policy Act; the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; or any other relevant acts. Determination of applicability to the above mentioned acts is the responsibility of the permittee. Additionally, this permit does not establish terms and conditions for runoff resulting from silvicultural activities listed in Section 402(l)(3)(a) of the Clean Water Act.

5. Compliance with all requirements in this permit does not supersede any requirement for obtaining project approval from an established local authority nor remove liability for compliance with county and other local ordinances.

6. The Department may require any facility or site authorized by a general permit to apply for a site-specific permit [10 CSR 20-6.010(13)(C)].

7. If a facility or site covered under a current general permit desires to apply for a site-specific permit, the facility or site may do so by contacting the Department for application requirements and procedures.

8. Any discharges not expressly authorized in this permit and not clearly disclosed in the permit application cannot become authorized or shielded from liability under CWA section 402(k) or Section 644.051.16, RSMo, by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including any other permit applications, funding applications, the SWPPP, discharge monitoring reporting, or during an inspection. Discharges at the facility not expressly authorized by this permit must be covered by another permit, be exempt from permitting, or be authorized through some other method.

II. EXEMPTIONS FROM PERMIT REQUIREMENTS

1. Sites that discharge all stormwater runoff directly to a combined sewer system (as defined in 40 CFR 122.26 and 40 CFR 35.2005) connecting to a publicly owned treatment works which has consented to receive such a discharge are exempt from Department stormwater permit requirements.

2. Land disturbance activities that disturb less than one (1) acre of total land area which are not part of a common plan or sale where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

3. Oil and gas related activities as listed in 40 CFR 122.26(a)(2)(ii) where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

4. Linear, strip, or ribbon construction or maintenance operations meeting one (1) of the following criteria are exempt from Department stormwater permit requirements:
   (a) Grading of existing dirt or gravel roads which does not increase the runoff coefficient and the addition of an impermeable surface over an existing dirt or gravel road;
   (b) Cleaning or routine maintenance of roadside ditches, sewers, waterlines, pipelines, utility lines, or similar facilities;
   (c) Trenches two (2) feet in width or less; or
   (d) Emergency repair or replacement of existing facilities as long as BMPs are employed during the emergency repair.

III. REQUIREMENTS

1. The permittee shall post a public notification sign at the main entrance to the site, or a publically visible location, with the specific MOR100 permit number. The public notification sign must be visible from the public road that provides access to the site's main entrance. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP. The public notification sign must remain posted at the site until the site is finalized.

2. The permittee shall be responsible for notifying the land owner and each contractor or entity (including utility crews and city employees or their agents) who will perform work at the site of the existence of the SWPPP and what actions or precautions shall be taken while on site to minimize the potential for erosion and the potential for damaging any BMP. The permittee is responsible for any damage a subcontractor may do to established BMPs and any subsequent water quality violation resulting from the damage.

3. Ensure the design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:
   (a) Control stormwater volume, velocity, and peak flow rates to minimize soil erosion;
   (b) Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion and scour;
   (c) Minimize the amount of exposed soil during construction activity;
   (d) Minimize the disturbance of steep slopes;
   (e) Minimize sediment discharges from the site. Address factors such as:
      1) The amount, frequency, intensity, and duration of precipitation;
      2) The nature of resulting stormwater runoff;
      3) Expected flow from impervious surfaces, slopes, and drainage features; and
      4) Soil characteristics, including the range of soil particle size expected to be present on the site.
   (f) Provide and maintain natural buffers around surface waters as detailed in Part V. BMP REQUIREMENTS Condition 7, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration and filtering, unless infeasible; and
   (g) Minimize soil compaction and preserve topsoil where practicable.

   A 2-year, 24-hour storm event can be determined for the project location using the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 which can be located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html, or the permittee can determine local rainfall distribution for a 2-year, 24 hours storm event using multi-decade local high density rain gauge data, as approved by the Department.

4. BMPs for land disturbance [10 CSR 20-6.200(1)(D)2] are a schedule of activities, practices, or procedures that reduces the amount of soil available for transport or a device that reduces the amount of suspended solids in runoff before discharge to waters of the state. The term BMPs are also used to describe the sediment and erosion controls and other activities used to prevent stormwater pollution. BMPs are divided into two main categories: structural or non-structural; and they are also classified as temporary or permanent.
   Temporary BMPs may be added and removed as necessary with updates to the SWPPP as specified in the requirements below.

5. Installation of BMPs necessary to prevent soil erosion and sedimentation at the downgradient project boundary (e.g. buffers, perimeter controls, exit point controls, storm drain inlet protection) must be complete prior to the start of all phases of construction. By the time construction activity in any given portion of the site begins, downgradient BMPs must be installed and operational to control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities. Additional BMPs shall be installed as necessary throughout the life of the project.

6. All BMPs shall be maintained and remain in effective operating condition during the entire duration of the project, with repairs made within the timeframes specified elsewhere in this permit, until final stabilization has been achieved.
   (a) Ensure BMPs are protected from activities that would reduce their effectiveness.
   (b) Remove any sediment per the BMP manufacturer's instructions or before it has accumulated to one-half of the above-ground height of any BMP that collects sediment (i.e., silt fences, sediment traps, etc.)
   (c) The project is considered to achieve final stabilization when Part V. BMP REQUIREMENTS, Condition 13 is met.

7. Minimize sediment trackout from the site and sediment transport onto roadways.
   (a) Restrict vehicle traffic to designated exit points.
   (b) Use appropriate stabilization techniques or BMPs at all points that exit onto paved roads or areas outside of the site.
   (c) Use additional controls or BMPs to remove sediment from vehicle and equipment tires prior to exit from facility where necessary.
   (d) Any sediment or debris that is tracked out past the exit pad or is deposited on a roadway after a precipitation event shall be removed by the shorter of either the same business day (for business days only), or by the end of the next business day if track-out occurs on a non-business day, and before predicted rain events. Remove the track-out sediment by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. Sediment or debris tracked out on pavement or other impervious surfaces shall not be disposed of into any stormwater conveyance, storm drain inlet, or water of the state.
   (e) Stormwater inlets susceptible to receiving sediment or other pollutants from the permitted land disturbance site shall have curb inlet protection. This may include inlets off the active area where track out from vehicles and equipment could impact the stormwater runoff to those inlets.

8. Concrete washout facilities shall be used to contain concrete waste from the activities onsite, unless the washout of trucks and equipment is managed properly at an off-site location.
   The washout facility shall be managed to prevent solid and/or liquid waste from entering waters of the state by the following:
   (a) Direct the wash water into leak-proof containers or pits designed so that no overflows can occur due to inadequate sizing or precipitation;
   (b) Locate washout activities away from waters of the state, stormwater inlets, and/or stormwater conveyances where practicable. If not practicable, use BMPs to reduce risk of waste leaving the washout facility;
   (c) Washout facilities shall be cleaned, or new facilities must be constructed and ready for use, once the washout is 75% full;
   (d) Designate the washout area(s) and conduct such activities only in these areas.
   (e) Ensure contractors are aware of the location, such as by marking the area(s) on the map or signage visible to the truck and/or equipment operators.

9. Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state.
   (a) Provide solid and hazardous waste management practices, including providing trash containers, regular site cleanup for proper disposal of solid waste such as scrap building material, product/material shipping waste, food/beverage containers, spent structural BMPs;
   (b) Provide containers and methods for proper disposal of waste paints, solvents, and cleaning compounds.
   (c) Manage sanitary waste. Portable toilets shall be positioned so that they are secure and will not be tipped or knocked over and so that they are located away from waters of the state and stormwater inlets and stormwater conveyances.
   (d) Ensure the storage of construction materials be kept away from drainage courses, stormwater conveyances, storm drain inlets, and low areas.

10. All fueling facilities present shall at all times adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers.

11. Any hazardous wastes that are generated onsite shall be managed, stored, and transported according to the provisions of the Missouri Hazardous Waste Laws and Regulations.

12. Store all paints, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so they are not exposed to stormwater or provide other prescribed BMPs (such as plastic lids and/or portable spill pans) to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention, control, and countermeasures to contain the spill. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall prevent the contamination of groundwater.

13. Implement measures intended to prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicles and equipment to thereby prevent the contamination of stormwater from these substances. This may include prevention measures such as, but not limited to, utilizing drip pans under vehicles and equipment stored outdoors, covering fueling areas, using dry clean-up methods, use of absorbents, and cleaning pavement surfaces to remove oil and grease.

14. Spills, Overflows, and Other Unauthorized Discharges.
    (a) Any spill, overflow, or other discharge not specifically authorized in the permit above are unauthorized.
    (b) Should an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a Department staff member voice-mail does not satisfy this reporting requirement.
    (c) A record of all spills shall be retained with the SWPPP and made available to the Department upon request.
    (d) Other spills not reaching waters of the state must be cleaned up as soon as possible to prevent entrainment in stormwater but are not required to be reported to the Department.

15. The full implementation of this operating permit shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16 and the CWA §402(k); however, this permit may be reopened and modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Clean Water Act §§ 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

IV. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MANAGEMENT REQUIREMENTS

1. The primary requirement of this permit is the development and implementation of a SWPPP which incorporates site specific practices to best minimize the soil exposure, soil erosion, and the discharge of pollutants, including solids for each site covered under this permit.

   The purpose of the SWPPP is to ensure the design, implementation, management, and maintenance of BMPs in order to prevent sediment and other pollutants in stormwater discharges associated with the land disturbance activities [40 CFR 122.44 (k)(4)] from entering waters of the state above established general and narrative criteria; compliance with Missouri Water Quality Standards; and compliance with the terms and conditions of this general permit.

   (a) **The SWPPP must be developed and implemented prior to conducting any land disturbance activities and must be specific to the land disturbance activities at the site.**
   (b) The permittee shall fully implement the provisions of the SWPPP required under this permit as a condition of this general permit throughout the term of the land disturbance project. Failure to develop, implement, and maintain a SWPPP may lead to immediate enforcement action.

