

**Quality in Construction (QIC)**  
In-Person and Microsoft Teams Meeting  
**August 16, 2023**  
9:00 am - 12:00 pm

---

---

**Attendees: \*Attended in-person**

- Ann McGauran, OSA\*
- Chris Byerly, OSA\*
- Alan Robertson, OSA
- Paul Marshall, THEC\*
- Patti Miller, THEC
- Rich McNeil, AIATN\*
- Trey Wheeler, AIATN\*
- Ashley Cates, AIATN\*
- Jeffery Holmes, TBR
- Greg Campbell, AIA TN
- Jim Cobb, TTU
- Bill Waits, MTSU
- Mark Longfellow, UM
- Michelle Crowder, UT
- Austin Oakes, UT\*
- Laura Bailey, ETSU
- Chuck Milan, ETSU
- Marc Brunner, APSU
- Jennifer Murphy, STREAM
- Brian Wilson, STREAM
- Tara Pedraza, TDEC\*
- Kasey Anderson, ACEC\*
- Kurt Boyd, ACEC
- Jason Madeiros, AGC
- Bob Pitts, ABC
- Tom Lampe, AGC\*
- Andrew Moore, AGC\*
- Grace Rogers, AGC

**Discussion:**

- I. A role call was conducted, and each attendee identified themselves by name and the organization that they represent.
  
- II. **TDEC Presentation – TDEC Environmental Permitting Overview – Tara Pedraza (TDEC)**
  1. Tara Pedraza provided a presentation titled TDEC Environmental Permitting Overview. (Presentation and handouts are attached).
    - a. Alan Robertson asked if there are region contacts that can be provided for project teams to be sure they are addressing TDEC permitting requirements early in the project.
      - i. Tara responded that it is best for individuals to work with Tara’s team and External Affairs to help assess who the appropriate TDEC contact would be.
    - b. Chris Byerly asked if there were any pre-meeting templates or check lists provided for project team members to prepare for permitting meeting.
      - i. Tara stated that she would provide a link to any TDEC process forms for Chris Byerly to distribute to the QIC team members.
    - c. Ann McGauran noted that Nashville combines storm and wastewater and asked if other municipalities combine these and if so how TDEC handles that.
      - i. Tara noted that there are not many municipalities that combine these but that a few do exist adding and that TDEC advocates working to minimize these conditions where possible.
      - ii. Ann noted that this condition created challenges on the Library and Archives building.
    - d. Ann noted that it may be helpful for the various industry groups to have a contact for TDEC permitting that might be distributed for publication in the industry newsletters.
      - i. Tara stated that she would be happy to provide that information to OSA for the industry groups.

2. Alan Robertson asked if there were TDEC initiatives to address environmental challenges citing current recent flood events in the State.
  - i. Tara stated that TDEC typically responds to Federal initiatives such as air quality particulate standards for example but was not aware of current active legislation at the State level.
  - ii. Tara added that the State has responded to a federal greenhouse gas emission measurement grant which evaluates existing greenhouse gases and that a future mitigation grant will follow based on preliminary assessments.

**III. CM/GC Self-Performed Work Update – Alan Robertson and Ann McGauran (OSA)**

1. Alan Robertson provided a status update on CM/GC self-performed work. Alan noted that 4 states had provided information relating to self-performed work. Alan stated that Idaho reported that they do not set thresholds on self-performed work. Alan stated that Louisiana is considering a 20% threshold on self-performed work with the majority of that being trade-related work, specifically concrete work. Alan indicated that Kentucky has set their threshold at 20% and that Oregon does allow self-performed work but has not set a threshold. Finally, Alan stated that Virginia has set a threshold of 10% for self-performed work. Alan noted that there will be a task force meeting set for a future date following SPA's consideration of the current status. Alan noted that the labor burden issue will follow further discussion with the SPA's and that an update for the QIC members will follow.
2. Ann McGauran made the distinction that the current consideration for self-performed work includes potentially establishing an appropriate percentage for both General Conditions and trade work bidding.
3. Tom Lampe added that while it is understood that the State would like to establish a labor burden percentage threshold, he questioned if it was necessary as opposed to allowing the market to competitively set this rate.
4. Austin Oakes noted that that it is important to consider the difference between STREAM and Higher Education contracts as it relates to flexibility.

**IV. Construction Industry Market Update – Tom Lampe (AGC) and Bryan Hay (ABC),**

1. Tom Lampe provided a detailed construction market update. (See Attached)
2. Ann McGauran noted the there are multiple large firm joint venture projects occurring throughout the State.
  - a. Tom Lampe stated that large joint venture projects are currently common in the industry in part as a means to minimize risk.
  - b. Ann McGauran noted that SPA's should consider broad-based resource planning with regard to large projects involving joint ventures.
3. Austin Oakes asked if Tom Lampe could elaborate on electrical equipment.
  - a. Tom Lampe noted that 45-65 weeks for electrical equipment is still to be expected due to limitations on material availability.
4. Trey Wheeler noted that creative solutions to construction delivery methods is important consideration for the State specifically as alternatives to the design bid build delivery method.
  - a. Ann McGauran asked if Trey could elaborate on creative solutions in the P3 delivery method.
  - b. Trey Wheeler cited CM/GC self-performed work as an example.
  - c. Austin Oakes added that the traditional CM process offers better flexibility with early procurements as compared to P3.
  - d. Jeff Holmes stated that he agreed that flexibility is important with regard to transparency, long lead time items and early procurement.

- e. Ann McGauran thanked Jeff for his thoughts and requested that Alan Robertson add Jeff to the CM/GC self-performed work task force.
- f. Alan Robertson confirmed that he would add Jeff Holmes to the task force roster.
- 5. Rich McNeil asked if the market update would be distributed to the members.
  - a. Chris Byerly stated the industry update would be distributed and attached to the meeting minutes.

**V. HPBr Team Evaluation and BIM Update – Chris Byerly (OSA)**

- 1. Chris Byerly stated that 90% of HBPr documents were on file with OSA and that a tracking sheet will be updated and provided to SPA's to request any outstanding documents or comments from SPA's. Chris noted that 65% of team evaluations were on file with OSA and that OSA will continue to work with SPA's to be sure the remaining evaluation documents are tracked and filed.
- 2. Chris Byerly noted that the BIM manual has been updated and that version 2.1 has been updated to reflect the recent legislative changes impacting BIMs georeferencing.

**VI. SPA Projects Update – Marc Brunner (APSU)**

- 1. Marc Brunner stated that the Health Professions Building is currently under construction and that an early release package has been released for the electrical needs. Marc noted that the Kimbro project phase one is complete and that remaining work will continue until Fall 2024.  
Marc stated that the locally funded Welcome Center will require an increase in budget due to escalation and an upgrade in site work.

**SPA Projects Update – Laura Bailey (ETSU)**

- 1. Laura Bailey stated that construction of the Academic Building is slated to begin January 2024. Laura noted that CM/GC proposals are currently out for the Integrated Health Services Building. Laura noted that the Brown Hall Renovation project is transitioning from program verification to schematic design. Laura stated that approval for designer selection has occurred for 2 ETSU maintenance projects.

**SPA Projects Update – Jim Cobb (TTU)**

- 1. Jim Cobb noted that TTU has 3 large projects currently in design including the Engineering Building which is completing the programming phase. Jim stated that the Johnson Hall renovation is completing the schematic design phase. Jim noted that the stadium project is nearing completion of schematic design. Jim stated that TTU is currently addressing some budget issues on these projects. Jim stated that there are 4 maintenance projects currently proceeding.

**SPA Projects Update – Brian Wilson (STREAM)**

- 1. Brian Wilson stated that numerous State Park projects are underway or forthcoming including Henry Horton and Natchez Trace State Parks. Brian added that the phase two of the Western Mental Health Institute will be coming forward to complete an earlier phase 1 of the project. Brian stated that there are several projects coming forward for the Department of Children Services including 1 in Middle Tennessee and 2 in West Tennessee.

**SPA Projects Update – Austin Oakes (UT)**

- 1. Austin noted that 2 planning projects will be coming forward which are in the budget planning process including for a new chemistry building and a new business building addition in Chattanooga. Austin added that designer selections and the RFP's for these CM/GC projects is expected this Fall. Austin stated that the P3 processes is proceeding

including design, and legal documentation and that more information will be shared as the process develops.

- a. Trey Wheeler asked if Austin could provide a status of the mixed use P3 project.
- b. Austin stated that UT issued an RFI on the Neyland Entertainment District. UT is reviewing the RFI's and that the next steps will include issuing the RFP.