(c) The SWPPP shall be updated any time site conditions warrant adjustments to the project or BMPs.
(d) Either an electronic copy or a paper copy of the SWPPP, and any required reports, must be accessible to anyone on site at all times when land disturbance operations are in process or other operational activities that may affect the maintenance or integrity of the BMP structures and made available as specified under Part VIII. STANDARD PERMIT CONDITIONS, Condition 1 of this permit. The SWPPP shall be readily available upon request and should not be sent to the Department unless specifically requested

2. Failure to implement and maintain the BMPs chosen, which can be revised and updated, is a permit violation. The chosen BMPs will be the most reasonable and cost effective while also ensuring the highest quality water discharged attainable for the facility. Facilities with established SWPPPs and BMPs shall evaluate BMPs on a regular basis and change the BMPs as needed if there are BMP deficiencies.

3. The SWPPP must:
   (a) List and describe the location of all outfalls;
   (b) List any allowable non-stormwater discharges occurring on site and where these discharges occur;
   (c) Incorporate required practices identified below;
   (d) Incorporate sediment and erosion control practices specific to site conditions;
   (e) Discuss whether or not a 404 Permit is required for the project; and
   (f) Name the person(s) responsible for inspection, operation, and maintenance of BMPs. The SWPPP shall list the names and describe the role of all owners/primary operators (such as general contractor, project manager) responsible for environmental or sediment and erosion control at the land disturbance site.

4. The SWPPP briefly must describe the nature of the land disturbance activity, including:
   (a) The function of the project (e.g., low density residential, shopping mall, highway, etc.);
   (b) The intended sequence and timing of activities that disturb the soils at the site; and
   (c) Estimates of the total area expected to be disturbed by excavation, grading, or other land disturbance support activities including off-site borrow and fill areas;

5. In order to identify the site, the SWPPP shall include site information including size in acres. The SWPPP shall have sufficient information to be of practical use to contractors and site construction workers to guide the installation and maintenance of BMPs.

6. The function of the SWPPP and the BMPs listed therein is to prevent or minimize pollution to waters of the state. A deficiency of a BMP means it was not effective in preventing or minimizing pollution of waters of the state.

   The permittee shall select, install, use, operate and maintain appropriate BMPs for the permitted site. The following manuals are acceptable resources for the selection of appropriate BMPs.

   Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites, (Document number EPA 833-R-06-004) published by the United States Environmental Protection Agency (USEPA) in May 2007. This manual as well as other information, including examples of construction SWPPPs, is available at the USEPA internet site at https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf; and https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp.

   The latest version of *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri,* published by the Department. This manual is available at: https://dnr.mo.gov/document-search/protecting-water-quality-field-guide.

   The permittee is not limited to the use of these guidance manuals. Other guidance publications may be used to select appropriate BMPs. However, all BMPs must be described and justified in the SWPPP. Although the use of these manuals or other resources is recommended and may be used for BMP selection, they do not supersede the conditions of this permit. They may be used to inform in the decision making process for BMP selection but they are not themselves part of the permit conditions.

The permittee may retain the SWPPP, inspection reports, and all other associated documents (including a copy of this permit) electronically pursuant to RSMo 432.255. The documents must be made available to all interested persons in either paper or electronic format as required by this permit and the permittee must remit a copy (electronic or otherwise) of the SWPPP and inspection reports to the Department upon request.

7. The SWPPP must contain a legible site map, multiple maps if necessary, identifying:
   (a) Site boundaries of the property;
   (b) Locations of all waters of the state (including wetlands) within the site and half a mile downstream of the site's outfalls;
   (c) Location of all outfalls;
   (d) Direction(s) of stormwater flow (use arrows) and approximate slopes before and after grading activities;
   (e) Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
   (f) Location of structural and non-structural BMPs, including natural buffer areas, identified in the SWPPP;
   (g) Locations where stabilization practices are expected to occur;
   (h) Locations of on-site and off-site material, waste, borrow, or equipment storage areas and stockpiles;
   (i) Designated points where vehicles will exit the site;
   (j) Location of stormwater inlets and conveyances including ditches, pipes, man-made conduits, and swales; and
   (k) Areas where final stabilization has been achieved.

8. An individual shall be designated by the permittee as the environmental lead. This environmental lead shall have knowledge in erosion, sediment, and stormwater control principles, knowledge of the permit, and the site's SWPPP. The environmental lead shall ensure all personnel and contractors understand any requirements of this permit may be affected by the work they are doing. The environmental lead or designated inspector(s) knowledgeable in erosion, sediment, and stormwater control principles shall inspect all structures that function to prevent or minimize pollution of waters of the state.

9. Throughout coverage under this permit, the permittee shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. All SWPPP modifications shall be signed and dated. The permittee shall amend the SWPPP to incorporate any significant site condition changes which impact the nature and condition of stormwater discharges. At a minimum, these changes include whenever the:
   (a) Location, design, operation, or maintenance of BMPs is changed;
   (b) Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
   (c) The permittee's inspections indicate deficiencies in the SWPPP or any BMP;
   (d) Department notifies the permittee in writing of deficiencies in the SWPPP;
   (e) SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or sediment deposits in streams, lakes, or downstream waterways, sediment or other wastes off site); and/or
   (f) Department determines violations of water quality standards may occur or have occurred.

10. Site Inspections: The environmental lead, or a designated inspector, shall conduct regularly scheduled inspections. These inspections shall be conducted by a qualified person, one who is responsible for environmental matters at the site, or a person trained by and directly supervised by the person responsible for environmental matters at the site. Site inspections shall include, at a minimum, the following:
   (a) For disturbed areas that have not achieved final stabilization, all installed BMPs and other pollution control measures shall be inspected to ensure they are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
   (b) For areas on site that have achieved either temporary or final stabilization, while at the same time active construction continues on other areas, ensure that all stabilization measures are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
   (c) Inspect all material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit. Inspect for conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.
   (d) Inspect all areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater.

(e) All stormwater outfalls shall be inspected for evidence of erosion, sediment deposition, or impacts to the receiving stream. If a discharge is occurring during an inspection, the inspector must observe and document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including turbidity, color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.
(f) When practicable the receiving stream shall also be inspected for a minimum of 50 feet downstream of the outfall.
(g) The perimeter of the site shall be inspected for evidence of BMP failure to ensure concentrated flow does not develop a new outfall.
(h) The SWPPP must explain how the environmental lead will be notified when stormwater runoff occurs.

11. Inspection Frequency: All BMPs must be inspected in accordance to one of the schedules listed below. The inspection frequency shall be documented in the SWPPP, and any changes to the frequency of inspections, including switching between the options listed below, must be documented on the inspection form:
(a) At least once every seven (7) calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal work day or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday; or
(b) Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches of precipitation or greater, or the occurrence of runoff from snowmelt. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee shall either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station near the site location.
1) Inspections are only required during the project's normal working hours.
2) An inspection must be conducted within 24 hours of a storm event which has produced 0.25 inches. The inspection shall be conducted within 24 hours of the event end, or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
3) If it is elected to inspect every 14 calendar days and there is a storm event at the site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee shall conduct an inspection within 24 hours of the end of the storm or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
(c) Areas on site that have achieved stabilization, while at the same time active construction continues on other areas, may reduce inspection frequency to monthly, for those stabilized areas, if the following conditions exist:
1) For areas where disturbed portions have undergone temporary stabilization, inspections shall occur at least once a month while stabilized and when re-disturbed shall follow either frequency outlined in (a),(b), or (c) above.
2) Areas on site that have achieved final stabilization must be inspected at least once per month until the permit is terminated.
(d) If construction activities are suspended due to frozen conditions, the permittee may temporarily reduce site inspections to monthly until thawing conditions begin to occur if all of the following are met:
1) Land disturbances have been suspended; and
2) All disturbed areas of the site have been stabilized in accordance with Part V. BMP REQUIREMENTS, Condition 13.
3) The change shall be noted in the SWPPP.
(e) Any basin dewatering shall be inspected daily when discharge is occurring. The discharge shall be observed and dewatering activities shall be ceased immediately if the receiving stream is being impacted. These inspections shall be noted on a log or on the inspection report.

If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (including pictures), and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The documentation must be filed with the regular inspection reports. The corrections shall be made as soon as weather conditions or other issues allow.

12. Site Inspection Reports: A log of each inspection and/or copy of the inspection report shall be kept readily accessible and must be made available upon request by the Department. Electronic logs are acceptable as long as reports can be provided within 24 hours. If inspection reports are kept off site, the SWPPP must indicate where they are stored. The inspection report shall be signed by the environmental lead or designated inspector (electronically or otherwise).
(a) The inspection report is to include the following minimum information:
1) Inspector's name and title.
2) Date and time of inspection.
3) Observations relative to the effectiveness of the BMPs and stabilization measures. The following must be

documented:
a. Whether BMPs are installed, operational, and working as intended;
b. Whether any new or modified stormwater controls are needed;
c. Facilities examined for conditions that could lead to spill or leak;
d. Outfalls examined for visual signs of erosion or sedimentation at outfalls. Excessive erosion or sedimentation may be due to BMP failure or insufficiency. Response to observations should be addressed in the inspection report.

4) Corrective actions taken or necessary to correct the observed problem.
5) Listing of areas where land disturbance operations have permanently or temporarily stopped.

13. Any structural or maintenance deficiencies for BMPs or stabilization measures shall be documented and corrected as soon as possible but no more than seven (7) calendar days after the inspection.
(a) Corrective action documentation shall be stored with the associated site inspection report.
(b) Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events.
(c) If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (this may include pictures) and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The permittee shall correct the problem as soon as weather conditions or issues allow.
(d) Corrective actions may be required by the Department. The permittee must comply with any corrective actions required by the Department as a result of permit violations found during an inspection.

V. BMP REQUIREMENTS

1. The information, practices, and BMP requirements in this section shall be implemented on site and, where noted, provided for in the SWPPP.

2. Existing vegetation and trees shall be preserved where practicable. The permittee is encouraged to preserve topsoil where practicable.

3. The permittee shall select appropriate BMPs for use at the site and list them in the SWPPP. When selecting effective BMPs, the permittee shall consider stormwater volume and velocity. A BMP that has demonstrated ineffectiveness in preventing or minimizing sediment or other pollutants from leaving a given site shall be replaced with a more effective BMP, or additional and sequential BMPs and treatment devices may be incorporated as site conditions allow. The permittee should consider a schedule for performing erosion control measures when selecting BMPs.