#### **SPA Projects Update – Jeff Holmes (TBR)**

1. Jeff Holmes noted that for FY23-24 budget TBR has 29 projects totaling about \$1 billion dollars. Jeff stated that 28 of these projects have designers selected. Jeff noted that TBR expects 90% of these projects should begin in the Fall of 2023. Jeff noted that these projects will be CM/GC projects and include multiple phases.
  - a. Tom Lampe asked if the CM/GC RFP's will be out in the Fall.
  - b. Jeff confirmed the expectation of this time frame.
  - c. Ann McGauran asked that a discussion involving the proposed bundling of these projects occur between TBR and OSA.
  - d. Jeff confirmed that TBR would plan to discuss this with OSA.

#### **SPA Projects Update – Bill Waits (MTSU)**

1. Bill Waits stated that the RFP for the MTSU Aerospace Campus project will be advertised soon and that TMP has been selected as the designer. Bill noted that the RFP has been advertised for the P3 hotel project. The P3 student housing project is currently in the programming phase and a feasibility analysis is being conducted by the consultant. Bill stated that the RFP advertisement is expect in Summer 2024. Bill stated that capital maintenance projects include the central plant and campus utility updates including centralized heating and cooling systems. Bill noted that the Rutledge Hall and Kirksey Ole Main projects are in the design development phase. Bill stated that the Applied Engineering Building is under construction with a planned May 2025 estimated substantial completion. Bill added that the Student Athletic Performance Center is under construction and is estimating a June 2025 estimated completion date.

#### **SPA Projects Update – Mark Longfellow (UM)**

1. Mark stated that UM has two major projects including the STEM building which is about 60% complete. Mark added that the Minder's Hall renovation has recently been approved by the SBC and that designer selection recommendation has been provided. Mark stated that the CM/GC advertisement is expected in the Fall of 2024. Mark noted that the Athletic Housing project solicitations are being evaluated currently.

#### **THEC Update – Paul Marshall, Patti Miller (THEC)**

1. Paul Marshall thanked the contractor group for their assistance in evaluating current market escalation as it relates to THEC's use codes.
2. Patti Miller noted that THEC will be making minor policy updates to be consistent with recent legislative changes regarding the disclosure policy. Patti also noted that definitions for master plan updates will be eliminated.

### **VII. Closing Remarks**

1. Alan Robertson asked if Paul Marshall had any updates relating to campus security assessments.
  - a. Paul noted that the Best Practices for Higher Education Design Guide was created and published in 2022. Paul noted that a similar document for K-12 was published in 2023. Paul noted that both documents are available at the THEC website. Paul

stated that this was a collaborative effort between THEC, TEMA and the TN Department of Homeland Security.

b. Ann McGauran noted that these are guidelines, but that statute does define some requirements specifically for K-12. Ann McGauran noted that a governing authority should be established if specification-level requirements are going to be required by statute in order to minimize potential liability.

2. Chris Byerly thanked the attendees for their past input regarding meeting topics and welcomed continued input for future meeting agendas.
3. Chris Byerly adjourned the meeting.

**Action Items:**

- Alan Robertson to add Jeff Holmes to the CM/GC Self Performed Work Task Force
- ABC and AGC representatives are requested to provide a Construction Market Update at the next QIC meeting in February 2024.
- QIC members are encouraged to continue to provide input regarding topics of interest for future QIC meetings which can be submitted to Alan Robertson, Chris Byerly or Ann McGauran.

**Next Meeting: February 14, 2024**

**Ed Jones Auditorium at Ellington Ag Campus / Virtual - MS Teams**



Department of  
**Environment &  
Conservation**

# Environmental Permitting Overview

Quality in Construction Task Force  
August 16, 2023

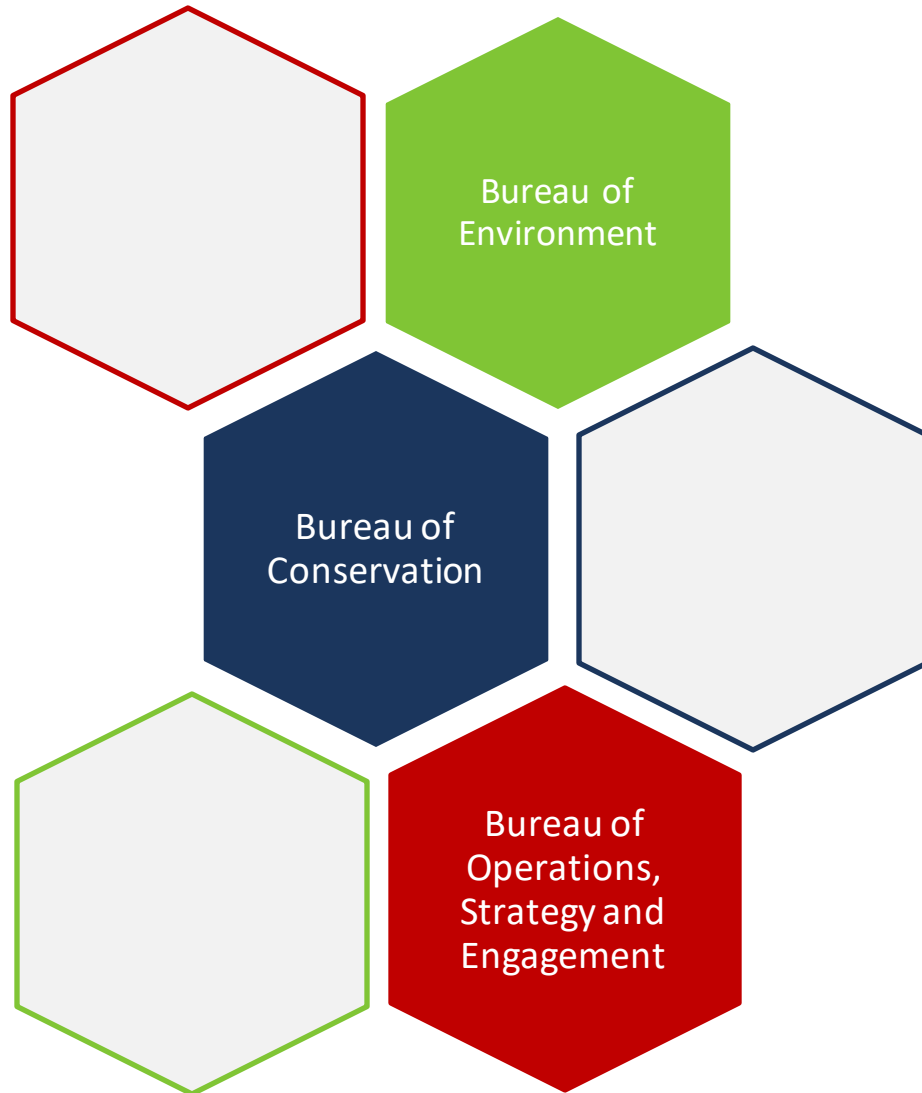
# TDEC Mission

The Tennessee Department of Environment and Conservation exists to enhance the quality of life for citizens of Tennessee and to be stewards of our natural environment by:

- Protecting and improving the quality of Tennessee's air, land, and water through a responsible regulatory system;
- Protecting and promoting human health and safety;
- Conserving and promoting natural, cultural and historic resources;
- Providing a variety of quality outdoor recreational experiences.



# TDEC Organization & Leadership



David Salyers, P.E.  
Commissioner



Greg Young  
Deputy Commissioner  
Bureau of Environment



Greer Tidwell, Jr.  
Deputy Commissioner  
Bureau of Parks and Conservation



Karen Stevenson Simo  
Deputy Commissioner  
Bureau of Operations, Strategy & Engagement



Jenny Howard  
General Counsel



# Office of External Affairs

- Public education and outreach arm of TDEC
- Promote excellent customer service across the department
- Support environmental stewardship and economic development
- Assist with conversations to ensure compliance with environmental regulations
- Connect individuals and organizations with TDEC resources
- Conduct public engagement via hearings and public meetings
- Promote & support all 57 Tennessee State Parks



# Bureau of Environment

We have delegated responsibility from the U.S. EPA to regulate sources of:

- Air pollution
- Solid and hazardous waste
- Radiological health issues
- Underground storage tanks
- Water pollution, water supply and groundwater

In addition to the Central Office in Nashville, there are 8 environmental field offices across the state.

## Environmental Field Offices

<https://www.tn.gov/environment/contacts/about-field-offices>

Have a question about Tennessee's Environment?  
Call 1-888-891-TDEC (8332)  
[ask.tdec@tn.gov](mailto:ask.tdec@tn.gov)

<b>Nashville</b> 711 R.S. Gass Boulevard Nashville, Tennessee 37243 Phone: (615) 687-7000	<b>Cookeville</b> 1221 South Willow Avenue Cookeville, Tennessee 38506 Phone: (931)520-6688	<b>Johnson City</b> 2305 Silverdale Road Johnson City, Tennessee 37601 Phone: (423)854-5400
<b>Memphis</b> 8383 Wolf Lake Drive Bartlett, Tennessee 38133 Phone: (901) 371-3000	<b>Jackson</b> 1625 Hollywood Drive Jackson, Tennessee 38305 Phone: (731) 512-1300	<b>Chattanooga</b> 1301 Riverfront Parkway, Suite #206 Chattanooga, Tennessee 37402 Phone: (423) 634-5745
<b>Columbia</b> 1421 Hampshire Pike Columbia, Tennessee 38401 Phone: (931) 380-3371	<b>Knoxville</b> 3711 Middlebrook Pike Knoxville, Tennessee 37921 Phone: (865) 594-6035	

**TN** Department of Environment & Conservation

# Environmental Protection Activities

- Investigate citizen complaints
- Monitor air, land, and water
- Inspect facilities
- Issue permits
- Enforcement actions
- Engage citizens in environmental decisions
- Administer grant programs



# Environmental Permitting Overview

- Permits and other approvals are designed to ensure that Tennessee businesses and communities have access to high-quality environmental resources now and in the future.
- Without specific details of a project, it is difficult to identify necessary permits; however, descriptions of TDEC permits that may be applicable in a business recruitment circumstance follow.
- **For complex and significant projects TDEC encourages applicants to engage in pre-application meetings with its divisions.**



# Division of Air Pollution Control – Permitting

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
Construction Permit	<p>90 days prior to commencement of on-site construction for <u>minor sources</u>.</p> <p>120 days prior to commencement of on-site construction for <u>major sources</u>.</p>	Construction of an air contaminant source or modification of an existing air contaminant source	<p>For a <u>minor source</u>, once an application has been deemed complete, a public notice is issued with a 30-day comment period. An informal public meeting may be held if requested but is not required by law or regulation.</p> <p>For a <u>major source</u>, a public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. An informal public meeting may be held if requested but is not required by law or regulation.</p>	<p>Under state regulation, a construction permit for a <u>minor source</u> must be issued within 115 days after receipt of a complete application.</p> <p>For <u>major source</u> applications, the permit is to be issued within 180 days after receipt of a complete application unless a longer time period is agreed to in writing by the applicant.</p>	<p>A list of activities that may occur prior to issuance of a major source construction permit is available on TDEC’s website.</p> <p>A change in location usually requires a new construction permit application.</p> <p>Typically, valid for one year.</p>

An applicant may operate under the authority and conditions of their construction permit provided that a start-up notification and operating permit application is submitted within the required time frame and the applicant complies with the requirements of the construction permit.



# Division of Air Pollution Control – Results, Attainment

- “Chattanooga's air quality, once rated among the worst in the nation, continues to improve, according to a report released Wednesday by the American Lung Association.”

## Current Nonattainment Counties for All Criteria Pollutants

Data is current as of July 31, 2023

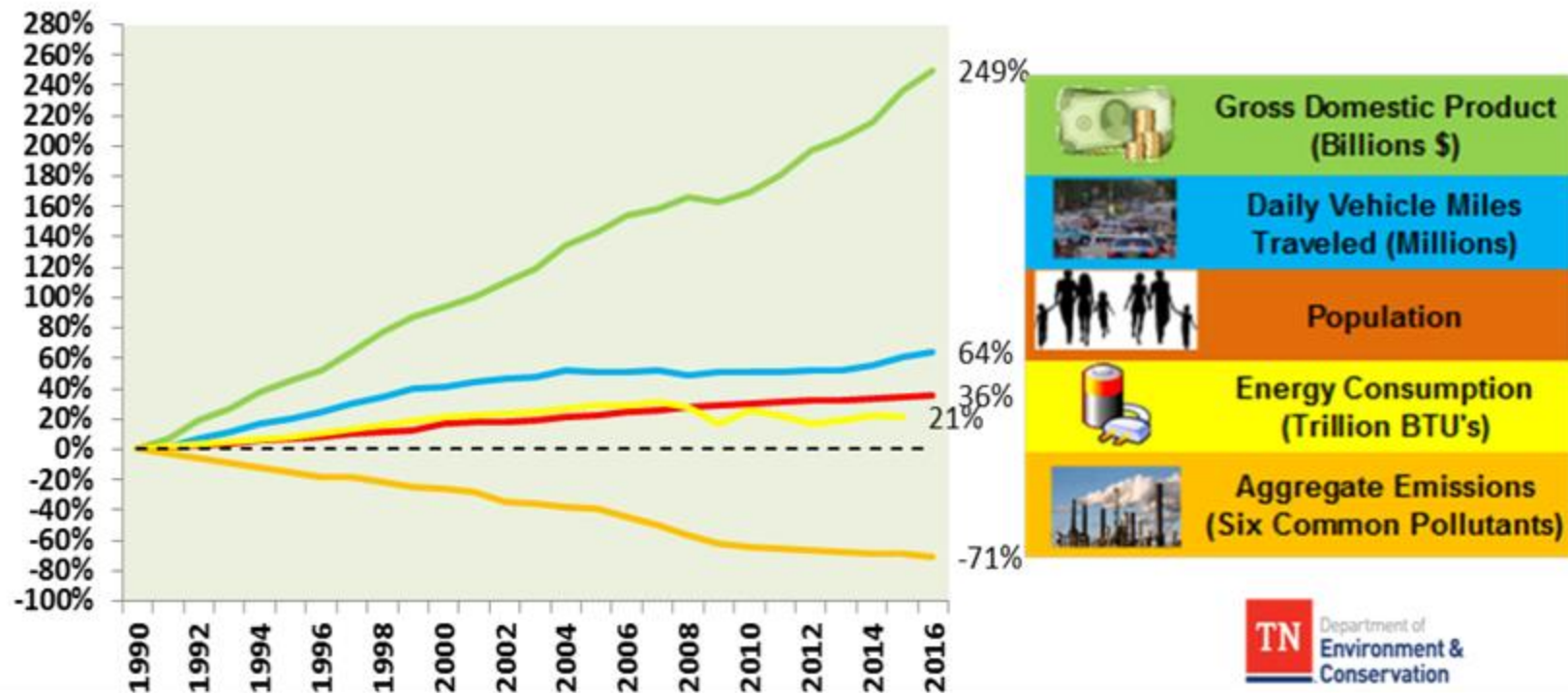
### TENNESSEE

Sullivan County

*Sulfur Dioxide (2010)* \* Sullivan County, TN



Tennessee Comparison of Growth Areas and Emissions 1990 to 2016



# Division of Water Resources – Wastewater Permitting

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
<b>NPDES Individual Permit</b>	180 to 90 days prior to Operation, depending on activity type.	Discharge of pollutants directly from point sources into surface waters of the state.	A public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. A public hearing on the permit may be held if requested.	<p>A major facility (&gt;1 million gallons of wastewater per day) permit must be issued within 1 year of receipt of a complete permit application.</p> <p>A minor facility (&lt;1 million gallons of wastewater per day) permit must be issued within 180 days of receipt of a complete permit application.</p>	A complete application for a new discharge will require engineering documentation detailing why the option to discharge to a POTW is not feasible and must provide sufficient detail about the proposed discharge and likely impacts to water quality. Water quality modeling may be required for oxygen demanding pollutants (BOD5, CBOD5, ammonia).
<b>State Operating Permit (SOP)</b>	180 days prior to Operation	Operation of a sewage, industrial waste or other waste treatment system that does not discharge to surface or subsurface waters.	A public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. A public hearing on the permit may be held if requested.	<p>Prior to application, discussion must be held with Division of Water Resources.</p> <p>Application must be submitted at least 180 days prior to starting any new activity.</p> <p>Permit issuance typically takes between 5 and 9 months.</p>	Examples might include pump and haul system operation, temporary collection and holding of wastewater, or land application by spray or drip irrigation