4. The SWPPP shall include a description of both structural and non-structural BMPs that will be used at the site.
(a) The SWPPP shall provide the following general information for each BMP which will be used one or more times at the site:
1) Physical description of the BMP;
2) Site conditions that must be met for effective use of the BMP;
3) BMP installation/construction procedures, including typical drawings; and
4) Operation and maintenance procedures and schedules for the BMP.
(b) The SWPPP shall provide the following information for each specific instance where a BMP is to be installed:
1) Whether the BMP is temporary or permanent;
2) When the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project; and
3) Site conditions that must be met before removal of the BMP if the BMP is not a permanent BMP.

5. Structural BMP Installation: The permittee shall ensure all BMPs are properly installed and operational at the locations and relative times specified in the SWPPP.
(a) Perimeter control BMPs for runoff from disturbed areas shall be installed before general site clearing is started. Note this requirement does not apply to earth disturbances related to initial site clearing and establishing entry, exit, or access of the site, which may require that stormwater controls be installed immediately after the earth

disturbance.
(b) For phased projects, BMPs shall be properly installed as necessary prior to construction activities.
(c) Stormwater discharges which leave the site from disturbed areas shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps (including vegetative buffers), or silt fences prior to leaving the land disturbance site.
(d) A drainage course change shall be clearly marked on a site map and described in the SWPPP.
(e) If vegetative stabilization measures are being implemented, stabilization efforts are considered "installed" when all activities necessary to seed or plant the area are completed. Vegetative stabilization is not considered "operational" until the vegetation is established.

6. Install sediment controls along any perimeter areas of the site that are downgradient from any exposed soil or other disturbed areas. Prevent stormwater from circumventing the edge of the perimeter control. For sites where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the site.

7. For surface waters of the state, defined in Section 644.016.1(27) RSMo, located on or adjacent to the site, the permittee must maintain a riparian buffer or structural equivalent in accordance with at least one of the following options. The selection and location must be described in the SWPPP.
   (a) Provide and maintain a 50-foot undisturbed natural buffer; or
   (b) Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
   (c) If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.
   (d) The permittee is not required to comply with (a), (b), or (c) above if one or more of the following exceptions apply and documentation is provided in the SWPPP:
      1) As authorized per CWA Section 404 Department of the Army permit and its associated Section 401 Water Quality Certification from the Department.
      2) If there is no discharge of stormwater to waters of the state through the area between the disturbed portions of the site and waters of the state located within 50 feet of the site. This includes situations where the permittee has implemented permanent control measures that will prevent such discharges, such as a berm or other barrier.
      3) Where no natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for the current development of the site.
         a. Where some natural buffer exists but portions of the area within 50 feet of the waters of the state are occupied by preexisting development disturbances the permittee is required to comply with (a), (b), or (c) above.
      4) For linear projects where site constraints make it infeasible to implement a buffer or equivalent provided the permittee limit disturbances within 50 feet of any waters of the state and/or the permittee provides supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the water of the state. The permittee must also document in the SWPPP the rationale for why it is infeasible for the permittee to implement (a), (b), or (c) and describe any buffer width retained and supplemental BMPs installed.
   (e) Where the permittee is retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:
      1) The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
      2) The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

8. Slopes for disturbed areas must be identified in the SWPPP. A site map or maps defining the sloped areas for all phases of the project must be included in the SWPPP. The disturbance of steep slopes shall be minimized.
9. Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil.
   (a) Locate the piles outside of any natural buffers zones, established under the condition above, and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;
   (b) Install a sediment barrier along all downgradient perimeter areas;
   (c) Divert surface flows around stockpiles to reduce and minimize erosion of the stockpile.

(d) For piles that will be unused for 14 or more days, provide cover with appropriate temporary stabilization in accordance with Part V. BMP REQUIREMENTS, Condition 13.
(e) Rinsing, sweeping, or otherwise placing any soil, sediment, debris, or stockpiled product which has accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or water of the state is prohibited.

10. The site shall include BMPs for pollution prevention measures and shall be noted in the SWPPP. At minimum such measures must be designed, installed, implemented, and maintained to:
    (a) Minimize the discharge of pollutants from equipment and vehicle rinsing; no detergents, additives, or soaps of any kind shall be discharged. Rinse waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
    (b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater;
    (c) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures, including, but not limited to, the installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers; and
    (d) Prevent discharges from causing or contributing to an exceedance of water quality standards including general criteria.

11. Sedimentation Basins: The SWPPP shall include a sedimentation basin for each drainage area with ten or more acres disturbed at one time.
    (a) The sedimentation basin shall be sized, at a minimum, to treat a local 2-year, 24-hour storm.
    (b) Sediment basins shall not be constructed in any waters of the state or natural buffer zones.
    (c) Discharges from dewatering activities shall be managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods and specific BMPs designed to treat dewatering water.
        1) Appropriate controls include, but are not limited to, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (e.g. bag or sand filters), and passive treatment systems that are designed to remove or retain sediment.
        2) Erosion controls and velocity dissipation devices (e.g., check dams, riprap, and vegetated buffers) to minimize erosion at inlets, outlets, and discharge points from shall be utilized.
        3) Water with an oil sheen shall not be discharged and shall be marked in SWPPP.
        4) Visible floating solids and foam shall not be discharged.
    (d) Until final stabilization has been achieved, sediment basins and impoundments shall utilize outlet structures or floating skimmers that withdraw water from the surface when discharging.
        1) Under frozen conditions, it may be considered infeasible to withdraw water from the surface and an exception can be made for that specific period as long as discharges that may contain sediment and other pollutants are managed by appropriate controls. If determined infeasible due to frozen conditions, documentation must be provided in the SWPPP to support the determination, including the specific conditions or time period when this exception applies.
    (e) Accumulated sediment shall not exceed 50% of total volume or as prescribed in the design, whichever is less. Note in the SWPPP the locations for disposal of the material removed from sediment basins.
    (f) Prevent discharges to the receiving stream causing excessive visual turbidity. For the purposes of this permit, visual turbidity refers to a sediment plume or other cloudiness in the water caused by sediment that can be identified by an observer.
    (g) The SWPPP shall require the basin be maintained until final stabilization of the disturbed area served by the basin.

Where use of a sediment basin is infeasible, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment. These similarly effective BMPs shall be selected from appropriate BMP guidance documents authorized by this permit. The BMPs must provide equivalent water quality protection to achieve compliance with this permit. The SWPPP shall require both temporary and permanent sedimentation basins to have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.

12. Soil disturbing activities on site that have ceased either temporarily or permanently shall initiate stabilization immediately in accordance with the options below. For soil disturbing activities that have been temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days:
    (a) The permittee shall construct BMPs to establish interim stabilization; and
    (b) Stabilization must be initiated immediately and completed within 14 calendar days.
    (c) For soil disturbing activities that have been permanently ceased on any portion of the site, final stabilization of disturbed areas must be initiated immediately and completed within 14 calendar days.
        1) Allowances to the 14-day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. The use of allowances shall be documented in the SWPPP. Allowances may be determined unnecessary after review by the Department.
    (d) Until stabilization is complete, interim sediment control shall consist of well-established and maintained BMPs that are reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area than is normally used during daily operations. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed and the steepness of the slopes. If the slope of the area is greater than 3:1 (three feet horizontal to one foot vertical), then the permittee shall establish interim stabilization within seven days of ceasing operations on that part of the site. The following activities would constitute the immediate initiation of stabilization:
        1) Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable;
        2) Applying mulch or other non-vegetative product to the exposed areas;
        3) Seeding or planting the exposed areas;
        4) Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.
    (e) If vegetative stabilization measures are being implemented, stabilization is considered “installed” when all activities necessary to seed or plant the area are completed. Installed does not mean established.
    (f) If non-vegetative stabilization measures are being implemented, stabilization is considered “installed” when all such measures are implemented or applied.
        1) Non-vegetative stabilization shall prevent erosion and shall be chosen for site conditions, such as slope and flow of stormwater.
    (g) Final stabilization is not considered achieved until vegetation has grown and established to meet the requirements below.

13. Prior to removal of BMPs, ceasing site inspections, and removing from the quarterly report, final stabilization must be achieved. Final stabilization shall be achieved as soon as possible once land disturbance activities have ceased. Document in the SWPPP the type of stabilization and the date final stabilization is achieved.
    (a) The project is considered to have achieved final stabilization when perennial vegetation (excluding volunteer vegetation), pavement, buildings, or structures using permanent materials (e.g., riprap, gravel, etc.) cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation must be at least 70% coverage of 100% of the vegetated areas on site. Vegetation must be evenly distributed.
    (b) Disturbed areas on agricultural land are considered to have achieved final stabilization when they are restored to their preconstruction agricultural use. If former agricultural land is changing to non-agricultural use, this is no longer considered agricultural land and shall follow condition (a).
    (c) If the intended function of a specific area of the site necessitates that it remain disturbed, final stabilization is considered achieved if all of the following are met:
        1) Only the minimum area needed remains disturbed (i.e., dirt access roads, motocross tracks, utility pole pads, areas being used for storage of vehicles, equipment, materials). Other areas must meet the criteria above.

2) Permanent structural BMPs (e.g., rock checks, berms, grading, etc.) or non-vegetative stabilization measures are implemented and designed to prevent sediment and other pollutants from entering waters of the state.
3) Inspection requirements in Part IV. SWPPP MANAGEMENT REQUIREMENT, Condition 11 are met and documented in the SWPPP.

(d) Winter weather and frozen conditions do not excuse any of the above final stabilization requirements. If vegetation is required for stabilization the permittee must maintain BMPs throughout winter weather and frozen conditions until thawing and vegetation meets final stabilization criteria above. Document stabilization attempts during frozen conditions in the SWPPP. Consider future freezing when removing vegetation and plan with temporary stabilization techniques before the ground becomes frozen.

VI. SITE FINALIZATION & PERMIT TERMINATION

1. Until a site is finalized, the permittee must comply with all conditions in the permit, including continuation of site inspections and reporting quarterly to the Department. To finalize the site and remove from this permit coverage, the site shall meet the following requirements:
   (a) For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which the permittee had control during the construction activities, the requirements for final vegetative or non-vegetative stabilization in Part V. BMP REQUIREMENTS, Condition 13;
   (b) The permittee has removed and properly disposed of all construction materials, waste, and waste handling devices and has removed all equipment and vehicles that were used during construction, unless intended for long-term beyond construction phase;
   (c) The permittee has removed all temporary BMPs that were installed and maintained during construction, except those that are intended for long-term use or those that are biodegradable; and
   (d) The permittee has removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following the construction activities.