# Division of Water Resources – Stormwater Permitting

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
<p>National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit (CGP)</p>	<p>30 days prior to Construction</p>	<p>Construction activity disturbing one or more acres or less than one acre but part of a common plan of development. Disturbance of greater than 50 acres require an individual permit if construction activities cannot be phased.</p>	<p>For an individual permit, a public notice is issued on the TDEC web site and distributed via the Division of Water Resources' mailing list. The applicant must also place a division-approved legal notice in a local newspaper and post a placard near the project site. A public hearing on the permit may be held if requested.</p>	<p>For activities qualifying under a general permit, notice of coverage sent to the applicant within 30 days of receiving a complete notice of intent and Storm Water Pollution Prevention Plan.</p> <p>For activities requiring an individual permit, issuance may take up to 180 days after receipt of a complete application.</p>	<p>Notice of intent must be submitted at least 30 days prior to work commencing.</p> <p>Notice of Termination required when site is stabilized.</p>
<p>Tennessee Multi-Sector Permit (TSMP)</p> <p>(NPDES Industrial Stormwater Permit)</p>	<p>Prior to Operation</p> <p>Notice of Intent for TSMP must be submitted at least 5 days prior to beginning industrial activity.</p>	<p>Stormwater runoff from an industrial activity.</p>		<p>For activities qualifying under a general permit, notice of coverage sent to the applicant within 30 days of receiving a complete notice of intent and Storm Water Pollution Prevention Plan.</p>	<p>Individual permit is also an option</p>



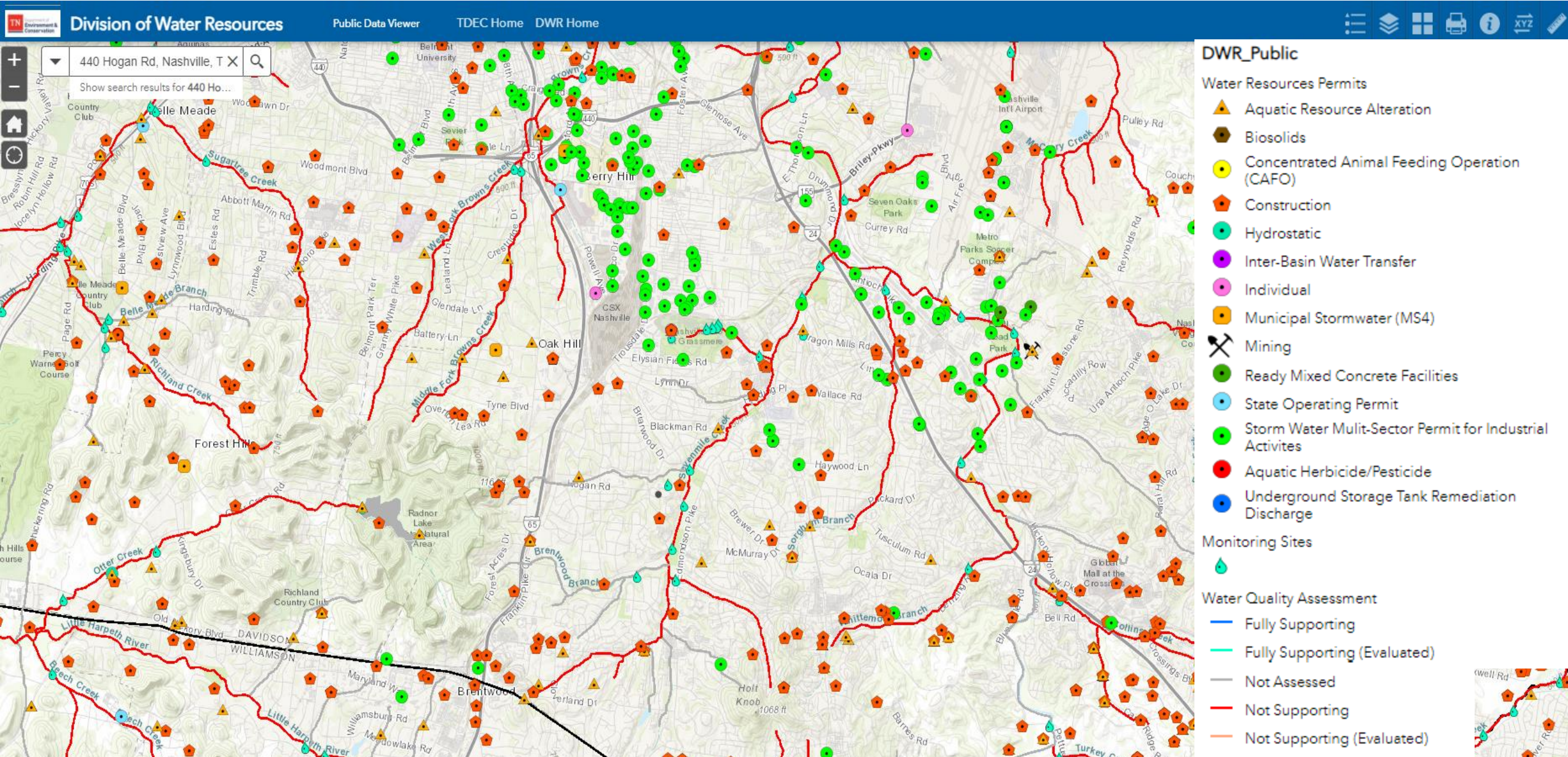
# Division of Water Resources – ARAP Permitting

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
<b>Aquatic Resource Alteration Permit (ARAP)/Section 401 Certification</b>	90 days prior to Construction	<p>Activity that results in the physical alteration of waters – streams, rivers, lakes, or wetlands – of the State.</p> <p>General permit vs individual permit dependent upon size of each type of alteration.</p>	For an individual permit, public notice with a 30-day comment period issued on the TDEC web site and distributed via mailing list. The applicant must also place a division-approved legal notice in a local newspaper and post a placard near the project site. During the public comment period, a public hearing must be held if requested.	<p>For activities qualifying under a <u>general permit</u>, notice of coverage is issued within 30 days.</p> <p>For an <u>individual permit</u> application, the division must take action to issue or deny a permit within 90 days after receipt of a completed application or the fee can be refunded.</p>	<p>Listing of activities covered by general permit available TDEC’s website.</p> <p>Individual permit may require mitigation to offset impacts to waters of the state.</p> <p>In most cases, individual permits are processed in less than 90 days.</p> <p>A federal §404 permit may also be required from the U.S. Army Corps of Engineers for projects that include the discharge of dredged or fill material into waters of the U.S. including wetlands. When a §404 permit is required from the Corps, a §401 certification must first be obtained from TDEC.</p> <p>Notice of Termination is required when site is stabilized.</p>

TDEC & USACE currently require **compensatory mitigation** for certain permitted impacts to Tennessee's streams. The Division may require compensatory mitigation to offset unavoidable adverse impacts resulting in an appreciable permanent loss of aquatic resource value. The Division cannot issue an individual ARAP, with or without mitigation, unless an applicant has first demonstrated that there are no practicable alternatives to the proposed activity that would have less adverse impact on resource values, so long as the alternative does not have other significant adverse environmental consequences.



# Division of Water Resources – Results, Mapviewer [LINK](#)



# Division of Solid Waste Management – Haz Waste Permitting

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
<b>Hazardous Waste Permit</b>	Prior to operation	Treatment, storage, or disposal of a hazardous waste (not under generator exclusions)	Multiple public notices  Public hearing may be held if requested	14 to 25 months depending on type of facility, community involvement, public hearings, revisions, etc.	Two-part application process.  A facility may also be required to get an EPA ID number
<b>Notification of Hazardous Waste Activity</b>	Within 90 days of initial generation of hazardous waste	Generation of 100 kg (220 lbs.) of hazardous waste or more or more than 1 kg (2.2 lbs.) of acutely hazardous waste generated in a month. Generators of less than above quantities are not required to notify but are encouraged to do so.			Annual report requirement for Small and Large Quantity Generators  Annual report encouraged for Very Small Quantity Generators, but not required.

## Who Needs A Hazardous Waste Permit?

*Any person owning or operating a new or existing facility that treats, stores, or disposes of a hazardous waste*

EPA has developed a **specific list of wastes that are hazardous**.

If you generate a waste and mix it with a hazardous waste, then you are generating a hazardous waste. If you generate a waste that exhibits any of the characteristics of hazardous waste (certain wastes are hazardous because of ignitability, corrosivity, reactivity etc), then you are generating a hazardous waste.

# Division of Solid Waste Management – Solid Waste Permitting

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
<b>Special Waste Approval</b>	Prior to disposal	Disposal or processing of special wastes.		Approval typically received within 30 days of receipt of a completed request.	<p>Will need recertification every three years.</p> <p>Special wastes are solid wastes that are either difficult or dangerous to manage and may include sludges, bulky wastes, pesticide wastes, medical wastes, industrial wastes, hazardous wastes which are not subject to regulations under Rule 0400-12-01-.03 through 0400-12-01-.07, liquid wastes, friable asbestos wastes, and combustion wastes.</p>
<b>Solid Waste Permit-by-Rule (PBR)</b>	Prior to operation	Change to the chemical or physical characteristics of a solid waste by a solid waste processing facility. Other activities that must have a Permit-by-Rule are coal ash fill areas, tire storage facilities, convenience centers and transfer stations.	Some PBRs may require public notice	Approval typically received within 60 days of a receipt of a completed request.	Multiple operations at the same location can operate under one permit.

# Division of Remediation – Brownfields

**Brownfields** are abandoned or underused industrial and commercial properties where redevelopment may be complicated by **real or perceived** environmental contamination.

Examples:

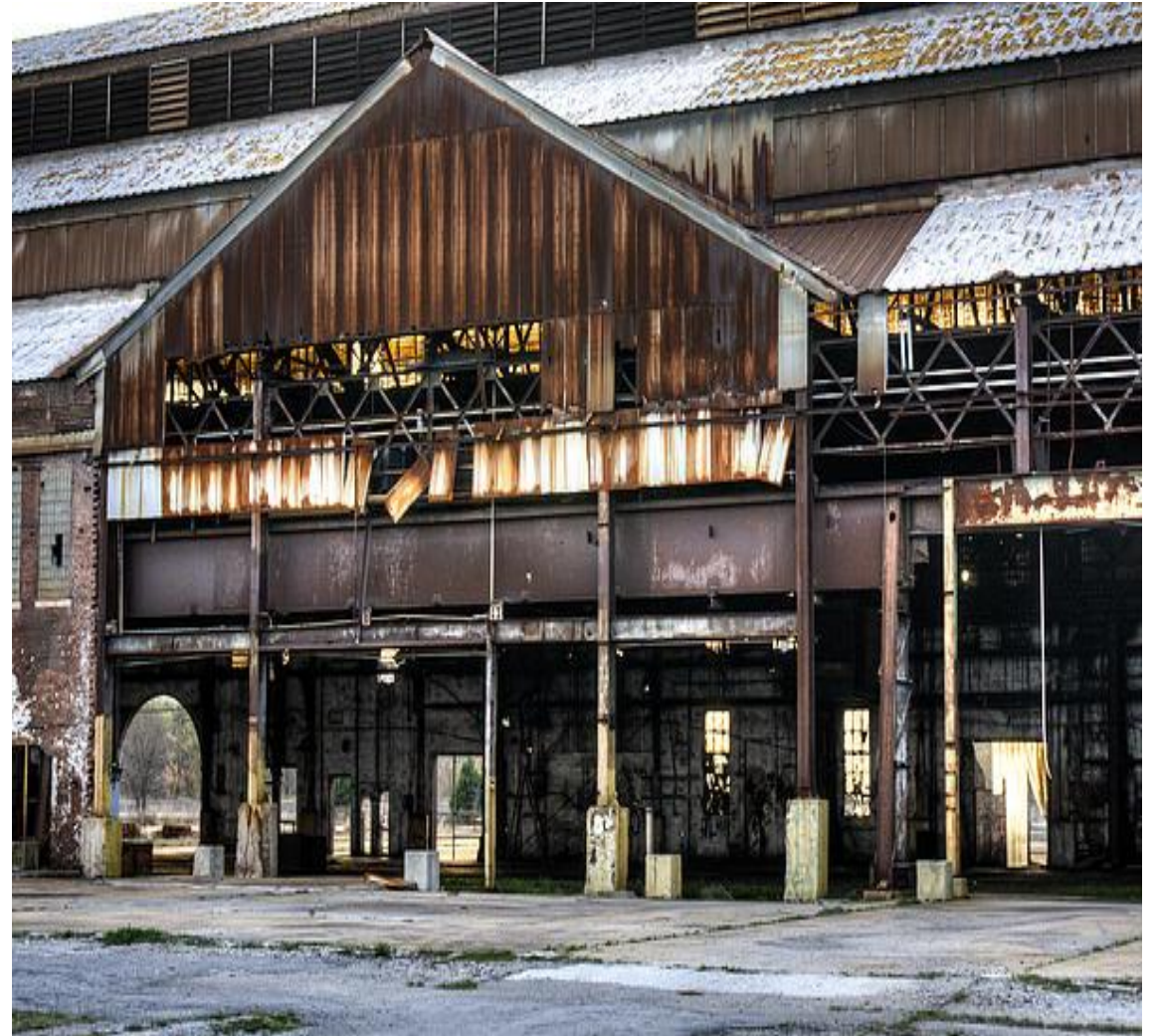
- Abandoned and former gas stations
- Former dry cleaners
- Old industrial facilities
- Former coal yards
- Former junk yards
- Legacy contamination of unknown origin



# Brownfield Redevelopment

Brownfield properties can present a significant amount of risk for the purchaser:

- **regulatory risk** - Environmental contamination is an important consideration in real property transactions. liability protections exist under TCA 68-212-224
- **financial risk** - DoR provides technical assistance to develop a Site Development or Soil Management Plan designed to cost effectively integrate remediation and construction
- **human exposure risk** – Institutional Controls



# Real Estate Transaction Issues



To defend against liability and manage these risks, you must know what is there. To know what's there you must perform a quality Environmental Site Assessment (Phase I and II).

Federal law (CERCLA) creates strict, retroactive, and joint & several liability for the release or the substantial threat of release of a hazardous substance from a facility into the environment.

## State Action

- TDEC can issue orders requiring compliance.

## Private party recovery

- Where private parties clean up the site they can and will seek contribution

# Voluntary Oversight and Assistance Program

The Voluntary Cleanup Oversight and Assistance Program (VOAP) (authorized by TCA 68-212-224) offers parties the opportunity to work proactively with TDEC to:

- Provide outcome-based evaluation of environmental data allowing for timely decisions and agreement from regulatory experts;
- TDEC and voluntary party negotiate an Agreement that outlines the actions to be taken to make the property safe for its next intended use
- Requires certain public notification activities (30 days)
- Certain fees are required for program involvement
- Final product is a No Further Action letter that provides purchaser(s), lenders, successors in title, etc. comfort that TDEC approves of actions taken to address the property for its next intended use





# 113th General Assembly Legislation

- Created a state-administered brownfield grant program. (Tenn. Code Ann. Title 68, Section 212, Part 2) financed by \$5M budget appropriation.
- Amended the Brownfield Franchise and Excise Tax Credit law to incentivize rural and smaller communities to clean up and remediate property by expanding the credit to include both purchase and remediation costs. (Tenn. Code Ann. section 67-4-2009)
- Amended the Brownfield Tax Increment Financing (TIF) law to remove geographic barriers to use and expand eligible qualified project costs to mirror those authorized under the Uniformity in TIF law. (Tenn. Code Ann. section 7-53-316)



# Tara Pedraza

Deputy Director of External Affairs

c. (931) 287-7995

[Tara.Pedraza@tn.gov](mailto:Tara.Pedraza@tn.gov)



Questions?

## State Environmental Permitting Overview for Industry Recruitment

The Tennessee Department of Environment and Conservation (TDEC) has jurisdiction over certain site activities that may impact air, land or water quality.<sup>1</sup> Permits and other approvals are designed to ensure that Tennessee businesses and communities have access to high quality environmental resources now and in the future. Without specific details of a project, it is difficult to identify necessary permits; however, descriptions of TDEC permits that may be applicable in a business recruitment circumstance follow. For complex and significant projects TDEC encourages applicants to engage in pre-application meetings with its divisions.

Generally, permit applications first undergo completeness review and determination followed by the actual permit writing and issuance process, which may by law require public notice. A number of permitting factors vary considerably based on permit type as well as scope, complexity, location, and scale of proposed activities, including but not limited to:

- Issuance timetable
- Public notice and/or public hearing
- Duration of permit coverage
- Application fees
- Materials required to be deemed complete

If circumstances warrant a public hearing, TDEC is required to circulate public notice for the hearing no less than 30 days in advance.