2. The permit may be terminated if;
   (a) There has been a transfer of control of all areas of the site for which the current permittee is responsible under this permit to another operator, and that operator has obtained coverage under this permit;
   (b) Active sites obtain coverage under an individual or alternative general NPDES permit, with land disturbance conditions; or
   (c) This permit may be terminated when all projects covered under this permit are finalized. In order to terminate the permit, the permittee shall notify the Department by submitting a Request for Termination along with the final quarterly report for the current calendar quarter.

VII. REPORTING AND SAMPLING REQUIREMENTS

1. The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns, or evidence of off-site impacts from activities at a site. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.

2. Electronic Discharge Monitoring Report (eDMR) Submission System. The NPDES Electronic Reporting Rule, 40 CFR Part 127, reporting of any report required by the permit shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.

3. Permittees shall prepare a quarterly report with a list of active land disturbance sites including any off-site borrow or depositional areas associated with the construction project and submit the following information electronically as an

attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:

(a) The name of the project;
(b) The location of the project (including the county);
(c) The name of the primary receiving water(s) for each project;
(d) A description of the project;
(e) The number of acres disturbed;
(f) The percent of completion of the project; and
(g) The projected date of completion.

The quarterly report(s) shall be maintained by the permittee and readily available for review by the Department at the address provided on the application as well as submitted quarterly via the Department's eDMR system. The permittee shall submit quarterly reports according to Table A.

Table A	**Schedule for Quarterly Reporting**
Activity for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

VIII. STANDARD PERMIT CONDITIONS

1. Records: The permittee shall retain copies of this general permit, the SWPPP and all amendments for the site named in the State Operating Permit, results of any monitoring and analysis, and all site inspection records required by this general permit.
   (a) The records shall be accessible during normal business hours and retained for a period of at least three (3) years from the date of termination.
   (b) The permittee shall provide a copy (electronic or otherwise) of the SWPPP to the Department, USEPA, or any local agency or government representative if they request a copy in the performance of their official duties within 24 hours of the request (or next working day), unless given more time by the representative.
   (c) The permittee shall provide a copy of the SWPPP to those who are responsible for installation, operation, or maintenance of any BMP. The permittee, their representative, and/or the contractor(s) responsible for installation, operation and maintenance of the BMPs shall have a current copy of the SWPPP with them when on the project site.

2. Land Ownership and Change of Ownership: Federal and Missouri stormwater regulations [10 CSR 20-6.200(1) (B)] require a stormwater permit and erosion control measures for all land disturbances of one or more acres. These regulations also require a permit for less than one acre lots if the lot is part of a larger common plan of development or sale where that plan is at least one acre in size.
   (a) If the permittee sells any portion of a permitted site to a developer for commercial, industrial, or residential use, this land remains a part of the common sale and the new owner must obtain a permit prior to conducting any land disturbance activity. Therefore, the original permittee must amend the SWPPP to show that the property has been sold and, therefore, no longer under the original permit coverage.
   (b) Property of any size which is part of a larger common plan of development where the property has achieved final stabilization and the original permit terminated will require application of a new land disturbance permit for any future land disturbance activity unless the activity is by an individual residential building lot owner on a site less than one acre.
   (c) If a portion of a larger common plan of development is sold to an individual for the purpose of building his or her own private residence, a permit is required if the portion of land sold is equal to or greater than one acre. No permit is required, however, for less than one acre of land sold.

3. Permit Transfer: This permit may not be transferred to a new owner.

4. Termination: This permit may be terminated when the project has achieved final stabilization, defined in Part VI. SITE FINALIZATION & PERMIT TERMINATION.
   (a) In order to terminate the permit, the permittee shall notify the Department by submitting the form Request for Termination of Operating Permit Form MO 780-2814. The form should be submitted to the appropriate regional office or through an approved electronic system if it should become available.
   (b) The Cover Page (Certificate Page) of the Master General Permit for Land Disturbance specifies the "effective date" and the "expiration date" of the Master General Permit. The "issued date" along with the "expiration date" will appear on the State Operating Permit issued to the applicant. **This permit does not continue administratively beyond the expiration date.**

5. Duty to Reapply: If the project or development completion date will be after the expiration date of this general permit, then the permittee must reapply to the Department for a new permit. This permit may be applied for and issued electronically in accordance with Section 644.051.10, RSMo.
   (a) Due to the nature of the electronic permitting system, a period of time may be granted at the discretion of the Department in order to apply for a new permit after the new version is effective. Applicants must maintain appropriate best management practices and inspections during the discretionary period.

6. Duty to Comply: The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

7. Modification, Revocation, and Reopening:
   (a) If at any time the Department determines that the quality of waters of the state may be better protected by reopening this permit, or revoking this permit and requiring the owner/operator of the permitted site to apply for a site-specific permit, the Department may revoke a general permit and require any person to obtain such an operating permit as authorized by 10 CSR20-6.010(13) and 10 CSR 20-6.200(1)(B).
   (b) If this permit is reopened, modified, or revoked pursuant to this Section, the permittee retains all rights under Chapter 536 and 644 Revised Statutes of Missouri upon the Department's reissuance of the permit as well as all other forms of administrative, judicial, and equitable relief available under law.

8. Other Information: Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

9. Duty to Provide Information: The permittee shall furnish to the Department, within 24 hours unless explicitly granted more time in writing, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

10. Inspection and Entry: The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of the permit;
    (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

11. Signatory Requirement:
    (a) All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    (b) The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or non-compliance) shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    (c) The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

12. Property Rights: This permit does not convey any property rights of any sort or any exclusive privilege.

13. Notice of Right to Appeal: If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

STORMWATER DISCHARGES FROM THIS LAND DISTURBANCE SITE ARE AUTHORIZED BY THE MISSOURI STATE OPERATING PERMIT NUMBER:

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ANYONE WITH QUESTIONS OR CONCERNS ABOUT STORMWATER DISCHARGES FROM THIS SITE, PLEASE CONTACT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES AT

1-800-361-4827

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET FOR MASTER GENERAL PERMIT
MO-R100XXX

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of Public Law 92-500 (as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the CWA). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Missouri Department of Natural Resources (Department) under an approved program operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2, a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the permit. A Fact Sheet is not an enforceable part of an MSOP.

DEFINITIONS FOR THE PURPOSES OF THIS PERMIT:

Common Promotional Plan: A plan undertaken by one (1) or more persons to offer lots for sale or lease; where land is offered for sale by a person or group of persons acting in concert, and the land is contiguous or is known, designated, or advertised as a common unit or by a common name or similar names, the land is presumed, without regard to the number of lots covered by each individual offering, as being offered for sale or lease as part of a common promotional plan.

Dewatering: The act of draining rainwater and/or groundwater from basins, building foundations, vaults, and trenches.

Effective Operating Condition: For the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Emergency-Related Project: A project initiated in response to a public emergency (e.g. earthquakes, extreme flooding conditions, tornado, disruptions in essential public services, pandemic) for which the related work requires immediate authorization to avoid imminent endangerment to human health/safety or the environment or to reestablish essential public services.

Exposed Soils: For the purposes of this permit, soils that as a result of earth-disturbing activities are left open to the elements.

Immediately: For the purposes of this permit, immediately should be defined as within 24 hours.

Impervious Surface: For the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

Infeasible: Infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices.

Install or Installation: When used in connection with stormwater controls, to connect or set in position stormwater controls to make them operational.

Land Disturbance Site or Site: The land or water area where land disturbance activities will occur and where stormwater controls will be installed and maintained. The land disturbance site includes construction support activities, which may be located at a different part of the property from where the primary land disturbance activity will take place or on a different piece of property altogether. Off-site borrow areas directly and exclusively related to the land disturbance activity are part of the site and must be permitted.

Larger Common Plan of Development or Sale: A continuous area where multiple separate and distinct construction activities are occurring under one plan, including any off-site borrow areas that are directly and exclusively related to the land disturbance activity. Off-site borrow areas utilized for multiple different land disturbance projects are considered their own entity and are not part of the larger common plan of development or sale. See definition of Common Promotional Plan to understand what a 'common plan' is.

Minimize: To reduce and/or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Non-structural Best Management Practices (BMPs): Institutional, educational, or pollution prevention practices designed to limit the amount of stormwater runoff or pollutants that are generated in the landscape. Examples of non-structural BMPs include picking up trash and debris, sweeping up nearby sidewalks and streets, maintaining equipment, and training site staff on stormwater control practices.

Operational: for the purposes of this permit, stormwater controls are made "operational" when they have been installed and implemented, are functioning as designed, and are properly maintained.

Ordinary High Water Mark: The line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris.

Peripheral: For the purposes of this permit, peripheral should be defined as the outermost boundary of the area that will be disturbed.

Permanently: For the purposes of this permit, permanently is defined as any activity that has been ceased without any intentions of future disturbance.

Pollution Prevention Controls (or Measures): Stormwater controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Qualified Person (inspections): A person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Stormwater Control (also referred to as sediment/erosion controls): refers to any temporary or permanent BMP or other method used to prevent or reduce the discharge of pollutants to waters of the state.

Structural BMP: Physical sediment/erosion controls working individually or as a group (treatment train) appropriate to the source, location, and area climate for the pollutant to be controlled. Examples of structural BMPs include silt fences, sedimentation ponds, erosion control blankets, and seeding.

Temporary Stabilization: A condition where exposed soils or disturbed areas are provided temporary vegetation and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

Treatment Train: A multi-BMP approach to managing the stormwater volume and velocity and often includes erosion prevention and sediment control practices often applied when the use of a single BMP is inadequate in preventing the erosion and transport of sediment. A good option to utilize as a corrective action.

Volunteer Vegetation: A volunteer plant is a plant that grows on its own, rather than being deliberately planted for stabilization purposes. Volunteers often grow from seeds that float in on the wind, are dropped by birds, or are inadvertently mixed into soils. Commonly, volunteer vegetation is referred to as 'weeds'. This does not meet the requirements for final stabilization.