### Air

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
Construction Permit	90 days prior to commencement of on-site construction for minor sources. 120 days prior to commencement of on-site construction for major sources.	Construction of an air contaminant source or modification of an existing air contaminant source	<ul style="list-style-type: none"> <li>• For a minor source, once an application has been deemed complete, a public notice is issued with a 30-day comment period. An informal public meeting may be held if requested but is not required by law or regulation.</li> <li>• For a major source, a public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. An informal public meeting may be held if requested but is not required by law or regulation.</li> </ul>	<ul style="list-style-type: none"> <li>• Under state regulation, a construction permit for a minor source must be issued within 115 days after receipt of a complete application.</li> <li>• For major source applications, the permit is to be issued within 180 days after receipt of a complete application unless a longer time period is agreed to in writing by the applicant.</li> </ul>	<ul style="list-style-type: none"> <li>• A list of activities that may occur prior to issuance of a major source construction permit is available on TDEC’s website.<sup>2</sup></li> <li>• A change in location usually requires a new construction permit application.</li> <li>• Typically valid for one year.</li> </ul>

<sup>1</sup> This document is intended to reflect potential state environmental permits or approvals which might be required for new business recruitment, however, is not exhaustive. Additionally, this document does not reflect local approvals which may be required from counties or municipalities.

<sup>2</sup> [https://www.tn.gov/content/dam/tn/environment/air/documents/apc\\_permit-docs/apc\\_Construction-Activities-Prior-to-Permit-Issuance\\_sep-5-2019.pdf](https://www.tn.gov/content/dam/tn/environment/air/documents/apc_permit-docs/apc_Construction-Activities-Prior-to-Permit-Issuance_sep-5-2019.pdf).

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
Operating Permit	In preparation for or after start of operation (see notes for additional detail)	Operation of an air contaminant source	<ul style="list-style-type: none"> <li>• For a major source, a public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. A public hearing on the permit may be held if requested.</li> <li>• For a minor source, once an application has been deemed complete, a public notice with a 30-day comment period is issued.</li> </ul>	<ul style="list-style-type: none"> <li>• A minor source operating permit is typically issued within 270 to 360 days of receipt of a complete operating permit application.</li> <li>• A major source operating permit is typically issued within 18 months of receipt of a complete major source permit application.</li> </ul>	<ul style="list-style-type: none"> <li>• A start-up notification and air quality operating permit application must be submitted within 30 days of start-up for a minor source or within 60 days following completion of a stack test if one is required.</li> <li>• For major sources, a major source operating permit application must be submitted within 360 days of start-up.</li> <li>• An applicant may operate under the authority and conditions of their construction permit provided that a start-up notification and operating permit application is submitted within the required time frame and the applicant complies with the requirements of the construction permit.</li> <li>• Minor area source operating permits usually valid for 10 years.</li> </ul>

Additional permitting information available at <https://www.tn.gov/environment/program-areas/apc-air-pollution-control-home/apc/permit-air-home.html>.

**Water**

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
National Pollutant Discharge Elimination System (NPDES) Stormwater Construction Permit	30 days prior to Construction	Construction activity disturbing one or more acres or less than one acre but part of a common plan of development. Disturbances of >50 acres must be phased and additional conditions such as discharge monitoring and increased inspections will apply; an Individual NPDES permit may be required in some cases.	<ul style="list-style-type: none"> <li>For an individual permit, a public notice is issued on the TDEC web site and distributed via the Division of Water Resources' mailing list. The applicant must also place a division-approved legal notice in a local newspaper and post a placard near the project site. A public hearing on the permit may be held if requested.</li> </ul>	<ul style="list-style-type: none"> <li>For activities qualifying under a general permit, notice of coverage sent to the applicant within 30 days of receiving a complete notice of intent and Storm Water Pollution Prevention Plan.</li> <li>For activities requiring an individual permit, issuance may take up to 180 days after receipt of a complete application.</li> </ul>	<ul style="list-style-type: none"> <li>Notice of intent must be submitted at least 30 days prior to work commencing.</li> <li>Notice of Termination required when site is stabilized.</li> </ul>
Aquatic Resource Alteration Permit (ARAP)/Section 401 Certification	90 days prior to Construction	Activity that results in the physical alteration of waters – streams, rivers, lakes, or wetlands – of the State. General permit vs individual permit dependent upon size of each type of alteration.	<ul style="list-style-type: none"> <li>For an individual permit, public notice with a 30-day comment period issued on the TDEC web site and distributed via mailing list. The applicant must also place a division-approved legal notice in a local newspaper and post a placard near the project site. During the public comment period, a public hearing must be held if requested.</li> </ul>	<ul style="list-style-type: none"> <li>For activities qualifying under a general permit, notice of coverage is issued within 30 days.</li> <li>For an individual permit application, the division must take action to issue or deny a permit within 90 days after receipt of a completed application or the fee can be refunded.</li> </ul>	<ul style="list-style-type: none"> <li>Listing of activities covered by general permit available TDEC's website.</li> <li>Individual permit may require mitigation to offset impacts to waters of the state.</li> <li>In most cases, individual permits are processed in less than 90 days.</li> <li>A federal §404 permit may also be required from the U.S. Army Corps of Engineers for projects that include the discharge of dredged or fill material into waters of the U.S. including wetlands. When a §404 permit is required from the Corps, a §401 certification must first be obtained from TDEC.</li> <li>Notice of Termination required when site is stabilized.</li> </ul>

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMETABLE	NOTES
Discharge permits through publicly owned treatment works (POTW)	Prior to Operation	Discharge (other than domestic sewage) into local POTW system.			<ul style="list-style-type: none"> <li>Publicly owned treatment works standards and requirements are specified in local sewer ordinances. Contact municipality.</li> </ul>
NPDES Individual Permit	180 to 90 days prior to Operation, depending on activity type.	Discharge of pollutants directly from point sources into surface waters of the state.	<ul style="list-style-type: none"> <li>A public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. A public hearing on the permit may be held if requested.</li> </ul>	<ul style="list-style-type: none"> <li>A major facility (&gt;1 million gallons of wastewater per day) permit must be issued within 1 year of receipt of a complete permit application.</li> <li>A minor facility (&lt;1 million gallons of wastewater per day) permit must be issued within 180 days of receipt of a complete permit application.</li> </ul>	<ul style="list-style-type: none"> <li>A complete application for a new discharge will require engineering documentation detailing why the option to discharge to a POTW is not feasible and must provide sufficient detail about the proposed discharge and likely impacts to water quality. Water quality modeling may be required for oxygen demanding pollutants (BOD5, CBOD5, ammonia).</li> </ul>
State Operating Permit	180 days prior to Operation	Operation of a sewage, industrial waste or other waste treatment system that does not discharge to surface or subsurface waters.	<ul style="list-style-type: none"> <li>A public notice with a 30-day comment period is issued once a draft permit and preliminary determination is made that the permit can be issued. A public hearing on the permit may be held if requested.</li> </ul>	<ul style="list-style-type: none"> <li>Prior to application, discussion must be held with Division of Water Resources.</li> <li>Application must be submitted at least 180 days prior to starting any new activity.</li> <li>Permit issuance typically takes between 5 and 9 months.</li> </ul>	<ul style="list-style-type: none"> <li>Examples might include pump and haul system operation, temporary collection and holding of wastewater, or land application by spray or drip irrigation</li> </ul>
Tennessee Multi-Sector Permit (TSMP) (NPDES Industrial Stormwater Permit)	Prior to Operation <ul style="list-style-type: none"> <li>Notice of Intent for TSMP must be submitted at least 5 days prior to beginning industrial activity.</li> </ul>	Stormwater runoff from an industrial activity.		<ul style="list-style-type: none"> <li>For activities qualifying under a general permit, notice of coverage sent to the applicant within 30 days of receiving a complete notice of intent and Storm Water Pollution Prevention Plan.</li> </ul>	<ul style="list-style-type: none"> <li>Individual permit is also an option</li> </ul>

Additional permitting information available at <https://www.tn.gov/environment/permit-permits/water-permits.html>.

**Solid & Hazardous Waste**

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMELINE	NOTES
Special Waste Approval	Prior to disposal	Disposal or processing of special wastes.		<ul style="list-style-type: none"> <li>Approval typically received within 30 days of receipt of a completed request.</li> </ul>	<ul style="list-style-type: none"> <li>Will need recertification every three years.</li> <li>Special wastes are solid wastes that are either difficult or dangerous to manage and may include sludges, bulky wastes, pesticide wastes, medical wastes, industrial wastes, hazardous wastes which are not subject to regulations under Rule 0400-12-01-.03 through 0400-12-01-.07, liquid wastes, friable asbestos wastes, and combustion wastes.</li> </ul>
Hazardous Waste Permit	Prior to operation	Treatment, storage, or disposal of a hazardous waste (not under generator exclusions)	<ul style="list-style-type: none"> <li>Multiple public notices</li> <li>Public hearing may be held if requested</li> </ul>	<ul style="list-style-type: none"> <li>14 to 25 months depending on type of facility, community involvement, public hearings, revisions, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Two-part application process.</li> <li>A facility may also be required to get an EPA ID number</li> </ul>
Solid Waste Permit-by-Rule	Prior to operation	Change to the chemical or physical characteristics of a solid waste by a solid waste processing facility. Other activities that must have a Permit-by-Rule are coal ash fill areas, tire storage facilities, convenience centers and transfer stations.	<ul style="list-style-type: none"> <li>Some PBRs may require public notice</li> </ul>	<ul style="list-style-type: none"> <li>Approval typically received within 60 days of a receipt of a completed request.</li> </ul>	<ul style="list-style-type: none"> <li>Multiple operations at the same location can operate under one permit.</li> </ul>

REQUIREMENT	APPLICATION TIMING	REGULATED ACTIVITY	PUBLIC NOTICE	ISSUANCE TIMELINE	NOTES
Notification of Hazardous Waste Activity	Within 90 days of initial generation of hazardous waste	Generation of 100 kg (220 lbs.) of hazardous waste or more or more than 1 kg (2.2 lbs.) of acutely hazardous waste generated in a month. Generators of less than above quantities are not required to notify but are encouraged to do so.			<ul style="list-style-type: none"> <li>• Annual report requirement for Small and Large Quantity Generators</li> <li>• Annual report encouraged for Very Small Quantity Generators, but not required.</li> </ul>

Additional permitting information available at <https://www.tn.gov/environment/permit-permits/waste-permits0.html>.

There are several ways an applicant can ensure efficient processing of permit applications, including:

- Turning in a complete application
- Having a defined plant layout
- Communicating regularly with the agency
- Communicating early and regularly with impacted community
- Early engagement with EPA if necessary, for permit type (specific to certain air related permits)
- Running concurrent public notices
- Accurate estimate/quantification of emissions for facility

The National Environmental Policy Act (NEPA) requires federal agencies and those working on behalf of federal agencies to consider impacts of proposed actions and reasonable alternatives to those actions through the preparation of an environmental assessment (EA), environmental impact statement (EIS), or determination of a categorical exclusion (CE). TDEC participates in the NEPA process by reviewing and commenting on NEPA documents prepared by federal agencies (i.e., "cooperating agency"). The state of Tennessee does not have regulatory requirements establishing a state-level comprehensive environmental review process for projects, similar to some states, like California and Connecticut. If your project is subject to NEPA requirements, you can submit NEPA documents for review to TDEC by visiting the NEPA Comment Request Portal page and fully completing the submittal information at <https://www.tn.gov/environment/program-areas/opsp-policy-and-sustainable-practices/policy/opsp-national-environmental-policy-act-at-tdec.html>.

Additionally, TDEC's Small Business Environmental Assistance Program (SBEAP) provides non-regulatory, confidential, and multi-media assistance to help Tennessee small businesses understand and comply with environmental regulations. Additional information about SBEAP is available at <https://www.tn.gov/environment/program-areas/sbeap-small-business-environmental-assistance.html>.



# Environmental Field Offices

<https://www.tn.gov/environment/contacts/about-field-offices>

Have a question about  
Tennessee's Environment?  
Call 1-888-891-TDEC (8332)  
[ask.tdec@tn.gov](mailto:ask.tdec@tn.gov)

## Nashville

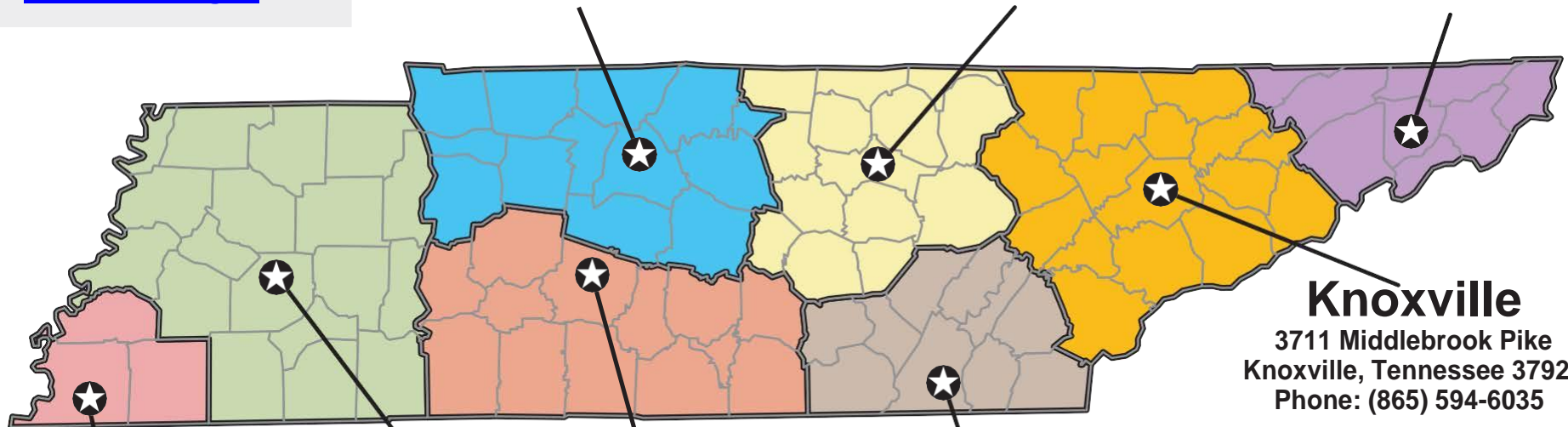
711 R.S. Gass Boulevard  
Nashville, Tennessee 37243  
Phone: (615) 687-7000

## Cookeville

1221 South Willow Avenue  
Cookeville, Tennessee 38506  
Phone: (931)520-6688

## Johnson City

2305 Silverdale Road  
Johnson City, Tennessee 37601  
Phone: (423)854-5400



## Knoxville

3711 Middlebrook Pike  
Knoxville, Tennessee 37921  
Phone: (865) 594-6035

## Jackson

1625 Hollywood Drive  
Jackson, Tennessee 38305  
Phone: (731) 512-1300

## Chattanooga

1301 Riverfront Parkway, Suite #206  
Chattanooga, Tennessee 37402  
Phone: (423) 634-5745

## Memphis

8383 Wolf Lake Drive  
Bartlett, Tennessee 38133  
Phone: (901) 371-3000

## Columbia

1421 Hampshire Pike  
Columbia, Tennessee 38401  
Phone: (931) 380-3371



## **AGC/ABC Insights: QIC Construction Market Update – 8/16/2023**

Contributors: Associated General Contractors – Turner, Messer, JE Dunn, Christman

Associated Builders & Contractors – Skanska, Brasfield & Gorrie, Bell Construction,  
T.W. Frierson

### **Overview: Market Conditions 3Q 2023**

#### **Material Pricing and Availability, PPI**

According to an analysis by the Associated General Contractors of America August update. The producer price index for new nonresidential construction—a measure of what contractors report they would charge to put up a specific set of buildings—fell 1.4 percent in July. That decrease followed no change the month prior and a slight decline in May. Association officials said contractors are finally seeing some relief from recent supply chain problems and price escalations, but the competitive market means key materials are still very hard to find.

Prices for most major construction inputs were stable or declined in July. Some of the greatest declines included diesel fuel, falling 8.4 percent for the month, steel mill products dropping 7.6 percent, and fabricated structural metal, down 6.4 percent.

#### **Labor**

Construction employment increased in 221, or 62 percent, of 358 metro areas between June 2022 and June 2023, according to an analysis by the Associated General Contractors of America of new government employment data. Association officials said the job gains in many parts of the country would have been higher if firms could find more workers to hire. The State of TN employment in the construction industry increased by 5% overall with Clarksville, TN experiencing 15% growth.

“Demand remains strong for many types of construction projects in much of the country,” said Stephen E. Sandherr, the association’s chief executive officer. “But it remains difficult for many firms to find enough workers to hire to keep pace with that strong demand.”

We can expect continued pressure on wages, as there is still a shortage of skilled workers and contractors are offering additional incentives to attract and retain workers. Electricians remain at the top of the concern list (due to industrial and data mega projects being electrical-heavy scopes).