Waters of the State: Section 644.016.1(27) RSMo. defines waters of the state as, "All waters within the jurisdiction of this state, including all rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or by two or more persons jointly or as tenants in common."

PART I – BASIC PERMIT INFORMATION

Facility Type:	Industrial Stormwater; Land Disturbance
Facility SIC Code(s):	1629
Facility Description:	Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling, and other activities that result in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution to waters of the state).

This permit establishes a Stormwater Pollution Prevention Plan (SWPPP) requirement for pollutants of concern from this type of facility or for all facilities and sites covered under this permit. 10 CSR 20-6.200(7) specifies "general permits shall contain BMP requirements and/or monitoring and reporting requirements to keep the stormwater from becoming contaminated".

Land disturbance activities include clearing, grubbing, excavating, grading, filling and other activities that result in the destruction of the root zone and/or other activities that are reasonably certain to cause pollution to waters of the state. A Missouri State Operating Permit for land disturbance permit is required for construction disturbance activities of one or more acres or for construction activities that disturb less than one acre when they are part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project.

The primary requirement of a land disturbance permit is the development of a SWPPP which incorporates site-specific BMPs to minimize soil exposure, soil erosion, and the discharge of pollutants. The SWPPP ensures the design, implementation, management, and maintenance of BMPs in order to prevent sediment and other pollutants from leaving the site.

When it precipitates, stormwater washes over the loose soil on a construction site and various other materials and products being stored outside. As stormwater flows over the site, it can pick up pollutants like sediment, debris, and chemicals from the loose soil and transport them to nearby storm sewer systems or directly into rivers, lakes, or coastal waters.

The Missouri Department of Natural Resources is responsible for ensuring that construction site operators have the proper stormwater controls in place so that construction can proceed in a way that protects your community's clean water and the surrounding environment. One way the department helps protect water quality is by issuing land disturbance permits.

Local conditions are not considered when developing conditions for a general permit. A facility may apply for a site-specific permit if they desire a review of site-specific conditions.

PART II – RECEIVING STREAM INFORMATION

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. This permit applies to facilities discharging to the following water body categories:

- ✓ Missouri or Mississippi River [10 CSR 20-7.015(2)]
- ✓ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ✓ Losing Streams [10 CSR 20-7.015(4)]
- ✓ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ✓ Special Streams [10 CSR 20-7.015(6)]
- ✓ Subsurface Waters [10 CSR 20-7.015(7)]
- ✓ All Other Waters [10 CSR 20-7.015(8)]

Missouri Water Quality Standards (10 CSR 20-7.031) defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's designated water uses shall be maintained in accordance with 10 CSR 20-7.031(24). A general permit does not take into consideration site-specific conditions.

MIXING CONSIDERATIONS:
This permit applies to receiving streams of varying low flow conditions. Therefore, the effluent limitations must be based on the smallest low flow streams considered, which includes waters without designated uses. As such, no mixing is allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)]. No Zone of Initial Dilution is allowed. [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:
There are no receiving water monitoring requirements recommended at this time.

PART III – RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

305(B) REPORT, 303(d) LIST, & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 305(b) of the Federal CWA requires each state identify waters not meeting Water Quality Standards and for which adequate water pollution controls have not been required. Water Quality Standards protect such beneficial uses of water as whole body contact, maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) list helps state and federal agencies keep track of waters which are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed which shall include the TMDL calculation. For facilities with an existing general permit before a TMDL is written on their receiving stream, the Department will evaluate the permit and may require any facility authorized by this general permit to apply for and obtain a site-specific operating permit.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA Section 303(d)(4); CWA Section 402(c); 40 CFR Part 122.44(I)] requires a reissued permit to be as stringent as the previous permit with some exceptions.
- ✓ Not Applicable: All effluent limitations in this permit are at least as protective as those previously established.

ANTIDEGRADATION:
Antidegradation policies ensure protection of water quality for a particular water body on a pollutant by pollutant basis to ensure Water Quality Standards are maintained to support beneficial uses such as fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as an Outstanding National Resource Water or Outstanding State Resource Water [10 CSR 20-7.031(3)(C)]. Antidegradation policies are adopted to minimize adverse effects on water.

The Department has determined the best avenue forward for implementing the Antidegradation requirements into general stormwater permits is by requiring the appropriate development and maintenance of a SWPPP. The SWPPP must identify all reasonable and effective BMPs, taking into account environmental impacts and costs. This analysis must document why no discharge or no exposure options are not feasible at the facility. This selection and documentation of appropriate control measures will then serve as the analysis of alternatives and fulfill the requirements of the Antidegradation Rule and Implementation Procedure 10 CSR 20-7.031(3) and 10 CSR 20-7.015(9)(A)5.

Any facility seeking coverage under this permit which undergoes expansion or discharges a new pollutant of concern must update their SWPPP and select reasonable and cost effective new BMPs. New facilities seeking coverage under this permit are required to develop a SWPPP including this analysis and documentation of appropriate BMPs. Renewal of coverage for a facility requires a review of the SWPPP to ensure the selected BMPs continue to be appropriate.
- ✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BENCHMARKS:
When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor and, if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the limitations of the permit.
- ✓ Not applicable; this permit does not contain numeric benchmarks.

BEST MANAGEMENT PRACTICES (BMPS):
Minimum site-wide BMPs are established in this permit to ensure all permittees are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these BMPs are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum BMPs are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state; therefore, pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "…any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the CWA then refers to those parameters found in 40 CFR 401.15.

The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

EFFLUENT LIMITATION GUIDELINE:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

✓ The industries covered under this permit have an associated Effluent Limit Guideline (ELG) which is applicable to the stormwater discharges in this permit and is applied under 40 CFR 125.3(a).

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize CWA reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

✓ Applicable; this permit requires quarterly reports.

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, RSMo 644.076.1, as well as Standard Permit Conditions Part VIII of this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission.

LAND APPLICATION:
Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.

✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:
Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

✓ Applicable; this permit provides coverage for land disturbance activities. These activities have SWPPP requirements and may be combined with the standard site SWPPP. Land disturbance BMPs should be designed to control the expected peak discharges. The University of Missouri has design storm events for the 25 year 24 hour storm; these can be found at: http://ag3.agebb.missouri.edu/design_storm/comparison_reports/20191117_25yr_24hr_comparison_table.htm; to calculate peak discharges, the website https://www.lmnoeng.com/Hydrology/rational.php has the rational equation to calculate expected discharge volume from the peak storm events.

NUTRIENT MONITORING:
Nutrient monitoring is required for facilities characteristically or expected to discharge nutrients (nitrogenous compounds and/or phosphorus) when the design flow is equal to or greater than 0.1 MGD per 10 CSR 20-7.015(9)(D)8.

- ✓ This is a stormwater only permit; therefore, it is not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

OIL/WATER SEPARATORS:
Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.

- ✓ Not applicable; this permit does not authorize the operation of OWS. The facility must obtain a separate permit to cover operation of and discharge from these devices.

PERMIT SHIELD:
The permit shield provision of the CWA (Section 402(k)) and Missouri Clean Water Law (644.051.16 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, they are effectively in compliance with certain sections of the CWA and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions but is only available when the facility is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the Department at time of application. It is the facility's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, as well as wastewater land application, storage, and treatment areas, are all fully disclosed to the Department at the time of application or during the draft permit review process. Subsequent requests for authorization to discharge additional pollutants or expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require permit modification or may require the facility be covered under a site specific permit.

PRETREATMENT PROGRAM:
This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) must ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

- ✓ Not Applicable; the facilities covered under this permit are not required to meet pretreatment requirements under an ELG.

PUBLIC NOTICE OF COVERAGE FOR AN INDIVIDUAL FACILITY:
Public Notice of reissuance of coverage is not required unless the facility is a specific type of facility as defined in 10 CSR 20-6.200(1). The need for an individual public notification process shall be determined and identified in the permit [10 CSR 20-6.020(1)(C)5.].

- ✓ Not applicable; public notice is not required for coverage under this permit to individual facilities. The MGP is public noticed in lieu of individual permit PN requirements.

REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation 40 CFR Part 122.44(d)(1)(i) requires effluent limitations for all pollutants which are or may be discharged at a level which will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard. In accordance with 40 CFR Part 122.44(d)(iii) if the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the water quality standard, the permit must contain effluent limits for the pollutant.

- ✓ The permit writer reviewed industry materials, available past inspections, and other documents and research to evaluate general and narrative water quality reasonable potential for this permit. Permit writers also use the Department's permit writer's manual, the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding technology based effluent limitations, effluent limitation guidelines, and water quality standards. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs.

SCHEDULE OF COMPLIANCE (SOC):
Per § 644.051, RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement or if prohibited by other statute or regulation. An SOC includes an enforceable sequence of interim requirements (e.g. actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the CWA, and 40 CFR 122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, an SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

- ✓ Not Applicable: This permit does not contain a SOC.

SETBACKS:
Setbacks, sometimes called separation distances, are common elements of permits and are established to provide a margin of safety in order to protect the receiving water and other features from accidents, spills, unusual events, etc. Specific separation distances are included in 10 CSR 20-8 for minimum design standards of wastewater structures. While wastewater is considered separately from stormwater under this permit, the guides and Chapter 8 distances may remain relevant to requirements under this permit if deemed appropriate by the permittee.

- ✓ Discharge to the watersheds of a Metropolitan No-Discharge Stream (10 CSR 20-7.031 Table F) is authorized by this permit if the discharges are in compliance with 10 CSR 20-7.015(5) and 10 CSR 20-7.031(7). Discharges to these watersheds are authorized for uncontaminated stormwater discharges only.
- ✓ This permit authorizes stormwater discharges which are located in a way to allow water to be released into sinkholes, caves, fissures, or other openings in the ground which could drain into aquifers (except losing streams) per 10 CSR 20-7.015(7). It is the best professional judgment of the permit writer to allow discharges to losing streams as the effluent is stormwater only.
- ✓ This permit authorizes stormwater discharge in the watersheds of Outstanding state Resource Waters (OSRW); Outstanding National Resources Waters (ONRW), which includes the Ozark National Riverways and the National Wild and Scenic Rivers System; and impaired waters as designated in the 305(b) Report provided no degradation of water quality occurs in the OSRW and ONRW due to discharges from the permitted facility per 10 CSR 20-7.015(6)(B) and 10 CSR 20-7.031(3)(C). Additionally, if the facility is found to be causing degradation or contributing to an impairment by discharging a pollutant of concern during an inspection or through complaint investigations, they will be required to become a no discharge facility or obtain a site specific permit with more stringent monitoring and SWPPP requirements. Missouri's impaired waters can be found at https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters. Sites within 1000 feet of a OSRW, ONRW, or water impaired for sediment must operate as a no-discharge facility. These additional protections are borrowed from the USEPA 2021 draft Construction General Permit.

SLUDGE – DOMESTIC BIOSOLIDS:
Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including, but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

✓ This permit does not authorize discharge or land application of biosolids. Sludge/biosolids is not generated by this industry.

SLUDGE – INDUSTRIAL:
Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including, but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

✓ Not applicable; sludge is not generated by this industry.

SPILL REPORTING:
Any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply when the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. https://dnr.mo.gov/waste-recycling/investigations-cleanups/environmental-emergency-response.

Underground and above ground storage devices for petroleum products, vegetable oils, and animal fats may be subject to control under federal Spill Prevention, Control, and Countermeasure Regulation and are expected to be managed under those provisions, if applicable. Substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) which are transported, stored, or used for maintenance, cleaning or repair shall be managed according to the provisions of RCRA and CERCLA.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k), BMPs must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*, (Document number EPA 833-R-06-004) published by the EPA in 2007 https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally, in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared if the SIC code for the facility is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management.

The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed, the facility will employ the control measures determined to be adequate to prevent pollution from entering waters of the state. The facility will conduct inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example if the BMP being employed is deficient in controlling stormwater pollution, corrective action should be taken to repair, improve, or replace the failing BMP. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

The EPA has developed factsheets on the pollutants of concern for specific industries along with the BMPs to control and minimize stormwater (https://www.epa.gov/npdes/stormwater-discharges-industrial-activities). Along with EPA's factsheets, the International Stormwater BMP database (https://bmpdatabase.org/) may provide guidance on BMPs appropriate for specific industries.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)].

Alternative analysis evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The alternative analysis evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of the *Antidegradation Implementation Procedure* defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The alternative analysis evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure*, Section II.B.

- ✓ Applicable: A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate control practices specific to site conditions, and provide for maintenance and adherence to the plan.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well.

In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031 or other health-based standards or may otherwise adversely affect human health. If the Department finds the injection activity may endanger USDWs, the Department may require closure of the injection wells or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

- ✓ Not applicable; this permit does not authorize subsurface wastewater systems or other underground injection. These activities must be assessed under an application for a site specific permit. Certain discharges of stormwater into sinkholes may qualify as UIC. It is important the permittee evaluate all stormwater basins, even those holding water; as sinkholes have varying seepage rates. This permit does not allow stormwater discharges into sinkholes. The facility must ensure sinkholes are avoided in the construction process. The State's online mapping resource https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=87ebef4af15d438ca658ce0b2bbc862e has a sinkhole layer.

VARIANCE:
Per the Missouri Clean Water Law Section 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law Section 644.006 to 644.141 or any standard, rule, or regulation promulgated pursuant to Missouri Clean Water Law Section 644.006 to 644.141.

- ✓ Not Applicable: This permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITATIONS:
Per 10 CSR 20-2.010(78), the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant which may be discharged into the stream without endangering its water quality. Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's Technical Support Document For Water Quality-based Toxics Control (TSD) (EPA/505/2-90-001).

- ✓ Not applicable; water quality limitations were not applied in this permit.

WATER QUALITY STANDARDS:
Per 10 CSR 20-7.031(4), General Criteria shall be applicable to all waters of the state at all times, including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the Department to include in each NPDES permit conditions to achieve water quality established under Section 303 of the CWA, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:
Per 10 CSR 20-7.031(1)(FF), a toxicity test conducted under specified laboratory conditions on specific indicator organism; and per 40 CFR 122.2, the aggregate toxic effect of an effluent measured directly by a toxicity test. A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving water.

- ✓ Not applicable: At this time, permittees are not required to conduct a WET test. This permit is for stormwater only.

PART IV – EFFLUENT LIMITATIONS DETERMINATION

EPA Construction General Permit (CGP)
The CGP was used to research and support best professional judgment decisions made in establishing technology-based conditions for this general permit which are consistent with national standards. The permit writer determined the standards established by the CGP are achievable and consistent with federal regulations. Additionally, the conditions reflecting the best practicable technology currently available are utilized to implement the ELG.

In this general permit, technology-based effluent conditions are established through the SWPPP and BMP requirements. Effective BMPs should be designed on a site-specific basis. The implementation of inspections provides a tool for each facility to evaluate the effectiveness of BMPs to ensure protection of water quality. Any flow through an outfall is considered a discharge. Future permit action due to permit modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit.

PART V–REPORTING REQUIREMENTS

SAMPLING:
The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns or BMP effectiveness, or evidence of off-site impacts from activities at the facility. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.

REPORTING:
There are quarterly reporting requirements for MO-R100xxx land disturbance permits. Project specific information is required to be report to the Department through the eDMR system.

PART VI – RAINFALL VALUES FOR MISSOURI & SURFACE WATER BUFFER ZONES

Knowledge of the 2-year, 24-hour storm event is used in this permit for two main reasons:
1) The design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants.
2) If the seven-day inspection frequency is utilized, an inspection must occur within 48 hours after any storm event equal to or greater than a 2-year, 24 hour storm has ceased.
For site-specific 2-year, 24-hour storm event information utilize the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 (NOAA Atlas 14) which is located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html. For more information visit; https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume8.pdf.

Surface Water Buffer Zones: In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of erosion and sediment controls used to reduce the discharge of sediment prior to the buffer. For additional information; https://www.epa.gov/sites/default/files/2017-02/documents/2017_cgp_final_appendix_g_-_buffer_reqs_508.pdf

PART VII – ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review and applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the permit. The proposed determinations are tentative pending public comment.

PUBLIC MEETING:
The department hosted three public meetings for this permit. The meetings were held on January 27, February 17, and March 9, 2021.

PUBLIC NOTICE:
The Department shall give public notice when a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest or because of water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing.

The Department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this permit is started March 25, 2022 and ended April 25, 2022. Two comment letters were received.

DATE OF FACT SHEET: 03/2/2022

COMPLETED BY:
SARAH WRIGHT
MS4 & LAND DISTURBANCE PERMITTING COORDINATOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - STORMWATER AND CERTIFICATION UNIT
(573) 526-1139
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APPENDIX N

DRAWINGS

JOB SPECIAL PROVISION JSP-1100-01
CLEARING & GRUBBING / TREE & BRUSH REMOVAL

1.0 SCOPE

Clearing, Grubbing, Tree Removal, and Brush Removal shall be in accordance with Section 1100 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 CONSTRUCTION

Tree & Brush Removal - The contractor shall remove all existing trees and brush (including their stumps) within the limits of construction and which conflict with proposed construction items except those specifically noted to remain. The contractor shall coordinate the removal of these items with the City.

3.0 MEASUREMENT

Clearing shall not be measured separately.

Grubbing shall not be measured separately.

Tree Removal (including stumps) shall not be measured separately but shall be considered part of the Lump Sum pay item ‘Clearing & Grubbing / Tree & Brush Removal’.

Brush Removal (including stumps) shall not be measured separately but shall be considered part of the Lump Sum pay item ‘Clearing & Grubbing / Tree & Brush Removal’.

4.0 PAYMENT

Payment for “Clearing & Grubbing / Tree & Brush Removal” (including the tree’s stumps) shall be at the contract lump sum price and shall include the cost of furnishing all labor, equipment, disposal fees, tools, and materials, and the performance of all work necessary to complete removals.

JOB SPECIAL PROVISION JSP-1100-02
DEMOLITION & REMOVAL

1.0 SCOPE

Demolition & Removal shall be in accordance with Section 1100 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 MEASUREMENT

No separate measurement will be made for Demolition & Removal.

3.0 PAYMENT

Payment for “Demolition & Removal” shall be at the contract lump sum price and shall include the cost of furnishing all labor, equipment, disposal fees, tools, and materials, and the performance of all work necessary to complete demolition and pavement removal.

4.0 REMOVAL OF BUILDING

4.1 Scope of Work

This work shall consist of furnishing all labor and equipment necessary to perform all operations in connection with the removal and disposal of three existing buildings including but not limited to removal of building pads, floors, structural columns, utility service lines, cleanouts, and mailboxes, as necessary in accordance with the improvement plans. Contractor shall remove all appurtenances, building contents, debris, and utilities found within the existing building areas. Contractor shall coordinate with all respective utility companies affected by demolition to ensure correct removal and shutoff per respective utility company requirements. Contractor shall obtain all necessary permits for completion of this work.

Contractor shall coordinate with City prior to demolition work to ensure that asbestos containing materials (ACM) and lead based paint (LBP) survey has been completed suspect materials have been abated prior to demolition. Contractor shall not proceed with demolition of any building without prior written authorization from city that ACM abatement has been completed. Contractor shall not be responsible for abatement of environmental hazards; however, Contractor is responsible for coordinating with City staff to verify that abatement activities have been completed “by others” prior to initiation of demolition work.

This work includes any necessary measure to properly preform this work. Any item that must be removed to construct the improvements but is not shown on the plan to be removed, or not covered under separate bid item, shall be considered incidental to this project and no additional payment will be made for these items. Any items not covered within this job special provision but necessary for the completion of these bid items shall conform to City of Joplin Standard Specifications. Removal of building foundations shall be incidental to removal of building.

4.3 Method of Measurement

Final measurement will not be made except for written authorized changes, accepted by the Owner or Owner's Representative during construction.

4.4 Basis of Payment

The accepted quantities of removal of buildings and foundations will each be paid for by the contract unit price per lump sum.

JOB SPECIAL PROVISION JSP-1400-01
MoDOT TYPE 5 AGGREGATE BASE

1.0 SCOPE

At the locations shown on the plans, or as determined by the engineer, MoDOT Type 5 Aggregate Base shall be constructed in accordance with the plans and Section 304 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

2.0 MATERIALS, DEFINITIONS AND EQUIPMENT

All materials shall meet the requirements of Section 304.2 of the 2020 Missouri Standard Specifications for Highway Construction except that reclaimed asphalt or concrete shall not be used in MoDOT Type 5 Aggregate Base.