**Subcontractor** availability and competitiveness continue to drive project costs. This is a result of the limited labor pool and that subcontractors remain busy. Subcontractors are forced to be more selective about the projects that they choose to pursue and in-addition they are carrying higher fees. As evidence of this, where CM/GCs typically expect a minimum of 3 bidders in every section, there are select trades where the industry is only seeing 1 or 2 bidders.

## **Architectural Billing Index, ABI**

The Architectural Billing Index (ABI), in the South region declined December to April has now trended upward, measuring 52.3 May and 50.5 June. Greater than 50 signals increased construction activity in the future.

## **Miscellaneous Factors**

Mega projects (industrial, EV plants and data centers) continue contributing to the electrical and mechanical equipment issues. TN Titans is seen as the next mega project that will contribute to supply chain issues.

AGC officials said that new Buy America requirements that are part of the Bipartisan Infrastructure Law will severely limit the supply of materials contractors can use and increase the costs of those products as the guidance goes into effect. They noted that the new requirements are so strict that many products currently made in the U.S. would not be compliant due to containing small components that are sourced from abroad.

\*Note: The Buy America law only applies to federal projects that are funded by the Infrastructure law.

## **Escalation Recommendation:**

Industry recommends a 2% per quarter escalation for commercial construction projects. In addition, projects may need to take into consideration the subcontracting market and participation relative to each individual project. Industry will be in a better position towards the end of the Calendar Year to issue recommendations for future escalation forecasts.

## Market Conditions Detail - 3Q 2023

### Supply Chain Trends and Insights

Over the past three months, the construction supply chain has continued to improve—most notably around raw material prices for PVC resins, steel, copper and lumber—due to reduced residential demand and increased capacity as the supply chain normalizes back to pre-pandemic conditions. Roofing, structural steel, architectural interior, plumbing, electrical commodity and wood-based products all see lead times coming back to normal levels and prices stabilizing, albeit at escalated levels. Barring any disruptions, price and lead times are forecasted to remain stable in these categories over the next 6-12 months.

As reported at our last QIC meeting, HVAC and electrical gear supply chain challenges continue due to component, labor, and equipment capacity shortfalls. However, several major HVAC equipment manufacturers have reported significant improvement in backlog based on investment in new facilities, new equipment and the hiring of additional workers to increase factory capacity. With these improvements and lower raw material costs, HVAC equipment lead times have likely peaked and will decrease for the remainder of 2023. Prices are on track to increase 10-15 percent for 2023 but may return to a more normal annual increase of 3-5 percent starting in 2024.

From an electrical equipment perspective, the electrification trend and continued data center investment we reported during our prior QIC market update will likely last for several more years. Even though most manufacturers are investing hundreds of millions of dollars in capacity, the persistent strong demand will only moderately reduce lead times over the next 12 months.

### 6-12 Month Lead Time and Price Forecast

- **Roofing products** - Roofing supply chains have fully recovered. Lead times for most items are in the 1-3 week range depending on quantities needed. Manufacturers have produced inventory and the seasonally strong roofing market should be on solid footing.
- **Asphalt** - We anticipate pricing increases in the upcoming quarter based on infrastructure work and increases in the cost of petroleum products.
- **Concrete** - Cement and concrete markets have stabilized and availability has greatly improved compared to the last couple of years. However, supply challenges persist in local markets, where construction activity remains elevated. Concrete suppliers have announced a \$10/cu.yd increase in concrete for January 2024 in Nashville.
- **Structural steel** – After a slight uptick in March and April, steel input pricing has receded from the previous quarter. Fabricated Wide flange shapes have flattened in price, while hollow shapes and plate are down slightly for the year (5-8 percent).
- **Architectural Interiors** - As a result of the cooling housing market, availability of interior products has improved and is generally within historical lead times. However, with

housing starts jumping 22 percent from April to May of this year, we will closely monitor housing starts and the materials markets for any resultant changes. Additionally, the rising rolled steel costs reported last quarter have reversed course and should provide relief to pricing of metal studs. Drywall pricing has moderated and is up 2-3% YTD.

- **Exterior Glazing Systems** – aluminum curtain wall and window wall systems are currently running 14-16 weeks lead times
- **Doors and Hardware** - Door hardware and hollow metal door lead times continue to hold in the 7-10 week range. We continue to recommend close monitoring of electronic access control materials as some semiconductor supply issues linger.
- **Appliances** – Appliance supply chains have improved and some distributors are even sitting on inventory, but this varies by manufacturer and appliance type. For planning purposes, lead times should be assumed in the two to three-month range.
- **Elevators, Escalators. Moving Walks** - Average lead times remained unchanged over the last quarter but will likely improve over the next 6-12 months as commercial projects ease. General pricing is on track to rise 3-5 percent this year as a result of material and labor cost increases. Lead times for elevators vary depending on the category and manufacturer:
  - Low-rise elevators range from 14-24 weeks
  - Mid-rise elevators range from 20-27 weeks
  - High-rise elevators range from 40-48 weeks
  - Escalators range from 12-20 weeks
- **Plumbing and Fixtures** - Inventory continues to be healthy for most materials, allowing orders to be filled within a few days. However, lead times for certain larger diameter ductile iron pipe are still running 16-20 weeks. In the past three months, we've seen significantly fewer manufacturer price increases and have even noted a few select price decreases. The average sales price of PVC and copper pipe has been flat over the past 6 months. Steel pipe has steadily declined over the past three months and is down 5-7 percent compared to Q1 2023 as commodity prices and freight costs have also decreased. Over the next 12 months, fixture prices are expected to increase by 7-10 percent with an announcement likely in Q1 2024.
- **HVAC Equipment** - While HVAC demand continues to be strong, there is evidence that lead times have already peaked, or will, in the next 3-6 months. Some categories—RTUs, AHUs, DOAS, and WSHP—are already seeing a reduction in lead times as manufacturers work through backlogs. **However, chillers are the one exception as lead times are still 45-65 weeks due to continued supply chain challenges and high demand from data center projects.** Price increases remain at 10-15 percent for 2023, but we believe there is a chance for more normal 3-5 percent annual increases as early as 2024.
- **Electrical Gear** - Electrical gear lead times continued to increase over the past three months and are not expected to decrease in the next 12 months. Even with investment in additional capacity through 2023, manufacturers have pushed out delivery commitments for some products, citing high demand and supply chain issues as primary causes.

- **Electrical Commodity Materials (includes lighting fixtures)** – Lead times for most commodity electrical items are down as manufacturers have stabilized their supply chains. Contractors and stocking distributors are actively reducing inventory levels as a result of high interest rates and lower demand, both current and forecasted. Lead times may temporarily increase in the future if manufacturers reduce capacity. Prices are still expected to increase 3-5 percent due to inflation of material cost and labor.
- **Generators** - Lead times for generators of all sizes are running 45-75 weeks as manufacturers are still experiencing high demand for all genset sizes. Long lead times are primarily due to component supply chain constraints, such as wire harnesses and semiconductor chips for controls. Data center demand shows no sign of slowing for the next few years as clients are ordering for 2025 delivery and beyond. Price increases are expected in the range of 5-10 percent in 2024.
- **Lab Casework and Fume Hoods** - Lab casework lead times are holding steady at the standard range of 8-12 weeks. After some notable escalation in sheet steel pricing during the first quarter, pricing has fallen as underlying demand no longer supports continued escalation.
- **Wood Products** – Lumber pricing continues to hold steady at pre-COVID levels. However, with the unexpected housing starts jumping 22 percent from April to May, we will closely monitor housing starts as they are the primary driver of lumber pricing.
- **Transportation** - Based on slowing consumer demand and resolution of congestion at U.S. ports, shipping container activity will fully recover to “normal” levels in 2023 and container costs are now at pre-pandemic levels.

### **Remedies/Solutions**

- Every team needs to get deeper into the supply chain. It is not enough to depend on subcontractor and supplier input.
- Contractors should be leveraging relationships with the manufacturers to access delayed materials and equipment – can push to get partial, critical orders on critical path.
- It is not enough to look at overall escalation %, you need to look closer and account for escalation material by material because of the variation between materials.
- A robust procurement strategy is essential – leads times are emphasis.
- Example item in a procurement strategy: Buying large air handlers early and designing around it.
- Cost benefit of escalation clauses – leverage allowances – talk with trade partners about allowances in lieu of trade partner taking all the risk to keep from paying worse-case scenario all the time.
- You can drive escalation into a project by buying too early.
  - o Understand when materials need to be on site.
  - o Make acquisitions just in time where possible.
- Early release packages for long-lead items continues to be a good strategy...consider warehousing strategies (costs associated with this) to ensure schedule.