3.0 CONSTRUCTION DETAILS

Construction of MoDOT Type 5 Aggregate Base shall be in accordance with Section 1400.3 of the current approved City of Joplin, Standard Specifications.

4.0 MEASUREMENT

Final measurement of the completed MoDOT Type 5 Aggregate Base will be made to the nearest square yard. No measurement will be made for MoDOT type 5 aggregate base under driveways, sidewalks, and sidewalk ramps as MoDOT type 5 aggregate base at these locations shall be subsidiary to other bid items.

5.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct “MoDOT Type 5 Aggregate Base” will be paid for at the contract unit price per square yard of the thickness shown in the contract plans. No payment will be made for MoDOT type 5 aggregate base under driveways, sidewalks, or sidewalk ramps as MoDOT type 5 aggregate base at these locations shall be subsidiary to other bid items.

JOB SPECIAL PROVISION JSP-1400-02
MoDOT TYPE 1 AGGREGATE SURFACE

1.0 SCOPE

At the locations shown on the plans, or as determined by the engineer, the contractor shall furnish, install, maintain, and remove all temporary surfacing material and construct new aggregate surface in accordance with the plans and Section 310 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

2.0 MATERIALS, DEFINITIONS AND EQUIPMENT

All materials shall meet the requirements of Section 310.2 of the 2020 Missouri Standard Specifications for Highway Construction except that reclaimed concrete shall not be used in MoDOT Type 1 Aggregate Surface.

3.0 CONSTRUCTION DETAILS

Construction of MoDOT Type 1 Aggregate Surface shall be in accordance with Section 1400.3 of the current approved City of Joplin, Standard Specifications.

During construction, material used for temporary surfacing material shall be maintained to provide a smooth driving surface free of bumps and potholes. It shall be the responsibility of the Contractor to make repairs to the temporary surface at the direction of the Engineer. The temporary surfacing material shall be removed as shown in the plans or as directed by the Engineer.

4.0 MEASUREMENT

No separate measurement shall be made for excavation, backfill, compaction, maintenance, and all other materials, labor, and incidentals required to construct the following:

4.1 MoDOT TYPE 1 AGGREGATE SURFACE

Final measurement of the completed MoDOT Type 1 Aggregate Surface will be made to the nearest square yard of final exposed area of completed aggregate surface. No measurement will be made for Temporary Type 1 Aggregate surface that may be needed during construction.

5.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary shall be paid for as follows:

5.1 MoDOT TYPE 1 AGGREGATE SURFACE

MoDOT Type 1 Aggregate Surface will be paid for at the contract unit price per square yard of the thickness shown in the contract plans. The payment will be made on the basis of certified weight tickets issued by the material vendor or by weights obtained from certified public scales or from certified contract or operated scales with all tickets certified by the City of Joplin. Payment shall be considered full compensation for all incidentals, labor, hauling, maintenance of surfacing material to provide an adequate travel path for the public, and removal / restoration of temporary surfacing upon completion.

JOB SPECIAL PROVISION JSP-2300-01
PERMANENT SIGNING

1.0 SCOPE

The Contractor shall furnish and install permanent traffic control signing materials at the locations shown on the plans, in conformance with the details, and the material specifications included herein. Permanent traffic control signing materials shall include, but not be limited to, sign sheeting, aluminum sign blanks, sign posts, breakaway base assemblies, mounting brackets and hardware. The permanent traffic control signing shall be installed before the roadway is open to construction unless prior approval is received by the Engineer or City Inspector. The installation of all regulatory signs is the first priority. If the permanent signs cannot be installed and thus the roadway would be unsigned overnight, temporary regulatory signs shall be installed and remain until the permanent signs can be installed. The contractor shall make every possible effort to remove the temporary signs and install permanent signs within 48 hours. Only under extreme circumstances and at the approval of the signing inspector or the engineer, will the duration of the temporary signs be extended. All temporary and permanent traffic control signs shall be in conformance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) Part II. The temporary signs shall be removed prior to installation of the permanent signs.

1.1 REMOVE & RELOCATE SIGNS

The contractor shall remove and relocate all signs designated on the plans to be relocated on the plans, and as directed by the Engineer.

2.0 MATERIALS

The material for permanent traffic control signs shall be in accordance with this specification.

a. Applicable Documents The following documents form a part of this specification to the extent specified herein:

ASTM B209 Specification for Aluminum and Aluminum Alloy Sheet and Plate
ASTM D523 Standard Method for Test for Specular Gloss
ASTM D4956-09 Standard Specification for Retroreflective Sheeting for Traffic Control
ASTM E284 Terminology of Appearance
ASTM E308 Practice of Computing the Colors of Objects by Using the CIE System
ASTM E810 Test Method for Coefficient of Retroreflection of Retroreflective Sheeting Utilizing the Coplanar Geometry
ASTM E1164 Practice for Obtaining Spectrophotometric Data for Object-Color Evaluation
CIE Publication Number 39-2 Recommendation for Surface Colours for Visual Signaling
FP-03 Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects

2.1 SIGNS

All signing shall conform to MUTCD (most current editions) standards in terms of minimum sign size, color, and reflectivity characteristics.

2.2 SIGN POST

Steel sign posts shall be in accordance with the City of Joplin Standard Detail Sheets ST-18 & ST-19, current edition.

Posts shall be ordered in 2' increments and cut to length. One single sign post long enough to support all signs shall be installed. Two separate lengths of post joined with a sleeve to achieve the necessary post length shall not be allowed.

The breakaway base shall meet the requirements of the City of Joplin Standard Details, current edition.

3.0 MEASUREMENT

For those items on which final payment is based on contract quantities, final measurement will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

3.1 REMOVE & RELOCATE SIGNS

No measurement of remove & relocate signs will be made.

3.2 PERMANENT SIGNATE-FLAT SHEET

Measurement of sign areas will be made to the nearest 1/10 square foot for each sign and to the nearest square foot for the total. The area of each sign will be that of the smallest rectangular, triangular or trapezoidal shape that will encompass the sign panel. Contract quantities will be used in final payment.

3.3 STEEL SIGN SUPPORTS

Measurement of post will be per Linear Foot of each type of post support listed in the contract documents, at the final post length as installed.

3.4 SIGN POST FOUNDATIONS, COMBINED

Sign Post Foundations, Combined shall be measured per each sign post foundation installed, regardless of type, and including all excavation, socket, and concrete.

4.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the installation shall be paid for as follows:

4.1 REMOVE & RELOCATE SIGNS

Payment of remove and relocate signs will be made by Lump Sum.

4.2 PERMANENT SIGNAGE-FLAT SHEET

Payment of signs will be provided per square foot. No separate payment will be made for any mounting brackets, banding, or miscellaneous hardware.

4.3 STEEL SIGN SUPPORTS

Payment of post will be made per linear foot of each type of post, and at the final post length as installed.

4.4 SIGN POST FOUNDATIONS, COMBINED

Payment of Sign Post Foundations shall be made per each foundation installed and accepted, regardless of post type, and shall be considered full payment for all labor, materials, incidentals, including socket, concrete, and ancillary equipment to install a breakaway post base in accordance with the City of Joplin standard details.

JOB SPECIAL PROVISION JSP-4200-01
CONCRETE DITCH LINER

1.0 SCOPE

At the locations shown on the plans, or as determined by the engineer, concrete ditch liner shall be installed in accordance with the contract drawings and in accordance with Section 609.10 of the current edition of the Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

2.0 MATERIALS

All material shall meet the requirements of the contract drawings and Section 609.10 of the current edition of the Missouri Standard Specifications for Highway Construction. All materials shall be approved by the Engineer prior to beginning this work.

3.0 CONSTRUCTION REQUIREMENTS

Construction of Concrete Ditch Liner shall be in accordance with Section 609.10 the current edition of the Missouri Standard Specifications for Highway Construction.

4.0 MEASUREMENT

Measurement of Concrete Ditch Liner will be measured to the nearest square yard.

5.0 PAYMENT

The accepted quantities of curb, gutter, curb and gutter, and paved ditch, complete in place, will be paid for at the contract unit price for each of the pay items included in the contract. No direct payment will be made for the following:

(a) Excavation below the upper surface of the concrete of these items.

(b) Any work necessary for preparing the subgrade and backfilling the completed item.

(c) Furnishing or installing reinforcement.

JOB SPECIAL PROVISION JSP-5100-01
SPECIAL SEEDING MIX

1.0 SCOPE

Special Seeding Mix shall be in accordance with Section 5100 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 SUBMITTALS

Contractor shall submit seed mix for review by engineer and owner. The submitted mixture shall be approved by the Engineer prior to placement and shall include all specific seed mixtures and weights as a percentage of the total mixture. Seed mixture shall be from a supplier as approved by the Engineer.

3.0 MATERIALS

Seed Mixture: Shall conform to the following seed mix and application rate.

Hydroseed at rate of 0.15 per SF
Winter Wheat
Big Blue
Little Blue
Indian Grass
Side Oats
Plains Oval Sedge
Rye

4.0 MEASUREMENT

Special Seeding Mix will be measured to the nearest square yard as specified in the plans.

5.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to complete Special Seeding Mix shall be paid in the units as specified in the proposal.

JOB SPECIAL PROVISION JSP-6700-01
TRAFFIC CONTROL

1.0 GENERAL

This work shall consist of furnishing, installing, operating, maintaining, cleaning, relocating and removing temporary traffic control devices and equipment, and the removal and relocation or covering and uncovering of existing signs and other traffic control devices in accordance with the contract documents or as directed by the engineer. For purposes of this specification, the work zone will be defined as the area between the first and last temporary traffic control device as shown on the plans for the work being performed. The Contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management. The contractor shall refer to Section 2305 of the City of Joplin Standard Specifications, latest edition for additional information.

2.0 MATERIALS

All material shall be in accordance with MoDOT Division 1000, Material Details, and specifically as follows: Item Section Temporary Traffic Control Devices 1063

3.0 SAFETY MATERIALS

All traffic control devices shall be in accordance with the MUTCD and any applicable safety and design codes. The contractor shall furnish a manufacturer's certification of crashworthiness, per NCHRP 350 or AASHTO Manual for Assessing Safety Hardware (MASH) Evaluation Criteria, for FHWA Category 1 traffic control devices and appurtenances. The contractor shall furnish the FHWA acceptance letter for FHWA Category 2 and Category 3 traffic control devices and appurtenances. The FHWA acceptance letter shall indicate that the device and appurtenance comply with the crash test requirements of NCHRP 350 or (MASH), Test Level 3 (TL-3). Regardless of whether the device meets NCHRP 350 or (MASH) criteria, the engineer reserves the right of final approval. Installation of a device prior to the engineer's approval will be at the contractor's risk. The contractor shall: (a) Designate an individual as the Work Zone Specialist (WZS) who is knowledgeable and competent by training and/or certification in the principles of proper temporary traffic control in accordance with Chapter 6 of the MUTCD, at the project level who has the primary responsibility, with sufficient authority, for implementing the traffic management plan and other safety and mobility aspects of the project. The name of the WZS, certification of the WZS’s training, and a 24-hour contact number for the WZS shall be provided to the engineer at the preconstruction meeting. WZS training and/or certification shall be obtained from a qualified person as defined by the Occupational Safety and Health Administration. The WZS shall have a card and/or certificate that includes the WZS’s name, instructor’s name and title, training entity/agency, date, and signature of the instructor. Re-certification will be required a minimum of every four years starting April 2016. (b) Ensure all contractor personnel are trained in traffic control to a level commensurate with their responsibilities. (c) Advise the engineer, as required, at least two working days before any work

requiring a lane closure begins and 14 calendar days prior to the imposition of height, width and weight restrictions. (d) Perform quality control of work zones to promote consistency and ensure compliance with contract documents, policies and guidelines.

4.0 CONSTRUCTION REQUIREMENTS

Performance and operational aspects of the devices shall be in accordance with the latest editions of the MUTCD and the Missouri Quality Standards for Temporary Traffic Control Devices.

All traffic control devices shall be removed as soon as practical when the devices are no longer needed. When work is suspended for short periods of time, traffic control devices that are no longer appropriate shall be turned away from traffic, removed or covered. All temporary traffic control devices shall be removed after the completion of construction and shall remain the property of the contractor unless specified otherwise. All permanent traffic control devices that are in conflict with temporary traffic control devices shall be covered or removed as shown on the plans or as directed by the engineer. Upon completion of the work, all permanent traffic control devices to remain in place shall be restored to original condition.

All sign covers shall meet the requirements of the MoDOT Quality Standards for Temporary Traffic Control Devices

All permanent traffic control devices relocated on a temporary basis shall be moved in the timeframe designated by the engineer, and shall remain visible to the traveling public during all stages of construction. The contractor shall place temporarily relocated permanent traffic control devices in the final location when construction is complete. Damaged devices shall be replaced by the contractor at the contractor’s expense.

The contract will indicate the minimum requirements for traffic control. With the engineer’s approval, the contractor may add to the traffic control plan any temporary traffic control devices or services the contractor considers necessary to adequately protect the public and the work. Device quantities may be adjusted accordingly.

Signs and sign quantities for blasting areas will not be included in the contract traffic control plan. The contractor will be responsible for furnishing, installing, maintaining and removing blasting zone signs in accordance with the MUTCD, at the contractor’s expense. Placement of blasting zone signs will be subject to approval from the engineer.

All changes to the traffic control plan resulting from contractor staging revisions, including proposed total road closures for the contractor’s convenience, shall be submitted in writing to the engineer for review and acceptance prior to implementation. Device quantities may be adjusted accordingly.

If the engineer determines the need for additional traffic control devices not included in the traffic control plan, the contractor will be notified in writing to provide the additional devices. Reimbursement for authorized changes to the

traffic control plan will be made in accordance with the contract documents unless covered by contract unit prices.

The contractor shall monitor traffic flow through the project and verify that all traffic control devices are in place and functioning properly during both daytime and nighttime conditions, as applicable. If the contractor determines that a deficiency in any traffic control device exists, the contractor shall take corrective action. No additional payment will be made for the corrective action.

As soon as possible after observing a traffic control deficiency, the engineer will report the deficiency to the contractor, either verbally or in writing. After receiving notification, if the contractor does not make corrections within an agreed upon timeline, order records or suspension of the work may occur. Regardless of the severity of the deficiency, corrections shall be made as soon as possible to maintain a quality work zone.

The severity of a deficiency will be categorized as follows: (a) Category 1 – Presents an immediate danger to the traveling public or workers and needs to be addressed immediately. (b) Category 2 – The situation doesn't pose an immediate threat to either the public or the workers, but can impact the proper functioning of the work zone. (c) Category 3 – The situation doesn't impact the functioning of the work zone but is more of a maintenance or aesthetic issue.

When the engineer determines that the contractor has not made a good faith effort in correcting a deficiency as agreed upon, an order record will be issued and the contractor will be notified of the following timelines to correct the deficiency. (a) A Category 1 deficiency shall be corrected within one hour. (b) A Category 2 deficiency shall be corrected within 24 hours. (c) A Category 3 deficiency shall be corrected within 96 hours.

When the engineer determines the contractor has not made a good faith effort in complying with an order record issued, the following action may be taken: (a) A second order record will be issued. (b) The engineer may find the contractor in violation of the contract

The contractor shall provide written notice to the engineer of any pedestrian or vehicular accident when physical evidence or other information suggests an accident has occurred in the work zone. The contractor shall obtain and provide to the engineer copies of law enforcement accident reports for any accidents in the work zone.

Each flagger, automated flagger assistance devices (AFAD) operator, portable signal flagging device (PSFD) operator and pilot vehicle operator shall maintain a valid flagger certification card that certifies the individual has been trained by a qualified person as defined by the Occupational Safety and Health Administration, in the principles and procedures of flagging in accordance with Chapter 6 of the MUTCD. Flagger certification cards shall include the flagger's name, instructor's name and title, training entity/agency, date, and signature of the instructor. Flagger certifications shall be provided to the engineer prior to flagging operations. Flagger re-certification shall be required a minimum of every four years starting April 2016. Certifications will not be required in emergency

situations that arise due to actions beyond the contractor's control when flagging is necessary to maintain safe traffic control on a temporary basis. All flagging, AFAD, PFD and pilot vehicle operations shall be in accordance with the MUTCD. Flaggers and pilot vehicles shall be provided as shown on the plans or as approved or directed by the engineer. When not specified in the plans, the contractor may use a Type B (Red/Yellow Lens) AFAD PSFD or pilot vehicle to supplement the flagging operation upon approval from the engineer. When two-way traffic is maintained over a single lane, each flagger, AFAD operator, if used in tandem, and pilot vehicle operator involved in the traffic flagging operation shall be equipped with a portable, two-way, communication system approved by the engineer. When the AFED or PSFD are not in use they shall be removed from the roadside.

5.0 FLASHING ARROW PANEL

The contractor shall deploy, operate and maintain flashing arrow panels as specified on the plans for the duration of the project, in accordance with the manufacturer's recommendations, at the contractor's expense. A minimum vertical clearance of 7 feet shall be maintained from the edge of pavement to the bottom of the flashing arrow panel.

When not in use, trailer-mounted flashing arrow panels shall be stored in an appropriate manner.

Control programs shall be as follows: (a) Flashing Caution: Flash the two highest and two lowest lamps on panel simultaneously. (b) Alternating Diamond Caution: Flash eight lamps in a form of a diamond and alternates diamonds from left side to right side. (c) Flashing Left or Right Arrow: Flash five lamps in the arrowhead and five lamps in the horizontal shank simultaneously. (d) Sequential Arrow Left or Right Arrow: Five lamps in the arrowhead will move across the panel. The horizontal shank increases in length as the arrowhead moves across the panel. (e) Double Arrow: Flash five lamps in both the left and right arrowheads and three lamps in the horizontal shank simultaneously. The contractor has the option to use the sequential arrow or alternating diamond caution modes on mobile operations.

6.0 CHANGEABLE MESSAGE SIGNS

The contractor shall place the changeable message sign (CMS) at the location shown on the plans or as directed by the engineer. The CMS shall not be located in the median.

The contractor shall deploy, operate and maintain the CMS a minimum of two weeks prior to construction starting as specified below:

- Southbound on 249 at the MO 171 Exit north of the MO 171 on ramp.
- Southbound on 249 and Zora Street Exit, near mile marker 4.2.
- Northbound on 249 and Newman Street Exit, near mile marker 1.4.
- Intersection of Zora Street & Duquesne Road
- Intersection of Zora Street & Rangeline Road

Final CMS locations shall be coordinated and approved by the engineer prior to placement. The contractor shall coordinate program messaging of the CMS with

the engineer. CMS installation shall be in accordance with the manufacturer's recommendations.

When the CMS is not in use, the message board shall be turned away from traffic. When not required for longer than a 24-hour period, the CMS shall be stored in an appropriate manner.

7.0 MEASUREMENT

Construction Signs have been quantified per the maximum square feet of devices used on the Project at any period of construction following the phasing provided in the plans. Final measurement will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. The Contractor shall fully complete one phase of work prior to set-up of subsequent phases.

Type III Moveable Barricades and Changeable Message Boards shall be measured per each device listed in the plans.

Additional signage, if requested by the Engineer or Owner, shall be measured per SF at the unit bid price.

8.0 PAYMENT

All Construction Signs authorized for installation by the engineer will be paid for at the contract unit price for each of the pay items included in the method of measurement. No direct payment will be made for the following:

(a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.

(b) Installing, operating, maintaining, cleaning, repairing, removing or replacing traffic control devices.

(c) Covering and uncovering existing signs and other traffic control devices.

(d) Relocating temporary traffic control devices including, but not limited to, temporary construction signs, ADA Barricades, Type III Moveable Barricades, Channelizers, Flashing Arrow Panels, Signal Heads at temporary traffic signals, and permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.

(e) Worker apparel.

(f) Flaggers, AFADs, PFDs, pilot vehicles, and appurtenances at flagging stations.

(g) Furnishing, installing, operating, maintaining and removing construction-related vehicle and equipment lighting.

(h) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.